AECOM Environment

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Groundwater Monitoring Report
5-Quarter Sampling Event, May, 2019

Korkay, Inc.
Site No. 5-18-014
Work Assignment No. D004445-20.1

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Acronyms and Abbreviations

AWQS	New York State Ambient Water Quality Standards and Guidance Values
COCs	Contaminants of Concern
DUSR	Data Usability Summary Report
GAC	Granular Activated Carbon
HAL	Health Advisory Limit
ISCO	*In Situ* Chemical Oxidation
IXR	Ion Exchange Resin
Korkay	Korkay, Incorporated
ng/L	Nanograms per Liter
NYSDEC	New York State Department of Conservation
NYSDOH	New York State Department of Health
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
ROD	Record of Decision
RSO	Remedial System Optimization
SMP	Site Management Plan
SVE	Soil Vapor Extraction
SVOCs	Semi-Volatile Organic Compound
TOP	Total Oxidizable Precursor
TVOCs	Total Volatile Organic Compounds
µg/L	Micrograms per Liter
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1.0 Introduction

1.1 General

This report documents the groundwater sampling event conducted in May 2019 at the Korkay Inc. Site (Site No. 5-18-014), located at 70 West Main Street in the Village of Broadalbin, Fulton County, New York (Figure 1). The sampling was conducted for Work Assignment No. D004445-20.2 of the State Superfund Standby Contract between the New York State Department of Environmental Conservation (NYSDEC) and AECOM Technical Services Northeast, Inc. (AECOM).

The report presents and interprets analytical results for the groundwater sampling conducted from May 13 – 16, 2019.

1.2 Background and Objectives

Korkay, Incorporated (Korkay) was a supplier of detergents, solvents, and degreasers to the automotive industry from 1969 to 1980. Releases of chemicals at the Site contaminated soil and groundwater. Site Contaminants of Concern (COCs) in soil and groundwater as identified in the Site Record of Decision (ROD) include various volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and pesticides. Remedial actions undertaken in accordance with the ROD by NYSDEC and the New York State Department of Health (NYSDOH) included the excavation and removal of contaminated surface soil, air sparging, combined with soil vapor extraction (SVE), imposition of deed restrictions and Site environmental monitoring. These actions were found to have been somewhat effective in reducing Site contamination, although subsurface soil and groundwater impacts still exist. Five groundwater sampling events were conducted at the site between 2007 and 2013 using twelve existing groundwater monitoring wells.

Groundwater investigations were conducted at the Site in July 2014 and August 2015 using direct-push drilling technology with the collection and analysis of grab groundwater samples. The purpose of the investigations was to further delineate and characterize on-Site and off-Site dissolved-phase groundwater impacts. In September 2015, 8 additional monitoring wells (MW-17 through MW-24) were installed to aid in monitoring the nature and extent of groundwater impacts on and off Site.

A supplemental remedial action, consisting of in-situ chemical oxidation (ISCO) injection, was conducted in October, 2015. The purpose of the ISCO injection was to attempt to further remediate residual soil and groundwater contamination to meet the remedial goals established for the Site. The remediation included the installation of 95 injection points. The points were installed with a direct push Geoprobe® unit. The oxidant that was used was activated persulfate, specifically, PersulfOx® from Regenesis Remediation Services. This oxidant has been shown to effectively reduce VOC mass, and has been shown to degrade some pesticides as well. PersulfOx® is a catalyzed persulfate which does not require any additional activation. The PersulfOx® was applied concurrently with oxygen release compound Advanced (ORC-A®), a product that provides a sustained release of oxygen which will allow for polishing of COCs through aerobic bioremediation.

In early October, 2015, a round of groundwater monitoring was conducted as an annual ('5-quarter') sampling event. The 5-quarter events are required in the Site Management Plan (SMP) to provide data from all Site monitoring wells (Figure 2) to evaluate trends in groundwater quality at the Site through the Site management phase. The October 2015 5-quarterevent was conducted one week before the ISCO injection, and thus provided baseline groundwater quality data against which post ISCO injection groundwater monitoring results would be compared. The results of that sampling documented the extent of the groundwater contaminant plume in the shallow aquifer. A copy of the isoconcentration contour map of total volatile organic compounds (TVOCs) concentrations detected in the shallow aquifer wells during the October 2015 sampling event is included as Figure 3.

Also under the SMP, in addition to the 5-quarter monitoring program, post-ISCO groundwater sampling was conducted on six events between December 2015 and June 2017 to evaluate the effects of the ISCO remedial action performed in October 2015. During those events, six monitoring wells (ASW, MW-17, MW-18, MW-21, MW-22, and MW-23) were sampled to monitor the effectiveness of the ISCO treatment.

This report details the groundwater sampling event conducted from May 13-16, 2019. All twenty monitoring wells were sampled during this event. Groundwater samples collected during this event were analyzed for the analytes specified in the SMP (VOCs, SVOCs, organochlorine pesticides). At the request of NYSDEC, samples from all twenty wells were also analyzed for Per- and Polyfluoroalkyl Substances (PFAS), including Perfluorooctanoic Acid (PFOA), Perfluorooctanesulfonic Acid (PFOS), and nineteen other PFAS compounds. It should be noted that all twenty wells were previously sampled for PFAS in March 2017, and the six wells (ASW, MW-17, MW-18, MW-21, MW-22, and MW-23) were also sampled for PFAS in June 2017; both these events included reporting of only six PFAS compounds, which was the approved laboratory procedure at that time. Samples from four wells located immediately downgradient of the Site (MW-8S, MW-8D, MW-20 and MW-21) were also analyzed for 1,4-Dioxane during this event. It should be noted that 1,4-dioxane was not detected in any of the twenty wells during the March 2017 sampling event, and therefore it is not considered to represent a contaminant of concern at the Site.

2.0 Groundwater Sampling

Groundwater samples were collected from all twenty Site monitoring wells by AECOM from May 13-16, 2019. The locations of the sampled wells are presented on Figure 2.

2.1 Groundwater Sampling Methodology

During this event, 12 older pre-existing monitoring wells were sampled including: ASW, VEW-1, VEW-2, VEW-3, VEW- 4, K-2, K-3, MW-8D, MW-8S, MW-15D, MW-15S, and MW-16D (formerly named 'Flushmount'). Groundwater samples were also collected from the eight monitoring wells (MW-17 through MW-24) that were installed in September 2015.

A monitoring well network inspection was completed during this sampling event prior to sampling the wells. The monitoring well inspection logs are presented in Appendix A.

Prior to initiating sampling, a synoptic round of depth-to-water measurements was conducted using an electronic water level indicator, which was washed in a non-phosphate detergent solution, (LiquiNox® and potable water), and rinsed with distilled water before each use. Purging was conducted using the volume sampling technique specified in the SMP. Shallow wells were purged and sampled with a peristaltic pump and the deep wells (MW-8D, MW-15D and MW-16D) were purged and sampled with a Waterra® piston lift pump equipped with a new or decontaminated stainless steel check valve. New disposable high-density polyethylene tubing was used in all wells. The end of the dedicated tubing was placed at the center of each well screen. Purging was conducted using low-flow techniques so that disturbances in the well and changes in water level did not occur. Water was pumped continuously and flow-rate was recorded between each 3 to 5 minute interval. Field parameter readings for turbidity, dissolved oxygen (DO), oxidation-reduction potential (ORP), specific conductivity, pH and temperature were measured during purging with a YSI 556 Multiparameter meter with a flow through cell. Groundwater was purged from each well until at least 3 well volumes were removed and field parameters stabilized. Stabilization was considered complete when three consecutive readings recorded levels within the following parameters:

- Turbidity - 10% for values greater than one Nephelometric Turbidity Units (NTU)
- DO - 10%
- Specific conductance - 3%
- Temperature - 3%
- pH - ± 0.1 unit
- ORP/Eh -± 10 millivolts

Following the collection of field parameter readings, a CHEMets® Model K-7870 field test kit was used to assess the presence and relative concentration in parts per million (ppm) of persulfate present in the purge water from each monitoring well. The test results were recorded along with the standard field parameter readings on the groundwater sampling forms (Appendix B).

The groundwater samples were then collected in the appropriate bottleware provided by NYSDEC's callout laboratory. Samples were stored in an ice cooler until submitted with a completed Chain-of-Custody form to the laboratory, Test America Laboratories, Amherst, New York. Each sample was analyzed for VOCs by United States Environmental Protection Agency (USEPA) Method 8260C, 1,4-Dioxane by 8260C_SIM (only 4 of 20 wells), SVOCs by USEPA Method 8270D, organochlorine pesticides by method 8081B, and PFAS by USEPA Method 537 Modified. The laboratory reports for this sampling event are included as Appendix C.

Test America Laboratories reported the PFAS and 1,4-dioxane analytical results in a NYSDEC Analytical Services Protocol (ASP) Category B report. AECOM retained Environmental Data Services, Inc., a Standby Contract approved subcontractor, to conduct a data usability review of the Category B report and prepare a Data Usability Summary Report (DUSR), as defined in NYSDEC's DER-10 Technical Requirements for Site Investigation and Remediation (NYSDEC, June 2010). A copy of the DUSR is included in Appendix D, and a summary of the DUSR findings is provided in Section 3.

3.0 Results

3.1 Groundwater Flow

Water level measurements were obtained prior to sampling the wells. These depth-to-water measurements were converted to water table elevations using top-of-casing elevations that were surveyed in November 2015.

The groundwater table elevation data, provided in Table 1, was used to produce a water table contour map of the shallow aquifer, as presented on Figure 4. Groundwater flow in the shallow water-bearing zone is from northeast to southwest, as historically observed.

3.2 Analytical Results

The analytical results for the March 2017 groundwater sampling event are presented in Tables 2 and 3. Table 2 includes the results of all VOC, SVOC and organochlorine pesticide analyses conducted since 2007. In addition to the 5-quarter sample event results for all wells, it includes the post-ISCO results for the six wells that were sampled quarterly between December, 2015 and June 2017. Table 3 includes the PFAS and 1,4-Dioxane analytical results for the March 2017 and May 2019 events; groundwater was not analyzed for these compounds prior to the March 2017 event.

In Table 2, concentrations above relevant New York State Ambient Water Quality Standards or guidance values (AWQS) are in a shaded cell with bold typeface for ease of identification. Bolded text alone indicates a detection of the compound above the method detection limit, but below the individual AWQS. Table 2 also includes the field parameter readings for dissolved oxygen (DO) and oxidation-reduction potential (ORP), and the persulfate test kit results. In Table 3, as a point of reference, PFOA and PFOS concentrations that individually or combined are greater than the USEPA Health Advisory Limit (HAL) of 70 ng/L, or parts per trillion are in a shaded cell with bold typeface.

Volatile Organic Compounds

Table 2 includes TVOC concentrations for each sample result. In the 20 monitoring wells sampled in May 2019, the TVOC concentrations ranged from non-detect to 2,523 µg/L. VOCs were not detected above method detection limits in the samples collected from deep monitoring wells MW-8D, MW-15D, and MW-16. In the shallow monitoring wells, no VOCs were detected in five wells (K-2, MW-15S, MW-20, MW-21 and MW-24). One or more VOCs were detected below relevant AWQS in the samples from MW-8S, K-3, VEW-2, MW-18, MW-19, and MW-22. Six wells, ASW, VEW-1, VEW-3, VEW-4, MW-17, and MW-23 had compounds detected above AWQS. VOCs were not detected above AWQS in any off-site wells.

Figure 5 is an isoconcentration contour map of TVOC concentrations reported for the shallow wells from the May 2019 sampling event. The map shows that the contaminant plume in the shallow aquifer extends from northeast to southwest across the Site with the highest TVOC concentrations in the area between wells ASW and MW-23. TVOC isoconcentration contour maps from previous sampling events conducted between August 2007 and June, 2017 (including the

quarterly post-ISCO sampling events) are included in Appendix E for comparison purposes. Review of the figures show that the lateral extent of significant TVOC plume concentrations (i.e., greater than 1,000 µg/L has decreased since administering the ISCO treatment in October 2015, although the concentration in the former source area in the southwest quadrant of the Site has remained relatively static.

Chart 1 depicts TVOC concentration trends to date in five wells located in the former source area (ASW, VEW-1, VEW-2, VEW-3 and VEW-4). The chart shows that TVOC concentrations in well ASW have remained fairly consistent with levels that were observed prior to the ISCO injection and there has been no apparent upward or downward trend in concentrations since the injection work. The graphs for the four VEW wells indicate that TVOC concentrations decreased appreciably in these four wells following the ISCO injection but appear to have rebounded somewhat during this May, 2019 sampling event.

Chart 2 includes six individual graphs (A – F). Each graph depicts contaminant concentration trends of three groups of VOCs at key monitoring well locations within the groundwater plume. The graphs depict concentration trends of the two VOC groups that historically have exhibited the highest fraction of TVOCs, including total xylenes and combined 1,2,4 trimethylbenzene and 1,3,5-trimethylbenzene (total trimethylbenzene). The graphs also depict the trends in total chlorinated volatile organic compounds (CVOCs) and show that CVOCs represent a relatively small fraction of detected VOCs. The locations and monitoring wells represented are listed on each graph and include: Graph A) Upgradient Site Boundary (MW-17); Graph B) Mid-Site Area (MW-18); Graph C) Western Cross-Gradient Site Boundary (MW-22); Graph D) Primary On-Site Source Area (ASW); Graph E) Downgradient Site Boundary (MW-23); and, Graph F) Downgradient Off-Site (MW-21).

Chart 3 depicts TVOC trends in five wells that are sampled as part of the quarterly post-ISCO monitoring. These include four on-Site wells (MW-17, MW-18, MW-22 and MW-23) and off-Site well MW-21. Well ASW is also sampled as part of the quarterly post-ISCO events but the TVOC trend graph for this well is shown with all historical data in Chart 1.

The May 2019 VOC analytical results and data trends to date are discussed below.

- The TVOC concentration in upgradient well MW-17 (96.71 µg/L) was a decrease from the previous result (351.4 µg/L), and remains below the October 2015 baseline concentration (591.5 µg/L). Four compounds were detected at concentrations above relevant AWQSs. Chart 2 (Graph A) shows that total trimethylbenzene (TTMB) represents the greatest fraction of VOCs in this well. The graph shows that TTMB decreased in concentration significantly after the ISCO injection, then rebounded and remained elevated through the June 2017. The TTMB concentration was relatively lower during the May 2919 sampling event. Persulfate was not detected, and there was very little DO measured in the well (2.46 mg/L). The data indicates that contaminant rebound has occurred and that oxygen and persulfate levels are depleted suggesting that further aerobic biodegradation may be unlikely to occur in the vicinity of this well.

- One compound (tetrachloroethene at 3.4 µg/L) was reported as detected in well MW-18. No other VOCs were detected. This result represents the second consecutive sampling event that all VOCs were not detected or below relevant AWQS. Chart 2 (Graph B) and Chart 3 show that contaminant levels remain significantly below the October 2015 pre-

ISCO baseline concentrations. The data indicates that the ISCO treatment effectively reduced contaminant levels in this well. No pPersulfate was found in this well while DO (11.298.02 mg/L) remained slightly elevated compared to the other wells that were sampled.

- One compound (tetrachloroethene at 4.1 μg/L) was reported as detected in cross gradient well MW-22. This result represents a decrease from the previous June 2017 result when TVOCs were 8.8 μg/L, and is now below the relevant AWQS. Persulfate was not detected and DO (2.07 mg/L) increased from the previous event.

- The TVOC concentration in the former source area well ASW (2,523 μg/L) decreased from the June 2017 result (3,296.3 μg/L). Chart 2 (Graph D) shows that total trimethylbenzene represents the greatest fraction of VOCs in this well and is slightly higher than total xylenes. The concentrations of both compound groups remain slightly higher than the October 2015 pre-ISCO injection sampling event. Persulfate was not detected and DO (2.88 mg/L) was very slightly elevated; the readings indicate that oxygen levels in the vicinity of this well are likely insufficient to support further reduction in contaminant mass.

- The TVOC concentration in well MW-23 (251.03 μg/L), located at the downgradient Site boundary, decreased from the June 2017 event (468.1 μg/L). Chart 2 (Graph E) shows that total trimethylbenzene and total xylenes represent the greatest fraction of VOCs in this well and that concentrations of these compound groups decreased slightly from the previous sampling event. Persulfate was not detected and the DO level (7.31 mg/L) increased slightly from the previous event.

- No VOCs were detected in off-site downgradient well MW-21. This was similar with the previous June 2017 TVOC result (0.93 μg/L) and continues the significant decrease from the October 2015 baseline result (453 μg/L). Persulfate was not detected and DO (7.76 mg/L) increased slightly from above the June 2017 event.

Semi-Volatile Organic Compounds and Organochlorine Pesticides

As shown in Table 2, the May 2019 SVOC analytical results were generally similar to the previous 5-quarter event (March 2017) and quarterly (June 2017) sample results. In the 20 wells sampled, SVOCs were non-detect or detected at concentrations less than AWQSs in all wells except source area well ASW. Naphthalene (63 μg/L) was reported above the guidance value in ASW. No other SVOCs were reported above AWQSs in this well. There are no significant differences between the May 2019 and previous SVOC results.

For the first time since 2007 there were no organochlorine compounds detected above AWQSs in the May 2019 sample results. The only compounds detected were alpha-chlordane and gamma chlordane at concentrations of 0.17 μg/L or less in wells MW-15S, K-2, and MW-22.

Per- and Polyfluoroalkyl Substances and 1,4-Dioxane

The PFAS sample results are summarized in Table 3 and Figure 6. One or more PFAS compounds were detected in samples from all twenty wells. Twelve of the twenty samples had PFOA and/or PFOS concentrations exceeding the USEPA HAL of 70 ng/L. The highest PFOA/PFOS concentrations were detected in wells located in the former source area, including K-2, and VEW-1

through VEW-4. These wells had PFOS concentrations greater than 1,000 ng/L and the highest PFOS concentration reported was in well VEW-2 (2,100 ng/L). The highest PFOA concentration was detected in well VEW-3 (180 J ng/L). Of the remaining 19 PFAS compounds analyzed for during this sampling event, eleven compounds were detected in one or more wells; the highest concentrations were reported in well VEW-2. Table 3 shows that the concentrations of PFOA and/or PFOS in wells VEW-2, VEW-3, VEW-4, MW-18, MW-21, MW-22 and MW-23 during this event were notably higher than the prior 2017 results; while PFOA and PFOS concentrations have decreased in upgradient wells (MW-15S and MW-17) since the last sampling event.

Table 3 also includes the 1,4-dioxane for wells MW-8S, MW-8D, MW-20 and MW-21. As with the March 2017 results (included in Table 3) at a laboratory reporting limit of 0.40 μg/L, 1,4-Dioxane was not detected in any of the four samples. Based on these results, 1,4-Dioxane is not considered to be of concern at the Korkay Site.

As presented in the DUSR (Appendix D), the data usability review resulted in no rejections of the PFAS and 1,4-dioxane analytical results, and described that “overall the data are acceptable for the intended purposes as qualified for the deficiencies detailed.” The DUSR notes that several samples were analyzed at various dilutions due to high concentrations of target compounds and/or matrix interference. Additionally, the reported concentrations for one or more compounds in several samples were qualified as estimated (J code qualifier) due to one or more laboratory quality control deficiencies.

4.0 Summary and Conclusions

Review of the May 2019 VOC groundwater data from the shallow monitoring wells demonstrates that groundwater contamination at the Korkay Inc. Site persists in some of the same areas as discussed in the previous 5-quarter and quarterly post-ISCO monitoring reports. The contaminant plume extends from northeast to southwest across the Site, with highest concentrations in the former source area (southwest quadrant of the Site). Review of the May 2019 data in conjunction with historical data show that the lateral extent of significant TVOC plume concentrations (i.e., greater than 1,000 µg/L has decreased since administering the ISCO treatment in March 2017, however the concentration in the former source area in the southwest quadrant of the Site remains relatively static and significantly above AWQS.

Groundwater results from the deep wells at the Site continue to be below AWQS, most likely a result of the confining clay layer found at approximately 12 to 14 feet below grade. A review of boring logs from the RI report and the soil borings completed by AECOM for the RSO in August 2007 suggests that this clay layer may be continuous beneath the Site, and may extend off-site as well.

One or more PFAS compounds were detected in samples from all twenty wells and PFOA and/or PFOS were detected in 12 of 20 wells above the 70 ng/L USEPA HAL. Wells with the highest reported concentrations are located in the former source area. Elevated concentrations in downgradient monitoring wells indicated potential migration of highly mobile PFAS contaminates towards the Site boundary. It is important to note the probability that the past introduction of aerobic bioremediation alternatives at the Site, including air sparging and ISCO, potentially triggered PFAS precursors to transform to and terminate as PFOA/PFOS. The discovery of high concentrations of PFOA/PFOS will present additional challenges to further remediating the Korkay, Inc. Site plume.

5.0 Recommendations

Groundwater monitoring should be continued at the Korkay Site in accordance with the SMP. Groundwater should continue to be monitored for PFAS as part of future sampling events. Based on the quarterly data generated to date, it appears that it would be acceptable to omit the SVOC and organochlorine pesticide sample analyses from future sampling events.

As recommended in the report for the March 2017 5-quarter groundwater sampling event, the following issues and questions associated with PFOA/PFOS treatment approaches should be considered if the PFAS impacts are to be addressed:

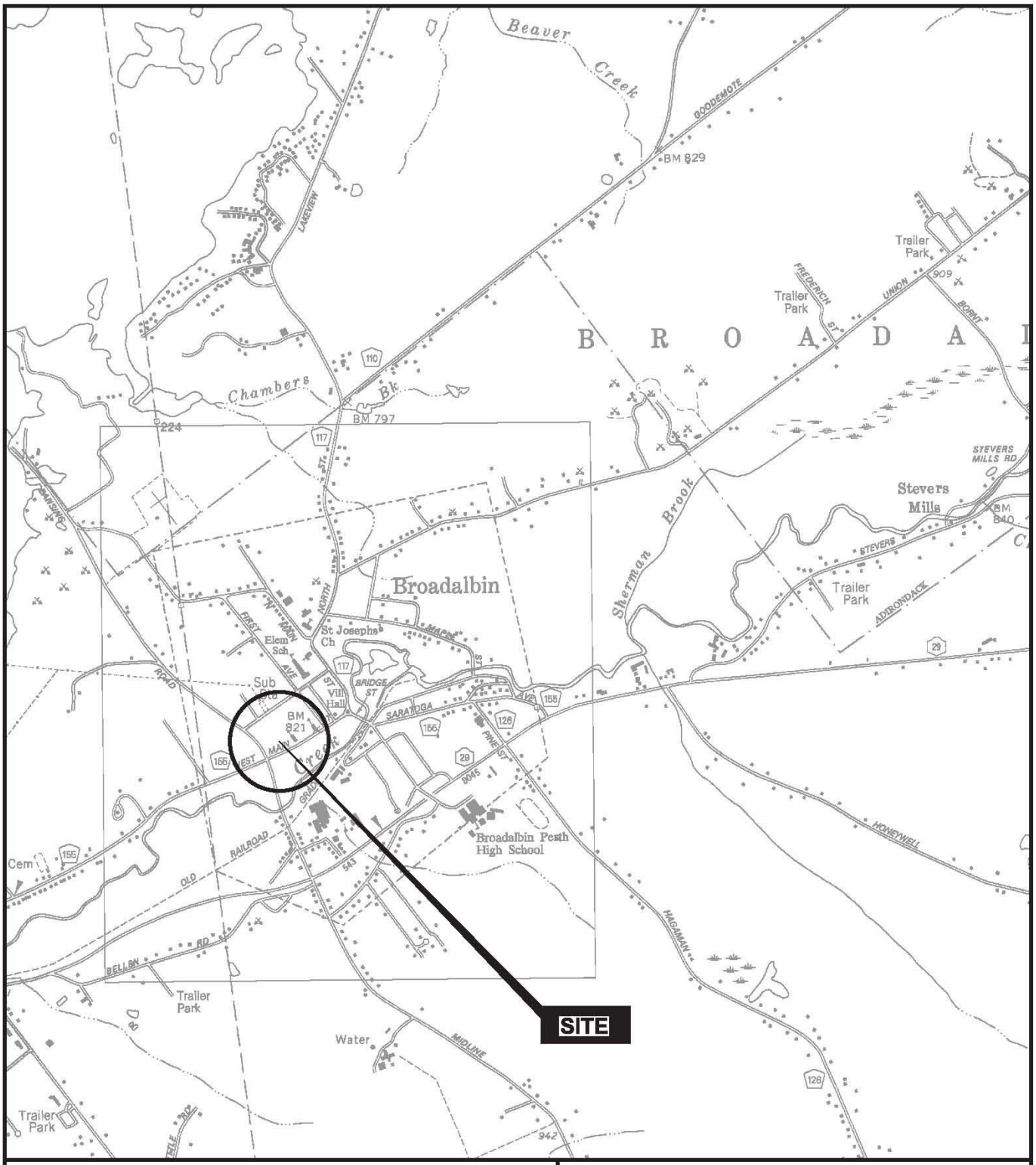
- The only proven remedial technology with long-term performance information for treating PFAS in groundwater is pump & treat with granular activated carbon (GAC) or ion exchange resin (IXR)
- GAC is also effective in removing the primary COCs (VOCs) at the Site.
- Compared with IXR, GAC binds weaker to PFAS compounds with shorter carbon chain lengths (e.g., C4), which however are not considered to be of concern at the Korkay Site according to the groundwater analytical results.
- Total Oxidizable Precursor (TOP) assay is recommended to be applied during treatability study. TOP assay is a semi-quantitative analytical method used by the industry to identify the mass of unmeasurable precursors, which may transform to PFOA/PFOS and occupy sorption sites on media. This method helps one understand the actual mass loading for proper treatment system design.
- Limited in-situ remedial options are available at this moment. In-situ mobilization via injection of colloidal activated carbon (i.e., PlumeStop^{TM}) has recently been demonstrated at a few sites. Treatability study should be performed to evaluate feasibility of this technology if it is to be considered as an alternative.
- To eliminate the potential off-site liability of spent media disposal, sorption technology can be implemented in concert with PFAS destruction technologies (e.g., electrochemical oxidation). This approach needs to be evaluated case-by-case against PFAS and water quality parameters at the Site.

Potential treatment options to consider may include:

1. Groundwater pump and treat or recirculation (source area extraction, treatment via GAC, reinjection) to mitigate VOC and PFAS.
2. In-situ remediation using injectable colloidal activated carbon, i.e., PlumeStop^{TM}, to stabilize PFAS and prevent off-site migration.
3. Implement treatment train combining sorption and destruction technologies for on-site management of PFAS. For example, PFAS can be removed by regenerable IXR in the first place and an on-site compacted destruction unit can be used to treat PFAS-laden spent regenerant.

If PFAS impacts are to be addressed, a focused feasibility study should be performed to identify and evaluate potential remedial alternatives for implementation.

Figures



MAP REFERENCE: NYSDOT 7.5 MIN. QUADRANGLE
BROADALBIN SERIES

PLAN

AECOM

FIGURE 1

SITE LOCATION PLAN
NYSDEC SITE ID: 5-18-014
KORKAY INC.
70 WEST MAIN STREET
BROADALBIN, NEW YORK

DATE: OCTOBER 2013	PROJECT NO.: 60273289

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- 816 TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MW-18 MONITORING WELL

0 60' 120'

MAP REFERENCE:
MAPPING BASED ON A PLAN TITLED TOPOGRAPHIC SURVEY OF
NYSDEC INACTIVE HAZARDOUS WASTE SITE NO. 5-18-014
70 WEST MAIN STREET, BROADALBIN, NEW YORK
COUNTY OF FULTON, STATE OF NEW YORK BY, M J ENGINEERING,
AND LAND SURVEYING, P.C., DATED SEPTEMBER 10 2015, LAST REVISED
11/13/2015, INCLUDING ALL NOTES AND REFERENCES THEREIN.

AECOM

Figure: 2

EXISTING CONDITIONS

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: SEPTEMBER 2019

Last saved by: MEISTERK(2019-09-06) Last Plotted: 2019-09-06
Filename: C:_AECOM-WORKING\ITEMP-CAD\TEMP-KORKAY\KORKAY-GW-MAY_13_2019.DWG

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

AECOM

Figure: 3

TOTAL VOC ISOCONCENTRATION CONTOUR MAP OCTOBER 14, 2015

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: JANUARY 2016

LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MW-18 MONITORING WELL
- TOTAL VOC CONCENTRATION 5 ug/L TO 10 ug/L
- TOTAL VOC CONCENTRATION 10 ug/L TO 100 ug/L
- TOTAL VOC CONCENTRATION 100 ug/L TO 1,000 ug/L
- TOTAL VOC CONCENTRATION >1,000 ug/L

0 60' 120'

Last saved by: MEISTERK(2016-01-21) Last Plotted: 2016-01-21
Filename: P:\60273289_KORKAY INC\CADD\[TASK_NUMBER]\CIVIL\SHEET\KORKAY-GW-OCT-2015.DWG

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: SEPTEMBER 2019

SHALLOW AQUIFER WATER TABLE CONTOUR MAP
MAY 13, 2019

AECOM

Figure: 4

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

AECOM

Figure: 5

TOTAL VOC ISOCONCENTRATION CONTOUR MAP
MAY 13, 2019

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: SEPTEMBER 2019

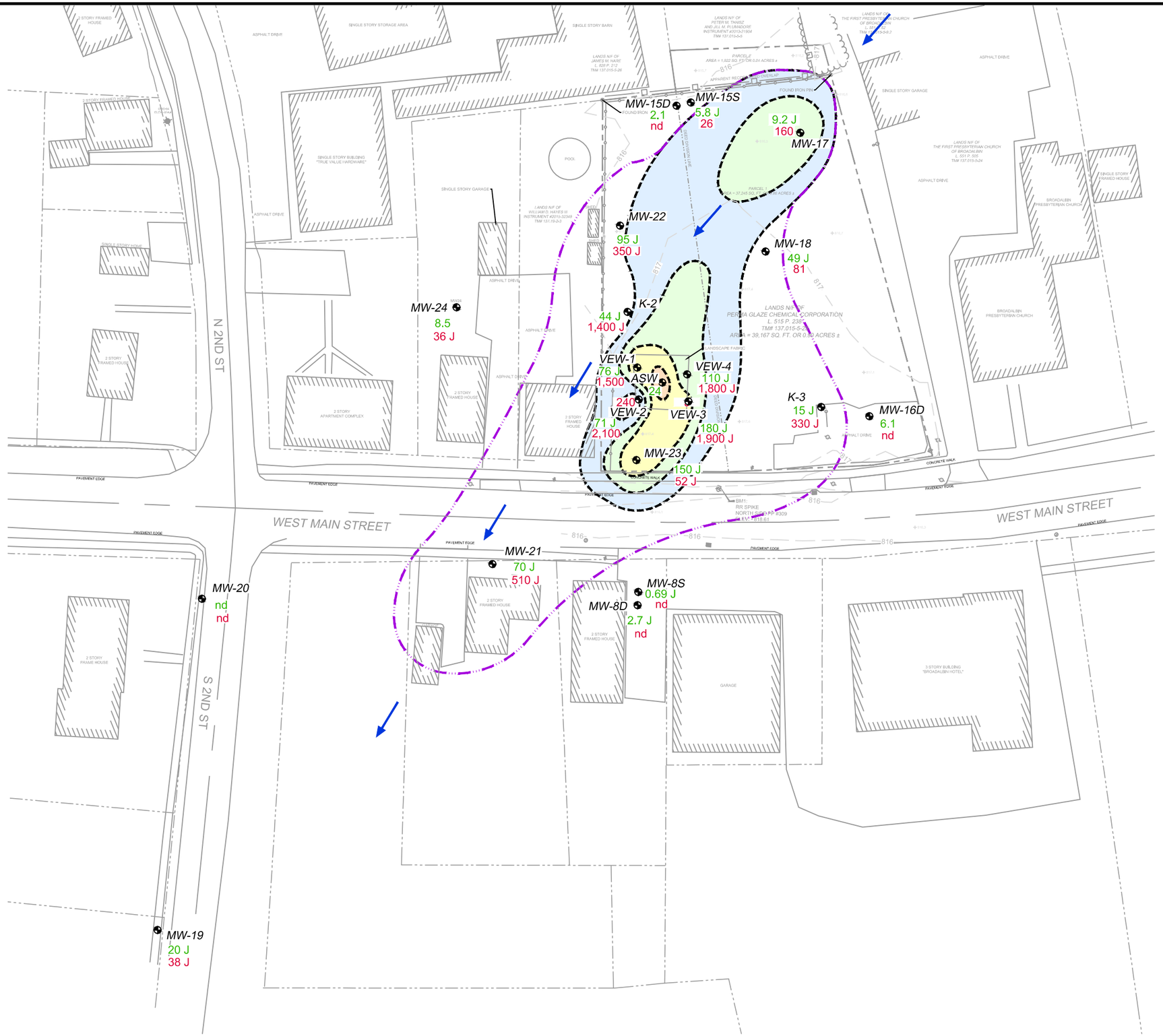
LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- 816 TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MW-18 MONITORING WELL
- TOTAL VOC CONCENTRATION 5 ug/L TO 10 ug/L
- TOTAL VOC CONCENTRATION 10 ug/L TO 100 ug/L
- TOTAL VOC CONCENTRATION 100 ug/L TO 1,000 ug/L
- TOTAL VOC CONCENTRATION >1,000 ug/L

0 60' 120'

Last saved by: MEISTERK (2019-09-11) Last Plotted: 2019-09-11
Filename: P:\60273289_KORKAY INC\CADD\[TASK_NUMBER]\CIVIL\SHEET\KORKAY-GW-MAY_13_2019.DWG

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"



LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MW-18 MONITORING WELL
- TOTAL VOC CONCENTRATION 5 ug/L TO 10 ug/L
- TOTAL VOC CONCENTRATION 10 ug/L TO 100 ug/L
- TOTAL VOC CONCENTRATION 100 ug/L TO 1,000 ug/L
- TOTAL VOC CONCENTRATION >1,000 ug/L
- 75 PFOA ng/L
- 75 PFOS ng/L
- J ESTIMATED CONCENTRATION
- INFERRED GROUNDWATER PLUME LIMIT OF PFOA AND/OR PFOS > USEPA HAL (70 ng/L)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

AECOM

Figure: 6

PFOA / PFOS CONTAMINANT
PLUME LIMIT MAP
MAY 13, 2019

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: SEPTEMBER 2019

Last saved by: MEISTERK(2019-10-18) Last Plotted: 2019-10-18
Filename: P:\60273289_KORKAY INC\CADD\[TASK_NUMBER]\CIVIL\SHEET\KORKAY-GW-MAY_13_2019.DWG

Tables

Table 1

Water Level Measurements
Korkay Inc.
Broadalbin, New York
Site #518014

May 13, 2019

Well ID	Top of Casing Elevation**	Total Well Depth	Depth to Water	Water Table Elevation
MW-8S	816.04	10.62	4.50	811.54
MW-8D*	816.02	55.20	25.87	790.15
MW-15S	816.02	9.85	2.41	813.61
MW-15D*	816.13	40.02	23.30	792.83
MW-16D *(formerly 'Flushmount')**	817.08	54.90	26.68	790.40
K-2	816.98	14.20	3.61	813.37
K-3	817.23	10.55	4.70	812.53
ASW	817.44	11.74	4.71	812.73
VEW-1	816.99	8.30	4.39	812.60
VEW-2	816.99	8.52	4.59	812.40
VEW-3	817.74	8.54	5.20	812.54
VEW-4	817.49	8.21	4.81	812.68
MW-17	816.23	14.40	2.70	813.53
MW-18	817.15	14.30	3.89	813.26
MW-19	809.28	9.56	3.50	805.78
MW-20	813.82	13.14	4.73	809.09
MW-21	816.19	11.14	5.07	811.12
MW-22	815.82	9.27	2.12	813.70
MW-23	817.21	14.26	5.12	812.09
MW-24	817.48	11.20	5.08	812.40

Notes:

* Deep aquifer wells

** From November 2015 site survey by M.J. Engineering and Land Surveying, P.C.

Elevations given in feet above mean sea level; depths given in feet below top of casing

Table 2
Groundwater Analytical Results

Korkay, Inc.
Broadalbin, New York (Site #518014)

August 2007 to May2019

| Well ID | | MW-8D | | | | | | | | | | | | | | | | MW-8S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | MW-15D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---

Table 2
Groundwater Analytical Results

Korkay, Inc.
Broadalbin, New York (Site #518014)

August 2007 to May2019

| Well ID | | MW-15S | | | | | | | | | | | | | | | | | | ASW | | | | | | | | | | | | | | | | | |

Table 2
Groundwater Analytical Results

Korkay, Inc.
Broadalbin, New York (Site #518014)

August 2007 to May2019

Well ID		MW-16D																K-2																								K-3																							
	AWQS or GV	8/14/07		11/25/08		3/25/10		1/10/12		6/25/13		10/14/15		3/17/17		5/15/19		8/14/07		8/14/2007 [1]		11/25/08		3/25/10		1/10/12		6/25/13		10/14/15		3/16/17		5/15/19		8/14/07		11/25/08		3/25/10		1/10/12		6/25/13		6/25/13		10/14/15		3/16/17		5/13/19		
Volatile Organic Compounds (µg/L)																																																																		
1,2,4-Trimethylbenzene	5	5	U	5	U	5	U	NA		10	U	1.0	U	1	U	1	U	**60**		**60**		**81**		**2.5**	**J**	NA		10	U	**16**		1	U	1	U	5	U	5	U	5	U	NA		10	U	10	U	1	U	1	U	1	U																		
1,2-Dichlorobenzene	3	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	1.0	U	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
1,3,5-Trimethylbenzene	5	5	U	5	U	5	U	NA		10	U	1.0	U	1	U	1	U	**3**	**J**	3	U	**8.4**		5	U	NA		10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	NA		10	U	10	U	1	U	1	U	1	U																		
1,1-Dichloroethane	5	5	U	5	U	5	U	1		10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	1.0		10	U	NA		1	U	1	U	5	U	5	U	5	U	1.0		10	U	NA		NA		1	U	1	U																		
1,4-Dichlorobenzene	3	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	1.0	U	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
2-Butanone (MEK)	50 (GV)	5	U	5	U	5	U	1	U	10	U	**1.4**	**J**	1	U	5	U	5	U	5	U	5	U	5	U	1.0	U	10	U	**7.4**	**J**	1	U	5	U	5	U	5	U	5	U	1.0	U	10	U	10	U	**13**		1	U	5	U																		
4-Isopropyltoluene	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	**2**	**J**	**2**	**J**	5	U	5	U	1.0	U	10	U	**3.4**	**J**	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
Acetone	50 (GV)	5	U	5	U	5	U	10	U	10	U	10	U	10	U	5	U	5	U	5	U	5	U	5	U	**3.7**	**J**	10	U	50	U	10	U	5	U	5	U	5	U	5	U	10	U	10	U	10	U	10	U	10	U	5	U																		
Carbon Disulfide	60	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	1.0	U	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
Chloroform	7	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	1.0	U	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
Chloroethane	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	**0.67**	**J**	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
Chloromethane	NS	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	5	U	5	U	NA		**2.5**	**J**	1.0	U	10	U	5.0	U	1	U	1	U	5	U	**4.8**	**J**	1.0	U	10	U	10	U	1	U	1	U	1	U																		
cis-1,2-Dichloroethene	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	**4**	**J**	**4**	**J**	**6.2**		5	U	**4.2**		10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
Cyclohexane	NS	NA		NA		NA		1	U	10	U	1.0	U	1	U	1	U	NA		NA		NA		NA		1.0	U	10	U	5.0	U	1	U	1	U	NA		NA		NA		1.0	U	10	U	10	U	1	U	1	U	1	U																		
Ethylbenzene	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	**12**		**13**		**9.3**		5	U	**13**		10	U	**7.1**		1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
Isopropylbenzene	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	5	U	**4**	**J**	**4**	**J**	**5.7**		5	U	**2.6**		10	U	5.0	U	1	U	5	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
Methylcyclohexane	NS	NA		NA		NA		1	U	10	U	1.0	U	1	U	1	U	NA		NA		NA		NA		**2.3**		10	U	5.0	U	1	U	1	U	NA		NA		NA		1.0	U	10	U	10	U	1	U	1	U	1	U																		
m,p-Xylene	5	5	U	5	U	5	U	2	U	NA		2.0	U	2	U	1	U	**16**		**16**		**14**		5	U	**19**		NA		**28**		2	U	1	U	5	U	5	U	5	U	2.0	U	NA		10		2	U	2	U	1	U																		
n-Butylbenzene	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	**8**		**8**		**23**		**1.3**	**J**	1.0	U	10	U	**4.6**	**J**	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
n-Propylbenzene	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	**4**	**J**	**4**	**J**	**13**		5	U	1.0	U	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
Methylene Chloride	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	NA		10	U	NA		1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	NA		NA		1	U	1	U																		
Naphthalene	10 (GV)	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	**10**	**B**	**8**	**B**	**5.4**		5	U	1.0	U	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
o-Xylene	5	5	U	5	U	5	U	1	U	NA		1.0	U	1	U	1	U	**30**		**30**		**17**		5	U	**24**		NA		**32**		1	U	1	U	5	U	5	U	5	U	1.0	U	NA		NA		1	U	1	U	1	U																		
Styrene	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	1.0	U	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	NA		1	U	1	U	1	U																		
sec-Butylbenzene	5	5	U	5	U	5	U	NA		10	U	1.0	U	1	U	1	U	**6**		**6**		**18**		5	U	NA		10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	NA		10	U	10	U	1	U	1	U	1	U																		
tert- Butylbenzene	5	5	U	5	U	5	U	NA		10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	NA		10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	NA		10	U	10	U	1	U	1	U	1	U																		
Tetrachloroethene (PCE)	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	**2**	**JB**	**2**	**JB**	**1.5**	**J**	5	U	**0.64**	**J**	10	U	5.0	U	1	U	1	U	5	U	**1.2**	**J**	5	U	**0.77**	**J**	10	U	10	U	**0.45**	**J**	1	U	**0.63**	**J**																		
Trichloroethene	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	**1**	**J**	5	U	5	U	5	U	1.0	U	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	1	U	1	U	1	U																		
Toluene	5	5	U	5	U	5	U	1	U	10	U	1.0	U	1	U	1	U	5	U	5	U	5	U	5	U	**0.59**	**J**	10	U	5.0	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	10	U	**0.59**	**J**	1	U	1	U																		
Xylene (Total)	NS	5	U	5	U	5	U	2	U	10	U	2.0	U	2	U	2	U	**46**		**46**		**31**		5	U	**43**		5	U	5.0	U	2	U	2	U	5	U	**4**	**J**	2	U	2.0	U	10	U	10	U	**4**	**J**	2	U	2	U																		
Total VOCs [2]		**ND**		**ND**		**ND**		**ND**		**ND**		**1.4**	**J**	**ND**		**ND**		**162**	**JB**	**157**	**JB**	**203**	**J**	**6**	**J**	**70.7**	**J**	**5**	**J**	**98.5**	**J**	**ND**		**ND**		**ND**		**1.2**	**J**	**5**	**J**	**0.77**	**J**	**ND**		**4**	**J**	**14.04**	**J**	**ND**		**0.63**	**J**																		
Field Parameter Results																		

Table 2
Groundwater Analytical Results

Korkay, Inc.
Broadalbin, New York (Site #518014)

August 2007 to May2019

Well ID		VEW-1																VEW-2																						VEW-3																	
	AWQS or GV	8/14/07		11/25/08		3/25/10		1/10/12		6/25/13		10/13/15		3/16/17		5/14/19		8/14/07		11/25/08		3/25/10		1/10/12		6/25/13		10/13/15		3/16/17		3/16/2017 [1]		5/14/19		8/14/07		11/25/08		3/25/10		1/10/12		6/25/13		10/14/15		3/16/17		5/14/19									
Volatile Organic Compounds (µg/L)																																																										
1,2,4-Trimethylbenzene	5	**230**	D	**410**	D	**220**		NA		10	U	**240**		**51**		**230**		**22**		**9.8**		5	U	NA		10	U	**170**		1	U	1	U	1	U	**130**		**130**		**2**	J	NA		**37**	JN	NA		1	U	**30**	
1,2-Dichlorobenzene	3	**23**		**34**		**19**		**24**		**17**		**19**		**3.9**		**15**		**1**	J	**1.2**	J	5	U	1.0	U	10	U	**18**		1	U	1	U	1	U	**30**		**25**		5	U	**3.1**		**5**	J	NA		1	U	**6.9**	
1,3,5-Trimethylbenzene	5	**230**	D	**410**	D	**200**		NA		**240**	JN	**270**		**62**		**200**		**1**	J	5	U	5	U	NA		10	U	**57**		1	U	1	U	1	U	**110**		**110**		**1.8**	J	NA		**28**	JN	NA		1	U	**21**	
1,1-Dichloroethane	5	5	U	5	U	13	U	1.0		10	U	NA		2	U	1	U	5	U	5	U	5	U	1.0		10	U	NA		1	U	1	U	1	U	5	U	5	U	5	U	1.0		10	U	NA		1	U	1	U		
1,4-Dichlorobenzene	3	**1**	J	**2.3**	J	13	U	1.0	U	10	U	2	U	2	U	**1.2**		5	U	5	U	5	U	1.0	U	10	U	1	U	1	U	1	U	1	U	**1.0**	J	5	U	5	U	1.0	U	10	U	NA		1	U	1	U		
2-Butanone (MEK)	50 (GV)	**13**		**17**		13	U	**2.5**	J	10	U	**15**	J	2	U	5	U	5	U	5	U	5	U	1.0	U	10	U	10	U	10	U	5	U	5	U	**9**		**11**		5	U	**3.2**	J	10	U	NA		1	U	5	U		
4-Isopropyltoluene	5	**36**		5	U	**59**		1.0	U	10	U	**45**		**10**		**40**		5	U	5	U	5	U	1.0	U	10	U	**3.8**		1	U	1	U	1	U	**12**		**12**		5	U	1.0	U	10	U	NA		1	U	**1.3**			
Acetone	50 (GV)	**10**		**34**		13	U	**6.2**	J	10	U	**37**		**6.5**	J	5	U	5	U	5	U	5	U	10	U	10	U	**11**		**3**	J	10	U	5	U	5	U	5	U	5	U	5	U	10	U	10	U	NA		**3.2**	J	5	U		
Carbon Disulfide	60	**1**	J	5	U	13	U	1.0	U	10	U	2	U	2	U	**0.25**	J	5	U	5	U	5	U	1.0	U	10	U	1	U	1	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	NA		1	U	1	U		
Chloroform	7	5	U	5	U	13	U	1.0	U	10	U	2	U	2	U	1	U	5	U	5	U	5	U	1.0	U	10	U	1	U	1	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	NA		1	U	1	U		
Chloroethane	5	5	U	5	U	**4.7**	J	1.0	U	10	U	2	U	2	U	1	U	5	U	5	U	5	U	1.0	U	10	U	1	U	1	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	NA		1	U	1	U		
Chloromethane	NS	5	U	5	U	**6.7**	J	1.0	U	10	U	2	U	2	U	1	U	5	U	5	U	5	U	1.0	U	10	U	1	U	1	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	NA		1	U	1	U		
cis-1,2-Dichloroethene	5	**130**		**84**		**39**		**22**		**5**	J	**19**		2	U	**7.7**		**39**		**4.6**	J	5	U	1.0	U	10	U	**9.9**		1	U	1	U	**1.6**		**4**	J	**2.6**	J	5	U	1.0	U	10	U	NA		1	U	**0.35**	J		
Cyclohexane	NS	NA		NA		NA		**0.47**	J	10	U	2	U	2	U	1	U	NA		NA		NA		1.0	U	10	U	**1.3**		1	U	1	U	1	U	NA		NA		NA		1.0	U	10	U	NA		1	U	1	U		
Ethylbenzene	5	**29**		**54**		**28**		**25**		**24**		**28**		**3.6**		**15**		**5**		**1.6**	J	5	U	1.0	U	10	U	**45**		1	U	1	U	1	U	**32**		**38**		5	U	**6.6**		**10**		NA		1	U	**13**			
Isopropylbenzene	5	**11**		**23**		**12**	J	**13**		**11**		**12**		**2.1**		**11**		5	U	5	U	5	U	1.0	U	10	U	**11**		1	U	1	U	1	U	**6**		**6.9**		5	U	**0.87**	J	**1**	J	NA		1	U	**1.7**			
Methylcyclohexane	NS	NA		NA		NA		**3.4**		**3**	JZ	**1.8**	J	**0.51**	JF1F2	**2.6**		NA		NA		NA		1.0	U	10	U	**0.83**	J	1	U	1	U	1	U	NA		NA		NA		1.0	U	10	U	NA		1	U	1	U		
m,p-Xylene	5	**49**		**100**		**51**		**47**		NA		**58**		**7.7**		**33**		**5**		**1.8**	J	5	U	2.0	U	NA		**150**		2	U	2	U	1	U	**120**		**150**		**2.9**	J	**22**		NA	U	NA		2	U	**43**			
n-Butylbenzene	5	**54**		5	U	**47**		1.0	U	10	U	**62**		**14**		**21**		5	U	5	U	5	U	1.0	U	10	U	1	U	1	U	1	U	1	U	**17**		**15**		5	U	1.0	U	10	U	NA		1	U	1	U		
n-Propylbenzene	5	**14**		**30**		**19**		1.0	U	10	U	**18**		**3.5**		**19**		**1**	J	**1.1**	J	5	U	1.0	U	10	U	**15**		1	U	1	U	1	U	**7**		**8.9**		5	U	1.0	U	10	U	NA		1	U	**1.7**			
Methylene Chloride	5	5	U	5	U	13	U	1.0	U	10	U	NA		2	U	1	U	5	U	5	U	5	U	1.0	U	10	U	NA		1	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	NA		1	U	1	U		
Naphthalene	10 (GV)	**110**	B	5	U	**78**		1.0	U	10	U	**110**		**17**		**77**		**6**	B	**4.4**	J	5	U	1.0	U	10	U	**45**		1	U	1	U	1	U	**70**		**45**		**1.8**	J	1.0	U	10	U	NA		1	U	**13**			
o-Xylene	5	**250**	D	**330**	D	**160**		**180**	D	NA		**200**		**33**		**140**		**17**		**4.5**	J	5	U	1.0	U	NA		**99**		1	U	1	U	1	U	**110**		**110**		**2.1**	J	**16**		NA		NA		1	U	**27**			
Styrene	5	5	U	5	U	13	U	1.0	U	10	U	2	U	2	U	1	U	5	U	5	U	5	U	1.0	U	10	U	1	U	1	U	1	U	1	U	5	U	5	U	5	U	1.0	U	10	U	NA		1	U	1	U		
sec-Butylbenzene	5	**17**		5	U	**19**		NA		10	U	**19**		**4.5**		**19**		5	U	5	U	5	U	NA		10	U	**1.8**		1	U	1	U	1	U	**4**	J	**5.1**		5	U	NA		10	U	NA		1	U	**0.88**	J		
tert- Butylbenzene	5	**4**	J	5	U	13	U	NA		10	U	**4.6**		2	U	**4.7**		5	U	5	U	5	U	NA		10	U	1	U	1	U	1	U	1	U	**2**	J	5	U	5	U	NA		10	U	NA		1	U	1	U		
Tetrachloroethene (PCE)	5	**2**	JB	**1.7**	J	13	U	**0.99**	J	**1**	J	2	U	2	U	**1.1**		5	U	5	U	5	U	1.0	U	10	U	1	U	1	U	1	U	1	U	**1**	J	**1.2**	J	5	U	**1.4**		10	U	NA		1	U	**0.58**	J		
Trichloroethene	5	**2**	J	**3.1**	J	13	U	**1.6**		**2**	J	2	U	**2.1**		**2.4**		5	U	5	U	5	U	**0.88**	J	**3**	J	**0.47**	J	**1.1**		**0.9**	J	**1.5**		5	U	5	U	5	U	1.0	U	10	U	NA		1	U	1	U		
Toluene	5	**4**	J	**4.4**	J	**3.4**	J	**1.6**		**2**	J	**2**		2	U	**1.2**		**3**	J	5	U	5	U	1.0	U	10	U	**17**		1	U	1	U	1	U	5	U	**7.9**		5	U	**3.2**		**4**	J	NA		1	U	**2.4**			
Xylene (Total)	NS	**299**	D	**420**		**220**		**230**	D	**210**		**260**		**41**		**170**		**22**		**6.3**		5	U	2.0	U	10	U	**250**		2	U	2	U	2	U	**230**		**260**		**5**		**38**		**64**		NA		2	U	**71**			
Total VOCs [2]		**1,220**	JDB	**1,538**	DJ	**966**	J	**327.76**	JD	**305**	JNZ	**1,160.4**	J	**221.41**	JF1F2	**841.15**	J	**100**	JB	**29**	J	**ND**		**0.88**	J	**3**	J	**656.1**	J	**4.1**	J	**0.9**	J	**3.1**		**665**	J	**679**	J	**11**	J	**56.37**	J	**85**	JN	NA		**3.2**	J	**162.81**	J		
Field Parameter Results																																																							
DO (mg/L)	NA	NA		NA		NA		NA		NA		NA		**4.75**		**3.98**		NA		NA		NA		NA		NA		NA		**8.21**				**7.08**		NA		NA		NA		NA		NA		NA		**8.95**		**5.85**			
ORP (MeV)	NA	NA		NA		NA		NA		NA		NA		**217.1**		**-14.5**		NA		NA		NA		NA		NA		NA		**197.3**				**51.2**		NA		NA		NA		NA		NA		NA		**133.4**		**19.8**			
Sodium Persulfate (mg/L)	NA	NA		NA		NA		NA		NA		NA		**0**		**0**		NA		NA		NA		NA		NA		NA		**3**				**0**		NA		NA		NA		NA		NA		NA		**0.7**		**0**			
Semi-Volatile Organic Compounds(µg/L)																																																						
1,2-Dichlorobezene	3	**25**		NA		NA		4.7	U	NA		NA		NA		NA		**1**	J	NA		NA		4.7	U	NA		NA		NA		NA		**21**		NA		NA		4.7	U	NA		NA		NA		NA			
1,4-Dichlorobenzene	3	**2**	J	NA		NA		4.7	U	NA		NA		NA		NA		10	U	NA		NA		4.7	U	NA		NA		NA		NA		10	U	NA		NA		4.7	U	NA		NA		NA		NA			
2,4,5-Trichlorophenol	NS	NA		NA		NA		NA		NA		NA		5	U	10	U	NA		NA		NA		NA		NA		NA		5	U	5	U	10	U	NA		NA		NA		NA		NA		5	U	10	U		
2,4-Dimethylphenol	50 (GV)	10		NA		NA		4.7	U	NA		**9.3**	J	5	U	10	U	**4**	J	NA		NA		4.7	U	NA		**9.5**		5	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		NA		5	U	10	U		
2-Methylnaphthalene	NS	**24**		NA		NA		**15**		NA		49	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		**2.6**	J	5	U	5	U	10	U	**2**	J	NA		NA		4.7	U	NA		NA		5	U	10	U		
4-Methylphenol	NS	**56**		NA		NA		**95**		NA		**12**	J	**0.45**	J	10	U	**6**	J	NA		NA		9.4	U	NA		**5.3**	J	10	U	10	U	10	U	10	U	NA		NA		9.4	U	NA		NA		10	U	10	U		
Acetophenone	NS	NA		NA		NA		**180**		NA		49	U	5	U	10	U	NA		NA		NA		4.7	U	NA		5.2	U	5	U	5	U	10	U	NA		NA		NA		**6.8**		NA		NA		5	U	10	U		
Benzaldehyde	NS	10		NA		NA		NA		NA		NA		5	U	10	U	10	U	NA		NA		NA		NA		5.2	U	5	U	5	U	10	U	NA		NA		NA		NA		NA		NA		5	U	10	U		
Biphenyl	5	NA		NA		NA		4.7	U	NA		49	U	5	U	10	U	NA		NA		NA		4.7	U	NA		5.2	U	5	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		NA		5	U	10	U		
BIS (2-Ethylhexyl) phthalate	50 (GV)	**1**	J	NA		NA		4.7	U	NA		49	U	5	U	2	U	**1**	J	NA		NA		4.7	U	NA		5.2	U	5	U	5	U	2	U	**1**	J	NA		NA		4.7	U	NA		NA		5	U	2	U		
Di-n-butylphthalate	50	**15**		NA		NA		**10**		NA		**7.1**	J	**3.6**	J	**3.9**	J	10	U	NA		NA		4.7	U	NA		**0.72**	J	5	U	5	U	10	U	**1**	J	NA		NA		4.7	U	NA		NA		5	U	10	U		
Diethyl phthalate	50 (GV)	10		NA		NA		4.7	U	NA		49	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		5.2	U	5	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		NA		5	U	10	U		
Di-n-octylphthalate	50 (GV)	NA		NA		NA		NA		NA		NA		5	U	10	U	NA		NA		NA		NA		NA		5.2	U	5	U	5	U	10	U	NA		NA		NA		NA		NA		NA		5	U	10	U		
Fluorene	50 (GV)	10		NA		NA		4.7	U	NA		49	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		5.2	U	5	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		NA		5	U	10	U		
Naphthalene	10 (GV)	**110**		NA		NA		**76**		NA		49	U	**2.1**	J	**4.8**	J	**2**	J	NA		NA		4.7	U	NA		**20**		5	U	5	U	10	U	**31**		NA		NA		**5.3**		NA		NA		5	U	**1.2**	J		
Acenaphthene	20	10		NA		NA		4.7	U	NA		49	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		5.2	U	5	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		NA		5	U	10	U		
Dibenzofuran	NS	10		NA		NA		9.4	U	NA		**98**		10	U	10	U	10	U	NA		NA		4.7	U	NA		10	U	10	U	10	U	10	U	10	U	NA		NA		9.4	U	NA		NA		10	U	10	U		
Fluoranthene	50(GV)	NA		NA		NA		NA		NA		NA		5	U	10	U	NA		NA		NA		NA		NA		NA		5	U	5	U	10	U	NA		NA		NA		NA		NA		NA		5	U	10	U		
Phenanthrene	50(GV)	NA		NA		NA		NA		NA		NA		5	U	10	U	NA		NA		NA		NA		NA		NA		5	U	5	U	10	U	NA		NA		NA		NA		NA		NA		5	U	10	U		
Phenol	1	10		NA		NA		4.7	U	NA		**9.9**	J	5	U	10	U	10	U	NA		NA		4.7	U	NA		5.2	U	5	U	5	U	10	U	10	U	NA		NA		4.7	U	NA		NA		5	U	10	U		
Organochlorine Pesticides (µg/L)																																																						
Aldrin	ND	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
alpha-BHC	0.01	NA		NA		NA		NR		NR		**0.29**	BJ	0.25	U	0.020	U	NA		NA		NA		NR		NR		**0.029**	BJ	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
alpha-Chlordane	NS	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
beta-BHC	0.04	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
delta-BHC	0.04	NA		NA		NA		NR		NR		**0.33**	J	0.25	U	0.020	U	NA		NA		NA		NR		NR		**0.039**	J	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
Dieldrin	0.004	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
Endosulfan II	NS	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
Endosulfan Sulfate	NS	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
Endrin Aldehyde	5	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
gamma-BHC (Lindane)	0.05	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		**0.054**	J	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
Heptachlor	0.04	NA		NA		NA		2.4	U	0.05	U	1	U	0.25	U	0.020	U	NA		NA		NA		0.24	U	0.05	U	0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		0.24	U	0.05	U	NA		0.05	U	0.020	U		
Heptachlor Epoxide	0.03	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
Methoxychlor	35	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
4,4-DDD	0.3	NA		NA		NA		2.4	U	0.1	U	1	U	0.25	U	0.020	U	NA		NA		NA		0.24	U	0.1	U	0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		0.24	U	0.1	U	NA		0.05	U	0.020	U		
P, P' -DDT	0.2	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	**0.012**	J	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
P,P'-DDE	0.2	NA		NA		NA		NR		NR		1	U	0.25	U	0.020	U	NA		NA		NA		NR		NR		0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		NR		NR		NA		0.05	U	0.020	U		
gamma-Chlordane	NS	NA		NA		NA		2.4	U	0.05	U	1	U	0.25	U	0.020	U	NA		NA		NA		0.24	U	0.05	U	0.12	U	0.05	U	0.05	U	0.020	U	NA		NA		NA		0.24	U	0.05	U	NA		0.05	U	0.020	U		

Notes:
Results compared to the New York State Ambient Water Quality Standards (AWQS) and Guidance Values (GV) (TOGs 1.1.1)
NS - No standard or GV.
ND - Non-detectable concentration
NA - Not applicable
BOLD font indicates compound concentrations detected above method detection limits
Shaded cells indicate exceedance of AWQS or GV
U - Compound analyzed for but not detected
J - Estimated concentration for compound detected below the reporting limit
B - For organic analyses - compound detected in laboratory method blank; for inorganic analyses - indicates trace concentration below reporting limit and equal to or above the detection limit
B - For organic analyses - compound detected in laboratory method blank; for inorganic analyses - indicates trace concentration below reporting limit and equal to or above the detection limit
F1 - MS and/or MSD recovery is outside acceptable limits
F1 - MS and/or MSD recovery is outside acceptable limits
F2 - MS/MSD RPD exceeds control limits
ne - Not evaluated
nt - Not tested
[1] - Duplicate Sample
[2] - Sum of all VOC concentrations detected in the sample, except the "Xylene (Total)" concentration

Table 2
Groundwater Analytical Results

Korkay, Inc.
Broadalbin, New York (Site #518014)

August 2007 to May2019

| Well ID | | VEW-4 | | | | | | | | | | | | | | | | | | MW-17 | | | | | | | | | | | | | | | | | |

Table 2
Groundwater Analytical Results

Korkay, Inc.
Broadalbin, New York (Site #518014)

August 2007 to May2019

Well ID		MW-18																		MW-19						MW-20						MW-21													
	AWQS or GV	10/14/15		12/8/15		3/8/16		5/31/16		9/14/16		12/6/16		3/15/17		6/13/17		5/13/19		10/15/15		3/15/17		5/16/19		10/15/15		3/15/17		5/16/19		10/15/15		3/8/16		5/31/16		9/14/16		12/6/16		3/17/17		6/13/17		5/16/19	
Volatile Organic Compounds (µg/L)																																													
1,2,4-Trimethylbenzene	5	**440**		**15**		10	U	10	U	**3.3**	J	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	**140**		**0.91**	J	1	U	**130**		1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	3	**26**		10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	**1.1**		1	U	**12**		1	U	1	U	1	U	1	U
1,3,5-Trimethylbenzene	5	**180**		10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	**39**		1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	5	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	**0.27**	J	1	U	1	U	1	U	20	U	1	U	1	U	**0.9**	J	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	3	**4.4**	J	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Butanone (MEK)	50 (GV)	50	U	100	U	100	U	100	U	40	U	10	U	1	U	1	U	5	U	**5.8**	J	1	U	5	U	**1.5**	J	1	U	5	U	200	U	10	U	10	U	10	U	10	U	10	U	5	U
4-Isopropyltoluene	5	**31**		**3.5**	J	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	**12**	J	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Acetone	50 (GV)	50	U	**73**	J	100	U	100	U	**16**	J	10	U	10	U	**3.1**	J	5	U	10	U	10	U	5	U	10	U	**3**	J	5	U	200	U	10	U	10	U	10	U	10	U	10	U	5	U
Carbon Disulfide	60	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloroform	7	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	**0.37**	J	1	U	20	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloroethane	5	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	10	U	1	U	10	U	10	U	1	U	20	U	1	U	1	U	**0.72**	J	1	U	1	U	1	U	1	U
Chloromethane	NS	5	U	**17**		10	U	10	U	4	U	1	U	1	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	1	U	1	U	4	U	1	U	1	U
cis-1,2-Dichloroethene	5	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	**0.29**	J	1	U	1	U	1	U	20	U	**2.5**		**1.8**		**14**		1	U	1	U	**0.93**	J	1	U
Cyclohexane	NS	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	**1.7**		1	U	1	U	1	U	1	U
Ethylbenzene	5	**46**		10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	**43**		1	U	1	U	**70**		1	U	1	U	1	U	1	U
Isopropylbenzene	5	**21**		10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	**19**		1	U	1	U	1	U	1	U
Methylcyclohexane	NS	**7**		10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	**4.2**		**0.22**	J	1	U	1	U	1	U
m,p-Xylene	5	**220**		20	U	20	U	20	U	**2.6**	J	2.5	U	2	U	2	U	1	U	2	U	1	U	1	U	1	U	1	U	1	U	**54**		2	U	2	U	**1.2**	J	2	U	2	U	2	U	1	U
n-Butylbenzene	5	**41**		10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	**30**		1	U	1	U	**18**		1	U	1	U	1	U	1	U
n-Propylbenzene	5	**42**		10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	2	U	2	U	1	U	**15**	J	1	U	1	U	**28**		1	U	1	U	1	U	1	U
Methylene Chloride	5	5	U	**4.5**	J	**6.3**	J	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Naphthalene	10 (GV)	**55**		**9.2**	J	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
o-Xylene	5	**120**		10	U	10	U	10	U	**8.5**		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	**120**		1	U	1	U	**42**		1	U	1	U	1	U	1	U
Styrene	5	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
sec-Butylbenzene	5	**21**		10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
tert- Butylbenzene	5	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene (PCE)	5	**18**		10	U	**3.6**	J	10	U	**11**		**6.9**		**5.4**		**2.2**		**3.4**		1	U	1	U	1	U	1	U	1	U	1	U	20	U	1	U	1	U	**0.52**	J	1	U	1	U	1	**U**	1	U
Trichloroethene	5	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	**0.49**	J	1	U	1	U	20	U	1	U	1	U	**0.63**	J	1	U	1	U	1	U	1	U
Toluene	5	5	U	10	U	10	U	10	U	4	U	1	U	1	U	1	U	1	U	1	U	1	U	2	U	1	U	1	U	1	U	20	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Xylene (Total)	NS	**340**		20	U	20	U	20	U	**11**		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	**170**		1	U	1	U	**43**		2	U	2	U	2	U	2	U
Total VOCs [2]		**1272.4**	J	**122.2**	J	**9.9**	J	--		**41.4**	J	**6.9**		**5.4**		**5.3**	J	**3.4**		**5.8**	J	**ND**		**0.56**	J	**1.99**	J	**3.37**	J	**ND**		**453**	J	**4.51**	J	**1.8**		**342.87**	J	**0.22**	J	**ND**		**0.93**	J	**ND**	
Field Parameter Results																																													
DO (mg/L)	NA	ne		**29**		**42**		**19**		**24.88**		**22.8**		**18.02**		**20.44**		**11.29**		NA		**0.82**		**1.84**		NA		**8.51**		**7.5**		ne		**1.2**		**3.7**		**0.25**		**6.09**		**6.17**		**2.35**		**7.76**	
ORP (MeV)	NA	ne		**199**		**147**		**166**		**180.3**		**172.3**		**165.4**		**209.4**		**96.5**		NA		**228.4**		**68.7**		NA		**284.5**		**43.3**		ne		**-78**		**-18**		**-108.7**		**84.7**		**155.3**		**140.4**		**52.2**	
Sodium Persulfate (mg/L)	NA	nt		nt		**70**		**10**		**70**		**3.5**		**5.6**		**1.4**		**0**		NA		**14**		**0**		NA		**0.7**		**0**		nt		**2.5**		**0.7**		**0.7**		**4.2**		**1.4**		**1**		**0**	
Semi-Volatile Organic Compounds(µg/L)																																													
1,2-Dichlorobezene	3	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	3	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
2,4,5-Trichlorophenol	NS	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2F1	4.6	U	4.8	U	5	U	5	U	10	U
2,4-Dimethylphenol	50 (GV)	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	**2.4**	J	4.6	U	4.6	F2F1	4.6	U	4.8	U	5	U	5	U	10	U
2-Methylnaphthalene	NS	26	U	**5.4**		4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2	4.6	U	**0.83**	J	5	U	5	U	10	U
4-Methylphenol	NS	**9.0**	J	**1.5**	J	9.7	U	9.9	U	4.6	U	25	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	**1.7**	J	9.2	U	9.3	F2	4.6	U	4.8	U	10	U	10	U	10	U
Acetophenone	NS	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2F1	4.6	U	4.8	U	5	U	5	U	10	U
Benzaldehyde	NS	26	U	**8.5**		4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2	4.6	U	4.8	U	5	U	5	U	10	U
Biphenyl	5	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2	4.6	U	4.8	U	5	U	5	U	10	U
BIS (2-Ethylhexyl) phthalate	50 (GV)	26	U	4.6	U	**0.52**	JB	5.0	U	4.6	U	25	U	5	U	5	U	2	U	5	U	5	U	2	U	5	U	5	U	2	U	**0.61**	JB	4.6	U	4.6	F2F1	4.6	U	4.8	U	5	U	5	U	2	U
Di-n-butylphthalate	50	26	U	**0.47**	J	4.9	U	5.0	U	4.6	U	25	U	5	U	**0.63**	J	10	U	5	U	5	U	10	U	5	U	5	U	10	U	**0.71**	J	4.6	U	4.6	F2	**0.96**	J	4.8	U	5	U	**0.61**	J	10	U
Diethyl phthalate	50 (GV)	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2F1	4.6	U	4.8	U	5	U	5	U	10	U
Di-n-octylphthalate	50 (GV)	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	**0.93**	J	4.6	U	4.6	F2	4.6	U	4.8	U	5	U	5	U	10	U
Fluorene	50 (GV)	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2F1	4.6	U	**0.5**	J	5	U	5	U	10	U
Naphthalene	10 (GV)	26	U	4.6	U	**0.78**	J	5.0	U	**1.9**	J	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2	4.6	U	**0.75**	J	5	U	5	U	10	U
Acenaphthene	20	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2	4.6	U	**0.87**	J	5	U	5	U	10	U
Dibenzofuran	NS	26	U	4.6	U	9.8	U	10	U	9.2	U	50	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	11.4	U	9.2	U	9.2	U	9.2	U	**0.58**	J	10	U	10	U	10	U
Fluoranthene	50(GV)	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2	4.6	U	**0.46**	J	5	U	5	U	10	U
Phenanthrene	50(GV)	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	F2	4.6	U	**0.97**	J	5	U	5	U	10	U
Phenol	1	26	U	4.6	U	4.9	U	5.0	U	4.6	U	25	U	5	U	5	U	10	U	5	U	5	U	10	U	5	U	5	U	10	U	5.7	U	4.6	U	4.6	U	4.6	U	4.8	U	5	U	5	U	10	U
Organochlorine Pesticides (µg/L)																																													
Aldrin	ND	0.25	U	**0.11**	J	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
alpha-BHC	0.01	0.25	U	**0.13**	J	**0.05**	J	0.049	U	**0.058**	J	0.05	U	**0.0093**	J	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	**0.03**	J	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
alpha-Chlordane	NS	0.25	U	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	**0.017**	J	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
beta-BHC	0.04	0.25	U	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
delta-BHC	0.04	0.25	U	**0.25**	J	**0.057**	J	**0.018**	J	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	**0.014**	J	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
Dieldrin	0.004	0.25	U	**0.1**	J	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
Endosulfan II	NS	0.25	U	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
Endosulfan Sulfate	NS	0.25	U	**0.24**	J	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
Endrin Aldehyde	5	0.25	U	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
gamma-BHC (Lindane)	0.05	0.25	U	**0.13**	J	**0.063**	JB	0.049	U	0.24	U	**0.013**	JB	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	**0.017**	JB	**0.0089**	J	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
Heptachlor	0.04	**0.11**	J	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
Heptachlor Epoxide	0.03	0.25	U	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
Methoxychlor	35	0.25	U	**0.13**	J	0.23	U	0.049	U	**0.16**	J	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
4,4-DDD	0.3	0.25	U	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
P, P' -DDT	0.2	0.25	U	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	**0.012**	J	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
P,P'-DDE	0.2	0.25	U	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	0.05	U	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U
gamma-Chlordane	NS	0.25	U	0.46	U	0.23	U	0.049	U	0.24	U	0.05	U	**0.013**	J	0.05	U	0.020	U	0.053	U	0.05	U	0.020	U	0.051	U	0.05	U	0.020	U	0.25	U	0.098	U	0.047	U	0.23	U	0.048	U	0.05	U	0.05	U	0.020	U

Notes:
Results compared to the New York State Ambient Water Quality Standards (AWQS) and Guidance Values (GV) (TOGs 1.1.1)
NS - No standard or GV.
ND - Non-detectable concentration
NA - Not applicable
BOLD font indicates compound concentrations detected above method detection limits
Shaded cells indicate exceedance of AWQS or GV
U - Compound analyzed for but not detected
J - Estimated concentration for compound detected below the reporting limit
B - For organic analyses - compound detected in laboratory method blank; for inorganic analyses - indicates trace concentration below reporting limit and equal to or above the detection limit
B - For organic analyses - compound detected in laboratory method blank; for inorganic analyses - indicates trace concentration below reporting limit and equal to or above the detection limit
F1 - MS and/or MSD recovery is outside acceptable limits
F1 - MS and/or MSD recovery is outside acceptable limits
F2 - MS/MSD RPD exceeds control limits
ne - Not evaluated
nt - Not tested
[1] - Duplicate Sample
[2] - Sum of all VOC concentrations detected in the sample, except the "Xylene (Total)" concentration

Table 2
Groundwater Analytical Results

Korkay, Inc.
Broadalbin, New York (Site #518014)

August 2007 to May2019

| Well ID | | MW-22 | | |

Table 3

Summary of PFOA/PFOS and 1,4-Dioxane Groundwater Analytical Results
Korkay, Inc.
Broadalbin, New York (Site #518014)

May 2019

Well ID	MW-8D				MW-8S						MW-15D				MW-15S				ASW					
	3/17/17		5/16/19		3/17/17		5/16/19		5/16/2019[1]		3/15/17		5/15/19		3/15/17		5/13/19		3/16/17		6/14/17		5/14/19	
PFAS - Per-and Polyfluoroalkyl Substances (ng/L)																								
Perfluorooctanoic acid (PFOA)	**1.3**	**J**	**2.7**	**J**	**5.2**		**0.69**	**J**	**0.59**	**J**	**1.6**	**J**	**2.1**		**11**		**5.8**	**J**	**21**		**21**		**24**	**J**
Perfluorooctanesulfonic acid (PFOS)	2	U	**2.1**	**UJ**	**17**		8.0	**UJ**	1.7	**UJ**	2	U	1.7	**UJ**	**140**		**26**		**310**		**290**		**240**	**J**
Perfluorobutanoic acid (PFBA)	NA		**1.0**	**J**	NA		1.7	**UJ**	1.7	U	NA		**1.8**		NA		8.5	**UJ**	NA		NA		8.1	**UJ**
Perfluoropentanoic acid (PFPeA)	NA		**2.2**		NA		1.7	U	1.7	U	NA		1.7	U	NA		**2.8**	**J**	NA		NA		8.1	U
Perfluorohexanoic acid (PFHxA)	NA		**1.4**	**J**	NA		1.7	**UJ**	1.7	**UJ**	NA		1.7	U	NA		8.5	U	NA		NA		**6.2**	**J**
Perfluoroheptanoic acid (PFHpA)	2	U	**1.1**	**J**	**1.7**	**J**	1.7	U	1.7	**UJ**	2	U	1.7	U	**4.6**		8.5	U	**11**		**7.5**		**8.1**	**J**
Perfluorononanoic acid (PFNA)	2	U	**0.24**	**J**	2	U	1.7	**UJ**	1.7	**UJ**	2	U	1.7	U	**0.75**	**J**	8.5	U	**5**		**3.6**		**6.5**	**J**
Perfluorodecanoic acid (PFDA)	NA		1.7	U	NA		1.7	**UJ**	1.7	**UJ**	NA		1.7	U	NA		8.5	U	NA		NA		8.1	**UJ**
Perfluoroundecanoic acid (PFUnA)	NA		1.7	U	NA		1.7	U	1.7	U	NA		1.7	U	NA		8.5	U	NA		NA		8.1	**UJ**
Perfluorododecanoic acid (PFDoA)	NA		1.7	**UJ**	NA		1.7	**UJ**	1.7	**UJ**	NA		1.7	U	NA		8.5	U	NA		NA		8.1	U
Perfluorotridecanoic acid (PFTriA)	NA		1.7	U	NA		1.7	U	1.7	U	NA		1.7	U	NA		8.5	U	NA		NA		8.1	U
Perfluorotetradecanoic acid (PFTeA)	NA		1.7	**UJ**	NA		1.7	**UJ**	1.7	**UJ**	NA		1.7	**UJ**	NA		8.5	U	NA		NA		8.1	U
Perfluorobutanesulfonic acid (PFBS)	2	U	1.7	**UJ**	**6.9**		**1.0**	**J**	**1.2**	**J**	2	U	1.7	U	**1.8**	**J**	8.5	U	2	U	2	U	**22**	**J**
Perfluorohexanesulfonic acid (PFHxS)	2	U	1.7	**UJ**	**2.4**		**1.0**	**J**	1.7	**UJ**	2	U	1.7	**UJ**	**2.9**		8.5	U	**5.4**		**2.9**		**12**	**J**
Perfluoroheptanesulfonic acid (PFHpS)	NA		1.7	U	NA		1.7	U	1.7	U	NA		1.7	U	NA		8.5	U	NA		NA		**7.5**	**J**
Perfluorodecanesulfonic acid (PFDS)	NA		1.7	U	NA		1.7	U	1.7	U	NA		1.7	U	NA		8.5	U	NA		NA		8.1	U
Perfluorooctanesulfonamide (FOSA)	NA		1.7	U	NA		1.7	U	1.7	U	NA		1.7	U	NA		8.5	U	NA		NA		8.1	**UJ**
NMeFOSAA	NA		17	**UJ**	NA		17	**UJ**	17	**UJ**	NA		17	**UJ**	NA		85	U	NA		NA		330	**UJ**
NEtFOSAA	NA		17	U	NA		**1.7**	**J**	17	**UJ**	NA		17	U	NA		**16**	**J**	NA		NA		**170**	**J**
6:2 Fluorotelomersulfonate (6:2 FTS)	NA		17	U	NA		17	U	17	U	NA		17	U	NA		85	U	NA		NA		81	U
8:2 Fluorotelomersulfonate (8:2 FTS)	NA		17	U	NA		17	U	17	U	NA		17	U	NA		85	U	NA		NA		330	U
1,4 - Dioxane (ug/L)																								
1,4 - Dioxane	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	NS		0.4	U	NS		0.4	U	NS		NS	

Notes:
NA - Sample not analyzed for this compound
NS - Not sampled for this compound
BOLD font indicates compound concentrations detected above method detection limits
Shaded cells represent exceedance of the USEPA Health Advisory Limits of 70 parts per trillion (ng/L) for PFOA and PFOS, individually and combined.
U - Compound analyzed for but not detected
J - Estimated concentration for compound detected below the reporting limit, or qualified through data usability review.
UJ - Compound analyzed for but not detected. Reported quantitation limit is approximate and may be inaccurate or imprecise.
[1] - Duplicate Sample

Table 3

Summary of PFOA/PFOS and 1,4-Dioxane Groundwater Analytical Results
Korkay, Inc.
Broadalbin, New York (Site #518014)

May 2019

Well ID	MW-16D				K-2				K-3				VEW-1				VEW-2					
	3/17/17		5/15/19		3/16/17		5/15/19		3/16/17		5/13/19		3/16/17		5/14/19		3/16/17		3/16/2017[1]		5/14/2019	
PFAS - Per-and Polyfluoroalkyl Substances (ng/L																						
Perfluorooctanoic acid (PFOA)	**3.8**		**6.1**	**J**	**150**		**44**	**J**	**20**		**15**	**J**	**110**		**76**	**J**	**81**		**80**		**71**	**J**
Perfluorooctanesulfonic acid (PFOS)	2	U	**1.6**	**UJ**	**1500**		**1400**	**J**	**240**		**330**	**J**	**1400**		**1500**		**1100**		**1100**		**2100**	
Perfluorobutanoic acid (PFBA)	NA		1.7	**UJ**	NA		8.6	U	NA		**9.6**	**J**	NA		8.2	**UJ**	NA		NA		8.5	**UJ**
Perfluoropentanoic acid (PFPeA)	NA		**0.6**	**J**	NA		**4.8**	**J**	NA		**3.3**	**J**	NA		**6.1**	**J**	NA		NA		**13**	
Perfluorohexanoic acid (PFHxA)	NA		**0.94**	**J**	NA		**4.6**	**J**	NA		8.4	U	NA		**14**		NA		NA		**12**	
Perfluoroheptanoic acid (PFHpA)	2	U	**1.0**	**J**	**12**		**6.1**	**J**	**2.7**		8.4	U	**20**		**19**		**11**		**11**		**19**	
Perfluorononanoic acid (PFNA)	2	U	**0.48**	**J**	**5**		**1.6**	**J**	**0.8**	**J**			**2.5**		**6.3**	**J**	**3.3**		**3.3**		**9.5**	
Perfluorodecanoic acid (PFDA)	NA		1.7	U	NA		8.6	U	NA		8.4	U	NA		8.2	U	NA		NA		8.5	U
Perfluoroundecanoic acid (PFUnA)	NA		1.7	U	NA		8.6	U	NA		8.4	U	NA		8.2	U	NA		NA		8.5	U
Perfluorododecanoic acid (PFDoA)	NA		1.7	**UJ**	NA		8.6	U	NA		8.4	U	NA		8.2	U	NA		NA		8.5	U
Perfluorotridecanoic acid (PFTriA)	NA		1.7	U	NA		8.6	U	NA		8.4	U	NA		8.2	U	NA		NA		8.5	U
Perfluorotetradecanoic acid (PFTeA)	NA		1.7	**UJ**	NA		8.6	U	NA		8.4	U	NA		8.2	U	NA		NA		8.5	U
Perfluorobutanesulfonic acid (PFBS)	2	U	1.7	**UJ**	**1.8**	**J**	8.6	**UJ**	**4.6**		8.4	U	**2**		8.2	U	**1.6**	**J**	**1.7**	**J**	8.5	U
Perfluorohexanesulfonic acid (PFHxS)	2	U	1.7	**UJ**	**15**		**5.0**	**J**	**37**		**13**	**J**	**14**		**30**	**J**	**16**		**16**		**18**	
Perfluoroheptanesulfonic acid (PFHpS)	NA		1.7	U	NA		8.6	U	NA		**4.9**	**J**	NA		**15**		NA		NA		**25**	
Perfluorodecanesulfonic acid (PFDS)	NA		1.7	U	NA		8.6	U	NA		8.4	U	NA		8.2	U	NA		NA		8.5	U
Perfluorooctanesulfonamide (FOSA)	NA		1.7	U	NA		8.6	U	NA		8.4	U	NA		8.2	U	NA		NA		**68**	
NMeFOSAA	NA		17	**UJ**	NA		86	**UJ**	NA		84	U	NA		82	U	NA		NA		85	U
NEtFOSAA	NA		17	**UJ**	NA		86	U	NA		84	U	NA		**100**	**J**	NA		NA		**23**	**J**
6:2 Fluorotelomersulfonate (6:2 FTS)	NA		17	U	NA		86	U	NA		84	U	NA		82	U	NA		NA		85	U
8:2 Fluorotelomersulfonate (8:2 FTS)	NA		17	U	NA		86	U	NA		84	U	NA		82	U	NA		NA		85	U
1,4 - Dioxane (ug/L)																						
1,4 - Dioxane	0.4	U	NS		0.4	U	NS		0.4	U	NS		0.4	U	NS		0.4	U	0.4	U	NS	

Notes:
NA - Sample not analyzed for this compound
NS - Not sampled for this compound
BOLD font indicates compound concentrations detected above method detection limits
Shaded cells represent exceedance of the USEPA Health Advisory Limits of 70 parts per trillion (ng/L) for PFOA and PFOS, individually and combined.
U - Compound analyzed for but not detected
J - Estimated concentration for compound detected below the reporting limit, or qualified through data usability review.
UJ - Compound analyzed for but not detected. Reported quantitation limit is approximate and may be inaccurate or imprecise.
[1] - Duplicate Sample

Table 3

Summary of PFOA/PFOS and 1,4-Dioxane Groundwater Analytical Results
Korkay, Inc.
Broadalbin, New York (Site #518014)

May 2019

Well ID	VEW-3				VEW-4				MW-17						MW-18						MW-19			
	3/16/17		5/14/19		3/16/17		5/14/19		3/15/17		6/13/17		5/13/19		3/15/17		6/13/17		5/13/19		3/15/17		5/16/19	
PFAS - Per-and Polyfluoroalkyl Substances (ng/L																								
Perfluorooctanoic acid (PFOA)	**130**		**180**	**J**	**75**		**110**	**J**	**27**		**18**		**9.2**	**J**	**14**		**9.2**		**49**	**J**	**11**		**20**	**J**
Perfluorooctanesulfonic acid (PFOS)	**960**		**1900**	**J**	**1300**		**1800**	**J**	**170**		**260**		**160**		**48**		**41**		**81**		**28**		**38**	**J**
Perfluorobutanoic acid (PFBA)	NA		8.6	U	NA		8.2	**UJ**	NA		NA		8.0	**UJ**	NA		NA		8.4	**UJ**	NA		8.4	U
Perfluoropentanoic acid (PFPeA)	NA		**3.6**	**J**	NA		**22**		NA		NA		**3.5**	**J**	NA		NA		**13**		NA		**12**	
Perfluorohexanoic acid (PFHxA)	NA		**13**	**J**	NA		**14**	**J**	NA		NA		**5.3**	**J**	NA		NA		**13**		NA		**11**	
Perfluoroheptanoic acid (PFHpA)	**11**		**14**		**9.4**		**26**	**J**	**12**		**12**		**4.3**	**J**	**3.2**		**1.8**	**J**	**13**		**4.9**		**15**	
Perfluorononanoic acid (PFNA)	**4.3**		**5.7**	**J**	**5.5**		**9.6**		**2.4**		**2.5**		**1.2**	**J**	**0.89**	**J**	2	U	8.4	U	**0.9**	**J**	8.4	**UJ**
Perfluorodecanoic acid (PFDA)	NA		8.6	U	NA		8.2	U	NA		NA		8.0	**UJ**	NA		NA		8.4	U	NA		8.4	**UJ**
Perfluoroundecanoic acid (PFUnA)	NA		8.6	U	NA		8.2	U	NA		NA		8.0	U	NA		NA		8.4	U	NA		8.4	U
Perfluorododecanoic acid (PFDoA)	NA		8.6	U	NA		8.2	U	NA		NA		8.0	U	NA		NA		8.4	U	NA		8.4	**UJ**
Perfluorotridecanoic acid (PFTriA)	NA		8.6	U	NA		8.2	U	NA		NA		8.0	U	NA		NA		8.4	U	NA		8.4	U
Perfluorotetradecanoic acid (PFTeA)	NA		8.6	**UJ**	NA		8.2	**UJ**	NA		NA		8.0	U	NA		NA		8.4	U	NA		8.4	**UJ**
Perfluorobutanesulfonic acid (PFBS)	**2**		8.6	**UJ**	**1.1**	**J**	8.2	**UJ**	2	U	2	U	8.0	**UJ**	2	U	2	U	8.4	U	**3.2**		8.4	**UJ**
Perfluorohexanesulfonic acid (PFHxS)	**21**		**42**	**J**	**12**		**29**	**J**	**1.7**	**J**	2	U	8.0	**UJ**	**2**		**2.9**		**15**		**1.9**	**J**	8.4	**UJ**
Perfluoroheptanesulfonic acid (PFHpS)	NA		**51**		NA		**21**		NA		NA		8.0	U	NA		NA		**11**		NA		8.4	U
Perfluorodecanesulfonic acid (PFDS)	NA		8.6	U	NA		8.2	U	NA		NA		8.0	U	NA		NA		8.4	U	NA		8.4	U
Perfluorooctanesulfonamide (FOSA)	NA		8.6	U	NA		8.2	**UJ**	NA		NA		**2.9**	**J**	NA		NA		8.4	U	NA		8.4	U
NMeFOSAA	NA		86	**UJ**	NA		82	**UJ**	NA		NA		80	**UJ**	NA		NA		84	U	NA		84	**UJ**
NEtFOSAA	NA		86	U	NA		82	U	NA		NA		**63**	**J**	NA		NA		84	U	NA		84	**UJ**
6:2 Fluorotelomersulfonate (6:2 FTS)	NA		86	U	NA		82	U	NA		NA		80	U	NA		NA		84	U	NA		84	U
8:2 Fluorotelomersulfonate (8:2 FTS)	NA		86	U	NA		82	U	NA		NA		80	U	NA		NA		84	U	NA		84	U
1,4 - Dioxane (ug/L)																								
1,4 - Dioxane	0.4	U	NS		0.4	U	NS		0.4	U	NS		NS		0.4	U	NS		NS		0.4	U	0.4	U

Notes:
NA - Sample not analyzed for this compound
NS - Not sampled for this compound
BOLD font indicates compound concentrations detected above method detection limits
Shaded cells represent exceedance of the USEPA Health Advisory Limits of 70 parts per trillion (ng/L) for PFOA and PFOS, individually and combined.
U - Compound analyzed for but not detected
J - Estimated concentration for compound detected below the reporting limit, or qualified through data usability review.
UJ - Compound analyzed for but not detected. Reported quantitation limit is approximate and may be inaccurate or imprecise.
[1] - Duplicate Sample

Table 3

Summary of PFOA/PFOS and 1,4-Dioxane Groundwater Analytical Results
Korkay, Inc.
Broadalbin, New York (Site #518014)

May 2019

Well ID	MW-20				MW-21						MW-22						MW-23						MW-24			
	3/15/17		5/16/19		3/17/17		6/13/17		5/16/19		3/15/17		6/13/17		5/15/19		3/16/17		6/14/17		5/14/19		3/17/17		5/15/19	
PFAS - Per-and Polyfluoroalkyl Substances (ng/L																										
Perfluorooctanoic acid (PFOA)	**5.5**		8.5	**UJ**	**16**		**27**		**7.0**	**J**	**13**		**50**		**95**	**J**	**16**		**16**		**150**	**J**	**11**		**8.5**	
Perfluorooctanesulfonic acid (PFOS)	**4.9**		8.5	**UJ**	**350**		**310**		**510**	**J**	**200**		**250**		**350**	**J**	**89**		**46**		**52**	**J**	**14**		**36**	**J**
Perfluorobutanoic acid (PFBA)	NA		**6.3**	**J**	NA		NA		8.2	U	NA		NA		**45**		NA		NA		8.2	U	NA		1.7	U
Perfluoropentanoic acid (PFPeA)	NA		**6.2**	**J**	NA		NA		**3.2**	**J**	NA		NA		**34**		NA		NA		**17**		NA		**1.3**	**J**
Perfluorohexanoic acid (PFHxA)	NA		8.5	U	NA		NA		8.2	U	NA		NA		**21**		NA		NA		**26**	**J**	NA		1.7	**UJ**
Perfluoroheptanoic acid (PFHpA)	**1.7**	**J**	8.5	U	2	U	**5**		8.2	U	**1.6**	**J**	**8.5**		**14**		**3.7**		**2.9**		**42**	**J**	**3.1**		**2.0**	
Perfluorononanoic acid (PFNA)	2	U	8.5	**UJ**	**1.4**	**J**	**1.4**	**J**	8.2	**UJ**	**7**		**18**		**55**		**1.7**	**J**	2	U	8.2	U	2	U	**0.9**	**J**
Perfluorodecanoic acid (PFDA)	NA		8.5	**UJ**	NA		NA		8.2	U	NA		NA		**3.5**	**J**	NA		NA		8.2	U	NA		1.7	**UJ**
Perfluoroundecanoic acid (PFUnA)	NA		8.5	**UJ**	NA		NA		8.2	U	NA		NA		8.3	U	NA		NA		8.2	**UJ**	NA		1.7	**UJ**
Perfluorododecanoic acid (PFDoA)	NA		8.5	**UJ**	NA		NA		8.2	**UJ**	NA		NA		8.3	U	NA		NA		8.2	U	NA		1.7	**UJ**
Perfluorotridecanoic acid (PFTriA)	NA		8.5	U	NA		NA		8.2	U	NA		NA		8.3	U	NA		NA		8.2	U	NA		1.7	U
Perfluorotetradecanoic acid (PFTeA)	NA		8.5	**UJ**	NA		NA		8.2	**UJ**	NA		NA		8.3	**UJ**	NA		NA		8.2	**UJ**	NA		1.7	**UJ**
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	8.5	**UJ**	**1.1**	**J**	2	U	**5.4**	**J**	**1.4**	**J**	2	U	8.3	**UJ**	2	U	2	U	**8.1**	**J**	**2**		**2.2**	**J**
Perfluorohexanesulfonic acid (PFHxS)	2	U	8.5	**UJ**	**1.5**	**J**	**3**		8.2	**UJ**	**4.1**		**24**		**33**	**J**	**2.6**		**3.2**		**13**	J	**1.2**	**J**	**1.9**	**J**
Perfluoroheptanesulfonic acid (PFHpS)	NA		8.5	U	NA		NA		8.2	U	NA		NA		**9.4**		NA		NA		8.2	U	NA		1.7	U
Perfluorodecanesulfonic acid (PFDS)	NA		8.5	U	NA		NA		8.2	U	NA		NA		8.3	U	NA		NA		8.2	U	NA		1.7	U
Perfluorooctanesulfonamide (FOSA)	NA		8.5	U	NA		NA		8.2	U	NA		NA		8.3	U	NA		NA		8.2	U	NA		1.7	U
NMeFOSAA	NA		85	**UJ**	NA		NA		82	**UJ**	NA		NA		83	**UJ**	NA		NA		82	**UJ**	NA		17	**UJ**
NEtFOSAA	NA		85	**UJ**	NA		NA		82	**UJ**	NA		NA		83	**UJ**	NA		NA		82	**UJ**	NA		17	**UJ**
6:2 Fluorotelomersulfonate (6:2 FTS)	NA		85	U	NA		NA		82	U	NA		NA		83	U	NA		NA		82	U	NA		17	U
8:2 Fluorotelomersulfonate (8:2 FTS)	NA		85	U	NA		NA		82	U	NA		NA		83	U	NA		NA		82	U	NA		17	U
1,4 - Dioxane (ug/L)																										
1,4 - Dioxane	0.4	U	0.4	U	0.4	U	NS		0.4	U	0.4	U	NS		NS		0.4	U	NS		NS		0.4	U	NS	

Notes:
NA - Sample not analyzed for this compound
NS - Not sampled for this compound
BOLD font indicates compound concentrations detected above method detection limits
Shaded cells represent exceedance of the USEPA Health Advisory Limits of 70 parts per trillion (ng/L) for PFOA and PFOS, individually and combined.
U - Compound analyzed for but not detected
J - Estimated concentration for compound detected below the reporting limit, or qualified through data usability review.
UJ - Compound analyzed for but not detected. Reported quantitation limit is approximate and may be inaccurate or imprecise.
[1] - Duplicate Sample

Charts

Chart 1
Historical Groundwater Total VOC Concentration Trends - Source Area Wells
Korkay Inc.

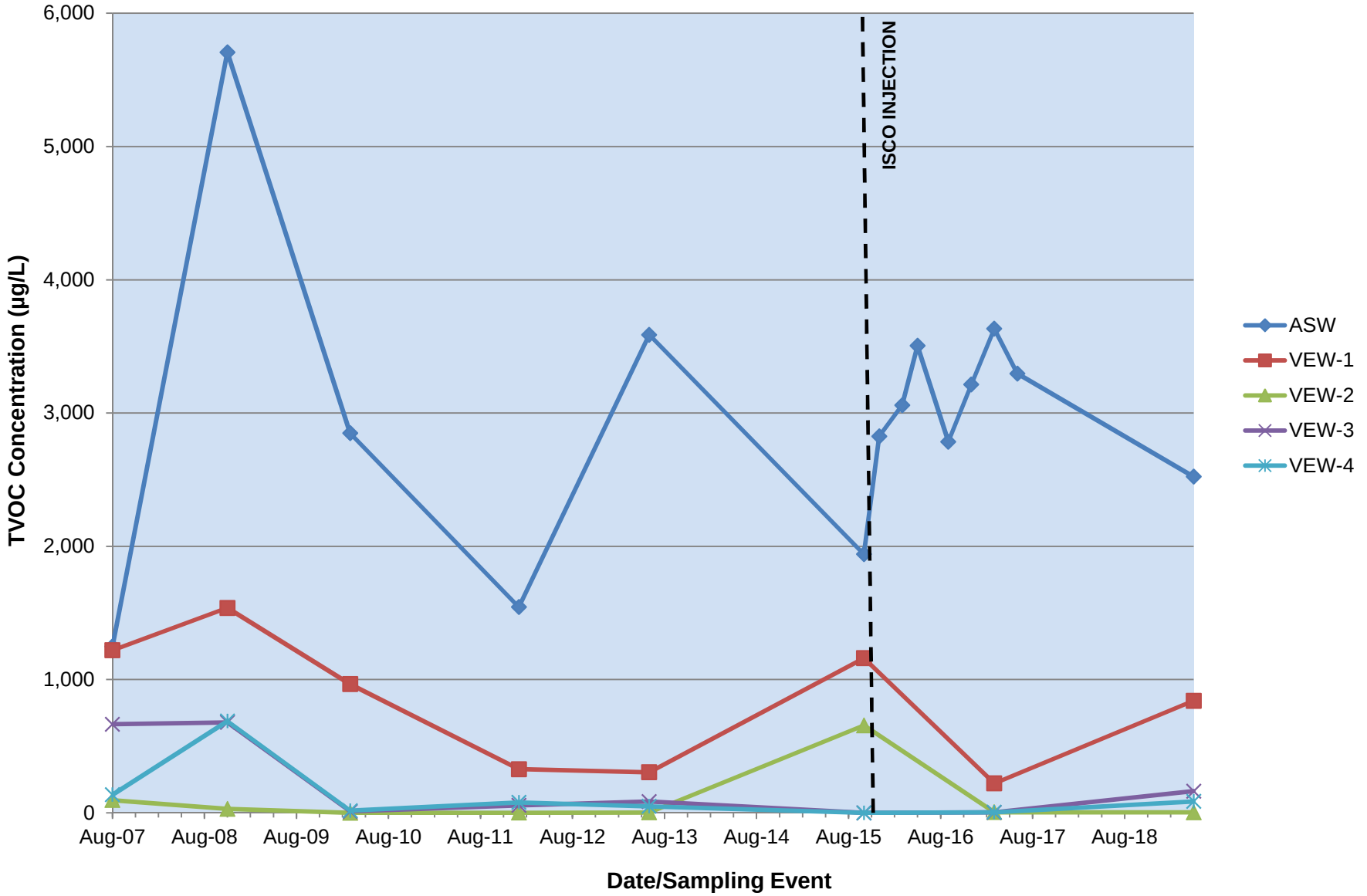
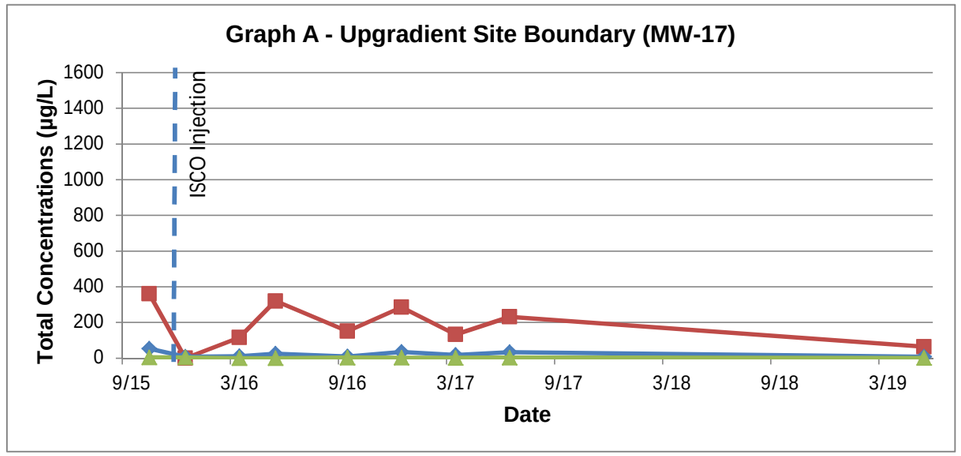
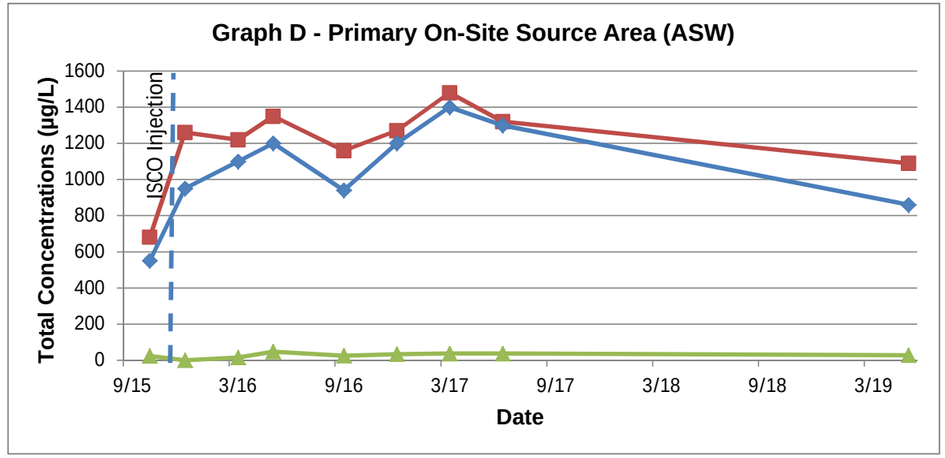
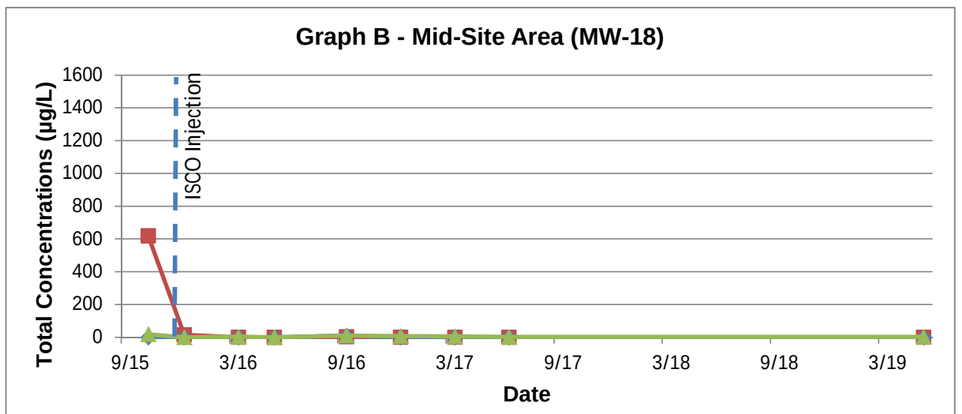
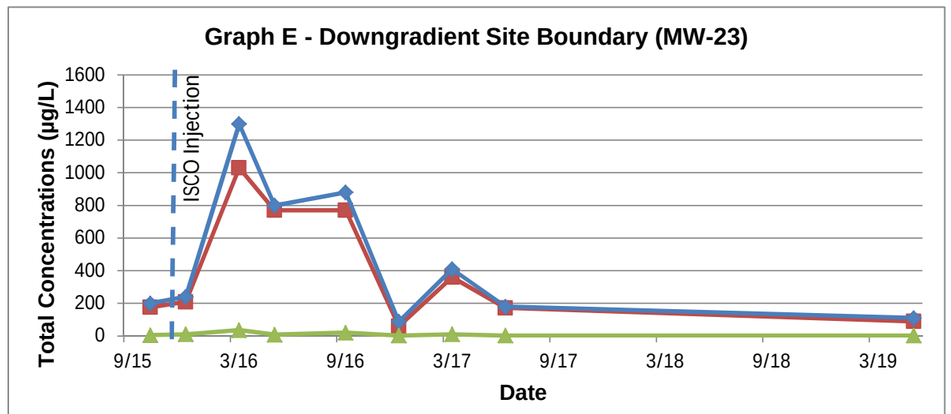


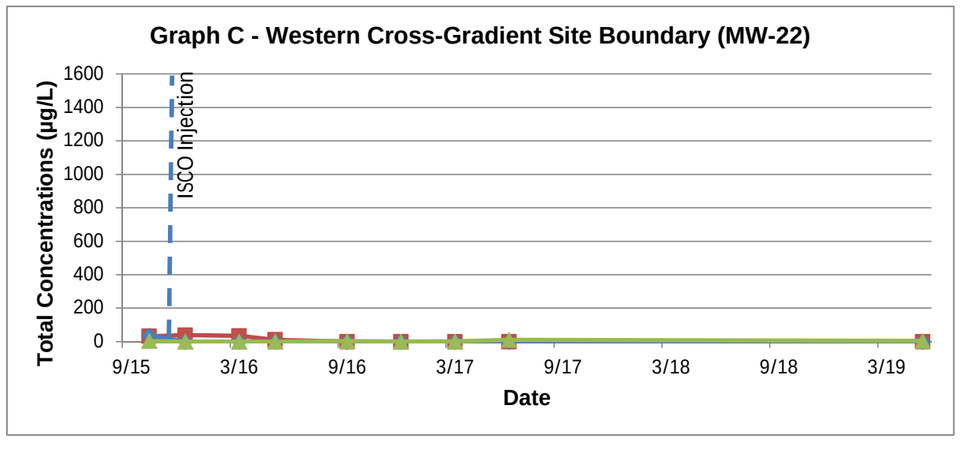
Chart 2
Post-ISCO Injection Groundwater Concentration Trends
Korkay Inc.

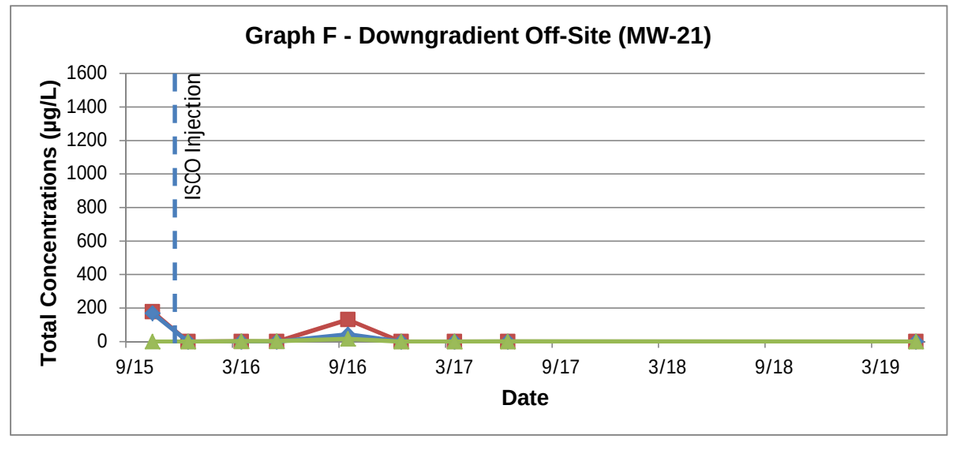


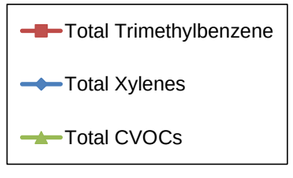








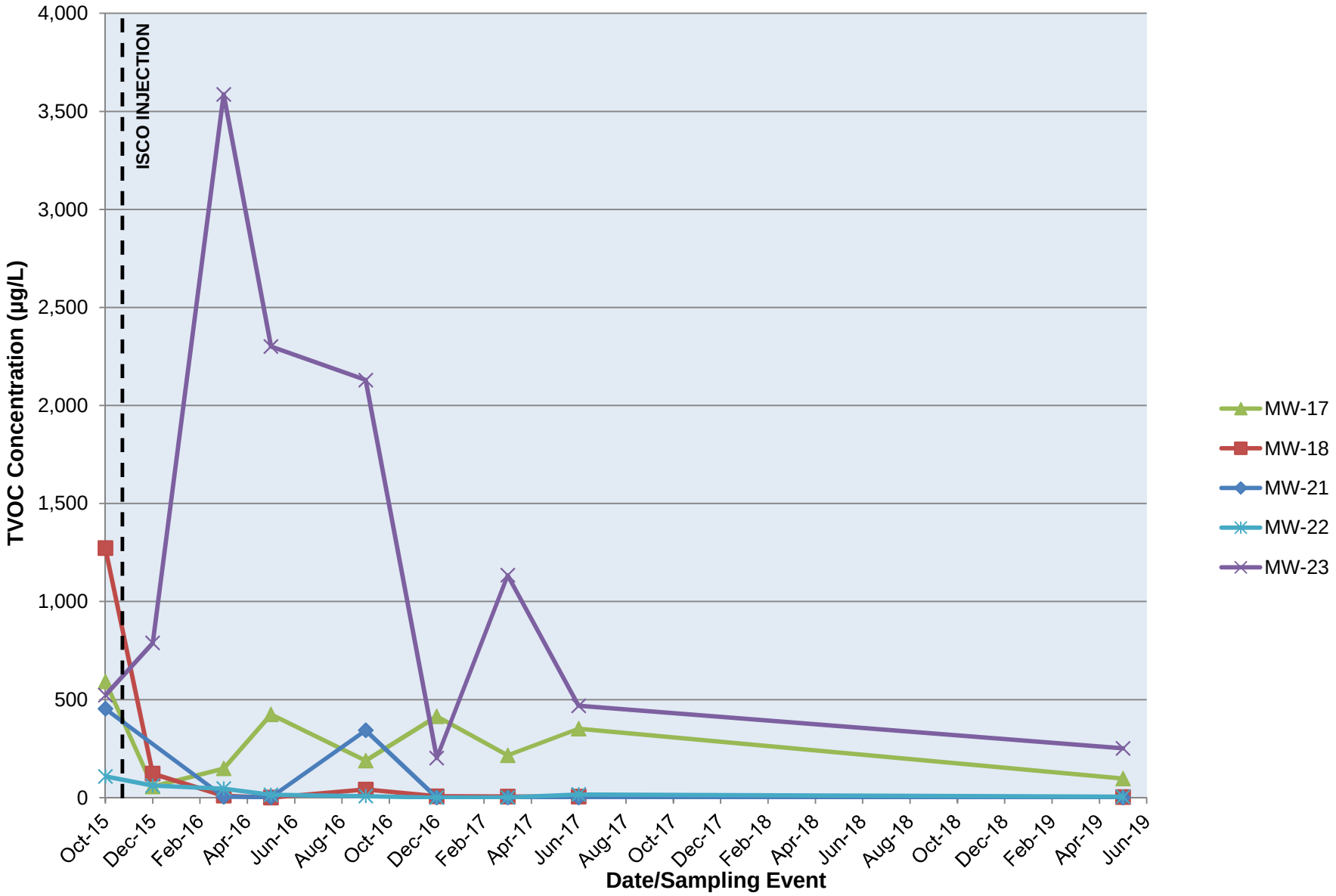




AECOM

9/24/2019

Chart 3
Post-ISCO Injection Groundwater TVOC Concentration Trends - ISOC Monitoring Wells
Korkay Inc.



Appendix A

Monitoring Well Field Inspection Logs

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: GD
DATE/TIME: 5/13 – 1500
WELL ID.: K-3

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: .....

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	N/a
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		No
WELL MEASURING POINT VISIBLE?	Yes	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	10.55
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	4.70
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Asphalt, well pad cracking

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: CD
DATE/TIME: 5/13 - 1500
WELL ID.: MW-17

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And Or Magellan		
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	N/a
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)		No
WELL MEASURING POINT VISIBLE?	Yes	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	14.40
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	2.70
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Grass in field. Missing one bolt

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

-

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: GD
DATE/TIME: 5/13 - 1500
WELL ID.: MW-18

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not. provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not. sketch actual location on back)	✓	

	YES	NO
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:	✓	
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade. stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged. describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	N/a
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes.describe below)		No
WELL MEASURING POINT VISIBLE?	Yes	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	14.30
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	3.89
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig. natural obstructions. overhead power lines. proximity to permanent structures. etc.): ADD SKETCH OF LOCATION ON BACK. IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example. located in a field. in a playground. on pavement. in a garden. etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Grass Field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION. IF PRESENT (e.g. Gas station. salt pile. etc.):

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: GD
DATE/TIME: 5/13 - 1500
WEll ID.: MW-155

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not. provide directions below)	✓	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And/Or Magellan		
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not. sketch actual location on back)	✓	
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade. stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged. describe below)	✓	
HEADSPACE READING (ppm) AND INSTRUMENT USED		N/a
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)		N/a
PROTECTIVE CASING MATERIAL TYPE:		
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):		
LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes.describe below)		No
WELL MEASURING POINT VISIBLE?	Yes	
MEASURE WELL DEPTH FROM MEASURING POINT (Feet):		9.85
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):		2.41
MEASURE WELL DIAMETER (Inches):		2
WELL CASING MATERIAL:		PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:		Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE		N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES		None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig. natural obstructions. overhead power lines. proximity to permanent structures. etc.): ADD SKETCH OF LOCATION ON BACK. IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example. located in a field. in a playground. on pavement. in a garden. etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Grass field, missing all bolts

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station. salt pile. etc.):

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: GD
DATE/TIME: 5/14-1200
WELL ID.: VEW-1

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And/Or Magellan		
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	
HEADSPACE READING (ppm) AND INSTRUMENT USED		N/a
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)		N/a
PROTECTIVE CASING MATERIAL TYPE:		
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):		
LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		Yes
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		No
WELL MEASURING POINT VISIBLE?		No
MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	Yes	
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):		8.30
MEASURE WELL DIAMETER (Inches):		4.38
WELL CASING MATERIAL:		2
PHYSICAL CONDITION OF VISIBLE WELL CASING:		PVC
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE		Good
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES		N/a
		None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Grass field

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID: 518014
INSPECTOR: ED
DATE TIME: 5/14-1200
WELL ID.: VEW-2

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (If not, sketch actual location on back)	✓	

	YES	NO
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	N/a
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)		No
WELL MEASURING POINT VISIBLE?		No
	Yes	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	8.52
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	4.59
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

- Grass field, missing one b-H

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

-

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: CD
DATE/TIME: 5/14-1200
WELL ID.: VEW-3

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

	YES	NO
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	N/a
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)		No
WELL MEASURING POINT VISIBLE?		No
	Yes	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	8.54
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	5.20
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Grass field, missing all bolts

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: GD
DATE/TIME: 5/14-1200
WELL ID.: VEW-4

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

	YES	NO
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:	✓	
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	N/a
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)		No
WELL MEASURING POINT VISIBLE?	Yes	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	8.21
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	4.81
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Grass field, missing all bolts

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID: [illegible]
INSPECTOR: ED
DATE/TIME: 5/14/20[illegible]
WELL ID: ASW

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTMX_____ NYTMY_____
PDOP Reading from Trimble Pathfinder: _____ Satellites: _____
GPS Method (circle) Trimble And Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (If not, sketch actual location on back)	✓	

	YES	NO
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	N/A
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/A
PROTECTIVE CASING MATERIAL TYPE:	
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches)	

LOCK PRESENT?	No
LOCK FUNCTIONAL?	No
DID YOU REPLACE THE LOCK?	No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)	No
WELL MEASURING POINT VISIBLE?	No
	Yes

MEASURE WELL DEPTH FROM MEASURING POINT (Feet)	11.74
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet)	4.71
MEASURE WELL DIAMETER (Inches)	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING	Good
ATTACH ID MARKER (If well ID is confirmed) and IDENTIFY MARKER TYPE	N/A
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.). ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Grass field, missing one bolt

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.)

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID: 518014
INSPECTOR: ED
DATE TIME: 5/14-1200
WELL ID: MW-23

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And/Or Magellan		
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (If not, sketch actual location on back)	✓	
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	N/a.
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a.
PROTECTIVE CASING MATERIAL TYPE:	
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?	No
LOCK FUNCTIONAL?	No
DID YOU REPLACE THE LOCK?	No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)	No
WELL MEASURING POINT VISIBLE?	Yes

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	14.26
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	5.12
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a.
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED

- Grass field, missing one bolt

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

-

Sketch

SITE NAME: Korkay

SITE ID: 518014
INSPECTOR: ED
DATE TIME: 5/15-130
WELL ID: MW-2R

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder: _____ Satelites:_____
GPS Method (circle) Trimble And Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: .....

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	N/A
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/A
PROTECTIVE CASING MATERIAL TYPE:	
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?	No
LOCK FUNCTIONAL?	No
DID YOU REPLACE THE LOCK?	No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)	No
WELL MEASURING POINT VISIBLE?	Yes

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	9.27
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	2.12
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/A
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Grass field, missing all bolts

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: ED
DATE/TIME: 5/16-1200
WELL ID.: MW-8D

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And/Or Magellan		
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	N/a
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

	NO
LOCK PRESENT?	No
LOCK FUNCTIONAL?	No
DID YOU REPLACE THE LOCK?	No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)	No
WELL MEASURING POINT VISIBLE? Yes	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	55.20
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	25.87
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Asphalt Driveway

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID: 518014
INSPECTOR: ED
DATE TIME: 5/16 -120
WELL ID.: MW-85

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (If not, sketch actual location on back)	✓	

	YES	NO
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	N/a
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?	No
LOCK FUNCTIONAL?	No
DID YOU REPLACE THE LOCK?	No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)	No
WELL MEASURING POINT VISIBLE?	Yes

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	10.62
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	4.56
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.). ADD SKETCH OF LOCATION ON BACK, IF NECESSARY
Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.
- Asphalt driveway

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):
None

REMARKS:
-

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: ED
DATE TIME: 5/16 - 1100
WELL ID.: MW-21

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: .....

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/A
PROTECTIVE CASING MATERIAL TYPE:	N/A
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)		No
WELL MEASURING POINT VISIBLE?	Yes	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	11.14
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	5.07
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/A
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Grass area, missing one bolt

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

-

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: GD
DATE/TIME: 5/16-1200
WELL ID.: MW-20

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	
WELL COORDINATES? NYTM X_____ NYTM Y_____		
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____		
GPS Method (circle) Trimble And/Or Magellan		
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	
WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL:		
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	N/a
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?		No
LOCK FUNCTIONAL?		No
DID YOU REPLACE THE LOCK?		No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes, describe below)		No
WELL MEASURING POINT VISIBLE?	Yes	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	13.14
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	4.73
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

Side of road on asphalt, missing 2 bolts

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

—

Sketch

SITE NAME: Korkay

SITE ID.: 518014
INSPECTOR: GD
DATE/TIME: 5/16 - 1200
WELL ID.: MW-19

MONITORING WELL FIELD INSPECTION LOG

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	

WELL COORDINATES? NYTM X_____ NYTM Y_____
PDOP Reading from Trimble Pathfinder:_____ Satelites:_____
GPS Method (circle) Trimble And/Or Magellan

	YES	NO
WELL I.D. VISIBLE?	✓	
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: .....

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? Concrete is cracked and heaved at grade, stick up broken off.	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/a
PROTECTIVE CASING MATERIAL TYPE:	N/a
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

LOCK PRESENT?	No
LOCK FUNCTIONAL?	No
DID YOU REPLACE THE LOCK?	No
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)	No
WELL MEASURING POINT VISIBLE?	Yes

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	9.56
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	3.50
MEASURE WELL DIAMETER (Inches):	2
WELL CASING MATERIAL:	PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING:	Good
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/a
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	None

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.): ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

Easy

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

± Asphalt on side of road. Missing one bolt.

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

—

Sketch

Appendix B

Groundwater Sampling Records

Figure 1 PFAS Sampling Checklist

Project No.: 60273289
Project Location: Kon Kay
Signature:
Date: 5/13/19

Team Members

Yes	No	Description
		Has AECOM PFAS Sampling guidance been reviewed by all team members?
		Comments:
Yes	No	Has AECOM field sampling staff received needed training certification?
		Comments:
Yes	No	Was a briefing held for field sampling staff?
		Comments:
Yes	No	Were additional PFAS sampling instructions given to field sampling staff?
		Comments:
Yes	No	Have personal clothing and PPE requirements been followed by all field sampling staff?
		Comments:
Yes	No	Were lotions and sunscreen used for field sampling staff?
		Comment:

Sample Collection

Yes	No	Has a PFAS-free water source been identified?
		Comment
		Source of PFAS-free water:
Yes	No	Have all sampling items, parts and equipment been inspected to be free of PFAS?
		Comment:
Yes	No	Has sampling location sequence been communicated to avoid cross-contaminations?
		Comment:
Yes	No	Have drilling fluids been evaluated and shown to be free of PFAS?
		Comment: N/a
Yes	No	Use of PFAS-free decontamination solution?
		Brand name of decontamination solution:
Yes	No	Have all field logs, notebooks, pens, labels been inspected, and do they meet AECOM PFAS sampling guidance requirements?
		Comment:
Yes	No	Have all sample shipping materials (ice, Ziploc® bags or similar style bags) been inspected, and do they meet AECOM PFAS sampling guidance requirements?
		Comment:
Yes	No	Have all blanks arrived at the site and will they be collected to verify cross-contamination?
		Comment:

Document Control

Yes	No	Have all variances from sampling guidance been documented?
		Comment: N/a

Other Comments:

Monitoring Well Purging / Sampling Form

Project Name and Number: Konkay

Monitoring Well Number: K-3 Date: 5/13/19

Samplers: CO

Sample Number: K-3 051319 QA/QC Collected? —

Purging / Sampling Method: Peri pump

1. L = Well Depth:	10.55	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	4.70	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	0.95	gal
6. 3(V) = Target Purge Volume	2.85	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 & Hach 2100

Parameter	Units	Readings ✓		✓		✓	
Time	24 hr	1140	1145	1150	1155	1200	1205
Water Level (0.33)	feet	4.75	4.78	4.78	4.78	4.78	4.78
Volume Purged	gal	0	0.5	1	1.5	2	2.5
Flow Rate	mL/min	400	450	450	450	450	450
Turbidity (+/- 10%)	NTU	5.76	2.37	1.89	1.64	1.91	1.49
Dissolved Oxygen (+/- 10%)	%	153.4	119.6	111.1	108.5	106.9	103.2
Dissolved Oxygen (+/- 10%)	mg/L	17.98	14.00	13.01	12.66	12.51	12.38
Eh / ORP (+/- 10)	MeV	93.6	84.0	86.5	78.5	78.7	
Specific Conductivity (+/- 3%)	mS/cm^c	0.405	0.345	0.344	0.343	0.346	
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	7.23	7.00	6.93	6.93	6.92	
Temp (+/- 0.5)	C°	8.63	8.44	8.44	8.51	8.46	
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample@ 1206

persulfate = 0.6 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Korkay

Monitoring Well Number: MW-18 Date: 5/13/19

Samplers: GO

Sample Number: MW-18 051319 QA/QC Collected? —

Purging / Sampling Method: Peristaltic pump

1. L = Well Depth:	14.30	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	3.89	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	1.7	gal
6. 3(V) = Target Purge Volume	5.10	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings				✓	✓	✓
Time	24 hr	1231	1236	1241	1246	1251	1256	1301
Water Level (0.33)	feet	4.59	4.77	4.80	4.81	4.83	4.84	4.86
Volume Purged	gal	450	0.5	1	1.75	2.5	3.5	4.5
Flow Rate	mL/min	450	500	500	500	500	500	500
Turbidity (+/- 10%)	NTU	10.6	8.13	7.88	6.52	5.99	5.78	6.02
Dissolved Oxygen (+/- 10%)	%	110.9	95.1	91.6	99.4	96.1	97.1	95.6
Dissolved Oxygen (+/- 10%)	mg/L	13.14	11.25	10.80	11.67	11.33	11.41	11.29
Eh / ORP (+/- 10)	MeV	105.7	104.3	98.1	97.3	96.9	96.6	96.5
Specific Conductivity (+/- 3%)	mS/cm^c	0.444	0.441	0.440	0.441	0.447	0.450	0.450
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	6.73	6.66	6.61	6.66	6.61	6.61	6.61
Temp (+/- 0.5)	C°	8.14	8.04	8.19	8.20	8.22	8.20	8.19
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Sample @ 1302

persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Kor Kay

Monitoring Well Number: MW-17 Date: 5/13/19

Samplers: CD

Sample Number: MW-17 051319 QA/QC Collected? —

Purging / Sampling Method: Peri-pump

1. L = Well Depth:	14.40	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	2.70	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	1.91	gal
6. 3(V) = Target Purge Volume	5.73	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings						
Time	24 hr	1339	1344	1349	1354	1359	1404	1409
Water Level (0.33)	feet	3.27	3.20	3.19	3.20	3.20	3.20	3.20
Volume Purged	gal	0	1.75	1.75	2.75	3.75	4.75	5.75
Flow Rate	mL/min	500	556	600	600	600	600	600
Turbidity (+/- 10%)	NTU	31.6	28.4	13.8	9.13	8.68	7.91	7.84
Dissolved Oxygen (+/- 10%)	%	51.6	32.6	21.0	21.6	20.9	20.9	20.8
Dissolved Oxygen (+/- 10%)	mg/L	6.26	3.88	3.08	2.55	2.47	2.47	2.46
Eh / ORP (+/- 10)	MeV	41.2	17.8	13.6	9.8	4.8	4.4	4.1
Specific Conductivity (+/- 3%)	mS/cm^c	0.433	0.430	0.447	0.473	0.480	0.481	0.481
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	6.93	6.89	6.95	6.97	6.96	6.96	6.96
Temp (+/- 0.5)	C°	7.68	7.80	8.00	8.00	8.00	8.00	8.01
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Sample @ 1410

Persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Korkuy

Monitoring Well Number: MW-155 Date: 5/13/19

Samplers: LD

Sample Number: MW 155 051319 QA/QC Collected? —

Purging / Sampling Method: Peristaltic pump

1. L = Well Depth:	9.85	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	2.41	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	1.21	gal
6. 3(V) = Target Purge Volume	3.63	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings ✓				✓	✓
Time	24 hr	1421	1426	1431	1436	1441	1446
Water Level (0.33)	feet	2.69	2.69	2.69	2.70	2.70	2.70
Volume Purged	gal	0	0.5	1.25	1.75	2.5	3.25
Flow Rate	mL/min	500	450	500	500	500	500
Turbidity (+/- 10%)	NTU	35.9	21.7	15.4	11.3	10.2	9.78
Dissolved Oxygen (+/- 10%)	%	3566	26.7	22.1	22.4	22.6	23.0
Dissolved Oxygen (+/- 10%)	mg/L	4.29	3.21	2.66	2.70	2.72	2.77
Eh / ORP (+/- 10)	MeV	26.6	15.9	6.6	2.2	0.2	-0.4
Specific Conductivity (+/- 3%)	mS/cm^c	0.236	0.254	0.277	0.291	0.292	0.286
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	6.61	6.56	6.57	6.56	6.56	6.56
Temp (+/- 0.5)	C°	7.33	7.30	7.29	7.23	7.21	7.20
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample @ 1448

Persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Kor Kay

Monitoring Well Number: VEW-2 Date: 5/14/19

Samplers: CP

Sample Number: VEW-2 051419 QA/QC Collected? —

Purging / Sampling Method: Peri pump

1. L = Well Depth:	8.52	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	4.59	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	0.14	gal
6. 3(V) = Target Purge Volume	1.92	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings ✓		✓	✓	✓	
Time	24 hr	0911	0916	0921	0926	0931	0936
Water Level (0.33)	feet	4.68	4.67	4.67	4.68	4.68	4.68
Volume Purged	gal	0	0.5	1	1.5	2	2.5
Flow Rate	mL/min	400	450	450	450	450	450
Turbidity (+/- 10%)	NTU	15.8	11.4	9.8	1.77	1.22	0.97
Dissolved Oxygen (+/- 10%)	%	87.6	81.6	72.3	61.7	66.7	59.2
Dissolved Oxygen (+/- 10%)	mg/L	10.42	9.66	8.72	7.33	7.19	7.08
Eh / ORP (+/- 10)	MeV	43.9	51.7	48.1	49.9	50.9	51.2
Specific Conductivity (+/- 3%)	mS/cm[c]	0.449	0.448	0.443	0.446	0.444	0.442
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	7.16	7.02	6.97	6.93	6.90	6.90
Temp (+/- 0.5)	C°	7.76	7.78	7.82	7.83	7.93	7.95
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample @ 0938

Persulfate = 0.0ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Konkay

Monitoring Well Number: VEW-1 Date: 5/14/19

Samplers: GD

Sample Number: VEW.1 051419 QA/QC Collected? —

Purging / Sampling Method: Peristaltic pump

1. L = Well Depth:	8.30	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	4.39	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	0.64	gal
6. 3(V) = Target Purge Volume	1.92	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings				✓	✓
Time	24 hr	1005	1010	1015	1020	1025	1030
Water Level (0.33)	feet	4.45	4.46	4.47	4.47	4.47	4.47
Volume Purged	gal	0	0.5	1	1.5	2	2.5
Flow Rate	mL/min	400	425	425	425	425	425
Turbidity (+/- 10%)	NTU	21.1	14.3	6.3	5.6	5.2	4.4
Dissolved Oxygen (+/- 10%)	%	68.4	37.0	35.1	34.7	34.0	33.5
Dissolved Oxygen (+/- 10%)	mg/L	8.24	4.41	4.17	4.12	4.03	3.98
Eh / ORP (+/- 10)	MeV	45.7	3.6	-8.4	-13.1	-13.8	-14.5
Specific Conductivity (+/- 3%)	mS/cm^c	0.399	0.335	0.338	0.341	0.342	0.343
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	6.80	6.84	6.87	6.89	6.88	6.88
Temp (+/- 0.5)	C°	7.29	7.61	7.85	7.88	7.90	7.93
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample @ 1032

* Slight product odor

Persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Korkay

Monitoring Well Number: VEW-3 Date: 5/14/19

Samplers: GD

Sample Number: VEW-3 05/14/19 QA/QC Collected? -

Purging / Sampling Method: Per pump

1. L = Well Depth:	8.54	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	5.20	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	0.55	gal
6. 3(V) = Target Purge Volume	1.65	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings ✓			✓	✓	
Time	24 hr	1101	1106	1111	1116	1121	1126
Water Level (0.33)	feet	5.38	5.40	5.41	5.41	5.42	5.42
Volume Purged	gal	0	.5	1	1.5	2	2.5
Flow Rate	mL/min	425	425	425	425	425	425
Turbidity (+/- 10%)	NTU	8.18	5.46	4.86	1.96	1.51	1.22
Dissolved Oxygen (+/- 10%)	%	85.8	57.9	50.0	49.5	50.2	49.1
Dissolved Oxygen (+/- 10%)	mg/L	10.44	6.94	5.95	5.88	5.96	5.85
Eh / ORP (+/- 10)	MeV	28.3	13.6	13.2	16.0	17.8	19.8
Specific Conductivity (+/- 3%)	mS/cm^c	0.402	0.429	0.431	0.431	0.436	0.437
Conductivity (+/- 3%)	mS/cm	-	-	-	-	-	-
pH (+/- 0.1)	pH unit	6.96	6.97	6.99	6.98	6.98	6.98
Temp (+/- 0.5)	C°	7.17	7.65	7.72	7.84	7.80	7.73
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample @ 1128

Persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Kon Kay

Monitoring Well Number: VEW-4 Date: 5/14/19

Samplers: GO

Sample Number: VEW-4 051419 QA/QC Collected? –

Purging / Sampling Method: Peripump

1. L = Well Depth:	8.21	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	4.81	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		gal
6. 3(V) = Target Purge Volume		gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings ✓				✓	✓
Time	24 hr	1155	1200	1205	1210	1215	1220
Water Level (0.33)	feet	4.95	4.95	4.95	4.95	4.95	4.95
Volume Purged	gal	0	1.5	1	1.5	2	2.5
Flow Rate	mL/min	450	425	425	425	425	425
Turbidity (+/- 10%)	NTU	8.63	5.92	3.04	2.81	2.22	2.04
Dissolved Oxygen (+/- 10%)	%	65.8	30.8	23.0	24.0	24.4	24.3
Dissolved Oxygen (+/- 10%)	mg/L	7.89	3.65	2.71	2.80	2.87	2.85
Eh / ORP (+/- 10)	MeV	48.2	31.5	17.6	13.9	13.2	13.4
Specific Conductivity (+/- 3%)	mS/cm^c	0.611	0.608	0.587	0.575	0.571	0.570
Conductivity (+/- 3%)	mS/cm	–	–	–	–	–	–
pH (+/- 0.1)	pH unit	6.74	6.68	6.82	6.87	6.89	6.88
Temp (+/- 0.5)	C°	7.85	8.09	8.14	8.31	8.30	8.34
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample @ 1222

Per sulfide = 0.1 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Korkay

Monitoring Well Number: ASW Date: 5/14/19

Samplers: GD

Sample Number: ASW 051419 QA/QC Collected? –

Purging / Sampling Method: Peripump

1. L = Well Depth:		11.74	feet
2. D = Riser Diameter (I.D.):			feet
3. W = Depth to Water:	4.71		feet
4. C = Column of Water in Well:			feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)			gal
6. 3(V) = Target Purge Volume			gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings ✓		✓		✓	
Time	24 hr	1328	1333	1338	1343	1348	1353
Water Level (0.33)	feet	5.01	5.02	5.02	5.02	5.02	5.02
Volume Purged	gal	0	0.5	1	1.5	2	2.5
Flow Rate	mL/min	450	450	450	450	450	450
Turbidity (+/- 10%)	NTU	2.53	1.47	0.98	0.68	0.74	0.59
Dissolved Oxygen (+/- 10%)	%	53.3	29.3	23.8	24.6	24.5	24.4
Dissolved Oxygen (+/- 10%)	mg/L	6.30	3.49	2.83	2.92	2.90	2.88
Eh / ORP (+/- 10)	MeV	31.7	15.3	-0.1	-6.0	-9.9	-11.4
Specific Conductivity (+/- 3%)	mS/cm[c]	0.593	0.673	0.708	0.720	0.722	0.725
Conductivity (+/- 3%)	mS/cm	–	–	–	–	–	–
pH (+/- 0.1)	pH unit	6.80	6.65	6.69	6.69	6.69	6.69
Temp (+/- 0.5)	C°	8.04	7.93	7.93	7.92	7.90	7.88
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample @ 1354

@ Slight product smell

Persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Kootenay

Monitoring Well Number: MW-23 Date: 5/14/19

Samplers: CD

Sample Number: MW-23 051419 QA/QC Collected? —

Purging / Sampling Method: Peripump

1. L = Well Depth:		14.26	feet
2. D = Riser Diameter (I.D.):			feet
3. W = Depth to Water:	5.12	[illegible]	feet
4. C = Column of Water in Well:			feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)		1.49	gal
6. 3(V) = Target Purge Volume		4.47	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 & Hach 2100

Parameter	Units	Readings				✓	✓	✓
Time	24 hr	1431	1436	1441	1446	1451	1456	1501
Water Level (0.33)	feet	[illegible]	5.34	5.35	5.35	5.36	5.36	5.36
Volume Purged	gal	0 5.30	.5	1.25	[illegible]2	2.75	3.5	4.25
Flow Rate	mL/min	450	550	550	550	550	550	550
Turbidity (+/- 10%)	NTU	72.1	16.3	6.17	4.46	4.27	3.98	3.86
Dissolved Oxygen (+/- 10%)	%	94.3	80.4	67.9	64.3	63.3	62.8	62.5
Dissolved Oxygen (+/- 10%)	mg/L	11.03	9.44	7.96	7.52	7.41	7.35	7.31
Eh / ORP (+/- 10)	MeV	21.7	10.8	13.5	18.2	19.6	20.3	20.7
Specific Conductivity (+/- 3%)	mS/cm^c	1.305	0.591	0.489	0.471	0.468	0.468	0.469
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	7.21	7.28	7.25	7.20	7.18	7.18	7.17
Temp (+/- 0.5)	C°	8.43	8.36	8.38	8.43	8.42	8.43	8.39
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Sample @ 1502

Persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Konkey

Monitoring Well Number: MW-22 Date: 5/15/19

Samplers: LD

Sample Number: MW-22 05/5/19 QA/QC Collected? —

Purging / Sampling Method: Peripump

1. L = Well Depth:	9.27	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	2.12	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	1.17	gal
6. 3(V) = Target Purge Volume	3.51	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

5:09

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings					
Time	24 hr	0909	0914	0919	0924	0929	0934
Water Level (0.33)	feet	2.50	2.50	2.50	2.50	2.50	2.50
Volume Purged	gal	0	.5	1	1.5	2	2.5
Flow Rate	mL/min	450	450	450	450	450	450
Turbidity (+/- 10%)	NTU	7.46	4.13	2.69	2.03	1.77	1.61
Dissolved Oxygen (+/- 10%)	%	48.6	31.9	24.1	18.6	17.7	18.0
Dissolved Oxygen (+/- 10%)	mg/L	5.65	3.70	2.79	2.15	2.03	2.07
Eh / ORP (+/- 10)	MeV	36.0	44.5	46.4	50.3	52.1	54.3
Specific Conductivity (+/- 3%)	mS/cm^c	0.286	0.289	0.290	0.289	0.287	0.286
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	7.36	7.03	6.95	6.98	6.81	6.80
Temp (+/- 0.5)	C°	8.97	8.83	8.86	8.85	9.01	9.03
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample @ 0935

Persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Korkay

Monitoring Well Number: K-2 Date: 5/15/19

Samplers: GO

Sample Number: K-2 051519 QA/QC Collected? —

Purging / Sampling Method: Peri. pump

1. L = Well Depth:	14.20	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	3.61	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	1.73	gal
6. 3(V) = Target Purge Volume	5.19	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

5.51

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings				✓	✓	✓
Time	24 hr	1018	1023	1028	1033	1038	1043	1048
Water Level (0.33)	feet	3.84	3.85	3.85	3.85	3.88	3.86	3.86
Volume Purged	gal	0	.5	1.5	2.5	3.5	4.5	5.5
Flow Rate	mL/min	460	550	580	580	5.50	5.50	5.50
Turbidity (+/- 10%)	NTU	71.5	43.8	15.7	7.76	4.39	3.88	4.12
Dissolved Oxygen (+/- 10%)	%	85.2	78.4	69.4	67.0	67.0	66.3	66.4
Dissolved Oxygen (+/- 10%)	mg/L	10.10	9.29	8.16	7.84	7.82	7.77	7.75
Eh / ORP (+/- 10)	MeV	76.2	74.6	66.9	65.4	67.3	68.0	68.3
Specific Conductivity (+/- 3%)	mS/cm^c	0.242	0.228	0.218	0.226	0.223	0.224	0.224
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	6.74	6.73	6.87	6.91	6.90	6.89	6.89
Temp (+/- 0.5)	C°	8.06	8.02	8.28	8.45	8.45	8.47	8.49
Color	Visual	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Sample @ 1050

persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Kurkay

Monitoring Well Number: MW-15D Date: 5/15/19

Samplers: GP

Sample Number: MW-15D QA/QC Collected? —

Purging / Sampling Method: Waterra + check valve

1. L = Well Depth:	40.02	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	23.30	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	2.73	gal
6. 3(V) = Target Purge Volume	8.19	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

6:44

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings							
Time	24 hr	1141	1146	1151	1156	1201	1206	1211	1216
Water Level (0.33)	feet	24.35	24.61	24.78	24.96	25.18	25.28	25.44	25.59
Volume Purged	gal	0	1.5	3	4.5	6	7.5	9	10.5
Flow Rate	mL/min	900	900	900	950	950	950	950	950
Turbidity (+/- 10%)	NTU	2.30	1.89	1.31	0.88	0.51	0.78	0.48	0.64
Dissolved Oxygen (+/- 10%)	%	63.7	46.3	42.4	41.3	39.6	38.2	38.9	38.6
Dissolved Oxygen (+/- 10%)	mg/L	7.13	5.13	4.69	4.56	4.37	4.31	4.28	4.25
Eh / ORP (+/- 10)	MeV	45.3	41.2	39.2	39.3	40.4	42.5	42.7	42.8
Specific Conductivity (+/- 3%)	mS/cm[c]	0.142	0.148	0.156	0.153	0.155	0154	0.153	0.15
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	10.44	10.67	10.74	10.78	10.77	10.76	10.76	10.77
Temp (+/- 0.5)	C°	16.63	10.75	10.89	16.93	11.04	11.07	11.09	11.13
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None	None

Comments:

Sample @ 1218

Persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Kontas

Monitoring Well Number: MW-16D Date: 5/15/18

Samplers: GD

Sample Number: MW-16D 051518 QA/QC Collected? —

Purging / Sampling Method: Waterra + Check valves

1. L = Well Depth:	54.90	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	26.68	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	4.46	gal
6. 3(V) = Target Purge Volume	13.38	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

8:03

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings				✓	✓	✓
Time	24 hr	1310	1315	1320	1325	1330	1335	1346
Water Level (0.33)	feet	26.86	26.95	27.08	27.16	27.25	27.32	27.41
Volume Purged	gal	0	2	4	6	8	10	12
Flow Rate	mL/min	1100	1100	1100	1100	1100	1100	1100
Turbidity (+/- 10%)	NTU	4.16	2.54	2.68	1.99	1.86	1.18	1.01
Dissolved Oxygen (+/- 10%)	%	62.1	51.7	41.2	37.4	34.5	33.9	32.9
Dissolved Oxygen (+/- 10%)	mg/L	6.60	5.59	4.41	4.01	3.72	3.64	3.52
Eh / ORP (+/- 10)	MeV	65.1	64.1	58.2	54.3	53.0	51.1	50.6
Specific Conductivity (+/- 3%)	mS/cm^c	0.888	0.900	0.907	0.908	0.912	0.912	0.913
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	11.66	11.67	11.71	11.76	11.80	11.81	11.81
Temp (+/- 0.5)	C°	12.26	12.18	12.27	12.15	12.13	12.11	12.10
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Sample @ 1342

persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Kortay

Monitoring Well Number: MW-24 Date: 5/15/19

Samplers: ID

Sample Number: MW-24 05/15/19 QA/QC Collected? —

Purging / Sampling Method: Peri Pump

1. L = Well Depth:	11.20	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	5.08	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	1.00	gal
6. 3(V) = Target Purge Volume	3.0	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

qpc

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings				✓	✓	✓
Time	24 hr	1424	1429	1434	1439	1444	1449	1454
Water Level (0.33)	feet	5.11	5.11	5.11	5.11	5.12	5.12	5.12
Volume Purged	gal	0	.5	1	1.5	2	2.5	3
Flow Rate	mL/min	450	450	450	450	450	450	450
Turbidity (+/- 10%)	NTU	12.2	7.21	4.25	3.15	2.97	2.62	2.83
Dissolved Oxygen (+/- 10%)	%	83.7	80.9	78.5	76.6	75.8	74.9	74.2
Dissolved Oxygen (+/- 10%)	mg/L	9.96	9.60	9.33	9.11	9.03	8.91	8.84
Eh / ORP (+/- 10)	MeV	97.0	96.2	94.6	92.5	91.5	90.6	90.3
Specific Conductivity (+/- 3%)	mS/cm^c	1.030	1.022	1.036	1.052	1.063	1.071	1.071
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	9.07	8.84	8.37	8.13	7.97	7.89	7.81
Temp (+/- 0.5)	C°	7.69	7.75	7.75	7.70	7.63	7.64	7.58
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Sample @ 1456

Persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Kontay

Monitoring Well Number: MW-8D Date: 5/16/19

Samplers: GD

Sample Number: MW-8D 051619 QA/QC Collected? —

Purging / Sampling Method: Waterra + check valves

1. L = Well Depth:	55.20	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	25.87	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	4.75	gal
6. 3(V) = Target Purge Volume	14.25	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

5:12

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings						
Time	24 hr	0912	0917	0922	0927	0932	0937	0942
Water Level (0.33)	feet	25.99	26.11	26.22	26.30	26.42	26.53	26.66
Volume Purged	gal	0	~~4.25~~	4.5	6.75	9	11.25	13.5
Flow Rate	mL/min	800	1400	1400	1400	1400	1400	1400
Turbidity (+/- 10%)	NTU	11.5	12.4	9.71	8.16	7.68	7.31	7.85
Dissolved Oxygen (+/- 10%)	%	85.8	78.3	74.7	62.4	61.5	60.7	58.4
Dissolved Oxygen (+/- 10%)	mg/L	9.38	8.54	8.17	6.83	6.71	6.56	6.41
Eh / ORP (+/- 10)	MeV	11.6	11.8	9.8	14.0	15.1	15.9	16.3
Specific Conductivity (+/- 3%)	mS/cm^c	0.298	0.302	0.308	0.315	0.317	0.318	0.318
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	11.14	11.26	11.25	11.37	11.41	11.40	11.41
Temp (+/- 0.5)	C°	11.46	11.40	11.44	11.43	11.43	11.41	11.41
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Sample @ 0944

persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Konkay

Monitoring Well Number: MW-85 Date: 5/16/19

Samplers: GD

Sample Number: MW-85 051619 QA/QC Collected? DUP (1052), MS (1052), MSD (1052)

Purging / Sampling Method: Peristaltic pump

1. L = Well Depth:	10.62	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	4.50	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	1.00	gal
6. 3(V) = Target Purge Volume	3.00	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

6.40

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings				✓	✓	✓
Time	24 hr	1020	1025	1030	1035	1040	1045	1050
Water Level (0.33)	feet	4.61	4.61	4.61	4.62	4.62	4.62	4.62
Volume Purged	gal	0	.5	1	1.5	2	2.5	3
Flow Rate	mL/min	450	450	450	450	450	450	450
Turbidity (+/- 10%)	NTU	121	44.1	16.3	10.2	8.61	8.19	7.78
Dissolved Oxygen (+/- 10%)	%	115.0	111.2	101.2	95.2	94.6	94.3	93.7
Dissolved Oxygen (+/- 10%)	mg/L	12.73	12.55	11.50	10.91	10.80	10.72	10.65
Eh / ORP (+/- 10)	MeV	69.6	72.3	72.0	73.3	73.5	74.0	74.4
Specific Conductivity (+/- 3%)	mS/cm[c]	0.637	0.622	0.615	0.615	0.603	0.602	0.602
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	8.08	7.76	7.51	7.34	7.29	7.25	7.25
Temp (+/- 0.5)	C°	10.80	10.66	9.68	9.42	9.97	10.11	
Color	Visual	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

Comments:

Sample @ 1052

persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Kor-Kay

Monitoring Well Number: MW-21 Date: 5/16/19

Samplers: GD

Sample Number: MW-21 051619 QA/QC Collected? —

Purging / Sampling Method: Per. pump

1. L = Well Depth:	11.14	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	5.07	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	0.99	gal
6. 3(V) = Target Purge Volume	2.97	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

8:22

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings ✓				V	V
Time	24 hr	1308	1313	1318	1323	1328	1333
Water Level (0.33)	feet	5.20	5.23	5.24	5.24	5.24	5.29
Volume Purged	gal	0	.5	1	1.5	2	3
Flow Rate	mL/min	450	450	450	450	700	700
Turbidity (+/- 10%)	NTU	40.5	16.5	8.16	2.47	2.11	1.93
Dissolved Oxygen (+/- 10%)	%	131.3	98.6	89.8	68.9	68.1	67.8
Dissolved Oxygen (+/- 10%)	mg/L	15.09	11.21	10.02	7.89	7.80	7.76
Eh / ORP (+/- 10)	MeV	37.0	50.9	47.6	49.6	52.1	52.2
Specific Conductivity (+/- 3%)	mS/cm^c	6.766	0.765	6.749	0.749	0.758	6.756
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	7.63	7.43	7.34	7.27	7.24	7.23
Temp (+/- 0.5)	C°	9.52	9.57	9.45	9.48	9.26	9.27
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample @ 1334

persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Korkay

Monitoring Well Number: MW-20 Date: 5/16/19

Samplers: CD

Sample Number: MW-20 051619 QA/QC Collected? —

Purging / Sampling Method: Peripump

1. L = Well Depth:	13.14	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	4.73	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	1.37	gal
6. 3(V) = Target Purge Volume	4.11	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

5.54

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings					
Time	24 hr	1414	1419	1424	1429	1434	1439
Water Level (0.33)	feet	5.01	5.12	5.13	5.13	5.18	5.13
Volume Purged	gal	0	1.75	1.75	2.75	3.75	4.75
Flow Rate	mL/min	450	550	550	550	550	550
Turbidity (+/- 10%)	NTU	10.3	6.19	4.44	3.82	3.51	3.97
Dissolved Oxygen (+/- 10%)	%	87.5	75.6	68.6	69.2	68.2	67.1
Dissolved Oxygen (+/- 10%)	mg/L	9.86	8.48	7.69	7.75	7.62	7.50
Eh / ORP (+/- 10)	MeV	34.2	35.6	40.5	41.3	42.4	43.3
Specific Conductivity (+/- 3%)	mS/cm^c	0.961	0.953	0.966	0.971	0.970	0.971
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	7.85	7.64	7.52	7.46	7.44	7.44
Temp (+/- 0.5)	C°	10.03	10.14	10.24	10.19	10.29	10.28
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None

Comments:

Sample @ 1440

persulfate = 0.0 ppm

Monitoring Well Purging / Sampling Form

Project Name and Number: Korkay

Monitoring Well Number: MW-19 Date: 5/16/19

Samplers: GD

Sample Number: MW-19 051619 QA/QC Collected? —

Purging / Sampling Method: Peristaltic pump

1. L = Well Depth:	9.56	feet
2. D = Riser Diameter (I.D.):		feet
3. W = Depth to Water:	3.50	feet
4. C = Column of Water in Well:		feet
5. V = Volume of Water in Well = C(3.14159)(0.5D)^2(7.48)	0.99	gal
6. 3(V) = Target Purge Volume	2.97	gal

D (inches)	D (feet)
1-inch	0.08
2-inch	0.17
3-inch	0.25
4-inch	0.33
6-inch	0.50

Conversion factors to determine V given C

D (inches)	1-inch	2-inch	3-inch	4-inch	6-inch
V (gal / ft)	0.041	0.163	0.37	0.65	1.5

Water Quality Readings Collected Using YSI 556 + Hach 2100

Parameter	Units	Readings						
Time	24 hr	1508	1513	1518	1523	1528	1533	1538
Water Level (0.33)	feet	4.01	4.03	4.03	4.03	4.04	4.04	4.04
Volume Purged	gal	0	.5	1	1.5	2	2.5	3
Flow Rate	mL/min	450	450	450	450	450	450	450
Turbidity (+/- 10%)	NTU	50.2	21.7	9.81	5.48	4.44	4.81	4.17
Dissolved Oxygen (+/- 10%)	%	24.0	17.5	17.3	16.7	16.6	16.5	16.2
Dissolved Oxygen (+/- 10%)	mg/L	2.73	1.97	1.95	1.88	1.87	1.87	1.84
Eh / ORP (+/- 10)	MeV	79.3	75.4	72.0	70.8	70.0	69.3	68.7
Specific Conductivity (+/- 3%)	mS/cm^c	1.896	1.864	1.840	1.833	1.833	1.831	1.830
Conductivity (+/- 3%)	mS/cm	—	—	—	—	—	—	—
pH (+/- 0.1)	pH unit	7.66	7.51	7.48	7.47	7.45	7.44	7.43
Temp (+/- 0.5)	C°	9.62	9.68	9.74	9.73	9.69	9.70	9.69
Color	Visual	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Odor	Olfactory	None	None	None	None	None	None	None

6:49

Comments:

Sample @ 1540

Field Blank = 1600 // 5/16/19 (051619)

persulfate = 0.0 ppm

Appendix C

Laboratory Analytical Report

VOCs, SVOCs, and Pesticides Laboratory Report

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Tel: (732)549-3900

Laboratory Job ID: 460-182353-1
Client Project/Site: Korkay, Inc. #518014

For:
New York State D.E.C.
625 Broadway
4th Floor
Albany, New York 12233

Attn: Mr. Payson Long

Authorized for release by:
5/31/2019 3:31:48 PM

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

LINKS

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

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

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

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.

Judy Stone
Senior Project Manager
5/31/2019 3:31:48 PM

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	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)

Job ID: 460-182353-1

Laboratory: Eurofins TestAmerica, Edison

Narrative

Job Narrative
460-182353-1

Receipt
The samples were received on 5/18/2019 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 3.0º C, 4.2º C, 4.2º C, 4.4º C, 4.8º C and 5.0º C.

GC/MS VOA
Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: ASW 051419 (460-182353-9). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The method blank for analytical batch 460-612574 contained Naphthalene above the method detection limit (MDL). Associated samples were not re-analyzed because the results were greater than 10X the value found in the method blank.

Method(s) 8260C: The continuing calibration verification (CCV) analyzed in batch 460-612917 was outside the method criteria for the following analyte(s): sec-Butylbenzene, 1,2,4-Trichlorobenzene, N-Propylbenzene, 4-Isopropyltoluene, n-Butylbenzene, tert-Butylbenzene and Methyl acetate. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260C: The surrogate recovery for the blank associated with analytical batch 460-612917 was outside the upper control limits. All associated sample surrogate recoveries were within control limits.

Method(s) 8260C: The laboratory control sample (LCS) / laboratory control sample duplicate (LCSD) recovered outside control limits for the following analytes: 2-Butanone (MEK) (biased high); sec-Butylbenzene, 1,2,4-Trichlorobenzene, N-Propylbenzene, 4-Isopropyltoluene, 1,3,5-Trimethylbenzene, Isopropylbenzene and tert-Butylbenzene (biased low). These analytes were not detected in the associated samples except for sample MW-23 051419 (460-182353-10). This sample had been analyzed 3 times and there was no volume left for another re-analysis. (LCS 460-612917/4) and (LCSD 460-612917/5)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) analyzed in batch 460-611526 was outside the method criteria for the following analytes: 4-Nitrophenol and 4-Nitroaniline. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: A full list spike was utilized for this method. Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits due to poor performance. The LCS/LCSD associated with batch 460-611403 had Hexachloroethane outside control limits; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified
Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 460-611403 and analytical batch 460-611526 recovered outside control limits for the following analyte: Caprolactam.

Method(s) 8270D: The continuing calibration verification (CCV) analyzed in batch 460-611846 was outside the method criteria for the following analytes: 4-Nitrophenol, 4-Methylphenol, 4-Nitroaniline, Di-n-octyl phthalate and Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 460-611879 recovered above the upper control limit for Pyrene. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of

Job ID: 460-182353-1 (Continued)

Laboratory: Eurofins TestAmerica, Edison (Continued)

surrogate compounds outside limits: MW-15D 051519 (460-182353-13). These results have been reported and qualified.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: MW-16D 051519 (460-182353-14). Re-analysis was performed with concurring results. The original analysis has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8081B: The Tetrachloro-m-xylene surrogate recovery for the following sample was outside acceptance limits (low biased) on the primary column: MW-19 051619 (460-182353-20). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method(s) 8081B: The %RPD between the primary and confirmation columns exceeded 40% for cis-Chlordane for the following samples: MW-22 051519 (460-182353-11) and K-2 051519 (460-182353-12). The lower values have been reported and qualified in accordance with the laboratory's SOP.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: K-3 051319
Date Collected: 05/13/19 12:06
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 16:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 16:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 16:19	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 16:19	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 16:19	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 16:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 16:19	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/25/19 16:19	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 16:19	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/25/19 16:19	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 16:19	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 16:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.33	ug/L			05/25/19 16:19	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 16:19	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 16:19	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 16:19	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 16:19	1
4-Isopropyltoluene	ND		1.0	0.37	ug/L			05/25/19 16:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 16:19	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 16:19	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 16:19	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 16:19	1
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 16:19	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/25/19 16:19	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 16:19	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 16:19	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 16:19	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 16:19	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 16:19	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 16:19	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/25/19 16:19	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 16:19	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 16:19	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 16:19	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/25/19 16:19	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 16:19	1
Isopropylbenzene	ND		1.0	0.34	ug/L			05/25/19 16:19	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 16:19	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 16:19	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/25/19 16:19	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 16:19	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/25/19 16:19	1
Naphthalene	ND		1.0	0.41	ug/L			05/25/19 16:19	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/25/19 16:19	1
N-Propylbenzene	ND		1.0	0.32	ug/L			05/25/19 16:19	1
o-Xylene	ND		1.0	0.36	ug/L			05/25/19 16:19	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			05/25/19 16:19	1
Tetrachloroethene	**0.63**	**J**	1.0	0.25	ug/L			05/25/19 16:19	1
Toluene	ND		1.0	0.38	ug/L			05/25/19 16:19	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: K-3 051319
Date Collected: 05/13/19 12:06
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 16:19	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 16:19	1
Trichloroethene	ND		1.0	0.31	ug/L			05/25/19 16:19	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 16:19	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 16:19	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/25/19 16:19	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 16:19	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 16:19	1
tert-Butylbenzene	ND		1.0	0.34	ug/L			05/25/19 16:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*74 - 132*		*05/25/19 16:19*	*1*
4-Bromofluorobenzene	*99*		*77 - 124*		*05/25/19 16:19*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/25/19 16:19*	*1*
Dibromofluoromethane (Surr)	*101*		*72 - 131*		*05/25/19 16:19*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 13:15	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 13:15	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/21/19 13:15	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/21/19 13:15	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/21/19 13:15	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 13:15	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/21/19 13:15	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/21/19 13:15	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/21/19 13:15	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 13:15	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/21/19 13:15	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:15	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/21/19 13:15	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/21/19 13:15	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 13:15	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 13:15	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/21/19 13:15	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/21/19 13:15	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 13:15	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 13:15	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/21/19 13:15	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/21/19 13:15	1
4-Methylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 13:15	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/21/19 13:15	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/21/19 13:15	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:15	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/21/19 13:15	1
Acetophenone	ND		10	0.79	ug/L		05/20/19 16:17	05/21/19 13:15	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 13:15	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 13:15	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/21/19 13:15	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/21/19 13:15	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: K-3 051319
Date Collected: 05/13/19 12:06
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/21/19 13:15	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/21/19 13:15	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 13:15	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/21/19 13:15	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 13:15	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/21/19 13:15	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/21/19 13:15	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/21/19 13:15	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/21/19 13:15	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/21/19 13:15	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/21/19 13:15	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/21/19 13:15	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:15	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/21/19 13:15	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/21/19 13:15	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 13:15	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/21/19 13:15	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 13:15	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/21/19 13:15	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/21/19 13:15	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/21/19 13:15	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/21/19 13:15	1
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/21/19 13:15	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 13:15	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/21/19 13:15	1
Naphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:15	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/21/19 13:15	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/21/19 13:15	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/21/19 13:15	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/21/19 13:15	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 13:15	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/21/19 13:15	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/21/19 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*86*		*40 - 148*	*05/20/19 16:17*	*05/21/19 13:15*	*1*
Nitrobenzene-d5	*93*		*51 - 108*	*05/20/19 16:17*	*05/21/19 13:15*	*1*
Phenol-d5	*27*		*14 - 39*	*05/20/19 16:17*	*05/21/19 13:15*	*1*
2-Fluorophenol	*43*		*25 - 58*	*05/20/19 16:17*	*05/21/19 13:15*	*1*
2,4,6-Tribromophenol	*87*		*26 - 139*	*05/20/19 16:17*	*05/21/19 13:15*	*1*
2-Fluorobiphenyl	*82*		*45 - 107*	*05/20/19 16:17*	*05/21/19 13:15*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 11:41	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 11:41	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:41	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 11:41	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 11:41	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 11:41	1

Client Sample ID: K-3 051319

Lab Sample ID: 460-182353-1

Date Collected: 05/13/19 12:06

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:41	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 11:41	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 11:41	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 11:41	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:41	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 11:41	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:41	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 11:41	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 11:41	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 11:41	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 11:41	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 11:41	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 11:41	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:41	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*51*		*10 - 150*	*05/20/19 08:40*	*05/22/19 11:41*	*1*
DCB Decachlorobiphenyl	*48*		*10 - 150*	*05/20/19 08:40*	*05/22/19 11:41*	*1*
Tetrachloro-m-xylene	*46*		*12 - 136*	*05/20/19 08:40*	*05/22/19 11:41*	*1*
Tetrachloro-m-xylene	*43*		*12 - 136*	*05/20/19 08:40*	*05/22/19 11:41*	*1*

Client Sample ID: MW-18 051319

Lab Sample ID: 460-182353-2

Date Collected: 05/13/19 13:02

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 16:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 16:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 16:43	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 16:43	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 16:43	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 16:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 16:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/25/19 16:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 16:43	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/25/19 16:43	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 16:43	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 16:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.33	ug/L			05/25/19 16:43	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 16:43	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 16:43	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 16:43	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 16:43	1
4-Isopropyltoluene	ND		1.0	0.37	ug/L			05/25/19 16:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 16:43	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 16:43	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 16:43	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 16:43	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-18 051319
Date Collected: 05/13/19 13:02
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 16:43	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/25/19 16:43	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 16:43	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 16:43	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 16:43	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 16:43	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 16:43	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 16:43	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/25/19 16:43	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 16:43	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 16:43	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 16:43	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/25/19 16:43	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 16:43	1
Isopropylbenzene	ND		1.0	0.34	ug/L			05/25/19 16:43	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 16:43	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 16:43	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/25/19 16:43	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 16:43	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/25/19 16:43	1
Naphthalene	ND		1.0	0.41	ug/L			05/25/19 16:43	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/25/19 16:43	1
N-Propylbenzene	ND		1.0	0.32	ug/L			05/25/19 16:43	1
o-Xylene	ND		1.0	0.36	ug/L			05/25/19 16:43	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			05/25/19 16:43	1
Tetrachloroethene	**3.4**		1.0	0.25	ug/L			05/25/19 16:43	1
Toluene	ND		1.0	0.38	ug/L			05/25/19 16:43	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 16:43	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 16:43	1
Trichloroethene	ND		1.0	0.31	ug/L			05/25/19 16:43	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 16:43	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 16:43	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/25/19 16:43	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 16:43	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 16:43	1
tert-Butylbenzene	ND		1.0	0.34	ug/L			05/25/19 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*74 - 132*		*05/25/19 16:43*	*1*
4-Bromofluorobenzene	*101*		*77 - 124*		*05/25/19 16:43*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/25/19 16:43*	*1*
Dibromofluoromethane (Surr)	*98*		*72 - 131*		*05/25/19 16:43*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 13:37	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 13:37	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/21/19 13:37	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/21/19 13:37	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/21/19 13:37	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-18 051319
Date Collected: 05/13/19 13:02
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 13:37	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/21/19 13:37	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/21/19 13:37	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/21/19 13:37	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 13:37	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/21/19 13:37	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:37	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/21/19 13:37	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/21/19 13:37	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 13:37	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 13:37	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/21/19 13:37	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/21/19 13:37	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 13:37	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 13:37	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/21/19 13:37	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/21/19 13:37	1
4-Methylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 13:37	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/21/19 13:37	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/21/19 13:37	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:37	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/21/19 13:37	1
Acetophenone	ND		10	0.79	ug/L		05/20/19 16:17	05/21/19 13:37	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 13:37	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 13:37	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/21/19 13:37	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/21/19 13:37	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/21/19 13:37	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/21/19 13:37	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 13:37	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/21/19 13:37	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 13:37	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/21/19 13:37	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/21/19 13:37	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/21/19 13:37	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/21/19 13:37	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/21/19 13:37	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/21/19 13:37	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/21/19 13:37	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:37	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/21/19 13:37	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/21/19 13:37	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 13:37	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/21/19 13:37	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 13:37	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/21/19 13:37	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/21/19 13:37	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/21/19 13:37	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/21/19 13:37	1

Client Sample ID: MW-18 051319
Date Collected: 05/13/19 13:02
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/21/19 13:37	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 13:37	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/21/19 13:37	1
Naphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:37	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/21/19 13:37	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/21/19 13:37	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/21/19 13:37	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/21/19 13:37	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 13:37	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/21/19 13:37	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/21/19 13:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*86*		*40 - 148*	*05/20/19 16:17*	*05/21/19 13:37*	*1*
Nitrobenzene-d5	*93*		*51 - 108*	*05/20/19 16:17*	*05/21/19 13:37*	*1*
Phenol-d5	*27*		*14 - 39*	*05/20/19 16:17*	*05/21/19 13:37*	*1*
2-Fluorophenol	*43*		*25 - 58*	*05/20/19 16:17*	*05/21/19 13:37*	*1*
2,4,6-Tribromophenol	*95*		*26 - 139*	*05/20/19 16:17*	*05/21/19 13:37*	*1*
2-Fluorobiphenyl	*83*		*45 - 107*	*05/20/19 16:17*	*05/21/19 13:37*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 11:56	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 11:56	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:56	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 11:56	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 11:56	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 11:56	1
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:56	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 11:56	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 11:56	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 11:56	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:56	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 11:56	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:56	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 11:56	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 11:56	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 11:56	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 11:56	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 11:56	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 11:56	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 11:56	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 11:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*43*		*10 - 150*	*05/20/19 08:40*	*05/22/19 11:56*	*1*
DCB Decachlorobiphenyl	*41*		*10 - 150*	*05/20/19 08:40*	*05/22/19 11:56*	*1*
Tetrachloro-m-xylene	*57*		*12 - 136*	*05/20/19 08:40*	*05/22/19 11:56*	*1*
Tetrachloro-m-xylene	*50*		*12 - 136*	*05/20/19 08:40*	*05/22/19 11:56*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-17 051319
Date Collected: 05/13/19 14:10
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 17:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 17:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 17:06	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 17:06	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 17:06	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 17:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 17:06	1
1,2,4-Trimethylbenzene	**45**		1.0	0.37	ug/L			05/25/19 17:06	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 17:06	1
1,2-Dichlorobenzene	**3.8**		1.0	0.43	ug/L			05/25/19 17:06	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 17:06	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 17:06	1
1,3,5-Trimethylbenzene	**19**		1.0	0.33	ug/L			05/25/19 17:06	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 17:06	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 17:06	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 17:06	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 17:06	1
4-Isopropyltoluene	**4.5**		1.0	0.37	ug/L			05/25/19 17:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 17:06	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 17:06	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 17:06	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 17:06	1
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 17:06	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/25/19 17:06	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 17:06	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 17:06	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 17:06	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 17:06	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 17:06	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 17:06	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/25/19 17:06	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 17:06	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 17:06	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 17:06	1
Ethylbenzene	**0.64**	**J**	1.0	0.30	ug/L			05/25/19 17:06	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 17:06	1
Isopropylbenzene	**1.1**		1.0	0.34	ug/L			05/25/19 17:06	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 17:06	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 17:06	1
Methylcyclohexane	**0.64**	**J**	1.0	0.26	ug/L			05/25/19 17:06	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 17:06	1
m,p-Xylene	**3.0**		1.0	0.30	ug/L			05/25/19 17:06	1
Naphthalene	**5.3**		1.0	0.41	ug/L			05/25/19 17:06	1
n-Butylbenzene	**2.1**		1.0	0.32	ug/L			05/25/19 17:06	1
N-Propylbenzene	**2.2**		1.0	0.32	ug/L			05/25/19 17:06	1
o-Xylene	**5.3**		1.0	0.36	ug/L			05/25/19 17:06	1
sec-Butylbenzene	**2.6**		1.0	0.37	ug/L			05/25/19 17:06	1
Tetrachloroethene	**0.94**	**J**	1.0	0.25	ug/L			05/25/19 17:06	1
Toluene	ND		1.0	0.38	ug/L			05/25/19 17:06	1

Client Sample ID: MW-17 051319
Date Collected: 05/13/19 14:10
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 17:06	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 17:06	1
Trichloroethene	ND		1.0	0.31	ug/L			05/25/19 17:06	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 17:06	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 17:06	1
Xylenes, Total	**8.3**		2.0	0.30	ug/L			05/25/19 17:06	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 17:06	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 17:06	1
tert-Butylbenzene	**0.59**	**J**	1.0	0.34	ug/L			05/25/19 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*74 - 132*		*05/25/19 17:06*	*1*
4-Bromofluorobenzene	*99*		*77 - 124*		*05/25/19 17:06*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/25/19 17:06*	*1*
Dibromofluoromethane (Surr)	*95*		*72 - 131*		*05/25/19 17:06*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 13:58	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 13:58	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/21/19 13:58	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/21/19 13:58	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/21/19 13:58	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 13:58	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/21/19 13:58	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/21/19 13:58	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/21/19 13:58	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 13:58	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/21/19 13:58	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:58	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/21/19 13:58	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/21/19 13:58	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 13:58	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 13:58	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/21/19 13:58	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/21/19 13:58	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 13:58	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 13:58	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/21/19 13:58	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/21/19 13:58	1
4-Methylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 13:58	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/21/19 13:58	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/21/19 13:58	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:58	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/21/19 13:58	1
Acetophenone	ND		10	0.79	ug/L		05/20/19 16:17	05/21/19 13:58	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 13:58	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 13:58	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/21/19 13:58	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/21/19 13:58	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-17 051319
Date Collected: 05/13/19 14:10
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/21/19 13:58	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/21/19 13:58	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 13:58	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/21/19 13:58	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 13:58	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/21/19 13:58	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/21/19 13:58	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/21/19 13:58	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/21/19 13:58	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/21/19 13:58	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/21/19 13:58	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/21/19 13:58	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:58	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/21/19 13:58	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/21/19 13:58	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 13:58	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/21/19 13:58	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 13:58	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/21/19 13:58	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/21/19 13:58	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/21/19 13:58	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/21/19 13:58	1
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/21/19 13:58	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 13:58	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/21/19 13:58	1
Naphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 13:58	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/21/19 13:58	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/21/19 13:58	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/21/19 13:58	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/21/19 13:58	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 13:58	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/21/19 13:58	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/21/19 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*78*		*40 - 148*	*05/20/19 16:17*	*05/21/19 13:58*	*1*
Nitrobenzene-d5	*85*		*51 - 108*	*05/20/19 16:17*	*05/21/19 13:58*	*1*
Phenol-d5	*25*		*14 - 39*	*05/20/19 16:17*	*05/21/19 13:58*	*1*
2-Fluorophenol	*40*		*25 - 58*	*05/20/19 16:17*	*05/21/19 13:58*	*1*
2,4,6-Tribromophenol	*88*		*26 - 139*	*05/20/19 16:17*	*05/21/19 13:58*	*1*
2-Fluorobiphenyl	*71*		*45 - 107*	*05/20/19 16:17*	*05/21/19 13:58*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 12:12	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 12:12	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:12	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 12:12	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 12:12	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 12:12	1

Client Sample ID: MW-17 051319

Lab Sample ID: 460-182353-3

Date Collected: 05/13/19 14:10

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:12	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 12:12	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 12:12	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 12:12	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:12	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 12:12	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:12	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 12:12	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 12:12	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 12:12	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 12:12	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 12:12	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 12:12	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:12	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*22*		*10 - 150*	*05/20/19 08:40*	*05/22/19 12:12*	*1*
DCB Decachlorobiphenyl	*22*		*10 - 150*	*05/20/19 08:40*	*05/22/19 12:12*	*1*
Tetrachloro-m-xylene	*55*		*12 - 136*	*05/20/19 08:40*	*05/22/19 12:12*	*1*
Tetrachloro-m-xylene	*57*		*12 - 136*	*05/20/19 08:40*	*05/22/19 12:12*	*1*

Client Sample ID: MW-15S 051319

Lab Sample ID: 460-182353-4

Date Collected: 05/13/19 14:48

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 17:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 17:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 17:30	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 17:30	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 17:30	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 17:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 17:30	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/25/19 17:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 17:30	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/25/19 17:30	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 17:30	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 17:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.33	ug/L			05/25/19 17:30	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 17:30	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 17:30	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 17:30	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 17:30	1
4-Isopropyltoluene	ND		1.0	0.37	ug/L			05/25/19 17:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 17:30	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 17:30	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 17:30	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 17:30	1

Client Sample ID: MW-15S 051319
Date Collected: 05/13/19 14:48
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 17:30	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/25/19 17:30	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 17:30	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 17:30	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 17:30	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 17:30	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 17:30	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 17:30	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/25/19 17:30	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 17:30	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 17:30	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 17:30	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/25/19 17:30	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 17:30	1
Isopropylbenzene	ND		1.0	0.34	ug/L			05/25/19 17:30	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 17:30	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 17:30	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/25/19 17:30	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 17:30	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/25/19 17:30	1
Naphthalene	ND		1.0	0.41	ug/L			05/25/19 17:30	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/25/19 17:30	1
N-Propylbenzene	ND		1.0	0.32	ug/L			05/25/19 17:30	1
o-Xylene	ND		1.0	0.36	ug/L			05/25/19 17:30	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			05/25/19 17:30	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/25/19 17:30	1
Toluene	ND		1.0	0.38	ug/L			05/25/19 17:30	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 17:30	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 17:30	1
Trichloroethene	ND		1.0	0.31	ug/L			05/25/19 17:30	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 17:30	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 17:30	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/25/19 17:30	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 17:30	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 17:30	1
tert-Butylbenzene	ND		1.0	0.34	ug/L			05/25/19 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*74 - 132*		*05/25/19 17:30*	*1*
4-Bromofluorobenzene	*101*		*77 - 124*		*05/25/19 17:30*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/25/19 17:30*	*1*
Dibromofluoromethane (Surr)	*90*		*72 - 131*		*05/25/19 17:30*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/20/19 16:17	05/22/19 10:40	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/22/19 10:40	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/22/19 10:40	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/22/19 10:40	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/22/19 10:40	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-15S 051319
Date Collected: 05/13/19 14:48
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/22/19 10:40	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/22/19 10:40	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/22/19 10:40	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/22/19 10:40	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/22/19 10:40	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/22/19 10:40	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/22/19 10:40	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/22/19 10:40	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/22/19 10:40	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/22/19 10:40	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/22/19 10:40	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/22/19 10:40	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/22/19 10:40	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/22/19 10:40	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/22/19 10:40	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/22/19 10:40	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/22/19 10:40	1
4-Methylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/22/19 10:40	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/22/19 10:40	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/22/19 10:40	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/22/19 10:40	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/22/19 10:40	1
Acetophenone	**2.2**	**J**	10	0.79	ug/L		05/20/19 16:17	05/22/19 10:40	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/22/19 10:40	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/22/19 10:40	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/22/19 10:40	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/22/19 10:40	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/22/19 10:40	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/22/19 10:40	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/22/19 10:40	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/22/19 10:40	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/22/19 10:40	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/22/19 10:40	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/22/19 10:40	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/22/19 10:40	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/22/19 10:40	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/22/19 10:40	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/22/19 10:40	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/22/19 10:40	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/22/19 10:40	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/22/19 10:40	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/22/19 10:40	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/20/19 16:17	05/22/19 10:40	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/22/19 10:40	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/22/19 10:40	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/22/19 10:40	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/22/19 10:40	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/22/19 10:40	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/22/19 10:40	1

Client Sample ID: MW-15S 051319
Date Collected: 05/13/19 14:48
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/22/19 10:40	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/22/19 10:40	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/22/19 10:40	1
Naphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/22/19 10:40	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/22/19 10:40	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/22/19 10:40	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/22/19 10:40	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/22/19 10:40	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/22/19 10:40	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/22/19 10:40	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/22/19 10:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*80*		*40 - 148*	*05/20/19 16:17*	*05/22/19 10:40*	*1*
Nitrobenzene-d5	*74*		*51 - 108*	*05/20/19 16:17*	*05/22/19 10:40*	*1*
Phenol-d5	*21*		*14 - 39*	*05/20/19 16:17*	*05/22/19 10:40*	*1*
2-Fluorophenol	*35*		*25 - 58*	*05/20/19 16:17*	*05/22/19 10:40*	*1*
2,4,6-Tribromophenol	*81*		*26 - 139*	*05/20/19 16:17*	*05/22/19 10:40*	*1*
2-Fluorobiphenyl	*65*		*45 - 107*	*05/20/19 16:17*	*05/22/19 10:40*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 12:27	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 12:27	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:27	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 12:27	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 12:27	1
cis-Chlordane	**0.17**	**p**	0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 12:27	1
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:27	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 12:27	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 12:27	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 12:27	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:27	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 12:27	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:27	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 12:27	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 12:27	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 12:27	1
trans-Chlordane	**0.096**		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 12:27	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 12:27	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 12:27	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 12:27	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*24*		*10 - 150*	*05/20/19 08:40*	*05/22/19 12:27*	*1*
DCB Decachlorobiphenyl	*23*		*10 - 150*	*05/20/19 08:40*	*05/22/19 12:27*	*1*
Tetrachloro-m-xylene	*70*		*12 - 136*	*05/20/19 08:40*	*05/22/19 12:27*	*1*
Tetrachloro-m-xylene	*44*		*12 - 136*	*05/20/19 08:40*	*05/22/19 12:27*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: VEW-2 051419
Date Collected: 05/14/19 09:38
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 17:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 17:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 17:53	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 17:53	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 17:53	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 17:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 17:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/25/19 17:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 17:53	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/25/19 17:53	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 17:53	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 17:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.33	ug/L			05/25/19 17:53	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 17:53	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 17:53	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 17:53	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 17:53	1
4-Isopropyltoluene	ND		1.0	0.37	ug/L			05/25/19 17:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 17:53	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 17:53	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 17:53	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 17:53	1
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 17:53	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/25/19 17:53	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 17:53	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 17:53	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 17:53	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 17:53	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 17:53	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 17:53	1
cis-1,2-Dichloroethene	**1.6**		1.0	0.22	ug/L			05/25/19 17:53	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 17:53	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 17:53	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 17:53	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/25/19 17:53	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 17:53	1
Isopropylbenzene	ND		1.0	0.34	ug/L			05/25/19 17:53	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 17:53	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 17:53	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/25/19 17:53	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 17:53	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/25/19 17:53	1
Naphthalene	ND		1.0	0.41	ug/L			05/25/19 17:53	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/25/19 17:53	1
N-Propylbenzene	ND		1.0	0.32	ug/L			05/25/19 17:53	1
o-Xylene	ND		1.0	0.36	ug/L			05/25/19 17:53	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			05/25/19 17:53	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/25/19 17:53	1
Toluene	ND		1.0	0.38	ug/L			05/25/19 17:53	1

Client Sample ID: VEW-2 051419
Date Collected: 05/14/19 09:38
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 17:53	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 17:53	1
Trichloroethene	**1.5**		1.0	0.31	ug/L			05/25/19 17:53	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 17:53	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 17:53	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/25/19 17:53	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 17:53	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 17:53	1
tert-Butylbenzene	ND		1.0	0.34	ug/L			05/25/19 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*74 - 132*		*05/25/19 17:53*	*1*
4-Bromofluorobenzene	*103*		*77 - 124*		*05/25/19 17:53*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/25/19 17:53*	*1*
Dibromofluoromethane (Surr)	*83*		*72 - 131*		*05/25/19 17:53*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 14:40	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 14:40	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/21/19 14:40	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/21/19 14:40	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/21/19 14:40	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 14:40	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/21/19 14:40	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/21/19 14:40	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/21/19 14:40	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 14:40	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/21/19 14:40	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 14:40	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/21/19 14:40	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/21/19 14:40	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 14:40	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 14:40	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/21/19 14:40	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/21/19 14:40	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 14:40	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 14:40	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/21/19 14:40	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/21/19 14:40	1
4-Methylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 14:40	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/21/19 14:40	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/21/19 14:40	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 14:40	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/21/19 14:40	1
Acetophenone	ND		10	0.79	ug/L		05/20/19 16:17	05/21/19 14:40	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 14:40	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 14:40	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/21/19 14:40	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/21/19 14:40	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: VEW-2 051419
Date Collected: 05/14/19 09:38
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/21/19 14:40	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/21/19 14:40	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 14:40	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/21/19 14:40	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 14:40	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/21/19 14:40	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/21/19 14:40	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/21/19 14:40	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/21/19 14:40	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/21/19 14:40	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/21/19 14:40	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/21/19 14:40	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 14:40	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/21/19 14:40	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/21/19 14:40	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 14:40	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/21/19 14:40	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 14:40	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/21/19 14:40	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/21/19 14:40	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/21/19 14:40	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/21/19 14:40	1
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/21/19 14:40	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 14:40	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/21/19 14:40	1
Naphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 14:40	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/21/19 14:40	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/21/19 14:40	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/21/19 14:40	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/21/19 14:40	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 14:40	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/21/19 14:40	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/21/19 14:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*87*		*40 - 148*	*05/20/19 16:17*	*05/21/19 14:40*	*1*
Nitrobenzene-d5	*91*		*51 - 108*	*05/20/19 16:17*	*05/21/19 14:40*	*1*
Phenol-d5	*26*		*14 - 39*	*05/20/19 16:17*	*05/21/19 14:40*	*1*
2-Fluorophenol	*43*		*25 - 58*	*05/20/19 16:17*	*05/21/19 14:40*	*1*
2,4,6-Tribromophenol	*96*		*26 - 139*	*05/20/19 16:17*	*05/21/19 14:40*	*1*
2-Fluorobiphenyl	*75*		*45 - 107*	*05/20/19 16:17*	*05/21/19 14:40*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 14:51	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 14:51	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:51	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 14:51	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 14:51	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 14:51	1

Client Sample ID: VEW-2 051419

Lab Sample ID: 460-182353-5

Date Collected: 05/14/19 09:38

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:51	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 14:51	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 14:51	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 14:51	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:51	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 14:51	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:51	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 14:51	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 14:51	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 14:51	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 14:51	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 14:51	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 14:51	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:51	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*18*		*10 - 150*	*05/20/19 08:40*	*05/22/19 14:51*	*1*
DCB Decachlorobiphenyl	*19*		*10 - 150*	*05/20/19 08:40*	*05/22/19 14:51*	*1*
Tetrachloro-m-xylene	*45*		*12 - 136*	*05/20/19 08:40*	*05/22/19 14:51*	*1*
Tetrachloro-m-xylene	*30*		*12 - 136*	*05/20/19 08:40*	*05/22/19 14:51*	*1*

Client Sample ID: VEW-1 051419

Lab Sample ID: 460-182353-6

Date Collected: 05/14/19 10:32

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 18:16	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 18:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 18:16	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 18:16	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 18:16	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 18:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 18:16	1
1,2,4-Trimethylbenzene	**230**		1.0	0.37	ug/L			05/25/19 18:16	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 18:16	1
1,2-Dichlorobenzene	**15**		1.0	0.43	ug/L			05/25/19 18:16	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 18:16	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 18:16	1
1,3,5-Trimethylbenzene	**200**		1.0	0.33	ug/L			05/25/19 18:16	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 18:16	1
1,4-Dichlorobenzene	**1.2**		1.0	0.76	ug/L			05/25/19 18:16	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 18:16	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 18:16	1
4-Isopropyltoluene	**40**		1.0	0.37	ug/L			05/25/19 18:16	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 18:16	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 18:16	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 18:16	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 18:16	1

Client Sample ID: VEW-1 051419
Date Collected: 05/14/19 10:32
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 18:16	1
Carbon disulfide	**0.25**	**J**	1.0	0.16	ug/L			05/25/19 18:16	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 18:16	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 18:16	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 18:16	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 18:16	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 18:16	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 18:16	1
cis-1,2-Dichloroethene	**7.7**		1.0	0.22	ug/L			05/25/19 18:16	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 18:16	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 18:16	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 18:16	1
Ethylbenzene	**15**		1.0	0.30	ug/L			05/25/19 18:16	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 18:16	1
Isopropylbenzene	**11**		1.0	0.34	ug/L			05/25/19 18:16	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 18:16	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 18:16	1
Methylcyclohexane	**2.6**		1.0	0.26	ug/L			05/25/19 18:16	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 18:16	1
m,p-Xylene	**33**		1.0	0.30	ug/L			05/25/19 18:16	1
Naphthalene	**77**		1.0	0.41	ug/L			05/25/19 18:16	1
n-Butylbenzene	**21**		1.0	0.32	ug/L			05/25/19 18:16	1
N-Propylbenzene	**19**		1.0	0.32	ug/L			05/25/19 18:16	1
o-Xylene	**140**		1.0	0.36	ug/L			05/25/19 18:16	1
sec-Butylbenzene	**19**		1.0	0.37	ug/L			05/25/19 18:16	1
Tetrachloroethene	**1.1**		1.0	0.25	ug/L			05/25/19 18:16	1
Toluene	**1.2**		1.0	0.38	ug/L			05/25/19 18:16	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 18:16	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 18:16	1
Trichloroethene	**2.4**		1.0	0.31	ug/L			05/25/19 18:16	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 18:16	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 18:16	1
Xylenes, Total	**170**		2.0	0.30	ug/L			05/25/19 18:16	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 18:16	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 18:16	1
tert-Butylbenzene	**4.7**		1.0	0.34	ug/L			05/25/19 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*74 - 132*		*05/25/19 18:16*	*1*
4-Bromofluorobenzene	*98*		*77 - 124*		*05/25/19 18:16*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*05/25/19 18:16*	*1*
Dibromofluoromethane (Surr)	*88*		*72 - 131*		*05/25/19 18:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 15:01	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 15:01	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/21/19 15:01	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/21/19 15:01	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/21/19 15:01	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: VEW-1 051419
Date Collected: 05/14/19 10:32
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 15:01	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/21/19 15:01	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/21/19 15:01	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/21/19 15:01	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 15:01	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/21/19 15:01	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 15:01	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/21/19 15:01	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/21/19 15:01	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 15:01	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 15:01	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/21/19 15:01	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/21/19 15:01	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 15:01	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 15:01	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/21/19 15:01	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/21/19 15:01	1
4-Methylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 15:01	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/21/19 15:01	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/21/19 15:01	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 15:01	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/21/19 15:01	1
Acetophenone	ND		10	0.79	ug/L		05/20/19 16:17	05/21/19 15:01	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 15:01	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 15:01	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/21/19 15:01	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/21/19 15:01	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/21/19 15:01	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/21/19 15:01	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 15:01	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/21/19 15:01	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 15:01	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/21/19 15:01	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/21/19 15:01	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/21/19 15:01	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/21/19 15:01	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/21/19 15:01	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/21/19 15:01	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/21/19 15:01	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 15:01	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/21/19 15:01	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/21/19 15:01	1
Di-n-butyl phthalate	**3.9**	**J**	10	0.84	ug/L		05/20/19 16:17	05/21/19 15:01	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/21/19 15:01	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 15:01	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/21/19 15:01	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/21/19 15:01	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/21/19 15:01	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/21/19 15:01	1

Client Sample ID: VEW-1 051419
Date Collected: 05/14/19 10:32
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/21/19 15:01	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 15:01	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/21/19 15:01	1
Naphthalene	**4.8**	**J**	10	1.1	ug/L		05/20/19 16:17	05/21/19 15:01	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/21/19 15:01	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/21/19 15:01	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/21/19 15:01	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/21/19 15:01	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 15:01	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/21/19 15:01	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/21/19 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*87*		*40 - 148*	*05/20/19 16:17*	*05/21/19 15:01*	*1*
Nitrobenzene-d5	*93*		*51 - 108*	*05/20/19 16:17*	*05/21/19 15:01*	*1*
Phenol-d5	*27*		*14 - 39*	*05/20/19 16:17*	*05/21/19 15:01*	*1*
2-Fluorophenol	*45*		*25 - 58*	*05/20/19 16:17*	*05/21/19 15:01*	*1*
2,4,6-Tribromophenol	*104*		*26 - 139*	*05/20/19 16:17*	*05/21/19 15:01*	*1*
2-Fluorobiphenyl	*76*		*45 - 107*	*05/20/19 16:17*	*05/21/19 15:01*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 15:42	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 15:42	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 15:42	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 15:42	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 15:42	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 15:42	1
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 15:42	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 15:42	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 15:42	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 15:42	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 15:42	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 15:42	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 15:42	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 15:42	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 15:42	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 15:42	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 15:42	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 15:42	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 15:42	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 15:42	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*26*		*10 - 150*	*05/20/19 08:40*	*05/22/19 15:42*	*1*
DCB Decachlorobiphenyl	*26*		*10 - 150*	*05/20/19 08:40*	*05/22/19 15:42*	*1*
Tetrachloro-m-xylene	*58*		*12 - 136*	*05/20/19 08:40*	*05/22/19 15:42*	*1*
Tetrachloro-m-xylene	*53*		*12 - 136*	*05/20/19 08:40*	*05/22/19 15:42*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: VEW-3 051419
Date Collected: 05/14/19 11:28
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 18:39	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 18:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 18:39	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 18:39	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 18:39	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 18:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 18:39	1
1,2,4-Trimethylbenzene	**30**		1.0	0.37	ug/L			05/25/19 18:39	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 18:39	1
1,2-Dichlorobenzene	**6.9**		1.0	0.43	ug/L			05/25/19 18:39	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 18:39	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 18:39	1
1,3,5-Trimethylbenzene	**21**		1.0	0.33	ug/L			05/25/19 18:39	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 18:39	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 18:39	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 18:39	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 18:39	1
4-Isopropyltoluene	**1.3**		1.0	0.37	ug/L			05/25/19 18:39	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 18:39	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 18:39	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 18:39	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 18:39	1
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 18:39	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/25/19 18:39	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 18:39	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 18:39	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 18:39	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 18:39	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 18:39	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 18:39	1
cis-1,2-Dichloroethene	**0.35**	**J**	1.0	0.22	ug/L			05/25/19 18:39	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 18:39	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 18:39	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 18:39	1
Ethylbenzene	**13**		1.0	0.30	ug/L			05/25/19 18:39	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 18:39	1
Isopropylbenzene	**1.7**		1.0	0.34	ug/L			05/25/19 18:39	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 18:39	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 18:39	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/25/19 18:39	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 18:39	1
m,p-Xylene	**43**		1.0	0.30	ug/L			05/25/19 18:39	1
Naphthalene	**13**		1.0	0.41	ug/L			05/25/19 18:39	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/25/19 18:39	1
N-Propylbenzene	**1.7**		1.0	0.32	ug/L			05/25/19 18:39	1
o-Xylene	**27**		1.0	0.36	ug/L			05/25/19 18:39	1
sec-Butylbenzene	**0.88**	**J**	1.0	0.37	ug/L			05/25/19 18:39	1
Tetrachloroethene	**0.58**	**J**	1.0	0.25	ug/L			05/25/19 18:39	1
Toluene	**2.4**		1.0	0.38	ug/L			05/25/19 18:39	1

Client Sample ID: VEW-3 051419
Date Collected: 05/14/19 11:28
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 18:39	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 18:39	1
Trichloroethene	ND		1.0	0.31	ug/L			05/25/19 18:39	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 18:39	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 18:39	1
Xylenes, Total	**71**		2.0	0.30	ug/L			05/25/19 18:39	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 18:39	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 18:39	1
tert-Butylbenzene	ND		1.0	0.34	ug/L			05/25/19 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*74 - 132*		*05/25/19 18:39*	*1*
4-Bromofluorobenzene	*99*		*77 - 124*		*05/25/19 18:39*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/25/19 18:39*	*1*
Dibromofluoromethane (Surr)	*86*		*72 - 131*		*05/25/19 18:39*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 15:22	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 15:22	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/21/19 15:22	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/21/19 15:22	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/21/19 15:22	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 15:22	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/21/19 15:22	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/21/19 15:22	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/21/19 15:22	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 15:22	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/21/19 15:22	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 15:22	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/21/19 15:22	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/21/19 15:22	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 15:22	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 15:22	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/21/19 15:22	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/21/19 15:22	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 15:22	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 15:22	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/21/19 15:22	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/21/19 15:22	1
4-Methylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 15:22	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/21/19 15:22	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/21/19 15:22	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 15:22	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/21/19 15:22	1
Acetophenone	ND		10	0.79	ug/L		05/20/19 16:17	05/21/19 15:22	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 15:22	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 15:22	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/21/19 15:22	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/21/19 15:22	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: VEW-3 051419
Date Collected: 05/14/19 11:28
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/21/19 15:22	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/21/19 15:22	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 15:22	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/21/19 15:22	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 15:22	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/21/19 15:22	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/21/19 15:22	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/21/19 15:22	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/21/19 15:22	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/21/19 15:22	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/21/19 15:22	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/21/19 15:22	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 15:22	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/21/19 15:22	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/21/19 15:22	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 15:22	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/21/19 15:22	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 15:22	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/21/19 15:22	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/21/19 15:22	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/21/19 15:22	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/21/19 15:22	1
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/21/19 15:22	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 15:22	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/21/19 15:22	1
Naphthalene	**1.2**	**J**	10	1.1	ug/L		05/20/19 16:17	05/21/19 15:22	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/21/19 15:22	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/21/19 15:22	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/21/19 15:22	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/21/19 15:22	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 15:22	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/21/19 15:22	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/21/19 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*81*		*40 - 148*	*05/20/19 16:17*	*05/21/19 15:22*	*1*
Nitrobenzene-d5	*87*		*51 - 108*	*05/20/19 16:17*	*05/21/19 15:22*	*1*
Phenol-d5	*23*		*14 - 39*	*05/20/19 16:17*	*05/21/19 15:22*	*1*
2-Fluorophenol	*39*		*25 - 58*	*05/20/19 16:17*	*05/21/19 15:22*	*1*
2,4,6-Tribromophenol	*89*		*26 - 139*	*05/20/19 16:17*	*05/21/19 15:22*	*1*
2-Fluorobiphenyl	*70*		*45 - 107*	*05/20/19 16:17*	*05/21/19 15:22*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 13:13	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 13:13	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:13	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:13	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 13:13	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 13:13	1

Client Sample ID: VEW-3 051419

Lab Sample ID: 460-182353-7

Date Collected: 05/14/19 11:28

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:13	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 13:13	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:13	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 13:13	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:13	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 13:13	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:13	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 13:13	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 13:13	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 13:13	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:13	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:13	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 13:13	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:13	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*31*		*10 - 150*	*05/20/19 08:40*	*05/22/19 13:13*	*1*
DCB Decachlorobiphenyl	*26*		*10 - 150*	*05/20/19 08:40*	*05/22/19 13:13*	*1*
Tetrachloro-m-xylene	*59*		*12 - 136*	*05/20/19 08:40*	*05/22/19 13:13*	*1*
Tetrachloro-m-xylene	*54*		*12 - 136*	*05/20/19 08:40*	*05/22/19 13:13*	*1*

Client Sample ID: VEW-4 051419

Lab Sample ID: 460-182353-8

Date Collected: 05/14/19 12:22

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 19:03	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 19:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.53**	**J**	1.0	0.31	ug/L			05/25/19 19:03	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 19:03	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 19:03	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 19:03	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 19:03	1
1,2,4-Trimethylbenzene	**25**		1.0	0.37	ug/L			05/25/19 19:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 19:03	1
1,2-Dichlorobenzene	**1.5**		1.0	0.43	ug/L			05/25/19 19:03	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 19:03	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 19:03	1
1,3,5-Trimethylbenzene	**15**		1.0	0.33	ug/L			05/25/19 19:03	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 19:03	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 19:03	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 19:03	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 19:03	1
4-Isopropyltoluene	**2.8**		1.0	0.37	ug/L			05/25/19 19:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 19:03	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 19:03	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 19:03	1

Client Sample ID: VEW-4 051419
Date Collected: 05/14/19 12:22
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		1.0	0.54	ug/L			05/25/19 19:03	1
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 19:03	1
Carbon disulfide	**0.26**	**J**	1.0	0.16	ug/L			05/25/19 19:03	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 19:03	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 19:03	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 19:03	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 19:03	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 19:03	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 19:03	1
cis-1,2-Dichloroethene	**0.67**	**J**	1.0	0.22	ug/L			05/25/19 19:03	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 19:03	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 19:03	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 19:03	1
Ethylbenzene	**2.2**		1.0	0.30	ug/L			05/25/19 19:03	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 19:03	1
Isopropylbenzene	**0.51**	**J**	1.0	0.34	ug/L			05/25/19 19:03	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 19:03	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 19:03	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/25/19 19:03	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 19:03	1
m,p-Xylene	**8.1**		1.0	0.30	ug/L			05/25/19 19:03	1
Naphthalene	**8.3**		1.0	0.41	ug/L			05/25/19 19:03	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/25/19 19:03	1
N-Propylbenzene	**0.71**	**J**	1.0	0.32	ug/L			05/25/19 19:03	1
o-Xylene	**16**		1.0	0.36	ug/L			05/25/19 19:03	1
sec-Butylbenzene	**1.1**		1.0	0.37	ug/L			05/25/19 19:03	1
Tetrachloroethene	**0.48**	**J**	1.0	0.25	ug/L			05/25/19 19:03	1
Toluene	**1.3**		1.0	0.38	ug/L			05/25/19 19:03	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 19:03	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 19:03	1
Trichloroethene	**2.1**		1.0	0.31	ug/L			05/25/19 19:03	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 19:03	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 19:03	1
Xylenes, Total	**24**		2.0	0.30	ug/L			05/25/19 19:03	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 19:03	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 19:03	1
tert-Butylbenzene	ND		1.0	0.34	ug/L			05/25/19 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*74 - 132*		*05/25/19 19:03*	*1*
4-Bromofluorobenzene	*102*		*77 - 124*		*05/25/19 19:03*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*05/25/19 19:03*	*1*
Dibromofluoromethane (Surr)	*87*		*72 - 131*		*05/25/19 19:03*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/20/19 16:17	05/22/19 11:01	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/22/19 11:01	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/22/19 11:01	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/22/19 11:01	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: VEW-4 051419
Date Collected: 05/14/19 12:22
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-8
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/22/19 11:01	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/22/19 11:01	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/22/19 11:01	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/22/19 11:01	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/22/19 11:01	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/22/19 11:01	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/22/19 11:01	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/22/19 11:01	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/22/19 11:01	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/22/19 11:01	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/22/19 11:01	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/22/19 11:01	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/22/19 11:01	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/22/19 11:01	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/22/19 11:01	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/22/19 11:01	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/22/19 11:01	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/22/19 11:01	1
4-Methylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/22/19 11:01	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/22/19 11:01	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/22/19 11:01	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/22/19 11:01	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/22/19 11:01	1
Acetophenone	ND		10	0.79	ug/L		05/20/19 16:17	05/22/19 11:01	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/22/19 11:01	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/22/19 11:01	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/22/19 11:01	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/22/19 11:01	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/22/19 11:01	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/22/19 11:01	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/22/19 11:01	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/22/19 11:01	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/22/19 11:01	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/22/19 11:01	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/22/19 11:01	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/22/19 11:01	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/22/19 11:01	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/22/19 11:01	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/22/19 11:01	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/22/19 11:01	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/22/19 11:01	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/22/19 11:01	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/22/19 11:01	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/20/19 16:17	05/22/19 11:01	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/22/19 11:01	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/22/19 11:01	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/22/19 11:01	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/22/19 11:01	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/22/19 11:01	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: VEW-4 051419
Date Collected: 05/14/19 12:22
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-8
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/22/19 11:01	1
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/22/19 11:01	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/22/19 11:01	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/22/19 11:01	1
Naphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/22/19 11:01	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/22/19 11:01	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/22/19 11:01	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/22/19 11:01	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/22/19 11:01	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/22/19 11:01	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/22/19 11:01	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/22/19 11:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*87*		*40 - 148*	*05/20/19 16:17*	*05/22/19 11:01*	*1*
Nitrobenzene-d5	*83*		*51 - 108*	*05/20/19 16:17*	*05/22/19 11:01*	*1*
Phenol-d5	*24*		*14 - 39*	*05/20/19 16:17*	*05/22/19 11:01*	*1*
2-Fluorophenol	*39*		*25 - 58*	*05/20/19 16:17*	*05/22/19 11:01*	*1*
2,4,6-Tribromophenol	*91*		*26 - 139*	*05/20/19 16:17*	*05/22/19 11:01*	*1*
2-Fluorobiphenyl	*67*		*45 - 107*	*05/20/19 16:17*	*05/22/19 11:01*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 13:29	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 13:29	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:29	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:29	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 13:29	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 13:29	1
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:29	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 13:29	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:29	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 13:29	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:29	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 13:29	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:29	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 13:29	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 13:29	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 13:29	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:29	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:29	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 13:29	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:29	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*29*		*10 - 150*	*05/20/19 08:40*	*05/22/19 13:29*	*1*
DCB Decachlorobiphenyl	*27*		*10 - 150*	*05/20/19 08:40*	*05/22/19 13:29*	*1*
Tetrachloro-m-xylene	*52*		*12 - 136*	*05/20/19 08:40*	*05/22/19 13:29*	*1*
Tetrachloro-m-xylene	*48*		*12 - 136*	*05/20/19 08:40*	*05/22/19 13:29*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: ASW 051419
Date Collected: 05/14/19 13:54
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	0.48	ug/L			05/24/19 15:00	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.73	ug/L			05/24/19 15:00	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			05/24/19 15:00	2
1,1,2-Trichloroethane	ND		2.0	0.87	ug/L			05/24/19 15:00	2
1,1-Dichloroethane	ND		2.0	0.53	ug/L			05/24/19 15:00	2
1,1-Dichloroethene	ND		2.0	0.23	ug/L			05/24/19 15:00	2
1,2,4-Trichlorobenzene	ND		2.0	0.73	ug/L			05/24/19 15:00	2
1,2,4-Trimethylbenzene	**810**		2.0	0.75	ug/L			05/24/19 15:00	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.75	ug/L			05/24/19 15:00	2
1,2-Dichlorobenzene	**29**		2.0	0.86	ug/L			05/24/19 15:00	2
1,2-Dichloroethane	ND		2.0	0.86	ug/L			05/24/19 15:00	2
1,2-Dichloropropane	ND		2.0	0.71	ug/L			05/24/19 15:00	2
1,3,5-Trimethylbenzene	**280**		2.0	0.65	ug/L			05/24/19 15:00	2
1,3-Dichlorobenzene	**0.69**	**J**	2.0	0.68	ug/L			05/24/19 15:00	2
1,4-Dichlorobenzene	**4.5**		2.0	1.5	ug/L			05/24/19 15:00	2
2-Butanone (MEK)	**14**		10	3.7	ug/L			05/24/19 15:00	2
2-Hexanone	ND		10	5.8	ug/L			05/24/19 15:00	2
4-Isopropyltoluene	**44**		2.0	0.74	ug/L			05/24/19 15:00	2
4-Methyl-2-pentanone (MIBK)	ND		10	5.5	ug/L			05/24/19 15:00	2
Acetone	ND		10	10	ug/L			05/24/19 15:00	2
Benzene	ND		2.0	0.86	ug/L			05/24/19 15:00	2
Bromoform	ND		2.0	1.1	ug/L			05/24/19 15:00	2
Bromomethane	ND		2.0	2.0	ug/L			05/24/19 15:00	2
Carbon disulfide	ND		2.0	0.31	ug/L			05/24/19 15:00	2
Carbon tetrachloride	ND		2.0	0.42	ug/L			05/24/19 15:00	2
Chlorobenzene	ND		2.0	0.75	ug/L			05/24/19 15:00	2
Dibromochloromethane	ND		2.0	0.56	ug/L			05/24/19 15:00	2
Chloroethane	ND		2.0	0.64	ug/L			05/24/19 15:00	2
Chloroform	ND		2.0	0.65	ug/L			05/24/19 15:00	2
Chloromethane	ND		2.0	0.29	ug/L			05/24/19 15:00	2
cis-1,2-Dichloroethene	**5.9**		2.0	0.44	ug/L			05/24/19 15:00	2
Cyclohexane	**2.3**		2.0	0.64	ug/L			05/24/19 15:00	2
Bromodichloromethane	ND		2.0	0.69	ug/L			05/24/19 15:00	2
Dichlorodifluoromethane	ND		2.0	0.24	ug/L			05/24/19 15:00	2
Ethylbenzene	**110**		2.0	0.60	ug/L			05/24/19 15:00	2
1,2-Dibromoethane	ND		2.0	1.0	ug/L			05/24/19 15:00	2
Isopropylbenzene	**49**		2.0	0.67	ug/L			05/24/19 15:00	2
Methyl acetate	ND		10	0.63	ug/L			05/24/19 15:00	2
Methyl tert-butyl ether	ND		2.0	0.93	ug/L			05/24/19 15:00	2
Methylcyclohexane	**17**		2.0	0.52	ug/L			05/24/19 15:00	2
Methylene Chloride	ND		2.0	0.63	ug/L			05/24/19 15:00	2
m,p-Xylene	**490**		2.0	0.59	ug/L			05/24/19 15:00	2
Naphthalene	**110**	**B**	2.0	0.81	ug/L			05/24/19 15:00	2
n-Butylbenzene	**46**		2.0	0.65	ug/L			05/24/19 15:00	2
N-Propylbenzene	**74**		2.0	0.64	ug/L			05/24/19 15:00	2
o-Xylene	**370**		2.0	0.72	ug/L			05/24/19 15:00	2
sec-Butylbenzene	**34**		2.0	0.73	ug/L			05/24/19 15:00	2
Tetrachloroethene	**17**		2.0	0.50	ug/L			05/24/19 15:00	2
Toluene	**7.0**		2.0	0.76	ug/L			05/24/19 15:00	2

Client Sample ID: ASW 051419
Date Collected: 05/14/19 13:54
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		2.0	0.47	ug/L			05/24/19 15:00	2
trans-1,3-Dichloropropene	ND		2.0	0.97	ug/L			05/24/19 15:00	2
Trichloroethene	**4.7**		2.0	0.63	ug/L			05/24/19 15:00	2
Trichlorofluoromethane	ND		2.0	0.29	ug/L			05/24/19 15:00	2
Vinyl chloride	ND		2.0	0.34	ug/L			05/24/19 15:00	2
Xylenes, Total	**860**		4.0	0.59	ug/L			05/24/19 15:00	2
cis-1,3-Dichloropropene	ND		2.0	0.91	ug/L			05/24/19 15:00	2
Styrene	ND		2.0	0.83	ug/L			05/24/19 15:00	2
tert-Butylbenzene	**4.6**		2.0	0.67	ug/L			05/24/19 15:00	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*74 - 132*		*05/24/19 15:00*	*2*
4-Bromofluorobenzene	*108*		*77 - 124*		*05/24/19 15:00*	*2*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/24/19 15:00*	*2*
Dibromofluoromethane (Surr)	*106*		*72 - 131*		*05/24/19 15:00*	*2*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	**1.6**	**J**	10	1.2	ug/L		05/20/19 16:17	05/21/19 16:04	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 16:04	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/21/19 16:04	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/21/19 16:04	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/21/19 16:04	1
2,4-Dimethylphenol	**1.8**	**J**	10	0.24	ug/L		05/20/19 16:17	05/21/19 16:04	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/21/19 16:04	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/21/19 16:04	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/21/19 16:04	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 16:04	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/21/19 16:04	1
2-Methylnaphthalene	**23**		10	1.1	ug/L		05/20/19 16:17	05/21/19 16:04	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/21/19 16:04	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/21/19 16:04	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 16:04	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 16:04	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/21/19 16:04	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/21/19 16:04	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 16:04	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 16:04	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/21/19 16:04	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/21/19 16:04	1
4-Methylphenol	**10**		10	0.24	ug/L		05/20/19 16:17	05/21/19 16:04	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/21/19 16:04	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/21/19 16:04	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 16:04	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/21/19 16:04	1
Acetophenone	ND		10	0.79	ug/L		05/20/19 16:17	05/21/19 16:04	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 16:04	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 16:04	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/21/19 16:04	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/21/19 16:04	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: ASW 051419
Date Collected: 05/14/19 13:54
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-9
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/21/19 16:04	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/21/19 16:04	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 16:04	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/21/19 16:04	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 16:04	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/21/19 16:04	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/21/19 16:04	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/21/19 16:04	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/21/19 16:04	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/21/19 16:04	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/21/19 16:04	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/21/19 16:04	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 16:04	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/21/19 16:04	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/21/19 16:04	1
Di-n-butyl phthalate	**1.7**	**J**	10	0.84	ug/L		05/20/19 16:17	05/21/19 16:04	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/21/19 16:04	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 16:04	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/21/19 16:04	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/21/19 16:04	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/21/19 16:04	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/21/19 16:04	1
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/21/19 16:04	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 16:04	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/21/19 16:04	1
Naphthalene	**63**		10	1.1	ug/L		05/20/19 16:17	05/21/19 16:04	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/21/19 16:04	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/21/19 16:04	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/21/19 16:04	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/21/19 16:04	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 16:04	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/21/19 16:04	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/21/19 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*76*		*40 - 148*	*05/20/19 16:17*	*05/21/19 16:04*	*1*
Nitrobenzene-d5	*87*		*51 - 108*	*05/20/19 16:17*	*05/21/19 16:04*	*1*
Phenol-d5	*25*		*14 - 39*	*05/20/19 16:17*	*05/21/19 16:04*	*1*
2-Fluorophenol	*43*		*25 - 58*	*05/20/19 16:17*	*05/21/19 16:04*	*1*
2,4,6-Tribromophenol	*94*		*26 - 139*	*05/20/19 16:17*	*05/21/19 16:04*	*1*
2-Fluorobiphenyl	*68*		*45 - 107*	*05/20/19 16:17*	*05/21/19 16:04*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 13:44	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 13:44	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:44	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:44	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 13:44	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 13:44	1

Client Sample ID: ASW 051419

Lab Sample ID: 460-182353-9

Date Collected: 05/14/19 13:54

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:44	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 13:44	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:44	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 13:44	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:44	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 13:44	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:44	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 13:44	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 13:44	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 13:44	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:44	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 13:44	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 13:44	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 13:44	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*15*		*10 - 150*	*05/20/19 08:40*	*05/22/19 13:44*	*1*
DCB Decachlorobiphenyl	*15*		*10 - 150*	*05/20/19 08:40*	*05/22/19 13:44*	*1*
Tetrachloro-m-xylene	*56*		*12 - 136*	*05/20/19 08:40*	*05/22/19 13:44*	*1*
Tetrachloro-m-xylene	*41*		*12 - 136*	*05/20/19 08:40*	*05/22/19 13:44*	*1*

Client Sample ID: MW-23 051419

Lab Sample ID: 460-182353-10

Date Collected: 05/14/19 15:02

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 08:03	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 08:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 08:03	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 08:03	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 08:03	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 08:03	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 08:03	1
1,2,4-Trimethylbenzene	**68**		1.0	0.37	ug/L			05/26/19 08:03	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 08:03	1
1,2-Dichlorobenzene	**3.6**		1.0	0.43	ug/L			05/26/19 08:03	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 08:03	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 08:03	1
1,3,5-Trimethylbenzene	**21**	*	1.0	0.33	ug/L			05/26/19 08:03	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 08:03	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 08:03	1
2-Butanone (MEK)	**4.3**	J *	5.0	1.9	ug/L			05/26/19 08:03	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 08:03	1
4-Isopropyltoluene	**1.4**	*	1.0	0.37	ug/L			05/26/19 08:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 08:03	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 08:03	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 08:03	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 08:03	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-23 051419
Date Collected: 05/14/19 15:02
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 08:03	1
Carbon disulfide	**0.30**	**J**	1.0	0.16	ug/L			05/26/19 08:03	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 08:03	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 08:03	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 08:03	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 08:03	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 08:03	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 08:03	1
cis-1,2-Dichloroethene	**2.1**		1.0	0.22	ug/L			05/26/19 08:03	1
Cyclohexane	**0.67**	**J**	1.0	0.32	ug/L			05/26/19 08:03	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 08:03	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 08:03	1
Ethylbenzene	**16**		1.0	0.30	ug/L			05/26/19 08:03	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 08:03	1
Isopropylbenzene	**3.5**	*****	1.0	0.34	ug/L			05/26/19 08:03	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 08:03	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 08:03	1
Methylcyclohexane	**0.74**	**J**	1.0	0.26	ug/L			05/26/19 08:03	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 08:03	1
m,p-Xylene	**74**		1.0	0.30	ug/L			05/26/19 08:03	1
Naphthalene	**6.9**		1.0	0.41	ug/L			05/26/19 08:03	1
n-Butylbenzene	**0.86**	**J**	1.0	0.32	ug/L			05/26/19 08:03	1
N-Propylbenzene	**5.6**	*****	1.0	0.32	ug/L			05/26/19 08:03	1
o-Xylene	**40**		1.0	0.36	ug/L			05/26/19 08:03	1
sec-Butylbenzene	**1.3**	*****	1.0	0.37	ug/L			05/26/19 08:03	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 08:03	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 08:03	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 08:03	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 08:03	1
Trichloroethene	**0.76**	**J**	1.0	0.31	ug/L			05/26/19 08:03	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 08:03	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 08:03	1
Xylenes, Total	**110**		2.0	0.30	ug/L			05/26/19 08:03	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 08:03	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 08:03	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 08:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*74 - 132*		*05/26/19 08:03*	*1*
4-Bromofluorobenzene	*98*		*77 - 124*		*05/26/19 08:03*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/26/19 08:03*	*1*
Dibromofluoromethane (Surr)	*117*		*72 - 131*		*05/26/19 08:03*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 16:25	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 16:25	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/20/19 16:17	05/21/19 16:25	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/20/19 16:17	05/21/19 16:25	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/20/19 16:17	05/21/19 16:25	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-23 051419
Date Collected: 05/14/19 15:02
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-10
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	1.4	J	10	0.24	ug/L		05/20/19 16:17	05/21/19 16:25	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/20/19 16:17	05/21/19 16:25	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/20/19 16:17	05/21/19 16:25	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/20/19 16:17	05/21/19 16:25	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/20/19 16:17	05/21/19 16:25	1
2-Chlorophenol	ND		10	0.38	ug/L		05/20/19 16:17	05/21/19 16:25	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 16:25	1
2-Methylphenol	ND		10	0.26	ug/L		05/20/19 16:17	05/21/19 16:25	1
2-Nitroaniline	ND		10	0.47	ug/L		05/20/19 16:17	05/21/19 16:25	1
2-Nitrophenol	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 16:25	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 16:25	1
3-Nitroaniline	ND		10	0.96	ug/L		05/20/19 16:17	05/21/19 16:25	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/20/19 16:17	05/21/19 16:25	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/20/19 16:17	05/21/19 16:25	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 16:25	1
4-Chloroaniline	ND		10	1.9	ug/L		05/20/19 16:17	05/21/19 16:25	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/20/19 16:17	05/21/19 16:25	1
4-Methylphenol	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 16:25	1
4-Nitroaniline	ND		10	0.54	ug/L		05/20/19 16:17	05/21/19 16:25	1
4-Nitrophenol	ND		20	0.69	ug/L		05/20/19 16:17	05/21/19 16:25	1
Acenaphthene	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 16:25	1
Acenaphthylene	ND		10	0.82	ug/L		05/20/19 16:17	05/21/19 16:25	1
Acetophenone	ND		10	0.79	ug/L		05/20/19 16:17	05/21/19 16:25	1
Anthracene	ND		10	0.63	ug/L		05/20/19 16:17	05/21/19 16:25	1
Atrazine	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 16:25	1
Benzaldehyde	ND		10	0.59	ug/L		05/20/19 16:17	05/21/19 16:25	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/20/19 16:17	05/21/19 16:25	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/20/19 16:17	05/21/19 16:25	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/20/19 16:17	05/21/19 16:25	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/20/19 16:17	05/21/19 16:25	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/20/19 16:17	05/21/19 16:25	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/20/19 16:17	05/21/19 16:25	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/20/19 16:17	05/21/19 16:25	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/20/19 16:17	05/21/19 16:25	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/20/19 16:17	05/21/19 16:25	1
Caprolactam	ND	*	10	0.68	ug/L		05/20/19 16:17	05/21/19 16:25	1
Carbazole	ND		10	0.68	ug/L		05/20/19 16:17	05/21/19 16:25	1
Chrysene	ND		2.0	0.91	ug/L		05/20/19 16:17	05/21/19 16:25	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/20/19 16:17	05/21/19 16:25	1
Dibenzofuran	ND		10	1.1	ug/L		05/20/19 16:17	05/21/19 16:25	1
Diethyl phthalate	ND		10	0.98	ug/L		05/20/19 16:17	05/21/19 16:25	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/20/19 16:17	05/21/19 16:25	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 16:25	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/20/19 16:17	05/21/19 16:25	1
Fluoranthene	ND		10	0.84	ug/L		05/20/19 16:17	05/21/19 16:25	1
Fluorene	ND		10	0.91	ug/L		05/20/19 16:17	05/21/19 16:25	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/20/19 16:17	05/21/19 16:25	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/20/19 16:17	05/21/19 16:25	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/20/19 16:17	05/21/19 16:25	1

Client Sample ID: MW-23 051419
Date Collected: 05/14/19 15:02
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-10
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND	*	2.0	1.2	ug/L		05/20/19 16:17	05/21/19 16:25	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/20/19 16:17	05/21/19 16:25	1
Isophorone	ND		10	0.80	ug/L		05/20/19 16:17	05/21/19 16:25	1
Naphthalene	**1.8**	**J**	10	1.1	ug/L		05/20/19 16:17	05/21/19 16:25	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/20/19 16:17	05/21/19 16:25	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/20/19 16:17	05/21/19 16:25	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/20/19 16:17	05/21/19 16:25	1
Pentachlorophenol	ND		20	1.4	ug/L		05/20/19 16:17	05/21/19 16:25	1
Phenanthrene	ND		10	0.58	ug/L		05/20/19 16:17	05/21/19 16:25	1
Phenol	ND		10	0.29	ug/L		05/20/19 16:17	05/21/19 16:25	1
Pyrene	ND		10	1.6	ug/L		05/20/19 16:17	05/21/19 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*82*		*40 - 148*	*05/20/19 16:17*	*05/21/19 16:25*	*1*
Nitrobenzene-d5	*87*		*51 - 108*	*05/20/19 16:17*	*05/21/19 16:25*	*1*
Phenol-d5	*26*		*14 - 39*	*05/20/19 16:17*	*05/21/19 16:25*	*1*
2-Fluorophenol	*42*		*25 - 58*	*05/20/19 16:17*	*05/21/19 16:25*	*1*
2,4,6-Tribromophenol	*93*		*26 - 139*	*05/20/19 16:17*	*05/21/19 16:25*	*1*
2-Fluorobiphenyl	*74*		*45 - 107*	*05/20/19 16:17*	*05/21/19 16:25*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 14:00	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 14:00	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:00	1
Aldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 14:00	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/20/19 08:40	05/22/19 14:00	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 14:00	1
beta-BHC	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:00	1
delta-BHC	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 14:00	1
Dieldrin	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 14:00	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/20/19 08:40	05/22/19 14:00	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:00	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/20/19 08:40	05/22/19 14:00	1
Endrin	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:00	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 14:00	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/20/19 08:40	05/22/19 14:00	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/20/19 08:40	05/22/19 14:00	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 14:00	1
Heptachlor	ND		0.020	0.0030	ug/L		05/20/19 08:40	05/22/19 14:00	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/20/19 08:40	05/22/19 14:00	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/20/19 08:40	05/22/19 14:00	1
Toxaphene	ND		0.50	0.11	ug/L		05/20/19 08:40	05/22/19 14:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*31*		*10 - 150*	*05/20/19 08:40*	*05/22/19 14:00*	*1*
DCB Decachlorobiphenyl	*31*		*10 - 150*	*05/20/19 08:40*	*05/22/19 14:00*	*1*
Tetrachloro-m-xylene	*53*		*12 - 136*	*05/20/19 08:40*	*05/22/19 14:00*	*1*
Tetrachloro-m-xylene	*53*		*12 - 136*	*05/20/19 08:40*	*05/22/19 14:00*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-22 051519
Date Collected: 05/15/19 09:35
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-11
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 04:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 04:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 04:45	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 04:45	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 04:45	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 04:45	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 04:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 04:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 04:45	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 04:45	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 04:45	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 04:45	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 04:45	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 04:45	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 04:45	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 04:45	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 04:45	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 04:45	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 04:45	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 04:45	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 04:45	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 04:45	1
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 04:45	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 04:45	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 04:45	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 04:45	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 04:45	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 04:45	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 04:45	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 04:45	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/26/19 04:45	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 04:45	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 04:45	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 04:45	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 04:45	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 04:45	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 04:45	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 04:45	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 04:45	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 04:45	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 04:45	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 04:45	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 04:45	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 04:45	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 04:45	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 04:45	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 04:45	1
Tetrachloroethene	**4.1**		1.0	0.25	ug/L			05/26/19 04:45	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 04:45	1

Client Sample ID: MW-22 051519
Date Collected: 05/15/19 09:35
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-11
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 04:45	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 04:45	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 04:45	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 04:45	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 04:45	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 04:45	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 04:45	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 04:45	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 04:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*74 - 132*		*05/26/19 04:45*	*1*
4-Bromofluorobenzene	*87*		*77 - 124*		*05/26/19 04:45*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/26/19 04:45*	*1*
Dibromofluoromethane (Surr)	*115*		*72 - 131*		*05/26/19 04:45*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 13:14	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 13:14	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 13:14	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 13:14	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 13:14	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 13:14	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 13:14	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 13:14	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 13:14	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 13:14	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 13:14	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:14	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 13:14	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 13:14	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 13:14	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 13:14	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 13:14	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 13:14	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 13:14	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 13:14	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 13:14	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 13:14	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 13:14	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 13:14	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 13:14	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:14	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 13:14	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 13:14	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 13:14	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 13:14	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 13:14	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 13:14	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-22 051519
Date Collected: 05/15/19 09:35
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-11
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 13:14	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 13:14	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 13:14	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 13:14	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 13:14	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 13:14	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 13:14	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 13:14	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 13:14	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 13:14	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 13:14	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 13:14	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:14	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 13:14	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 13:14	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 13:14	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 13:14	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 13:14	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 13:14	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 13:14	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 13:14	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 13:14	1
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 13:14	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 13:14	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 13:14	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:14	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 13:14	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 13:14	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 13:14	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 13:14	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 13:14	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 13:14	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 13:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*115*		*40 - 148*	*05/21/19 16:58*	*05/22/19 13:14*	*1*
Nitrobenzene-d5	*89*		*51 - 108*	*05/21/19 16:58*	*05/22/19 13:14*	*1*
Phenol-d5	*24*		*14 - 39*	*05/21/19 16:58*	*05/22/19 13:14*	*1*
2-Fluorophenol	*44*		*25 - 58*	*05/21/19 16:58*	*05/22/19 13:14*	*1*
2,4,6-Tribromophenol	*118*		*26 - 139*	*05/21/19 16:58*	*05/22/19 13:14*	*1*
2-Fluorobiphenyl	*82*		*45 - 107*	*05/21/19 16:58*	*05/22/19 13:14*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 04:43	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 04:43	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:43	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 04:43	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 04:43	1
cis-Chlordane	**0.040**	**p**	0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 04:43	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-22 051519

Lab Sample ID: 460-182353-11

Date Collected: 05/15/19 09:35
Matrix: Water
Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:43	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 04:43	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 04:43	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 04:43	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:43	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 04:43	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:43	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 04:43	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 04:43	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 04:43	1
trans-Chlordane	**0.031**		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 04:43	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 04:43	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 04:43	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:43	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 04:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*98*		*10 - 150*	*05/22/19 00:46*	*05/24/19 04:43*	*1*
DCB Decachlorobiphenyl	*91*		*10 - 150*	*05/22/19 00:46*	*05/24/19 04:43*	*1*
Tetrachloro-m-xylene	*89*		*12 - 136*	*05/22/19 00:46*	*05/24/19 04:43*	*1*
Tetrachloro-m-xylene	*85*		*12 - 136*	*05/22/19 00:46*	*05/24/19 04:43*	*1*

Client Sample ID: K-2 051519

Lab Sample ID: 460-182353-12

Date Collected: 05/15/19 10:50
Matrix: Water
Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 05:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 05:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 05:10	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 05:10	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 05:10	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 05:10	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 05:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 05:10	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 05:10	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 05:10	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 05:10	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 05:10	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 05:10	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 05:10	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 05:10	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 05:10	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 05:10	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 05:10	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 05:10	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 05:10	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 05:10	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 05:10	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: K-2 051519
Date Collected: 05/15/19 10:50
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-12
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 05:10	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 05:10	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 05:10	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 05:10	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 05:10	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 05:10	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 05:10	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 05:10	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/26/19 05:10	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 05:10	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 05:10	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 05:10	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 05:10	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 05:10	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 05:10	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 05:10	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 05:10	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 05:10	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 05:10	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 05:10	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 05:10	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 05:10	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 05:10	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 05:10	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 05:10	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 05:10	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 05:10	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 05:10	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 05:10	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 05:10	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 05:10	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 05:10	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 05:10	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 05:10	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 05:10	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 05:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*74 - 132*		*05/26/19 05:10*	*1*
4-Bromofluorobenzene	*84*		*77 - 124*		*05/26/19 05:10*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*05/26/19 05:10*	*1*
Dibromofluoromethane (Surr)	*116*		*72 - 131*		*05/26/19 05:10*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 13:35	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 13:35	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 13:35	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 13:35	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 13:35	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: K-2 051519
Date Collected: 05/15/19 10:50
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-12
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 13:35	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 13:35	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 13:35	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 13:35	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 13:35	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 13:35	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:35	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 13:35	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 13:35	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 13:35	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 13:35	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 13:35	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 13:35	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 13:35	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 13:35	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 13:35	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 13:35	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 13:35	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 13:35	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 13:35	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:35	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 13:35	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 13:35	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 13:35	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 13:35	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 13:35	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 13:35	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 13:35	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 13:35	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 13:35	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 13:35	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 13:35	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 13:35	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 13:35	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 13:35	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 13:35	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 13:35	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 13:35	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 13:35	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:35	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 13:35	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 13:35	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 13:35	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 13:35	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 13:35	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 13:35	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 13:35	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 13:35	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 13:35	1

Client Sample ID: K-2 051519
Date Collected: 05/15/19 10:50
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-12
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 13:35	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 13:35	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 13:35	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:35	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 13:35	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 13:35	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 13:35	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 13:35	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 13:35	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 13:35	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 13:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*118*		*40 - 148*	*05/21/19 16:58*	*05/22/19 13:35*	*1*
Nitrobenzene-d5	*94*		*51 - 108*	*05/21/19 16:58*	*05/22/19 13:35*	*1*
Phenol-d5	*26*		*14 - 39*	*05/21/19 16:58*	*05/22/19 13:35*	*1*
2-Fluorophenol	*46*		*25 - 58*	*05/21/19 16:58*	*05/22/19 13:35*	*1*
2,4,6-Tribromophenol	*134*		*26 - 139*	*05/21/19 16:58*	*05/22/19 13:35*	*1*
2-Fluorobiphenyl	*89*		*45 - 107*	*05/21/19 16:58*	*05/22/19 13:35*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 04:58	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 04:58	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:58	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 04:58	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 04:58	1
cis-Chlordane	**0.021**	**p**	0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 04:58	1
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:58	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 04:58	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 04:58	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 04:58	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:58	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 04:58	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:58	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 04:58	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 04:58	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 04:58	1
trans-Chlordane	**0.018**	**J**	0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 04:58	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 04:58	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 04:58	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 04:58	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 04:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*10 - 150*	*05/22/19 00:46*	*05/24/19 04:58*	*1*
DCB Decachlorobiphenyl	*86*		*10 - 150*	*05/22/19 00:46*	*05/24/19 04:58*	*1*
Tetrachloro-m-xylene	*84*		*12 - 136*	*05/22/19 00:46*	*05/24/19 04:58*	*1*
Tetrachloro-m-xylene	*83*		*12 - 136*	*05/22/19 00:46*	*05/24/19 04:58*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-15D 051519
Date Collected: 05/15/19 12:18
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-13
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 05:35	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 05:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 05:35	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 05:35	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 05:35	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 05:35	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 05:35	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 05:35	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 05:35	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 05:35	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 05:35	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 05:35	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 05:35	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 05:35	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 05:35	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 05:35	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 05:35	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 05:35	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 05:35	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 05:35	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 05:35	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 05:35	1
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 05:35	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 05:35	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 05:35	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 05:35	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 05:35	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 05:35	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 05:35	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 05:35	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/26/19 05:35	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 05:35	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 05:35	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 05:35	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 05:35	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 05:35	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 05:35	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 05:35	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 05:35	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 05:35	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 05:35	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 05:35	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 05:35	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 05:35	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 05:35	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 05:35	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 05:35	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 05:35	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 05:35	1

Client Sample ID: MW-15D 051519
Date Collected: 05/15/19 12:18
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-13
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 05:35	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 05:35	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 05:35	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 05:35	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 05:35	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 05:35	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 05:35	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 05:35	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 05:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*74 - 132*		*05/26/19 05:35*	*1*
4-Bromofluorobenzene	*90*		*77 - 124*		*05/26/19 05:35*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/26/19 05:35*	*1*
Dibromofluoromethane (Surr)	*119*		*72 - 131*		*05/26/19 05:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 13:56	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 13:56	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 13:56	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 13:56	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 13:56	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 13:56	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 13:56	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 13:56	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 13:56	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 13:56	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 13:56	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:56	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 13:56	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 13:56	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 13:56	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 13:56	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 13:56	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 13:56	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 13:56	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 13:56	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 13:56	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 13:56	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 13:56	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 13:56	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 13:56	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:56	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 13:56	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 13:56	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 13:56	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 13:56	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 13:56	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 13:56	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-15D 051519
Date Collected: 05/15/19 12:18
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-13
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 13:56	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 13:56	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 13:56	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 13:56	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 13:56	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 13:56	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 13:56	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 13:56	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 13:56	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 13:56	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 13:56	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 13:56	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:56	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 13:56	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 13:56	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 13:56	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 13:56	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 13:56	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 13:56	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 13:56	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 13:56	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 13:56	1
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 13:56	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 13:56	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 13:56	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 13:56	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 13:56	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 13:56	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 13:56	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 13:56	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 13:56	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 13:56	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*120*		*40 - 148*	*05/21/19 16:58*	*05/22/19 13:56*	*1*
Nitrobenzene-d5	*93*		*51 - 108*	*05/21/19 16:58*	*05/22/19 13:56*	*1*
Phenol-d5	*12*	*X*	*14 - 39*	*05/21/19 16:58*	*05/22/19 13:56*	*1*
2-Fluorophenol	*26*		*25 - 58*	*05/21/19 16:58*	*05/22/19 13:56*	*1*
2,4,6-Tribromophenol	*116*		*26 - 139*	*05/21/19 16:58*	*05/22/19 13:56*	*1*
2-Fluorobiphenyl	*90*		*45 - 107*	*05/21/19 16:58*	*05/22/19 13:56*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 05:14	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 05:14	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:14	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:14	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 05:14	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 05:14	1

Client Sample ID: MW-15D 051519

Lab Sample ID: 460-182353-13

Date Collected: 05/15/19 12:18

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:14	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 05:14	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:14	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 05:14	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:14	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 05:14	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:14	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 05:14	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 05:14	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 05:14	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:14	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:14	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 05:14	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:14	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 05:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*10 - 150*	*05/22/19 00:46*	*05/24/19 05:14*	*1*
DCB Decachlorobiphenyl	*92*		*10 - 150*	*05/22/19 00:46*	*05/24/19 05:14*	*1*
Tetrachloro-m-xylene	*87*		*12 - 136*	*05/22/19 00:46*	*05/24/19 05:14*	*1*
Tetrachloro-m-xylene	*86*		*12 - 136*	*05/22/19 00:46*	*05/24/19 05:14*	*1*

Client Sample ID: MW-16D 051519

Lab Sample ID: 460-182353-14

Date Collected: 05/15/19 13:42

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 05:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 05:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 05:59	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 05:59	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 05:59	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 05:59	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 05:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 05:59	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 05:59	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 05:59	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 05:59	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 05:59	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 05:59	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 05:59	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 05:59	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 05:59	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 05:59	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 05:59	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 05:59	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 05:59	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 05:59	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 05:59	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-16D 051519
Date Collected: 05/15/19 13:42
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-14
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 05:59	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 05:59	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 05:59	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 05:59	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 05:59	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 05:59	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 05:59	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 05:59	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/26/19 05:59	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 05:59	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 05:59	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 05:59	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 05:59	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 05:59	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 05:59	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 05:59	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 05:59	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 05:59	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 05:59	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 05:59	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 05:59	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 05:59	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 05:59	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 05:59	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 05:59	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 05:59	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 05:59	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 05:59	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 05:59	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 05:59	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 05:59	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 05:59	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 05:59	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 05:59	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 05:59	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 05:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*74 - 132*		*05/26/19 05:59*	*1*
4-Bromofluorobenzene	*86*		*77 - 124*		*05/26/19 05:59*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/26/19 05:59*	*1*
Dibromofluoromethane (Surr)	*115*		*72 - 131*		*05/26/19 05:59*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 14:17	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 14:17	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 14:17	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 14:17	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 14:17	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-16D 051519
Date Collected: 05/15/19 13:42
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-14
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 14:17	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 14:17	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 14:17	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 14:17	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 14:17	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 14:17	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:17	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 14:17	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 14:17	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 14:17	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 14:17	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 14:17	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 14:17	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 14:17	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 14:17	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 14:17	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 14:17	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 14:17	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 14:17	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 14:17	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:17	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 14:17	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 14:17	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 14:17	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 14:17	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 14:17	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 14:17	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 14:17	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 14:17	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 14:17	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 14:17	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 14:17	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 14:17	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 14:17	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 14:17	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 14:17	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 14:17	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 14:17	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 14:17	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:17	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 14:17	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 14:17	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 14:17	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 14:17	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 14:17	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 14:17	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 14:17	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 14:17	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 14:17	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-16D 051519
Date Collected: 05/15/19 13:42
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-14
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 14:17	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 14:17	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 14:17	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:17	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 14:17	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 14:17	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 14:17	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 14:17	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 14:17	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 14:17	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*112*		*40 - 148*	*05/21/19 16:58*	*05/22/19 14:17*	*1*
Nitrobenzene-d5	*86*		*51 - 108*	*05/21/19 16:58*	*05/22/19 14:17*	*1*
Phenol-d5	*2*	*X*	*14 - 39*	*05/21/19 16:58*	*05/22/19 14:17*	*1*
2-Fluorophenol	*6*	*X*	*25 - 58*	*05/21/19 16:58*	*05/22/19 14:17*	*1*
2,4,6-Tribromophenol	*50*		*26 - 139*	*05/21/19 16:58*	*05/22/19 14:17*	*1*
2-Fluorobiphenyl	*83*		*45 - 107*	*05/21/19 16:58*	*05/22/19 14:17*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 05:29	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 05:29	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:29	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:29	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 05:29	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 05:29	1
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:29	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 05:29	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:29	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 05:29	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:29	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 05:29	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:29	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 05:29	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 05:29	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 05:29	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:29	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:29	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 05:29	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:29	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 05:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*98*		*10 - 150*	*05/22/19 00:46*	*05/24/19 05:29*	*1*
DCB Decachlorobiphenyl	*94*		*10 - 150*	*05/22/19 00:46*	*05/24/19 05:29*	*1*
Tetrachloro-m-xylene	*92*		*12 - 136*	*05/22/19 00:46*	*05/24/19 05:29*	*1*
Tetrachloro-m-xylene	*90*		*12 - 136*	*05/22/19 00:46*	*05/24/19 05:29*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-24 051519
Date Collected: 05/15/19 14:56
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-15
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 06:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 06:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 06:24	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 06:24	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 06:24	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 06:24	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 06:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 06:24	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 06:24	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 06:24	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 06:24	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 06:24	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 06:24	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 06:24	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 06:24	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 06:24	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 06:24	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 06:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 06:24	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 06:24	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 06:24	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 06:24	1
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 06:24	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 06:24	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 06:24	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 06:24	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 06:24	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 06:24	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 06:24	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 06:24	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/26/19 06:24	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 06:24	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 06:24	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 06:24	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 06:24	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 06:24	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 06:24	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 06:24	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 06:24	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 06:24	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 06:24	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 06:24	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 06:24	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 06:24	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 06:24	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 06:24	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 06:24	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 06:24	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 06:24	1

Client Sample ID: MW-24 051519
Date Collected: 05/15/19 14:56
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-15
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 06:24	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 06:24	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 06:24	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 06:24	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 06:24	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 06:24	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 06:24	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 06:24	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 06:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*74 - 132*		*05/26/19 06:24*	*1*
4-Bromofluorobenzene	*88*		*77 - 124*		*05/26/19 06:24*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*05/26/19 06:24*	*1*
Dibromofluoromethane (Surr)	*116*		*72 - 131*		*05/26/19 06:24*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 14:38	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 14:38	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 14:38	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 14:38	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 14:38	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 14:38	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 14:38	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 14:38	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 14:38	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 14:38	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 14:38	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:38	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 14:38	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 14:38	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 14:38	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 14:38	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 14:38	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 14:38	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 14:38	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 14:38	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 14:38	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 14:38	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 14:38	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 14:38	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 14:38	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:38	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 14:38	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 14:38	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 14:38	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 14:38	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 14:38	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 14:38	1

Client Sample ID: MW-24 051519
Date Collected: 05/15/19 14:56
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-15
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 14:38	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 14:38	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 14:38	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 14:38	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 14:38	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 14:38	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 14:38	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 14:38	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 14:38	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 14:38	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 14:38	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 14:38	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:38	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 14:38	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 14:38	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 14:38	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 14:38	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 14:38	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 14:38	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 14:38	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 14:38	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 14:38	1
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 14:38	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 14:38	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 14:38	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:38	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 14:38	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 14:38	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 14:38	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 14:38	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 14:38	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 14:38	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*93*		*40 - 148*	*05/21/19 16:58*	*05/22/19 14:38*	*1*
Nitrobenzene-d5	*92*		*51 - 108*	*05/21/19 16:58*	*05/22/19 14:38*	*1*
Phenol-d5	*25*		*14 - 39*	*05/21/19 16:58*	*05/22/19 14:38*	*1*
2-Fluorophenol	*44*		*25 - 58*	*05/21/19 16:58*	*05/22/19 14:38*	*1*
2,4,6-Tribromophenol	*120*		*26 - 139*	*05/21/19 16:58*	*05/22/19 14:38*	*1*
2-Fluorobiphenyl	*87*		*45 - 107*	*05/21/19 16:58*	*05/22/19 14:38*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 05:45	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 05:45	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:45	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:45	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 05:45	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 05:45	1

Client Sample ID: MW-24 051519

Lab Sample ID: 460-182353-15

Date Collected: 05/15/19 14:56

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:45	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 05:45	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:45	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 05:45	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:45	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 05:45	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:45	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 05:45	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 05:45	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 05:45	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:45	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 05:45	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 05:45	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 05:45	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 05:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*103*		*10 - 150*	*05/22/19 00:46*	*05/24/19 05:45*	*1*
DCB Decachlorobiphenyl	*97*		*10 - 150*	*05/22/19 00:46*	*05/24/19 05:45*	*1*
Tetrachloro-m-xylene	*92*		*12 - 136*	*05/22/19 00:46*	*05/24/19 05:45*	*1*
Tetrachloro-m-xylene	*89*		*12 - 136*	*05/22/19 00:46*	*05/24/19 05:45*	*1*

Client Sample ID: MW-8D 051619

Lab Sample ID: 460-182353-16

Date Collected: 05/16/19 09:44

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 21:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 21:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 21:46	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 21:46	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 21:46	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 21:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 21:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/25/19 21:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 21:46	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/25/19 21:46	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 21:46	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 21:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.33	ug/L			05/25/19 21:46	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 21:46	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 21:46	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 21:46	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 21:46	1
4-Isopropyltoluene	ND		1.0	0.37	ug/L			05/25/19 21:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 21:46	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 21:46	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 21:46	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 21:46	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-8D 051619
Date Collected: 05/16/19 09:44
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-16
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 21:46	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/25/19 21:46	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 21:46	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 21:46	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 21:46	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 21:46	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 21:46	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 21:46	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/25/19 21:46	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 21:46	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 21:46	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 21:46	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/25/19 21:46	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 21:46	1
Isopropylbenzene	ND		1.0	0.34	ug/L			05/25/19 21:46	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 21:46	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 21:46	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/25/19 21:46	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 21:46	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/25/19 21:46	1
Naphthalene	ND		1.0	0.41	ug/L			05/25/19 21:46	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/25/19 21:46	1
N-Propylbenzene	ND		1.0	0.32	ug/L			05/25/19 21:46	1
o-Xylene	ND		1.0	0.36	ug/L			05/25/19 21:46	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			05/25/19 21:46	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/25/19 21:46	1
Toluene	ND		1.0	0.38	ug/L			05/25/19 21:46	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 21:46	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 21:46	1
Trichloroethene	ND		1.0	0.31	ug/L			05/25/19 21:46	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 21:46	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 21:46	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/25/19 21:46	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 21:46	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 21:46	1
tert-Butylbenzene	ND		1.0	0.34	ug/L			05/25/19 21:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*74 - 132*		*05/25/19 21:46*	*1*
4-Bromofluorobenzene	*97*		*77 - 124*		*05/25/19 21:46*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/25/19 21:46*	*1*
Dibromofluoromethane (Surr)	*85*		*72 - 131*		*05/25/19 21:46*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 14:59	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 14:59	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 14:59	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 14:59	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 14:59	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-8D 051619
Date Collected: 05/16/19 09:44
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-16
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 14:59	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 14:59	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 14:59	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 14:59	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 14:59	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 14:59	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:59	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 14:59	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 14:59	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 14:59	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 14:59	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 14:59	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 14:59	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 14:59	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 14:59	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 14:59	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 14:59	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 14:59	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 14:59	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 14:59	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:59	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 14:59	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 14:59	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 14:59	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 14:59	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 14:59	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 14:59	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 14:59	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 14:59	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 14:59	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 14:59	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 14:59	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 14:59	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 14:59	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 14:59	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 14:59	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 14:59	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 14:59	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 14:59	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:59	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 14:59	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 14:59	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 14:59	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 14:59	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 14:59	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 14:59	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 14:59	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 14:59	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 14:59	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-8D 051619
Date Collected: 05/16/19 09:44
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-16
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 14:59	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 14:59	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 14:59	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 14:59	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 14:59	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 14:59	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 14:59	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 14:59	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 14:59	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 14:59	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 14:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*110*		*40 - 148*	*05/21/19 16:58*	*05/22/19 14:59*	*1*
Nitrobenzene-d5	*91*		*51 - 108*	*05/21/19 16:58*	*05/22/19 14:59*	*1*
Phenol-d5	*22*		*14 - 39*	*05/21/19 16:58*	*05/22/19 14:59*	*1*
2-Fluorophenol	*45*		*25 - 58*	*05/21/19 16:58*	*05/22/19 14:59*	*1*
2,4,6-Tribromophenol	*121*		*26 - 139*	*05/21/19 16:58*	*05/22/19 14:59*	*1*
2-Fluorobiphenyl	*92*		*45 - 107*	*05/21/19 16:58*	*05/22/19 14:59*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 06:00	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:00	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:00	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:00	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 06:00	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:00	1
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:00	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 06:00	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:00	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:00	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:00	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 06:00	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:00	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 06:00	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 06:00	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 06:00	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:00	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:00	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 06:00	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:00	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 06:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*98*		*10 - 150*	*05/22/19 00:46*	*05/24/19 06:00*	*1*
DCB Decachlorobiphenyl	*93*		*10 - 150*	*05/22/19 00:46*	*05/24/19 06:00*	*1*
Tetrachloro-m-xylene	*86*		*12 - 136*	*05/22/19 00:46*	*05/24/19 06:00*	*1*
Tetrachloro-m-xylene	*83*		*12 - 136*	*05/22/19 00:46*	*05/24/19 06:00*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-8S 051619
Date Collected: 05/16/19 10:52
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-17
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 06:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 06:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 06:49	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 06:49	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 06:49	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 06:49	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 06:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 06:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 06:49	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 06:49	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 06:49	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 06:49	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 06:49	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 06:49	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 06:49	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 06:49	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 06:49	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 06:49	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 06:49	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 06:49	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 06:49	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 06:49	1
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 06:49	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 06:49	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 06:49	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 06:49	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 06:49	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 06:49	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 06:49	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 06:49	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/26/19 06:49	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 06:49	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 06:49	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 06:49	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 06:49	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 06:49	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 06:49	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 06:49	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 06:49	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 06:49	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 06:49	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 06:49	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 06:49	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 06:49	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 06:49	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 06:49	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 06:49	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 06:49	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 06:49	1

Client Sample ID: MW-8S 051619
Date Collected: 05/16/19 10:52
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-17
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 06:49	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 06:49	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 06:49	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 06:49	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 06:49	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 06:49	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 06:49	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 06:49	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 06:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*74 - 132*		*05/26/19 06:49*	*1*
4-Bromofluorobenzene	*89*		*77 - 124*		*05/26/19 06:49*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/26/19 06:49*	*1*
Dibromofluoromethane (Surr)	*118*		*72 - 131*		*05/26/19 06:49*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 15:20	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 15:20	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 15:20	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 15:20	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 15:20	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 15:20	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 15:20	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 15:20	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 15:20	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 15:20	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 15:20	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 15:20	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 15:20	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 15:20	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 15:20	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 15:20	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 15:20	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 15:20	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 15:20	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 15:20	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 15:20	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 15:20	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 15:20	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 15:20	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 15:20	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 15:20	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 15:20	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 15:20	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 15:20	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 15:20	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 15:20	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 15:20	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-8S 051619
Date Collected: 05/16/19 10:52
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-17
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 15:20	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 15:20	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 15:20	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 15:20	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 15:20	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 15:20	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 15:20	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 15:20	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 15:20	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 15:20	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 15:20	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 15:20	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 15:20	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 15:20	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 15:20	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 15:20	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 15:20	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 15:20	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 15:20	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 15:20	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 15:20	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 15:20	1
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 15:20	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 15:20	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 15:20	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 15:20	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 15:20	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 15:20	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 15:20	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 15:20	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 15:20	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 15:20	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 15:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*95*		*40 - 148*	*05/21/19 16:58*	*05/22/19 15:20*	*1*
Nitrobenzene-d5	*96*		*51 - 108*	*05/21/19 16:58*	*05/22/19 15:20*	*1*
Phenol-d5	*25*		*14 - 39*	*05/21/19 16:58*	*05/22/19 15:20*	*1*
2-Fluorophenol	*48*		*25 - 58*	*05/21/19 16:58*	*05/22/19 15:20*	*1*
2,4,6-Tribromophenol	*125*		*26 - 139*	*05/21/19 16:58*	*05/22/19 15:20*	*1*
2-Fluorobiphenyl	*92*		*45 - 107*	*05/21/19 16:58*	*05/22/19 15:20*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 06:15	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:15	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:15	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:15	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 06:15	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:15	1

Client Sample ID: MW-8S 051619

Lab Sample ID: 460-182353-17

Date Collected: 05/16/19 10:52

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:15	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 06:15	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:15	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:15	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:15	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 06:15	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:15	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 06:15	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 06:15	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 06:15	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:15	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:15	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 06:15	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:15	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 06:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*42*		*10 - 150*	*05/22/19 00:46*	*05/24/19 06:15*	*1*
DCB Decachlorobiphenyl	*39*		*10 - 150*	*05/22/19 00:46*	*05/24/19 06:15*	*1*
Tetrachloro-m-xylene	*37*		*12 - 136*	*05/22/19 00:46*	*05/24/19 06:15*	*1*
Tetrachloro-m-xylene	*34*		*12 - 136*	*05/22/19 00:46*	*05/24/19 06:15*	*1*

Client Sample ID: MW-21 051619

Lab Sample ID: 460-182353-18

Date Collected: 05/16/19 13:34

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 07:13	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 07:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 07:13	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 07:13	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 07:13	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 07:13	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 07:13	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 07:13	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 07:13	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 07:13	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 07:13	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 07:13	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 07:13	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 07:13	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 07:13	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 07:13	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 07:13	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 07:13	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 07:13	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 07:13	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 07:13	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 07:13	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-21 051619
Date Collected: 05/16/19 13:34
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-18
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 07:13	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 07:13	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 07:13	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 07:13	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 07:13	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 07:13	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 07:13	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 07:13	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/26/19 07:13	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 07:13	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 07:13	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 07:13	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 07:13	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 07:13	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 07:13	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 07:13	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 07:13	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 07:13	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 07:13	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 07:13	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 07:13	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 07:13	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 07:13	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 07:13	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 07:13	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 07:13	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 07:13	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 07:13	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 07:13	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 07:13	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 07:13	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 07:13	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 07:13	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 07:13	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 07:13	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 07:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*74 - 132*		*05/26/19 07:13*	*1*
4-Bromofluorobenzene	*87*		*77 - 124*		*05/26/19 07:13*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/26/19 07:13*	*1*
Dibromofluoromethane (Surr)	*116*		*72 - 131*		*05/26/19 07:13*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 15:41	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 15:41	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 15:41	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 15:41	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 15:41	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-21 051619
Date Collected: 05/16/19 13:34
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-18
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 15:41	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 15:41	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 15:41	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 15:41	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 15:41	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 15:41	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 15:41	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 15:41	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 15:41	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 15:41	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 15:41	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 15:41	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 15:41	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 15:41	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 15:41	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 15:41	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 15:41	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 15:41	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 15:41	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 15:41	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 15:41	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 15:41	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 15:41	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 15:41	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 15:41	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 15:41	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 15:41	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 15:41	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 15:41	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 15:41	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 15:41	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 15:41	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 15:41	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 15:41	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 15:41	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 15:41	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 15:41	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 15:41	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 15:41	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 15:41	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 15:41	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 15:41	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 15:41	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 15:41	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 15:41	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 15:41	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 15:41	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 15:41	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 15:41	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-21 051619
Date Collected: 05/16/19 13:34
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-18
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 15:41	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 15:41	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 15:41	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 15:41	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 15:41	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 15:41	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 15:41	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 15:41	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 15:41	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 15:41	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*108*		*40 - 148*	*05/21/19 16:58*	*05/22/19 15:41*	*1*
Nitrobenzene-d5	*99*		*51 - 108*	*05/21/19 16:58*	*05/22/19 15:41*	*1*
Phenol-d5	*24*		*14 - 39*	*05/21/19 16:58*	*05/22/19 15:41*	*1*
2-Fluorophenol	*49*		*25 - 58*	*05/21/19 16:58*	*05/22/19 15:41*	*1*
2,4,6-Tribromophenol	*133*		*26 - 139*	*05/21/19 16:58*	*05/22/19 15:41*	*1*
2-Fluorobiphenyl	*99*		*45 - 107*	*05/21/19 16:58*	*05/22/19 15:41*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 06:31	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:31	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:31	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:31	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 06:31	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:31	1
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:31	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 06:31	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:31	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:31	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:31	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 06:31	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:31	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 06:31	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 06:31	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 06:31	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:31	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:31	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 06:31	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:31	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 06:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*101*		*10 - 150*	*05/22/19 00:46*	*05/24/19 06:31*	*1*
DCB Decachlorobiphenyl	*97*		*10 - 150*	*05/22/19 00:46*	*05/24/19 06:31*	*1*
Tetrachloro-m-xylene	*93*		*12 - 136*	*05/22/19 00:46*	*05/24/19 06:31*	*1*
Tetrachloro-m-xylene	*76*		*12 - 136*	*05/22/19 00:46*	*05/24/19 06:31*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-20 051619
Date Collected: 05/16/19 14:40
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-19
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 07:38	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 07:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 07:38	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 07:38	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 07:38	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 07:38	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 07:38	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 07:38	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 07:38	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 07:38	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 07:38	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 07:38	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 07:38	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 07:38	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 07:38	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 07:38	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 07:38	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 07:38	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 07:38	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 07:38	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 07:38	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 07:38	1
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 07:38	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 07:38	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 07:38	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 07:38	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 07:38	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 07:38	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 07:38	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 07:38	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/26/19 07:38	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 07:38	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 07:38	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 07:38	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 07:38	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 07:38	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 07:38	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 07:38	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 07:38	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 07:38	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 07:38	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 07:38	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 07:38	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 07:38	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 07:38	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 07:38	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 07:38	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 07:38	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 07:38	1

Client Sample ID: MW-20 051619
Date Collected: 05/16/19 14:40
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-19
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 07:38	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 07:38	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 07:38	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 07:38	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 07:38	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 07:38	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 07:38	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 07:38	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 07:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*74 - 132*		*05/26/19 07:38*	*1*
4-Bromofluorobenzene	*91*		*77 - 124*		*05/26/19 07:38*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/26/19 07:38*	*1*
Dibromofluoromethane (Surr)	*117*		*72 - 131*		*05/26/19 07:38*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 16:03	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 16:03	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 16:03	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 16:03	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 16:03	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 16:03	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 16:03	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 16:03	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 16:03	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 16:03	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 16:03	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:03	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 16:03	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 16:03	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 16:03	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 16:03	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 16:03	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 16:03	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 16:03	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 16:03	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 16:03	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 16:03	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 16:03	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 16:03	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 16:03	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:03	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 16:03	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 16:03	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 16:03	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 16:03	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 16:03	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 16:03	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-20 051619
Date Collected: 05/16/19 14:40
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-19
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 16:03	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 16:03	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 16:03	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 16:03	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 16:03	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 16:03	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 16:03	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 16:03	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 16:03	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 16:03	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 16:03	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 16:03	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:03	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 16:03	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 16:03	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 16:03	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 16:03	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 16:03	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 16:03	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 16:03	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 16:03	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 16:03	1
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 16:03	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 16:03	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 16:03	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:03	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 16:03	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 16:03	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 16:03	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 16:03	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 16:03	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 16:03	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*91*		*40 - 148*	*05/21/19 16:58*	*05/22/19 16:03*	*1*
Nitrobenzene-d5	*96*		*51 - 108*	*05/21/19 16:58*	*05/22/19 16:03*	*1*
Phenol-d5	*23*		*14 - 39*	*05/21/19 16:58*	*05/22/19 16:03*	*1*
2-Fluorophenol	*44*		*25 - 58*	*05/21/19 16:58*	*05/22/19 16:03*	*1*
2,4,6-Tribromophenol	*121*		*26 - 139*	*05/21/19 16:58*	*05/22/19 16:03*	*1*
2-Fluorobiphenyl	*92*		*45 - 107*	*05/21/19 16:58*	*05/22/19 16:03*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 06:46	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:46	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:46	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:46	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 06:46	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:46	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-20 051619

Lab Sample ID: 460-182353-19

Date Collected: 05/16/19 14:40

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:46	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 06:46	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:46	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 06:46	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:46	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 06:46	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:46	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 06:46	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 06:46	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 06:46	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:46	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 06:46	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 06:46	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 06:46	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 06:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*96*		*10 - 150*	*05/22/19 00:46*	*05/24/19 06:46*	*1*
DCB Decachlorobiphenyl	*91*		*10 - 150*	*05/22/19 00:46*	*05/24/19 06:46*	*1*
Tetrachloro-m-xylene	*87*		*12 - 136*	*05/22/19 00:46*	*05/24/19 06:46*	*1*
Tetrachloro-m-xylene	*85*		*12 - 136*	*05/22/19 00:46*	*05/24/19 06:46*	*1*

Client Sample ID: MW-19 051619

Lab Sample ID: 460-182353-20

Date Collected: 05/16/19 15:40

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 03:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 03:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 03:56	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 03:56	1
1,1-Dichloroethane	**0.27**	**J**	1.0	0.26	ug/L			05/26/19 03:56	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 03:56	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 03:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 03:56	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 03:56	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 03:56	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 03:56	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 03:56	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 03:56	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 03:56	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 03:56	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 03:56	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 03:56	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 03:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 03:56	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 03:56	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 03:56	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 03:56	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-19 051619
Date Collected: 05/16/19 15:40
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-20
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 03:56	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 03:56	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 03:56	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 03:56	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 03:56	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 03:56	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 03:56	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 03:56	1
cis-1,2-Dichloroethene	**0.29**	**J**	1.0	0.22	ug/L			05/26/19 03:56	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 03:56	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 03:56	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 03:56	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 03:56	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 03:56	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 03:56	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 03:56	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 03:56	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 03:56	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 03:56	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 03:56	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 03:56	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 03:56	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 03:56	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 03:56	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 03:56	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 03:56	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 03:56	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 03:56	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 03:56	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 03:56	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 03:56	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 03:56	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 03:56	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 03:56	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 03:56	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 03:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*74 - 132*		*05/26/19 03:56*	*1*
4-Bromofluorobenzene	*88*		*77 - 124*		*05/26/19 03:56*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/26/19 03:56*	*1*
Dibromofluoromethane (Surr)	*121*		*72 - 131*		*05/26/19 03:56*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 16:23	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 16:23	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 16:23	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 16:23	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 16:23	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-19 051619
Date Collected: 05/16/19 15:40
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-20
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 16:23	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 16:23	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 16:23	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 16:23	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 16:23	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 16:23	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:23	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 16:23	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 16:23	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 16:23	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 16:23	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 16:23	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 16:23	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 16:23	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 16:23	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 16:23	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 16:23	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 16:23	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 16:23	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 16:23	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:23	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 16:23	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 16:23	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 16:23	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 16:23	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 16:23	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 16:23	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 16:23	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 16:23	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 16:23	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 16:23	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 16:23	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 16:23	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 16:23	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 16:23	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 16:23	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 16:23	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 16:23	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 16:23	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:23	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 16:23	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 16:23	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 16:23	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 16:23	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 16:23	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 16:23	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 16:23	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 16:23	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 16:23	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-19 051619
Date Collected: 05/16/19 15:40
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-20
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 16:23	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 16:23	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 16:23	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:23	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 16:23	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 16:23	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 16:23	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 16:23	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 16:23	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 16:23	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*74*		*40 - 148*	*05/21/19 16:58*	*05/22/19 16:23*	*1*
Nitrobenzene-d5	*91*		*51 - 108*	*05/21/19 16:58*	*05/22/19 16:23*	*1*
Phenol-d5	*16*		*14 - 39*	*05/21/19 16:58*	*05/22/19 16:23*	*1*
2-Fluorophenol	*37*		*25 - 58*	*05/21/19 16:58*	*05/22/19 16:23*	*1*
2,4,6-Tribromophenol	*115*		*26 - 139*	*05/21/19 16:58*	*05/22/19 16:23*	*1*
2-Fluorobiphenyl	*91*		*45 - 107*	*05/21/19 16:58*	*05/22/19 16:23*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 07:02	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 07:02	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:02	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 07:02	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 07:02	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 07:02	1
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:02	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 07:02	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 07:02	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 07:02	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:02	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 07:02	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:02	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 07:02	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 07:02	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 07:02	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 07:02	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 07:02	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 07:02	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:02	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 07:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*18*		*10 - 150*	*05/22/19 00:46*	*05/24/19 07:02*	*1*
DCB Decachlorobiphenyl	*17*		*10 - 150*	*05/22/19 00:46*	*05/24/19 07:02*	*1*
Tetrachloro-m-xylene	*18*		*12 - 136*	*05/22/19 00:46*	*05/24/19 07:02*	*1*
Tetrachloro-m-xylene	*11*	*X*	*12 - 136*	*05/22/19 00:46*	*05/24/19 07:02*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: DUP 051619
Date Collected: 05/16/19 00:00
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-21
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/26/19 04:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/26/19 04:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/26/19 04:21	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/26/19 04:21	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/26/19 04:21	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/26/19 04:21	1
1,2,4-Trichlorobenzene	ND	*	1.0	0.37	ug/L			05/26/19 04:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/26/19 04:21	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/26/19 04:21	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/26/19 04:21	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/26/19 04:21	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/26/19 04:21	1
1,3,5-Trimethylbenzene	ND	*	1.0	0.33	ug/L			05/26/19 04:21	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/26/19 04:21	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/26/19 04:21	1
2-Butanone (MEK)	ND	*	5.0	1.9	ug/L			05/26/19 04:21	1
2-Hexanone	ND		5.0	2.9	ug/L			05/26/19 04:21	1
4-Isopropyltoluene	ND	*	1.0	0.37	ug/L			05/26/19 04:21	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/26/19 04:21	1
Acetone	ND		5.0	5.0	ug/L			05/26/19 04:21	1
Benzene	ND		1.0	0.43	ug/L			05/26/19 04:21	1
Bromoform	ND		1.0	0.54	ug/L			05/26/19 04:21	1
Bromomethane	ND		1.0	1.0	ug/L			05/26/19 04:21	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/26/19 04:21	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/26/19 04:21	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/26/19 04:21	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/26/19 04:21	1
Chloroethane	ND		1.0	0.32	ug/L			05/26/19 04:21	1
Chloroform	ND		1.0	0.33	ug/L			05/26/19 04:21	1
Chloromethane	ND		1.0	0.14	ug/L			05/26/19 04:21	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/26/19 04:21	1
Cyclohexane	ND		1.0	0.32	ug/L			05/26/19 04:21	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/26/19 04:21	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/26/19 04:21	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/26/19 04:21	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/26/19 04:21	1
Isopropylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 04:21	1
Methyl acetate	ND		5.0	0.31	ug/L			05/26/19 04:21	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/26/19 04:21	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/26/19 04:21	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/26/19 04:21	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/26/19 04:21	1
Naphthalene	ND		1.0	0.41	ug/L			05/26/19 04:21	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/26/19 04:21	1
N-Propylbenzene	ND	*	1.0	0.32	ug/L			05/26/19 04:21	1
o-Xylene	ND		1.0	0.36	ug/L			05/26/19 04:21	1
sec-Butylbenzene	ND	*	1.0	0.37	ug/L			05/26/19 04:21	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/26/19 04:21	1
Toluene	ND		1.0	0.38	ug/L			05/26/19 04:21	1

Client Sample ID: DUP 051619
Date Collected: 05/16/19 00:00
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-21
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/26/19 04:21	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/26/19 04:21	1
Trichloroethene	ND		1.0	0.31	ug/L			05/26/19 04:21	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/26/19 04:21	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/26/19 04:21	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/26/19 04:21	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/26/19 04:21	1
Styrene	ND		1.0	0.42	ug/L			05/26/19 04:21	1
tert-Butylbenzene	ND	*	1.0	0.34	ug/L			05/26/19 04:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*74 - 132*		*05/26/19 04:21*	*1*
4-Bromofluorobenzene	*91*		*77 - 124*		*05/26/19 04:21*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/26/19 04:21*	*1*
Dibromofluoromethane (Surr)	*111*		*72 - 131*		*05/26/19 04:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 16:45	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 16:45	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 16:45	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 16:45	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 16:45	1
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 16:45	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 16:45	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 16:45	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 16:45	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 16:45	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 16:45	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:45	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 16:45	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 16:45	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 16:45	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 16:45	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 16:45	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 16:45	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 16:45	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 16:45	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 16:45	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 16:45	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 16:45	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 16:45	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 16:45	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:45	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 16:45	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 16:45	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 16:45	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 16:45	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 16:45	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 16:45	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: DUP 051619
Date Collected: 05/16/19 00:00
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-21
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 16:45	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 16:45	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 16:45	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 16:45	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 16:45	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 16:45	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 16:45	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 16:45	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 16:45	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 16:45	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 16:45	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 16:45	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:45	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 16:45	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 16:45	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 16:45	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 16:45	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 16:45	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 16:45	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 16:45	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 16:45	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 16:45	1
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 16:45	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 16:45	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 16:45	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 16:45	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 16:45	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 16:45	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 16:45	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 16:45	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 16:45	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 16:45	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*100*		*40 - 148*	*05/21/19 16:58*	*05/22/19 16:45*	*1*
Nitrobenzene-d5	*89*		*51 - 108*	*05/21/19 16:58*	*05/22/19 16:45*	*1*
Phenol-d5	*24*		*14 - 39*	*05/21/19 16:58*	*05/22/19 16:45*	*1*
2-Fluorophenol	*44*		*25 - 58*	*05/21/19 16:58*	*05/22/19 16:45*	*1*
2,4,6-Tribromophenol	*122*		*26 - 139*	*05/21/19 16:58*	*05/22/19 16:45*	*1*
2-Fluorobiphenyl	*90*		*45 - 107*	*05/21/19 16:58*	*05/22/19 16:45*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 07:17	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 07:17	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:17	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 07:17	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 00:46	05/24/19 07:17	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 07:17	1

Client Sample ID: DUP 051619

Lab Sample ID: 460-182353-21

Date Collected: 05/16/19 00:00

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:17	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 07:17	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 07:17	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 00:46	05/24/19 07:17	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:17	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 00:46	05/24/19 07:17	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:17	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 07:17	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 00:46	05/24/19 07:17	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 00:46	05/24/19 07:17	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 07:17	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 00:46	05/24/19 07:17	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 00:46	05/24/19 07:17	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 00:46	05/24/19 07:17	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 00:46	05/24/19 07:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*96*		*10 - 150*	*05/22/19 00:46*	*05/24/19 07:17*	*1*
DCB Decachlorobiphenyl	*91*		*10 - 150*	*05/22/19 00:46*	*05/24/19 07:17*	*1*
Tetrachloro-m-xylene	*86*		*12 - 136*	*05/22/19 00:46*	*05/24/19 07:17*	*1*
Tetrachloro-m-xylene	*83*		*12 - 136*	*05/22/19 00:46*	*05/24/19 07:17*	*1*

Client Sample ID: Field Blank 051619

Lab Sample ID: 460-182353-22

Date Collected: 05/16/19 16:00

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 15:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 15:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 15:55	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 15:55	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 15:55	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 15:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 15:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/25/19 15:55	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 15:55	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/25/19 15:55	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 15:55	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 15:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.33	ug/L			05/25/19 15:55	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 15:55	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 15:55	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 15:55	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 15:55	1
4-Isopropyltoluene	ND		1.0	0.37	ug/L			05/25/19 15:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 15:55	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 15:55	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 15:55	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 15:55	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: Field Blank 051619

Lab Sample ID: 460-182353-22

Date Collected: 05/16/19 16:00

Matrix: Water

Date Received: 05/18/19 11:30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 15:55	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/25/19 15:55	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 15:55	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 15:55	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 15:55	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 15:55	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 15:55	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 15:55	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/25/19 15:55	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 15:55	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 15:55	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 15:55	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/25/19 15:55	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 15:55	1
Isopropylbenzene	ND		1.0	0.34	ug/L			05/25/19 15:55	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 15:55	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 15:55	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/25/19 15:55	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 15:55	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/25/19 15:55	1
Naphthalene	ND		1.0	0.41	ug/L			05/25/19 15:55	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/25/19 15:55	1
N-Propylbenzene	ND		1.0	0.32	ug/L			05/25/19 15:55	1
o-Xylene	ND		1.0	0.36	ug/L			05/25/19 15:55	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			05/25/19 15:55	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/25/19 15:55	1
Toluene	ND		1.0	0.38	ug/L			05/25/19 15:55	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 15:55	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 15:55	1
Trichloroethene	ND		1.0	0.31	ug/L			05/25/19 15:55	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 15:55	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 15:55	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/25/19 15:55	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 15:55	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 15:55	1
tert-Butylbenzene	ND		1.0	0.34	ug/L			05/25/19 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*74 - 132*		*05/25/19 15:55*	*1*
4-Bromofluorobenzene	*101*		*77 - 124*		*05/25/19 15:55*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/25/19 15:55*	*1*
Dibromofluoromethane (Surr)	*96*		*72 - 131*		*05/25/19 15:55*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 17:06	1
bis (2-chloroisopropyl) ether	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 17:06	1
2,4,5-Trichlorophenol	ND		10	0.28	ug/L		05/21/19 16:58	05/22/19 17:06	1
2,4,6-Trichlorophenol	ND		10	0.30	ug/L		05/21/19 16:58	05/22/19 17:06	1
2,4-Dichlorophenol	ND		10	0.42	ug/L		05/21/19 16:58	05/22/19 17:06	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: Field Blank 051619
Date Collected: 05/16/19 16:00
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-22
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 17:06	1
2,4-Dinitrophenol	ND		20	14	ug/L		05/21/19 16:58	05/22/19 17:06	1
2,4-Dinitrotoluene	ND		2.0	1.0	ug/L		05/21/19 16:58	05/22/19 17:06	1
2,6-Dinitrotoluene	ND		2.0	0.39	ug/L		05/21/19 16:58	05/22/19 17:06	1
2-Chloronaphthalene	ND		10	1.2	ug/L		05/21/19 16:58	05/22/19 17:06	1
2-Chlorophenol	ND		10	0.38	ug/L		05/21/19 16:58	05/22/19 17:06	1
2-Methylnaphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 17:06	1
2-Methylphenol	ND		10	0.26	ug/L		05/21/19 16:58	05/22/19 17:06	1
2-Nitroaniline	ND		10	0.47	ug/L		05/21/19 16:58	05/22/19 17:06	1
2-Nitrophenol	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 17:06	1
3,3'-Dichlorobenzidine	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 17:06	1
3-Nitroaniline	ND		10	0.96	ug/L		05/21/19 16:58	05/22/19 17:06	1
4,6-Dinitro-2-methylphenol	ND		20	13	ug/L		05/21/19 16:58	05/22/19 17:06	1
4-Bromophenyl phenyl ether	ND		10	0.75	ug/L		05/21/19 16:58	05/22/19 17:06	1
4-Chloro-3-methylphenol	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 17:06	1
4-Chloroaniline	ND		10	1.9	ug/L		05/21/19 16:58	05/22/19 17:06	1
4-Chlorophenyl phenyl ether	ND		10	1.3	ug/L		05/21/19 16:58	05/22/19 17:06	1
4-Methylphenol	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 17:06	1
4-Nitroaniline	ND		10	0.54	ug/L		05/21/19 16:58	05/22/19 17:06	1
4-Nitrophenol	ND		20	0.69	ug/L		05/21/19 16:58	05/22/19 17:06	1
Acenaphthene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 17:06	1
Acenaphthylene	ND		10	0.82	ug/L		05/21/19 16:58	05/22/19 17:06	1
Acetophenone	ND		10	0.79	ug/L		05/21/19 16:58	05/22/19 17:06	1
Anthracene	ND		10	0.63	ug/L		05/21/19 16:58	05/22/19 17:06	1
Atrazine	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 17:06	1
Benzaldehyde	ND		10	0.59	ug/L		05/21/19 16:58	05/22/19 17:06	1
Benzo(a)anthracene	ND		1.0	0.59	ug/L		05/21/19 16:58	05/22/19 17:06	1
Benzo(a)pyrene	ND		1.0	0.41	ug/L		05/21/19 16:58	05/22/19 17:06	1
Benzo(b)fluoranthene	ND		2.0	1.1	ug/L		05/21/19 16:58	05/22/19 17:06	1
Benzo(g,h,i)perylene	ND		10	1.4	ug/L		05/21/19 16:58	05/22/19 17:06	1
Benzo(k)fluoranthene	ND		1.0	0.67	ug/L		05/21/19 16:58	05/22/19 17:06	1
Bis(2-chloroethoxy)methane	ND		10	0.24	ug/L		05/21/19 16:58	05/22/19 17:06	1
Bis(2-chloroethyl)ether	ND		1.0	0.30	ug/L		05/21/19 16:58	05/22/19 17:06	1
Bis(2-ethylhexyl) phthalate	ND		2.0	1.7	ug/L		05/21/19 16:58	05/22/19 17:06	1
Butyl benzyl phthalate	ND		10	0.85	ug/L		05/21/19 16:58	05/22/19 17:06	1
Caprolactam	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 17:06	1
Carbazole	ND		10	0.68	ug/L		05/21/19 16:58	05/22/19 17:06	1
Chrysene	ND		2.0	0.91	ug/L		05/21/19 16:58	05/22/19 17:06	1
Dibenz(a,h)anthracene	ND		1.0	0.72	ug/L		05/21/19 16:58	05/22/19 17:06	1
Dibenzofuran	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 17:06	1
Diethyl phthalate	ND		10	0.98	ug/L		05/21/19 16:58	05/22/19 17:06	1
Dimethyl phthalate	ND		10	0.77	ug/L		05/21/19 16:58	05/22/19 17:06	1
Di-n-butyl phthalate	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 17:06	1
Di-n-octyl phthalate	ND		10	4.8	ug/L		05/21/19 16:58	05/22/19 17:06	1
Fluoranthene	ND		10	0.84	ug/L		05/21/19 16:58	05/22/19 17:06	1
Fluorene	ND		10	0.91	ug/L		05/21/19 16:58	05/22/19 17:06	1
Hexachlorobenzene	ND		1.0	0.40	ug/L		05/21/19 16:58	05/22/19 17:06	1
Hexachlorobutadiene	ND		1.0	0.78	ug/L		05/21/19 16:58	05/22/19 17:06	1
Hexachlorocyclopentadiene	ND		10	1.7	ug/L		05/21/19 16:58	05/22/19 17:06	1

Client Sample ID: Field Blank 051619
Date Collected: 05/16/19 16:00
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-22
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		2.0	1.2	ug/L		05/21/19 16:58	05/22/19 17:06	1
Indeno(1,2,3-cd)pyrene	ND		2.0	1.3	ug/L		05/21/19 16:58	05/22/19 17:06	1
Isophorone	ND		10	0.80	ug/L		05/21/19 16:58	05/22/19 17:06	1
Naphthalene	ND		10	1.1	ug/L		05/21/19 16:58	05/22/19 17:06	1
Nitrobenzene	ND		1.0	0.57	ug/L		05/21/19 16:58	05/22/19 17:06	1
N-Nitrosodi-n-propylamine	ND		1.0	0.43	ug/L		05/21/19 16:58	05/22/19 17:06	1
N-Nitrosodiphenylamine	ND		10	0.89	ug/L		05/21/19 16:58	05/22/19 17:06	1
Pentachlorophenol	ND		20	1.4	ug/L		05/21/19 16:58	05/22/19 17:06	1
Phenanthrene	ND		10	0.58	ug/L		05/21/19 16:58	05/22/19 17:06	1
Phenol	ND		10	0.29	ug/L		05/21/19 16:58	05/22/19 17:06	1
Pyrene	ND		10	1.6	ug/L		05/21/19 16:58	05/22/19 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*110*		*40 - 148*	*05/21/19 16:58*	*05/22/19 17:06*	*1*
Nitrobenzene-d5	*94*		*51 - 108*	*05/21/19 16:58*	*05/22/19 17:06*	*1*
Phenol-d5	*24*		*14 - 39*	*05/21/19 16:58*	*05/22/19 17:06*	*1*
2-Fluorophenol	*46*		*25 - 58*	*05/21/19 16:58*	*05/22/19 17:06*	*1*
2,4,6-Tribromophenol	*111*		*26 - 139*	*05/21/19 16:58*	*05/22/19 17:06*	*1*
2-Fluorobiphenyl	*93*		*45 - 107*	*05/21/19 16:58*	*05/22/19 17:06*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.020	0.0060	ug/L		05/22/19 09:19	05/23/19 13:09	1
4,4'-DDE	ND		0.020	0.0020	ug/L		05/22/19 09:19	05/23/19 13:09	1
4,4'-DDT	ND		0.020	0.0040	ug/L		05/22/19 09:19	05/23/19 13:09	1
Aldrin	ND		0.020	0.0030	ug/L		05/22/19 09:19	05/23/19 13:09	1
alpha-BHC	ND		0.020	0.0070	ug/L		05/22/19 09:19	05/23/19 13:09	1
cis-Chlordane	ND		0.020	0.0020	ug/L		05/22/19 09:19	05/23/19 13:09	1
beta-BHC	ND		0.020	0.0040	ug/L		05/22/19 09:19	05/23/19 13:09	1
delta-BHC	ND		0.020	0.0050	ug/L		05/22/19 09:19	05/23/19 13:09	1
Dieldrin	ND		0.020	0.0030	ug/L		05/22/19 09:19	05/23/19 13:09	1
Endosulfan I	ND		0.020	0.0020	ug/L		05/22/19 09:19	05/23/19 13:09	1
Endosulfan II	ND		0.020	0.0040	ug/L		05/22/19 09:19	05/23/19 13:09	1
Endosulfan sulfate	ND		0.020	0.0060	ug/L		05/22/19 09:19	05/23/19 13:09	1
Endrin	ND		0.020	0.0040	ug/L		05/22/19 09:19	05/23/19 13:09	1
Endrin aldehyde	ND		0.020	0.0080	ug/L		05/22/19 09:19	05/23/19 13:09	1
Endrin ketone	ND		0.020	0.0080	ug/L		05/22/19 09:19	05/23/19 13:09	1
gamma-BHC (Lindane)	ND		0.020	0.012	ug/L		05/22/19 09:19	05/23/19 13:09	1
trans-Chlordane	ND		0.020	0.0030	ug/L		05/22/19 09:19	05/23/19 13:09	1
Heptachlor	ND		0.020	0.0030	ug/L		05/22/19 09:19	05/23/19 13:09	1
Heptachlor epoxide	ND		0.020	0.0050	ug/L		05/22/19 09:19	05/23/19 13:09	1
Methoxychlor	ND		0.020	0.0040	ug/L		05/22/19 09:19	05/23/19 13:09	1
Toxaphene	ND		0.50	0.11	ug/L		05/22/19 09:19	05/23/19 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*35*		*10 - 150*	*05/22/19 09:19*	*05/23/19 13:09*	*1*
DCB Decachlorobiphenyl	*31*		*10 - 150*	*05/22/19 09:19*	*05/23/19 13:09*	*1*
Tetrachloro-m-xylene	*30*		*12 - 136*	*05/22/19 09:19*	*05/23/19 13:09*	*1*
Tetrachloro-m-xylene	*30*		*12 - 136*	*05/22/19 09:19*	*05/23/19 13:09*	*1*

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: Triup Blanks
Date Collected: 05/16/19 16:00
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-23
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			05/25/19 15:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			05/25/19 15:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			05/25/19 15:32	1
1,1,2-Trichloroethane	ND		1.0	0.43	ug/L			05/25/19 15:32	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			05/25/19 15:32	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			05/25/19 15:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.37	ug/L			05/25/19 15:32	1
1,2,4-Trimethylbenzene	ND		1.0	0.37	ug/L			05/25/19 15:32	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.38	ug/L			05/25/19 15:32	1
1,2-Dichlorobenzene	ND		1.0	0.43	ug/L			05/25/19 15:32	1
1,2-Dichloroethane	ND		1.0	0.43	ug/L			05/25/19 15:32	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			05/25/19 15:32	1
1,3,5-Trimethylbenzene	ND		1.0	0.33	ug/L			05/25/19 15:32	1
1,3-Dichlorobenzene	ND		1.0	0.34	ug/L			05/25/19 15:32	1
1,4-Dichlorobenzene	ND		1.0	0.76	ug/L			05/25/19 15:32	1
2-Butanone (MEK)	ND		5.0	1.9	ug/L			05/25/19 15:32	1
2-Hexanone	ND		5.0	2.9	ug/L			05/25/19 15:32	1
4-Isopropyltoluene	ND		1.0	0.37	ug/L			05/25/19 15:32	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.7	ug/L			05/25/19 15:32	1
Acetone	ND		5.0	5.0	ug/L			05/25/19 15:32	1
Benzene	ND		1.0	0.43	ug/L			05/25/19 15:32	1
Bromoform	ND		1.0	0.54	ug/L			05/25/19 15:32	1
Bromomethane	ND		1.0	1.0	ug/L			05/25/19 15:32	1
Carbon disulfide	ND		1.0	0.16	ug/L			05/25/19 15:32	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			05/25/19 15:32	1
Chlorobenzene	ND		1.0	0.38	ug/L			05/25/19 15:32	1
Dibromochloromethane	ND		1.0	0.28	ug/L			05/25/19 15:32	1
Chloroethane	ND		1.0	0.32	ug/L			05/25/19 15:32	1
Chloroform	ND		1.0	0.33	ug/L			05/25/19 15:32	1
Chloromethane	ND		1.0	0.14	ug/L			05/25/19 15:32	1
cis-1,2-Dichloroethene	ND		1.0	0.22	ug/L			05/25/19 15:32	1
Cyclohexane	ND		1.0	0.32	ug/L			05/25/19 15:32	1
Bromodichloromethane	ND		1.0	0.34	ug/L			05/25/19 15:32	1
Dichlorodifluoromethane	ND		1.0	0.12	ug/L			05/25/19 15:32	1
Ethylbenzene	ND		1.0	0.30	ug/L			05/25/19 15:32	1
1,2-Dibromoethane	ND		1.0	0.50	ug/L			05/25/19 15:32	1
Isopropylbenzene	ND		1.0	0.34	ug/L			05/25/19 15:32	1
Methyl acetate	ND		5.0	0.31	ug/L			05/25/19 15:32	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			05/25/19 15:32	1
Methylcyclohexane	ND		1.0	0.26	ug/L			05/25/19 15:32	1
Methylene Chloride	ND		1.0	0.32	ug/L			05/25/19 15:32	1
m,p-Xylene	ND		1.0	0.30	ug/L			05/25/19 15:32	1
Naphthalene	ND		1.0	0.41	ug/L			05/25/19 15:32	1
n-Butylbenzene	ND		1.0	0.32	ug/L			05/25/19 15:32	1
N-Propylbenzene	ND		1.0	0.32	ug/L			05/25/19 15:32	1
o-Xylene	ND		1.0	0.36	ug/L			05/25/19 15:32	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			05/25/19 15:32	1
Tetrachloroethene	ND		1.0	0.25	ug/L			05/25/19 15:32	1
Toluene	ND		1.0	0.38	ug/L			05/25/19 15:32	1

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: Triup Blanks
Date Collected: 05/16/19 16:00
Date Received: 05/18/19 11:30

Lab Sample ID: 460-182353-23
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			05/25/19 15:32	1
trans-1,3-Dichloropropene	ND		1.0	0.49	ug/L			05/25/19 15:32	1
Trichloroethene	ND		1.0	0.31	ug/L			05/25/19 15:32	1
Trichlorofluoromethane	ND		1.0	0.14	ug/L			05/25/19 15:32	1
Vinyl chloride	ND		1.0	0.17	ug/L			05/25/19 15:32	1
Xylenes, Total	ND		2.0	0.30	ug/L			05/25/19 15:32	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			05/25/19 15:32	1
Styrene	ND		1.0	0.42	ug/L			05/25/19 15:32	1
tert-Butylbenzene	ND		1.0	0.34	ug/L			05/25/19 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*74 - 132*		*05/25/19 15:32*	*1*
4-Bromofluorobenzene	*100*		*77 - 124*		*05/25/19 15:32*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/25/19 15:32*	*1*
Dibromofluoromethane (Surr)	*95*		*72 - 131*		*05/25/19 15:32*	*1*

Lab Chronicle

Client: New York State D.E.C.
Job ID: 460-182353-1
Project/Site: Korkay, Inc. #518014

Client Sample ID: K-3 051319
Lab Sample ID: 460-182353-1
Date Collected: 05/13/19 12:06
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 16:19	DAS	TAL EDI
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611526	05/21/19 13:15	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 11:41	SAK	TAL EDI

Client Sample ID: MW-18 051319
Lab Sample ID: 460-182353-2
Date Collected: 05/13/19 13:02
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 16:43	DAS	TAL EDI
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611526	05/21/19 13:37	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 11:56	SAK	TAL EDI

Client Sample ID: MW-17 051319
Lab Sample ID: 460-182353-3
Date Collected: 05/13/19 14:10
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 17:06	DAS	TAL EDI
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611526	05/21/19 13:58	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 12:12	SAK	TAL EDI

Client Sample ID: MW-15S 051319
Lab Sample ID: 460-182353-4
Date Collected: 05/13/19 14:48
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 17:30	DAS	TAL EDI
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611846	05/22/19 10:40	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 12:27	SAK	TAL EDI

Client Sample ID: VEW-2 051419
Lab Sample ID: 460-182353-5
Date Collected: 05/14/19 09:38
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 17:53	DAS	TAL EDI

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: VEW-2 051419

Lab Sample ID: 460-182353-5

Date Collected: 05/14/19 09:38

Matrix: Water

Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611526	05/21/19 14:40	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 14:51	SAK	TAL EDI

Client Sample ID: VEW-1 051419

Lab Sample ID: 460-182353-6

Date Collected: 05/14/19 10:32

Matrix: Water

Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 18:16	DAS	TAL EDI
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611526	05/21/19 15:01	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 15:42	SAK	TAL EDI

Client Sample ID: VEW-3 051419

Lab Sample ID: 460-182353-7

Date Collected: 05/14/19 11:28

Matrix: Water

Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 18:39	DAS	TAL EDI
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611526	05/21/19 15:22	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 13:13	SAK	TAL EDI

Client Sample ID: VEW-4 051419

Lab Sample ID: 460-182353-8

Date Collected: 05/14/19 12:22

Matrix: Water

Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 19:03	DAS	TAL EDI
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611846	05/22/19 11:01	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 13:29	SAK	TAL EDI

Client Sample ID: ASW 051419

Lab Sample ID: 460-182353-9

Date Collected: 05/14/19 13:54

Matrix: Water

Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	612574	05/24/19 15:00	EMM	TAL EDI

Lab Chronicle

Client: New York State D.E.C.
Job ID: 460-182353-1
Project/Site: Korkay, Inc. #518014

Client Sample ID: ASW 051419
Lab Sample ID: 460-182353-9
Date Collected: 05/14/19 13:54
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611526	05/21/19 16:04	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 13:44	SAK	TAL EDI

Client Sample ID: MW-23 051419
Lab Sample ID: 460-182353-10
Date Collected: 05/14/19 15:02
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 08:03	AAT	TAL EDI
Total/NA	Prep	3510C			611403	05/20/19 16:17	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611526	05/21/19 16:25	FAM	TAL EDI
Total/NA	Prep	3510C			611307	05/20/19 08:40	OTS	TAL EDI
Total/NA	Analysis	8081B		1	611887	05/22/19 14:00	SAK	TAL EDI

Client Sample ID: MW-22 051519
Lab Sample ID: 460-182353-11
Date Collected: 05/15/19 09:35
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 04:45	AAT	TAL EDI
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 13:14	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 04:43	SAK	TAL EDI

Client Sample ID: K-2 051519
Lab Sample ID: 460-182353-12
Date Collected: 05/15/19 10:50
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 05:10	AAT	TAL EDI
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 13:35	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 04:58	SAK	TAL EDI

Client Sample ID: MW-15D 051519
Lab Sample ID: 460-182353-13
Date Collected: 05/15/19 12:18
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 05:35	AAT	TAL EDI

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-15D 051519

Lab Sample ID: 460-182353-13

Date Collected: 05/15/19 12:18
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 13:56	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 05:14	SAK	TAL EDI

Client Sample ID: MW-16D 051519

Lab Sample ID: 460-182353-14

Date Collected: 05/15/19 13:42
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 05:59	AAT	TAL EDI
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 14:17	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 05:29	SAK	TAL EDI

Client Sample ID: MW-24 051519

Lab Sample ID: 460-182353-15

Date Collected: 05/15/19 14:56
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 06:24	AAT	TAL EDI
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 14:38	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 05:45	SAK	TAL EDI

Client Sample ID: MW-8D 051619

Lab Sample ID: 460-182353-16

Date Collected: 05/16/19 09:44
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 21:46	DAS	TAL EDI
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 14:59	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 06:00	SAK	TAL EDI

Client Sample ID: MW-8S 051619

Lab Sample ID: 460-182353-17

Date Collected: 05/16/19 10:52
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 06:49	AAT	TAL EDI

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Client Sample ID: MW-8S 051619

Lab Sample ID: 460-182353-17

Date Collected: 05/16/19 10:52
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 15:20	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 06:15	SAK	TAL EDI

Client Sample ID: MW-21 051619

Lab Sample ID: 460-182353-18

Date Collected: 05/16/19 13:34
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 07:13	AAT	TAL EDI
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 15:41	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 06:31	SAK	TAL EDI

Client Sample ID: MW-20 051619

Lab Sample ID: 460-182353-19

Date Collected: 05/16/19 14:40
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 07:38	AAT	TAL EDI
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 16:03	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 06:46	SAK	TAL EDI

Client Sample ID: MW-19 051619

Lab Sample ID: 460-182353-20

Date Collected: 05/16/19 15:40
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 03:56	AAT	TAL EDI
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 16:23	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 07:02	SAK	TAL EDI

Client Sample ID: DUP 051619

Lab Sample ID: 460-182353-21

Date Collected: 05/16/19 00:00
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612917	05/26/19 04:21	AAT	TAL EDI

Lab Chronicle

Client: New York State D.E.C.
Job ID: 460-182353-1
Project/Site: Korkay, Inc. #518014

Client Sample ID: DUP 051619
Lab Sample ID: 460-182353-21
Date Collected: 05/16/19 00:00
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 16:45	FAM	TAL EDI
Total/NA	Prep	3510C			611828	05/22/19 00:46	JNP	TAL EDI
Total/NA	Analysis	8081B		1	612450	05/24/19 07:17	SAK	TAL EDI

Client Sample ID: Field Blank 051619
Lab Sample ID: 460-182353-22
Date Collected: 05/16/19 16:00
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 15:55	DAS	TAL EDI
Total/NA	Prep	3510C			611732	05/21/19 16:58	ATF	TAL EDI
Total/NA	Analysis	8270D		1	611879	05/22/19 17:06	FAM	TAL EDI
Total/NA	Prep	3510C			611938	05/22/19 09:19	OTS	TAL EDI
Total/NA	Analysis	8081B		1	612195	05/23/19 13:09	SAK	TAL EDI

Client Sample ID: Triup Blanks
Lab Sample ID: 460-182353-23
Date Collected: 05/16/19 16:00
Matrix: Water
Date Received: 05/18/19 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	612814	05/25/19 15:32	DAS	TAL EDI

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: New York State D.E.C.
Job ID: 460-182353-1
Project/Site: Korkay, Inc. #518014

Laboratory: Eurofins 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	04-01-20

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-20

Method Summary

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL EDI
8081B	Organochlorine Pesticides (GC)	SW846	TAL EDI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI

Protocol References:

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

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Sample Summary

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 460-182353-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
460-182353-1	K-3 051319	Water	05/13/19 12:06	05/18/19 11:30	
460-182353-2	MW-18 051319	Water	05/13/19 13:02	05/18/19 11:30	
460-182353-3	MW-17 051319	Water	05/13/19 14:10	05/18/19 11:30	
460-182353-4	MW-15S 051319	Water	05/13/19 14:48	05/18/19 11:30	
460-182353-5	VEW-2 051419	Water	05/14/19 09:38	05/18/19 11:30	
460-182353-6	VEW-1 051419	Water	05/14/19 10:32	05/18/19 11:30	
460-182353-7	VEW-3 051419	Water	05/14/19 11:28	05/18/19 11:30	
460-182353-8	VEW-4 051419	Water	05/14/19 12:22	05/18/19 11:30	
460-182353-9	ASW 051419	Water	05/14/19 13:54	05/18/19 11:30	
460-182353-10	MW-23 051419	Water	05/14/19 15:02	05/18/19 11:30	
460-182353-11	MW-22 051519	Water	05/15/19 09:35	05/18/19 11:30	
460-182353-12	K-2 051519	Water	05/15/19 10:50	05/18/19 11:30	
460-182353-13	MW-15D 051519	Water	05/15/19 12:18	05/18/19 11:30	
460-182353-14	MW-16D 051519	Water	05/15/19 13:42	05/18/19 11:30	
460-182353-15	MW-24 051519	Water	05/15/19 14:56	05/18/19 11:30	
460-182353-16	MW-8D 051619	Water	05/16/19 09:44	05/18/19 11:30	
460-182353-17	MW-8S 051619	Water	05/16/19 10:52	05/18/19 11:30	
460-182353-18	MW-21 051619	Water	05/16/19 13:34	05/18/19 11:30	
460-182353-19	MW-20 051619	Water	05/16/19 14:40	05/18/19 11:30	
460-182353-20	MW-19 051619	Water	05/16/19 15:40	05/18/19 11:30	
460-182353-21	DUP 051619	Water	05/16/19 00:00	05/18/19 11:30	
460-182353-22	Field Blank 051619	Water	05/16/19 16:00	05/18/19 11:30	
460-182353-23	Triup Blanks	Water	05/16/19 16:00	05/18/19 11:30	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Albany #224

Chain of Custody Record

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Client Information	Sampler: GP	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-129472-29210.1
Client Contact: Walter Howard	Phone: 518-384-4212	E-Mail: judy.stone@testamericainc.com		Page: Page 1 of 3
Company: AECOM				Job #: 182353
Address: 40 British American Blvd	Due Date Requested:			
City: Latham	TAT Requested (days): Standard			
State, Zip: NY, 12110				
Phone: 518-402-9625(Tel)	PO #: Callout			
Email: walter.howard@aecom.com	WO #:			
Project Name: Korkay, Inc. #518014	Project #: 48020095			
Site:	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 - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - TCL + STARS list VOAs	8081B - TCL Pesticides - OLM04.2	8270D - TCL SVOA - OLM04.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N	N		
K-3 051319	5/13/19	1206	G	Water			X	X	X	7	# Cat B
MW-18 051319		1302		Water			X	X	X	7	Report
MW-17 051319		1410		Water			X	X	X	7	# Report to:
MW-155 051319		1448		Water			X	X	X	7	Walter.Howard@
VEW-2 051419	5/14/19	0938		Water			X	X	X	7	aecom.com
VEW-1 051419		1032		Water			X	X	X	7	
VEW-3 051419		1128		Water			X	X	X	7	
VEW-4 051419		1222		Water			X	X	X	7	
ASW 051419		1354		Water			X	X	X	7	
MW-23 051419		1502		Water			X	X	X	7	
MW-22 051519	5/15/19	0935		Water			X	X	X	7	

460-182353 Chain of Custody

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/17/19 1428	AECOM		5/17/19 1428	TA
2	Relinquished by:	5/17/19 1800	TA	Received by: FedEx SBT	5/18/19 1130	TA
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: | Custody Seal No.: 627260-627263, 627267, 627268

Cooler Temperature(s) °C and Other Remarks: 3.0, 4.2, 4.4, 4.8, 5.0, 4.2

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5/31/2019

Eurofins TestAmerica, Buffalo Albany #224
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

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Client Information	Sampler: GD	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-129472-29210.2
Client Contact: Walter Howard	Phone: 518-384-4212	E-Mail: judy.stone@testamericainc.com		Page: Page 2 of 3
Company: AECOM				Job #: 182353
Address: 40 British American Blvd	Due Date Requested:			
City: Latham	TAT Requested (days): Standard			
State, Zip: NY, 12110				
Phone: 518-402-9625(Tel)	PO #: Callout			
Email: walter.howard@aecom.com	WO #:			
Project Name: Korkay, Inc. #518014	Project #: 48020095			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - TCL + STARS list VOAs	8081B - TCL Pesticides - OLM04.2	8270D - TCL SVOA - OLM04.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N	N		
K-2 051519	5/15/19	1050	6	Water			X	X	X	7	12
MW-15D 051519		1218		Water			X	X	X	7	13
MW-16D 051519		1342		Water			X	X	X	7	14
MW-24 051519		1456		Water			X	X	X	7	15
MW-8D 051619	5/16/19	0944		Water			X	X	X	7	16
MW-8S 051619		1052		Water			X	X	X	7	17
MW-21 051619		1334		Water			X	X	X	7	18
MW-20 051619		1440		Water			X	X	X	7	19
MW-19 051619		1540		Water			X	X	X	7	20
DUP 051619		—		Water			X	X	X	7	21
Field Blank 051619		1600		Water			X	X	X	7	22

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5/17/19 1428	AECOM	Kal Yoder	5/17/19 1428	TA
Kal Yoder	5/17/19 1800	TA	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

5/31/2019

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Albany Chain of Custody Record

#224

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Client Information	Sampler: 60	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-129472-29210.3
Client Contact: Walter Howard	Phone: 518-384-4212	E-Mail: judy.stone@testamericainc.com		Page: Page 3 of 3
Company: AECOM				Job #: 182353

Address: 40 British American Blvd	Due Date Requested:	Analysis Requested
City: Latham	TAT Requested (days): Standard	
State, Zip: NY, 12110		
Phone: 518-402-9625(Tel)	PO #: Callout	
Email: walter.howard@aecom.com	WO #:	
Project Name: Korkay, Inc. #518014	Project #: 48020095	
Site:	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - TCL + STARS list VOAs	8081B - TCL Pesticides - OLM04.2	8270D - TCL SVOA - OLM04.2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N	N		
Trip Blanks	5/8/19	-	-	Water			X			2	23
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/17/19 1428	AECOM	Karl Jordan	5/17/19 1428	TA
2	Karl Jordan	5/17/19 1800	TA			
3						

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

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5/31/2019

TestAmerica Edison
Receipt Temperature and pH Log

Job Number: 182353

Number of Coolers: 6 IR Gun # 9

Cooler Temperatures

	RAW	CORRECTED		RAW	CORRECTED		RAW	CORRECTED
Cooler #1:	3.0 °C	3.6 °C	Cooler #4:	4.8 °C	4.8 °C	Cooler #7:	°C	°C
Cooler #2:	4.2 °C	4.2 °C	Cooler #5:	5.0 °C	5.0 °C	Cooler #8:	°C	°C
Cooler #3:	4.4 °C	4.4 °C	Cooler #6:	4.2 °C	4.2 °C	Cooler #9:	°C	°C

TALS Sample Number	Ammonia (pH<2)	COD (pH<2)	Nitrate Nitrite (pH<2)	Metals* (pH<2)	Hardness (pH<2)	Pest (pH 5-9)	EPH or QAM (pH<2)	Phenols (pH<2)	Sulfide (pH>9)	TKN (pH<2)	TOC (pH<2)	Total Cyanide (pH>12)	Total Phos (pH<2)	Other	Other

If pH adjustments are required record the information below:

Sample No(s). adjusted: _____

Preservative Name/Conc.: _____ Volume of Preservative used (ml): _____

Lot # of Preservative(s): _____ Expiration Date: _____

The appropriate Project Manager and Department Manager should be notified about the samples which were pH adjusted.

** Samples for Metal analysis which are out of compliance must be acidified at least 24 hours prior to analysis.*

Initials: _____ Date: 05/18/19

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 460-182353-1

Login Number: 182353

List Source: Eurofins TestAmerica, Edison

List Number: 1

Creator: Villanueva, Angelica P

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	627260-627263, 627267, 627268
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 460-182353-1

Login Number: 182353

List Number: 2

Creator: Villanueva, Angelica P

List Source: Eurofins TestAmerica, Edison

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background		
The cooler's custody seal, if present, is intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the sample IDs on the containers and the COC.		
Samples are received within Holding Time (Excluding tests with immediate HTs)..		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.		
If necessary, staff have been informed of any short hold time or quick TAT needs		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Sampling Company provided.		
Samples received within 48 hours of sampling.		
Samples requiring field filtration have been filtered in the field.		
Chlorine Residual checked.		

PFAS and 1,4-Dixoane
Laboratory Report

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Job Number: 200-48826-1

Job Description: Korkay, Inc. #518014

Contract Number: C100700

For:
New York State D.E.C.
625 Broadway
4th Floor
Albany, NY 12233

Attention: Mr. Payson Long

Approved for release.
Judy L Stone
Senior Project Manager
6/14/2019 9:42 AM

Judy L Stone, Senior Project Manager
10 Hazelwood Drive, Amherst, NY, 14228-2298
(484)685-0868
judy.stone@testamericainc.com
06/14/2019

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project Manager who has signed this report. TestAmerica Buffalo NELAC Certifications: CADPH 01169CA, FLDOH E87672, ILEPA 200003, KSDOH E-10187, LADEQ 30708, MDH 036-999-337, NHELAP 2973, NJDEP NY455, NYDOH 10026, ORELAP NY200003, PADEP 68-00281, TXCEQ T-104704412-10-1

Job Number: 200-48826-1

Job Description: Korkay, Inc. #518014

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

Approved for release.
Judy L Stone
Senior Project Manager
6/14/2019 9:42 AM

Judy L Stone

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Job Narrative
200-48826-1

Receipt
The samples were received on 5/18/2019 11:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

Receipt Exceptions
The following sample ID was listed as MW-22 051419 on the chain of custody (COC) with a collection date of 5/15/19. The client was contacted and requested that the sample ID be corrected to reflect the collection data of 5/15/19. MW-22 051519 (200-48826-11)

GC/MS Semi VOA
Method(s) 8270D SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 460-611633 and analytical batch 460-611861 recovered outside control limits for the following analyte: 1,4-Dioxane.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

LCMS
Method(s) 537 (modified): 13C4 PFBA and 13C3 PFBS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: (CCVIS 200-143596/6) and (CCVL 200-143596/7). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The quantitation for the targets associated with these IDAs, Perfluorobutanoic acid (PFBA) and Perfluorobutanesulfonic acid (PFBS), were within criteria, therefore the data are being reported.

Method(s) 537 (modified): The method blank for preparation batch 200-143308 and analytical batch 200-143753 contained Perfluorooctanesulfonic acid (PFOS) above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) 537 (modified): Results for samples VEW-3 051419 (200-48826-7), VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-23 051419 (200-48826-10), MW-22 051519 (200-48826-11), K-2 051519 (200-48826-12), MW-16D 051519 (200-48826-14), MW-8D 051619 (200-48826-16), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19) and MW-19 051619 (200-48826-20) were reported from the analysis of a diluted extract due to high concentration of non-target analytes (color in extracts) in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method(s) 537 (modified): The following samples were diluted due to the abundance of non-target analytes based on extract color: VEW-3 051419 (200-48826-7), VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-23 051419 (200-48826-10), MW-22 051519 (200-48826-11), K-2 051519 (200-48826-12), MW-16D 051519 (200-48826-14), MW-8D 051619 (200-48826-16), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19) and MW-19 051619 (200-48826-20). A more concentrated analysis was not possible.

Method(s) 537 (modified): 18O2 PFHxS, 13C4 PFOS, d3-NMeFOSAA, d5-NEtFOSAA, 13C2 PFDoA and 13C2 PFTeDA Isotope Dilution Analyte (IDA) recoveries associated with the following sample are below the method recommended limit: (MB 200-143308/1-A). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample. All detection limits are below the lower calibration.

Method(s) 537 (modified): The continuing calibration verification (CCV) associated with batch 200-143596 recovered above the upper control limit for Perfluorobutanoic acid (PFBA). The samples associated with this CCV were either non-detects for the affected analyte, or are positive detects that are being reported using high-biased results with qualifiers, per the client; therefore, the data have been reported.

Method(s) 537 (modified): A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: The results for Perfluorobutanoic acid (PFBA) in sample K-3 051319 (200-48826-1) are being reported with a high bias due to high-failing CCVs throughout the run. The results are appropriately noted with NCMs

Method(s) 537 (modified): Results for samples K-3 051319 (200-48826-1), MW-18 051319 (200-48826-2), MW-17 051319 (200-48826-3), MW-15S 051319 (200-48826-4), VEW-2 051419 (200-48826-5) and VEW-1 051419 (200-48826-6) were reported from the analysis of a diluted extract due to high concentration of target and/or non-target analytes in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits. A more concentrated analysis was not possible.

Method(s) 537 (modified): 18O2 PFHxS and 13C4 PFOS Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: K-3 051319 (200-48826-1). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): d3-NMeFOSAA, d5-NEtFOSAA, 18O2 PFHxS, 13C2 PFUnA and 13C3 PFBS Isotope Dilution Analyte (IDA) recoveries associated with the following sample are below the method recommended limit: MW-17 051319 (200-48826-3). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 18O2 PFHxS Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: VEW-1 051419 (200-48826-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): M2-6:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: VEW-1 051419 (200-48826-6). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): M2-8:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: MW-17 051319 (200-48826-3) and VEW-1 051419 (200-48826-6). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): The method blank for preparation batch 200-143263 and analytical batch 200-143596 contained Perfluorobutanesulfonic acid (PFBS) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 537 (modified): 13C4 PFBA Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: (CCVIS 200-143813/2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): 13C4 PFBA, 13C3 PFBS and 18O2 PFHxS Isotope Dilution Analyte (IDA) recoveries are above the method recommended limit for the following samples: (CCV 200-143813/4) and (CCVL 200-143813/3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): 13C3 PFBS and 18O2 PFHxS Isotope Dilution Analyte (IDA) recoveries are above the method recommended limit for the following samples: (CCV 200-143813/14), (CCV 200-143813/4) and (CCVL 200-143813/3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): 13C4 PFBA, 13C5 PFPeA, 13C3 PFBS and 18O2 PFHxS Isotope Dilution Analyte (IDA) recoveries are above the method recommended limit for the following sample: (CCV 200-143813/14). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): 13C2 PFTeDA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: VEW-3 051419 (200-48826-7), VEW-4 051419 (200-48826-8), MW-23 051419 (200-48826-10), MW-22 051519 (200-48826-11), MW-15D 051519 (200-48826-13), MW-16D 051519 (200-48826-14), MW-24 051519 (200-48826-15), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20), DUP 051619 (200-48826-21), FIELD BLANK 051619 (200-48826-22) and EQUIPMENT BLANK 051619 (200-48826-23). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): M2-6:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: VEW-3 051419 (200-48826-7), VEW-4 051419 (200-48826-8), MW-23 051419 (200-48826-10), MW-22 051519 (200-48826-11), MW-15D 051519 (200-48826-13), MW-16D 051519 (200-48826-14), MW-24 051519 (200-48826-15), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20), DUP 051619 (200-48826-21), FIELD BLANK 051619 (200-48826-22) and EQUIPMENT BLANK 051619 (200-48826-23). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): 13C8 FOSA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9) and MW-23 051419 (200-48826-10). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C5 PFNA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: VEW-3 051419 (200-48826-7), MW-16D 051519 (200-48826-14), MW-24 051519 (200-48826-15), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20) and DUP 051619 (200-48826-21). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): d5-NEtFOSAA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: ASW 051419 (200-48826-9), MW-23 051419 (200-48826-10), MW-22 051519 (200-48826-11), MW-16D 051519 (200-48826-14), MW-24 051519 (200-48826-15), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20), DUP 051619 (200-48826-21), FIELD BLANK 051619 (200-48826-22) and EQUIPMENT BLANK 051619 (200-48826-23). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C5 PFPeA Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: MW-20 051619 (200-48826-19). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C4 PFOS Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: VEW-3 051419 (200-48826-7), VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-23 051419 (200-48826-10), K-2 051519 (200-48826-12), MW-15D 051519 (200-48826-13), MW-16D 051519 (200-48826-14), MW-24 051519 (200-48826-15), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20), DUP 051619 (200-48826-21), FIELD BLANK 051619 (200-48826-22) and EQUIPMENT BLANK 051619 (200-48826-23). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): d3-NMeFOSAA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: VEW-3 051419 (200-48826-7), VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-23 051419 (200-48826-10), MW-22 051519 (200-48826-11), K-2 051519 (200-48826-12), MW-15D 051519 (200-48826-13), MW-16D 051519 (200-48826-14), MW-24 051519 (200-48826-15), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20), DUP 051619 (200-48826-21), FIELD BLANK 051619 (200-48826-22) and EQUIPMENT BLANK 051619 (200-48826-23). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 18O2 PFHxS Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: VEW-3 051419 (200-48826-7), VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-23 051419 (200-48826-10), MW-22 051519 (200-48826-11), K-2 051519 (200-48826-12), MW-15D 051519 (200-48826-13), MW-16D 051519 (200-48826-14), MW-24 051519 (200-48826-15), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20), DUP 051619 (200-48826-21) and FIELD BLANK 051619 (200-48826-22). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C4 PFBA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-16D 051519 (200-48826-14), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17) and DUP 051619 (200-48826-21). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C4 PFBA Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-16D 051519 (200-48826-14), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17) and DUP 051619 (200-48826-21). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): 13C2 PFDA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: MW-24 051519 (200-48826-15), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MSD]), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20) and DUP 051619 (200-48826-21). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C2 PFHxA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: VEW-3 051419 (200-48826-7), VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-23 051419 (200-48826-10), MW-24 051519 (200-48826-15), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]) and DUP 051619 (200-48826-21). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C2 PFUnA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: MW-23 051419 (200-48826-10), MW-24 051519 (200-48826-15) and MW-20 051619 (200-48826-19). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C2 PFDoA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: MW-16D 051519 (200-48826-14), MW-24 051519 (200-48826-15), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20), DUP 051619 (200-48826-21), FIELD BLANK 051619 (200-48826-22) and EQUIPMENT BLANK 051619 (200-48826-23). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C3 PFBS Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method

recommended limit: VEW-3 051419 (200-48826-7), VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-23 051419 (200-48826-10), MW-22 051519 (200-48826-11), K-2 051519 (200-48826-12), MW-16D 051519 (200-48826-14), MW-24 051519 (200-48826-15), MW-8D 051619 (200-48826-16), MW-8S 051619 (200-48826-17), MW-8S 051619 (200-48826-17[MS]), MW-8S 051619 (200-48826-17[MSD]), MW-21 051619 (200-48826-18), MW-20 051619 (200-48826-19), MW-19 051619 (200-48826-20), DUP 051619 (200-48826-21) and FIELD BLANK 051619 (200-48826-22). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): 13C4 PFHpA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: VEW-4 051419 (200-48826-8), ASW 051419 (200-48826-9), MW-23 051419 (200-48826-10) and DUP 051619 (200-48826-21). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

Method(s) 537 (modified): The laboratory control sample (LCS) for preparation batch 200-143308 and analytical batch 200-143753 recovered outside control limits for the following analyte: Perfluorooctanesulfonic acid (PFOS). This analyte was biased high in the LCS, but was within criteria in the associated matrix spike/matrix spike duplicate (MS/MSD); therefore, the data have been reported.

Method(s) 537 (modified): d3-NMeFOSAA, d5-NEtFOSAA and 13C4 PFOS Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: (LCS 200-143308/2-A). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). All detection limits are below the lower calibration.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: New York State D.E.C.
Job ID: 200-48826-1
Project/Site: Korkay, Inc. #518014

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
200-48826-1	K-3 051319	Water	05/13/19 12:06	05/18/19 11:10	
200-48826-2	MW-18 051319	Water	05/13/19 13:02	05/18/19 11:10	
200-48826-3	MW-17 051319	Water	05/13/19 14:10	05/18/19 11:10	
200-48826-4	MW-15S 051319	Water	05/13/19 14:48	05/18/19 11:10	
200-48826-5	VEW-2 051419	Water	05/14/19 09:38	05/18/19 11:10	
200-48826-6	VEW-1 051419	Water	05/14/19 10:32	05/18/19 11:10	
200-48826-7	VEW-3 051419	Water	05/14/19 11:28	05/18/19 11:10	
200-48826-8	VEW-4 051419	Water	05/14/19 12:22	05/18/19 11:10	
200-48826-9	ASW 051419	Water	05/14/19 13:54	05/18/19 11:10	
200-48826-10	MW-23 051419	Water	05/14/19 15:02	05/18/19 11:10	
200-48826-11	MW-22 051519	Water	05/15/19 09:35	05/18/19 11:10	
200-48826-12	K-2 051519	Water	05/15/19 10:50	05/18/19 11:10	
200-48826-13	MW-15D 051519	Water	05/15/19 12:18	05/18/19 11:10	
200-48826-14	MW-16D 051519	Water	05/15/19 13:42	05/18/19 11:10	
200-48826-15	MW-24 051519	Water	05/15/19 14:56	05/18/19 11:10	
200-48826-16	MW-8D 051619	Water	05/16/19 09:44	05/18/19 11:10	
200-48826-17	MW-8S 051619	Water	05/16/19 10:52	05/18/19 11:10	
200-48826-18	MW-21 051619	Water	05/16/19 13:34	05/18/19 11:10	
200-48826-19	MW-20 051619	Water	05/16/19 14:40	05/18/19 11:10	
200-48826-20	MW-19 051619	Water	05/16/19 15:40	05/18/19 11:10	
200-48826-21	DUP 051619	Water	05/16/19 00:00	05/18/19 11:10	
200-48826-22	FIELD BLANK 051619	Water	05/16/19 16:00	05/18/19 11:10	
200-48826-23	EQUIPMENT BLANK 051619	Water	05/16/19 16:10	05/18/19 11:10	

Detection Summary

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 200-48826-1

Client Sample ID: K-3 051319 — Lab Sample ID: 200-48826-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.6	*	8.4	4.2	ng/L	5		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.3	J	8.4	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	15		8.4	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	13		8.4	3.3	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	4.9	J	8.4	4.0	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	330		8.4	2.6	ng/L	5		537 (modified)	Total/NA

Client Sample ID: MW-18 051319 — Lab Sample ID: 200-48826-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	13		8.4	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	13		8.4	3.2	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	13	*	8.4	3.8	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	49		8.4	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.7	J B *	8.4	2.1	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15		8.4	3.4	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	11		8.4	4.0	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	81		8.4	2.6	ng/L	5		537 (modified)	Total/NA

Client Sample ID: MW-17 051319 — Lab Sample ID: 200-48826-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	3.5	J	8.0	2.5	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.3	J	8.0	3.0	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.3	J *	8.0	3.6	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.2		8.0	2.5	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.2	J	8.0	1.1	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	160		8.0	2.4	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	2.9	J	8.0	2.6	ng/L	5		537 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	63	J *	80	6.0	ng/L	5		537 (modified)	Total/NA

Client Sample ID: MW-15S 051319 — Lab Sample ID: 200-48826-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	2.8	J	8.5	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.8	J	8.5	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	26		8.5	2.6	ng/L	5		537 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16	J *	85	6.4	ng/L	5		537 (modified)	Total/NA

Client Sample ID: VEW-2 051419 — Lab Sample ID: 200-48826-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	13		8.5	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	12		8.5	3.2	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	19	*	8.5	3.8	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	71		8.5	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	9.5		8.5	1.1	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	18		8.5	3.4	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	25		8.5	4.0	ng/L	5		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: VEW-2 051419 (Continued) — Lab Sample ID: 200-48826-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2100		17	5.2	ng/L	10		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	68		8.5	2.7	ng/L	5		537 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	23	J *	85	6.3	ng/L	5		537 (modified)	Total/NA

Client Sample ID: VEW-1 051419 — Lab Sample ID: 200-48826-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	6.1	J	8.2	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14		8.2	3.1	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	19	*	8.2	3.7	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	76		8.2	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	6.3	J	8.2	1.1	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	30		8.2	3.3	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	15		8.2	3.9	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1500		16	5.0	ng/L	10		537 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	100	*	82	6.2	ng/L	5		537 (modified)	Total/NA

Client Sample ID: VEW-3 051419 — Lab Sample ID: 200-48826-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	3.6	J	8.6	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	13		8.6	3.3	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	14		8.6	3.9	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	180		8.6	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	5.7	J	8.6	1.2	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	42		8.6	3.4	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	51		8.6	4.1	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1900	B *	17	5.2	ng/L	10		537 (modified)	Total/NA

Client Sample ID: VEW-4 051419 — Lab Sample ID: 200-48826-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	22		8.2	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14		8.2	3.1	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	26		8.2	3.7	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	110		8.2	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	9.6		8.2	1.1	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	29		8.2	3.3	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	21		8.2	3.9	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1800	B *	16	5.0	ng/L	10		537 (modified)	Total/NA

Client Sample ID: ASW 051419 — Lab Sample ID: 200-48826-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	6.2	J	8.1	3.1	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	8.1		8.1	3.7	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	24		8.1	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	6.5	J	8.1	1.1	ng/L	5		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	22		8.1	2.0	ng/L	5		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: ASW 051419 (Continued) — Lab Sample ID: 200-48826-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	12		8.1	3.3	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	7.5	J	8.1	3.9	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	240	B *	8.1	2.5	ng/L	5		537 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	170	J	330	24	ng/L	20		537 (modified)	Total/NA

Client Sample ID: MW-23 051419 — Lab Sample ID: 200-48826-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	17		8.2	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	26		8.2	3.1	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	42		8.2	3.7	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	150		8.2	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	8.1	J	8.2	2.0	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	13		8.2	3.3	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	52	B *	8.2	2.5	ng/L	5		537 (modified)	Total/NA

Client Sample ID: MW-22 051519 — Lab Sample ID: 200-48826-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	45		8.3	4.2	ng/L	5		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	34		8.3	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	21		8.3	3.2	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	14		8.3	3.8	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	95		8.3	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	55		8.3	1.1	ng/L	5		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	3.5	J	8.3	3.2	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	33		8.3	3.3	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	9.4		8.3	4.0	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	350	B *	8.3	2.5	ng/L	5		537 (modified)	Total/NA

Client Sample ID: K-2 051519 — Lab Sample ID: 200-48826-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	4.8	J	8.6	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.6	J	8.6	3.3	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.1	J	8.6	3.9	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	44		8.6	2.7	ng/L	5		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.6	J	8.6	1.2	ng/L	5		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.0	J	8.6	3.4	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1400	B *	8.6	2.6	ng/L	5		537 (modified)	Total/NA

Client Sample ID: MW-15D 051519 — Lab Sample ID: 200-48826-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.8		1.7	0.87	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		1.7	0.55	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-16D 051519 — Lab Sample ID: 200-48826-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.60	J	1.7	0.52	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-16D 051519 (Continued) — Lab Sample ID: 200-48826-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.94	J	1.7	0.63	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.0	J	1.7	0.76	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.1		1.7	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.48	J	1.7	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.6	J B *	1.7	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-24 051519 — Lab Sample ID: 200-48826-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	1.3	J	1.7	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		1.7	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.5		1.7	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.90	J	1.7	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2		1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.9		1.7	0.67	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	36	B *	1.7	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-8D 051619 — Lab Sample ID: 200-48826-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.0	J	1.7	0.86	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.2		1.7	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.4	J	1.7	0.66	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.1	J	1.7	0.79	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.7		1.7	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.24	J	1.7	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.1	B *	1.7	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-8S 051619 — Lab Sample ID: 200-48826-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.69	J	1.7	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.0	J	1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	1.7	0.67	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	8.0	B *	1.7	0.51	ng/L	1		537 (modified)	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.7	J	17	1.3	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-21 051619 — Lab Sample ID: 200-48826-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	3.2	J	8.2	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.0	J	8.2	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.4	J	8.2	2.0	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	510	B *	8.2	2.5	ng/L	5		537 (modified)	Total/NA

Client Sample ID: MW-20 051619 — Lab Sample ID: 200-48826-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.3	J	8.5	4.2	ng/L	5		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.2	J	8.5	2.7	ng/L	5		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 200-48826-1

Client Sample ID: MW-19 051619 — Lab Sample ID: 200-48826-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	12		8.4	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	11		8.4	3.2	ng/L	5		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	15		8.4	3.8	ng/L	5		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	20		8.4	2.6	ng/L	5		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	38	B *	8.4	2.6	ng/L	5		537 (modified)	Total/NA

Client Sample ID: DUP 051619 — Lab Sample ID: 200-48826-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.59	J	1.7	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.2	J	1.7	0.42	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FIELD BLANK 051619 — Lab Sample ID: 200-48826-22

No Detections.

Client Sample ID: EQUIPMENT BLANK 051619 — Lab Sample ID: 200-48826-23

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: New York State D.E.C.
Job ID: 200-48826-1
Project/Site: Korkay, Inc. #518014

Method	Method Description	Protocol	Laboratory
8270D SIM	1,4-Dioxane (GC/MS SIM)	SW846	TAL EDI
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL BUR
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL EDI
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 = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Client Sample ID: K-3 051319
Lab Sample ID: 200-48826-1

Date Collected: 05/13/19 12:06
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.6**	*	8.4	4.2	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluoropentanoic acid (PFPeA)	**3.3**	J	8.4	2.6	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorohexanoic acid (PFHxA)	ND		8.4	3.2	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluoroheptanoic acid (PFHpA)	ND	*	8.4	3.8	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorooctanoic acid (PFOA)	**15**		8.4	2.6	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorononanoic acid (PFNA)	ND		8.4	1.1	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorodecanoic acid (PFDA)	ND		8.4	3.2	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluoroundecanoic acid (PFUnA)	ND		8.4	2.2	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorododecanoic acid (PFDoA)	ND		8.4	2.5	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorotridecanoic acid (PFTriA)	ND		8.4	2.5	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.4	3.8	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorobutanesulfonic acid (PFBS)	ND	*	8.4	2.0	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorohexanesulfonic acid (PFHxS)	**13**		8.4	3.3	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluoroheptanesulfonic Acid (PFHpS)	**4.9**	J	8.4	4.0	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.4	3.8	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorooctanesulfonic acid (PFOS)	**330**		8.4	2.6	ng/L		05/21/19 14:07	05/31/19 02:49	5
Perfluorooctanesulfonamide (FOSA)	ND		8.4	2.7	ng/L		05/21/19 14:07	05/31/19 02:49	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		84	7.1	ng/L		05/21/19 14:07	05/31/19 02:49	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	*	84	6.3	ng/L		05/21/19 14:07	05/31/19 02:49	5
6:2 FTS	ND		84	19	ng/L		05/21/19 14:07	05/31/19 02:49	5
8:2 FTS	ND		84	12	ng/L		05/21/19 14:07	05/31/19 02:49	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*61*		*25 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C4 PFBA	*39*		*25 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C5 PFPeA	*61*		*25 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C2 PFHxA	*75*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C4 PFHpA	*92*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C4 PFOA	*84*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C5 PFNA	*73*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C2 PFDA	*81*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C2 PFUnA	*65*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C2 PFDoA	*61*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C2 PFTeDA	*54*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C3 PFBS	*54*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
18O2 PFHxS	*47*	*	*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
13C4 PFOS	*40*	*	*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
d3-NMeFOSAA	*53*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
d5-NEtFOSAA	*64*		*50 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
M2-6:2 FTS	*55*		*25 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*
M2-8:2 FTS	*49*		*25 - 150*	*05/21/19 14:07*	*05/31/19 02:49*	*5*

Client Sample ID: MW-18 051319
Lab Sample ID: 200-48826-2

Date Collected: 05/13/19 13:02
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND	* CI	8.4	4.2	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluoropentanoic acid (PFPeA)	**13**		8.4	2.7	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorohexanoic acid (PFHxA)	**13**		8.4	3.2	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluoroheptanoic acid (PFHpA)	**13**	*	8.4	3.8	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorooctanoic acid (PFOA)	**49**		8.4	2.7	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorononanoic acid (PFNA)	ND		8.4	1.1	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorodecanoic acid (PFDA)	ND		8.4	3.2	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluoroundecanoic acid (PFUnA)	ND		8.4	2.2	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorododecanoic acid (PFDoA)	ND		8.4	2.5	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorotridecanoic acid (PFTriA)	ND		8.4	2.5	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.4	3.9	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorobutanesulfonic acid (PFBS)	**2.7**	**J B ***	8.4	2.1	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorohexanesulfonic acid (PFHxS)	**15**		8.4	3.4	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluoroheptanesulfonic Acid (PFHpS)	**11**		8.4	4.0	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.4	3.8	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorooctanesulfonic acid (PFOS)	**81**		8.4	2.6	ng/L		05/21/19 14:07	05/31/19 03:04	5
Perfluorooctanesulfonamide (FOSA)	ND		8.4	2.7	ng/L		05/21/19 14:07	05/31/19 03:04	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		84	7.2	ng/L		05/21/19 14:07	05/31/19 03:04	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	*	84	6.3	ng/L		05/21/19 14:07	05/31/19 03:04	5
6:2 FTS	ND		84	19	ng/L		05/21/19 14:07	05/31/19 03:04	5
8:2 FTS	ND		84	12	ng/L		05/21/19 14:07	05/31/19 03:04	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*59*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C4 PFBA	*44*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C5 PFPeA	*57*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C2 PFHxA	*81*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C4 PFHpA	*98*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C4 PFOA	*85*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C5 PFNA	*71*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C2 PFDA	*72*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C2 PFUnA	*71*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C2 PFDoA	*65*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C2 PFTeDA	*60*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C3 PFBS	*78*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
18O2 PFHxS	*53*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
13C4 PFOS	*63*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
d3-NMeFOSAA	*59*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
d5-NEtFOSAA	*69*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
M2-6:2 FTS	*66*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*
M2-8:2 FTS	*73*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:04*	*5*

Client Sample ID: MW-17 051319
Lab Sample ID: 200-48826-3

Date Collected: 05/13/19 14:10
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND	*	8.0	4.0	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluoropentanoic acid (PFPeA)	**3.5**	**J**	8.0	2.5	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorohexanoic acid (PFHxA)	**5.3**	**J**	8.0	3.0	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluoroheptanoic acid (PFHpA)	**4.3**	**J ***	8.0	3.6	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorooctanoic acid (PFOA)	**9.2**		8.0	2.5	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorononanoic acid (PFNA)	**1.2**	**J**	8.0	1.1	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorodecanoic acid (PFDA)	ND		8.0	3.1	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluoroundecanoic acid (PFUnA)	ND		8.0	2.1	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorododecanoic acid (PFDoA)	ND		8.0	2.4	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorotridecanoic acid (PFTriA)	ND		8.0	2.4	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.0	3.7	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorobutanesulfonic acid (PFBS)	ND	*	8.0	2.0	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorohexanesulfonic acid (PFHxS)	ND		8.0	3.2	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.0	3.8	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.0	3.6	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorooctanesulfonic acid (PFOS)	**160**		8.0	2.4	ng/L		05/21/19 14:07	05/31/19 03:20	5
Perfluorooctanesulfonamide (FOSA)	**2.9**	**J**	8.0	2.6	ng/L		05/21/19 14:07	05/31/19 03:20	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		80	6.8	ng/L		05/21/19 14:07	05/31/19 03:20	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**63**	**J ***	80	6.0	ng/L		05/21/19 14:07	05/31/19 03:20	5
6:2 FTS	ND		80	18	ng/L		05/21/19 14:07	05/31/19 03:20	5
8:2 FTS	ND		80	12	ng/L		05/21/19 14:07	05/31/19 03:20	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*29*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C4 PFBA	*51*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C5 PFPeA	*59*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C2 PFHxA	*51*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C4 PFHpA	*69*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C4 PFOA	*87*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C5 PFNA	*73*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C2 PFDA	*80*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C2 PFUnA	*48*	*	*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C2 PFDoA	*74*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C2 PFTeDA	*61*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C3 PFBS	*35*	*	*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
18O2 PFHxS	*40*	*	*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
13C4 PFOS	*61*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
d3-NMeFOSAA	*34*	*	*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
d5-NEtFOSAA	*35*	*	*50 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
M2-6:2 FTS	*110*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*
M2-8:2 FTS	*184*	*	*25 - 150*	*05/21/19 14:07*	*05/31/19 03:20*	*5*

Client Sample ID: MW-15S 051319
Lab Sample ID: 200-48826-4

Date Collected: 05/13/19 14:48
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND	* CI	8.5	4.3	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluoropentanoic acid (PFPeA)	**2.8**	**J**	8.5	2.7	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorohexanoic acid (PFHxA)	ND		8.5	3.2	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluoroheptanoic acid (PFHpA)	ND	*	8.5	3.9	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorooctanoic acid (PFOA)	**5.8**	**J**	8.5	2.7	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorononanoic acid (PFNA)	ND		8.5	1.1	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorodecanoic acid (PFDA)	ND		8.5	3.3	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluoroundecanoic acid (PFUnA)	ND		8.5	2.3	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorododecanoic acid (PFDoA)	ND		8.5	2.5	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorotridecanoic acid (PFTriA)	ND		8.5	2.6	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.5	3.9	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorobutanesulfonic acid (PFBS)	ND	*	8.5	2.1	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorohexanesulfonic acid (PFHxS)	ND		8.5	3.4	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.5	4.0	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.5	3.8	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorooctanesulfonic acid (PFOS)	**26**		8.5	2.6	ng/L		05/21/19 14:07	05/31/19 03:36	5
Perfluorooctanesulfonamide (FOSA)	ND		8.5	2.7	ng/L		05/21/19 14:07	05/31/19 03:36	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		85	7.2	ng/L		05/21/19 14:07	05/31/19 03:36	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**16**	**J ***	85	6.4	ng/L		05/21/19 14:07	05/31/19 03:36	5
6:2 FTS	ND		85	20	ng/L		05/21/19 14:07	05/31/19 03:36	5
8:2 FTS	ND		85	12	ng/L		05/21/19 14:07	05/31/19 03:36	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*61*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C4 PFBA	*58*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C5 PFPeA	*81*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C2 PFHxA	*85*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C4 PFHpA	*104*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C4 PFOA	*96*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C5 PFNA	*78*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C2 PFDA	*91*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C2 PFUnA	*104*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C2 PFDoA	*86*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C2 PFTeDA	*77*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C3 PFBS	*68*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
18O2 PFHxS	*67*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
13C4 PFOS	*70*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
d3-NMeFOSAA	*74*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
d5-NEtFOSAA	*97*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
M2-6:2 FTS	*110*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*
M2-8:2 FTS	*135*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:36*	*5*

Client Sample ID: VEW-2 051419
Lab Sample ID: 200-48826-5

Date Collected: 05/14/19 09:38
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND	* CI	8.5	4.2	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluoropentanoic acid (PFPeA)	**13**		8.5	2.7	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorohexanoic acid (PFHxA)	**12**		8.5	3.2	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluoroheptanoic acid (PFHpA)	**19**	*	8.5	3.8	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorooctanoic acid (PFOA)	**71**		8.5	2.7	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorononanoic acid (PFNA)	**9.5**		8.5	1.1	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorodecanoic acid (PFDA)	ND		8.5	3.3	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluoroundecanoic acid (PFUnA)	ND		8.5	2.2	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorododecanoic acid (PFDoA)	ND		8.5	2.5	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorotridecanoic acid (PFTriA)	ND		8.5	2.5	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.5	3.9	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorobutanesulfonic acid (PFBS)	ND	*	8.5	2.1	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorohexanesulfonic acid (PFHxS)	**18**		8.5	3.4	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluoroheptanesulfonic Acid (PFHpS)	**25**		8.5	4.0	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.5	3.8	ng/L		05/21/19 14:07	05/31/19 03:52	5
Perfluorooctanesulfonic acid (PFOS)	**2100**		17	5.2	ng/L		05/21/19 14:07	06/06/19 14:00	10
Perfluorooctanesulfonamide (FOSA)	**68**		8.5	2.7	ng/L		05/21/19 14:07	05/31/19 03:52	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		85	7.2	ng/L		05/21/19 14:07	05/31/19 03:52	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**23**	**J ***	85	6.3	ng/L		05/21/19 14:07	05/31/19 03:52	5
6:2 FTS	ND		85	19	ng/L		05/21/19 14:07	05/31/19 03:52	5
8:2 FTS	ND		85	12	ng/L		05/21/19 14:07	05/31/19 03:52	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*50*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C4 PFBA	*44*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C5 PFPeA	*32*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C2 PFHxA	*66*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C4 PFHpA	*68*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C4 PFOA	*88*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C5 PFNA	*61*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C2 PFDA	*70*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C2 PFUnA	*71*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C2 PFDoA	*62*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C2 PFTeDA	*57*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C3 PFBS	*58*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
18O2 PFHxS	*51*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C4 PFOS	*51*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
13C4 PFOS	*75*		*50 - 150*	*05/21/19 14:07*	*06/06/19 14:00*	*10*
d3-NMeFOSAA	*56*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
d5-NEtFOSAA	*60*		*50 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
M2-6:2 FTS	*144*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*
M2-8:2 FTS	*91*		*25 - 150*	*05/21/19 14:07*	*05/31/19 03:52*	*5*

Client Sample ID: VEW-1 051419
Lab Sample ID: 200-48826-6

Date Collected: 05/14/19 10:32
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND	* CI	8.2	4.1	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluoropentanoic acid (PFPeA)	**6.1**	**J**	8.2	2.6	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorohexanoic acid (PFHxA)	**14**		8.2	3.1	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluoroheptanoic acid (PFHpA)	**19**	*	8.2	3.7	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorooctanoic acid (PFOA)	**76**		8.2	2.6	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorononanoic acid (PFNA)	**6.3**	**J**	8.2	1.1	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorodecanoic acid (PFDA)	ND		8.2	3.2	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.2	3.8	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorobutanesulfonic acid (PFBS)	ND	*	8.2	2.0	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorohexanesulfonic acid (PFHxS)	**30**		8.2	3.3	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluoroheptanesulfonic Acid (PFHpS)	**15**		8.2	3.9	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7	ng/L		05/21/19 14:07	05/31/19 04:08	5
Perfluorooctanesulfonic acid (PFOS)	**1500**		16	5.0	ng/L		05/21/19 14:07	06/06/19 14:16	10
Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6	ng/L		05/21/19 14:07	05/31/19 04:08	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		82	7.0	ng/L		05/21/19 14:07	05/31/19 04:08	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**100**	*	82	6.2	ng/L		05/21/19 14:07	05/31/19 04:08	5
6:2 FTS	ND		82	19	ng/L		05/21/19 14:07	05/31/19 04:08	5
8:2 FTS	ND		82	12	ng/L		05/21/19 14:07	05/31/19 04:08	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*26*		*25 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C4 PFBA	*36*		*25 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C5 PFPeA	*46*		*25 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C2 PFHxA	*56*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C4 PFHpA	*72*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C4 PFOA	*94*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C5 PFNA	*72*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C2 PFDA	*96*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C2 PFUnA	*61*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C2 PFDoA	*74*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C2 PFTeDA	*92*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C3 PFBS	*66*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
18O2 PFHxS	*36*	*	*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C4 PFOS	*59*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
13C4 PFOS	*103*		*50 - 150*	*05/21/19 14:07*	*06/06/19 14:16*	*10*
d3-NMeFOSAA	*68*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
d5-NEtFOSAA	*59*		*50 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
M2-6:2 FTS	*196*	*	*25 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*
M2-8:2 FTS	*304*	*	*25 - 150*	*05/21/19 14:07*	*05/31/19 04:08*	*5*

Client Sample ID: VEW-3 051419
Lab Sample ID: 200-48826-7

Date Collected: 05/14/19 11:28
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		8.6	4.3	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluoropentanoic acid (PFPeA)	**3.6**	**J**	8.6	2.7	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorohexanoic acid (PFHxA)	**13**		8.6	3.3	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluoroheptanoic acid (PFHpA)	**14**		8.6	3.9	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorooctanoic acid (PFOA)	**180**		8.6	2.7	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorononanoic acid (PFNA)	**5.7**	**J**	8.6	1.2	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorodecanoic acid (PFDA)	ND		8.6	3.3	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluoroundecanoic acid (PFUnA)	ND		8.6	2.3	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorododecanoic acid (PFDoA)	ND		8.6	2.5	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorotridecanoic acid (PFTriA)	ND		8.6	2.6	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.6	4.0	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorobutanesulfonic acid (PFBS)	ND		8.6	2.1	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorohexanesulfonic acid (PFHxS)	**42**		8.6	3.4	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluoroheptanesulfonic Acid (PFHpS)	**51**		8.6	4.1	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.6	3.9	ng/L		05/22/19 11:30	06/05/19 03:26	5
Perfluorooctanesulfonic acid (PFOS)	**1900**	**B ***	17	5.2	ng/L		05/22/19 11:30	06/06/19 14:31	10
Perfluorooctanesulfonamide (FOSA)	ND		8.6	2.8	ng/L		05/22/19 11:30	06/05/19 03:26	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		86	7.3	ng/L		05/22/19 11:30	06/05/19 03:26	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		86	6.4	ng/L		05/22/19 11:30	06/05/19 03:26	5
6:2 FTS	ND		86	20	ng/L		05/22/19 11:30	06/05/19 03:26	5
8:2 FTS	ND		86	12	ng/L		05/22/19 11:30	06/05/19 03:26	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*31*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C4 PFBA	*29*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C5 PFPeA	*47*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C2 PFHxA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C4 PFHpA	*53*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C4 PFOA	*63*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C5 PFNA	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C2 PFDA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C2 PFUnA	*66*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C2 PFDoA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C2 PFTeDA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C3 PFBS	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
18O2 PFHxS	*36*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C4 PFOS	*39*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
13C4 PFOS	*67*		*50 - 150*	*05/22/19 11:30*	*06/06/19 14:31*	*10*
d3-NMeFOSAA	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
d5-NEtFOSAA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
M2-6:2 FTS	*64*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*
M2-8:2 FTS	*69*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:26*	*5*

Client Sample ID: VEW-4 051419
Lab Sample ID: 200-48826-8

Date Collected: 05/14/19 12:22
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		8.2	4.1	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluoropentanoic acid (PFPeA)	**22**		8.2	2.6	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorohexanoic acid (PFHxA)	**14**		8.2	3.1	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluoroheptanoic acid (PFHpA)	**26**		8.2	3.7	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorooctanoic acid (PFOA)	**110**		8.2	2.6	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorononanoic acid (PFNA)	**9.6**		8.2	1.1	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorodecanoic acid (PFDA)	ND		8.2	3.2	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.2	3.8	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorobutanesulfonic acid (PFBS)	ND		8.2	2.0	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorohexanesulfonic acid (PFHxS)	**29**		8.2	3.3	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluoroheptanesulfonic Acid (PFHpS)	**21**		8.2	3.9	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7	ng/L		05/22/19 11:30	06/05/19 03:42	5
Perfluorooctanesulfonic acid (PFOS)	**1800**	**B ***	16	5.0	ng/L		05/22/19 11:30	06/06/19 14:47	10
Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6	ng/L		05/22/19 11:30	06/05/19 03:42	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		82	7.0	ng/L		05/22/19 11:30	06/05/19 03:42	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		82	6.1	ng/L		05/22/19 11:30	06/05/19 03:42	5
6:2 FTS	ND		82	19	ng/L		05/22/19 11:30	06/05/19 03:42	5
8:2 FTS	ND		82	12	ng/L		05/22/19 11:30	06/05/19 03:42	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*21*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C4 PFBA	*23*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C5 PFPeA	*29*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C2 PFHxA	*33*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C4 PFHpA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C4 PFOA	*60*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C5 PFNA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C2 PFDA	*61*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C2 PFUnA	*59*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C2 PFDoA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C2 PFTeDA	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C3 PFBS	*36*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
18O2 PFHxS	*25*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C4 PFOS	*39*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
13C4 PFOS	*74*		*50 - 150*	*05/22/19 11:30*	*06/06/19 14:47*	*10*
d3-NMeFOSAA	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
d5-NEtFOSAA	*59*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
M2-6:2 FTS	*103*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*
M2-8:2 FTS	*112*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:42*	*5*

Client Sample ID: ASW 051419
Lab Sample ID: 200-48826-9

Date Collected: 05/14/19 13:54
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		8.1	4.1	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluoropentanoic acid (PFPeA)	ND		8.1	2.6	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluorohexanoic acid (PFHxA)	**6.2**	**J**	8.1	3.1	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluoroheptanoic acid (PFHpA)	**8.1**		8.1	3.7	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluorooctanoic acid (PFOA)	**24**		8.1	2.6	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluorononanoic acid (PFNA)	**6.5**	**J**	8.1	1.1	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluorodecanoic acid (PFDA)	ND		33	13	ng/L		05/22/19 11:30	06/06/19 15:03	20
Perfluoroundecanoic acid (PFUnA)	ND		33	8.6	ng/L		05/22/19 11:30	06/06/19 15:03	20
Perfluorododecanoic acid (PFDoA)	ND		33	9.6	ng/L		05/22/19 11:30	06/06/19 15:03	20
Perfluorotridecanoic acid (PFTriA)	ND		33	9.8	ng/L		05/22/19 11:30	06/06/19 15:03	20
Perfluorotetradecanoic acid (PFTeA)	ND		8.1	3.7	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluorobutanesulfonic acid (PFBS)	**22**		8.1	2.0	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluorohexanesulfonic acid (PFHxS)	**12**		8.1	3.3	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluoroheptanesulfonic Acid (PFHpS)	**7.5**	**J**	8.1	3.9	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.1	3.7	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluorooctanesulfonic acid (PFOS)	**240**	**B ***	8.1	2.5	ng/L		05/22/19 11:30	06/05/19 03:58	5
Perfluorooctanesulfonamide (FOSA)	ND		8.1	2.6	ng/L		05/22/19 11:30	06/05/19 03:58	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		330	28	ng/L		05/22/19 11:30	06/06/19 15:03	20
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**170**	**J**	330	24	ng/L		05/22/19 11:30	06/06/19 15:03	20
6:2 FTS	ND		81	19	ng/L		05/22/19 11:30	06/05/19 03:58	5
8:2 FTS	ND		330	47	ng/L		05/22/19 11:30	06/06/19 15:03	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*9*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
13C4 PFBA	*17*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
13C5 PFPeA	*39*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
13C2 PFHxA	*29*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
13C4 PFHpA	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
13C4 PFOA	*59*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
13C5 PFNA	*50*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
13C2 PFDA	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/06/19 15:03*	*20*
13C2 PFUnA	*26*	*	*50 - 150*	*05/22/19 11:30*	*06/06/19 15:03*	*20*
13C2 PFDoA	*52*		*50 - 150*	*05/22/19 11:30*	*06/06/19 15:03*	*20*
13C2 PFTeDA	*62*		*50 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
13C3 PFBS	*28*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
18O2 PFHxS	*36*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
13C4 PFOS	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
d3-NMeFOSAA	*21*	*	*50 - 150*	*05/22/19 11:30*	*06/06/19 15:03*	*20*
d5-NEtFOSAA	*7*	*	*50 - 150*	*05/22/19 11:30*	*06/06/19 15:03*	*20*
M2-6:2 FTS	*144*		*25 - 150*	*05/22/19 11:30*	*06/05/19 03:58*	*5*
M2-8:2 FTS	*105*		*25 - 150*	*05/22/19 11:30*	*06/06/19 15:03*	*20*

Client Sample ID: MW-23 051419
Lab Sample ID: 200-48826-10

Date Collected: 05/14/19 15:02
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		8.2	4.1	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluoropentanoic acid (PFPeA)	**17**		8.2	2.6	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorohexanoic acid (PFHxA)	**26**		8.2	3.1	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluoroheptanoic acid (PFHpA)	**42**		8.2	3.7	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorooctanoic acid (PFOA)	**150**		8.2	2.6	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorononanoic acid (PFNA)	ND		8.2	1.1	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorodecanoic acid (PFDA)	ND		8.2	3.1	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.2	3.8	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorobutanesulfonic acid (PFBS)	**8.1**	**J**	8.2	2.0	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorohexanesulfonic acid (PFHxS)	**13**		8.2	3.3	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.2	3.9	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorooctanesulfonic acid (PFOS)	**52**	**B ***	8.2	2.5	ng/L		05/22/19 11:30	06/05/19 04:14	5
Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6	ng/L		05/22/19 11:30	06/05/19 04:14	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		82	7.0	ng/L		05/22/19 11:30	06/05/19 04:14	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		82	6.1	ng/L		05/22/19 11:30	06/05/19 04:14	5
6:2 FTS	ND		82	19	ng/L		05/22/19 11:30	06/05/19 04:14	5
8:2 FTS	ND		82	12	ng/L		05/22/19 11:30	06/05/19 04:14	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*19*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C4 PFBA	*28*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C5 PFPeA	*35*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C2 PFHxA	*34*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C4 PFHpA	*49*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C4 PFOA	*64*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C5 PFNA	*53*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C2 PFDA	*62*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C2 PFUnA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C2 PFDoA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C2 PFTeDA	*40*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C3 PFBS	*40*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
18O2 PFHxS	*24*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
13C4 PFOS	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
d3-NMeFOSAA	*31*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
d5-NEtFOSAA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
M2-6:2 FTS	*70*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*
M2-8:2 FTS	*115*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:14*	*5*

Client Sample ID: MW-22 051519
Lab Sample ID: 200-48826-11

Date Collected: 05/15/19 09:35
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**45**		8.3	4.2	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluoropentanoic acid (PFPeA)	**34**		8.3	2.6	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorohexanoic acid (PFHxA)	**21**		8.3	3.2	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluoroheptanoic acid (PFHpA)	**14**		8.3	3.8	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorooctanoic acid (PFOA)	**95**		8.3	2.6	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorononanoic acid (PFNA)	**55**		8.3	1.1	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorodecanoic acid (PFDA)	**3.5**	**J**	8.3	3.2	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluoroundecanoic acid (PFUnA)	ND		8.3	2.2	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorododecanoic acid (PFDoA)	ND		8.3	2.5	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorotridecanoic acid (PFTriA)	ND		8.3	2.5	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.3	3.8	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorobutanesulfonic acid (PFBS)	ND		8.3	2.0	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorohexanesulfonic acid (PFHxS)	**33**		8.3	3.3	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluoroheptanesulfonic Acid (PFHpS)	**9.4**		8.3	4.0	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.3	3.8	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorooctanesulfonic acid (PFOS)	**350**	**B ***	8.3	2.5	ng/L		05/22/19 11:30	06/05/19 04:30	5
Perfluorooctanesulfonamide (FOSA)	ND		8.3	2.7	ng/L		05/22/19 11:30	06/05/19 04:30	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		83	7.1	ng/L		05/22/19 11:30	06/05/19 04:30	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		83	6.3	ng/L		05/22/19 11:30	06/05/19 04:30	5
6:2 FTS	ND		83	19	ng/L		05/22/19 11:30	06/05/19 04:30	5
8:2 FTS	ND		83	12	ng/L		05/22/19 11:30	06/05/19 04:30	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*36*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C4 PFBA	*34*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C5 PFPeA	*40*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C2 PFHxA	*54*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C4 PFHpA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C4 PFOA	*63*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C5 PFNA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C2 PFDA	*54*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C2 PFUnA	*61*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C2 PFDoA	*50*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C2 PFTeDA	*43*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C3 PFBS	*37*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
18O2 PFHxS	*37*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
13C4 PFOS	*50*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
d3-NMeFOSAA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
d5-NEtFOSAA	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
M2-6:2 FTS	*79*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*
M2-8:2 FTS	*78*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:30*	*5*

Client Sample ID: K-2 051519
Lab Sample ID: 200-48826-12

Date Collected: 05/15/19 10:50
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		8.6	4.3	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluoropentanoic acid (PFPeA)	**4.8**	**J**	8.6	2.7	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorohexanoic acid (PFHxA)	**4.6**	**J**	8.6	3.3	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluoroheptanoic acid (PFHpA)	**6.1**	**J**	8.6	3.9	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorooctanoic acid (PFOA)	**44**		8.6	2.7	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorononanoic acid (PFNA)	**1.6**	**J**	8.6	1.2	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorodecanoic acid (PFDA)	ND		8.6	3.3	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluoroundecanoic acid (PFUnA)	ND		8.6	2.3	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorododecanoic acid (PFDoA)	ND		8.6	2.5	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorotridecanoic acid (PFTriA)	ND		8.6	2.6	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.6	3.9	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorobutanesulfonic acid (PFBS)	ND		8.6	2.1	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorohexanesulfonic acid (PFHxS)	**5.0**	**J**	8.6	3.4	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.6	4.1	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.6	3.9	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorooctanesulfonic acid (PFOS)	**1400**	**B ***	8.6	2.6	ng/L		05/22/19 11:30	06/05/19 04:46	5
Perfluorooctanesulfonamide (FOSA)	ND		8.6	2.7	ng/L		05/22/19 11:30	06/05/19 04:46	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		86	7.3	ng/L		05/22/19 11:30	06/05/19 04:46	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		86	6.4	ng/L		05/22/19 11:30	06/05/19 04:46	5
6:2 FTS	ND		86	20	ng/L		05/22/19 11:30	06/05/19 04:46	5
8:2 FTS	ND		86	12	ng/L		05/22/19 11:30	06/05/19 04:46	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*48*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C4 PFBA	*41*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C5 PFPeA	*42*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C2 PFHxA	*57*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C4 PFHpA	*69*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C4 PFOA	*66*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C5 PFNA	*51*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C2 PFDA	*56*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C2 PFUnA	*64*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C2 PFDoA	*54*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C2 PFTeDA	*50*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C3 PFBS	*27*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
18O2 PFHxS	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
13C4 PFOS	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
d3-NMeFOSAA	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
d5-NEtFOSAA	*50*		*50 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
M2-6:2 FTS	*72*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*
M2-8:2 FTS	*82*		*25 - 150*	*05/22/19 11:30*	*06/05/19 04:46*	*5*

Client Sample ID: MW-15D 051519
Lab Sample ID: 200-48826-13

Date Collected: 05/15/19 12:18
Matrix: Water
Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.8**		1.7	0.87	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.55	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.66	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.79	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorooctanoic acid (PFOA)	**2.1**		1.7	0.55	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.67	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.51	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.52	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.80	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.69	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.82	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.78	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorooctanesulfonic acid (PFOS)	ND	*	1.7	0.53	ng/L		05/22/19 11:30	06/05/19 05:02	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55	ng/L		05/22/19 11:30	06/05/19 05:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5	ng/L		05/22/19 11:30	06/05/19 05:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		05/22/19 11:30	06/05/19 05:02	1
6:2 FTS	ND		17	4.0	ng/L		05/22/19 11:30	06/05/19 05:02	1
8:2 FTS	ND		17	2.5	ng/L		05/22/19 11:30	06/05/19 05:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*45*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C4 PFBA	*31*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C5 PFPeA	*50*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C2 PFHxA	*54*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C4 PFHpA	*64*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C4 PFOA	*62*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C5 PFNA	*56*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C2 PFDA	*62*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C2 PFUnA	*64*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C2 PFDoA	*63*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C2 PFTeDA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C3 PFBS	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
18O2 PFHxS	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
13C4 PFOS	*42*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
d3-NMeFOSAA	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
d5-NEtFOSAA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
M2-6:2 FTS	*61*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*
M2-8:2 FTS	*74*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:02*	*1*

Client Sample ID: MW-16D 051519
Lab Sample ID: 200-48826-14

Date Collected: 05/15/19 13:42
Matrix: Water

Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.7	0.83	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluoropentanoic acid (PFPeA)	**0.60**	**J**	1.7	0.52	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorohexanoic acid (PFHxA)	**0.94**	**J**	1.7	0.63	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluoroheptanoic acid (PFHpA)	**1.0**	**J**	1.7	0.76	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorooctanoic acid (PFOA)	**6.1**		1.7	0.52	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorononanoic acid (PFNA)	**0.48**	**J**	1.7	0.22	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.64	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.49	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.50	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.76	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.41	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.66	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.79	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.75	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorooctanesulfonic acid (PFOS)	**1.6**	**J B ***	1.7	0.51	ng/L		05/22/19 11:30	06/05/19 05:17	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.53	ng/L		05/22/19 11:30	06/05/19 05:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4	ng/L		05/22/19 11:30	06/05/19 05:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.2	ng/L		05/22/19 11:30	06/05/19 05:17	1
6:2 FTS	ND		17	3.8	ng/L		05/22/19 11:30	06/05/19 05:17	1
8:2 FTS	ND		17	2.4	ng/L		05/22/19 11:30	06/05/19 05:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*39*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C4 PFBA	*12*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C5 PFPeA	*37*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C2 PFHxA	*53*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C4 PFHpA	*65*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C4 PFOA	*61*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C5 PFNA	*49*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C2 PFDA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C2 PFUnA	*51*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C2 PFDoA	*42*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C2 PFTeDA	*34*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C3 PFBS	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
18O2 PFHxS	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
13C4 PFOS	*35*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
d3-NMeFOSAA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
d5-NEtFOSAA	*43*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
M2-6:2 FTS	*65*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*
M2-8:2 FTS	*61*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:17*	*1*

Client Sample ID: MW-24 051519

Date Collected: 05/15/19 14:56
Date Received: 05/18/19 11:10

Lab Sample ID: 200-48826-15

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.7	0.84	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluoropentanoic acid (PFPeA)	**1.3**	**J**	1.7	0.53	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.64	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluoroheptanoic acid (PFHpA)	**2.0**		1.7	0.77	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorooctanoic acid (PFOA)	**8.5**		1.7	0.53	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorononanoic acid (PFNA)	**0.90**	**J**	1.7	0.23	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.65	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.77	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**		1.7	0.41	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorohexanesulfonic acid (PFHxS)	**1.9**		1.7	0.67	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.80	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.76	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorooctanesulfonic acid (PFOS)	**36**	**B ***	1.7	0.51	ng/L		05/22/19 11:30	06/05/19 05:49	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.54	ng/L		05/22/19 11:30	06/05/19 05:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4	ng/L		05/22/19 11:30	06/05/19 05:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		05/22/19 11:30	06/05/19 05:49	1
6:2 FTS	ND		17	3.9	ng/L		05/22/19 11:30	06/05/19 05:49	1
8:2 FTS	ND		17	2.4	ng/L		05/22/19 11:30	06/05/19 05:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*35*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C4 PFBA	*29*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C5 PFPeA	*35*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C2 PFHxA	*49*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C4 PFHpA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C4 PFOA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C5 PFNA	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C2 PFDA	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C2 PFUnA	*44*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C2 PFDoA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C2 PFTeDA	*40*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C3 PFBS	*44*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
18O2 PFHxS	*44*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
13C4 PFOS	*40*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
d3-NMeFOSAA	*32*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
d5-NEtFOSAA	*37*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
M2-6:2 FTS	*78*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*
M2-8:2 FTS	*66*		*25 - 150*	*05/22/19 11:30*	*06/05/19 05:49*	*1*

Client Sample ID: MW-8D 051619

Date Collected: 05/16/19 09:44
Date Received: 05/18/19 11:10

Lab Sample ID: 200-48826-16

Matrix: Water

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND	*	0.40	0.17	ug/L		05/21/19 12:26	05/22/19 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*80*		*38 - 125*	*05/21/19 12:26*	*05/22/19 14:32*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.0**	**J**	1.7	0.86	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluoropentanoic acid (PFPeA)	**2.2**		1.7	0.54	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorohexanoic acid (PFHxA)	**1.4**	**J**	1.7	0.66	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluoroheptanoic acid (PFHpA)	**1.1**	**J**	1.7	0.79	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorooctanoic acid (PFOA)	**2.7**		1.7	0.54	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorononanoic acid (PFNA)	**0.24**	**J**	1.7	0.23	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.67	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.51	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.52	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.80	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.69	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.82	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.78	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorooctanesulfonic acid (PFOS)	**2.1**	**B ***	1.7	0.53	ng/L		05/22/19 11:30	06/05/19 06:05	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55	ng/L		05/22/19 11:30	06/05/19 06:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5	ng/L		05/22/19 11:30	06/05/19 06:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		05/22/19 11:30	06/05/19 06:05	1
6:2 FTS	ND		17	4.0	ng/L		05/22/19 11:30	06/05/19 06:05	1
8:2 FTS	ND		17	2.5	ng/L		05/22/19 11:30	06/05/19 06:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*40*		*25 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C4 PFBA	*12*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C5 PFPeA	*30*		*25 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C2 PFHxA	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C4 PFHpA	*54*		*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C4 PFOA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C5 PFNA	*50*		*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C2 PFDA	*54*		*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C2 PFUnA	*55*		*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C2 PFDoA	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C2 PFTeDA	*40*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C3 PFBS	*33*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
18O2 PFHxS	*33*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
13C4 PFOS	*37*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
d3-NMeFOSAA	*43*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
d5-NEtFOSAA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
M2-6:2 FTS	*109*		*25 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*
M2-8:2 FTS	*89*		*25 - 150*	*05/22/19 11:30*	*06/05/19 06:05*	*1*

Client Sample ID: MW-8S 051619
Lab Sample ID: 200-48826-17

Date Collected: 05/16/19 10:52
Matrix: Water

Date Received: 05/18/19 11:10

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND	*	0.40	0.17	ug/L		05/21/19 12:26	05/22/19 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*95*		*38 - 125*	*05/21/19 12:26*	*05/22/19 14:53*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.7	0.84	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.53	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.64	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.77	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorooctanoic acid (PFOA)	**0.69**	**J**	1.7	0.53	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.65	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.78	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorobutanesulfonic acid (PFBS)	**1.0**	**J**	1.7	0.41	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	**J**	1.7	0.67	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.80	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.76	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorooctanesulfonic acid (PFOS)	**8.0**	**B ***	1.7	0.51	ng/L		05/22/19 11:30	06/05/19 06:21	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.54	ng/L		05/22/19 11:30	06/05/19 06:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4	ng/L		05/22/19 11:30	06/05/19 06:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	**1.7**	**J**	17	1.3	ng/L		05/22/19 11:30	06/05/19 06:21	1
6:2 FTS	ND		17	3.9	ng/L		05/22/19 11:30	06/05/19 06:21	1
8:2 FTS	ND		17	2.4	ng/L		05/22/19 11:30	06/05/19 06:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*34*		*25 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C4 PFBA	*22*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C5 PFPeA	*32*		*25 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C2 PFHxA	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C4 PFHpA	*54*		*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C4 PFOA	*54*		*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C5 PFNA	*42*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C2 PFDA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C2 PFUnA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C2 PFDoA	*43*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C2 PFTeDA	*43*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C3 PFBS	*33*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
18O2 PFHxS	*42*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
13C4 PFOS	*40*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
d3-NMeFOSAA	*36*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
d5-NEtFOSAA	*40*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*

Client Sample ID: MW-8S 051619
Lab Sample ID: 200-48826-17
Date Collected: 05/16/19 10:52
Matrix: Water
Date Received: 05/18/19 11:10

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*63*		*25 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*
M2-8:2 FTS	*62*		*25 - 150*	*05/22/19 11:30*	*06/05/19 06:21*	*1*

Client Sample ID: MW-21 051619
Lab Sample ID: 200-48826-18
Date Collected: 05/16/19 13:34
Matrix: Water
Date Received: 05/18/19 11:10

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND	*	0.40	0.17	ug/L		05/21/19 12:26	05/22/19 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*82*		*38 - 125*	*05/21/19 12:26*	*05/22/19 15:57*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		8.2	4.1	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluoropentanoic acid (PFPeA)	**3.2**	**J**	8.2	2.6	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorohexanoic acid (PFHxA)	ND		8.2	3.1	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluoroheptanoic acid (PFHpA)	ND		8.2	3.8	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorooctanoic acid (PFOA)	**7.0**	**J**	8.2	2.6	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorononanoic acid (PFNA)	ND		8.2	1.1	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorodecanoic acid (PFDA)	ND		8.2	3.2	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.2	3.8	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorobutanesulfonic acid (PFBS)	**5.4**	**J**	8.2	2.0	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorohexanesulfonic acid (PFHxS)	ND		8.2	3.3	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.2	3.9	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorooctanesulfonic acid (PFOS)	**510**	**B ***	8.2	2.5	ng/L		05/22/19 11:30	06/05/19 07:09	5
Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6	ng/L		05/22/19 11:30	06/05/19 07:09	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		82	7.0	ng/L		05/22/19 11:30	06/05/19 07:09	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		82	6.2	ng/L		05/22/19 11:30	06/05/19 07:09	5
6:2 FTS	ND		82	19	ng/L		05/22/19 11:30	06/05/19 07:09	5
8:2 FTS	ND		82	12	ng/L		05/22/19 11:30	06/05/19 07:09	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*35*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C4 PFBA	*27*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C5 PFPeA	*35*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C2 PFHxA	*51*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C4 PFHpA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C4 PFOA	*57*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C5 PFNA	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C2 PFDA	*51*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*

Client Sample ID: MW-21 051619
Lab Sample ID: 200-48826-18
Date Collected: 05/16/19 13:34
Matrix: Water
Date Received: 05/18/19 11:10

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFUnA	*61*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C2 PFDoA	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C2 PFTeDA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C3 PFBS	*34*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
18O2 PFHxS	*37*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
13C4 PFOS	*39*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
d3-NMeFOSAA	*36*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
d5-NEtFOSAA	*46*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
M2-6:2 FTS	*65*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*
M2-8:2 FTS	*47*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:09*	*5*

Client Sample ID: MW-20 051619
Lab Sample ID: 200-48826-19
Date Collected: 05/16/19 14:40
Matrix: Water
Date Received: 05/18/19 11:10

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND	*	0.40	0.17	ug/L		05/21/19 12:26	05/22/19 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*87*		*38 - 125*	*05/21/19 12:26*	*05/22/19 16:18*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.3**	**J**	8.5	4.2	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluoropentanoic acid (PFPeA)	**6.2**	**J**	8.5	2.7	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorohexanoic acid (PFHxA)	ND		8.5	3.2	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluoroheptanoic acid (PFHpA)	ND		8.5	3.8	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorooctanoic acid (PFOA)	ND		8.5	2.7	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorononanoic acid (PFNA)	ND		8.5	1.1	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorodecanoic acid (PFDA)	ND		8.5	3.3	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluoroundecanoic acid (PFUnA)	ND		8.5	2.2	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorododecanoic acid (PFDoA)	ND		8.5	2.5	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorotridecanoic acid (PFTriA)	ND		8.5	2.5	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.5	3.9	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorobutanesulfonic acid (PFBS)	ND		8.5	2.1	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorohexanesulfonic acid (PFHxS)	ND		8.5	3.4	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.5	4.0	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.5	3.8	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorooctanesulfonic acid (PFOS)	ND	*	8.5	2.6	ng/L		05/22/19 11:30	06/05/19 07:25	5
Perfluorooctanesulfonamide (FOSA)	ND		8.5	2.7	ng/L		05/22/19 11:30	06/05/19 07:25	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		85	7.2	ng/L		05/22/19 11:30	06/05/19 07:25	5
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		85	6.3	ng/L		05/22/19 11:30	06/05/19 07:25	5
6:2 FTS	ND		85	19	ng/L		05/22/19 11:30	06/05/19 07:25	5
8:2 FTS	ND		85	12	ng/L		05/22/19 11:30	06/05/19 07:25	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*38*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C4 PFBA	*40*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*

Client Sample ID: MW-20 051619
Lab Sample ID: 200-48826-19
Date Collected: 05/16/19 14:40
Matrix: Water
Date Received: 05/18/19 11:10

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFPeA	*23*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C2 PFHxA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C4 PFHpA	*63*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C4 PFOA	*63*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C5 PFNA	*49*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C2 PFDA	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C2 PFUnA	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C2 PFDoA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C2 PFTeDA	*33*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C3 PFBS	*18*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
18O2 PFHxS	*40*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
13C4 PFOS	*43*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
d3-NMeFOSAA	*39*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
d5-NEtFOSAA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
M2-6:2 FTS	*37*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*
M2-8:2 FTS	*48*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:25*	*5*

Client Sample ID: MW-19 051619
Lab Sample ID: 200-48826-20
Date Collected: 05/16/19 15:40
Matrix: Water
Date Received: 05/18/19 11:10

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND	*	0.40	0.17	ug/L		05/21/19 12:26	05/22/19 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*99*		*38 - 125*	*05/21/19 12:26*	*05/22/19 16:39*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		8.4	4.2	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluoropentanoic acid (PFPeA)	**12**		8.4	2.6	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorohexanoic acid (PFHxA)	**11**		8.4	3.2	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluoroheptanoic acid (PFHpA)	**15**		8.4	3.8	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorooctanoic acid (PFOA)	**20**		8.4	2.6	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorononanoic acid (PFNA)	ND		8.4	1.1	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorodecanoic acid (PFDA)	ND		8.4	3.2	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluoroundecanoic acid (PFUnA)	ND		8.4	2.2	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorododecanoic acid (PFDoA)	ND		8.4	2.5	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorotridecanoic acid (PFTriA)	ND		8.4	2.5	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorotetradecanoic acid (PFTeA)	ND		8.4	3.9	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorobutanesulfonic acid (PFBS)	ND		8.4	2.1	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorohexanesulfonic acid (PFHxS)	ND		8.4	3.3	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.4	4.0	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorodecanesulfonic acid (PFDS)	ND		8.4	3.8	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorooctanesulfonic acid (PFOS)	**38**	**B ***	8.4	2.6	ng/L		05/22/19 11:30	06/05/19 07:40	5
Perfluorooctanesulfonamide (FOSA)	ND		8.4	2.7	ng/L		05/22/19 11:30	06/05/19 07:40	5
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		84	7.1	ng/L		05/22/19 11:30	06/05/19 07:40	5

Client Sample ID: MW-19 051619
Lab Sample ID: 200-48826-20
Date Collected: 05/16/19 15:40
Matrix: Water
Date Received: 05/18/19 11:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		84	6.3	ng/L		05/22/19 11:30	06/05/19 07:40	5
6:2 FTS	ND		84	19	ng/L		05/22/19 11:30	06/05/19 07:40	5
8:2 FTS	ND		84	12	ng/L		05/22/19 11:30	06/05/19 07:40	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*31*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C4 PFBA	*27*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C5 PFPeA	*37*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C2 PFHxA	*51*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C4 PFHpA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C4 PFOA	*52*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C5 PFNA	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C2 PFDA	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C2 PFUnA	*57*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C2 PFDoA	*41*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C2 PFTeDA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C3 PFBS	*40*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
18O2 PFHxS	*26*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
13C4 PFOS	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
d3-NMeFOSAA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
d5-NEtFOSAA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
M2-6:2 FTS	*63*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*
M2-8:2 FTS	*60*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:40*	*5*

Client Sample ID: DUP 051619
Lab Sample ID: 200-48826-21
Date Collected: 05/16/19 00:00
Matrix: Water
Date Received: 05/18/19 11:10

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND	*	0.40	0.17	ug/L		05/21/19 12:26	05/22/19 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*89*		*38 - 125*	*05/21/19 12:26*	*05/22/19 17:00*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.7	0.86	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.54	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.65	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.78	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorooctanoic acid (PFOA)	**0.59**	**J**	1.7	0.54	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.66	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.79	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	1.7	0.42	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.68	ng/L		05/22/19 11:30	06/05/19 07:56	1

Client Sample ID: DUP 051619
Lab Sample ID: 200-48826-21

Date Collected: 05/16/19 00:00
Matrix: Water
Date Received: 05/18/19 11:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.81	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.77	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorooctanesulfonic acid (PFOS)	ND	*	1.7	0.52	ng/L		05/22/19 11:30	06/05/19 07:56	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55	ng/L		05/22/19 11:30	06/05/19 07:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5	ng/L		05/22/19 11:30	06/05/19 07:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		05/22/19 11:30	06/05/19 07:56	1
6:2 FTS	ND		17	3.9	ng/L		05/22/19 11:30	06/05/19 07:56	1
8:2 FTS	ND		17	2.5	ng/L		05/22/19 11:30	06/05/19 07:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*34*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C4 PFBA	*21*	*	*25 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C5 PFPeA	*35*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C2 PFHxA	*49*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C4 PFHpA	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C4 PFOA	*54*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C5 PFNA	*43*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C2 PFDA	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C2 PFUnA	*55*		*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C2 PFDoA	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C2 PFTeDA	*44*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C3 PFBS	*30*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
18O2 PFHxS	*39*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
13C4 PFOS	*42*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
d3-NMeFOSAA	*35*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
d5-NEtFOSAA	*41*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
M2-6:2 FTS	*67*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*
M2-8:2 FTS	*67*		*25 - 150*	*05/22/19 11:30*	*06/05/19 07:56*	*1*

Client Sample ID: FIELD BLANK 051619
Lab Sample ID: 200-48826-22

Date Collected: 05/16/19 16:00
Matrix: Water
Date Received: 05/18/19 11:10

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.40	0.17	ug/L		05/23/19 16:18	05/24/19 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*64*		*38 - 125*	*05/23/19 16:18*	*05/24/19 20:14*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.6	0.82	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluoropentanoic acid (PFPeA)	ND		1.6	0.52	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorohexanoic acid (PFHxA)	ND		1.6	0.62	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.75	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorooctanoic acid (PFOA)	ND		1.6	0.52	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.22	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.63	ng/L		05/22/19 11:30	06/05/19 08:12	1

Client Sample ID: FIELD BLANK 051619
Lab Sample ID: 200-48826-22

Date Collected: 05/16/19 16:00
Matrix: Water
Date Received: 05/18/19 11:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.43	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.48	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.49	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.75	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.40	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.66	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.78	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.74	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorooctanesulfonic acid (PFOS)	ND	*	1.6	0.50	ng/L		05/22/19 11:30	06/05/19 08:12	1
Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.52	ng/L		05/22/19 11:30	06/05/19 08:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		16	1.4	ng/L		05/22/19 11:30	06/05/19 08:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		16	1.2	ng/L		05/22/19 11:30	06/05/19 08:12	1
6:2 FTS	ND		16	3.8	ng/L		05/22/19 11:30	06/05/19 08:12	1
8:2 FTS	ND		16	2.4	ng/L		05/22/19 11:30	06/05/19 08:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*29*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C4 PFBA	*38*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C5 PFPeA	*50*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C2 PFHxA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C4 PFHpA	*57*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C4 PFOA	*60*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C5 PFNA	*55*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C2 PFDA	*59*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C2 PFUnA	*55*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C2 PFDoA	*42*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C2 PFTeDA	*38*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C3 PFBS	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
18O2 PFHxS	*37*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
13C4 PFOS	*44*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
d3-NMeFOSAA	*42*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
d5-NEtFOSAA	*42*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
M2-6:2 FTS	*52*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*
M2-8:2 FTS	*61*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:12*	*1*

Client Sample ID: EQUIPMENT BLANK 051619
Lab Sample ID: 200-48826-23

Date Collected: 05/16/19 16:10
Matrix: Water
Date Received: 05/18/19 11:10

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.7	0.85	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.54	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.65	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.78	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.54	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.66	ng/L		05/22/19 11:30	06/05/19 08:28	1

Client Sample ID: EQUIPMENT BLANK 051619
Lab Sample ID: 200-48826-23

Date Collected: 05/16/19 16:10
Matrix: Water
Date Received: 05/18/19 11:10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.79	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.68	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.81	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.77	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorooctanesulfonic acid (PFOS)	ND	*	1.7	0.52	ng/L		05/22/19 11:30	06/05/19 08:28	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55	ng/L		05/22/19 11:30	06/05/19 08:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5	ng/L		05/22/19 11:30	06/05/19 08:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3	ng/L		05/22/19 11:30	06/05/19 08:28	1
6:2 FTS	ND		17	3.9	ng/L		05/22/19 11:30	06/05/19 08:28	1
8:2 FTS	ND		17	2.5	ng/L		05/22/19 11:30	06/05/19 08:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*32*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C4 PFBA	*35*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C5 PFPeA	*44*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C2 PFHxA	*56*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C4 PFHpA	*63*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C4 PFOA	*63*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C5 PFNA	*55*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C2 PFDA	*63*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C2 PFUnA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C2 PFDoA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C2 PFTeDA	*43*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C3 PFBS	*56*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
18O2 PFHxS	*50*		*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
13C4 PFOS	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
d3-NMeFOSAA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
d5-NEtFOSAA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
M2-6:2 FTS	*49*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*
M2-8:2 FTS	*65*		*25 - 150*	*05/22/19 11:30*	*06/05/19 08:28*	*1*

Surrogate Summary

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 200-48826-1

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		NBZ
Lab Sample ID	Client Sample ID	(38-125)
200-48826-16	MW-8D 051619	80
200-48826-17	MW-8S 051619	95
200-48826-17 MS	MW-8S 051619	84
200-48826-17 MSD	MW-8S 051619	93
200-48826-18	MW-21 051619	82
200-48826-19	MW-20 051619	87
200-48826-20	MW-19 051619	99
200-48826-21	DUP 051619	89
200-48826-22	FIELD BLANK 051619	64
LCS 460-611633/2-A	Lab Control Sample	80
LCS 460-612326/2-A	Lab Control Sample	58
LCSD 460-611633/3-A	Lab Control Sample Dup	81
LCSD 460-612326/3-A	Lab Control Sample Dup	55
MB 460-612326/1-A	Method Blank	63

Surrogate Legend

NBZ = Nitrobenzene-d5

Isotope Dilution Summary

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 200-48826-1

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 (50-150)	PFHpA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)
200-48826-1	K-3 051319	61	39	61	75	92	84	73	81
200-48826-2	MW-18 051319	59	44	57	81	98	85	71	72
200-48826-3	MW-17 051319	29	51	59	51	69	87	73	80
200-48826-4	MW-15S 051319	61	58	81	85	104	96	78	91
200-48826-5	VEW-2 051419	50	44	32	66	68	88	61	70
200-48826-5	VEW-2 051419								
200-48826-6	VEW-1 051419	26	36	46	56	72	94	72	96
200-48826-6	VEW-1 051419								
200-48826-7	VEW-3 051419	31	29	47	38 *	53	63	46 *	58
200-48826-7	VEW-3 051419								
200-48826-8	VEW-4 051419	21 *	23 *	29	33 *	47 *	60	52	61
200-48826-8	VEW-4 051419								
200-48826-9	ASW 051419	9 *	17 *	39	29 *	45 *	59	50	
200-48826-9	ASW 051419								45 *
200-48826-10	MW-23 051419	19 *	28	35	34 *	49 *	64	53	62
200-48826-11	MW-22 051519	36	34	40	54	58	63	52	54
200-48826-12	K-2 051519	48	41	42	57	69	66	51	56
200-48826-13	MW-15D 051519	45	31	50	54	64	62	56	62
200-48826-14	MW-16D 051519	39	12 *	37	53	65	61	49 *	52
200-48826-15	MW-24 051519	35	29	35	49 *	58	58	46 *	46 *
200-48826-16	MW-8D 051619	40	12 *	30	46 *	54	58	50	54
200-48826-17	MW-8S 051619	34	22 *	32	45 *	54	54	42 *	47 *
200-48826-17 MS	MW-8S 051619	38	29	32	44 *	55	55	45 *	50
200-48826-17 MSD	MW-8S 051619	36	26	36	44 *	56	53	44 *	48 *
200-48826-18	MW-21 051619	35	27	35	51	58	57	45 *	51
200-48826-19	MW-20 051619	38	40	23 *	52	63	63	49 *	48 *
200-48826-20	MW-19 051619	31	27	37	51	52	52	48 *	48 *
200-48826-21	DUP 051619	34	21 *	35	49 *	48 *	54	43 *	48 *
200-48826-22	FIELD BLANK 051619	29	38	50	58	57	60	55	59
200-48826-23	EQUIPMENT BLANK 051619	32	35	44	56	63	63	55	63
LCS 200-143263/2-A	Lab Control Sample	57		89	80	90	97	87	97
LCS 200-143263/2-A	Lab Control Sample	79	137	102	90	81	96	77	84
LCS 200-143308/2-A	Lab Control Sample	45	44	54	64	66	64	60	64
MB 200-143263/1-A	Method Blank	59	49	73	73	91	89	84	94
MB 200-143308/1-A	Method Blank	39	47	64	64	66	62	58	61

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)	3C3-PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	-NMeFOSA (50-150)	-NEtFOSA (50-150)
200-48826-1	K-3 051319	65	61	54	54	47 *	40 *	53	64
200-48826-2	MW-18 051319	71	65	60	78	53	63	59	69
200-48826-3	MW-17 051319	48 *	74	61	35 *	40 *	61	34 *	35 *
200-48826-4	MW-15S 051319	104	86	77	68	67	70	74	97
200-48826-5	VEW-2 051419	71	62	57	58	51	51	56	60
200-48826-5	VEW-2 051419						75		
200-48826-6	VEW-1 051419	61	74	92	66	36 *	59	68	59
200-48826-6	VEW-1 051419						103		
200-48826-7	VEW-3 051419	66	58	47 *	48 *	36 *	39 *	48 *	52
200-48826-7	VEW-3 051419						67		
200-48826-8	VEW-4 051419	59	58	46 *	36 *	25 *	39 *	46 *	59

Isotope Dilution Summary

Client: New York State D.E.C. Job ID: 200-48826-1
Project/Site: Korkay, Inc. #518014

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)	3C3-PFB (50-150)	PFHxS (50-150)	PFOS (50-150)	-NMeFOS (50-150)	-NEtFOS (50-150)
200-48826-8	VEW-4 051419						74		
200-48826-9	ASW 051419			62	28 *	36 *	47 *		
200-48826-9	ASW 051419	26 *	52					21 *	7 *
200-48826-10	MW-23 051419	47 *	58	40 *	40 *	24 *	46 *	31 *	38 *
200-48826-11	MW-22 051519	61	50	43 *	37 *	37 *	50	47 *	45 *
200-48826-12	K-2 051519	64	54	50	27 *	47 *	45 *	46 *	50
200-48826-13	MW-15D 051519	64	63	47 *	52	46 *	42 *	45 *	52
200-48826-14	MW-16D 051519	51	42 *	34 *	45 *	45 *	35 *	38 *	43 *
200-48826-15	MW-24 051519	44 *	38 *	40 *	44 *	44 *	40 *	32 *	37 *
200-48826-16	MW-8D 051619	55	45 *	40 *	33 *	33 *	37 *	43 *	52
200-48826-17	MW-8S 051619	52	43 *	43 *	33 *	42 *	40 *	36 *	40 *
200-48826-17 MS	MW-8S 051619	54	46 *	45 *	38 *	47 *	40 *	37 *	41 *
200-48826-17 MSD	MW-8S 051619	52	45 *	43 *	42 *	49 *	42 *	37 *	39 *
200-48826-18	MW-21 051619	61	46 *	38 *	34 *	37 *	39 *	36 *	46 *
200-48826-19	MW-20 051619	48 *	38 *	33 *	18 *	40 *	43 *	39 *	38 *
200-48826-20	MW-19 051619	57	41 *	38 *	40 *	26 *	38 *	38 *	38 *
200-48826-21	DUP 051619	55	45 *	44 *	30 *	39 *	42 *	35 *	41 *
200-48826-22	FIELD BLANK 051619	55	42 *	38 *	47 *	37 *	44 *	42 *	42 *
200-48826-23	EQUIPMENT BLANK 051619	58	47 *	43 *	56	50	48 *	47 *	47 *
LCS 200-143263/2-A	Lab Control Sample	90	72	73	70	69	77	80	77
LCS 200-143263/2-A	Lab Control Sample	77	64	57	176 *	139	119	62	61
LCS 200-143308/2-A	Lab Control Sample	67	55	51	60	53	49 *	47 *	49 *
MB 200-143263/1-A	Method Blank	89	77	74	55	62	69	74	80
MB 200-143308/1-A	Method Blank	60	47 *	45 *	60	48 *	49 *	44 *	44 *

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)
200-48826-1	K-3 051319	55	49
200-48826-2	MW-18 051319	66	73
200-48826-3	MW-17 051319	110	184 *
200-48826-4	MW-15S 051319	110	135
200-48826-5	VEW-2 051419	144	91
200-48826-5	VEW-2 051419		
200-48826-6	VEW-1 051419	196 *	304 *
200-48826-6	VEW-1 051419		
200-48826-7	VEW-3 051419	64	69
200-48826-7	VEW-3 051419		
200-48826-8	VEW-4 051419	103	112
200-48826-8	VEW-4 051419		
200-48826-9	ASW 051419	144	
200-48826-9	ASW 051419		105
200-48826-10	MW-23 051419	70	115
200-48826-11	MW-22 051519	79	78
200-48826-12	K-2 051519	72	82
200-48826-13	MW-15D 051519	61	74
200-48826-14	MW-16D 051519	65	61
200-48826-15	MW-24 051519	78	66
200-48826-16	MW-8D 051619	109	89
200-48826-17	MW-8S 051619	63	62
200-48826-17 MS	MW-8S 051619	58	64

Isotope Dilution Summary

Client: New York State D.E.C. Job ID: 200-48826-1
Project/Site: Korkay, Inc. #518014

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

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)	
		M262FTS	M282FTS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)
200-48826-17 MSD	MW-8S 051619	52	62
200-48826-18	MW-21 051619	65	47
200-48826-19	MW-20 051619	37	48
200-48826-20	MW-19 051619	63	60
200-48826-21	DUP 051619	67	67
200-48826-22	FIELD BLANK 051619	52	61
200-48826-23	EQUIPMENT BLANK 051619	49	65
LCS 200-143263/2-A	Lab Control Sample	92	127
LCS 200-143263/2-A	Lab Control Sample	128	115
LCS 200-143308/2-A	Lab Control Sample	63	74
MB 200-143263/1-A	Method Blank	76	122
MB 200-143308/1-A	Method Blank	60	64

Surrogate Legend

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

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM)

Lab Sample ID: LCS 460-611633/2-A
Matrix: Water
Analysis Batch: 611861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611633

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			0.800	0.840		ug/L		105	10 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*80*		*38 - 125*

Lab Sample ID: LCSD 460-611633/3-A
Matrix: Water
Analysis Batch: 611861

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 611633

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			0.800	0.520	*	ug/L		65	10 - 137	47	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Nitrobenzene-d5	*81*		*38 - 125*

Lab Sample ID: 200-48826-17 MS
Matrix: Water
Analysis Batch: 611861

Client Sample ID: MW-8S 051619
Prep Type: Total/NA
Prep Batch: 611633

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	ND	*	0.800	0.462		ug/L		58	10 - 137		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Nitrobenzene-d5	*84*		*38 - 125*

Lab Sample ID: 200-48826-17 MSD
Matrix: Water
Analysis Batch: 611861

Client Sample ID: MW-8S 051619
Prep Type: Total/NA
Prep Batch: 611633

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	ND	*	0.800	0.552		ug/L		69	10 - 137	18	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Nitrobenzene-d5	*93*		*38 - 125*

Lab Sample ID: MB 460-612326/1-A
Matrix: Water
Analysis Batch: 612564

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 612326

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.40	0.17	ug/L		05/23/19 16:18	05/24/19 19:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*63*		*38 - 125*	*05/23/19 16:18*	*05/24/19 19:10*	*1*

Method: 8270D SIM - 1,4-Dioxane (GC/MS SIM) (Continued)

Lab Sample ID: LCS 460-612326/2-A
Matrix: Water
Analysis Batch: 612564

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 612326

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane			0.800	0.511		ug/L		64	10 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*58*		*38 - 125*

Lab Sample ID: LCSD 460-612326/3-A
Matrix: Water
Analysis Batch: 612564

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 612326

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			0.800	0.477		ug/L		60	10 - 137	7	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Nitrobenzene-d5	*55*		*38 - 125*

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-143263/1-A
Matrix: Water
Analysis Batch: 143596

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 143263

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0	1.0	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.63	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.76	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.91	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.63	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.77	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.53	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.59	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.60	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.92	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorobutanesulfonic acid (PFBS)	1.09	J	2.0	0.49	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.80	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.95	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.90	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.61	ng/L		05/21/19 14:07	05/30/19 22:50	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.64	ng/L		05/21/19 14:07	05/30/19 22:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	1.7	ng/L		05/21/19 14:07	05/30/19 22:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.5	ng/L		05/21/19 14:07	05/30/19 22:50	1
6:2 FTS	ND		20	4.6	ng/L		05/21/19 14:07	05/30/19 22:50	1
8:2 FTS	ND		20	2.9	ng/L		05/21/19 14:07	05/30/19 22:50	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*59*		*25 - 150*	*05/21/19 14:07*	*05/30/19 22:50*	*1*

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

Lab Sample ID: MB 200-143263/1-A
Matrix: Water
Analysis Batch: 143596

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 143263

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	49		25 - 150	05/21/19 14:07	05/30/19 22:50	1
13C5 PFPeA	73		25 - 150	05/21/19 14:07	05/30/19 22:50	1
13C2 PFHxA	73		50 - 150	05/21/19 14:07	05/30/19 22:50	1
13C4 PFHpA	91		50 - 150	05/21/19 14:07	05/30/19 22:50	1
13C4 PFOA	89		50 - 150	05/21/19 14:07	05/30/19 22:50	1
13C5 PFNA	84		50 - 150	05/21/19 14:07	05/30/19 22:50	1
13C2 PFDA	94		50 - 150	05/21/19 14:07	05/30/19 22:50	1
13C2 PFUnA	89		50 - 150	05/21/19 14:07	05/30/19 22:50	1
13C2 PFDoA	77		50 - 150	05/21/19 14:07	05/30/19 22:50	1
13C2 PFTeDA	74		50 - 150	05/21/19 14:07	05/30/19 22:50	1
13C3 PFBS	55		50 - 150	05/21/19 14:07	05/30/19 22:50	1
18O2 PFHxS	62		50 - 150	05/21/19 14:07	05/30/19 22:50	1
13C4 PFOS	69		50 - 150	05/21/19 14:07	05/30/19 22:50	1
d3-NMeFOSAA	74		50 - 150	05/21/19 14:07	05/30/19 22:50	1
d5-NEtFOSAA	80		50 - 150	05/21/19 14:07	05/30/19 22:50	1
M2-6:2 FTS	76		25 - 150	05/21/19 14:07	05/30/19 22:50	1
M2-8:2 FTS	122		25 - 150	05/21/19 14:07	05/30/19 22:50	1

Lab Sample ID: LCS 200-143263/2-A
Matrix: Water
Analysis Batch: 143596

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 143263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoropentanoic acid (PFPeA)	40.0	44.1		ng/L		110	50 - 150
Perfluorohexanoic acid (PFHxA)	40.0	50.2		ng/L		125	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	46.0		ng/L		115	70 - 130
Perfluorononanoic acid (PFNA)	40.0	45.5		ng/L		114	70 - 130
Perfluorodecanoic acid (PFDA)	40.0	44.8		ng/L		112	70 - 130
Perfluoroundecanoic acid (PFUnA)	40.0	46.9		ng/L		117	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	48.1		ng/L		120	70 - 130
Perfluorotridecanoic acid (PFTriA)	40.0	48.1		ng/L		120	70 - 130
Perfluorotetradecanoic acid (PFTeA)	40.0	49.0		ng/L		122	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	46.4		ng/L		127	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	47.0		ng/L		123	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	36.3		ng/L		94	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	44.1		ng/L		119	70 - 130
Perfluorooctanesulfonamide (FOSA)	40.0	43.9		ng/L		110	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	45.9		ng/L		115	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	52.7	*	ng/L		132	70 - 130
6:2 FTS	37.9	36.6		ng/L		97	50 - 150
8:2 FTS	38.3	45.4		ng/L		118	50 - 150

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

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C8 FOSA	57		25 - 150
13C5 PFPeA	89		25 - 150
13C2 PFHxA	80		50 - 150
13C4 PFHpA	90		50 - 150
13C4 PFOA	97		50 - 150
13C5 PFNA	87		50 - 150
13C2 PFDA	97		50 - 150
13C2 PFUnA	90		50 - 150
13C2 PFDoA	72		50 - 150
13C2 PFTeDA	73		50 - 150
13C3 PFBS	70		50 - 150
18O2 PFHxS	69		50 - 150
13C4 PFOS	77		50 - 150
d3-NMeFOSAA	80		50 - 150
d5-NEtFOSAA	77		50 - 150
M2-6:2 FTS	92		25 - 150
M2-8:2 FTS	127		25 - 150

Lab Sample ID: LCS 200-143263/2-A
Matrix: Water
Analysis Batch: 143813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 143263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	27.4		ng/L		68	50 - 150
Perfluoroheptanoic acid (PFHpA)	40.0	46.3		ng/L		116	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	33.9		ng/L		96	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C8 FOSA	79		25 - 150
13C4 PFBA	137		25 - 150
13C5 PFPeA	102		25 - 150
13C2 PFHxA	90		50 - 150
13C4 PFHpA	81		50 - 150
13C4 PFOA	96		50 - 150
13C5 PFNA	77		50 - 150
13C2 PFDA	84		50 - 150
13C2 PFUnA	77		50 - 150
13C2 PFDoA	64		50 - 150
13C2 PFTeDA	57		50 - 150
13C3 PFBS	176	*	50 - 150
18O2 PFHxS	139		50 - 150
13C4 PFOS	119		50 - 150
d3-NMeFOSAA	62		50 - 150
d5-NEtFOSAA	61		50 - 150
M2-6:2 FTS	128		25 - 150
M2-8:2 FTS	115		25 - 150

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

Lab Sample ID: MB 200-143308/1-A
Matrix: Water
Analysis Batch: 143753

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 143308

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0	1.0	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.63	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.76	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.91	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.63	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.77	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.53	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.59	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.60	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.92	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.49	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.80	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.95	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.90	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorooctanesulfonic acid (PFOS)	0.860	J	2.0	0.61	ng/L		05/22/19 11:30	06/05/19 02:23	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.64	ng/L		05/22/19 11:30	06/05/19 02:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	1.7	ng/L		05/22/19 11:30	06/05/19 02:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.5	ng/L		05/22/19 11:30	06/05/19 02:23	1
6:2 FTS	ND		20	4.6	ng/L		05/22/19 11:30	06/05/19 02:23	1
8:2 FTS	ND		20	2.9	ng/L		05/22/19 11:30	06/05/19 02:23	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*39*		*25 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C4 PFBA	*47*		*25 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C5 PFPeA	*64*		*25 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C2 PFHxA	*64*		*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C4 PFHpA	*66*		*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C4 PFOA	*62*		*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C5 PFNA	*58*		*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C2 PFDA	*61*		*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C2 PFUnA	*60*		*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C2 PFDoA	*47*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C2 PFTeDA	*45*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C3 PFBS	*60*		*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
18O2 PFHxS	*48*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
13C4 PFOS	*49*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
d3-NMeFOSAA	*44*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
d5-NEtFOSAA	*44*	*	*50 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
M2-6:2 FTS	*60*		*25 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*
M2-8:2 FTS	*64*		*25 - 150*	*05/22/19 11:30*	*06/05/19 02:23*	*1*

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

Lab Sample ID: LCS 200-143308/2-A
Matrix: Water
Analysis Batch: 143753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 143308

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	65.4		ng/L		163	50 - 150
Perfluoropentanoic acid (PFPeA)	40.0	58.8		ng/L		147	50 - 150
Perfluorohexanoic acid (PFHxA)	40.0	48.6		ng/L		122	70 - 130
Perfluoroheptanoic acid (PFHpA)	40.0	49.8		ng/L		125	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	48.7		ng/L		122	70 - 130
Perfluorononanoic acid (PFNA)	40.0	50.4		ng/L		126	70 - 130
Perfluorodecanoic acid (PFDA)	40.0	46.5		ng/L		116	70 - 130
Perfluoroundecanoic acid (PFUnA)	40.0	48.6		ng/L		121	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	46.7		ng/L		117	70 - 130
Perfluorotridecanoic acid (PFTriA)	40.0	47.6		ng/L		119	70 - 130
Perfluorotetradecanoic acid (PFTeA)	40.0	50.4		ng/L		126	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	39.8		ng/L		112	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.4	41.5		ng/L		114	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	54.9		ng/L		144	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	42.5		ng/L		110	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	51.2	*	ng/L		138	70 - 130
Perfluorooctanesulfonamide (FOSA)	40.0	43.9		ng/L		110	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	52.0		ng/L		130	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	48.0		ng/L		120	70 - 130
6:2 FTS	37.9	47.6		ng/L		126	50 - 150
8:2 FTS	38.3	46.8		ng/L		122	50 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*45*		*25 - 150*
13C4 PFBA	*44*		*25 - 150*
13C5 PFPeA	*54*		*25 - 150*
13C2 PFHxA	*64*		*50 - 150*
13C4 PFHpA	*66*		*50 - 150*
13C4 PFOA	*64*		*50 - 150*
13C5 PFNA	*60*		*50 - 150*
13C2 PFDA	*64*		*50 - 150*
13C2 PFUnA	*67*		*50 - 150*
13C2 PFDoA	*55*		*50 - 150*
13C2 PFTeDA	*51*		*50 - 150*
13C3 PFBS	*60*		*50 - 150*
18O2 PFHxS	*53*		*50 - 150*
13C4 PFOS	*49*	*	*50 - 150*
d3-NMeFOSAA	*47*	*	*50 - 150*
d5-NEtFOSAA	*49*	*	*50 - 150*

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

Lab Sample ID: LCS 200-143308/2-A
Matrix: Water
Analysis Batch: 143753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 143308

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-6:2 FTS	*63*		*25 - 150*
M2-8:2 FTS	*74*		*25 - 150*

Lab Sample ID: 200-48826-17 MS
Matrix: Water
Analysis Batch: 143753

Client Sample ID: MW-8S 051619
Prep Type: Total/NA
Prep Batch: 143308

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	ND		33.3	48.5		ng/L		146	40 - 160
Perfluoropentanoic acid (PFPeA)	ND		33.3	48.5		ng/L		146	40 - 160
Perfluorohexanoic acid (PFHxA)	ND		33.3	45.3		ng/L		136	40 - 160
Perfluoroheptanoic acid (PFHpA)	ND		33.3	37.5		ng/L		113	40 - 160
Perfluorooctanoic acid (PFOA)	0.69	J	33.3	38.5		ng/L		114	40 - 160
Perfluorononanoic acid (PFNA)	ND		33.3	40.0		ng/L		120	40 - 160
Perfluorodecanoic acid (PFDA)	ND		33.3	36.8		ng/L		111	40 - 160
Perfluoroundecanoic acid (PFUnA)	ND		33.3	40.5		ng/L		122	40 - 160
Perfluorododecanoic acid (PFDoA)	ND		33.3	37.3		ng/L		112	40 - 160
Perfluorotridecanoic acid (PFTriA)	ND		33.3	37.8		ng/L		113	40 - 160
Perfluorotetradecanoic acid (PFTeA)	ND		33.3	40.5		ng/L		122	40 - 160
Perfluorobutanesulfonic acid (PFBS)	1.0	J	29.4	43.7		ng/L		145	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	30.3	37.0		ng/L		119	40 - 160
Perfluoroheptanesulfonic Acid (PFHpS)	ND		31.7	43.5		ng/L		137	40 - 160
Perfluorodecanesulfonic acid (PFDS)	ND		32.1	36.2		ng/L		113	40 - 160
Perfluorooctanesulfonic acid (PFOS)	8.0	B *	30.9	49.3		ng/L		134	40 - 160
Perfluorooctanesulfonamide (FOSA)	ND		33.3	36.1		ng/L		108	40 - 160
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		33.3	41.1		ng/L		124	40 - 160
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.7	J	33.3	43.3		ng/L		125	40 - 160
6:2 FTS	ND		31.5	43.1		ng/L		136	40 - 160
8:2 FTS	ND		31.9	39.6		ng/L		124	40 - 160

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C8 FOSA	*38*		*25 - 150*
13C4 PFBA	*29*		*25 - 150*
13C5 PFPeA	*32*		*25 - 150*
13C2 PFHxA	*44*	*	*50 - 150*
13C4 PFHpA	*55*		*50 - 150*
13C4 PFOA	*55*		*50 - 150*
13C5 PFNA	*45*	*	*50 - 150*
13C2 PFDA	*50*		*50 - 150*
13C2 PFUnA	*54*		*50 - 150*

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

Lab Sample ID: 200-48826-17 MS
Matrix: Water
Analysis Batch: 143753

Client Sample ID: MW-8S 051619
Prep Type: Total/NA
Prep Batch: 143308

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2 PFDoA	46	*	50 - 150
13C2 PFTeDA	45	*	50 - 150
13C3 PFBS	38	*	50 - 150
18O2 PFHxS	47	*	50 - 150
13C4 PFOS	40	*	50 - 150
d3-NMeFOSAA	37	*	50 - 150
d5-NEtFOSAA	41	*	50 - 150
M2-6:2 FTS	58		25 - 150
M2-8:2 FTS	64		25 - 150

Lab Sample ID: 200-48826-17 MSD
Matrix: Water
Analysis Batch: 143753

Client Sample ID: MW-8S 051619
Prep Type: Total/NA
Prep Batch: 143308

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	ND		34.6	51.3		ng/L		148	40 - 160	6	30
Perfluoropentanoic acid (PFPeA)	ND		34.6	46.4		ng/L		134	40 - 160	4	30
Perfluorohexanoic acid (PFHxA)	ND		34.6	46.0		ng/L		133	40 - 160	1	20
Perfluoroheptanoic acid (PFHpA)	ND		34.6	40.9		ng/L		118	40 - 160	9	20
Perfluorooctanoic acid (PFOA)	0.69	J	34.6	40.3		ng/L		115	40 - 160	5	20
Perfluorononanoic acid (PFNA)	ND		34.6	42.1		ng/L		122	40 - 160	5	20
Perfluorodecanoic acid (PFDA)	ND		34.6	40.9		ng/L		118	40 - 160	11	20
Perfluoroundecanoic acid (PFUnA)	ND		34.6	43.9		ng/L		127	40 - 160	8	20
Perfluorododecanoic acid (PFDoA)	ND		34.6	40.7		ng/L		118	40 - 160	9	20
Perfluorotridecanoic acid (PFTriA)	ND		34.6	40.2		ng/L		116	40 - 160	6	20
Perfluorotetradecanoic acid (PFTeA)	ND		34.6	44.4		ng/L		128	40 - 160	9	20
Perfluorobutanesulfonic acid (PFBS)	1.0	J	30.6	40.1		ng/L		128	40 - 160	9	20
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	31.5	35.3		ng/L		109	40 - 160	4	20
Perfluoroheptanesulfonic Acid (PFHpS)	ND		32.9	45.2		ng/L		137	40 - 160	4	30
Perfluorodecanesulfonic acid (PFDS)	ND		33.3	29.0		ng/L		87	40 - 160	22	30
Perfluorooctanesulfonic acid (PFOS)	8.0	B *	32.1	47.4		ng/L		123	40 - 160	4	20
Perfluorooctanesulfonamide (FOSA)	ND		34.6	41.6		ng/L		120	40 - 160	14	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		34.6	41.7		ng/L		120	40 - 160	1	20
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.7	J	34.6	50.0		ng/L		140	40 - 160	14	20
6:2 FTS	ND		32.8	45.8		ng/L		140	40 - 160	6	30
8:2 FTS	ND		33.1	44.8		ng/L		135	40 - 160	12	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C8 FOSA	36		25 - 150
13C4 PFBA	26		25 - 150

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

Lab Sample ID: 200-48826-17 MSD
Matrix: Water
Analysis Batch: 143753

Client Sample ID: MW-8S 051619
Prep Type: Total/NA
Prep Batch: 143308

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C5 PFPeA	36		25 - 150
13C2 PFHxA	44	*	50 - 150
13C4 PFHpA	56		50 - 150
13C4 PFOA	53		50 - 150
13C5 PFNA	44	*	50 - 150
13C2 PFDA	48	*	50 - 150
13C2 PFUnA	52		50 - 150
13C2 PFDoA	45	*	50 - 150
13C2 PFTeDA	43	*	50 - 150
13C3 PFBS	42	*	50 - 150
18O2 PFHxS	49	*	50 - 150
13C4 PFOS	42	*	50 - 150
d3-NMeFOSAA	37	*	50 - 150
d5-NEtFOSAA	39	*	50 - 150
M2-6:2 FTS	52		25 - 150
M2-8:2 FTS	62		25 - 150

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
CI	The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is reason to suspect there may be a high bias.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	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)

GC/MS Semi VOA

Prep Batch: 611633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-16	MW-8D 051619	Total/NA	Water	3510C	
200-48826-17	MW-8S 051619	Total/NA	Water	3510C	
200-48826-18	MW-21 051619	Total/NA	Water	3510C	
200-48826-19	MW-20 051619	Total/NA	Water	3510C	
200-48826-20	MW-19 051619	Total/NA	Water	3510C	
200-48826-21	DUP 051619	Total/NA	Water	3510C	
LCS 460-611633/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 460-611633/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
200-48826-17 MS	MW-8S 051619	Total/NA	Water	3510C	
200-48826-17 MSD	MW-8S 051619	Total/NA	Water	3510C	

Analysis Batch: 611861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-16	MW-8D 051619	Total/NA	Water	8270D SIM	611633
200-48826-17	MW-8S 051619	Total/NA	Water	8270D SIM	611633
200-48826-18	MW-21 051619	Total/NA	Water	8270D SIM	611633
200-48826-19	MW-20 051619	Total/NA	Water	8270D SIM	611633
200-48826-20	MW-19 051619	Total/NA	Water	8270D SIM	611633
200-48826-21	DUP 051619	Total/NA	Water	8270D SIM	611633
LCS 460-611633/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	611633
LCSD 460-611633/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	611633
200-48826-17 MS	MW-8S 051619	Total/NA	Water	8270D SIM	611633
200-48826-17 MSD	MW-8S 051619	Total/NA	Water	8270D SIM	611633

Prep Batch: 612326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-22	FIELD BLANK 051619	Total/NA	Water	3510C	
MB 460-612326/1-A	Method Blank	Total/NA	Water	3510C	
LCS 460-612326/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 460-612326/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 612564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-22	FIELD BLANK 051619	Total/NA	Water	8270D SIM	612326
MB 460-612326/1-A	Method Blank	Total/NA	Water	8270D SIM	612326
LCS 460-612326/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	612326
LCSD 460-612326/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	612326

LCMS

Prep Batch: 143263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-1	K-3 051319	Total/NA	Water	3535	
200-48826-2	MW-18 051319	Total/NA	Water	3535	
200-48826-3	MW-17 051319	Total/NA	Water	3535	
200-48826-4	MW-15S 051319	Total/NA	Water	3535	
200-48826-5	VEW-2 051419	Total/NA	Water	3535	
200-48826-6	VEW-1 051419	Total/NA	Water	3535	
MB 200-143263/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-143263/2-A	Lab Control Sample	Total/NA	Water	3535	

LCMS

Prep Batch: 143308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-7	VEW-3 051419	Total/NA	Water	3535	
200-48826-8	VEW-4 051419	Total/NA	Water	3535	
200-48826-9	ASW 051419	Total/NA	Water	3535	
200-48826-10	MW-23 051419	Total/NA	Water	3535	
200-48826-11	MW-22 051519	Total/NA	Water	3535	
200-48826-12	K-2 051519	Total/NA	Water	3535	
200-48826-13	MW-15D 051519	Total/NA	Water	3535	
200-48826-14	MW-16D 051519	Total/NA	Water	3535	
200-48826-15	MW-24 051519	Total/NA	Water	3535	
200-48826-16	MW-8D 051619	Total/NA	Water	3535	
200-48826-17	MW-8S 051619	Total/NA	Water	3535	
200-48826-18	MW-21 051619	Total/NA	Water	3535	
200-48826-19	MW-20 051619	Total/NA	Water	3535	
200-48826-20	MW-19 051619	Total/NA	Water	3535	
200-48826-21	DUP 051619	Total/NA	Water	3535	
200-48826-22	FIELD BLANK 051619	Total/NA	Water	3535	
200-48826-23	EQUIPMENT BLANK 051619	Total/NA	Water	3535	
MB 200-143308/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-143308/2-A	Lab Control Sample	Total/NA	Water	3535	
200-48826-17 MS	MW-8S 051619	Total/NA	Water	3535	
200-48826-17 MSD	MW-8S 051619	Total/NA	Water	3535	

Analysis Batch: 143596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-1	K-3 051319	Total/NA	Water	537 (modified)	143263
200-48826-2	MW-18 051319	Total/NA	Water	537 (modified)	143263
200-48826-3	MW-17 051319	Total/NA	Water	537 (modified)	143263
200-48826-4	MW-15S 051319	Total/NA	Water	537 (modified)	143263
200-48826-5	VEW-2 051419	Total/NA	Water	537 (modified)	143263
200-48826-6	VEW-1 051419	Total/NA	Water	537 (modified)	143263
MB 200-143263/1-A	Method Blank	Total/NA	Water	537 (modified)	143263
LCS 200-143263/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	143263

Analysis Batch: 143753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-7	VEW-3 051419	Total/NA	Water	537 (modified)	143308
200-48826-8	VEW-4 051419	Total/NA	Water	537 (modified)	143308
200-48826-9	ASW 051419	Total/NA	Water	537 (modified)	143308
200-48826-10	MW-23 051419	Total/NA	Water	537 (modified)	143308
200-48826-11	MW-22 051519	Total/NA	Water	537 (modified)	143308
200-48826-12	K-2 051519	Total/NA	Water	537 (modified)	143308
200-48826-13	MW-15D 051519	Total/NA	Water	537 (modified)	143308
200-48826-14	MW-16D 051519	Total/NA	Water	537 (modified)	143308
200-48826-15	MW-24 051519	Total/NA	Water	537 (modified)	143308
200-48826-16	MW-8D 051619	Total/NA	Water	537 (modified)	143308
200-48826-17	MW-8S 051619	Total/NA	Water	537 (modified)	143308
200-48826-18	MW-21 051619	Total/NA	Water	537 (modified)	143308
200-48826-19	MW-20 051619	Total/NA	Water	537 (modified)	143308
200-48826-20	MW-19 051619	Total/NA	Water	537 (modified)	143308
200-48826-21	DUP 051619	Total/NA	Water	537 (modified)	143308
200-48826-22	FIELD BLANK 051619	Total/NA	Water	537 (modified)	143308

LCMS (Continued)

Analysis Batch: 143753 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-23	EQUIPMENT BLANK 051619	Total/NA	Water	537 (modified)	143308
MB 200-143308/1-A	Method Blank	Total/NA	Water	537 (modified)	143308
LCS 200-143308/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	143308
200-48826-17 MS	MW-8S 051619	Total/NA	Water	537 (modified)	143308
200-48826-17 MSD	MW-8S 051619	Total/NA	Water	537 (modified)	143308

Analysis Batch: 143813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48826-5	VEW-2 051419	Total/NA	Water	537 (modified)	143263
200-48826-6	VEW-1 051419	Total/NA	Water	537 (modified)	143263
200-48826-7	VEW-3 051419	Total/NA	Water	537 (modified)	143308
200-48826-8	VEW-4 051419	Total/NA	Water	537 (modified)	143308
200-48826-9	ASW 051419	Total/NA	Water	537 (modified)	143308
LCS 200-143263/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	143263

Client Sample ID: K-3 051319
Lab Sample ID: 200-48826-1
Date Collected: 05/13/19 12:06
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143263	05/21/19 14:07	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143596	05/31/19 02:49	JM1	TAL BUR

Client Sample ID: MW-18 051319
Lab Sample ID: 200-48826-2
Date Collected: 05/13/19 13:02
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143263	05/21/19 14:07	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143596	05/31/19 03:04	JM1	TAL BUR

Client Sample ID: MW-17 051319
Lab Sample ID: 200-48826-3
Date Collected: 05/13/19 14:10
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143263	05/21/19 14:07	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143596	05/31/19 03:20	JM1	TAL BUR

Client Sample ID: MW-15S 051319
Lab Sample ID: 200-48826-4
Date Collected: 05/13/19 14:48
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143263	05/21/19 14:07	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143596	05/31/19 03:36	JM1	TAL BUR

Client Sample ID: VEW-2 051419
Lab Sample ID: 200-48826-5
Date Collected: 05/14/19 09:38
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143263	05/21/19 14:07	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143596	05/31/19 03:52	JM1	TAL BUR
Total/NA	Prep	3535			143263	05/21/19 14:07	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		10	143813	06/06/19 14:00	JM1	TAL BUR

Client Sample ID: VEW-1 051419
Lab Sample ID: 200-48826-6
Date Collected: 05/14/19 10:32
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143263	05/21/19 14:07	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143596	05/31/19 04:08	JM1	TAL BUR
Total/NA	Prep	3535			143263	05/21/19 14:07	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		10	143813	06/06/19 14:16	JM1	TAL BUR

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 200-48826-1

Client Sample ID: VEW-3 051419
Lab Sample ID: 200-48826-7
Date Collected: 05/14/19 11:28
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143753	06/05/19 03:26	BWC	TAL BUR
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		10	143813	06/06/19 14:31	JM1	TAL BUR

Client Sample ID: VEW-4 051419
Lab Sample ID: 200-48826-8
Date Collected: 05/14/19 12:22
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143753	06/05/19 03:42	BWC	TAL BUR
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		10	143813	06/06/19 14:47	JM1	TAL BUR

Client Sample ID: ASW 051419
Lab Sample ID: 200-48826-9
Date Collected: 05/14/19 13:54
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143753	06/05/19 03:58	BWC	TAL BUR
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		20	143813	06/06/19 15:03	JM1	TAL BUR

Client Sample ID: MW-23 051419
Lab Sample ID: 200-48826-10
Date Collected: 05/14/19 15:02
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143753	06/05/19 04:14	BWC	TAL BUR

Client Sample ID: MW-22 051519
Lab Sample ID: 200-48826-11
Date Collected: 05/15/19 09:35
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143753	06/05/19 04:30	BWC	TAL BUR

Client Sample ID: K-2 051519
Lab Sample ID: 200-48826-12
Date Collected: 05/15/19 10:50
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143753	06/05/19 04:46	BWC	TAL BUR

Client Sample ID: MW-15D 051519
Lab Sample ID: 200-48826-13
Date Collected: 05/15/19 12:18
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	143753	06/05/19 05:02	BWC	TAL BUR

Client Sample ID: MW-16D 051519
Lab Sample ID: 200-48826-14
Date Collected: 05/15/19 13:42
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	143753	06/05/19 05:17	BWC	TAL BUR

Client Sample ID: MW-24 051519
Lab Sample ID: 200-48826-15
Date Collected: 05/15/19 14:56
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	143753	06/05/19 05:49	BWC	TAL BUR

Client Sample ID: MW-8D 051619
Lab Sample ID: 200-48826-16
Date Collected: 05/16/19 09:44
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611633	05/21/19 12:26	DXB	TAL EDI
Total/NA	Analysis	8270D SIM		1	611861	05/22/19 14:32	FAM	TAL EDI
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	143753	06/05/19 06:05	BWC	TAL BUR

Client Sample ID: MW-8S 051619
Lab Sample ID: 200-48826-17
Date Collected: 05/16/19 10:52
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611633	05/21/19 12:26	DXB	TAL EDI
Total/NA	Analysis	8270D SIM		1	611861	05/22/19 14:53	FAM	TAL EDI
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	143753	06/05/19 06:21	BWC	TAL BUR

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 200-48826-1

Client Sample ID: MW-21 051619
Lab Sample ID: 200-48826-18
Date Collected: 05/16/19 13:34
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611633	05/21/19 12:26	DXB	TAL EDI
Total/NA	Analysis	8270D SIM		1	611861	05/22/19 15:57	FAM	TAL EDI
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143753	06/05/19 07:09	BWC	TAL BUR

Client Sample ID: MW-20 051619
Lab Sample ID: 200-48826-19
Date Collected: 05/16/19 14:40
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611633	05/21/19 12:26	DXB	TAL EDI
Total/NA	Analysis	8270D SIM		1	611861	05/22/19 16:18	FAM	TAL EDI
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143753	06/05/19 07:25	BWC	TAL BUR

Client Sample ID: MW-19 051619
Lab Sample ID: 200-48826-20
Date Collected: 05/16/19 15:40
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611633	05/21/19 12:26	DXB	TAL EDI
Total/NA	Analysis	8270D SIM		1	611861	05/22/19 16:39	FAM	TAL EDI
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		5	143753	06/05/19 07:40	BWC	TAL BUR

Client Sample ID: DUP 051619
Lab Sample ID: 200-48826-21
Date Collected: 05/16/19 00:00
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			611633	05/21/19 12:26	DXB	TAL EDI
Total/NA	Analysis	8270D SIM		1	611861	05/22/19 17:00	FAM	TAL EDI
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	143753	06/05/19 07:56	BWC	TAL BUR

Client Sample ID: FIELD BLANK 051619
Lab Sample ID: 200-48826-22
Date Collected: 05/16/19 16:00
Matrix: Water
Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			612326	05/23/19 16:18	DXB	TAL EDI
Total/NA	Analysis	8270D SIM		1	612564	05/24/19 20:14	CAZ	TAL EDI
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	143753	06/05/19 08:12	BWC	TAL BUR

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Korkay, Inc. #518014

Job ID: 200-48826-1

Client Sample ID: EQUIPMENT BLANK 051619

Lab Sample ID: 200-48826-23

Date Collected: 05/16/19 16:10

Matrix: Water

Date Received: 05/18/19 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			143308	05/22/19 11:30	TPB	TAL BUR
Total/NA	Analysis	537 (modified)		1	143753	06/05/19 08:28	BWC	TAL BUR

Laboratory References:

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

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: New York State D.E.C. Job ID: 200-48826-1
Project/Site: Korkay, Inc. #518014

Laboratory: Eurofins TestAmerica, Burlington

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10391	04-01-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537 (modified)	3535	Water	6:2 FTS
537 (modified)	3535	Water	8:2 FTS
537 (modified)	3535	Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorobutanoic acid (PFBA)
537 (modified)	3535	Water	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonamide (FOSA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluoropentanoic acid (PFPeA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-20

Laboratory: Eurofins 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	04-01-20

8270D_SIM_14DX

1,4-Dioxane (GC/MS SIM)

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Rtxi-5Sil M ID: 0.25(mm)

Client Sample ID	Lab Sample ID	NBZ #
MW-8D 051619	200-48826-16	80
MW-8S 051619	200-48826-17	95
MW-21 051619	200-48826-18	82
MW-20 051619	200-48826-19	87
MW-19 051619	200-48826-20	99
DUP 051619	200-48826-21	89
FIELD BLANK 051619	200-48826-22	64
	MB 460-612326/1-A	63
	LCS 460-611633/2-A	80
	LCS 460-612326/2-A	58
	LCSD 460-611633/3-A	81
	LCSD 460-612326/3-A	55
MW-8S 051619 MS	200-48826-17 MS	84
MW-8S 051619 MSD	200-48826-17 MSD	93

	QC LIMITS
NBZ = Nitrobenzene-d5	38-125

Column to be used to flag recovery values

FORM II 8270D SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: h2380726.D

Lab ID: LCS 460-611633/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,4-Dioxane	0.800	0.840	105	10-137	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: h2380879.D

Lab ID: LCS 460-612326/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,4-Dioxane	0.800	0.511	64	10-137	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: h2380727.D

Lab ID: LCSD 460-611633/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,4-Dioxane	0.800	0.520	65	47	30	10-137	*

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: h2380880.D

Lab ID: LCSD 460-612326/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,4-Dioxane	0.800	0.477	60	7	30	10-137	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: h2380744.D

Lab ID: 200-48826-17 MS Client ID: MW-8S 051619 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,4-Dioxane	0.800	ND	0.462	58	10-137	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: h2380745.D

Lab ID: 200-48826-17 MSD Client ID: MW-8S 051619 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,4-Dioxane	0.800	0.552	69	18	30	10-137	

Column to be used to flag recovery and RPD values

FORM III 8270D SIM

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Lab File ID: h2380878.D Lab Sample ID: MB 460-612326/1-A

Matrix: Water Date Extracted: 05/23/2019 16:18

Instrument ID: CBNAMS9 Date Analyzed: 05/24/2019 19:10

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 460-612326/2-A	h2380879.D	05/24/2019 19:31
	LCSD 460-612326/3-A	h2380880.D	05/24/2019 19:52
FIELD BLANK 051619	200-48826-22	h2380881.D	05/24/2019 20:14

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Lab File ID: h2380215.D DFTPP Injection Date: 05/10/2019

Instrument ID: CBNAMS9 DFTPP Injection Time: 11:27

Analysis Batch No.: 608996

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	33.6	
68	Less than 2.0 % of mass 69	0.6	(2.0) 1
69	Mass 69 relative abundance	32.2	
70	Less than 2.0 % of mass 69	0.2	(0.5) 1
127	40.0 - 60.0 % of mass 198	42.9	
197	Less than 1.0 % of mass 198	0.5	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	7.2	
275	10.0 - 30.0 % of mass 198	25.6	
365	Greater than 1.0 % of mass 198	4.3	
441	Present but less than mass 443	23.8	(68.8) 3
442	Greater than 40.0 % of mass 198	163.1	
443	17.0 - 23.0 % of mass 442	34.6	(21.2) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 460-608996/2	h2380216.D	05/10/2019	11:43
	STD6 460-608996/3	h2380217.D	05/10/2019	12:04
	STD5 460-608996/4	h2380218.D	05/10/2019	12:26
	STD4 460-608996/5	h2380219.D	05/10/2019	12:47
	STD2 460-608996/6	h2380220.D	05/10/2019	13:08
	STD1 460-608996/7	h2380221.D	05/10/2019	13:29

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Lab File ID: h2380719.D DFTPP Injection Date: 05/22/2019

Instrument ID: CBNAMS9 DFTPP Injection Time: 06:22

Analysis Batch No.: 611861

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	30.1	
68	Less than 2.0 % of mass 69	0.3	(0.9) 1
69	Mass 69 relative abundance	29.5	
70	Less than 2.0 % of mass 69	0.2	(0.6) 1
127	40.0 - 60.0 % of mass 198	40.4	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.7	
275	10.0 - 30.0 % of mass 198	29.6	
365	Greater than 1.0 % of mass 198	4.6	
441	Present but less than mass 443	27.3	(82.9) 3
442	Greater than 40.0 % of mass 198	173.7	
443	17.0 - 23.0 % of mass 442	33.0	(19.0) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 460-611861/2	h2380720.D	05/22/2019	06:38
	LCS 460-611633/2-A	h2380726.D	05/22/2019	08:52
	LCSD 460-611633/3-A	h2380727.D	05/22/2019	09:14
MW-8D 051619	200-48826-16	h2380742.D	05/22/2019	14:32
MW-8S 051619	200-48826-17	h2380743.D	05/22/2019	14:53
MW-8S 051619 MS	200-48826-17 MS	h2380744.D	05/22/2019	15:14
MW-8S 051619 MSD	200-48826-17 MSD	h2380745.D	05/22/2019	15:36
MW-21 051619	200-48826-18	h2380746.D	05/22/2019	15:57
MW-20 051619	200-48826-19	h2380747.D	05/22/2019	16:18
MW-19 051619	200-48826-20	h2380748.D	05/22/2019	16:39
DUP 051619	200-48826-21	h2380749.D	05/22/2019	17:00

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Lab File ID: h2380854.D DFTPP Injection Date: 05/24/2019

Instrument ID: CBNAMS9 DFTPP Injection Time: 10:45

Analysis Batch No.: 612564

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	28.7	
68	Less than 2.0 % of mass 69	0.1	(0.4) 1
69	Mass 69 relative abundance	29.1	
70	Less than 2.0 % of mass 69	0.0	(0.0) 1
127	40.0 - 60.0 % of mass 198	40.5	
197	Less than 1.0 % of mass 198	0.1	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.2	
275	10.0 - 30.0 % of mass 198	26.8	
365	Greater than 1.0 % of mass 198	3.6	
441	Present but less than mass 443	23.3	(69.1) 3
442	Greater than 40.0 % of mass 198	171.2	
443	17.0 - 23.0 % of mass 442	33.7	(19.7) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 460-612564/2	h2380855.D	05/24/2019	10:57
	MB 460-612326/1-A	h2380878.D	05/24/2019	19:10
	LCS 460-612326/2-A	h2380879.D	05/24/2019	19:31
	LCSD 460-612326/3-A	h2380880.D	05/24/2019	19:52
FIELD BLANK 051619	200-48826-22	h2380881.D	05/24/2019	20:14

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Sample No.: CCVIS 460-611861/2 Date Analyzed: 05/22/2019 06:38

Instrument ID: CBNAMS9 GC Column: Rtxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): h2380720.D Heated Purge: (Y/N) N

Calibration ID: 74859

		DCBd4		NPT			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		10529	4.44	33736	5.65		
UPPER LIMIT		21058	4.94	67472	6.15		
LOWER LIMIT		5265	3.94	16868	5.15		
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 460-611633/2-A		11155	4.44	36413	5.65		
LCSD 460-611633/3-A		10076	4.44	33101	5.65		
200-48826-16	MW-8D 051619	10798	4.44	35249	5.65		
200-48826-17	MW-8S 051619	8918	4.44	28956	5.65		
200-48826-17 MS	MW-8S 051619 MS	11271	4.44	36975	5.65		
200-48826-17 MSD	MW-8S 051619 MSD	9158	4.44	29390	5.65		
200-48826-18	MW-21 051619	10402	4.44	33962	5.65		
200-48826-19	MW-20 051619	10575	4.44	34079	5.65		
200-48826-20	MW-19 051619	11637	4.44	37419	5.65		
200-48826-21	DUP 051619	9997	4.44	32599	5.65		

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D SIM

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Sample No.: CCVIS 460-612564/2 Date Analyzed: 05/24/2019 10:57

Instrument ID: CBNAMS9 GC Column: Rtxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): h2380855.D Heated Purge: (Y/N) N

Calibration ID: 74859

		DCBd4		NPT			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		10327	4.43	32840	5.63		
UPPER LIMIT		20654	4.93	65680	6.13		
LOWER LIMIT		5164	3.93	16420	5.13		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 460-612326/1-A		8708	4.43	27397	5.63		
LCS 460-612326/2-A		9598	4.43	30445	5.63		
LCSD 460-612326/3-A		9353	4.43	29801	5.63		
200-48826-22	FIELD BLANK 051619	8969	4.43	28054	5.63		

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D SIM

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8D 051619 Lab Sample ID: 200-48826-16

Matrix: Water Lab File ID: h2380742.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 09:44

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 14:32

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND	*	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	80		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380742.D
Lims ID: 200-48826-C-16-A
Client ID: MW-8D 051619
Sample Type: Client
Inject. Date: 22-May-2019 14:32:30 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-024
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 22-May-2019 23:55:15 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0334

First Level Reviewer: zhaoc Date: 22-May-2019 14:59:29

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	100	10798	0.2000	
$ 6 Nitrobenzene-d5	82	4.959	4.959	0.000	98	44499	0.8020	
* 7 Naphthalene-d8	136	5.651	5.651	0.000	98	35249	0.2000	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	93	20105	0.2000	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	99	31496	0.2000	
* 25 Chrysene-d12	240	11.313	11.323	-0.010	93	24462	0.2000	
* 30 Perylene-d12	264	13.204	13.204	0.000	100	33311	0.2000	
35 DFTPP								

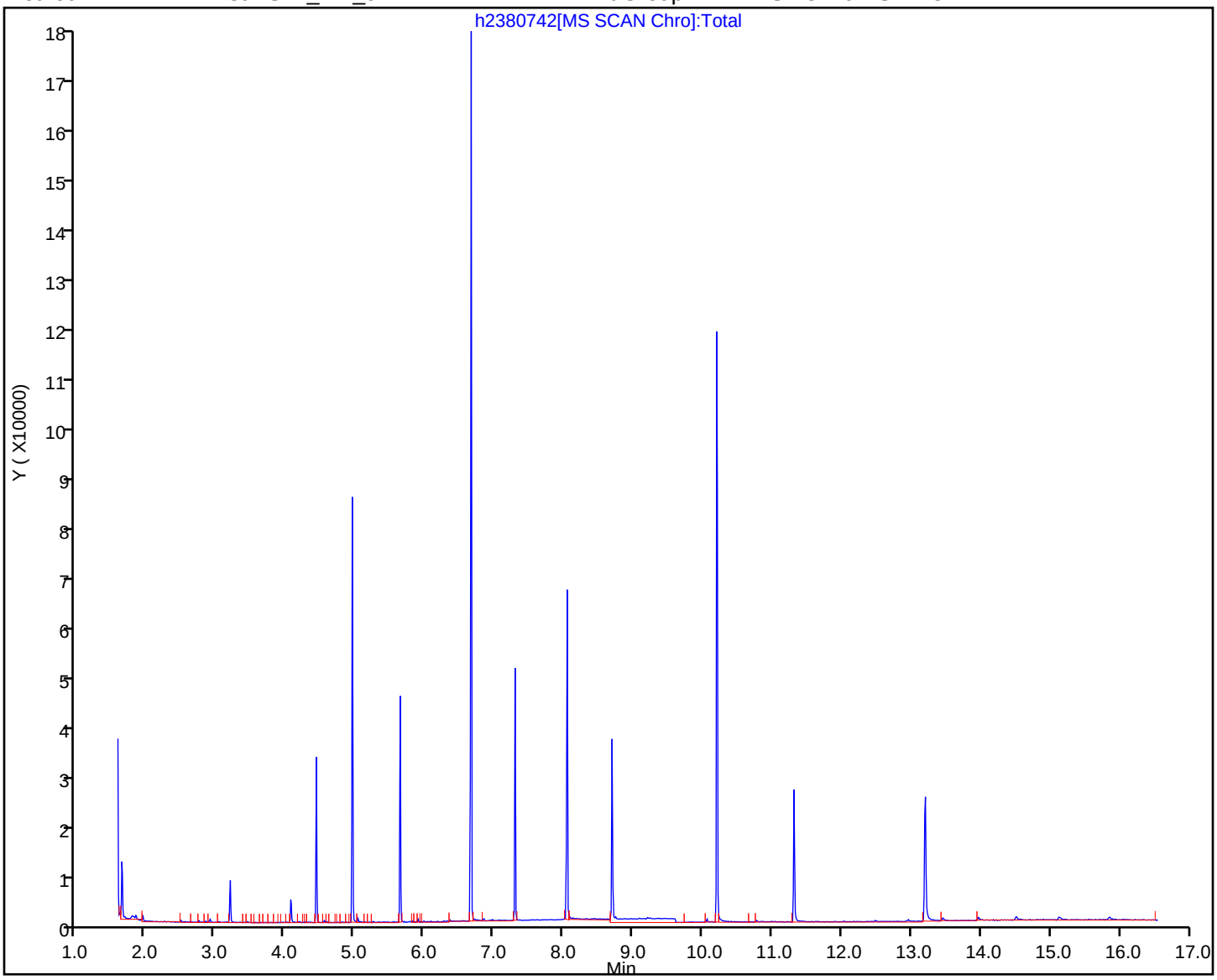
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 22-May-2019 23:55:16 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380742.D				
Injection Date:	22-May-2019 14:32:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-C-16-A	Lab Sample ID:	460-48826-16		
Client ID:	MW-8D 051619				
Operator ID:		ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



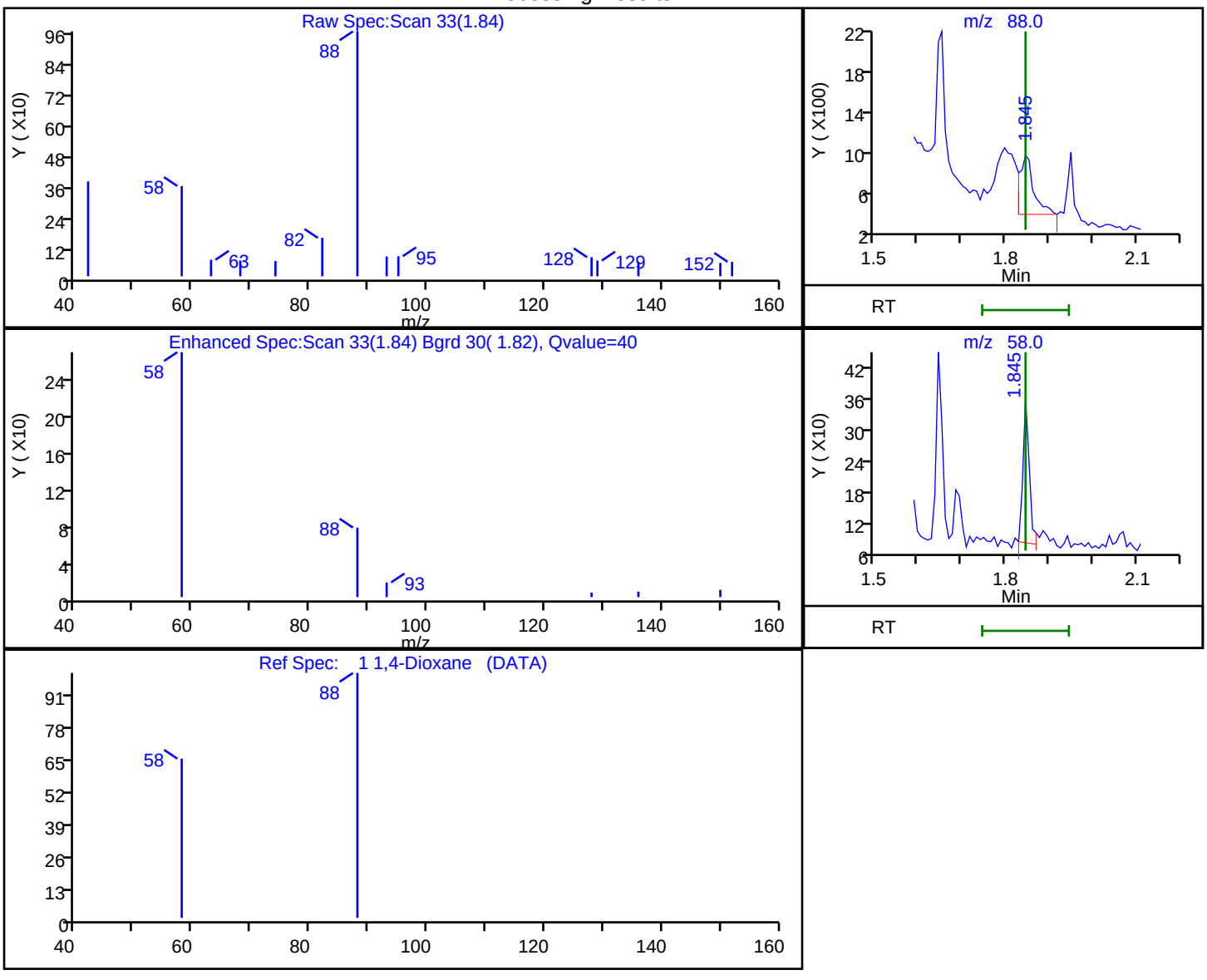
User Disabled Compound Report

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380742.D		
Injection Date:	22-May-2019 14:32:30	Instrument ID:	CBNAMS9
Lims ID:	200-48826-C-16-A	Lab Sample ID:	460-48826-16
Client ID:	MW-8D 051619		
Operator ID:		ALS Bottle#:	24 Worklist Smp#: 24
Injection Vol:	5.0 ul	Dil. Factor:	1.0000
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL
Column:		Detector	MS SCAN

1 1,4-Dioxane, CAS: 123-91-1

Processing Results



RT	Mass	Response	Amount
1.84	88.00	1293	0.046731
1.84	58.00	280	

Reviewer: nimerd, 22-May-2019 23:55:14

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

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SDG No. .

C (ent S mp e (□. MW-,S 0)%*%– b S mp e (□. 200- (,,2*-%7

M t (x. W te b %(□ (□. h23 ,07 (3.D

n ys (s Method . ,270D S (M D te Co ected . 0)/%*/20 %– %0.)2

Ext ct. Method . 3)%0C D te Ext cted . 0)/2 %/20 %– %2.2*

S mp e %t/vo . 2)0 m) D te n y (ed . 0)/22/20 %– %(.)3

Con. Ext ct *□ . . 2 m) D(ut (on % cto . %

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S Mo(stu e. GPC C e nup . %/N) N

n ys (s B tch No. . *%%,*%)n(ts . ug/

C S NO.	COMPO)ND N ME	RES) (	%	R	MD
%23- –%- %	% (-D (ox ne	ND	*	0. (0	0. %7

C S NO.	S)RROG (E	SREC	%	(□((□
(%*)-*0-0	N(t oben (ene-d)	–)		3,-%2)

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380743.D
Lims ID: 200-48826-D-17-A
Client ID: MW-8S 051619
Sample Type: Client
Inject. Date: 22-May-2019 14:53:30 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-025
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 22-May-2019 23:56:13 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0334

First Level Reviewer: zhaoc Date: 22-May-2019 15:17:24

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	100	8918	0.2000	
$ 6 Nitrobenzene-d5	82	4.959	4.959	0.000	98	43242	0.9488	
* 7 Naphthalene-d8	136	5.650	5.651	-0.001	98	28956	0.2000	
$ 9 2-Fluorobiphenyl	172	6.670	6.670	0.000	93	114826	0.8669	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	91	15985	0.2000	
$ 20 2,4,6-Tribromophenol	330	8.051	8.051	0.000	89	26566	0.9046	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	99	26216	0.2000	
19 Anthracene	178	8.775	8.775	0.000	95	101	0.000711	
$ 23 Terphenyl-d14	244	10.201	10.202	-0.010	99	90018	1.04	
* 25 Chrysene-d12	240	11.313	11.323	-0.010	93	20493	0.2000	
* 30 Perylene-d12	264	13.204	13.204	0.000	100	28183	0.2000	

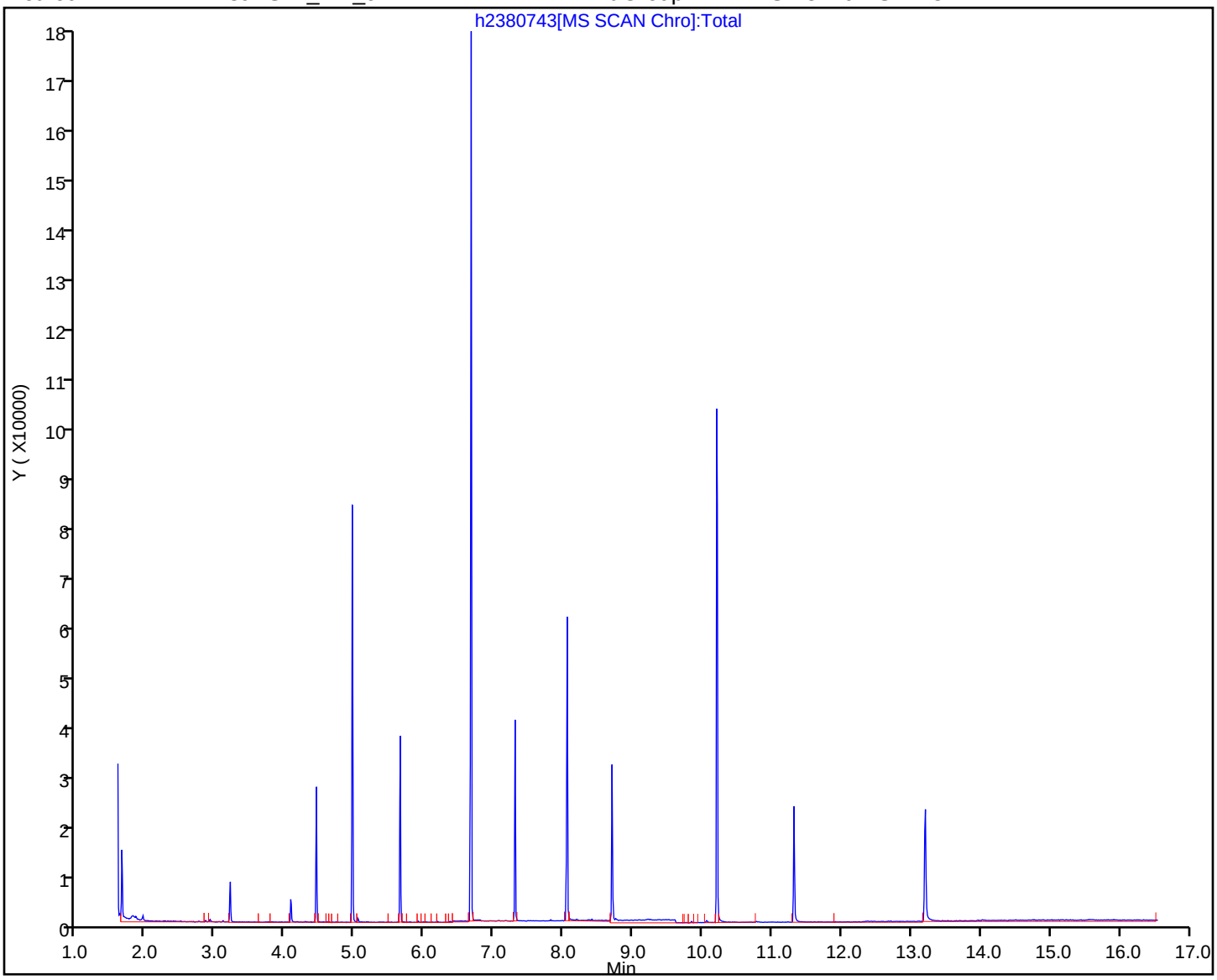
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 22-May-2019 23:56:14 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380743.D				
Injection Date:	22-May-2019 14:53:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-D-17-A	Lab Sample ID:	460-48826-17		
Client ID:	MW-8S 051619				
Operator ID:		ALS Bottle#:	25	Worklist Smp#:	25
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



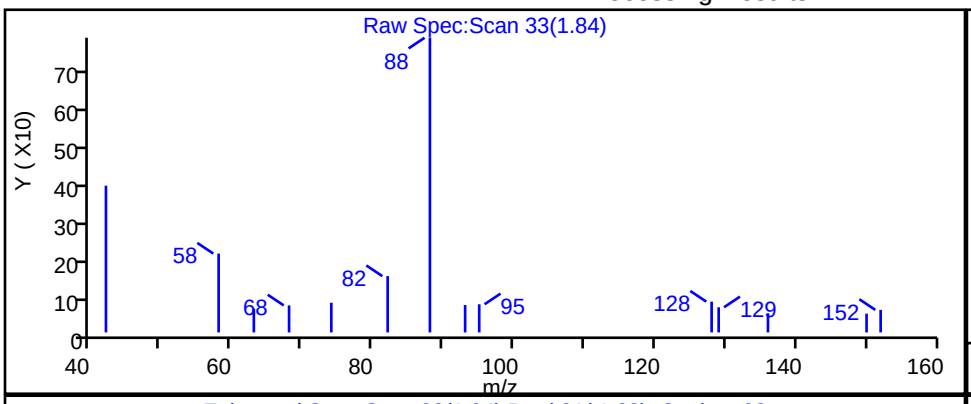
User Disabled Compound Report

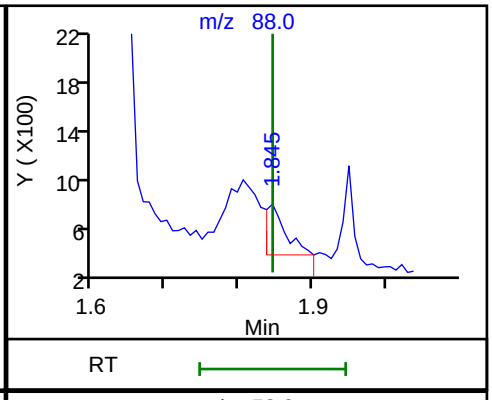
Eurofins TestAmerica, Edison

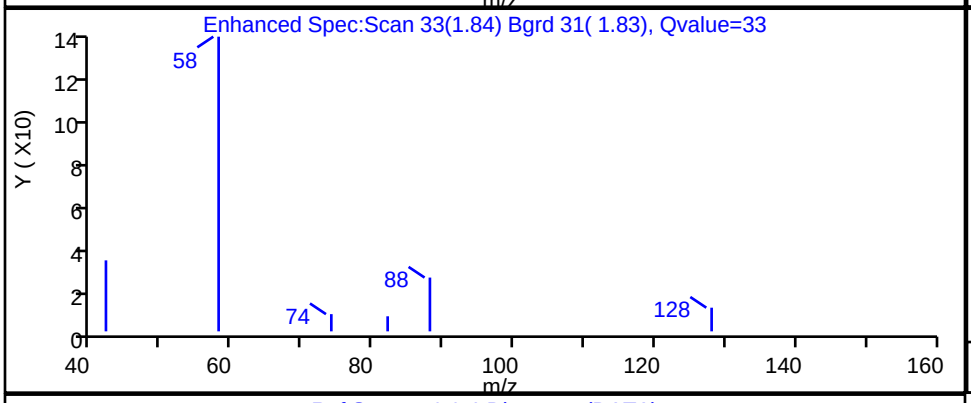
Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380743.D		
Injection Date:	22-May-2019 14:53:30	Instrument ID:	CBNAMS9
Lims ID:	200-48826-D-17-A	Lab Sample ID:	460-48826-17
Client ID:	MW-8S 051619		
Operator ID:		ALS Bottle#:	25 Worklist Smp#: 25
Injection Vol:	5.0 ul	Dil. Factor:	1.0000
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL
Column:		Detector	MS SCAN

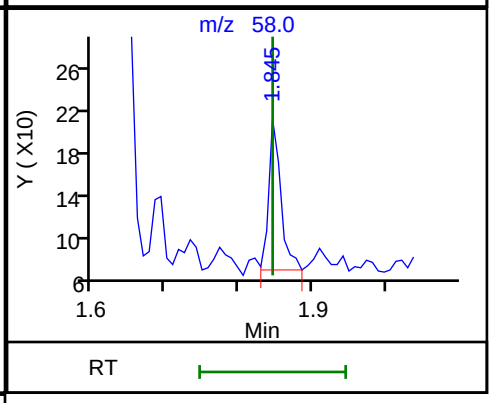
1 1,4-Dioxane, CAS: 123-91-1

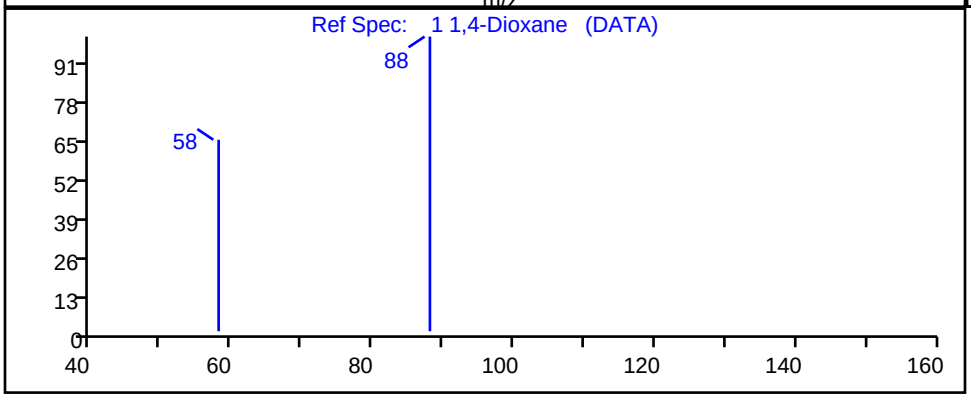
Processing Results











RT	Mass	Response	Amount
1.84	88.00	742	0.032470
1.84	58.00	160	

Reviewer: nimerd, 22-May-2019 23:56:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-21 051619 Lab Sample ID: 200-48826-18

Matrix: Water Lab File ID: h2380746.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 13:34

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 15:57

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND	*	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	82		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380746.D
Lims ID: 200-48826-D-18-A
Client ID: MW-21 051619
Sample Type: Client
Inject. Date: 22-May-2019 15:57:30 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-028
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 23-May-2019 11:28:17 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: hamziy Date: 22-May-2019 21:19:50

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	100	10402	0.2000	
$ 6 Nitrobenzene-d5	82	4.958	4.959	-0.001	98	43694	0.8174	
* 7 Naphthalene-d8	136	5.650	5.651	-0.001	98	33962	0.2000	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	92	19392	0.2000	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	99	28249	0.2000	
* 25 Chrysene-d12	240	11.313	11.323	-0.010	92	23360	0.2000	
* 30 Perylene-d12	264	13.204	13.204	0.000	100	31886	0.2000	
35 DFTPP								

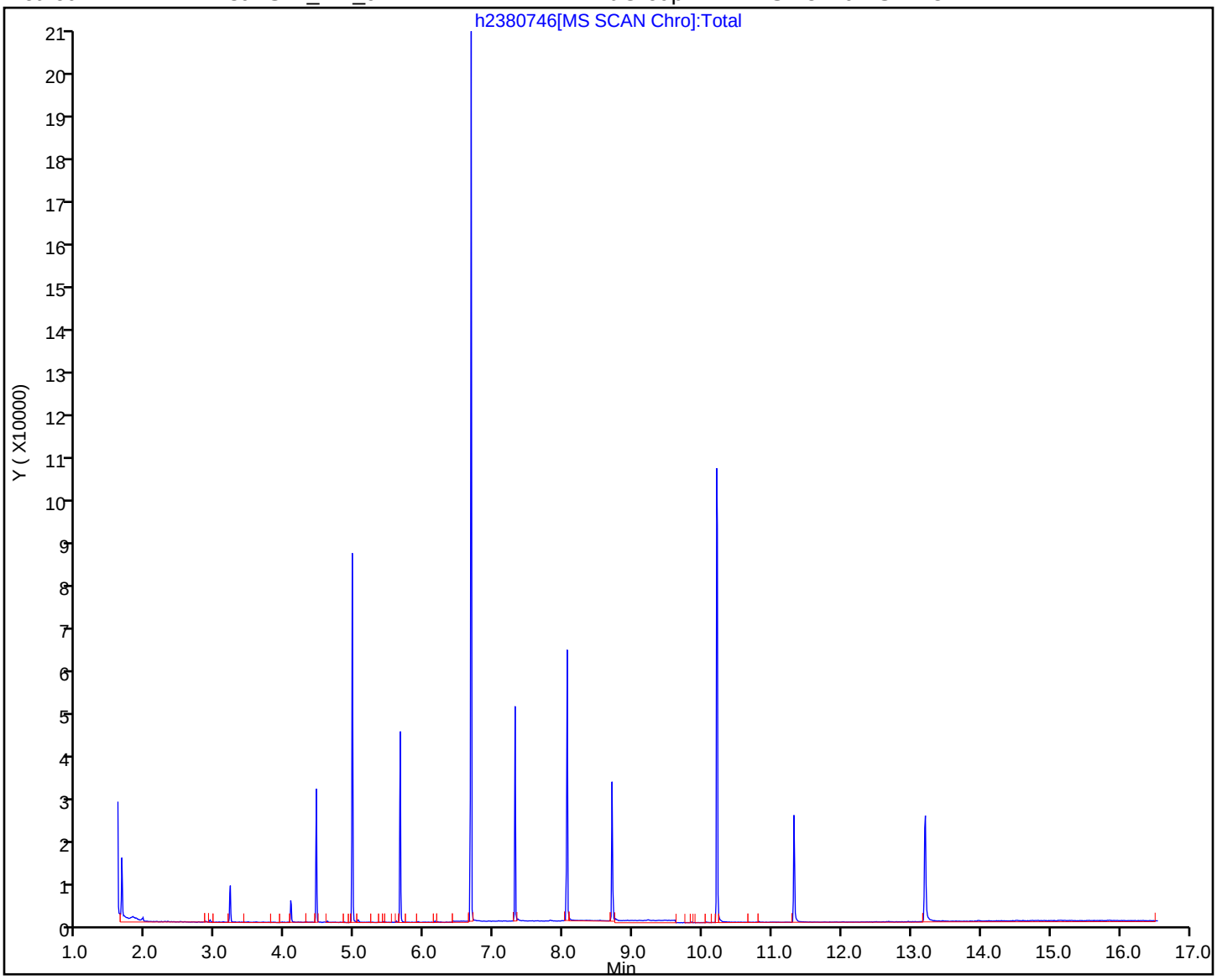
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 23-May-2019 11:29:32 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380746.D				
Injection Date:	22-May-2019 15:57:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-D-18-A	Lab Sample ID:	460-48826-18		
Client ID:	MW-21 051619				
Operator ID:		ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



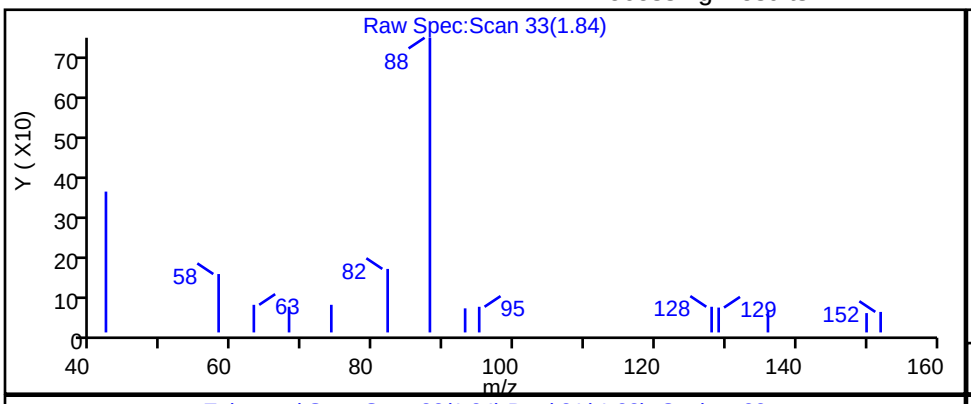
User Disabled Compound Report

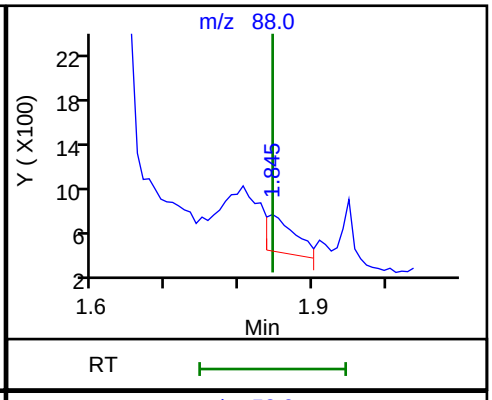
Eurofins TestAmerica, Edison

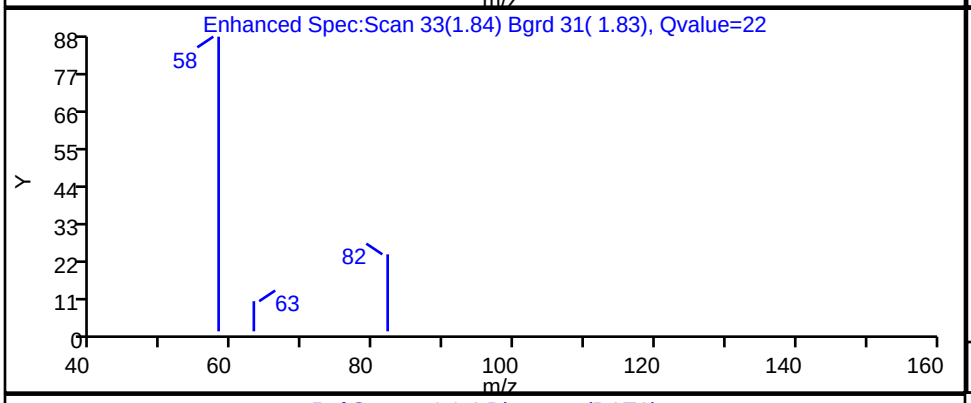
Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380746.D				
Injection Date:	22-May-2019 15:57:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-D-18-A	Lab Sample ID:	460-48826-18		
Client ID:	MW-21 051619				
Operator ID:		ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		
Column:		Detector	MS SCAN		

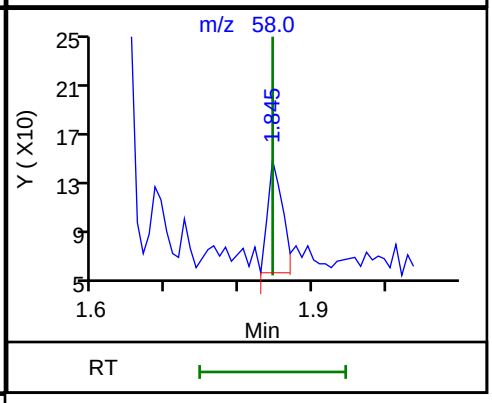
1 1,4-Dioxane, CAS: 123-91-1

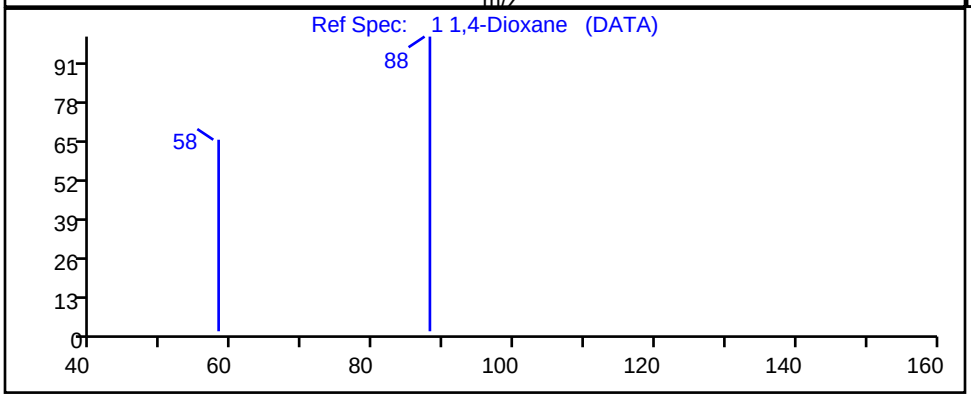
Processing Results











RT	Mass	Response	Amount
1.84	88.00	930	0.034891
1.84	58.00	124	

Reviewer: hamziy, 22-May-2019 21:19:38

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-20 051619 Lab Sample ID: 200-48826-19

Matrix: Water Lab File ID: h2380747.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 14:40

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 16:18

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND	*	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	87		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380747.D
Lims ID: 200-48826-D-19-A
Client ID: MW-20 051619
Sample Type: Client
Inject. Date: 22-May-2019 16:18:30 ALS Bottle#: 29 Worklist Smp#: 29
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-029
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 23-May-2019 11:28:17 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: hamziy Date: 22-May-2019 21:20:07

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	99	10575	0.2000	
$ 6 Nitrobenzene-d5	82	4.959	4.959	0.000	99	46738	0.8713	
* 7 Naphthalene-d8	136	5.651	5.651	0.000	98	34079	0.2000	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	92	19602	0.2000	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	99	31124	0.2000	
* 25 Chrysene-d12	240	11.313	11.323	-0.010	93	25730	0.2000	
* 30 Perylene-d12	264	13.204	13.204	0.000	100	32559	0.2000	
35 DFTPP								

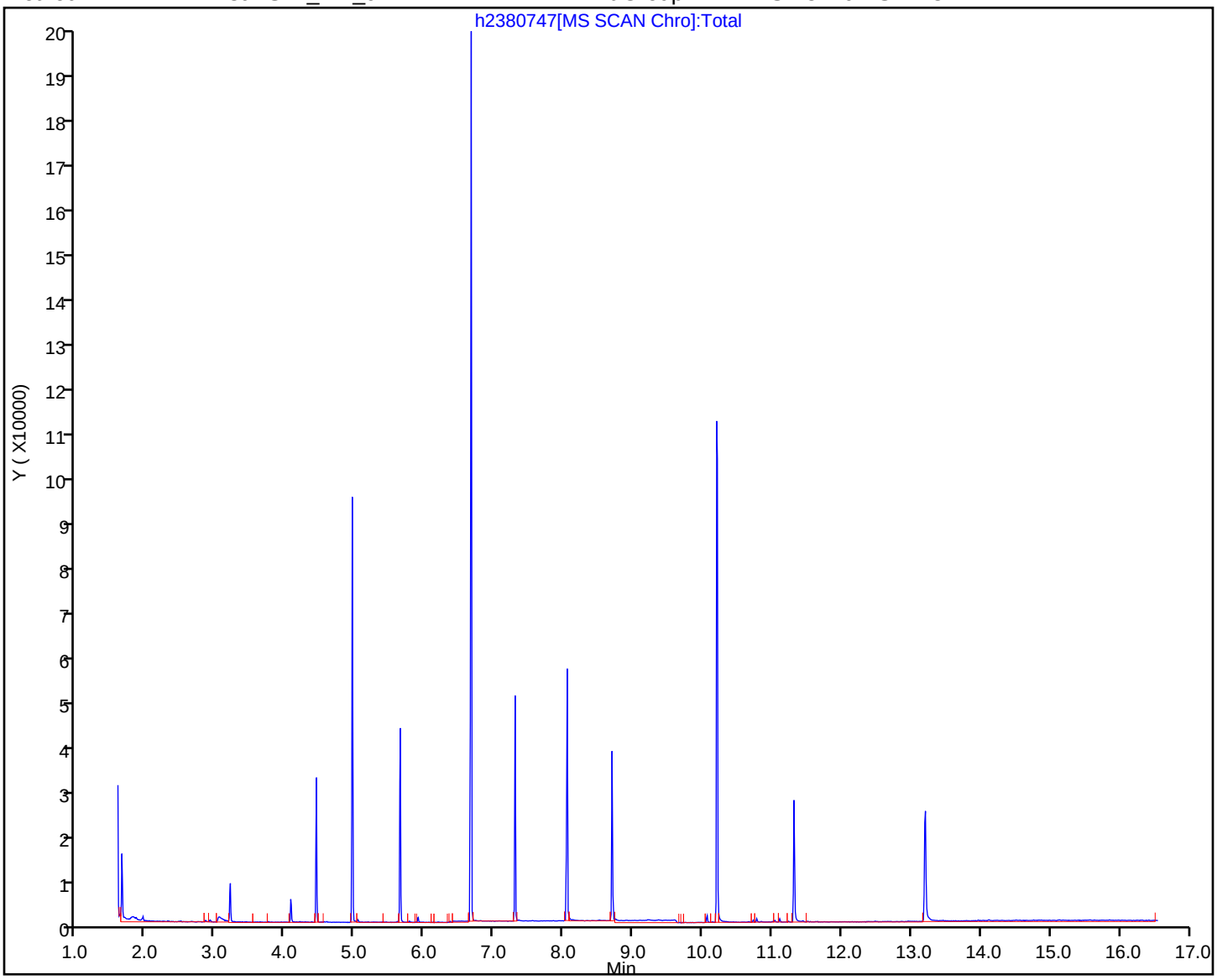
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 23-May-2019 11:29:40 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380747.D				
Injection Date:	22-May-2019 16:18:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-D-19-A	Lab Sample ID:	460-48826-19		
Client ID:	MW-20 051619				
Operator ID:		ALS Bottle#:	29	Worklist Smp#:	29
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



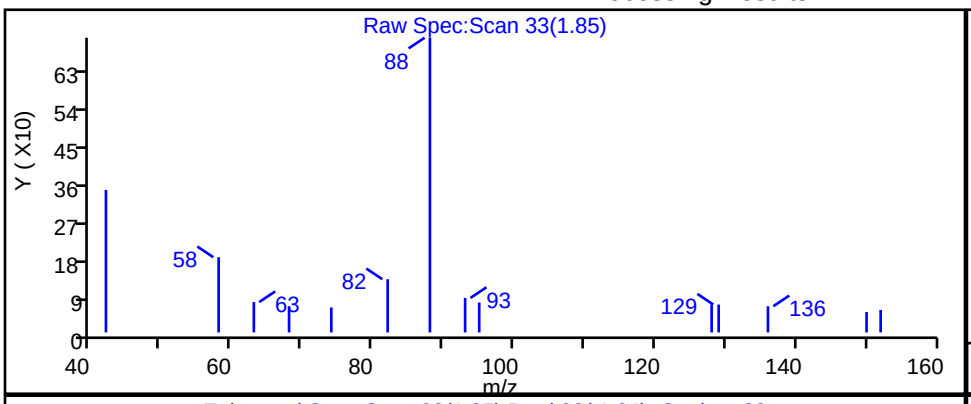
User Disabled Compound Report

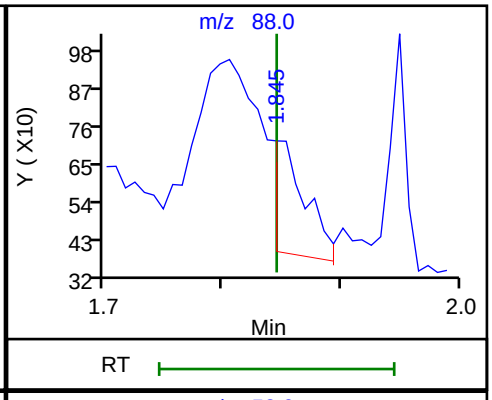
Eurofins TestAmerica, Edison

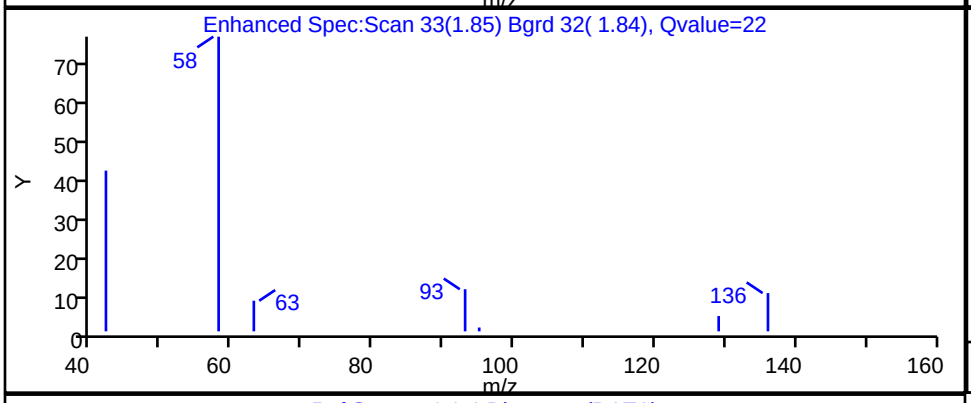
Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380747.D		
Injection Date:	22-May-2019 16:18:30	Instrument ID:	CBNAMS9
Lims ID:	200-48826-D-19-A	Lab Sample ID:	460-48826-19
Client ID:	MW-20 051619		
Operator ID:		ALS Bottle#:	29 Worklist Smp#: 29
Injection Vol:	5.0 ul	Dil. Factor:	1.0000
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL
Column:		Detector	MS SCAN

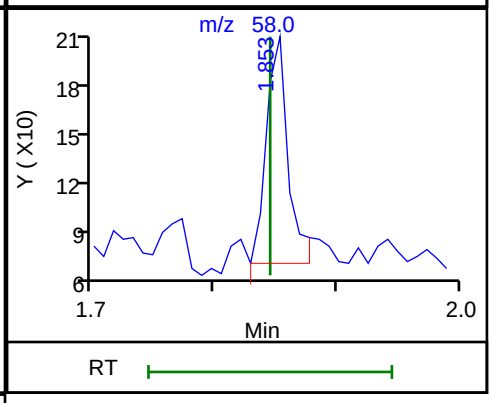
1 1,4-Dioxane, CAS: 123-91-1

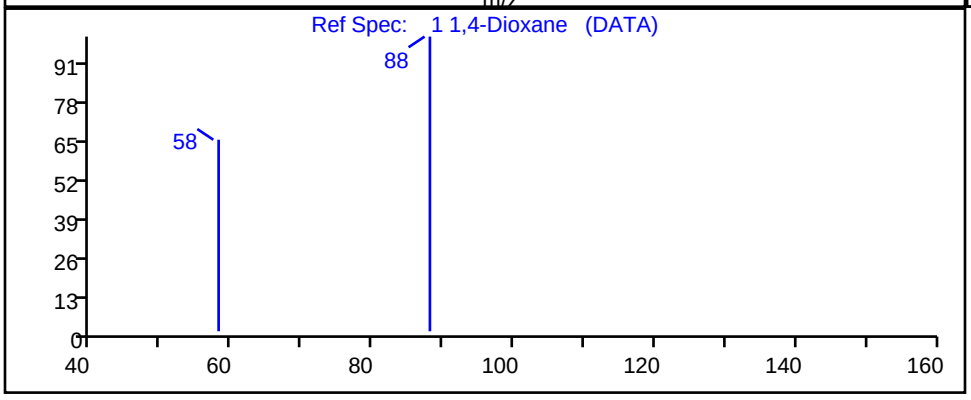
Processing Results











RT	Mass	Response	Amount
1.85	88.00	627	0.023139
1.85	58.00	164	

Reviewer: hamziy, 22-May-2019 21:19:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-19 051619 Lab Sample ID: 200-48826-20

Matrix: Water Lab File ID: h2380748.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 15:40

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 16:39

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND	*	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	99		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380748.D
Lims ID: 200-48826-D-20-A
Client ID: MW-19 051619
Sample Type: Client
Inject. Date: 22-May-2019 16:39:30 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-030
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 23-May-2019 11:28:17 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: hamziy Date: 22-May-2019 21:20:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	100	11637	0.2000	
$ 6 Nitrobenzene-d5	82	4.959	4.959	0.000	98	58134	0.9870	
* 7 Naphthalene-d8	136	5.651	5.651	0.000	98	37419	0.2000	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	91	21884	0.2000	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	98	35123	0.2000	
* 25 Chrysene-d12	240	11.313	11.323	-0.010	92	27059	0.2000	
* 30 Perylene-d12	264	13.204	13.204	0.000	100	35957	0.2000	
35 DFTPP								

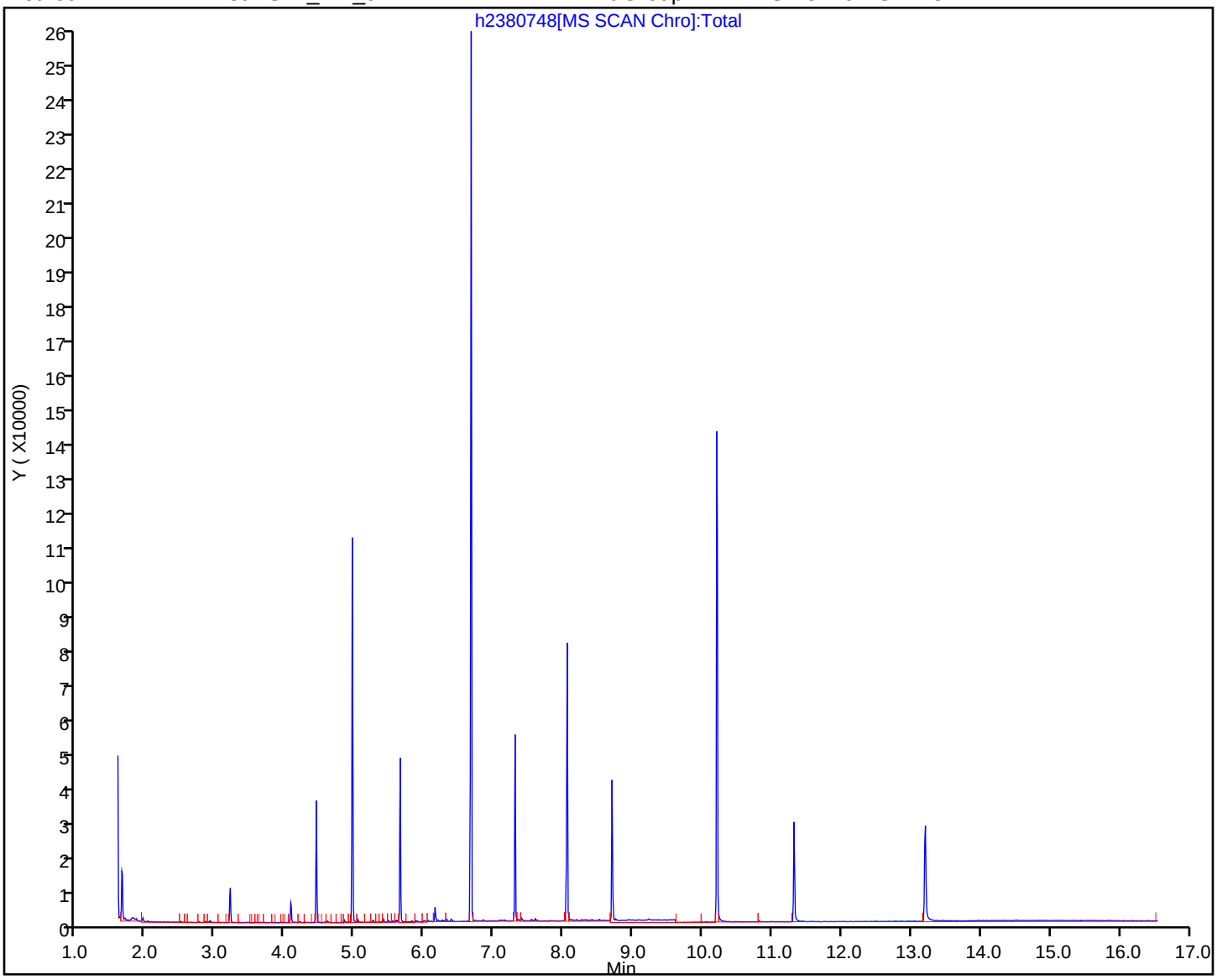
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 23-May-2019 11:29:48 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380748.D				
Injection Date:	22-May-2019 16:39:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-D-20-A	Lab Sample ID:	460-48826-20		
Client ID:	MW-19 051619				
Operator ID:		ALS Bottle#:	30	Worklist Smp#:	30
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



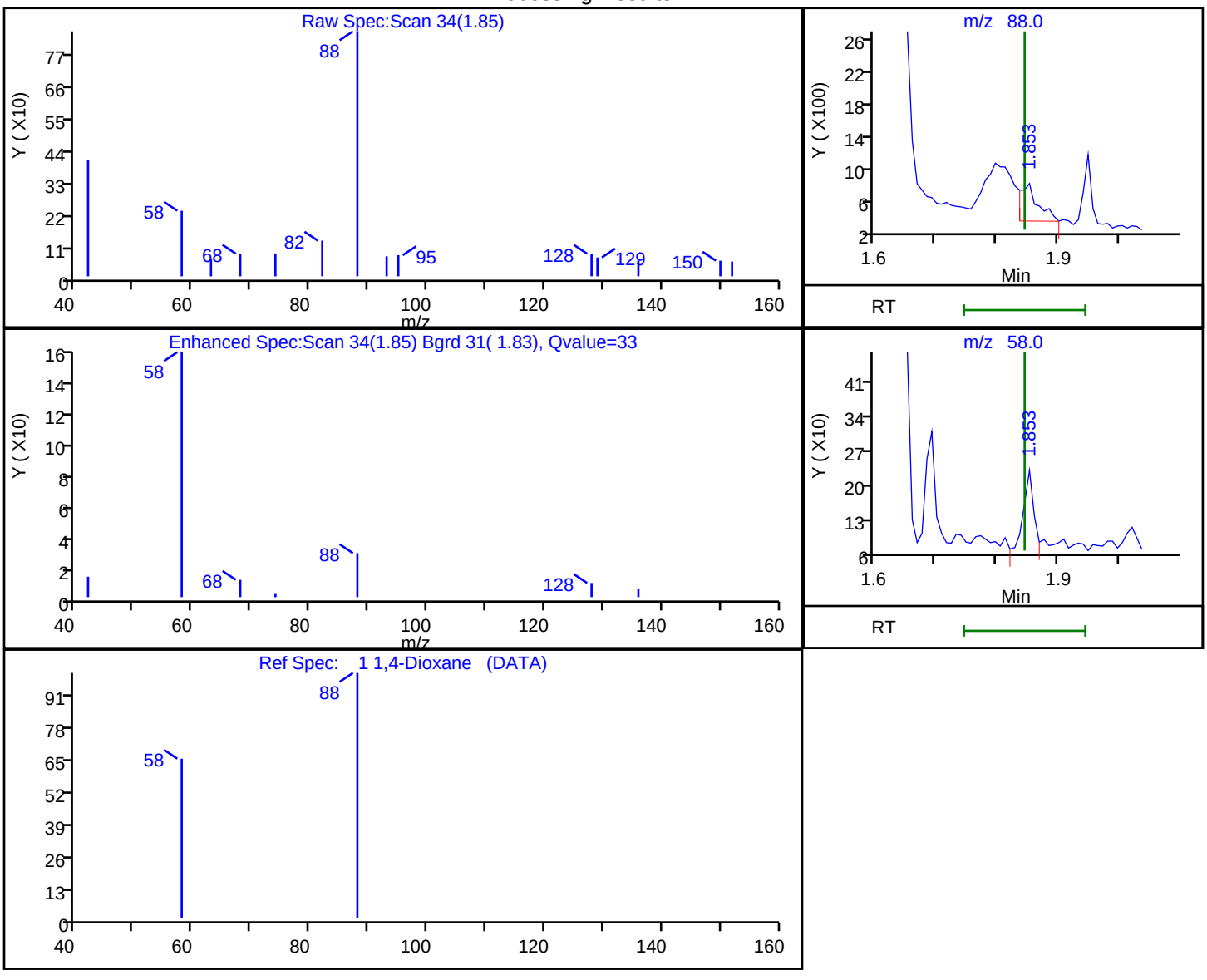
User Disabled Compound Report

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380748.D		
Injection Date:	22-May-2019 16:39:30	Instrument ID:	CBNAMS9
Lims ID:	200-48826-D-20-A	Lab Sample ID:	460-48826-20
Client ID:	MW-19 051619		
Operator ID:		ALS Bottle#:	30 Worklist Smp#: 30
Injection Vol:	5.0 ul	Dil. Factor:	1.0000
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL
Column:		Detector	MS SCAN

1 1,4-Dioxane, CAS: 123-91-1

Processing Results



RT	Mass	Response	Amount
1.85	88.00	913	0.030618
1.85	58.00	177	

Reviewer: hamziy, 22-May-2019 21:20:12

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: DUP 051619 Lab Sample ID: 200-48826-21

Matrix: Water Lab File ID: h2380749.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 00:00

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 17:00

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND	*	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	89		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380749.D
Lims ID: 200-48826-D-21-A
Client ID: DUP 051619
Sample Type: Client
Inject. Date: 22-May-2019 17:00:30 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-031
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 23-May-2019 11:28:17 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: hamziy Date: 22-May-2019 21:20:43

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	100	9997	0.2000	
$ 6 Nitrobenzene-d5	82	4.958	4.959	-0.001	99	45891	0.8944	
* 7 Naphthalene-d8	136	5.650	5.651	-0.001	98	32599	0.2000	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	92	18358	0.2000	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	99	28802	0.2000	
* 25 Chrysene-d12	240	11.313	11.323	-0.010	93	23508	0.2000	
* 30 Perylene-d12	264	13.204	13.204	0.000	100	32057	0.2000	
35 DFTPP								

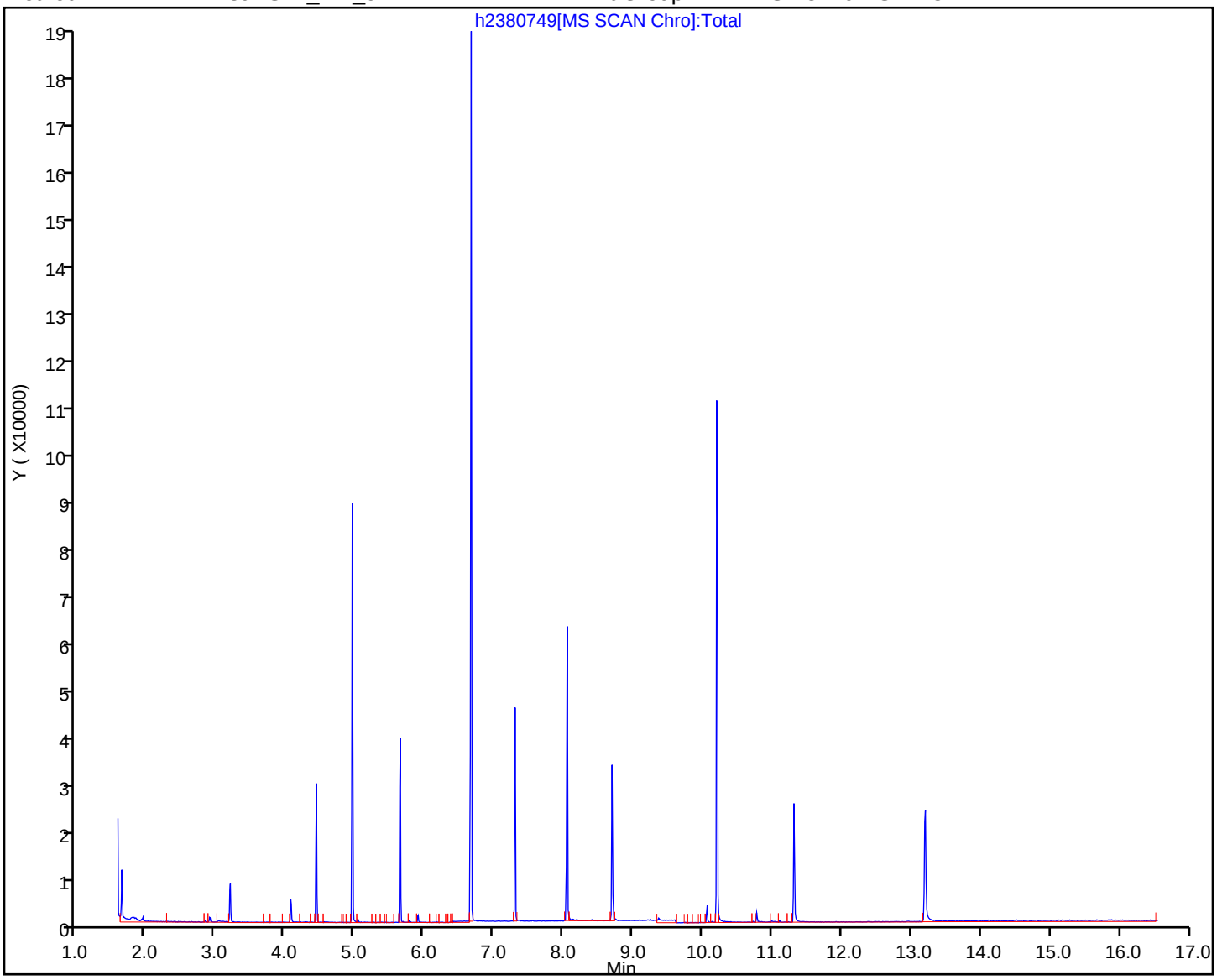
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 23-May-2019 11:29:55 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380749.D				
Injection Date:	22-May-2019 17:00:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-D-21-A	Lab Sample ID:	460-48826-21		
Client ID:	DUP 051619				
Operator ID:		ALS Bottle#:	31	Worklist Smp#:	31
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



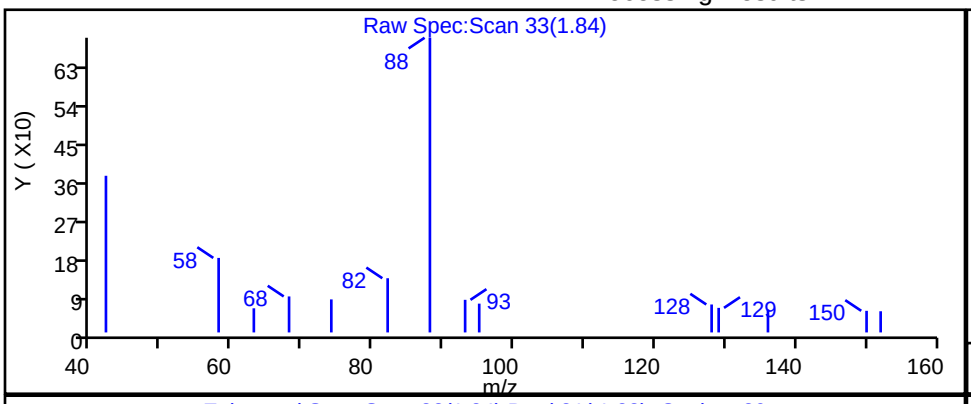
User Disabled Compound Report

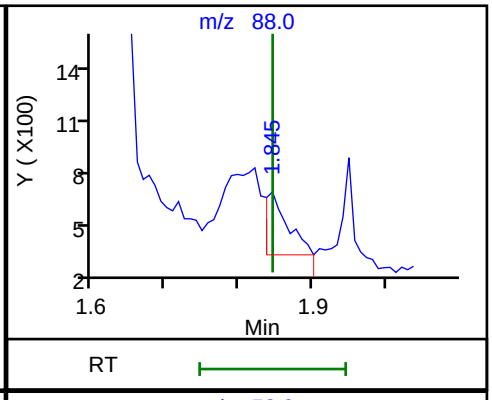
Eurofins TestAmerica, Edison

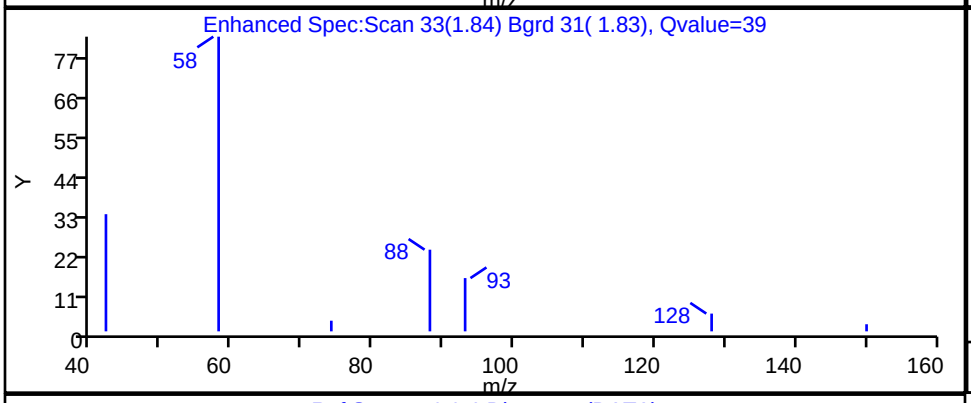
Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380749.D		
Injection Date:	22-May-2019 17:00:30	Instrument ID:	CBNAMS9
Lims ID:	200-48826-D-21-A	Lab Sample ID:	460-48826-21
Client ID:	DUP 051619		
Operator ID:		ALS Bottle#:	31 Worklist Smp#: 31
Injection Vol:	5.0 ul	Dil. Factor:	1.0000
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL
Column:		Detector	MS SCAN

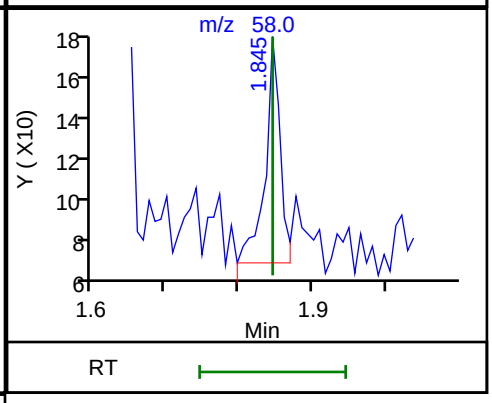
1 1,4-Dioxane, CAS: 123-91-1

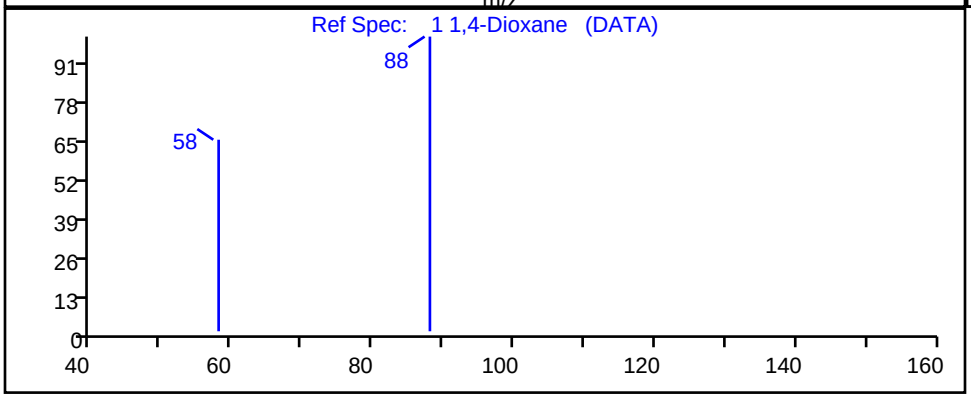
Processing Results











RT	Mass	Response	Amount
1.84	88.00	728	0.028419
1.84	58.00	154	

Reviewer: hamziy, 22-May-2019 21:20:33

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: FIELD BLANK 051619 Lab Sample ID: 200-48826-22

Matrix: Water Lab File ID: h2380881.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 16:00

Extract. Method: 3510C Date Extracted: 05/23/2019 16:18

Sample wt/vol: 250(mL) Date Analyzed: 05/24/2019 20:14

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 612564 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	64		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380881.D
Lims ID: 200-48826-C-22-B
Client ID: FIELD BLANK 051619
Sample Type: Client
Inject. Date: 24-May-2019 20:14:30 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091734-028
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 27-May-2019 07:49:10 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0304

First Level Reviewer: hamziy Date: 24-May-2019 22:43:49

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.427	4.428	-0.001	99	8969	0.2000	
$ 6 Nitrobenzene-d5	82	4.950	4.951	-0.001	93	28068	0.6356	
* 7 Naphthalene-d8	136	5.634	5.634	0.000	99	28054	0.2000	
* 11 Acenaphthene-d10	164	7.288	7.288	0.000	90	15103	0.2000	
* 17 Phenanthrene-d10	188	8.682	8.683	-0.001	99	25704	0.2000	
* 25 Chrysene-d12	240	11.293	11.303	-0.010	94	21650	0.2000	
* 30 Perylene-d12	264	13.175	13.185	-0.010	99	27621	0.2000	
35 DFTPP								

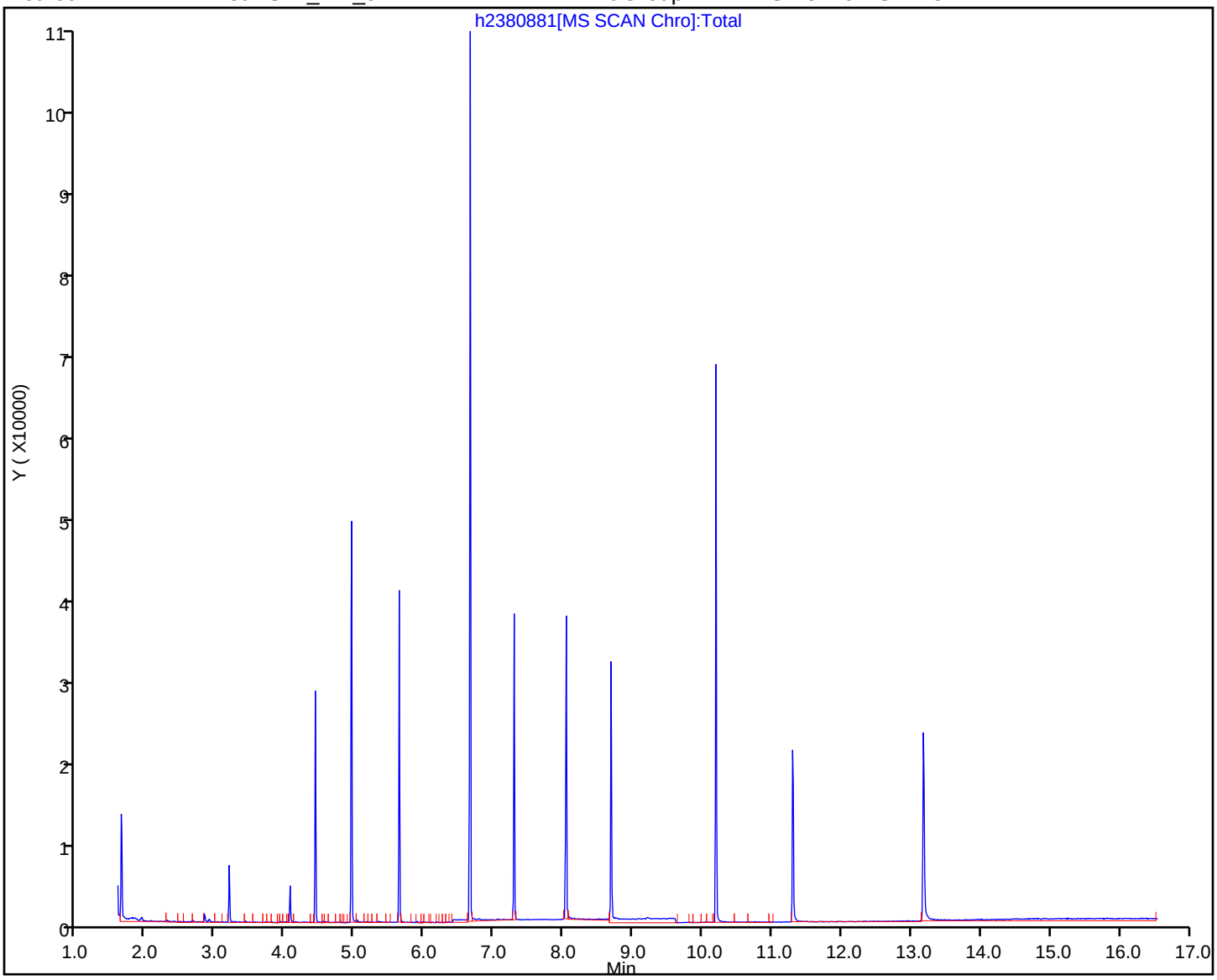
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 27-May-2019 07:50:05 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380881.D				
Injection Date:	24-May-2019 20:14:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-C-22-B	Lab Sample ID:	460-48826-22		
Client ID:	FIELD BLANK 051619				
Operator ID:		ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



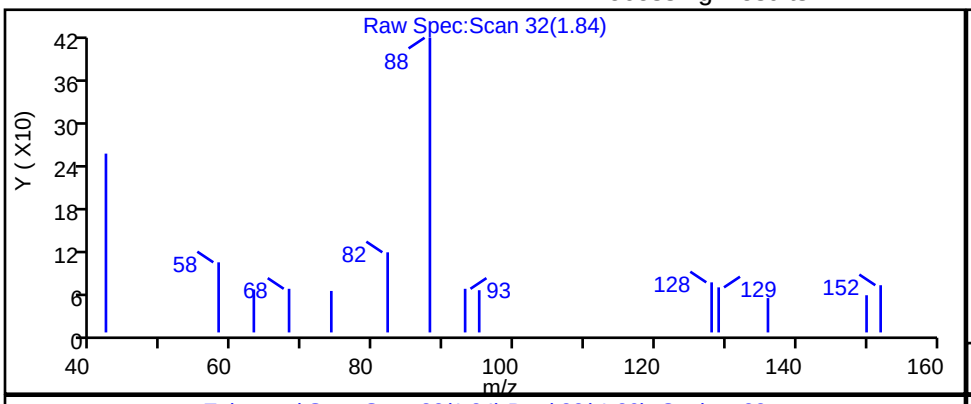
User Disabled Compound Report

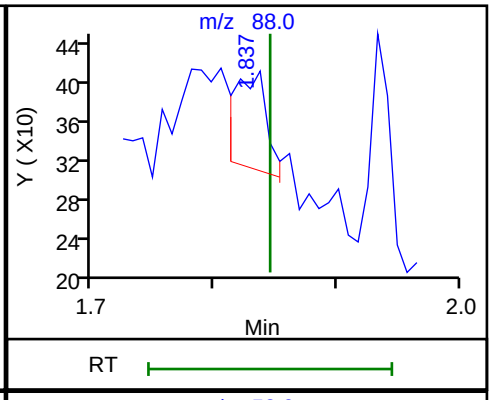
Eurofins TestAmerica, Edison

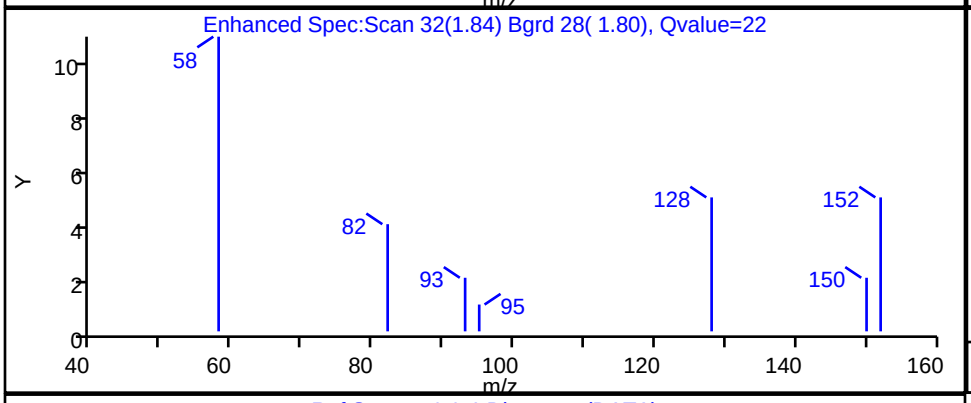
Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380881.D				
Injection Date:	24-May-2019 20:14:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-C-22-B	Lab Sample ID:	460-48826-22		
Client ID:	FIELD BLANK 051619				
Operator ID:		ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		
Column:		Detector	MS SCAN		

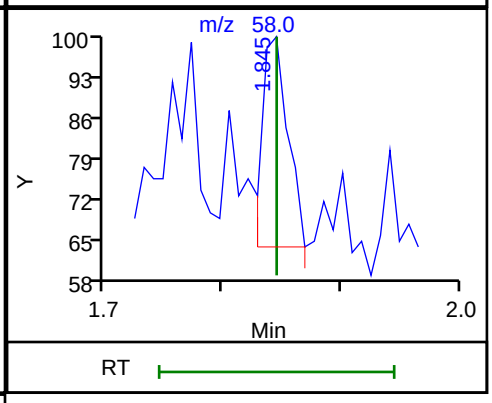
1 1,4-Dioxane, CAS: 123-91-1

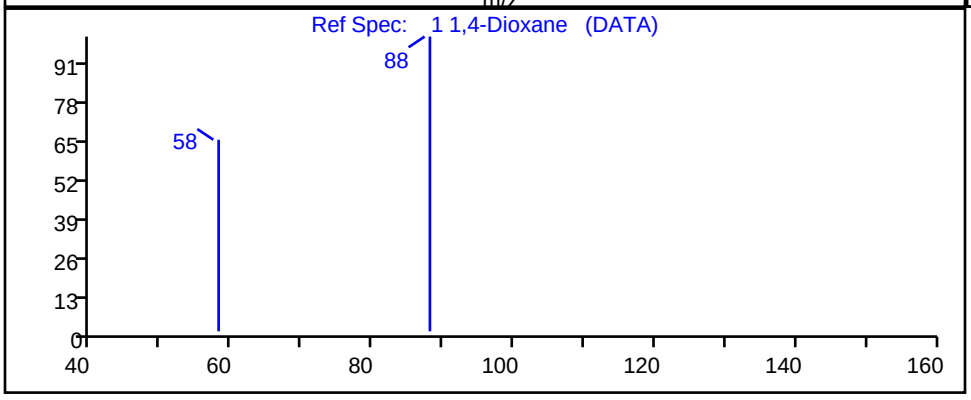
Processing Results











RT	Mass	Response	Amount
1.84	88.00	185	0.008050
1.84	58.00	56	

Reviewer: hamziy, 24-May-2019 22:43:46

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1 Analy Batch No.: 608996

SDG No.:

Instrument ID: CBNAMS9 GC Column: Rtxi-5Sil M ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/10/2019 11:43 Calibration End Date: 05/10/2019 13:29 Calibration ID: 74859

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 460-608996/7	h2380221.D
Level 2	STD2 460-608996/6	h2380220.D
Level 3	ICIS 460-608996/2	h2380216.D
Level 4	STD4 460-608996/5	h2380219.D
Level 5	STD5 460-608996/4	h2380218.D
Level 6	STD6 460-608996/3	h2380217.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,4-Dioxane	0.6529 0.4520	0.5459	0.5136	0.4693	0.4414	Ave		0.5125			0.0100	15.5		20.0			
Nitrobenzene-d5	0.3350 0.2961	0.3150	0.3219	0.3132	0.3075	Ave		0.3148			0.0100	4.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1 Analy Batch No.: 608996

SDG No.:

Instrument ID: CBNAMS9 GC Column: Rtxi-5Sil M ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/10/2019 11:43 Calibration End Date: 05/10/2019 13:29 Calibration ID: 74859

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 460-608996/7	h2380221.D
Level 2	STD2 460-608996/6	h2380220.D
Level 3	ICIS 460-608996/2	h2380216.D
Level 4	STD4 460-608996/5	h2380219.D
Level 5	STD5 460-608996/4	h2380218.D
Level 6	STD6 460-608996/3	h2380217.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,4-Dioxane	DCBd 4	Ave	1585 57815	3651	7275	12460	23224	0.0400 2.00	0.100	0.200	0.400	0.800
Nitrobenzene-d5	NPT	Ave	6629 616449	13693	28453	53001	65217	0.100 10.0	0.200	0.400	0.800	1.00

Curve Type Legend:
Ave = Average ISTD

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380216.D
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 10-May-2019 11:43:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0090931-002
Operator ID: Instrument ID: CBNAMS9
Sublist: chrom-BNsurrSIM_LVI_9*sub4

Method: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 10-May-2019 15:18:31 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: xuyvo Date: 10-May-2019 15:15:24

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.861	1.861	0.000	99	7275	0.2000	0.2004	
2 N-Nitrosodimethylamine	74	2.086	2.086	0.000	90	4492	0.1000	0.0974	
3 Bis(2-chloroethyl)ether	93	4.210	4.210	0.000	81	1562	0.0200	0.0186	
* 5 1,4-Dichlorobenzene-d4	152	4.476	4.476	0.000	96	14166	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.991	4.991	0.000	99	28453	0.4000	0.4091	
* 7 Naphthalene-d8	136	5.683	5.683	0.000	98	44189	0.2000	0.2000	
8 Naphthalene	128	5.699	5.699	0.000	100	4566	0.0200	0.0200	
$ 9 2-Fluorobiphenyl	172	6.696	6.696	0.000	97	68900	0.4000	0.4003	
10 Acenaphthylene	152	7.196	7.196	0.000	100	4472	0.0200	0.0186	
* 11 Acenaphthene-d10	164	7.341	7.341	0.000	86	20771	0.2000	0.2000	
12 Acenaphthene	154	7.367	7.367	0.000	95	2613	0.0200	0.0198	
13 Fluorene	166	7.854	7.854	0.000	97	3376	0.0200	0.0206	
14 4,6-Dinitro-2-methylphenol	198	7.906	7.906	0.000	85	2284	0.2000	0.2096	M
$ 20 2,4,6-Tribromophenol	330	8.077	8.077	0.000	99	13735	0.4000	0.3599	
15 Hexachlorobenzene	284	8.380	8.380	0.000	99	1770	0.0200	0.0190	
16 Pentachlorophenol	266	8.577	8.577	0.000	94	3068	0.1000	0.0852	M
* 17 Phenanthrene-d10	188	8.735	8.735	0.000	99	47020	0.2000	0.2000	
18 Phenanthrene	178	8.762	8.762	0.000	93	4155	0.0200	0.0194	
19 Anthracene	178	8.801	8.801	0.000	96	4744	0.0200	0.0186	
21 Fluoranthene	202	9.880	9.880	0.000	93	5071	0.0200	0.0188	
22 Pyrene	202	10.094	10.094	0.000	96	5324	0.0200	0.0204	
$ 23 Terphenyl-d14	244	10.250	10.250	0.000	92	61524	0.4000	0.4201	
24 Benzo[a]anthracene	228	11.352	11.352	0.000	84	4411	0.0200	0.0190	
* 25 Chrysene-d12	240	11.362	11.362	0.000	93	34612	0.2000	0.2000	
26 Chrysene	228	11.391	11.391	0.000	99	4858	0.0200	0.0208	
27 Benzo[b]fluoranthene	252	12.726	12.726	0.000	100	4461	0.0200	0.0194	a
28 Benzo[k]fluoranthene	252	12.765	12.765	0.000	94	5542	0.0200	0.0213	a
29 Benzo[a]pyrene	252	13.185	13.185	0.000	99	4252	0.0200	0.0195	
* 30 Perylene-d12	264	13.263	13.263	0.000	100	38051	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.832	14.832	0.000	88	4155	0.0200	0.0197	
32 Dibenz(a,h)anthracene	278	14.881	14.881	0.000	90	3542	0.0200	0.0177	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	15.271	15.271	0.000	65	4965	0.0200	0.0202	a

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

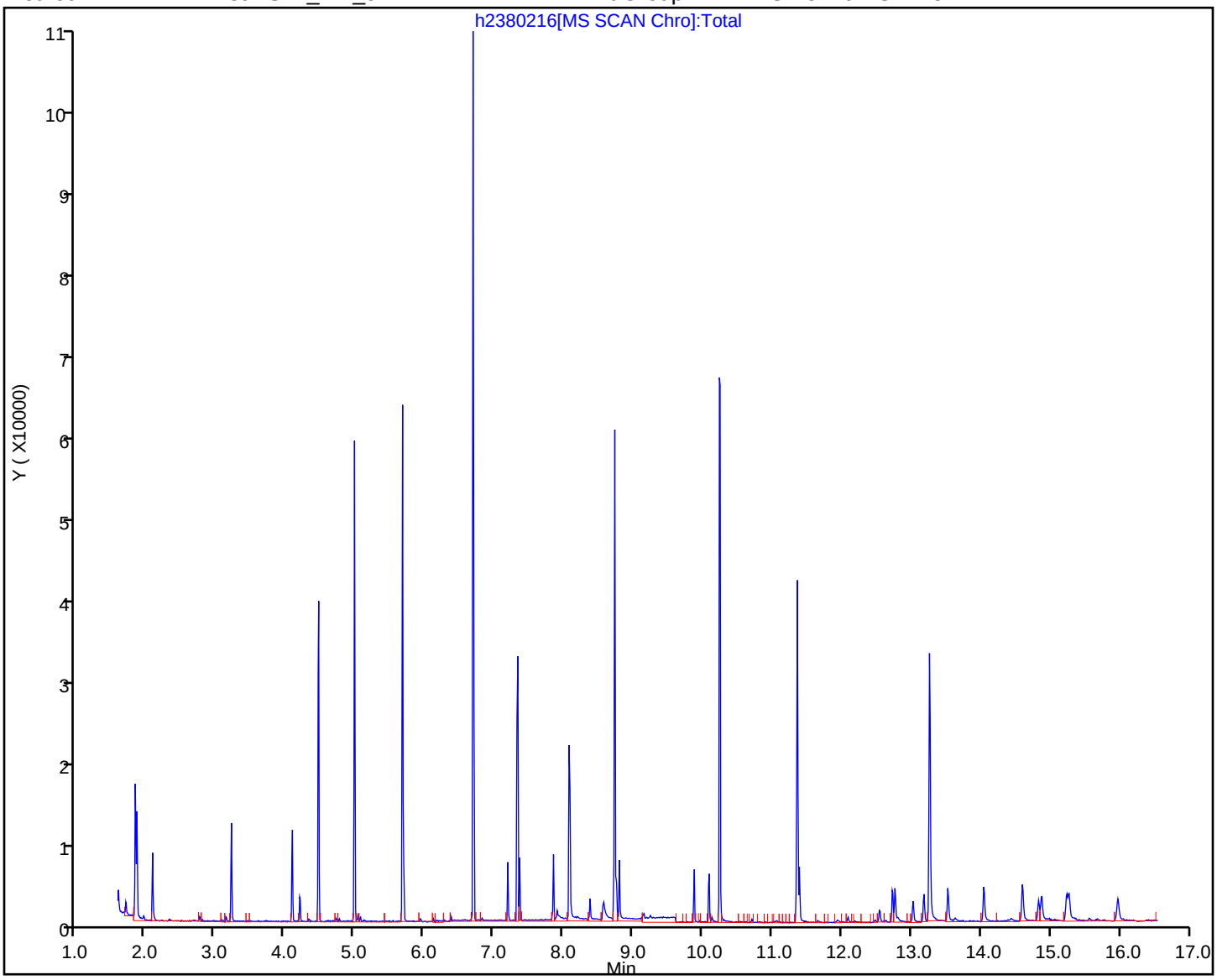
Reagents:

SM_simSlviL3_00015 Amount Added: 1.00 Units: mL

Report Date: 10-May-2019 15:18:34 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380216.D				
Injection Date:	10-May-2019 11:43:30	Instrument ID:	CBNAMS9		
Lims ID:	icis				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380217.D
Lims ID: std6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 10-May-2019 12:04:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0090931-003
Operator ID: Instrument ID: CBNAMS9
Sublist: chrom-BNsurrSIM_LVI_9*sub4

Method: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 10-May-2019 15:18:38 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: johnstonm1 Date: 10-May-2019 12:52:08

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.853	1.861	-0.008	95	57815	2.00	1.76	
2 N-Nitrosodimethylamine	74	2.078	2.086	-0.008	90	42208	1.00	1.01	
3 Bis(2-chloroethyl)ether	93	4.202	4.210	-0.008	98	66015	1.00	0.8683	
* 5 1,4-Dichlorobenzene-d4	152	4.476	4.476	0.000	97	12792	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.991	4.991	0.000	99	616449	10.0	9.41	
* 7 Naphthalene-d8	136	5.683	5.683	0.000	98	41637	0.2000	0.2000	
8 Naphthalene	128	5.699	5.699	0.000	100	80215	0.4000	0.3723	
$ 9 2-Fluorobiphenyl	172	6.696	6.696	0.000	98	1293908	10.0	7.69	
10 Acenaphthylene	152	7.196	7.196	0.000	100	86656	0.4000	0.3683	
* 11 Acenaphthene-d10	164	7.328	7.341	-0.013	98	20311	0.2000	0.2000	
12 Acenaphthene	154	7.367	7.367	0.000	98	47504	0.4000	0.3689	
13 Fluorene	166	7.854	7.854	0.000	95	61503	0.4000	0.3829	
14 4,6-Dinitro-2-methylphenol	198	7.893	7.906	-0.013	85	37599	2.00	1.94	
$ 20 2,4,6-Tribromophenol	330	8.078	8.077	0.001	96	395861	10.0	10.6	
15 Hexachlorobenzene	284	8.380	8.380	0.000	100	84817	1.00	0.9365	
16 Pentachlorophenol	266	8.564	8.577	-0.013	96	44816	1.00	1.00	
* 17 Phenanthrene-d10	188	8.735	8.735	0.000	100	45749	0.2000	0.2000	
18 Phenanthrene	178	8.748	8.762	-0.014	97	77185	0.4000	0.3698	
19 Anthracene	178	8.801	8.801	0.000	100	96500	0.4000	0.3893	
21 Fluoranthene	202	9.880	9.880	0.000	93	100830	0.4000	0.3850	
22 Pyrene	202	10.085	10.094	-0.009	100	106932	0.4000	0.3832	
$ 23 Terphenyl-d14	244	10.250	10.250	0.000	93	1415358	10.0	9.06	
24 Benzo[a]anthracene	228	11.352	11.352	0.000	13	91516	0.4000	0.3699	
* 25 Chrysene-d12	240	11.362	11.362	0.000	91	36928	0.2000	0.2000	
26 Chrysene	228	11.391	11.391	0.000	99	93226	0.4000	0.3732	
27 Benzo[b]fluoranthene	252	12.726	12.726	0.000	100	99778	0.4000	0.3781	
28 Benzo[k]fluoranthene	252	12.765	12.765	0.000	98	117117	0.4000	0.3918	
29 Benzo[a]pyrene	252	13.175	13.185	-0.010	100	98299	0.4000	0.3925	
* 30 Perylene-d12	264	13.263	13.263	0.000	100	43671	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.832	14.832	0.000	87	97025	0.4000	0.4013	
32 Dibenz(a,h)anthracene	278	14.871	14.881	-0.010	95	95078	0.4000	0.4130	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	15.271	15.271	0.000	77	111920	0.4000	0.3966	

Reagents:

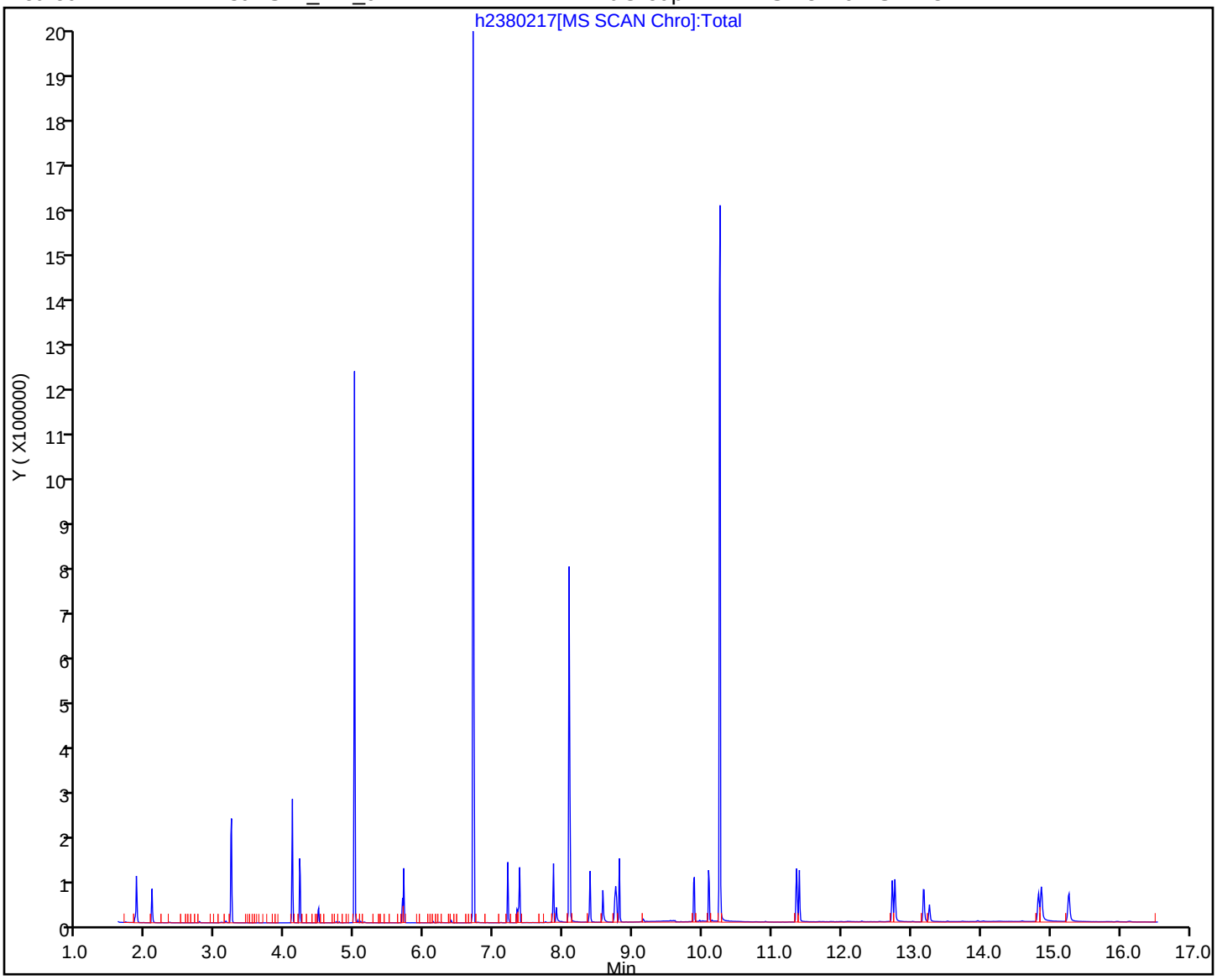
SM_simSlviL6_00013 Amount Added: 1.00 Units: mL

Report Date: 10-May-2019 15:18:39 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380217.D

Injection Date:	10-May-2019 12:04:30	Instrument ID:	CBNAMS9		
Lims ID:	std6				
Client ID:					
Operator ID:		ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380218.D
Lims ID: std5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 10-May-2019 12:26:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0090931-004
Operator ID: Instrument ID: CBNAMS9
Sublist: chrom-BNsurrSIM_LVI_9*sub4

Method: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 10-May-2019 15:18:42 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: johnstonm1 Date: 10-May-2019 12:52:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.861	1.861	0.000	92	23224	0.8000	0.6890	
2 N-Nitrosodimethylamine	74	2.078	2.086	-0.008	95	17378	0.4000	0.4057	
3 Bis(2-chloroethyl)ether	93	4.210	4.210	0.000	82	28039	0.4000	0.3586	
* 5 1,4-Dichlorobenzene-d4	152	4.476	4.476	0.000	98	13155	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.991	4.991	0.000	100	65217	1.00	0.9769	
* 7 Naphthalene-d8	136	5.683	5.683	0.000	98	42413	0.2000	0.2000	
8 Naphthalene	128	5.699	5.699	0.000	100	42853	0.2000	0.1953	
$ 9 2-Fluorobiphenyl	172	6.696	6.696	0.000	97	162061	1.00	1.02	
10 Acenaphthylene	152	7.196	7.196	0.000	100	46694	0.2000	0.2109	
* 11 Acenaphthene-d10	164	7.328	7.341	-0.013	100	19116	0.2000	0.2000	
12 Acenaphthene	154	7.367	7.367	0.000	96	24438	0.2000	0.2016	
13 Fluorene	166	7.854	7.854	0.000	96	30029	0.2000	0.1986	
14 4,6-Dinitro-2-methylphenol	198	7.893	7.906	-0.013	86	12300	0.8000	0.8954	M
$ 20 2,4,6-Tribromophenol	330	8.077	8.077	0.000	97	37440	1.00	1.07	
15 Hexachlorobenzene	284	8.380	8.380	0.000	100	34745	0.4000	0.4051	
16 Pentachlorophenol	266	8.564	8.577	-0.013	95	15918	0.4000	0.4331	
* 17 Phenanthrene-d10	188	8.735	8.735	0.000	100	43320	0.2000	0.2000	
18 Phenanthrene	178	8.748	8.762	-0.014	98	40392	0.2000	0.2044	
19 Anthracene	178	8.801	8.801	0.000	100	48124	0.2000	0.2050	
21 Fluoranthene	202	9.880	9.880	0.000	93	51125	0.2000	0.2062	
22 Pyrene	202	10.084	10.094	-0.010	99	53543	0.2000	0.1965	
$ 23 Terphenyl-d14	244	10.240	10.250	-0.010	98	149056	1.00	0.9768	
24 Benzo[a]anthracene	228	11.352	11.352	0.000	32	46498	0.2000	0.1924	
* 25 Chrysene-d12	240	11.361	11.362	-0.001	95	36063	0.2000	0.2000	
26 Chrysene	228	11.391	11.391	0.000	98	47910	0.2000	0.1964	
27 Benzo[b]fluoranthene	252	12.726	12.726	0.000	100	51283	0.2000	0.2020	a
28 Benzo[k]fluoranthene	252	12.765	12.765	0.000	98	58466	0.2000	0.2033	a
29 Benzo[a]pyrene	252	13.175	13.185	-0.010	100	50052	0.2000	0.2077	
* 30 Perylene-d12	264	13.262	13.263	-0.001	100	42024	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.832	14.832	0.000	87	49194	0.2000	0.2115	
32 Dibenz(a,h)anthracene	278	14.871	14.881	-0.010	94	48079	0.2000	0.2170	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	15.271	15.271	0.000	66	56823	0.2000	0.2093	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

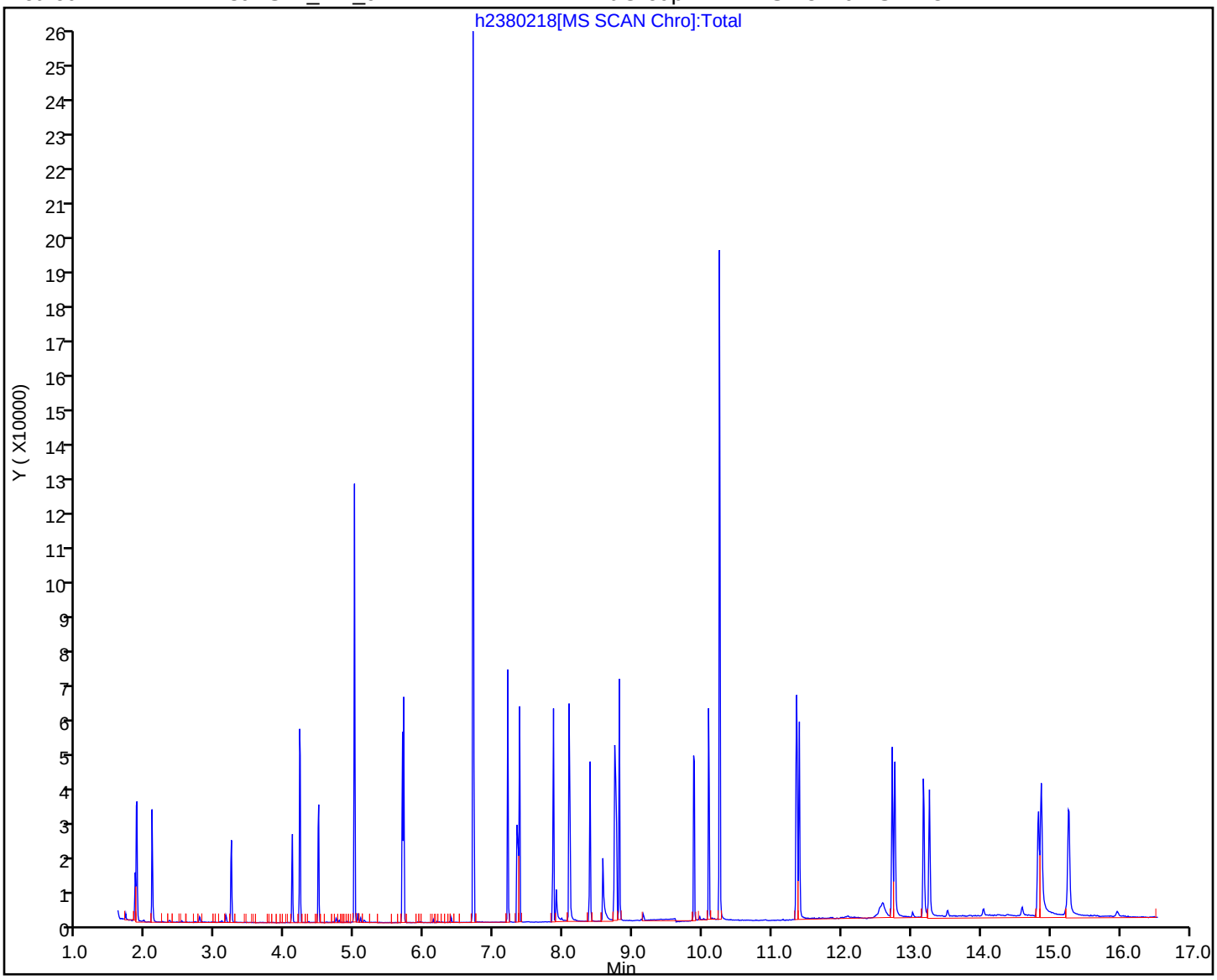
Reagents:

SM_simSlviL5_00012 Amount Added: 1.00 Units: mL

Report Date: 10-May-2019 15:18:44 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380218.D				
Injection Date:	10-May-2019 12:26:30	Instrument ID:	CBNAMS9		
Lims ID:	std5				
Client ID:					
Operator ID:		ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380219.D
Lims ID: std4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 10-May-2019 12:47:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0090931-005
Operator ID: Instrument ID: CBNAMS9
Sublist: chrom-BNsurrSIM_LVI_9*sub4

Method: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 10-May-2019 15:18:47 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: johnstonm1 Date: 10-May-2019 13:08:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.869	1.861	0.008	95	12460	0.4000	0.3663	
2 N-Nitrosodimethylamine	74	2.094	2.086	0.008	86	8387	0.2000	0.1940	
3 Bis(2-chloroethyl)ether	93	4.210	4.210	0.000	91	14298	0.2000	0.1812	
* 5 1,4-Dichlorobenzene-d4	152	4.476	4.476	0.000	100	13276	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.991	4.991	0.000	97	53001	0.8000	0.7960	
* 7 Naphthalene-d8	136	5.683	5.683	0.000	98	42300	0.2000	0.2000	
8 Naphthalene	128	5.699	5.699	0.000	100	21581	0.1000	0.0986	
$ 9 2-Fluorobiphenyl	172	6.696	6.696	0.000	96	138131	0.8000	0.8713	
10 Acenaphthylene	152	7.196	7.196	0.000	100	22851	0.1000	0.1031	
* 11 Acenaphthene-d10	164	7.328	7.341	-0.013	99	19133	0.2000	0.2000	
12 Acenaphthene	154	7.367	7.367	0.000	96	12087	0.1000	0.0996	
13 Fluorene	166	7.854	7.854	0.000	95	14175	0.1000	0.0937	
14 4,6-Dinitro-2-methylphenol	198	7.906	7.906	0.000	81	4450	0.4000	0.3993	M
$ 20 2,4,6-Tribromophenol	330	8.077	8.077	0.000	97	30515	0.8000	0.8681	
15 Hexachlorobenzene	284	8.380	8.380	0.000	100	17269	0.2000	0.2047	
16 Pentachlorophenol	266	8.577	8.577	0.000	93	5165	0.2000	0.1550	M
* 17 Phenanthrene-d10	188	8.735	8.735	0.000	100	42604	0.2000	0.2000	
18 Phenanthrene	178	8.748	8.762	-0.014	98	19759	0.1000	0.1016	
19 Anthracene	178	8.801	8.801	0.000	100	23289	0.1000	0.1009	
21 Fluoranthene	202	9.870	9.880	-0.010	97	24043	0.1000	0.0986	
22 Pyrene	202	10.085	10.094	-0.010	99	25554	0.1000	0.0958	
$ 23 Terphenyl-d14	244	10.240	10.250	-0.010	97	117581	0.8000	0.7873	
24 Benzo[a]anthracene	228	11.342	11.352	-0.010	5	22388	0.1000	0.0947	
* 25 Chrysene-d12	240	11.362	11.362	0.000	93	35295	0.2000	0.2000	
26 Chrysene	228	11.391	11.391	0.000	98	23115	0.1000	0.0968	
27 Benzo[b]fluoranthene	252	12.726	12.726	0.000	100	24559	0.1000	0.1002	a
28 Benzo[k]fluoranthene	252	12.765	12.765	0.000	99	27914	0.1000	0.1005	a
29 Benzo[a]pyrene	252	13.175	13.185	-0.010	100	24184	0.1000	0.1039	
* 30 Perylene-d12	264	13.263	13.263	0.000	99	40574	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.832	14.832	0.000	86	23056	0.1000	0.1026	
32 Dibenz(a,h)anthracene	278	14.871	14.881	-0.010	94	20690	0.1000	0.0967	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	15.261	15.271	-0.010	70	25639	0.1000	0.0978	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SM_simSlviL4_00011 Amount Added: 1.00 Units: mL

Report Date: 10-May-2019 15:18:49 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380219.D

Injection Date: 10-May-2019 12:47:30 Instrument ID: CBNAMS9

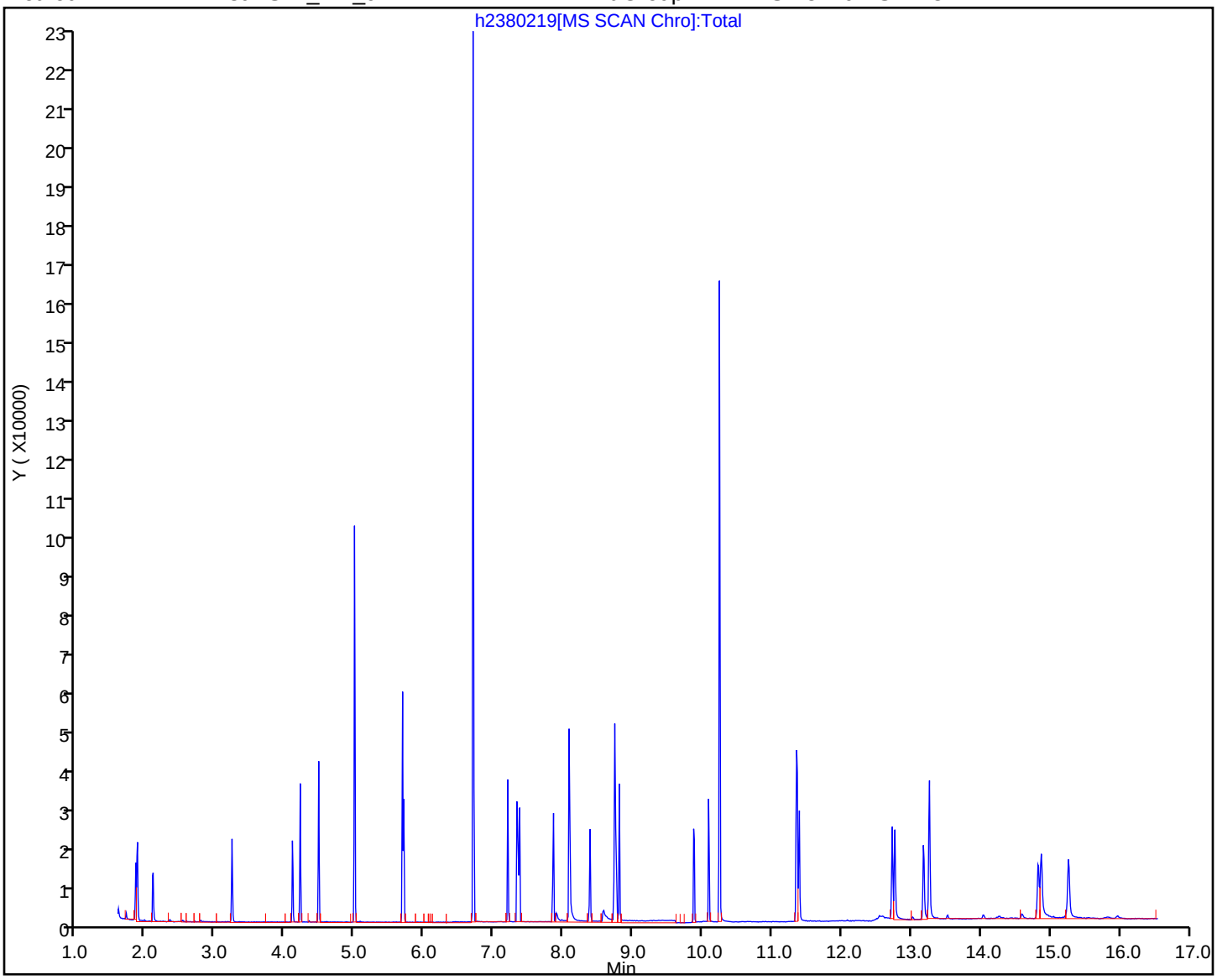
Lims ID: std4

Client ID:

Operator ID: ALS Bottle#: 5 Worklist Smp#: 5

Injection Vol: 5.0 ul Dil. Factor: 1.0000

Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL



Report Date: 10-May-2019 15:18:54 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380220.D
Lims ID: std2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 10-May-2019 13:08:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0090931-006
Operator ID: Instrument ID: CBNAMS9
Sublist: chrom-BNsurrSIM_LVI_9*sub4

Method: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 10-May-2019 15:18:53 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: johnstonm1 Date: 10-May-2019 13:30:50

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.861	1.861	0.000	91	3651	0.1000	0.1065	
2 N-Nitrosodimethylamine	74	2.086	2.086	0.000	80	2150	0.0500	0.0494	
3 Bis(2-chloroethyl)ether	93	4.210	4.210	0.000	80	456	0.005000	0.005736	
* 5 1,4-Dichlorobenzene-d4	152	4.476	4.476	0.000	99	13376	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.991	4.991	0.000	99	13693	0.2000	0.2001	
* 7 Naphthalene-d8	136	5.683	5.683	0.000	98	43468	0.2000	0.2000	
8 Naphthalene	128	5.699	5.699	0.000	100	2441	0.0100	0.0109	
$ 9 2-Fluorobiphenyl	172	6.696	6.696	0.000	96	35905	0.2000	0.2103	
10 Acenaphthylene	152	7.196	7.196	0.000	100	2553	0.0100	0.0107	
* 11 Acenaphthene-d10	164	7.328	7.341	-0.013	98	20600	0.2000	0.2000	
12 Acenaphthene	154	7.367	7.367	0.000	95	1377	0.0100	0.0105	
13 Fluorene	166	7.854	7.854	0.000	95	1723	0.0100	0.0106	
14 4,6-Dinitro-2-methylphenol	198	8.064	7.906	0.158	85	637	0.1000	0.0747	Ma
$ 20 2,4,6-Tribromophenol	330	8.091	8.077	0.014	84	7042	0.2000	0.1861	
15 Hexachlorobenzene	284	8.380	8.380	0.000	99	488	0.005000	0.005084	
16 Pentachlorophenol	266	8.630	8.577	0.053	94	1406	0.0500	0.0384	M
* 17 Phenanthrene-d10	188	8.735	8.735	0.000	99	48487	0.2000	0.2000	
18 Phenanthrene	178	8.748	8.762	-0.014	87	2300	0.0100	0.0104	
19 Anthracene	178	8.801	8.801	0.000	99	2805	0.0100	0.0107	
21 Fluoranthene	202	9.880	9.880	0.000	91	3064	0.0100	0.0110	
22 Pyrene	202	10.084	10.094	-0.010	98	3143	0.0100	0.0107	
$ 23 Terphenyl-d14	244	10.240	10.250	-0.010	96	34094	0.2000	0.2082	
24 Benzo[a]anthracene	228	11.352	11.352	0.000	84	2948	0.0100	0.0114	
* 25 Chrysene-d12	240	11.362	11.362	0.000	90	38695	0.2000	0.2000	
26 Chrysene	228	11.391	11.391	0.000	98	2929	0.0100	0.0112	
27 Benzo[b]fluoranthene	252	12.726	12.726	0.000	98	2829	0.0100	0.0103	a
28 Benzo[k]fluoranthene	252	12.765	12.765	0.000	96	3025	0.0100	0.009732	a
29 Benzo[a]pyrene	252	13.175	13.185	-0.010	98	2549	0.0100	0.009787	
* 30 Perylene-d12	264	13.263	13.263	0.000	100	45413	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.832	14.832	0.000	87	2506	0.0100	0.0100	
32 Dibenz(a,h)anthracene	278	14.871	14.881	-0.010	93	2535	0.0100	0.0106	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	15.271	15.271	0.000	74	2898	0.0100	0.009877	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

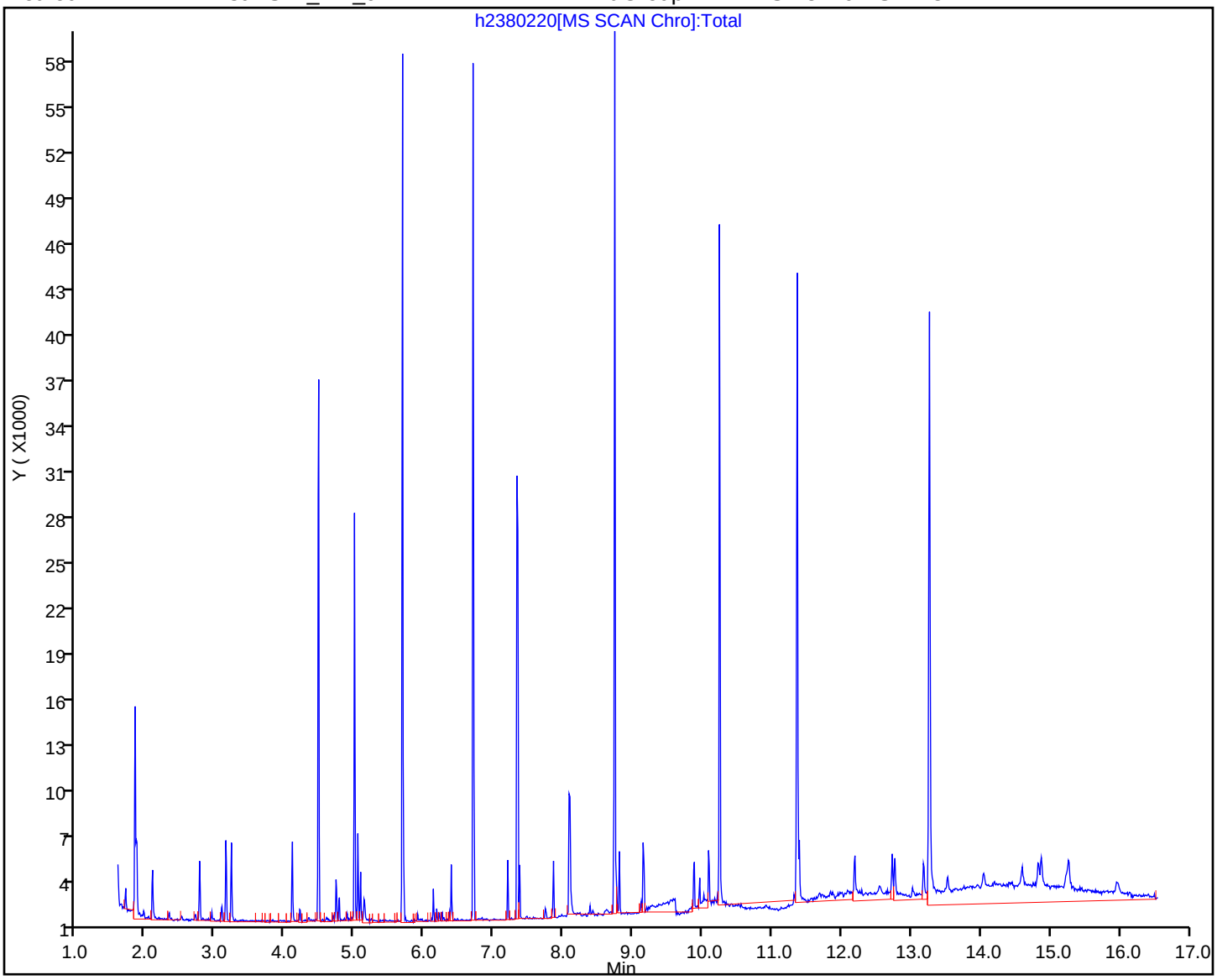
Reagents:

SM_simSlviL2_00012 Amount Added: 1.00 Units: mL

Report Date: 10-May-2019 15:18:54 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380220.D				
Injection Date:	10-May-2019 13:08:30	Instrument ID:	CBNAMS9		
Lims ID:	std2				
Client ID:					
Operator ID:		ALS Bottle#:	6	Worklist Smp#:	6
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D
Lims ID: std1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 10-May-2019 13:29:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0090931-007
Operator ID: Instrument ID: CBNAMS9
Sublist: chrom-BNsurrSIM_LVI_9*sub4

Method: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 10-May-2019 15:18:58 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: johnstonm1 Date: 10-May-2019 13:50:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.869	1.861	0.008	90	1585	0.0400	0.0510	M
2 N-Nitrosodimethylamine	74	2.094	2.086	0.008	90	823	0.0200	0.0208	
3 Bis(2-chloroethyl)ether	93	4.210	4.210	0.000	89	181	0.002000	0.002509	a
* 5 1,4-Dichlorobenzene-d4	152	4.476	4.476	0.000	99	12139	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.991	4.991	0.000	95	6629	0.1000	0.1064	
* 7 Naphthalene-d8	136	5.683	5.683	0.000	98	39580	0.2000	0.2000	
8 Naphthalene	128	5.699	5.699	0.000	100	1048	0.005000	0.005117	
$ 9 2-Fluorobiphenyl	172	6.696	6.696	0.000	97	16007	0.1000	0.1066	
10 Acenaphthylene	152	7.196	7.196	0.000	100	1043	0.005000	0.004971	
* 11 Acenaphthene-d10	164	7.341	7.341	0.000	87	18115	0.2000	0.2000	
12 Acenaphthene	154	7.367	7.367	0.000	96	590	0.005000	0.005137	
13 Fluorene	166	7.854	7.854	0.000	95	736	0.005000	0.005138	
14 4,6-Dinitro-2-methylphenol	198	8.064	7.906	0.158	65	215	0.0400	0.0434	Ma
$ 20 2,4,6-Tribromophenol	330	8.090	8.077	0.013	86	3188	0.1000	0.0958	
15 Hexachlorobenzene	284	8.380	8.380	0.000	100	166	0.002000	0.002119	
16 Pentachlorophenol	266	8.630	8.577	0.053	89	503	0.0200	0.0170	M
* 17 Phenanthrene-d10	188	8.735	8.735	0.000	100	39567	0.2000	0.2000	
18 Phenanthrene	178	8.748	8.762	-0.014	56	929	0.005000	0.005146	
19 Anthracene	178	8.801	8.801	0.000	98	1066	0.005000	0.004972	
21 Fluoranthene	202	9.880	9.880	0.000	92	1104	0.005000	0.004874	
22 Pyrene	202	10.084	10.094	-0.010	100	1178	0.005000	0.005046	
$ 23 Terphenyl-d14	244	10.240	10.250	-0.010	98	13619	0.1000	0.1042	
24 Benzo[a]anthracene	228	11.352	11.352	0.000	84	1116	0.005000	0.005391	
* 25 Chrysene-d12	240	11.361	11.362	-0.001	92	30894	0.2000	0.2000	
26 Chrysene	228	11.391	11.391	0.000	98	1003	0.005000	0.004800	
27 Benzo[b]fluoranthene	252	12.726	12.726	0.000	99	1123	0.005000	0.005210	a
28 Benzo[k]fluoranthene	252	12.765	12.765	0.000	88	1174	0.005000	0.004809	a
29 Benzo[a]pyrene	252	13.175	13.185	-0.010	98	1011	0.005000	0.004942	
* 30 Perylene-d12	264	13.262	13.263	-0.001	100	35671	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.832	14.832	0.000	86	918	0.005000	0.004649	
32 Dibenz(a,h)anthracene	278	14.871	14.881	-0.010	97	915	0.005000	0.004866	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	15.271	15.271	0.000	61	1137	0.005000	0.004933	a

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

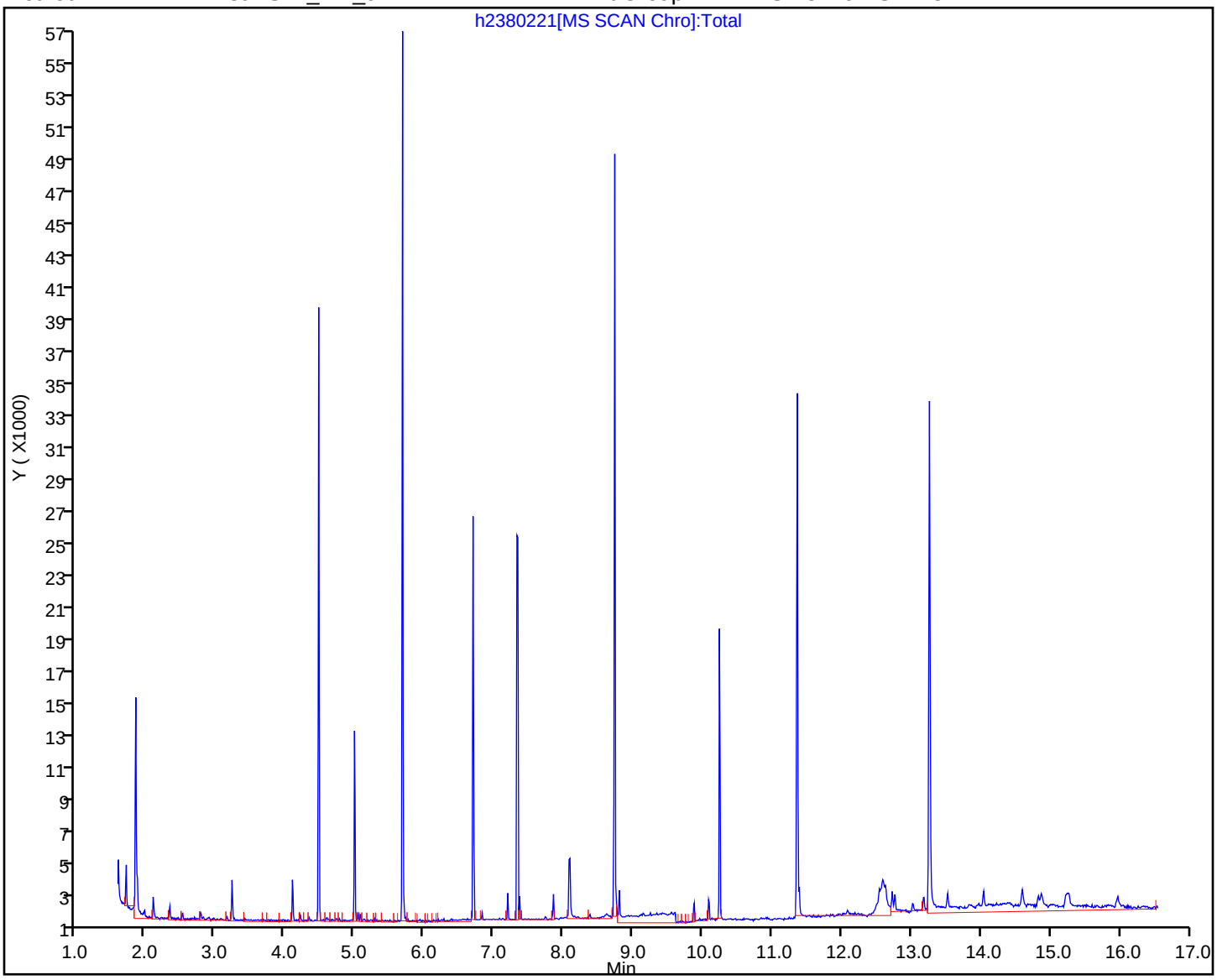
Reagents:

SM_simSlviL1_00012 Amount Added: 1.00 Units: mL

Report Date: 10-May-2019 15:19:00 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D				
Injection Date:	10-May-2019 13:29:30	Instrument ID:	CBNAMS9		
Lims ID:	std1				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Edison

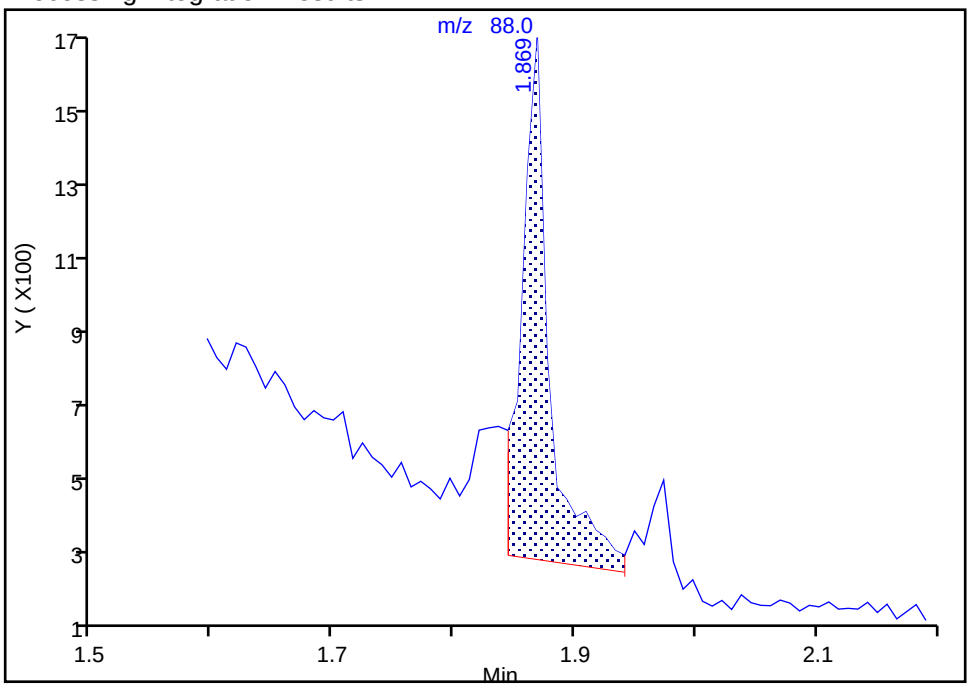
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D
Injection Date: 10-May-2019 13:29:30 Instrument ID: CBNAMS9
Lims ID: std1
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL
Column: Detector MS SCAN

1 1,4-Dioxane, CAS: 123-91-1

Signal: 1

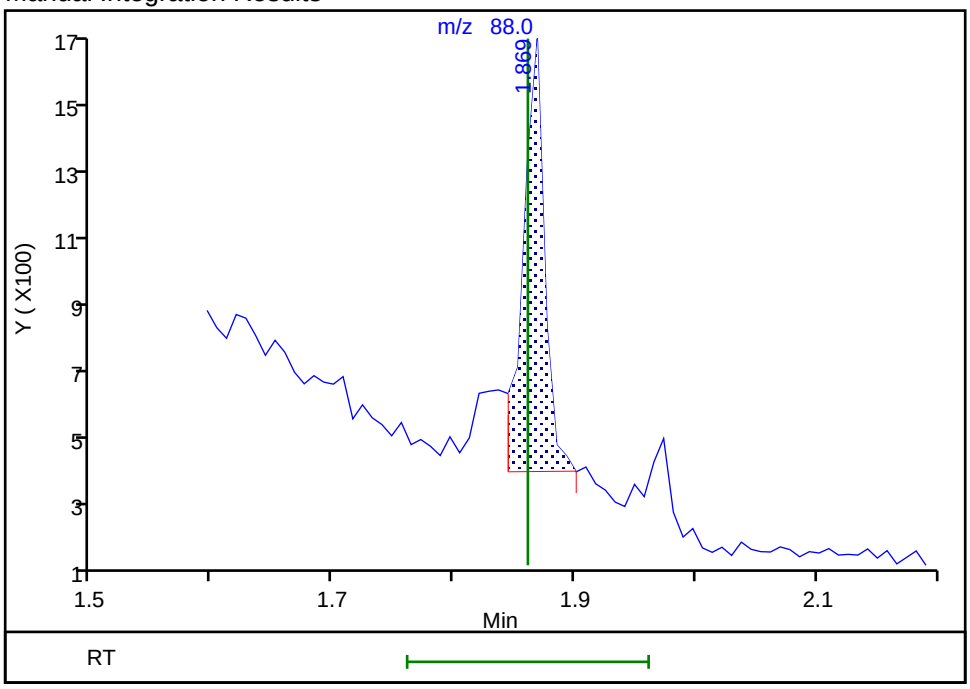
Processing Integration Results

RT: 1.87
Area: 2242
Amount: 0.042251
Amount Units: ug/ml



Manual Integration Results

RT: 1.87
Area: 1585
Amount: 0.050956
Amount Units: ug/ml



Reviewer: xuyvo, 10-May-2019 14:28:27
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVIS 460-611861/2 Calibration Date: 05/22/2019 06:38

Instrument ID: CBNAMS9 Calib Start Date: 05/10/2019 11:43

GC Column: Rtxi-5Sil MS ID: 0.25(mm) Calib End Date: 05/10/2019 13:29

Lab File ID: h2380720.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5125	0.5876		229	200	14.7	20.0
N-Nitrosodimethylamine	Ave	0.6512	0.6314		97.0	100	-3.0	20.0
Bis(2-chloroethyl)ether	Ave	1.189	1.167	0.7000	19.6	20.0	-1.8	20.0
Naphthalene	Ave	1.035	1.028	0.7000	19.9	20.0	-0.7	20.0
Acenaphthylene	Ave	2.317	1.533	0.9000	13.2	20.0	-33.8*	20.0
Acenaphthene	Ave	1.268	0.9927	0.9000	15.7	20.0	-21.7*	20.0
Fluorene	Ave	1.582	1.169	0.9000	14.8	20.0	-26.1*	20.0
4,6-Dinitro-2-methylphenol	Qua2		0.0627	0.0100	260	200	29.9*	20.0
Hexachlorobenzene	Ave	0.3960	0.3700	0.1000	18.7	20.0	-6.6	20.0
Pentachlorophenol	QuaF		0.1188	0.0500	77.7	100	-22.3*	20.0
Phenanthrene	Ave	0.9125	1.290	0.7000	28.3	20.0	41.3*	20.0
Anthracene	Ave	1.084	0.9824	0.7000	18.1	20.0	-9.3	20.0
Fluoranthene	Ave	1.145	1.154	0.6000	20.2	20.0	0.8	20.0
Pyrene	Ave	1.511	1.481	0.6000	19.6	20.0	-2.0	20.0
Benzo[a]anthracene	Ave	1.340	1.301	0.8000	19.4	20.0	-2.9	20.0
Chrysene	Ave	1.353	1.275	0.7000	18.8	20.0	-5.8	20.0
Benzo[b]fluoranthene	Ave	1.208	1.141		18.9	20.0	-5.6	20.0
Benzo[k]fluoranthene	Ave	1.369	1.318	0.7000	19.3	20.0	-3.7	20.0
Benzo[a]pyrene	Ave	1.147	1.076	0.7000	18.8	20.0	-6.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.107	1.077	0.5000	19.5	20.0	-2.7	20.0
Dibenz(a,h)anthracene	Ave	1.054	1.029	0.4000	19.5	20.0	-2.4	20.0
Benzo[g,h,i]perylene	Ave	1.292	1.514	0.5000	23.4	20.0	17.2	20.0
Nitrobenzene-d5	Ave	0.3148	0.3075		391	400	-2.3	20.0

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380720.D
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 22-May-2019 06:38:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-002
Operator ID: Instrument ID: CBNAMS9
Sublist: chrom-BNsurrSIM_LVI_9*sub4

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 22-May-2019 10:49:36 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0313

First Level Reviewer: manlangitf Date: 22-May-2019 07:05:12

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.845	1.845	0.000	95	6187	0.2000	0.2293	
2 N-Nitrosodimethylamine	74	2.070	2.070	0.000	97	3324	0.1000	0.0970	
3 Bis(2-chloroethyl)ether	93	4.178	4.178	0.000	86	1229	0.0200	0.0196	
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	100	10529	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.959	4.959	0.000	97	20746	0.4000	0.3907	
* 7 Naphthalene-d8	136	5.651	5.651	0.000	98	33736	0.2000	0.2000	
8 Naphthalene	128	5.667	5.667	0.000	100	3468	0.0200	0.0199	
$ 9 2-Fluorobiphenyl	172	6.670	6.670	0.000	93	63743	0.4000	0.3828	
10 Acenaphthylene	152	7.170	7.170	0.000	99	3080	0.0200	0.0132	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	93	20096	0.2000	0.2000	
12 Acenaphthene	154	7.328	7.328	0.000	90	1995	0.0200	0.0157	
13 Fluorene	166	7.814	7.814	0.000	90	2349	0.0200	0.0148	
14 4,6-Dinitro-2-methylphenol	198	7.867	7.867	0.000	79	1863	0.2000	0.2597	
$ 20 2,4,6-Tribromophenol	330	8.051	8.051	0.000	86	12514	0.4000	0.3389	
15 Hexachlorobenzene	284	8.354	8.354	0.000	100	1100	0.0200	0.0187	
16 Pentachlorophenol	266	8.538	8.538	0.000	98	1766	0.1000	0.0777	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	98	29732	0.2000	0.2000	
18 Phenanthrene	178	8.722	8.722	0.000	94	3834	0.0200	0.0283	
19 Anthracene	178	8.775	8.775	0.000	99	2921	0.0200	0.0181	
21 Fluoranthene	202	9.841	9.841	0.000	95	3432	0.0200	0.0202	
22 Pyrene	202	10.055	10.055	0.000	98	3818	0.0200	0.0196	
$ 23 Terphenyl-d14	244	10.211	10.211	0.000	93	45235	0.4000	0.4148	
24 Benzo[a]anthracene	228	11.303	11.303	0.000	40	3353	0.0200	0.0194	
* 25 Chrysene-d12	240	11.323	11.323	0.000	91	25774	0.2000	0.2000	
26 Chrysene	228	11.342	11.342	0.000	98	3285	0.0200	0.0188	
27 Benzo[b]fluoranthene	252	12.678	12.678	0.000	99	3910	0.0200	0.0189	
28 Benzo[k]fluoranthene	252	12.707	12.707	0.000	99	4517	0.0200	0.0193	
29 Benzo[a]pyrene	252	13.126	13.126	0.000	100	3689	0.0200	0.0188	
* 30 Perylene-d12	264	13.204	13.204	0.000	100	34281	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.754	14.754	0.000	88	3692	0.0200	0.0195	
32 Dibenz(a,h)anthracene	278	14.793	14.793	0.000	93	3529	0.0200	0.0195	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	15.183	15.183	0.000	68	5190	0.0200	0.0234	

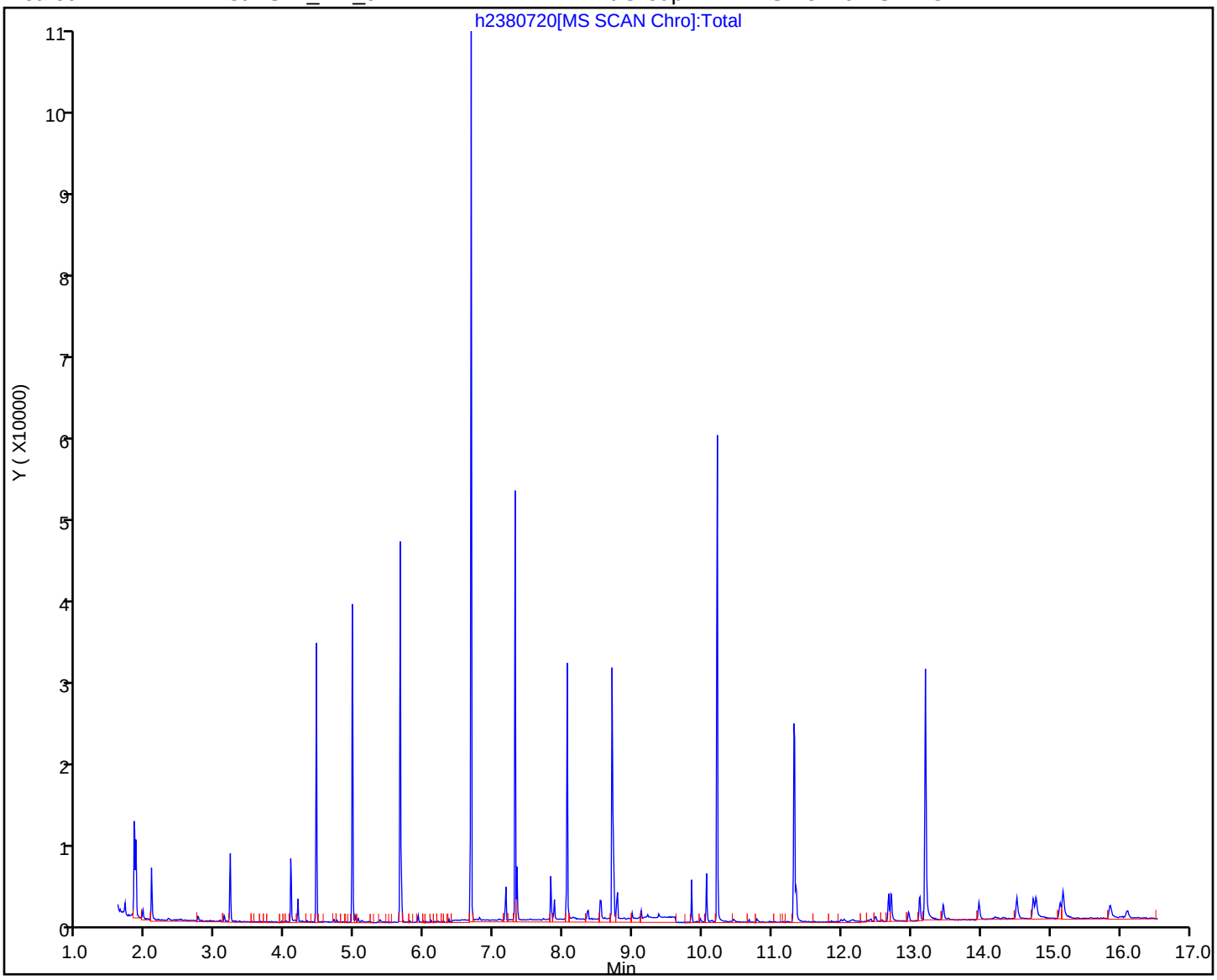
Reagents:

SM_simSlviL3_00015 Amount Added: 1.00 Units: mL

Report Date: 22-May-2019 10:49:37 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380720.D				
Injection Date:	22-May-2019 06:38:30	Instrument ID:	CBNAMS9		
Lims ID:	ccvis				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVIS 460-612564/2 Calibration Date: 05/24/2019 10:57

Instrument ID: CBNAMS9 Calib Start Date: 05/10/2019 11:43

GC Column: Rtxi-5Sil MS ID: 0.25(mm) Calib End Date: 05/10/2019 13:29

Lab File ID: h2380855.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.5125	0.5184		202	200	1.1	20.0
N-Nitrosodimethylamine	Ave	0.6512	0.6360		97.7	100	-2.3	20.0
Bis(2-chloroethyl)ether	Ave	1.189	1.042	0.7000	17.5	20.0	-12.3	20.0
Naphthalene	Ave	1.035	0.996	0.7000	19.3	20.0	-3.7	20.0
Acenaphthylene	Ave	2.317	1.633	0.9000	14.1	20.0	-29.5*	20.0
Acenaphthene	Ave	1.268	0.9636	0.9000	15.2	20.0	-24.0*	20.0
Fluorene	Ave	1.582	1.136	0.9000	14.4	20.0	-28.2*	20.0
4,6-Dinitro-2-methylphenol	Qua2		0.1000	0.0100	385	200	92.5*	20.0
Hexachlorobenzene	Ave	0.3960	0.4004	0.1000	20.2	20.0	1.1	20.0
Pentachlorophenol	QuaF		0.1558	0.0500	101	100	1.2	20.0
Phenanthrene	Ave	0.9125	1.369	0.7000	30.0	20.0	50.0*	20.0
Anthracene	Ave	1.084	1.076	0.7000	19.8	20.0	-0.8	20.0
Fluoranthene	Ave	1.145	1.220	0.6000	21.3	20.0	6.6	20.0
Pyrene	Ave	1.511	1.544	0.6000	20.4	20.0	2.1	20.0
Benzo[a]anthracene	Ave	1.340	1.273	0.8000	19.0	20.0	-5.0	20.0
Chrysene	Ave	1.353	1.241	0.7000	18.3	20.0	-8.3	20.0
Benzo[b]fluoranthene	Ave	1.208	1.263		20.9	20.0	4.5	20.0
Benzo[k]fluoranthene	Ave	1.369	1.388	0.7000	20.3	20.0	1.4	20.0
Benzo[a]pyrene	Ave	1.147	1.140	0.7000	19.9	20.0	-0.6	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.107	1.146	0.5000	20.7	20.0	3.5	20.0
Dibenz(a,h)anthracene	Ave	1.054	1.254	0.4000	23.8	20.0	18.9	20.0
Benzo[g,h,i]perylene	Ave	1.292	1.462	0.5000	22.6	20.0	13.2	20.0
Nitrobenzene-d5	Ave	0.3148	0.3236		411	400	2.8	20.0

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380855.D
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 24-May-2019 10:57:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091734-002
Operator ID: Instrument ID: CBNAMS9
Sublist: chrom-BNsurrSIM_LVI_9*sub4

Method: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 24-May-2019 14:05:50 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: zhaoc Date: 24-May-2019 11:21:33

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.845	1.845	0.000	92	5353	0.2000	0.2023	
2 N-Nitrosodimethylamine	74	2.070	2.070	0.000	88	3284	0.1000	0.0977	
3 Bis(2-chloroethyl)ether	93	4.170	4.170	0.000	80	1076	0.0200	0.0175	
* 5 1,4-Dichlorobenzene-d4	152	4.428	4.428	0.000	97	10327	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.951	4.951	0.000	97	21256	0.4000	0.4112	
* 7 Naphthalene-d8	136	5.634	5.634	0.000	99	32840	0.2000	0.2000	
8 Naphthalene	128	5.659	5.659	0.000	100	3272	0.0200	0.0193	
$ 9 2-Fluorobiphenyl	172	6.657	6.657	0.000	93	60463	0.4000	0.4018	
10 Acenaphthylene	152	7.157	7.157	0.000	99	2966	0.0200	0.0141	
* 11 Acenaphthene-d10	164	7.288	7.288	0.000	93	18162	0.2000	0.2000	
12 Acenaphthene	154	7.315	7.315	0.000	89	1750	0.0200	0.0152	
13 Fluorene	166	7.801	7.801	0.000	90	2063	0.0200	0.0144	
14 4,6-Dinitro-2-methylphenol	198	7.854	7.854	0.000	78	2587	0.2000	0.3849	
$ 20 2,4,6-Tribromophenol	330	8.038	8.038	0.000	87	12384	0.4000	0.3711	
15 Hexachlorobenzene	284	8.341	8.341	0.000	95	1036	0.0200	0.0202	
16 Pentachlorophenol	266	8.525	8.525	0.000	98	2016	0.1000	0.1012	
* 17 Phenanthrene-d10	188	8.683	8.683	0.000	98	25876	0.2000	0.2000	
18 Phenanthrene	178	8.709	8.709	0.000	95	3543	0.0200	0.0300	
19 Anthracene	178	8.762	8.762	0.000	98	2783	0.0200	0.0198	
21 Fluoranthene	202	9.831	9.831	0.000	94	3158	0.0200	0.0213	
22 Pyrene	202	10.046	10.046	0.000	94	3514	0.0200	0.0204	
$ 23 Terphenyl-d14	244	10.192	10.192	0.000	97	40689	0.4000	0.4225	
24 Benzo[a]anthracene	228	11.293	11.293	0.000	85	2897	0.0200	0.0190	
* 25 Chrysene-d12	240	11.303	11.303	0.000	92	22761	0.2000	0.2000	
26 Chrysene	228	11.332	11.332	0.000	98	2824	0.0200	0.0183	
27 Benzo[b]fluoranthene	252	12.658	12.658	0.000	98	3443	0.0200	0.0209	
28 Benzo[k]fluoranthene	252	12.687	12.687	0.000	96	3784	0.0200	0.0203	
29 Benzo[a]pyrene	252	13.107	13.107	0.000	100	3108	0.0200	0.0199	
* 30 Perylene-d12	264	13.185	13.185	0.000	100	27271	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.725	14.725	0.000	89	3125	0.0200	0.0207	
32 Dibenz(a,h)anthracene	278	14.774	14.774	0.000	90	3420	0.0200	0.0238	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
33 Benzo[g,h,i]perylene	276	15.154	15.154	0.000	79	3988	0.0200	0.0226	

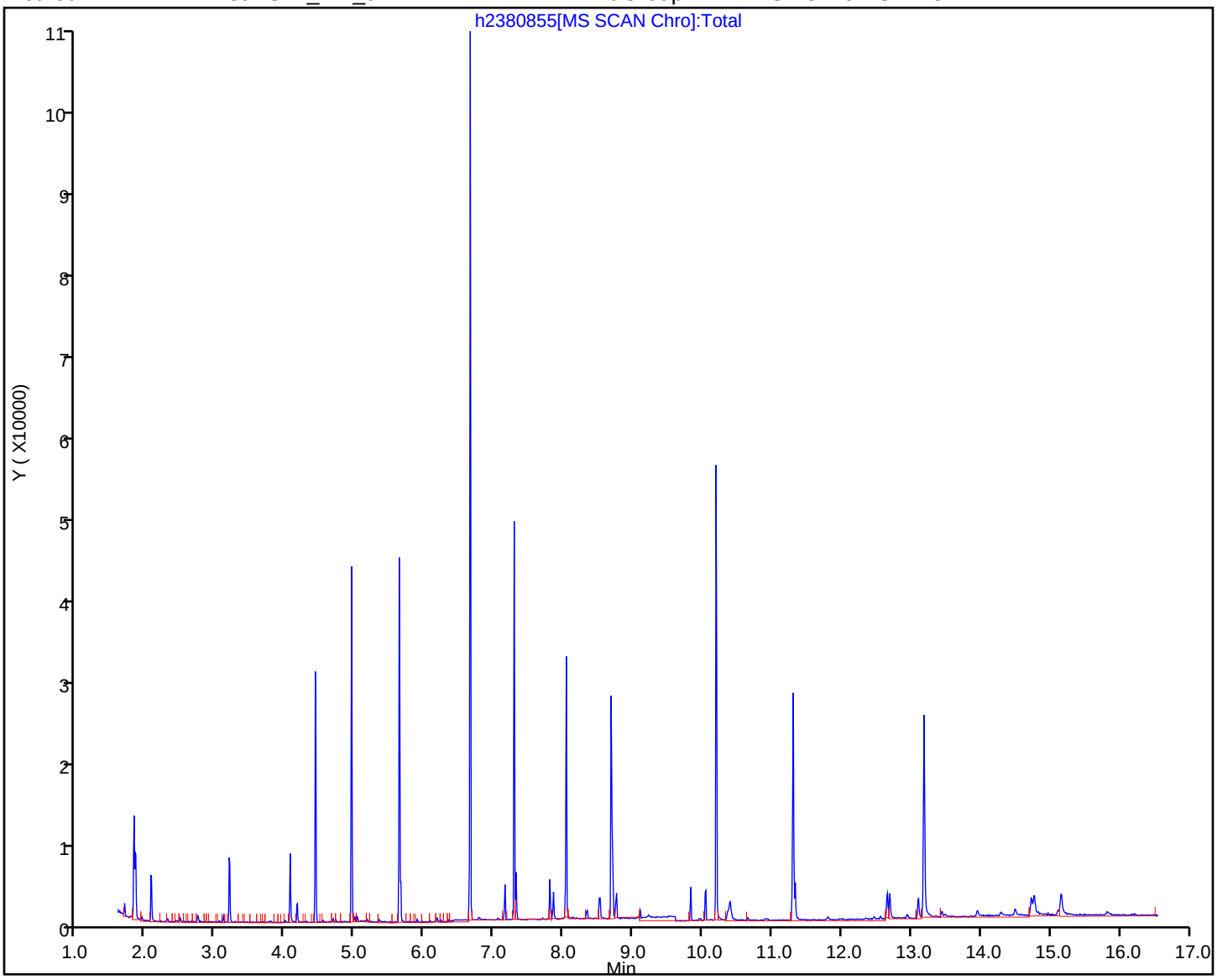
Reagents:

SM_simSlviL3_00015 Amount Added: 1.00 Units: mL

Report Date: 24-May-2019 14:05:52 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380855.D				
Injection Date:	24-May-2019 10:57:30	Instrument ID:	CBNAMS9		
Lims ID:	ccvis				
Client ID:					
Operator ID:		ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380215.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 10-May-2019 11:27:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0090931-001
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 10-May-2019 14:38:00 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0330

First Level Reviewer: johnstonm1 Date: 10-May-2019 11:42:31

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
4 Pentachlorophenol_T	266	4.609	4.609	0.000	0	151141	NR	NR	
35 DFTPP									
36 Benzidine_T	184	5.825	5.825	0.000	0	840389	NR	NR	
39 4,4'-DDT	235	6.471	6.471	0.000	0	386190	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

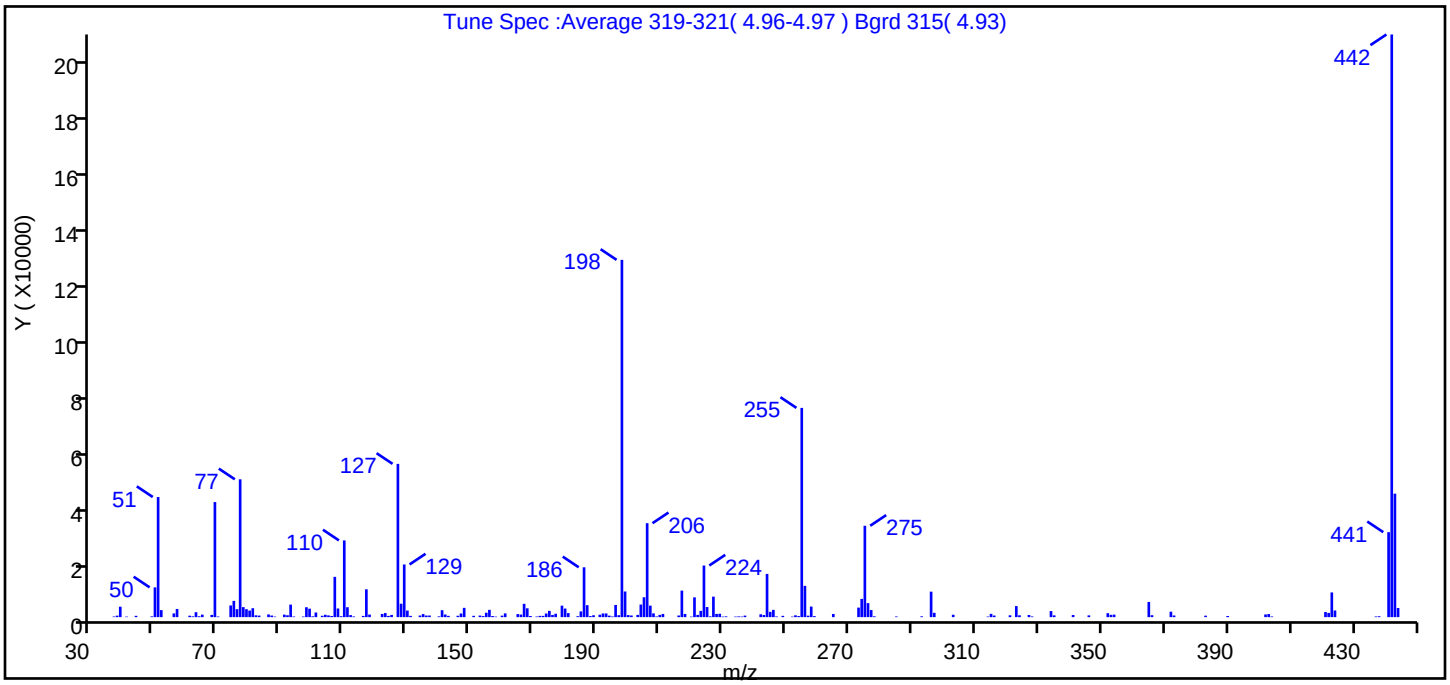
SMDFTP_CH_00028 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins TestAmerica, Edison

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380215.D
Injection Date: 10-May-2019 11:27:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL
Tune Method: DFTPP Method 8270D, BP 198

35 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	base peak, or >90% of 442	100.0 (61.3)
51	10-80% of the base peak	33.6
68	<2% of mass 69	0.6 (2.0)
69	Present	32.2
70	<2% of mass 69	0.2 (0.5)
127	10-80% of the base peak	42.9
197	<2% of mass 198	0.5
199	5-9% of mass 198	7.2
275	10-60% of the base peak	25.6
365	>1% of mass 198	4.3
441	present but <24% of mass 442	23.8 (14.6)
442	base peak, or >50% of 198	163.1
443	15-24% of mass 442	34.6 (21.2)

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380215.D\BNsurrSIM_LVI_9.rslt\spectra.c
Injection Date: 10-May-2019 11:27:30
Spectrum: Tune Spec :Average 319-321(4.96-4.97) Bgrd 315(4.93)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 205

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	218	116.00	427	189.00	655	257.00	512
38.00	522	117.00	9655	191.00	861	258.00	3667
39.00	3618	118.00	895	192.00	1270	259.00	352
41.00	191	122.00	1104	193.00	1274	265.00	1101
44.00	458	123.00	1412	194.00	524	273.00	3303
49.00	262	124.00	434	195.00	231	274.00	6328
50.00	10316	125.00	772	196.00	4222	275.00	31664
51.00	41624	127.00	53120	197.00	671	276.00	4866
52.00	2443	128.00	4649	198.00	123816	277.00	2461
56.00	1288	129.00	18256	199.00	8890	278.00	285
57.00	2827	130.00	2273	200.00	715	285.00	234
61.00	497	131.00	443	201.00	570	293.00	286
62.00	274	134.00	559	203.00	784	296.00	8833
63.00	1716	135.00	1063	204.00	4367	297.00	1500
64.00	302	136.00	561	205.00	6894	303.00	829
65.00	869	137.00	563	206.00	32552	314.00	198
68.00	784	140.00	258	207.00	3981	315.00	1138
69.00	39880	141.00	2404	208.00	1308	316.00	563
70.00	218	142.00	912	209.00	226	321.00	635
74.00	4054	143.00	449	210.00	783	323.00	3831
75.00	5637	146.00	480	211.00	1110	324.00	648
76.00	2766	147.00	1263	216.00	569	327.00	741
77.00	47768	148.00	3219	217.00	9194	328.00	241
78.00	3469	151.00	458	218.00	1105	334.00	2104
79.00	2759	153.00	552	220.00	185	335.00	620
80.00	2282	154.00	362	221.00	6862	341.00	748
81.00	3095	155.00	1529	222.00	784	346.00	612
82.00	635	156.00	2531	223.00	2174	352.00	1374
83.00	541	157.00	383	224.00	17888	353.00	807
86.00	938	158.00	189	225.00	3501	354.00	871
87.00	555	160.00	512	226.00	266	365.00	5272
88.00	184	161.00	1301	227.00	7102	366.00	673
91.00	877	165.00	1052	228.00	1122	372.00	1889

Report Date: 10-May-2019 14:38:00 Chrom Revision: 2.3 03-May-2019 15:52:00
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380215.D\BNsurrSIM_LVI_9.rslt\spectra.c
Injection Date: 10-May-2019 11:27:30
Spectrum: Tune Spec :Average 319-321(4.96-4.97) Bgrd 315(4.93)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 205

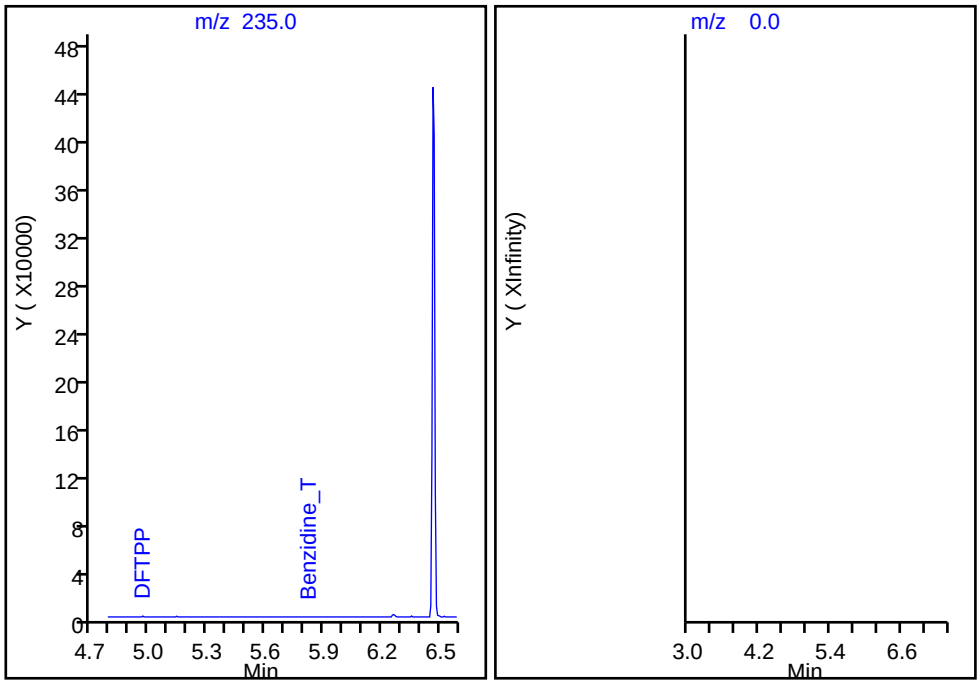
m/z	Y	m/z	Y	m/z	Y	m/z	Y
92.00	658	166.00	899	229.00	1182	373.00	576
93.00	4350	167.00	4615	230.00	192	383.00	516
94.00	218	168.00	3062	231.00	266	390.00	401
97.00	209	169.00	392	234.00	190	402.00	931
98.00	3439	171.00	209	235.00	251	403.00	1075
99.00	2933	172.00	444	236.00	197	404.00	232
100.00	284	173.00	439	237.00	534	421.00	1781
101.00	1610	174.00	1261	242.00	993	422.00	1472
103.00	476	175.00	2177	243.00	750	423.00	8561
104.00	824	176.00	759	244.00	14985	424.00	2301
105.00	599	177.00	1173	245.00	1843	437.00	235
106.00	389	179.00	3969	246.00	2530	438.00	310
107.00	13966	180.00	2975	247.00	229	441.00	29448
108.00	2998	181.00	1403	249.00	452	442.00	201920
109.00	315	184.00	321	252.00	185	443.00	42792
110.00	26592	185.00	1991	253.00	639	444.00	3162
111.00	3436	186.00	17280	254.00	371		
112.00	708	187.00	4146	255.00	72520		
113.00	237	188.00	371	256.00	10837		

Breakdown Report

Eurofins TestAmerica, Edison

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380215.D
Injection Date: 10-May-2019 11:27:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL

39 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

39 4,4'-DDT, Area = 386190
37 4,4'-DDD, Area = 0
38 4,4'-DDE, Area = 0

%Breakdown: 0.00%, <= 20.00%
Passed

Peak Tailing Report

Eurofins TestAmerica, Edison

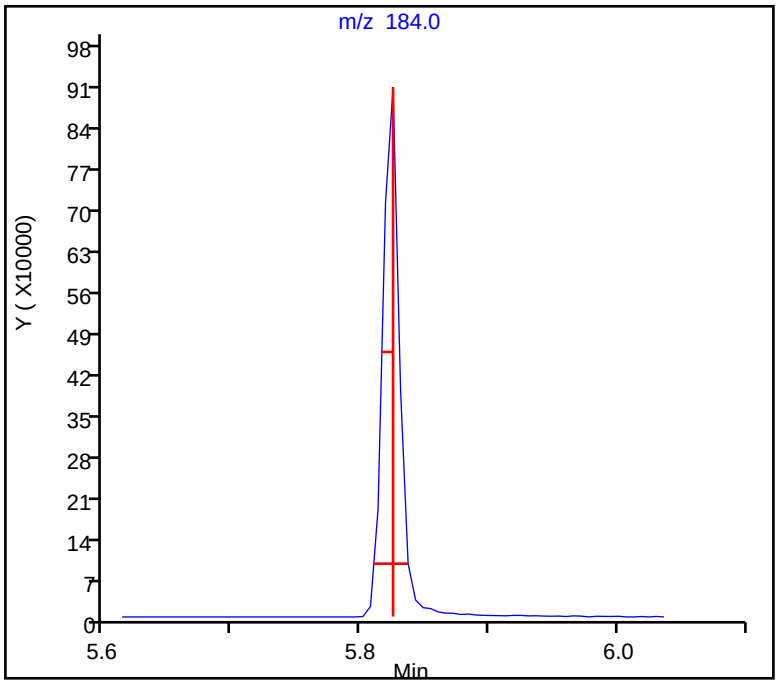
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380215.D
Injection Date: 10-May-2019 11:27:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL

36 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.012 (min.)
Front Width = 0.015 (min.)

Tailing Factor = 0.8, Max. Tailing < 2.00
Passed



Peak Tailing Report

Eurofins TestAmerica, Edison

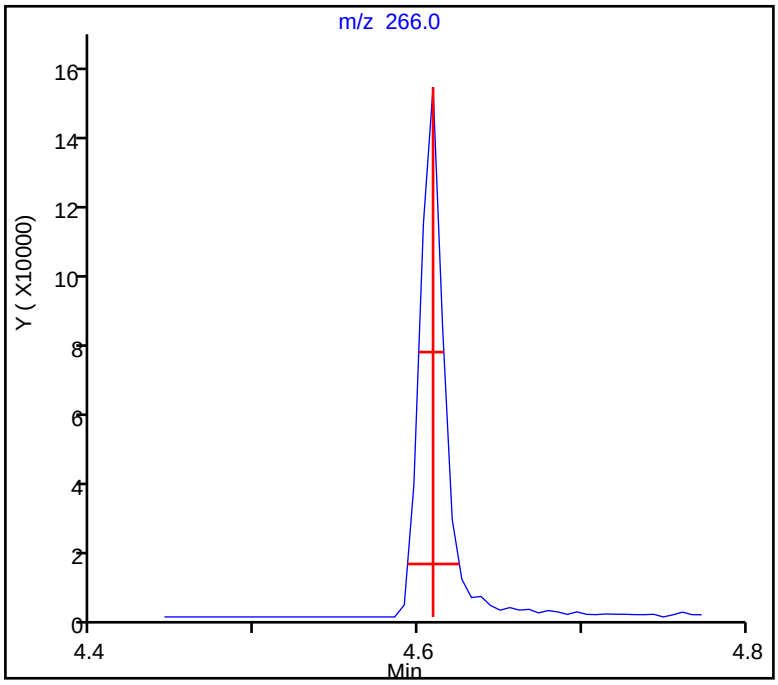
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380215.D
Injection Date: 10-May-2019 11:27:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL

4 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.016 (min.)
Front Width = 0.016 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed



Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380719.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 22-May-2019 06:22:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-001
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 22-May-2019 10:49:34 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0313

First Level Reviewer: zhaoc Date: 22-May-2019 09:44:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
4 Pentachlorophenol_T	266	4.580	4.580	0.000	0	137016	NR	NR	
35 DFTPP									
36 Benzidine_T	184	5.796	5.796	0.000	0	862132	NR	NR	
38 4,4'-DDE	246	6.448	6.448	0.000	0	25629		NR	
39 4,4'-DDT	235	6.448	6.448	0.000	0	413007	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

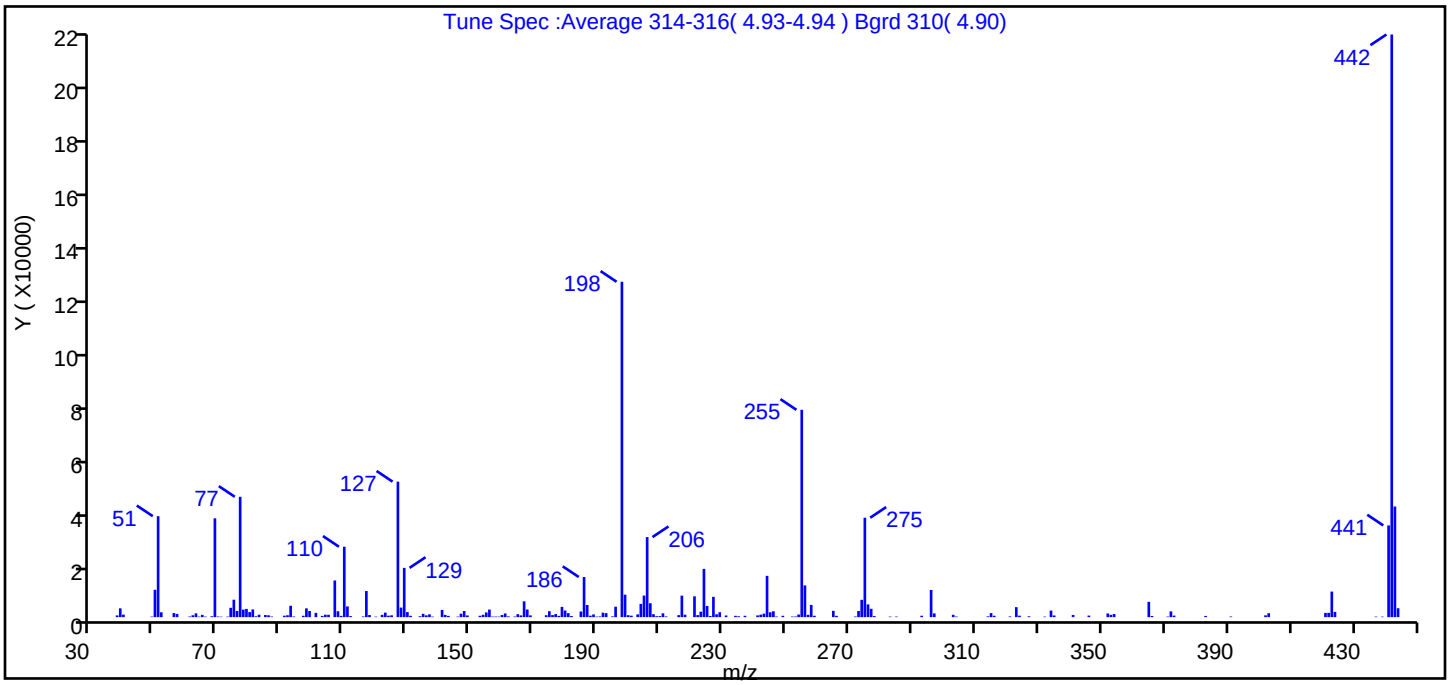
SMDFTP_CH_00028 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380719.D				
Injection Date:	22-May-2019 06:22:30	Instrument ID:	CBNAMS9		
Lims ID:	DFTPP				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		
Tune Method:	DFTPP Method 8270D, BP 198				

35 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	base peak, or >90% of 442	100.0 (57.6)
51	10-80% of the base peak	30.1
68	<2% of mass 69	0.3 (0.9)
69	Present	29.5
70	<2% of mass 69	0.2 (0.6)
127	10-80% of the base peak	40.4
197	<2% of mass 198	0.0
199	5-9% of mass 198	6.7
275	10-60% of the base peak	29.6
365	>1% of mass 198	4.6
441	present but <24% of mass 442	27.3 (15.7)
442	base peak, or >50% of 198	173.7
443	15-24% of mass 442	33.0 (19.0)

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380719.D\BNsurrSIM_LVI_9.rslt\spectra.c
Injection Date: 22-May-2019 06:22:30
Spectrum: Tune Spec :Average 314-316(4.93-4.94) Bgrd 310(4.90)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 207

m/z	Y	m/z	Y	m/z	Y	m/z	Y
38.00	620	118.00	768	189.00	991	259.00	501
39.00	3196	120.00	187	190.00	191	265.00	2292
40.00	911	122.00	821	191.00	244	266.00	481
49.00	194	123.00	1636	192.00	1626	272.00	230
50.00	9932	124.00	527	193.00	1455	273.00	2235
51.00	36648	125.00	666	195.00	270	274.00	6294
52.00	1768	127.00	49184	196.00	3780	275.00	36088
56.00	1480	128.00	3470	198.00	121744	276.00	4621
57.00	1169	129.00	17880	199.00	8166	277.00	3036
61.00	230	130.00	1834	200.00	701	278.00	383
62.00	681	131.00	493	201.00	526	283.00	202
63.00	1391	134.00	324	203.00	1015	285.00	208
64.00	195	135.00	1207	204.00	4820	293.00	512
65.00	820	136.00	651	205.00	7831	296.00	9860
66.00	194	137.00	1020	206.00	29064	297.00	1358
68.00	307	138.00	187	207.00	5043	303.00	841
69.00	35872	141.00	2623	208.00	1065	304.00	210
70.00	228	142.00	827	209.00	338	314.00	277
71.00	158	143.00	456	210.00	364	315.00	1461
73.00	191	146.00	194	211.00	1392	316.00	513
74.00	3392	147.00	1252	212.00	255	321.00	252
75.00	6326	148.00	2230	216.00	725	323.00	3620
76.00	2244	149.00	612	217.00	7801	324.00	529
77.00	43688	153.00	503	218.00	895	327.00	311
78.00	2728	154.00	860	221.00	7552	332.00	193
79.00	2989	155.00	1715	222.00	741	334.00	2390
80.00	1845	156.00	2758	223.00	1971	335.00	607
81.00	2802	157.00	200	224.00	17520	341.00	796
82.00	312	158.00	209	225.00	4071	346.00	566
83.00	871	159.00	184	226.00	411	352.00	1329
85.00	766	160.00	763	227.00	7378	353.00	836
86.00	674	161.00	1336	228.00	1041	354.00	1130
87.00	219	162.00	275	229.00	1785	365.00	5567

Report Date: 22-May-2019 10:49:34 Chrom Revision: 2.3 03-May-2019 15:52:00
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380719.D\BNsurrSIM_LVI_9.rslt\spectra.c
Injection Date: 22-May-2019 06:22:30
Spectrum: Tune Spec :Average 314-316(4.93-4.94) Bgrd 310(4.90)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 207

m/z	Y	m/z	Y	m/z	Y	m/z	Y
91.00	524	164.00	221	231.00	606	366.00	425
92.00	691	165.00	1069	234.00	482	371.00	193
93.00	4128	166.00	625	235.00	315	372.00	2098
94.00	236	167.00	5749	237.00	491	373.00	566
97.00	502	168.00	2772	241.00	635	383.00	444
98.00	3193	169.00	647	242.00	904	391.00	236
99.00	2227	174.00	697	243.00	1269	402.00	656
101.00	1552	175.00	2162	244.00	14985	403.00	1434
103.00	460	176.00	747	245.00	1769	421.00	1552
104.00	903	177.00	1115	246.00	2141	422.00	1566
105.00	859	178.00	468	247.00	214	423.00	9279
107.00	13304	179.00	3721	249.00	496	424.00	1910
108.00	2149	180.00	2399	252.00	215	437.00	202
109.00	457	181.00	1450	253.00	234	439.00	190
110.00	25568	182.00	412	254.00	955	441.00	33296
111.00	3891	185.00	2057	255.00	75264	442.00	211520
112.00	381	186.00	14571	256.00	11521	443.00	40168
116.00	242	187.00	4426	257.00	849	444.00	3234
117.00	9483	188.00	527	258.00	4438		

Breakdown Report

Eurofins TestAmerica, Edison

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380719.D
Injection Date: 22-May-2019 06:22:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL

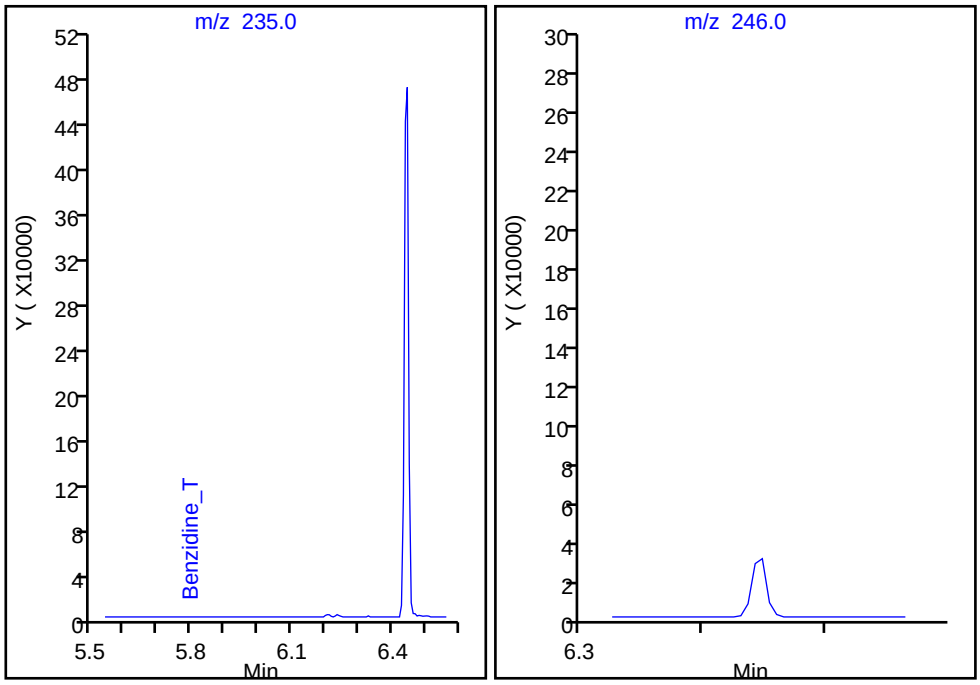
39 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

39 4,4'-DDT, Area = 413007
37 4,4'-DDD, Area = 0
38 4,4'-DDE, Area = 25629

%Breakdown: 5.84%, <= 20.00%
Passed



Peak Tailing Report

Eurofins TestAmerica, Edison

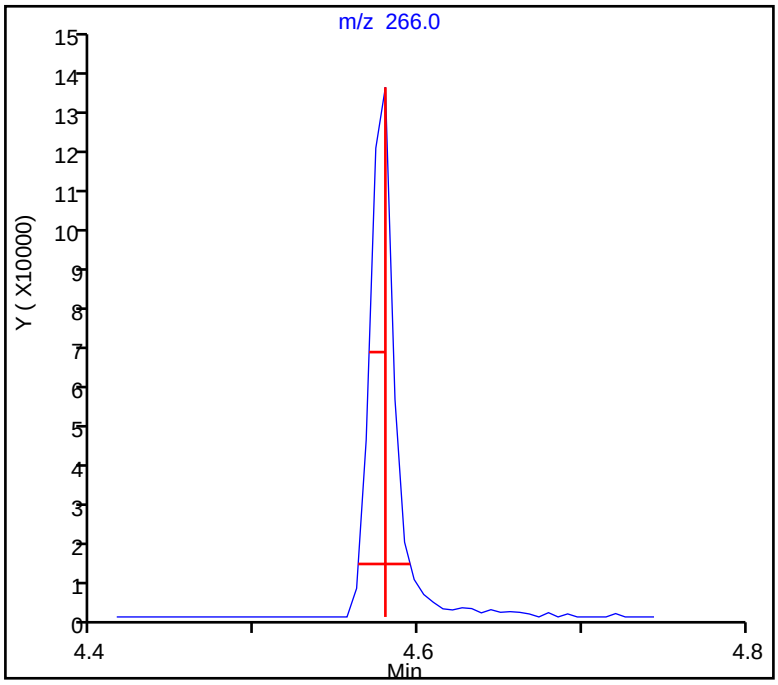
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380719.D
Injection Date: 22-May-2019 06:22:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL

4 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.015 (min.)
Front Width = 0.017 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed



Peak Tailing Report

Eurofins TestAmerica, Edison

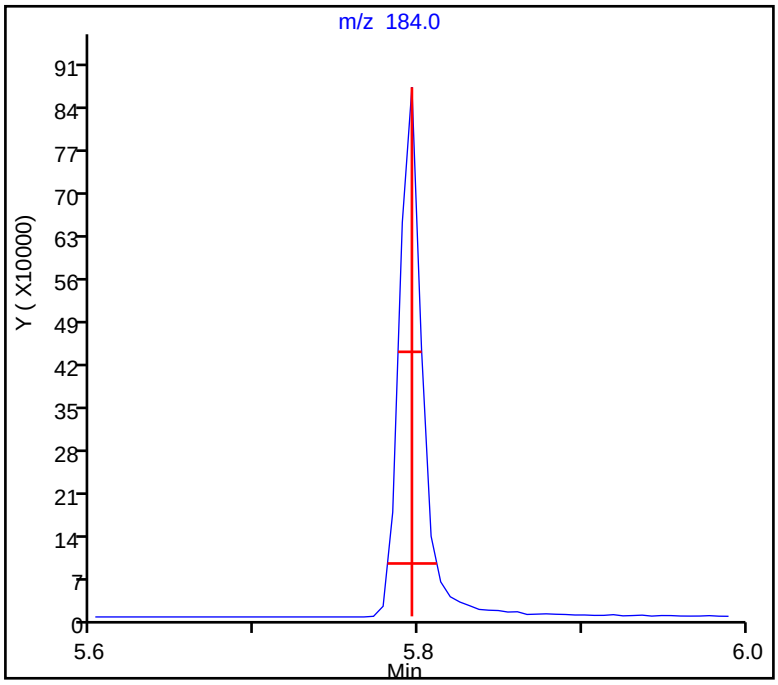
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380719.D
Injection Date: 22-May-2019 06:22:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL

36 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.015 (min.)
Front Width = 0.015 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed



Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380854.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 24-May-2019 10:45:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091734-001
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 24-May-2019 14:05:41 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0303

First Level Reviewer: zhaoc Date: 24-May-2019 10:55:17

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
4 Pentachlorophenol_T	266	4.556	4.556	0.000	0	213016	NR	NR	
35 DFTPP									
36 Benzidine_T	184	5.778	5.778	0.000	0	1085645	NR	NR	
37 4,4'-DDD	235	6.219	6.219	0.000	0	2269		NR	
39 4,4'-DDT	235	6.424	6.424	0.000	0	528308	NR	NR	a

QC Flag Legend

Processing Flags
NR - Missing Quant Standard
Review Flags
a - User Assigned ID

Reagents:

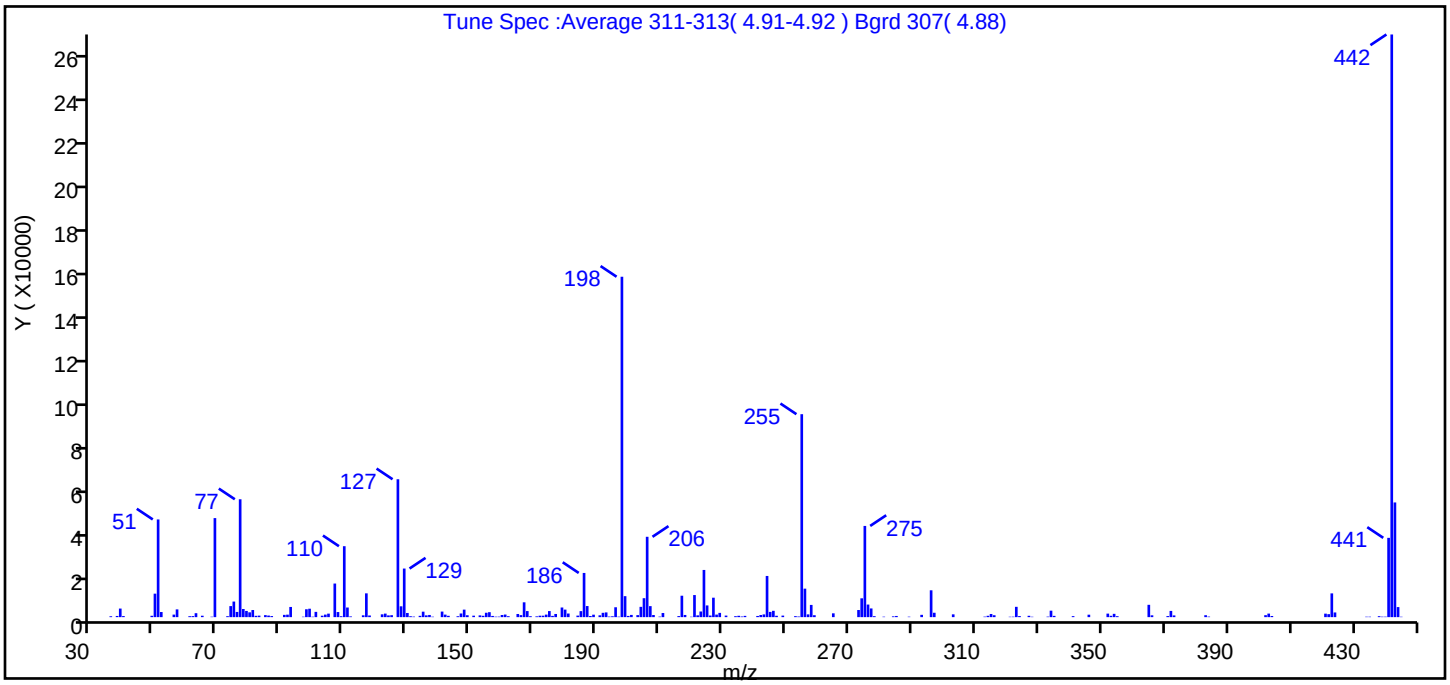
SMDFTP_CH_00028 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins TestAmerica, Edison

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380854.D
Injection Date: 24-May-2019 10:45:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL
Tune Method: DFTPP Method 8270D, BP 198

35 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	base peak, or >90% of 442	100.0 (58.4)
51	10-80% of the base peak	28.7
68	<2% of mass 69	0.1 (0.4)
69	Present	29.1
70	<2% of mass 69	0.0 (0.0)
127	10-80% of the base peak	40.5
197	<2% of mass 198	0.1
199	5-9% of mass 198	6.2
275	10-60% of the base peak	26.8
365	>1% of mass 198	3.6
441	present but <24% of mass 442	23.3 (13.6)
442	base peak, or >50% of 198	171.2
443	15-24% of mass 442	33.7 (19.7)

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380854.D\BNsurrSIM_LVI_9.rslt\spectra.c
Injection Date: 24-May-2019 10:45:30
Spectrum: Tune Spec :Average 311-313(4.91-4.92) Bgrd 307(4.88)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 214

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	413	127.00	63672	195.00	396	278.00	443
38.00	543	128.00	5004	196.00	4562	281.00	211
39.00	3960	129.00	22440	197.00	225	284.00	363
40.00	494	130.00	1921	198.00	157184	285.00	545
49.00	629	131.00	422	199.00	9687	289.00	215
50.00	10844	132.00	249	200.00	565	293.00	1068
51.00	45112	134.00	608	201.00	1030	296.00	12397
52.00	2361	135.00	2526	203.00	934	297.00	2026
56.00	1173	136.00	816	204.00	4753	303.00	1292
57.00	3584	137.00	1008	205.00	8748	313.00	235
61.00	435	138.00	207	206.00	37104	314.00	625
62.00	478	141.00	2572	207.00	5084	315.00	1454
63.00	1825	142.00	1164	208.00	977	316.00	877
65.00	654	143.00	619	210.00	239	321.00	185
68.00	198	146.00	416	211.00	1906	322.00	218
69.00	45736	147.00	1693	216.00	483	323.00	4763
73.00	440	148.00	3470	217.00	9893	324.00	503
74.00	5100	149.00	878	218.00	1009	327.00	624
75.00	7198	151.00	677	220.00	185	328.00	184
76.00	2400	153.00	814	221.00	10199	333.00	235
77.00	54432	154.00	624	222.00	826	334.00	2986
78.00	3762	155.00	2026	223.00	2607	335.00	589
79.00	2863	156.00	2289	224.00	21792	341.00	465
80.00	2220	157.00	562	225.00	5409	346.00	1131
81.00	3285	158.00	223	226.00	738	352.00	1631
82.00	613	159.00	235	227.00	8978	353.00	623
83.00	699	160.00	988	228.00	1175	354.00	1526
85.00	932	161.00	1201	229.00	1970	355.00	436
86.00	728	162.00	429	231.00	719	365.00	5693
87.00	491	165.00	1458	234.00	441	366.00	841
91.00	1051	166.00	920	235.00	621	371.00	497
92.00	1148	167.00	6850	236.00	293	372.00	2875
93.00	4704	168.00	2800	237.00	586	373.00	795

Report Date: 24-May-2019 14:05:42 Chrom Revision: 2.3 03-May-2019 15:52:00
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380854.D\BNsurrSIM_LVI_9.rslt\spectra.c
Injection Date: 24-May-2019 10:45:30
Spectrum: Tune Spec :Average 311-313(4.91-4.92) Bgrd 307(4.88)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 214

m/z	Y	m/z	Y	m/z	Y	m/z	Y
97.00	204	169.00	431	241.00	545	383.00	892
98.00	3641	171.00	354	242.00	987	384.00	254
99.00	3890	172.00	662	243.00	1257	402.00	909
100.00	199	173.00	671	244.00	19016	403.00	1637
101.00	2436	174.00	1169	245.00	2416	404.00	532
103.00	664	175.00	2802	246.00	2919	421.00	1610
104.00	1174	176.00	584	247.00	637	422.00	1374
105.00	1618	177.00	1459	249.00	708	423.00	10971
107.00	15516	179.00	4454	253.00	459	424.00	2163
108.00	2352	180.00	3477	254.00	288	434.00	198
109.00	422	181.00	1665	255.00	93720	435.00	207
110.00	32760	184.00	708	256.00	13158	438.00	441
111.00	4446	185.00	2774	257.00	1274	439.00	219
112.00	331	186.00	20408	258.00	5645	440.00	225
116.00	848	187.00	5123	259.00	889	441.00	36616
117.00	10988	188.00	525	265.00	1762	442.00	269056
118.00	768	189.00	1134	273.00	3289	443.00	52960
122.00	1297	191.00	841	274.00	8695	444.00	4648
123.00	1630	192.00	1999	275.00	42120	445.00	184
124.00	799	193.00	2185	276.00	5814		
125.00	901	194.00	269	277.00	4018		

Breakdown Report

Eurofins TestAmerica, Edison

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380854.D
Injection Date: 24-May-2019 10:45:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL

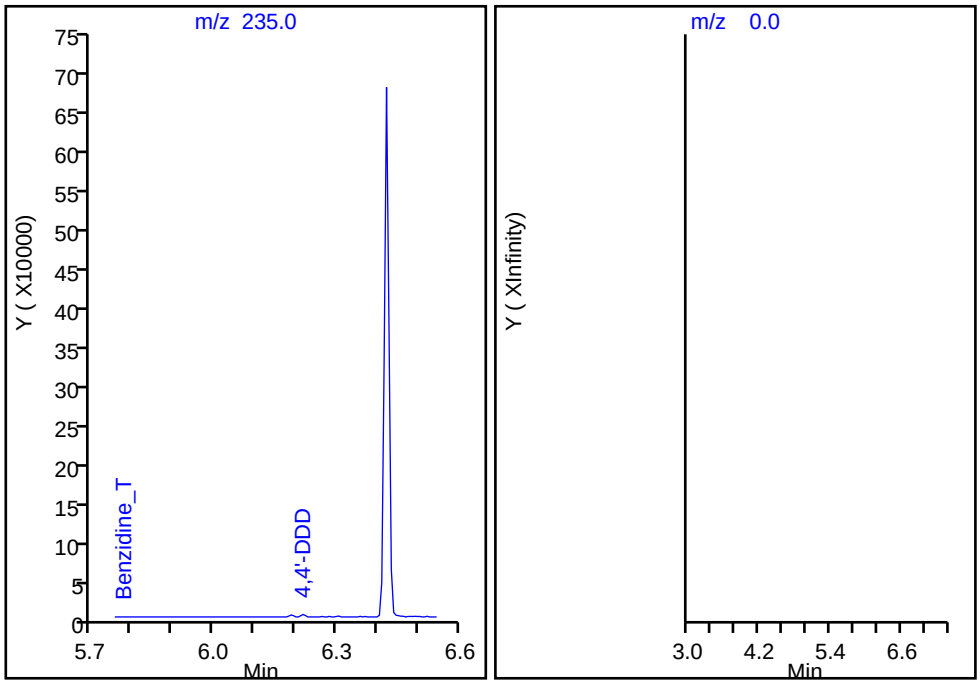
39 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

39 4,4'-DDT, Area = 528308
37 4,4'-DDD, Area = 2269
38 4,4'-DDE, Area = 0

%Breakdown: 0.43%, <= 20.00%
Passed



Peak Tailing Report

Eurofins TestAmerica, Edison

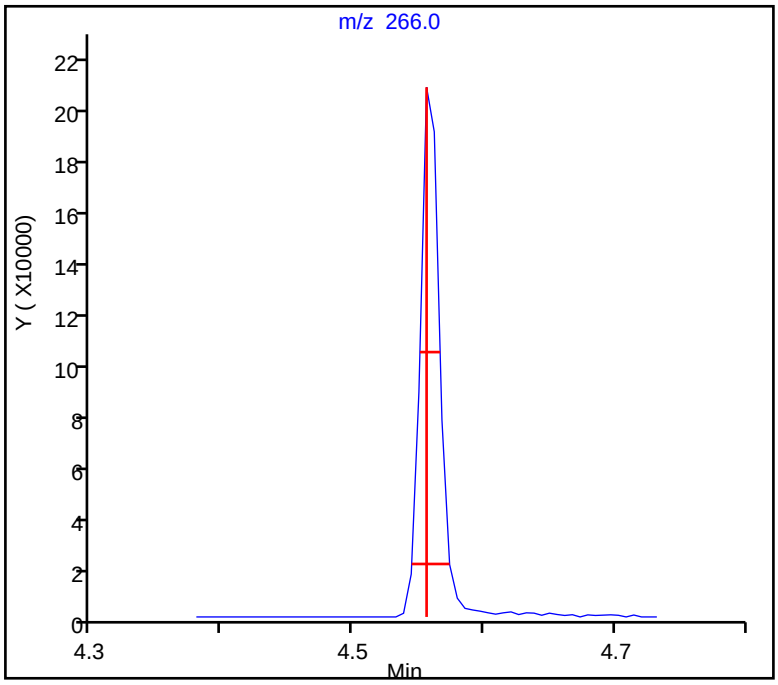
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380854.D
Injection Date: 24-May-2019 10:45:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL

4 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.018 (min.)
Front Width = 0.011 (min.)

Tailing Factor = 1.5, Max. Tailing < 2.00
Passed



Peak Tailing Report

Eurofins TestAmerica, Edison

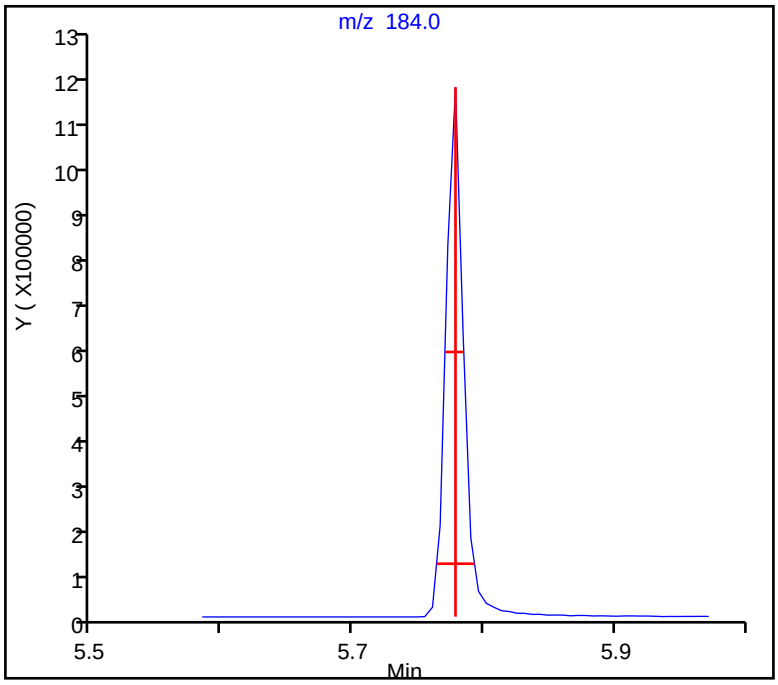
Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380854.D
Injection Date: 24-May-2019 10:45:30 Instrument ID: CBNAMS9
Lims ID: DFTPP
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Method: BNsurrSIM_LVI_9 Limit Group: SV 8270D SIM ICAL

36 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.015 (min.)
Front Width = 0.014 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 460-612326/1-A

Matrix: Water Lab File ID: h2380878.D

Analysis Method: 8270D SIM Date Collected:

Extract. Method: 3510C Date Extracted: 05/23/2019 16:18

Sample wt/vol: 250(mL) Date Analyzed: 05/24/2019 19:10

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 612564 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	63		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380878.D
Lims ID: MB 460-612326/1-A
Client ID:
Sample Type: MB
Inject. Date: 24-May-2019 19:10:30 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091734-025
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 27-May-2019 07:49:10 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0304

First Level Reviewer: hamziy Date: 24-May-2019 22:42:57

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 5 1,4-Dichlorobenzene-d4	152	4.427	4.428	-0.001	99	8708	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.942	4.951	-0.009	93	27278	1.00	0.6326	
* 7 Naphthalene-d8	136	5.634	5.634	0.000	99	27397	0.2000	0.2000	
$ 9 2-Fluorobiphenyl	172	6.657	6.657	0.000	92	57882	1.00	0.4746	
* 11 Acenaphthene-d10	164	7.288	7.288	0.000	93	14719	0.2000	0.2000	
$ 20 2,4,6-Tribromophenol	330	8.038	8.038	0.000	85	16678	1.00	0.6167	
* 17 Phenanthrene-d10	188	8.682	8.683	-0.001	99	26007	0.2000	0.2000	
$ 23 Terphenyl-d14	244	10.192	10.183	0.000	95	48410	1.00	0.5056	
* 25 Chrysene-d12	240	11.303	11.303	0.000	89	22629	0.2000	0.2000	
* 30 Perylene-d12	264	13.175	13.185	-0.010	100	28061	0.2000	0.2000	

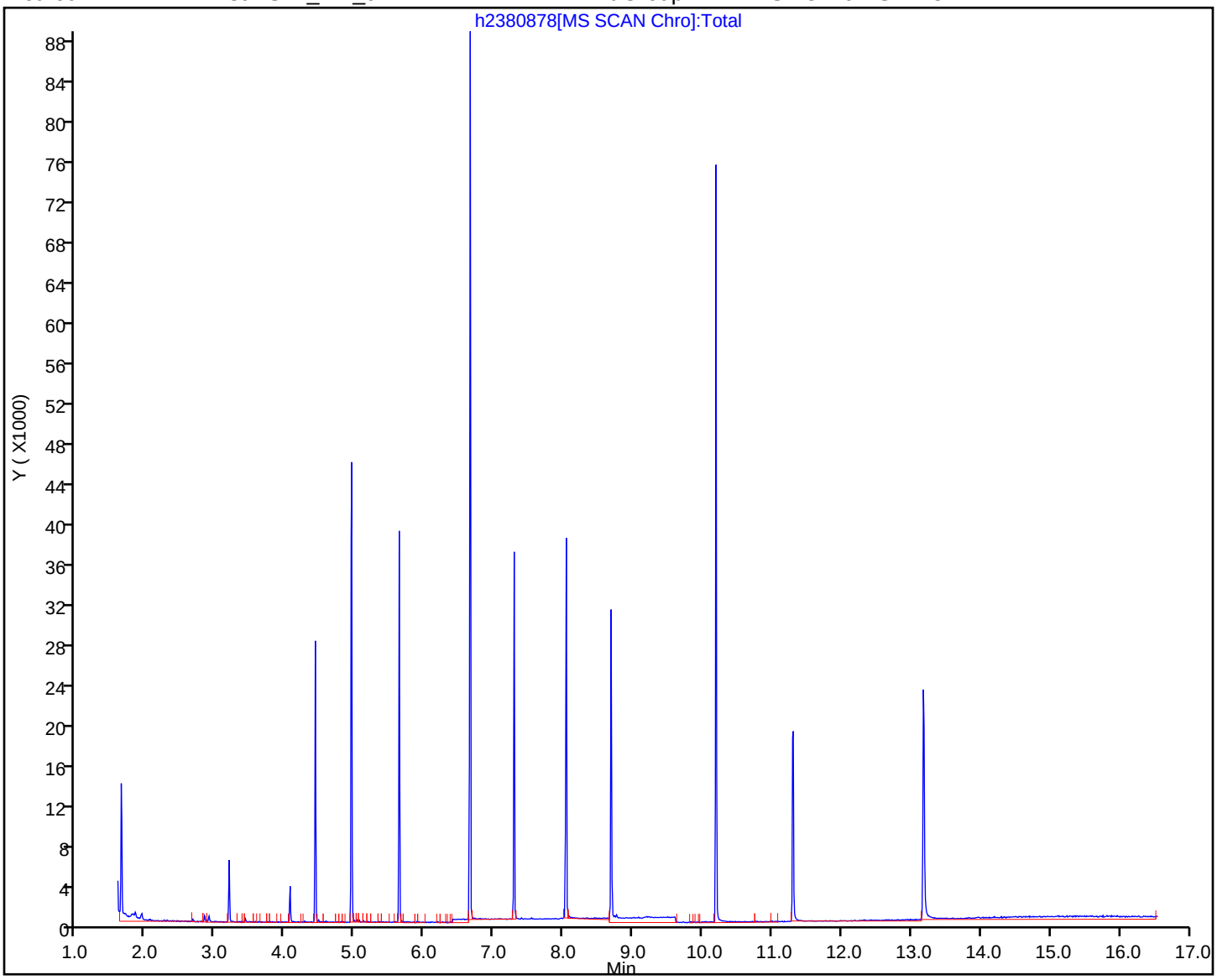
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 27-May-2019 07:49:11 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380878.D				
Injection Date:	24-May-2019 19:10:30	Instrument ID:	CBNAMS9		
Lims ID:	MB 460-612326/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	25	Worklist Smp#:	25
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



Report Date: 27-May-2019 07:49:11 Chrom Revision: 2.3 03-May-2019 15:52:00

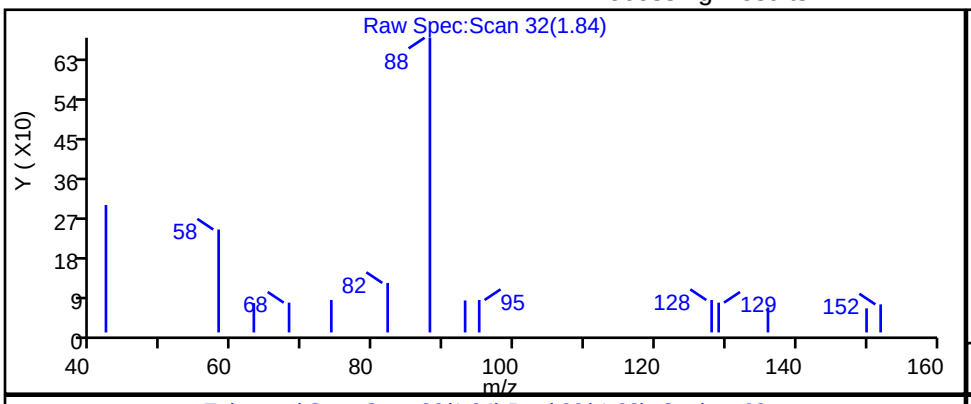
User Disabled Compound Report

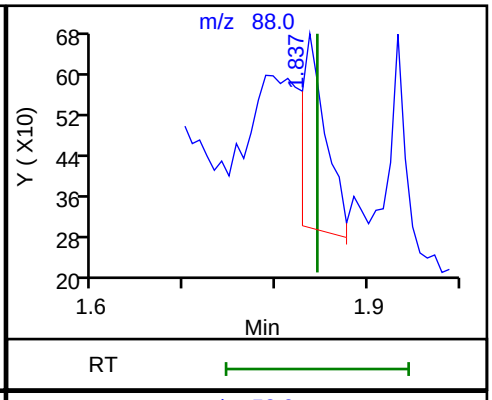
Eurofins TestAmerica, Edison

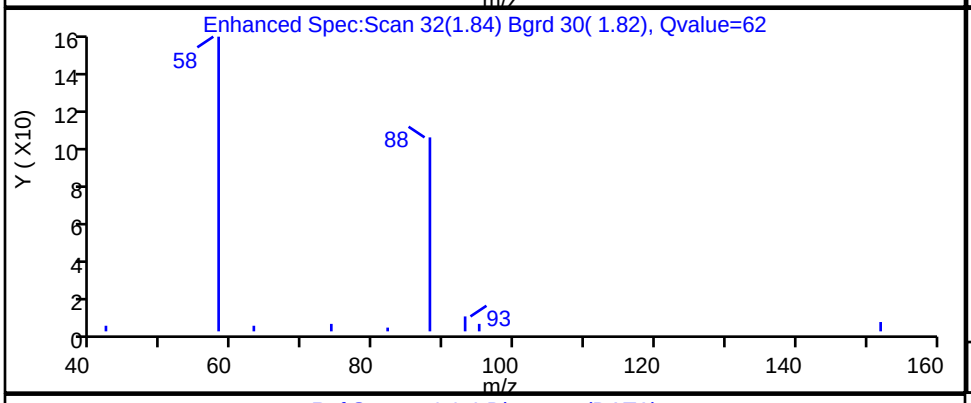
Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380878.D				
Injection Date:	24-May-2019 19:10:30	Instrument ID:	CBNAMS9		
Lims ID:	MB 460-612326/1-A				
Client ID:					
Operator ID:		ALS Bottle#:	25	Worklist Smp#:	25
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		
Column:		Detector	MS SCAN		

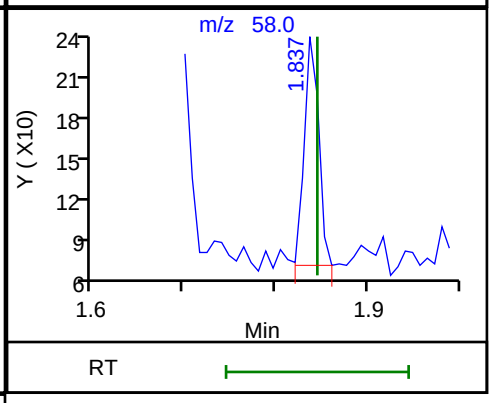
1 1,4-Dioxane, CAS: 123-91-1

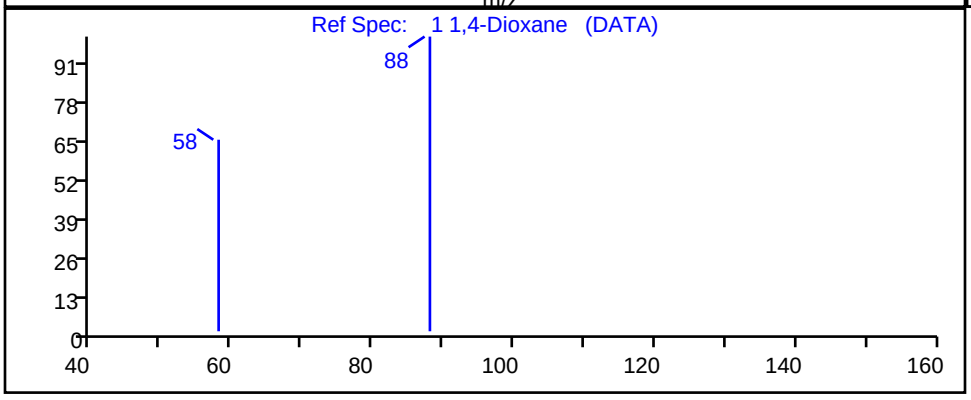
Processing Results











RT	Mass	Response	Amount
1.84	88.00	676	0.030296
1.84	58.00	175	

Reviewer: hamziy, 24-May-2019 22:42:53

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 460-611633/2-A

Matrix: Water Lab File ID: h2380726.D

Analysis Method: 8270D SIM Date Collected:

Extract. Method: 3510C Date Extracted: 05/21/2019 09:16

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 08:52

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.840		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	80		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380726.D
Lims ID: LCS 460-611633/2-A
Client ID:
Sample Type: LCS
Inject. Date: 22-May-2019 08:52:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-008
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 22-May-2019 10:49:36 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0313

First Level Reviewer: zhaoc Date: 22-May-2019 09:50:50

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 1,4-Dioxane	88	1.845	1.845	0.000	92	3002	0.1000	0.1050	
	2 N-Nitrosodimethylamine	74	2.070	2.070	0.000	99	1485	0.1000	0.0409	
	3 Bis(2-chloroethyl)ether	93	4.178	4.178	0.000	90	5928	0.1000	0.0894	
*	5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	100	11155	0.2000	0.2000	
$	6 Nitrobenzene-d5	82	4.959	4.959	-0.001	98	45846	1.00	0.7999	
*	7 Naphthalene-d8	136	5.650	5.651	-0.001	98	36413	0.2000	0.2000	
	8 Naphthalene	128	5.667	5.667	0.000	100	14587	0.1000	0.0774	
$	9 2-Fluorobiphenyl	172	6.670	6.670	0.000	93	131042	1.00	0.7261	
	10 Acenaphthylene	152	7.170	7.170	0.000	99	14437	0.1000	0.0572	
*	11 Acenaphthene-d10	164	7.301	7.301	0.000	91	21779	0.2000	0.2000	
	12 Acenaphthene	154	7.328	7.328	0.000	94	10083	0.1000	0.0730	
	13 Fluorene	166	7.814	7.814	0.000	94	13263	0.1000	0.0770	
	14 4,6-Dinitro-2-methylphenol	198	7.867	7.867	0.000	80	2222	0.2000	0.2734	
$	20 2,4,6-Tribromophenol	330	8.051	8.051	0.000	89	30909	1.00	0.7725	
	15 Hexachlorobenzene	284	8.354	8.354	0.000	100	4966	0.1000	0.0752	
	16 Pentachlorophenol	266	8.538	8.538	0.000	95	3194	0.2000	0.1235	
*	17 Phenanthrene-d10	188	8.696	8.696	0.000	100	33373	0.2000	0.2000	
	18 Phenanthrene	178	8.722	8.722	0.000	94	22114	0.1000	0.1452	
	19 Anthracene	178	8.775	8.775	0.000	98	15991	0.1000	0.0884	
	21 Fluoranthene	202	9.841	9.841	0.000	94	20088	0.1000	0.1052	
	22 Pyrene	202	10.055	10.055	0.000	95	20645	0.1000	0.1036	
$	23 Terphenyl-d14	244	10.211	10.211	0.000	93	104427	1.00	0.9357	
	24 Benzo[a]anthracene	228	11.303	11.303	0.000	18	15729	0.1000	0.0890	
*	25 Chrysene-d12	240	11.313	11.323	-0.010	95	26377	0.2000	0.2000	
	26 Chrysene	228	11.342	11.342	0.000	99	21205	0.1000	0.1189	
	27 Benzo[b]fluoranthene	252	12.668	12.678	-0.010	100	17733	0.1000	0.0933	
	28 Benzo[k]fluoranthene	252	12.707	12.707	0.000	98	24831	0.1000	0.1153	
	29 Benzo[a]pyrene	252	13.116	13.126	-0.010	100	18012	0.1000	0.0998	
*	30 Perylene-d12	264	13.204	13.204	0.000	99	31459	0.2000	0.2000	
	31 Indeno[1,2,3-cd]pyrene	276	14.754	14.754	0.000	86	21830	0.1000	0.1254	
	32 Dibenz(a,h)anthracene	278	14.793	14.793	0.000	93	22726	0.1000	0.1370	
	33 Benzo[g,h,i]perylene	276	15.183	15.183	0.000	76	30570	0.1000	0.1504	

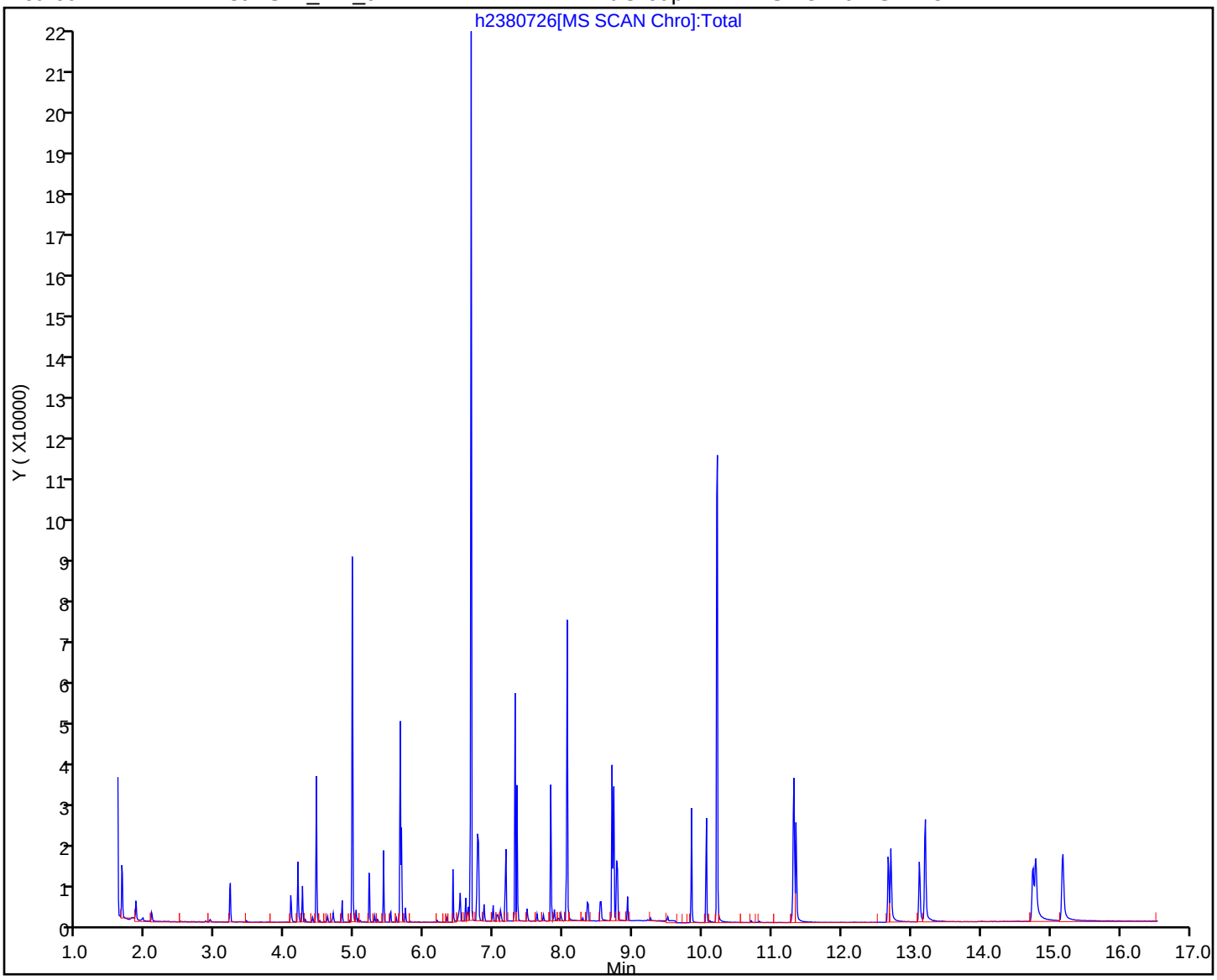
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 22-May-2019 10:49:48 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380726.D				
Injection Date:	22-May-2019 08:52:30	Instrument ID:	CBNAMS9		
Lims ID:	LCS 460-611633/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 460-612326/2-A

Matrix: Water Lab File ID: h2380879.D

Analysis Method: 8270D SIM Date Collected:

Extract. Method: 3510C Date Extracted: 05/23/2019 16:18

Sample wt/vol: 250(mL) Date Analyzed: 05/24/2019 19:31

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 612564 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.511		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	58		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380879.D
Lims ID: LCS 460-612326/2-A
Client ID:
Sample Type: LCS
Inject. Date: 24-May-2019 19:31:30 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091734-026
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 27-May-2019 07:49:10 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0304

First Level Reviewer: hamziy Date: 24-May-2019 22:43:23

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.837	1.845	-0.008	81	1570	0.1000	0.0638	
2 N-Nitrosodimethylamine	74	2.062	2.070	-0.008	97	1111	0.1000	0.0356	
3 Bis(2-chloroethyl)ether	93	4.162	4.170	-0.008	96	4337	0.1000	0.0760	
* 5 1,4-Dichlorobenzene-d4	152	4.428	4.428	0.000	99	9598	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.951	4.951	0.000	92	27944	1.00	0.5831	
* 7 Naphthalene-d8	136	5.634	5.634	0.000	99	30445	0.2000	0.2000	
8 Naphthalene	128	5.651	5.659	-0.009	100	10354	0.1000	0.0657	
$ 9 2-Fluorobiphenyl	172	6.657	6.657	0.000	92	58987	1.00	0.4350	
10 Acenaphthylene	152	7.157	7.156	0.000	99	9274	0.1000	0.0489	
* 11 Acenaphthene-d10	164	7.288	7.288	0.000	91	16364	0.2000	0.2000	
12 Acenaphthene	154	7.314	7.314	-0.001	95	6910	0.1000	0.0666	
13 Fluorene	166	7.801	7.801	0.000	96	8926	0.1000	0.0690	
14 4,6-Dinitro-2-methylphenol	198	7.854	7.854	0.000	70	1545	0.2000	0.2333	
$ 20 2,4,6-Tribromophenol	330	8.038	8.038	0.000	86	17190	1.00	0.5718	
15 Hexachlorobenzene	284	8.327	8.340	-0.014	98	2481	0.1000	0.0448	
16 Pentachlorophenol	266	8.512	8.525	-0.013	90	3732	0.2000	0.1696	
* 17 Phenanthrene-d10	188	8.683	8.683	0.000	100	28003	0.2000	0.2000	
18 Phenanthrene	178	8.709	8.709	0.000	94	13435	0.1000	0.1052	
19 Anthracene	178	8.748	8.761	-0.014	99	11152	0.1000	0.0735	
21 Fluoranthene	202	9.821	9.831	-0.010	97	14557	0.1000	0.0908	
22 Pyrene	202	10.036	10.037	-0.010	98	15365	0.1000	0.0846	
$ 23 Terphenyl-d14	244	10.192	10.183	0.000	95	42035	1.00	0.4132	
24 Benzo[a]anthracene	228	11.284	11.284	-0.009	9	12646	0.1000	0.0785	
* 25 Chrysene-d12	240	11.303	11.303	0.000	91	24045	0.2000	0.2000	
26 Chrysene	228	11.332	11.323	0.000	98	15778	0.1000	0.0970	
27 Benzo[b]fluoranthene	252	12.648	12.649	-0.010	100	14713	0.1000	0.0822	
28 Benzo[k]fluoranthene	252	12.687	12.678	0.000	100	18305	0.1000	0.0903	
29 Benzo[a]pyrene	252	13.097	13.097	-0.010	99	14581	0.1000	0.0858	
* 30 Perylene-d12	264	13.175	13.185	-0.010	100	29614	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.725	14.714	0.000	87	17416	0.1000	0.1062	
32 Dibenz(a,h)anthracene	278	14.764	14.762	-0.010	91	19442	0.1000	0.1245	
33 Benzo[g,h,i]perylene	276	15.154	15.142	0.000	77	22414	0.1000	0.1171	

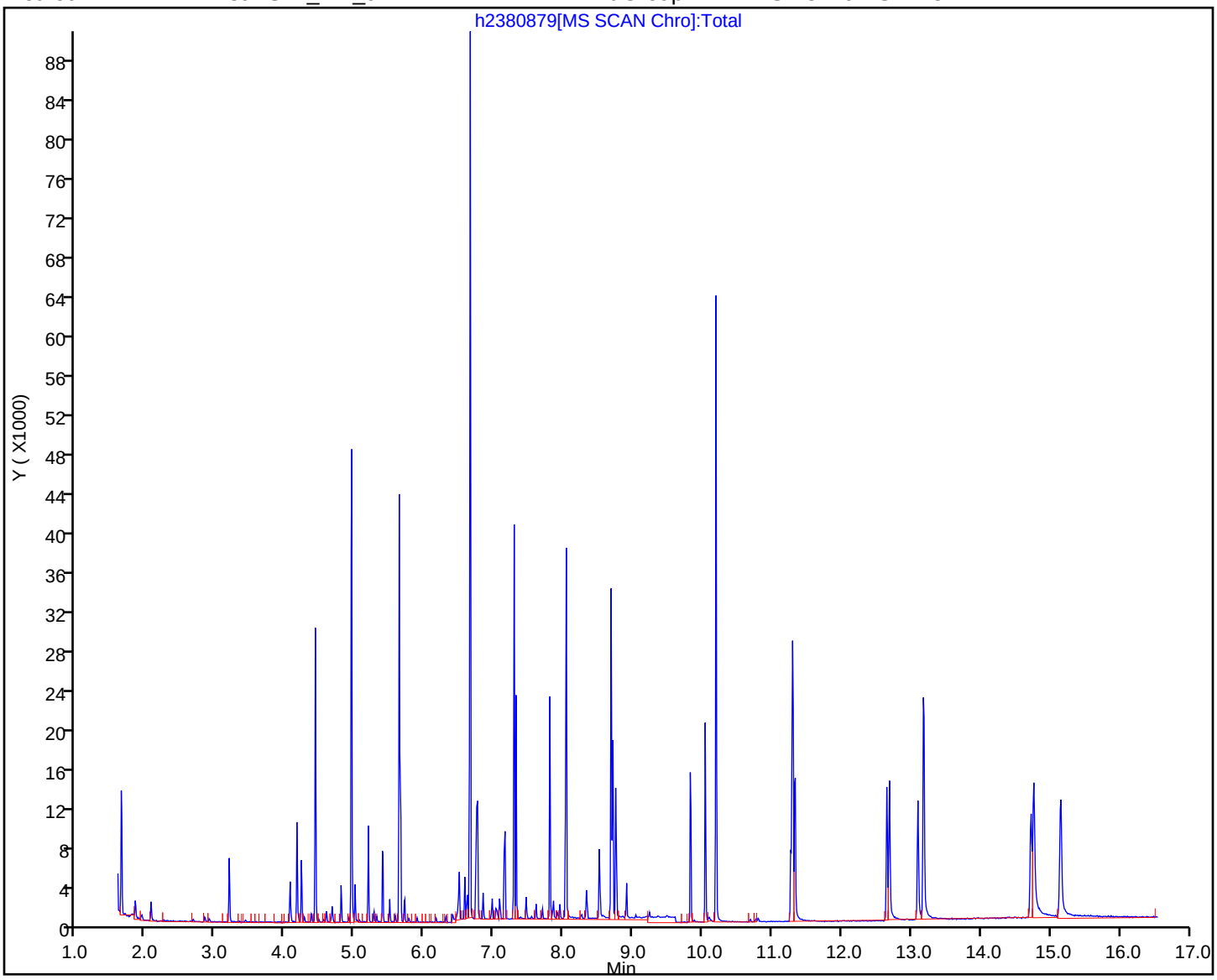
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 27-May-2019 07:49:30 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380879.D				
Injection Date:	24-May-2019 19:31:30	Instrument ID:	CBNAMS9		
Lims ID:	LCS 460-612326/2-A				
Client ID:					
Operator ID:		ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 460-611633/3-A

Matrix: Water Lab File ID: h2380727.D

Analysis Method: 8270D SIM Date Collected:

Extract. Method: 3510C Date Extracted: 05/21/2019 09:16

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 09:14

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.520		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	81		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380727.D
Lims ID: LCSD 460-611633/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 22-May-2019 09:14:30 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-009
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 22-May-2019 10:49:36 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0313

First Level Reviewer: zhaoc Date: 22-May-2019 09:51:30

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.845	1.845	0.000	97	1678	0.1000	0.0650	
2 N-Nitrosodimethylamine	74	2.070	2.070	0.000	93	1389	0.1000	0.0423	
3 Bis(2-chloroethyl)ether	93	4.178	4.178	0.000	87	5580	0.1000	0.0932	
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	100	10076	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.959	4.959	0.000	99	42328	1.00	0.8124	
* 7 Naphthalene-d8	136	5.651	5.651	-0.001	98	33101	0.2000	0.2000	
8 Naphthalene	128	5.667	5.667	0.000	100	14608	0.1000	0.0853	
$ 9 2-Fluorobiphenyl	172	6.670	6.670	0.000	93	109312	1.00	0.6855	
10 Acenaphthylene	152	7.170	7.170	0.000	99	13308	0.1000	0.0597	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	92	19244	0.2000	0.2000	
12 Acenaphthene	154	7.328	7.328	0.000	93	9701	0.1000	0.0795	
13 Fluorene	166	7.814	7.814	0.000	97	13125	0.1000	0.0862	
14 4,6-Dinitro-2-methylphenol	198	7.867	7.867	0.000	79	1970	0.2000	0.2741	
$ 20 2,4,6-Tribromophenol	330	8.051	8.051	0.000	88	27037	1.00	0.7647	
15 Hexachlorobenzene	284	8.341	8.354	-0.013	98	4729	0.1000	0.0810	
16 Pentachlorophenol	266	8.538	8.538	0.000	95	2623	0.2000	0.1150	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	98	29500	0.2000	0.2000	
18 Phenanthrene	178	8.722	8.722	0.000	94	19610	0.1000	0.1457	
19 Anthracene	178	8.761	8.775	-0.014	98	14399	0.1000	0.0901	
21 Fluoranthene	202	9.841	9.841	0.000	94	17885	0.1000	0.1059	
22 Pyrene	202	10.055	10.055	0.000	95	18227	0.1000	0.1059	
$ 23 Terphenyl-d14	244	10.211	10.211	0.000	92	92171	1.00	0.9560	
24 Benzo[a]anthracene	228	11.303	11.303	0.000	22	13145	0.1000	0.0861	
* 25 Chrysene-d12	240	11.313	11.323	-0.010	95	22785	0.2000	0.2000	
26 Chrysene	228	11.342	11.342	0.000	98	18217	0.1000	0.1182	
27 Benzo[b]fluoranthene	252	12.668	12.678	-0.010	100	15109	0.1000	0.0944	
28 Benzo[k]fluoranthene	252	12.707	12.707	0.000	99	20070	0.1000	0.1107	
29 Benzo[a]pyrene	252	13.116	13.126	-0.010	100	15381	0.1000	0.1012	
* 30 Perylene-d12	264	13.204	13.204	0.000	99	26490	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.754	14.754	0.000	85	18658	0.1000	0.1272	
32 Dibenz(a,h)anthracene	278	14.793	14.793	0.000	93	18439	0.1000	0.1320	
33 Benzo[g,h,i]perylene	276	15.183	15.183	0.000	76	26297	0.1000	0.1536	

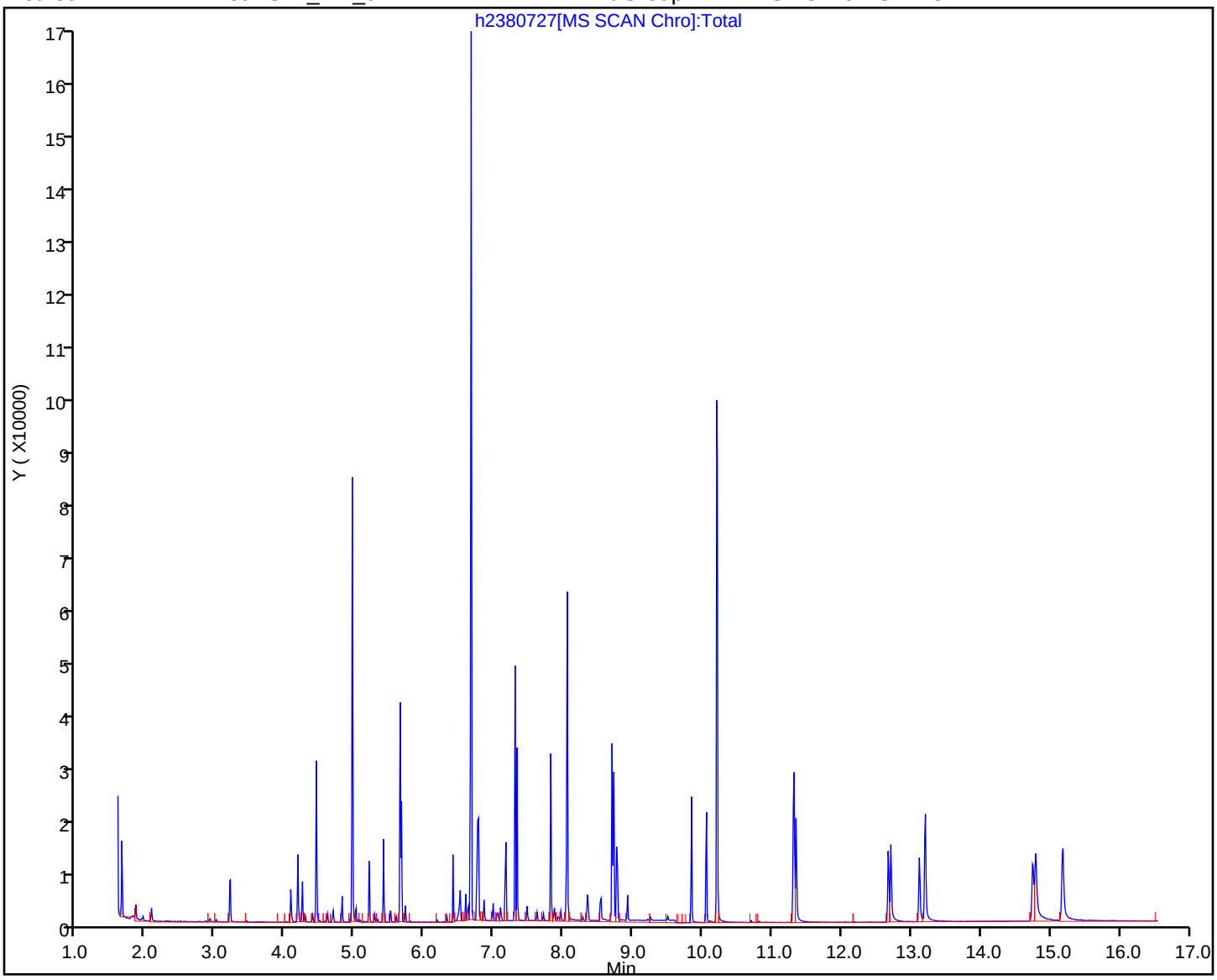
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 22-May-2019 10:49:51 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380727.D				
Injection Date:	22-May-2019 09:14:30	Instrument ID:	CBNAMS9		
Lims ID:	LCSD 460-611633/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 460-612326/3-A

Matrix: Water Lab File ID: h2380880.D

Analysis Method: 8270D SIM Date Collected:

Extract. Method: 3510C Date Extracted: 05/23/2019 16:18

Sample wt/vol: 250(mL) Date Analyzed: 05/24/2019 19:52

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 612564 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	0.477		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	55		38-125

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380880.D
Lims ID: LCSD 460-612326/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 24-May-2019 19:52:30 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091734-027
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 27-May-2019 07:49:10 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0304

First Level Reviewer: hamziy Date: 24-May-2019 22:43:42

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 1,4-Dioxane	88	1.837	1.845	-0.008	89	1428	0.1000	0.0596	
	2 N-Nitrosodimethylamine	74	2.070	2.070	0.000	88	1082	0.1000	0.0355	
	3 Bis(2-chloroethyl)ether	93	4.162	4.170	-0.008	97	3913	0.1000	0.0704	
*	5 1,4-Dichlorobenzene-d4	152	4.427	4.428	-0.001	99	9353	0.2000	0.2000	
$	6 Nitrobenzene-d5	82	4.950	4.951	-0.001	92	26005	1.00	0.5544	
*	7 Naphthalene-d8	136	5.634	5.634	0.000	99	29801	0.2000	0.2000	
	8 Naphthalene	128	5.650	5.659	-0.009	100	8585	0.1000	0.0557	
$	9 2-Fluorobiphenyl	172	6.657	6.657	0.000	92	59937	1.00	0.4370	
	10 Acenaphthylene	152	7.156	7.156	-0.001	99	7997	0.1000	0.0417	
*	11 Acenaphthene-d10	164	7.288	7.288	0.000	91	16552	0.2000	0.2000	
	12 Acenaphthene	154	7.314	7.314	-0.001	96	5885	0.1000	0.0561	
	13 Fluorene	166	7.801	7.801	0.000	97	7851	0.1000	0.0600	
	14 4,6-Dinitro-2-methylphenol	198	7.854	7.854	0.000	75	1521	0.2000	0.2309	
$	20 2,4,6-Tribromophenol	330	8.038	8.038	0.000	87	17166	1.00	0.5645	
	15 Hexachlorobenzene	284	8.327	8.340	-0.014	98	2255	0.1000	0.0408	
	16 Pentachlorophenol	266	8.511	8.525	-0.014	85	3640	0.2000	0.1662	
*	17 Phenanthrene-d10	188	8.682	8.683	-0.001	100	27901	0.2000	0.2000	
	18 Phenanthrene	178	8.709	8.709	0.000	95	12647	0.1000	0.0993	
	19 Anthracene	178	8.748	8.761	-0.014	99	10424	0.1000	0.0689	
	21 Fluoranthene	202	9.821	9.831	-0.010	96	14134	0.1000	0.0885	
	22 Pyrene	202	10.036	10.037	-0.010	97	14832	0.1000	0.0836	
$	23 Terphenyl-d14	244	10.192	10.183	0.000	94	37433	1.00	0.3770	
	24 Benzo[a]anthracene	228	11.283	11.284	-0.010	11	11652	0.1000	0.0741	
*	25 Chrysene-d12	240	11.293	11.303	-0.010	93	23469	0.2000	0.2000	
	26 Chrysene	228	11.322	11.323	-0.010	98	15223	0.1000	0.0959	
	27 Benzo[b]fluoranthene	252	12.648	12.649	-0.010	100	14116	0.1000	0.0794	
	28 Benzo[k]fluoranthene	252	12.687	12.678	0.000	98	16879	0.1000	0.0838	
	29 Benzo[a]pyrene	252	13.097	13.097	-0.010	99	13646	0.1000	0.0809	
*	30 Perylene-d12	264	13.175	13.185	-0.010	100	29414	0.2000	0.2000	
	31 Indeno[1,2,3-cd]pyrene	276	14.725	14.714	0.000	87	16110	0.1000	0.0989	
	32 Dibenz(a,h)anthracene	278	14.764	14.762	-0.010	93	17202	0.1000	0.1109	
	33 Benzo[g,h,i]perylene	276	15.144	15.142	-0.010	80	20124	0.1000	0.1059	

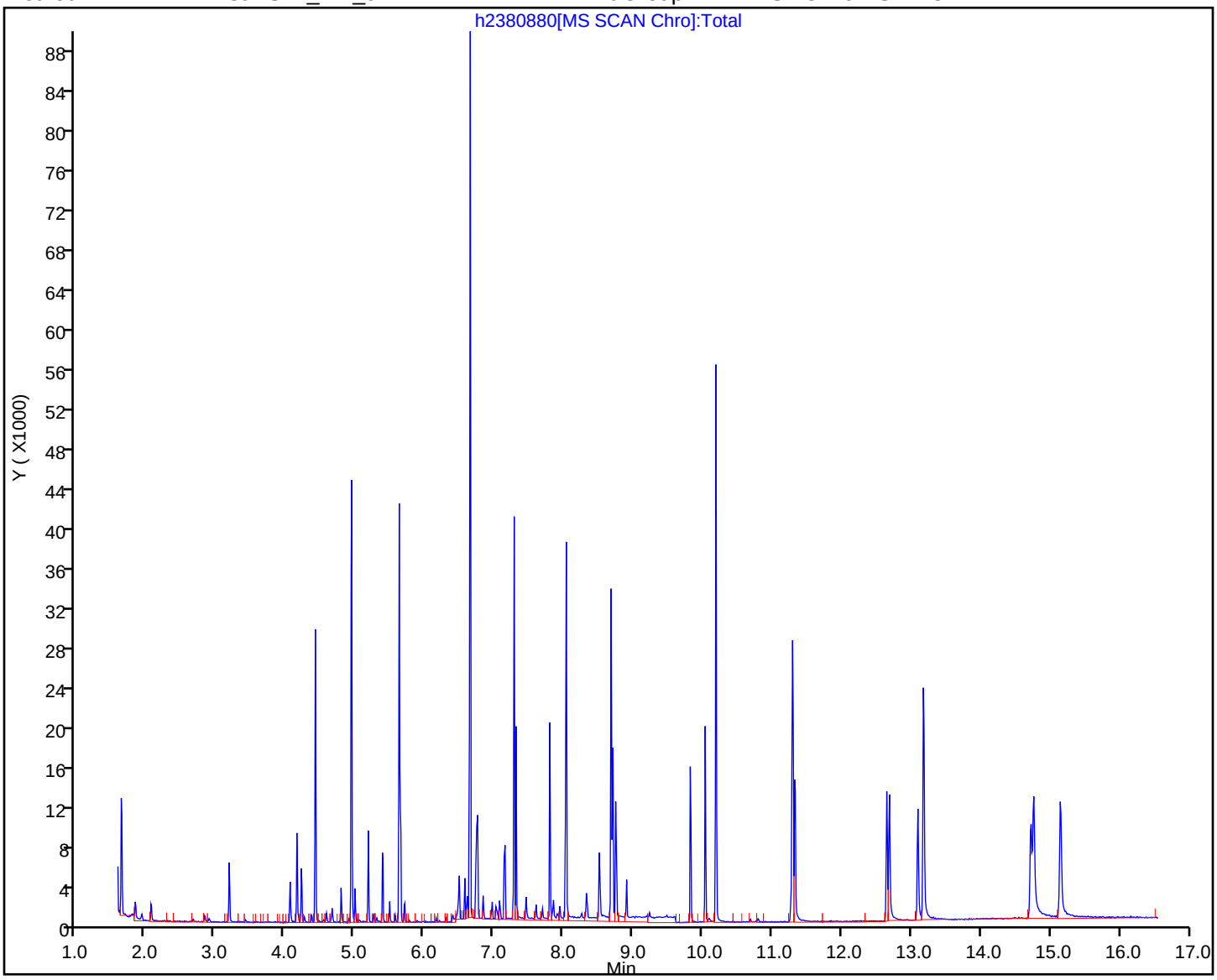
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 27-May-2019 07:49:51 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190524-91734.b\h2380880.D				
Injection Date:	24-May-2019 19:52:30	Instrument ID:	CBNAMS9		
Lims ID:	LCSD 460-612326/3-A				
Client ID:					
Operator ID:		ALS Bottle#:	27	Worklist Smp#:	27
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



b N me. Eu o%(ns (est me (c Ed (son)ob No. . 200- (,,2*-%

SDG No. .

C (ent S mp e (□. MW-,S 0)%*%– MS b S mp e (□. 200- (,,2*-%7 MS

M t (x. W te b %(□ (□. h23 ,07 ((.D

n ys (s Method . ,270D S (M D te Co ected . 0)/%*/20 %– %0.)2

Ext ct. Method . 3)%0C D te Ext cted . 0)/2 %/20 %– %2.2*

S mp e %t/vo . 2)0 m) D te n y (ed . 0)/22/20 %– %).%(

Con. Ext ct *□ . . 2 m) D(ut (on % cto . %

(n)ect (on *o ume.) u) eve . o%/med) □%

S Mo(stu e. GPC C e nup . %/N) N

n ys (s B tch No. . *%%,*%)n (ts . ug/

C S NO.	COMPO)ND N ME	RES) (	%	R	MD
%23- –%- %	% (-D (ox ne	0. (*2		0. (0	0. %7

C S NO.	S)RROG (E	SREC	%	(□((□
(%*)-*0-0	N(t oben (ene-d)	,(		3,-%2)

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380744.D
Lims ID: 200-48826-C-17-A MS
Client ID: MW-8S 051619
Sample Type: MS
Inject. Date: 22-May-2019 15:14:30 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-026
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 22-May-2019 13:33:43 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0313

First Level Reviewer: zhaoc Date: 22-May-2019 15:37:14

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.845	1.845	0.000	90	1667	0.1000	0.0577	
2 N-Nitrosodimethylamine	74	2.070	2.070	0.000	93	1707	0.1000	0.0465	
3 Bis(2-chloroethyl)ether	93	4.178	4.178	0.000	87	6195	0.1000	0.0925	
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	99	11271	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.959	4.959	0.000	99	48633	1.00	0.8356	
* 7 Naphthalene-d8	136	5.651	5.651	0.000	98	36975	0.2000	0.2000	
8 Naphthalene	128	5.667	5.667	0.000	100	18550	0.1000	0.0970	
$ 9 2-Fluorobiphenyl	172	6.670	6.670	0.000	93	132802	1.00	0.7457	
10 Acenaphthylene	152	7.170	7.170	0.000	99	14907	0.1000	0.0599	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	92	21493	0.2000	0.2000	
12 Acenaphthene	154	7.328	7.328	0.000	95	11743	0.1000	0.0862	
13 Fluorene	166	7.815	7.815	0.000	96	14580	0.1000	0.0858	
14 4,6-Dinitro-2-methylphenol	198	7.867	7.867	0.000	70	2226	0.2000	0.2738	
$ 20 2,4,6-Tribromophenol	330	8.051	8.051	0.000	86	29840	1.00	0.7557	
15 Hexachlorobenzene	284	8.341	8.354	-0.013	98	6089	0.1000	0.0922	
16 Pentachlorophenol	266	8.525	8.538	-0.013	88	4481	0.2000	0.1708	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	100	33372	0.2000	0.2000	
18 Phenanthrene	178	8.722	8.722	0.000	94	20789	0.1000	0.1365	
19 Anthracene	178	8.762	8.775	-0.013	98	15909	0.1000	0.0880	
21 Fluoranthene	202	9.841	9.841	0.000	94	20068	0.1000	0.1050	
22 Pyrene	202	10.055	10.047	0.000	96	20085	0.1000	0.1014	
$ 23 Terphenyl-d14	244	10.202	10.203	-0.009	98	105407	1.00	0.9500	
24 Benzo[a]anthracene	228	11.303	11.293	0.000	23	15713	0.1000	0.0894	
* 25 Chrysene-d12	240	11.313	11.323	-0.010	96	26222	0.2000	0.2000	
26 Chrysene	228	11.342	11.332	0.000	98	18916	0.1000	0.1067	
27 Benzo[b]fluoranthene	252	12.668	12.678	-0.010	100	18445	0.1000	0.0882	
28 Benzo[k]fluoranthene	252	12.707	12.707	0.000	97	24341	0.1000	0.1028	
29 Benzo[a]pyrene	252	13.116	13.126	-0.010	100	19215	0.1000	0.0968	
* 30 Perylene-d12	264	13.204	13.204	0.000	100	34604	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.754	14.754	0.000	86	24533	0.1000	0.1281	
32 Dibenz(a,h)anthracene	278	14.793	14.793	0.000	91	26370	0.1000	0.1446	
33 Benzo[g,h,i]perylene	276	15.183	15.183	0.000	77	32012	0.1000	0.1432	

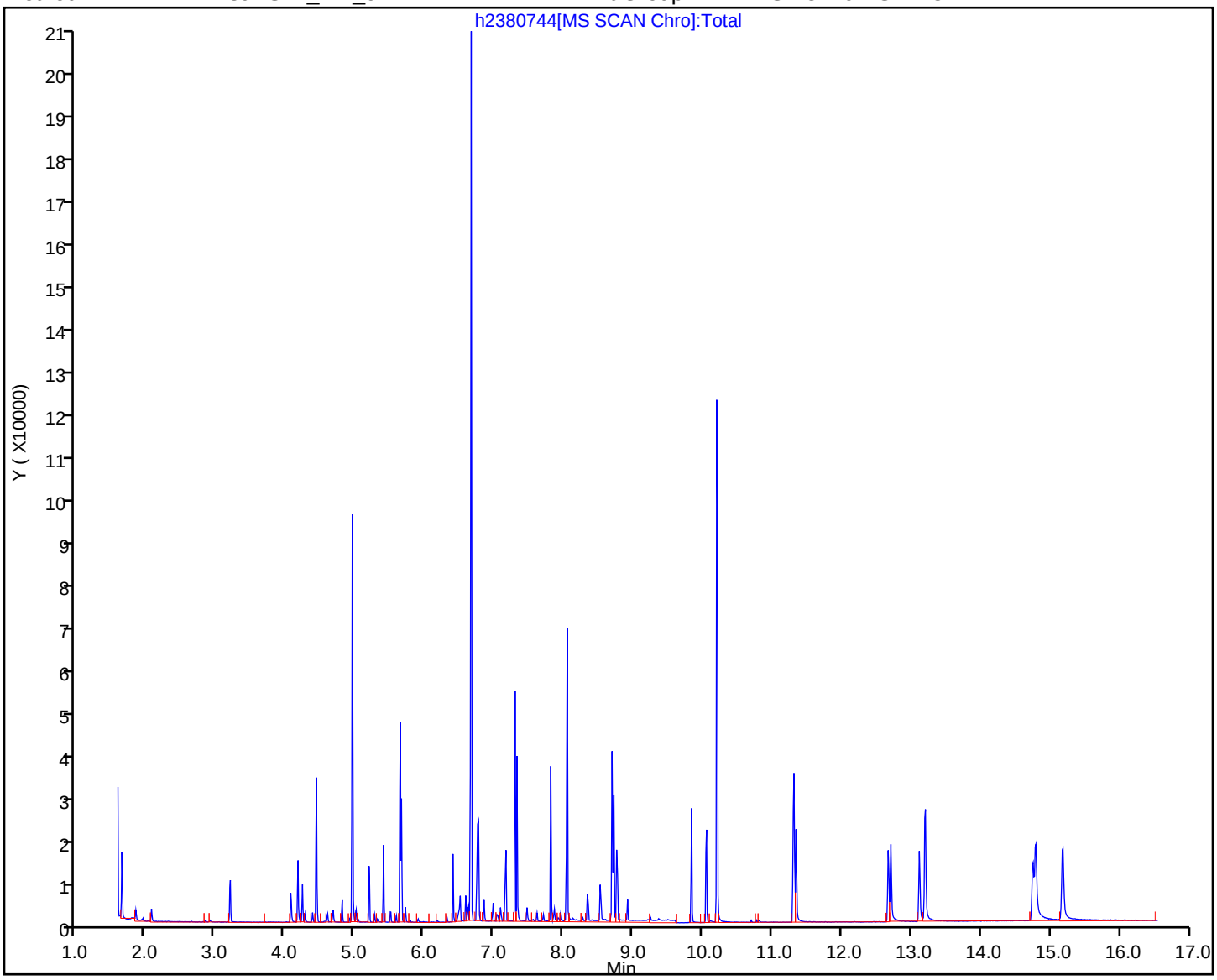
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 22-May-2019 15:38:01 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380744.D				
Injection Date:	22-May-2019 15:14:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-C-17-A MS				
Client ID:	MW-8S 051619				
Operator ID:		ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



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SDG No. .

C (ent S mp e (□. MW-,S 0)%*%– MSD b S mp e (□. 200- (,,2*-%7 MSD

M t (x. W te b %(□ (□. h23 ,07 ().D

n ys (s Method . ,270D S (M D te Co ected . 0)/%*/20 %– %0.)2

Ext ct. Method . 3)%0C D te Ext cted . 0)/2 %/20 %– %2.2*

S mp e %t/vo . 2)0 m) D te n y (ed . 0)/22/20 %– %).3*

Con. Ext ct *□ . . 2 m) D(ut (on % cto . %

(n)ect (on *o ume.) u) eve . o%/med) □%

S Mo(stu e. GPC C e nup . %/N) N

n ys (s B tch No. . *%%,*%)n(ts . ug/

C S NO.	COMPO)ND N ME	RES) (	%	R	MD
%23- –%- %	% (-D (ox ne	0.))2		0. (0	0. %7

C S NO.	S)RROG (E	SREC	%	(□((□
(%*)-*0-0	N(t oben (ene-d)	–3		3,-%2)

Eurofins TestAmerica, Edison
Target Compound Quantitation Report

Data File: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380745.D
Lims ID: 200-48826-D-17-B MSD
Client ID: MW-8S 051619
Sample Type: MSD
Inject. Date: 22-May-2019 15:36:30 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 5.0 ul Dil. Factor: 1.0000
Sample Info: 460-0091570-027
Operator ID: Instrument ID: CBNAMS9

Method: \\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\BNsurrSIM_LVI_9.m
Limit Group: SV 8270D SIM ICAL
Last Update: 23-May-2019 11:28:17 Calib Date: 10-May-2019 13:29:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromna\Edison\ChromData\CBNAMS9\20190510-90931.b\h2380221.D

Column 1 : Det: MS SCAN
Process Host: CTX0319

First Level Reviewer: hamziy Date: 22-May-2019 21:19:18

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.845	1.845	0.000	90	1620	0.1000	0.0690	
2 N-Nitrosodimethylamine	74	2.070	2.070	0.000	84	1230	0.1000	0.0412	
3 Bis(2-chloroethyl)ether	93	4.178	4.178	0.000	88	5437	0.1000	0.0999	
* 5 1,4-Dichlorobenzene-d4	152	4.444	4.444	0.000	100	9158	0.2000	0.2000	
$ 6 Nitrobenzene-d5	82	4.959	4.959	0.000	99	42947	1.00	0.9284	
* 7 Naphthalene-d8	136	5.651	5.651	0.000	98	29390	0.2000	0.2000	
8 Naphthalene	128	5.667	5.667	0.000	100	15839	0.1000	0.1041	
$ 9 2-Fluorobiphenyl	172	6.670	6.670	0.000	93	120763	1.00	0.8334	
10 Acenaphthylene	152	7.170	7.170	0.000	99	12787	0.1000	0.0631	
* 11 Acenaphthene-d10	164	7.301	7.301	0.000	91	17487	0.2000	0.2000	
12 Acenaphthene	154	7.328	7.328	0.000	94	10134	0.1000	0.0914	
13 Fluorene	166	7.814	7.814	0.000	96	12486	0.1000	0.0903	
14 4,6-Dinitro-2-methylphenol	198	7.867	7.867	0.000	78	1949	0.2000	0.2980	
$ 20 2,4,6-Tribromophenol	330	8.051	8.051	0.000	88	25919	1.00	0.8067	
15 Hexachlorobenzene	284	8.354	8.354	0.000	98	5146	0.1000	0.0984	
16 Pentachlorophenol	266	8.525	8.538	-0.013	86	3651	0.2000	0.1755	
* 17 Phenanthrene-d10	188	8.696	8.696	0.000	100	26427	0.2000	0.2000	
18 Phenanthrene	178	8.722	8.722	0.000	93	17446	0.1000	0.1447	
19 Anthracene	178	8.762	8.775	-0.013	98	13658	0.1000	0.0954	
21 Fluoranthene	202	9.841	9.841	0.000	94	17003	0.1000	0.1124	
22 Pyrene	202	10.055	10.047	0.000	95	17279	0.1000	0.1054	
$ 23 Terphenyl-d14	244	10.202	10.202	-0.009	98	86224	1.00	0.9396	
24 Benzo[a]anthracene	228	11.303	11.293	0.000	22	13570	0.1000	0.0934	
* 25 Chrysene-d12	240	11.313	11.323	-0.010	96	21688	0.2000	0.2000	
26 Chrysene	228	11.342	11.332	0.000	98	16318	0.1000	0.1112	
27 Benzo[b]fluoranthene	252	12.668	12.678	-0.010	100	16299	0.1000	0.0993	
28 Benzo[k]fluoranthene	252	12.707	12.707	0.000	99	20751	0.1000	0.1116	
29 Benzo[a]pyrene	252	13.116	13.126	-0.010	100	16609	0.1000	0.1066	
* 30 Perylene-d12	264	13.204	13.204	0.000	100	27174	0.2000	0.2000	
31 Indeno[1,2,3-cd]pyrene	276	14.754	14.754	0.000	87	20631	0.1000	0.1371	
32 Dibenz(a,h)anthracene	278	14.793	14.793	0.000	94	20917	0.1000	0.1460	
33 Benzo[g,h,i]perylene	276	15.183	15.183	0.000	77	26756	0.1000	0.1524	

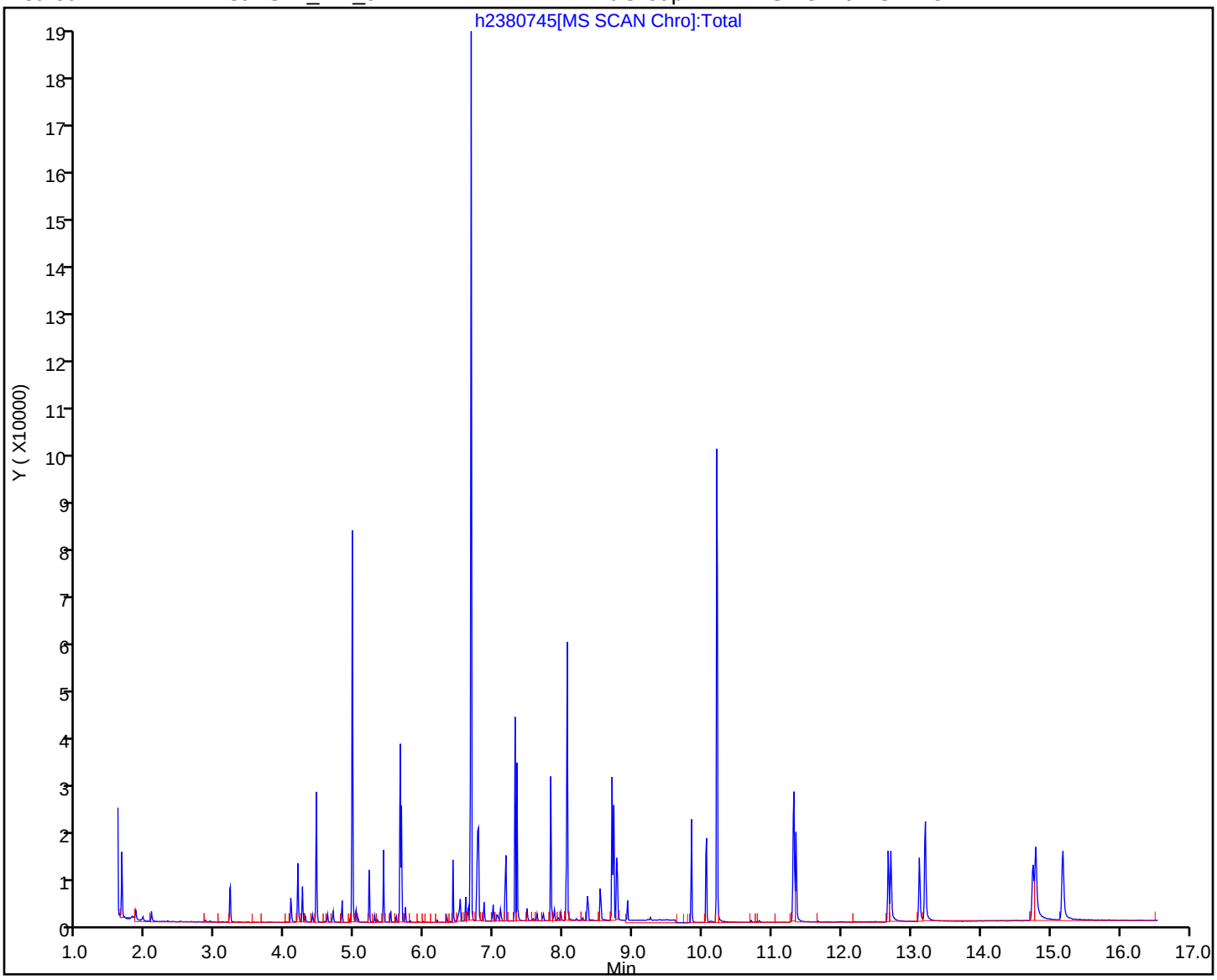
Reagents:

SM_SIMISTDLVI_00025 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 23-May-2019 11:29:24 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Edison

Data File:	\\chromna\Edison\ChromData\CBNAMS9\20190522-91570.b\h2380745.D				
Injection Date:	22-May-2019 15:36:30	Instrument ID:	CBNAMS9		
Lims ID:	200-48826-D-17-B MSD				
Client ID:	MW-8S 051619				
Operator ID:		ALS Bottle#:	27	Worklist Smp#:	27
Injection Vol:	5.0 ul	Dil. Factor:	1.0000		
Method:	BNsurrSIM_LVI_9	Limit Group:	SV 8270D SIM ICAL		



GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Instrument ID: CBNAMS9 Start Date: 05/10/2019 11:27

Analysis Batch Number: 608996 End Date: 05/10/2019 21:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 460-608996/1		05/10/2019 11:27	1	h2380215.D	Rtxi-5Sil MS 0.25(mm)
ICIS 460-608996/2		05/10/2019 11:43	1	h2380216.D	Rtxi-5Sil MS 0.25(mm)
STD6 460-608996/3 IC		05/10/2019 12:04	1	h2380217.D	Rtxi-5Sil MS 0.25(mm)
STD5 460-608996/4 IC		05/10/2019 12:26	1	h2380218.D	Rtxi-5Sil MS 0.25(mm)
STD4 460-608996/5 IC		05/10/2019 12:47	1	h2380219.D	Rtxi-5Sil MS 0.25(mm)
STD2 460-608996/6 IC		05/10/2019 13:08	1	h2380220.D	Rtxi-5Sil MS 0.25(mm)
STD1 460-608996/7 IC		05/10/2019 13:29	1	h2380221.D	Rtxi-5Sil MS 0.25(mm)
ICV 460-608996/8		05/10/2019 13:50	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 14:12	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 14:33	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 14:54	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 15:15	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 16:43	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 17:04	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 17:47	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 18:08	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 18:29	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 18:50	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 19:12	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 19:33	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 19:54	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 20:15	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 20:36	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 20:58	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 21:19	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/10/2019 21:40	1		Rtxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Instrument ID: CBNAMS9 Start Date: 05/22/2019 06:22

Analysis Batch Number: 611861 End Date: 05/22/2019 17:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 460-611861/1		05/22/2019 06:22	1	h2380719.D	Rtxi-5Sil MS 0.25(mm)
CCVIS 460-611861/2		05/22/2019 06:38	1	h2380720.D	Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 07:27	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 07:49	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 08:10	1		Rtxi-5Sil MS 0.25(mm)
LCS 460-611633/2-A		05/22/2019 08:52	1	h2380726.D	Rtxi-5Sil MS 0.25(mm)
LCSD 460-611633/3-A		05/22/2019 09:14	1	h2380727.D	Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 09:35	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 09:56	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 10:17	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 11:00	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 12:46	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 13:07	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 13:28	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 13:49	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/22/2019 14:10	1		Rtxi-5Sil MS 0.25(mm)
200-48826-16		05/22/2019 14:32	1	h2380742.D	Rtxi-5Sil MS 0.25(mm)
200-48826-17		05/22/2019 14:53	1	h2380743.D	Rtxi-5Sil MS 0.25(mm)
200-48826-17 MS		05/22/2019 15:14	1	h2380744.D	Rtxi-5Sil MS 0.25(mm)
200-48826-17 MSD		05/22/2019 15:36	1	h2380745.D	Rtxi-5Sil MS 0.25(mm)
200-48826-18		05/22/2019 15:57	1	h2380746.D	Rtxi-5Sil MS 0.25(mm)
200-48826-19		05/22/2019 16:18	1	h2380747.D	Rtxi-5Sil MS 0.25(mm)
200-48826-20		05/22/2019 16:39	1	h2380748.D	Rtxi-5Sil MS 0.25(mm)
200-48826-21		05/22/2019 17:00	1	h2380749.D	Rtxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Instrument ID: CBNAMS9 Start Date: 05/24/2019 10:45

Analysis Batch Number: 612564 End Date: 05/24/2019 21:17

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 460-612564/1		05/24/2019 10:45	1	h2380854.D	Rtxi-5Sil MS 0.25(mm)
CCVIS 460-612564/2		05/24/2019 10:57	1	h2380855.D	Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 11:44	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 12:05	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 12:26	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 12:48	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 13:09	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 13:30	20		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 13:52	20		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 14:13	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 14:34	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 14:55	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 15:16	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 15:38	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 15:59	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 16:20	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 16:41	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 17:03	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 17:24	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 17:45	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 18:06	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 18:28	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 18:49	1		Rtxi-5Sil MS 0.25(mm)
MB 460-612326/1-A		05/24/2019 19:10	1	h2380878.D	Rtxi-5Sil MS 0.25(mm)
LCS 460-612326/2-A		05/24/2019 19:31	1	h2380879.D	Rtxi-5Sil MS 0.25(mm)
LCSD 460-612326/3-A		05/24/2019 19:52	1	h2380880.D	Rtxi-5Sil MS 0.25(mm)
200-48826-22		05/24/2019 20:14	1	h2380881.D	Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 20:35	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 20:56	1		Rtxi-5Sil MS 0.25(mm)
ZZZZZ		05/24/2019 21:17	1		Rtxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Batch Number: 611633 Batch Start Date: 05/21/19 10:14 Batch Analyst: Babu, Dhanalakshmi X

Batch Method: 3510C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	OP_BNA SIM SP 00017	OP_BNASurroga 00015
LCS 460-611633/2		3510C, 8270D SIM		250 mL	2 mL	7 SU	<2 SU	20 uL	20 uL
LCSD 460-611633/3		3510C, 8270D SIM		250 mL	2 mL	7 SU	<2 SU	20 uL	20 uL
200-48826-C-16	MW-8D 051619	3510C, 8270D SIM	T	250 mL	2 mL	7 SU	<2 SU		20 uL
200-48826-D-17	MW-8S 051619	3510C, 8270D SIM	T	250 mL	2 mL	7 SU	<2 SU		20 uL
200-48826-C-17 MS	MW-8S 051619	3510C, 8270D SIM	T	250 mL	2 mL	7 SU	<2 SU	20 uL	20 uL
200-48826-D-17 MSD	MW-8S 051619	3510C, 8270D SIM	T	250 mL	2 mL	7 SU	<2 SU	20 uL	20 uL
200-48826-D-18	MW-21 051619	3510C, 8270D SIM	T	250 mL	2 mL	7 SU	<2 SU		20 uL
200-48826-D-19	MW-20 051619	3510C, 8270D SIM	T	250 mL	2 mL	7 SU	<2 SU		20 uL
200-48826-D-20	MW-19 051619	3510C, 8270D SIM	T	250 mL	2 mL	7 SU	<2 SU		20 uL
200-48826-D-21	DUP 051619	3510C, 8270D SIM	T	250 mL	2 mL	7 SU	<2 SU		20 uL

Batch Notes	
Acid Used for pH Adjustment ID	211749
Base Used to Adjust pH ID	OP2780
Batch Comment	3510 LVI_8270D sim
Analyst ID - Extraction	db
Method/Fraction	BNA 3510C_LVI (sim only)
Na2SO4 ID	206268
Prep Solvent ID	226343
Prep Solvent Volume Used	60 mL
Analyst ID - Spike Analyst	DB
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Batch Number: 612326 Batch Start Date: 05/23/19 16:18 Batch Analyst: Babu, Dhanalakshmi X

Batch Method: 3510C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	OP_BNA SIM SP 00017	OP_BNASurroga 00015
MB 460-612326/1		3510C, 8270D SIM		250 mL	2 mL	7 SU	<2 SU		20 uL
LCS 460-612326/2		3510C, 8270D SIM		250 mL	2 mL	7 SU	<2 SU	20 uL	20 uL
LCSD 460-612326/3		3510C, 8270D SIM		250 mL	2 mL	7 SU	<2 SU	20 uL	20 uL
200-48826-C-22	FIELD BLANK 051619	3510C, 8270D SIM	T	250 mL	2 mL	7 SU	<2 SU		20 uL

Batch Notes	
Acid Used for pH Adjustment ID	211749
Base Used to Adjust pH ID	OP2780
Batch Comment	3510 LVI_8270D sim
Analyst ID - Extraction	db
Method/Fraction	BNA 3510C_LVI (sim only)
Na2SO4 ID	206268
Prep Solvent ID	226343
Prep Solvent Volume Used	60 mL
Analyst ID - Spike Analyst	DB
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method PFC IDA

Fluorinated Hydrocarbons by Method PFAS IDA

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low

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

Client Sample ID	Lab Sample ID	M282FTS	#	PFDA	#	d3NMFOS	#	d5NEFOS	#	PFUnA	#	PFDoA	#
ASW 051419	200-48826-9	105		45	*	21	*	7	*	26	*	52	

	QC LIMITS
M282FTS = M2-8:2 FTS	25-150
PFDA = 13C2 PFDA	50-150
d3NMFOS = d3-NMeFOSAA	50-150
d5NEFOS = d5-NEtFOSAA	50-150
PFUnA = 13C2 PFUnA	50-150
PFDoA = 13C2 PFDoA	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

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 #
K-3 051319	200-48826-1	39	61	54	75	92	47 *	55	84
MW-18 051319	200-48826-2	44	57	78	81	98	53	66	85
MW-17 051319	200-48826-3	51	59	35 *	51	69	40 *	110	87
MW-15S 051319	200-48826-4	58	81	68	85	104	67	110	96
VEW-2 051419	200-48826-5	44	32	58	66	68	51	144	88
VEW-1 051419	200-48826-6	36	46	66	56	72	36 *	196 *	94
VEW-3 051419	200-48826-7	29	47	48 *	38 *	53	36 *	64	63
VEW-4 051419	200-48826-8	23 *	29	36 *	33 *	47 *	25 *	103	60
MW-23 051419	200-48826-10	28	35	40 *	34 *	49 *	24 *	70	64
MW-22 051519	200-48826-11	34	40	37 *	54	58	37 *	79	63
K-2 051519	200-48826-12	41	42	27 *	57	69	47 *	72	66
MW-15D 051519	200-48826-13	31	50	52	54	64	46 *	61	62
MW-16D 051519	200-48826-14	12 *	37	45 *	53	65	45 *	65	61
MW-24 051519	200-48826-15	29	35	44 *	49 *	58	44 *	78	58
MW-8D 051619	200-48826-16	12 *	30	33 *	46 *	54	33 *	109	58
MW-8S 051619	200-48826-17	22 *	32	33 *	45 *	54	42 *	63	54
MW-21 051619	200-48826-18	27	35	34 *	51	58	37 *	65	57
MW-20 051619	200-48826-19	40	23 *	18 *	52	63	40 *	37	63
MW-19 051619	200-48826-20	27	37	40 *	51	52	26 *	63	52
DUP 051619	200-48826-21	21 *	35	30 *	49 *	48 *	39 *	67	54
FIELD BLANK 051619	200-48826-22	38	50	47 *	58	57	37 *	52	60
EQUIPMENT BLANK 051619	200-48826-23	35	44	56	56	63	50	49	63
	MB 200-143263/1-A	49	73	55	73	91	62	76	89
	MB 200-143308/1-A	47	64	60	64	66	48 *	60	62
	LCS 200-143263/2-A	137	102	176 *	90	81	139	128	96
	LCS 200-143308/2-A	44	54	60	64	66	53	63	64
MW-8S 051619 MS	200-48826-17 MS	29	32	38 *	44 *	55	47 *	58	55
MW-8S 051619 MSD	200-48826-17 MSD	26	36	42 *	44 *	56	49 *	52	53

	QC LIMITS
PFBA = 13C4 PFBA	25-150
PFPeA = 13C5 PFPeA	25-150
PFBS = 13C3 PFBS	50-150
PFHxA = 13C2 PFHxA	50-150
PFHpA = 13C4 PFHpA	50-150
PFHxS = 18O2 PFHxS	50-150
M262FTS = M2-6:2 FTS	25-150
PFOA = 13C4 PFOA	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

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 #
K-3 051319	200-48826-1	73	40 *	49	81	53	64	65	61
MW-18 051319	200-48826-2	71	63	73	72	59	69	71	59
MW-17 051319	200-48826-3	73	61	184 *	80	34 *	35 *	48 *	29
MW-15S 051319	200-48826-4	78	70	135	91	74	97	104	61
VEW-2 051419	200-48826-5	61	51	91	70	56	60	71	50
VEW-1 051419	200-48826-6	72	59	304 *	96	68	59	61	26
VEW-3 051419	200-48826-7	46 *	39 *	69	58	48 *	52	66	31
VEW-4 051419	200-48826-8	52	39 *	112	61	46 *	59	59	21 *
MW-23 051419	200-48826-10	53	46 *	115	62	31 *	38 *	47 *	19 *
MW-22 051519	200-48826-11	52	50	78	54	47 *	45 *	61	36
K-2 051519	200-48826-12	51	45 *	82	56	46 *	50	64	48
MW-15D 051519	200-48826-13	56	42 *	74	62	45 *	52	64	45
MW-16D 051519	200-48826-14	49 *	35 *	61	52	38 *	43 *	51	39
MW-24 051519	200-48826-15	46 *	40 *	66	46 *	32 *	37 *	44 *	35
MW-8D 051619	200-48826-16	50	37 *	89	54	43 *	52	55	40
MW-8S 051619	200-48826-17	42 *	40 *	62	47 *	36 *	40 *	52	34
MW-21 051619	200-48826-18	45 *	39 *	47	51	36 *	46 *	61	35
MW-20 051619	200-48826-19	49 *	43 *	48	48 *	39 *	38 *	48 *	38
MW-19 051619	200-48826-20	48 *	38 *	60	48 *	38 *	38 *	57	31
DUP 051619	200-48826-21	43 *	42 *	67	48 *	35 *	41 *	55	34
FIELD BLANK 051619	200-48826-22	55	44 *	61	59	42 *	42 *	55	29
EQUIPMENT BLANK 051619	200-48826-23	55	48 *	65	63	47 *	47 *	58	32
	MB 200-143263/1-A	84	69	122	94	74	80	89	59
	MB 200-143308/1-A	58	49 *	64	61	44 *	44 *	60	39
	LCS 200-143263/2-A	77	119	115	84	62	61	77	79
	LCS 200-143308/2-A	60	49 *	74	64	47 *	49 *	67	45
MW-8S 051619 MS	200-48826-17 MS	45 *	40 *	64	50	37 *	41 *	54	38
MW-8S 051619 MSD	200-48826-17 MSD	44 *	42 *	62	48 *	37 *	39 *	52	36

	QC LIMITS
PFNA = 13C5 PFNA	50-150
PFOS = 13C4 PFOS	50-150
M282FTS = M2-8:2 FTS	25-150
PFDA = 13C2 PFDA	50-150
d3NMFOS = d3-NMeFOSAA	50-150
d5NEFOS = d5-NEtFOSAA	50-150
PFUnA = 13C2 PFUnA	50-150
PFOSA = 13C8 FOSA	25-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low

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

Client Sample ID	Lab Sample ID	PFDoA #	PFTDA #
K-3 051319	200-48826-1	61	54
MW-18 051319	200-48826-2	65	60
MW-17 051319	200-48826-3	74	61
MW-15S 051319	200-48826-4	86	77
VEW-2 051419	200-48826-5	62	57
VEW-1 051419	200-48826-6	74	92
VEW-3 051419	200-48826-7	58	47 *
VEW-4 051419	200-48826-8	58	46 *
MW-23 051419	200-48826-10	58	40 *
MW-22 051519	200-48826-11	50	43 *
K-2 051519	200-48826-12	54	50
MW-15D 051519	200-48826-13	63	47 *
MW-16D 051519	200-48826-14	42 *	34 *
MW-24 051519	200-48826-15	38 *	40 *
MW-8D 051619	200-48826-16	45 *	40 *
MW-8S 051619	200-48826-17	43 *	43 *
MW-21 051619	200-48826-18	46 *	38 *
MW-20 051619	200-48826-19	38 *	33 *
MW-19 051619	200-48826-20	41 *	38 *
DUP 051619	200-48826-21	45 *	44 *
FIELD BLANK 051619	200-48826-22	42 *	38 *
EQUIPMENT BLANK 051619	200-48826-23	47 *	43 *
	MB 200-143263/1-A	77	74
	MB 200-143308/1-A	47 *	45 *
	LCS 200-143263/2-A	64	57
	LCS 200-143308/2-A	55	51
MW-8S 051619 MS	200-48826-17 MS	46 *	45 *
MW-8S 051619 MSD	200-48826-17 MSD	45 *	43 *

	QC LIMITS
PFDoA = 13C2 PFDoA	50-150
PFTDA = 13C2 PFTeDA	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

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 #
ASW 051419	200-48826-9	17 *	39	28 *	29 *	45 *	36 *	144	59

	QC LIMITS
PFBA = 13C4 PFBA	25-150
PFPeA = 13C5 PFPeA	25-150
PFBS = 13C3 PFBS	50-150
PFHxA = 13C2 PFHxA	50-150
PFHpA = 13C4 PFHpA	50-150
PFHxS = 18O2 PFHxS	50-150
M262FTS = M2-6:2 FTS	25-150
PFOA = 13C4 PFOA	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low

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

Client Sample ID	Lab Sample ID	PFNA #	PFOS #	PFOSA #	PFTDA #
ASW 051419	200-48826-9	50	47 *	9 *	62

	QC LIMITS
PFNA = 13C5 PFNA	50-150
PFOS = 13C4 PFOS	50-150
PFOSA = 13C8 FOSA	25-150
PFTDA = 13C2 PFTeDA	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low

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

Client Sample ID	Lab Sample ID	PFOS #
VEW-2 051419	200-48826-5	75
VEW-1 051419	200-48826-6	103
VEW-3 051419	200-48826-7	67
VEW-4 051419	200-48826-8	74

	QC LIMITS
PFOS = 13C4 PFOS	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low

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

Client Sample ID	Lab Sample ID	PFPeA #	PFBS #	PFHxA #	PFHpA #	PFHxS #	M262FTS #	PFOA #	PFNA #
	LCS 200-143263/2-A	89	70	80	90	69	92	97	87

	QC LIMITS
PFPeA = 13C5 PFPeA	25-150
PFBS = 13C3 PFBS	50-150
PFHxA = 13C2 PFHxA	50-150
PFHpA = 13C4 PFHpA	50-150
PFHxS = 18O2 PFHxS	50-150
M262FTS = M2-6:2 FTS	25-150
PFOA = 13C4 PFOA	50-150
PFNA = 13C5 PFNA	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low

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

Client Sample ID	Lab Sample ID	PFOS #	M282FTS #	PFDA #	d3NMFOS #	d5NEFOS #	PFUnA #	PFOSA #	PFDoA #
	LCS 200-143263/2-A	77	127	97	80	77	90	57	72

	QC LIMITS
PFOS = 13C4 PFOS	50-150
M282FTS = M2-8:2 FTS	25-150
PFDA = 13C2 PFDA	50-150
d3NMFOS = d3-NMeFOSAA	50-150
d5NEFOS = d5-NEtFOSAA	50-150
PFUnA = 13C2 PFUnA	50-150
PFOSA = 13C8 FOSA	25-150
PFDoA = 13C2 PFDoA	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low

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

Client Sample ID	Lab Sample ID	PFTDA #
	LCS 200-143263/2-A	73

	QC LIMITS
PFTDA = 13C2 PFTeDA	50-150

Column to be used to flag recovery values

FORM II 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PF053019B40.d

Lab ID: LCS 200-143263/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluoropentanoic acid (PFPeA)	40.0	44.1	110	50-150	
Perfluorohexanoic acid (PFHxA)	40.0	50.2	125	70-130	
Perfluorooctanoic acid (PFOA)	40.0	46.0	115	70-130	
Perfluorononanoic acid (PFNA)	40.0	45.5	114	70-130	
Perfluorodecanoic acid (PFDA)	40.0	44.8	112	70-130	
Perfluoroundecanoic acid (PFUnA)	40.0	46.9	117	70-130	
Perfluorododecanoic acid (PFDoA)	40.0	48.1	120	70-130	
Perfluorotridecanoic acid (PFTriA)	40.0	48.1	120	70-130	
Perfluorotetradecanoic acid (PFTeA)	40.0	49.0	122	70-130	
Perfluorohexanesulfonic acid (PFHxS)	36.4	46.4	127	70-130	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	47.0	123	50-150	
Perfluorodecanesulfonic acid (PFDS)	38.6	36.3	94	50-150	
Perfluorooctanesulfonic acid (PFOS)	37.1	44.1	119	70-130	
Perfluorooctanesulfonamide (FOSA)	40.0	43.9	110	50-150	
13C8 FOSA	100	56.6	57	25-150	
13C5 PFPeA	100	88.5	89	25-150	
13C2 PFHxA	100	79.6	80	50-150	
13C4 PFHpA	100	90.1	90	50-150	
13C4 PFOA	100	96.6	97	50-150	
13C5 PFNA	100	87.2	87	50-150	
13C2 PFDA	100	96.7	97	50-150	
13C2 PFUnA	100	90.1	90	50-150	
13C2 PFDoA	100	72.1	72	50-150	
13C2 PFTeDA	100	72.9	73	50-150	
13C3 PFBS	93.0	65.2	70	50-150	
18O2 PFHxS	94.6	65.6	69	50-150	
13C4 PFOS	95.6	74.0	77	50-150	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	45.9	115	70-130	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	52.7	132	70-130	*
d3-NMeFOSAA	100	79.8	80	50-150	
d5-NEtFOSAA	100	76.7	77	50-150	
6:2 FTS	37.9	36.6	97	50-150	
8:2 FTS	38.3	45.4	118	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: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PF053019B40.d

Lab ID: LCS 200-143263/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
M2-6:2 FTS	95.0	87.3	92	25-150	
M2-8:2 FTS	95.8	122	127	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PF060619A05.d

Lab ID: LCS 200-143263/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	27.4	68	50-150	
Perfluoroheptanoic acid (PFHpA)	40.0	46.3	116	70-130	
Perfluorobutanesulfonic acid (PFBS)	35.4	33.9	96	70-130	
13C8 FOSA	100	79.1	79	25-150	
13C4 PFBA	100	137	137	25-150	
13C5 PFPeA	100	102	102	25-150	
13C2 PFHxA	100	89.9	90	50-150	
13C4 PFHpA	100	80.8	81	50-150	
13C4 PFOA	100	96.1	96	50-150	
13C5 PFNA	100	76.9	77	50-150	
13C2 PFDA	100	83.5	84	50-150	
13C2 PFUnA	100	77.4	77	50-150	
13C2 PFDoA	100	64.2	64	50-150	
13C2 PFTeDA	100	57.1	57	50-150	
13C3 PFBS	93.0	163	176	50-150	*
18O2 PFHxS	94.6	132	139	50-150	
13C4 PFOS	95.6	114	119	50-150	
d3-NMeFOSAA	100	62.5	62	50-150	
d5-NEtFOSAA	100	61.1	61	50-150	
M2-6:2 FTS	95.0	122	128	25-150	
M2-8:2 FTS	95.8	111	115	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PF060419B06.d

Lab ID: LCS 200-143308/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	40.0	65.4	163	50-150	
Perfluoropentanoic acid (PFPeA)	40.0	58.8	147	50-150	
Perfluorohexanoic acid (PFHxA)	40.0	48.6	122	70-130	
Perfluoroheptanoic acid (PFHpA)	40.0	49.8	125	70-130	
Perfluorooctanoic acid (PFOA)	40.0	48.7	122	70-130	
Perfluorononanoic acid (PFNA)	40.0	50.4	126	70-130	
Perfluorodecanoic acid (PFDA)	40.0	46.5	116	70-130	
Perfluoroundecanoic acid (PFUnA)	40.0	48.6	121	70-130	
Perfluorododecanoic acid (PFDoA)	40.0	46.7	117	70-130	
Perfluorotridecanoic acid (PFTriA)	40.0	47.6	119	70-130	
Perfluorotetradecanoic acid (PFTeA)	40.0	50.4	126	70-130	
Perfluorobutanesulfonic acid (PFBS)	35.4	39.8	112	70-130	
Perfluorohexanesulfonic acid (PFHxS)	36.4	41.5	114	70-130	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	54.9	144	50-150	
Perfluorodecanesulfonic acid (PFDS)	38.6	42.5	110	50-150	
Perfluorooctanesulfonic acid (PFOS)	37.1	51.2	138	70-130	*
Perfluorooctanesulfonamide (FOSA)	40.0	43.9	110	50-150	
13C8 FOSA	100	45.2	45	25-150	
13C4 PFBA	100	44.2	44	25-150	
13C5 PFPeA	100	54.0	54	25-150	
13C2 PFHxA	100	64.0	64	50-150	
13C4 PFHpA	100	66.0	66	50-150	
13C4 PFOA	100	64.3	64	50-150	
13C5 PFNA	100	60.4	60	50-150	
13C2 PFDA	100	64.1	64	50-150	
13C2 PFUnA	100	66.7	67	50-150	
13C2 PFDoA	100	54.6	55	50-150	
13C2 PFTeDA	100	51.3	51	50-150	
13C3 PFBS	93.0	55.7	60	50-150	
18O2 PFHxS	94.6	50.2	53	50-150	
13C4 PFOS	95.6	46.8	49	50-150	*
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	52.0	130	70-130	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PF060419B06.d

Lab ID: LCS 200-143308/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	48.0	120	70-130	
d3-NMeFOSAA	100	47.2	47	50-150	*
d5-NEtFOSAA	100	49.1	49	50-150	*
6:2 FTS	37.9	47.6	126	50-150	
8:2 FTS	38.3	46.8	122	50-150	
M2-6:2 FTS	95.0	60.3	63	25-150	
M2-8:2 FTS	95.8	71.1	74	25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PF060419B21.d

Lab ID: 200-48826-17 MS Client ID: MW-8S 051619 MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	33.3	ND	48.5	146	40-160	
Perfluoropentanoic acid (PFPeA)	33.3	ND	48.5	146	40-160	
Perfluorohexanoic acid (PFHxA)	33.3	ND	45.3	136	40-160	
Perfluoroheptanoic acid (PFHpA)	33.3	ND	37.5	113	40-160	
Perfluorooctanoic acid (PFOA)	33.3	0.69 J	38.5	114	40-160	
Perfluorononanoic acid (PFNA)	33.3	ND	40.0	120	40-160	
Perfluorodecanoic acid (PFDA)	33.3	ND	36.8	111	40-160	
Perfluoroundecanoic acid (PFUnA)	33.3	ND	40.5	122	40-160	
Perfluorododecanoic acid (PFDoA)	33.3	ND	37.3	112	40-160	
Perfluorotridecanoic acid (PFTriA)	33.3	ND	37.8	113	40-160	
Perfluorotetradecanoic acid (PFTeA)	33.3	ND	40.5	122	40-160	
Perfluorobutanesulfonic acid (PFBS)	29.4	1.0 J	43.7	145	40-160	
Perfluorohexanesulfonic acid (PFHxS)	30.3	1.0 J	37.0	119	40-160	
Perfluoroheptanesulfonic Acid (PFHpS)	31.7	ND	43.5	137	40-160	
Perfluorodecanesulfonic acid (PFDS)	32.1	ND	36.2	113	40-160	
Perfluorooctanesulfonic acid (PFOS)	30.9	8.0	49.3	134	40-160	
Perfluorooctanesulfonamide (FOSA)	33.3	ND	36.1	108	40-160	
13C8 FOSA	83.2	29	31.9	38	25-150	
13C4 PFBA	83.2	19	23.9	29	25-150	
13C5 PFPeA	83.2	27	26.6	32	25-150	
13C2 PFHxA	83.2	38	36.8	44	50-150	*
13C4 PFHpA	83.2	46	45.9	55	50-150	
13C4 PFOA	83.2	46	45.7	55	50-150	
13C5 PFNA	83.2	35	37.8	45	50-150	*
13C2 PFDA	83.2	40	41.7	50	50-150	
13C2 PFUnA	83.2	44	45.1	54	50-150	
13C2 PFDoA	83.2	36	38.3	46	50-150	*
13C2 PFTeDA	83.2	37	37.8	45	50-150	*
13C3 PFBS	77.4	26	29.3	38	50-150	*
18O2 PFHxS	78.7	34	36.6	47	50-150	*
13C4 PFOS	79.5	33	32.0	40	50-150	*
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	33.3	ND	41.1	124	40-160	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PF060419B21.d

Lab ID: 200-48826-17 MS Client ID: MW-8S 051619 MS

COMPOUND	SPIKE ADDED (ng/L)	SAMPLE CONCENTRATION (ng/L)	MS CONCENTRATION (ng/L)	MS % REC	QC LIMITS REC	#
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	33.3	1.7 J	43.3	125	40-160	
d3-NMeFOSAA	83.2	31	31.1	37	50-150	*
d5-NEtFOSAA	83.2	34	33.9	41	50-150	*
6:2 FTS	31.5	ND	43.1	136	40-160	
8:2 FTS	31.9	ND	39.6	124	40-160	
M2-6:2 FTS	79.0	50	46.2	58	25-150	
M2-8:2 FTS	79.7	50	50.9	64	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: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PF060419B22.d

Lab ID: 200-48826-17 MSD Client ID: MW-8S 051619 MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorobutanoic acid (PFBA)	34.6	51.3	148	6	30	40-160	
Perfluoropentanoic acid (PFPeA)	34.6	46.4	134	4	30	40-160	
Perfluorohexanoic acid (PFHxA)	34.6	46.0	133	1	20	40-160	
Perfluoroheptanoic acid (PFHpA)	34.6	40.9	118	9	20	40-160	
Perfluorooctanoic acid (PFOA)	34.6	40.3	115	5	20	40-160	
Perfluorononanoic acid (PFNA)	34.6	42.1	122	5	20	40-160	
Perfluorodecanoic acid (PFDA)	34.6	40.9	118	11	20	40-160	
Perfluoroundecanoic acid (PFUnA)	34.6	43.9	127	8	20	40-160	
Perfluorododecanoic acid (PFDoA)	34.6	40.7	118	9	20	40-160	
Perfluorotridecanoic acid (PFTriA)	34.6	40.2	116	6	20	40-160	
Perfluorotetradecanoic acid (PFTeA)	34.6	44.4	128	9	20	40-160	
Perfluorobutanesulfonic acid (PFBS)	30.6	40.1	128	9	20	40-160	
Perfluorohexanesulfonic acid (PFHxS)	31.5	35.3	109	4	20	40-160	
Perfluoroheptanesulfonic Acid (PFHpS)	32.9	45.2	137	4	30	40-160	
Perfluorodecanesulfonic acid (PFDS)	33.3	29.0	87	22	30	40-160	
Perfluorooctanesulfonic acid (PFOS)	32.1	47.4	123	4	20	40-160	
Perfluorooctanesulfonamide (FOSA)	34.6	41.6	120	14	30	40-160	
13C8 FOSA	86.5	31.3	36			25-150	
13C4 PFBA	86.5	22.7	26			25-150	
13C5 PFPeA	86.5	31.5	36			25-150	
13C2 PFHxA	86.5	38.3	44			50-150	*
13C4 PFHpA	86.5	48.3	56			50-150	
13C4 PFOA	86.5	45.9	53			50-150	
13C5 PFNA	86.5	38.3	44			50-150	*
13C2 PFDA	86.5	41.5	48			50-150	*
13C2 PFUnA	86.5	44.7	52			50-150	
13C2 PFDoA	86.5	38.6	45			50-150	*
13C2 PFTeDA	86.5	36.9	43			50-150	*
13C3 PFBS	80.4	34.1	42			50-150	*
18O2 PFHxS	81.8	39.8	49			50-150	*
13C4 PFOS	82.7	34.9	42			50-150	*
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	34.6	41.7	120	1	20	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: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Matrix: Water Level: Low Lab File ID: PF060419B22.d

Lab ID: 200-48826-17 MSD Client ID: MW-8S 051619 MSD

COMPOUND	SPIKE ADDED (ng/L)	MSD CONCENTRATION (ng/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	34.6	50.0	140	14	20	40-160	
d3-NMeFOSAA	86.5	32.0	37			50-150	*
d5-NEtFOSAA	86.5	34.0	39			50-150	*
6:2 FTS	32.8	45.8	140	6	30	40-160	
8:2 FTS	33.1	44.8	135	12	30	40-160	
M2-6:2 FTS	82.2	42.4	52			25-150	
M2-8:2 FTS	82.8	51.3	62			25-150	

Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab File ID: PF053019B39.d Lab Sample ID: MB 200-143263/1-A

Matrix: Water Date Extracted: 05/21/2019 14:07

Instrument ID: LC410 Date Analyzed: 05/30/2019 22:50

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 200-143263/2-A	PF053019B40.d	05/30/2019 23:06
K-3 051319	200-48826-1	PF053019B54.d	05/31/2019 02:49
MW-18 051319	200-48826-2	PF053019B55.d	05/31/2019 03:04
MW-17 051319	200-48826-3	PF053019B56.d	05/31/2019 03:20
MW-15S 051319	200-48826-4	PF053019B57.d	05/31/2019 03:36
VEW-2 051419	200-48826-5	PF053019B58.d	05/31/2019 03:52
VEW-1 051419	200-48826-6	PF053019B59.d	05/31/2019 04:08
	LCS 200-143263/2-A	PF060619A05.d	06/06/2019 13:28
VEW-2 051419	200-48826-5	PF060619A07.d	06/06/2019 14:00
VEW-1 051419	200-48826-6	PF060619A08.d	06/06/2019 14:16

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab File ID: PF060419B05.d Lab Sample ID: MB 200-143308/1-A

Matrix: Water Date Extracted: 05/22/2019 11:30

Instrument ID: LC410 Date Analyzed: 06/05/2019 02:23

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 200-143308/2-A	PF060419B06.d	06/05/2019 02:39
VEW-3 051419	200-48826-7	PF060419B09.d	06/05/2019 03:26
VEW-4 051419	200-48826-8	PF060419B10.d	06/05/2019 03:42
ASW 051419	200-48826-9	PF060419B11.d	06/05/2019 03:58
MW-23 051419	200-48826-10	PF060419B12.d	06/05/2019 04:14
MW-22 051519	200-48826-11	PF060419B13.d	06/05/2019 04:30
K-2 051519	200-48826-12	PF060419B14.d	06/05/2019 04:46
MW-15D 051519	200-48826-13	PF060419B15.d	06/05/2019 05:02
MW-16D 051519	200-48826-14	PF060419B16.d	06/05/2019 05:17
MW-24 051519	200-48826-15	PF060419B18.d	06/05/2019 05:49
MW-8D 051619	200-48826-16	PF060419B19.d	06/05/2019 06:05
MW-8S 051619	200-48826-17	PF060419B20.d	06/05/2019 06:21
MW-8S 051619 MS	200-48826-17 MS	PF060419B21.d	06/05/2019 06:37
MW-8S 051619 MSD	200-48826-17 MSD	PF060419B22.d	06/05/2019 06:53
MW-21 051619	200-48826-18	PF060419B23.d	06/05/2019 07:09
MW-20 051619	200-48826-19	PF060419B24.d	06/05/2019 07:25
MW-19 051619	200-48826-20	PF060419B25.d	06/05/2019 07:40
DUP 051619	200-48826-21	PF060419B26.d	06/05/2019 07:56
FIELD BLANK 051619	200-48826-22	PF060419B27.d	06/05/2019 08:12
EQUIPMENT BLANK 051619	200-48826-23	PF060419B28.d	06/05/2019 08:28
VEW-3 051419	200-48826-7	PF060619A09.d	06/06/2019 14:31
VEW-4 051419	200-48826-8	PF060619A10.d	06/06/2019 14:47

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab File ID: PF060419B05.d Lab Sample ID: MB 200-143308/1-A

Matrix: Water Date Extracted: 05/22/2019 11:30

Instrument ID: LC410 Date Analyzed: 06/05/2019 02:23

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
ASW 051419	200-48826-9	PF060619A11.d	06/06/2019 15:03

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Sample No.: ICIS 200-143347/6 Date Analyzed: 05/23/2019 13:23

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm)

Lab File ID (Standard): PF052319B06.d Heated Purge: (Y/N) N

Calibration ID: 41792

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		916536	4.55				
UPPER LIMIT		1374804	4.75				
LOWER LIMIT		458268	4.35				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 200-143347/12		947527	4.55				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.2 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537 (MODIFIED)

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Sample No.: CCVIS 200-143596/6 Date Analyzed: 05/30/2019 14:06

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm)

Lab File ID (Standard): PF053019B06.d Heated Purge: (Y/N) N

Calibration ID: 41792

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		941132	4.63				
UPPER LIMIT		1411698	4.83				
LOWER LIMIT		470566	4.43				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCVL 200-143596/7		929103	4.63				
CCV 200-143596/38		939220	4.61				
MB 200-143263/1-A		905637	4.61				
LCS 200-143263/2-A		849849	4.61				
CCV 200-143596/53		883027	4.61				
200-48826-1	K-3 051319	191808*	4.61				
200-48826-2	MW-18 051319	215909*	4.61				
200-48826-3	MW-17 051319	253235*	4.57				
200-48826-4	MW-15S 051319	208628*	4.61				
200-48826-5	VEW-2 051419	222356*	4.59				
200-48826-6	VEW-1 051419	242822*	4.51				
CCV 200-143596/64		1002721	4.59				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.2 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537 (MODIFIED)

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Sample No.: CCVIS 200-143753/2 Date Analyzed: 06/05/2019 01:35

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm)

Lab File ID (Standard): PF060419B02.d Heated Purge: (Y/N) N

Calibration ID: 41792

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		961549	4.59				
UPPER LIMIT		1442324	4.79				
LOWER LIMIT		480775	4.39				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCVL 200-143753/3		915646	4.59				
CCV 200-143753/4		993407	4.59				
MB 200-143308/1-A		1357172	4.57				
LCS 200-143308/2-A		1207218	4.57				
200-48826-7	VEW-3 051419	284933*	4.57				
200-48826-8	VEW-4 051419	317170*	4.53				
200-48826-9	ASW 051419	299283*	4.32*				
200-48826-10	MW-23 051419	300400*	4.55				
200-48826-11	MW-22 051519	276987*	4.55				
200-48826-12	K-2 051519	274273*	4.57				
200-48826-13	MW-15D 051519	1340238	4.57				
200-48826-14	MW-16D 051519	1462956*	4.55				
CCV 200-143753/17		909273	4.57				
200-48826-15	MW-24 051519	1321646	4.57				
200-48826-16	MW-8D 051619	1553728*	4.53				
200-48826-17	MW-8S 051619	1369897	4.57				
200-48826-17 MS	MW-8S 051619 MS	1277037	4.57				
200-48826-17 MSD	MW-8S 051619 MSD	1361079	4.57				
200-48826-18	MW-21 051619	355248*	4.57				
200-48826-19	MW-20 051619	173772*	4.59				
200-48826-20	MW-19 051619	308849*	4.55				
200-48826-21	DUP 051619	1371207	4.57				
200-48826-22	FIELD BLANK 051619	1315305	4.57				
200-48826-23	EQUIPMENT BLANK 051619	1340147	4.57				
CCV 200-143753/30		938473	4.57				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.2 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537 (MODIFIED)

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Sample No.: CCVIS 200-143813/2 Date Analyzed: 06/06/2019 12:40

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm)

Lab File ID (Standard): PF060619A02.d Heated Purge: (Y/N) N

Calibration ID: 41792

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		886154	4.57				
UPPER LIMIT		1329231	4.77				
LOWER LIMIT		443077	4.37				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCVL 200-143813/3		856274	4.57				
CCV 200-143813/4		867106	4.55				
LCS 200-143263/2-A		804066	4.55				
200-48826-5	VEW-2 051419	41554*	4.57				
200-48826-6	VEW-1 051419	43170*	4.53				
200-48826-7	VEW-3 051419	142545*	4.55				
200-48826-8	VEW-4 051419	174040*	4.53				
200-48826-9	ASW 051419	84296*	4.48				
CCV 200-143813/14		831874	4.55				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.2 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537 (MODIFIED)

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: K-3 051319 Lab Sample ID: 200-48826-1

Matrix: Water Lab File ID: PF053019B54.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 12:06

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 298.8(mL) Date Analyzed: 05/31/2019 02:49

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	9.6	*	8.4	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.3	J	8.4	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		8.4	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND	*	8.4	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	15		8.4	2.6
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.4	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.4	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.4	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.4	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.4	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.4	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND	*	8.4	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	13		8.4	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	4.9	J	8.4	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.4	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	330		8.4	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.4	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		84	7.1
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	*	84	6.3
27619-97-2	6:2 FTS	ND		84	19
39108-34-4	8:2 FTS	ND		84	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: K-3 051319 Lab Sample ID: 200-48826-1

Matrix: Water Lab File ID: PF053019B54.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 12:06

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 298.8(mL) Date Analyzed: 05/31/2019 02:49

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	61		25-150
STL00992	13C4 PFBA	39		25-150
STL01893	13C5 PFPeA	61		25-150
STL00993	13C2 PFHxA	75		50-150
STL01892	13C4 PFHpA	92		50-150
STL00990	13C4 PFOA	84		50-150
STL00995	13C5 PFNA	73		50-150
STL00996	13C2 PFDA	81		50-150
STL00997	13C2 PFUnA	65		50-150
STL00998	13C2 PFDoA	61		50-150
STL02116	13C2 PFTeDA	54		50-150
STL02337	13C3 PFBS	54		50-150
STL00994	18O2 PFHxS	47	*	50-150
STL00991	13C4 PFOS	40	*	50-150
STL02118	d3-NMeFOSAA	53		50-150
STL02117	d5-NEtFOSAA	64		50-150
STL02279	M2-6:2 FTS	55		25-150
STL02280	M2-8:2 FTS	49		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d
Lims ID: 200-48826-A-1-A
Client ID: K-3 051319
Sample Type: Client
Inject. Date: 31-May-2019 02:49:01 ALS Bottle#: 0 Worklist Smp#: 54
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036138-054 26-1
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:25:52 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: murrayjw Date: 05-Jun-2019 10:36:47
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.391	-0.011	1.000	18496	3.94		39.4	54.0	M
2 Perfluorobutanoic acid										
212.9 > 168.9	2.391	2.391	0.0	1.004	3325	1.15			9.7	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	21566	6.06		60.6	61.2	
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.866	2.866	0.0	1.013	2545	0.3941			4.1	M
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.901	-0.035	1.000	7838	5.06		54.5	32.8	
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	80042	7.50		75.0	391	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.905	3.925	-0.020	1.000	5206	0.3210	Target=2.84		13.8	
362.9 > 168.9	3.905	3.925	-0.020	1.000	1522		3.42(1.42-4.26)		13.4	M
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.925	-0.020	1.000	138189	9.19		91.9	538	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.925	3.946	-0.021	1.000	8819	4.46		47.1	46.8	M
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.925	3.946	-0.021	1.000	3012	1.53	Target=1.34		21.1	M
398.9 > 98.9	3.946	3.946	0.0	1.005	3296		0.91(0.67-2.01)		14.3	M
D 14 M2-6:2 FTS										
428.6 > 408.6	4.547	4.589	-0.042	1.000	5617	5.26		55.3	33.2	
D 17 13C4 PFOA										
416.9 > 371.8	4.609	4.630	-0.021	1.000	156642	8.41		84.1	1058	
* 16 13C2 PFOA										
414.9 > 369.8	4.609	4.630	-0.021		191808	10.0			698	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.609	4.630	-0.021	1.000	27831	1.76	Target=2.43		126	M
412.9 > 168.9	4.609	4.630	-0.021	1.000	11556		2.41(1.22-3.64)		44.0	M
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.609	4.672	-0.063	0.852	919	0.5889	Target=1.30		6.4	
448.9 > 98.9	4.609	4.672	-0.063	1.000	998		0.92(0.65-1.95)		6.8	
D 20 13C5 PFNA										
467.8 > 422.8	5.389	5.432	-0.043	1.000	181779	7.28		72.8	1045	
D 22 13C4 PFOS										M
502.9 > 80.0	5.411	5.453	-0.042	1.000	17137	3.84		40.2	49.8	M
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.411	5.453	-0.042	1.000	68156	39.4	Target=1.41		793	M
498.9 > 98.9	5.411	5.453	-0.042	1.000	65134		1.05(0.71-2.12)		496	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.165	6.234	-0.069	1.000	18330	4.72		49.2	104	
D 25 13C2 PFDA										
514.9 > 469.5	6.199	6.234	-0.035	1.000	171904	8.06		80.6	464	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.549	6.597	-0.048	1.000	36739	5.29		52.9	158	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.921	6.969	-0.048	1.000	36728	6.41		64.1	284	
D 33 13C2 PFUnA										
564.8 > 519.8	6.969	7.013	-0.044	1.000	133414	6.48		64.8	560	
D 34 13C8 FOSA										
505.9 > 78.0	7.026	7.039	-0.013	1.000	46959	6.11		61.1	299	
D 37 13C2 PFDoA										
614.9 > 569.5	7.636	7.695	-0.059	1.000	159330	6.07		60.7	723	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.808	8.870	-0.062	1.000	127366	5.41		54.1	355	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 17:25:55 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d

Injection Date: 31-May-2019 02:49:01 Instrument ID: LC410

Lims ID: 200-48826-A-1-A Lab Sample ID: 200-48826-1

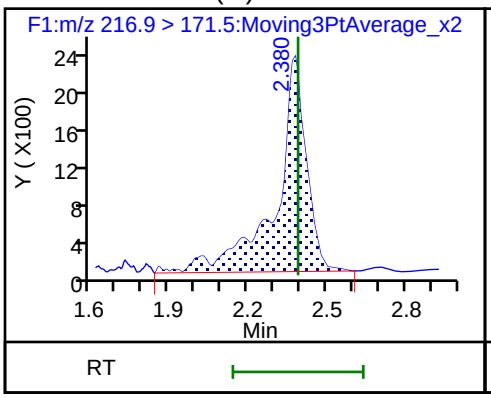
Client ID: K-3 051319

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 54

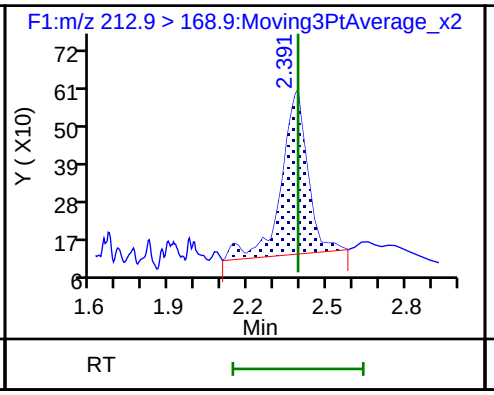
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

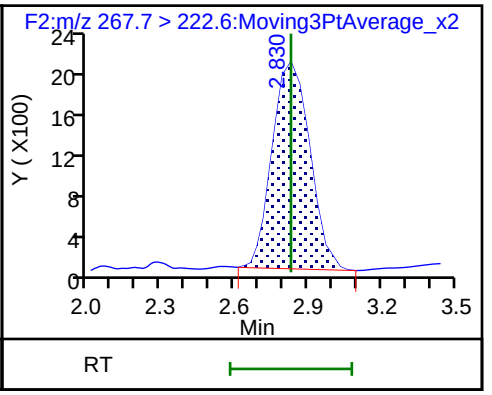
D 1 13C4 PFBA (M)



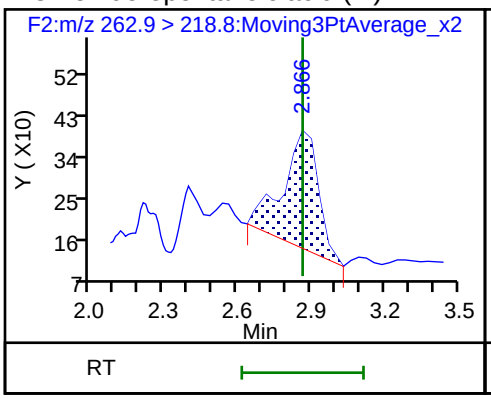
2 Perfluorobutanoic acid



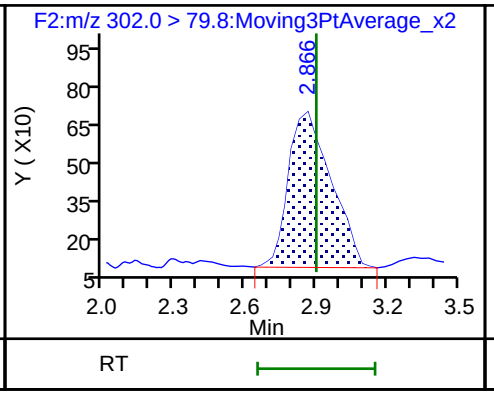
D 4 13C5 PFPeA



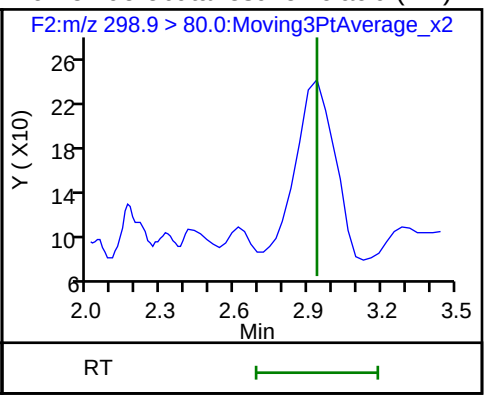
3 Perfluoropentanoic acid (M)



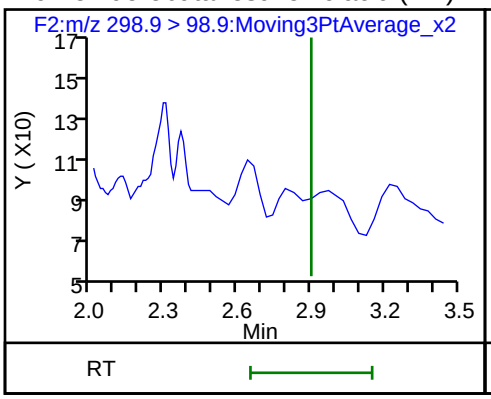
D 5 13C3 PFBS



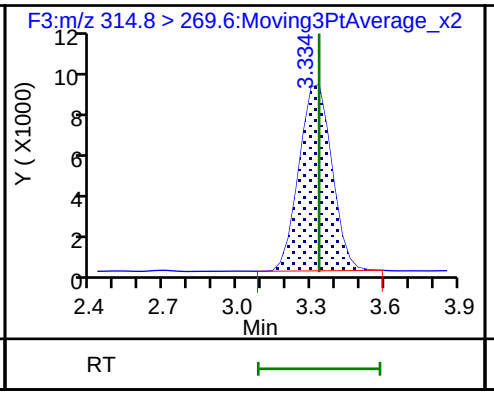
6 Perfluorobutanesulfonic acid (ND)



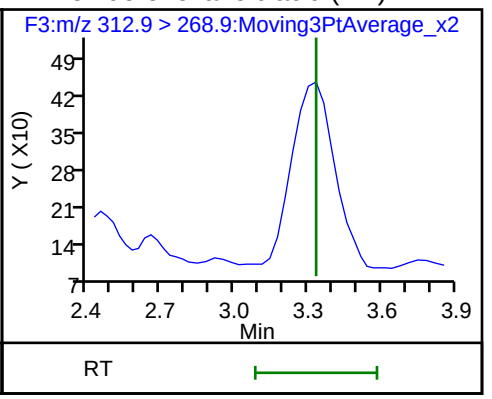
6 Perfluorobutanesulfonic acid (ND)



D 8 13C2 PFHxA



7 Perfluorohexanoic acid (ND)



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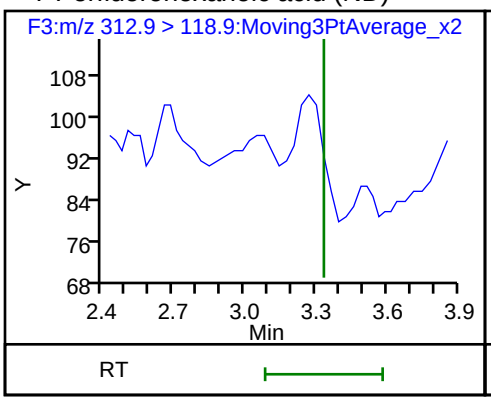
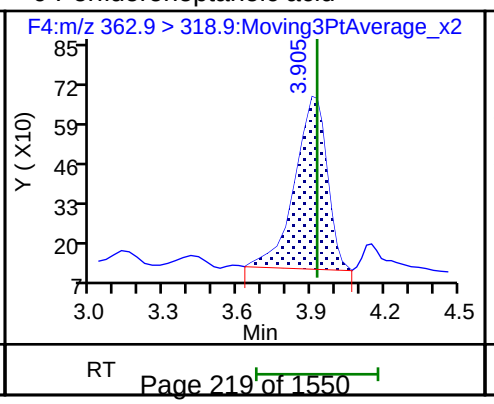


9 Perfluoroheptanoic acid



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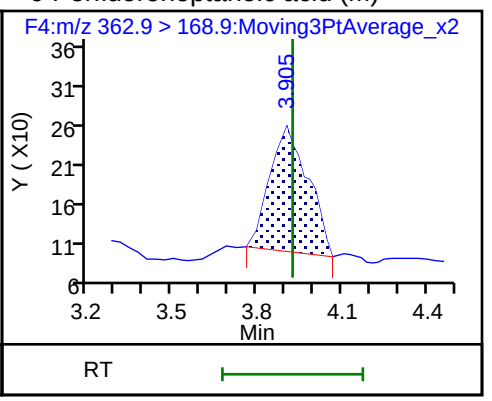
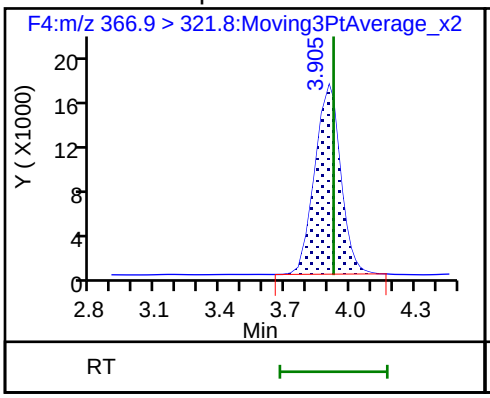
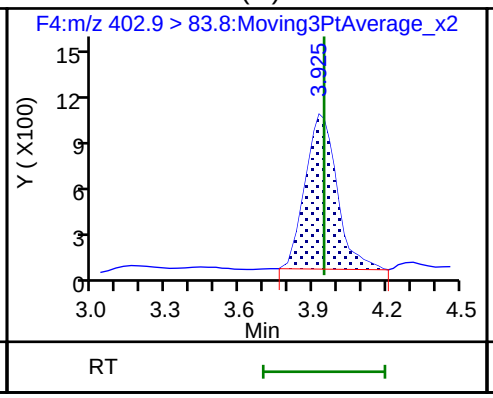


D 10 13C4 PFHpA



D 12 18O2 PFHxS (M)



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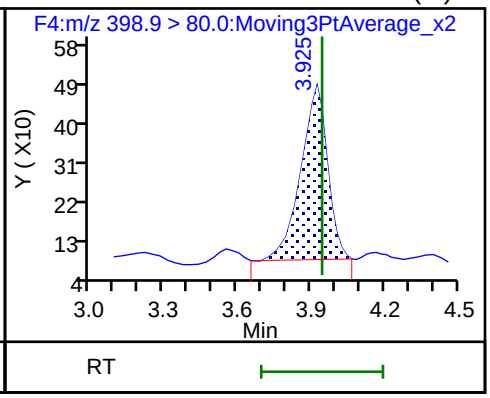
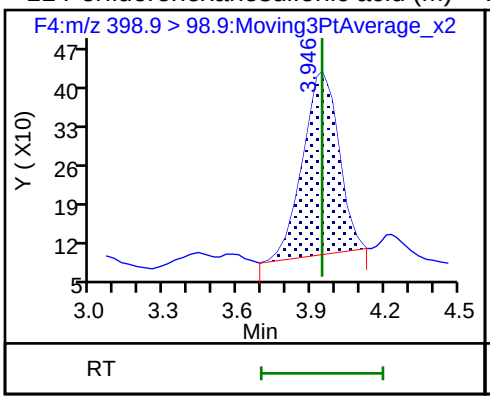
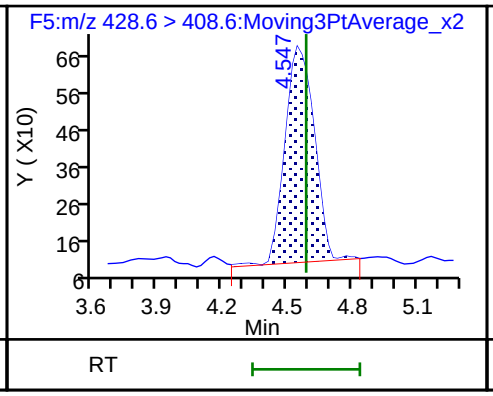


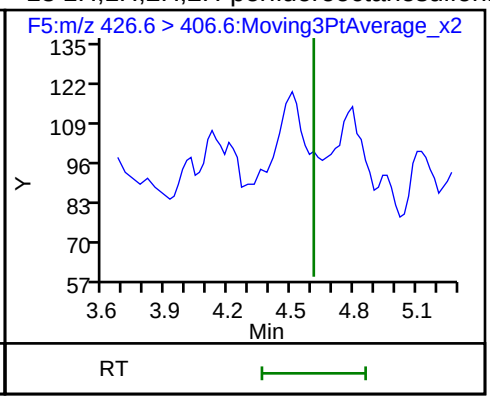
11 Perfluorohexanesulfonic acid (M)



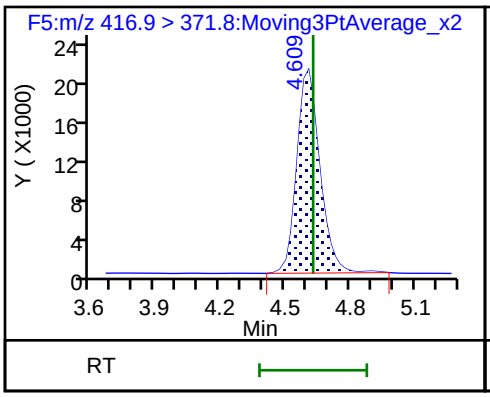
D 14 M2-6:2 FTS



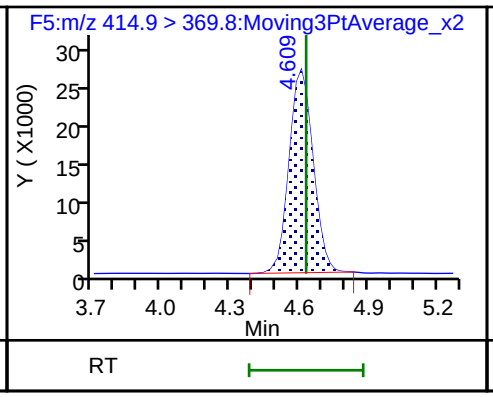
13 1H,1H,2H,2H-perfluorooctanesulfoni (ND)



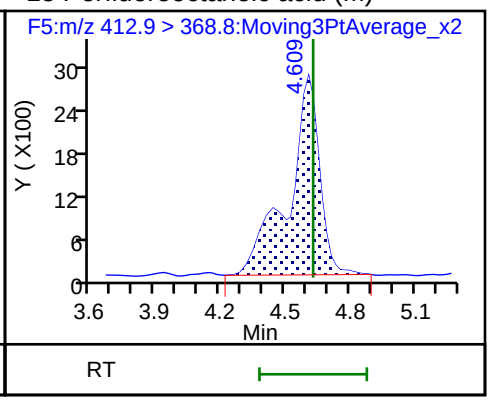
D 17 13C4 PFOA



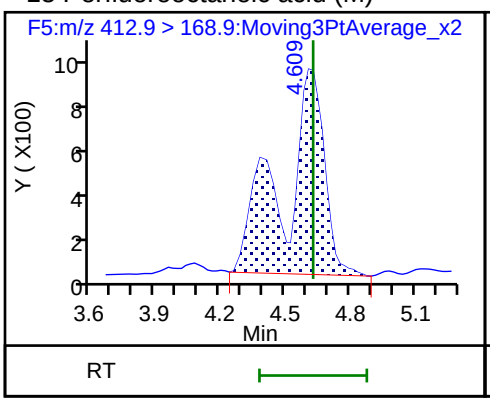
* 16 13C2 PFOA



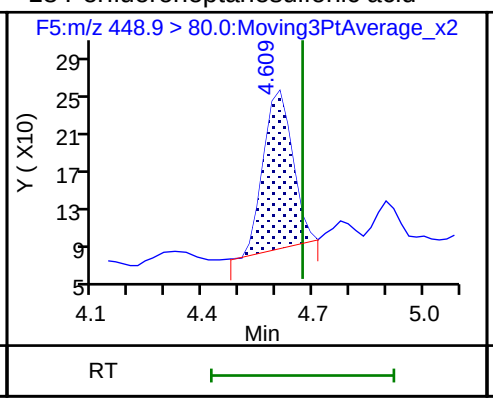
15 Perfluorooctanoic acid (M)



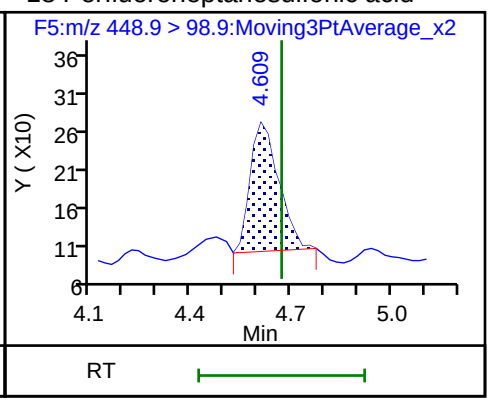
15 Perfluorooctanoic acid (M)



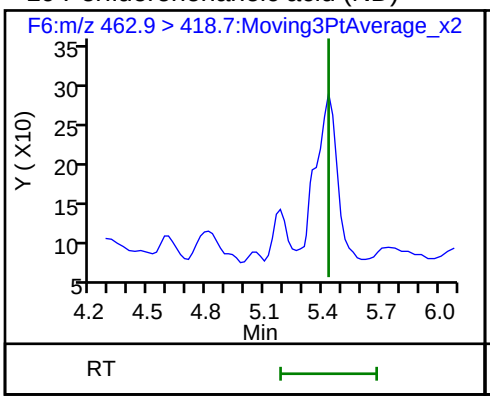
18 Perfluoroheptanesulfonic acid



18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid (ND)



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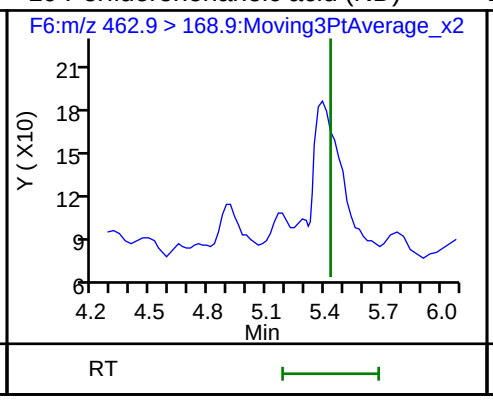
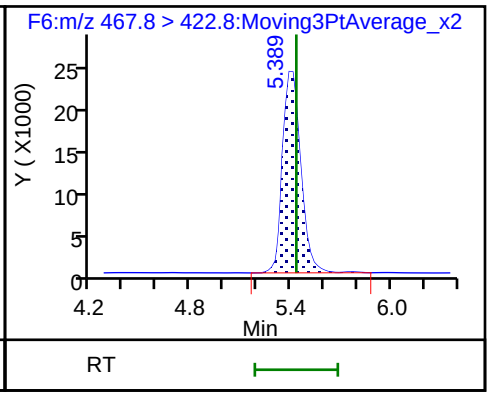
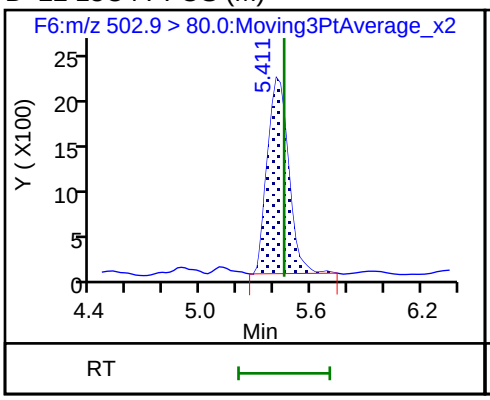


D 20 13C5 PFNA



D 22 13C4 PFOS (M)



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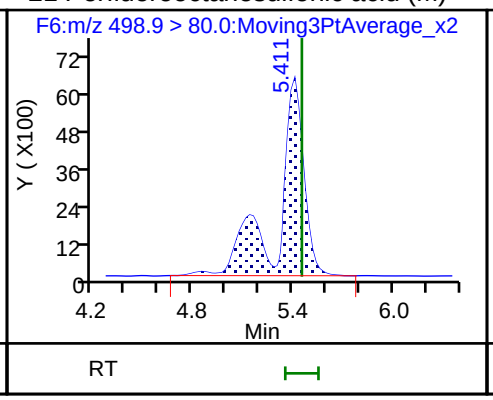
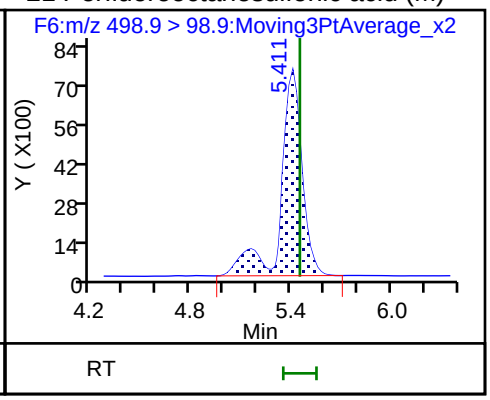
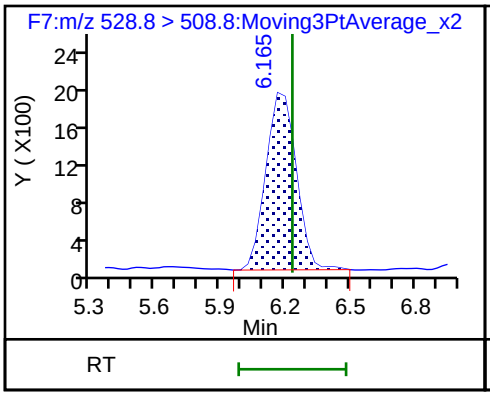


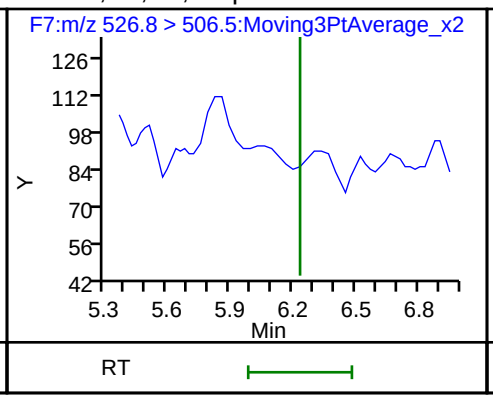
21 Perfluorooctanesulfonic acid (M)



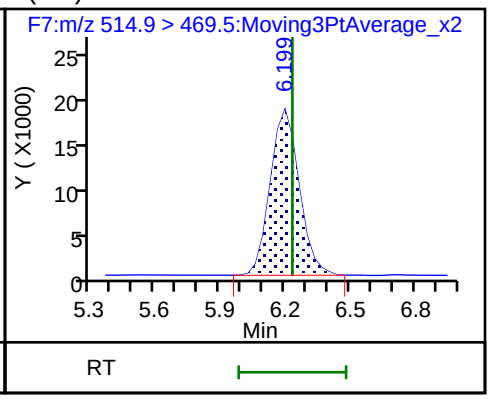
D 24 M2-8:2 FTS



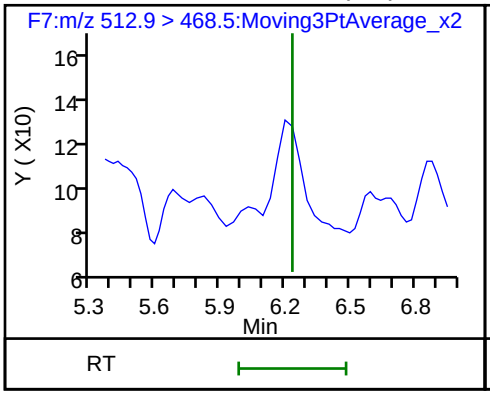
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



D 25 13C2 PFDA



26 Perfluorodecanoic acid (ND)



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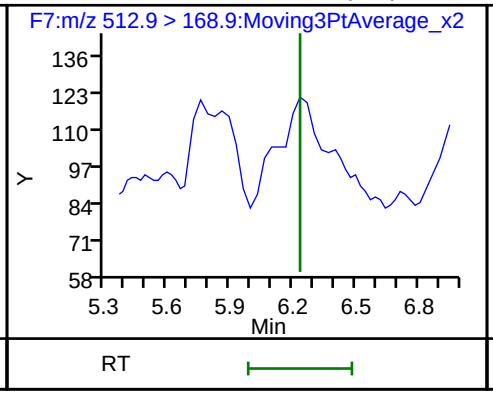
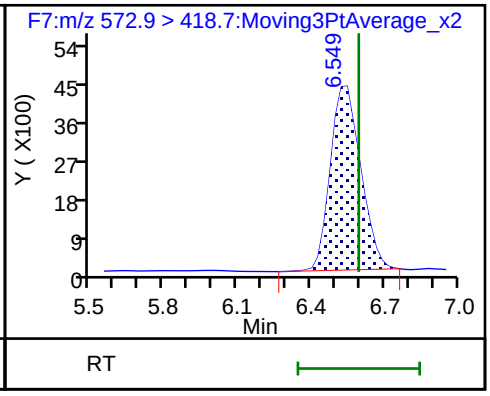
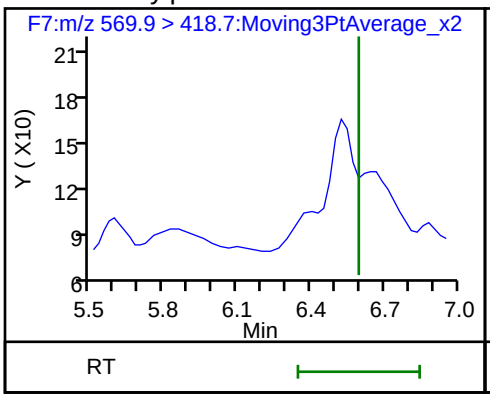


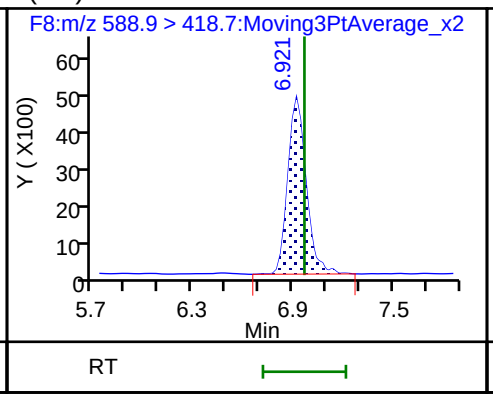
D 27 d3-NMeFOSAA



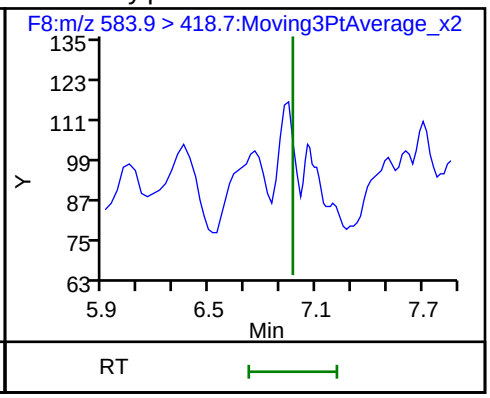
28 N-methylperfluorooctanesulfonamidoacetic acid (ND)



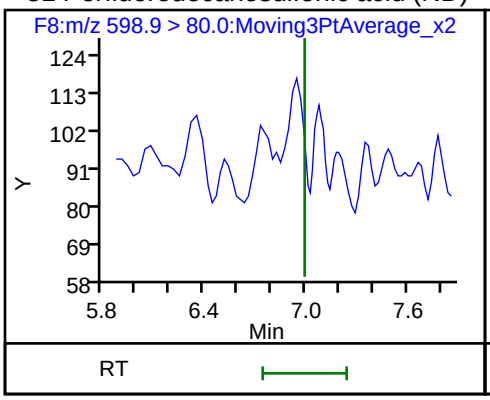
D 29 d5-NEtFOSAA



30 N-ethylperfluorooctanesulfonamidoa (ND)



31 Perfluorodecanesulfonic acid (ND)



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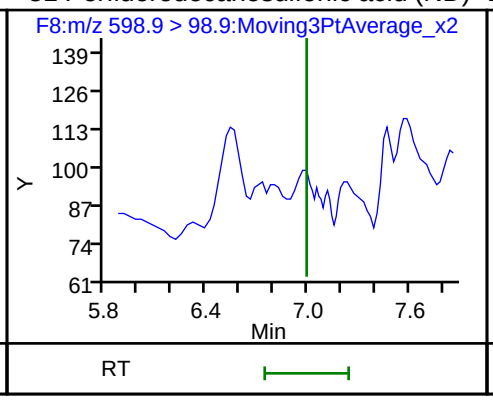
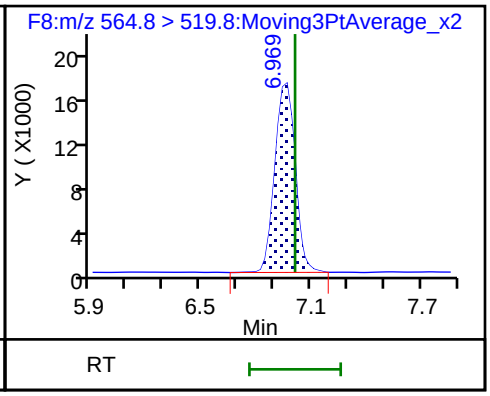
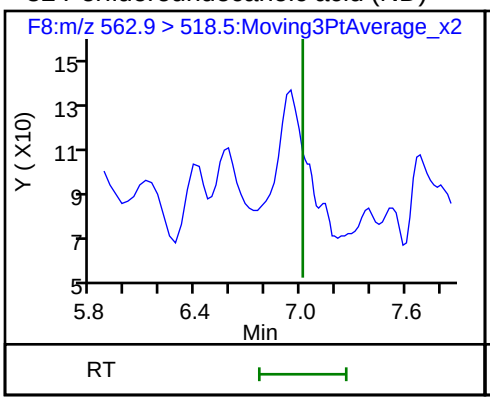


D 33 13C2 PFUnA



32 Perfluoroundecanoic acid (ND)



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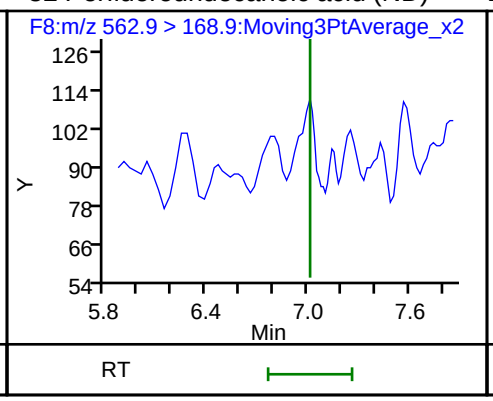
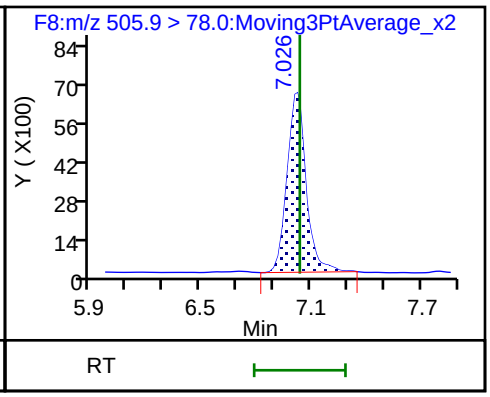
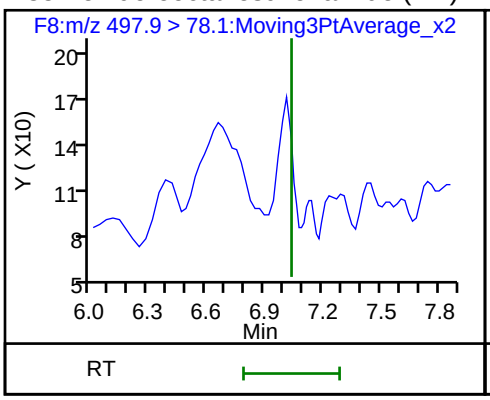


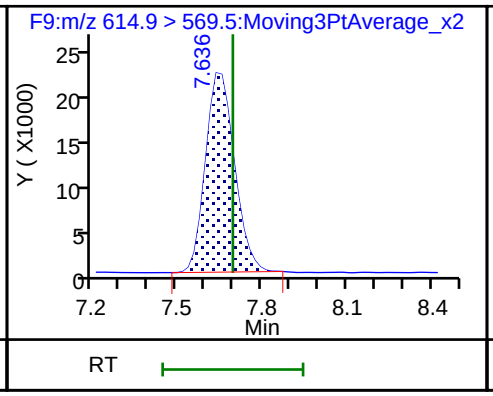
D 34 13C8 FOSA



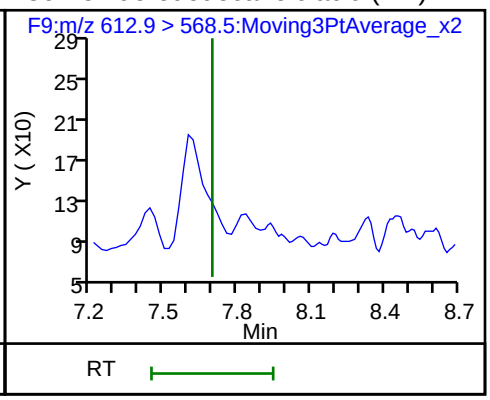
35 Perfluorooctanesulfonamide (ND)



D 37 13C2 PFDoA



36 Perfluorododecanoic acid (ND)



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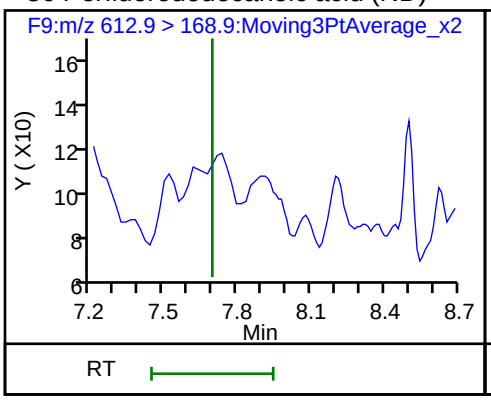

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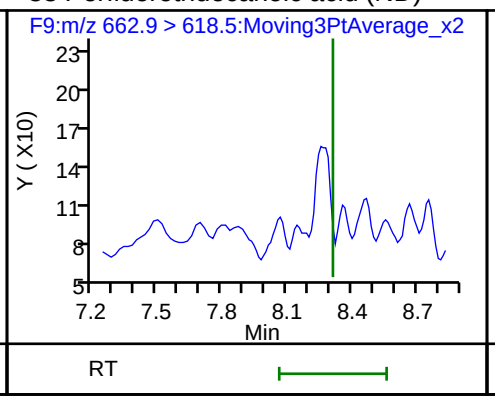

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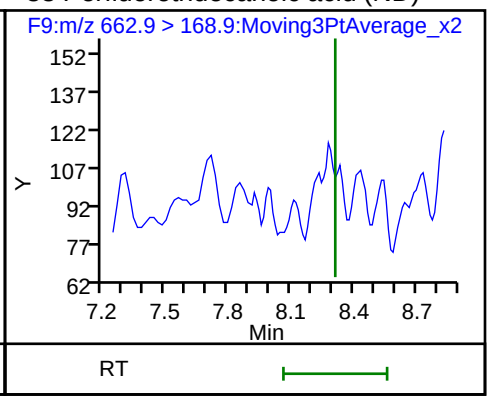

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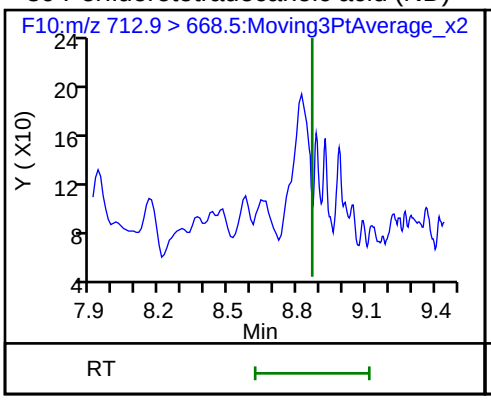

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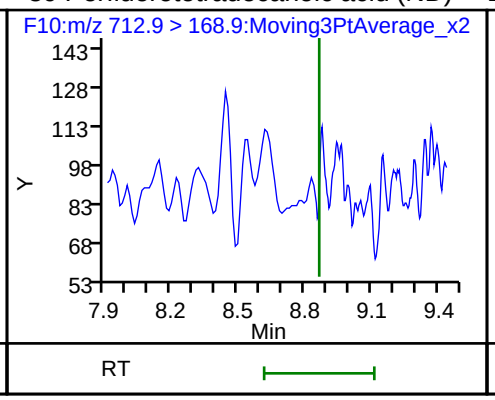
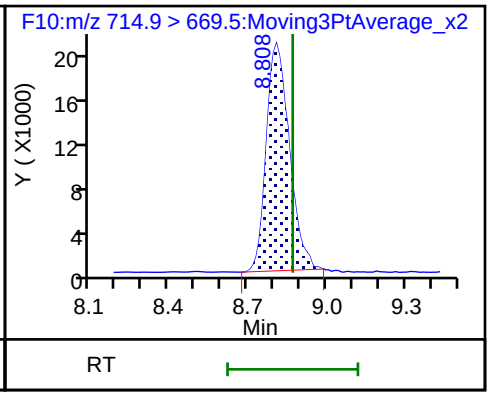


D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

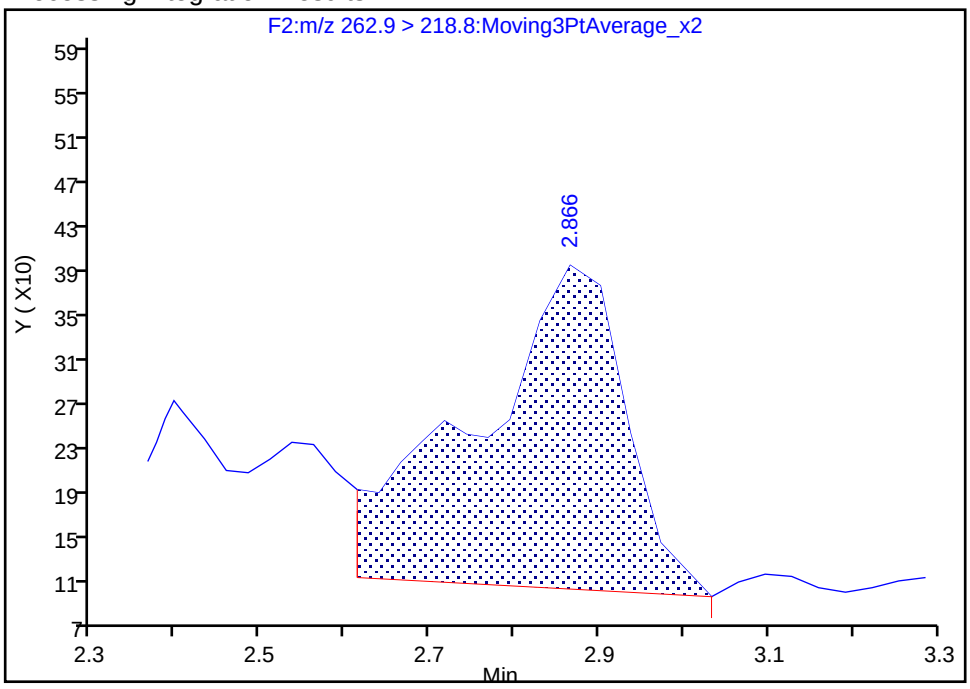
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

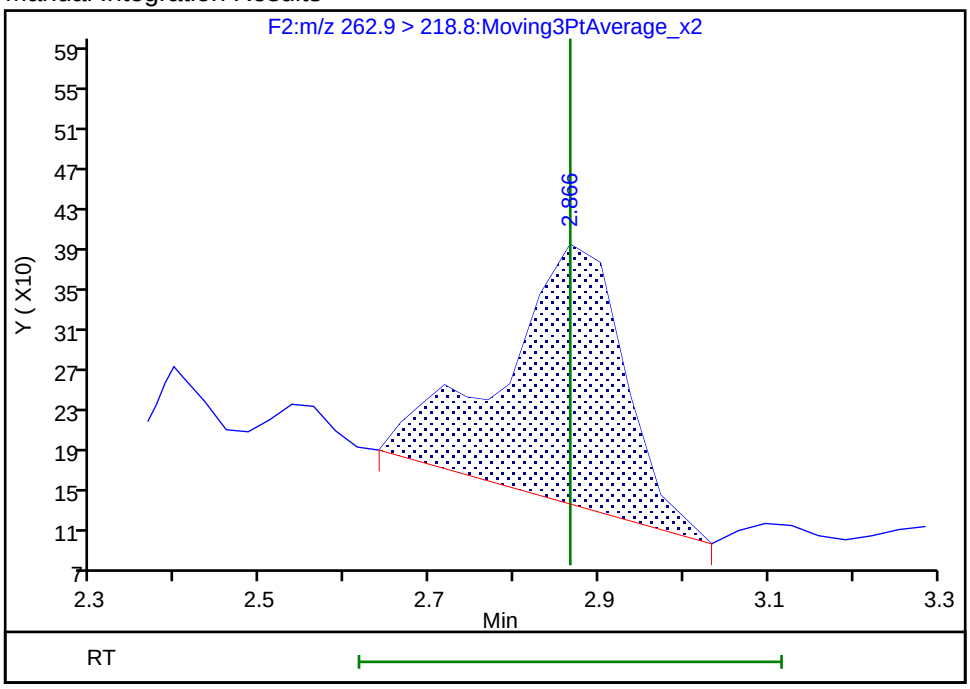
Processing Integration Results

RT: 2.87
Area: 3562
Amount: 0.551567
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 2545
Amount: 0.394087
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:50:52

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

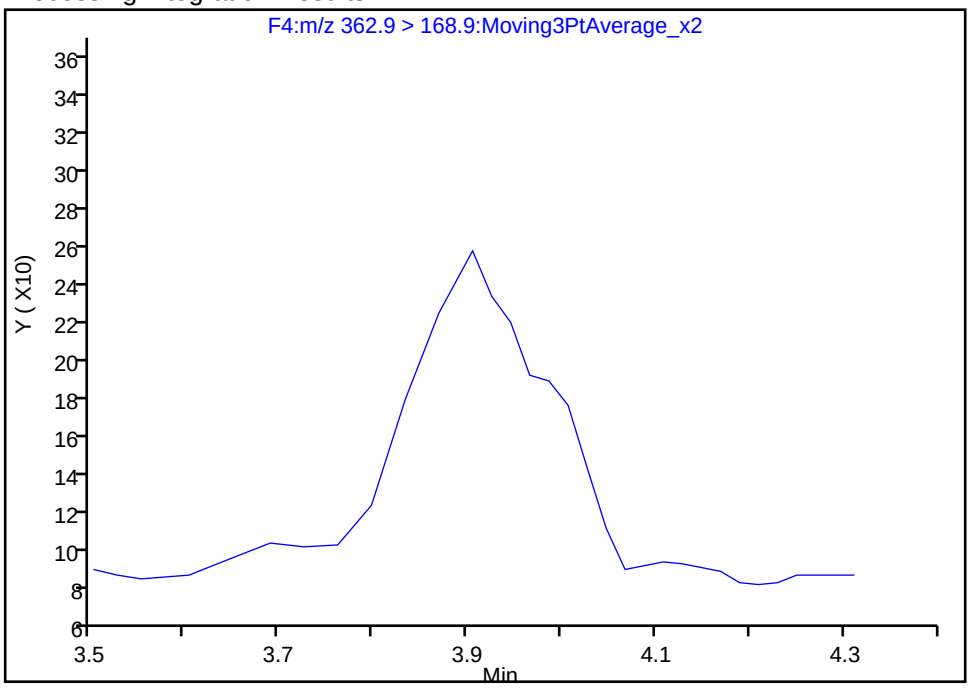
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

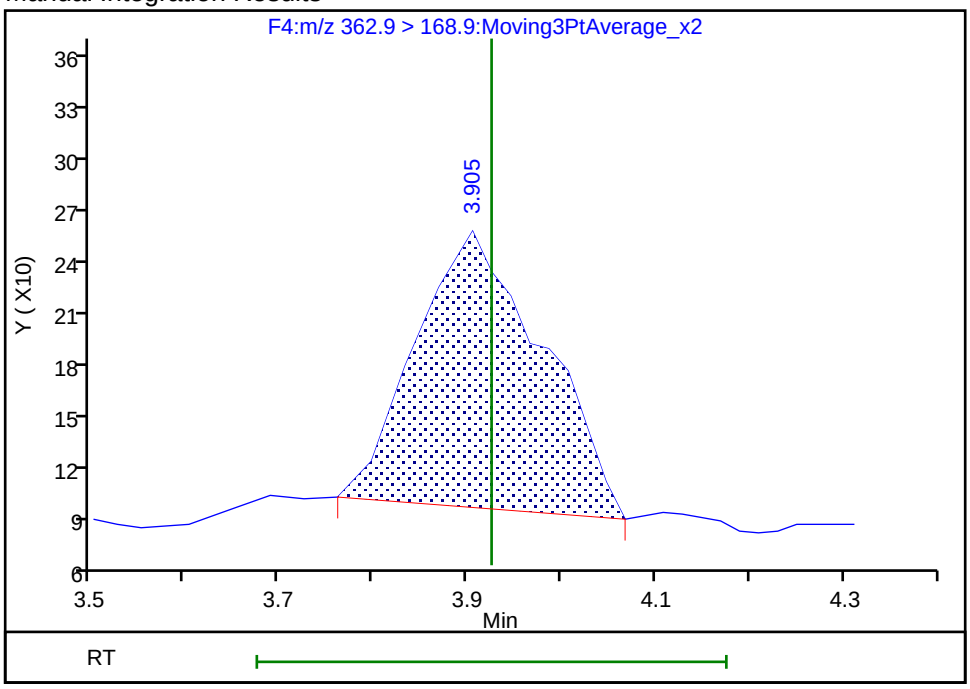
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.91
Area: 1522
Amount: 0.321009
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:53:12
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

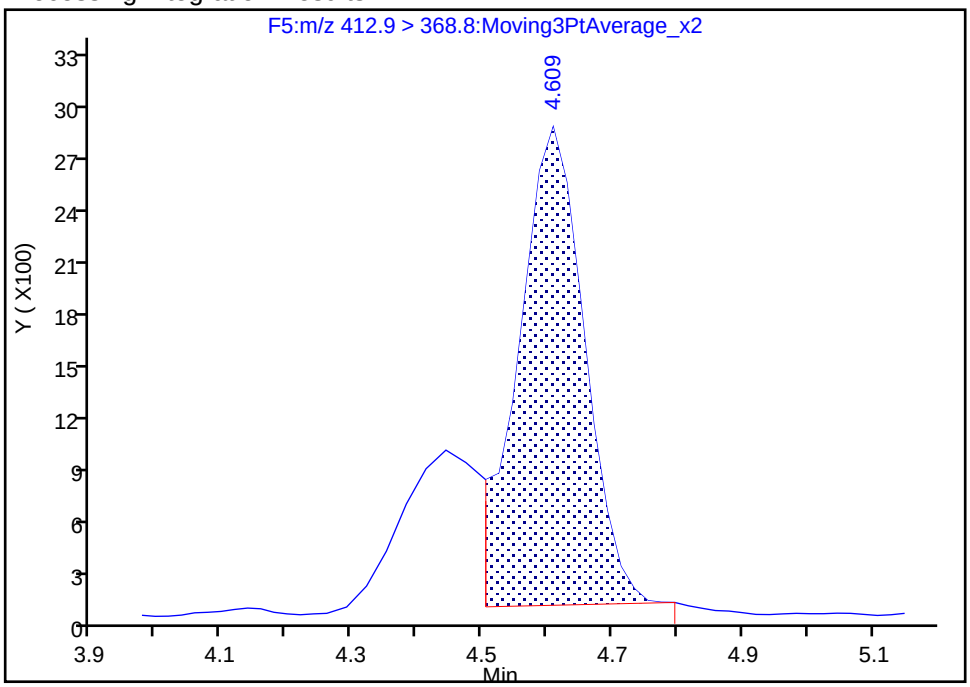
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

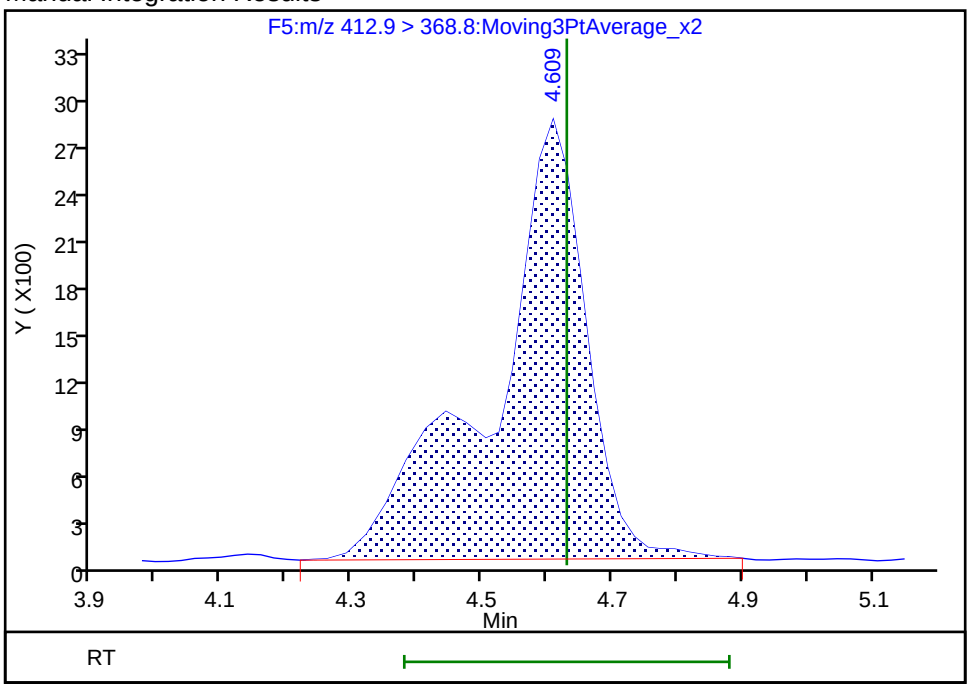
Processing Integration Results

RT: 4.61
Area: 19206
Amount: 1.211673
Amount Units: ng/ml



Manual Integration Results

RT: 4.61
Area: 27831
Amount: 1.755809
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:53:32

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

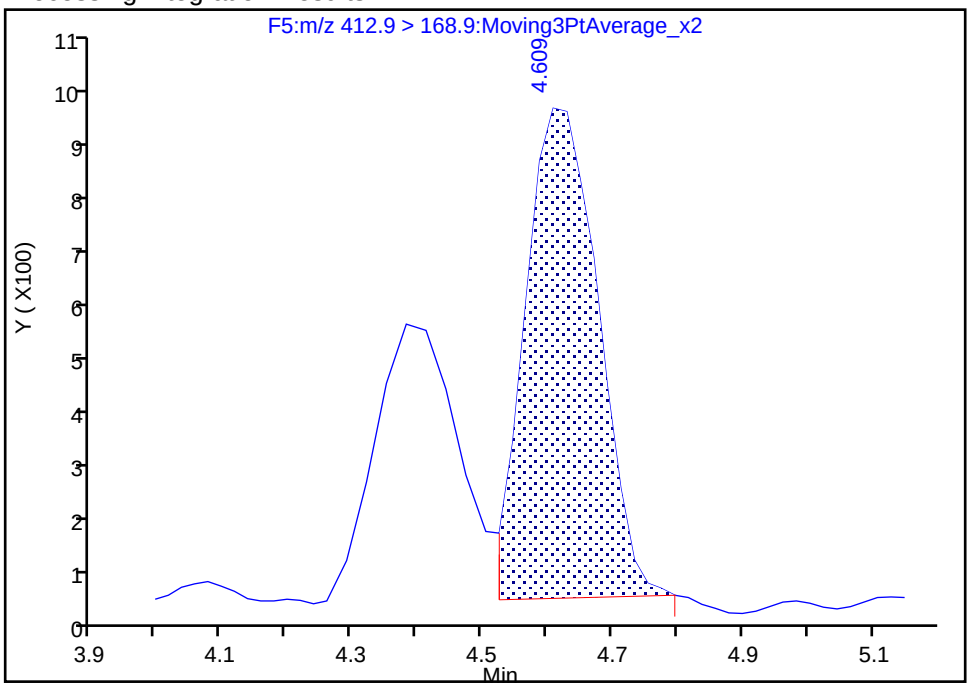
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

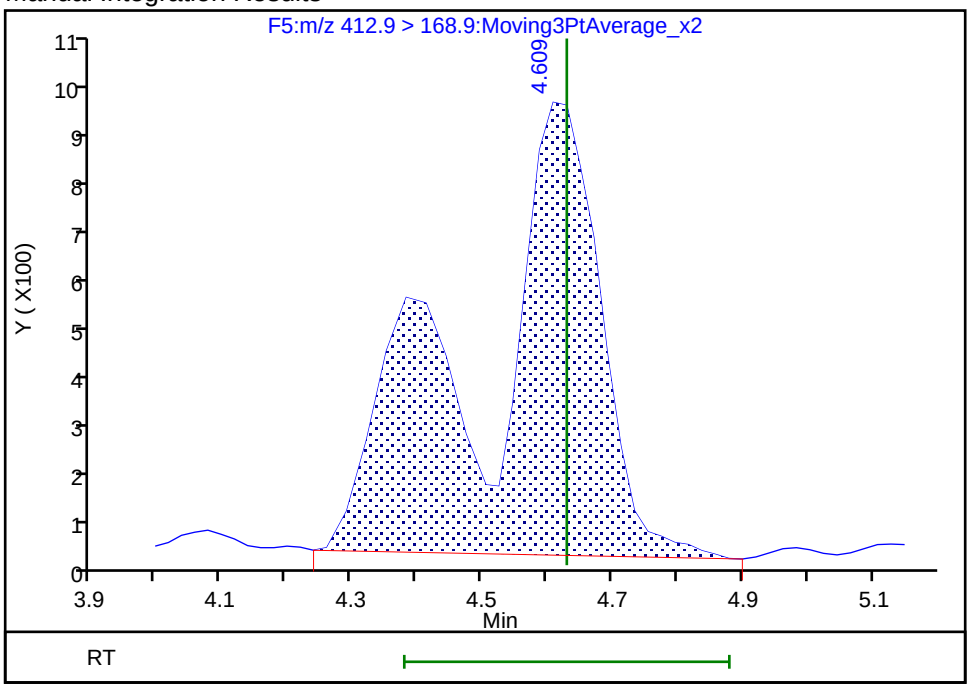
Processing Integration Results

RT: 4.61
Area: 6652
Amount: 1.211673
Amount Units: ng/ml



Manual Integration Results

RT: 4.61
Area: 11556
Amount: 1.755809
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:53:34

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

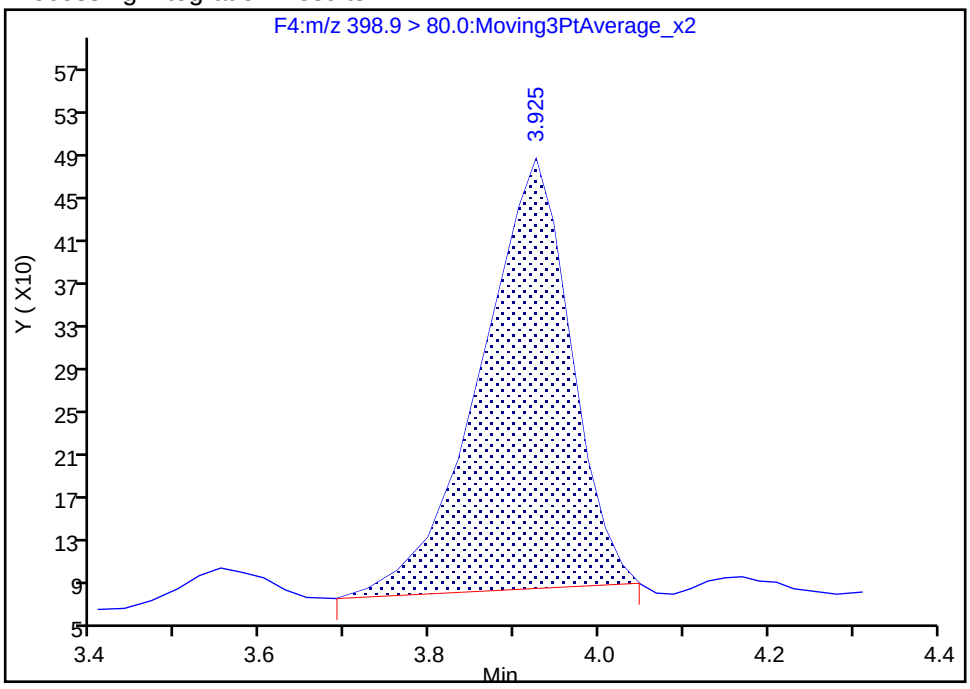
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

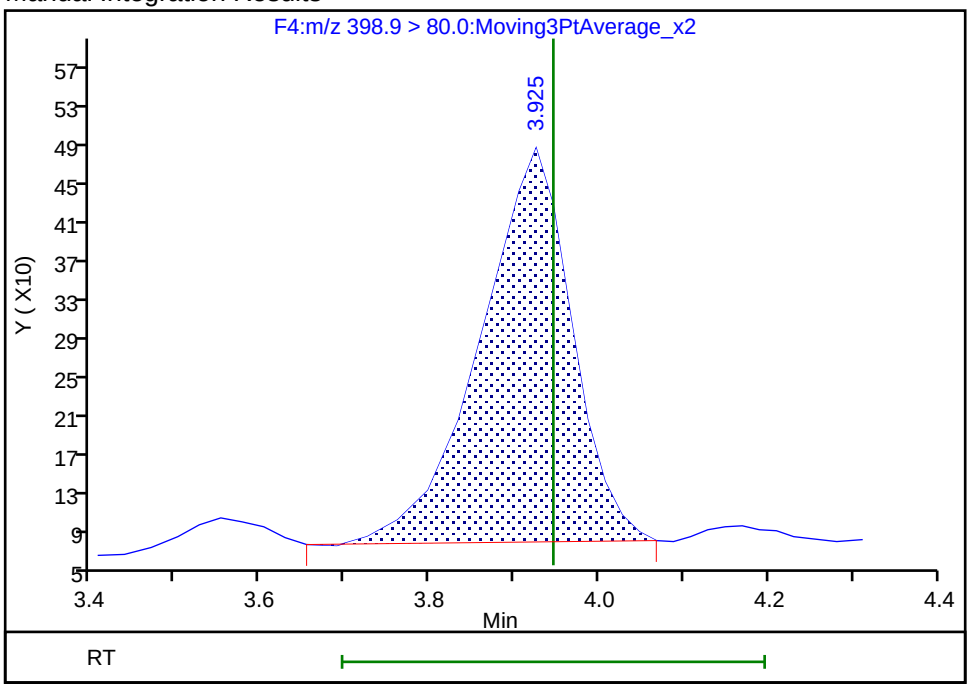
Processing Integration Results

RT: 3.93
Area: 2923
Amount: 1.688409
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 3012
Amount: 1.526755
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:53:18
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

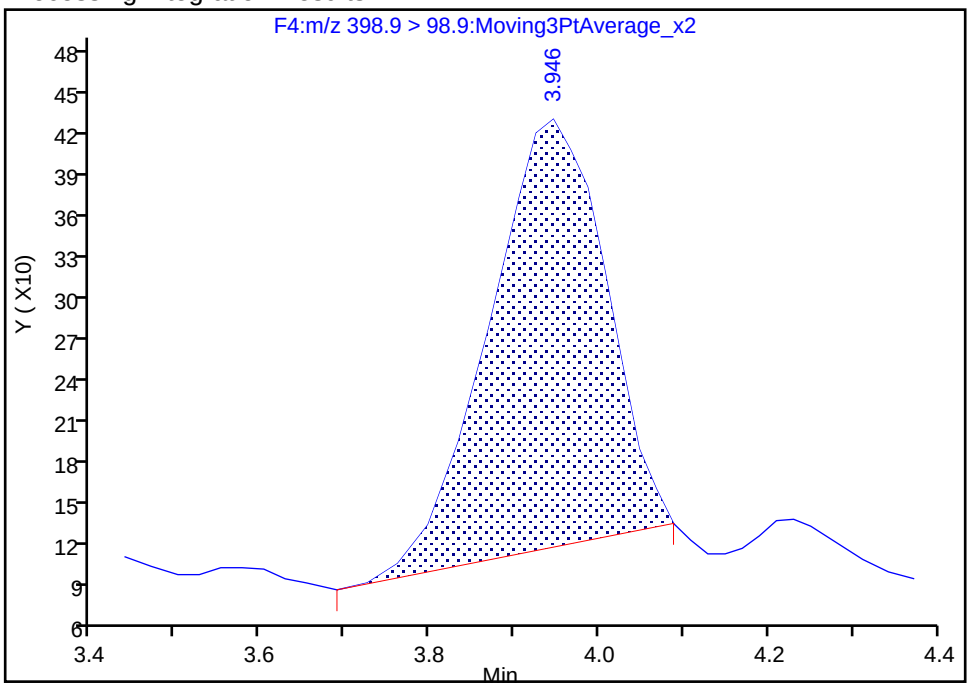
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

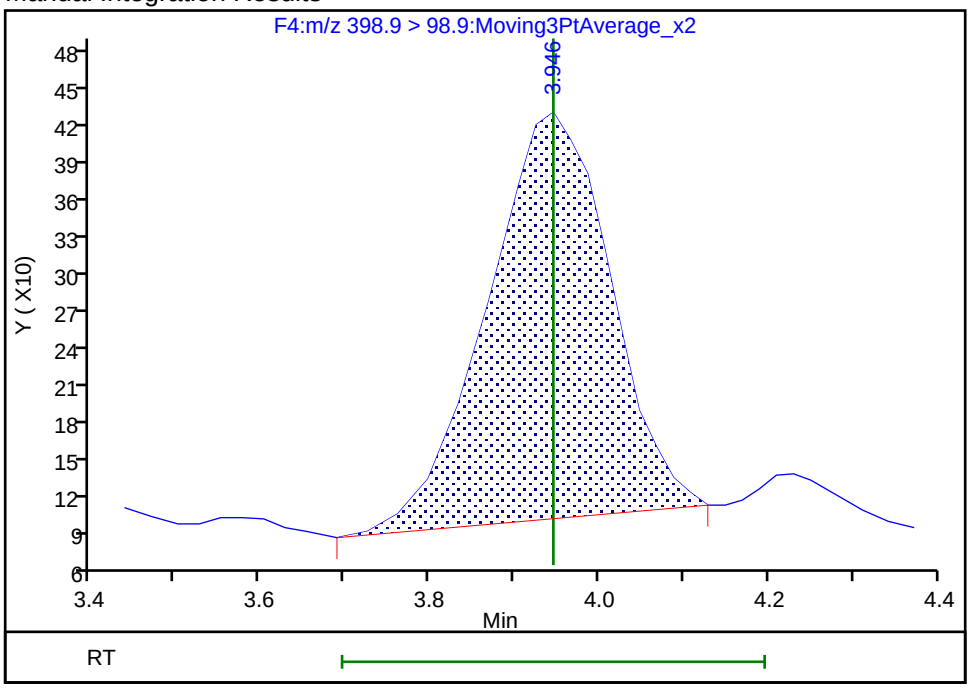
Processing Integration Results

RT: 3.95
Area: 2976
Amount: 1.688409
Amount Units: ng/ml



Manual Integration Results

RT: 3.95
Area: 3296
Amount: 1.526755
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:53:20

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

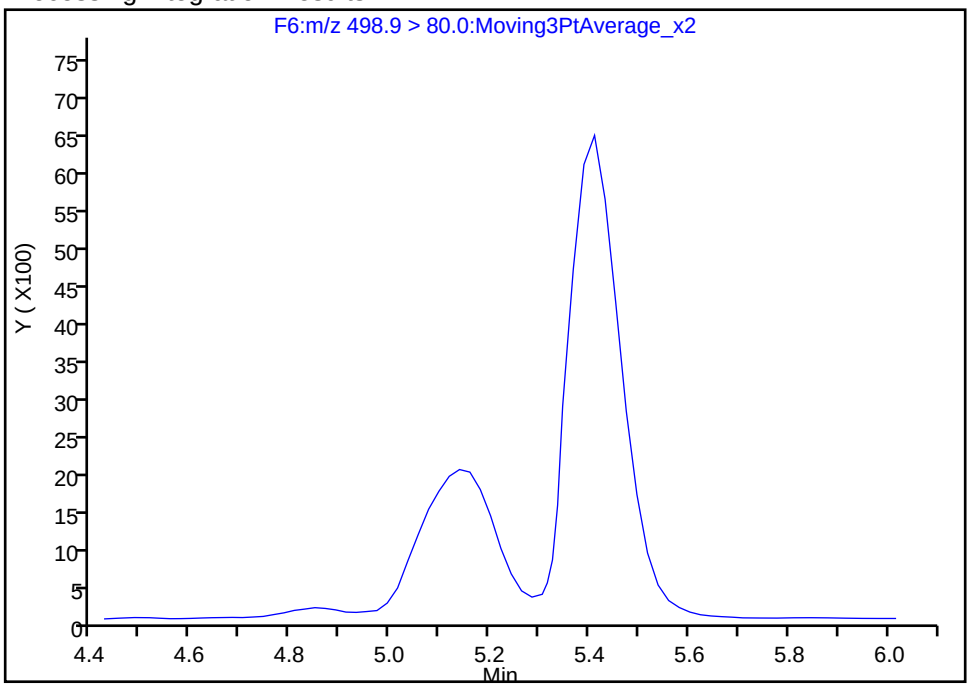
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

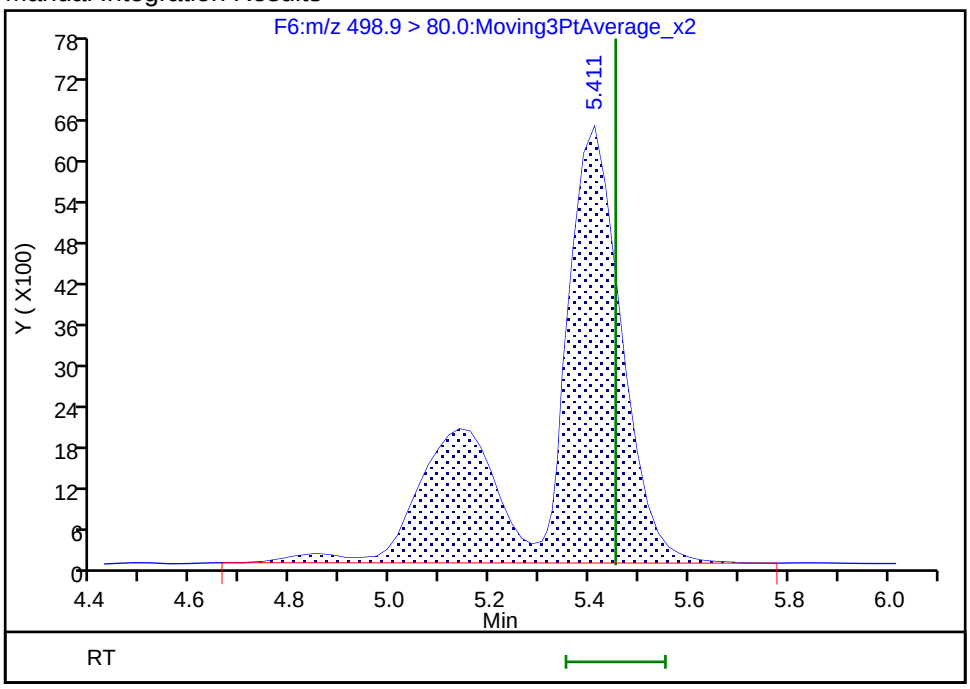
Processing Integration Results

Not Detected
Expected RT: 5.45



Manual Integration Results

RT: 5.41
Area: 68156
Amount: 39.371127
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:53:54
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

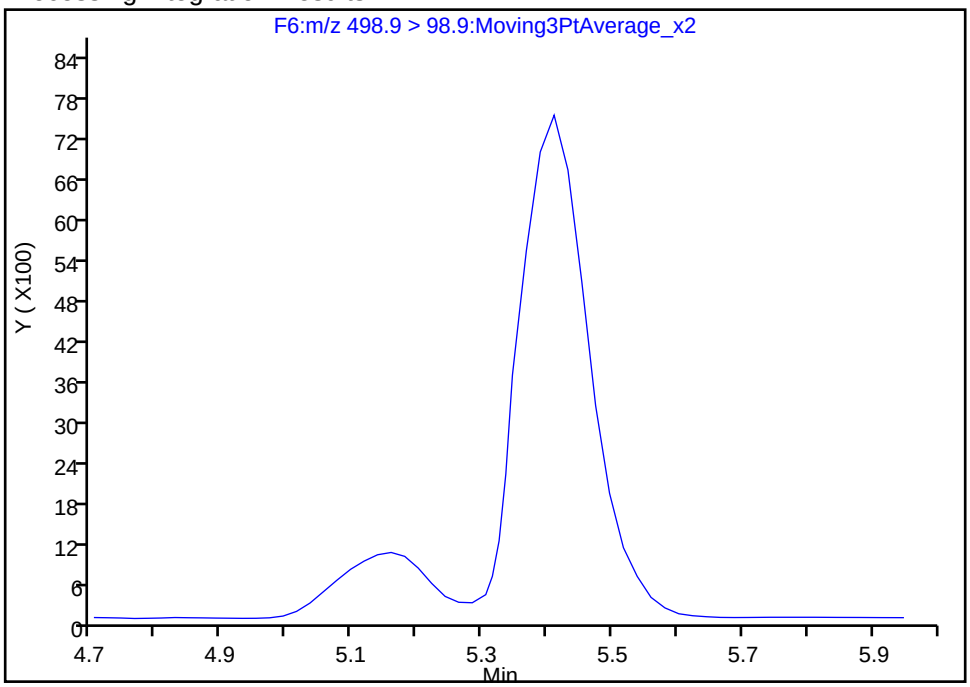
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

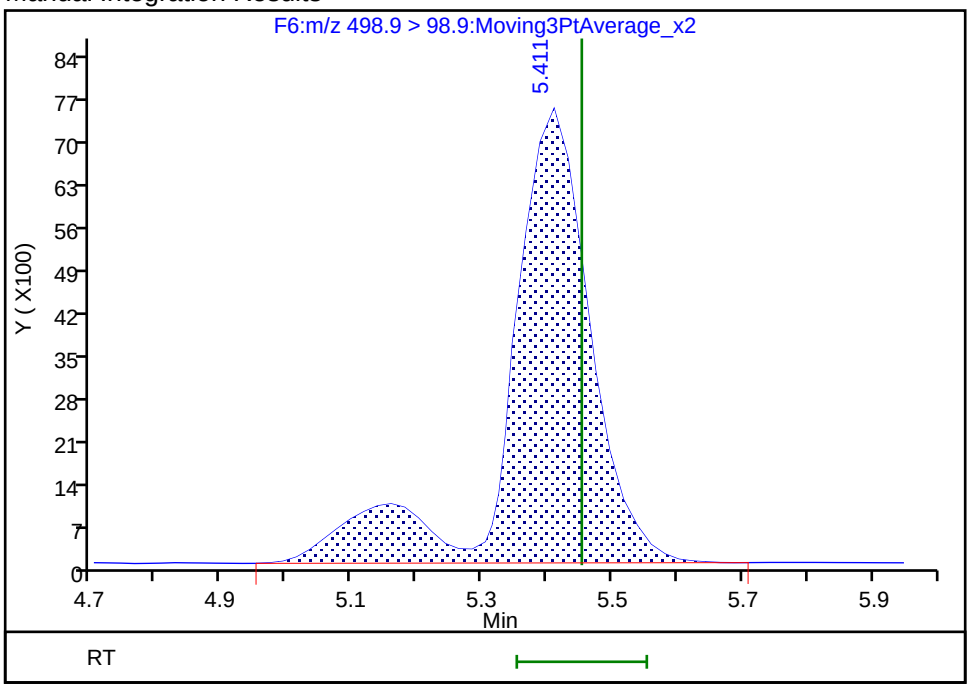
Processing Integration Results

Not Detected
Expected RT: 5.45



Manual Integration Results

RT: 5.41
Area: 65134
Amount: 39.371127
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:53:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

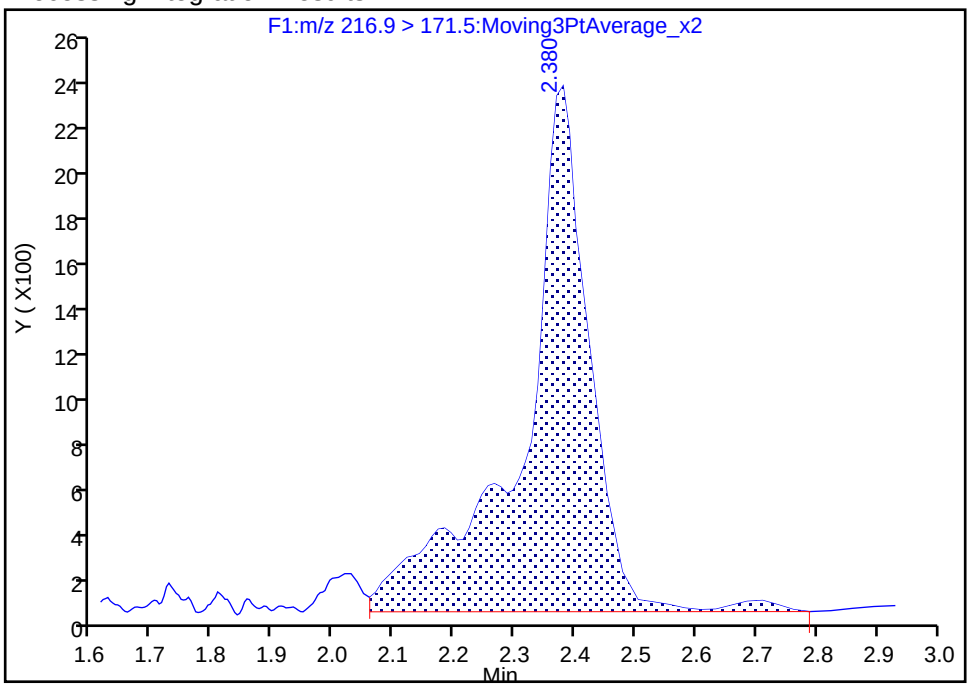
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

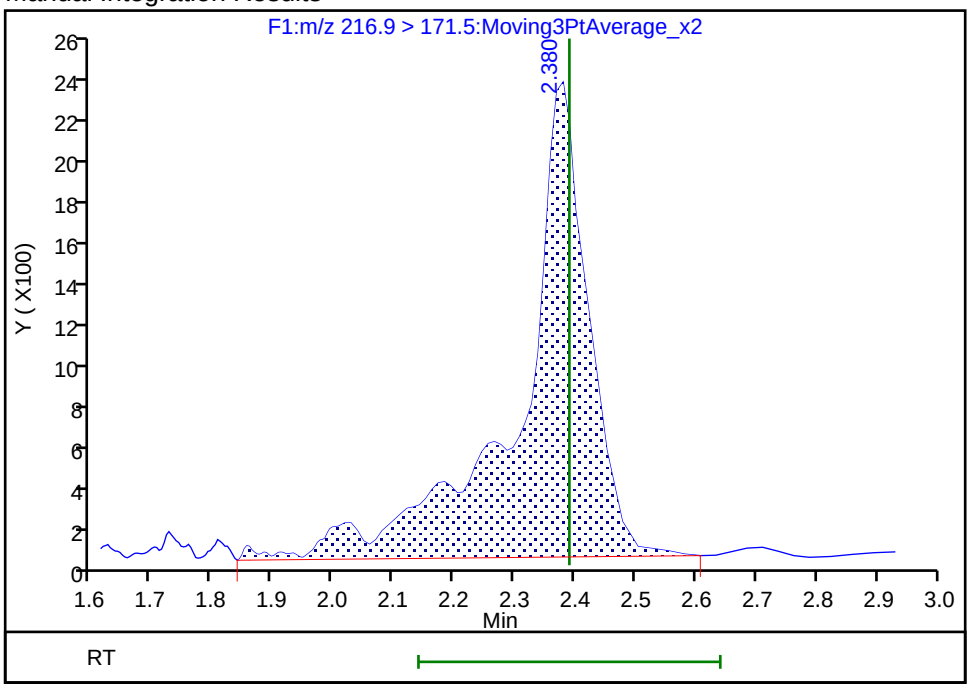
Processing Integration Results

RT: 2.38
Area: 17845
Amount: 3.804623
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 18496
Amount: 3.943419
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:36:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

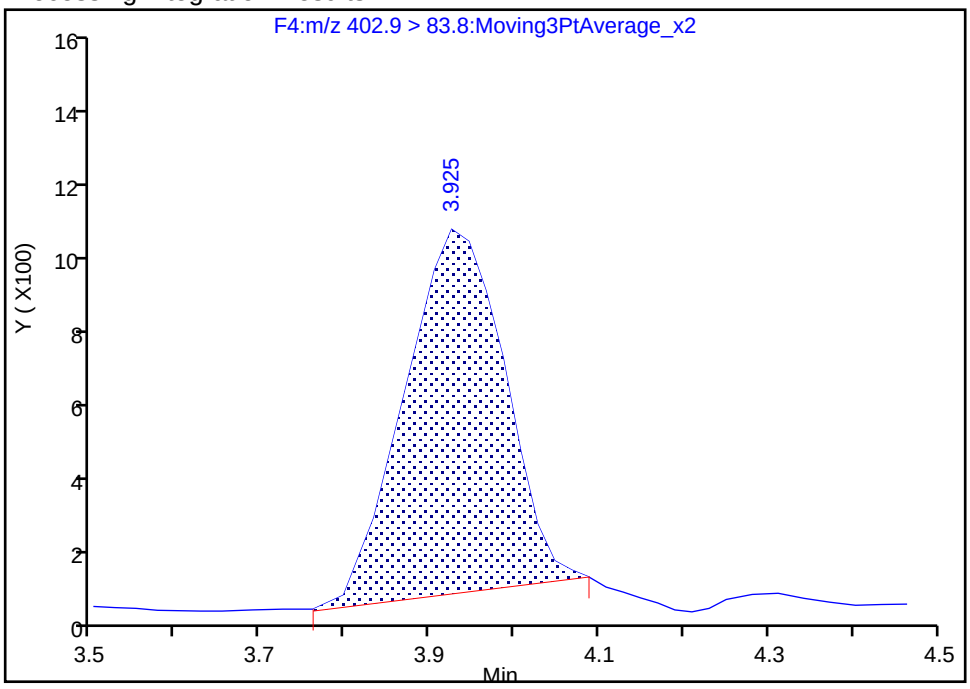
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

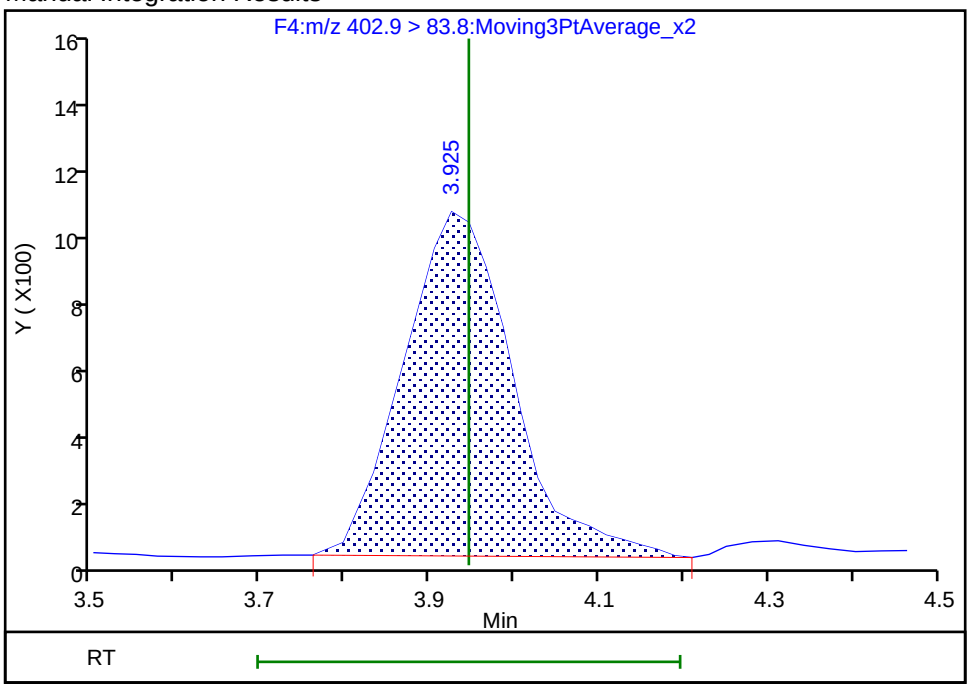
Processing Integration Results

RT: 3.93
Area: 7739
Amount: 3.911560
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 8819
Amount: 4.457430
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:53:25

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

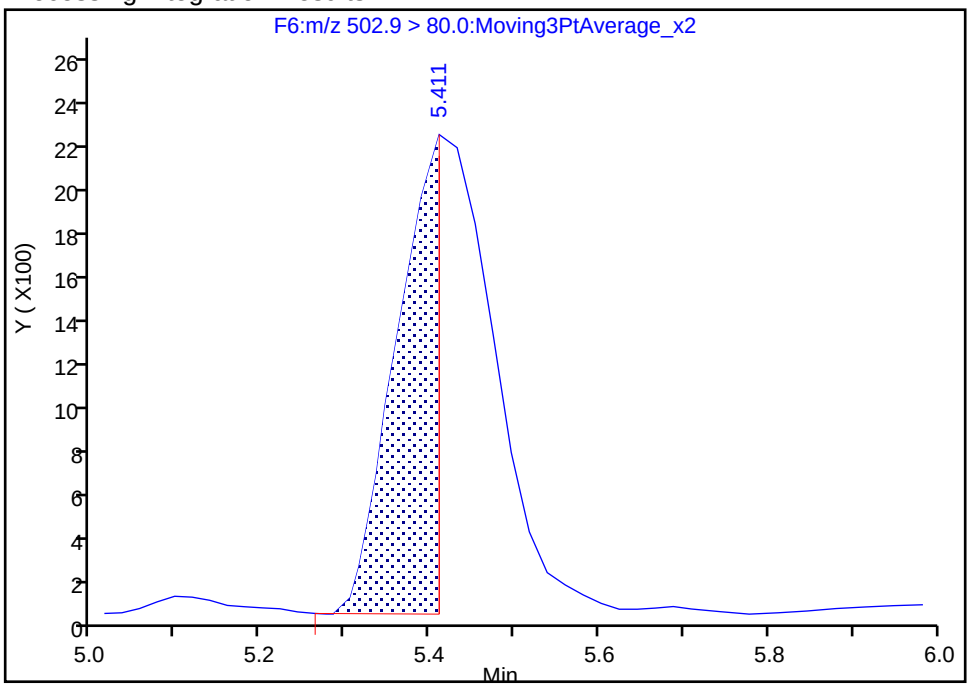
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B54.d				
Injection Date:	31-May-2019 02:49:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-1-A	Lab Sample ID:	200-48826-1		
Client ID:	K-3 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	54
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

D 22 13C4 PFOS, CAS: STL00991

Signal: 1

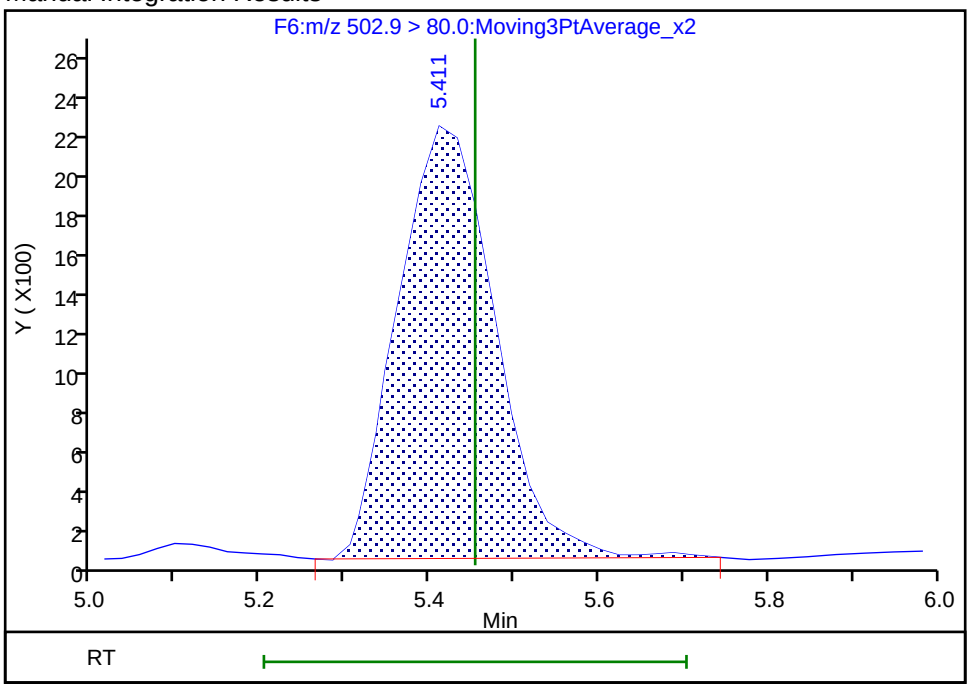
Processing Integration Results

RT: 5.41
Area: 7285
Amount: 1.632905
Amount Units: ng/ml



Manual Integration Results

RT: 5.41
Area: 17137
Amount: 3.841193
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:53:49

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-18 051319 Lab Sample ID: 200-48826-2

Matrix: Water Lab File ID: PF053019B55.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 13:02

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 296.9(mL) Date Analyzed: 05/31/2019 03:04

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND	* CI	8.4	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	13		8.4	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	13		8.4	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	13	*	8.4	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	49		8.4	2.7
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.4	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.4	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.4	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.4	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.4	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.4	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.7	J B *	8.4	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	15		8.4	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	11		8.4	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.4	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	81		8.4	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.4	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		84	7.2
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	*	84	6.3
27619-97-2	6:2 FTS	ND		84	19
39108-34-4	8:2 FTS	ND		84	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-18 051319 Lab Sample ID: 200-48826-2

Matrix: Water Lab File ID: PF053019B55.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 13:02

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 296.9(mL) Date Analyzed: 05/31/2019 03:04

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	59		25-150
STL00992	13C4 PFBA	44		25-150
STL01893	13C5 PFPeA	57		25-150
STL00993	13C2 PFHxA	81		50-150
STL01892	13C4 PFHpA	98		50-150
STL00990	13C4 PFOA	85		50-150
STL00995	13C5 PFNA	71		50-150
STL00996	13C2 PFDA	72		50-150
STL00997	13C2 PFUnA	71		50-150
STL00998	13C2 PFDoA	65		50-150
STL02116	13C2 PFTeDA	60		50-150
STL02337	13C3 PFBS	78		50-150
STL00994	18O2 PFHxS	53		50-150
STL00991	13C4 PFOS	63		50-150
STL02118	d3-NMeFOSAA	59		50-150
STL02117	d5-NEtFOSAA	69		50-150
STL02279	M2-6:2 FTS	66		25-150
STL02280	M2-8:2 FTS	73		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d
Lims ID: 200-48826-A-2-A
Client ID: MW-18 051319
Sample Type: Client
Inject. Date: 31-May-2019 03:04:52 ALS Bottle#: 0 Worklist Smp#: 55
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036138-055 2
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:25:52 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: murrayjw Date: 05-Jun-2019 10:37:45
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.391	-0.011	1.000	23359	4.42		44.2	34.5	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	22961	5.73		57.3	44.6	
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.830	2.866	-0.036	1.000	10397	1.51			5.4	M
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	12606	7.24		77.8	29.5	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.866	2.937	-0.071	0.988	1075	0.3155	Target=1.67		0.3	M
298.9 > 98.9	2.901	2.901	0.0	1.000	1156		0.93(0.83-2.51)		5.6	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	97402	8.11		81.1	447	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.334	-0.032	0.990	20457	1.50	Target=14.34		9.6	
312.9 > 118.9	3.334	3.334	0.0	1.000	1903		10.75(7.17-21.51)		14.0	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.905	3.925	-0.020	1.000	30368	1.56	Target=2.84		25.0	
362.9 > 168.9	3.925	3.925	0.0	1.005	7640		3.97(1.42-4.26)		43.2	
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.925	-0.020	1.000	165772	9.79		97.9	710	
D 12 18O2 PFHxS										
402.9 > 83.8	3.946	3.946	0.0	1.000	11093	4.98		52.7	51.0	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.925	3.946	-0.021	0.995	4274	1.72	Target=1.34		22.9	M
398.9 > 98.9	3.946	3.946	0.0	1.000	2543		1.68(0.67-2.01)		15.8	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.547	4.589	-0.042	1.000	7550	6.28		66.1	58.4	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	4.589	4.630	-0.041	1.000	177591	8.47		84.7	526	
* 16 13C2 PFOA										
414.9 > 369.8	4.609	4.630	-0.021		215909	10.0			836	
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.609	4.630	-0.021	1.005	104331	5.81	Target=2.43		332	M
412.9 > 168.9	4.609	4.630	-0.021	1.005	50518		2.07(1.22-3.64)		310	M
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.630	4.672	-0.042	0.856	3663	1.32	Target=1.30		28.0	
448.9 > 98.9	4.630	4.672	-0.042	1.000	3825		0.96(0.65-1.95)		21.9	
D 20 13C5 PFNA										
467.8 > 422.8	5.389	5.432	-0.043	1.000	198427	7.06		70.6	606	
D 22 13C4 PFOS										
502.9 > 80.0	5.411	5.453	-0.042	1.000	30392	6.05		63.3	127	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.139	5.453	-0.314	0.950	29418	9.58	Target=1.41		135	M
498.9 > 98.9	5.411	5.453	-0.042	1.000	20305		1.45(0.71-2.12)		54.2	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.165	6.234	-0.069	1.000	30787	7.04		73.5	133	
D 25 13C2 PFDA										
514.9 > 469.5	6.199	6.234	-0.035	1.000	172099	7.17		71.7	438	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.525	6.597	-0.072	1.000	45936	5.88		58.8	302	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.921	6.969	-0.048	1.000	44453	6.90		69.0	259	
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	7.013	-0.068	1.000	163845	7.07		70.7	892	
D 34 13C8 FOSA										
505.9 > 78.0	7.026	7.039	-0.013	1.000	50754	5.87		58.7	335	
D 37 13C2 PFDoA										
614.9 > 569.5	7.636	7.695	-0.059	1.000	193317	6.55		65.5	962	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.808	8.870	-0.062	1.000	157986	5.96		59.6	463	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 17:25:57 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d

Injection Date: 31-May-2019 03:04:52 Instrument ID: LC410

Lims ID: 200-48826-A-2-A Lab Sample ID: 200-48826-2

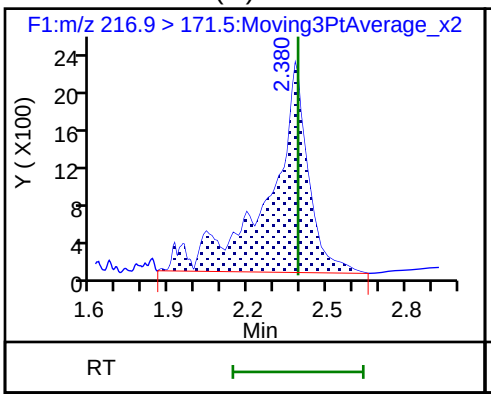
Client ID: MW-18 051319

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 55

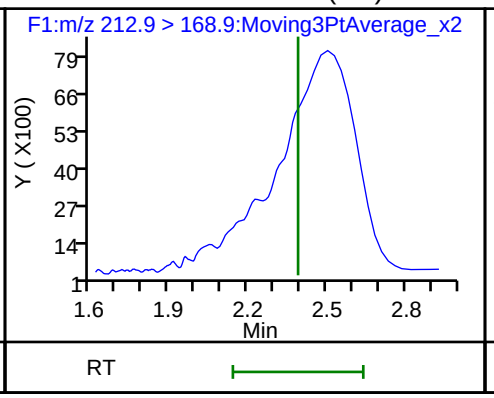
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

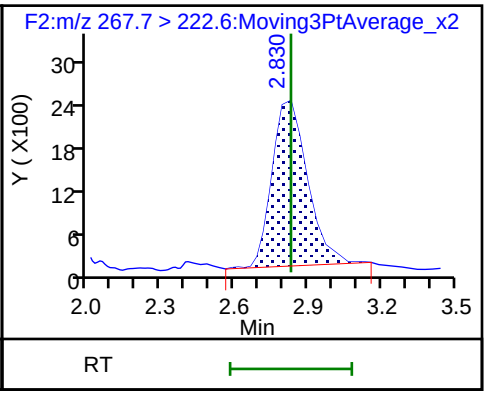
D 1 13C4 PFBA (M)



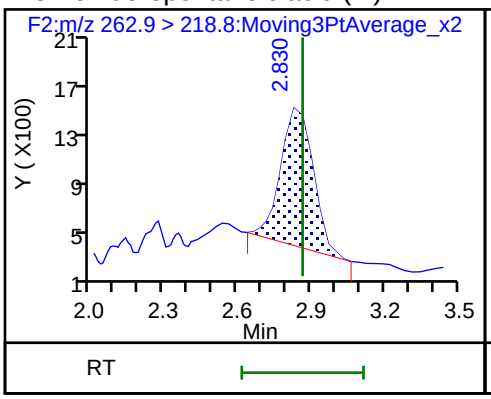
2 Perfluorobutanoic acid (ND)



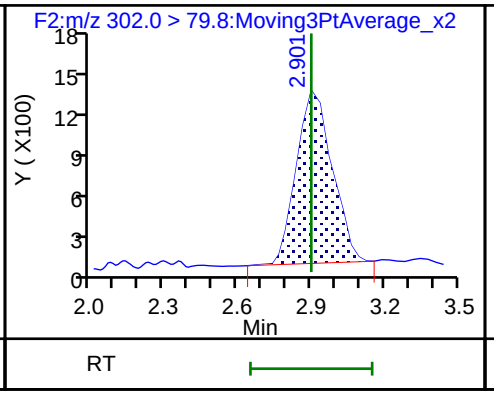
D 4 13C5 PFPeA



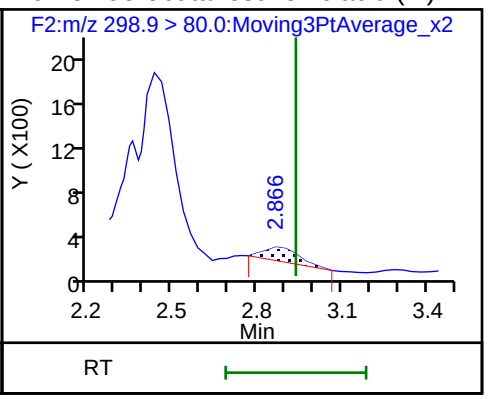
3 Perfluoropentanoic acid (M)



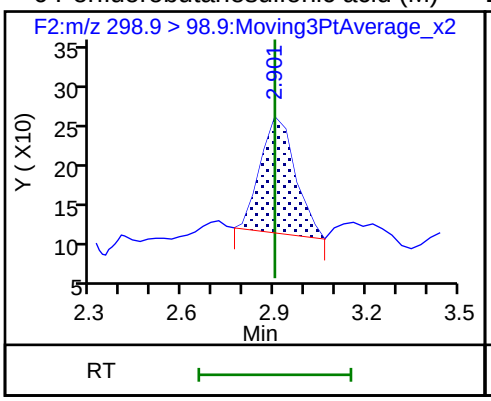
D 5 13C3 PFBS



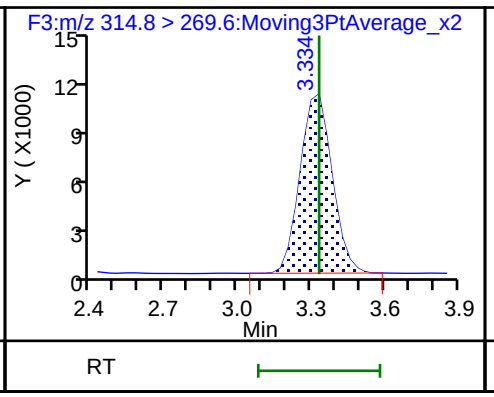
6 Perfluorobutanesulfonic acid (M)



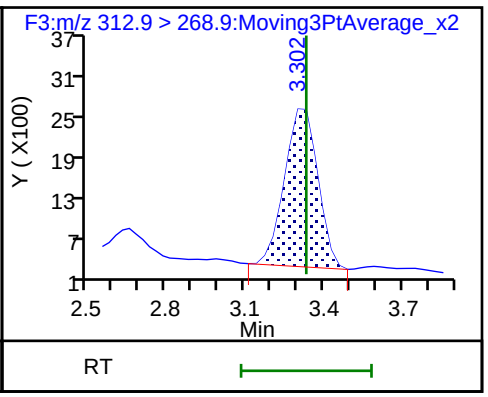
6 Perfluorobutanesulfonic acid (M)



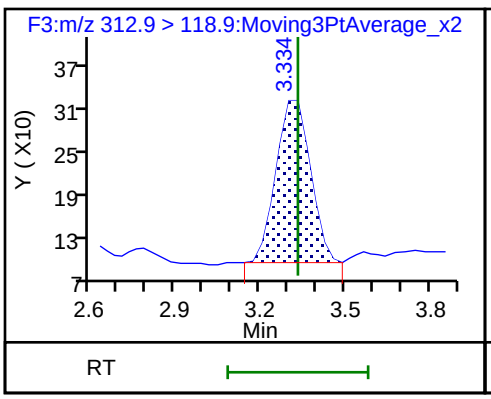
D 8 13C2 PFHxA



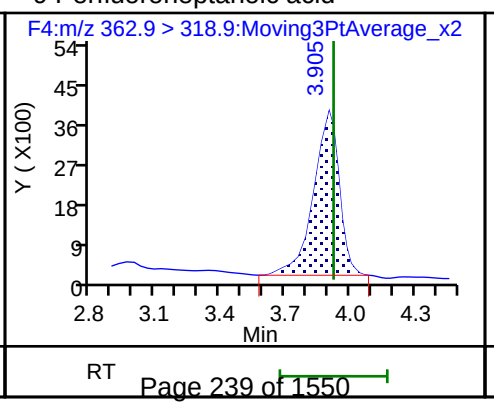
7 Perfluorohexanoic acid



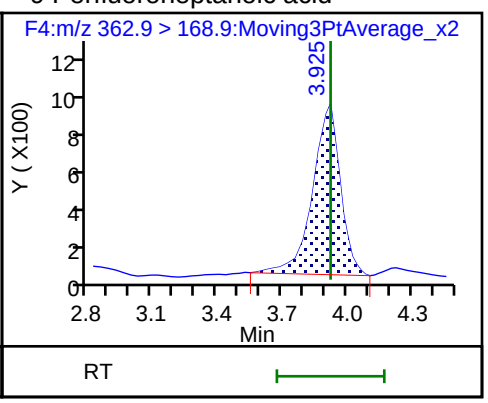
7 Perfluorohexanoic acid



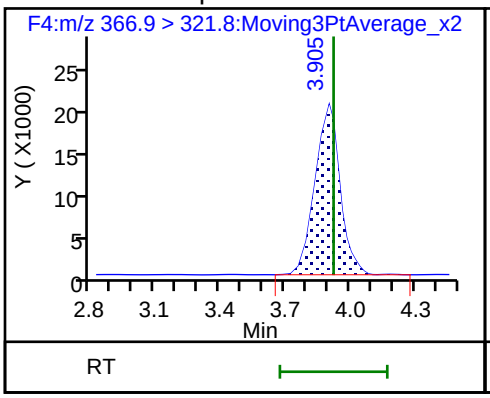
9 Perfluoroheptanoic acid



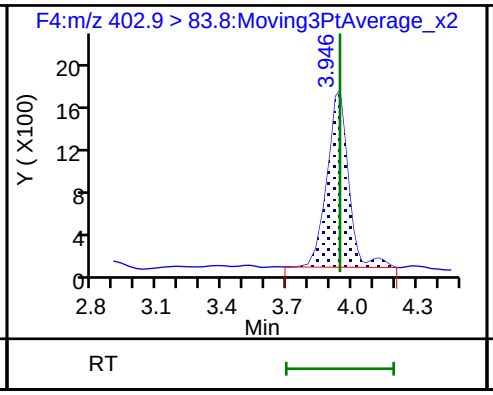
9 Perfluoroheptanoic acid



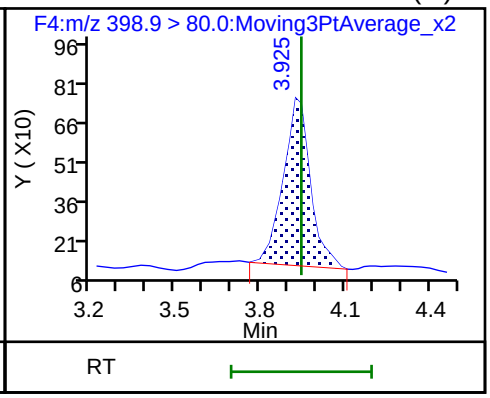
D 10 13C4 PFHpA



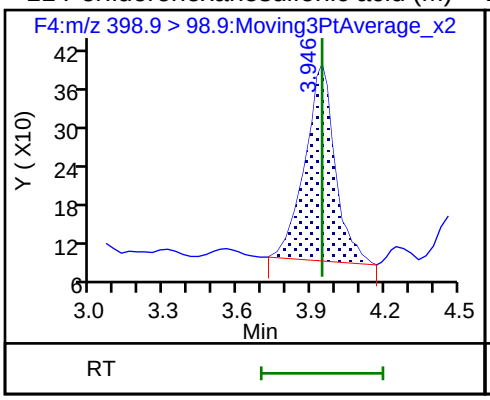
D 12 18O2 PFHxS



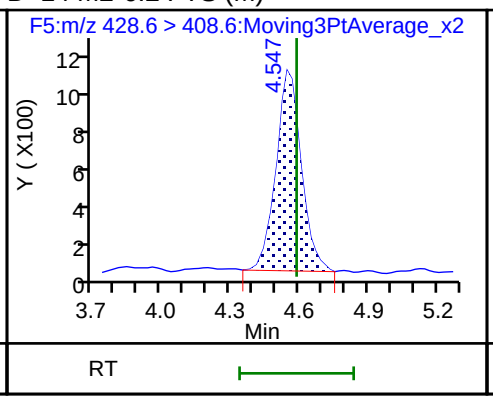
11 Perfluorohexanesulfonic acid (M)



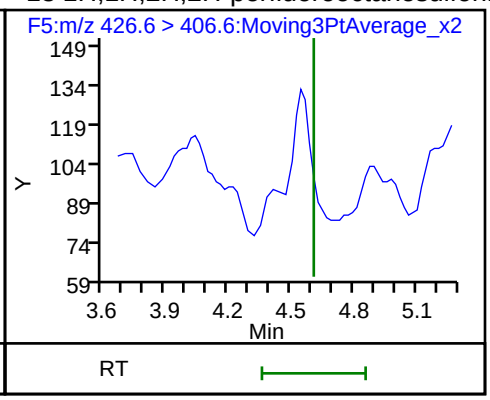
11 Perfluorohexanesulfonic acid (M)



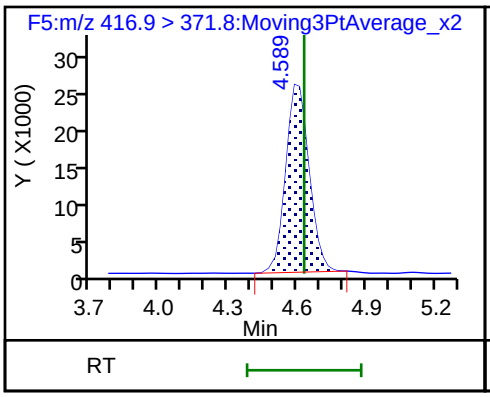
D 14 M2-6:2 FTS (M)



13 1H,1H,2H,2H-perfluorooctanesulfoni (ND)



D 17 13C4 PFOA



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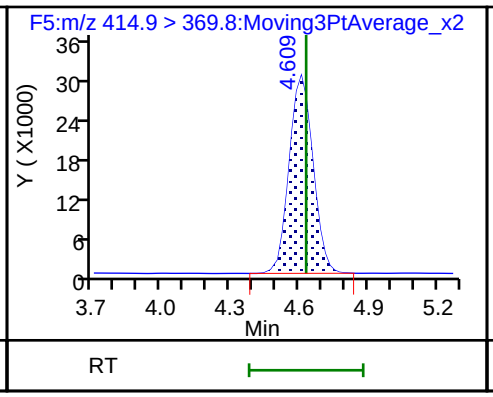
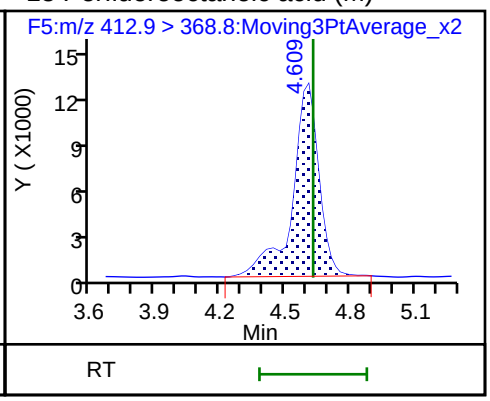


15 Perfluorooctanoic acid (M)



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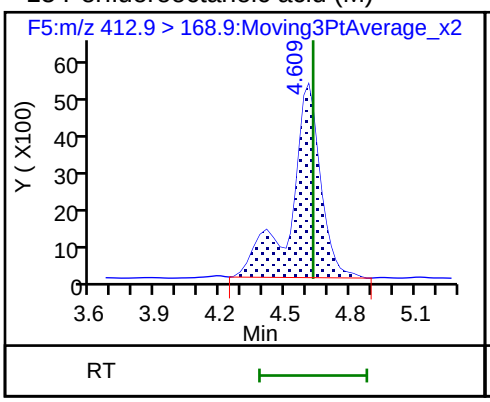
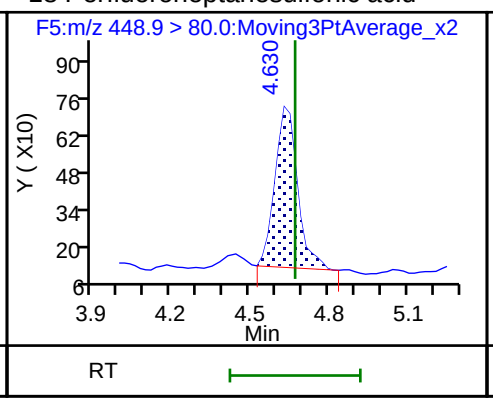
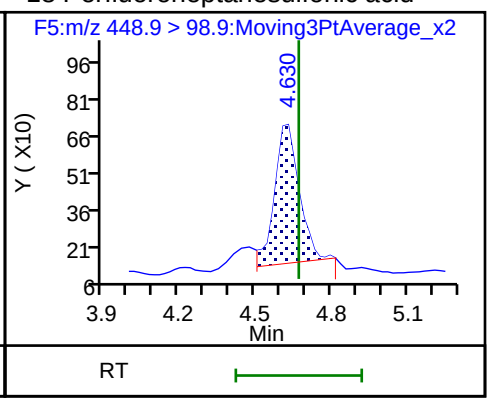


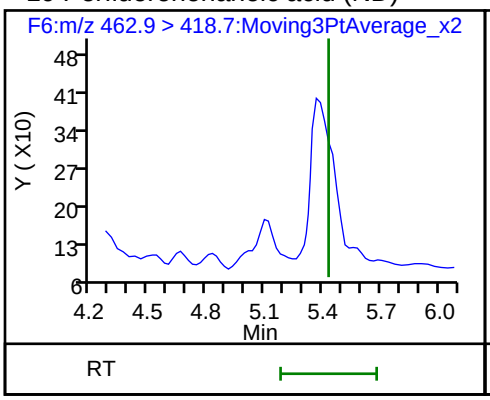
18 Perfluoroheptanesulfonic acid



18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid (ND)



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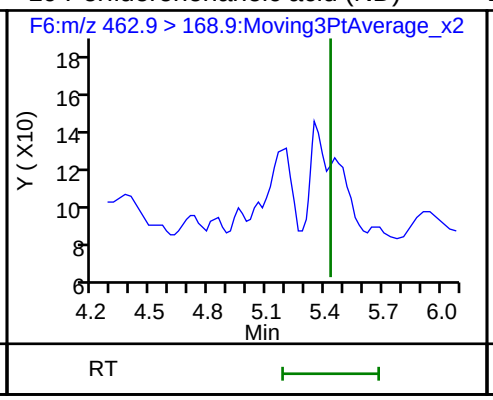
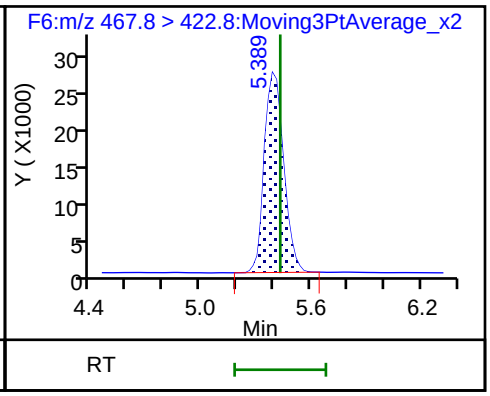
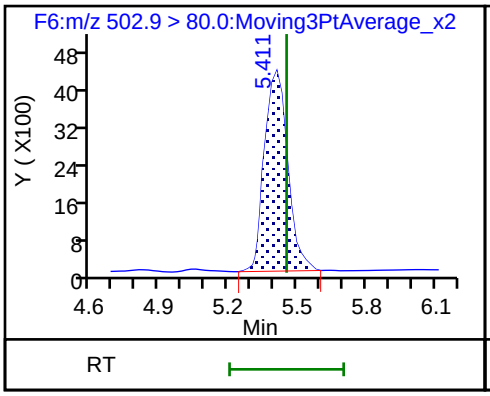


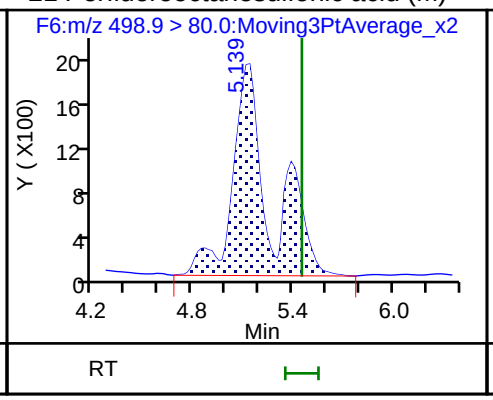
D 20 13C5 PFNA



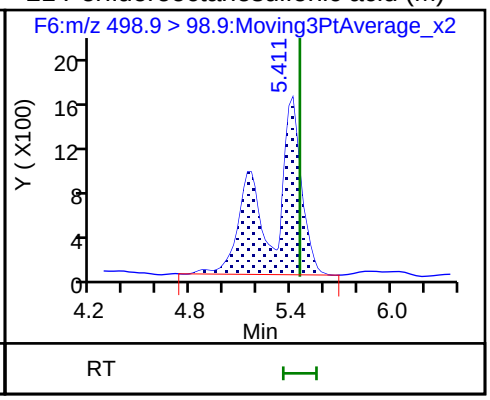
D 22 13C4 PFOS



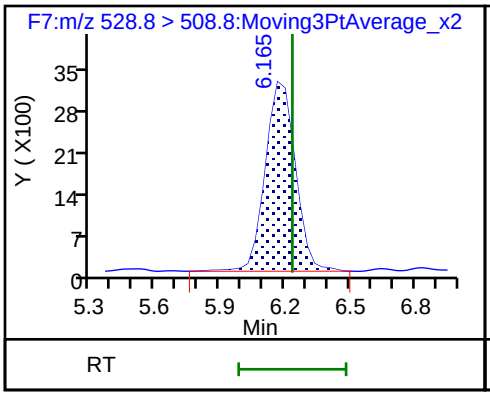
21 Perfluorooctanesulfonic acid (M)



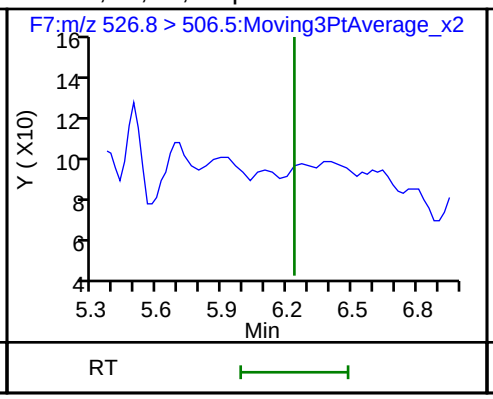
21 Perfluorooctanesulfonic acid (M)



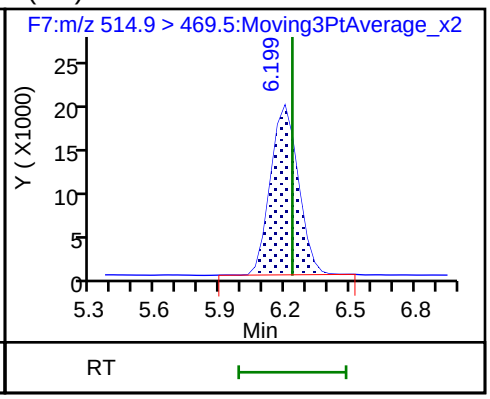
D 24 M2-8:2 FTS



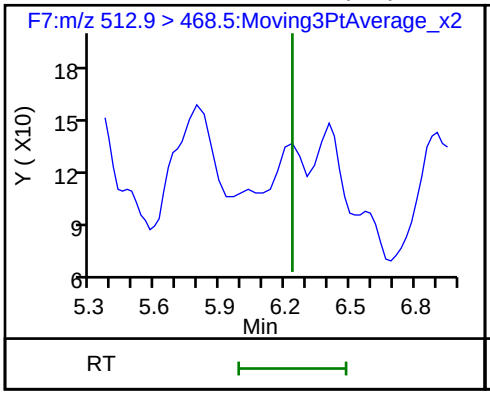
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



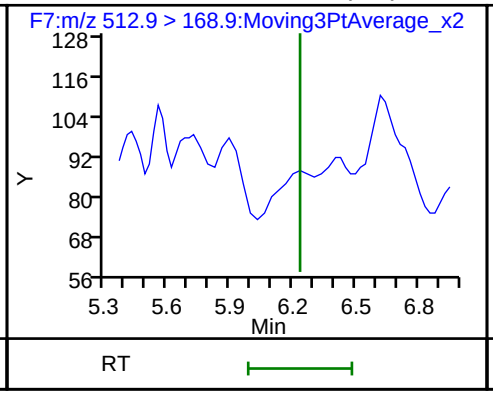
D 25 13C2 PFDA



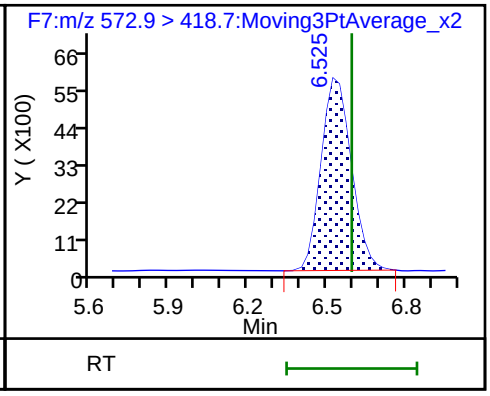
26 Perfluorodecanoic acid (ND)



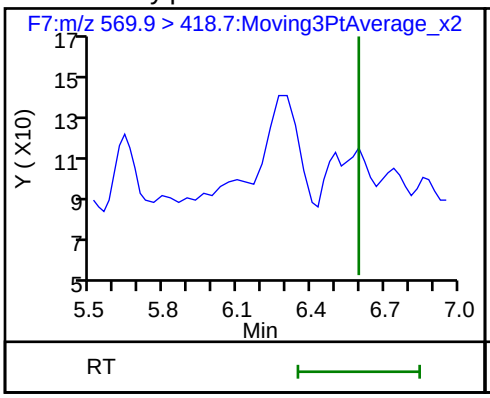
26 Perfluorodecanoic acid (ND)



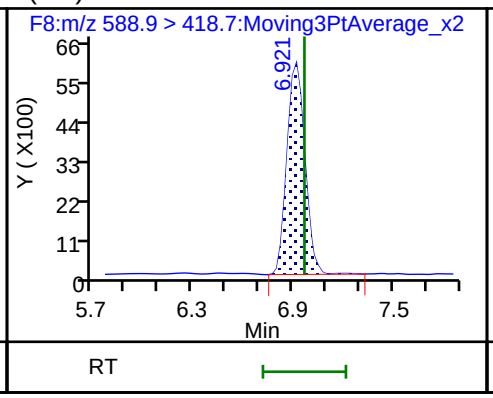
D 27 d3-NMeFOSAA



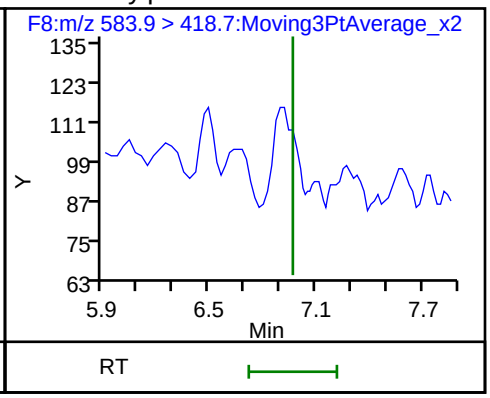
28 N-methylperfluorooctanesulfonamidoacetic acid (ND)



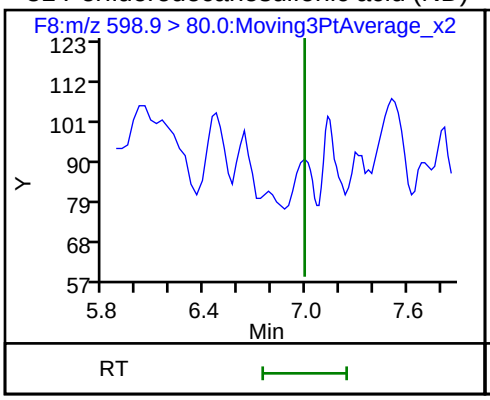
D 29 d5-NEtFOSAA



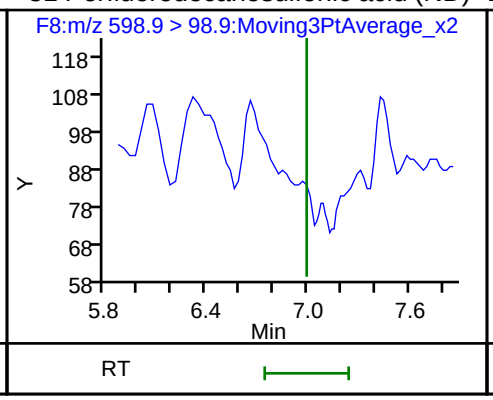
30 N-ethylperfluorooctanesulfonamidoa (ND)



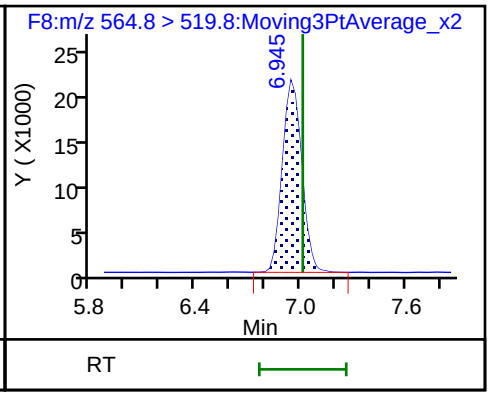
31 Perfluorodecanesulfonic acid (ND)



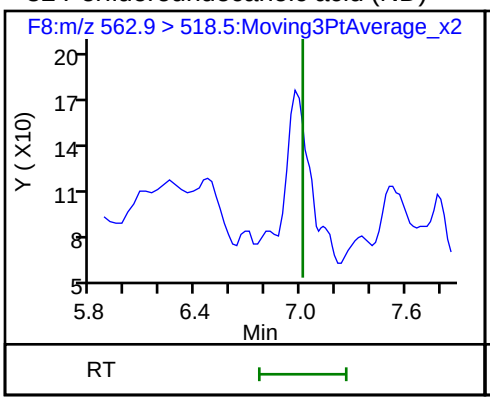
31 Perfluorodecanesulfonic acid (ND)



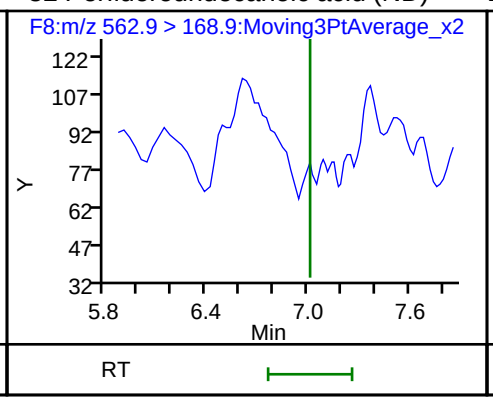
D 33 13C2 PFUnA



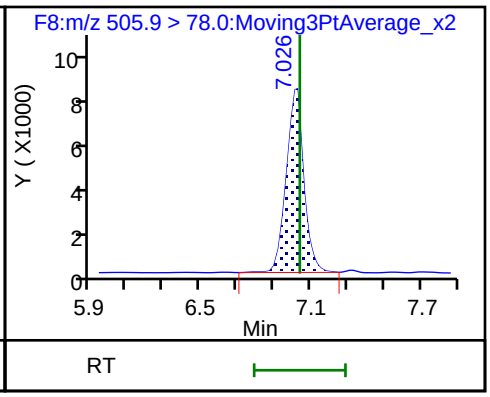
32 Perfluoroundecanoic acid (ND)



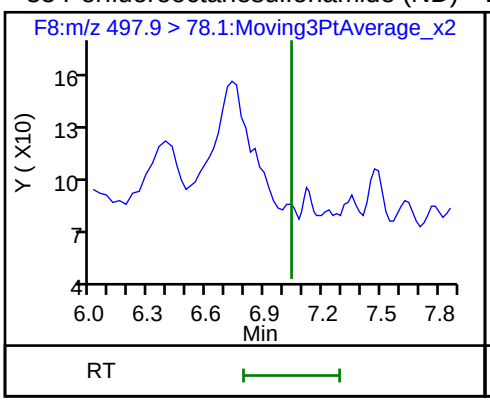
32 Perfluoroundecanoic acid (ND)



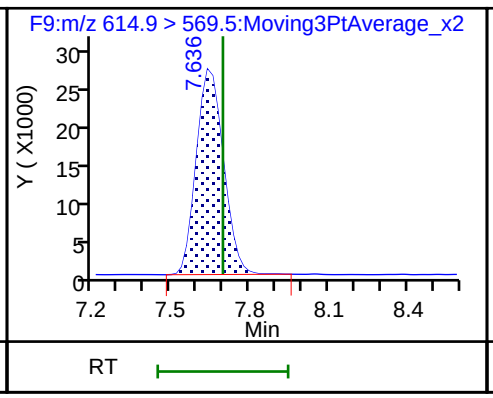
D 34 13C8 FOSA



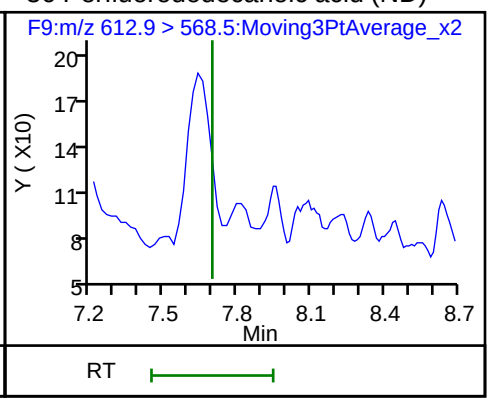
35 Perfluorooctanesulfonamide (ND)



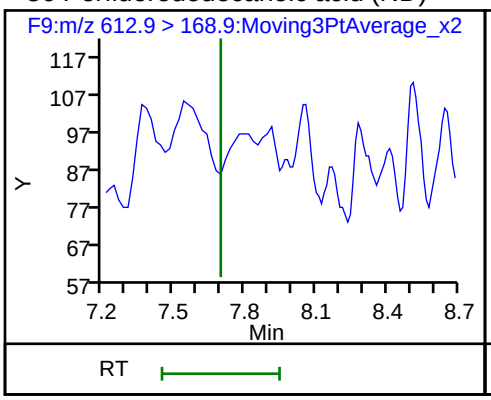
D 37 13C2 PFDoA



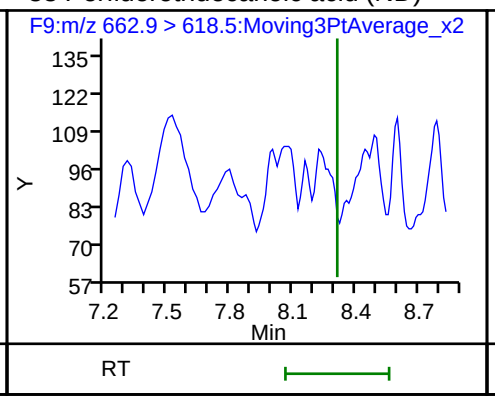
36 Perfluorododecanoic acid (ND)



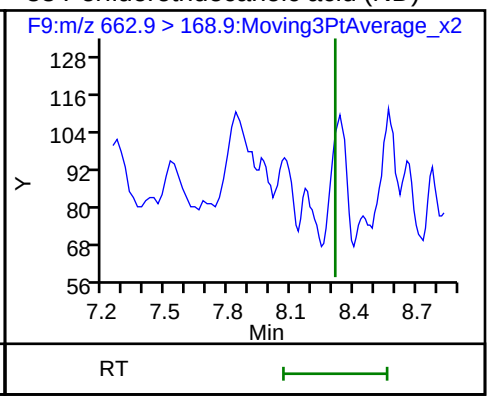
36 Perfluorododecanoic acid (ND)



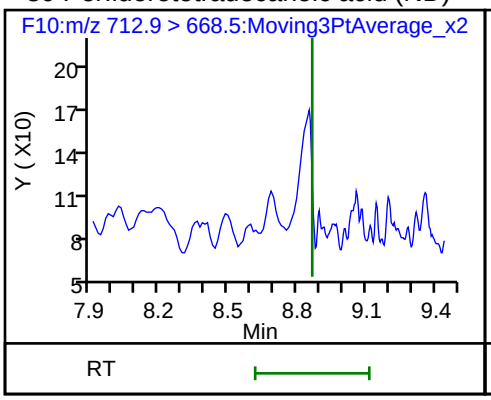
38 Perfluorotridecanoic acid (ND)



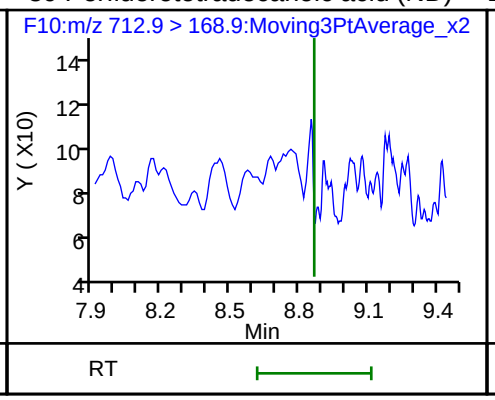
38 Perfluorotridecanoic acid (ND)



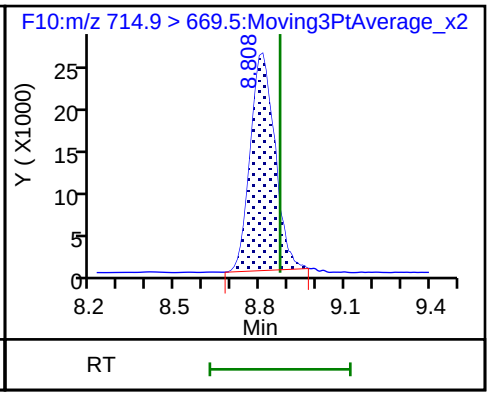
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



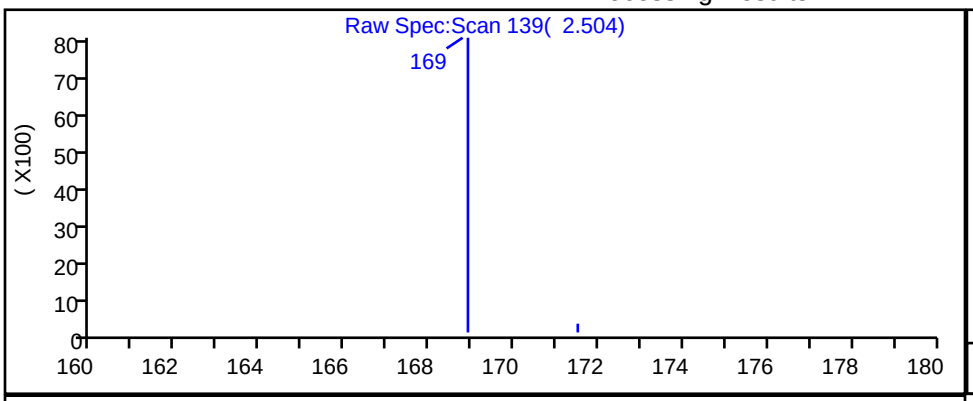
User Disabled Compound Report

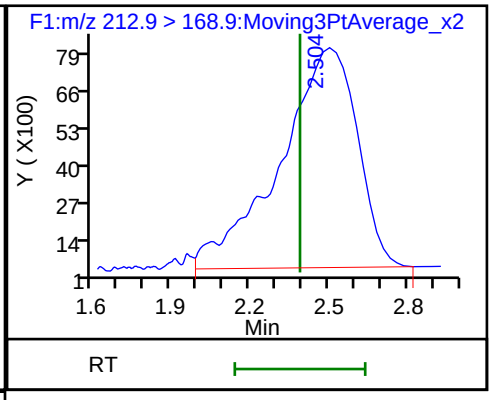
Eurofins TestAmerica, Burlington

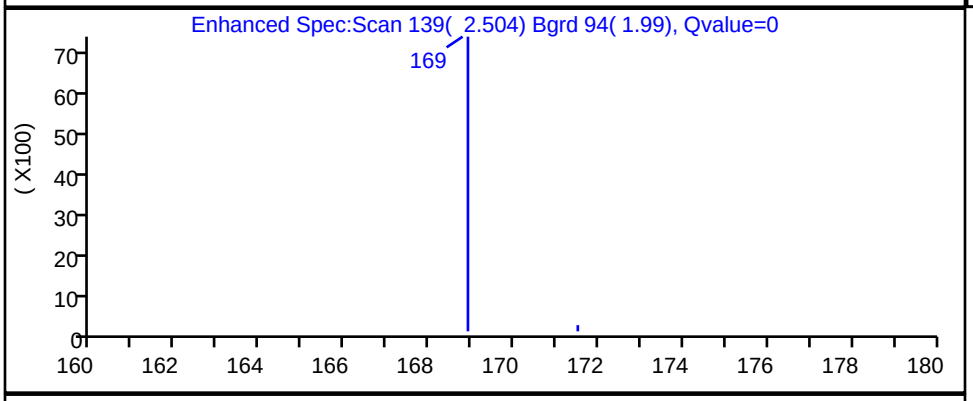
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

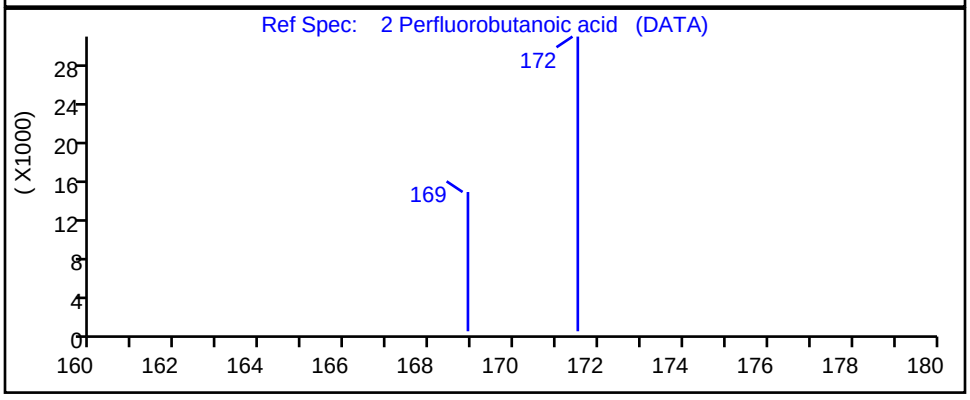
2 Perfluorobutanoic acid, CAS: 375-22-4

Processing Results









RT	Mass	Response	Amount
2.50	168.90	159399	49.606062

Reviewer: murrayjw, 05-Jun-2019 10:36:57

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

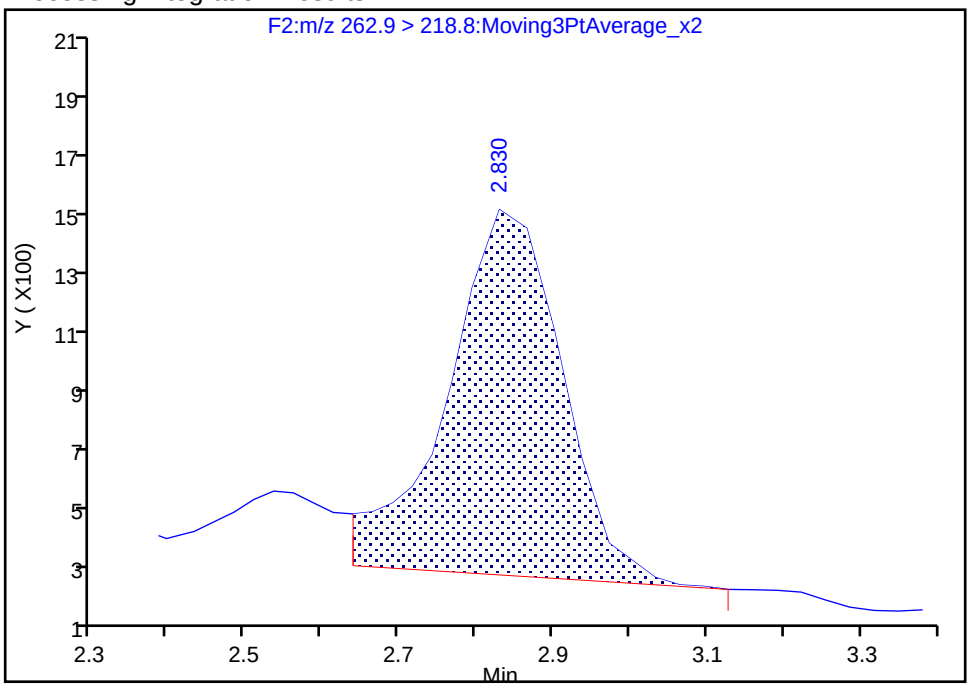
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

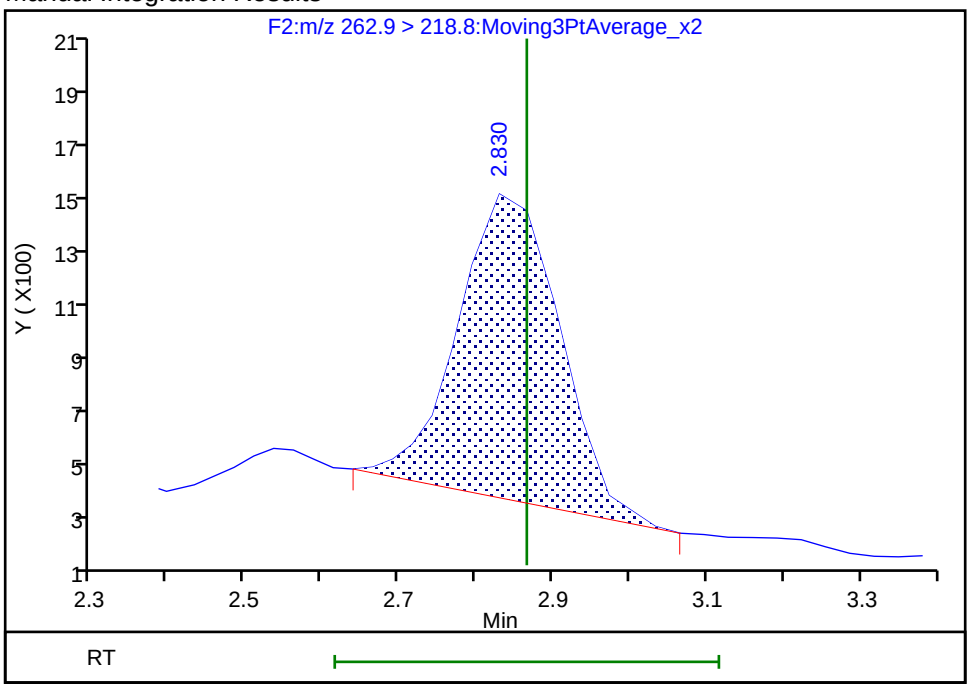
Processing Integration Results

RT: 2.83
Area: 12667
Amount: 1.842287
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 10397
Amount: 1.512138
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:54:29

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

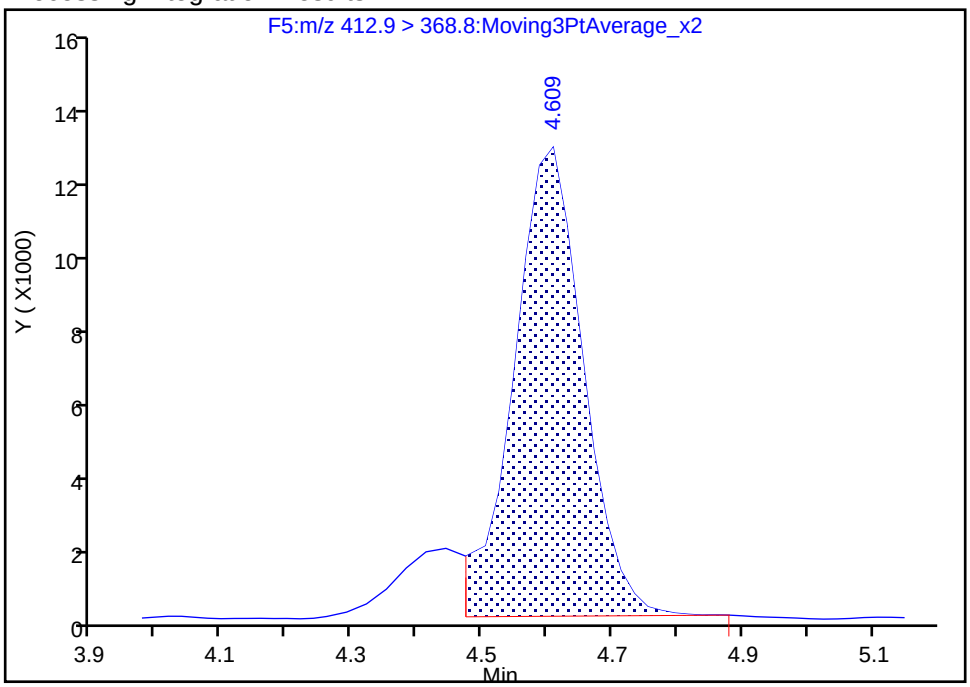
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

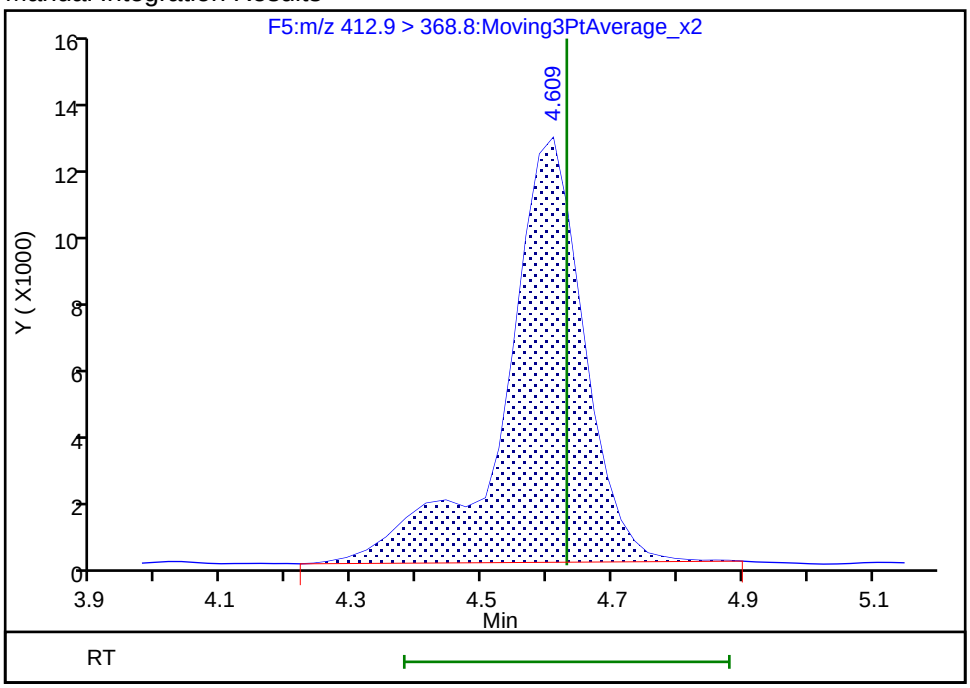
Processing Integration Results

RT: 4.61
Area: 90897
Amount: 5.058075
Amount Units: ng/ml



Manual Integration Results

RT: 4.61
Area: 104331
Amount: 5.805626
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:55:17
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

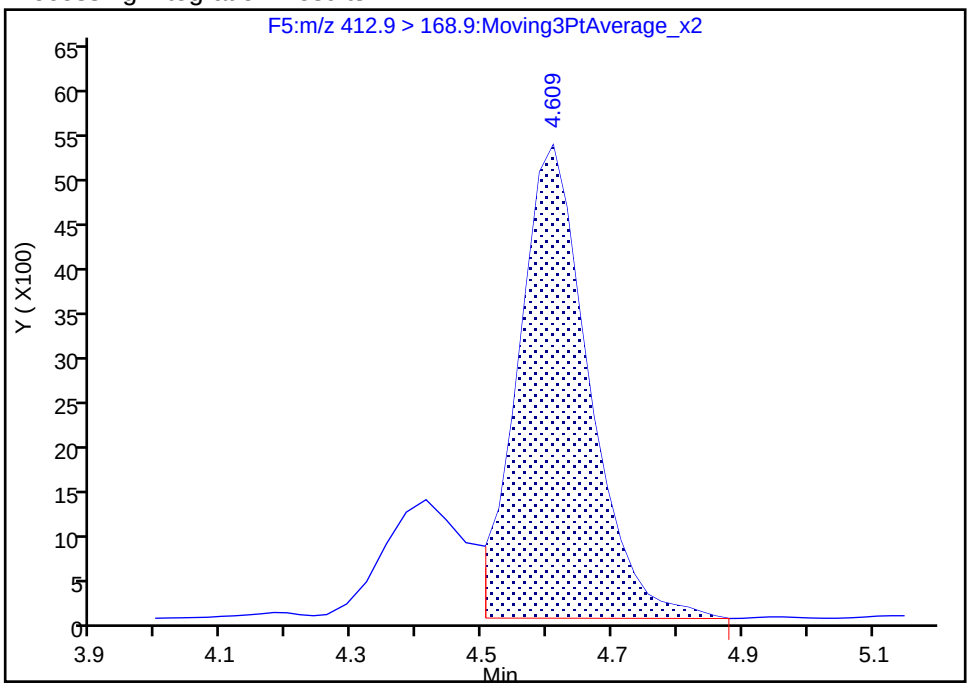
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

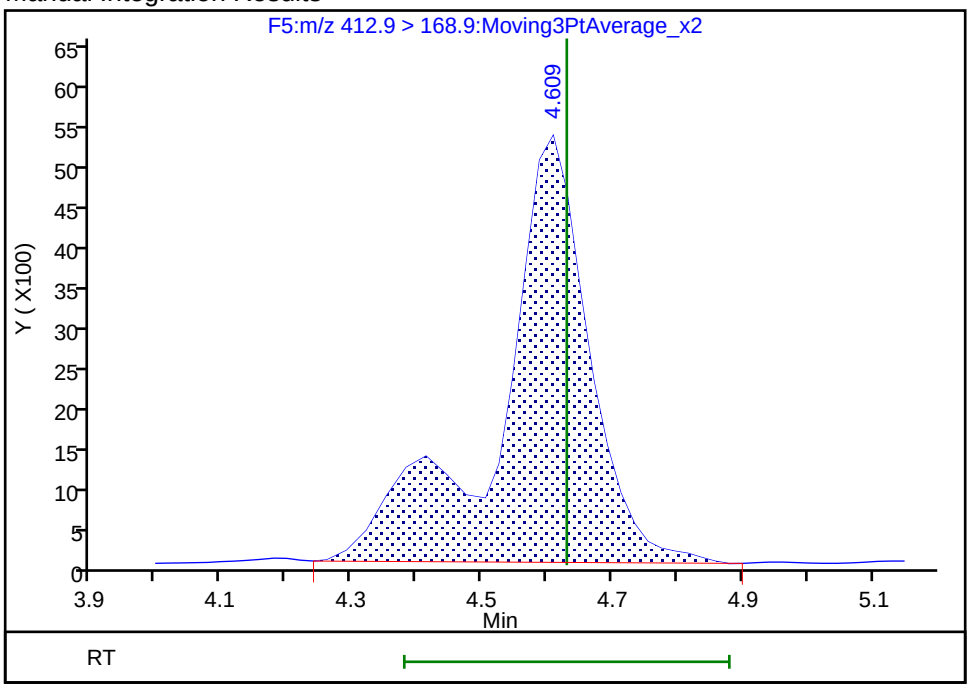
Processing Integration Results

RT: 4.61
Area: 39652
Amount: 5.058075
Amount Units: ng/ml



Manual Integration Results

RT: 4.61
Area: 50518
Amount: 5.805626
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:55:20

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

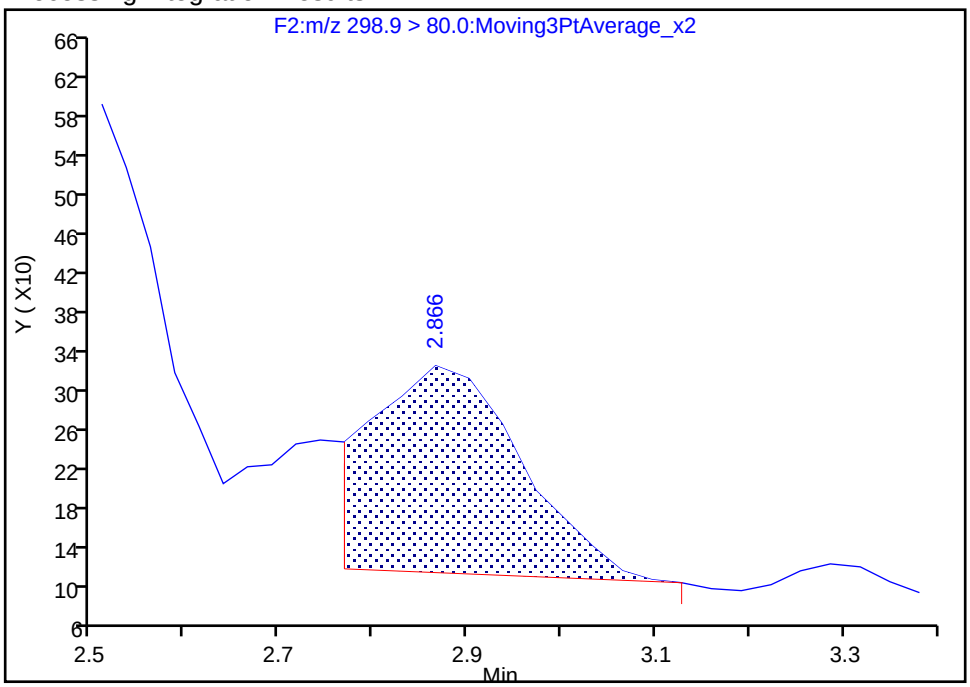
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

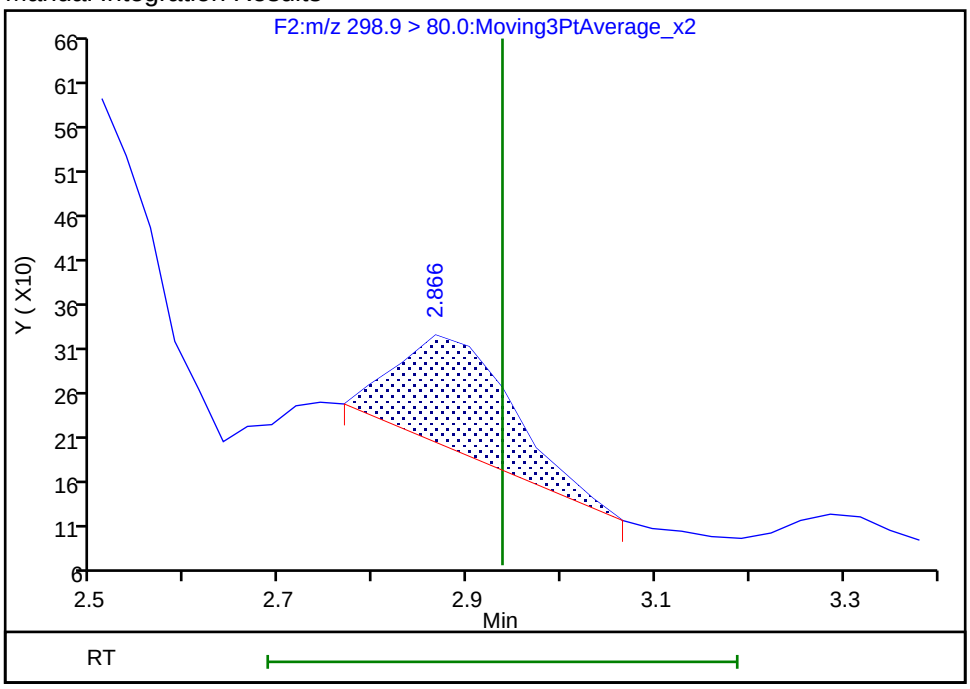
Processing Integration Results

RT: 2.87
Area: 2309
Amount: 0.677733
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 1075
Amount: 0.315532
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:54:45

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

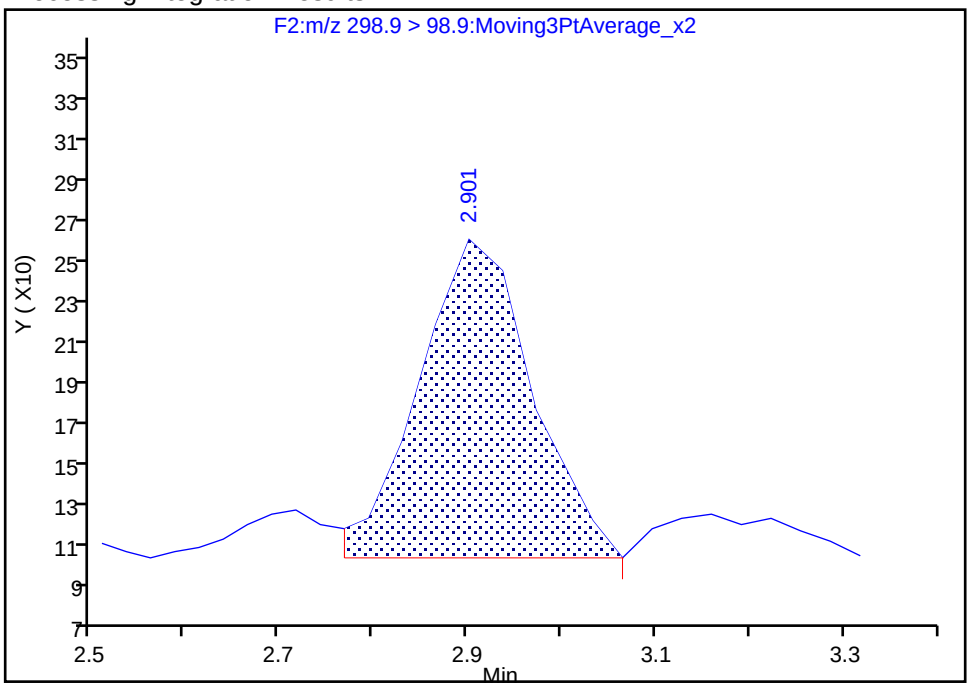
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

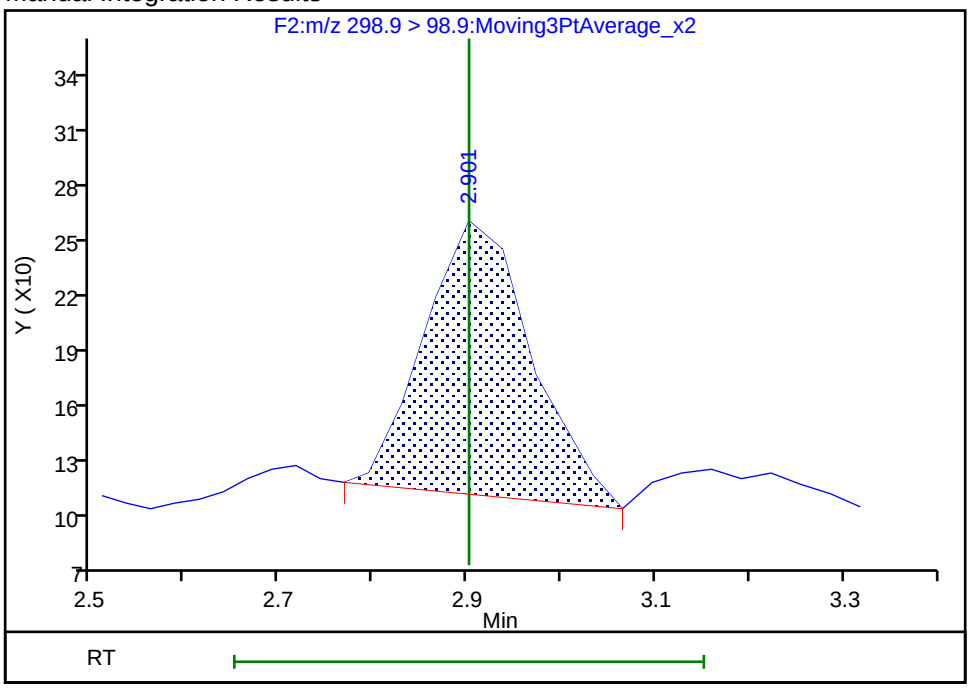
Processing Integration Results

RT: 2.90
Area: 1280
Amount: 0.677733
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 1156
Amount: 0.315532
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:54:49

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

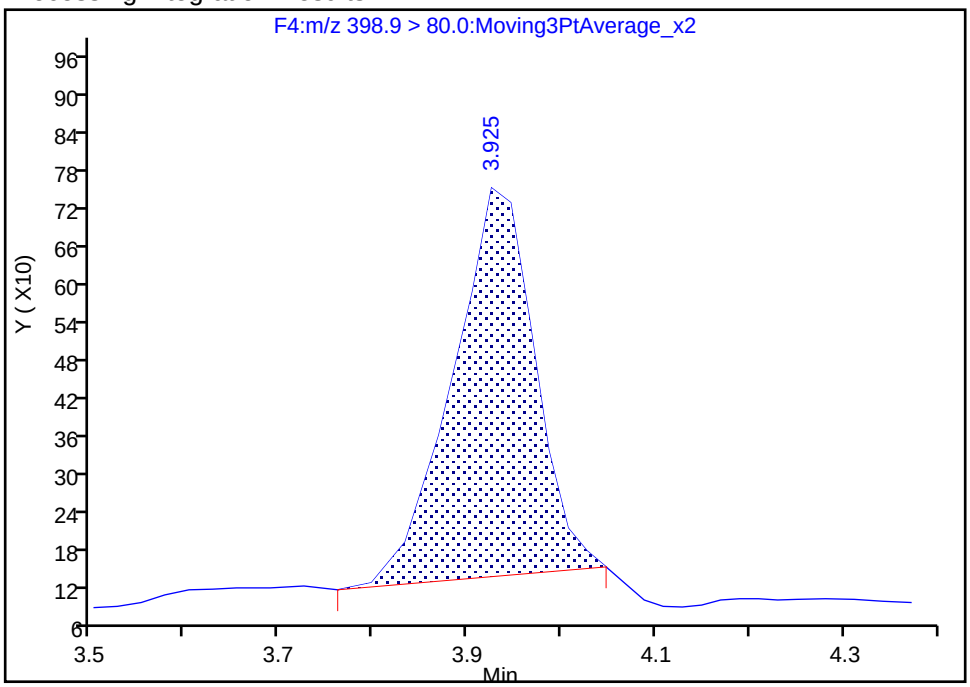
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

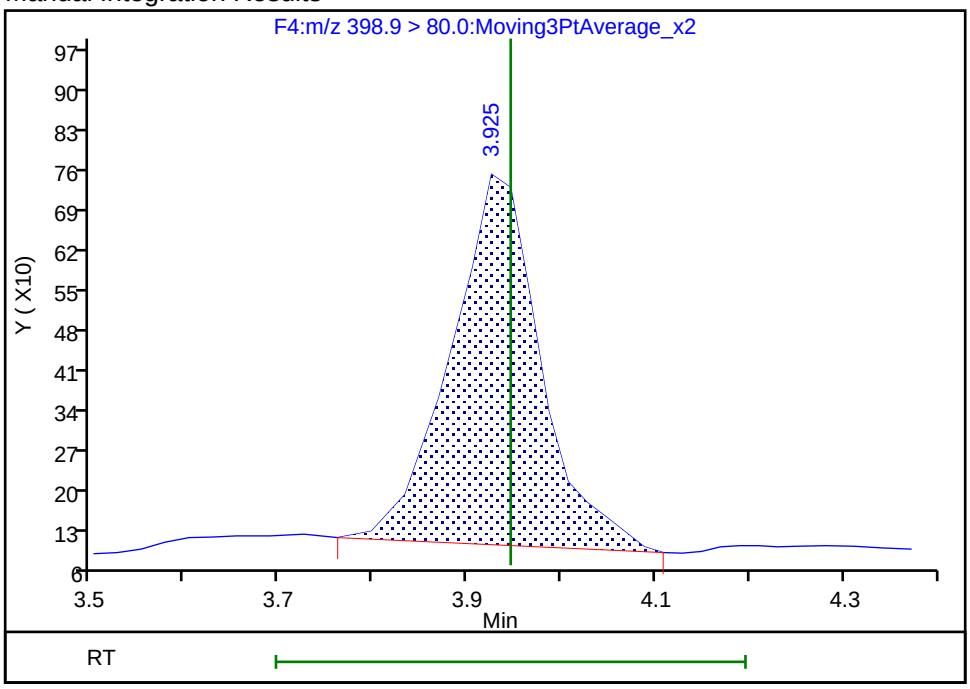
Processing Integration Results

RT: 3.93
Area: 3696
Amount: 1.489418
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 4274
Amount: 1.722341
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:55:02

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

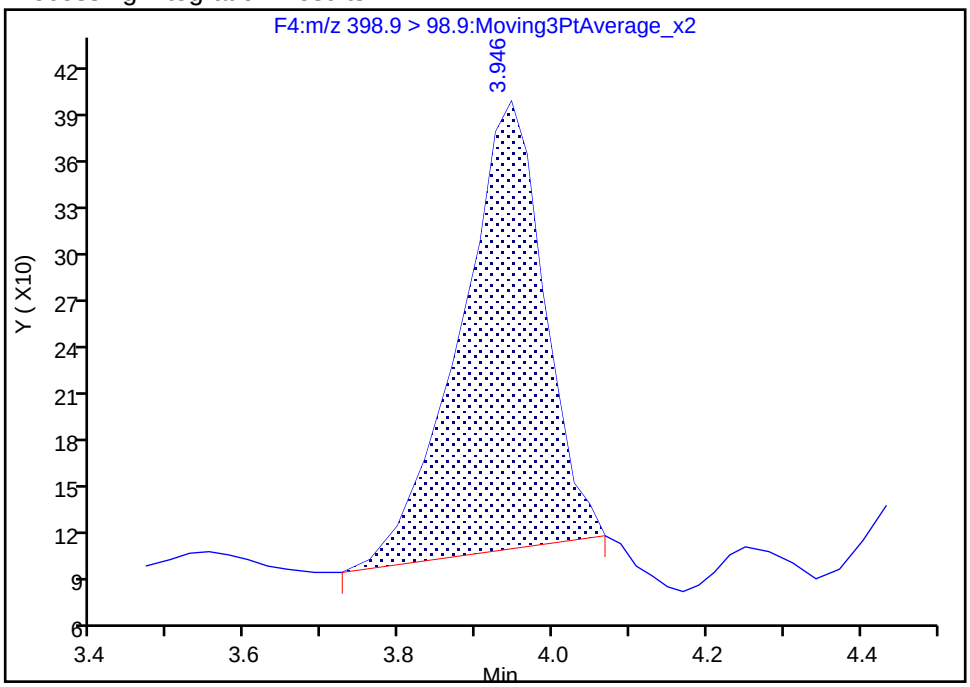
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

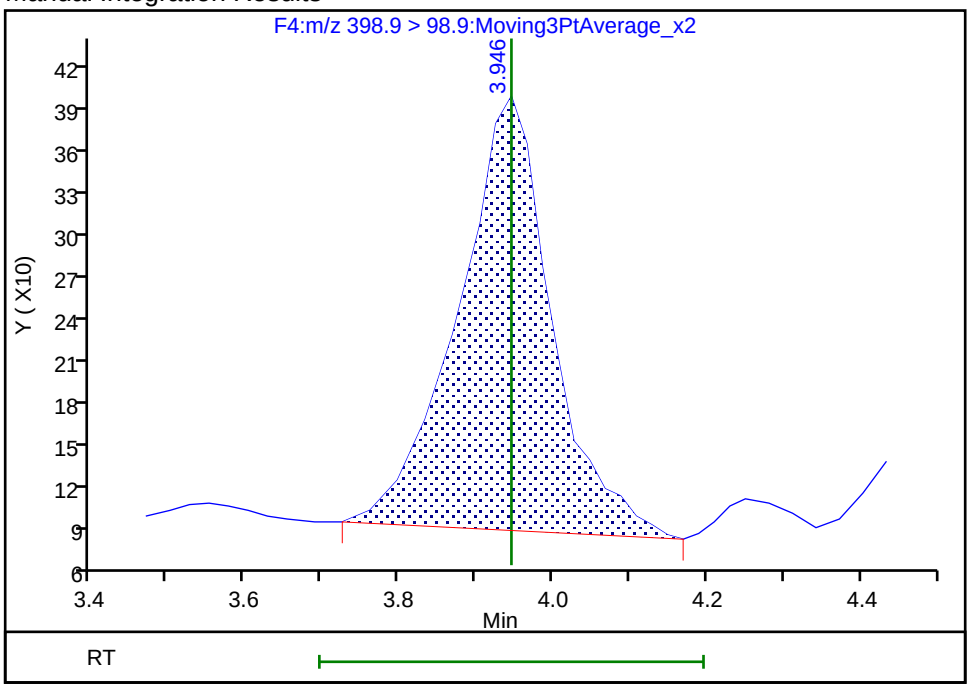
Processing Integration Results

RT: 3.95
Area: 2127
Amount: 1.489418
Amount Units: ng/ml



Manual Integration Results

RT: 3.95
Area: 2543
Amount: 1.722341
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:55:05

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

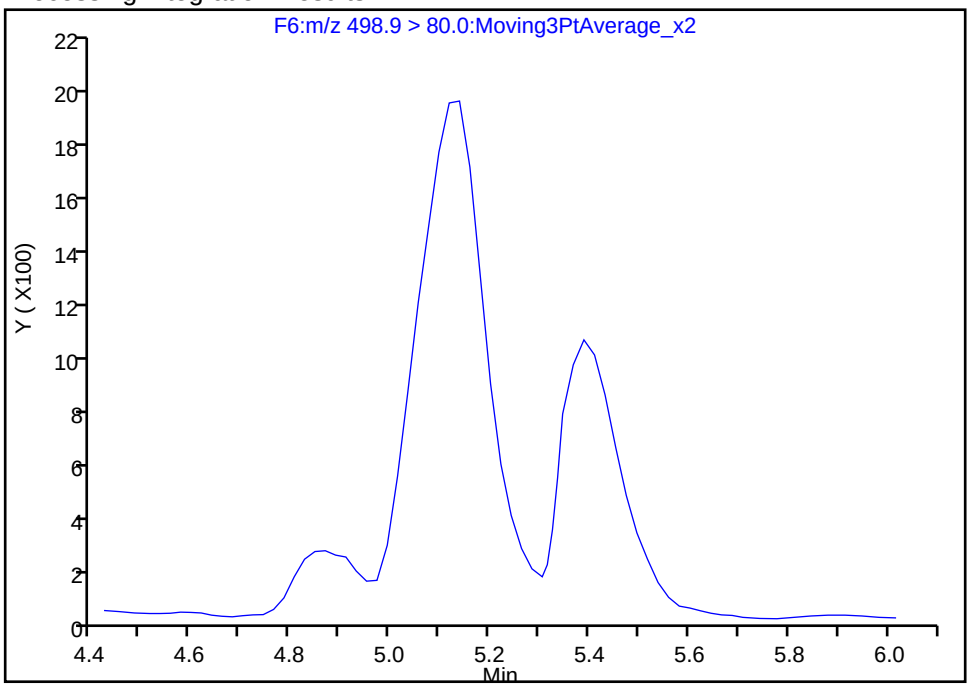
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

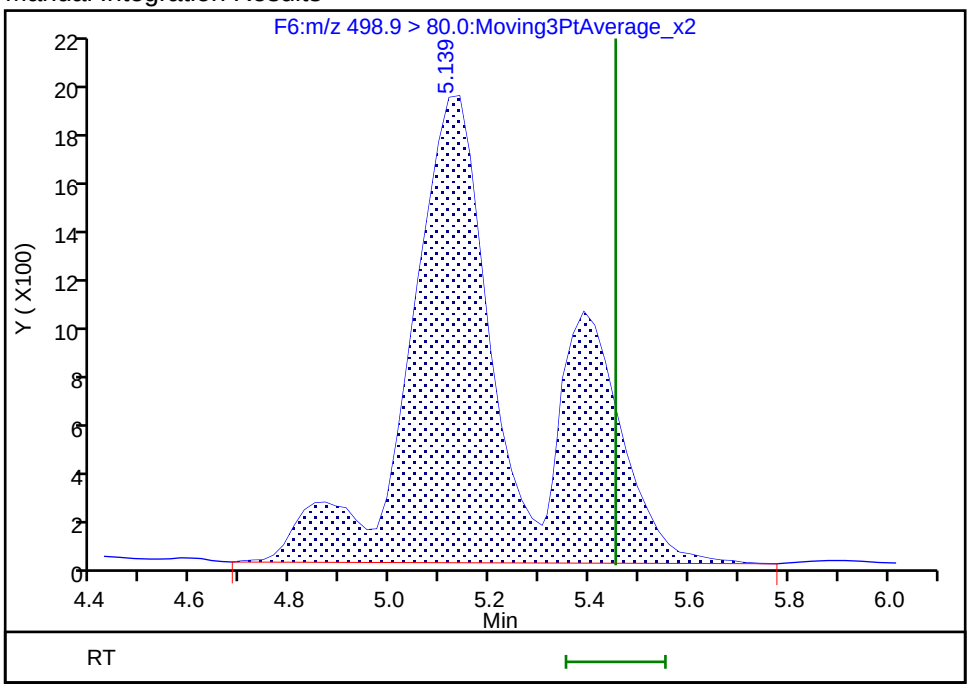
Not Detected
Expected RT: 5.45

Processing Integration Results



Manual Integration Results

RT: 5.14
Area: 29418
Amount: 9.582138
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:55:34
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

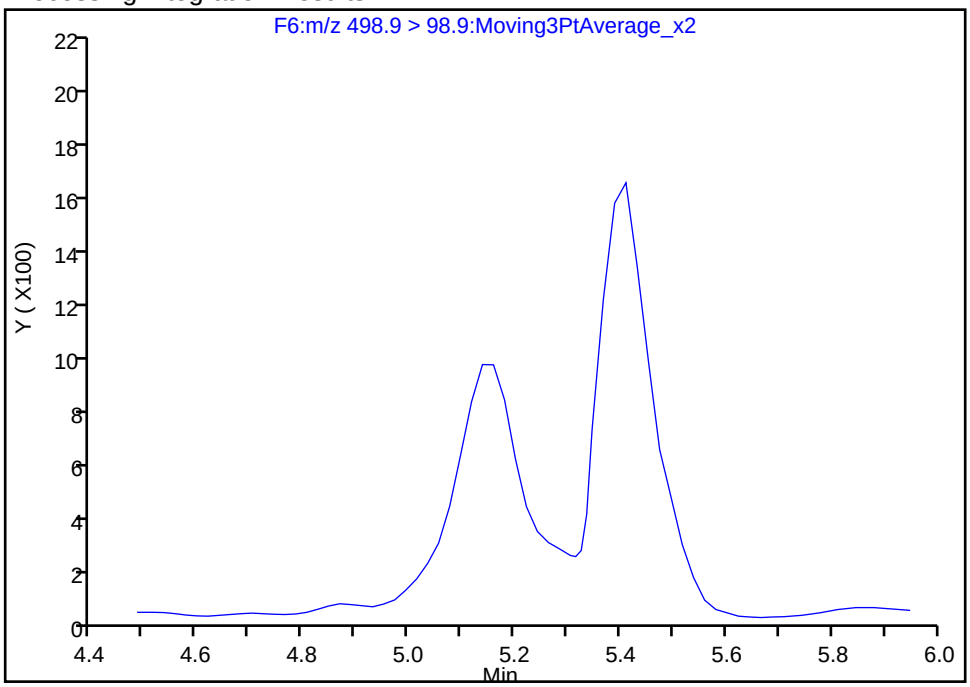
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

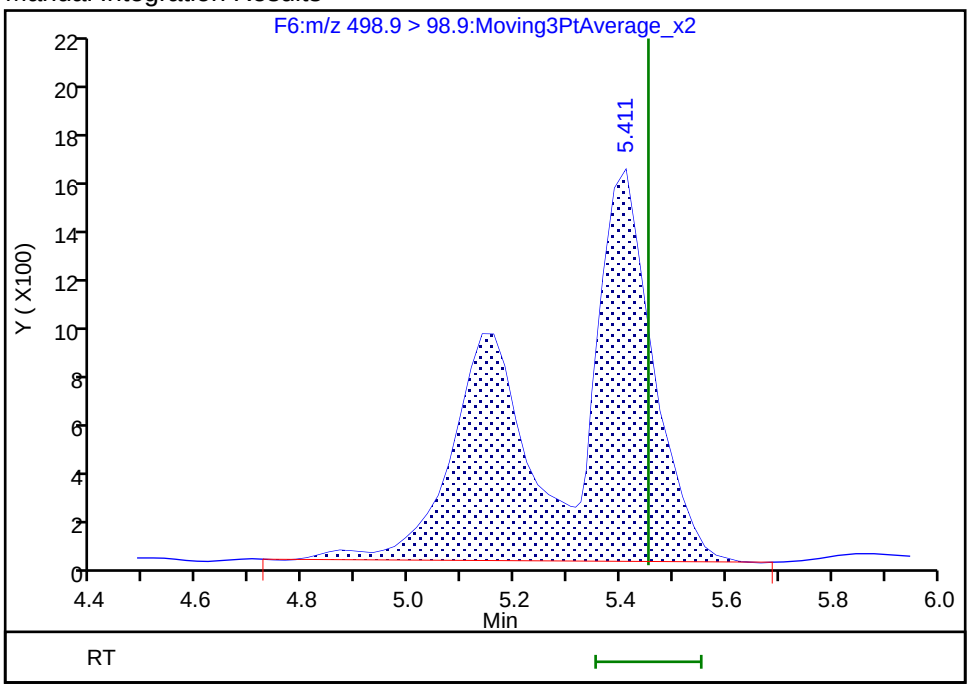
Not Detected
Expected RT: 5.45

Processing Integration Results



Manual Integration Results

RT: 5.41
Area: 20305
Amount: 9.582138
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:55:37
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

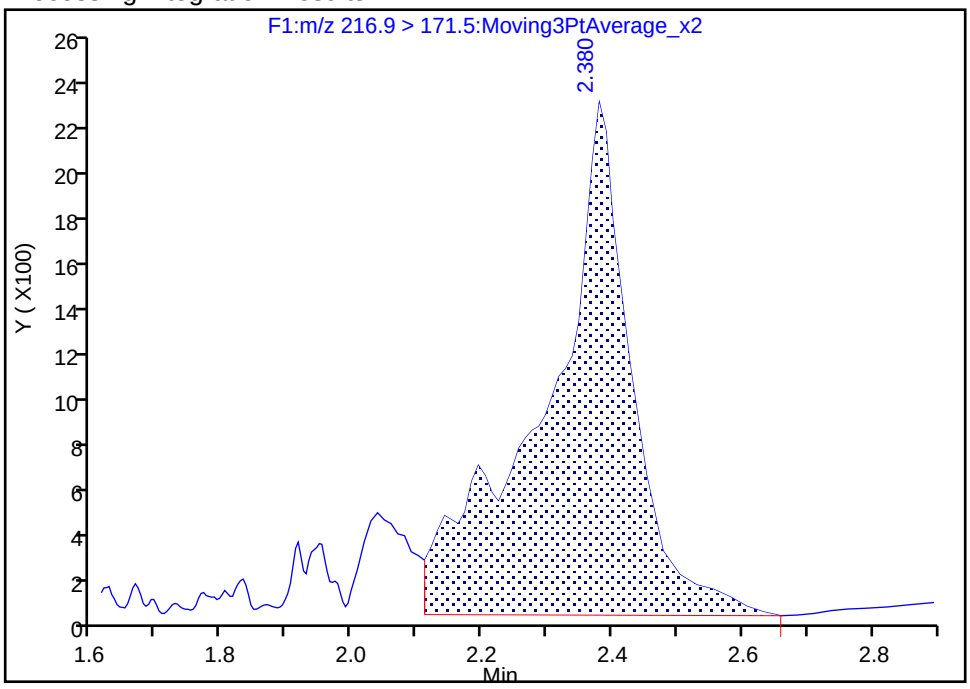
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

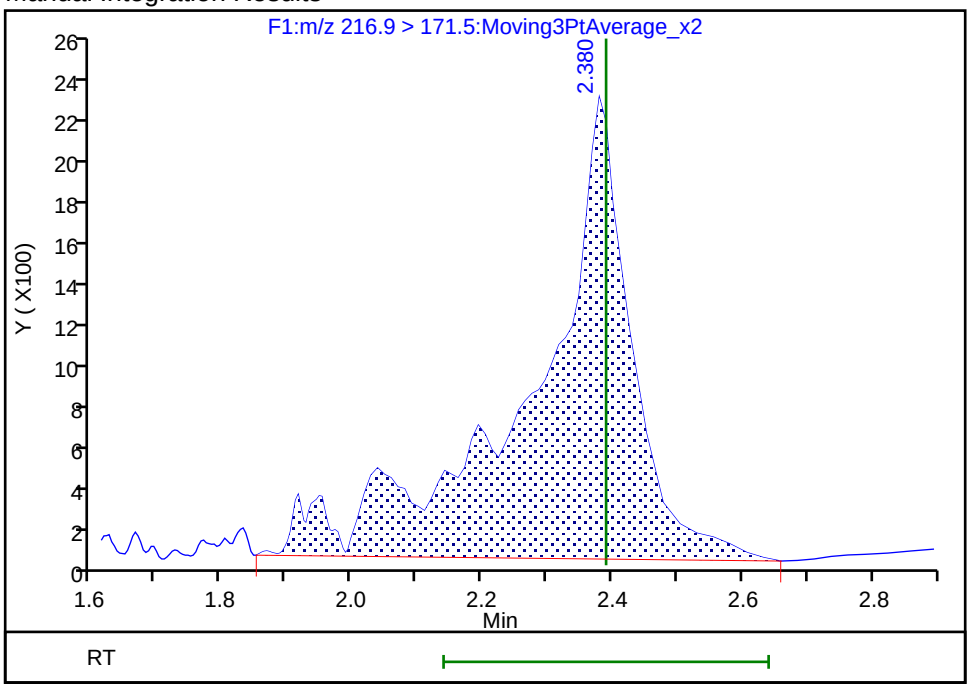
Processing Integration Results

RT: 2.38
Area: 20467
Amount: 3.876549
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 23359
Amount: 4.424307
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:37:14

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

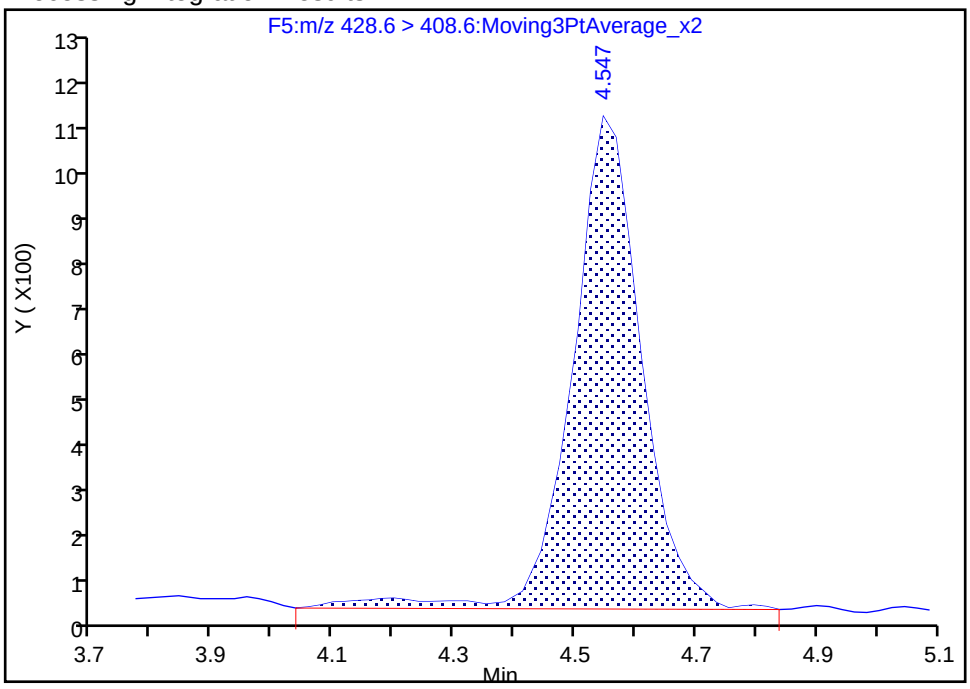
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B55.d				
Injection Date:	31-May-2019 03:04:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-2-A	Lab Sample ID:	200-48826-2		
Client ID:	MW-18 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	55
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

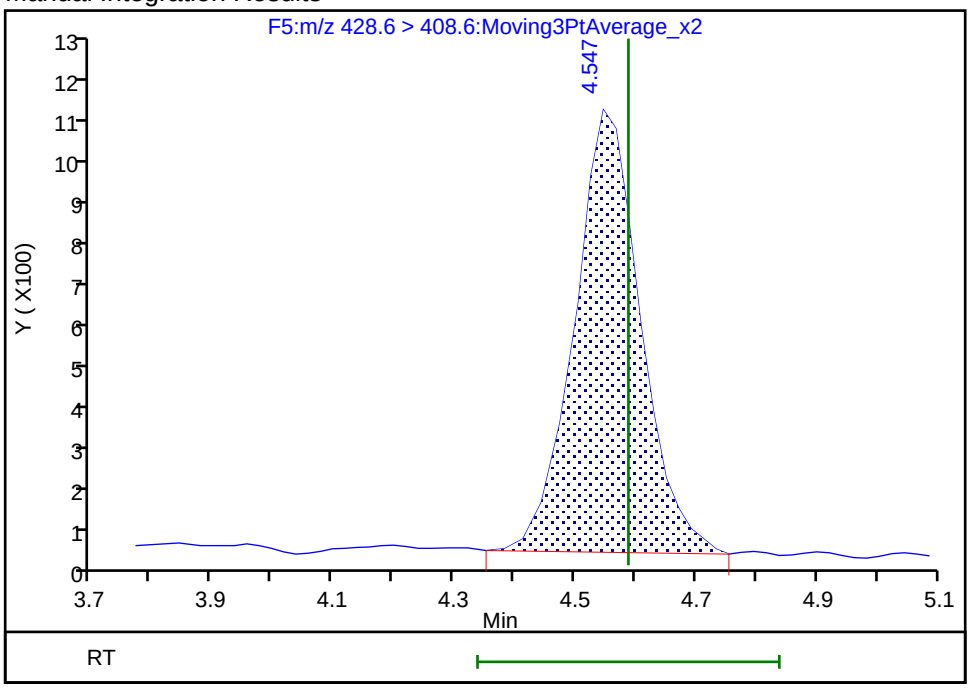
Processing Integration Results

RT: 4.55
Area: 7973
Amount: 6.627716
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 7550
Amount: 6.276089
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:55:11
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-17 051319 Lab Sample ID: 200-48826-3

Matrix: Water Lab File ID: PF053019B56.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 14:10

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 311.7(mL) Date Analyzed: 05/31/2019 03:20

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND	*	8.0	4.0
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.5	J	8.0	2.5
307-24-4	Perfluorohexanoic acid (PFHxA)	5.3	J	8.0	3.0
375-85-9	Perfluoroheptanoic acid (PFHpA)	4.3	J *	8.0	3.6
335-67-1	Perfluorooctanoic acid (PFOA)	9.2		8.0	2.5
375-95-1	Perfluorononanoic acid (PFNA)	1.2	J	8.0	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.0	3.1
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.0	2.1
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.0	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.0	2.4
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.0	3.7
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND	*	8.0	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		8.0	3.2
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.0	3.8
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.0	3.6
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	160		8.0	2.4
754-91-6	Perfluorooctanesulfonamide (FOSA)	2.9	J	8.0	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		80	6.8
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	63	J *	80	6.0
27619-97-2	6:2 FTS	ND		80	18
39108-34-4	8:2 FTS	ND		80	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-17 051319 Lab Sample ID: 200-48826-3

Matrix: Water Lab File ID: PF053019B56.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 14:10

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 311.7(mL) Date Analyzed: 05/31/2019 03:20

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	29		25-150
STL00992	13C4 PFBA	51		25-150
STL01893	13C5 PFPeA	59		25-150
STL00993	13C2 PFHxA	51		50-150
STL01892	13C4 PFHpA	69		50-150
STL00990	13C4 PFOA	87		50-150
STL00995	13C5 PFNA	73		50-150
STL00996	13C2 PFDA	80		50-150
STL00997	13C2 PFUnA	48	*	50-150
STL00998	13C2 PFDoA	74		50-150
STL02116	13C2 PFTeDA	61		50-150
STL02337	13C3 PFBS	35	*	50-150
STL00994	18O2 PFHxS	40	*	50-150
STL00991	13C4 PFOS	61		50-150
STL02118	d3-NMeFOSAA	34	*	50-150
STL02117	d5-NEtFOSAA	35	*	50-150
STL02279	M2-6:2 FTS	110		25-150
STL02280	M2-8:2 FTS	184	*	25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d
Lims ID: 200-48826-A-3-A
Client ID: MW-17 051319
Sample Type: Client
Inject. Date: 31-May-2019 03:20:51 ALS Bottle#: 0 Worklist Smp#: 56
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036138-056 3
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 07-Jun-2019 12:36:19 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0326

First Level Reviewer: murrayjw Date: 07-Jun-2019 12:27:29
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.370	2.391	-0.021	1.000	31817	5.14		51.4	136	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	27697	5.90		59.0	56.4	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.866	2.866	0.0	1.013	3639	0.4388			1.9	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	6631	3.25		34.9	24.2	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	71469	5.07		50.7	298	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.334	3.334	0.0	1.010	6623	0.6629	Target=14.34		3.9	M
312.9 > 118.9	3.302	3.334	-0.032	1.000	758		8.74(7.17-21.51)		4.1	M
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.869	3.925	-0.056	1.000	8673	0.5416	Target=2.84		4.7	
362.9 > 168.9	3.869	3.925	-0.056	1.000	2415		3.59(1.42-4.26)		11.8	M
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.925	-0.056	1.000	136459	6.87		68.7	667	
D 12 18O2 PFHxS										
402.9 > 83.8	3.925	3.946	-0.021	1.000	9906	3.79		40.1	41.9	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.589	-0.063	1.000	14712	10.4		110	69.7	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.630	-0.062	1.000	213925	8.70		87.0	962	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.630	-0.062		253235	10.0			1233	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.568	4.630	-0.062	1.000	24920	1.15	Target=2.43		51.0	M
412.9 > 168.9	4.568	4.630	-0.062	1.000	8657		2.88(1.22-3.64)		50.6	
19 Perfluorononanoic acid										
462.9 > 418.7	5.326	5.432	-0.106	1.000	3177	0.1486	Target=5.00		8.0	
462.9 > 168.9	5.368	5.432	-0.064	1.008	665		4.78(2.50-7.50)		6.3	
D 20 13C5 PFNA										
467.8 > 422.8	5.326	5.432	-0.106	1.000	242203	7.35		73.5	1667	
D 22 13C4 PFOS										
502.9 > 80.0	5.326	5.453	-0.127	1.000	34335	5.83		61.0	209	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.336	5.453	-0.117	1.002	70168	20.2	Target=1.41		795	M
498.9 > 98.9	5.326	5.453	-0.127	1.000	71413		0.98(0.71-2.12)		556	M
D 24 M2-8:2 FTS										a
528.8 > 508.8	5.960	6.234	-0.274	0.000	90446	17.6		184	470	a
D 25 13C2 PFDA										a
514.9 > 469.5	5.960	6.234	-0.274	0.000	226090	8.03		80.3	585	a
D 27 d3-NMeFOSAA										a
572.9 > 418.7	6.234	6.597	-0.363	0.000	31056	3.39		33.9	235	a
D 29 d5-NEtFOSAA										a
588.9 > 418.7	6.562	6.969	-0.407	0.000	26146	3.46		34.6	139	a
30 N-ethylperfluorooctanesulfonamidoa										Ma
583.9 > 418.7	6.586	6.969	-0.383	1.004	16519	7.85			97.4	M
D 33 13C2 PFUnA										a
564.8 > 519.8	6.633	7.013	-0.380	0.000	130673	4.81		48.1	381	a
D 34 13C8 FOSA										
505.9 > 78.0	6.993	7.039	-0.046	1.000	29578	2.92		29.2	132	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	7.013	7.039	-0.026	1.003	1514	0.3594			9.1	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.557	7.695	-0.138	1.000	257030	7.42		74.2	867	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.797	8.870	-0.073	1.000	189395	6.09		60.9	351	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Report Date: 07-Jun-2019 12:36:20 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d

Injection Date: 31-May-2019 03:20:51 Instrument ID: LC410

Lims ID: 200-48826-A-3-A Lab Sample ID: 200-48826-3

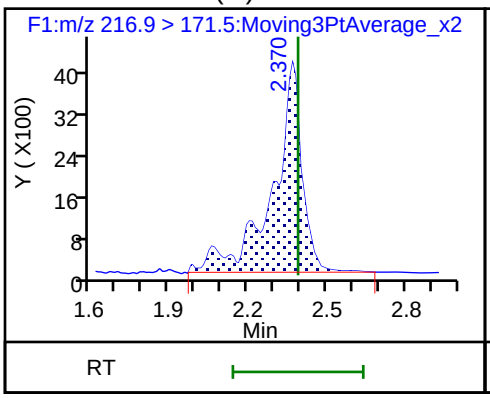
Client ID: MW-17 051319

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 56

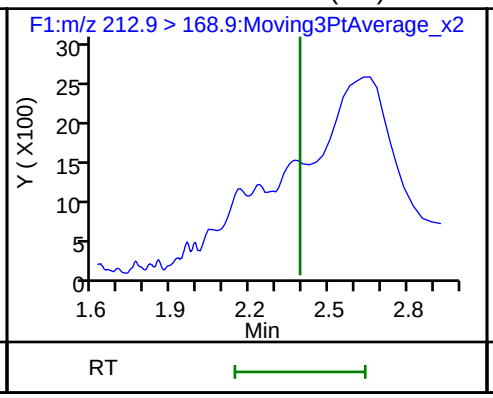
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

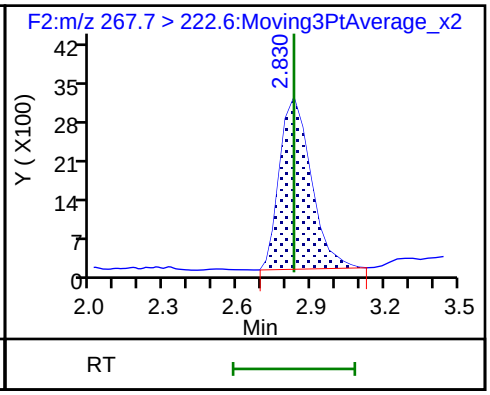
D 1 13C4 PFBA (M)



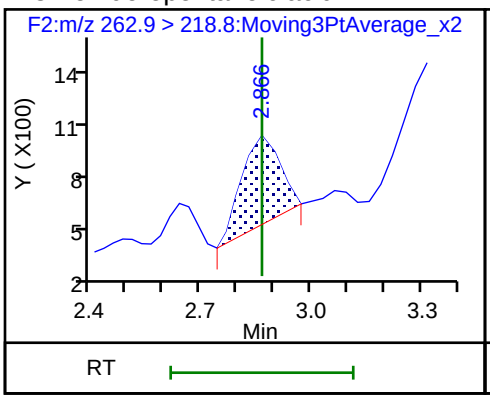
2 Perfluorobutanoic acid (ND)



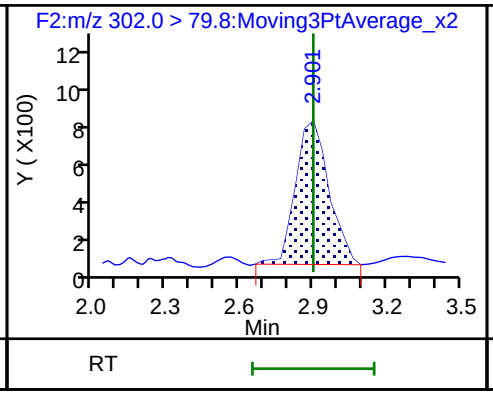
D 4 13C5 PFPeA



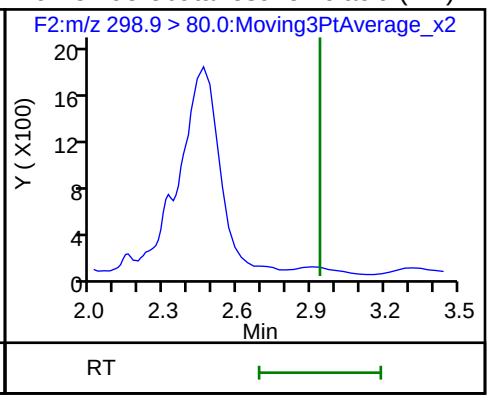
3 Perfluoropentanoic acid



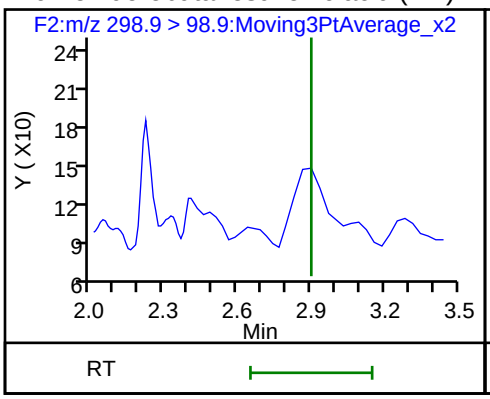
D 5 13C3 PFBS



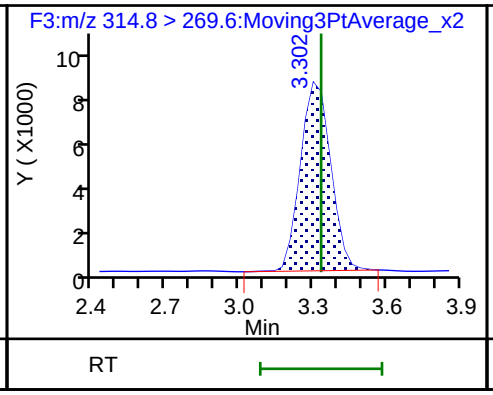
6 Perfluorobutanesulfonic acid (ND)



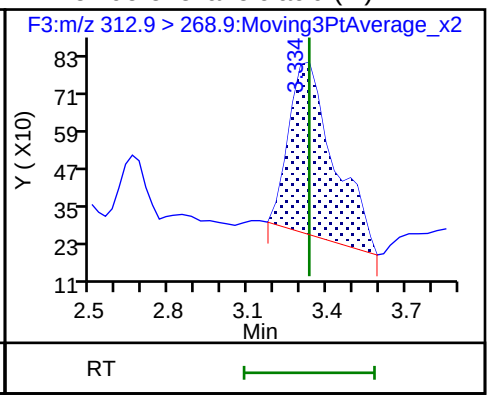
6 Perfluorobutanesulfonic acid (ND)



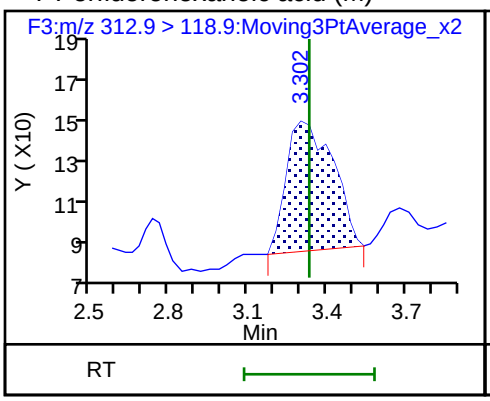
D 8 13C2 PFHxA



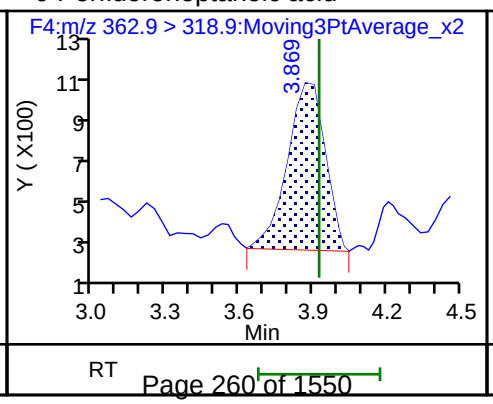
7 Perfluorohexanoic acid (M)



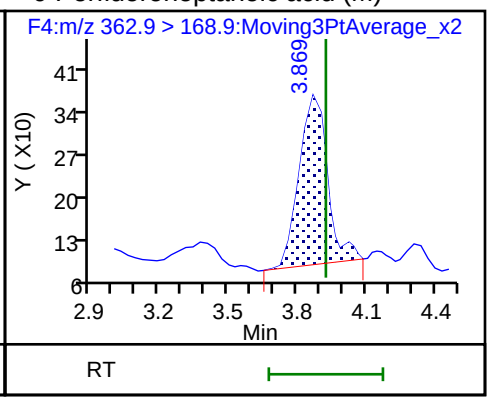
7 Perfluorohexanoic acid (M)



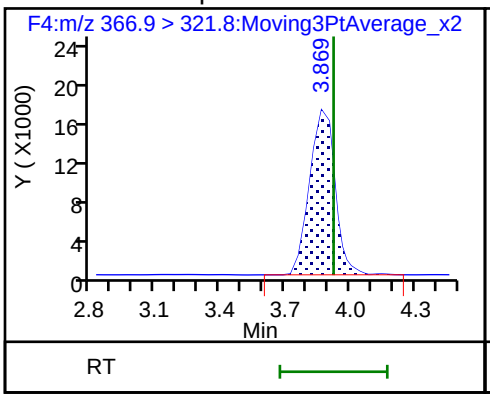
9 Perfluoroheptanoic acid



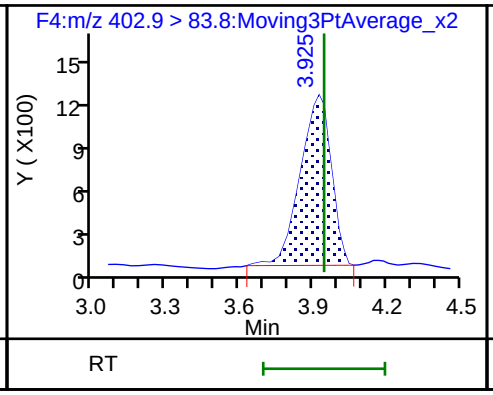
9 Perfluoroheptanoic acid (M)



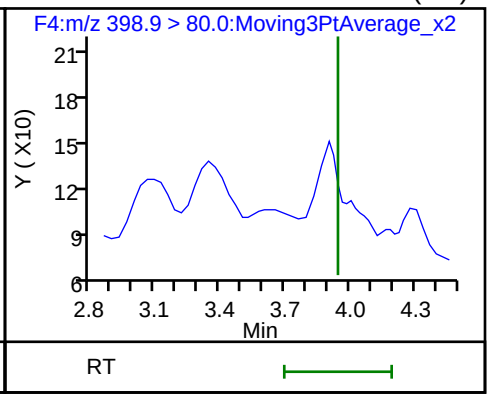
D 10 13C4 PFHpA



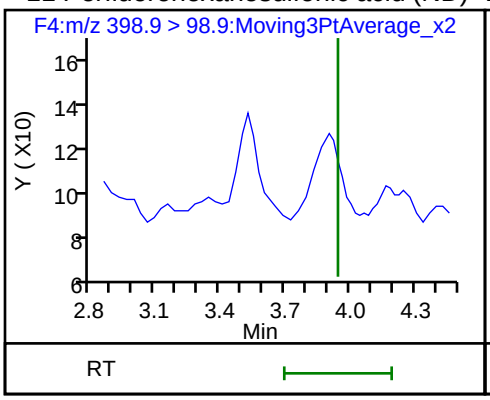
D 12 18O2 PFHxS



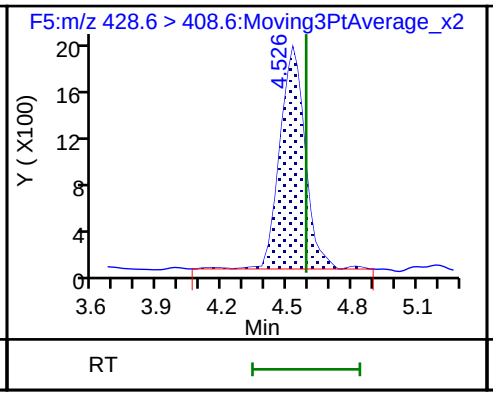
11 Perfluorohexanesulfonic acid (ND)



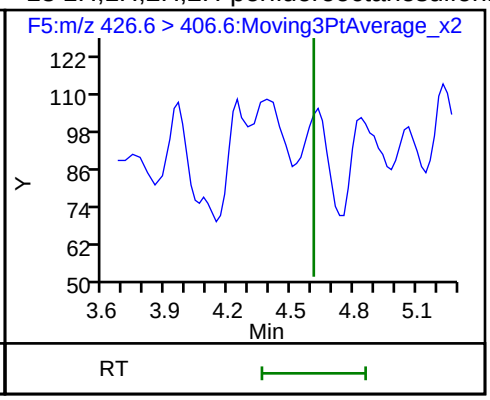
11 Perfluorohexanesulfonic acid (ND)



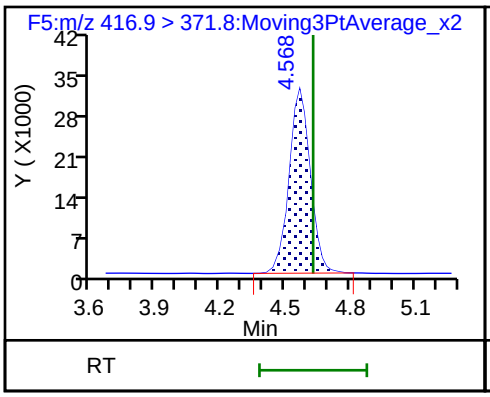
D 14 M2-6:2 FTS



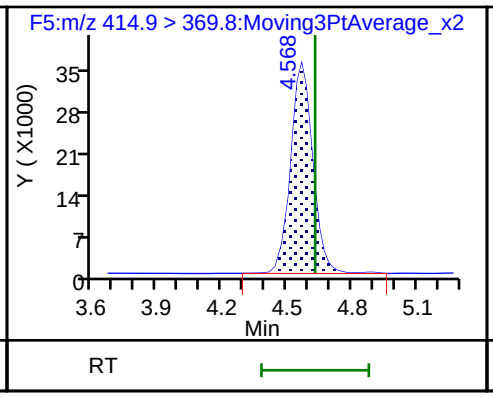
13 1H,1H,2H,2H-perfluorooctanesulfoni (ND)



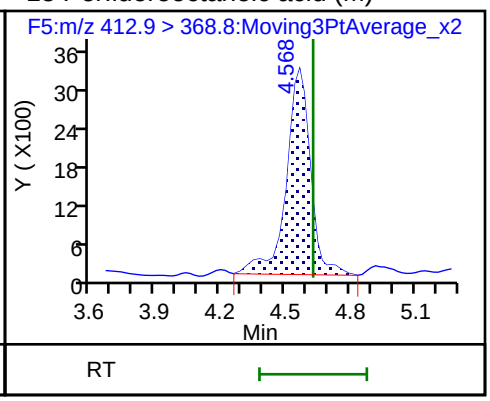
D 17 13C4 PFOA



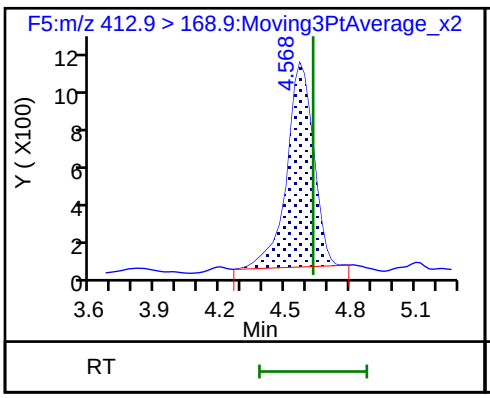
* 16 13C2 PFOA



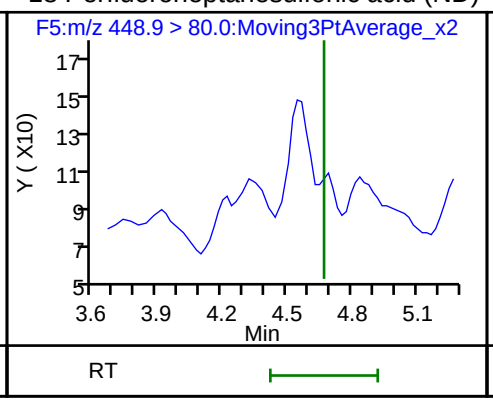
15 Perfluorooctanoic acid (M)



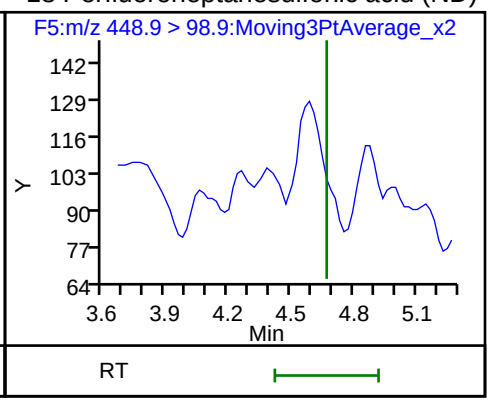
15 Perfluorooctanoic acid



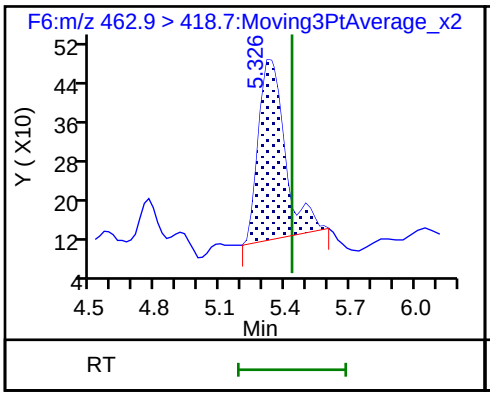
18 Perfluoroheptanesulfonic acid (ND)



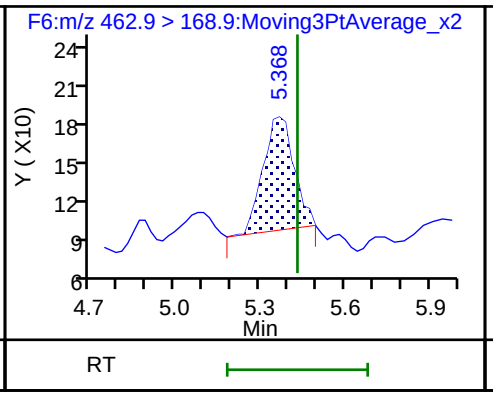
18 Perfluoroheptanesulfonic acid (ND)



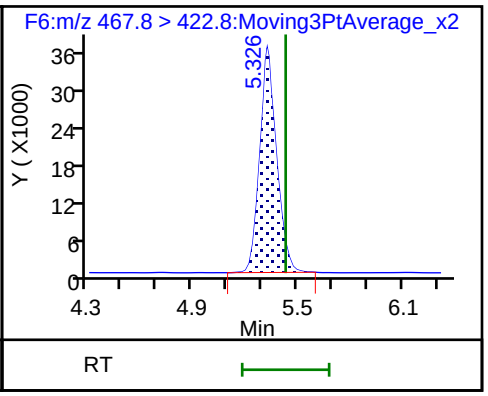
19 Perfluorononanoic acid



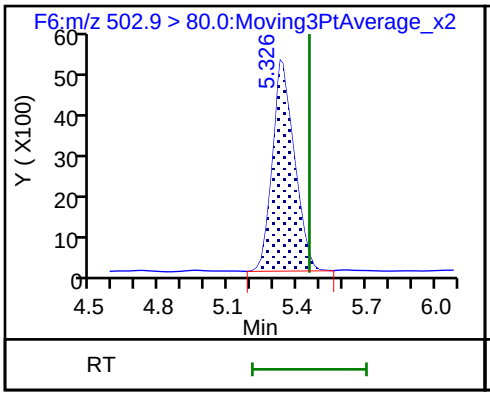
19 Perfluorononanoic acid



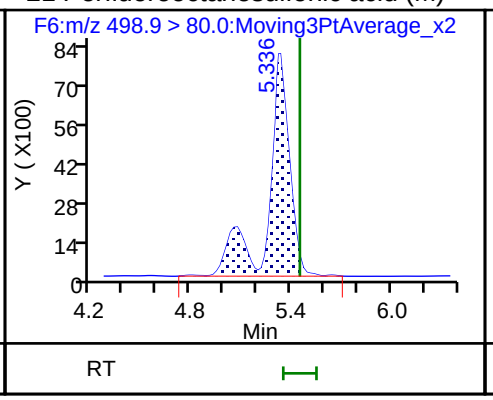
D 20 13C5 PFNA



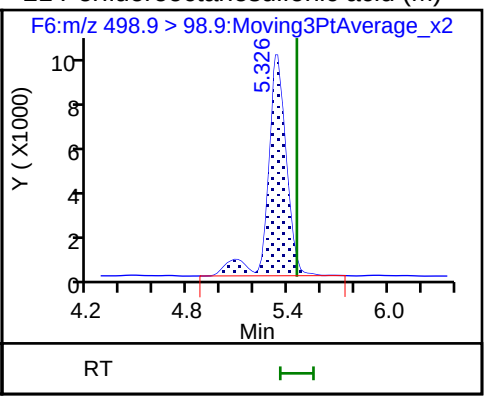
D 22 13C4 PFOS



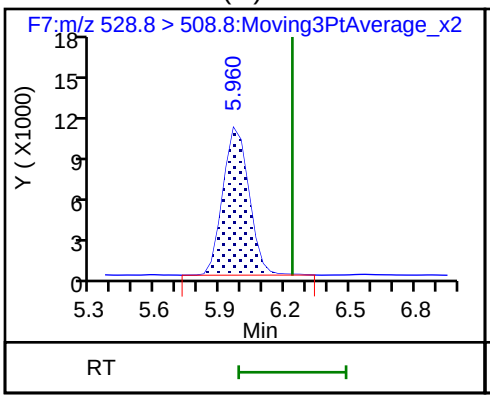
21 Perfluorooctanesulfonic acid (M)



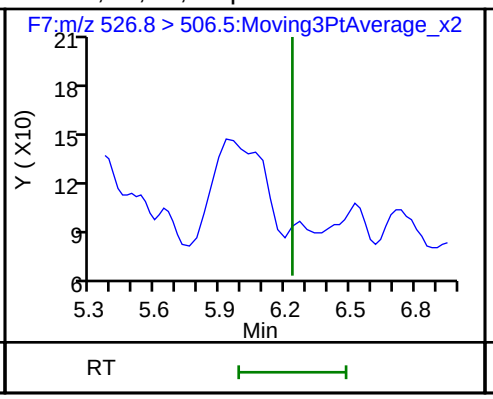
21 Perfluorooctanesulfonic acid (M)



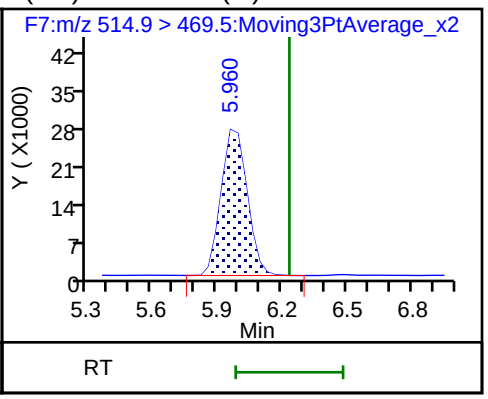
D 24 M2-8:2 FTS (M)



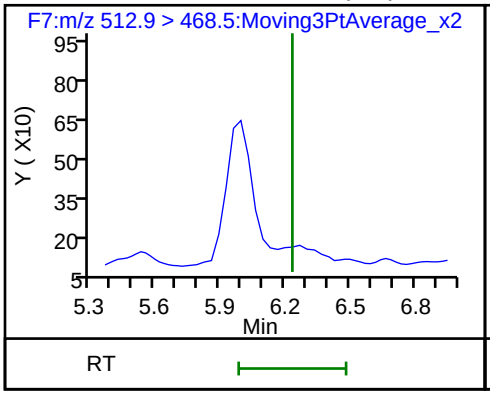
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



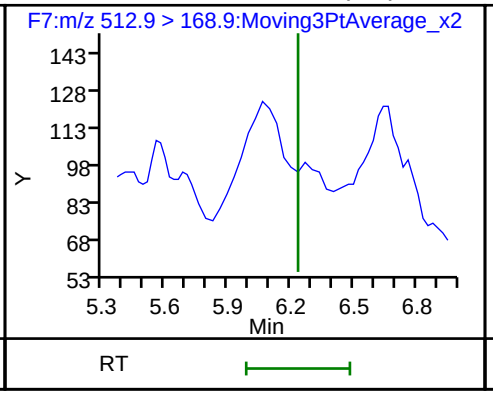
D 25 13C2 PFDA (M)



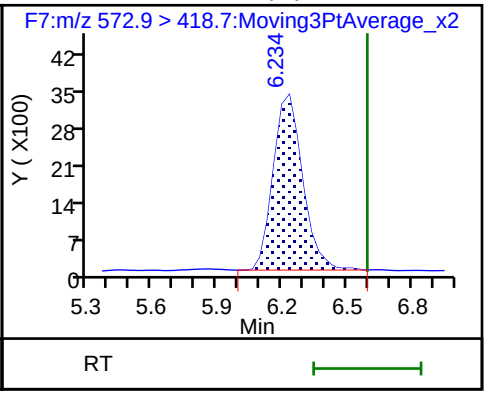
26 Perfluorodecanoic acid (ND)



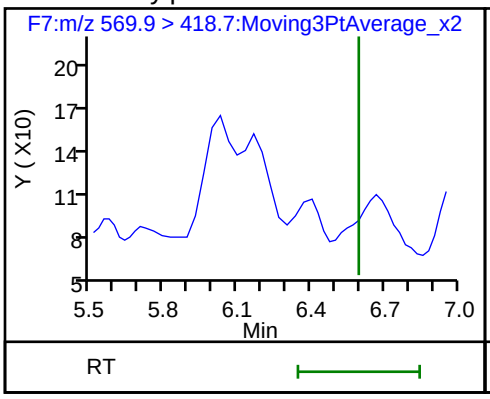
26 Perfluorodecanoic acid (ND)



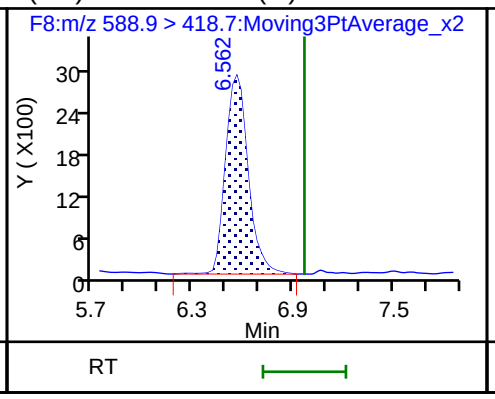
D 27 d3-NMeFOSAA (M)



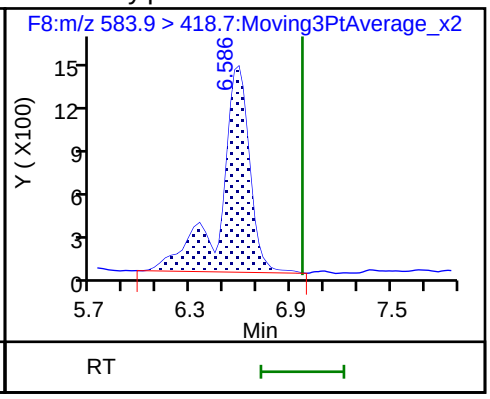
28 N-methylperfluorooctanesulfonamidoa (M)



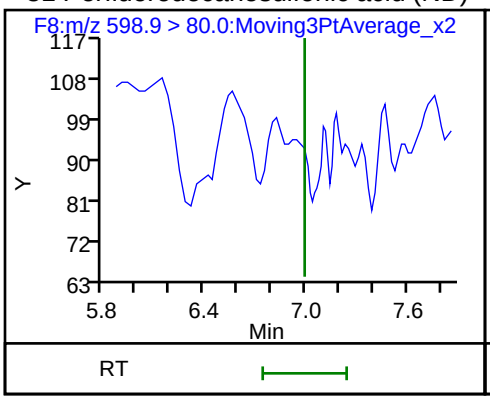
D 29 d5-NEtFOSAA (M)



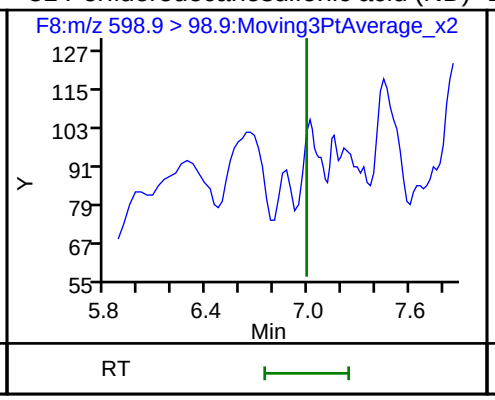
30 N-ethylperfluorooctanesulfonamidoa (M)



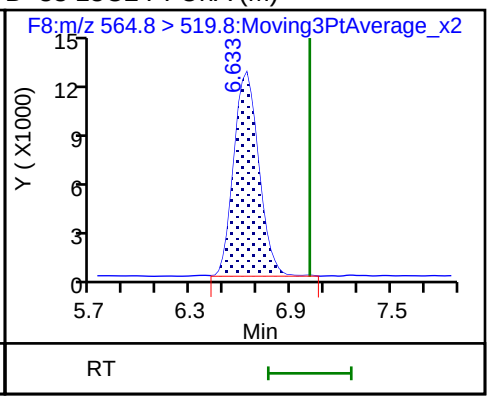
31 Perfluorodecanesulfonic acid (ND)



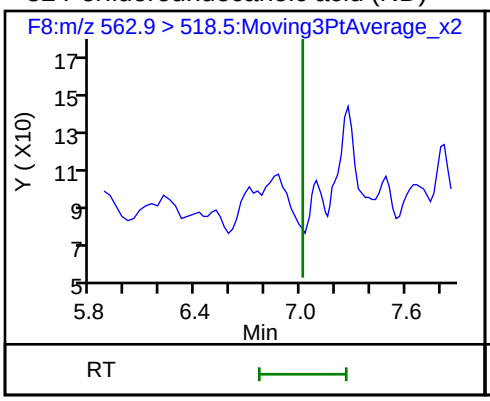
31 Perfluorodecanesulfonic acid (ND)



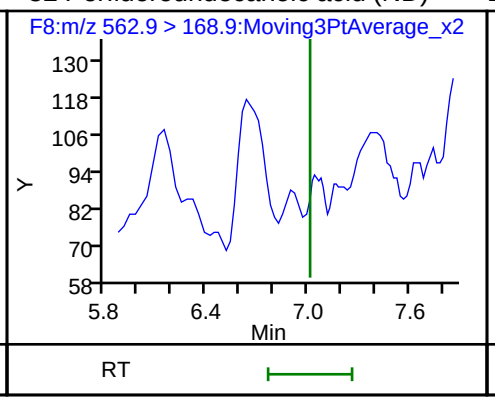
D 33 13C2 PFUnA (M)



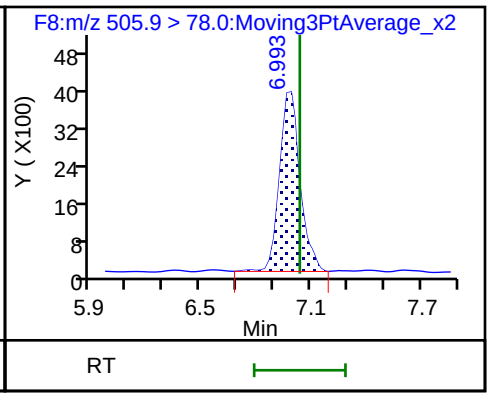
32 Perfluoroundecanoic acid (ND)



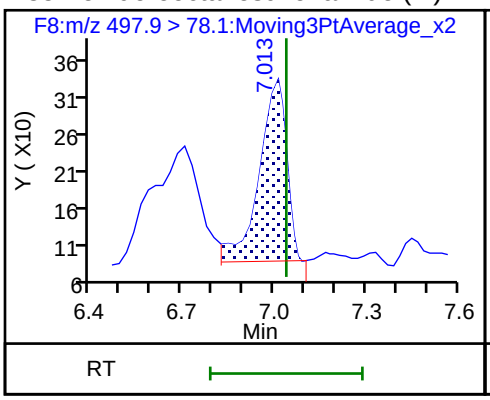
32 Perfluoroundecanoic acid (ND)



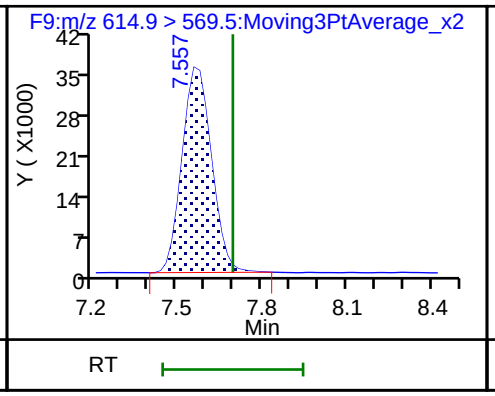
D 34 13C8 FOSA



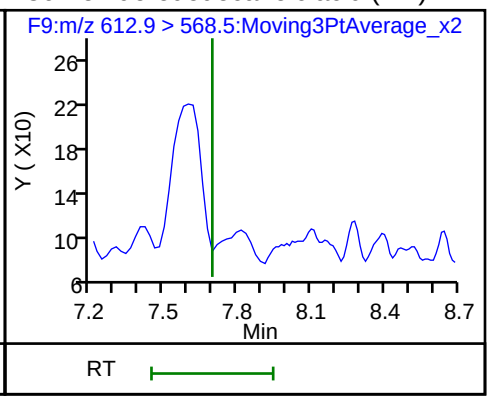
35 Perfluorooctanesulfonamide (M)



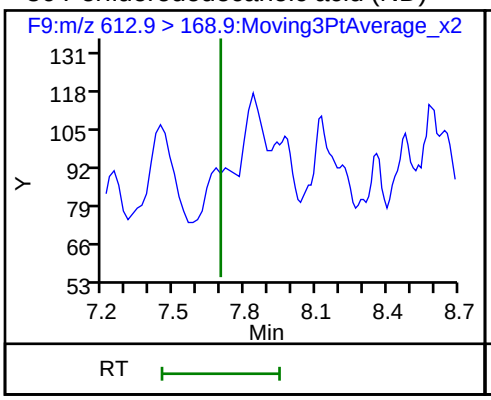
D 37 13C2 PFDoA



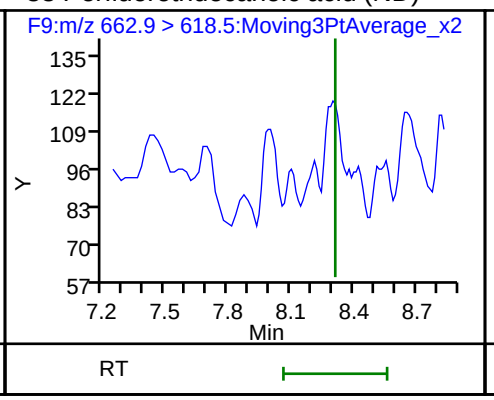
36 Perfluorododecanoic acid (ND)



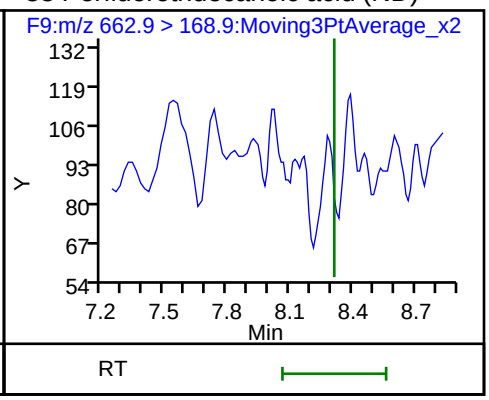
36 Perfluorododecanoic acid (ND)



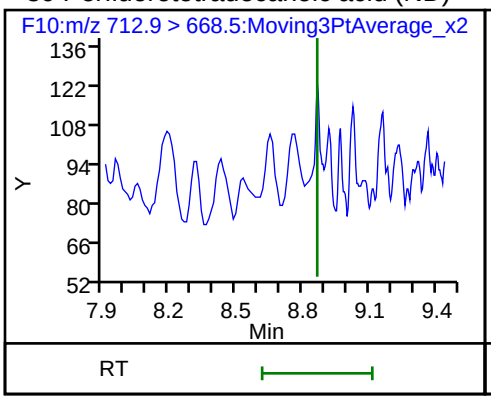
38 Perfluorotridecanoic acid (ND)



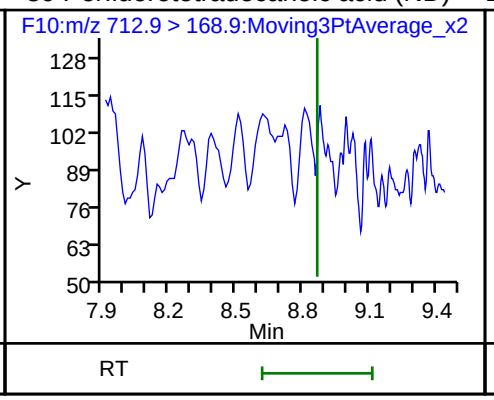
38 Perfluorotridecanoic acid (ND)



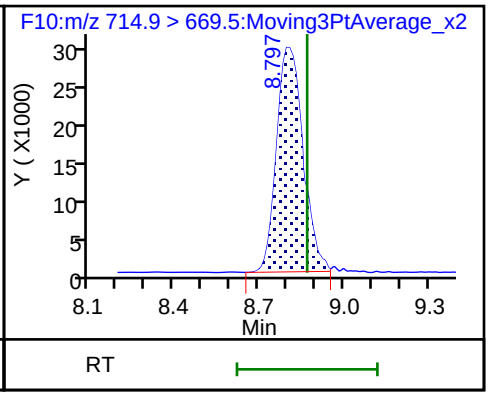
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

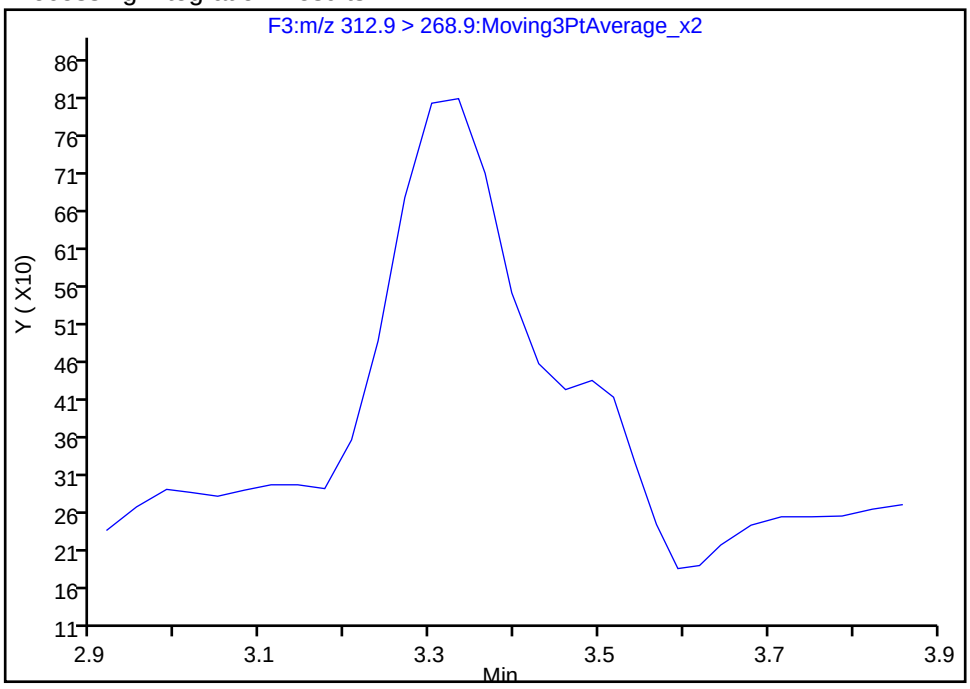
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

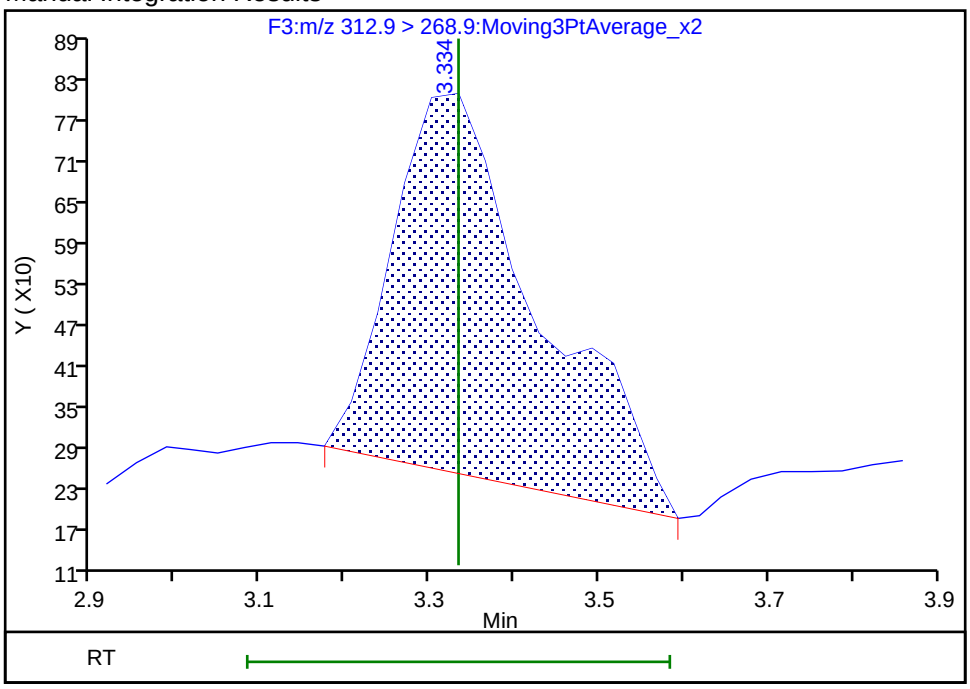
Not Detected
Expected RT: 3.33

Processing Integration Results



Manual Integration Results

RT: 3.33
Area: 6623
Amount: 0.662881
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:56:26
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

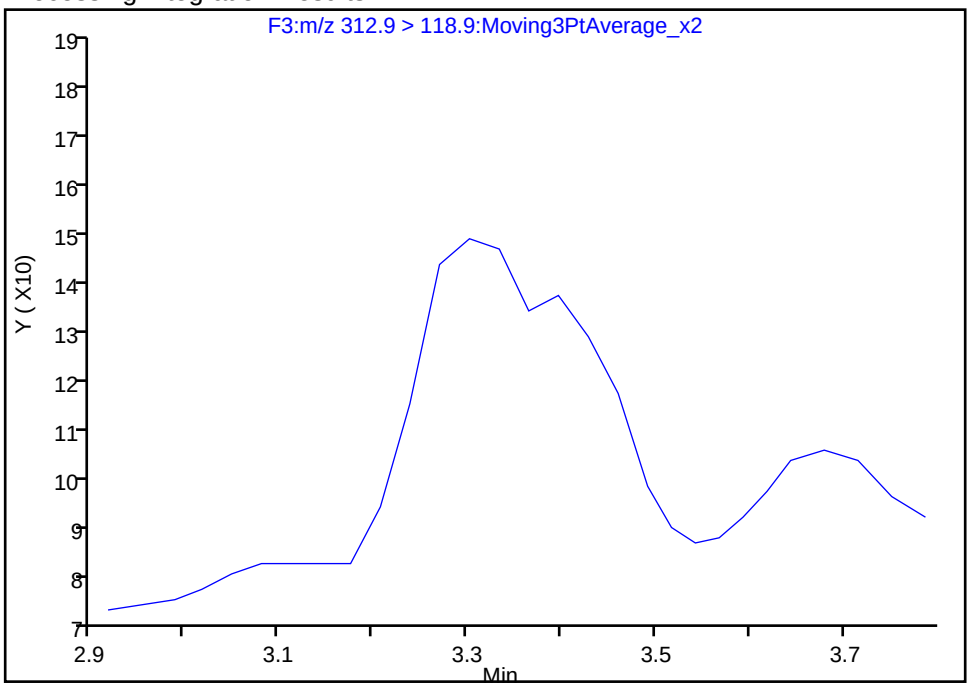
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

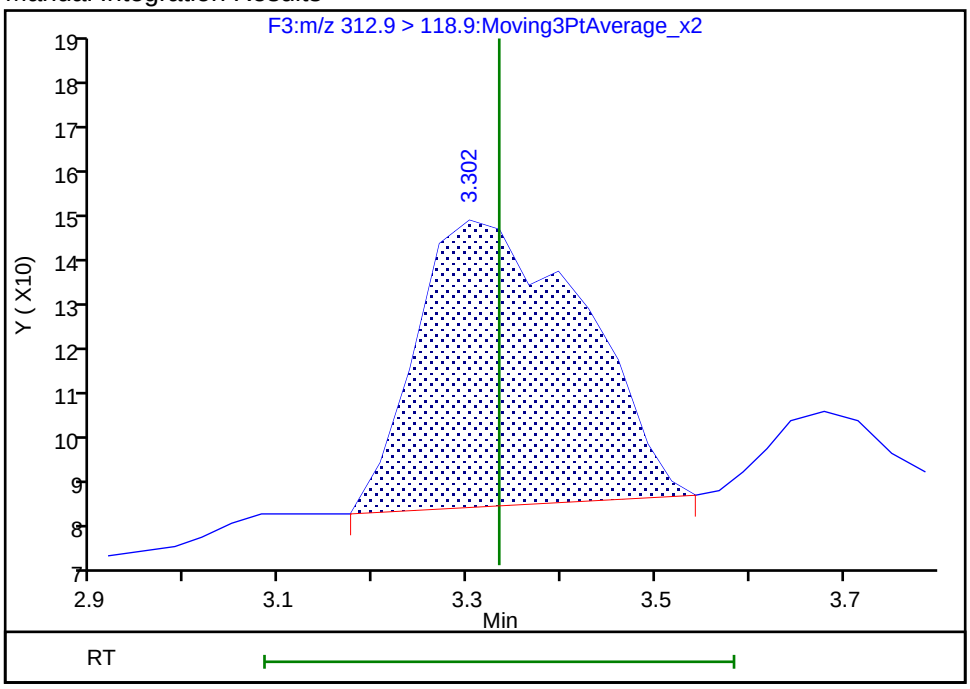
Not Detected
Expected RT: 3.33

Processing Integration Results



Manual Integration Results

RT: 3.30
Area: 758
Amount: 0.662881
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:56:29
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

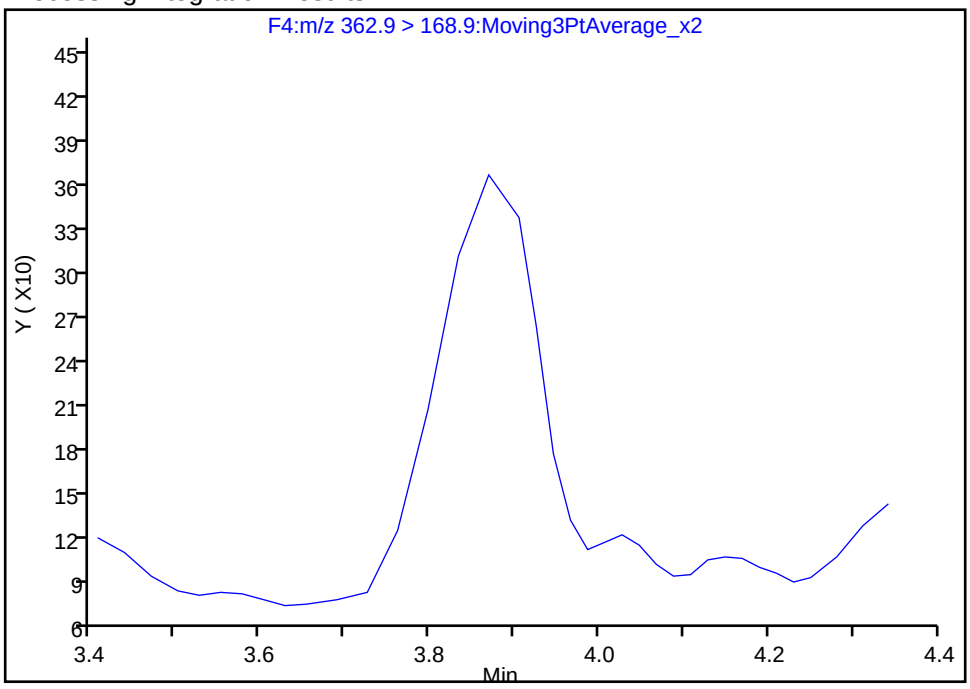
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

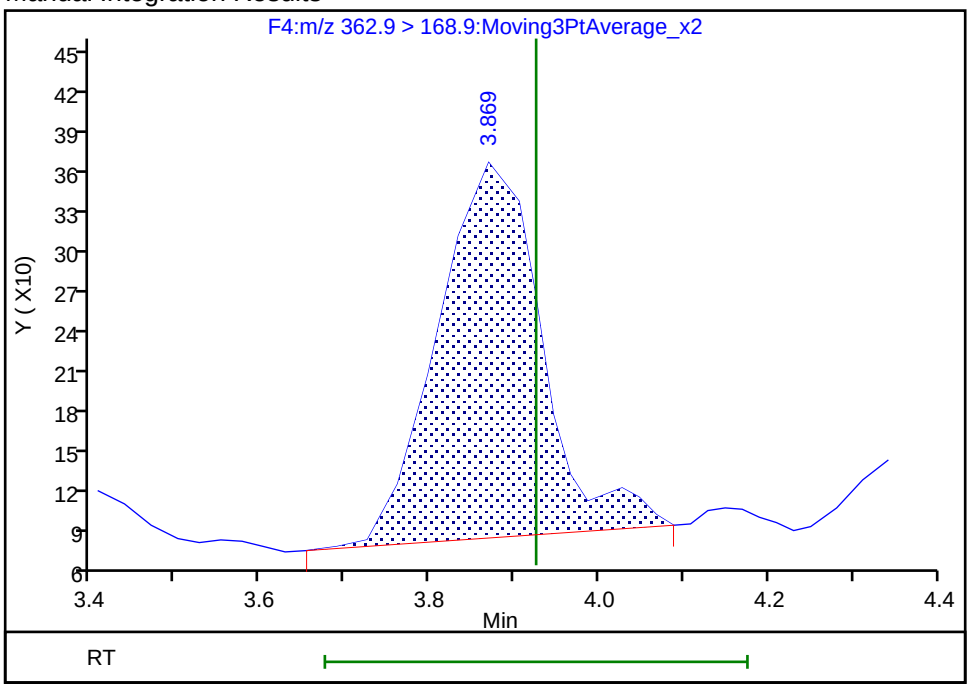
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 2415
Amount: 0.541569
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:56:35
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

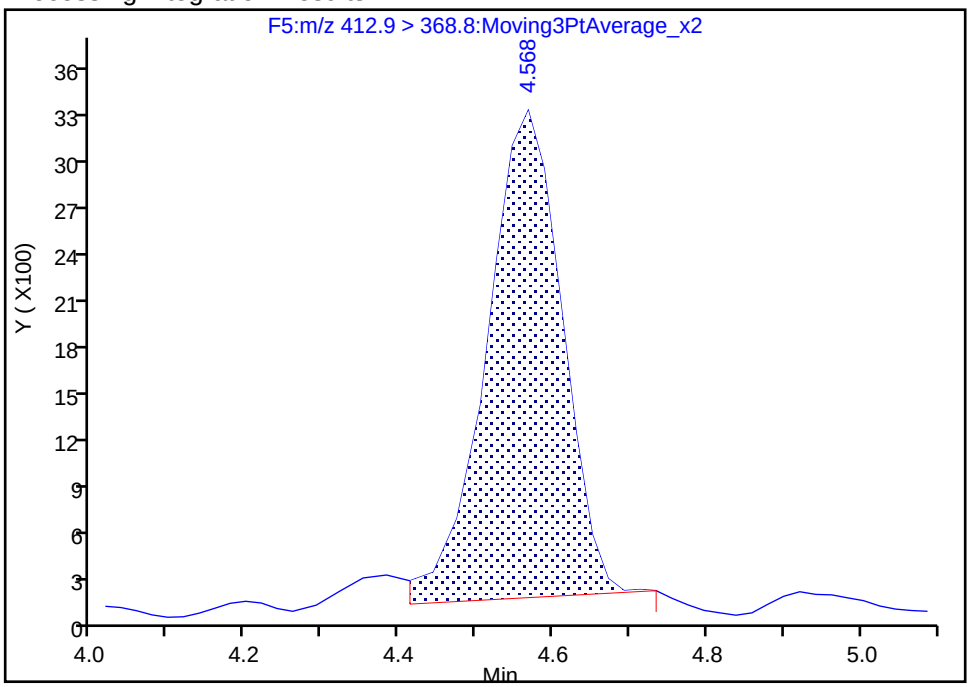
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

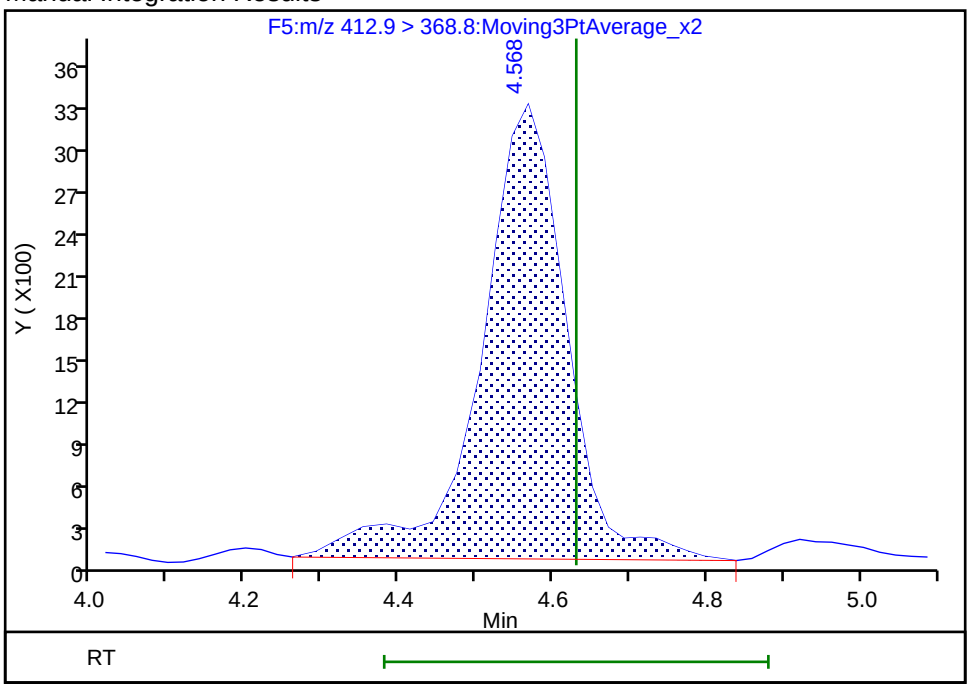
Processing Integration Results

RT: 4.57
Area: 21261
Amount: 0.982152
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 24920
Amount: 1.151180
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:57:02

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

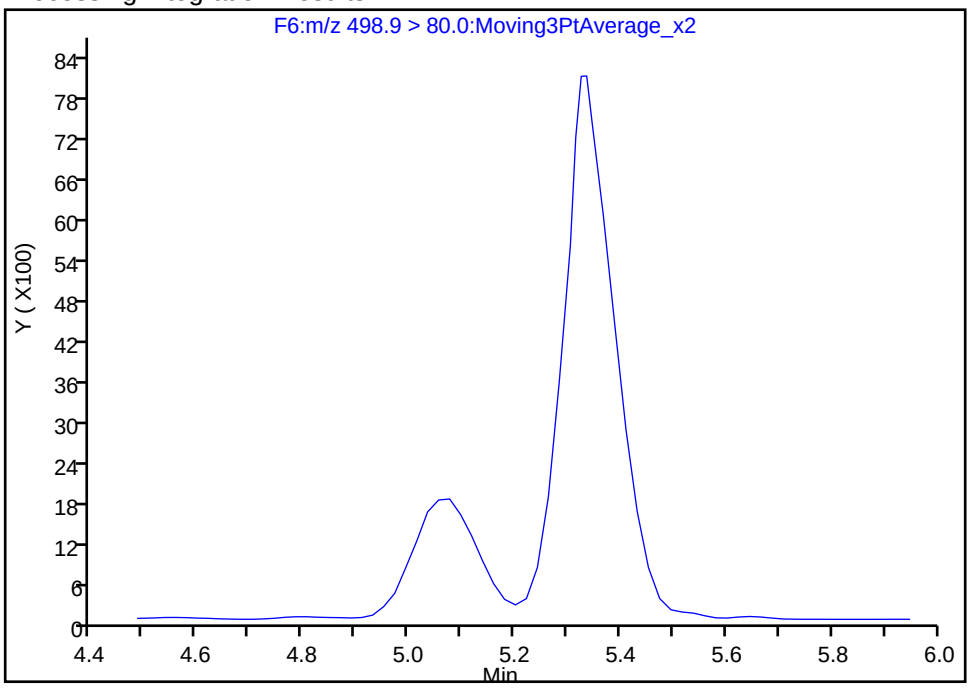
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

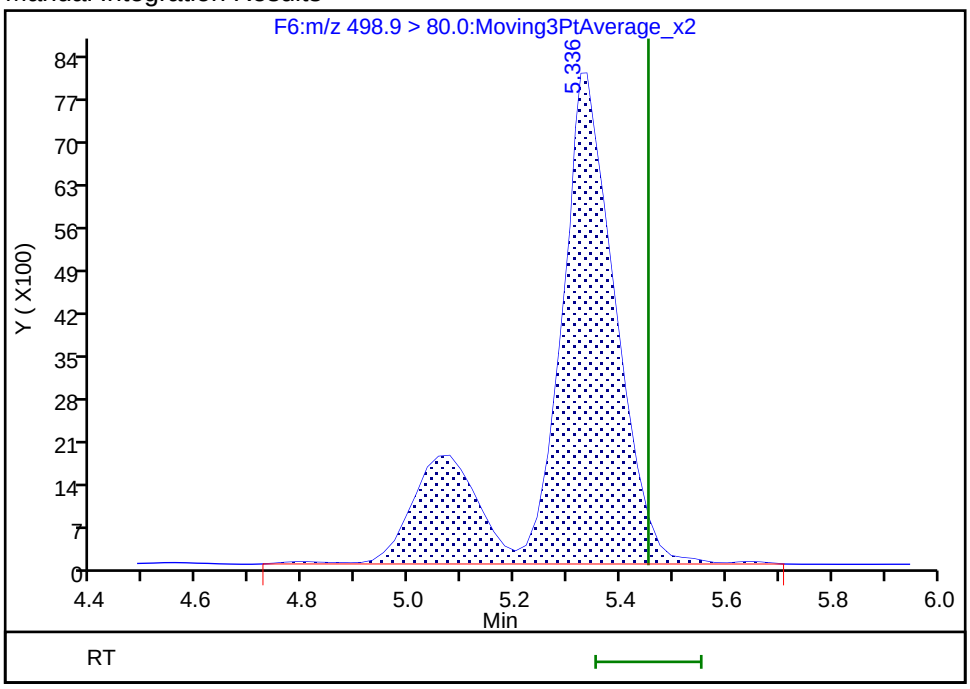
Processing Integration Results

Not Detected
Expected RT: 5.45



Manual Integration Results

RT: 5.34
Area: 70168
Amount: 20.230686
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:57:21
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

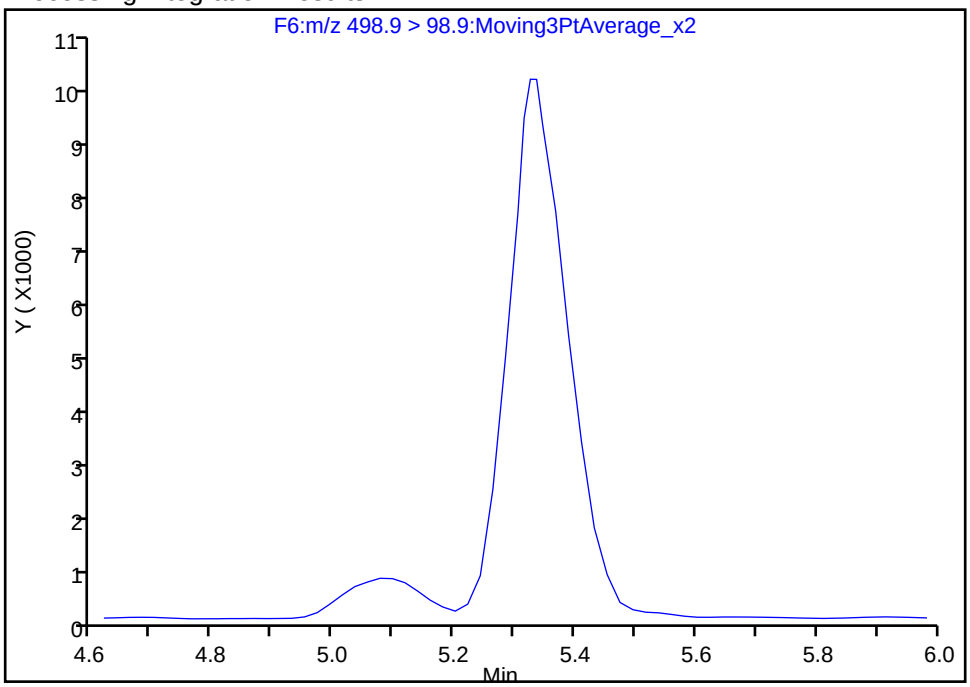
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

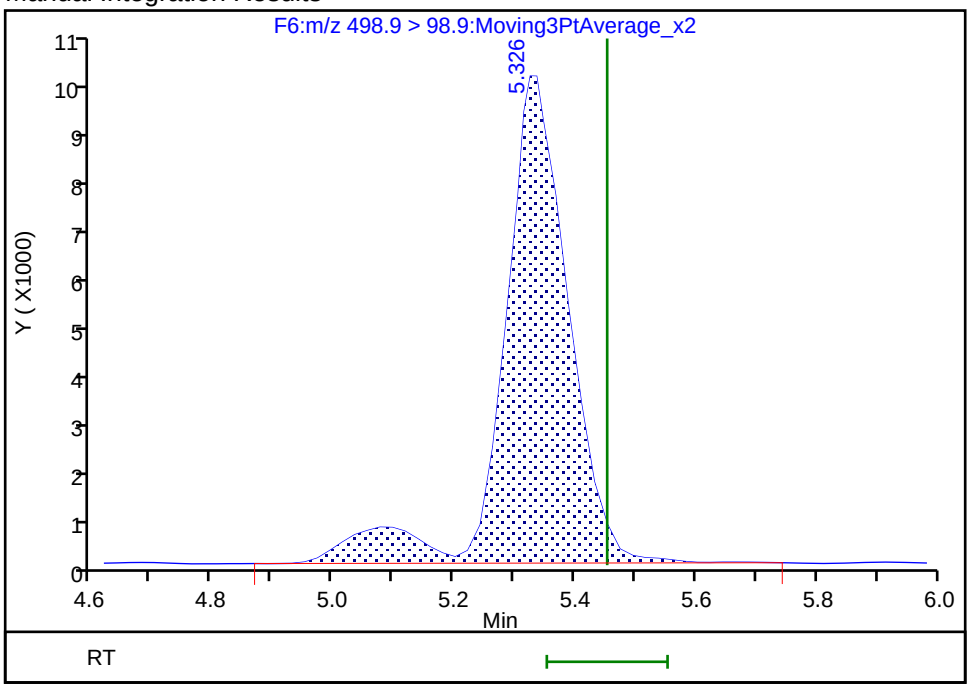
Processing Integration Results

Not Detected
Expected RT: 5.45



Manual Integration Results

RT: 5.33
Area: 71413
Amount: 20.230686
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:57:24
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

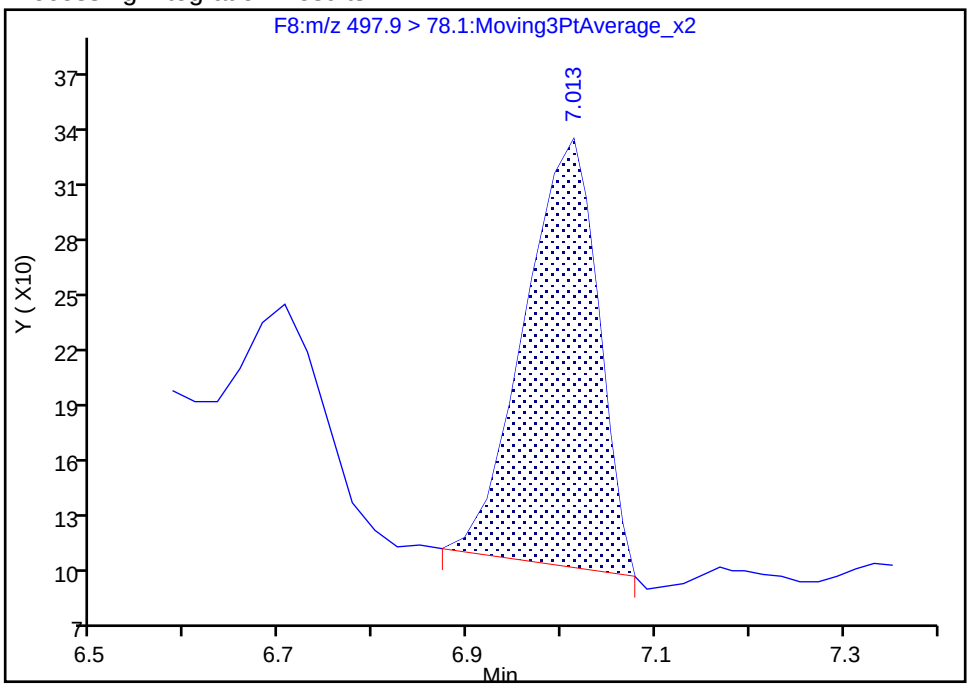
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

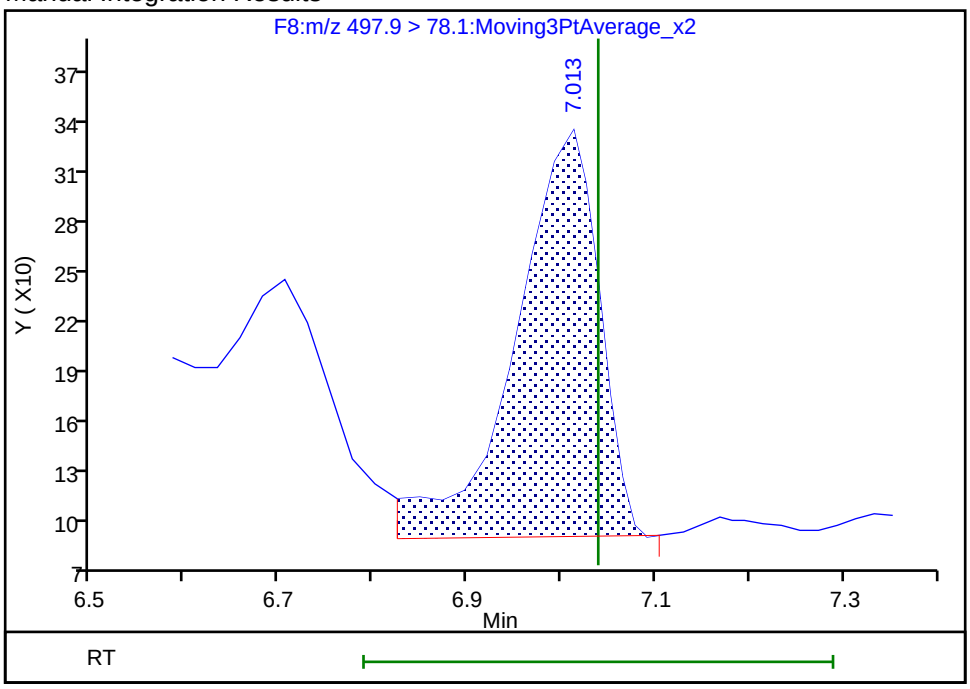
Processing Integration Results

RT: 7.01
Area: 1266
Amount: 0.300560
Amount Units: ng/ml



Manual Integration Results

RT: 7.01
Area: 1514
Amount: 0.359438
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:58:19

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

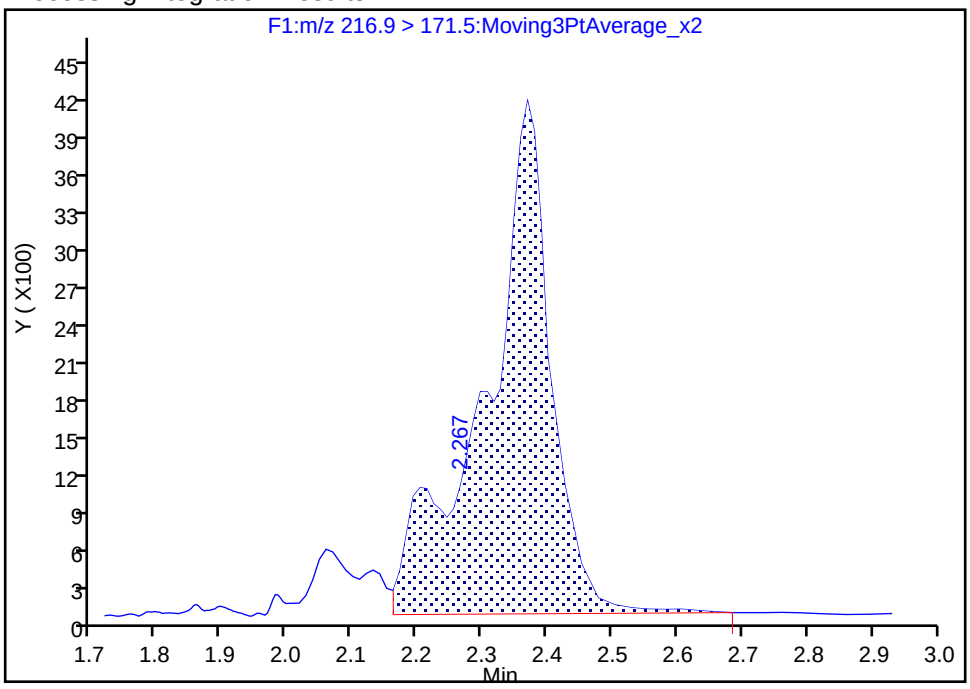
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

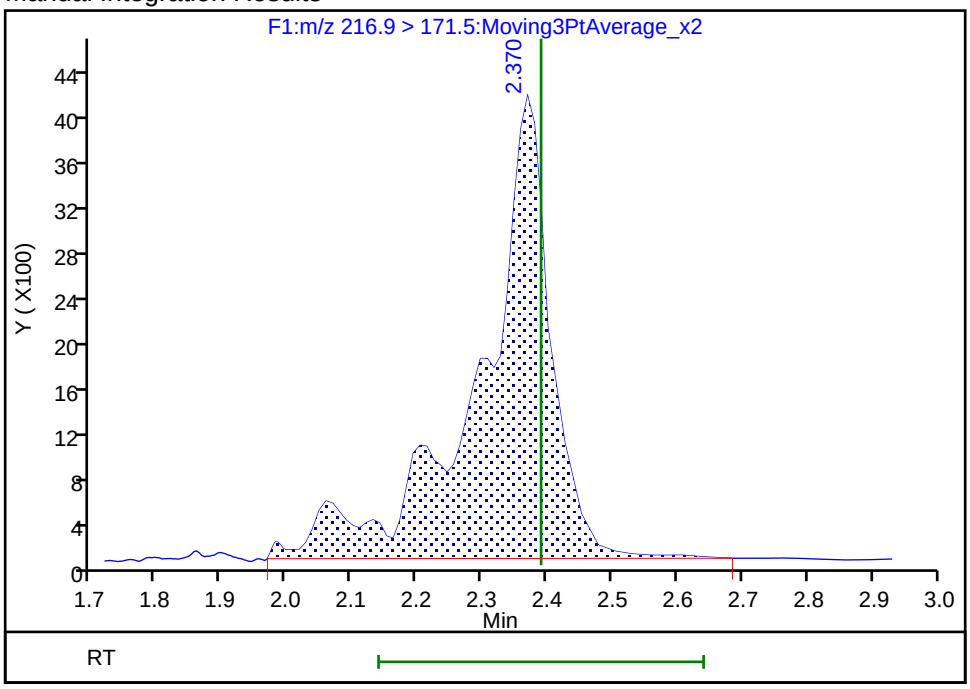
Processing Integration Results

RT: 2.27
Area: 28998
Amount: 4.682805
Amount Units: ng/ml



Manual Integration Results

RT: 2.37
Area: 31817
Amount: 5.138038
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:38:05

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

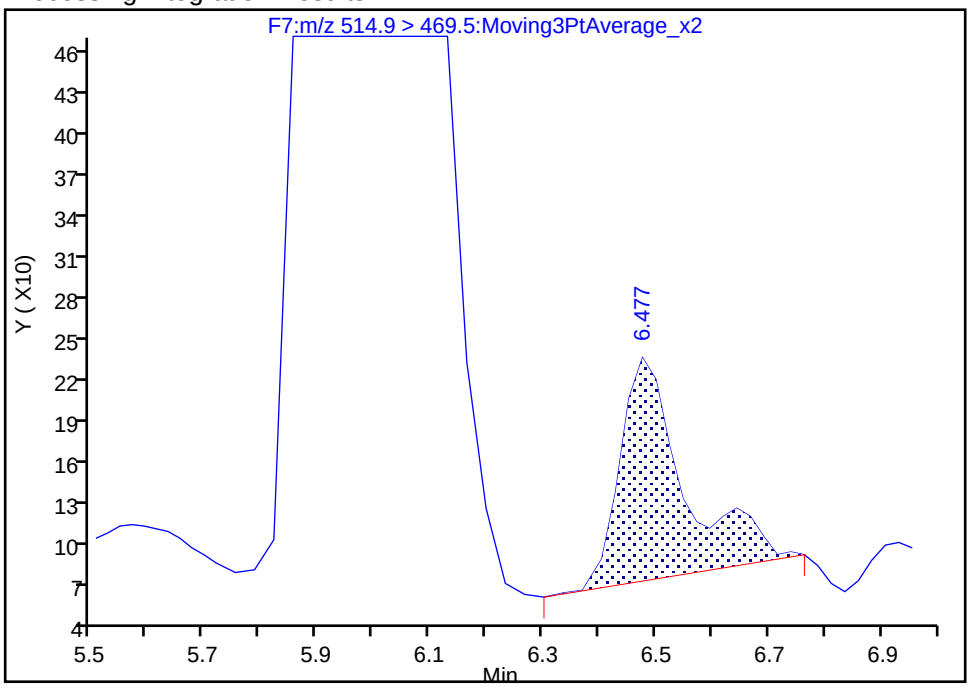
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 25 13C2 PFDA, CAS: STL00996

Signal: 1

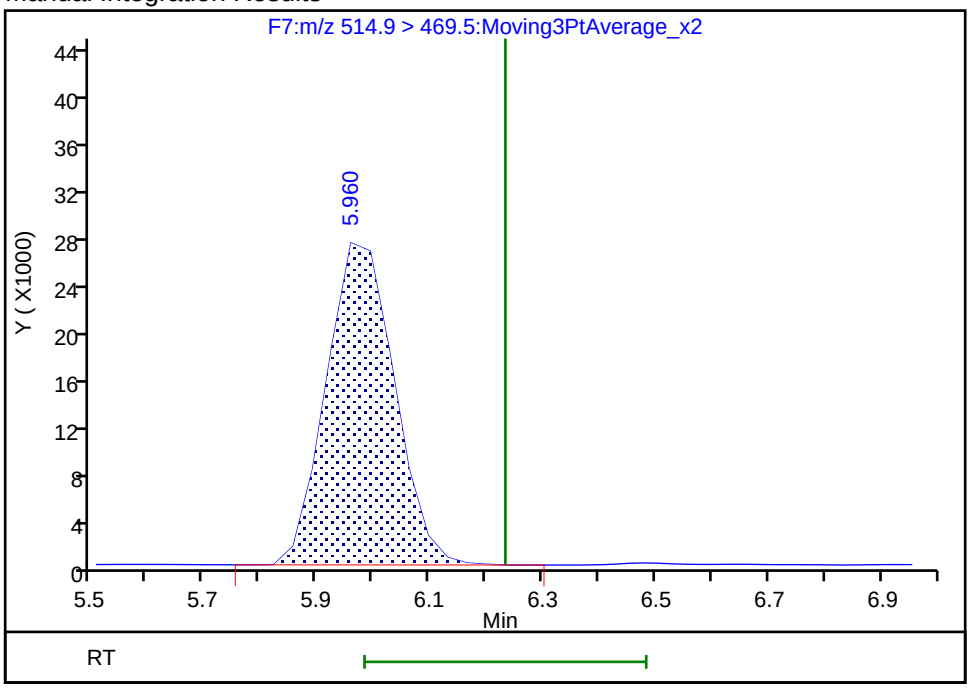
Processing Integration Results

RT: 6.48
Area: 1288
Amount: 0.045765
Amount Units: ng/ml



Manual Integration Results

RT: 5.96
Area: 226090
Amount: 8.033409
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 12:36:11

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

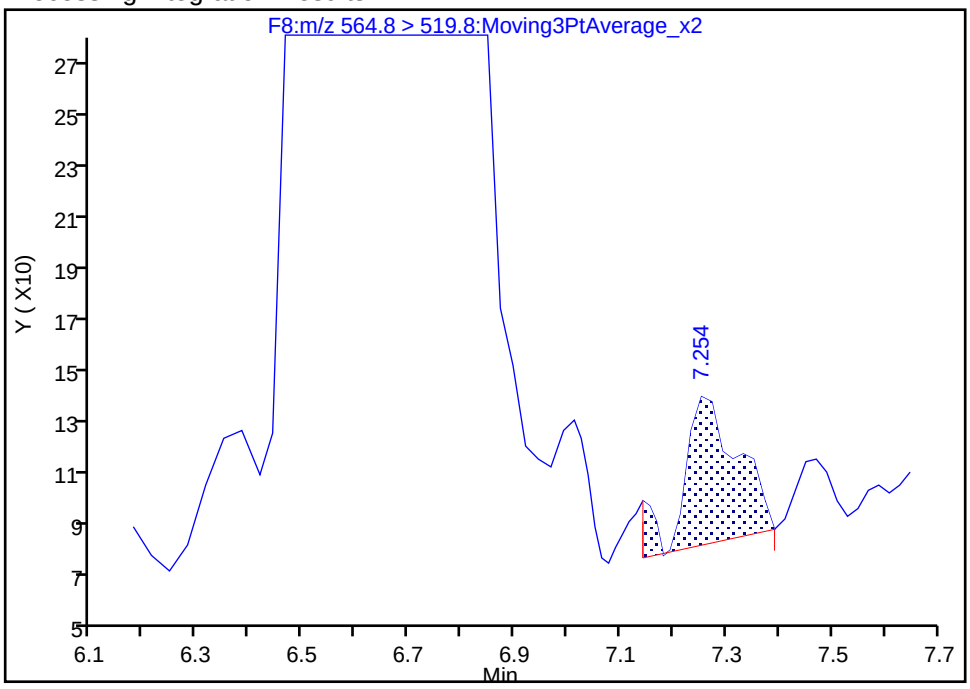
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 33 13C2 PFUnA, CAS: STL00997

Signal: 1

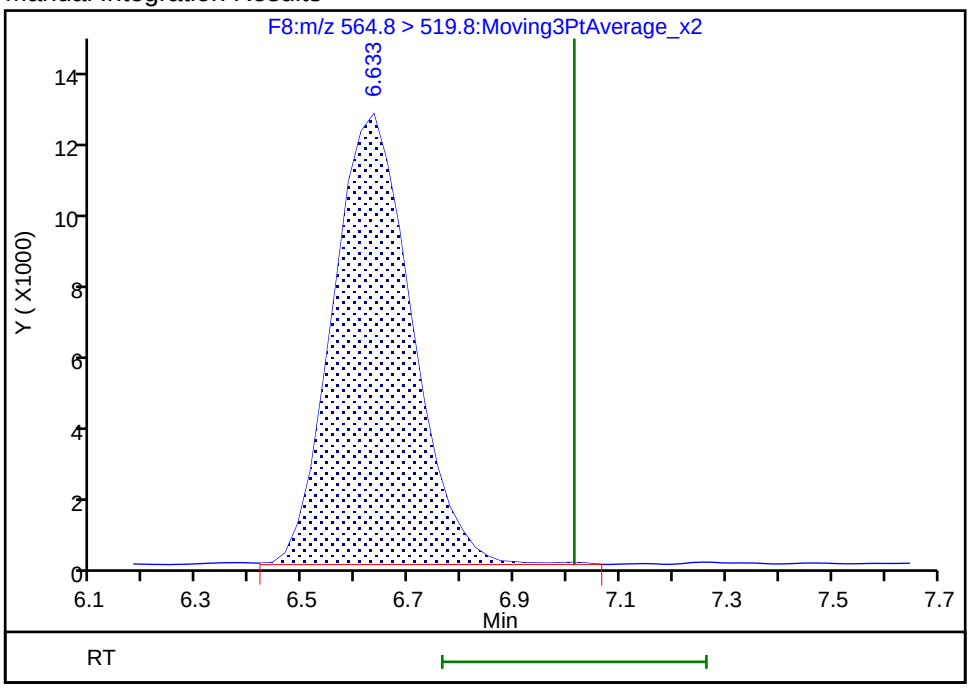
Processing Integration Results

RT: 7.25
Area: 398
Amount: 0.014652
Amount Units: ng/ml



Manual Integration Results

RT: 6.63
Area: 130673
Amount: 4.810564
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:57:53
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

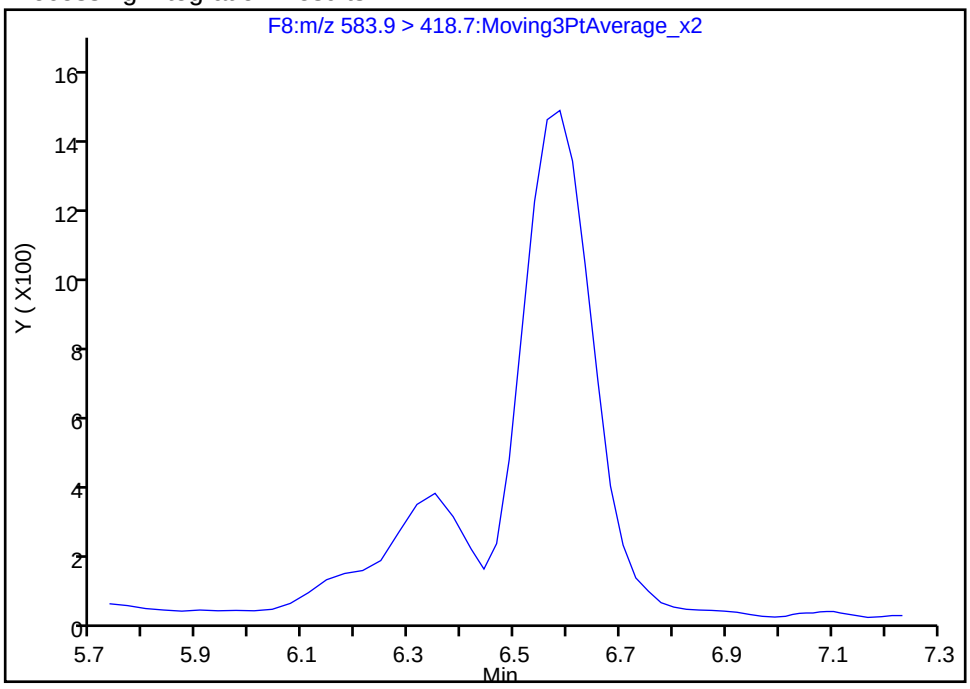
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

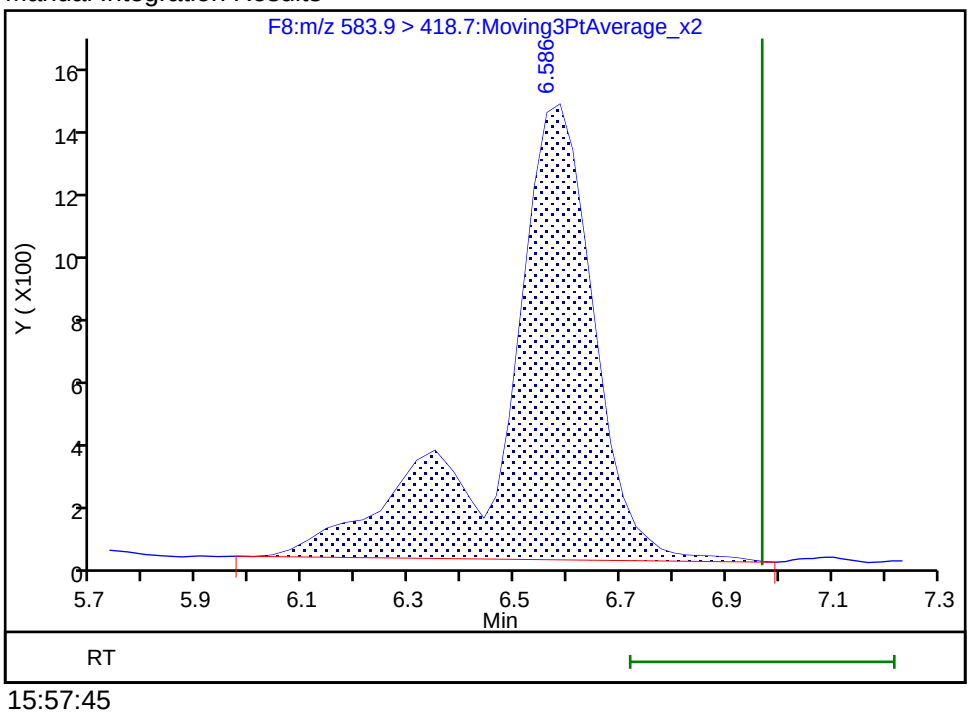
Not Detected
Expected RT: 6.97

Processing Integration Results



Manual Integration Results

RT: 6.59
Area: 16519
Amount: 7.845582
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:57:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

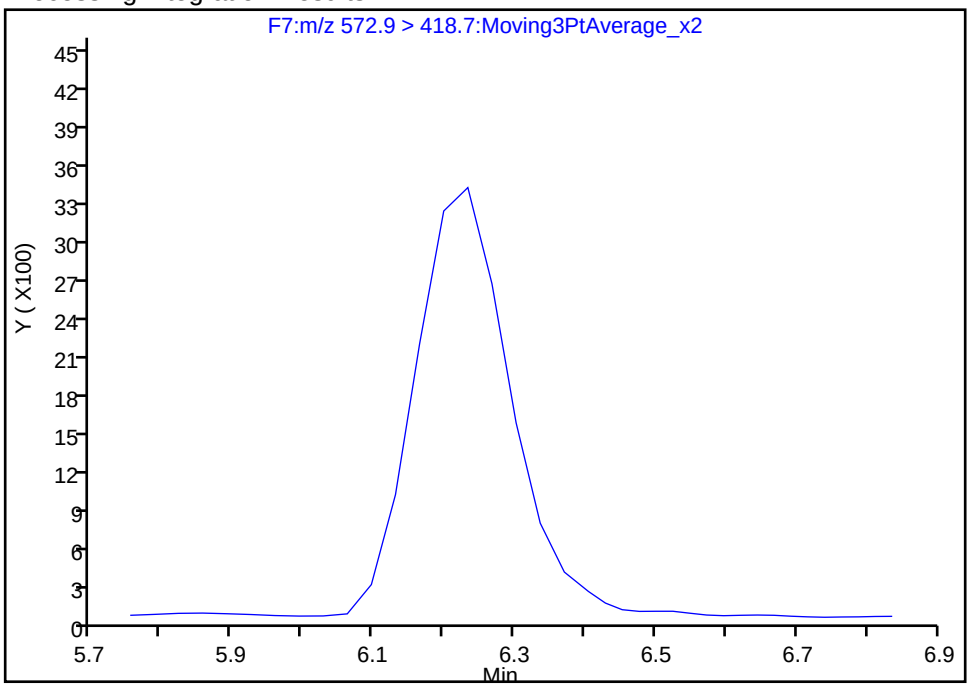
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 27 d3-NMeFOSAA, CAS: STL02118

Signal: 1

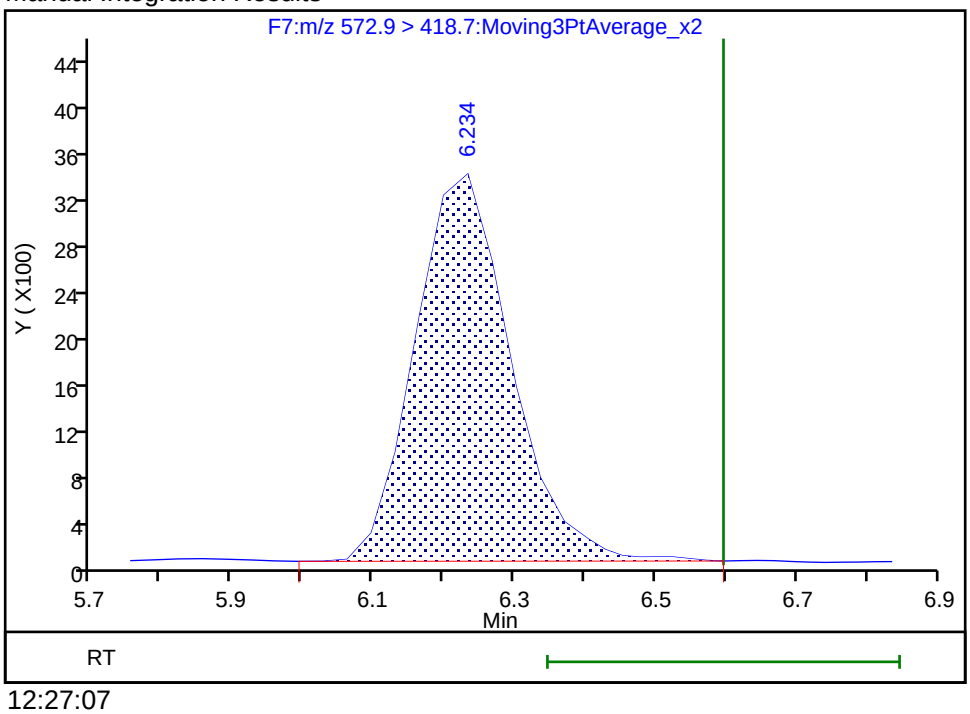
Not Detected
Expected RT: 6.60

Processing Integration Results



Manual Integration Results

RT: 6.23
Area: 31056
Amount: 3.387024
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 12:27:07
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

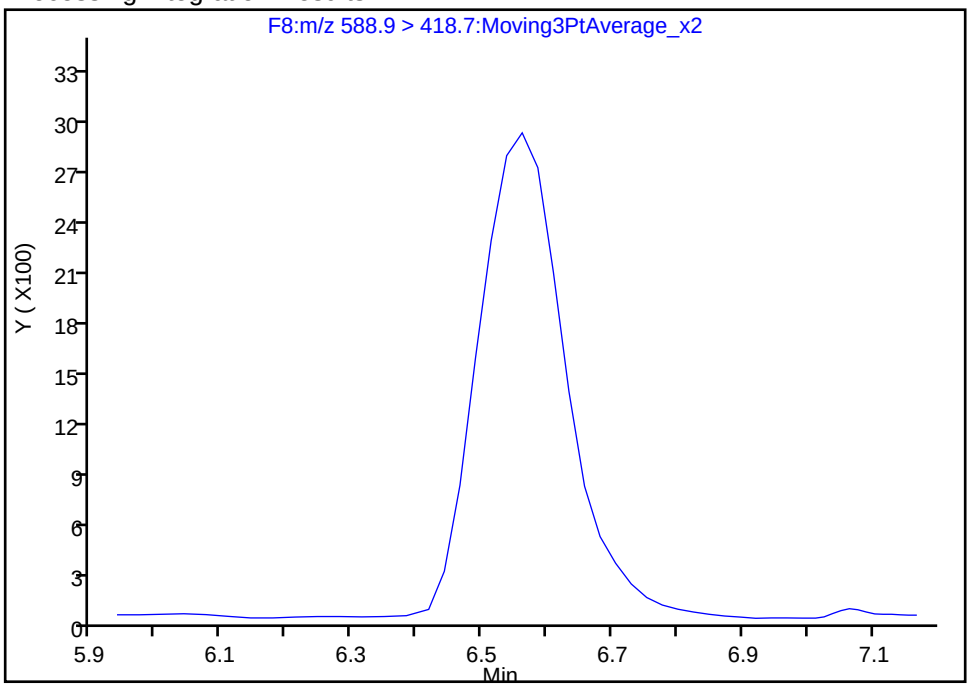
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 29 d5-NEtFOSAA, CAS: STL02117

Signal: 1

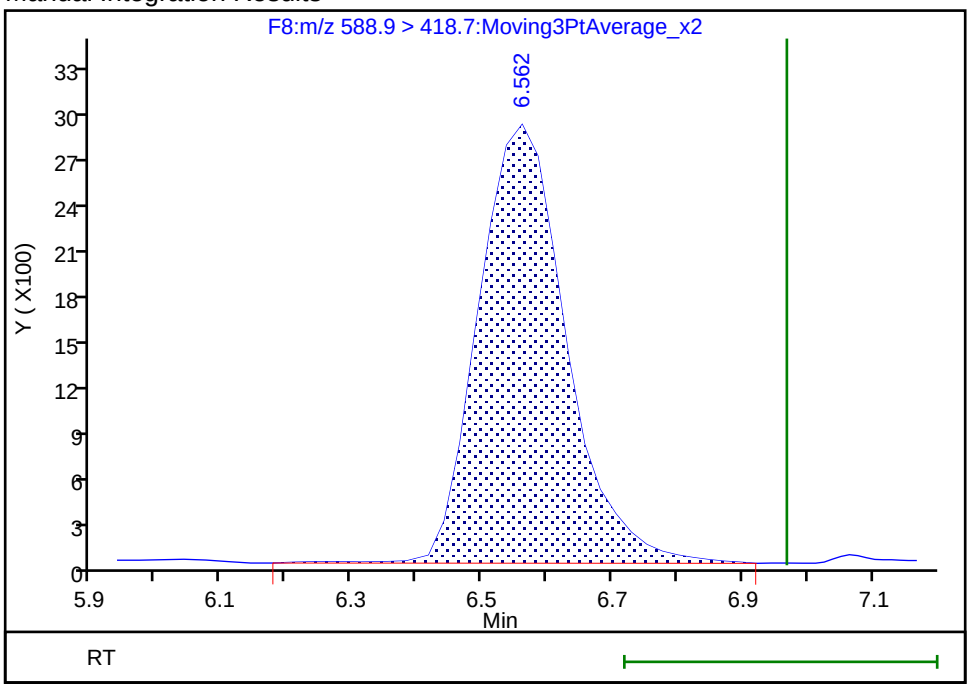
Not Detected
Expected RT: 6.97

Processing Integration Results



Manual Integration Results

RT: 6.56
Area: 26146
Amount: 3.457922
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:57:34
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

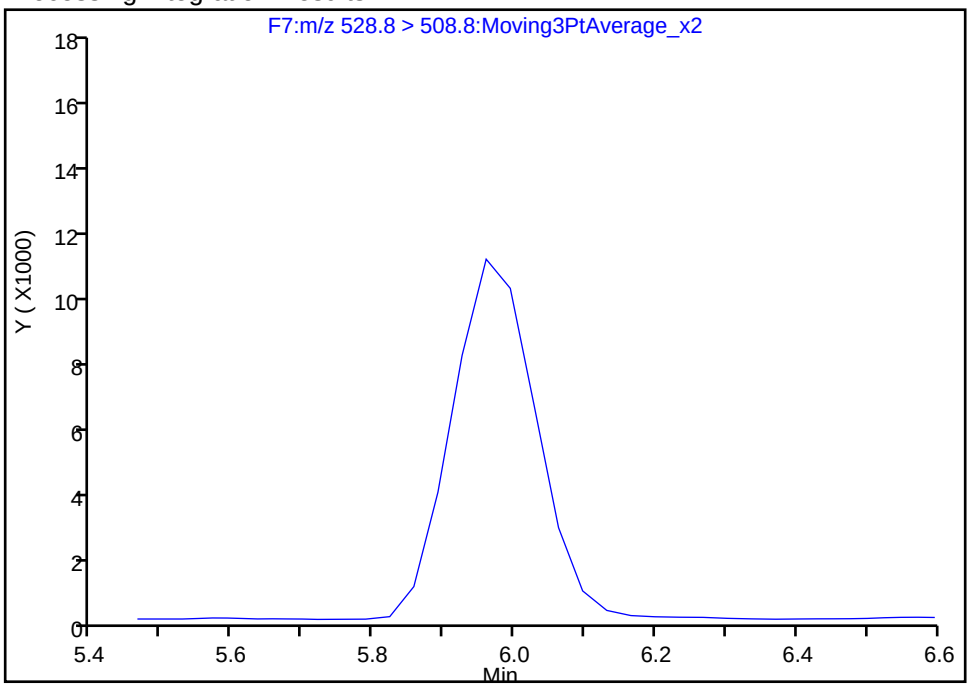
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B56.d				
Injection Date:	31-May-2019 03:20:51	Instrument ID:	LC410		
Lims ID:	200-48826-A-3-A	Lab Sample ID:	200-48826-3		
Client ID:	MW-17 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	56
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 24 M2-8:2 FTS, CAS: STL02280

Signal: 1

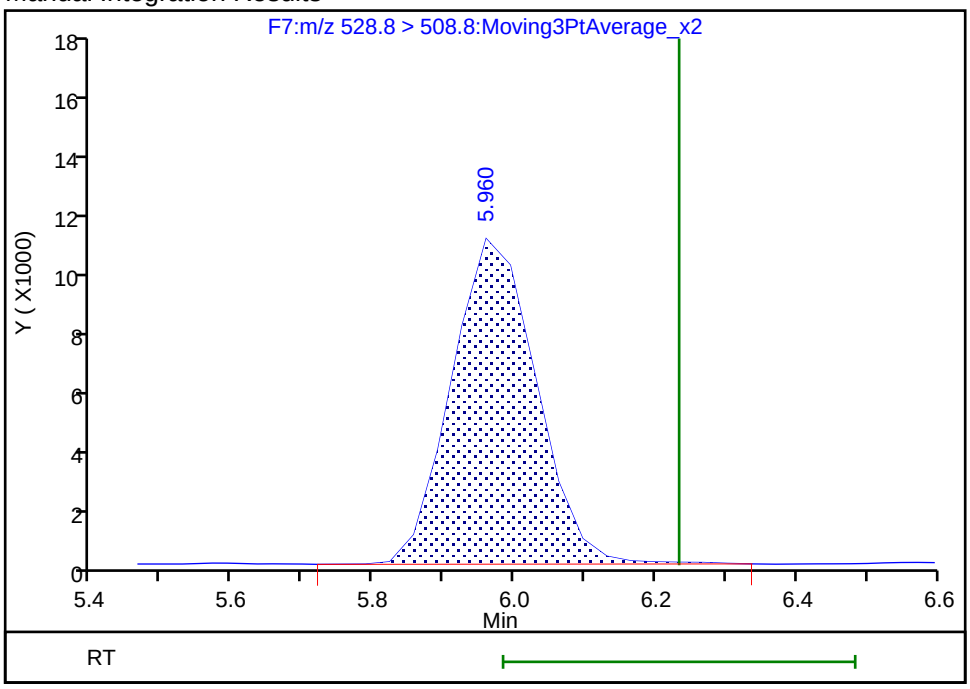
Not Detected
Expected RT: 6.23

Processing Integration Results



Manual Integration Results

RT: 5.96
Area: 90446
Amount: 17.626242
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 12:27:21
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-15S 051319 Lab Sample ID: 200-48826-4

Matrix: Water Lab File ID: PF053019B57.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 14:48

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 293.5(mL) Date Analyzed: 05/31/2019 03:36

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND	* CI	8.5	4.3
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.8	J	8.5	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		8.5	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND	*	8.5	3.9
335-67-1	Perfluorooctanoic acid (PFOA)	5.8	J	8.5	2.7
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.5	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.5	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.5	2.3
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.5	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.5	2.6
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.5	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND	*	8.5	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		8.5	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.5	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.5	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	26		8.5	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.5	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		85	7.2
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16	J *	85	6.4
27619-97-2	6:2 FTS	ND		85	20
39108-34-4	8:2 FTS	ND		85	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-15S 051319 Lab Sample ID: 200-48826-4

Matrix: Water Lab File ID: PF053019B57.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 14:48

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 293.5(mL) Date Analyzed: 05/31/2019 03:36

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	61		25-150
STL00992	13C4 PFBA	58		25-150
STL01893	13C5 PFPeA	81		25-150
STL00993	13C2 PFHxA	85		50-150
STL01892	13C4 PFHpA	104		50-150
STL00990	13C4 PFOA	96		50-150
STL00995	13C5 PFNA	78		50-150
STL00996	13C2 PFDA	91		50-150
STL00997	13C2 PFUnA	104		50-150
STL00998	13C2 PFDoA	86		50-150
STL02116	13C2 PFTeDA	77		50-150
STL02337	13C3 PFBS	68		50-150
STL00994	18O2 PFHxS	67		50-150
STL00991	13C4 PFOS	70		50-150
STL02118	d3-NMeFOSAA	74		50-150
STL02117	d5-NEtFOSAA	97		50-150
STL02279	M2-6:2 FTS	110		25-150
STL02280	M2-8:2 FTS	135		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d
Lims ID: 200-48826-A-4-A
Client ID: MW-15S 051319
Sample Type: Client
Inject. Date: 31-May-2019 03:36:42 ALS Bottle#: 0 Worklist Smp#: 57
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036138-057 4
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:25:52 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: murrayjw Date: 05-Jun-2019 10:39:00
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.370	2.391	-0.021	1.000	29536	5.79		57.9	83.7	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	31488	8.14		81.4	66.7	
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.866	2.866	0.0	1.013	3110	0.3298			1.6	M
D 5 13C3 PFBS										
302.0 > 79.8	2.937	2.901	0.036	1.000	10582	6.29		67.6	41.7	
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	98241	8.46		84.6	802	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.925	3.925	0.0	1.005	3254	0.1630	Target=2.84		3.9	M
362.9 > 168.9	3.905	3.925	-0.020	1.000	1914		1.70(1.42-4.26)		10.6	M
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.925	-0.020	1.000	170147	10.4		104	648	
D 12 18O2 PFHxS										
402.9 > 83.8	3.946	3.946	0.0	1.000	13546	6.29		66.5	60.8	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.568	4.589	-0.021	1.000	12114	10.4		110	73.8	
D 17 13C4 PFOA										
416.9 > 371.8	4.609	4.630	-0.021	1.000	193486	9.55		95.5	735	
* 16 13C2 PFOA										
414.9 > 369.8	4.609	4.630	-0.021		208628	10.0			618	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.609	4.630	-0.021	1.000	13294	0.6790	Target=2.43		44.0	
412.9 > 168.9	4.630	4.630	0.0	1.005	4274		3.11(1.22-3.64)		27.7	
D 20 13C5 PFNA										
467.8 > 422.8	5.389	5.432	-0.043	1.000	213000	7.84		78.4	999	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 22 13C4 PFOS										
502.9 > 80.0	5.389	5.453	-0.064	1.000	32603	6.72		70.3	155	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.411	5.453	-0.042	1.004	9957	3.02	Target=1.41		111	M
498.9 > 98.9	5.389	5.453	-0.064	1.000	11377		0.88(0.71-2.12)		84.3	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.165	6.234	-0.069	1.000	54476	12.9		135	294	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.234	-0.069	1.000	211799	9.13		91.3	952	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.597	-0.096	1.000	55839	7.39		73.9	415	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.897	6.969	-0.072	1.000	60510	9.71		97.1	244	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.897	6.969	-0.072	1.000	9387	1.93			62.8	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	7.013	-0.092	1.000	232094	10.4		104	844	
D 34 13C8 FOSA										
505.9 > 78.0	7.026	7.039	-0.013	1.000	51157	6.12		61.2	145	
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.695	-0.079	1.000	246255	8.63		86.3	659	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.808	8.870	-0.062	1.000	197072	7.70		77.0	581	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 17:26:03 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d

Injection Date: 31-May-2019 03:36:42 Instrument ID: LC410

Lims ID: 200-48826-A-4-A Lab Sample ID: 200-48826-4

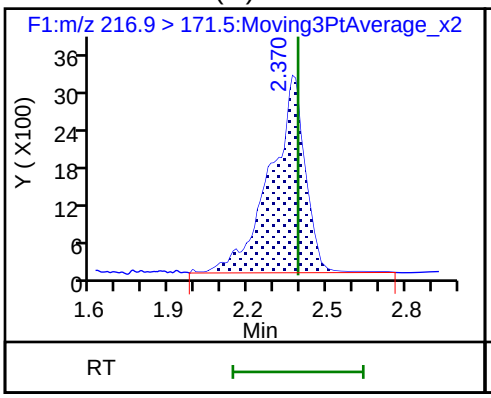
Client ID: MW-15S 051319

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 57

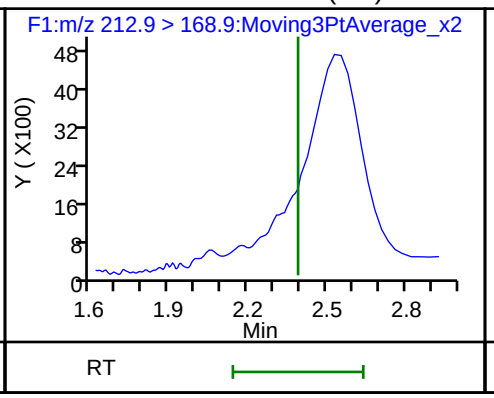
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

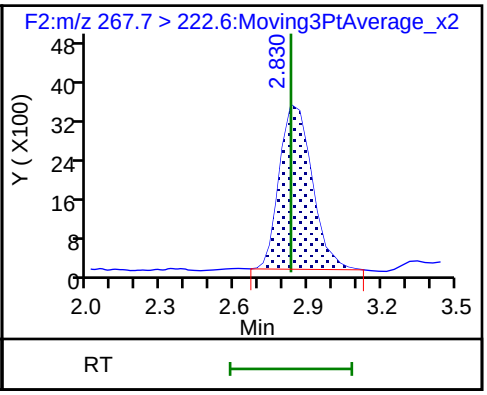
D 1 13C4 PFBA (M)



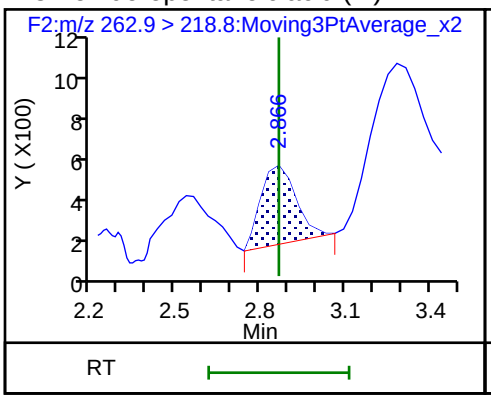
2 Perfluorobutanoic acid (ND)



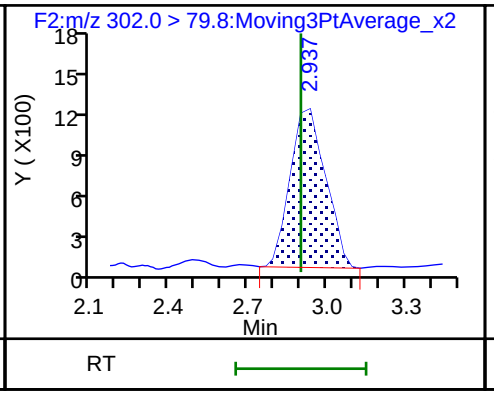
D 4 13C5 PFPeA



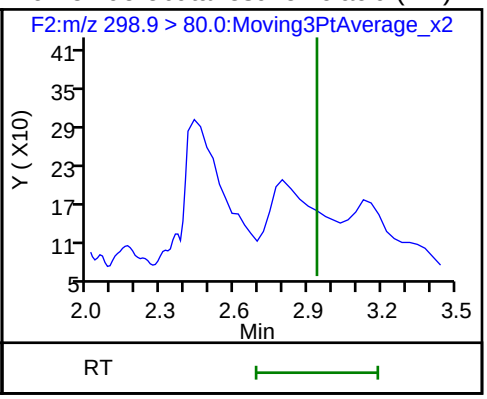
3 Perfluoropentanoic acid (M)



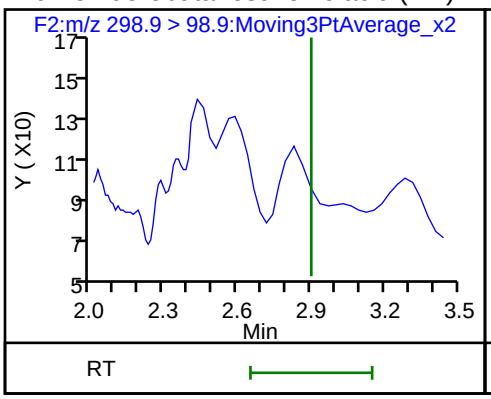
D 5 13C3 PFBS



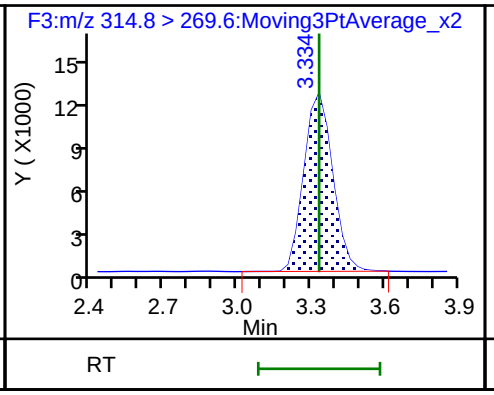
6 Perfluorobutanesulfonic acid (ND)



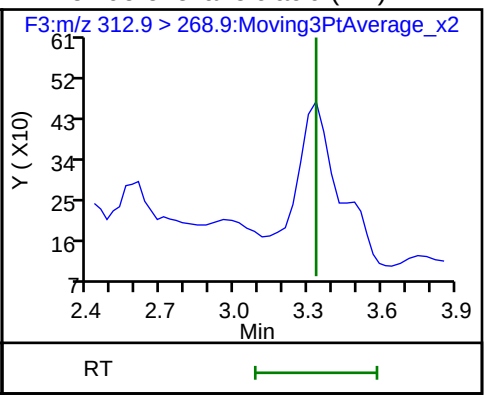
6 Perfluorobutanesulfonic acid (ND)



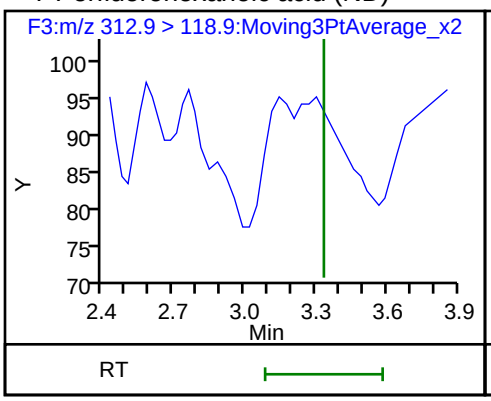
D 8 13C2 PFHxA



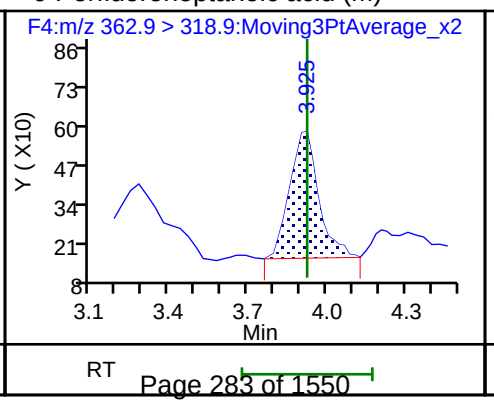
7 Perfluorohexanoic acid (ND)



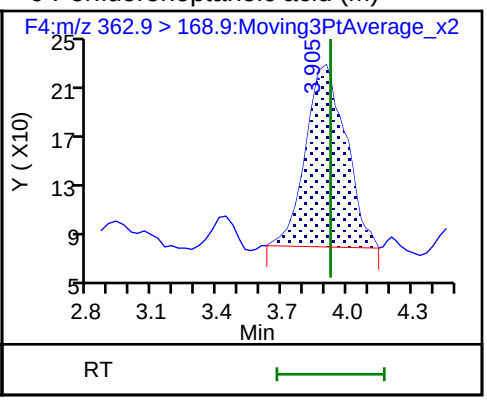
7 Perfluorohexanoic acid (ND)



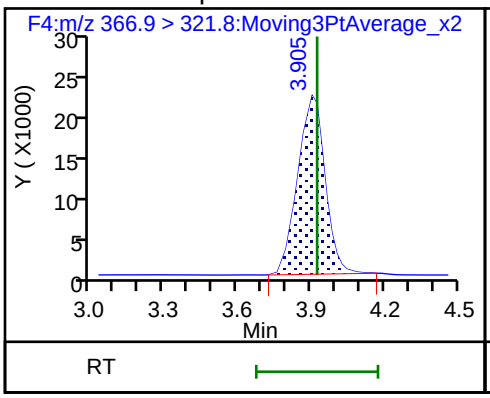
9 Perfluoroheptanoic acid (M)



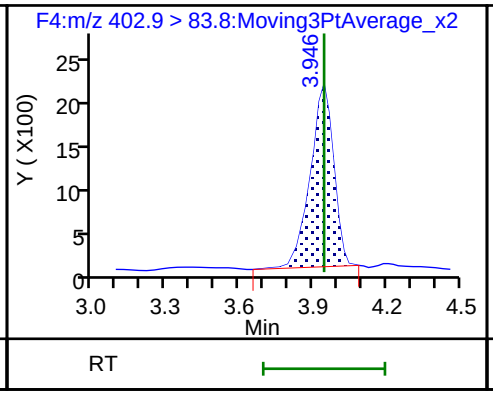
9 Perfluoroheptanoic acid (M)



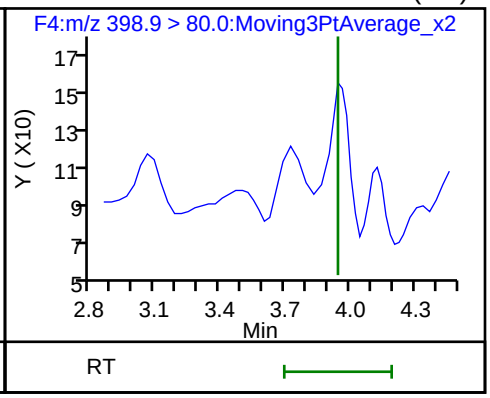
D 10 13C4 PFHpA



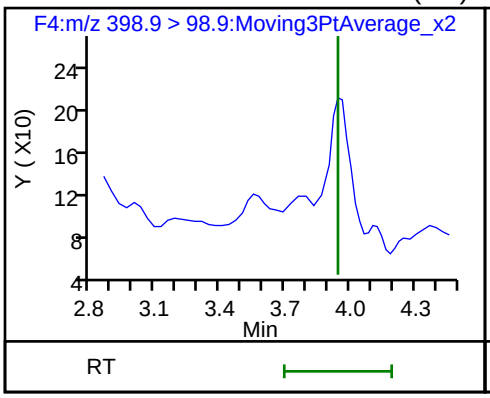
D 12 18O2 PFHxS



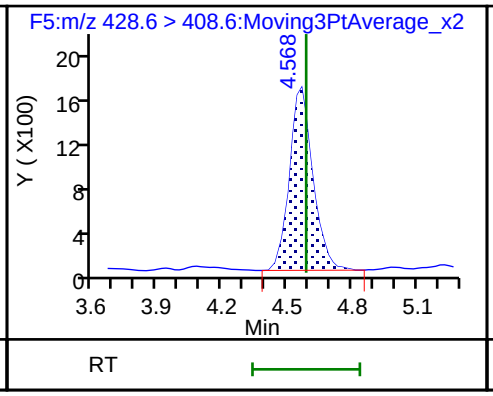
11 Perfluorohexanesulfonic acid (ND)



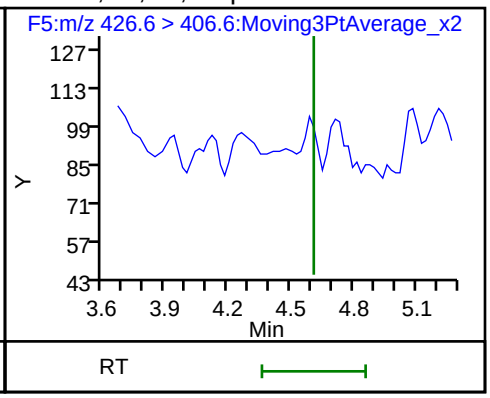
11 Perfluorohexanesulfonic acid (ND)



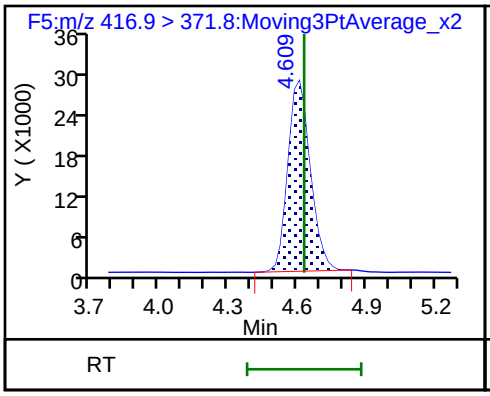
D 14 M2-6:2 FTS



13 1H,1H,2H,2H-perfluorooctanesulfoni (ND)



D 17 13C4 PFOA



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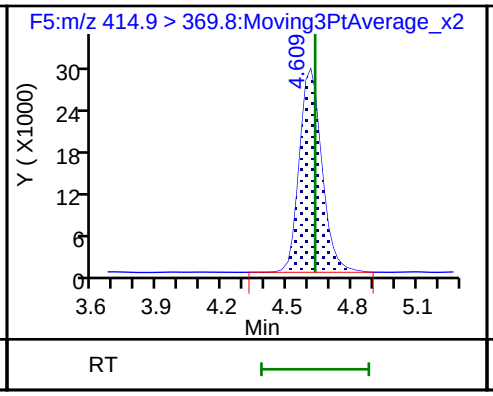
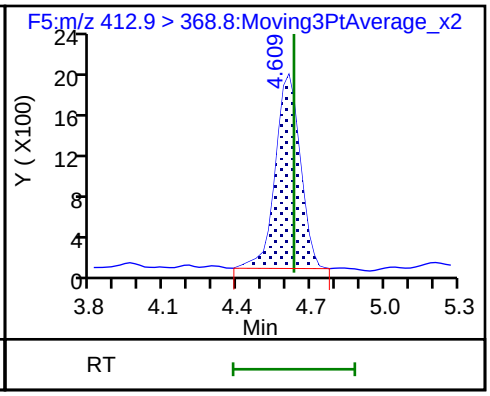
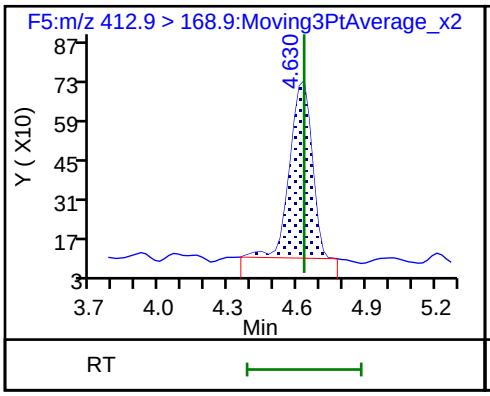


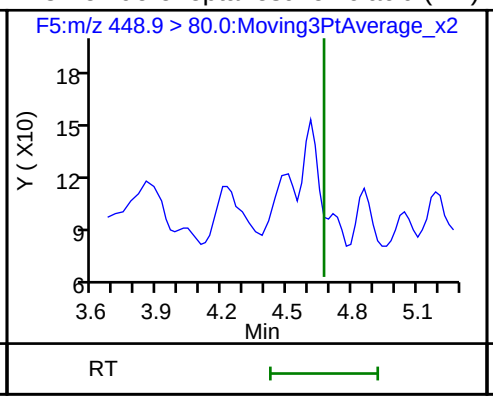
15 Perfluorooctanoic acid



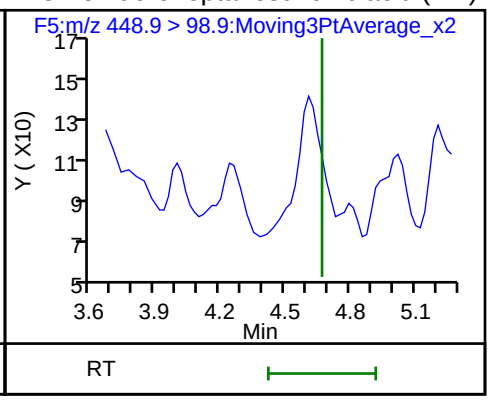
15 Perfluorooctanoic acid



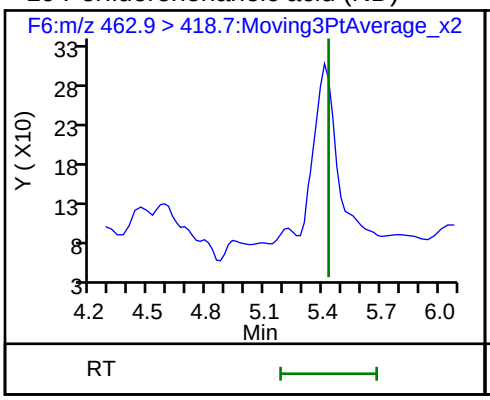
18 Perfluoroheptanesulfonic acid (ND)



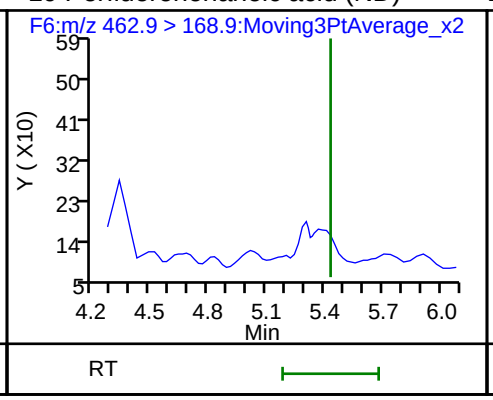
18 Perfluoroheptanesulfonic acid (ND)



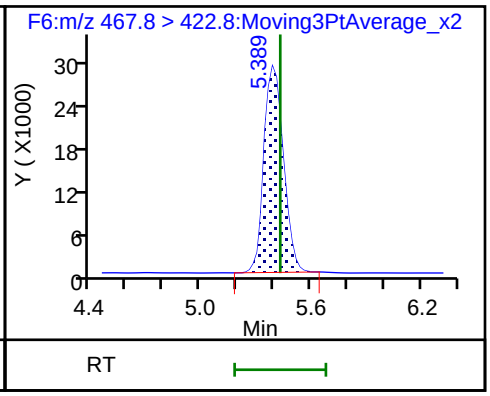
19 Perfluorononanoic acid (ND)



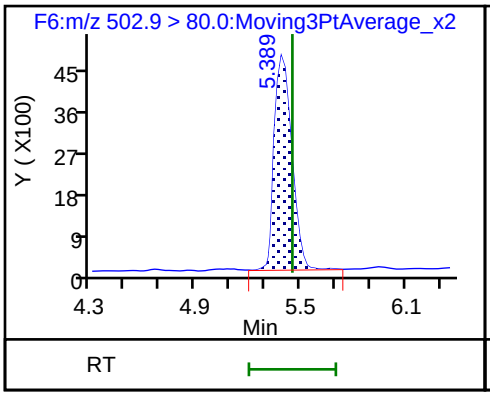
19 Perfluorononanoic acid (ND)



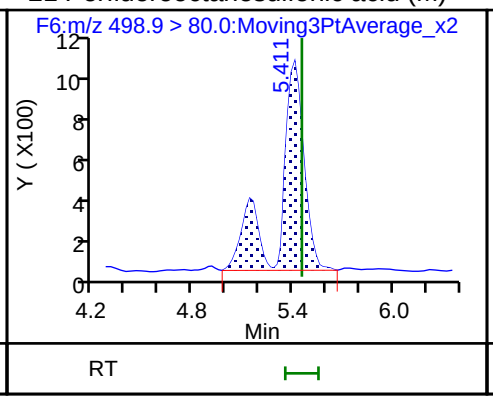
D 20 13C5 PFNA



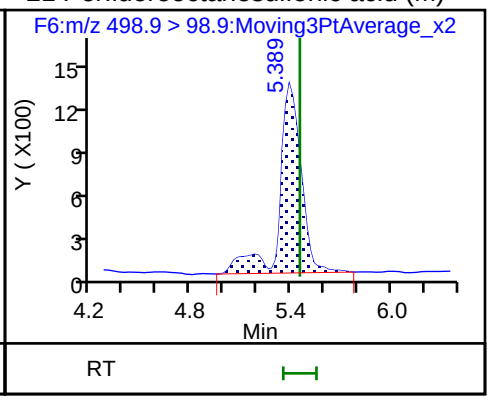
D 22 13C4 PFOS



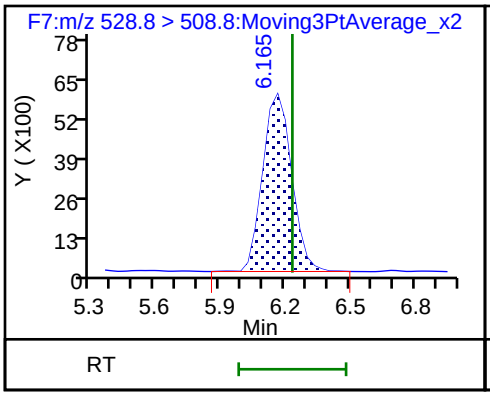
21 Perfluorooctanesulfonic acid (M)



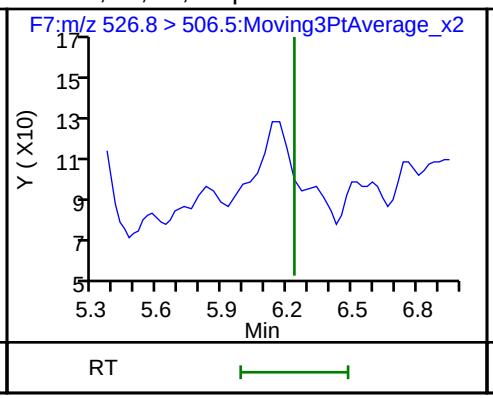
21 Perfluorooctanesulfonic acid (M)



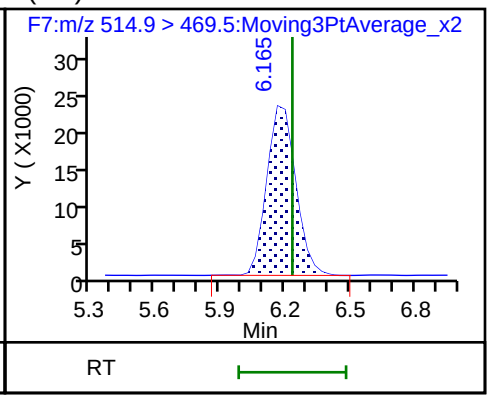
D 24 M2-8:2 FTS



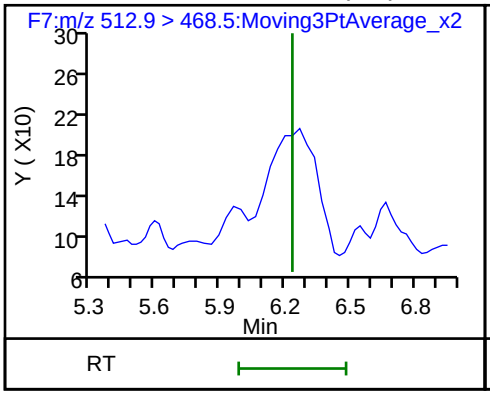
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



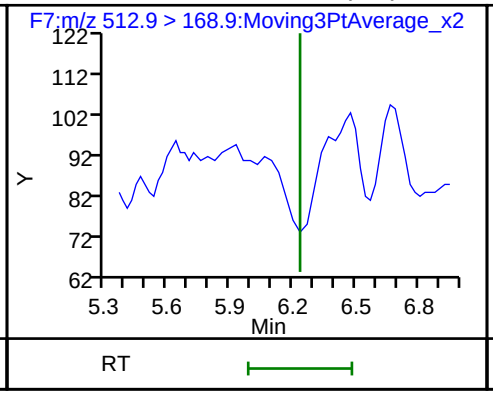
D 25 13C2 PFDA



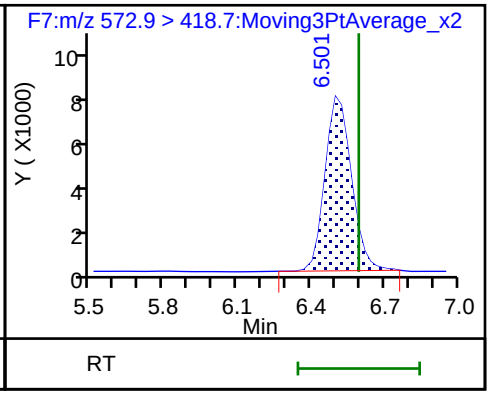
26 Perfluorodecanoic acid (ND)



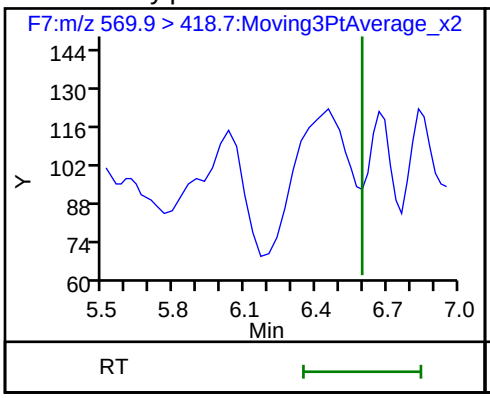
26 Perfluorodecanoic acid (ND)



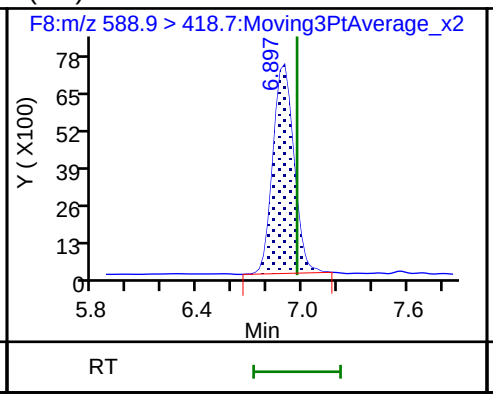
D 27 d3-NMeFOSAA



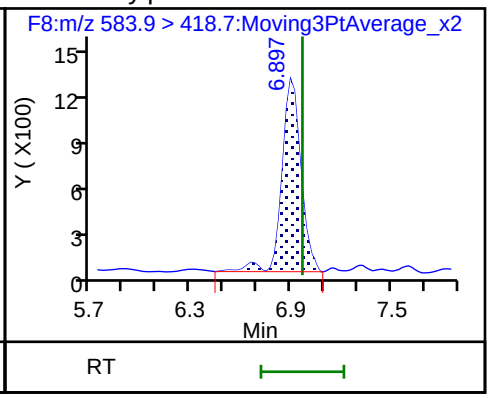
28 N-methylperfluorooctanesulfonamidoa (M)



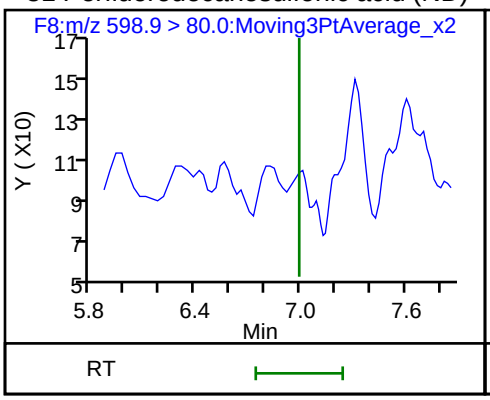
D 29 d5-NEtFOSAA



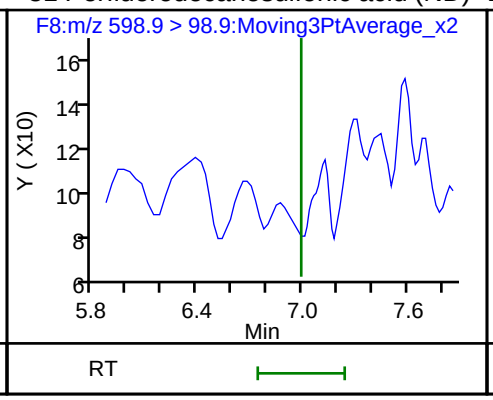
30 N-ethylperfluorooctanesulfonamidoa (M)



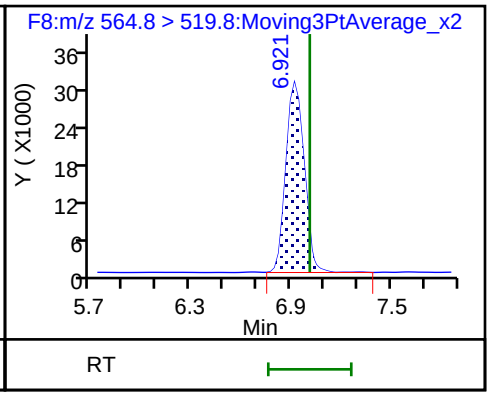
31 Perfluorodecanesulfonic acid (ND)



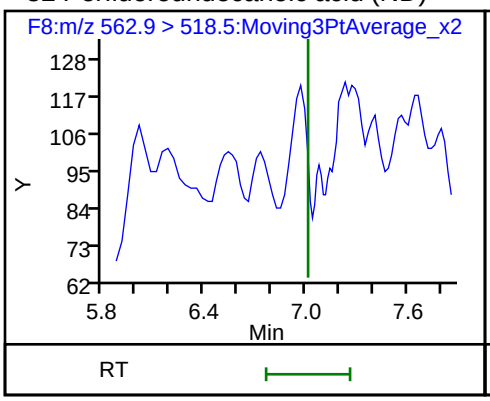
31 Perfluorodecanesulfonic acid (ND)



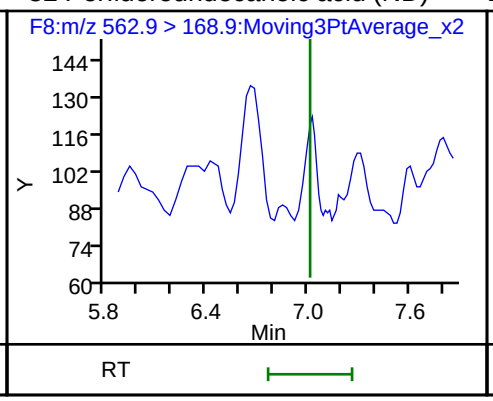
D 33 13C2 PFUnA



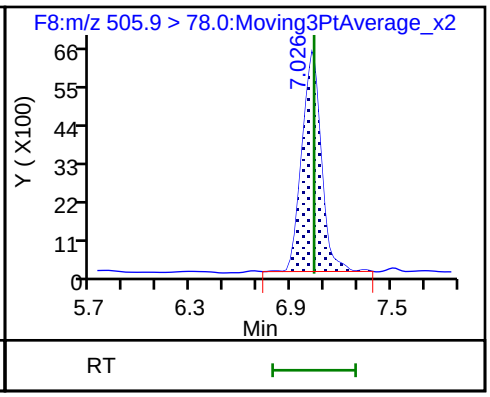
32 Perfluoroundecanoic acid (ND)



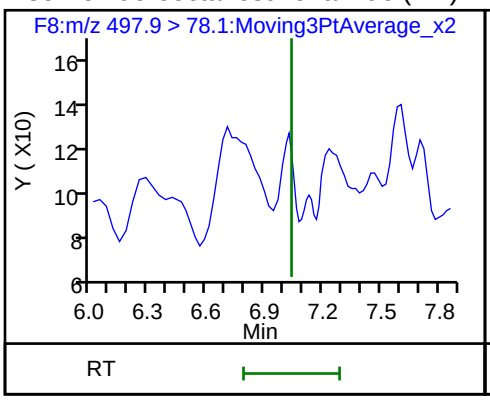
32 Perfluoroundecanoic acid (ND)



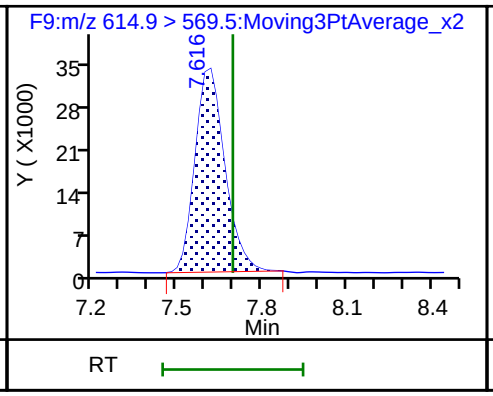
D 34 13C8 FOSA



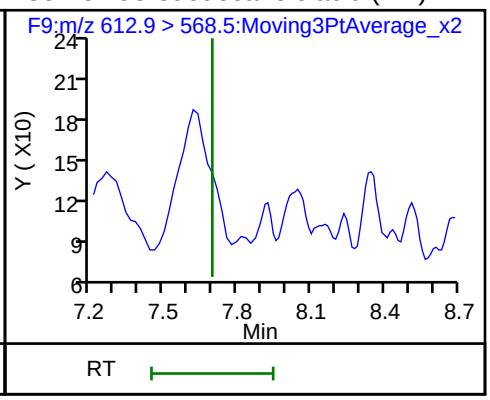
35 Perfluorooctanesulfonamide (ND)



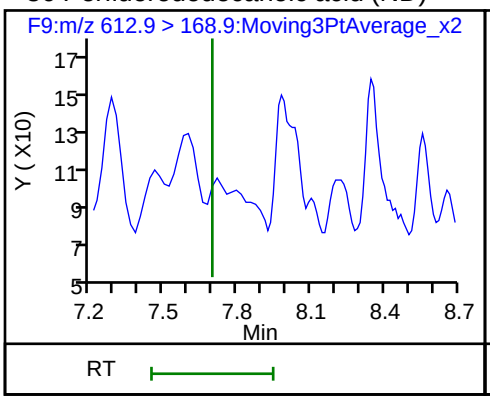
D 37 13C2 PFDoA



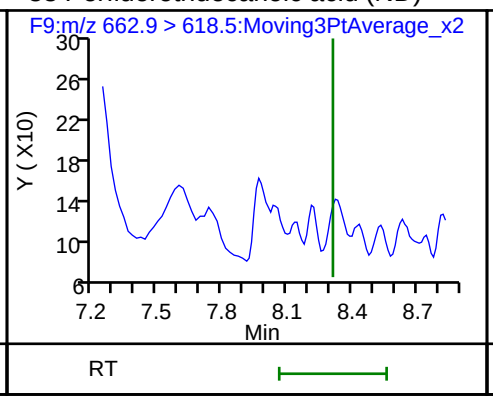
36 Perfluorododecanoic acid (ND)



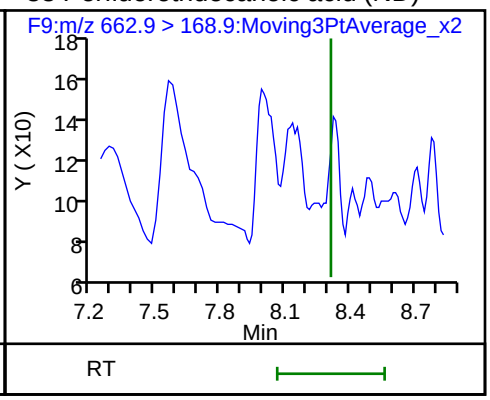
36 Perfluorododecanoic acid (ND)



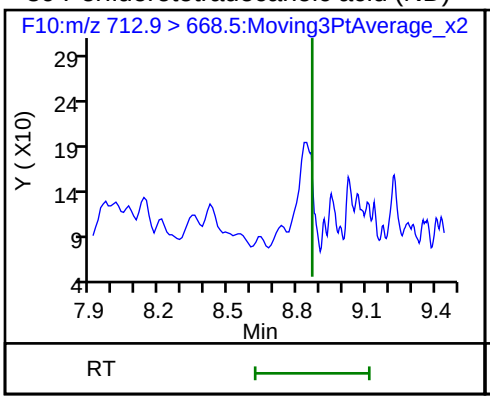
38 Perfluorotridecanoic acid (ND)



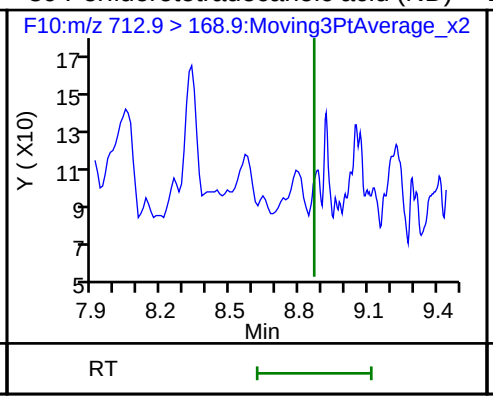
38 Perfluorotridecanoic acid (ND)



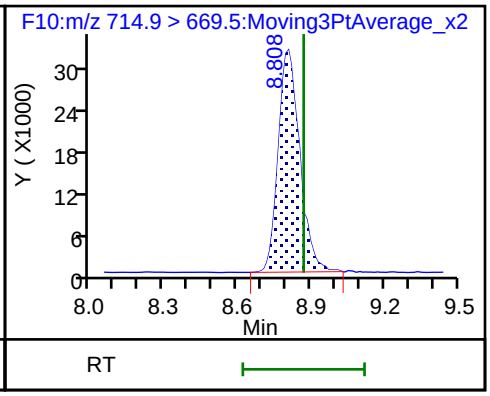
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



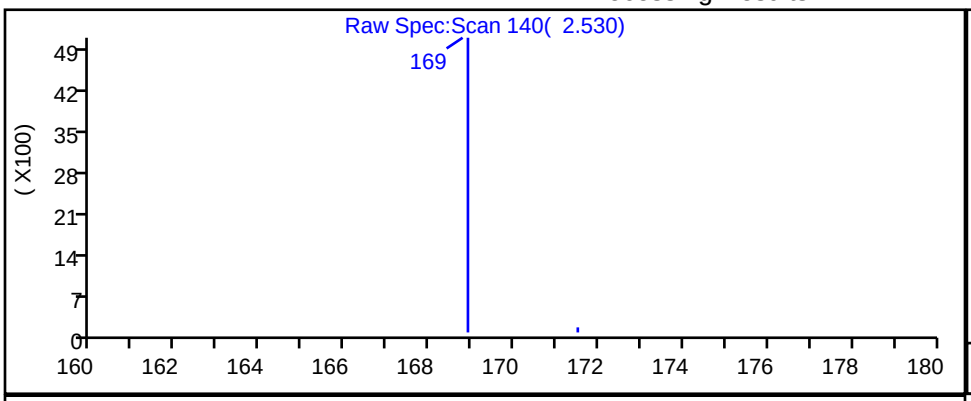
User Disabled Compound Report

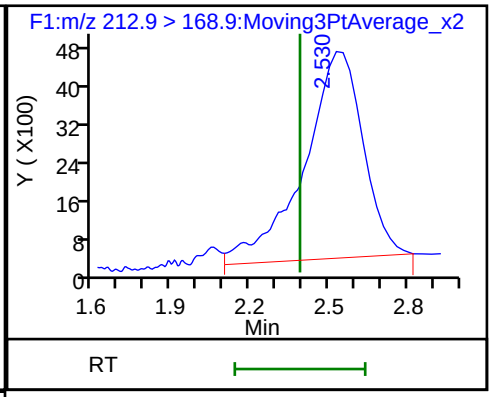
Eurofins TestAmerica, Burlington

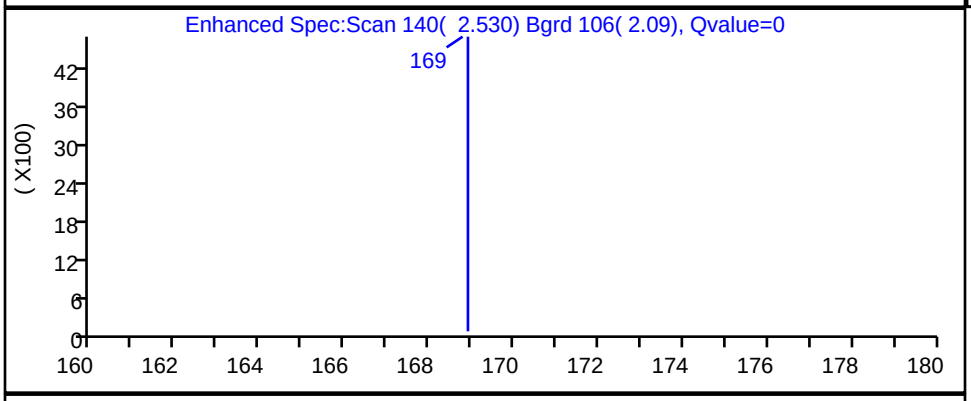
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d				
Injection Date:	31-May-2019 03:36:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-4-A	Lab Sample ID:	200-48826-4		
Client ID:	MW-15S 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

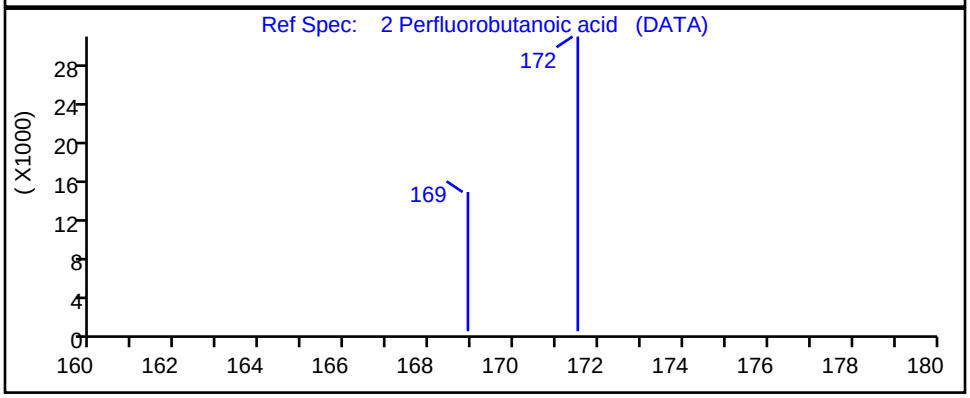
2 Perfluorobutanoic acid, CAS: 375-22-4

Processing Results









RT	Mass	Response	Amount
2.53	168.90	68246	39.683303

Reviewer: murrayjw, 05-Jun-2019 10:38:23

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Burlington

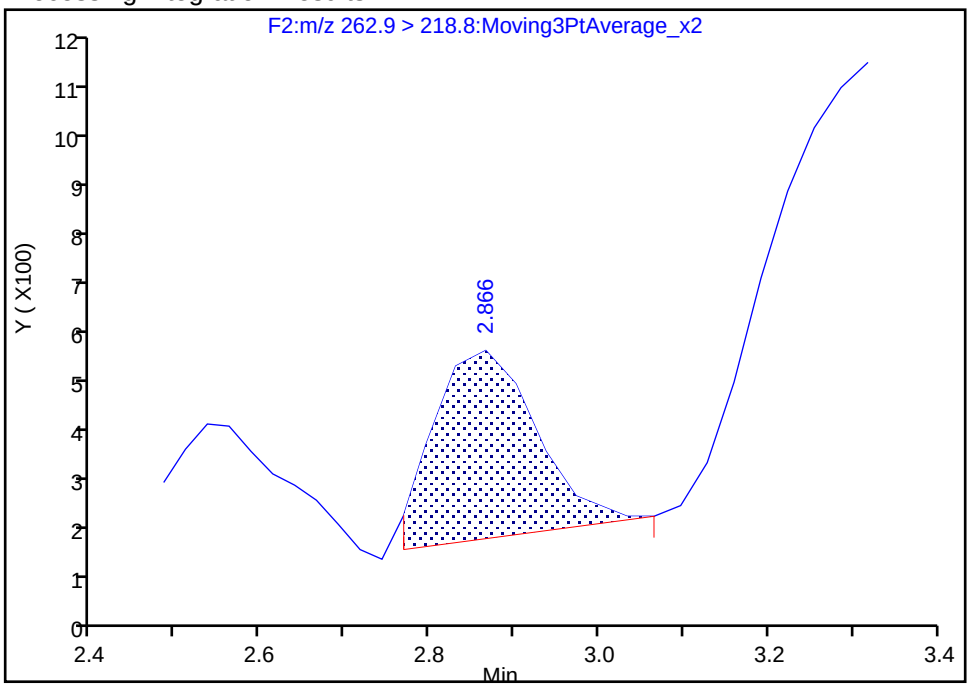
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d				
Injection Date:	31-May-2019 03:36:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-4-A	Lab Sample ID:	200-48826-4		
Client ID:	MW-15S 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

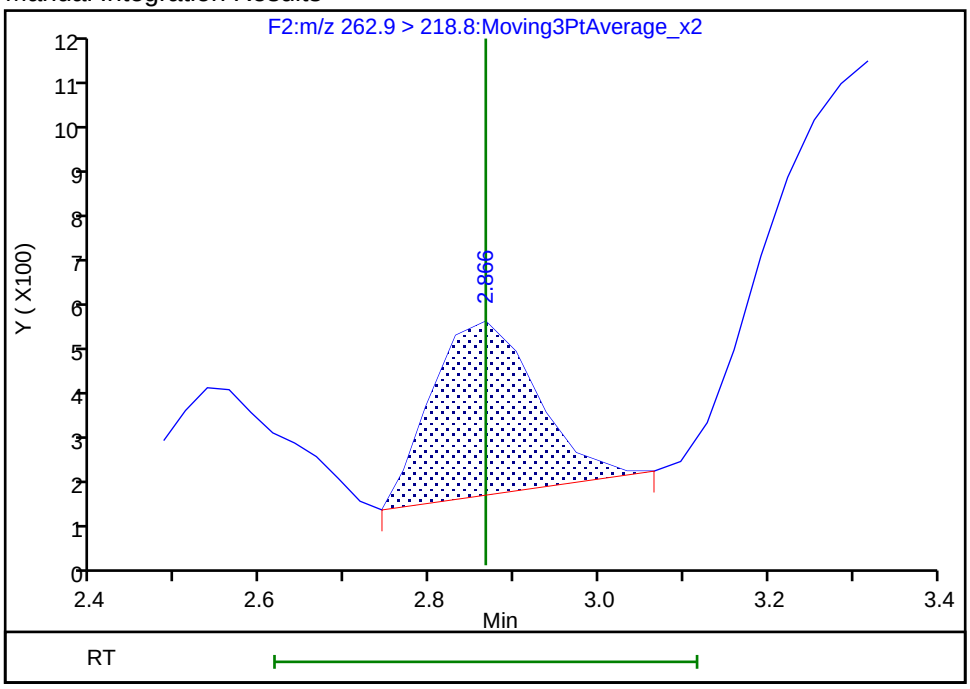
Processing Integration Results

RT: 2.87
Area: 2949
Amount: 0.312755
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 3110
Amount: 0.329830
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 15:58:42
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

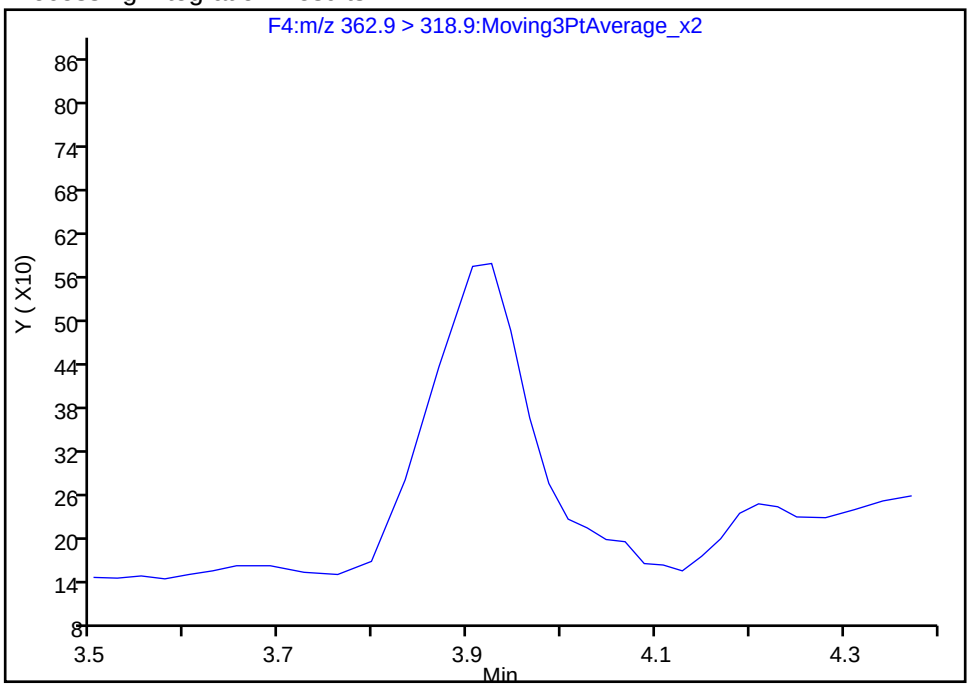
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d				
Injection Date:	31-May-2019 03:36:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-4-A	Lab Sample ID:	200-48826-4		
Client ID:	MW-15S 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

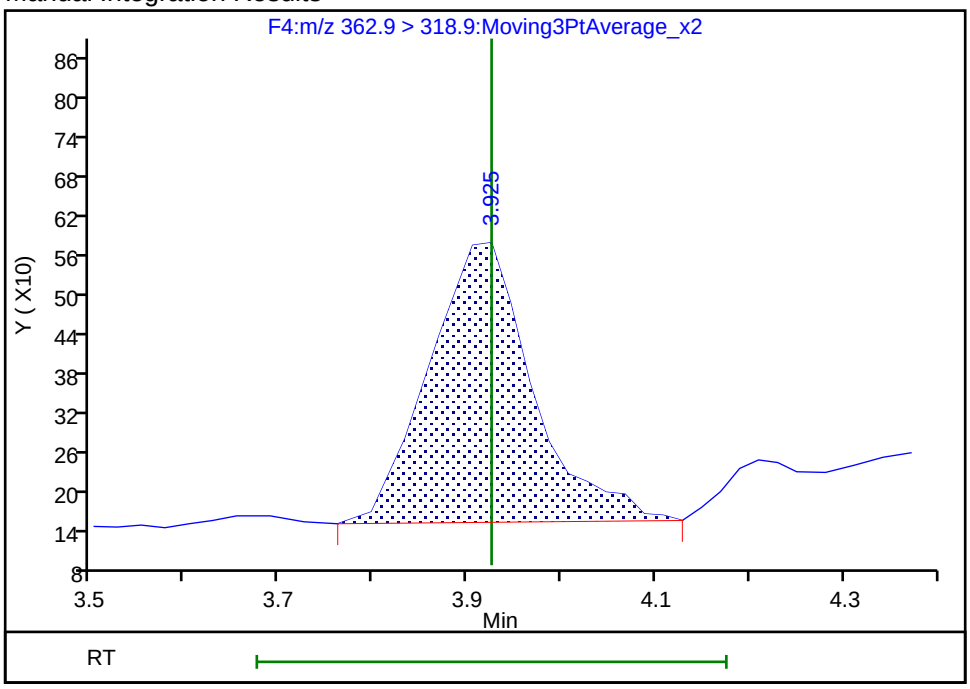
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.93
Area: 3254
Amount: 0.162960
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:00:13
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

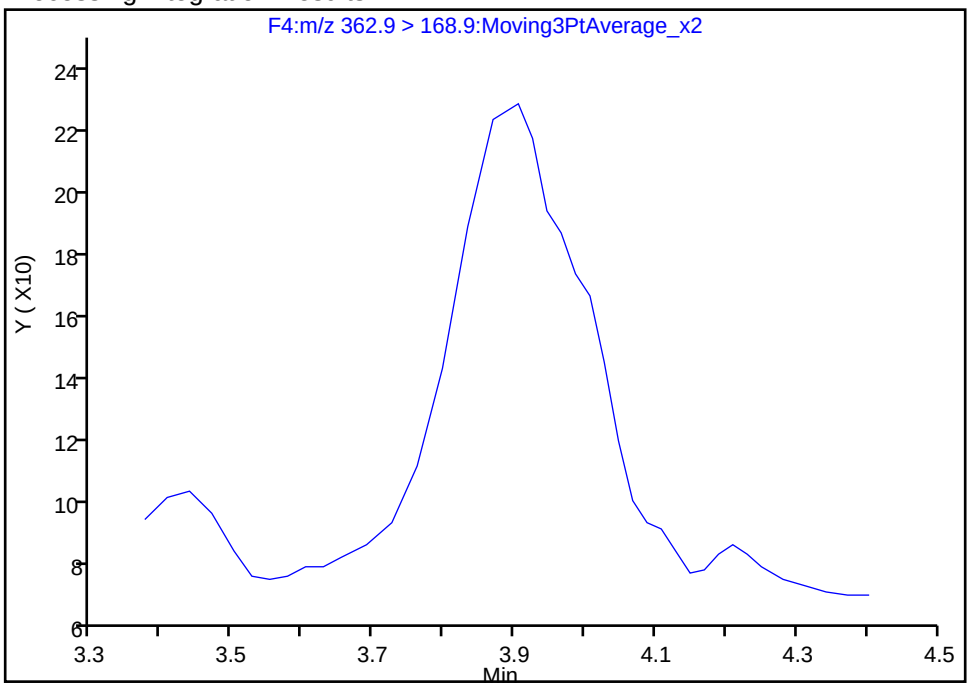
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d				
Injection Date:	31-May-2019 03:36:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-4-A	Lab Sample ID:	200-48826-4		
Client ID:	MW-15S 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

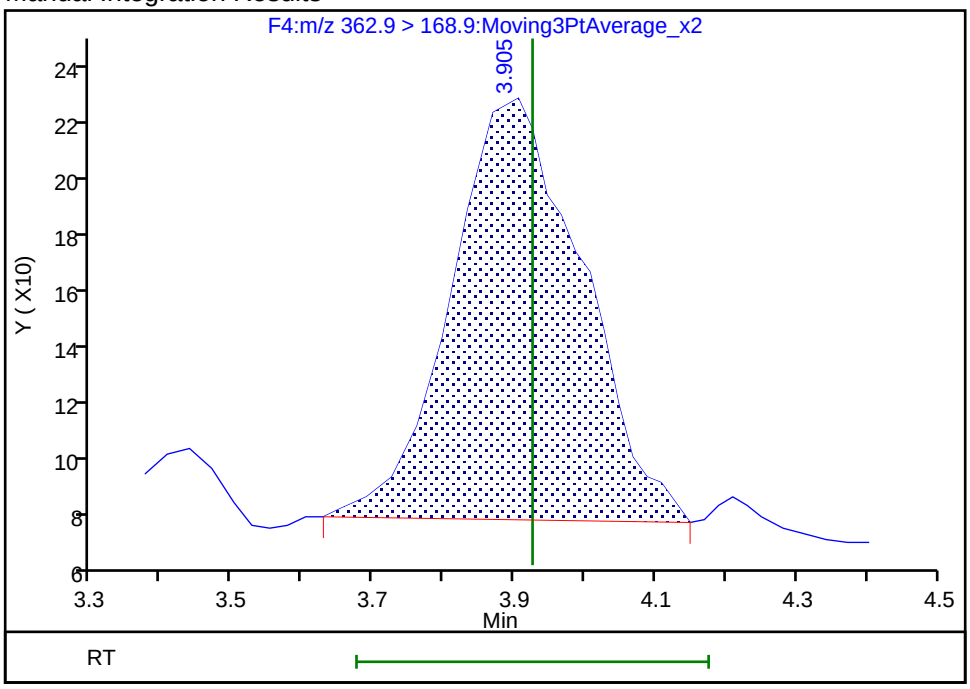
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.91
Area: 1914
Amount: 0.162960
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:00:16
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

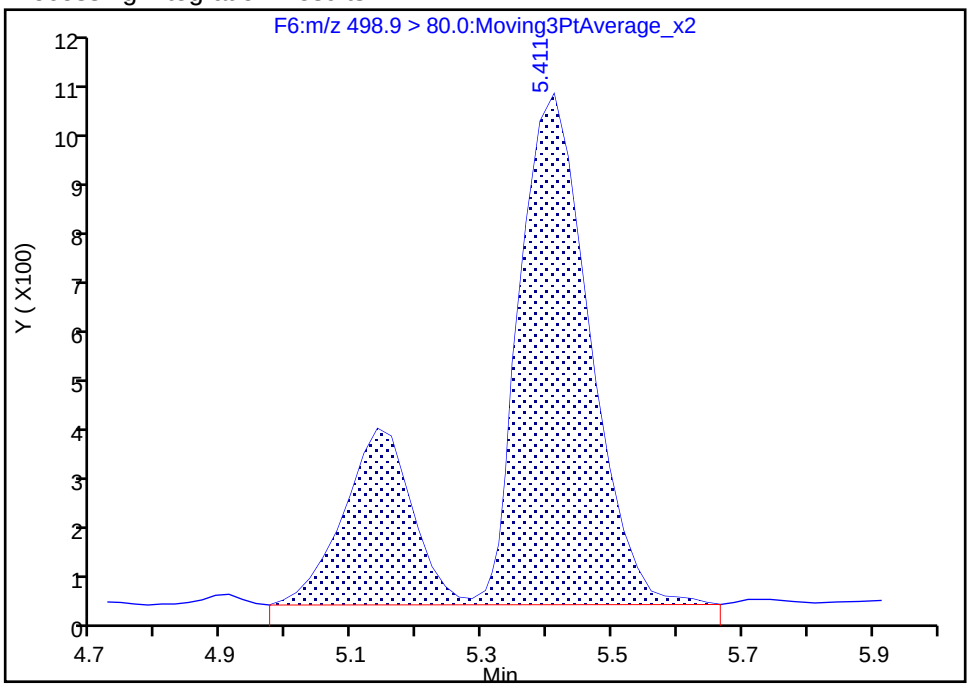
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d				
Injection Date:	31-May-2019 03:36:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-4-A	Lab Sample ID:	200-48826-4		
Client ID:	MW-15S 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

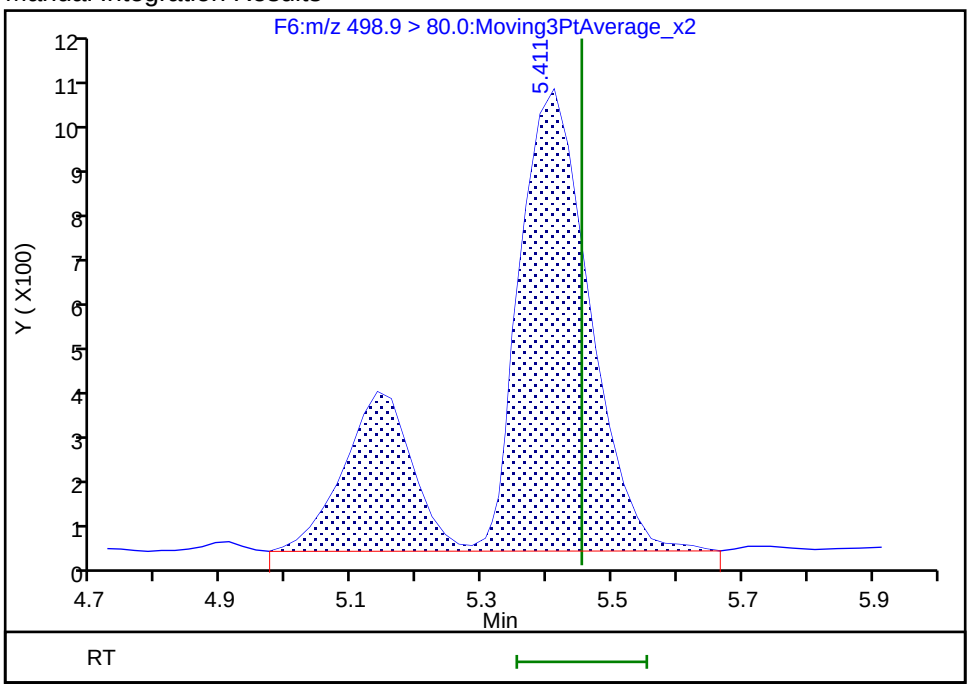
Processing Integration Results

RT: 5.41
Area: 9957
Amount: 3.023288
Amount Units: ng/ml



Manual Integration Results

RT: 5.41
Area: 9957
Amount: 3.023288
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:00:39

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

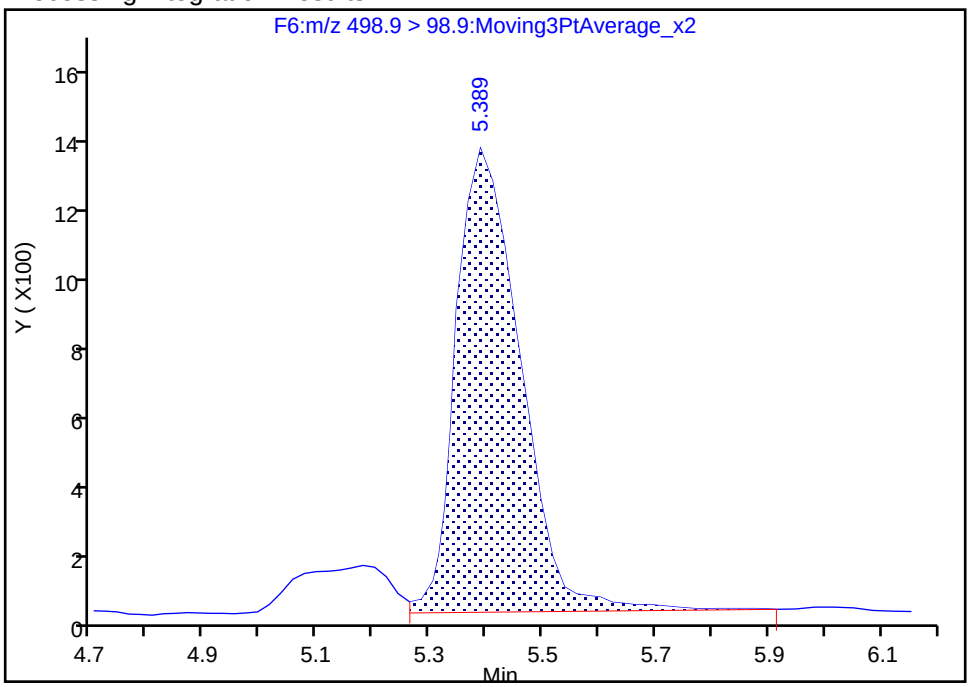
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d				
Injection Date:	31-May-2019 03:36:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-4-A	Lab Sample ID:	200-48826-4		
Client ID:	MW-15S 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

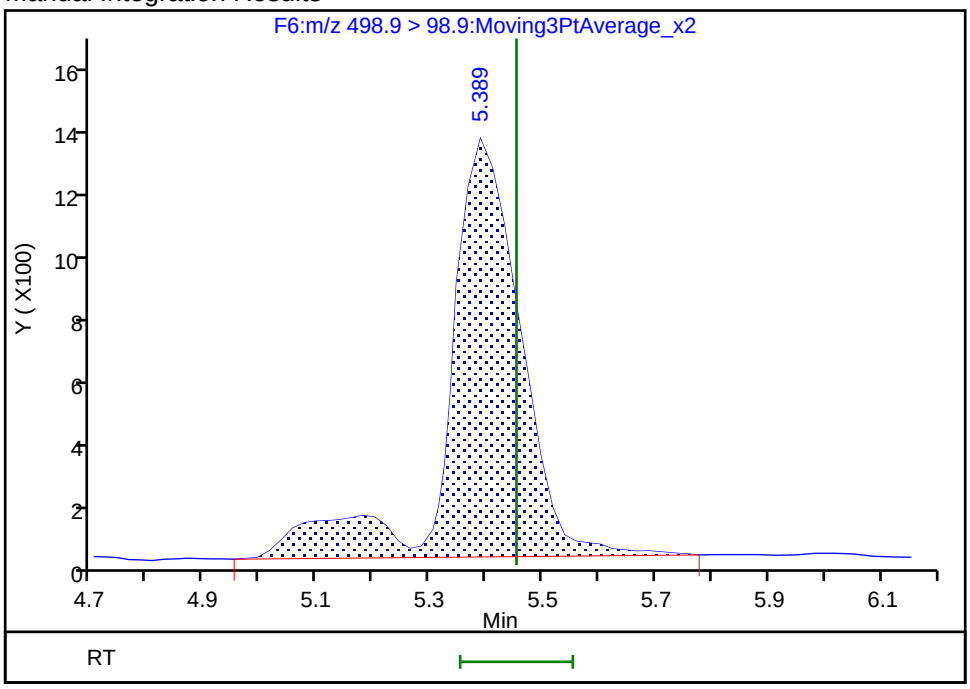
Processing Integration Results

RT: 5.39
Area: 10043
Amount: 3.023288
Amount Units: ng/ml



Manual Integration Results

RT: 5.39
Area: 11377
Amount: 3.023288
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:00:42

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

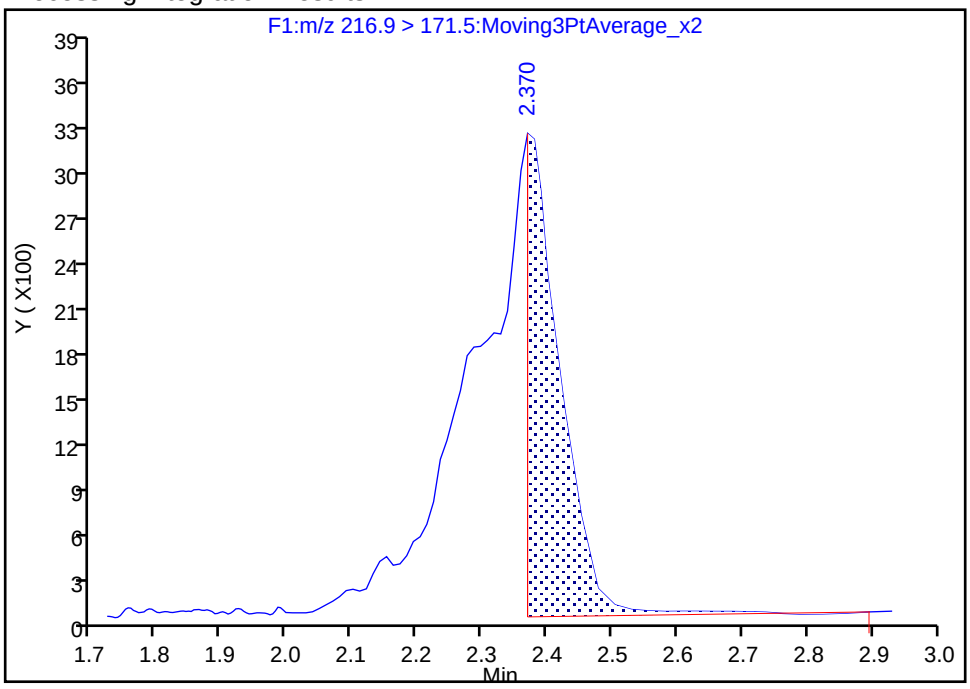
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d				
Injection Date:	31-May-2019 03:36:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-4-A	Lab Sample ID:	200-48826-4		
Client ID:	MW-15S 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

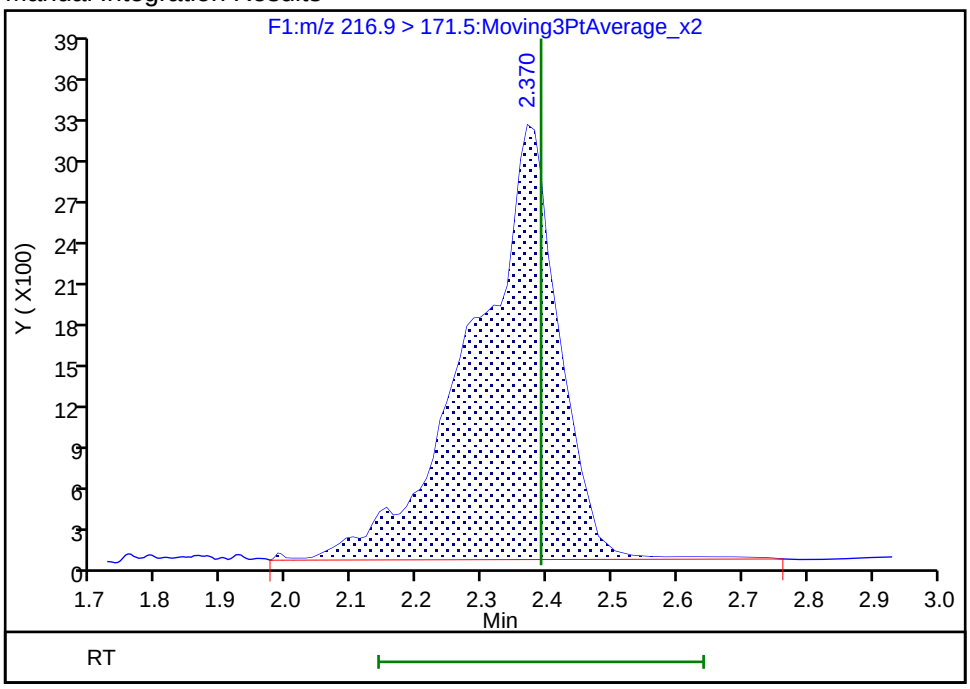
Processing Integration Results

RT: 2.37
Area: 10954
Amount: 2.147148
Amount Units: ng/ml



Manual Integration Results

RT: 2.37
Area: 29536
Amount: 5.789498
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:38:32

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

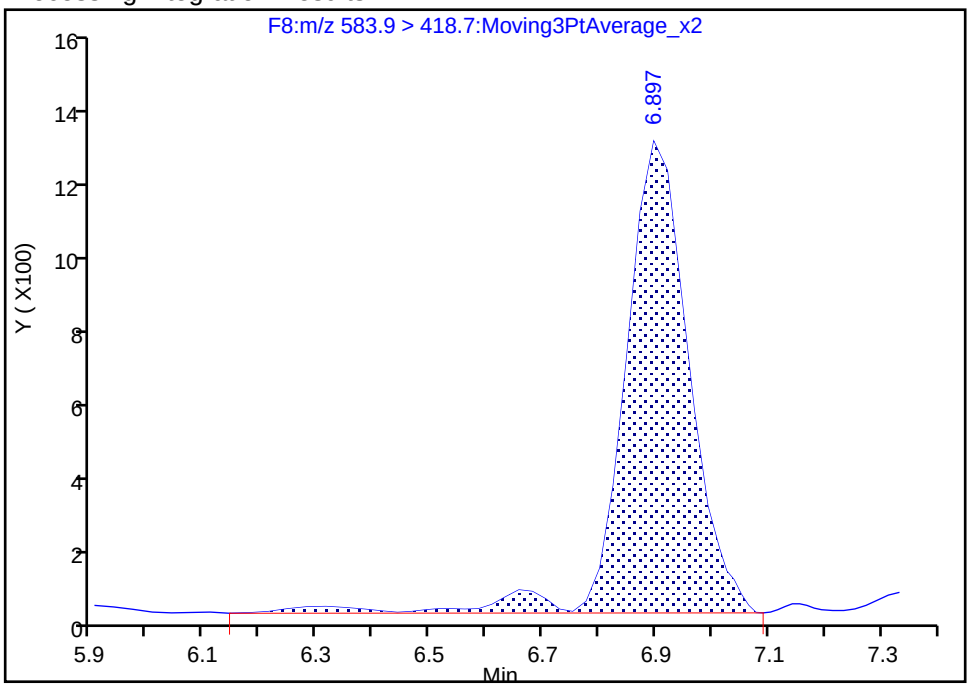
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B57.d				
Injection Date:	31-May-2019 03:36:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-4-A	Lab Sample ID:	200-48826-4		
Client ID:	MW-15S 051319				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	57
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

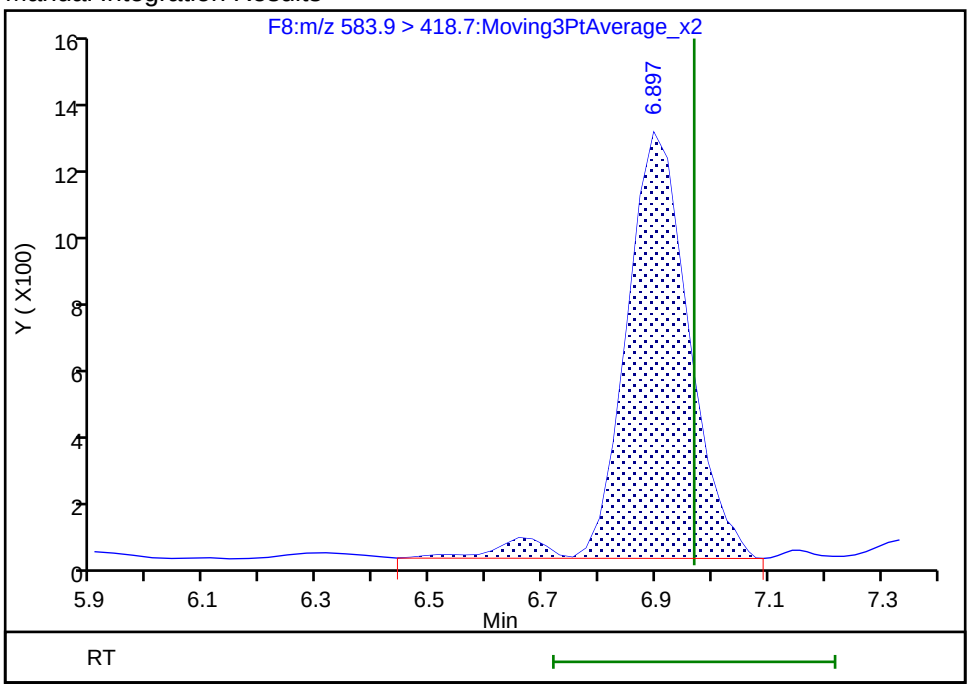
Processing Integration Results

RT: 6.90
Area: 9577
Amount: 1.965391
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 9387
Amount: 1.926399
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:00:52
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-2 051419 Lab Sample ID: 200-48826-5

Matrix: Water Lab File ID: PF053019B58.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 09:38

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 295.5(mL) Date Analyzed: 05/31/2019 03:52

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND	* CI	8.5	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	13		8.5	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	12		8.5	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	19	*	8.5	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	71		8.5	2.7
375-95-1	Perfluorononanoic acid (PFNA)	9.5		8.5	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.5	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.5	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.5	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.5	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.5	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND	*	8.5	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	18		8.5	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	25		8.5	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.5	3.8
754-91-6	Perfluorooctanesulfonamide (FOSA)	68		8.5	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		85	7.2
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	23	J *	85	6.3
27619-97-2	6:2 FTS	ND		85	19
39108-34-4	8:2 FTS	ND		85	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-2 051419 Lab Sample ID: 200-48826-5

Matrix: Water Lab File ID: PF053019B58.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 09:38

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 295.5(mL) Date Analyzed: 05/31/2019 03:52

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	50		25-150
STL00992	13C4 PFBA	44		25-150
STL01893	13C5 PFPeA	32		25-150
STL00993	13C2 PFHxA	66		50-150
STL01892	13C4 PFHpA	68		50-150
STL00990	13C4 PFOA	88		50-150
STL00995	13C5 PFNA	61		50-150
STL00996	13C2 PFDA	70		50-150
STL00997	13C2 PFUnA	71		50-150
STL00998	13C2 PFDoA	62		50-150
STL02116	13C2 PFTeDA	57		50-150
STL02337	13C3 PFBS	58		50-150
STL00994	18O2 PFHxS	51		50-150
STL00991	13C4 PFOS	51		50-150
STL02118	d3-NMeFOSAA	56		50-150
STL02117	d5-NEtFOSAA	60		50-150
STL02279	M2-6:2 FTS	144		25-150
STL02280	M2-8:2 FTS	91		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d
Lims ID: 200-48826-A-5-A
Client ID: VEW-2 051419
Sample Type: Client
Inject. Date: 31-May-2019 03:52:33 ALS Bottle#: 0 Worklist Smp#: 58
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036138-058 5
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:25:52 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: murrayjw Date: 05-Jun-2019 10:39:31
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.339	2.391	-0.052	1.000	23991	4.41		44.1	48.2	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.830	2.830	0.0	1.000	13081	3.17		31.7	10.0	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.866	-0.036	1.000	5976	1.53			1.5	
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.901	-0.035	1.000	9714	5.41		58.2	27.4	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	81619	6.60		66.0	199	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.302	3.334	-0.032	1.000	16748	1.47	Target=14.34		5.1	M
312.9 > 118.9	3.302	3.334	-0.032	1.000	1437		11.65(7.17-21.51)		5.9	M
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.869	3.925	-0.056	1.009	31075	2.24	Target=2.84		18.2	M
362.9 > 168.9	3.833	3.925	-0.092	1.000	9027		3.44(1.42-4.26)		19.7	M
D 10 13C4 PFHpA										
366.9 > 321.8	3.833	3.925	-0.092	1.000	118003	6.77		67.7	309	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.946	-0.041	1.000	11009	4.80		50.7	29.7	M
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.946	-0.041	1.000	5300	2.15	Target=1.34		20.3	M
398.9 > 98.9	3.869	3.946	-0.077	0.991	3283		1.61(0.67-2.01)		9.7	M
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.589	-0.063	1.000	16921	13.7		144	64.5	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.547	4.609	-0.062	1.005	566	0.3362			2.0	

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	4.589	4.630	-0.041	1.000	189261	8.77		87.7	803	
* 16 13C2 PFOA										
414.9 > 369.8	4.589	4.630	-0.041		222356	10.0			920	
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.589	4.630	-0.041	1.000	160014	8.36	Target=2.43		211	M
412.9 > 168.9	4.589	4.630	-0.041	1.000	67215		2.38(1.22-3.64)		180	M
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.609	4.672	-0.063	0.852	6811	2.96	Target=1.30		22.9	
448.9 > 98.9	4.609	4.672	-0.063	1.000	7311		0.93(0.65-1.95)		31.4	
19 Perfluorononanoic acid										M
462.9 > 418.7	5.389	5.432	-0.043	1.004	17481	1.12	Target=5.00		37.0	M
462.9 > 168.9	5.389	5.432	-0.043	1.004	3725		4.69(2.50-7.50)		14.8	
D 20 13C5 PFNA										
467.8 > 422.8	5.368	5.432	-0.064	1.000	177106	6.12		61.2	501	
D 22 13C4 PFOS										
502.9 > 80.0	5.411	5.453	-0.042	1.000	25288	4.89		51.1	86.2	
21 Perfluorooctanesulfonic acid										EM
498.9 > 80.0	5.389	5.453	-0.064	0.996	532158	208.3	Target=1.41		842	EM
498.9 > 98.9	5.389	5.453	-0.064	0.996	449199		1.18(0.71-2.12)		986	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.165	6.234	-0.069	1.000	39117	8.68		90.6	108	
D 25 13C2 PFDA										
514.9 > 469.5	6.199	6.234	-0.035	1.000	173241	7.01		70.1	470	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.525	6.597	-0.072	1.000	45155	5.61		56.1	285	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.897	6.969	-0.072	1.000	39884	6.01		60.1	206	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.921	6.969	-0.048	1.003	8549	2.66			45.8	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	7.013	-0.068	1.000	169045	7.09		70.9	631	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.039	-0.026	1.000	44823	5.03		50.3	257	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.026	7.039	-0.013	1.002	51369	8.05			28.9	
D 37 13C2 PFDoA										
614.9 > 569.5	7.636	7.695	-0.059	1.000	189749	6.24		62.4	590	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.797	8.870	-0.073	1.000	156832	5.75		57.5	445	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags
M - Manually Integrated

Report Date: 05-Jun-2019 17:26:05 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d

Injection Date: 31-May-2019 03:52:33 Instrument ID: LC410

Lims ID: 200-48826-A-5-A Lab Sample ID: 200-48826-5

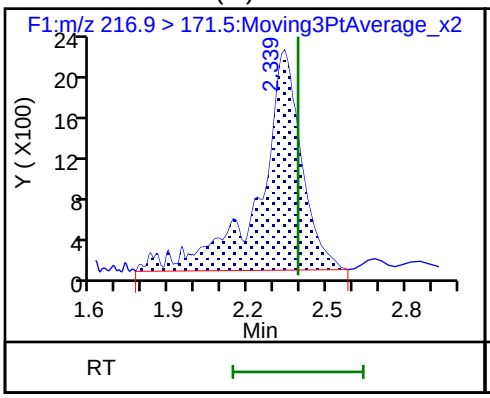
Client ID: VEW-2 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 58

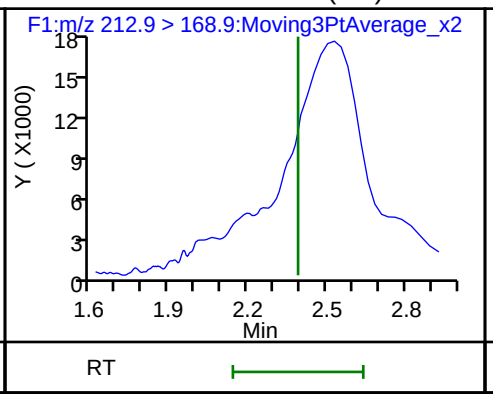
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

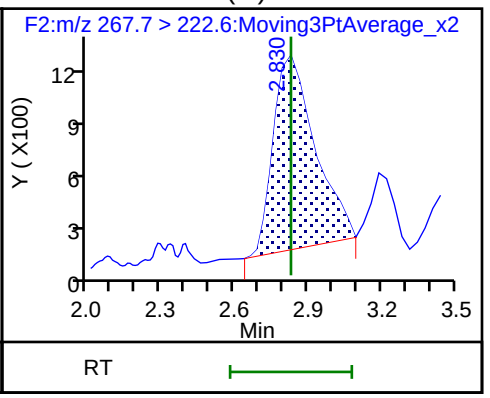
D 1 13C4 PFBA (M)



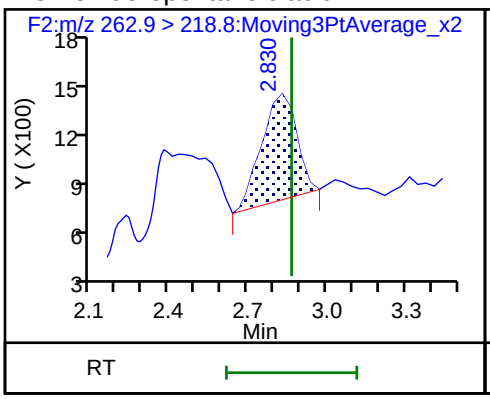
2 Perfluorobutanoic acid (ND)



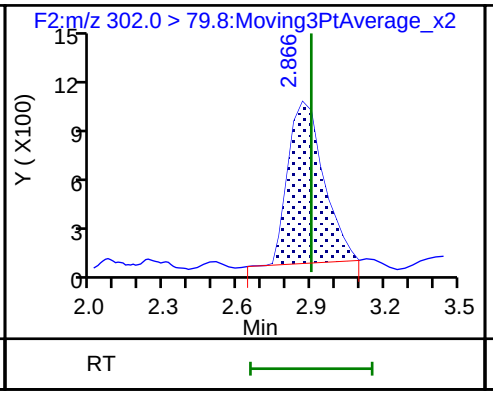
D 4 13C5 PFPeA (M)



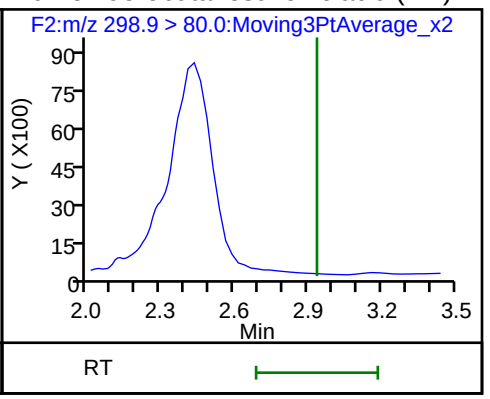
3 Perfluoropentanoic acid



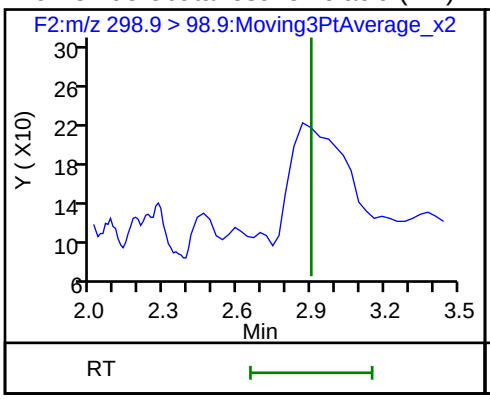
D 5 13C3 PFBS



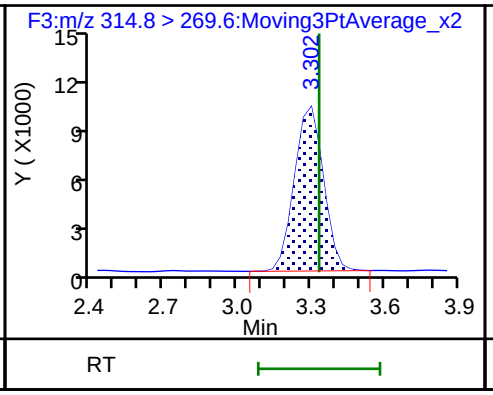
6 Perfluorobutanesulfonic acid (ND)



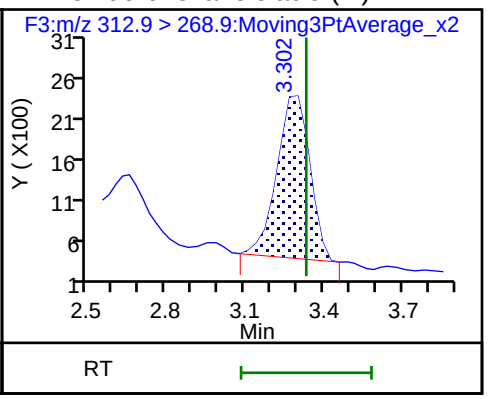
6 Perfluorobutanesulfonic acid (ND)



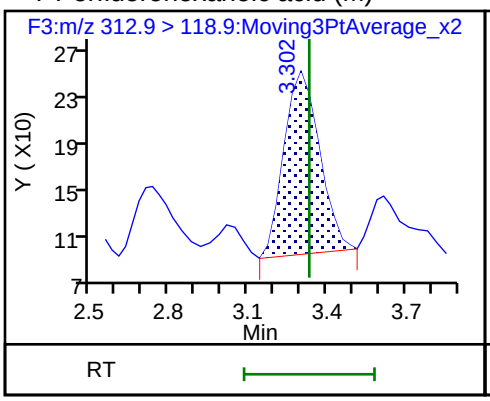
D 8 13C2 PFHxA



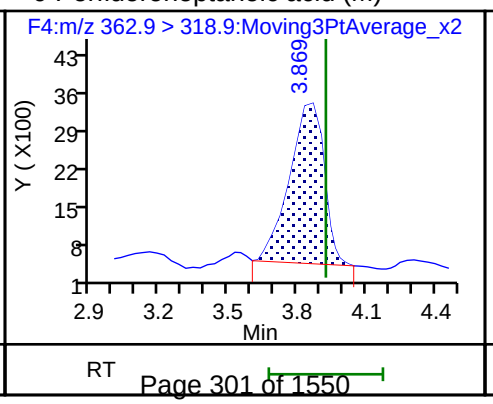
7 Perfluorohexanoic acid (M)



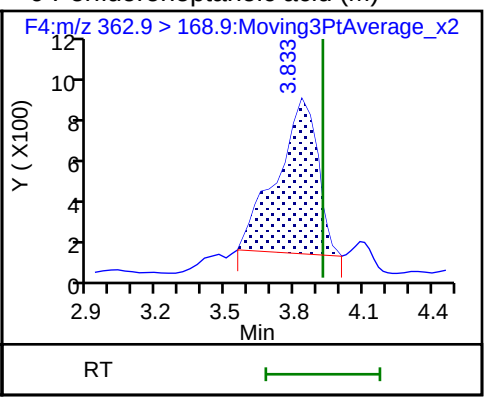
7 Perfluorohexanoic acid (M)



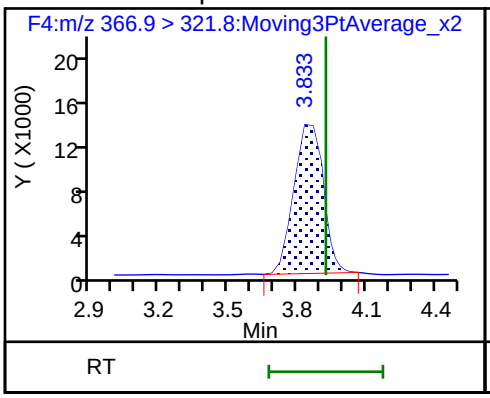
9 Perfluoroheptanoic acid (M)



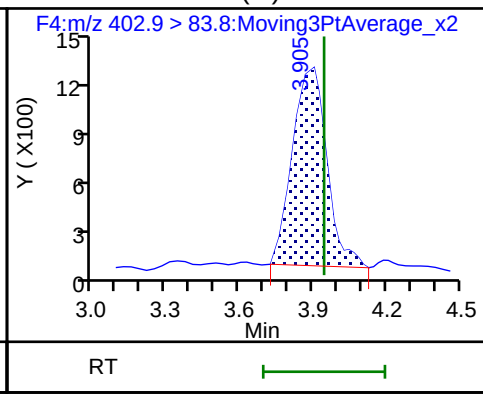
9 Perfluoroheptanoic acid (M)



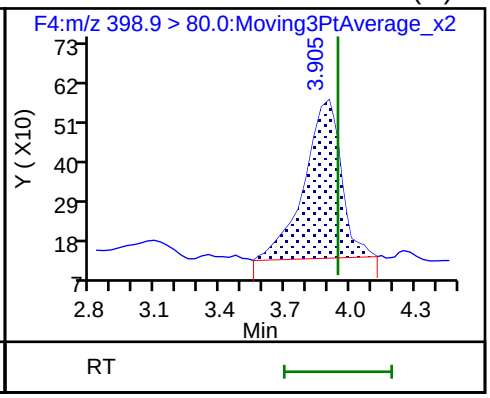
D 10 13C4 PFHpA



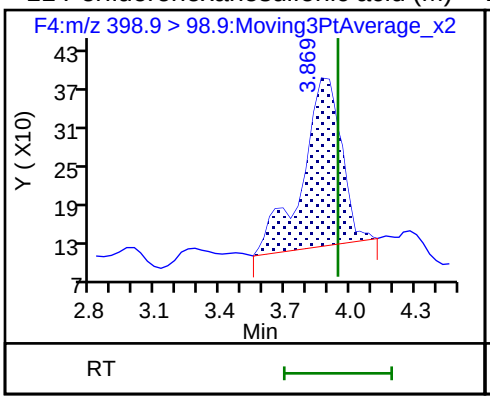
D 12 18O2 PFHxS (M)



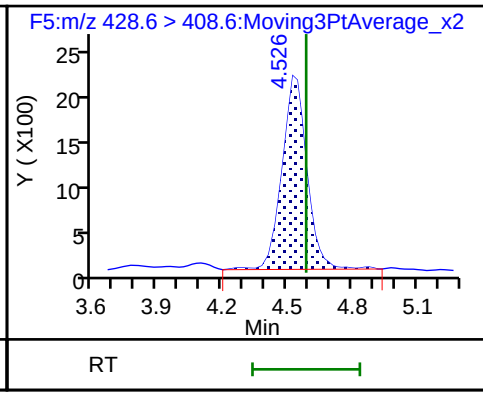
11 Perfluorohexanesulfonic acid (M)



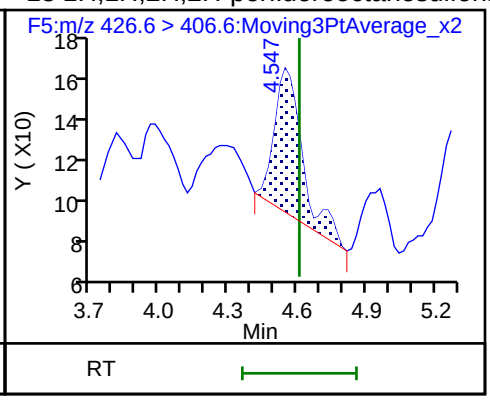
11 Perfluorohexanesulfonic acid (M)



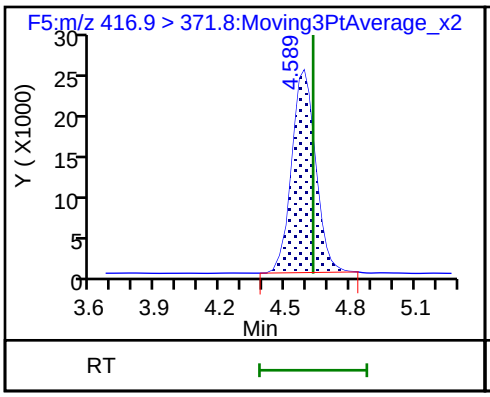
D 14 M2-6:2 FTS



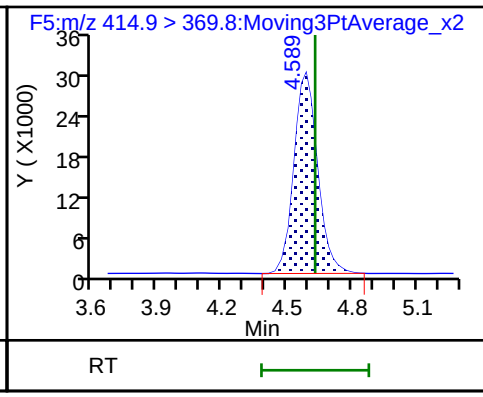
13 1H,1H,2H,2H-perfluorooctanesulfoni



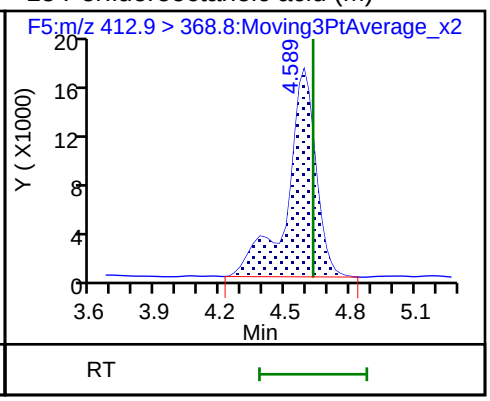
D 17 13C4 PFOA



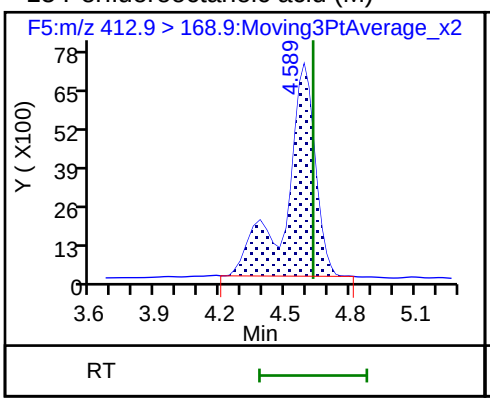
* 16 13C2 PFOA



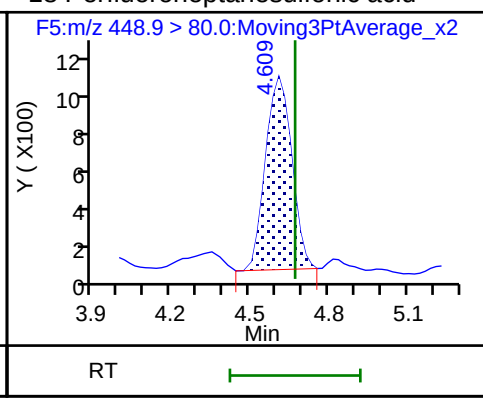
15 Perfluorooctanoic acid (M)



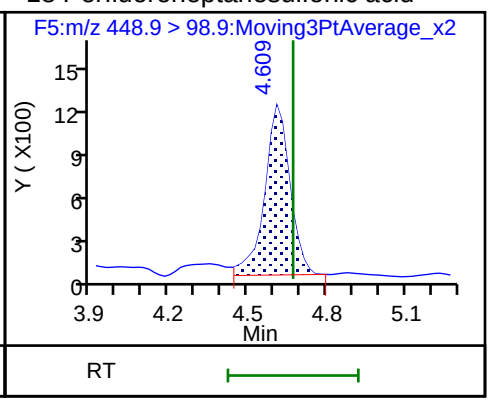
15 Perfluorooctanoic acid (M)



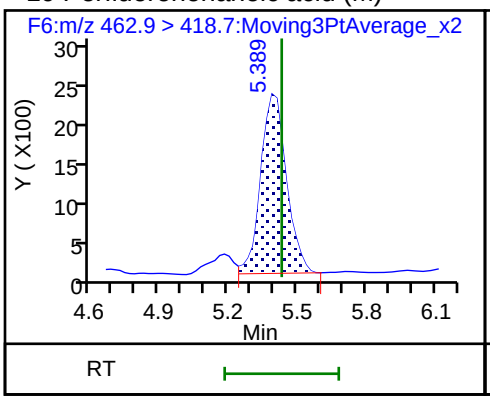
18 Perfluoroheptanesulfonic acid



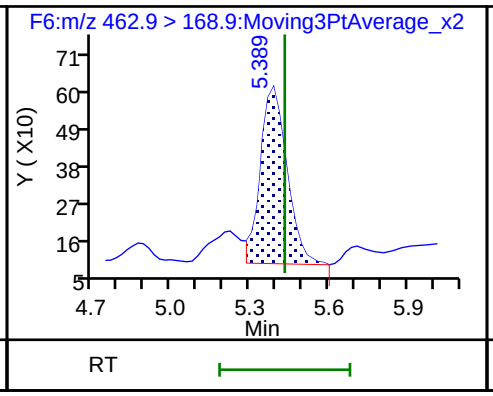
18 Perfluoroheptanesulfonic acid



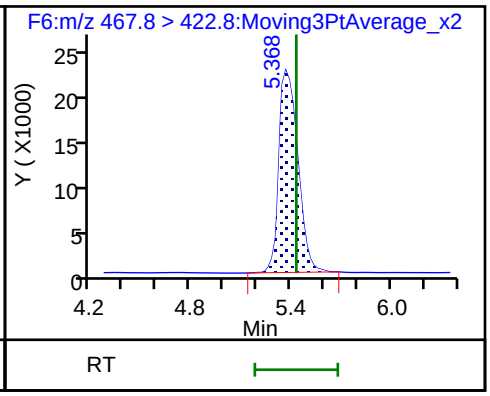
19 Perfluorononanoic acid (M)



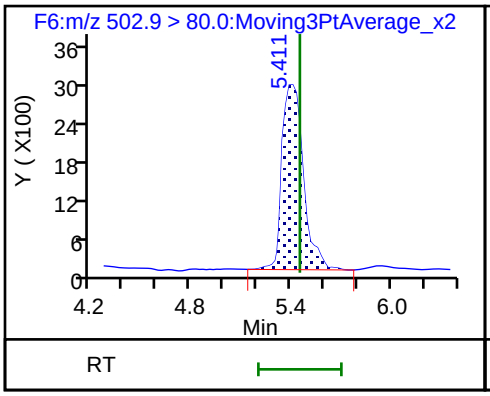
19 Perfluorononanoic acid



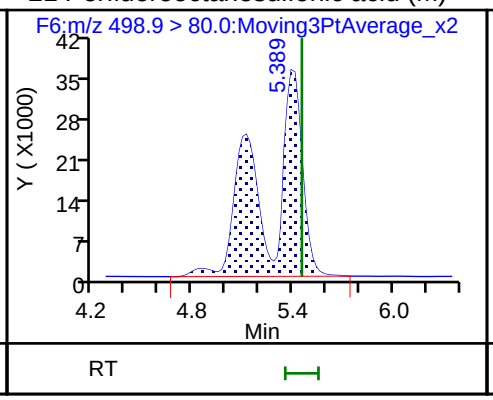
D 20 13C5 PFNA



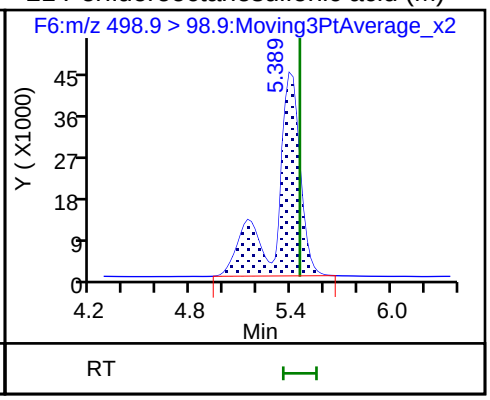
D 22 13C4 PFOS



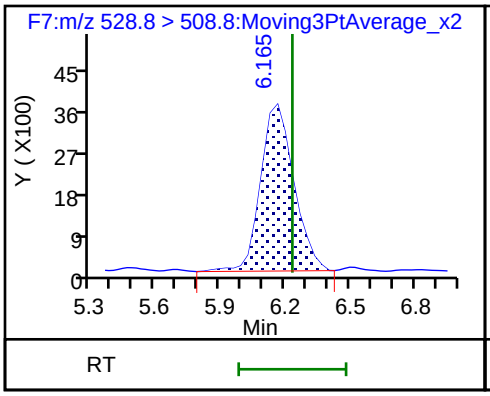
21 Perfluorooctanesulfonic acid (M)



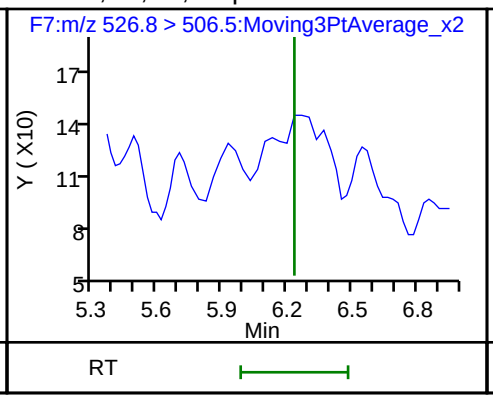
21 Perfluorooctanesulfonic acid (M)



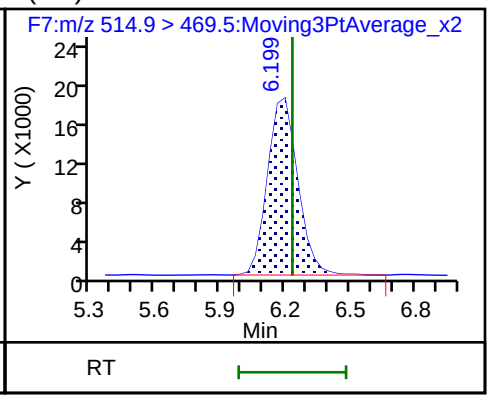
D 24 M2-8:2 FTS



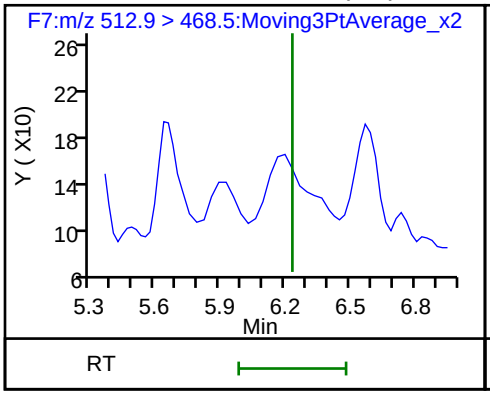
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



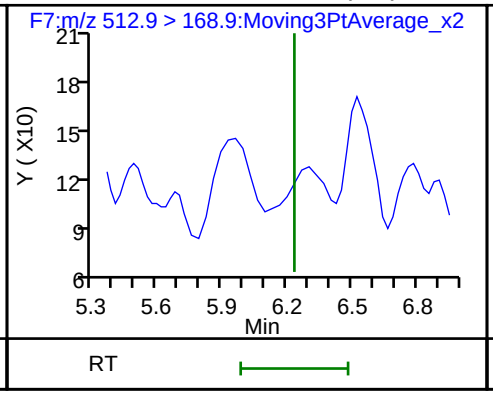
D 25 13C2 PFDA



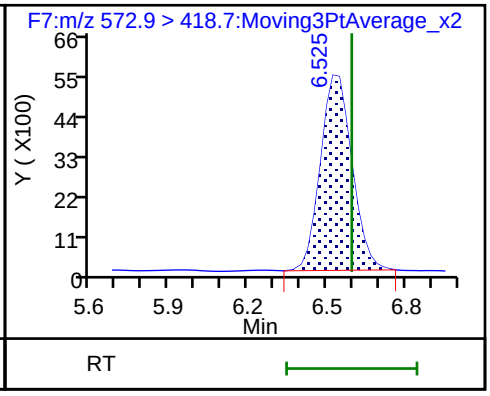
26 Perfluorodecanoic acid (ND)



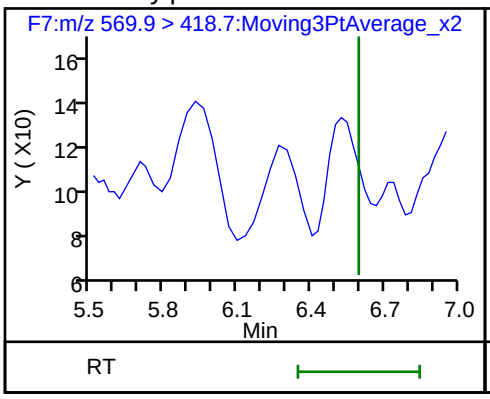
26 Perfluorodecanoic acid (ND)



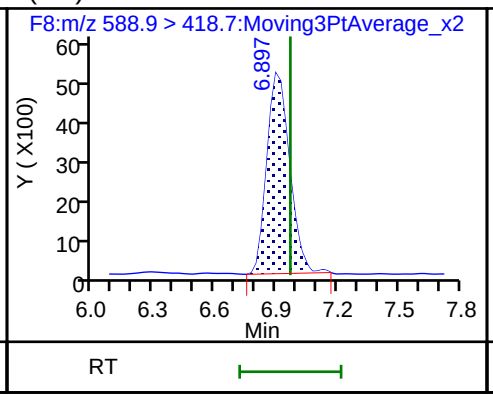
D 27 d3-NMeFOSAA



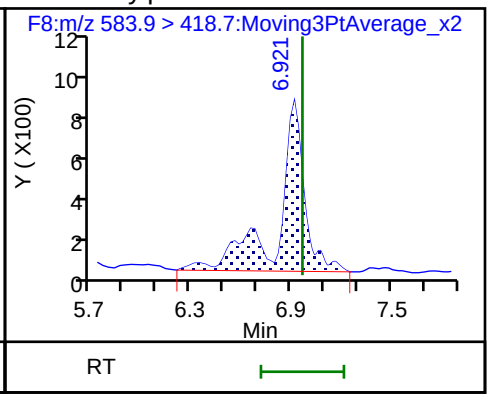
28 N-methylperfluorooctanesulfonamidoa (M)



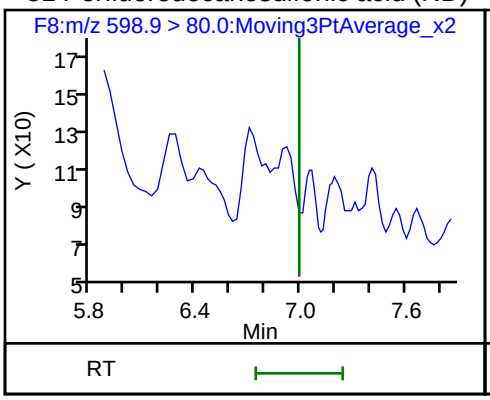
D 29 d5-NEtFOSAA



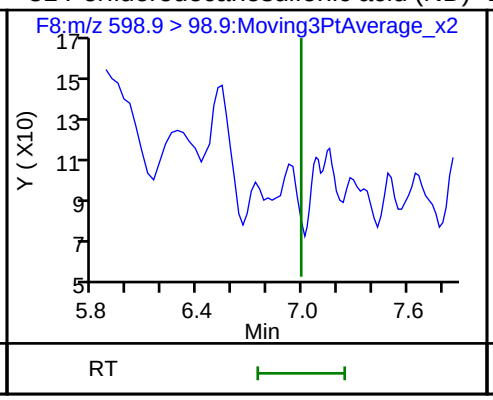
30 N-ethylperfluorooctanesulfonamidoa (M)



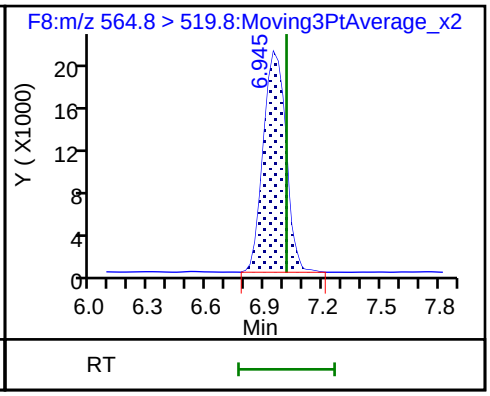
31 Perfluorodecanesulfonic acid (ND)



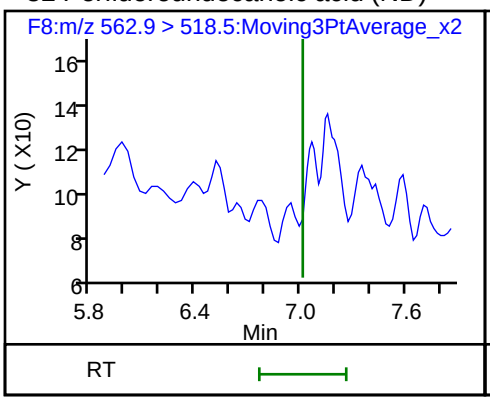
31 Perfluorodecanesulfonic acid (ND)



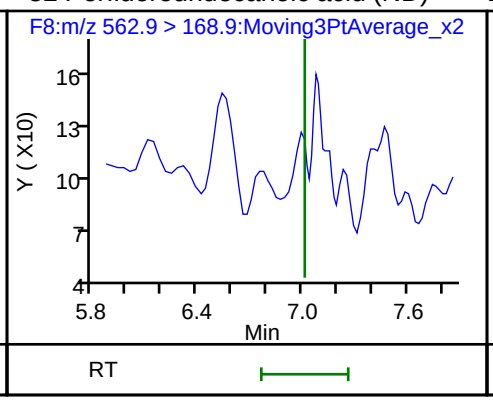
D 33 13C2 PFUnA



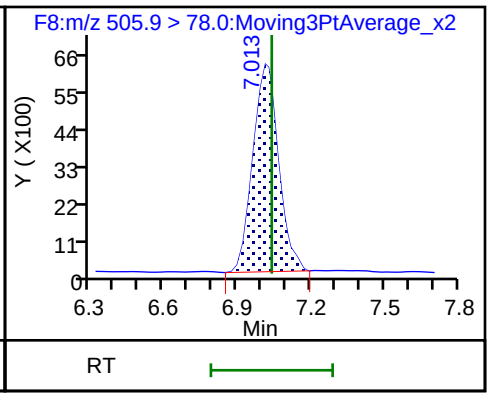
32 Perfluoroundecanoic acid (ND)



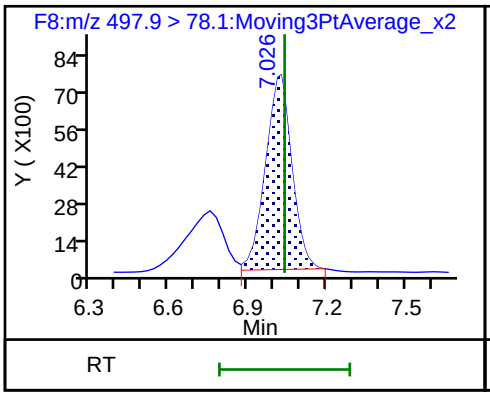
32 Perfluoroundecanoic acid (ND)



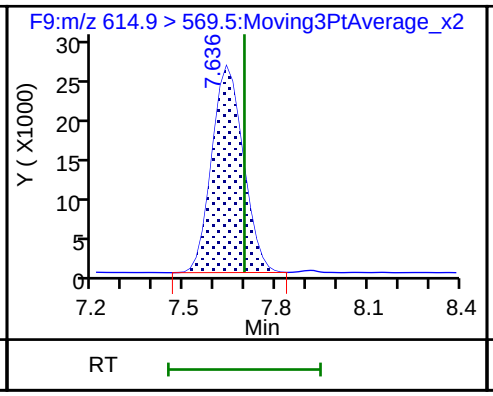
D 34 13C8 FOSA



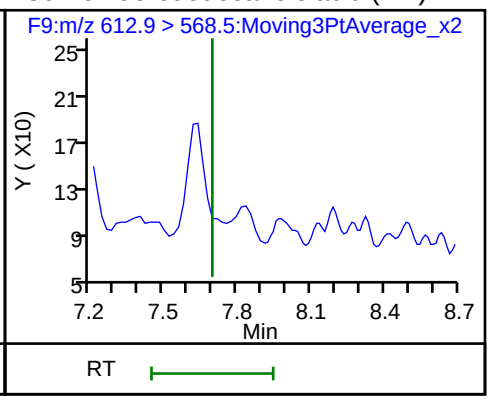
35 Perfluorooctanesulfonamide



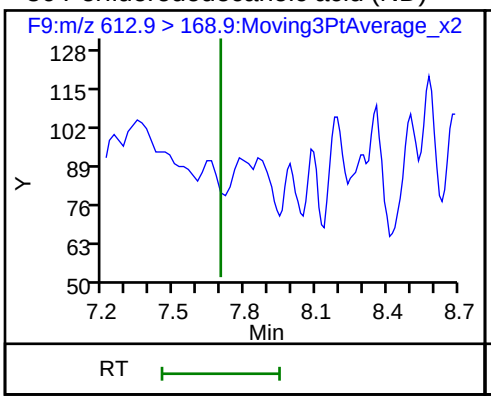
D 37 13C2 PFDoA



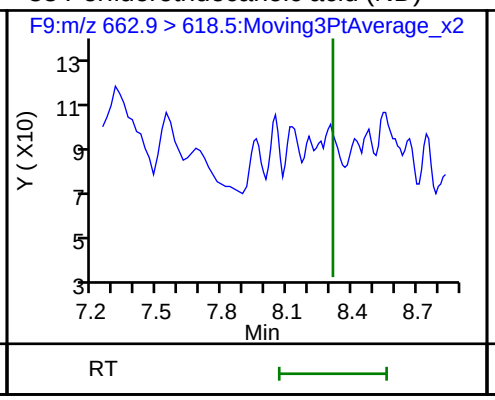
36 Perfluorododecanoic acid (ND)



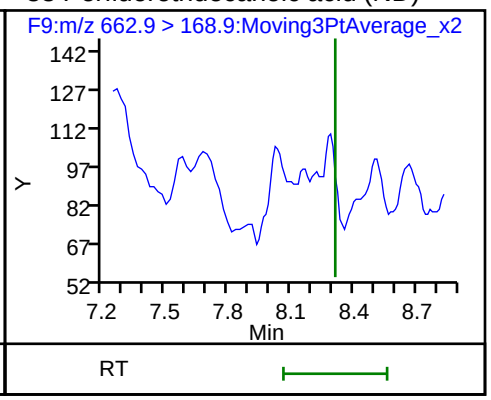
36 Perfluorododecanoic acid (ND)



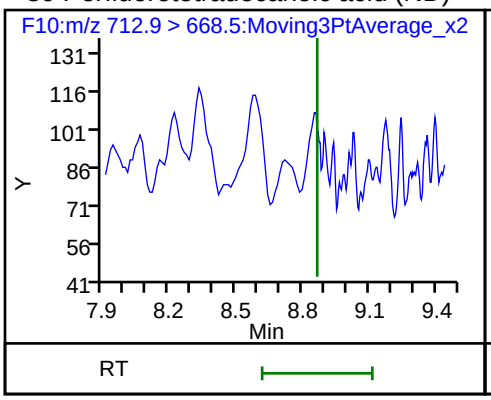
38 Perfluorotridecanoic acid (ND)



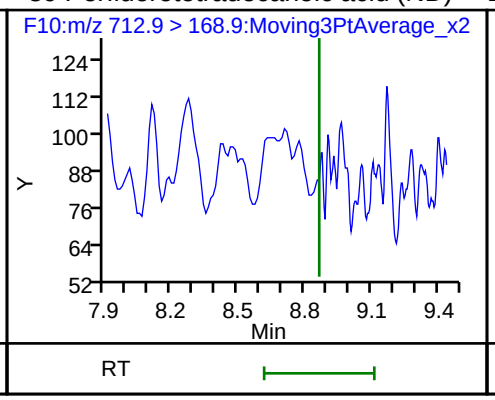
38 Perfluorotridecanoic acid (ND)



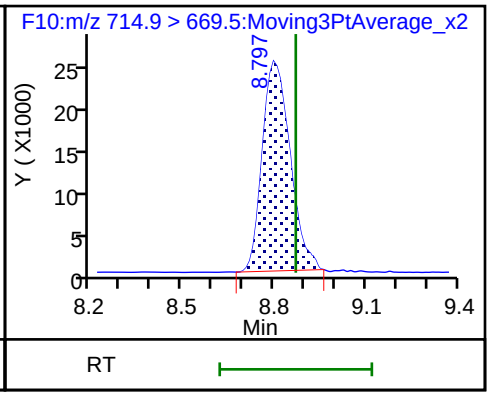
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



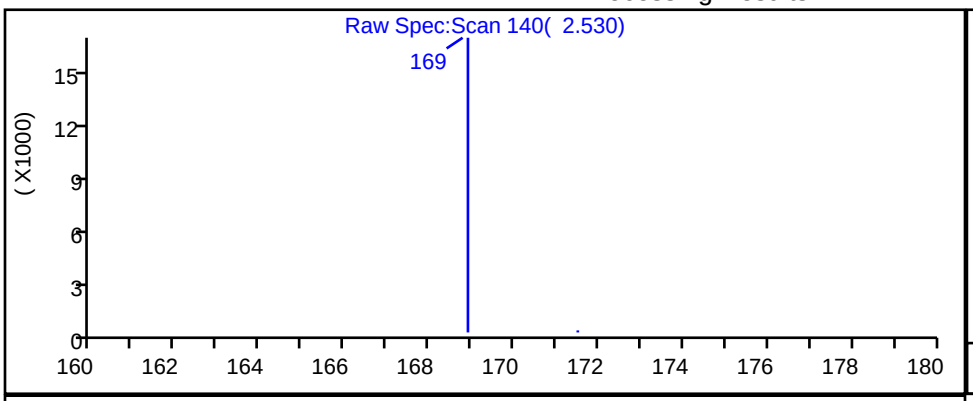
User Disabled Compound Report

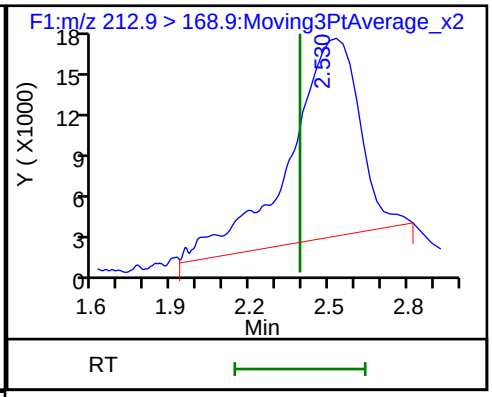
Eurofins TestAmerica, Burlington

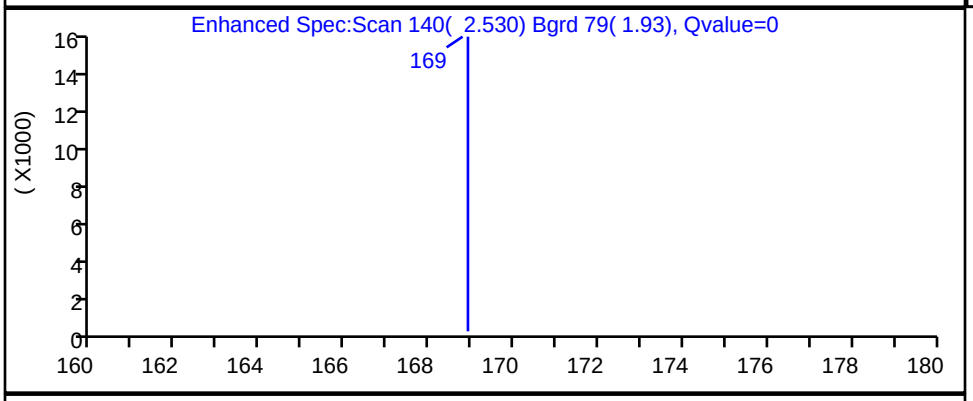
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

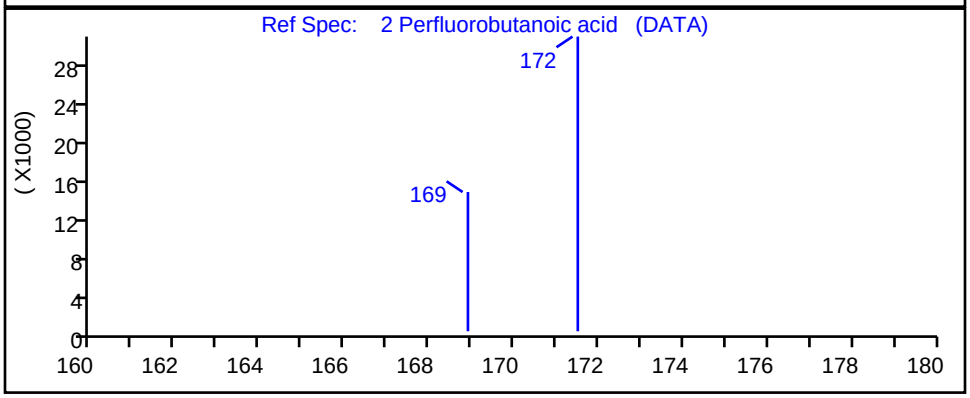
2 Perfluorobutanoic acid, CAS: 375-22-4

Processing Results









RT	Mass	Response	Amount
2.53	168.90	253500	73.187419

Reviewer: murrayjw, 05-Jun-2019 10:39:15

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Burlington

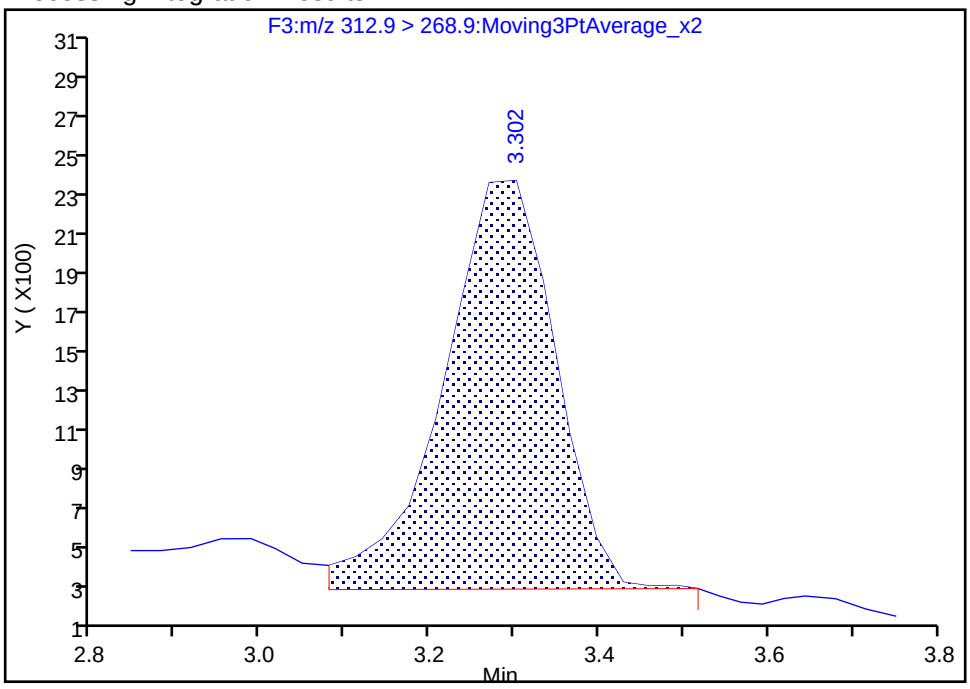
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

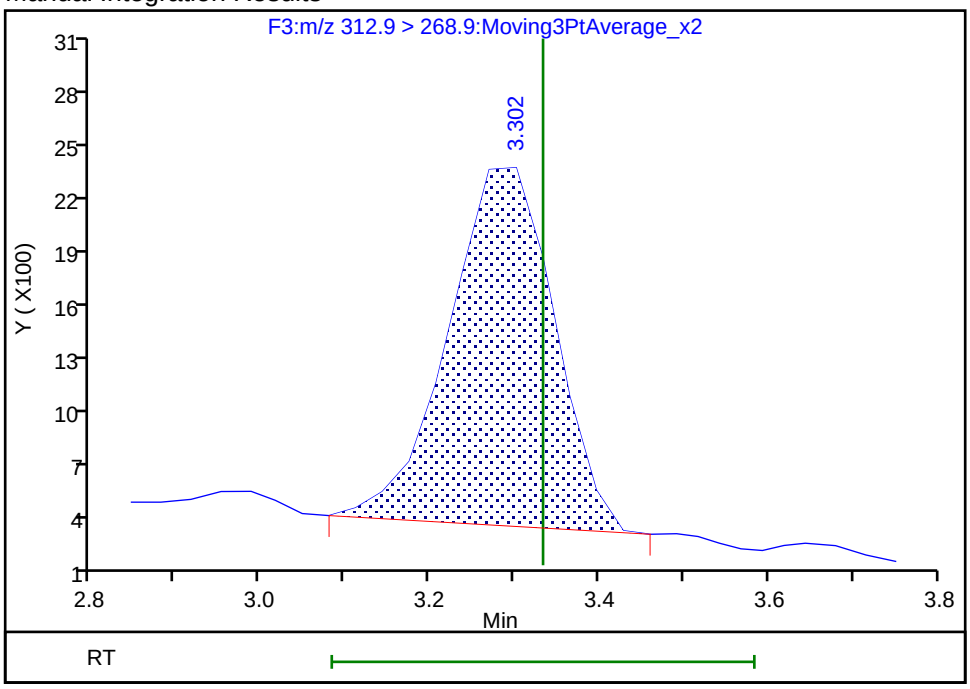
Processing Integration Results

RT: 3.30
Area: 18264
Amount: 1.600675
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 16748
Amount: 1.467811
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:01:37
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

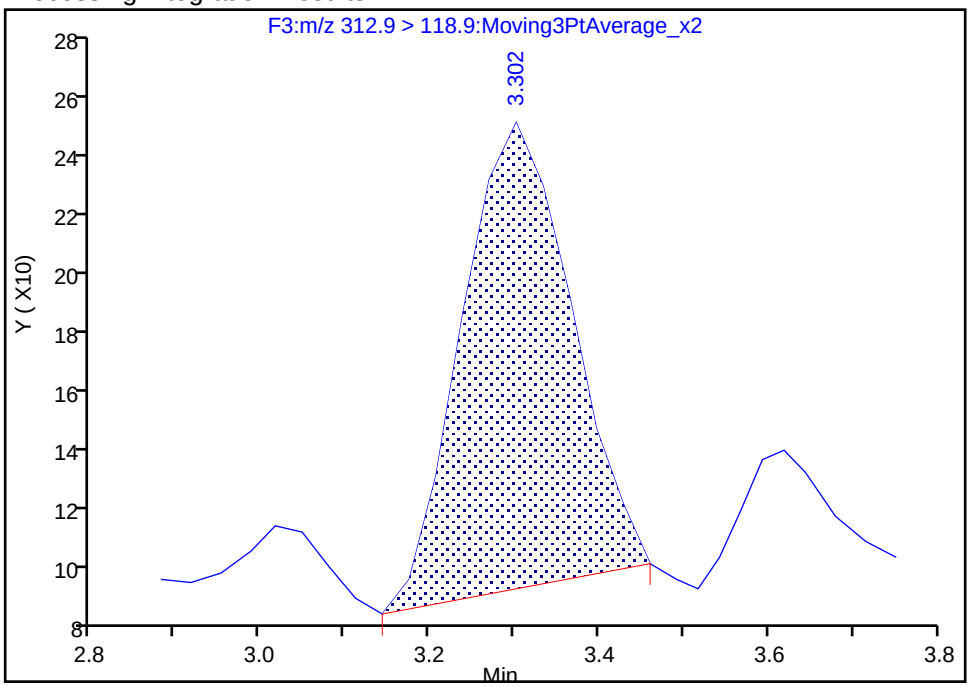
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

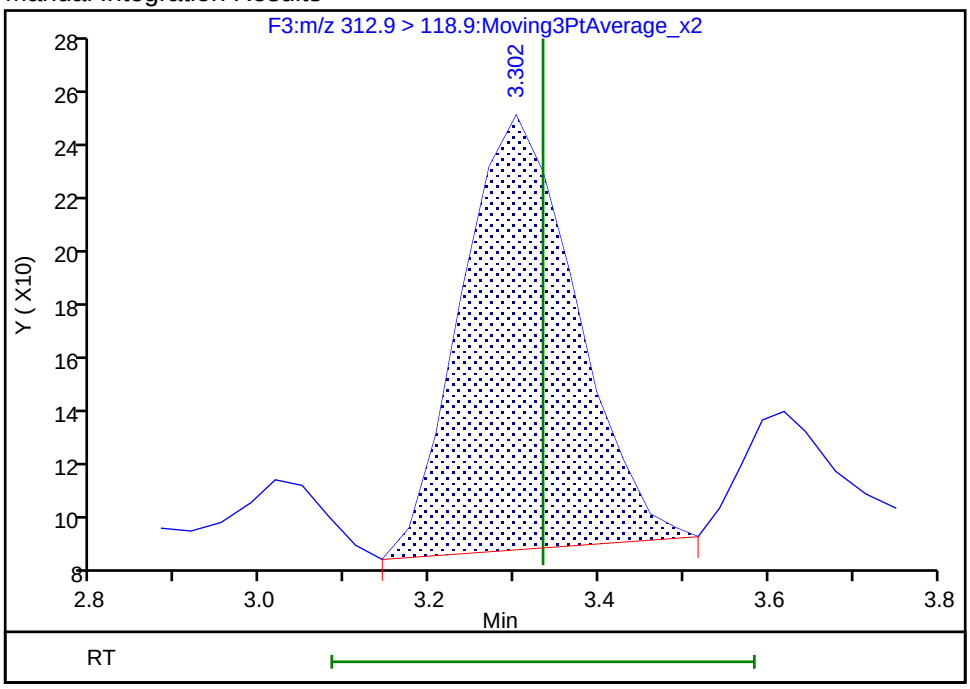
Processing Integration Results

RT: 3.30
Area: 1335
Amount: 1.600675
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 1437
Amount: 1.467811
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:01:40
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

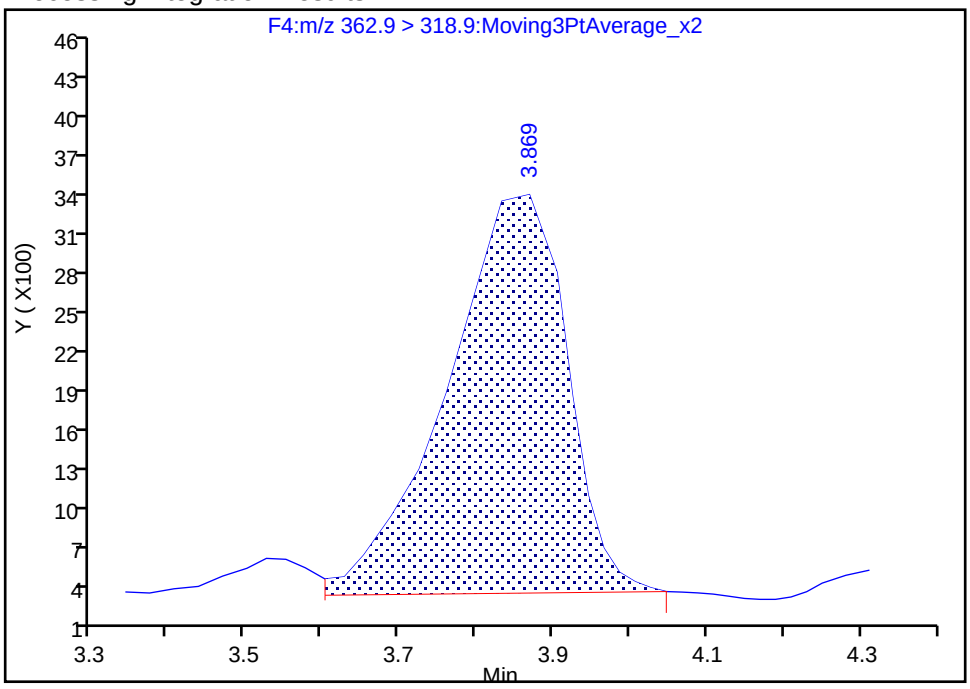
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

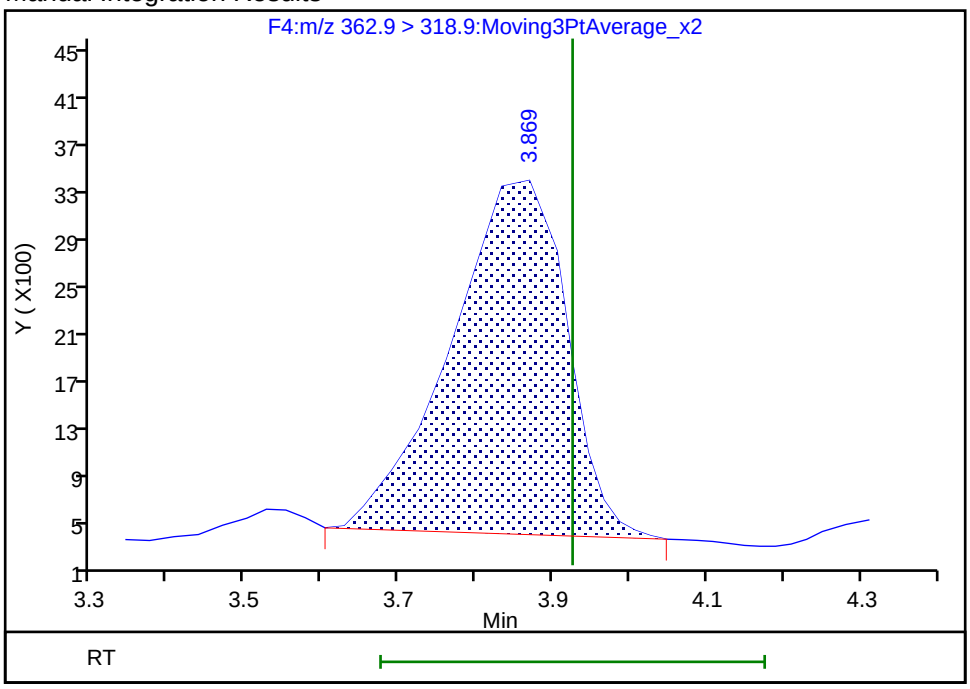
Processing Integration Results

RT: 3.87
Area: 32715
Amount: 2.362331
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 31075
Amount: 2.243907
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:01:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

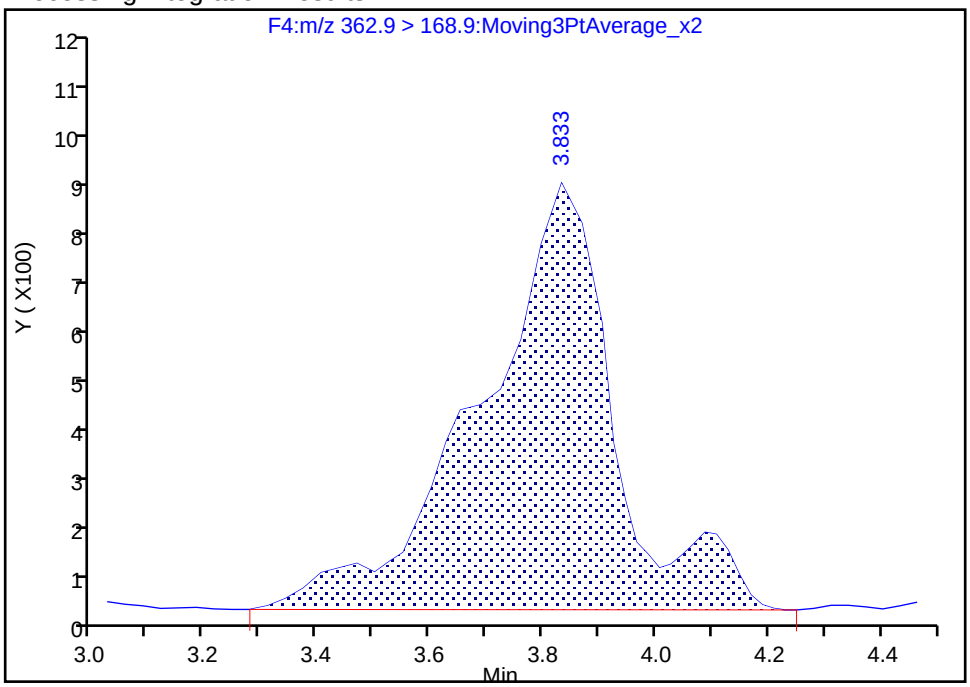
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

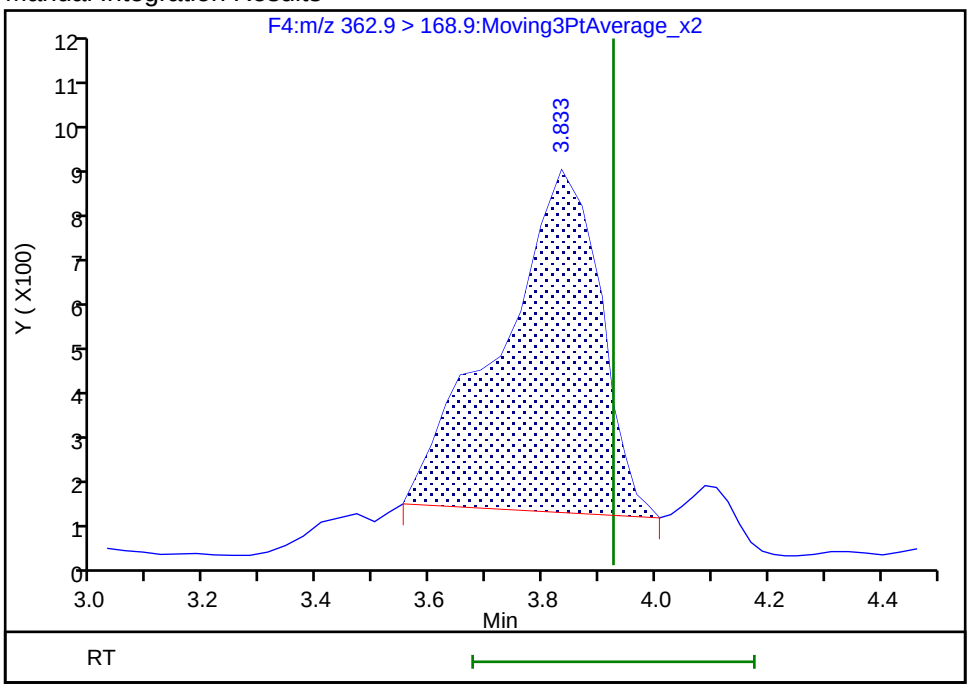
Processing Integration Results

RT: 3.83
Area: 13643
Amount: 2.362331
Amount Units: ng/ml



Manual Integration Results

RT: 3.83
Area: 9027
Amount: 2.243907
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:01:50

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

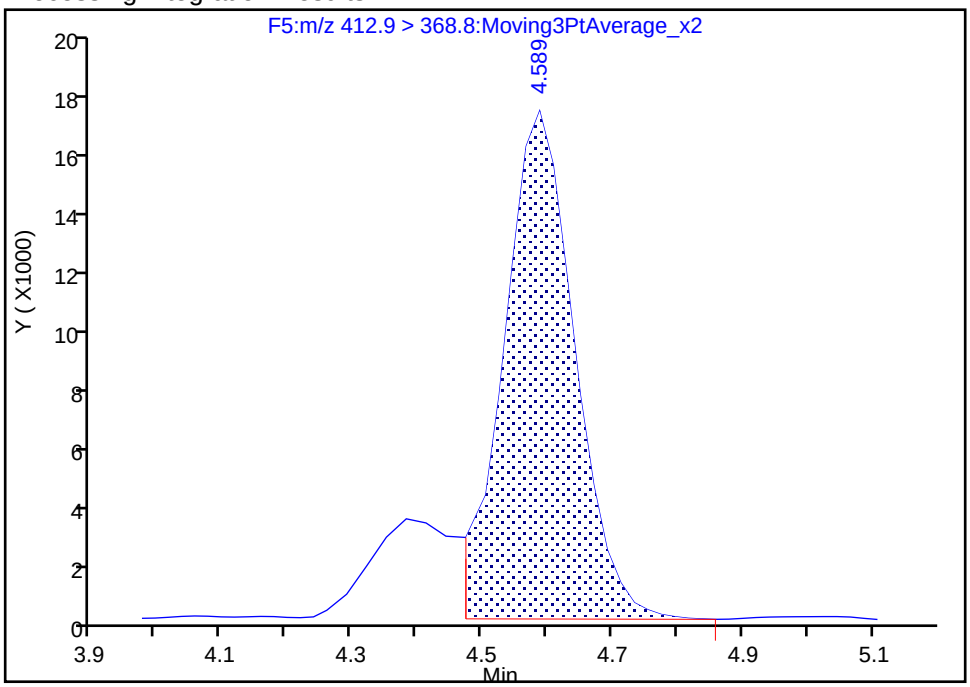
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

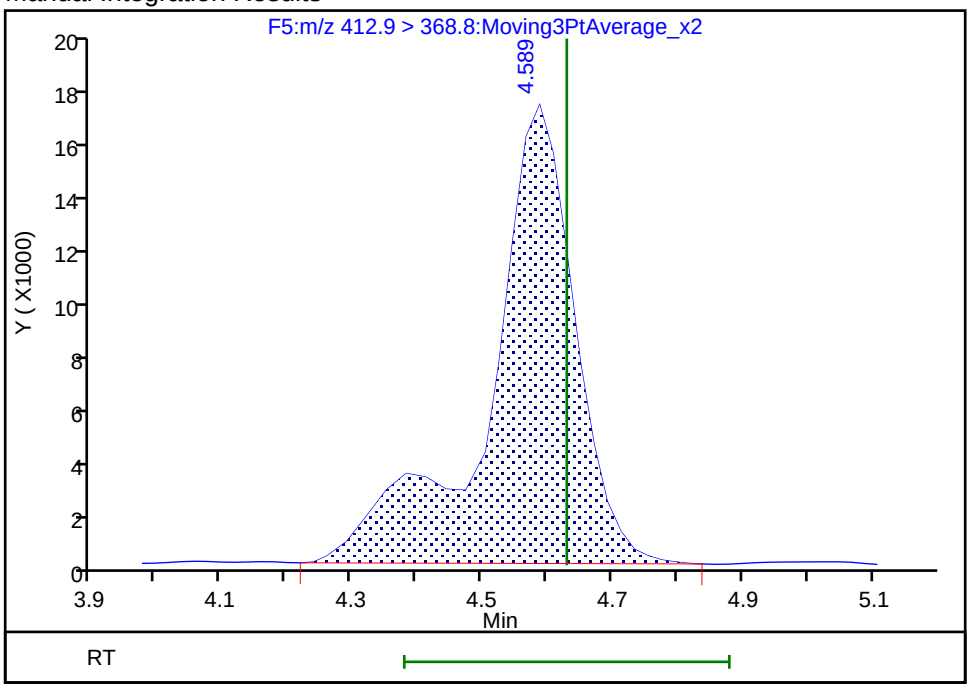
Processing Integration Results

RT: 4.59
Area: 130451
Amount: 6.811502
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 160014
Amount: 8.355135
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:02:17
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

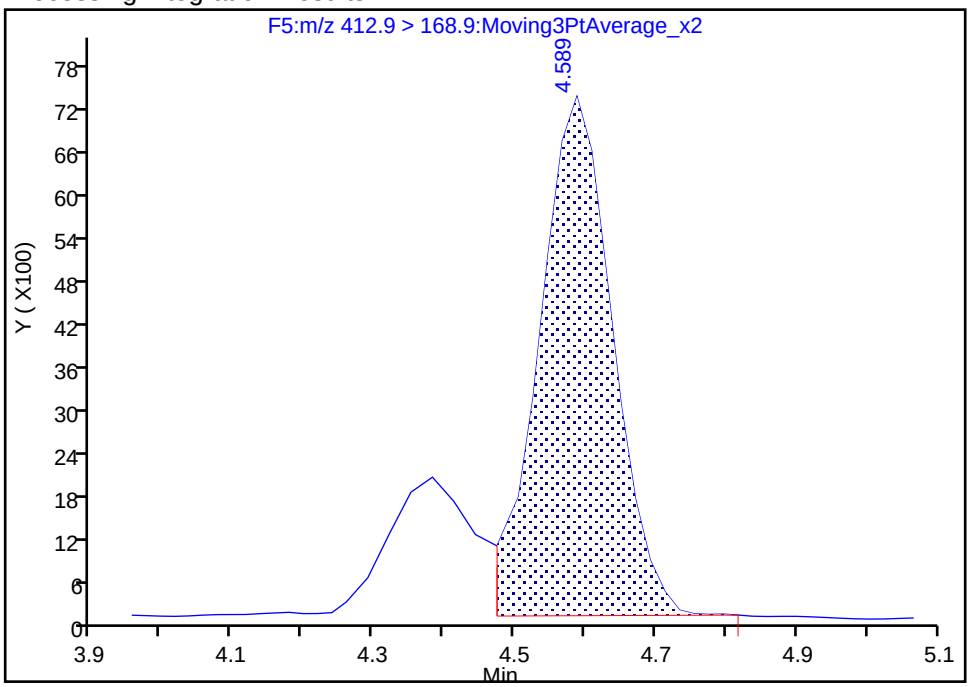
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

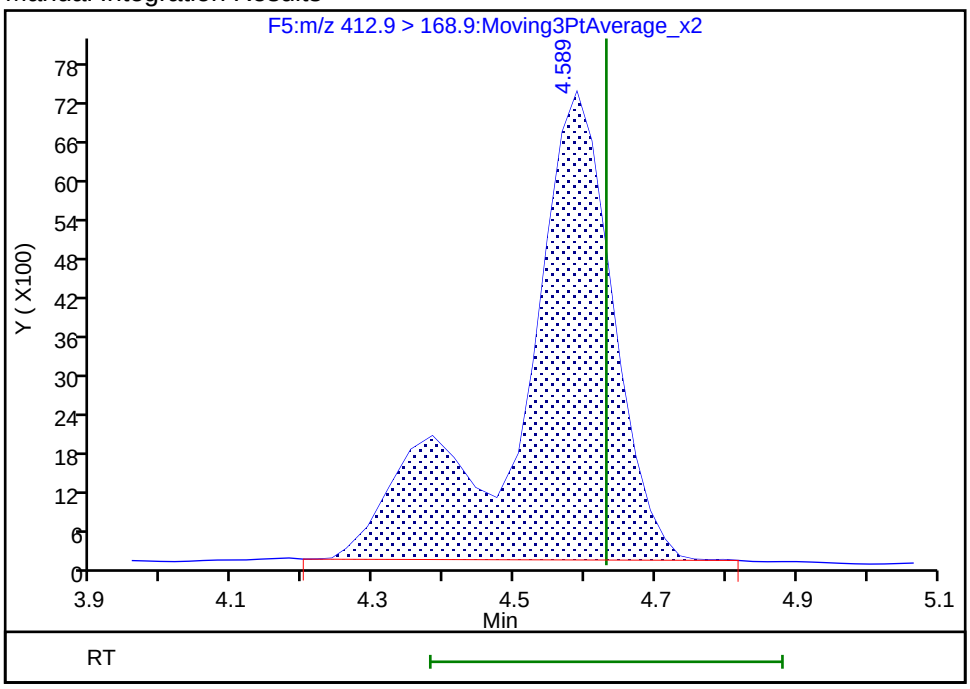
Processing Integration Results

RT: 4.59
Area: 51877
Amount: 6.811502
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 67215
Amount: 8.355135
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:02:19

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

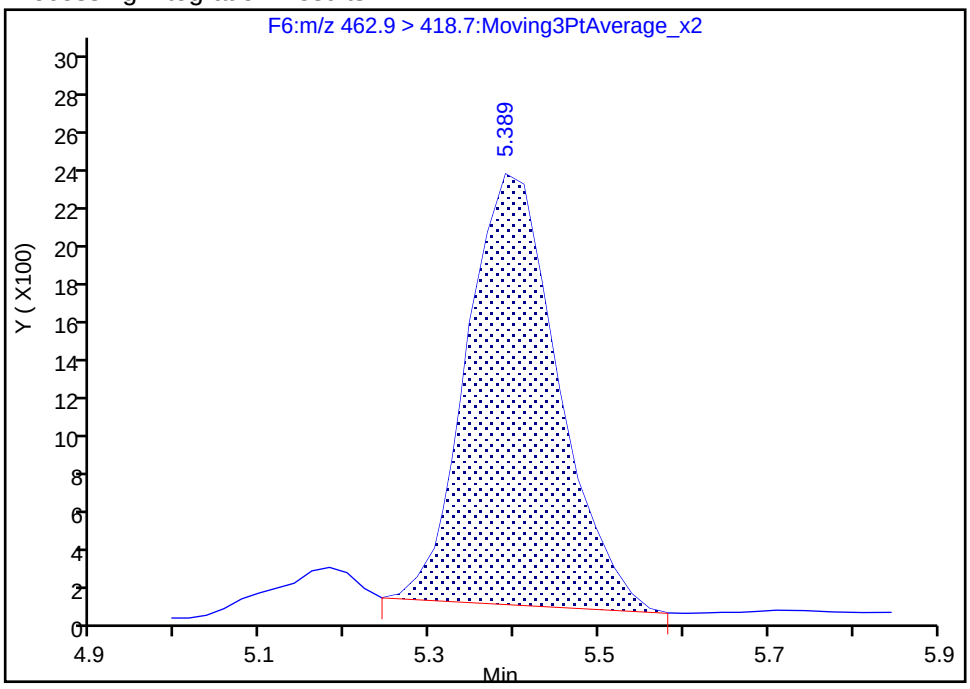
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

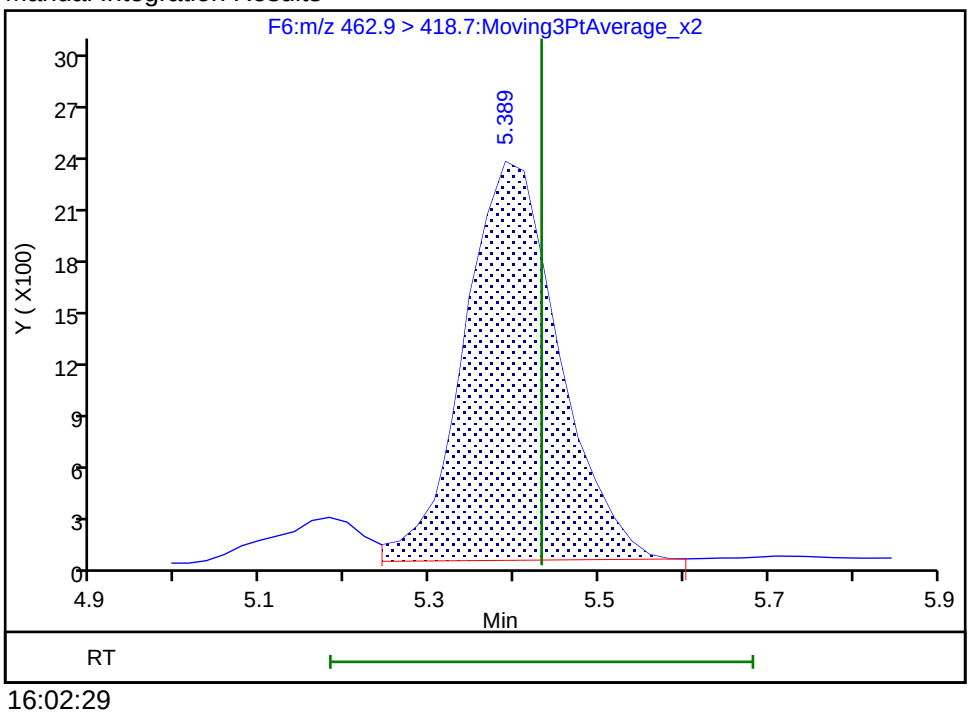
Processing Integration Results

RT: 5.39
Area: 16528
Amount: 1.056907
Amount Units: ng/ml



Manual Integration Results

RT: 5.39
Area: 17481
Amount: 1.117848
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:02:29

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

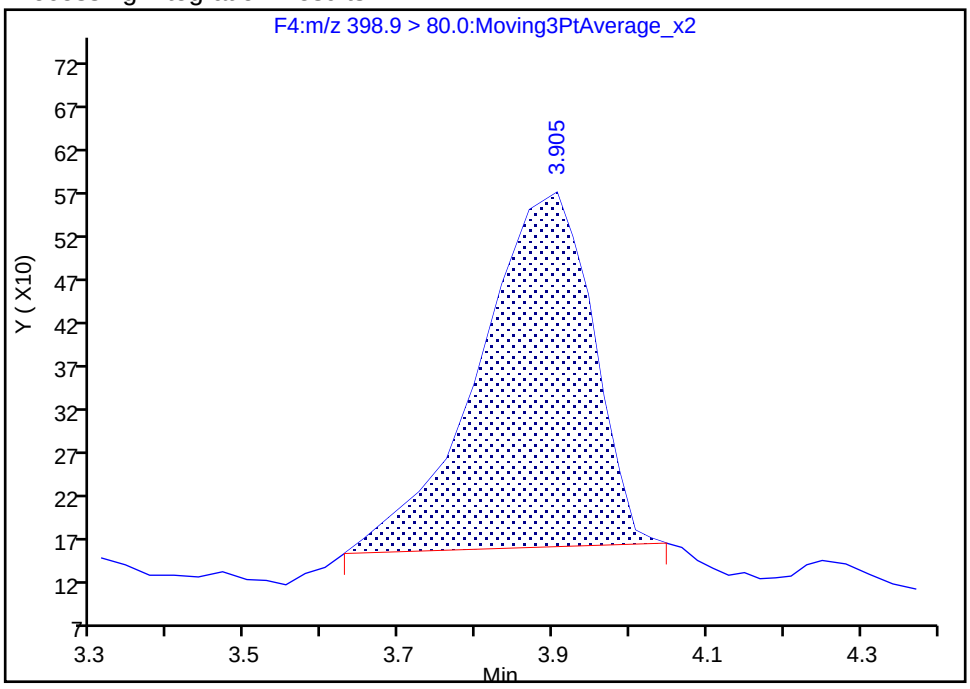
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

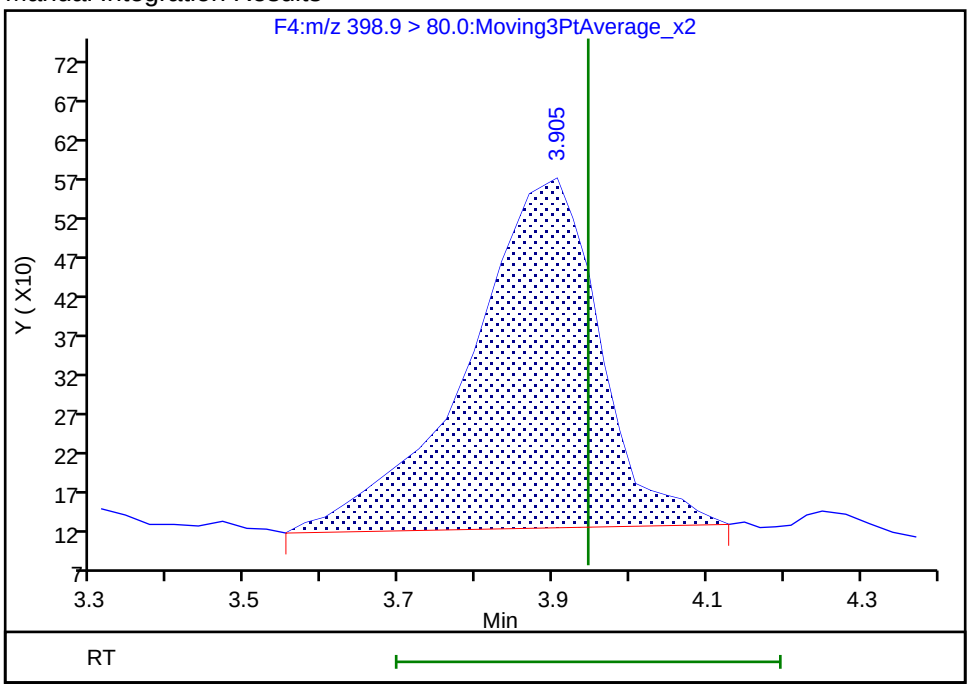
Processing Integration Results

RT: 3.91
Area: 4211
Amount: 1.871017
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 5300
Amount: 2.152096
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:02:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

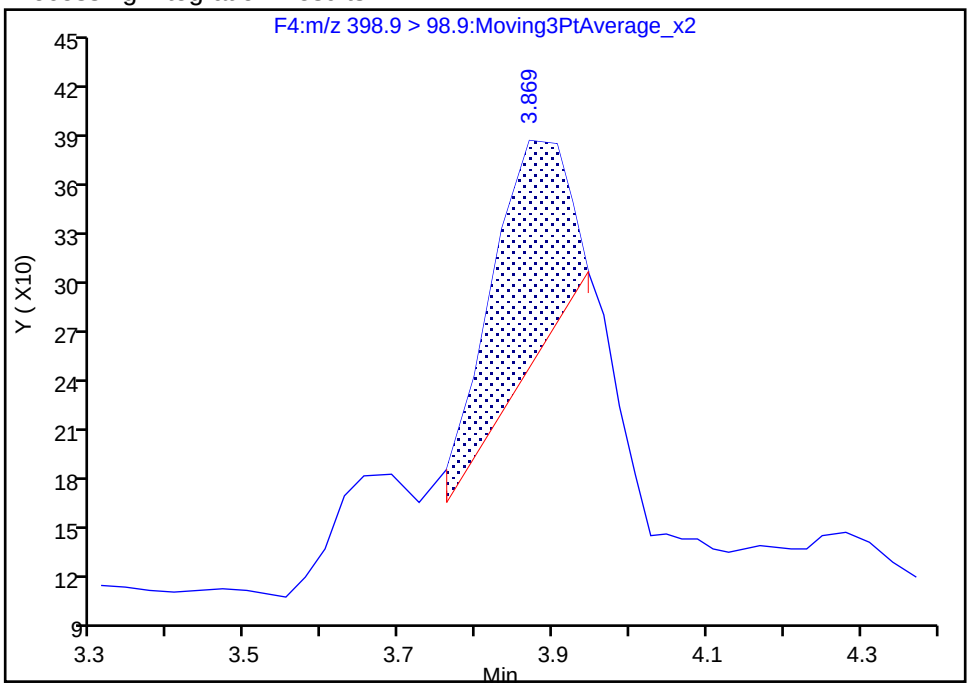
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

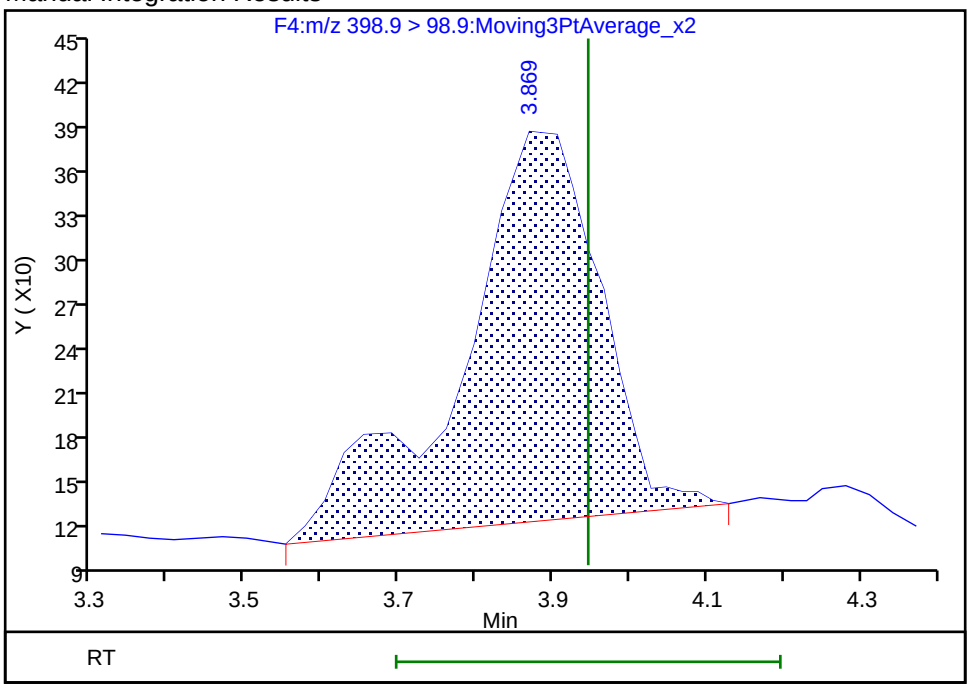
Processing Integration Results

RT: 3.87
Area: 911
Amount: 1.871017
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 3283
Amount: 2.152096
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:02:04

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

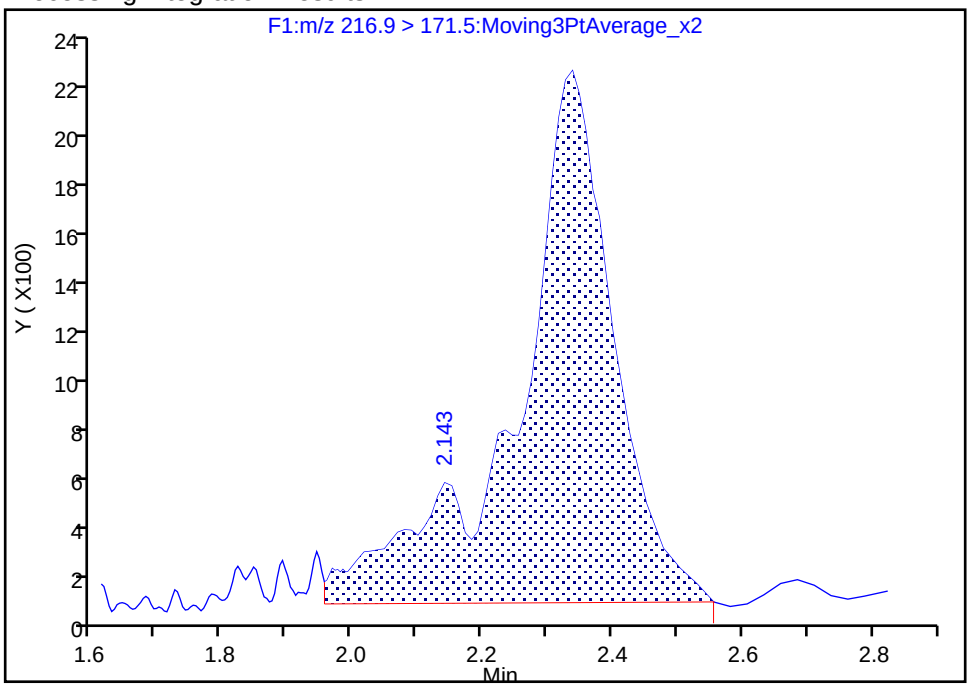
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

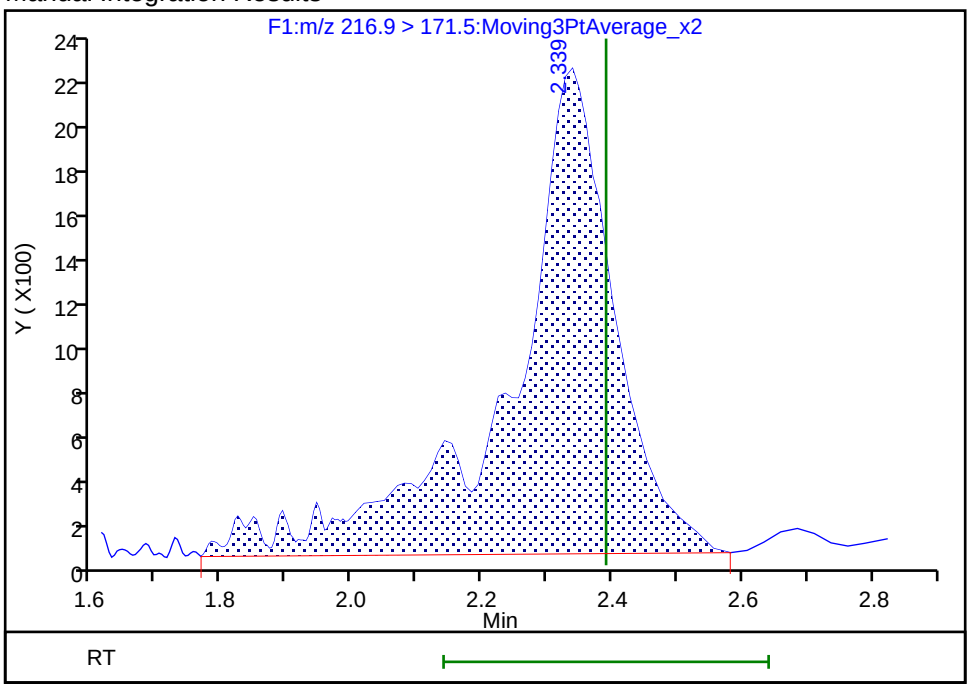
Processing Integration Results

RT: 2.14
Area: 22062
Amount: 4.057493
Amount Units: ng/ml



Manual Integration Results

RT: 2.34
Area: 23991
Amount: 4.412262
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:39:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

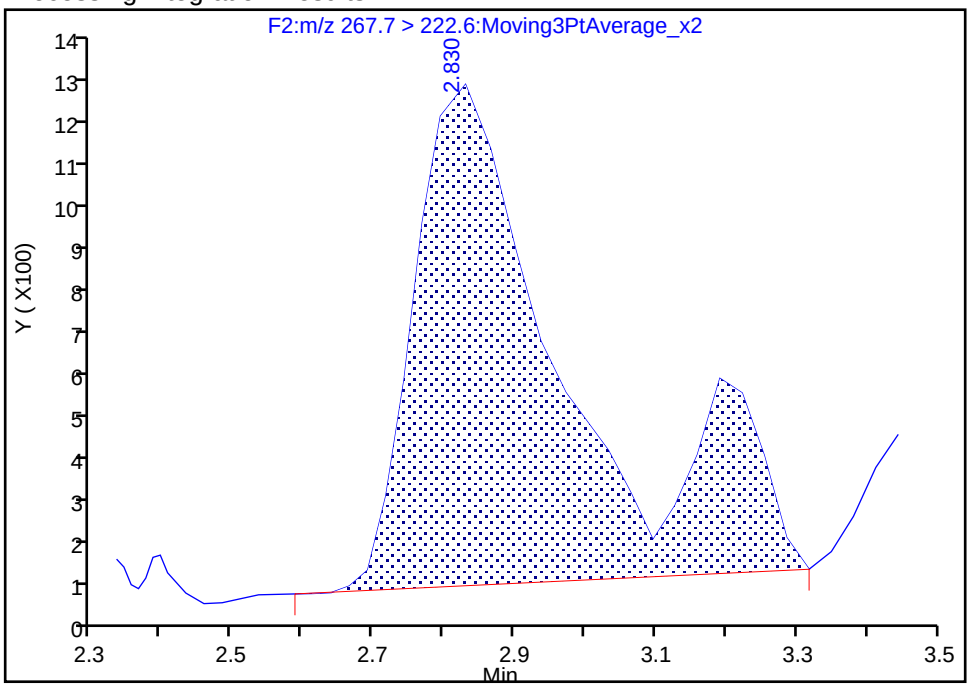
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

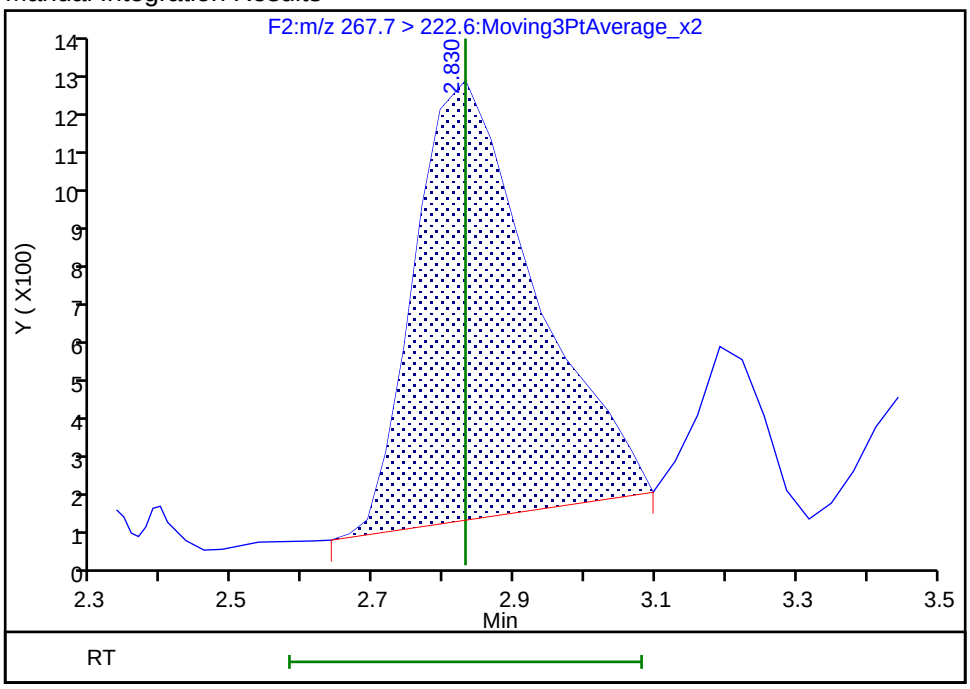
Processing Integration Results

RT: 2.83
Area: 17371
Amount: 4.211317
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 13081
Amount: 3.171276
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:01:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

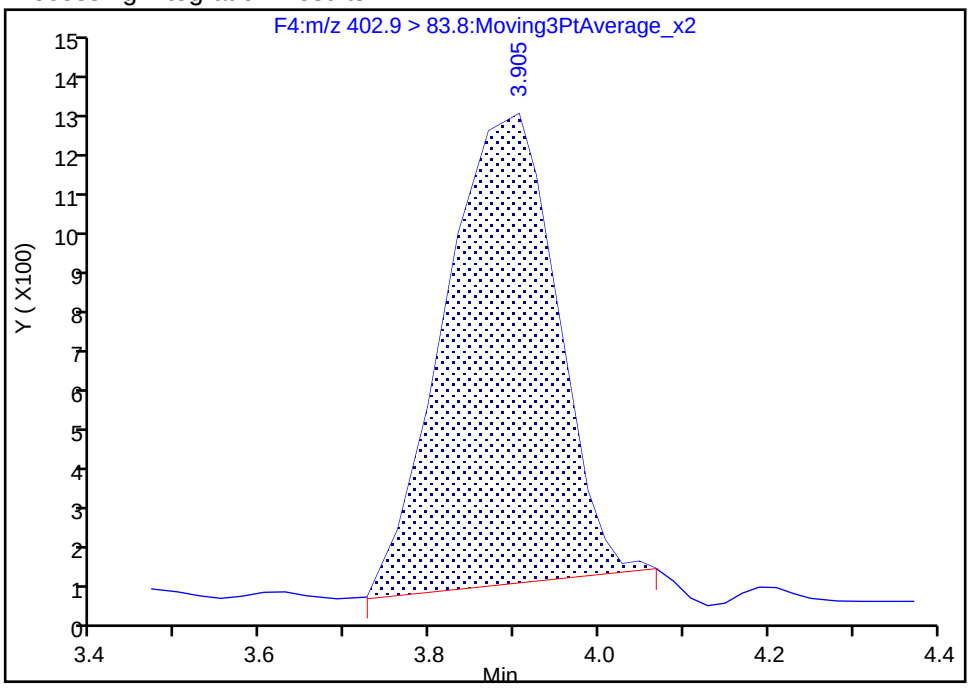
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

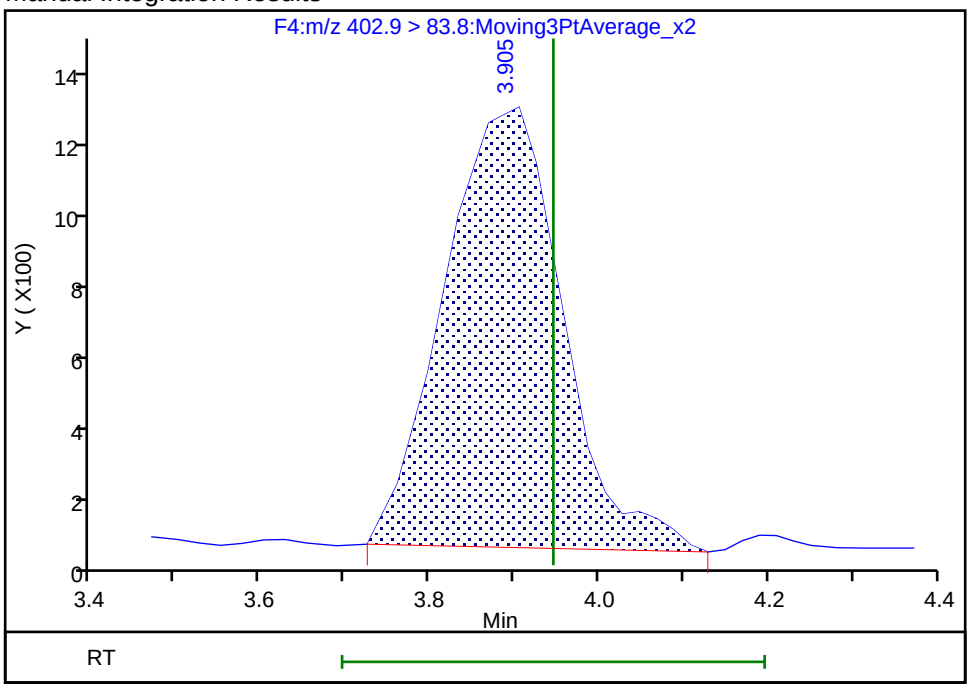
Processing Integration Results

RT: 3.91
Area: 10061
Amount: 4.386561
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 11009
Amount: 4.799886
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:02:08

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

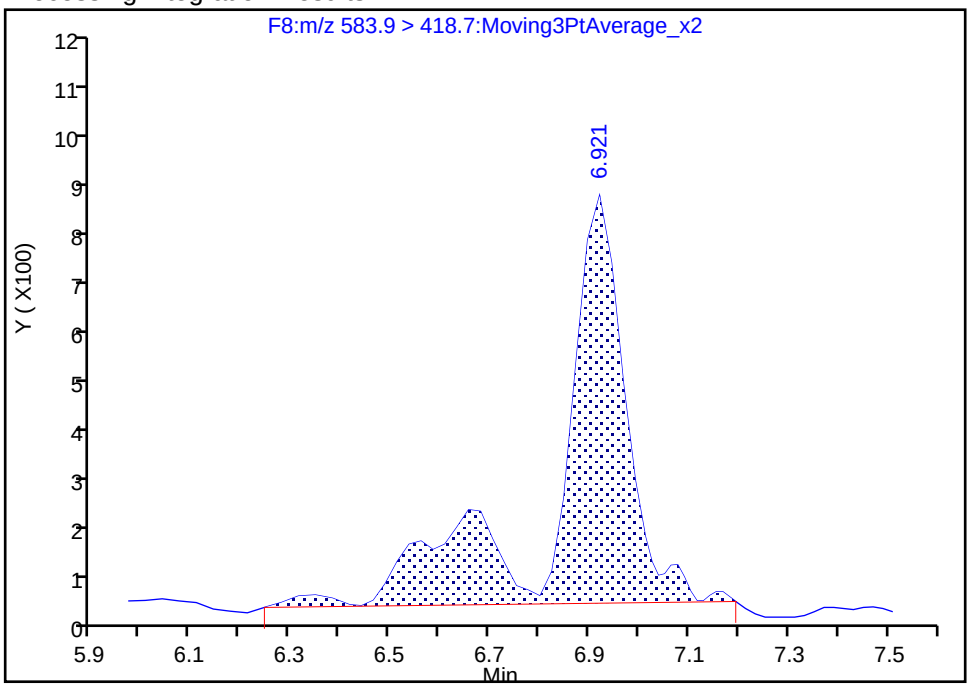
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B58.d				
Injection Date:	31-May-2019 03:52:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	58
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

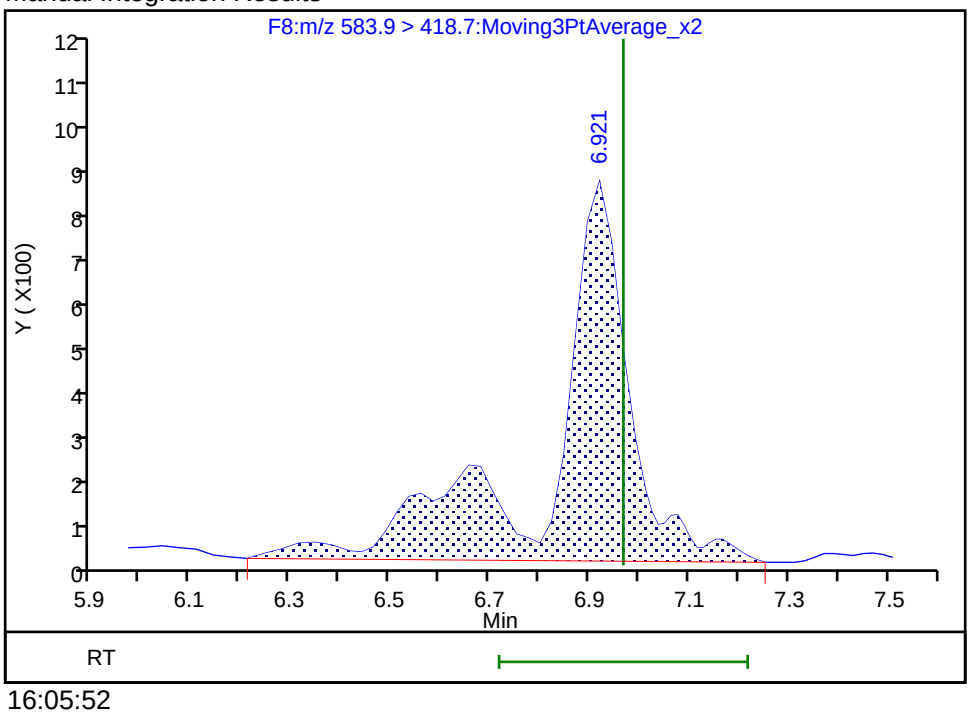
Processing Integration Results

RT: 6.92
Area: 7392
Amount: 2.301494
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 8549
Amount: 2.661726
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:05:52

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-2 051419 Lab Sample ID: 200-48826-5

Matrix: Water Lab File ID: PF060619A07.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 09:38

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 295.5(mL) Date Analyzed: 06/06/2019 14:00

Con. Extract Vol.: 0.5(mL) Dilution Factor: 10

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2100		17	5.2

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	75		50-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A07.d
Lims ID: 200-48826-A-5-A
Client ID: VEW-2 051419
Sample Type: Client
Inject. Date: 06-Jun-2019 14:00:15 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 10.0000
Sample Info: 200-0036227007 5
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:18:10 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 06-Jun-2019 15:53:36
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
216.9 > 171.5	2.329	2.349	-0.020	1.000	16086	7.92		158	28.0	
2 Perfluorobutanoic acid										
212.9 > 168.9	2.530	2.360	0.170	1.086	90223	17.9			34.3	
D 4 13C5 PFPeA										
267.7 > 222.6	2.795	2.830	-0.035	1.000	10598	6.87		137	37.5	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.769	2.830	-0.061	0.991	2550	0.4018			1.0	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	6577	9.81		211	20.0	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.302	0.0	1.000	14588	3.16		63.1	58.1	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	32356	4.97		99.3	120	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	5287	6.17		130	47.8	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.506	4.526	-0.020	1.000	3460	7.47		157	34.5	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.547	0.021	1.000	34050	4.22		84.4	200	
* 16 13C2 PFOA										sM
414.9 > 369.8	4.568	4.568	0.0		41554	5.00			161	M
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.568	0.0	1.000	26146	3.79	Target=2.43		48.4	
412.9 > 168.9	4.568	4.568	0.0	1.000	8593		3.04(1.22-3.64)		32.3	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.568	4.589	-0.021	0.854	2251	1.79	Target=1.30		15.2	
448.9 > 98.9	4.589	4.589	0.0	1.000	1549		1.45(0.65-1.95)		13.8	
D 20 13C5 PFNA										
467.8 > 422.8	5.326	5.336	-0.010	1.000	36162	3.34		66.8	198	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.336	0.011	1.000	6908	3.57		74.8	57.8	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.336	5.336	0.0	0.998	171892	123.2	Target=1.41		583	M
498.9 > 98.9	5.336	5.336	0.0	0.998	112231		1.53(0.71-2.12)		648	M
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.131	0.0	1.000	22731	2.46		49.2	119	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.453	6.477	-0.024	1.000	9337	3.10		62.1	82.7	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.849	0.0	1.000	7430	2.99		59.9	36.5	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.897	-0.024	1.000	29361	3.29		65.9	146	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.945	6.945	0.0	1.000	16715	4.95			26.0	
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.945	0.0	1.000	11856	3.56		71.3	79.9	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.577	0.0	1.000	34199	3.01		60.2	186	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.741	8.741	0.0	1.000	20411	2.00		40.0	103	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

Report Date: 10-Jun-2019 10:18:24 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A07.d

Injection Date: 06-Jun-2019 14:00:15 Instrument ID: LC410

Lims ID: 200-48826-A-5-A Lab Sample ID: 200-48826-5

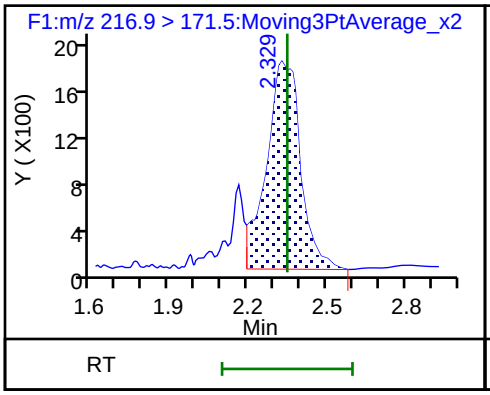
Client ID: VEW-2 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7

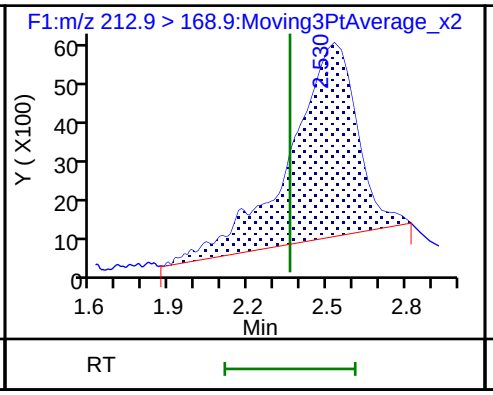
Injection Vol: 20.0 ul Dil. Factor: 10.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

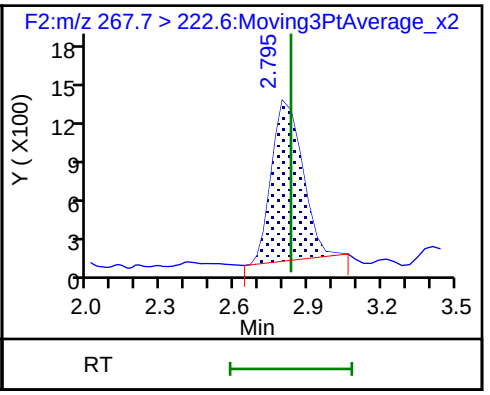
D 1 13C4 PFBA



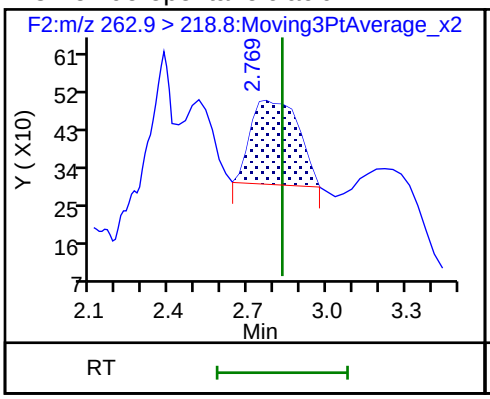
2 Perfluorobutanoic acid



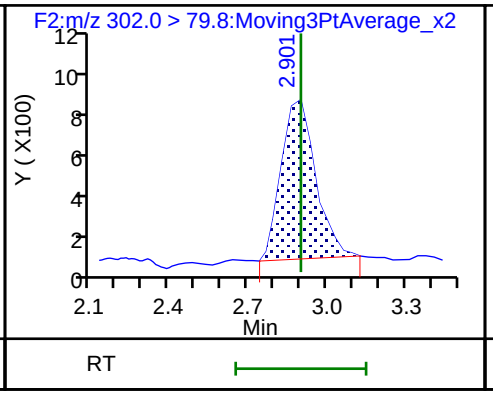
D 4 13C5 PFPeA



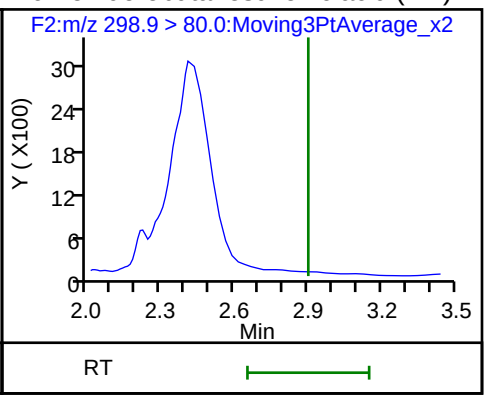
3 Perfluoropentanoic acid



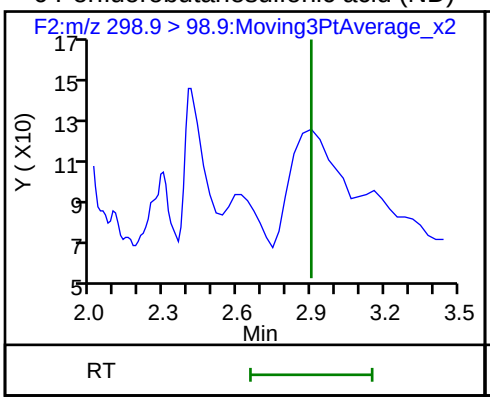
D 5 13C3 PFBS



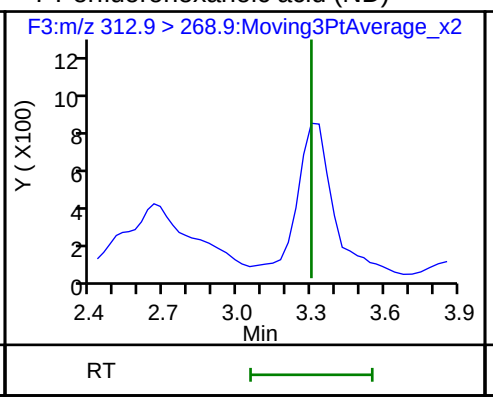
6 Perfluorobutanesulfonic acid (ND)



6 Perfluorobutanesulfonic acid (ND)



7 Perfluorohexanoic acid (ND)



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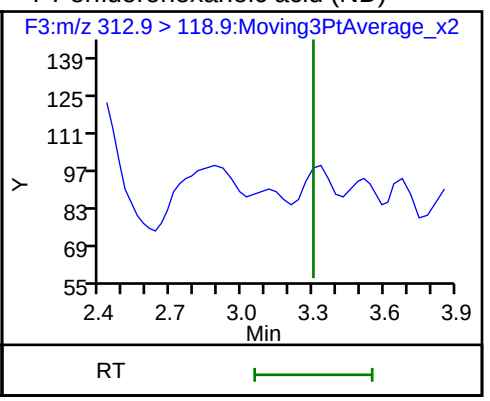
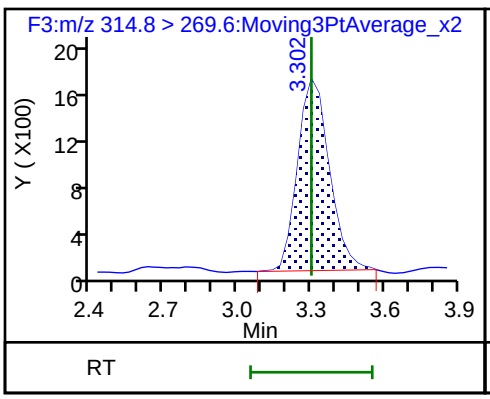
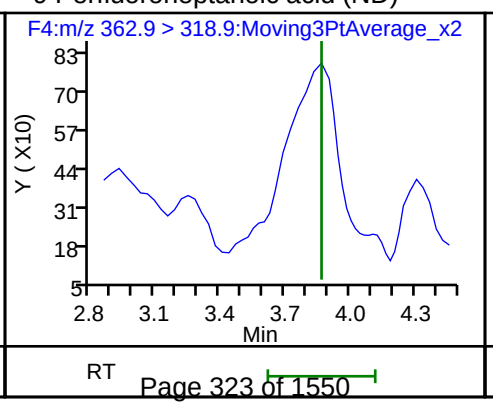


D 8 13C2 PFHxA



9 Perfluoroheptanoic acid (ND)



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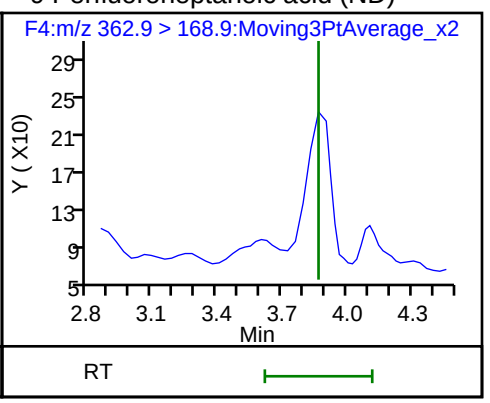

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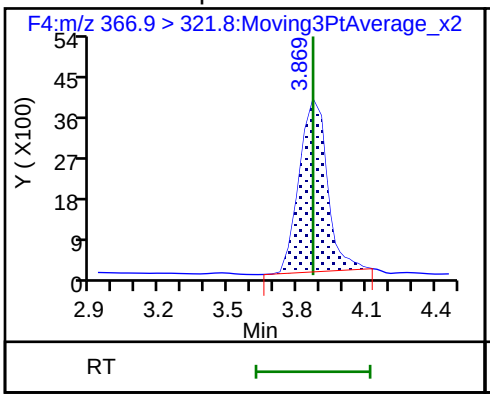

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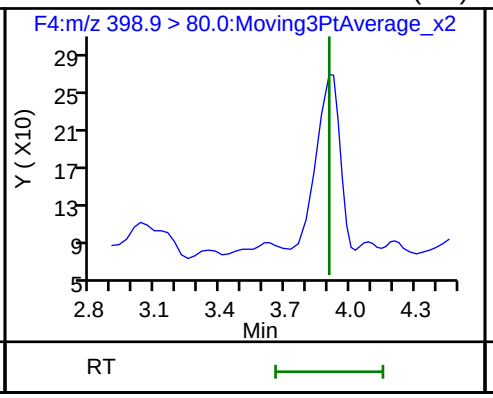

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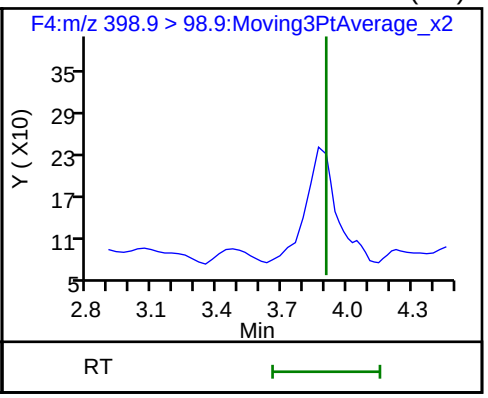
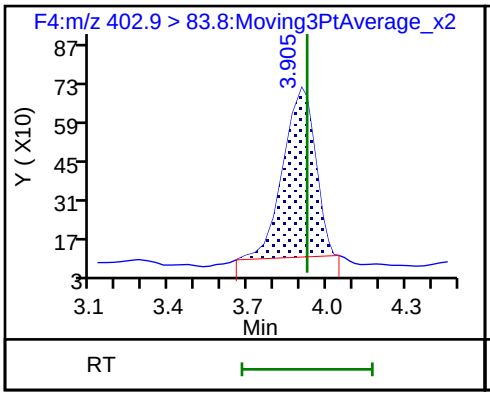
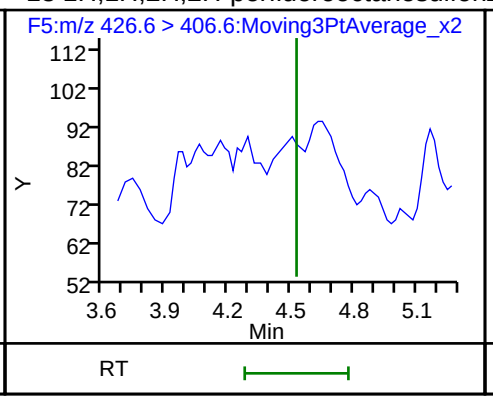


D 12 18O2 PFHxS



13 1H,1H,2H,2H-perfluorooctanesulfonic (NM2-6:2 FTS



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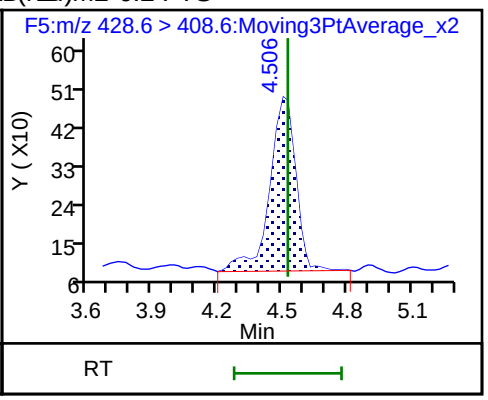
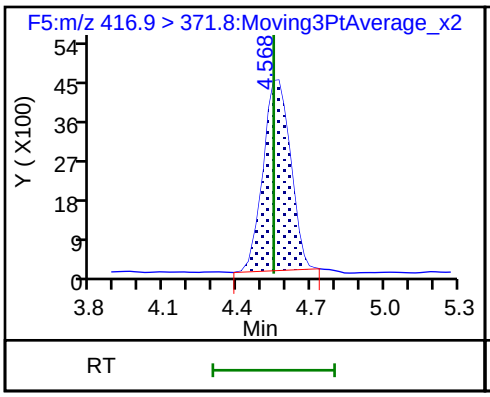
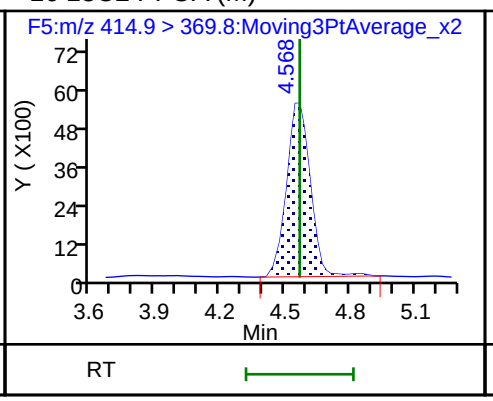


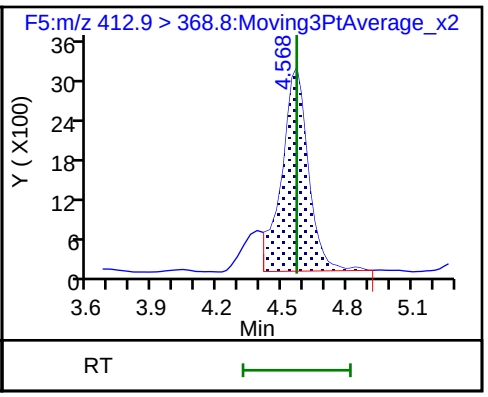
D 17 13C4 PFOA



* 16 13C2 PFOA (M)



15 Perfluorooctanoic acid



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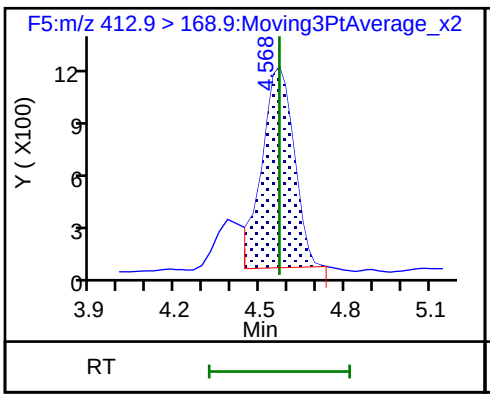
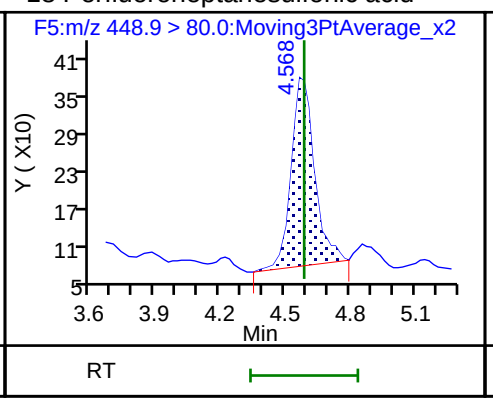


18 Perfluoroheptanesulfonic acid



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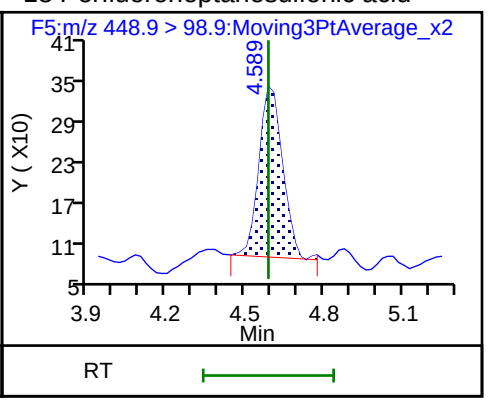
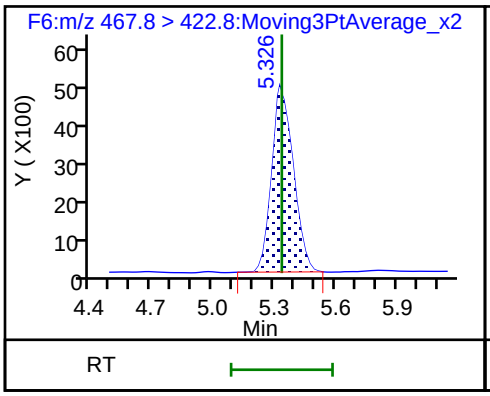
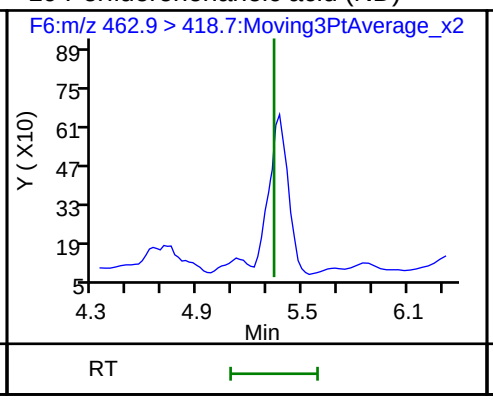


D 20 13C5 PFNA



19 Perfluorononanoic acid (ND)



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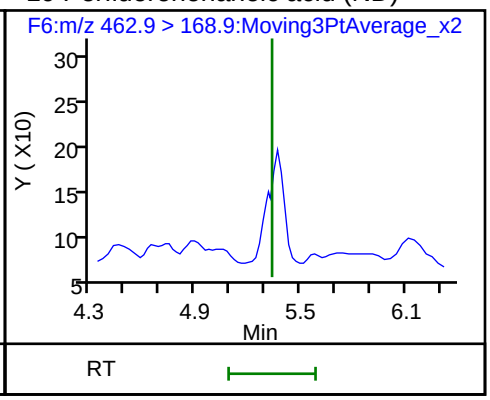
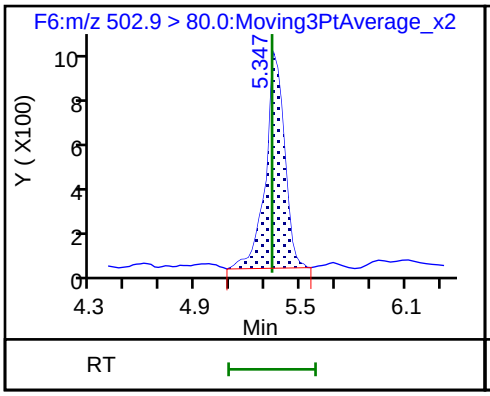
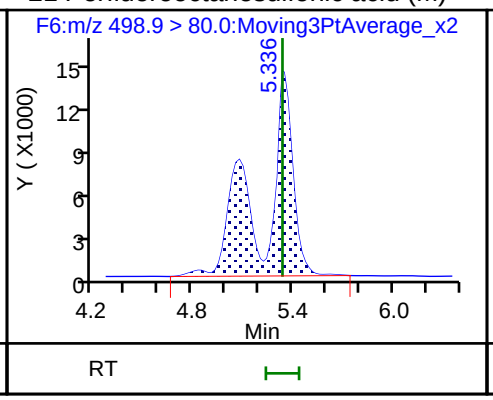


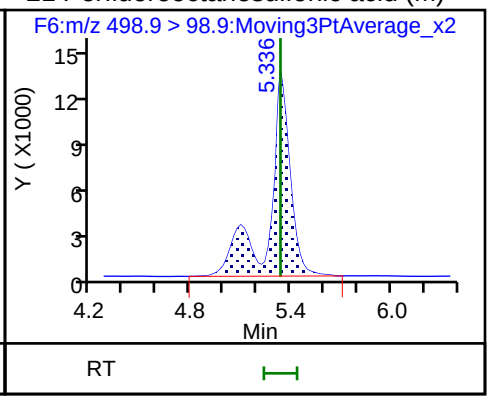
D 22 13C4 PFOS



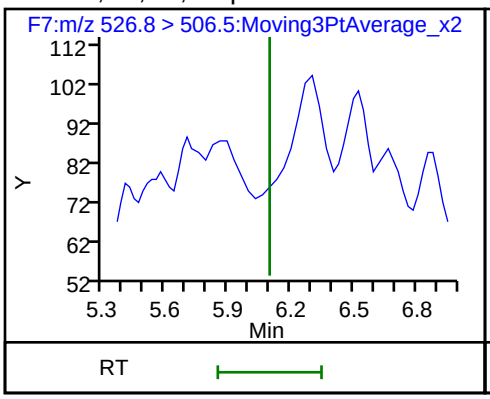
21 Perfluorooctanesulfonic acid (M)



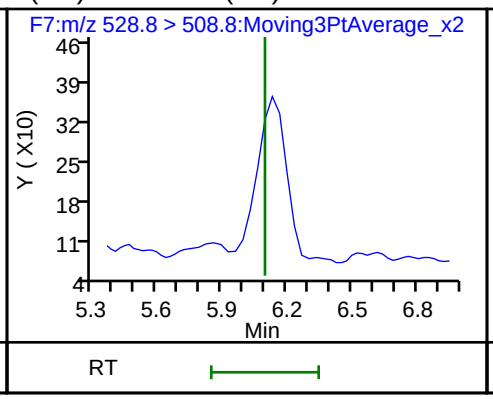
21 Perfluorooctanesulfonic acid (M)



23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



D 24 M2-8:2 FTS (ND)



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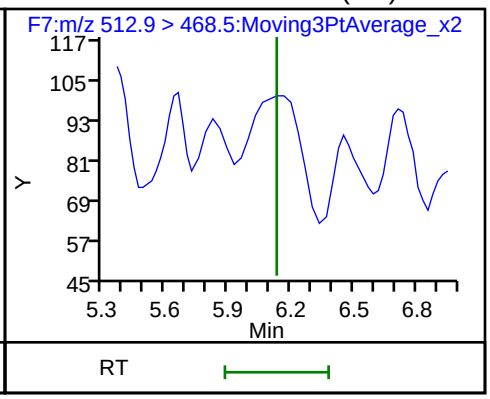

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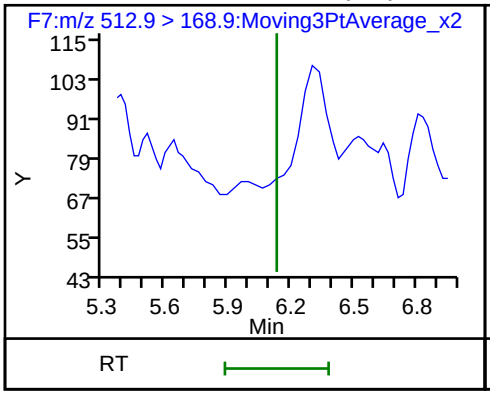
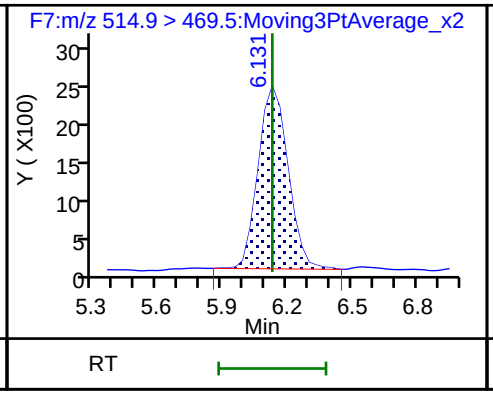
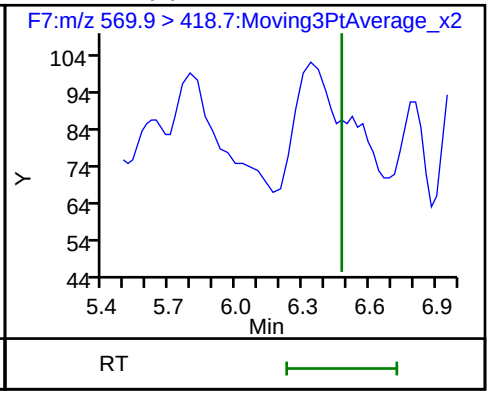


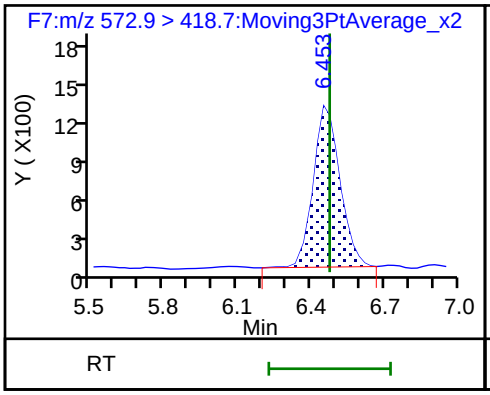
D 25 13C2 PFDA



28 N-methylperfluorooctanesulfonamido (ND)



D 27 d3-NMeFOSAA



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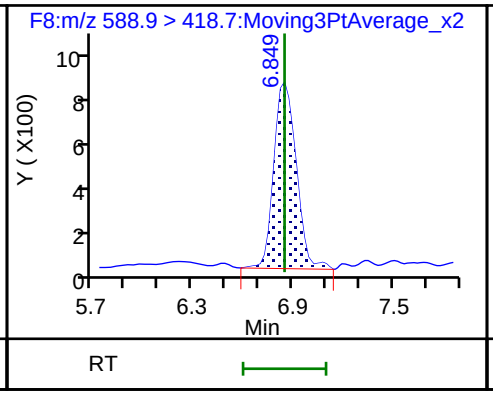
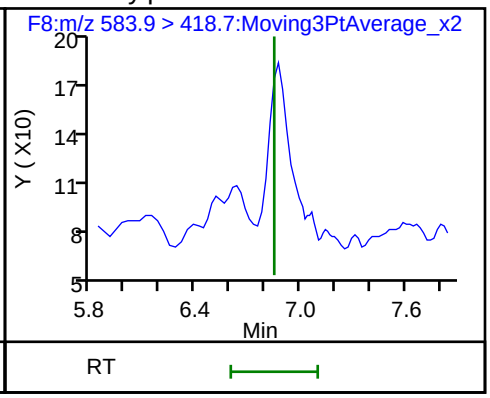


30 N-ethylperfluorooctanesulfonamidoa (ND)



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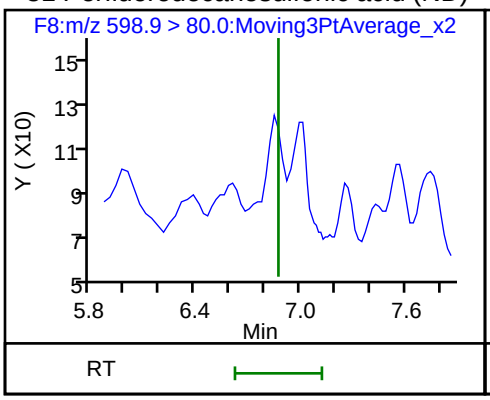

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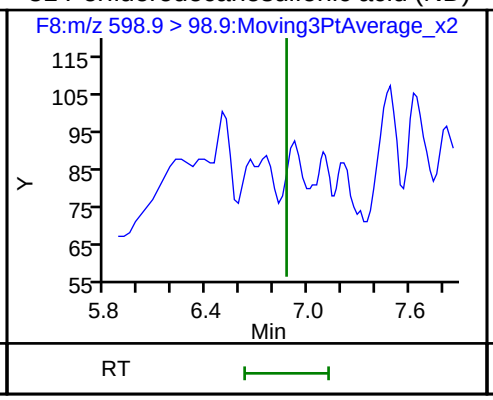

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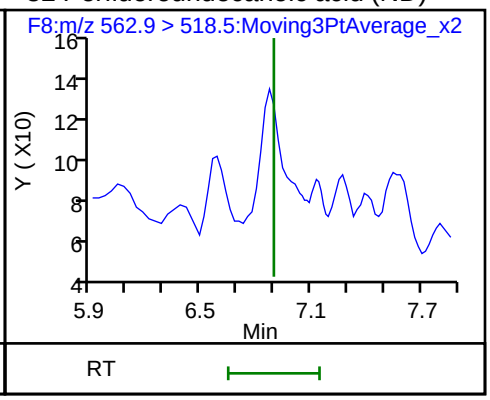

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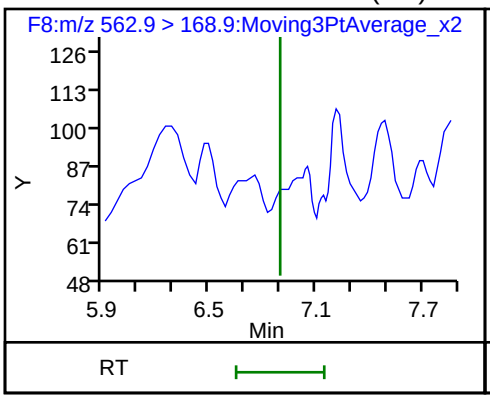
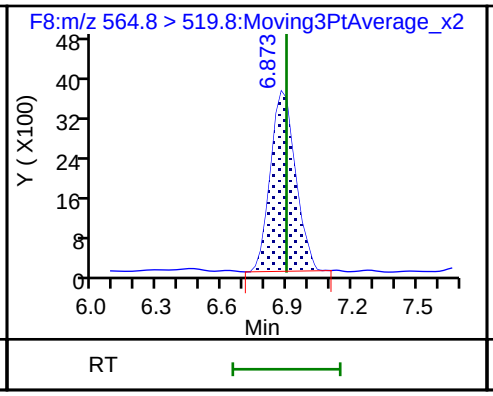
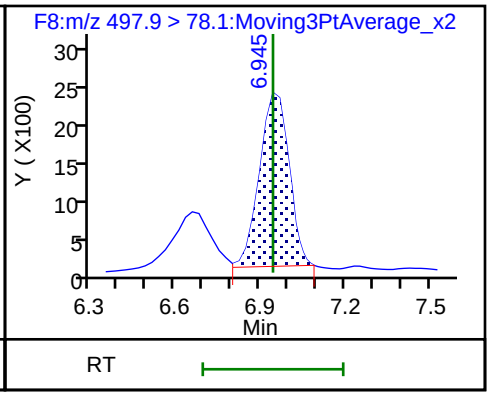


D 33 13C2 PFUnA



35 Perfluorooctanesulfonamide



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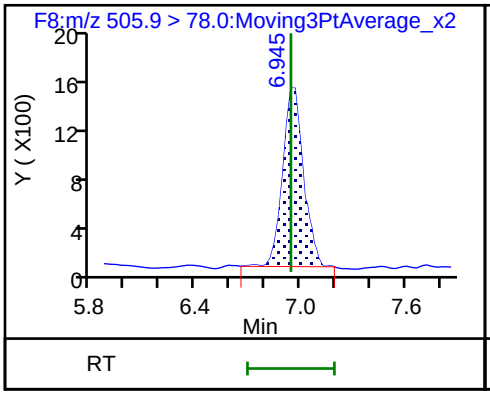

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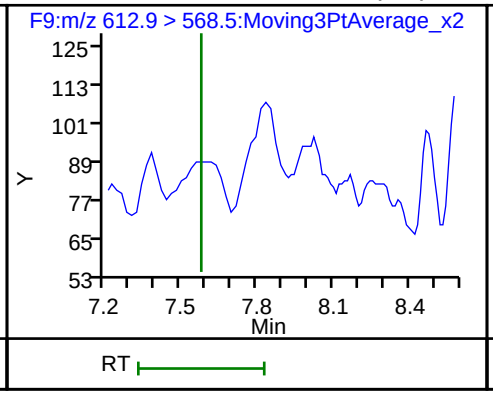

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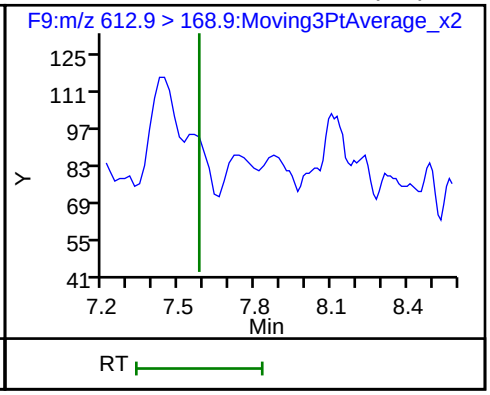
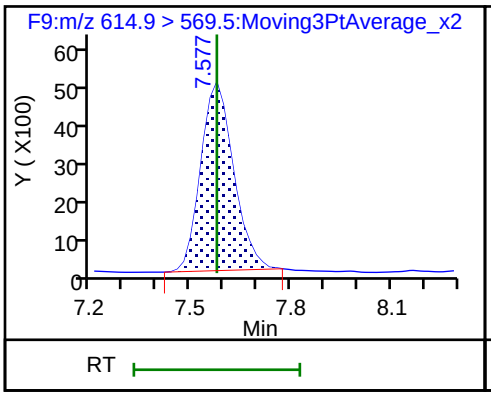


D 37 13C2 PFDoA



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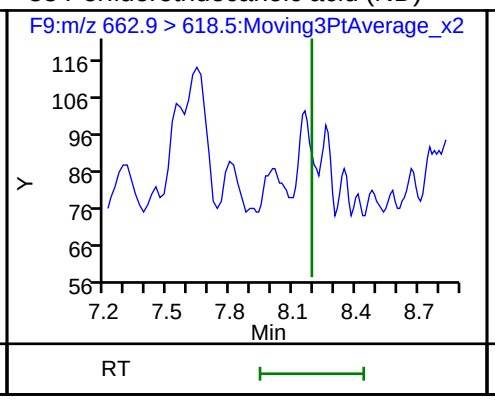
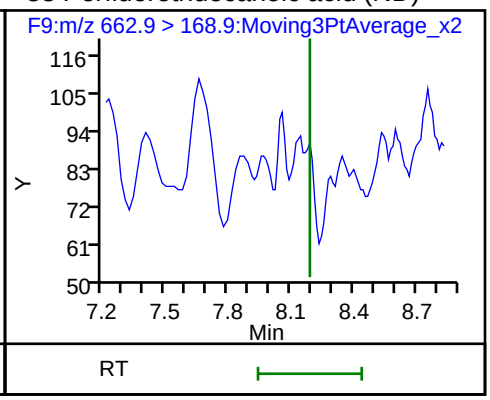
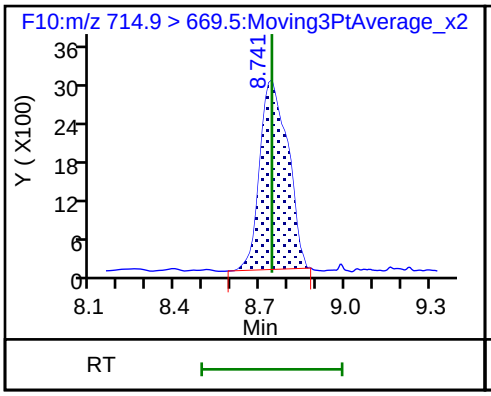


38 Perfluorotridecanoic acid (ND)



D 40 13C2 PFTeDA



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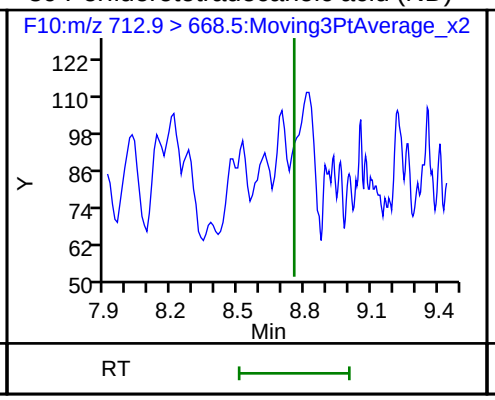
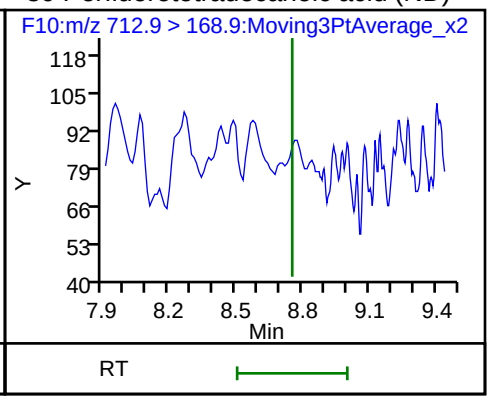


39 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

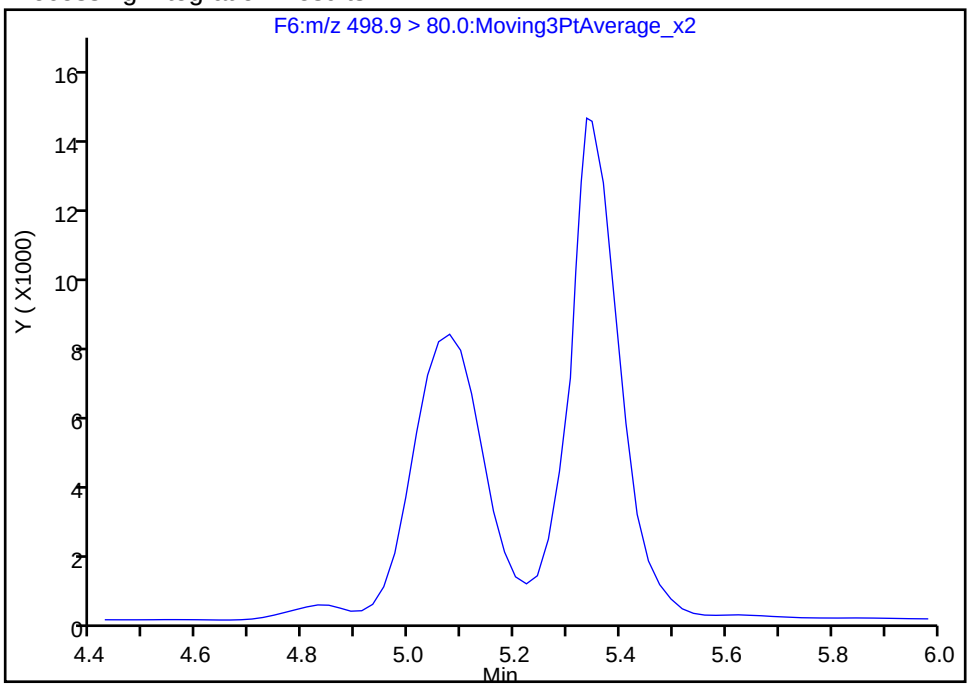
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A07.d				
Injection Date:	06-Jun-2019 14:00:15	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

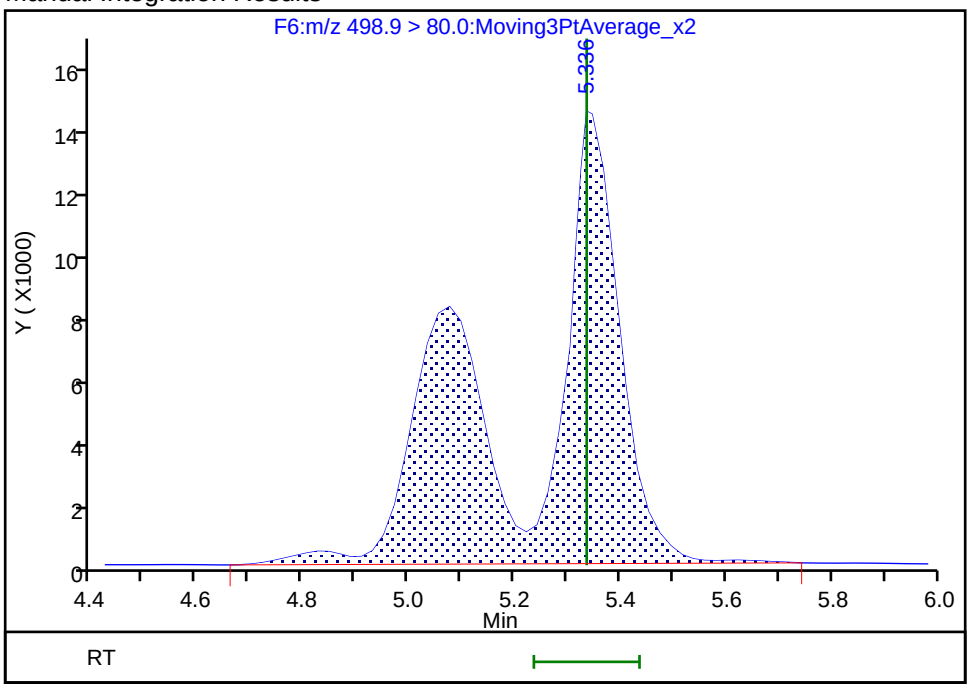
Not Detected
Expected RT: 5.34

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 171892
Amount: 123.1635
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 14:31:41
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

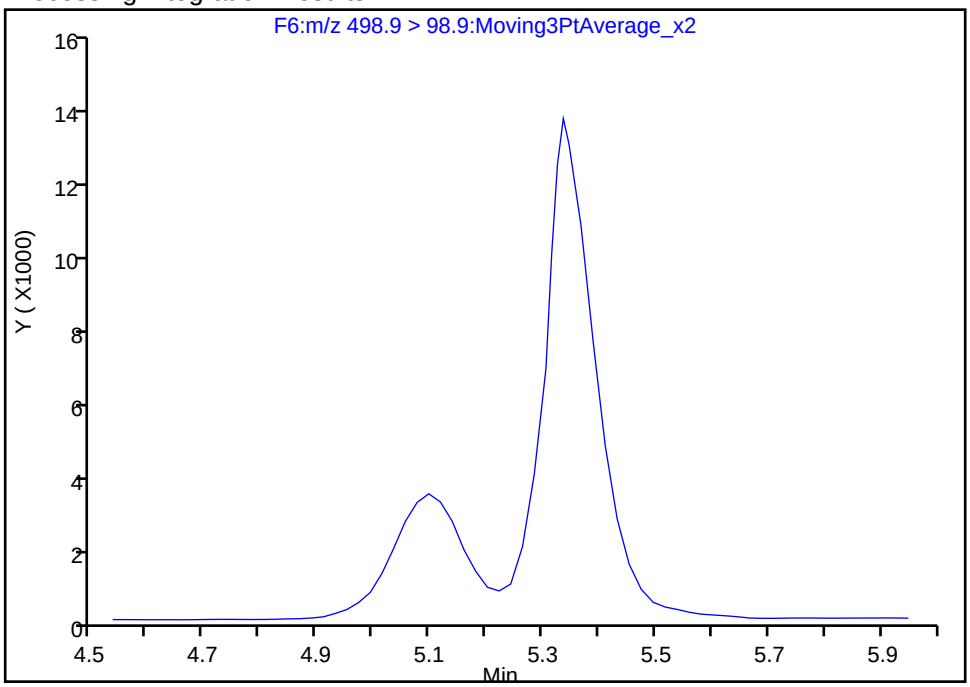
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A07.d				
Injection Date:	06-Jun-2019 14:00:15	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

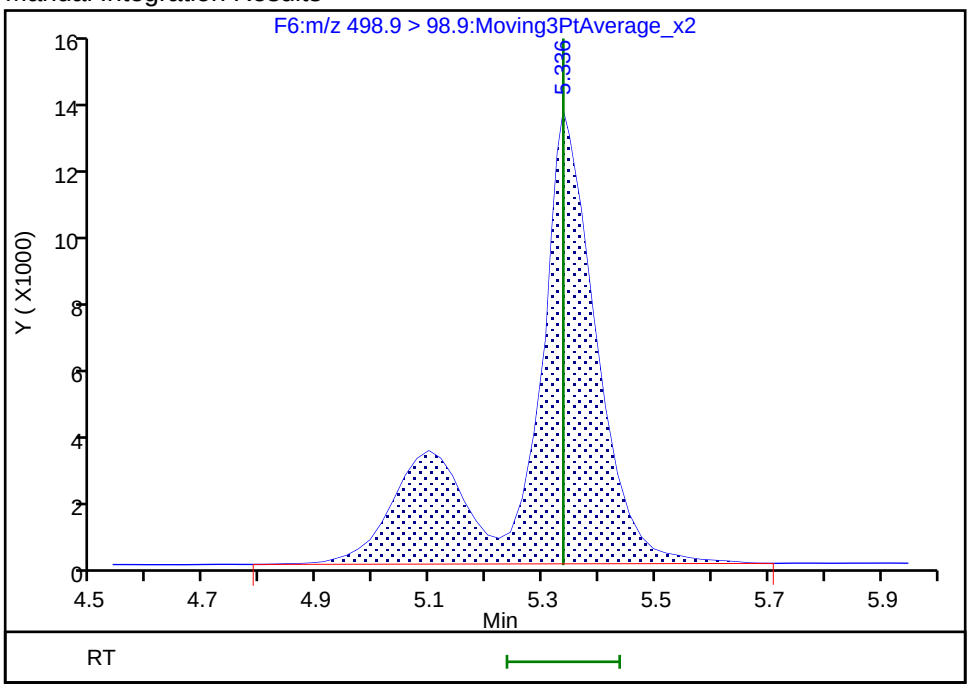
Processing Integration Results

Not Detected
Expected RT: 5.34



Manual Integration Results

RT: 5.34
Area: 112231
Amount: 123.1635
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 14:31:45
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

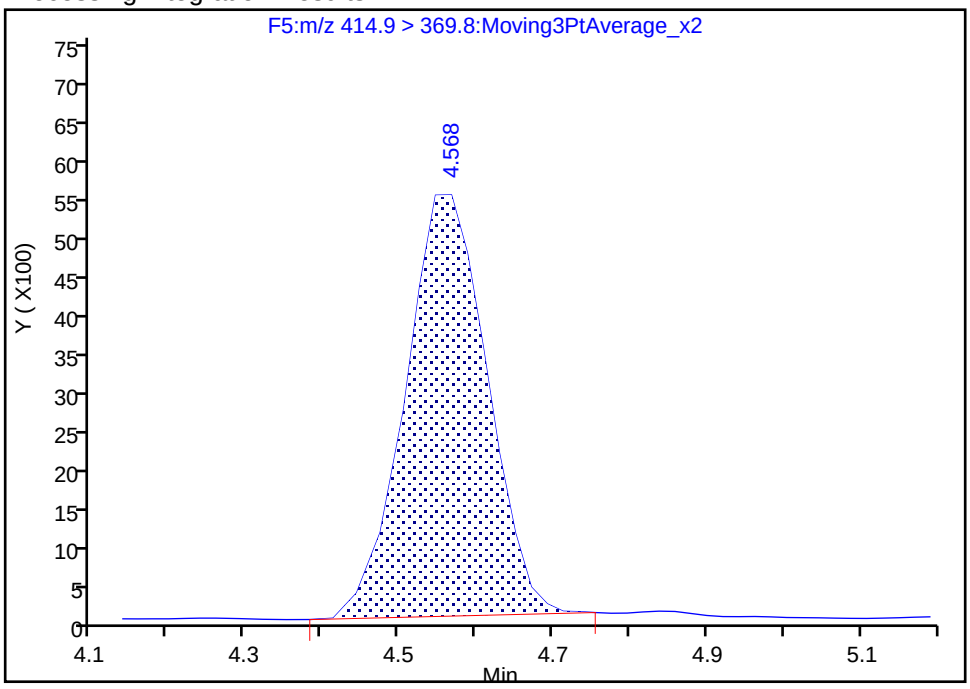
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A07.d				
Injection Date:	06-Jun-2019 14:00:15	Instrument ID:	LC410		
Lims ID:	200-48826-A-5-A	Lab Sample ID:	200-48826-5		
Client ID:	VEW-2 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

* 16 13C2 PFOA, CAS: STL00623

Signal: 1

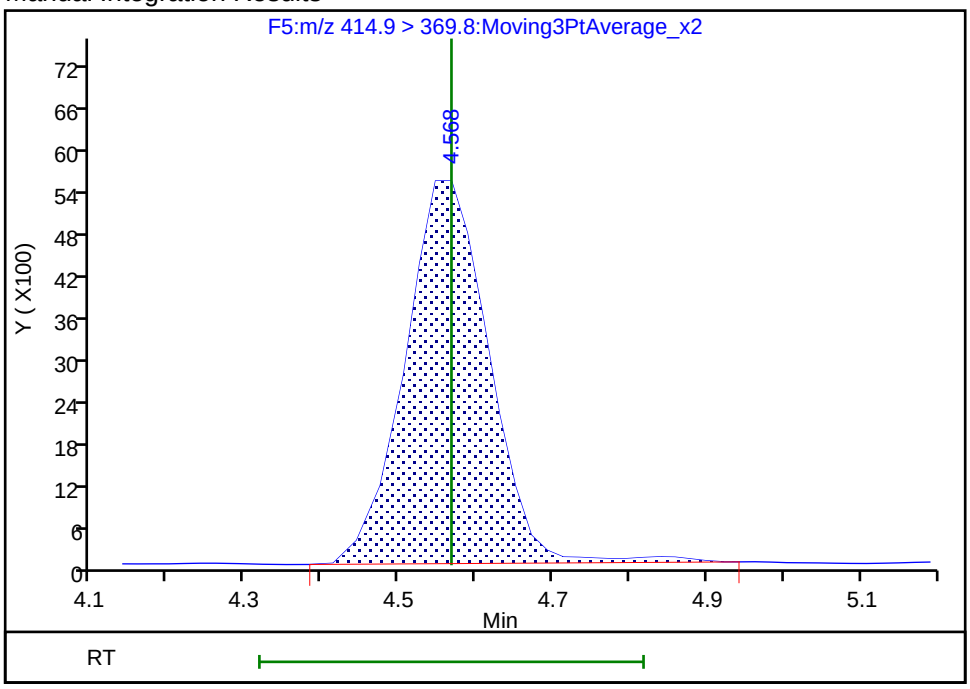
Processing Integration Results

RT: 4.57
Area: 40303
Amount: 5.000000
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 41554
Amount: 5.000000
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 14:32:13

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-1 051419 Lab Sample ID: 200-48826-6

Matrix: Water Lab File ID: PF053019B59.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 10:32

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 304.1(mL) Date Analyzed: 05/31/2019 04:08

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND	* CI	8.2	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	6.1	J	8.2	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	14		8.2	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	19	*	8.2	3.7
335-67-1	Perfluorooctanoic acid (PFOA)	76		8.2	2.6
375-95-1	Perfluorononanoic acid (PFNA)	6.3	J	8.2	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.2	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.2	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND	*	8.2	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	30		8.2	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	15		8.2	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		82	7.0
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	100	*	82	6.2
27619-97-2	6:2 FTS	ND		82	19
39108-34-4	8:2 FTS	ND		82	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-1 051419 Lab Sample ID: 200-48826-6

Matrix: Water Lab File ID: PF053019B59.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 10:32

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 304.1(mL) Date Analyzed: 05/31/2019 04:08

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	26		25-150
STL00992	13C4 PFBA	36		25-150
STL01893	13C5 PFPeA	46		25-150
STL00993	13C2 PFHxA	56		50-150
STL01892	13C4 PFHpA	72		50-150
STL00990	13C4 PFOA	94		50-150
STL00995	13C5 PFNA	72		50-150
STL00996	13C2 PFDA	96		50-150
STL00997	13C2 PFUnA	61		50-150
STL00998	13C2 PFDoA	74		50-150
STL02116	13C2 PFTeDA	92		50-150
STL02337	13C3 PFBS	66		50-150
STL00994	18O2 PFHxS	36	*	50-150
STL00991	13C4 PFOS	59		50-150
STL02118	d3-NMeFOSAA	68		50-150
STL02117	d5-NEtFOSAA	59		50-150
STL02279	M2-6:2 FTS	196	*	25-150
STL02280	M2-8:2 FTS	304	*	25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d
Lims ID: 200-48826-A-6-A
Client ID: VEW-1 051419
Sample Type: Client
Inject. Date: 31-May-2019 04:08:32 ALS Bottle#: 0 Worklist Smp#: 59
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036138-059 6
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:25:52 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: murrayjw Date: 05-Jun-2019 10:41:02
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.360	2.391	-0.031	1.000	21464	3.61		36.1	22.8	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.769	2.830	-0.061	1.000	20868	4.63		46.3	13.5	
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.795	2.866	-0.071	1.009	4614	0.7384			0.6	M
D 5 13C3 PFBS										
302.0 > 79.8	2.830	2.901	-0.071	1.000	11935	6.09		65.5	64.5	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.334	-0.064	1.000	75985	5.62		56.2	436	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.270	3.334	-0.064	1.000	18595	1.75	Target=14.34		6.1	
312.9 > 118.9	3.238	3.334	-0.096	0.990	1397		13.31(7.17-21.51)		4.5	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.833	3.925	-0.092	1.000	37040	2.29	Target=2.84		17.4	
362.9 > 168.9	3.833	3.925	-0.092	1.000	10633		3.48(1.42-4.26)		32.0	
D 10 13C4 PFHpA										
366.9 > 321.8	3.833	3.925	-0.092	1.000	137864	7.24		72.4	962	
D 12 18O2 PFHxS										
402.9 > 83.8	3.869	3.946	-0.077	1.000	8624	3.44		36.4	51.2	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.869	3.946	-0.077	1.000	7139	3.70	Target=1.34		18.0	
398.9 > 98.9	3.833	3.946	-0.113	0.991	5292		1.35(0.67-2.01)		33.8	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.475	4.589	-0.114	1.000	25132	18.6		196	166	
D 17 13C4 PFOA										
416.9 > 371.8	4.526	4.630	-0.104	1.000	221268	9.39		93.9	874	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 16 13C2 PFOA										
414.9 > 369.8	4.506	4.630	-0.124		242822	10.0			1251	
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.526	4.630	-0.104	1.000	207412	9.26	Target=2.43		218	M
412.9 > 168.9	4.526	4.630	-0.104	1.000	81310		2.55(1.22-3.64)		275	M
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.526	4.672	-0.146	0.860	5418	1.88	Target=1.30		23.4	
448.9 > 98.9	4.547	4.672	-0.125	1.000	7601		0.71(0.65-1.95)		50.6	
19 Perfluorononanoic acid										M
462.9 > 418.7	5.243	5.432	-0.189	0.996	15241	0.7606	Target=5.00		31.6	
462.9 > 168.9	5.264	5.432	-0.168	1.000	2819		5.41(2.50-7.50)		15.8	M
D 20 13C5 PFNA										
467.8 > 422.8	5.264	5.432	-0.168	1.000	226933	7.18		71.8	759	
D 22 13C4 PFOS										
502.9 > 80.0	5.264	5.453	-0.189	1.000	31728	5.62		58.8	165	
21 Perfluorooctanesulfonic acid										EM
498.9 > 80.0	5.264	5.453	-0.189	1.000	645973	201.5	Target=1.41		1923	EM
498.9 > 98.9	5.264	5.453	-0.189	1.000	576701		1.12(0.71-2.12)		1088	M
D 24 M2-8:2 FTS										a
528.8 > 508.8	5.925	6.234	-0.309	0.000	143068	29.1		304	676	a
D 25 13C2 PFDA										a
514.9 > 469.5	5.925	6.234	-0.309	0.000	258671	9.59		95.9	888	a
D 27 d3-NMeFOSAA										a
572.9 > 418.7	6.199	6.597	-0.398	0.000	59510	6.77		67.7	415	a
D 29 d5-NEtFOSAA										a
588.9 > 418.7	6.514	6.969	-0.455	0.000	42576	5.87		58.7	384	a
30 N-ethylperfluorooctanesulfonamidoa										a
583.9 > 418.7	6.538	6.969	-0.431	1.004	43590	12.7			376	a
D 33 13C2 PFUnA										a
564.8 > 519.8	6.562	7.013	-0.451	0.000	157683	6.05		60.5	666	a
D 34 13C8 FOSA										
505.9 > 78.0	6.969	7.039	-0.070	1.000	25761	2.65		26.5	96.8	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	6.969	7.039	-0.070	1.000	689	0.1878			2.4	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.498	7.695	-0.197	1.000	244645	7.37		73.7	1299	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.797	8.870	-0.073	1.000	274121	9.20		92.0	596	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 05-Jun-2019 17:26:07 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d

Injection Date: 31-May-2019 04:08:32 Instrument ID: LC410

Lims ID: 200-48826-A-6-A Lab Sample ID: 200-48826-6

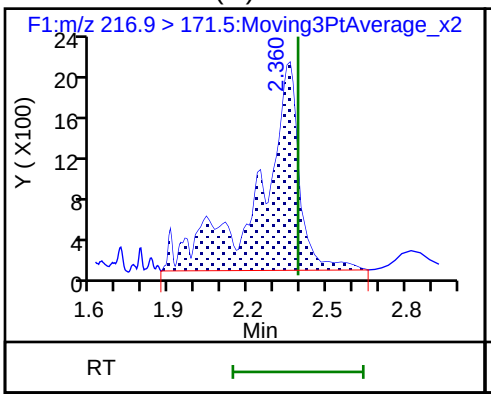
Client ID: VEW-1 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 59

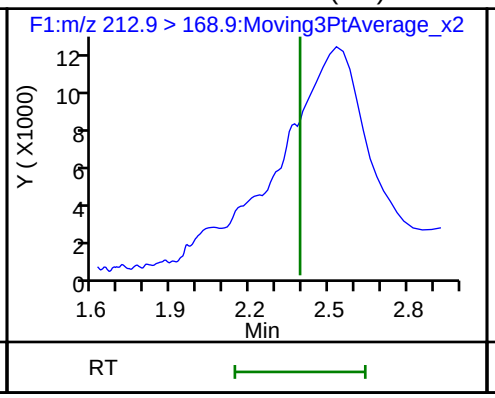
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

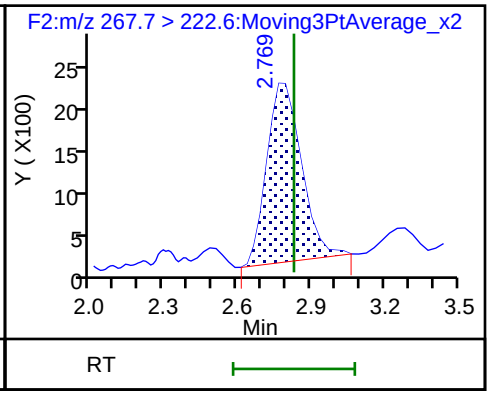
D 1 13C4 PFBA (M)



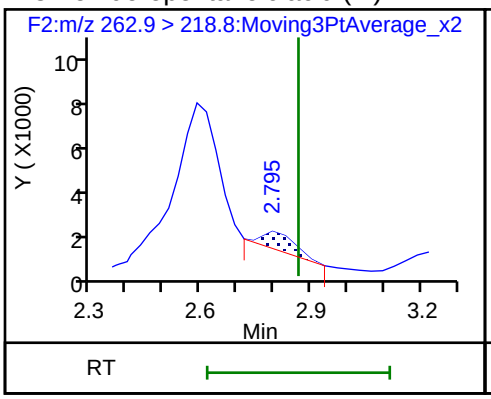
2 Perfluorobutanoic acid (ND)



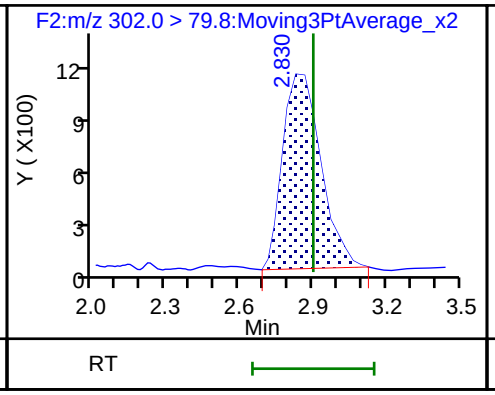
D 4 13C5 PFPeA



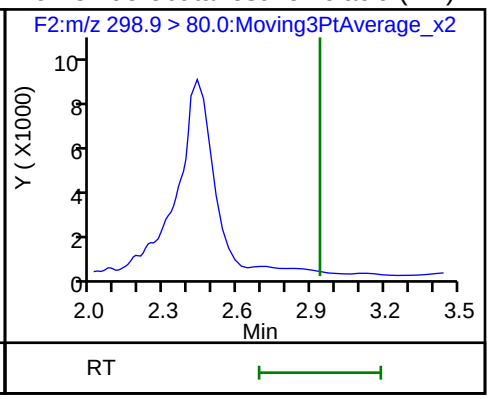
3 Perfluoropentanoic acid (M)



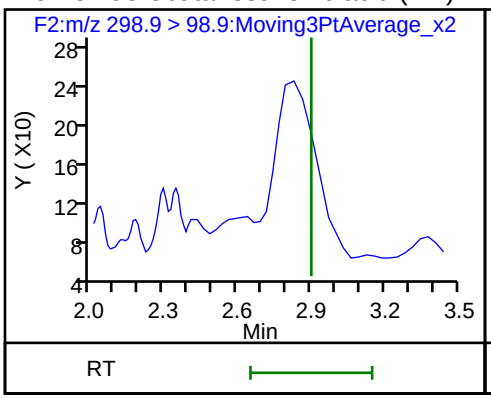
D 5 13C3 PFBS



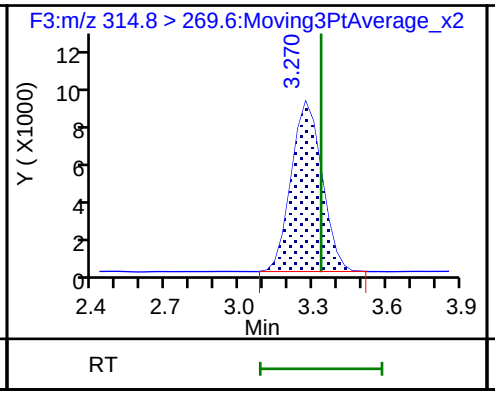
6 Perfluorobutanesulfonic acid (ND)



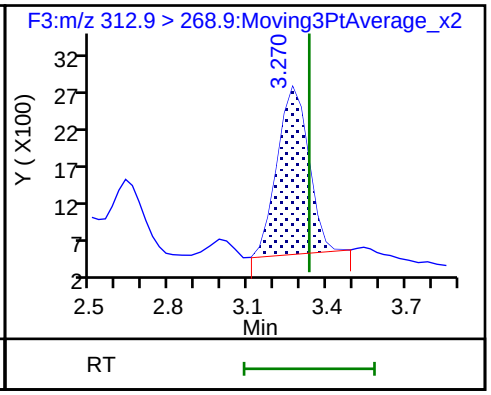
6 Perfluorobutanesulfonic acid (ND)



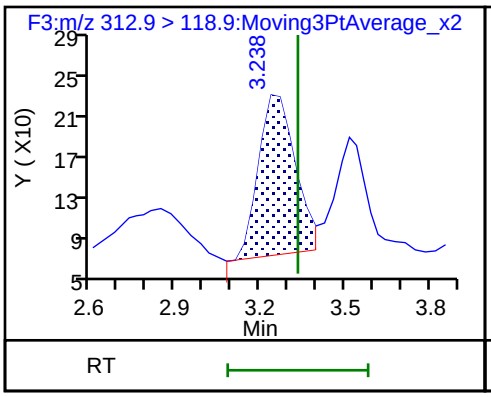
D 8 13C2 PFHxA



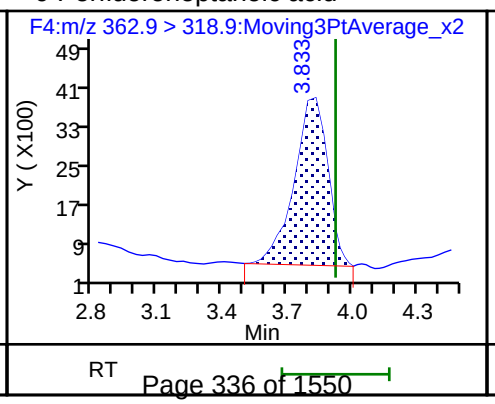
7 Perfluorohexanoic acid



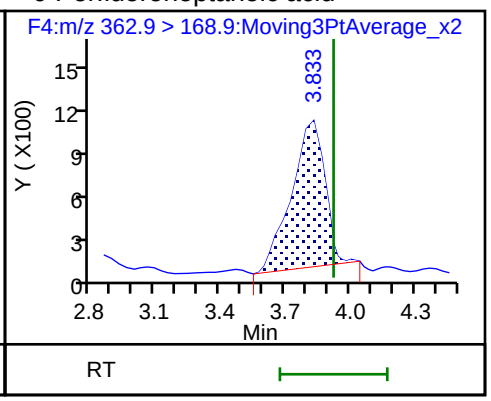
7 Perfluorohexanoic acid



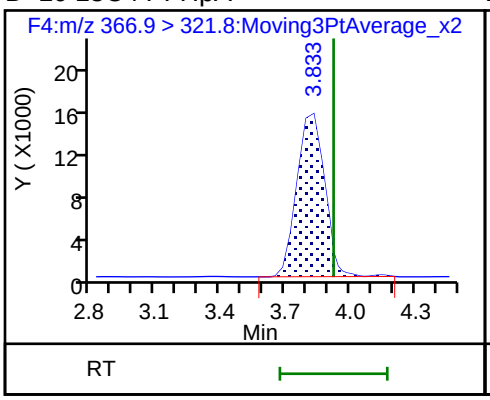
9 Perfluoroheptanoic acid



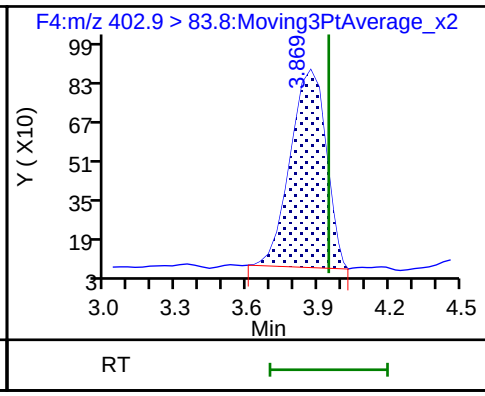
9 Perfluoroheptanoic acid



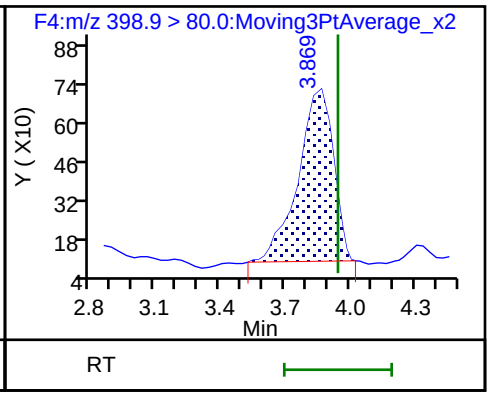
D 10 13C4 PFHpA



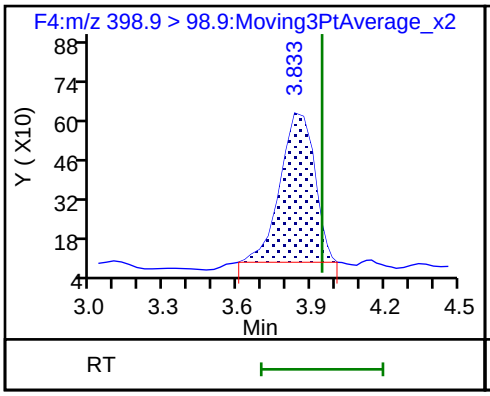
D 12 18O2 PFHxS



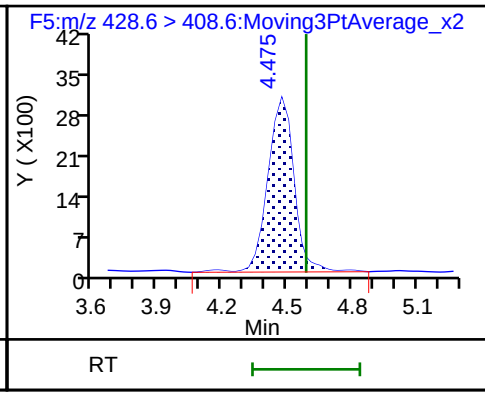
11 Perfluorohexanesulfonic acid



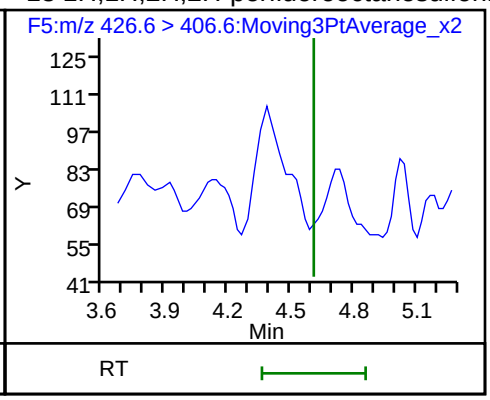
11 Perfluorohexanesulfonic acid



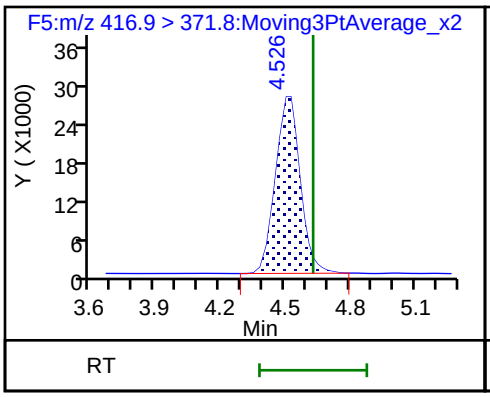
D 14 M2-6:2 FTS



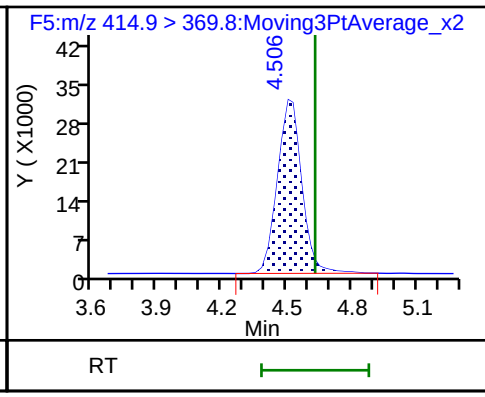
13 1H,1H,2H,2H-perfluorooctanesulfoni (ND)



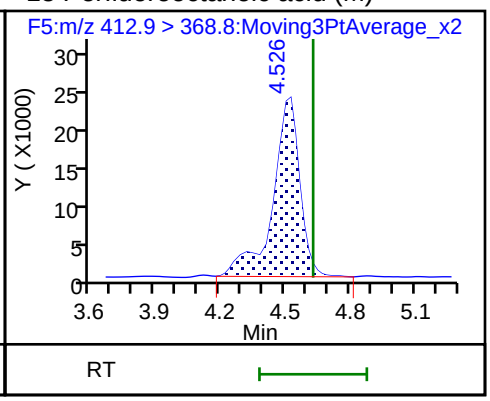
D 17 13C4 PFOA



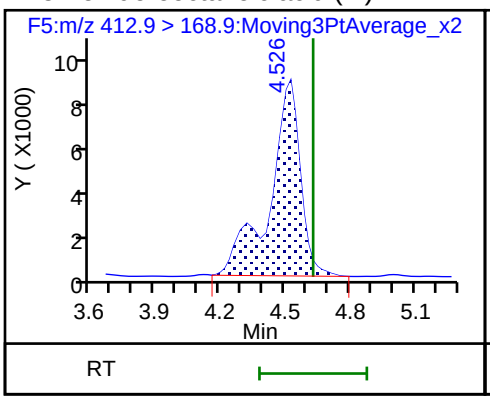
* 16 13C2 PFOA



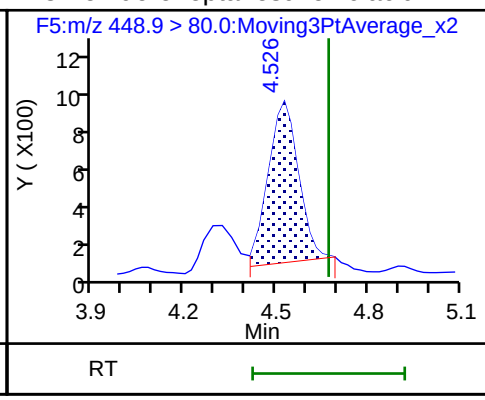
15 Perfluorooctanoic acid (M)



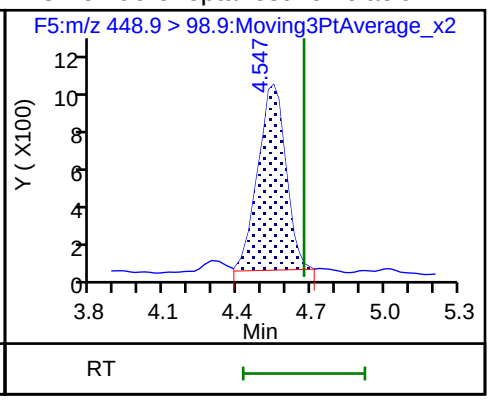
15 Perfluorooctanoic acid (M)



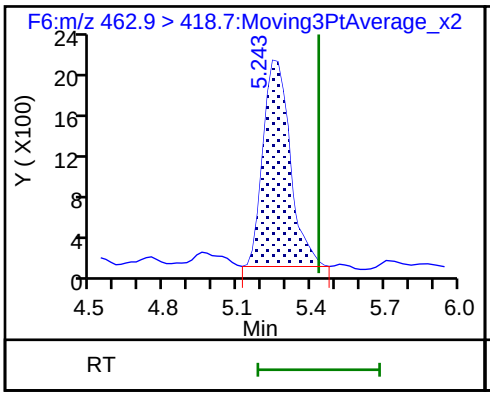
18 Perfluoroheptanesulfonic acid



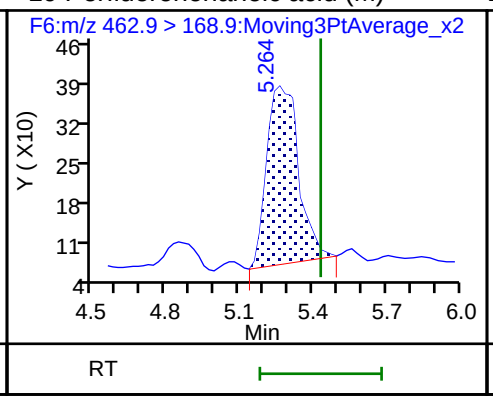
18 Perfluoroheptanesulfonic acid



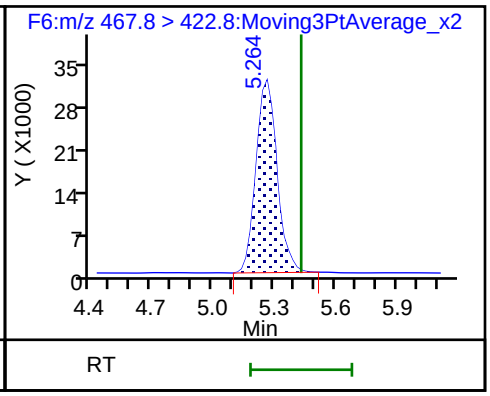
19 Perfluorononanoic acid



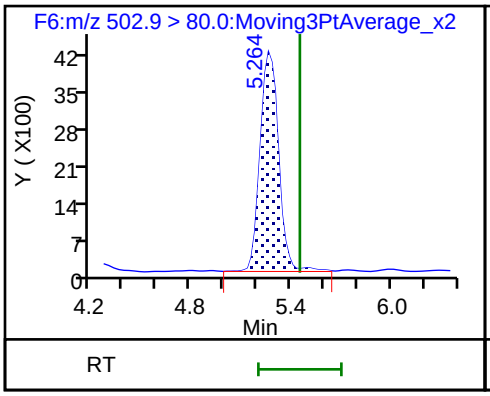
19 Perfluorononanoic acid (M)



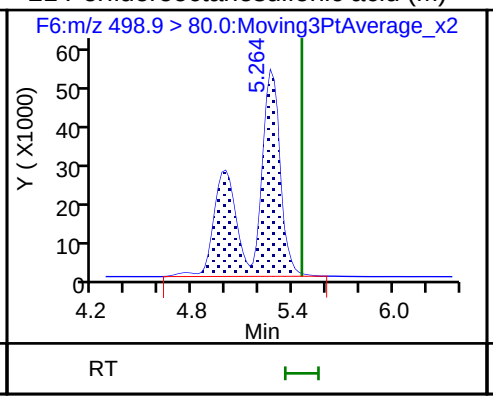
D 20 13C5 PFNA



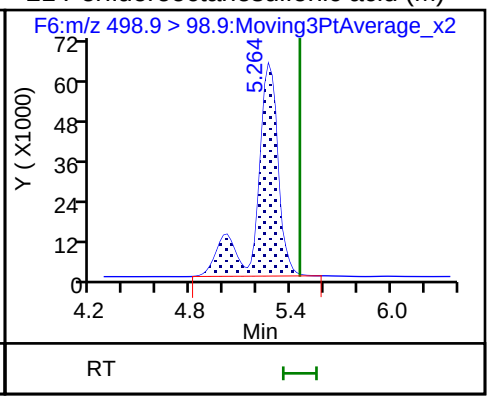
D 22 13C4 PFOS



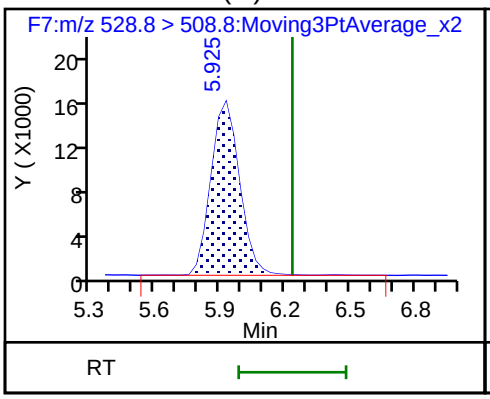
21 Perfluorooctanesulfonic acid (M)



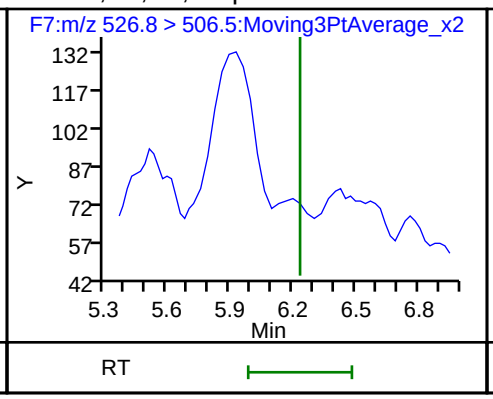
21 Perfluorooctanesulfonic acid (M)



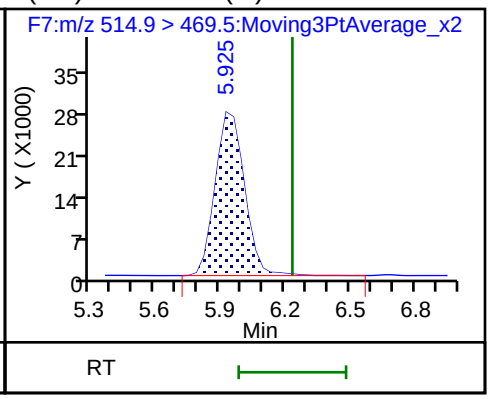
D 24 M2-8:2 FTS (M)



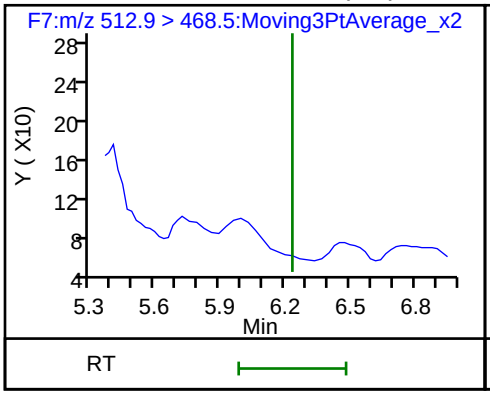
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



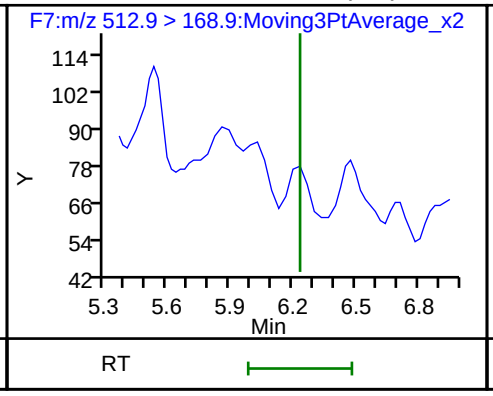
D 25 13C2 PFDA (M)



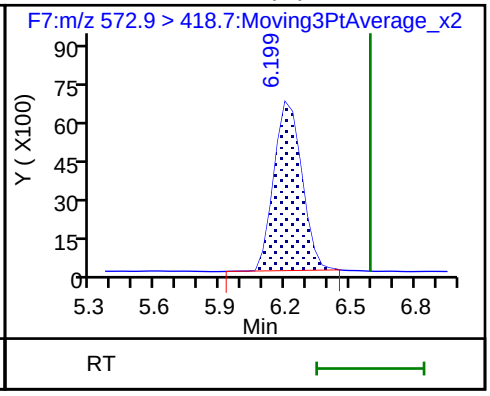
26 Perfluorodecanoic acid (ND)



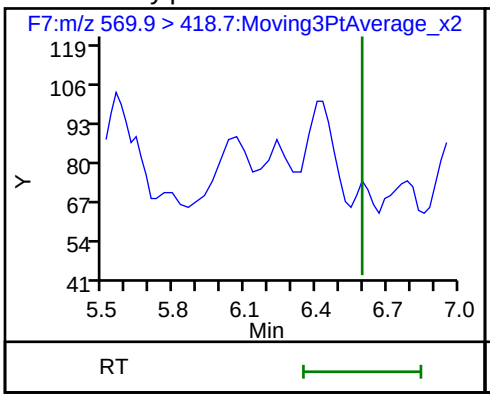
26 Perfluorodecanoic acid (ND)



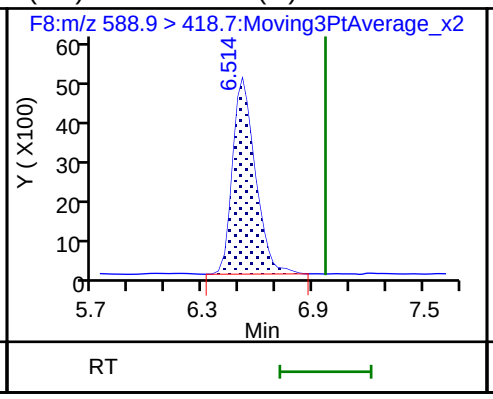
D 27 d3-NMeFOSAA (M)



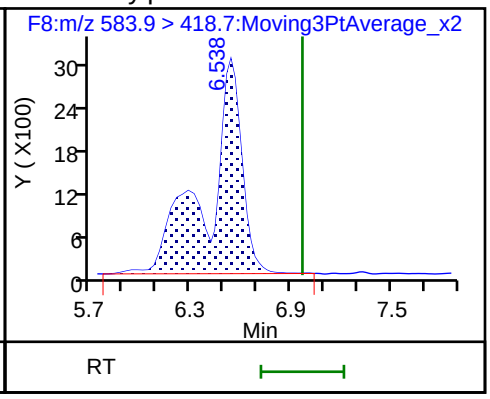
28 N-methylperfluorooctanesulfonamidoa (M)



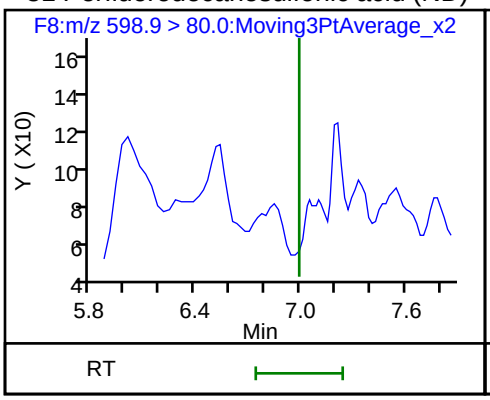
D 29 d5-NEtFOSAA (M)



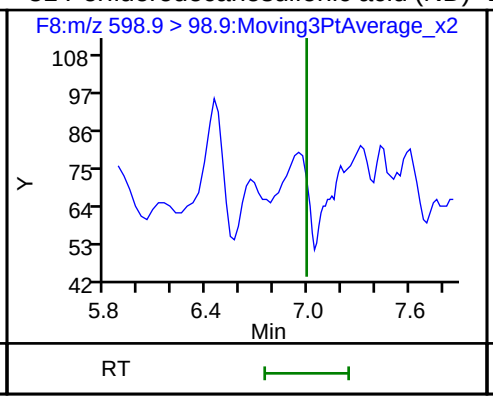
30 N-ethylperfluorooctanesulfonamidoa (M)



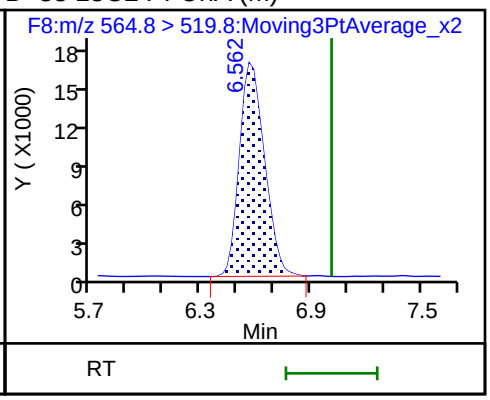
31 Perfluorodecanesulfonic acid (ND)



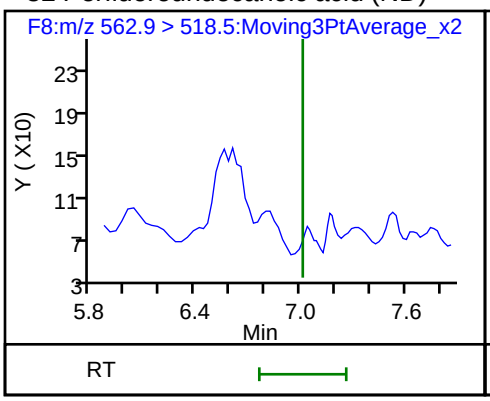
31 Perfluorodecanesulfonic acid (ND)



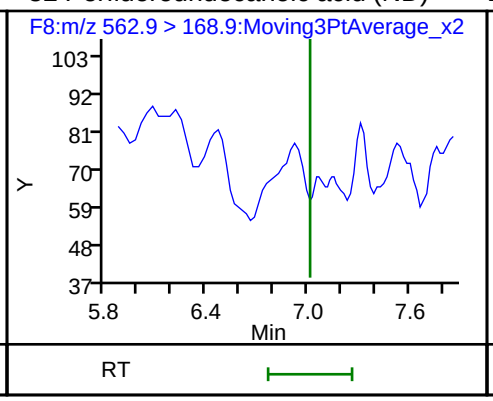
D 33 13C2 PFUnA (M)



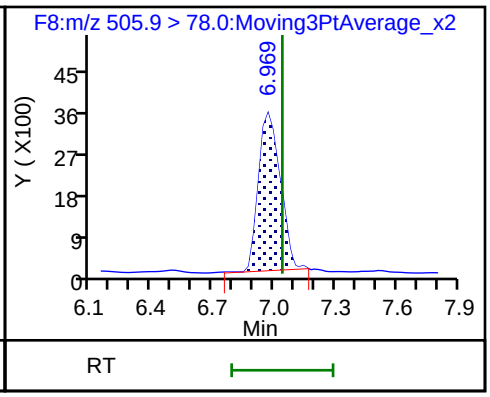
32 Perfluoroundecanoic acid (ND)



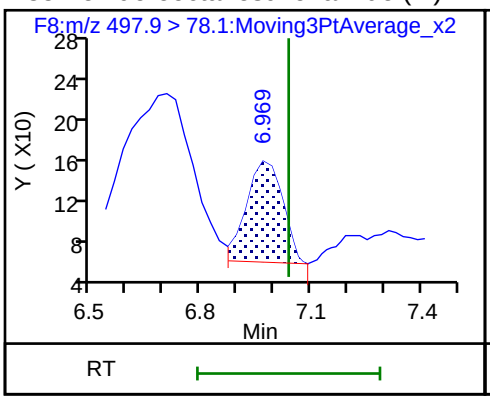
32 Perfluoroundecanoic acid (ND)



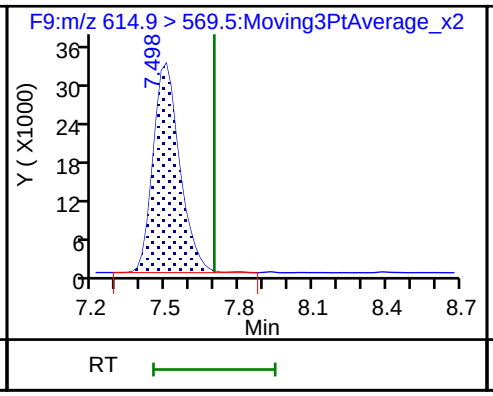
D 34 13C8 FOSA



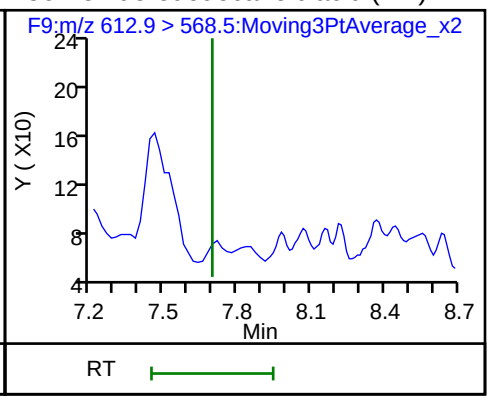
35 Perfluorooctanesulfonamide (M)



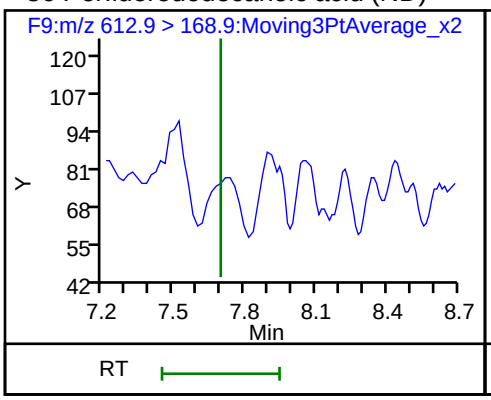
D 37 13C2 PFDoA



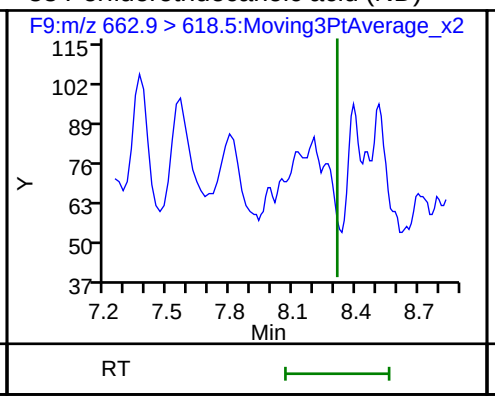
36 Perfluorododecanoic acid (ND)



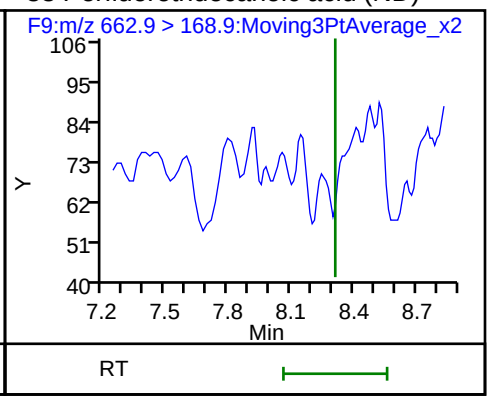
36 Perfluorododecanoic acid (ND)



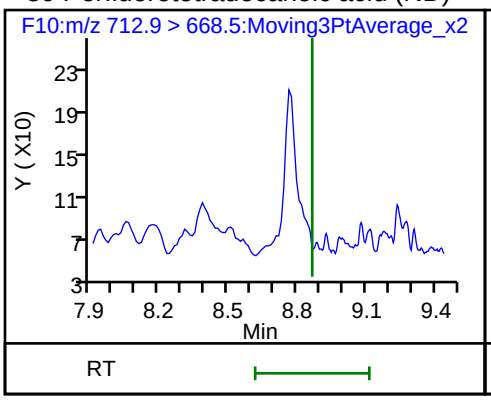
38 Perfluorotridecanoic acid (ND)



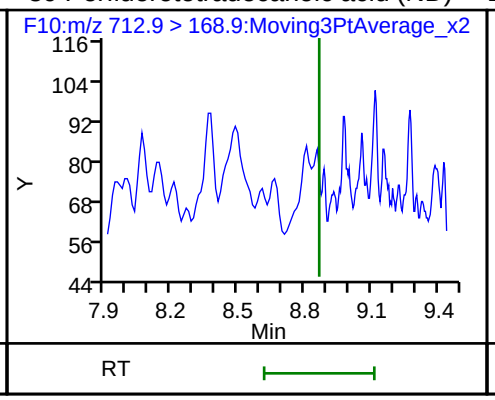
38 Perfluorotridecanoic acid (ND)



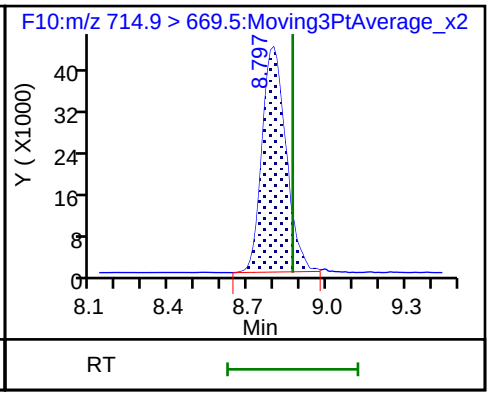
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



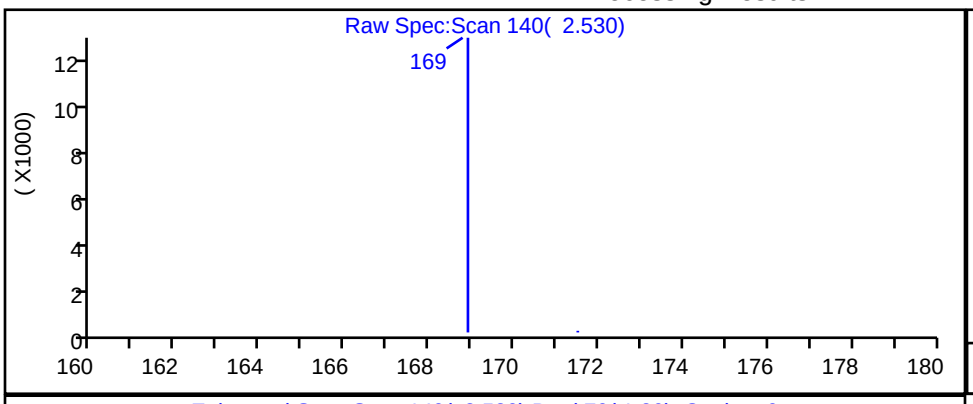
User Disabled Compound Report

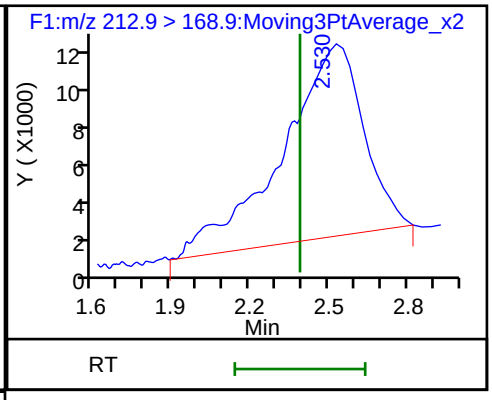
Eurofins TestAmerica, Burlington

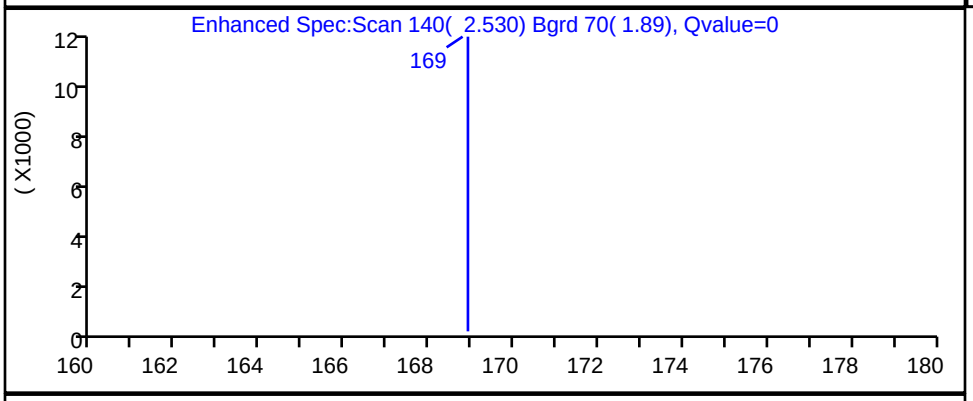
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

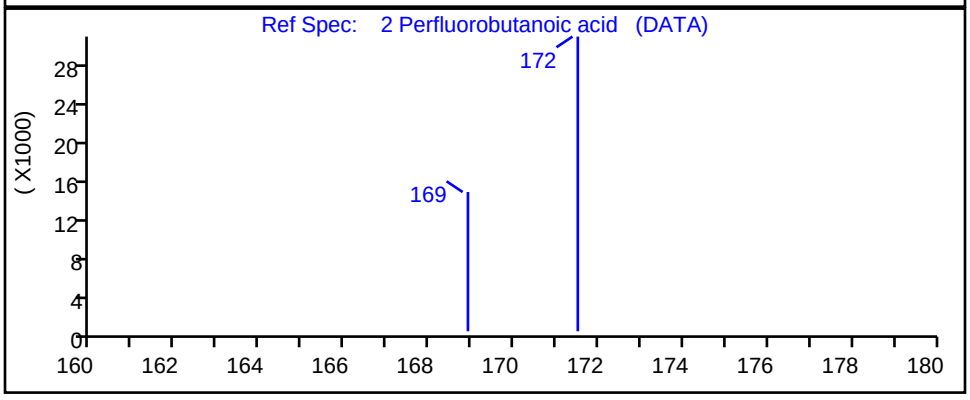
2 Perfluorobutanoic acid, CAS: 375-22-4

Processing Results









RT	Mass	Response	Amount
2.53	168.90	209729	82.151327

Reviewer: murrayjw, 05-Jun-2019 10:40:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

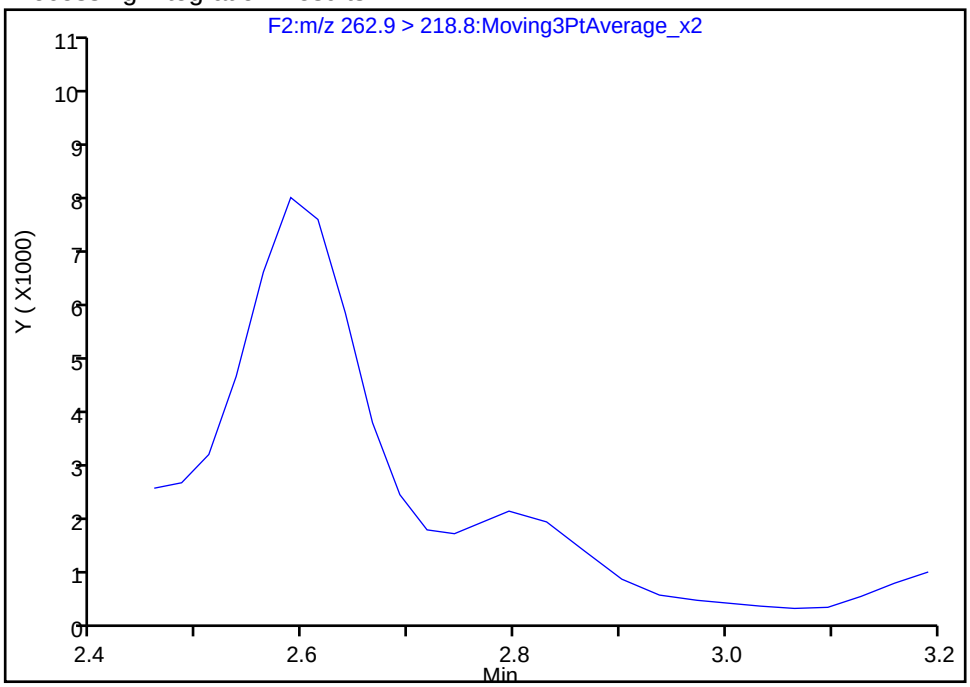
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

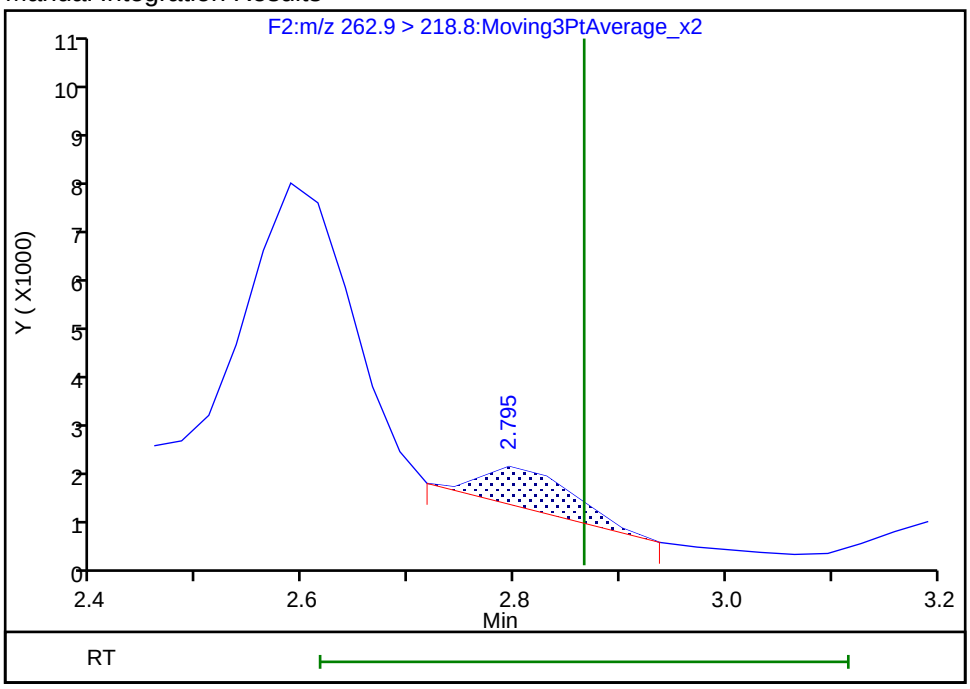
Not Detected
Expected RT: 2.87

Processing Integration Results



Manual Integration Results

RT: 2.79
Area: 4614
Amount: 0.738365
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:07:21
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

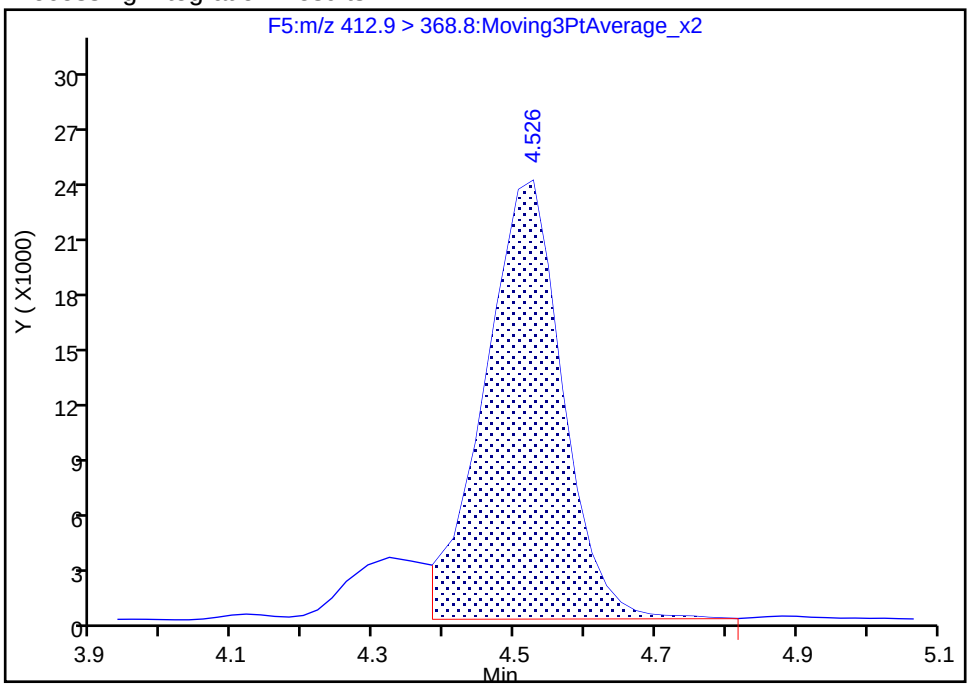
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

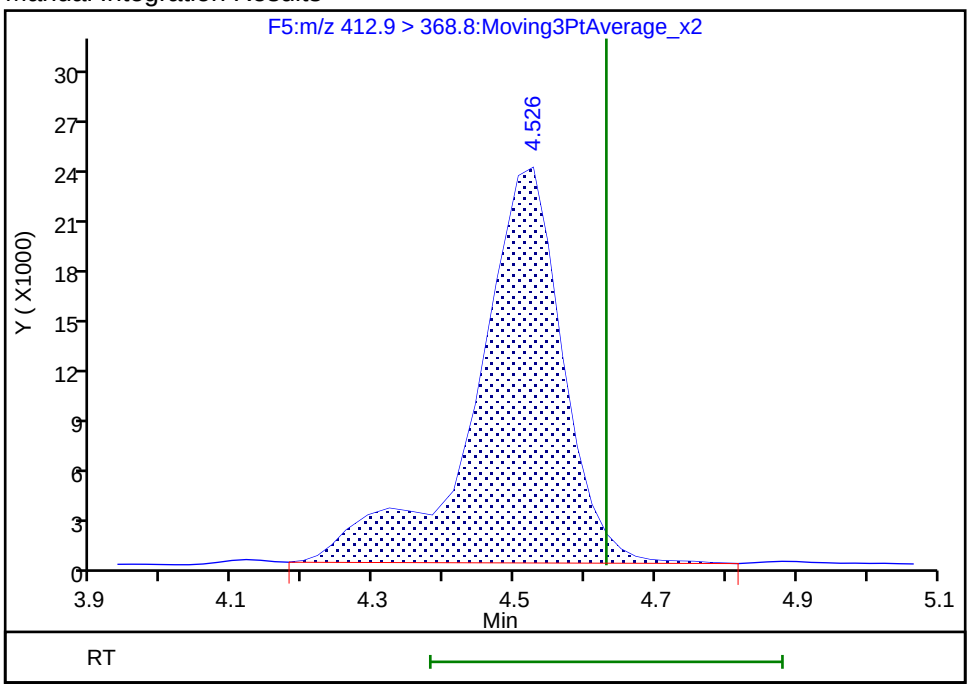
Processing Integration Results

RT: 4.53
Area: 184319
Amount: 8.232052
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 207412
Amount: 9.263432
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:07:47

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

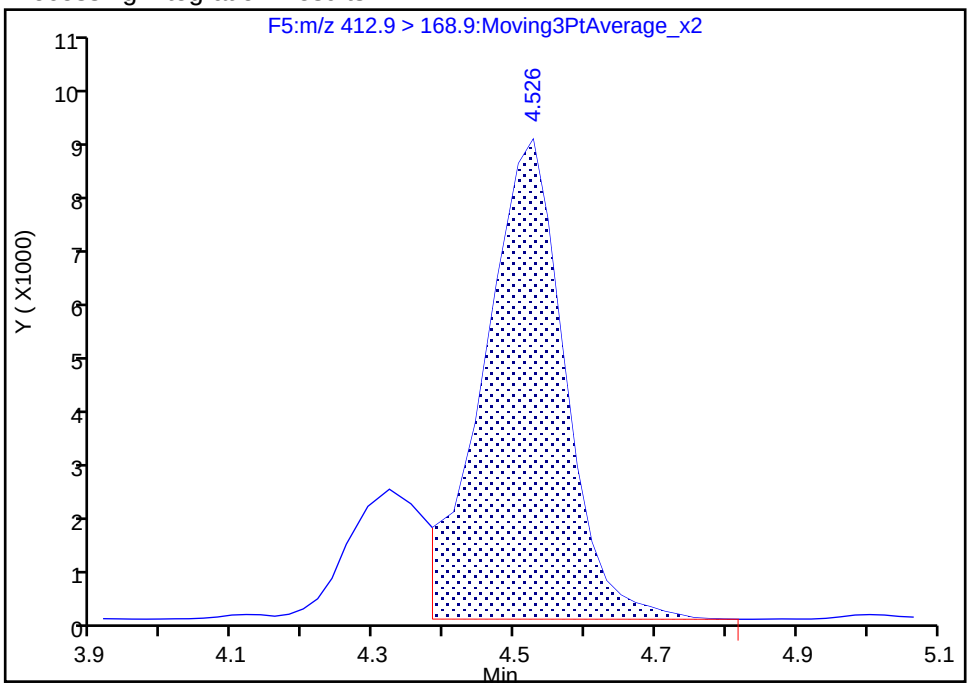
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

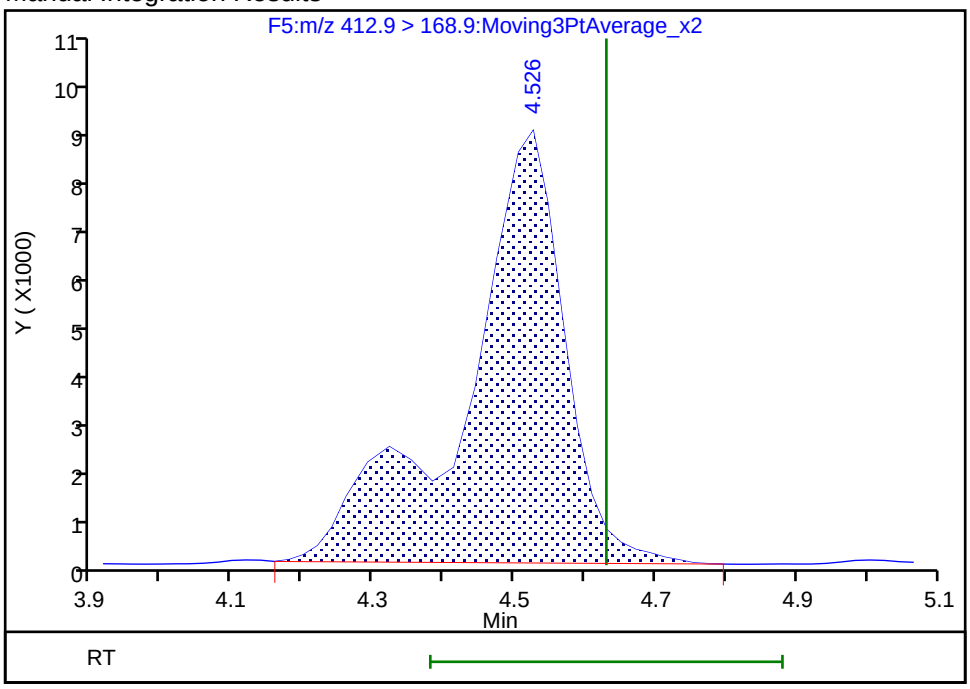
Processing Integration Results

RT: 4.53
Area: 65905
Amount: 8.232052
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 81310
Amount: 9.263432
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:07:49

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

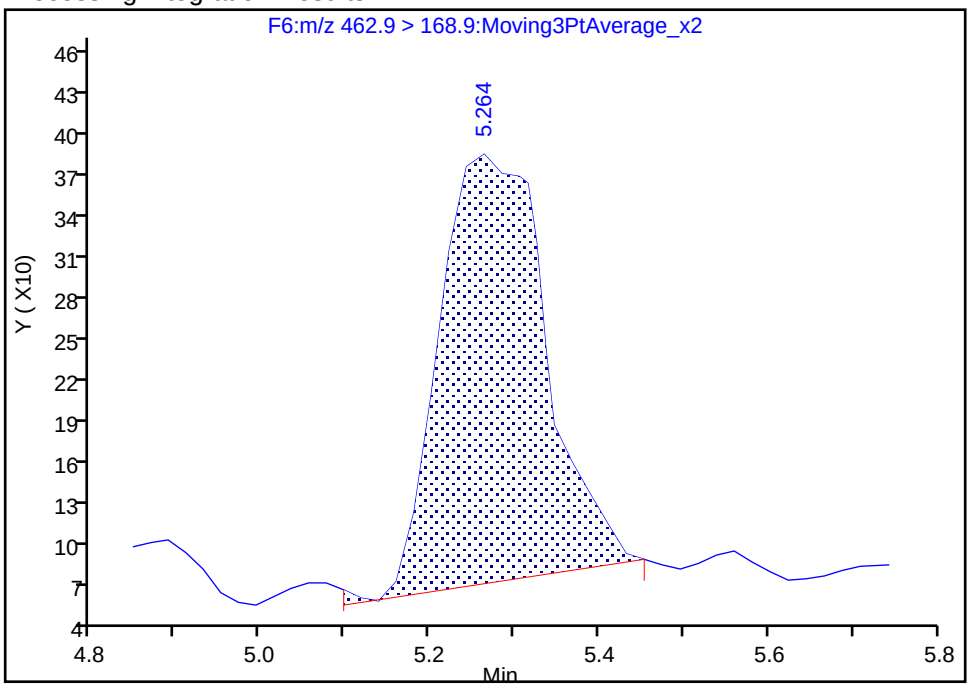
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

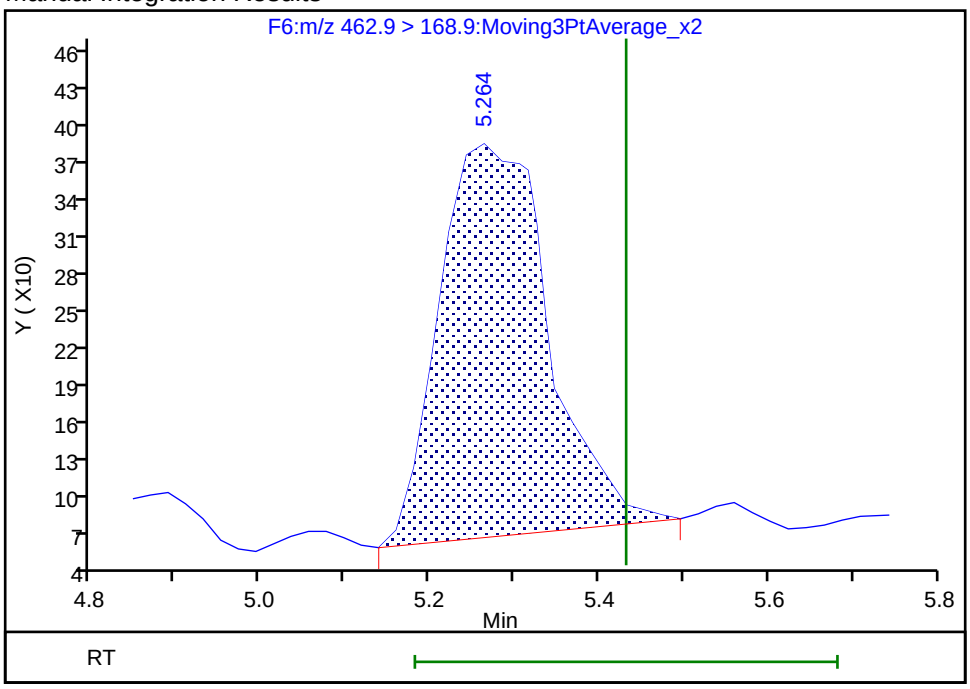
Processing Integration Results

RT: 5.26
Area: 2718
Amount: 0.760616
Amount Units: ng/ml



Manual Integration Results

RT: 5.26
Area: 2819
Amount: 0.760616
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:07:55

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

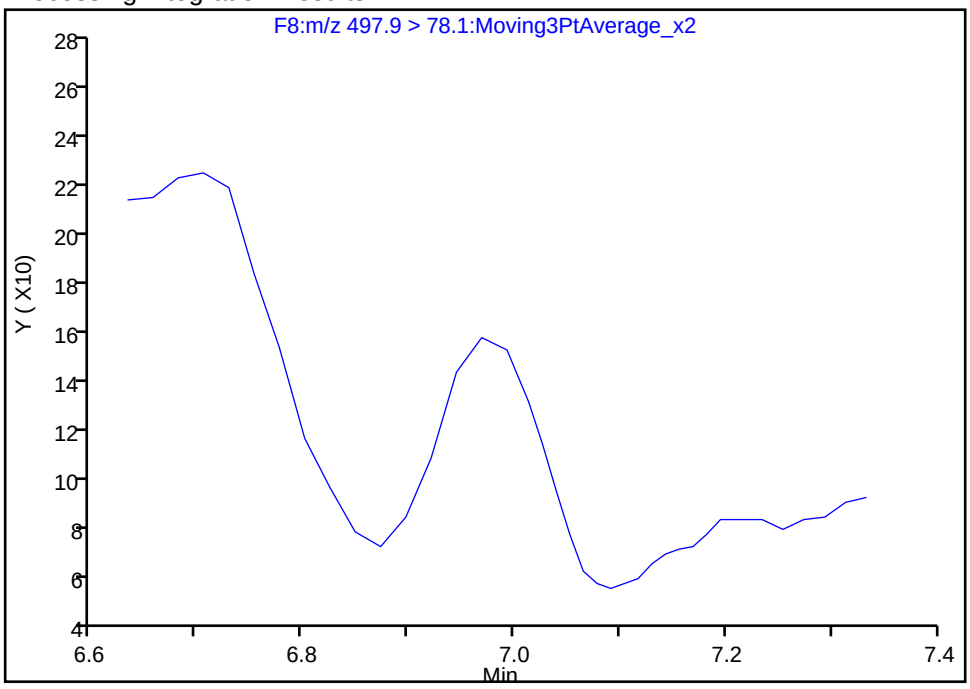
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

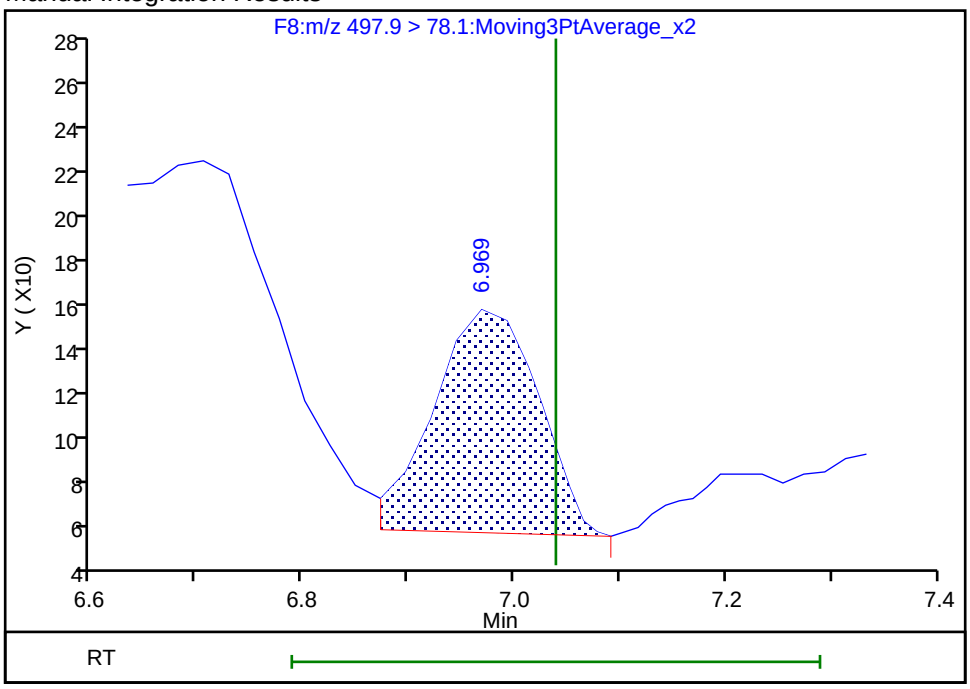
Not Detected
Expected RT: 7.04

Processing Integration Results



Manual Integration Results

RT: 6.97
Area: 689
Amount: 0.187812
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 16:08:55
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

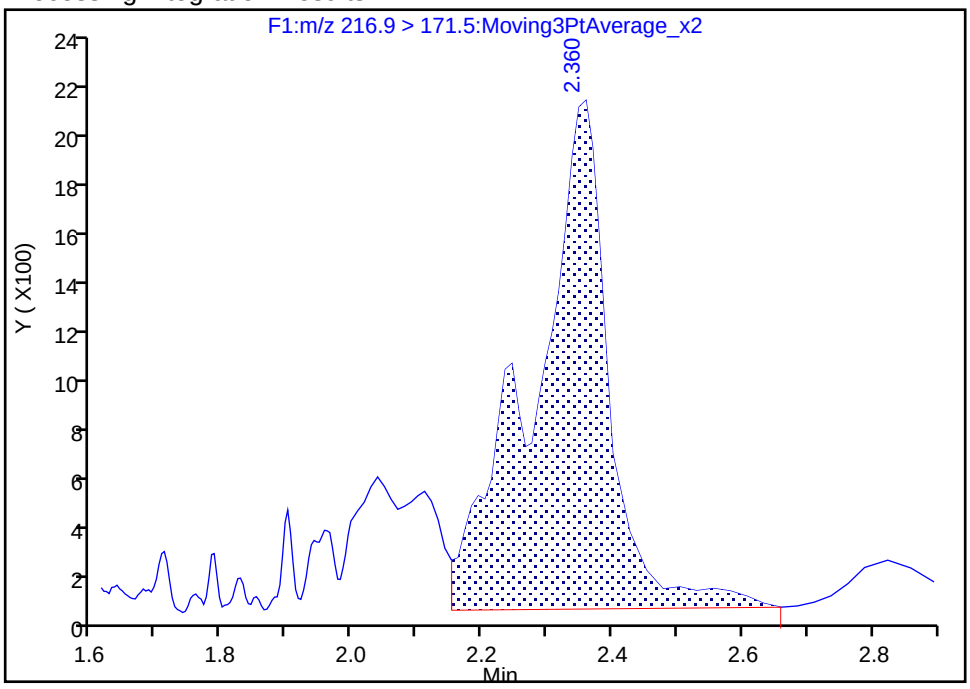
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

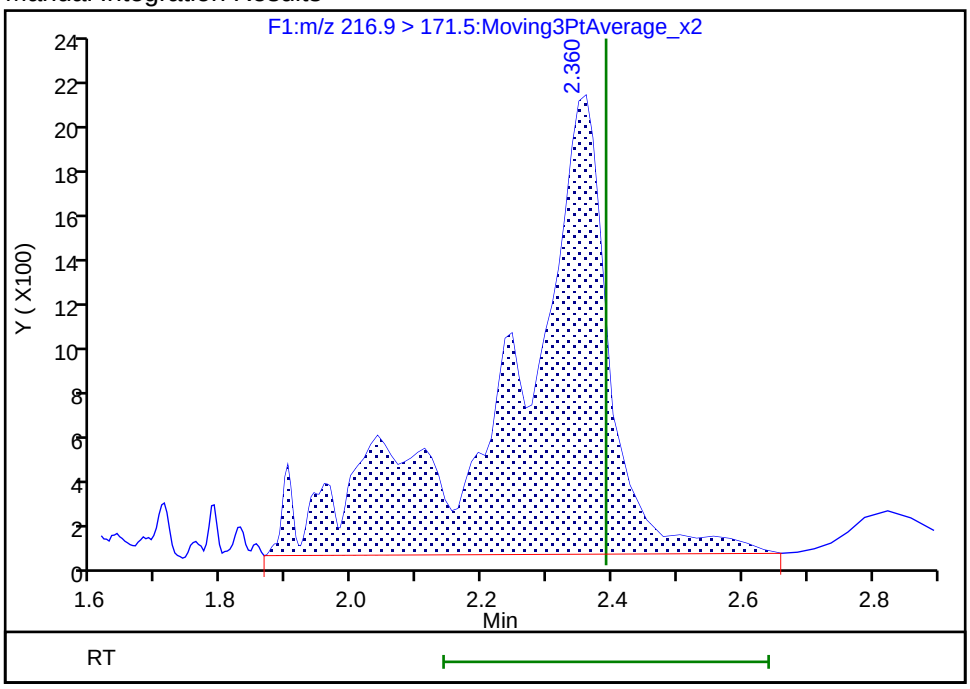
Processing Integration Results

RT: 2.36
Area: 16261
Amount: 2.738552
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 21464
Amount: 3.614801
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:40:50

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

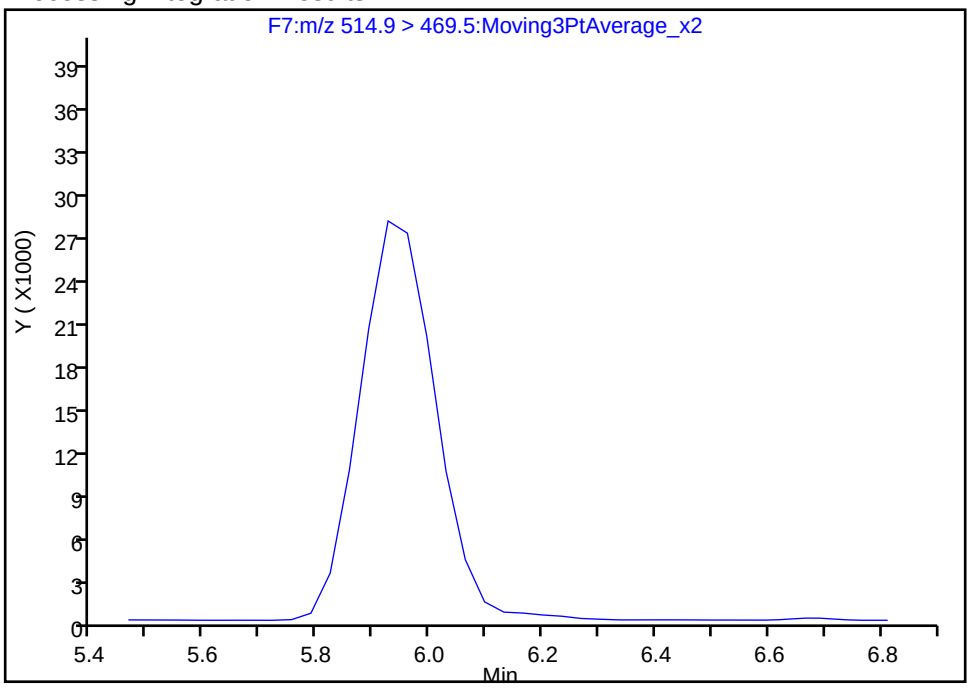
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 25 13C2 PFDA, CAS: STL00996

Signal: 1

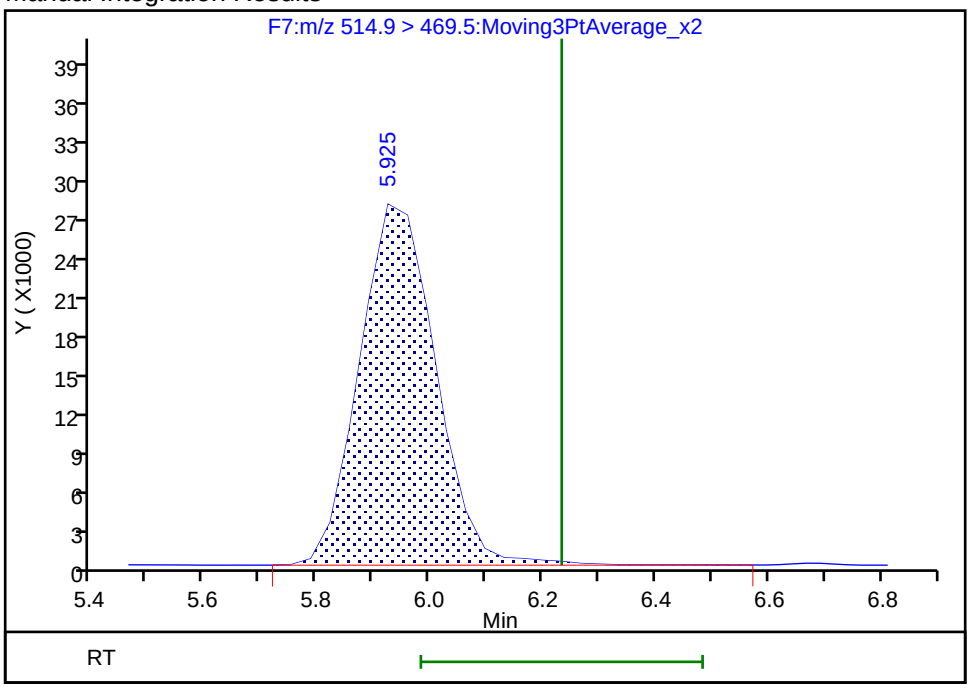
Not Detected
Expected RT: 6.23

Processing Integration Results



Manual Integration Results

RT: 5.93
Area: 258671
Amount: 9.585218
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:40:19
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

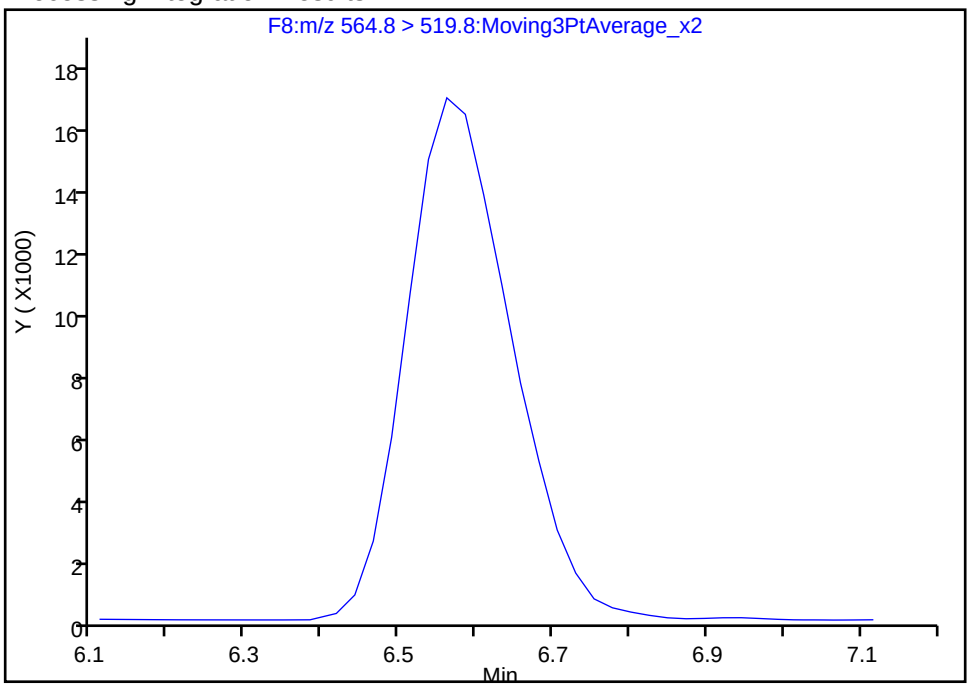
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 33 13C2 PFUnA, CAS: STL00997

Signal: 1

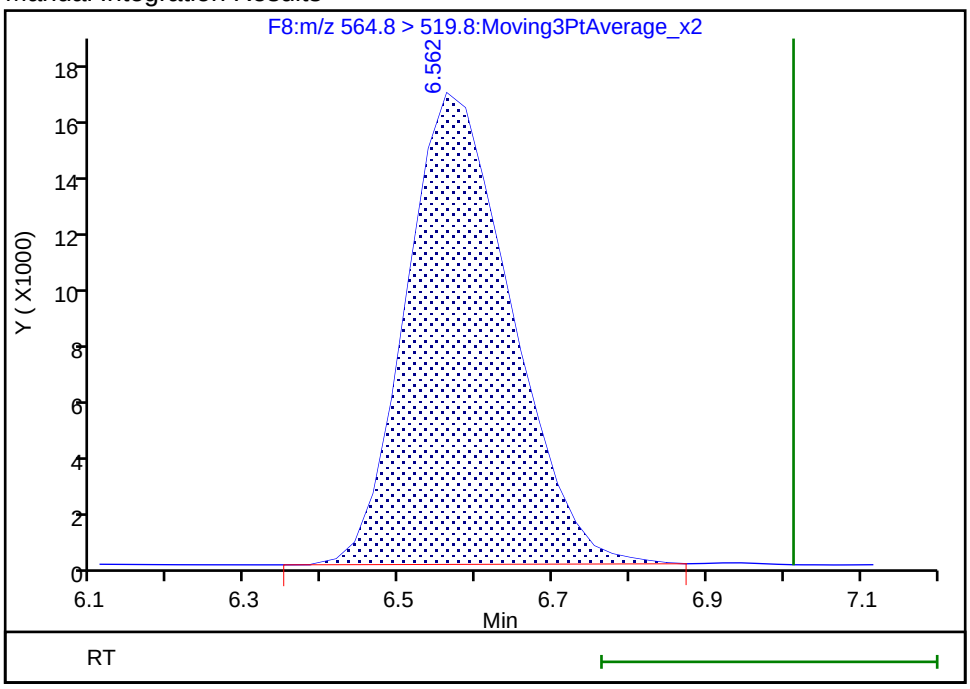
Not Detected
Expected RT: 7.01

Processing Integration Results



Manual Integration Results

RT: 6.56
Area: 157683
Amount: 6.053836
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:40:36
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

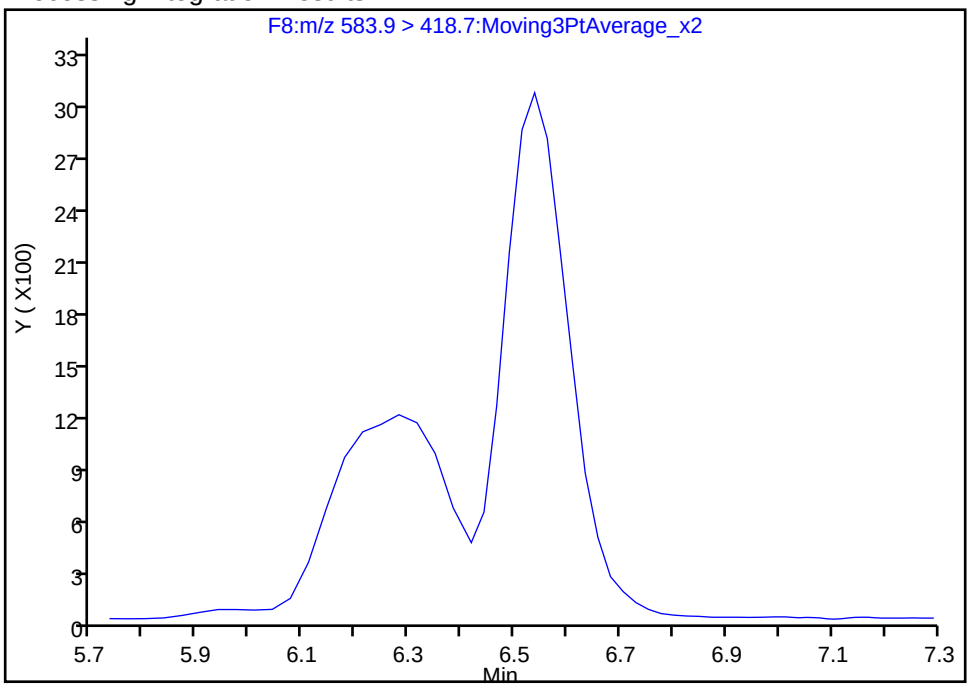
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

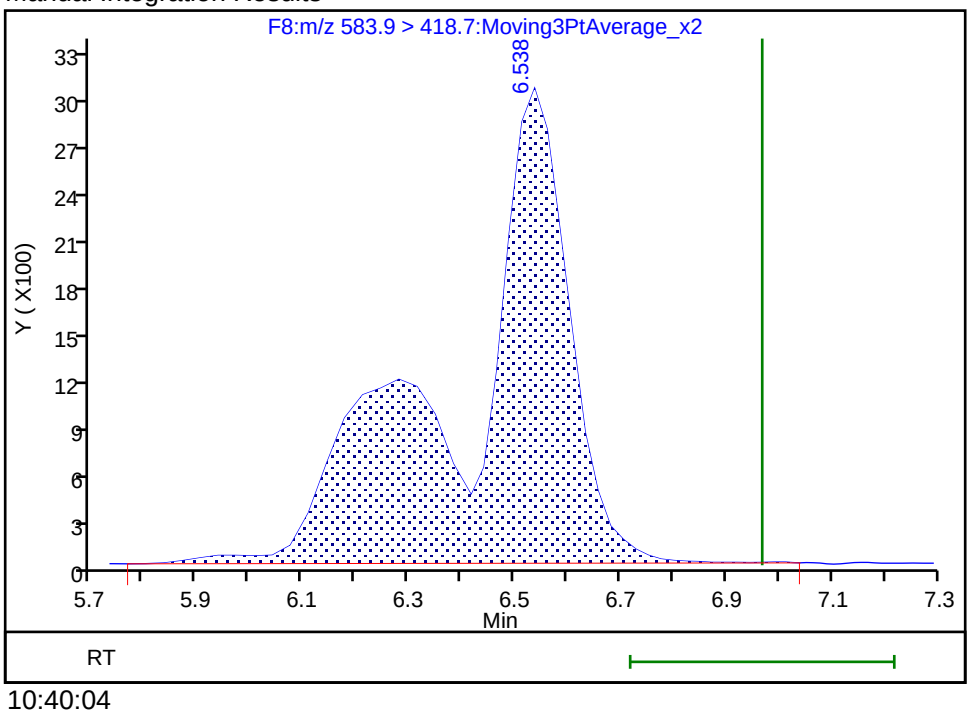
Not Detected
Expected RT: 6.97

Processing Integration Results



Manual Integration Results

RT: 6.54
Area: 43590
Amount: 12.713604
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:40:04
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

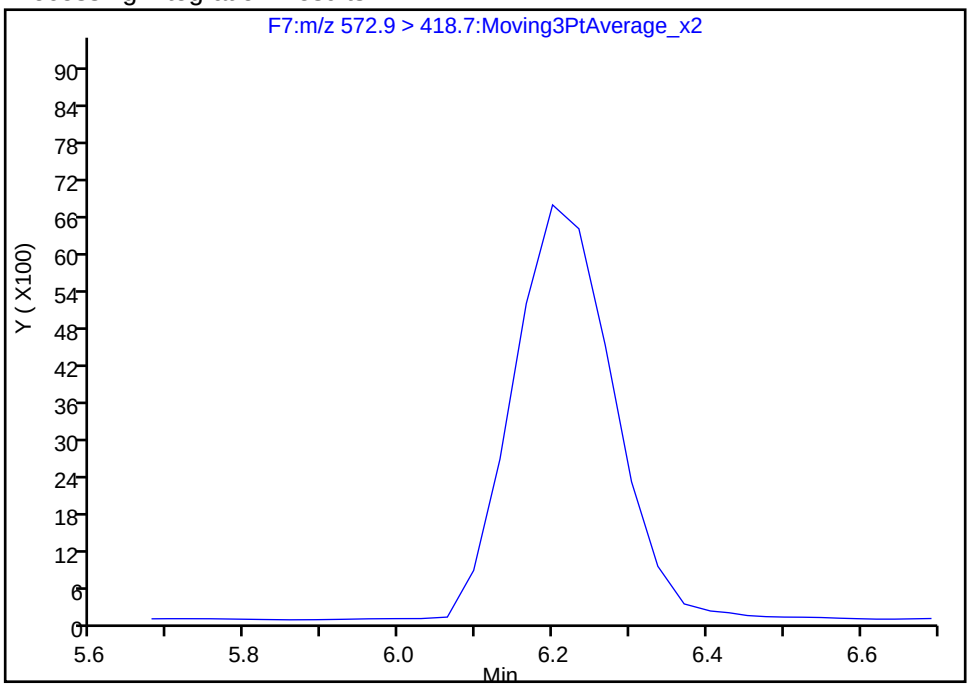
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 27 d3-NMeFOSAA, CAS: STL02118

Signal: 1

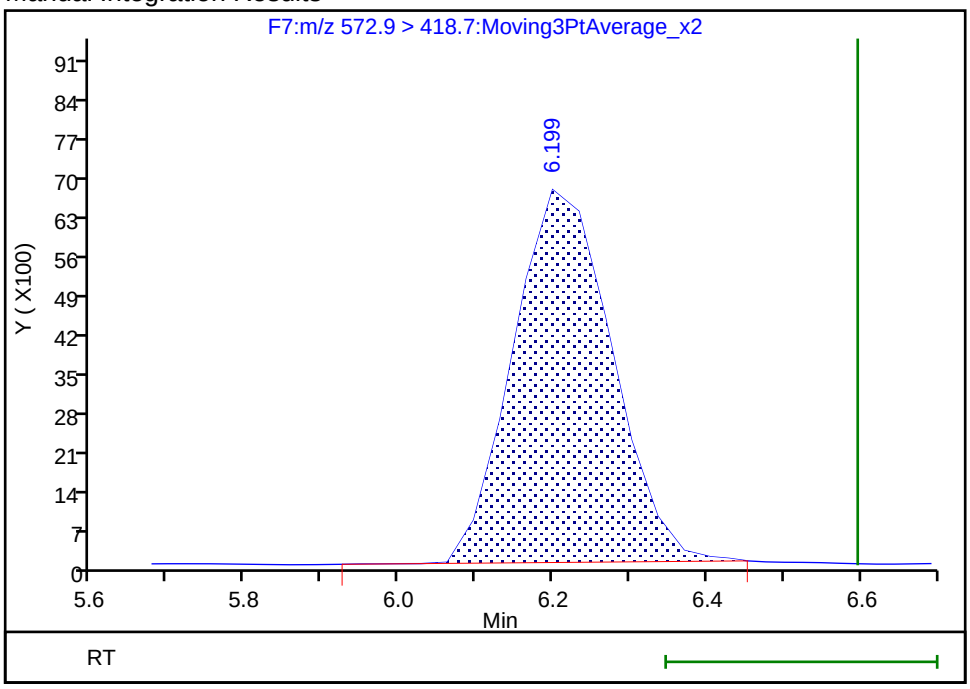
Not Detected
Expected RT: 6.60

Processing Integration Results



Manual Integration Results

RT: 6.20
Area: 59510
Amount: 6.768593
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:40:13
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

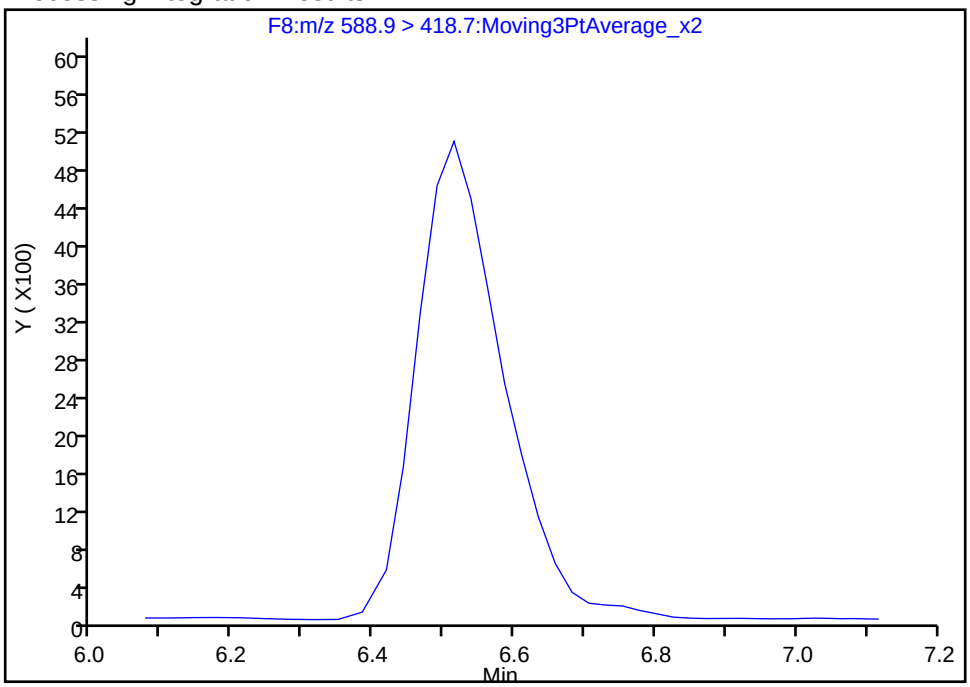
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 29 d5-NEtFOSAA, CAS: STL02117

Signal: 1

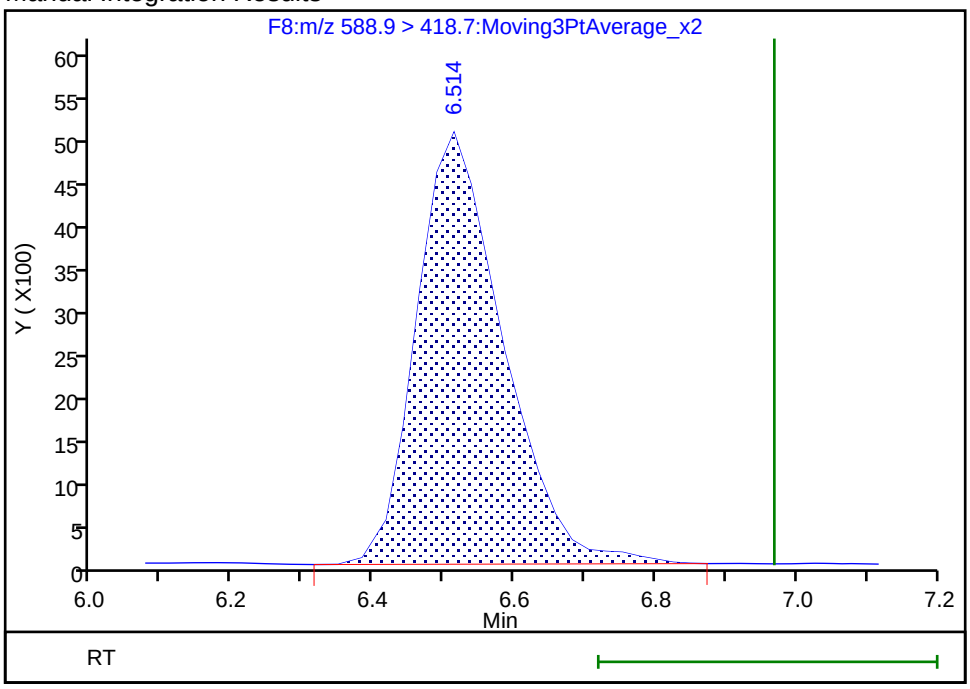
Not Detected
Expected RT: 6.97

Processing Integration Results



Manual Integration Results

RT: 6.51
Area: 42576
Amount: 5.872330
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:40:07
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

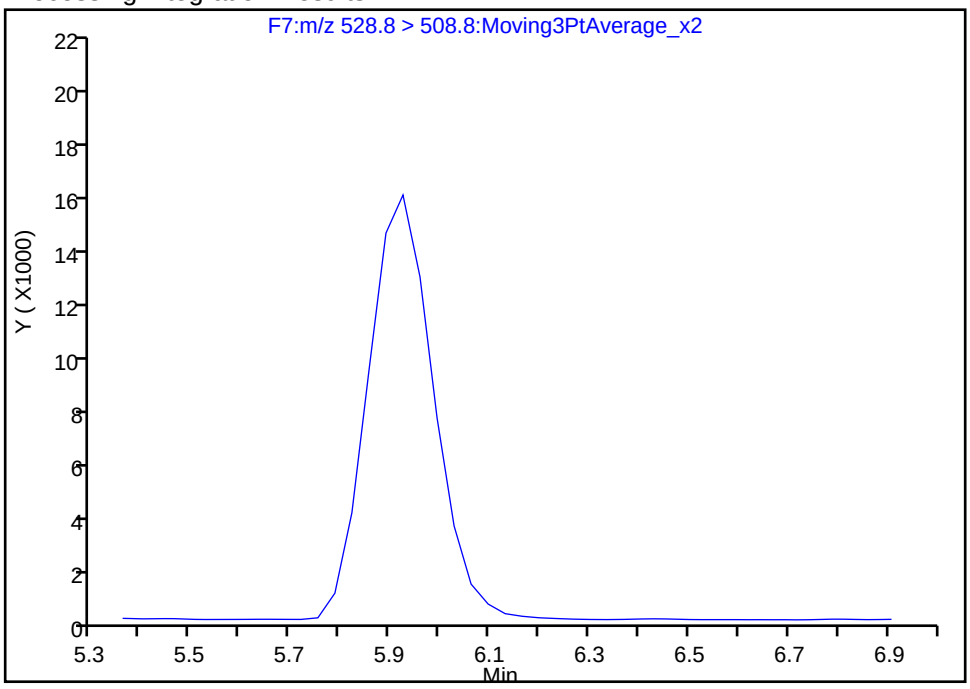
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B59.d				
Injection Date:	31-May-2019 04:08:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	59
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 24 M2-8:2 FTS, CAS: STL02280

Signal: 1

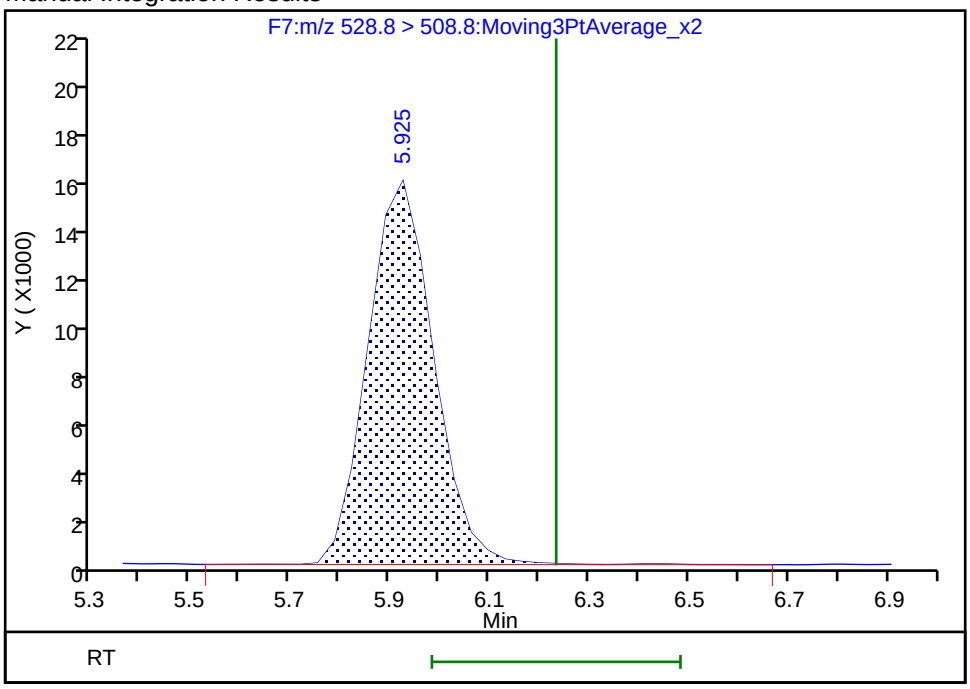
Not Detected
Expected RT: 6.23

Processing Integration Results



Manual Integration Results

RT: 5.93
Area: 143068
Amount: 29.076931
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:40:21
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-1 051419 Lab Sample ID: 200-48826-6

Matrix: Water Lab File ID: PF060619A08.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 10:32

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 304.1(mL) Date Analyzed: 06/06/2019 14:16

Con. Extract Vol.: 0.5(mL) Dilution Factor: 10

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1500		16	5.0

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	103		50-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A08.d
Lims ID: 200-48826-A-6-A
Client ID: VEW-1 051419
Sample Type: Client
Inject. Date: 06-Jun-2019 14:16:06 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 10.0000
Sample Info: 200-0036227008 6
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:18:10 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 07-Jun-2019 14:23:56
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
216.9 > 171.5	2.349	2.349	0.0	1.000	12884	6.10		122	24.4	
2 Perfluorobutanoic acid										
212.9 > 168.9	2.530	2.360	0.170	1.077	59312	14.7			33.2	
D 4 13C5 PFPeA										
267.7 > 222.6	2.769	2.830	-0.061	1.000	5129	3.20		64.0	12.8	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.588	2.830	-0.242	0.935	15242	4.96			6.4	
D 5 13C3 PFBS										
302.0 > 79.8	2.795	2.901	-0.106	1.000	5951	8.54		184	28.5	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.302	-0.032	1.000	18555	3.86		77.3	61.8	
D 10 13C4 PFHpA										
366.9 > 321.8	3.833	3.869	-0.036	1.000	33415	4.94		98.7	199	
D 12 18O2 PFHxS										
402.9 > 83.8	3.869	3.925	-0.056	1.000	3421	3.84		81.2	16.7	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.475	4.526	-0.051	1.000	4408	9.16		193	21.6	
D 17 13C4 PFOA										
416.9 > 371.8	4.526	4.547	-0.021	1.000	32500	3.88		77.6	106	
* 16 13C2 PFOA										sM
414.9 > 369.8	4.526	4.568	-0.042		43170	5.00			325	M
15 Perfluorooctanoic acid										
412.9 > 368.8	4.526	4.568	-0.042	1.000	31538	4.79	Target=2.43		52.0	
412.9 > 168.9	4.526	4.568	-0.042	1.000	13711		2.30(1.22-3.64)		27.3	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.547	4.589	-0.042	0.857	1257	0.6990	Target=1.30		11.1	
448.9 > 98.9	4.547	4.589	-0.042	1.000	1368		0.92(0.65-1.95)		7.9	
D 20 13C5 PFNA										
467.8 > 422.8	5.285	5.336	-0.051	1.000	43380	3.86		77.2	181	
19 Perfluorononanoic acid										
462.9 > 418.7	5.285	5.336	-0.051	1.000	2789	0.3641	Target=5.00		13.9	
462.9 > 168.9	5.347	5.336	0.011	1.012	918		3.04(2.50-7.50)		5.5	
D 22 13C4 PFOS										
502.9 > 80.0	5.306	5.336	-0.030	1.000	9874	4.92		103	73.0	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.306	5.336	-0.030	1.000	177880	89.2	Target=1.41		605	M
498.9 > 98.9	5.306	5.336	-0.030	1.000	127244		1.40(0.71-2.12)		1010	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.028	6.097	-0.069	1.000	9796	5.60		117	27.0	
D 25 13C2 PFDA										
514.9 > 469.5	6.062	6.131	-0.069	1.000	43744	4.56		91.2	214	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.371	6.477	-0.106	1.000	7487	2.39		47.9	62.4	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.729	6.849	-0.120	1.000	8791	3.41		68.2	56.1	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.729	6.849	-0.120	1.000	8418	5.95			90.1	
D 33 13C2 PFUnA										
564.8 > 519.8	6.753	6.897	-0.144	1.000	55545	6.00		120	321	
D 34 13C8 FOSA										
505.9 > 78.0	6.921	6.945	-0.024	1.000	11634	3.37		67.3	51.4	
D 37 13C2 PFDoA										
614.9 > 569.5	7.517	7.577	-0.060	1.000	34413	2.91		58.3	94.3	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.719	8.741	-0.022	1.000	30448	2.87		57.5	182	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

Report Date: 10-Jun-2019 10:18:29 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A08.d

Injection Date: 06-Jun-2019 14:16:06 Instrument ID: LC410

Lims ID: 200-48826-A-6-A Lab Sample ID: 200-48826-6

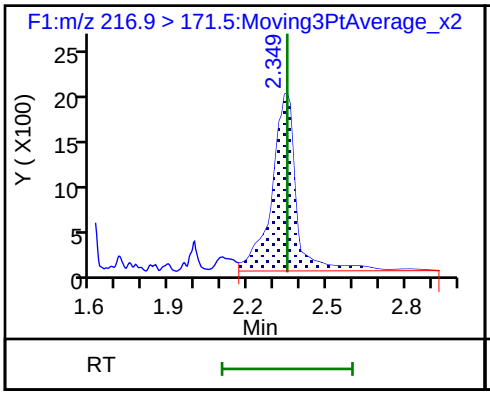
Client ID: VEW-1 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8

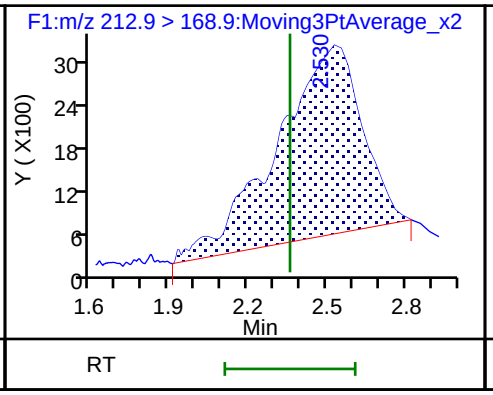
Injection Vol: 20.0 ul Dil. Factor: 10.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

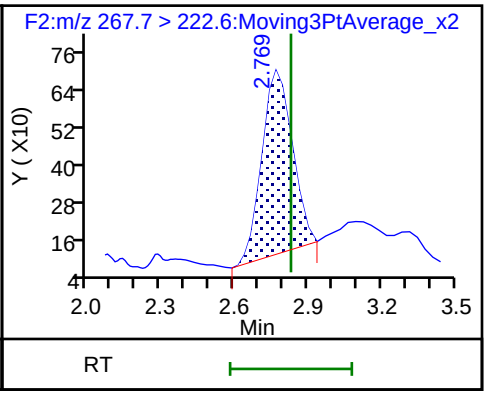
D 1 13C4 PFBA



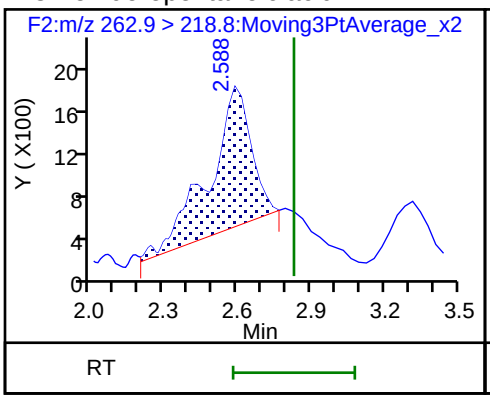
2 Perfluorobutanoic acid



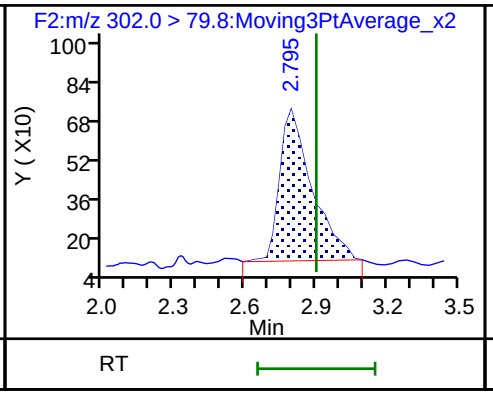
D 4 13C5 PFPeA



3 Perfluoropentanoic acid



D 5 13C3 PFBS



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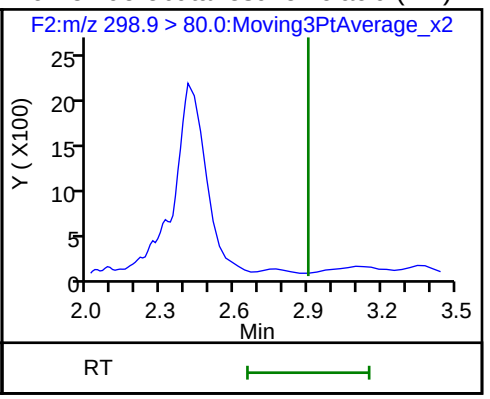
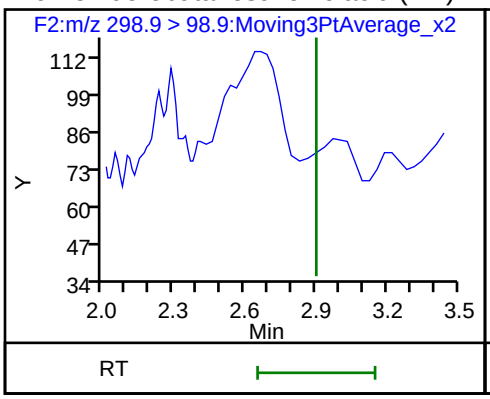
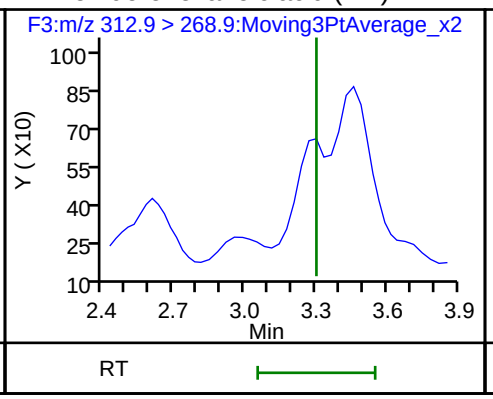


6 Perfluorobutanesulfonic acid (ND)



7 Perfluorohexanoic acid (ND)



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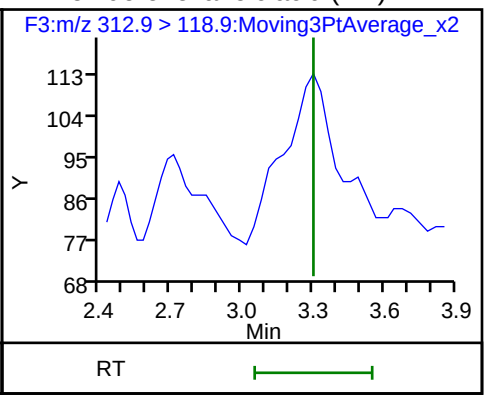
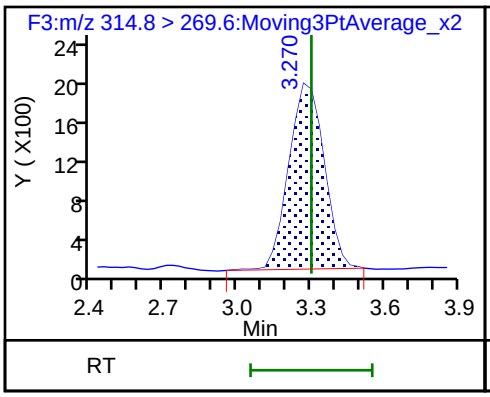


D 8 13C2 PFHxA



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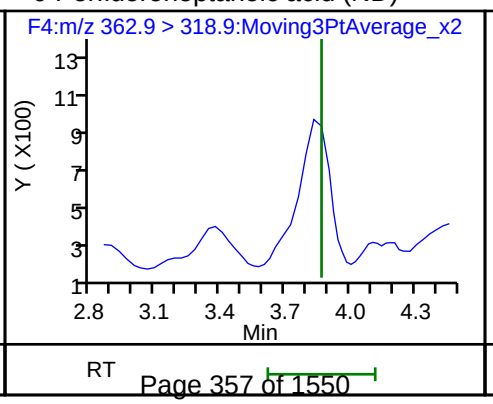

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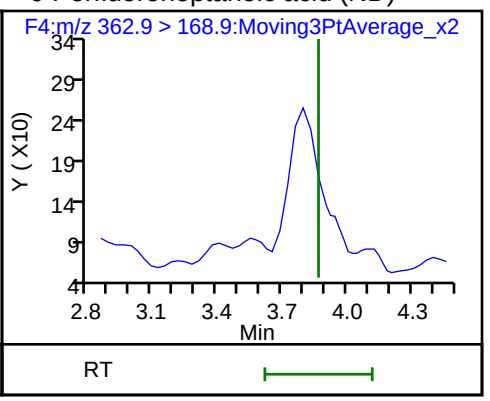
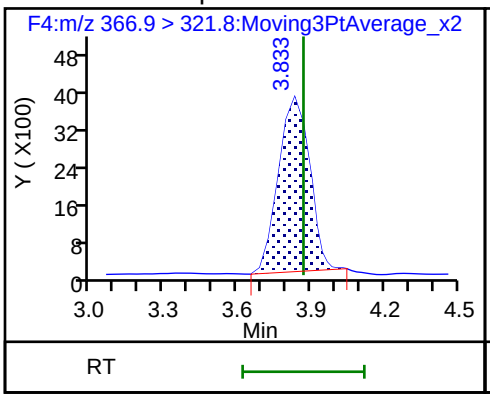


D 10 13C4 PFHpA



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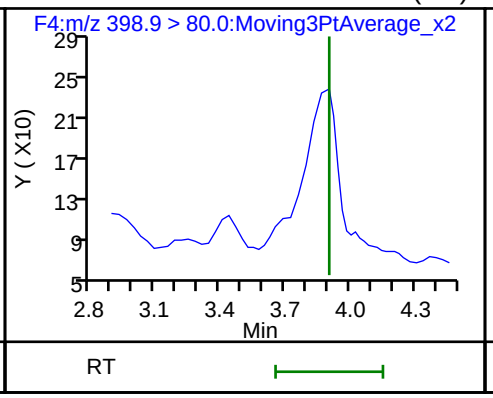

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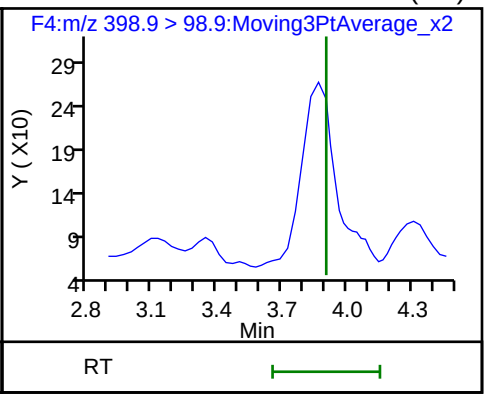
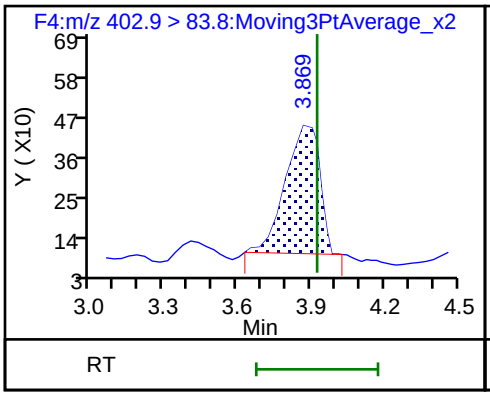
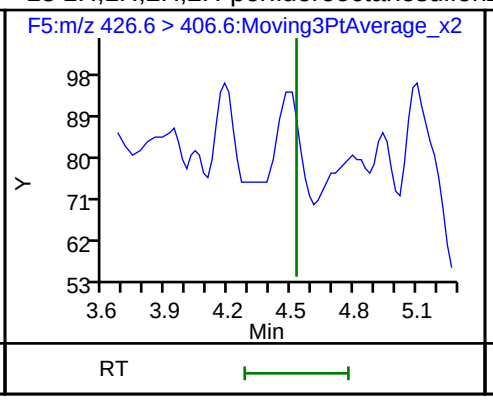


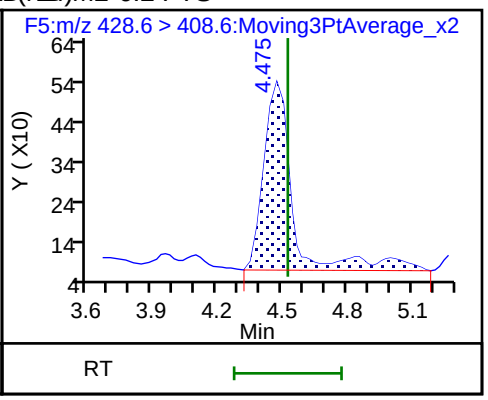
D 12 18O2 PFHxS



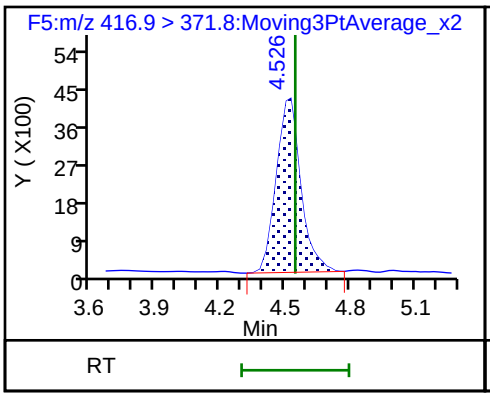
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2)



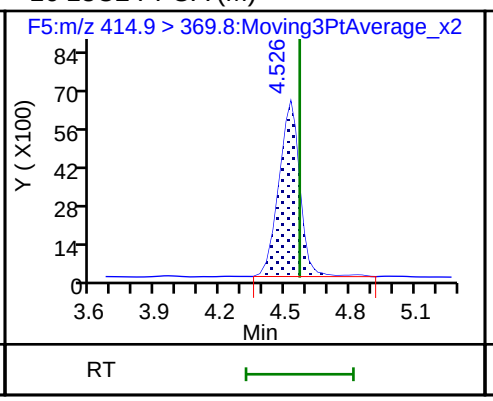
D(M2)M2-6:2 FTS



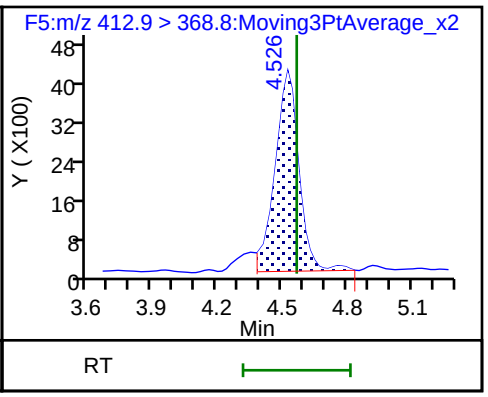
D 17 13C4 PFOA



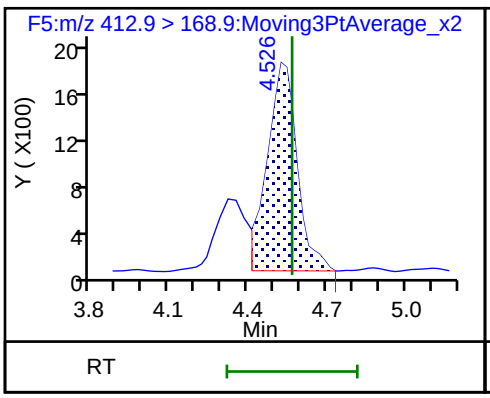
* 16 13C2 PFOA (M)



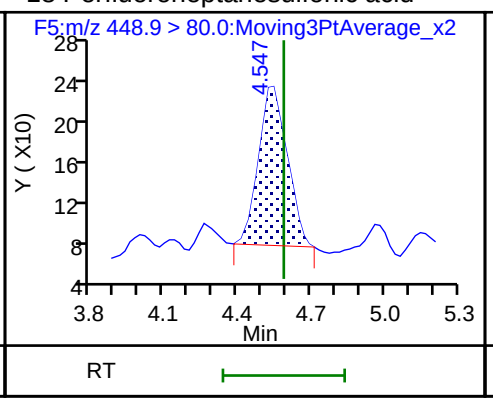
15 Perfluorooctanoic acid



15 Perfluorooctanoic acid



18 Perfluoroheptanesulfonic acid



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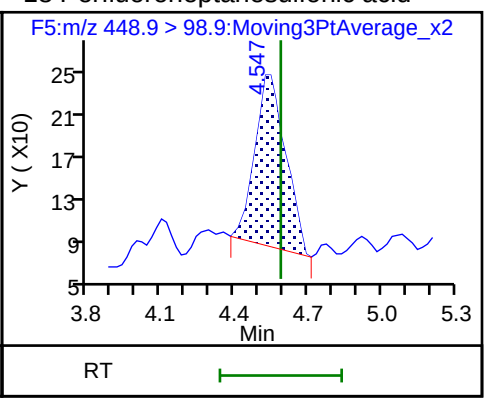
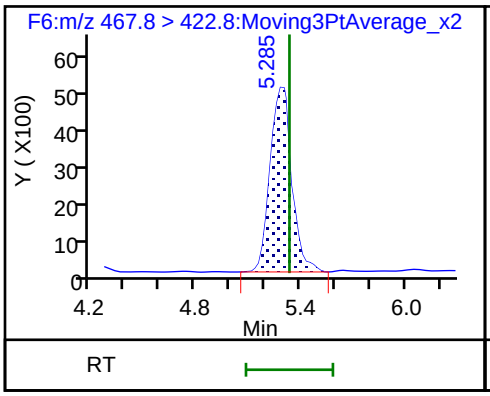
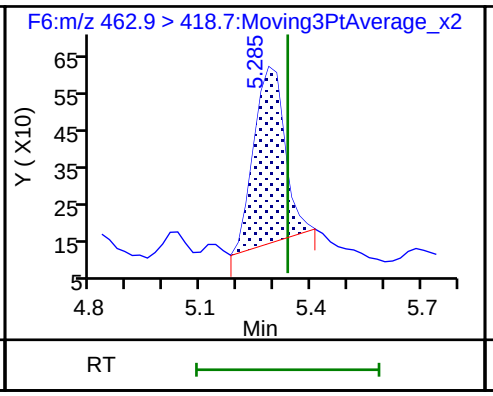


D 20 13C5 PFNA



19 Perfluorononanoic acid



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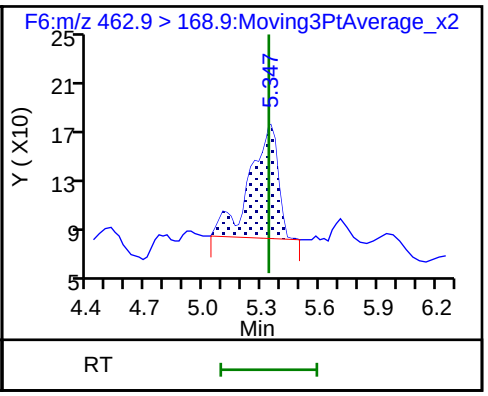
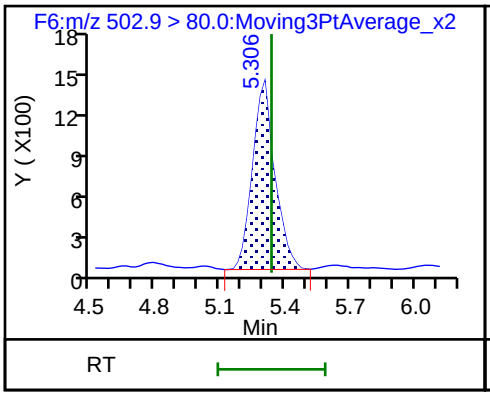
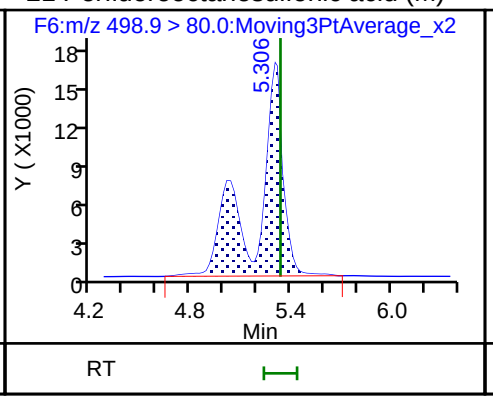


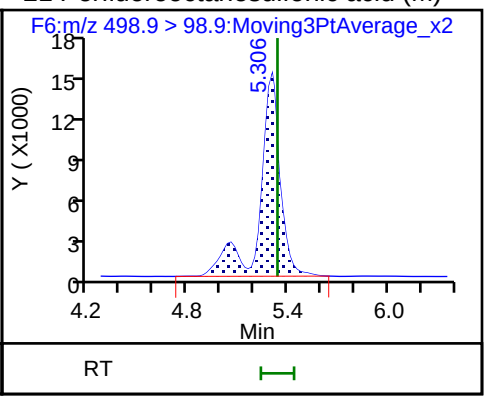
D 22 13C4 PFOS



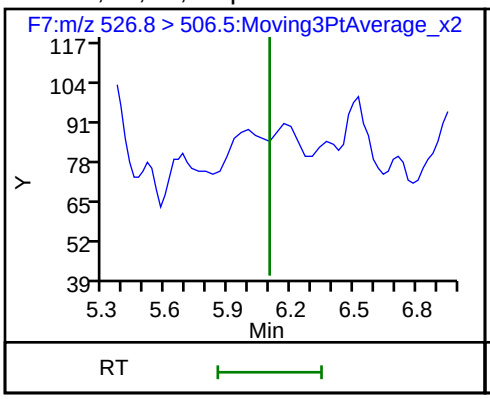
21 Perfluorooctanesulfonic acid (M)



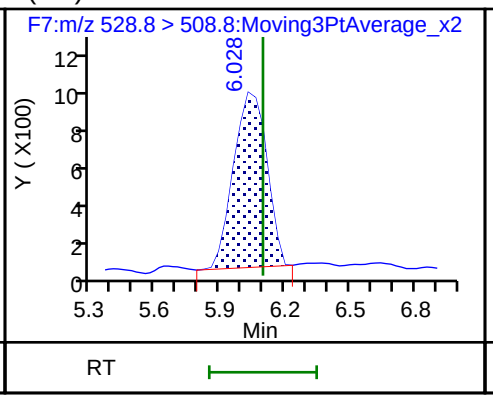
21 Perfluorooctanesulfonic acid (M)



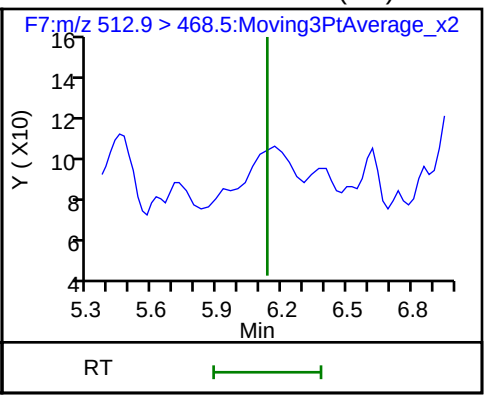
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



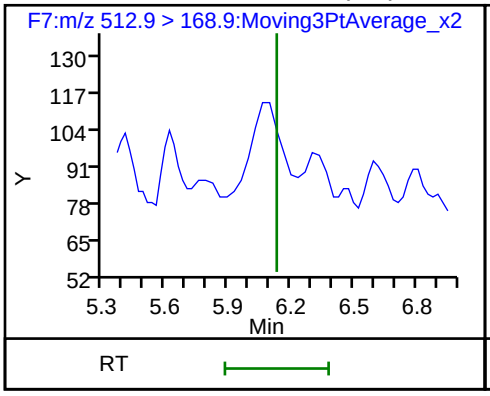
D 24 M2-8:2 FTS



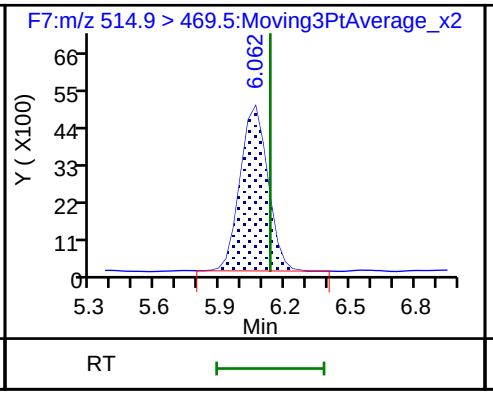
26 Perfluorodecanoic acid (ND)



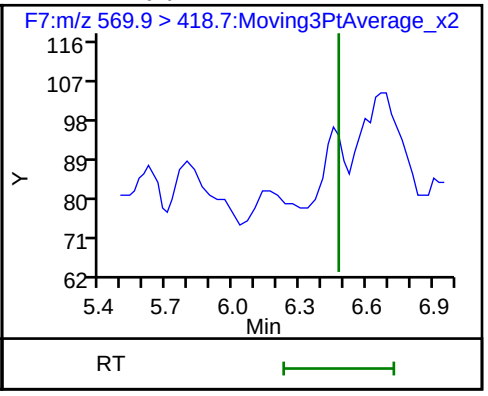
26 Perfluorodecanoic acid (ND)



D 25 13C2 PFDA



28 N-methylperfluorooctanesulfonamido (ND)



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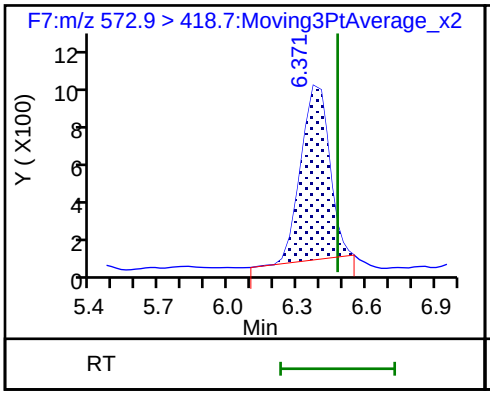

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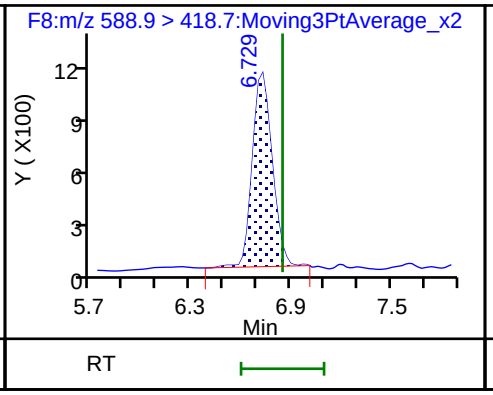
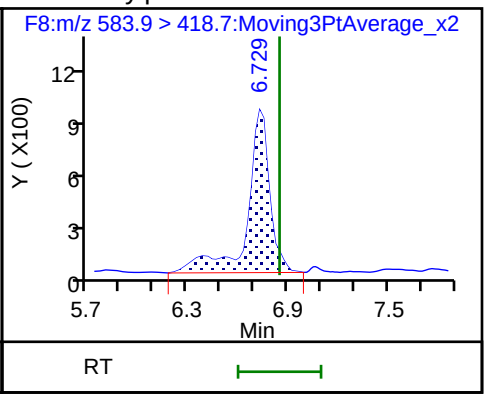
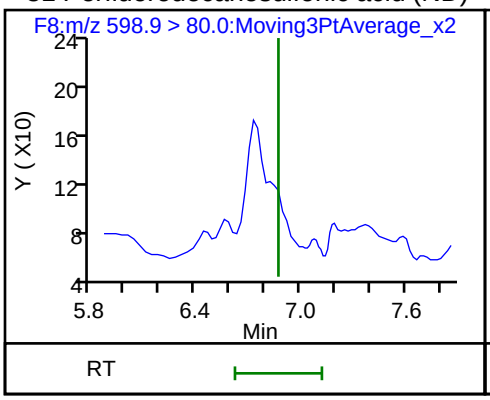


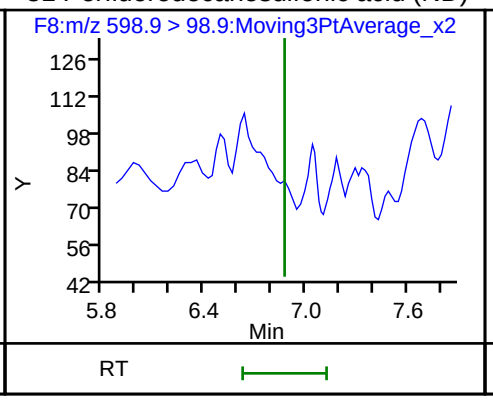
30 N-ethylperfluorooctanesulfonamidoa



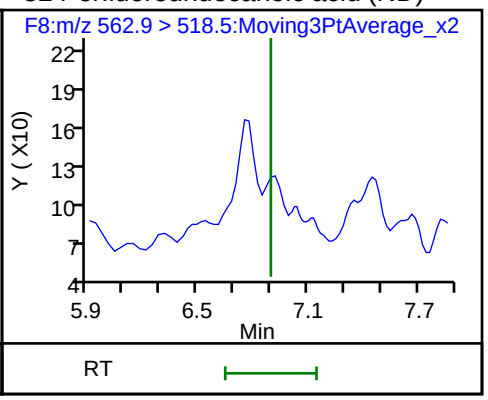
31 Perfluorodecanesulfonic acid (ND)



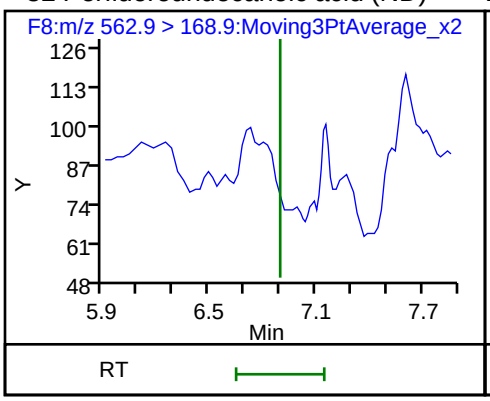
31 Perfluorodecanesulfonic acid (ND)



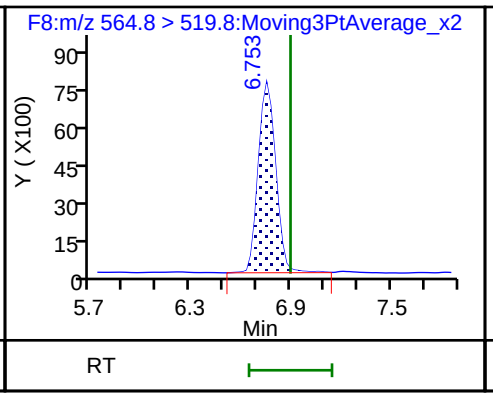
32 Perfluoroundecanoic acid (ND)



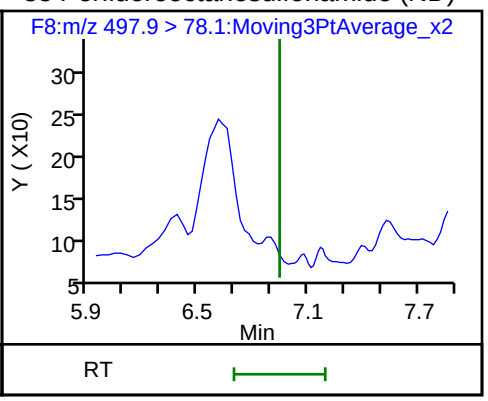
32 Perfluoroundecanoic acid (ND)



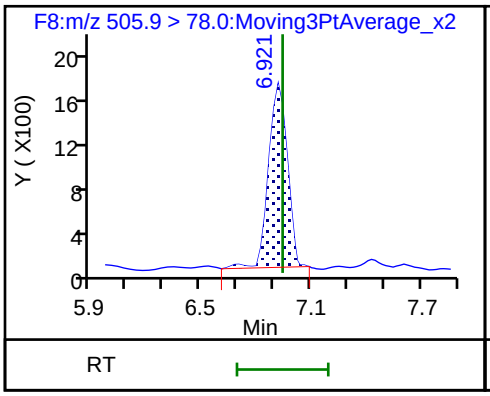
D 33 13C2 PFUnA



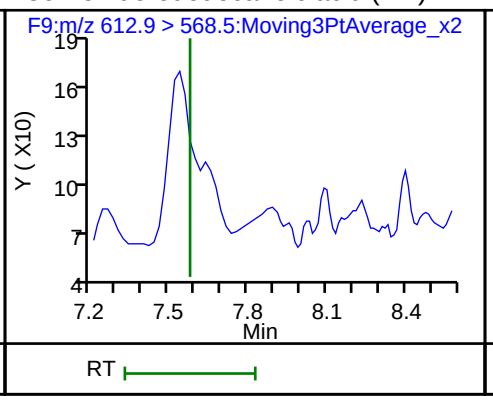
35 Perfluorooctanesulfonamide (ND)



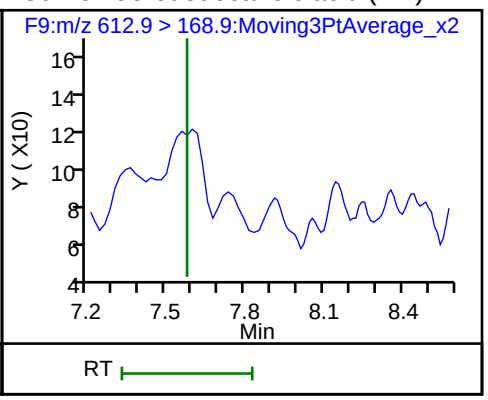
D 34 13C8 FOSA



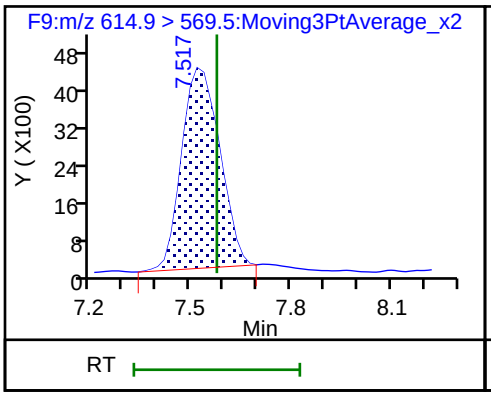
36 Perfluorododecanoic acid (ND)



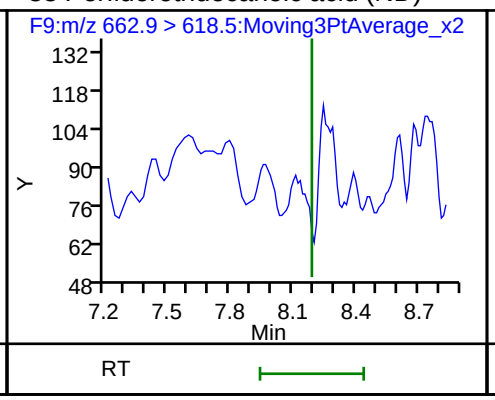
36 Perfluorododecanoic acid (ND)



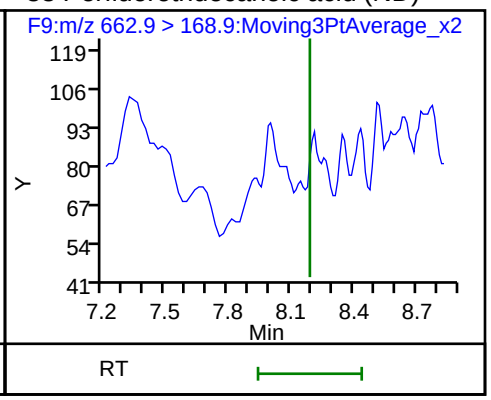
D 37 13C2 PFDoA



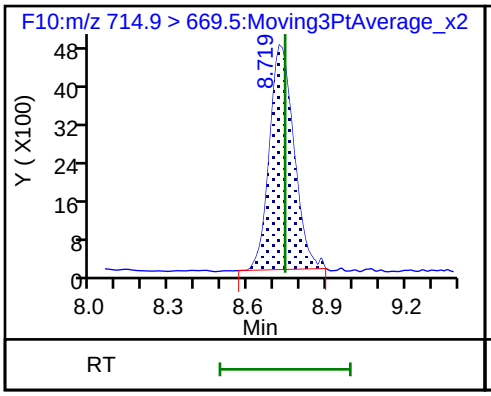
38 Perfluorotridecanoic acid (ND)



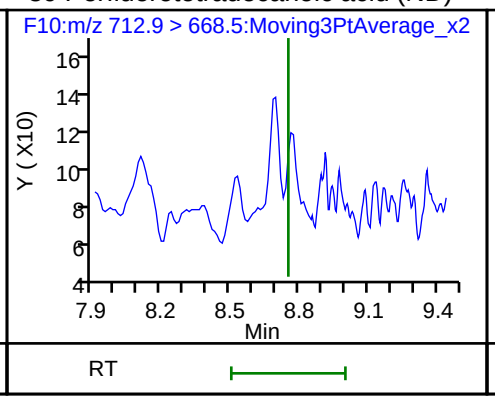
38 Perfluorotridecanoic acid (ND)



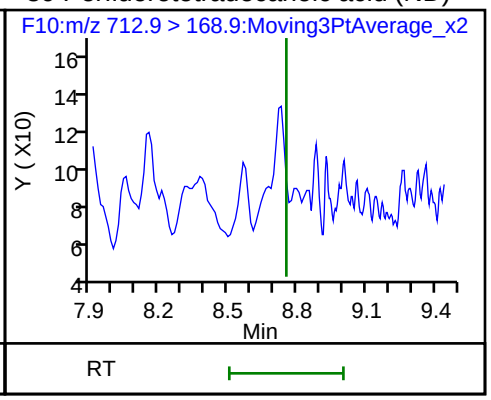
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



Eurofins TestAmerica, Burlington

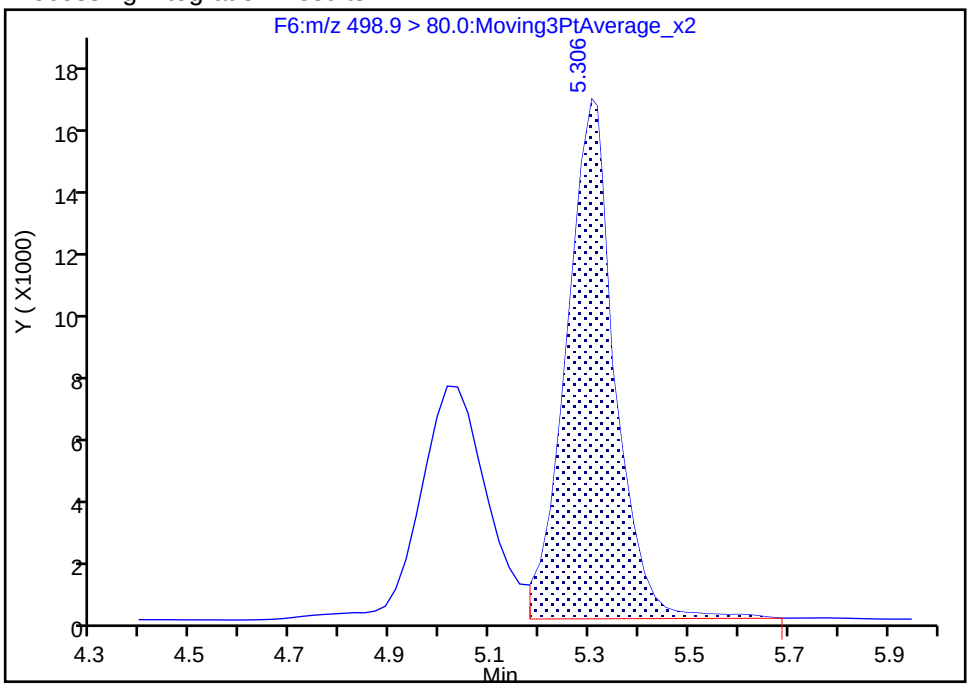
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A08.d				
Injection Date:	06-Jun-2019 14:16:06	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

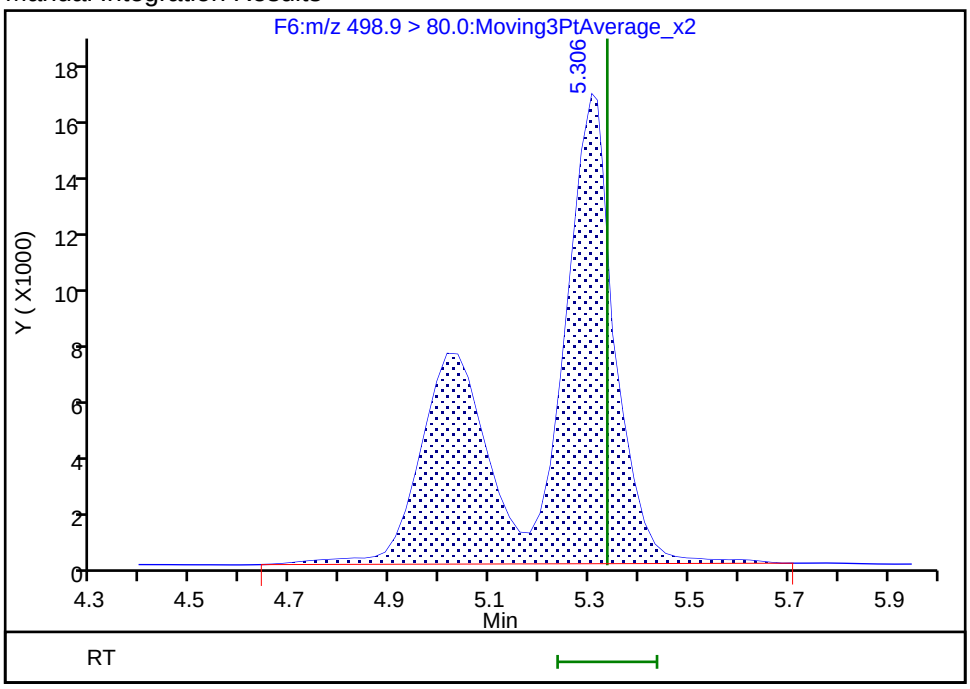
Processing Integration Results

RT: 5.31
Area: 109662
Amount: 54.972008
Amount Units: ng/ml



Manual Integration Results

RT: 5.31
Area: 177880
Amount: 89.168725
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 14:23:33
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

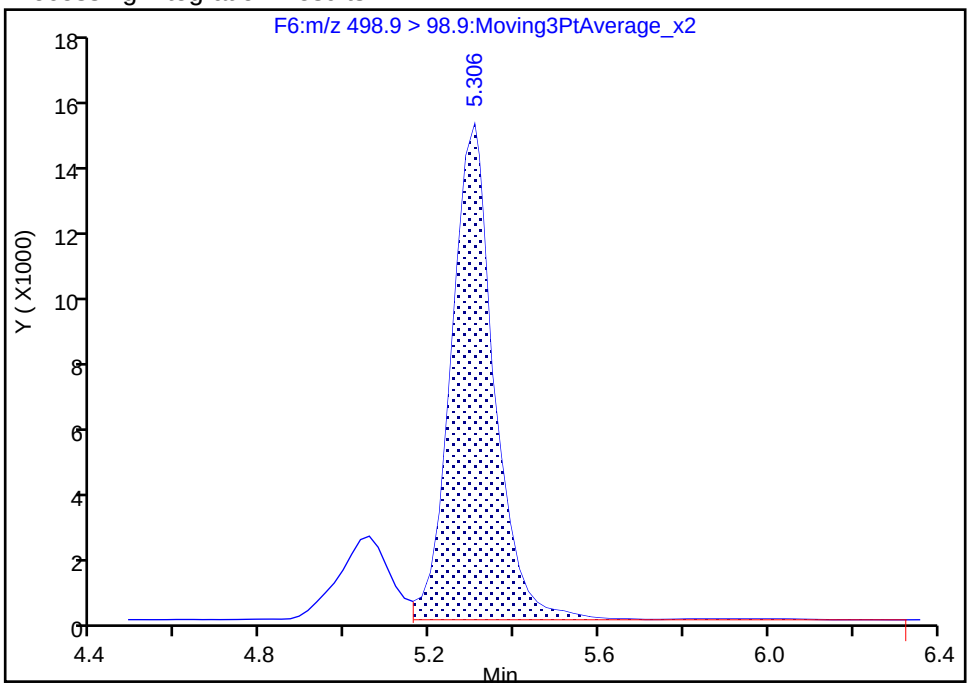
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A08.d				
Injection Date:	06-Jun-2019 14:16:06	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

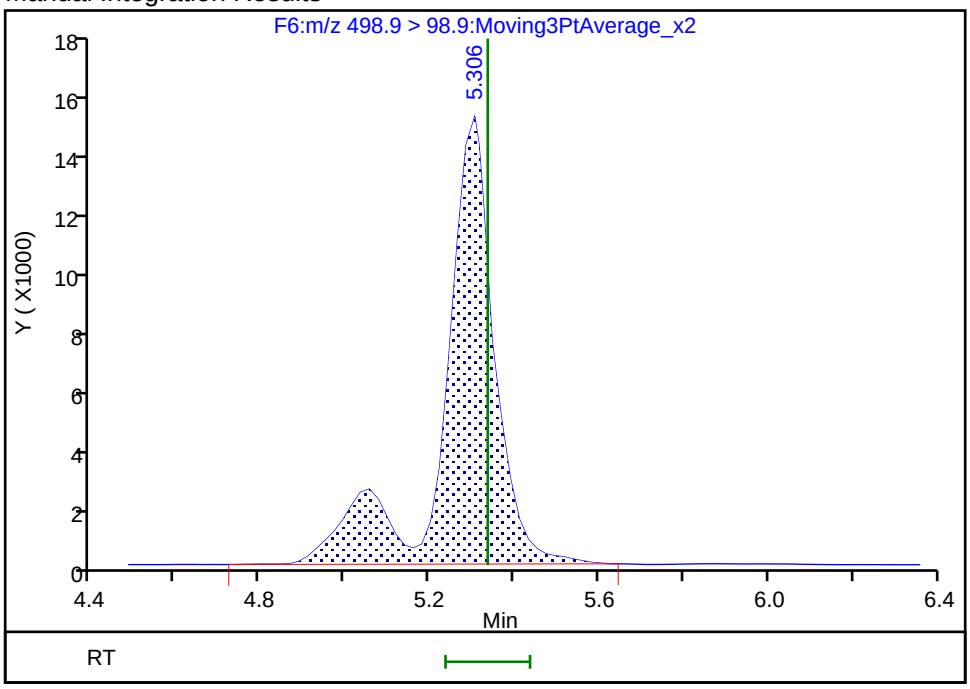
Processing Integration Results

RT: 5.31
Area: 107260
Amount: 54.972008
Amount Units: ng/ml



Manual Integration Results

RT: 5.31
Area: 127244
Amount: 89.168725
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 14:23:35

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

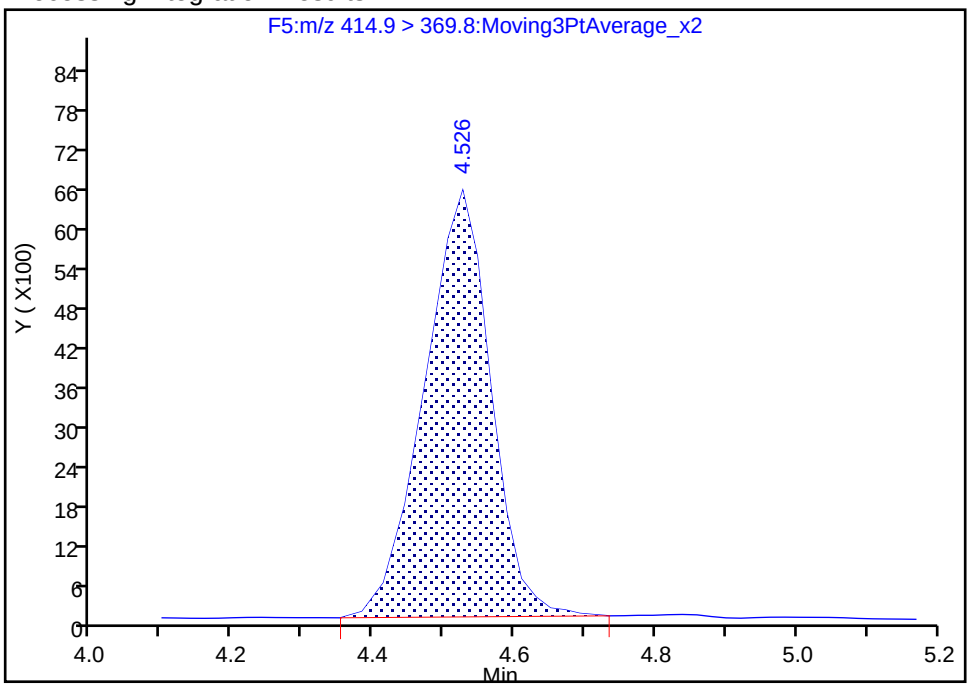
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A08.d				
Injection Date:	06-Jun-2019 14:16:06	Instrument ID:	LC410		
Lims ID:	200-48826-A-6-A	Lab Sample ID:	200-48826-6		
Client ID:	VEW-1 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

* 16 13C2 PFOA, CAS: STL00623

Signal: 1

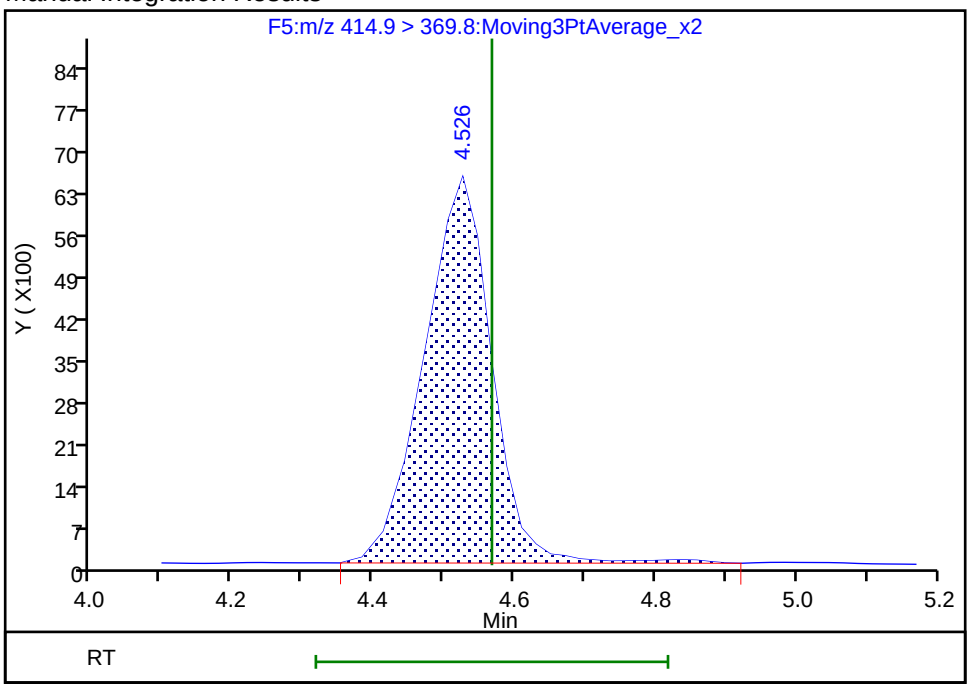
Processing Integration Results

RT: 4.53
Area: 42374
Amount: 5.000000
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 43170
Amount: 5.000000
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 14:23:51

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-3 051419 Lab Sample ID: 200-48826-7

Matrix: Water Lab File ID: PF060419B09.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 11:28

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 290.7(mL) Date Analyzed: 06/05/2019 03:26

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.6	4.3
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.6	J	8.6	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	13		8.6	3.3
375-85-9	Perfluoroheptanoic acid (PFHpA)	14		8.6	3.9
335-67-1	Perfluorooctanoic acid (PFOA)	180		8.6	2.7
375-95-1	Perfluorononanoic acid (PFNA)	5.7	J	8.6	1.2
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.6	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.6	2.3
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.6	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.6	2.6
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.6	4.0
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		8.6	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	42		8.6	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	51		8.6	4.1
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.6	3.9
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.6	2.8
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		86	7.3
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		86	6.4
27619-97-2	6:2 FTS	ND		86	20
39108-34-4	8:2 FTS	ND		86	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-3 051419 Lab Sample ID: 200-48826-7

Matrix: Water Lab File ID: PF060419B09.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 11:28

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 290.7(mL) Date Analyzed: 06/05/2019 03:26

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	31		25-150
STL00992	13C4 PFBA	29		25-150
STL01893	13C5 PFPeA	47		25-150
STL00993	13C2 PFHxA	38	*	50-150
STL01892	13C4 PFHpA	53		50-150
STL00990	13C4 PFOA	63		50-150
STL00995	13C5 PFNA	46	*	50-150
STL00996	13C2 PFDA	58		50-150
STL00997	13C2 PFUnA	66		50-150
STL00998	13C2 PFDoA	58		50-150
STL02116	13C2 PFTeDA	47	*	50-150
STL02337	13C3 PFBS	48	*	50-150
STL00994	18O2 PFHxS	36	*	50-150
STL00991	13C4 PFOS	39	*	50-150
STL02118	d3-NMeFOSAA	48	*	50-150
STL02117	d5-NEtFOSAA	52		50-150
STL02279	M2-6:2 FTS	64		25-150
STL02280	M2-8:2 FTS	69		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d
Lims ID: 200-48826-A-7-A
Client ID: VEW-3 051419
Sample Type: Client
Inject. Date: 05-Jun-2019 03:26:39 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036200-009 826-7
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 11:36:55
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.360	0.020	1.022	1121	0.3483				M
D 1 13C4 PFBA										M
216.9 > 171.5	2.329	2.360	-0.031	1.000	20503	2.94		29.4	50.3	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.795	2.830	-0.035	0.987	3141	0.4219			0.9	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	24864	4.70		47.0	42.8	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	10195	4.43		47.7	40.6	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.270	3.302	-0.032	1.000	12847	1.51	Target=14.34		6.1	
312.9 > 118.9	3.302	3.302	0.0	1.010	898		14.31(7.17-21.51)		6.3	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.334	-0.064	1.000	60857	3.84		38.4	225	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	118707	5.31		53.1	365	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.833	3.905	-0.072	0.991	23281	1.67	Target=2.84		8.3	M
362.9 > 168.9	3.833	3.905	-0.072	0.991	8130		2.86(1.42-4.26)		29.4	M
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.905	3.925	-0.020	1.009	11120	4.93	Target=1.34		50.0	
398.9 > 98.9	3.905	3.925	-0.020	1.009	14580		0.76(0.67-2.01)		87.1	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.869	3.925	-0.056	1.000	10081	3.43		36.3	43.4	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.506	4.547	-0.041	1.000	9619	6.06		63.8	59.7	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 16 13C2 PFOA										M
414.9 > 369.8	4.568	4.589	-0.021		284933	10.0			1392	M
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.589	-0.021	1.000	364754	20.7	Target=2.43		342	
412.9 > 168.9	4.568	4.589	-0.021	1.000	162738		2.24(1.22-3.64)		385	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	174489	6.31		63.1	357	
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.589	4.609	-0.020	0.858	13356	5.93	Target=1.30		26.1	
448.9 > 98.9	4.589	4.609	-0.020	1.000	19271		0.69(0.65-1.95)		112	M
19 Perfluorononanoic acid										M
462.9 > 418.7	5.347	5.368	-0.021	1.002	9890	0.6616	Target=5.00		19.3	M
462.9 > 168.9	5.368	5.368	0.0	1.006	2353		4.20(2.50-7.50)		6.8	M
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.389	-0.053	1.000	169288	4.56		45.6	440	
21 Perfluorooctanesulfonic acid										EM
498.9 > 80.0	5.347	5.389	-0.042	1.000	584118	233.8	Target=1.41		1493	EM
498.9 > 98.9	5.347	5.389	-0.042	1.000	568845		1.03(0.71-2.12)		1669	M
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	24730	3.73		39.0	59.3	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.131	6.131	0.0	1.000	1436	0.4856			4.2	M
D 24 M2-8:2 FTS										M
528.8 > 508.8	6.131	6.131	0.0	1.000	38411	6.65		69.4	87.5	M
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	185179	5.85		58.5	449	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.453	6.549	-0.096	1.000	49945	4.84		48.4	359	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.873	6.897	-0.024	1.004	1262	0.3529			7.7	M
D 29 d5-NEtFOSAA										M
588.9 > 418.7	6.849	6.921	-0.072	1.000	44412	5.22		52.2	272	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.945	-0.072	1.000	202712	6.63		66.3	499	
D 34 13C8 FOSA										
505.9 > 78.0	7.026	7.026	0.0	1.000	34992	3.07		30.7	121	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	227434	5.84		58.4	480	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.764	8.819	-0.055	1.000	164184	4.70		47.0	426	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags
M - Manually Integrated

Report Date: 05-Jun-2019 15:51:12 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d

Injection Date: 05-Jun-2019 03:26:39 Instrument ID: LC410

Lims ID: 200-48826-A-7-A Lab Sample ID: 200-48826-7

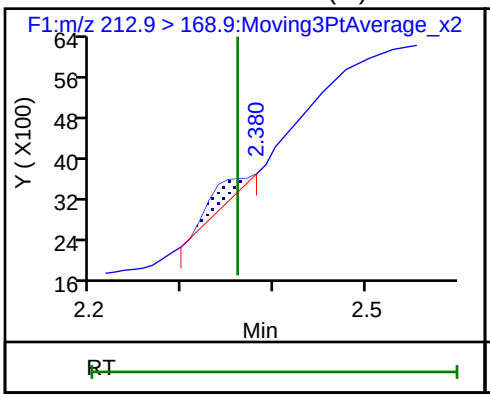
Client ID: VEW-3 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9

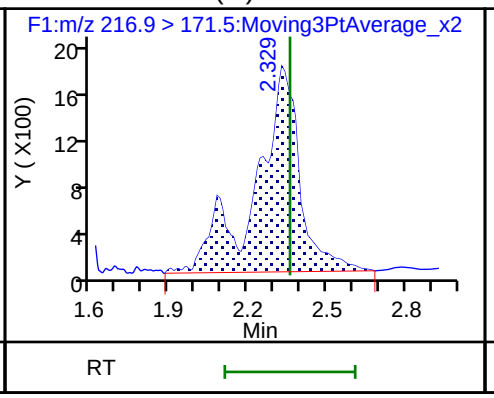
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

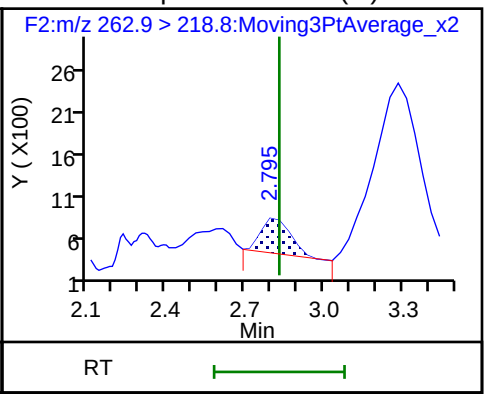
2 Perfluorobutanoic acid (M)



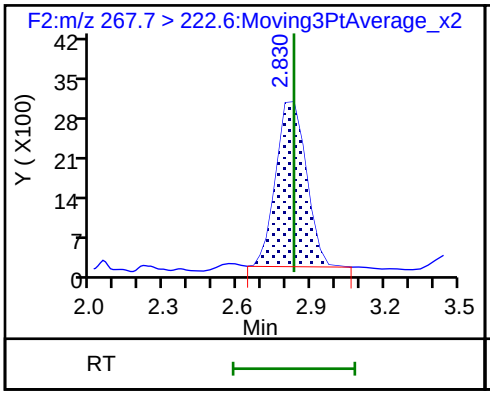
D 1 13C4 PFBA (M)



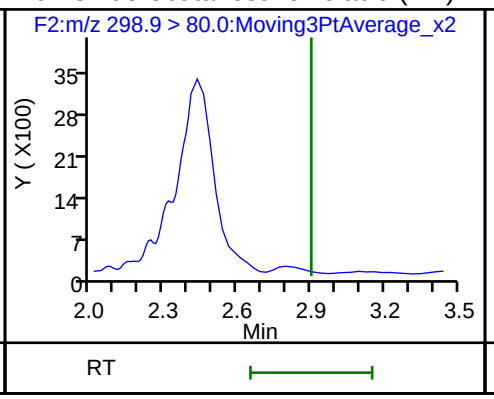
3 Perfluoropentanoic acid (M)



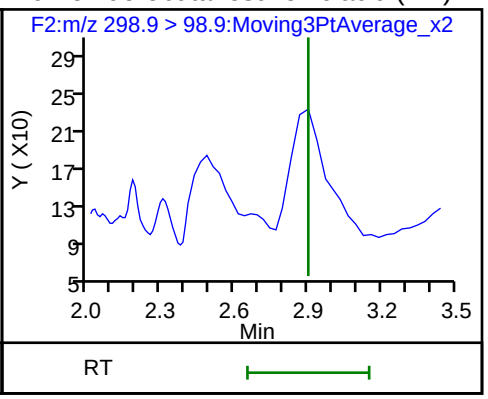
D 4 13C5 PFPeA



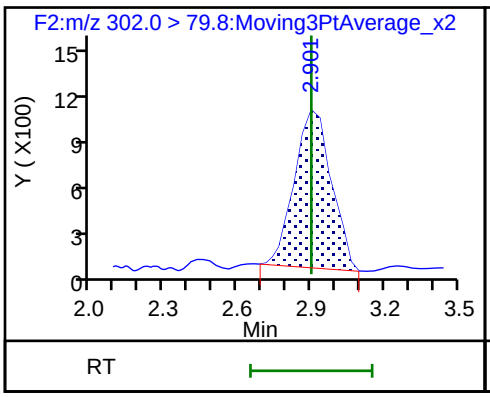
6 Perfluorobutanesulfonic acid (ND)



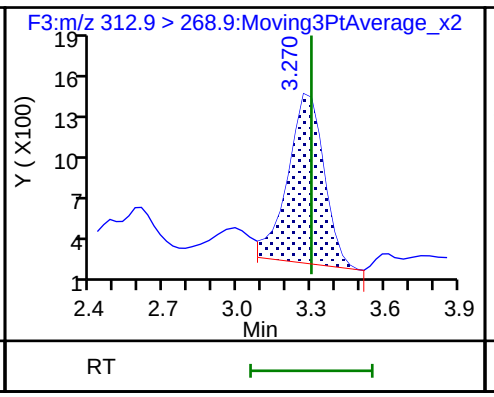
6 Perfluorobutanesulfonic acid (ND)



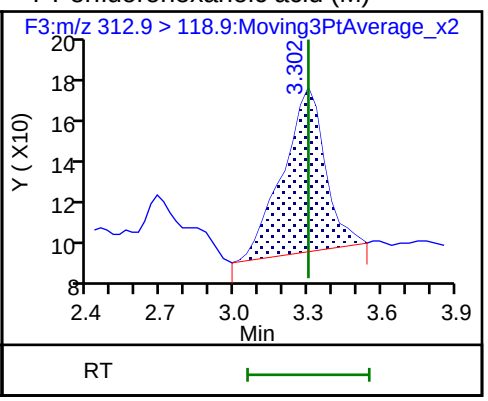
D 5 13C3 PFBS



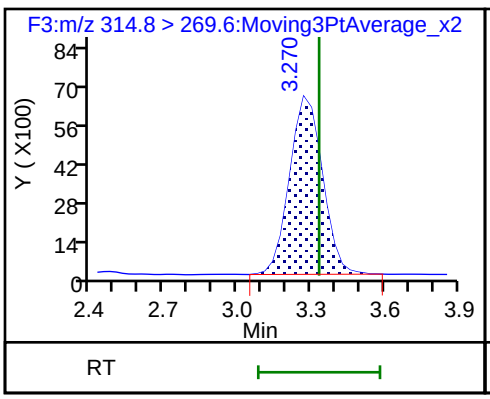
7 Perfluorohexanoic acid



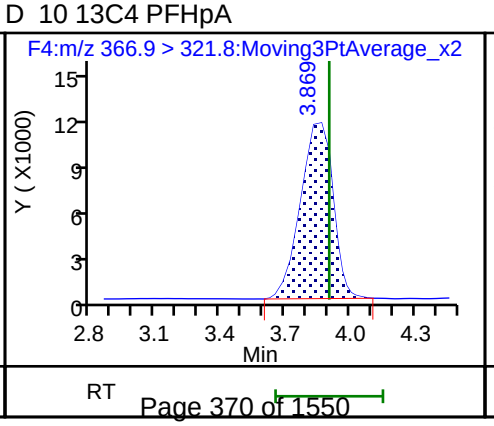
7 Perfluorohexanoic acid (M)



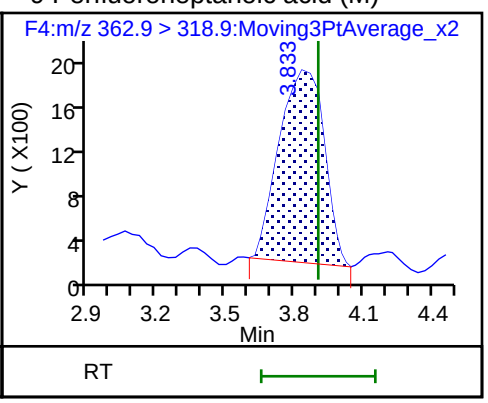
D 8 13C2 PFHxA



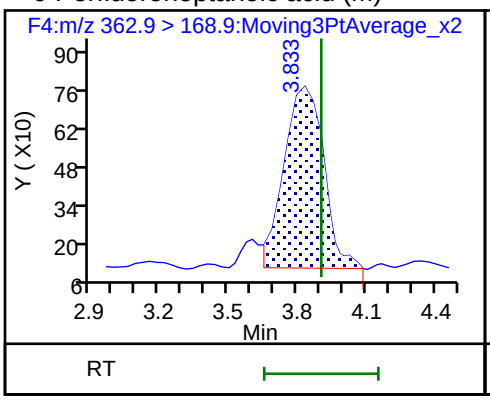
D 10 13C4 PFHpA



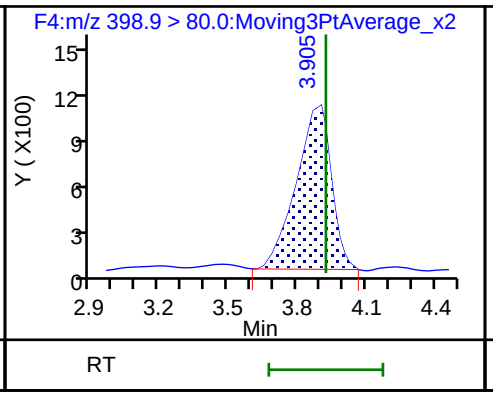
9 Perfluoroheptanoic acid (M)



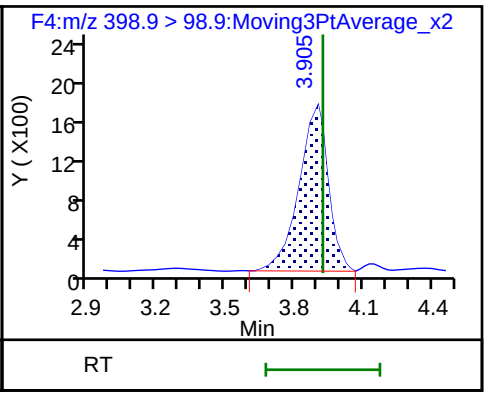
9 Perfluoroheptanoic acid (M)



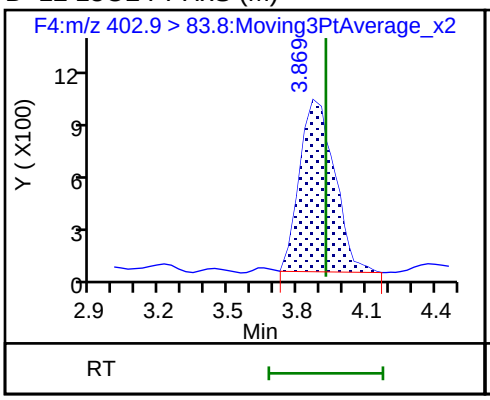
11 Perfluorohexanesulfonic acid



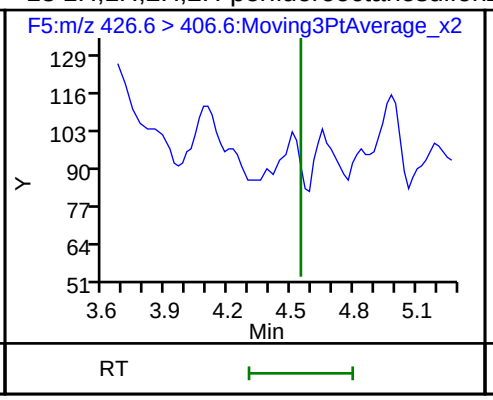
11 Perfluorohexanesulfonic acid



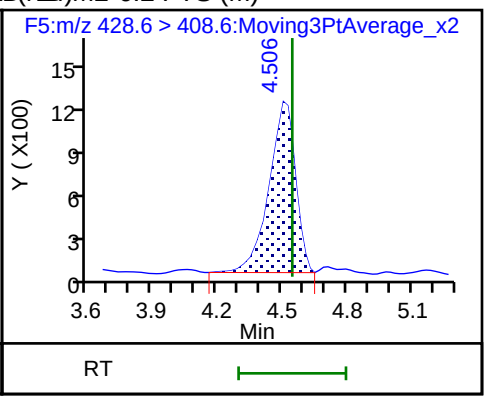
D 12 18O2 PFHxS (M)



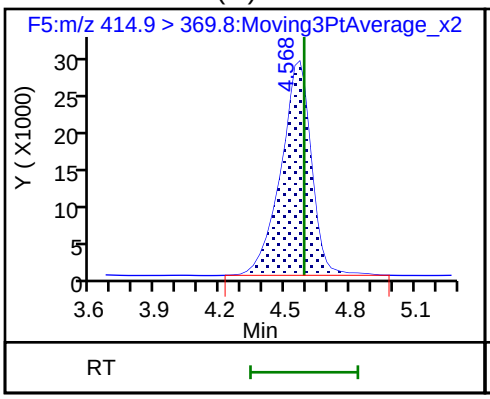
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2-6:2 FTS (M)



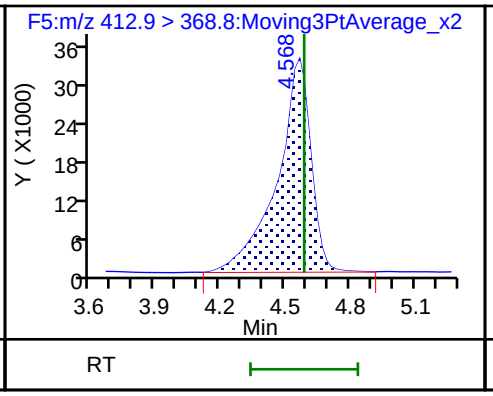
D 12 13C2 PFDoA (M)



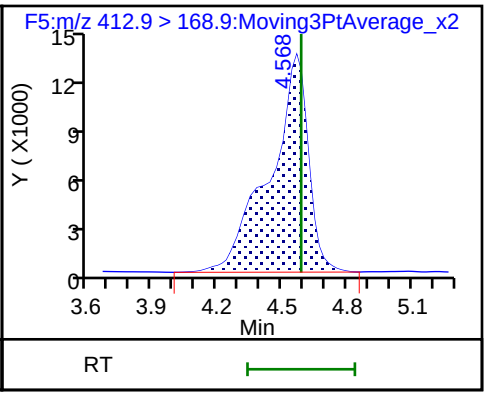
* 16 13C2 PFOA (M)



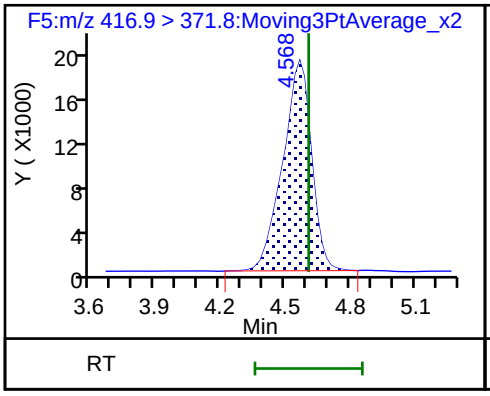
15 Perfluorooctanoic acid



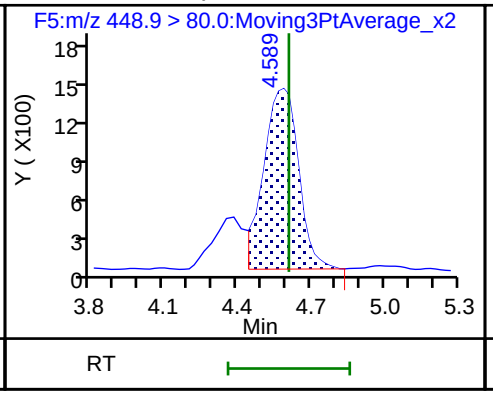
15 Perfluorooctanoic acid



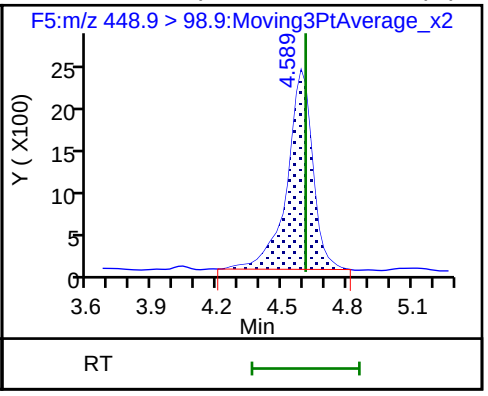
D 17 13C4 PFOA



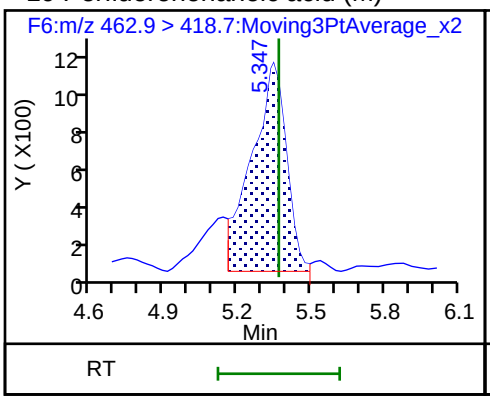
18 Perfluoroheptanesulfonic acid



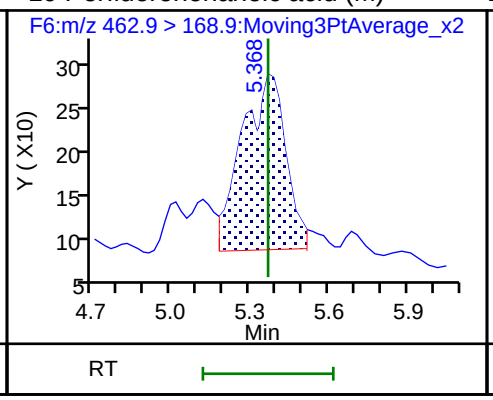
18 Perfluoroheptanesulfonic acid (M)



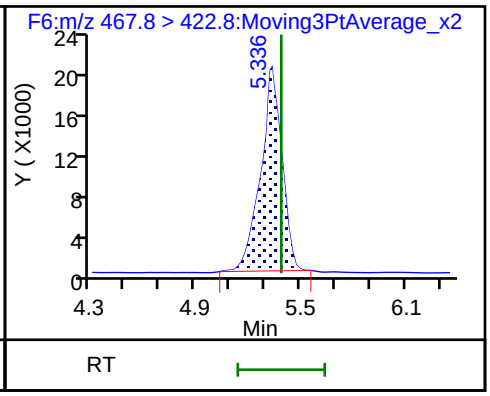
19 Perfluorononanoic acid (M)



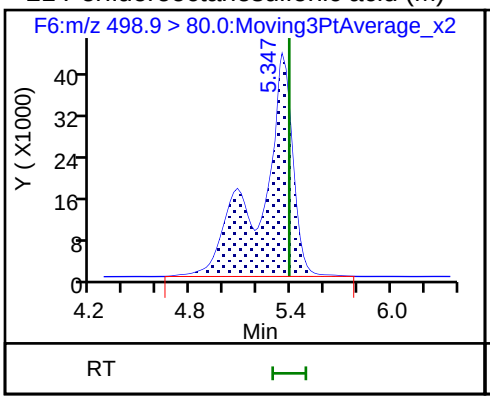
19 Perfluorononanoic acid (M)



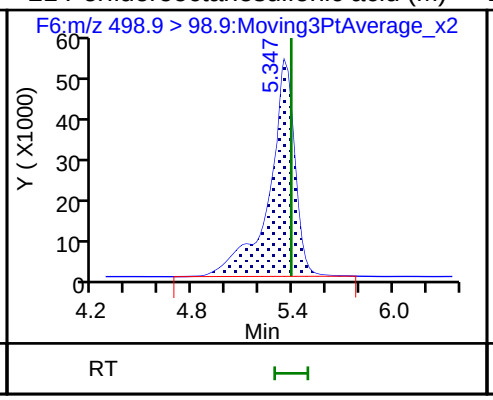
D 20 13C5 PFNA



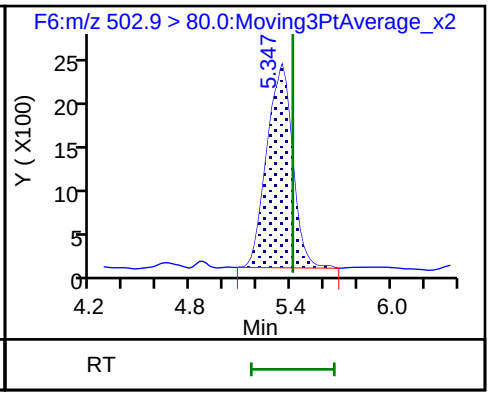
21 Perfluorooctanesulfonic acid (M)



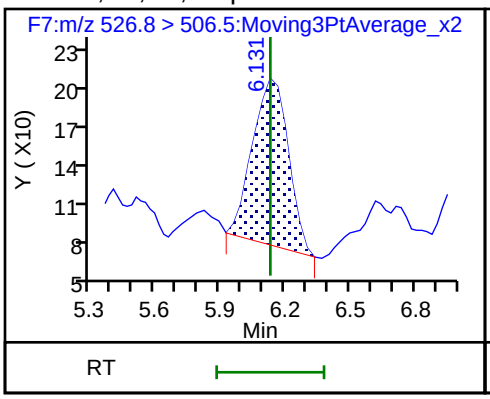
21 Perfluorooctanesulfonic acid (M)



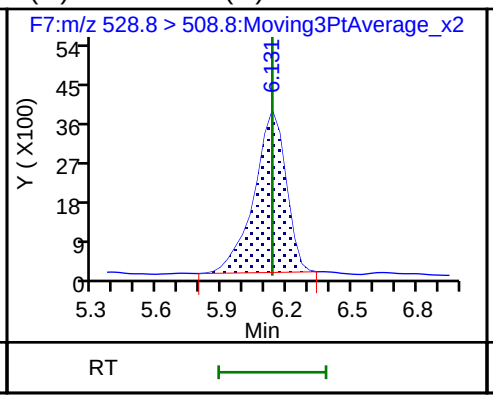
D 22 13C4 PFOS



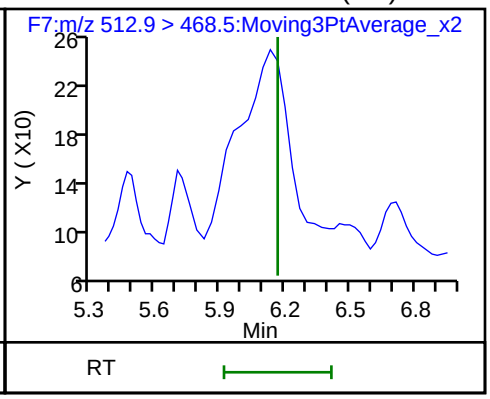
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



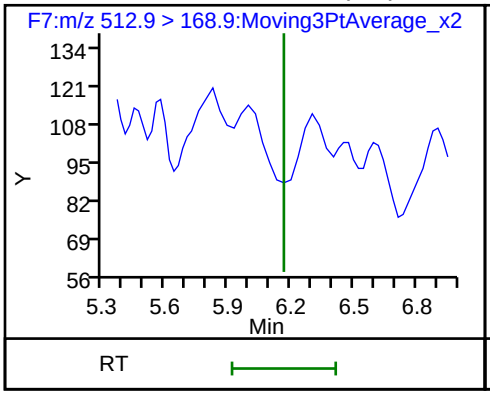
D 24 M2-8:2 FTS (M)



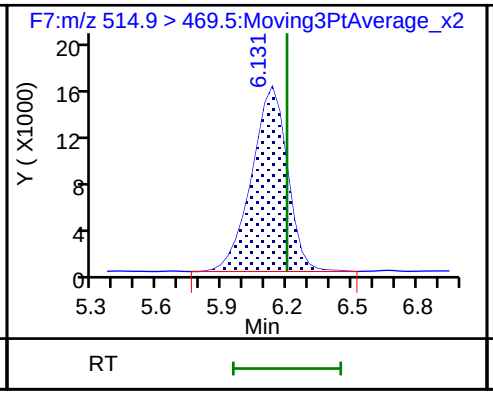
26 Perfluorodecanoic acid (ND)



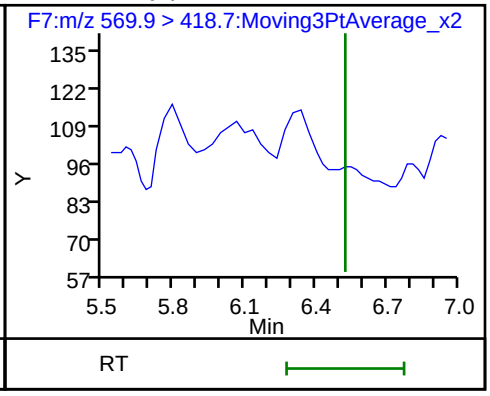
26 Perfluorodecanoic acid (ND)



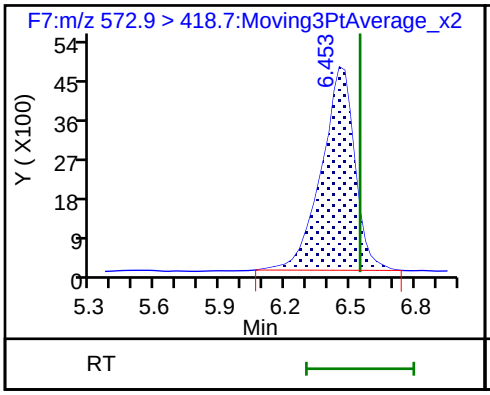
D 25 13C2 PFDA



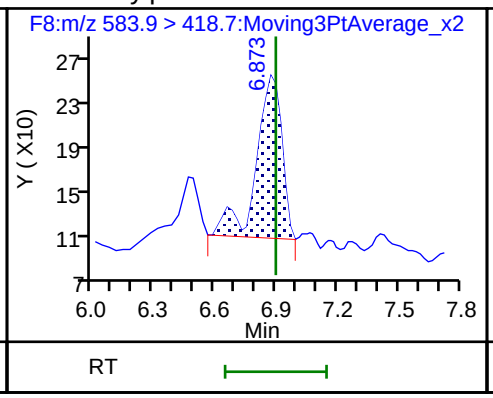
28 N-methylperfluorooctanesulfonamido (ND)



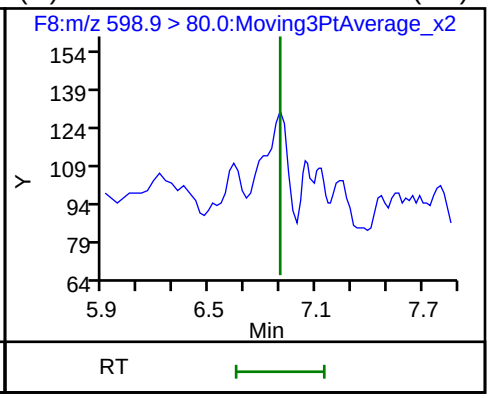
D 27 d3-NMeFOSAA



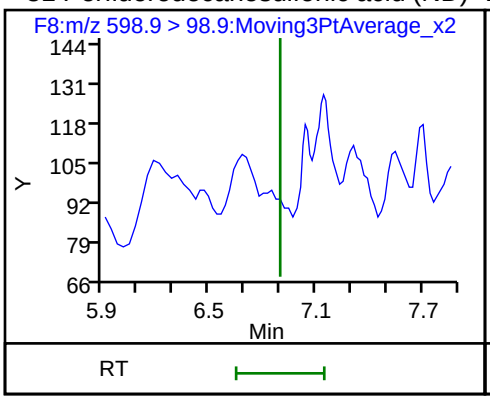
30 N-ethylperfluorooctanesulfonamidoa (M)



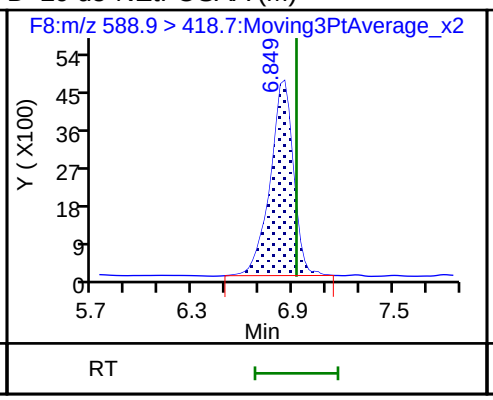
31 Perfluorodecanesulfonic acid (ND)



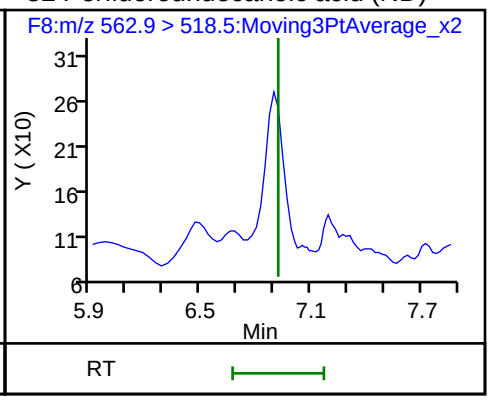
31 Perfluorodecanesulfonic acid (ND)



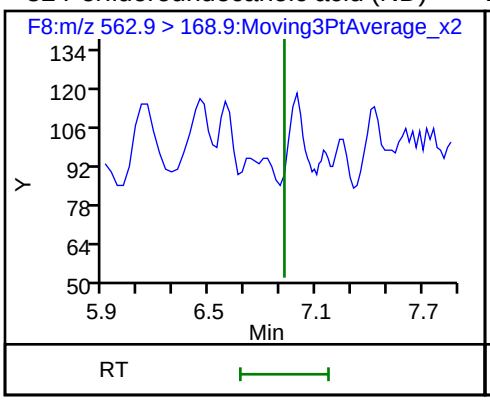
D 29 d5-NEtFOSAA (M)



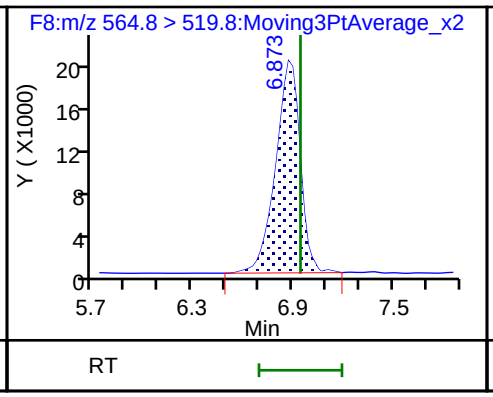
32 Perfluoroundecanoic acid (ND)



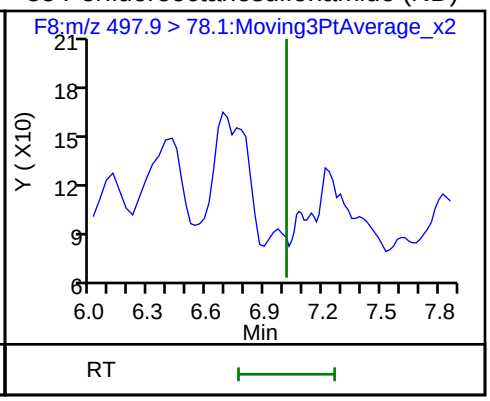
32 Perfluoroundecanoic acid (ND)



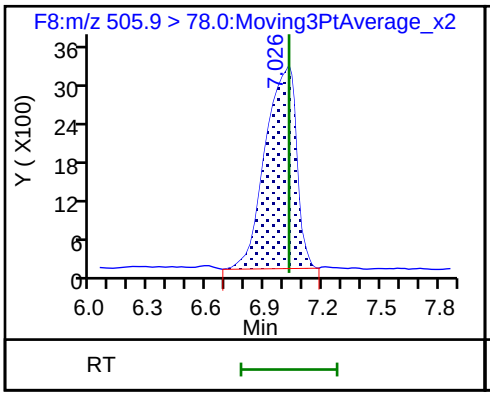
D 33 13C2 PFUnA



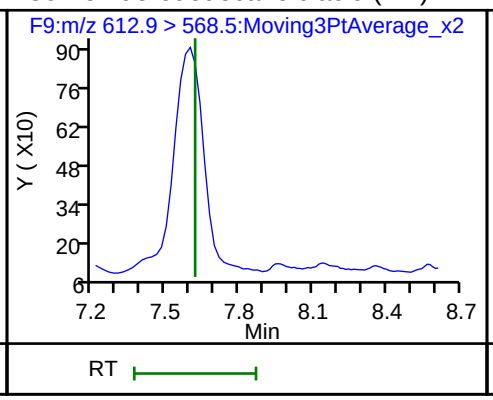
35 Perfluorooctanesulfonamide (ND)



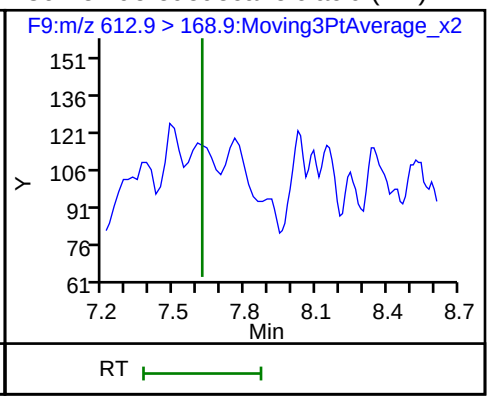
D 34 13C8 FOSA



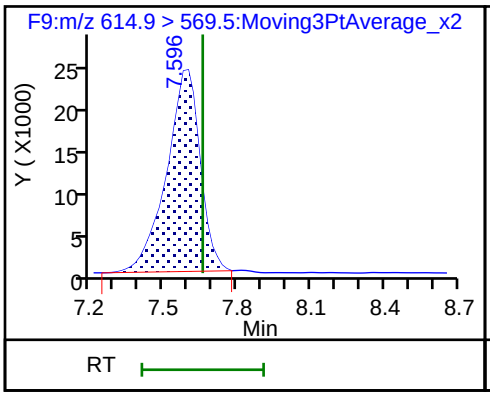
36 Perfluorododecanoic acid (ND)



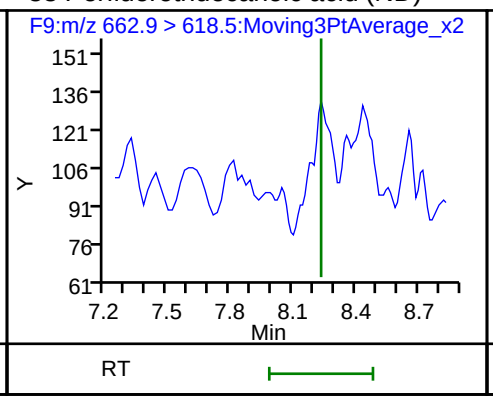
36 Perfluorododecanoic acid (ND)



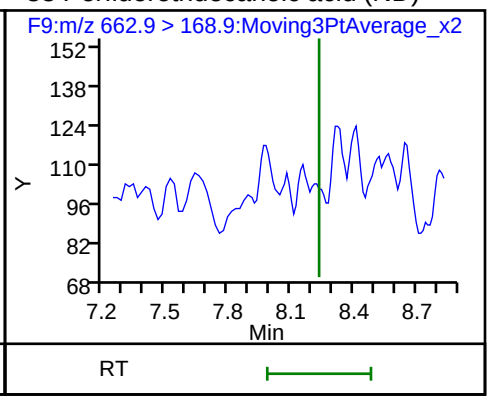
D 37 13C2 PFDoA



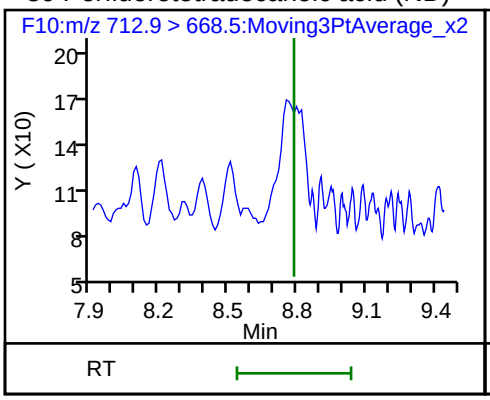
38 Perfluorotridecanoic acid (ND)



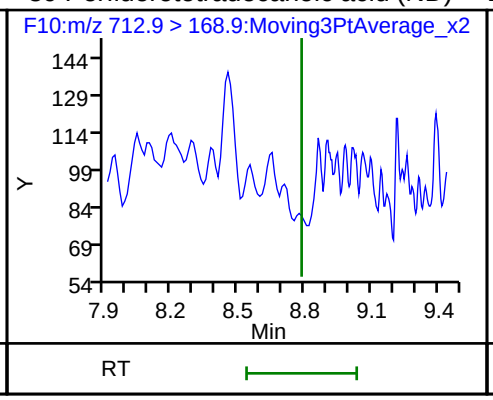
38 Perfluorotridecanoic acid (ND)



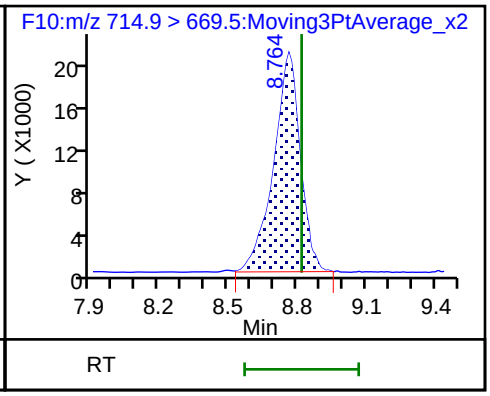
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

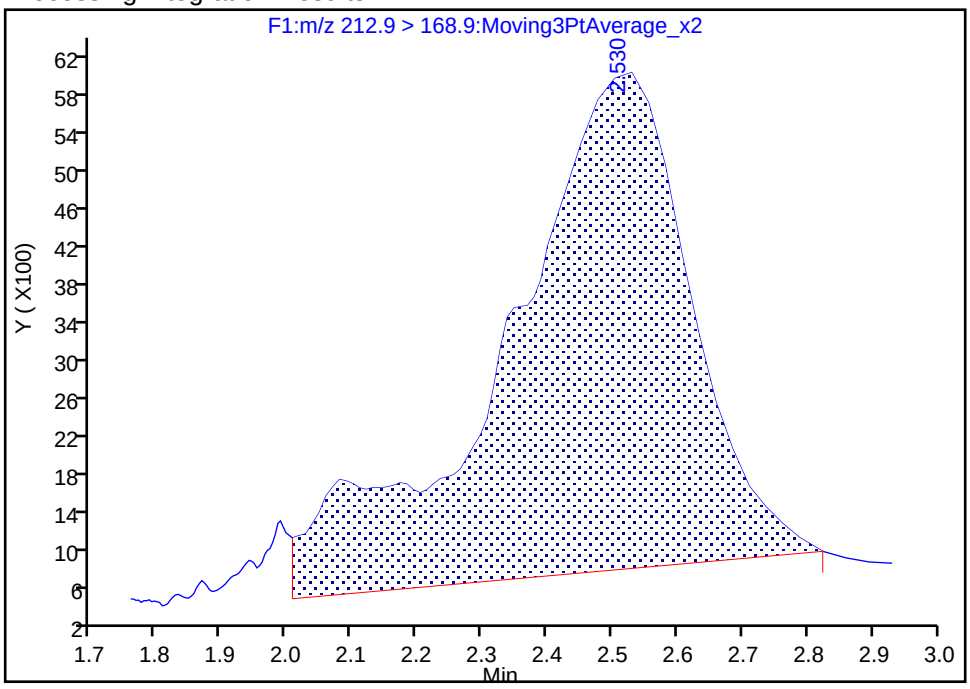
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

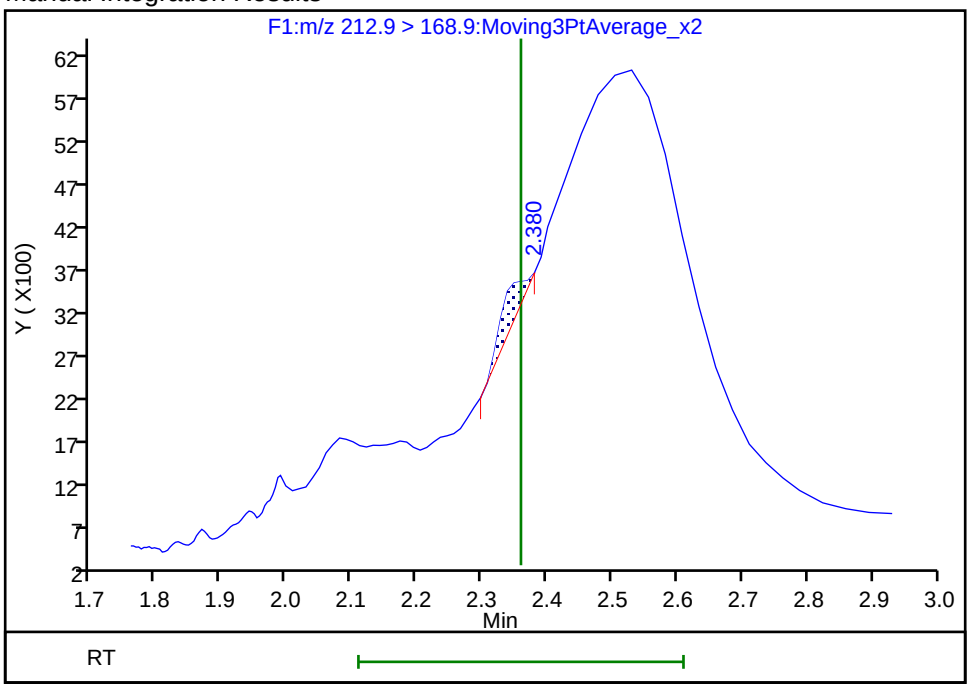
Processing Integration Results

RT: 2.53
Area: 103747
Amount: 40.315629
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 1121
Amount: 0.348250
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:30:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

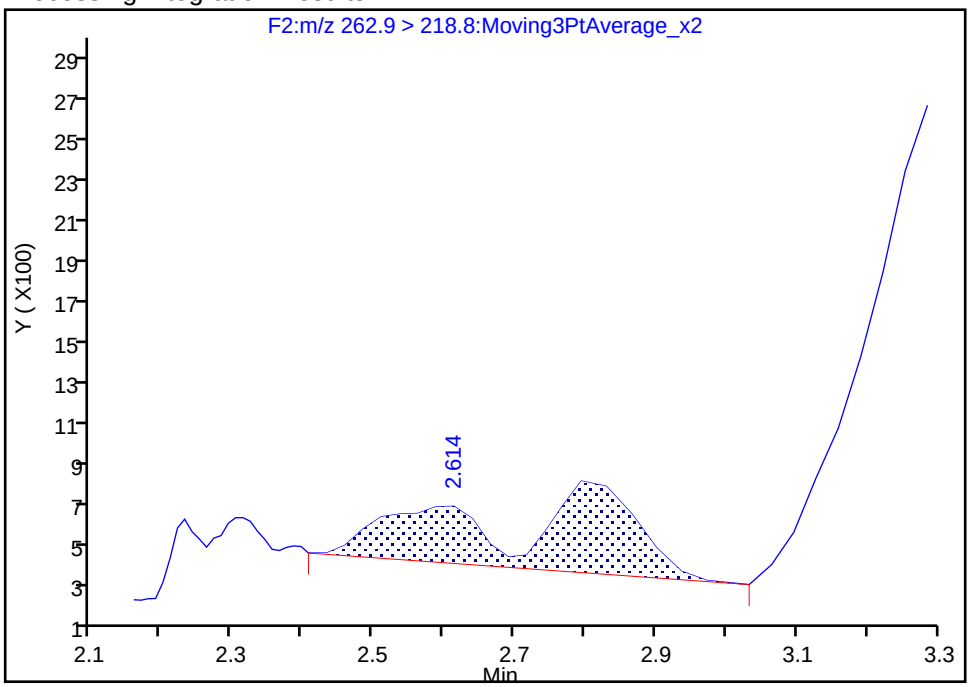
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

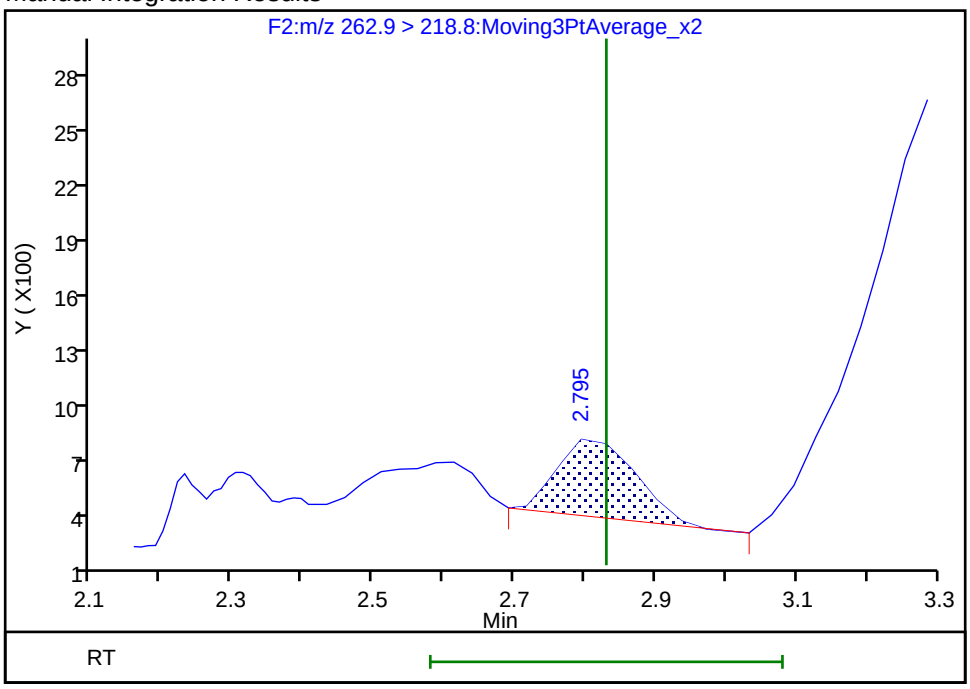
Processing Integration Results

RT: 2.61
Area: 6290
Amount: 0.844800
Amount Units: ng/ml



Manual Integration Results

RT: 2.79
Area: 3141
Amount: 0.421863
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:30:59
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

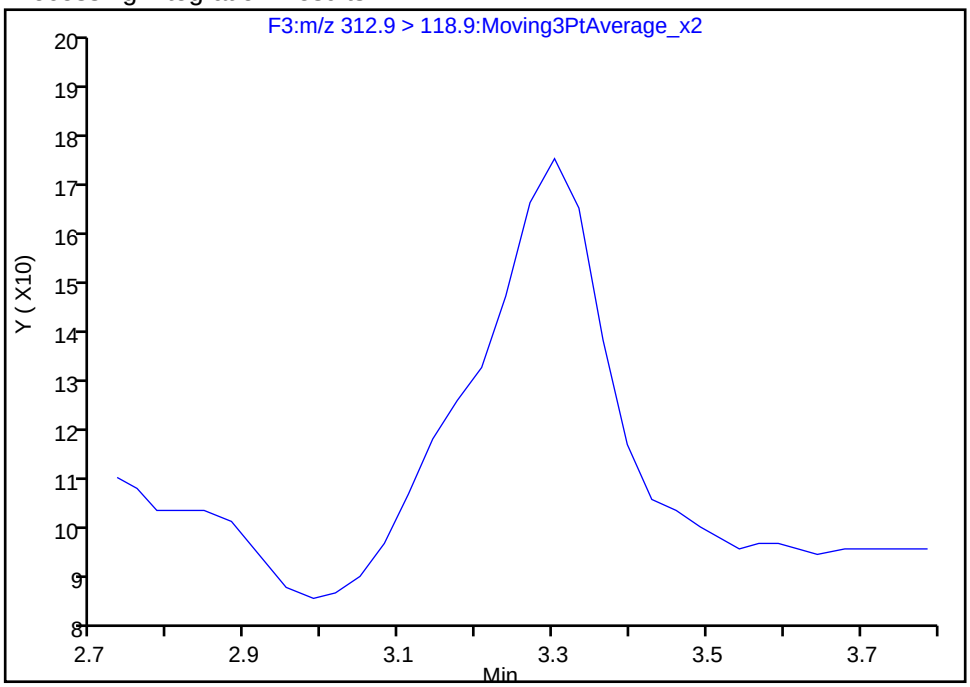
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

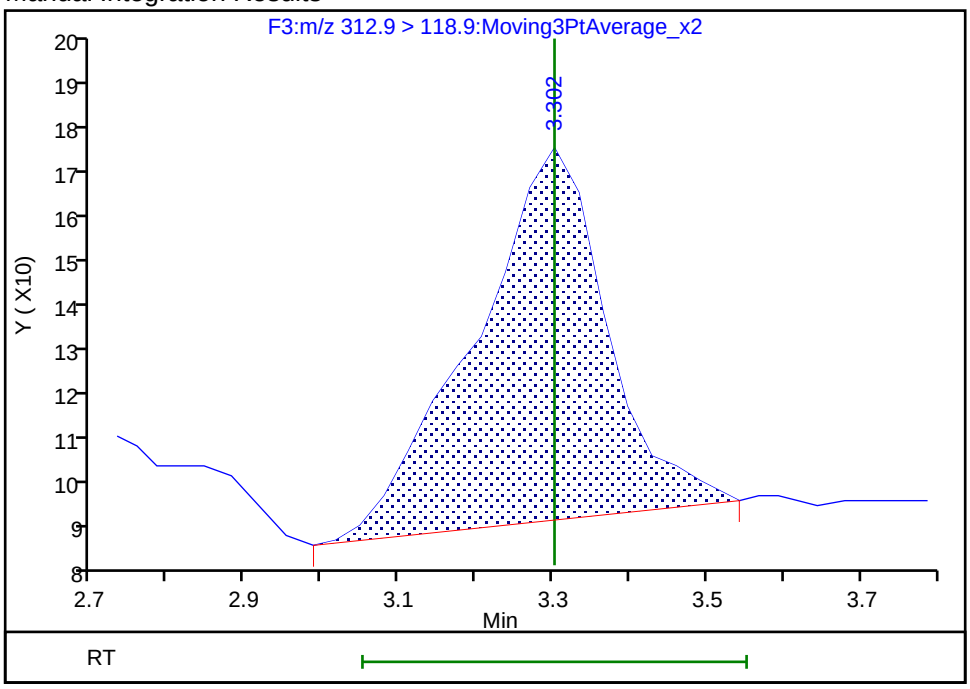
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.30
Area: 898
Amount: 1.510044
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:36:37
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

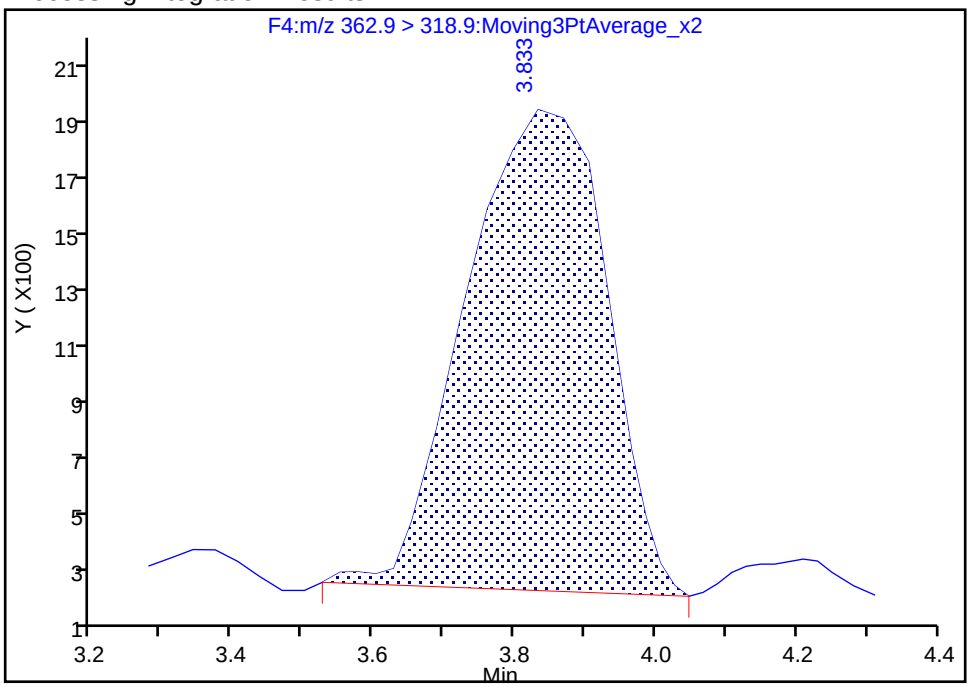
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

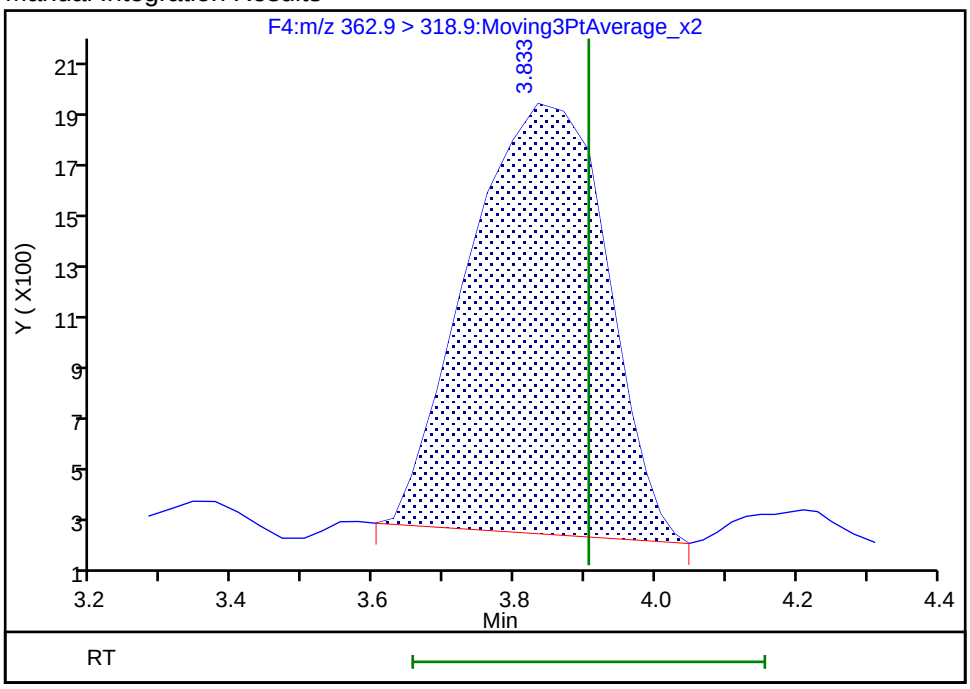
Processing Integration Results

RT: 3.83
Area: 23929
Amount: 1.717652
Amount Units: ng/ml



Manual Integration Results

RT: 3.83
Area: 23281
Amount: 1.671137
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:32:05
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

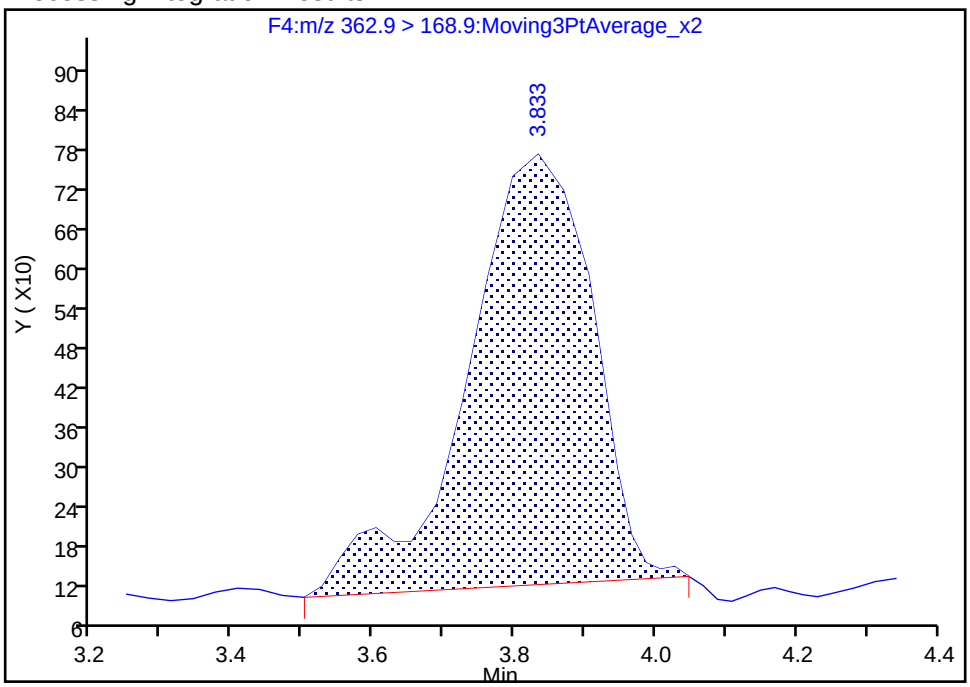
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

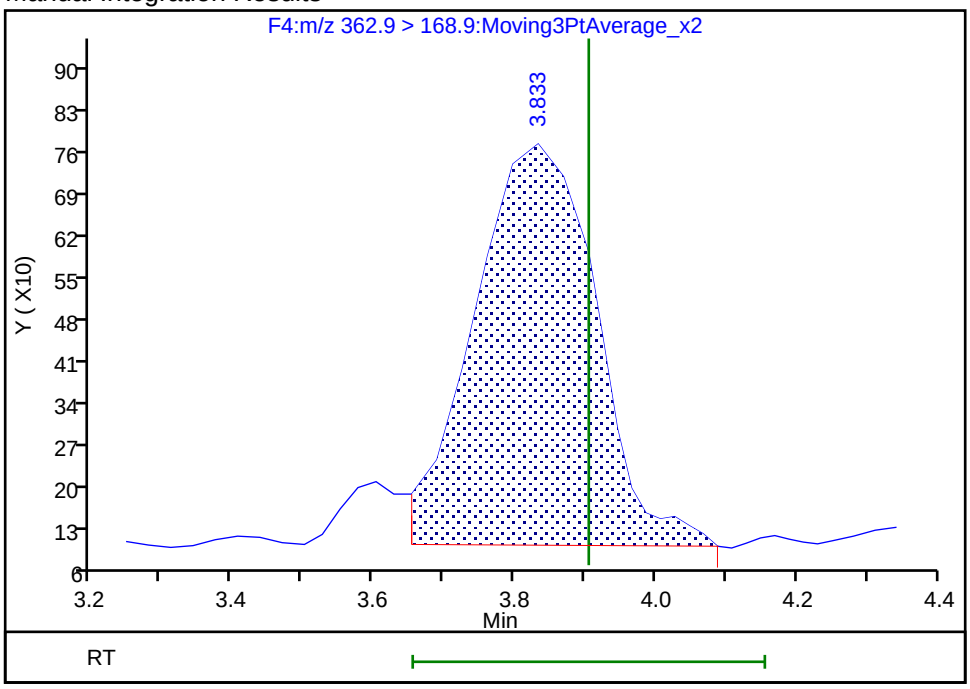
Processing Integration Results

RT: 3.83
Area: 8160
Amount: 1.717652
Amount Units: ng/ml



Manual Integration Results

RT: 3.83
Area: 8130
Amount: 1.671137
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:32:14

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

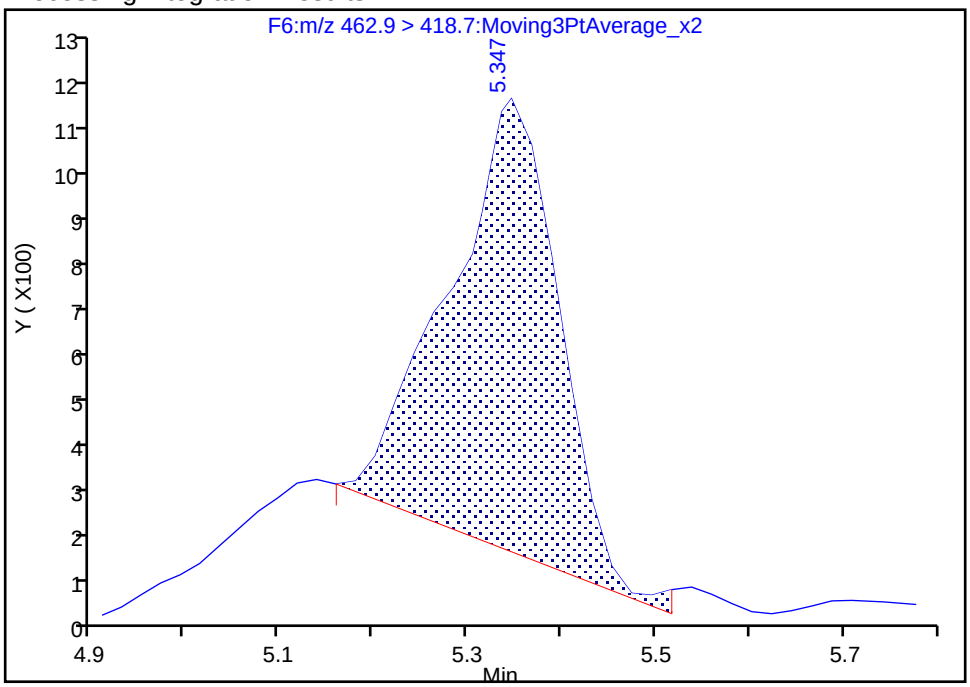
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

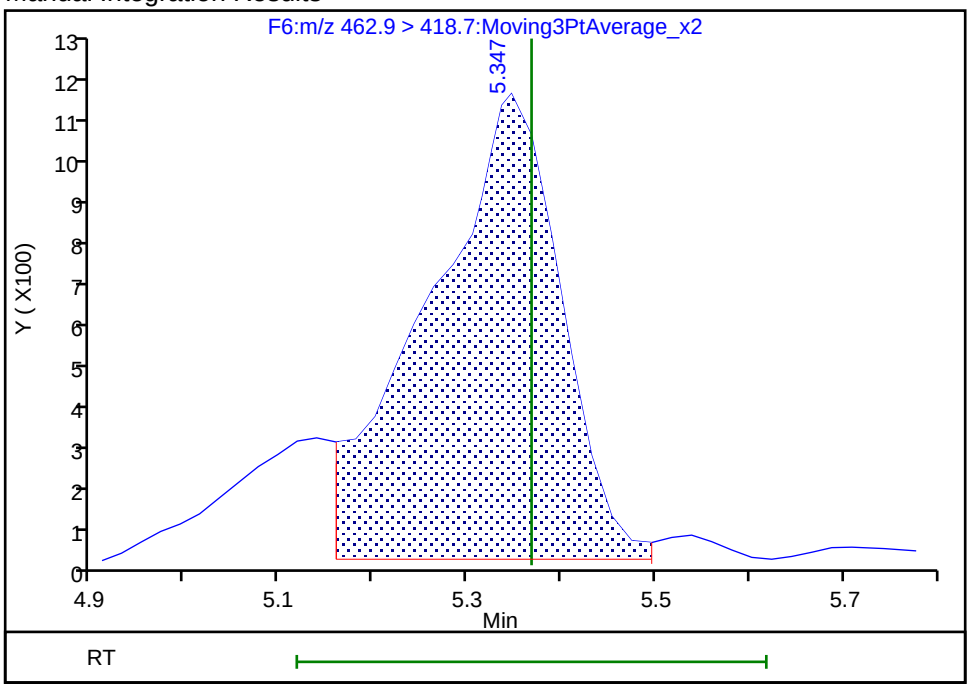
Processing Integration Results

RT: 5.35
Area: 7231
Amount: 0.483751
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 9890
Amount: 0.661637
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:33:19
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

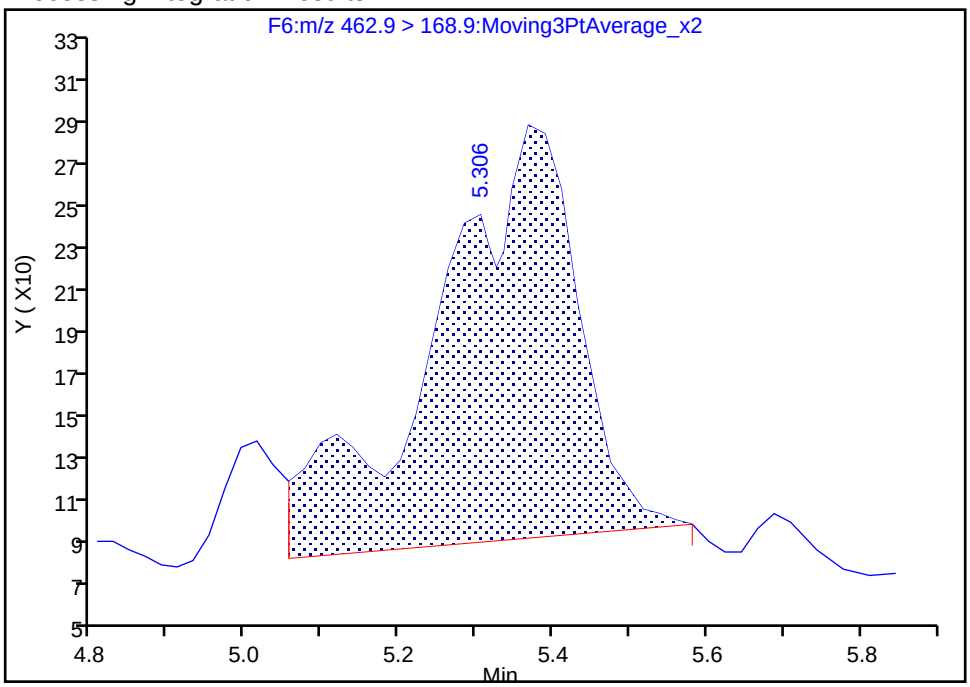
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

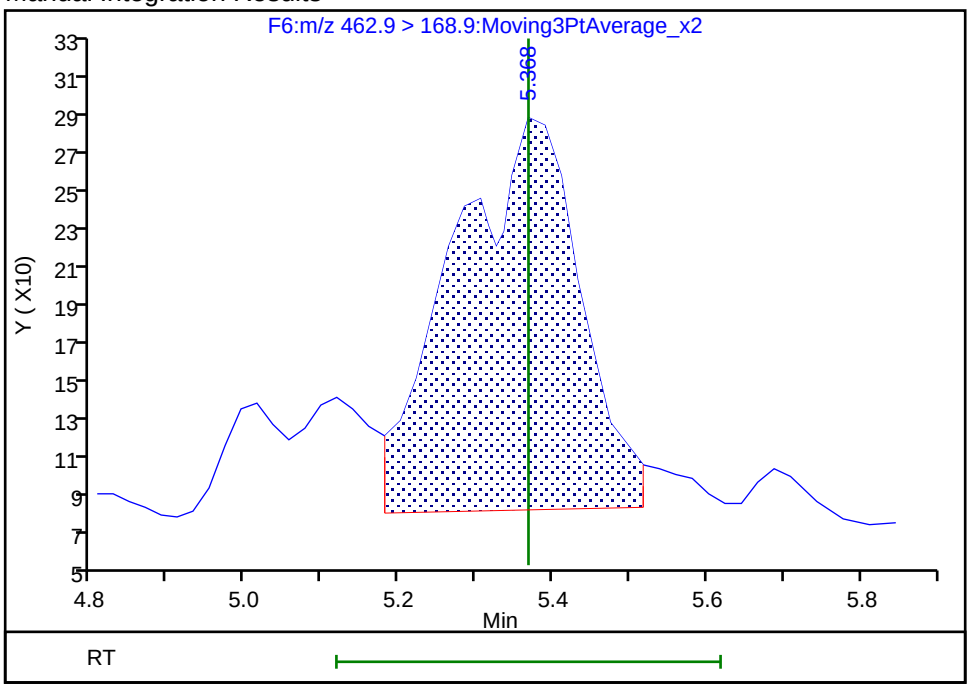
Processing Integration Results

RT: 5.31
Area: 2523
Amount: 0.483751
Amount Units: ng/ml



Manual Integration Results

RT: 5.37
Area: 2353
Amount: 0.661637
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:33:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

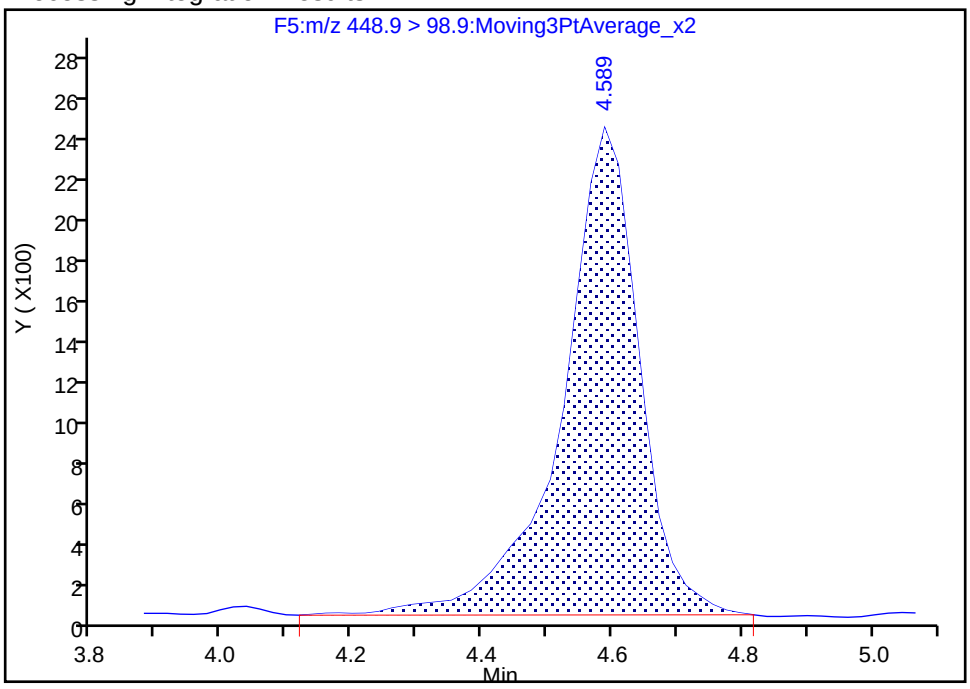
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 2

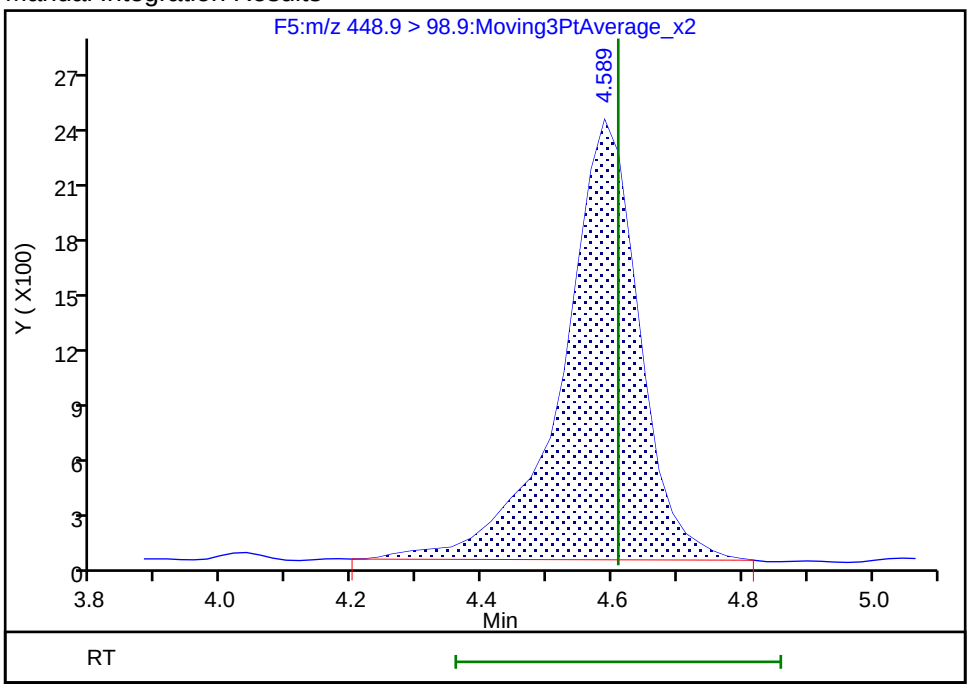
Processing Integration Results

RT: 4.59
Area: 19447
Amount: 5.930641
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 19271
Amount: 5.930641
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:33:05
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

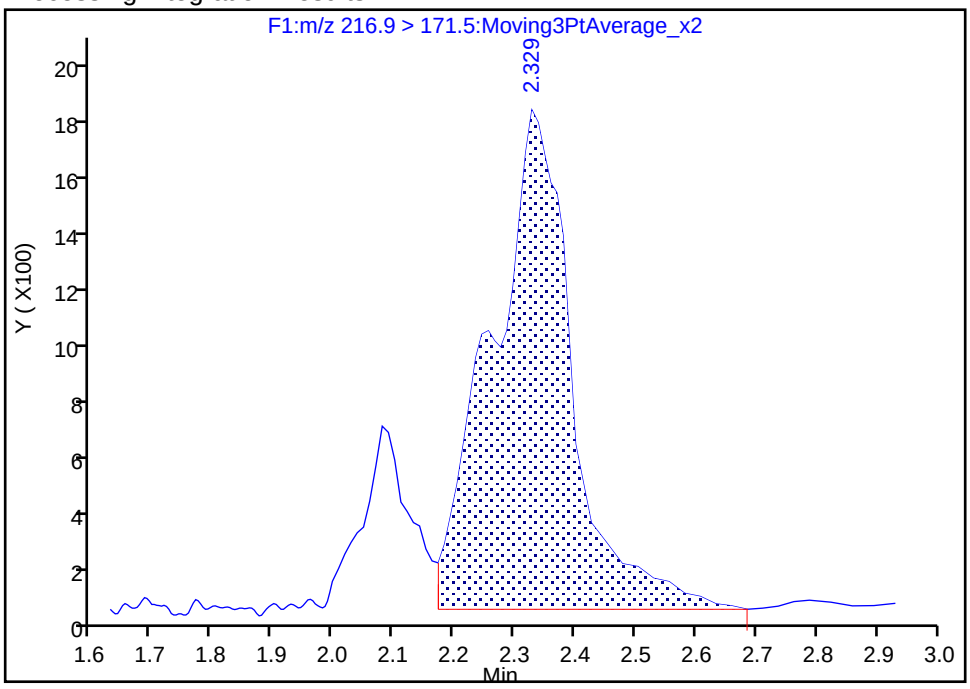
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

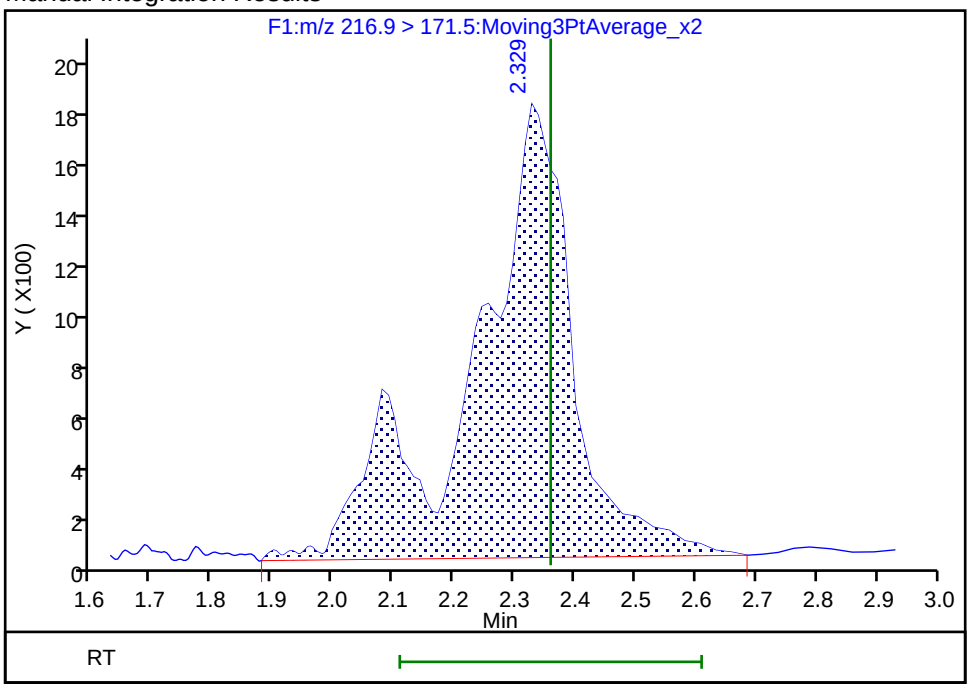
Processing Integration Results

RT: 2.33
Area: 16391
Amount: 2.403773
Amount Units: ng/ml



Manual Integration Results

RT: 2.33
Area: 20503
Amount: 2.942635
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:30:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

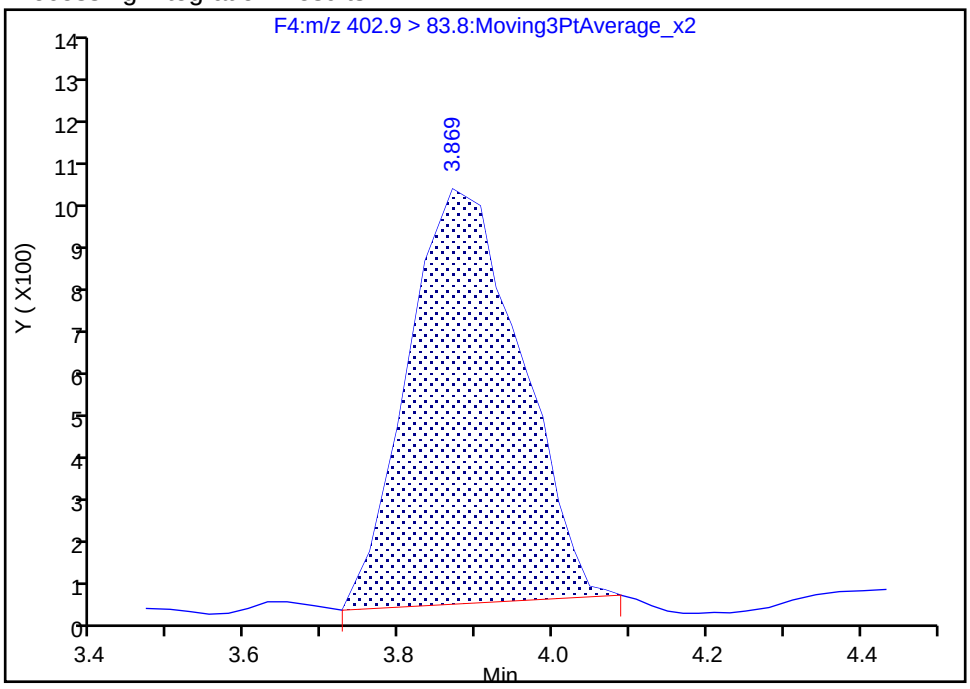
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

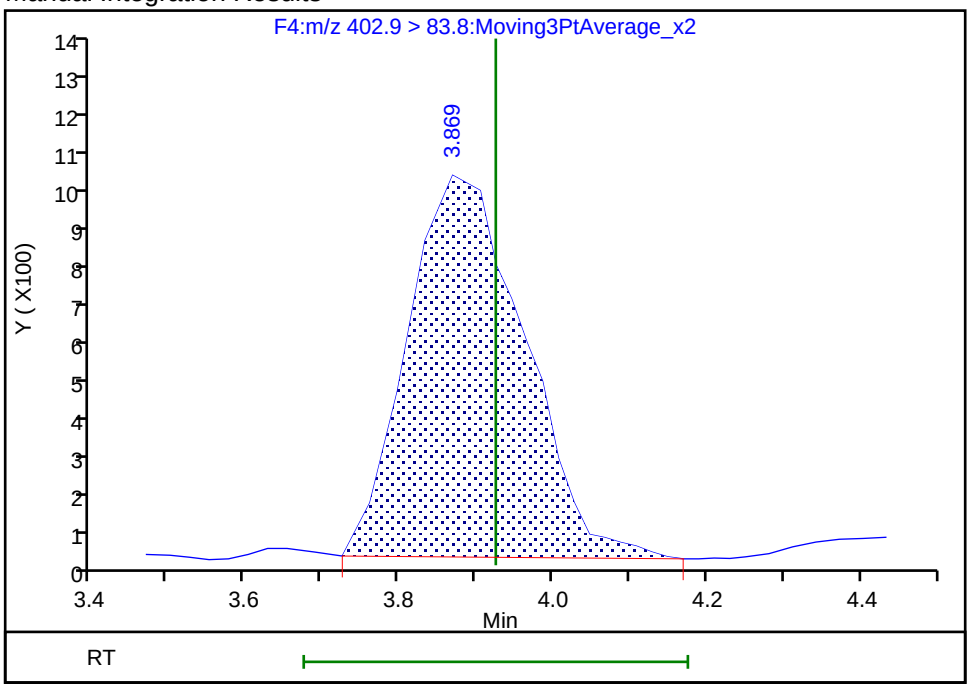
Processing Integration Results

RT: 3.87
Area: 9561
Amount: 3.324003
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 10081
Amount: 3.429989
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:32:47

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

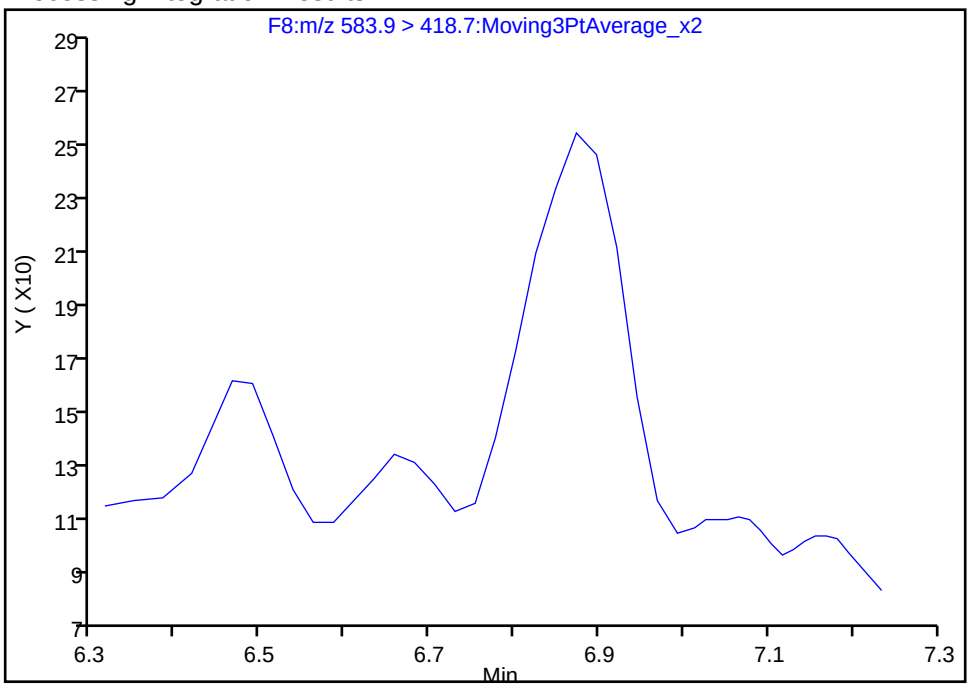
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

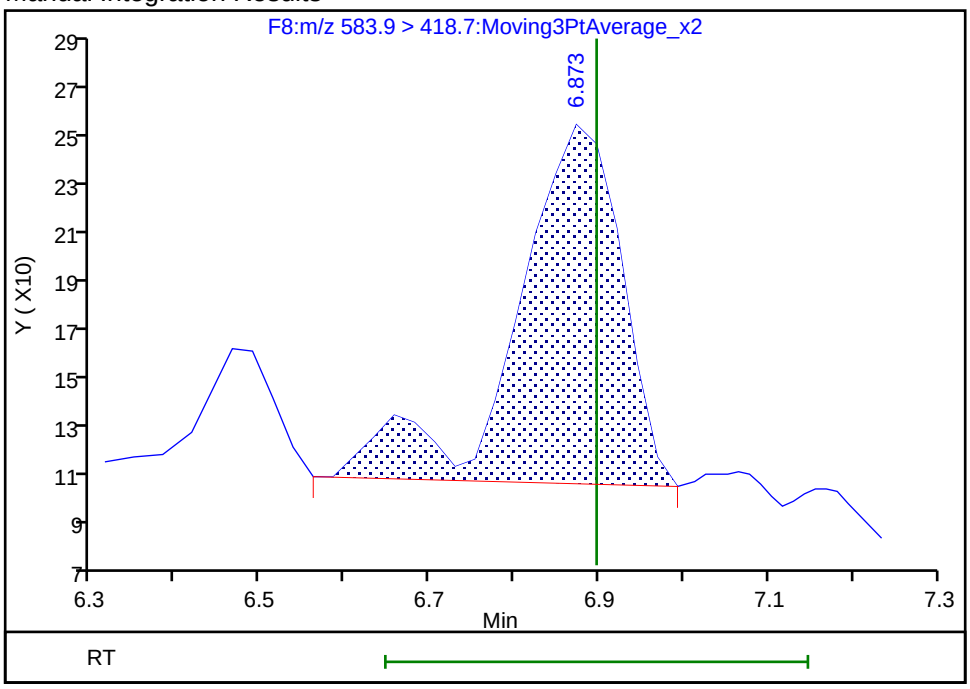
Not Detected
Expected RT: 6.90

Processing Integration Results



Manual Integration Results

RT: 6.87
Area: 1262
Amount: 0.352863
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:35:19
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

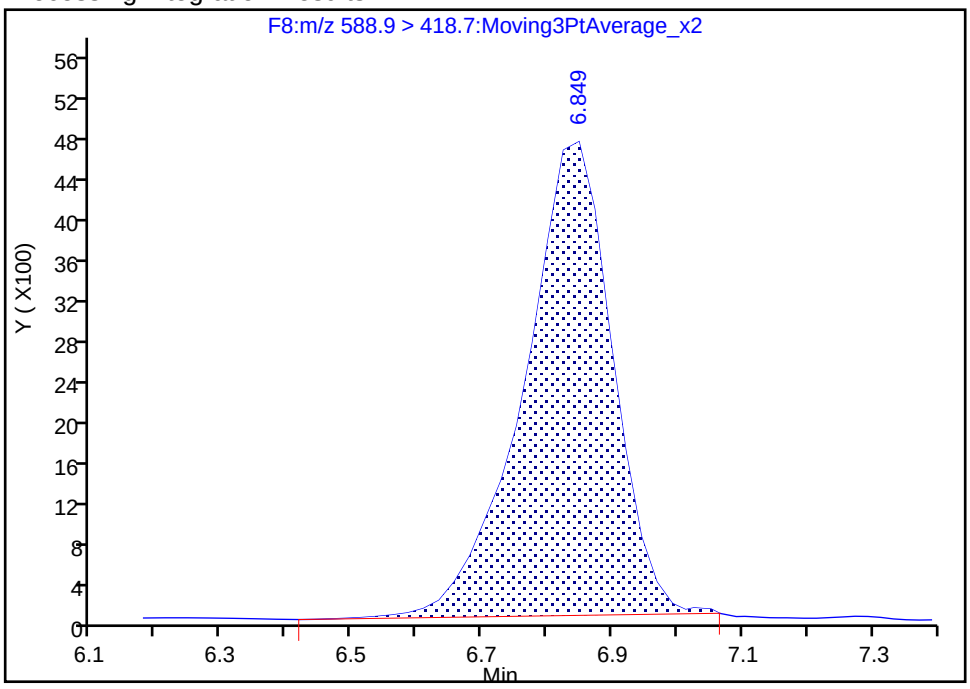
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 29 d5-NEtFOSAA, CAS: STL02117

Signal: 1

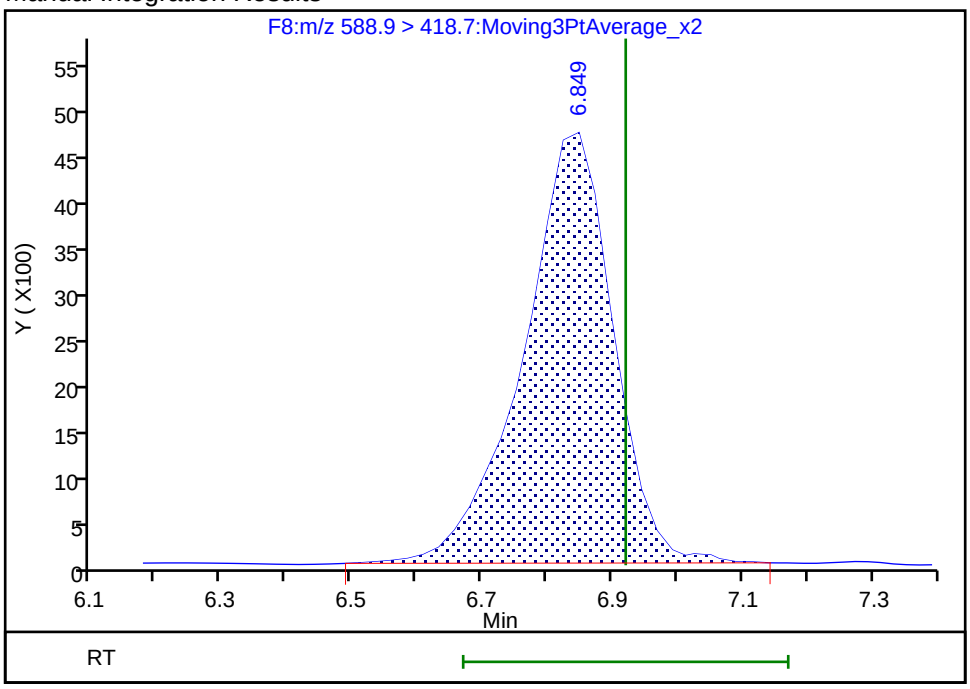
Processing Integration Results

RT: 6.85
Area: 43685
Amount: 5.134796
Amount Units: ng/ml



Manual Integration Results

RT: 6.85
Area: 44412
Amount: 5.220249
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:33:49
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

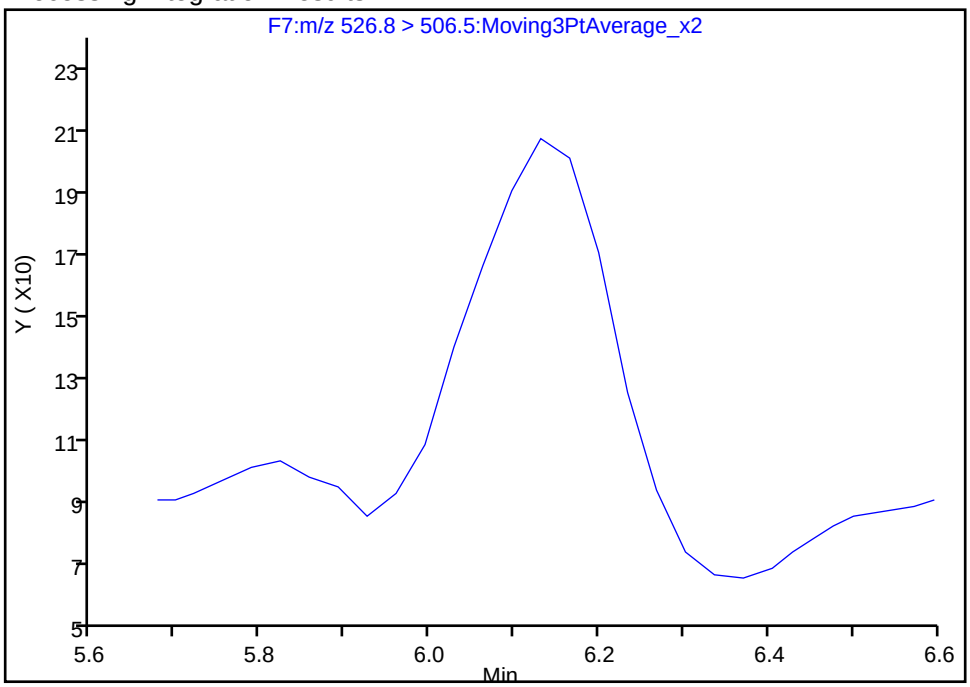
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

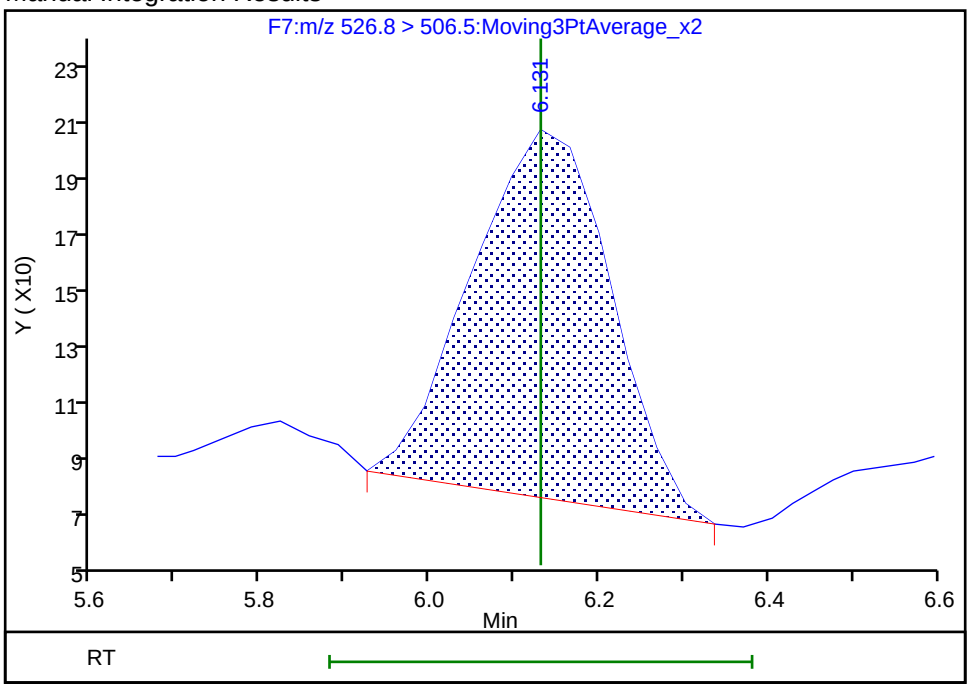
Not Detected
Expected RT: 6.13

Processing Integration Results



Manual Integration Results

RT: 6.13
Area: 1436
Amount: 0.485584
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:35:29
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

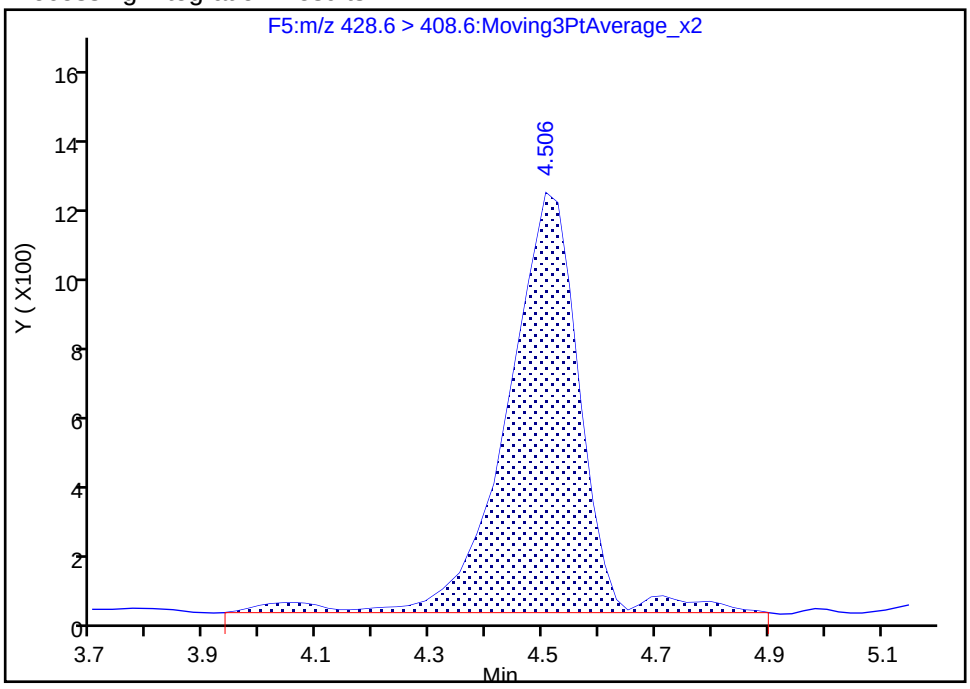
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

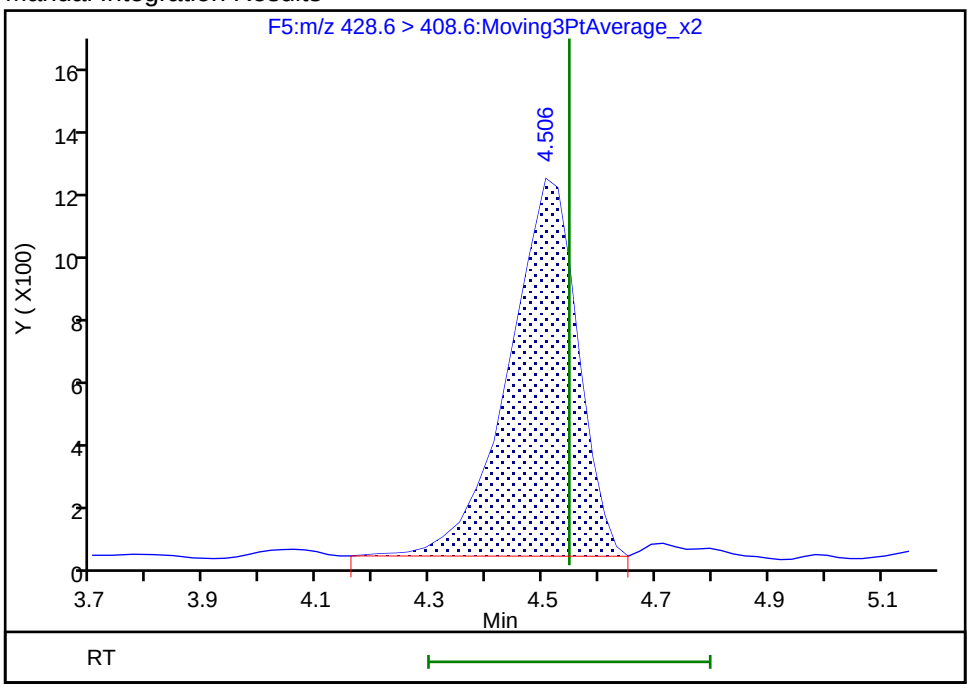
Processing Integration Results

RT: 4.51
Area: 10375
Amount: 6.677705
Amount Units: ng/ml



Manual Integration Results

RT: 4.51
Area: 9619
Amount: 6.058987
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:32:51

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

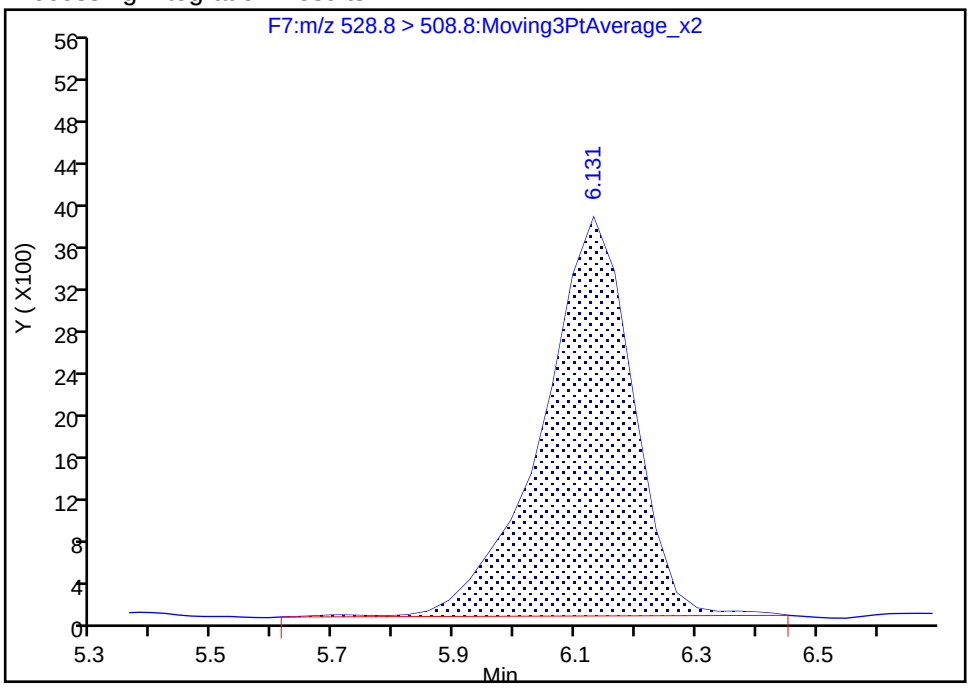
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 24 M2-8:2 FTS, CAS: STL02280

Signal: 1

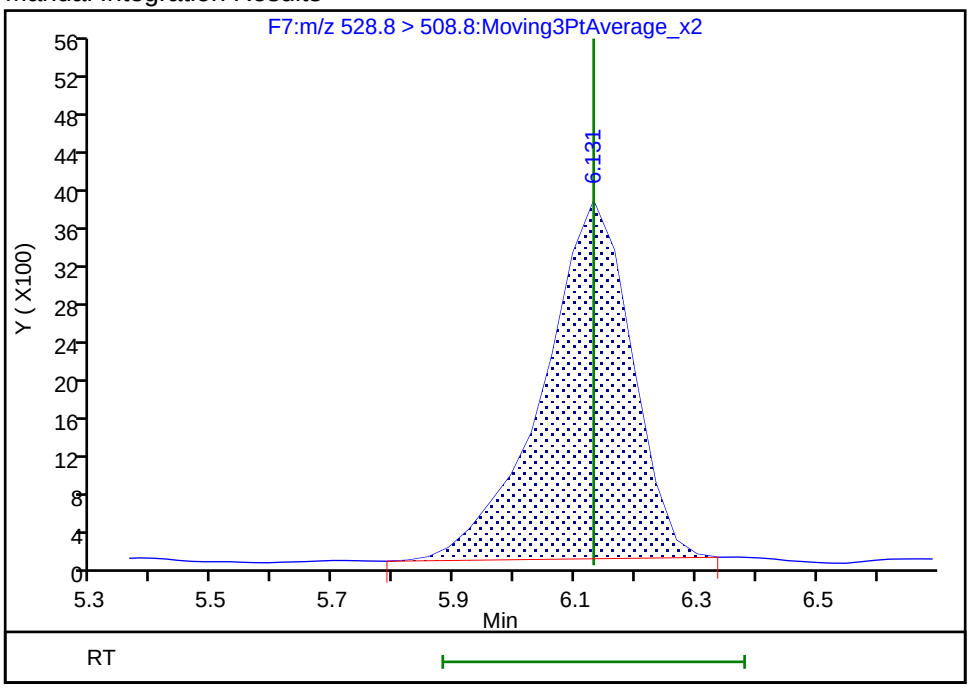
Processing Integration Results

RT: 6.13
Area: 39450
Amount: 6.832794
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 38411
Amount: 6.652838
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:33:38

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

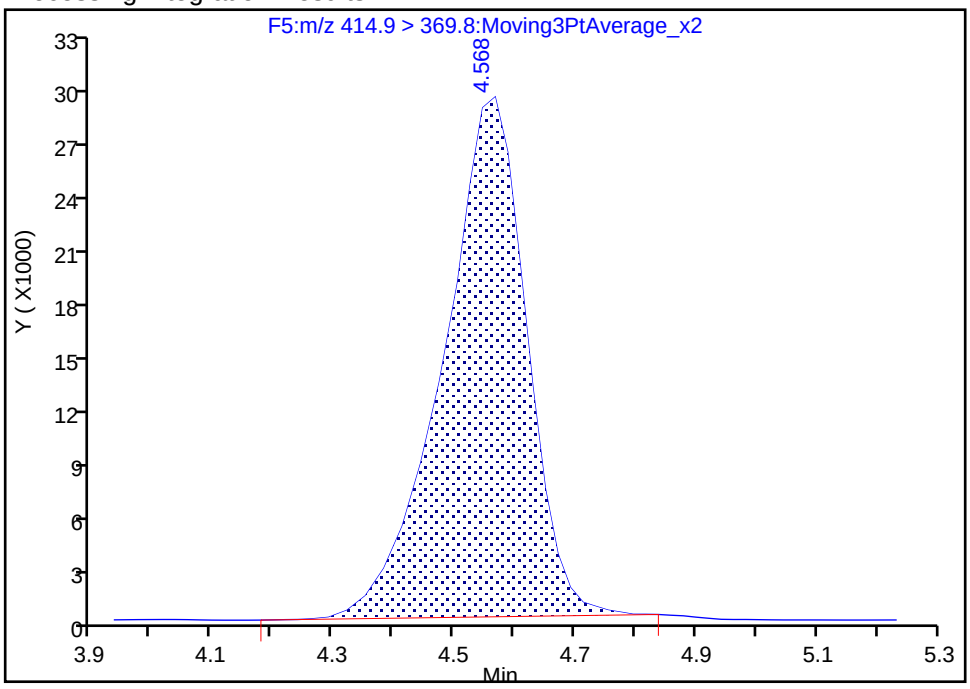
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B09.d				
Injection Date:	05-Jun-2019 03:26:39	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

* 16 13C2 PFOA, CAS: STL00623

Signal: 1

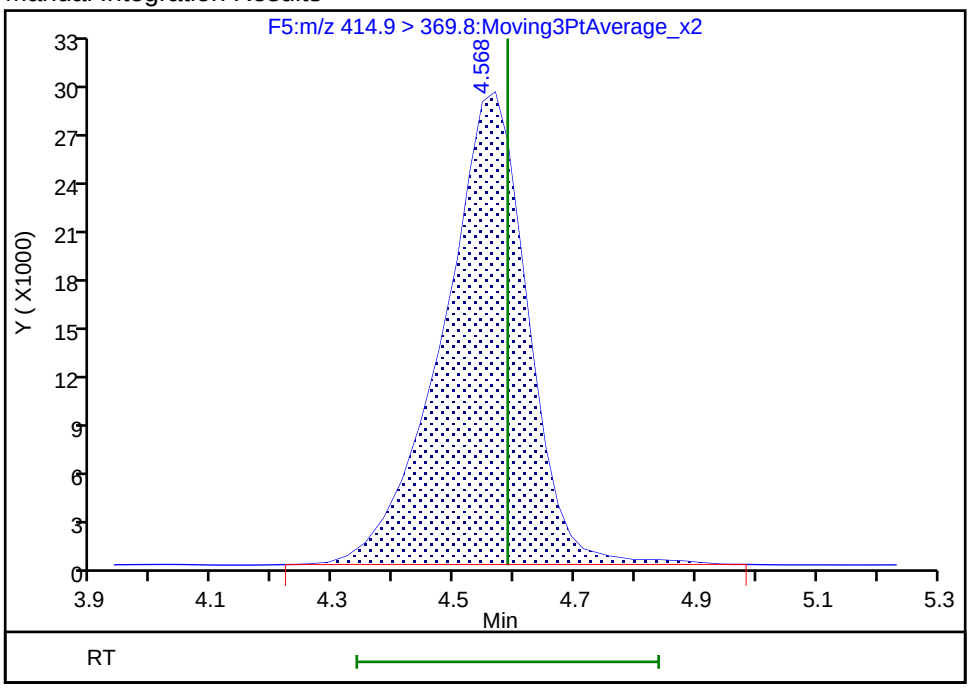
Processing Integration Results

RT: 4.57
Area: 278852
Amount: 10.000000
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 284933
Amount: 10.000000
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:32:56

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-3 051419 Lab Sample ID: 200-48826-7

Matrix: Water Lab File ID: PF060619A09.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 11:28

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 290.7(mL) Date Analyzed: 06/06/2019 14:31

Con. Extract Vol.: 0.5(mL) Dilution Factor: 10

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1900	B *	17	5.2

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	67		50-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A09.d
Lims ID: 200-48826-A-7-A
Client ID: VEW-3 051419
Sample Type: Client
Inject. Date: 06-Jun-2019 14:31:57 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 10.0000
Sample Info: 200-0036227009 7
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:18:10 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 07-Jun-2019 14:24:35
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
216.9 > 171.5	2.349	2.349	0.0	1.000	26309	3.77		75.5	40.2	
2 Perfluorobutanoic acid										
212.9 > 168.9	2.504	2.360	0.144	1.066	70574	8.54			41.2	
D 4 13C5 PFPeA										
267.7 > 222.6	2.795	2.830	-0.035	1.000	20806	3.93		78.7	44.7	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.795	2.830	-0.035	1.000	3479	0.2792			1.2	
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.901	-0.035	1.000	11305	4.91		106	45.0	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.302	0.0	1.000	38934	2.45		49.1	160	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.869	0.0	1.000	13255	0.8476	Target=2.84		6.2	
362.9 > 168.9	3.869	3.869	0.0	1.000	6384		2.08(1.42-4.26)		34.7	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	66625	2.98		59.6	232	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.905	3.905	0.0	1.000	11629	2.03	Target=1.34		81.4	
398.9 > 98.9	3.905	3.905	0.0	1.000	7774		1.50(0.67-2.01)		45.0	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	12819	4.36		92.2	59.6	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.506	4.526	-0.020	1.000	4862	3.06		64.4	50.1	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.547	0.0	1.000	80363	2.90		58.1	345	
* 16 13C2 PFOA										s
414.9 > 369.8	4.547	4.568	-0.021		142545	5.00			639	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
412.9 > 368.8	4.547	4.568	-0.021	1.000	151793	9.33	Target=2.43		62.8	
412.9 > 168.9	4.547	4.568	-0.021	1.000	60194		2.52(1.22-3.64)		43.9	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.568	4.589	-0.021	0.858	15047	3.88	Target=1.30		64.5	
448.9 > 98.9	4.568	4.589	-0.021	1.000	10791		1.39(0.65-1.95)		57.7	
D 20 13C5 PFNA										
467.8 > 422.8	5.326	5.336	-0.010	1.000	89329	2.41		48.1	407	
19 Perfluorononanoic acid										
462.9 > 418.7	5.326	5.336	-0.010	1.000	5346	0.3389	Target=5.00		23.2	
462.9 > 168.9	5.347	5.336	0.011	1.004	1444		3.70(2.50-7.50)		10.7	
D 22 13C4 PFOS										M
502.9 > 80.0	5.326	5.336	-0.010	1.000	21292	3.21		67.2	119	M
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.326	5.336	-0.010	1.000	468997	109.0	Target=1.41		733	M
498.9 > 98.9	5.326	5.336	-0.010	1.000	348578		1.35(0.71-2.12)		2464	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.097	0.0	1.000	20474	3.54		74.0	111	
D 25 13C2 PFDA										
514.9 > 469.5	6.097	6.131	-0.034	1.000	97289	3.07		61.4	299	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.453	6.477	-0.024	1.000	20604	2.00		39.9	219	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.801	6.849	-0.048	1.000	17362	2.04		40.8	121	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.897	-0.024	1.000	101023	3.30		66.1	637	
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.945	0.0	1.000	34715	3.04		60.8	149	
D 37 13C2 PFDoA										
614.9 > 569.5	7.557	7.577	-0.020	1.000	101706	2.61		52.2	392	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.730	8.741	-0.011	1.000	73290	2.09		41.9	243	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

Report Date: 10-Jun-2019 10:18:34 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A09.d

Injection Date: 06-Jun-2019 14:31:57 Instrument ID: LC410

Lims ID: 200-48826-A-7-A Lab Sample ID: 200-48826-7

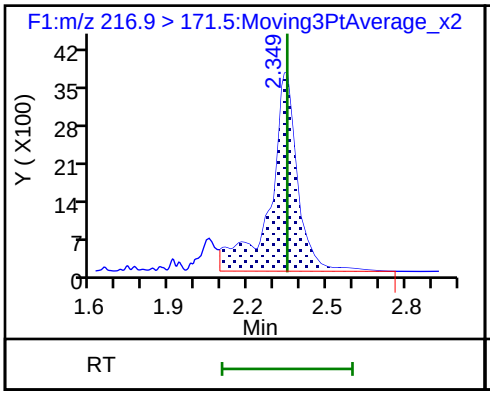
Client ID: VEW-3 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9

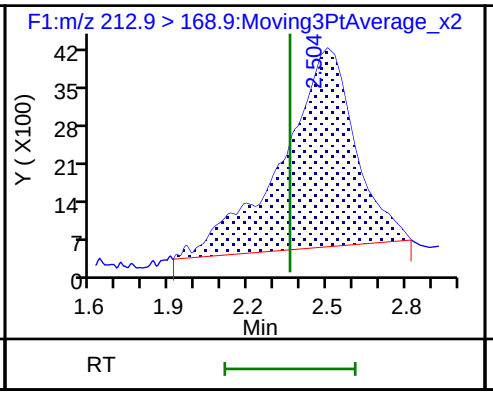
Injection Vol: 20.0 ul Dil. Factor: 10.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

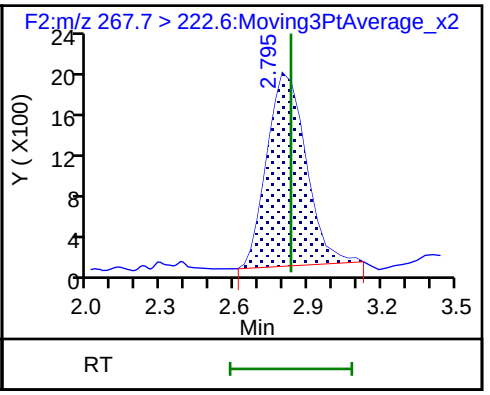
D 1 13C4 PFBA



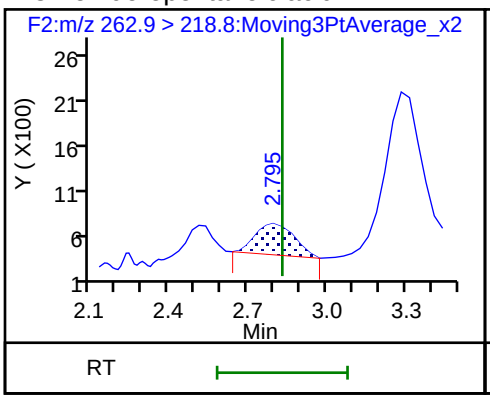
2 Perfluorobutanoic acid



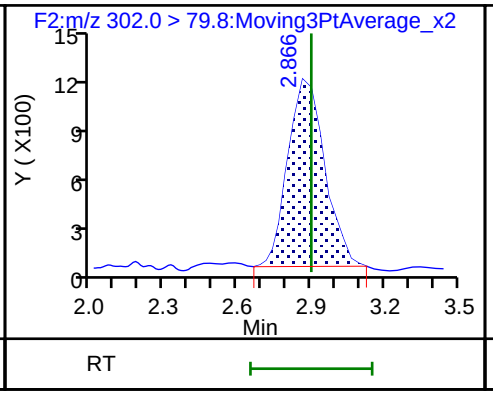
D 4 13C5 PFPeA



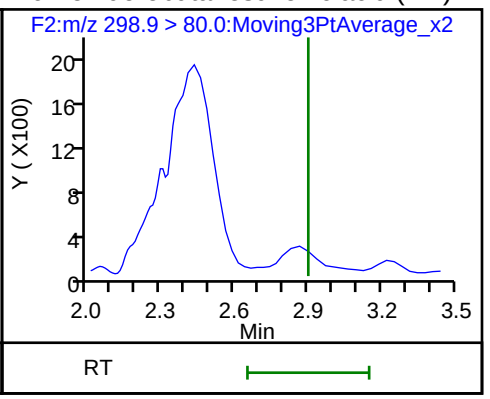
3 Perfluoropentanoic acid



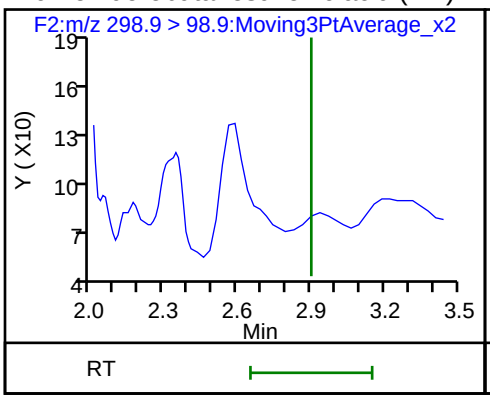
D 5 13C3 PFBS



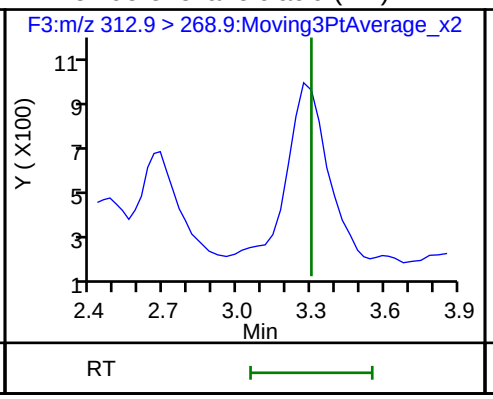
6 Perfluorobutanesulfonic acid (ND)



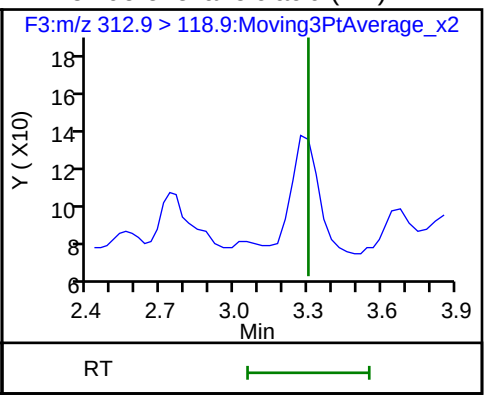
6 Perfluorobutanesulfonic acid (ND)



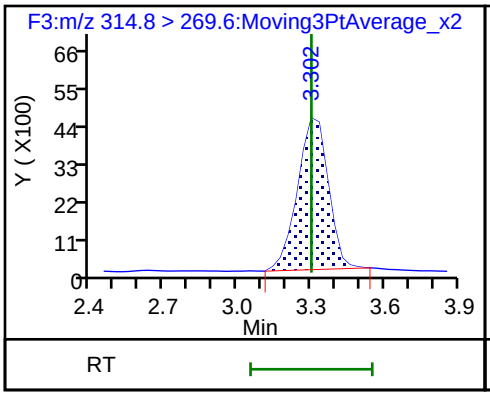
7 Perfluorohexanoic acid (ND)



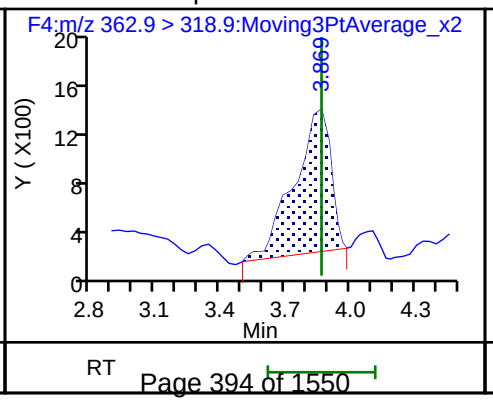
7 Perfluorohexanoic acid (ND)



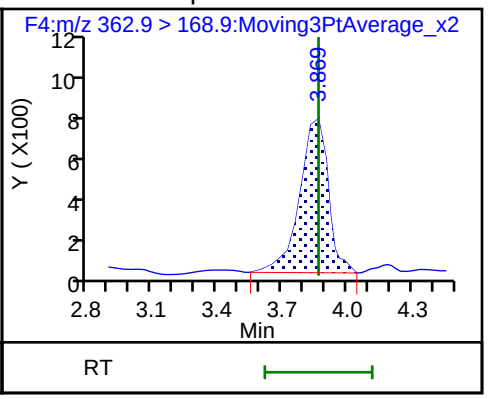
D 8 13C2 PFHxA



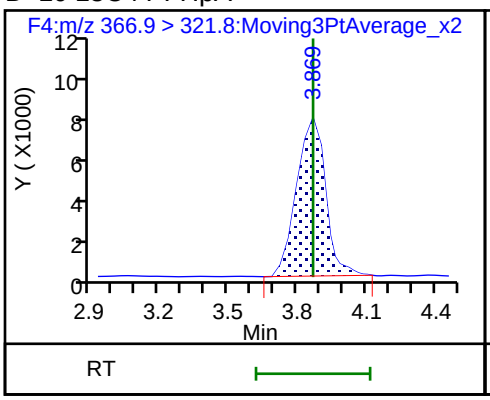
9 Perfluoroheptanoic acid



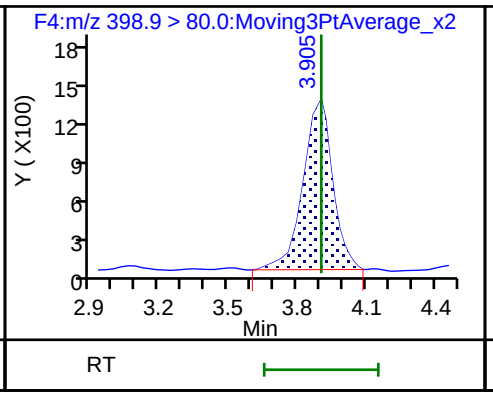
9 Perfluoroheptanoic acid



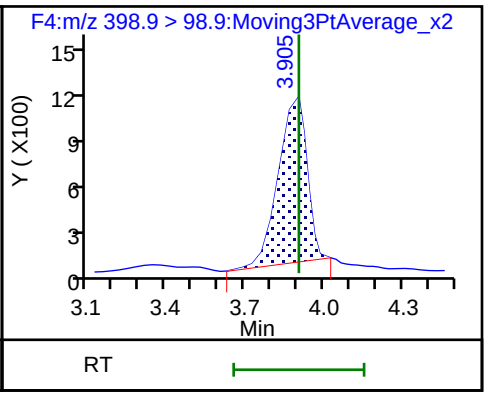
D 10 13C4 PFHpA



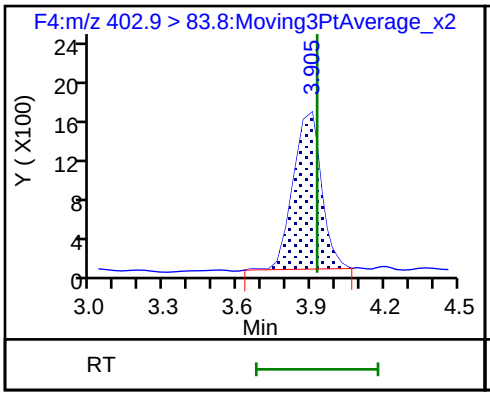
11 Perfluorohexanesulfonic acid



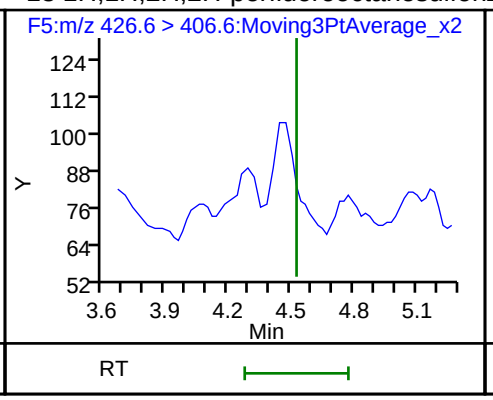
11 Perfluorohexanesulfonic acid



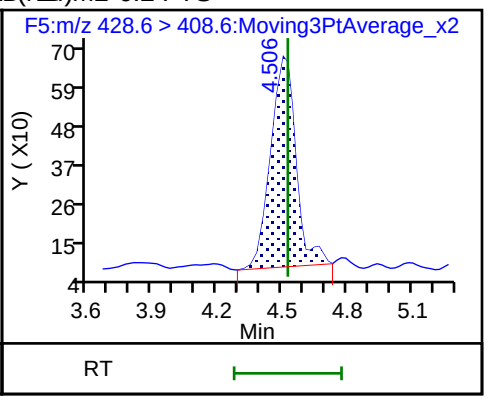
D 12 18O2 PFHxS



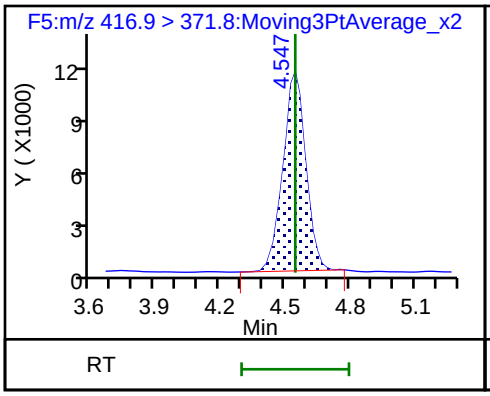
13 1H,1H,2H,2H-perfluorooctanesulfonic(M4)



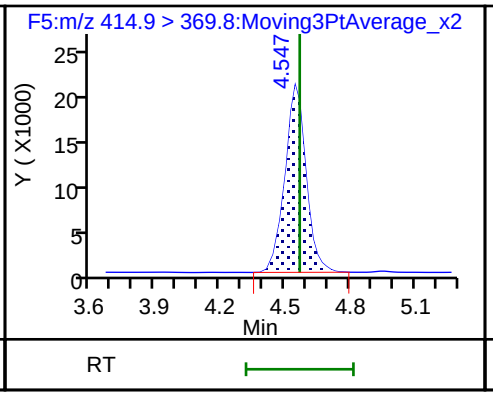
D(M4)M2-6:2 FTS



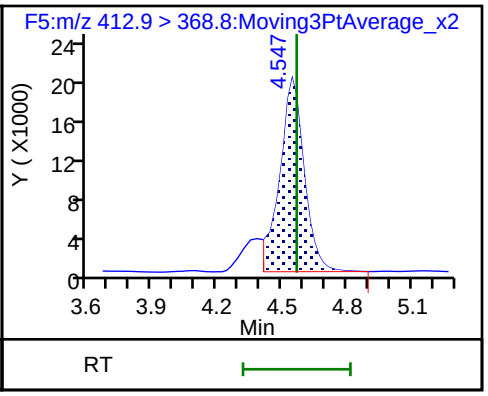
D 17 13C4 PFOA



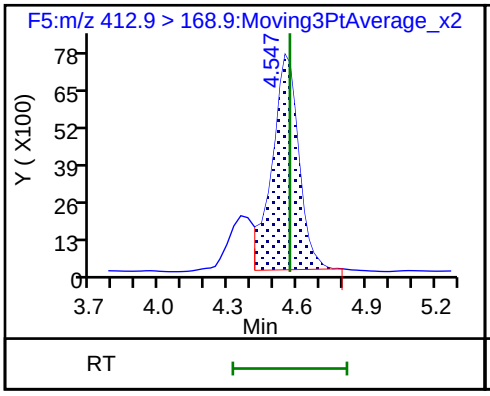
* 16 13C2 PFOA



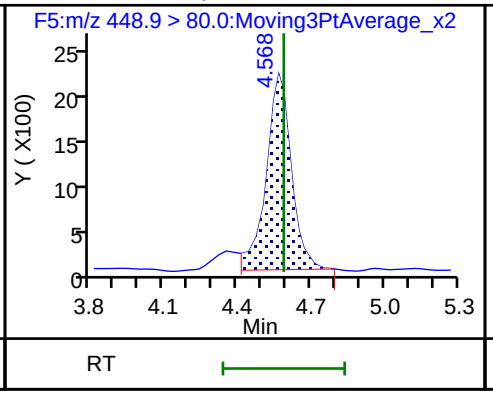
15 Perfluorooctanoic acid



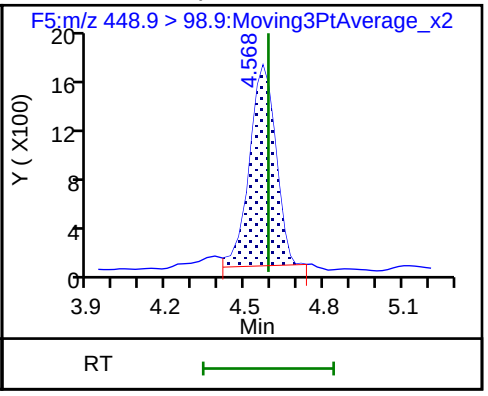
15 Perfluorooctanoic acid



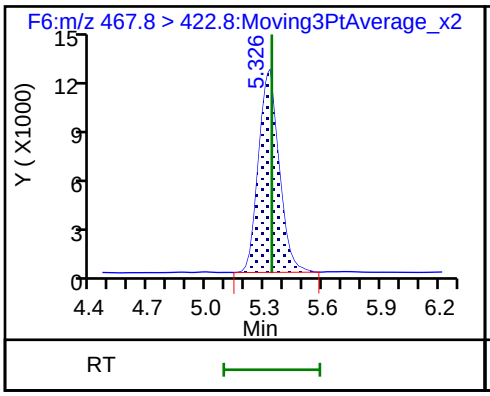
18 Perfluoroheptanesulfonic acid



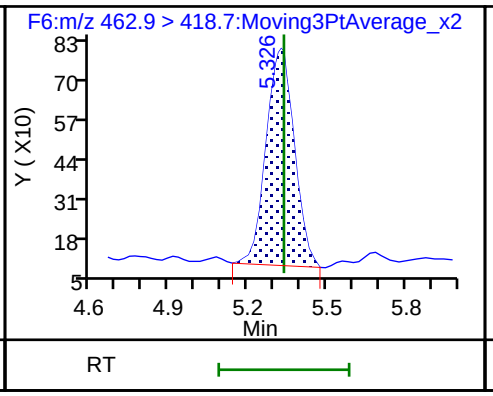
18 Perfluoroheptanesulfonic acid



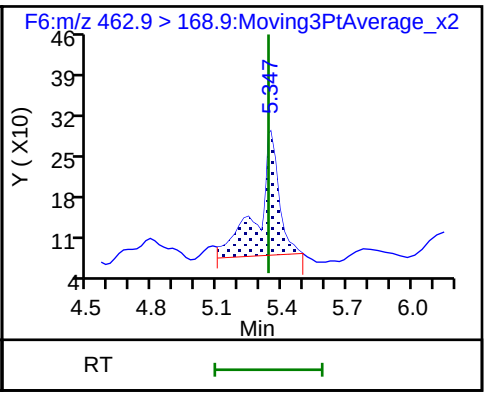
D 20 13C5 PFNA



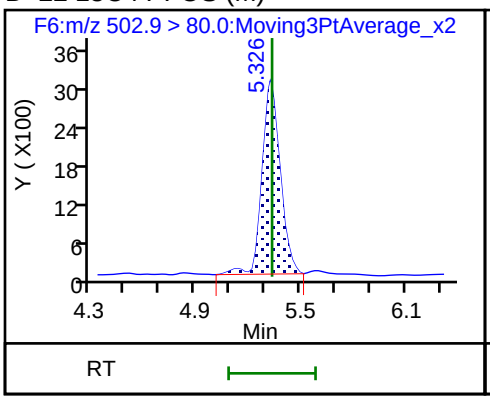
19 Perfluorononanoic acid



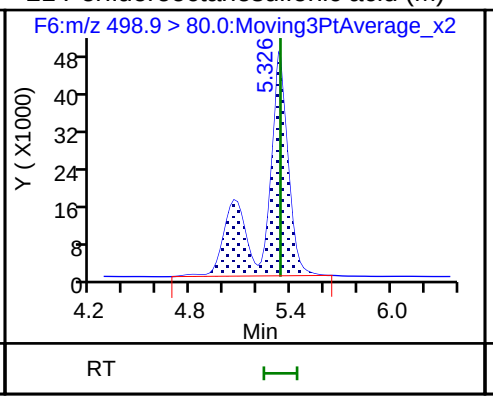
19 Perfluorononanoic acid



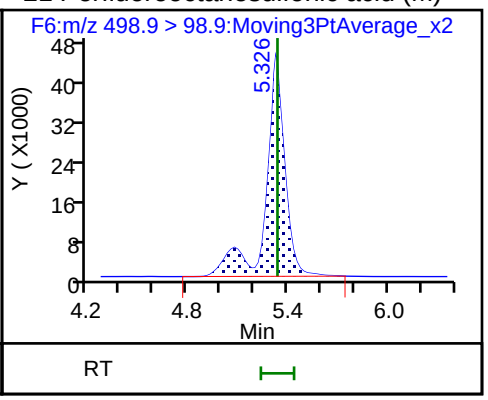
D 22 13C4 PFOS (M)



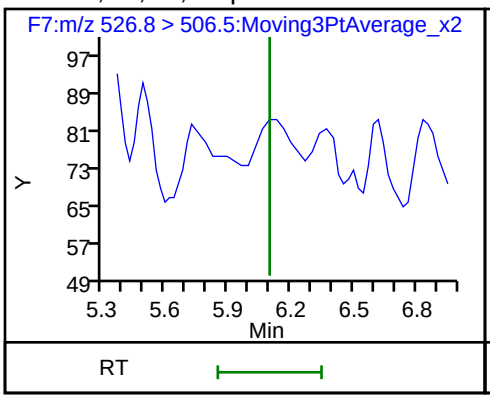
21 Perfluorooctanesulfonic acid (M)



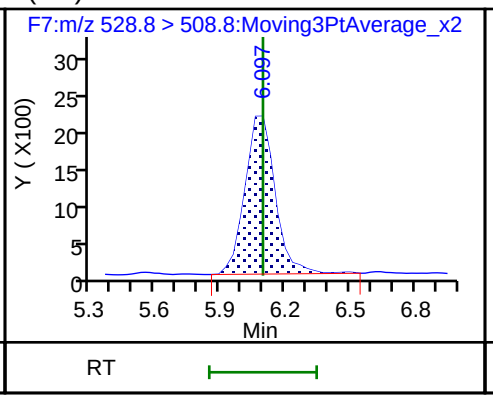
21 Perfluorooctanesulfonic acid (M)



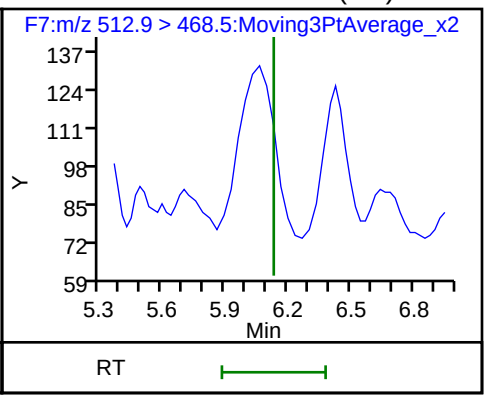
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



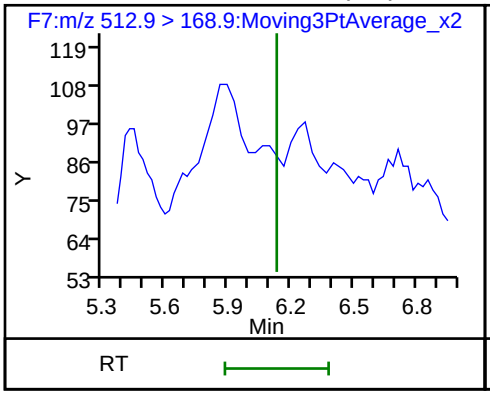
D 24 M2-8:2 FTS



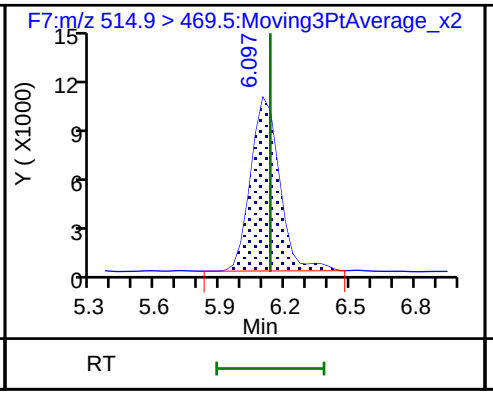
26 Perfluorodecanoic acid (ND)



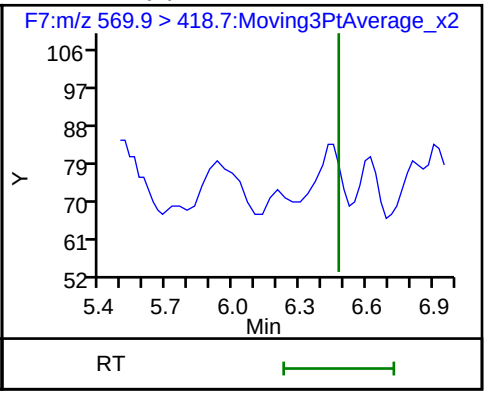
26 Perfluorodecanoic acid (ND)



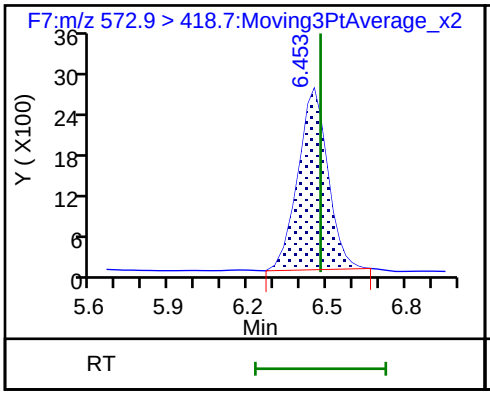
D 25 13C2 PFDA



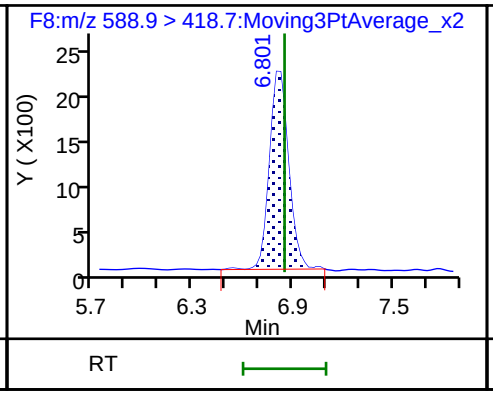
28 N-methylperfluorooctanesulfonamido (ND)



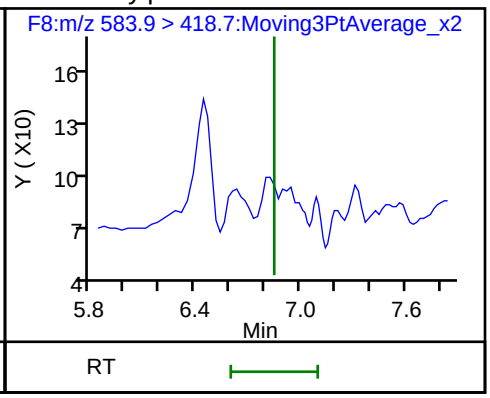
D 27 d3-NMeFOSAA



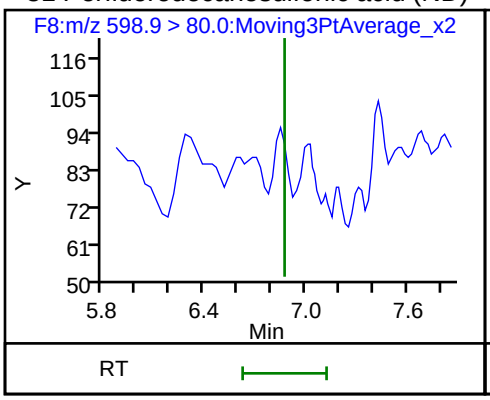
D 29 d5-NEtFOSAA



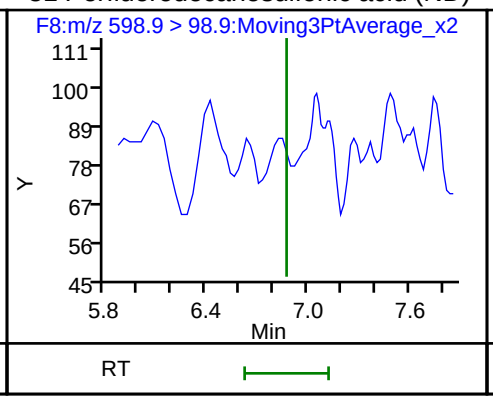
30 N-ethylperfluorooctanesulfonamidoa (ND)



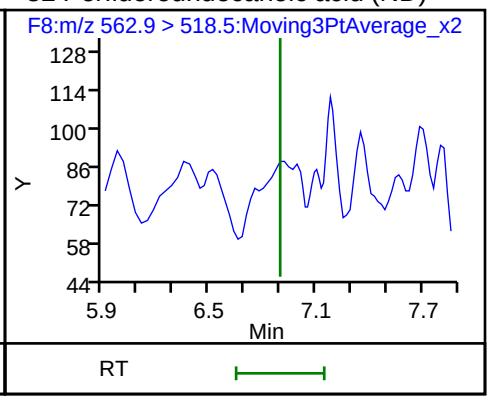
31 Perfluorodecanesulfonic acid (ND)



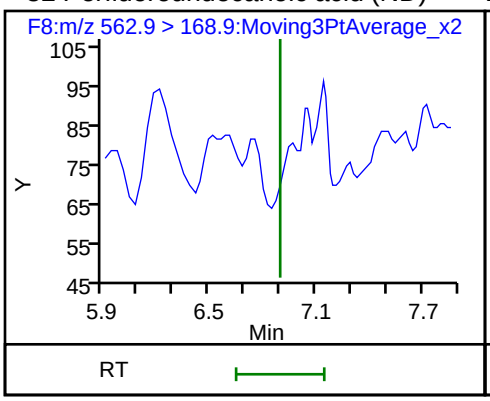
31 Perfluorodecanesulfonic acid (ND)



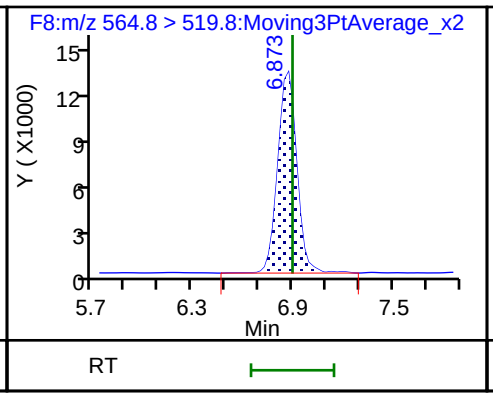
32 Perfluoroundecanoic acid (ND)



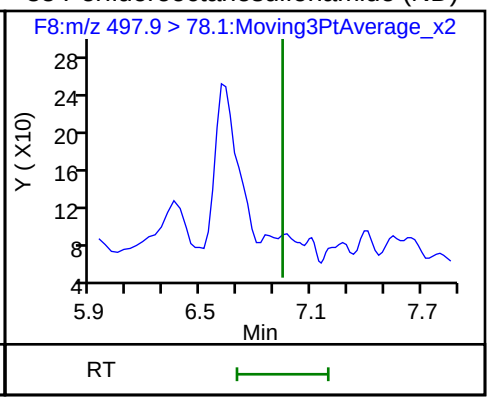
32 Perfluoroundecanoic acid (ND)



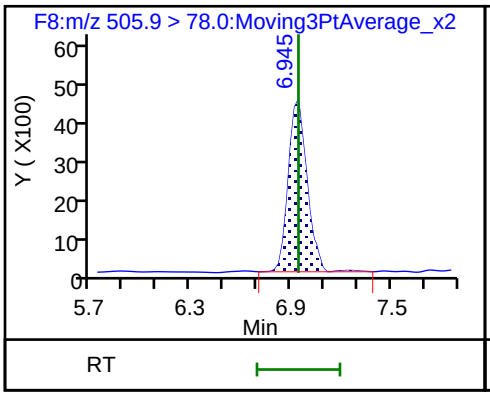
D 33 13C2 PFUnA



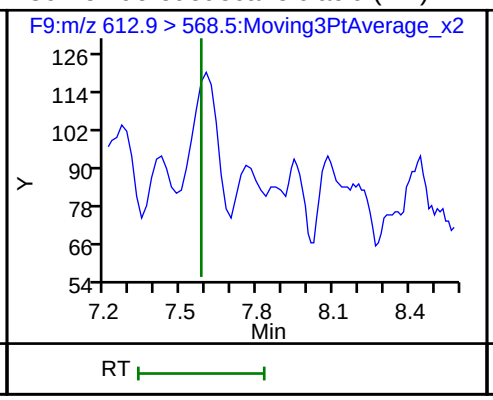
35 Perfluorooctanesulfonamide (ND)



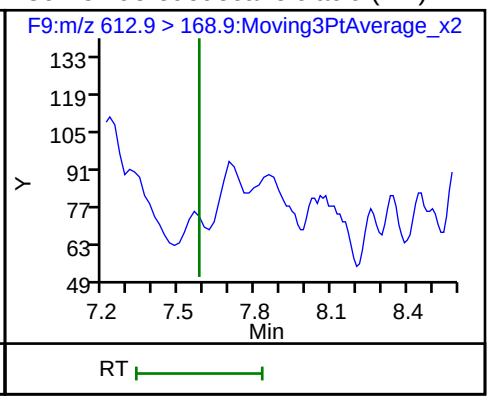
D 34 13C8 FOSA



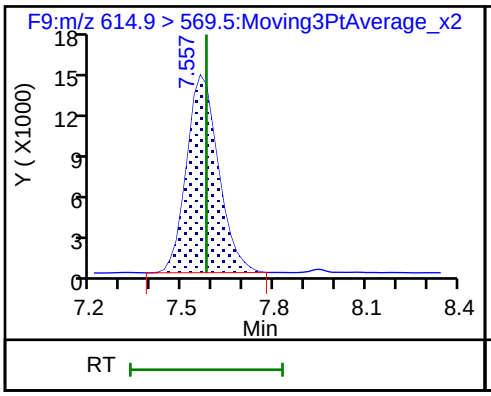
36 Perfluorododecanoic acid (ND)



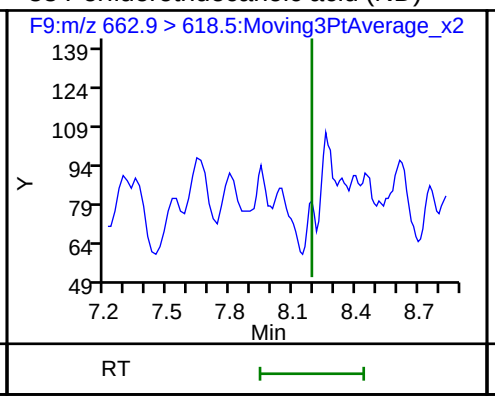
36 Perfluorododecanoic acid (ND)



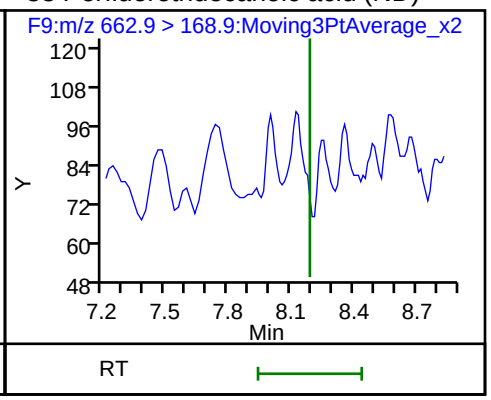
D 37 13C2 PFDoA



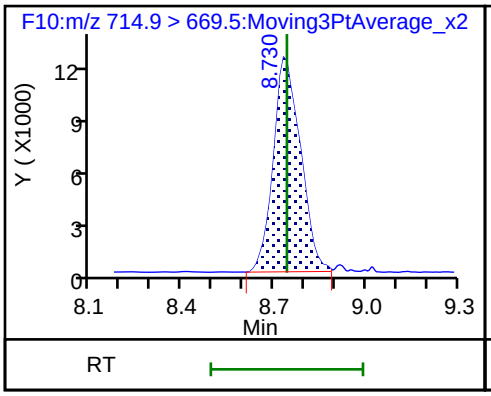
38 Perfluorotridecanoic acid (ND)



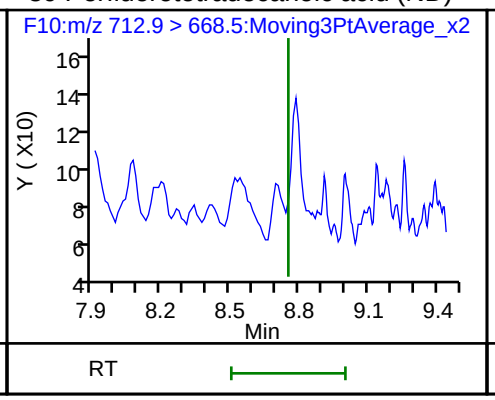
38 Perfluorotridecanoic acid (ND)



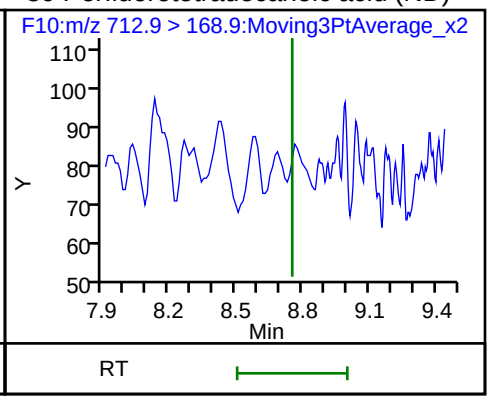
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

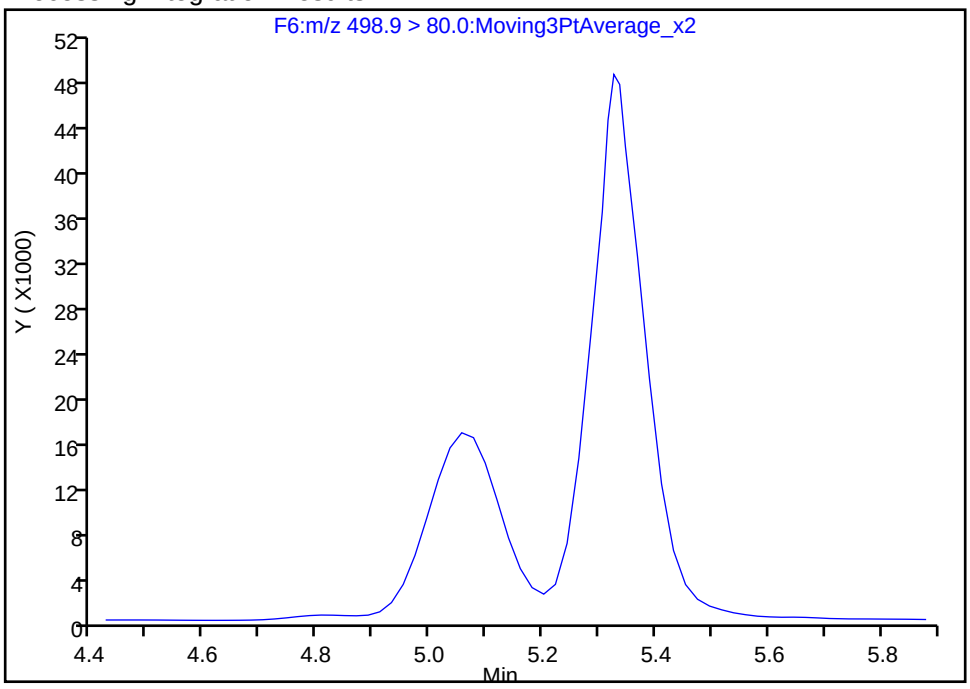
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A09.d				
Injection Date:	06-Jun-2019 14:31:57	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

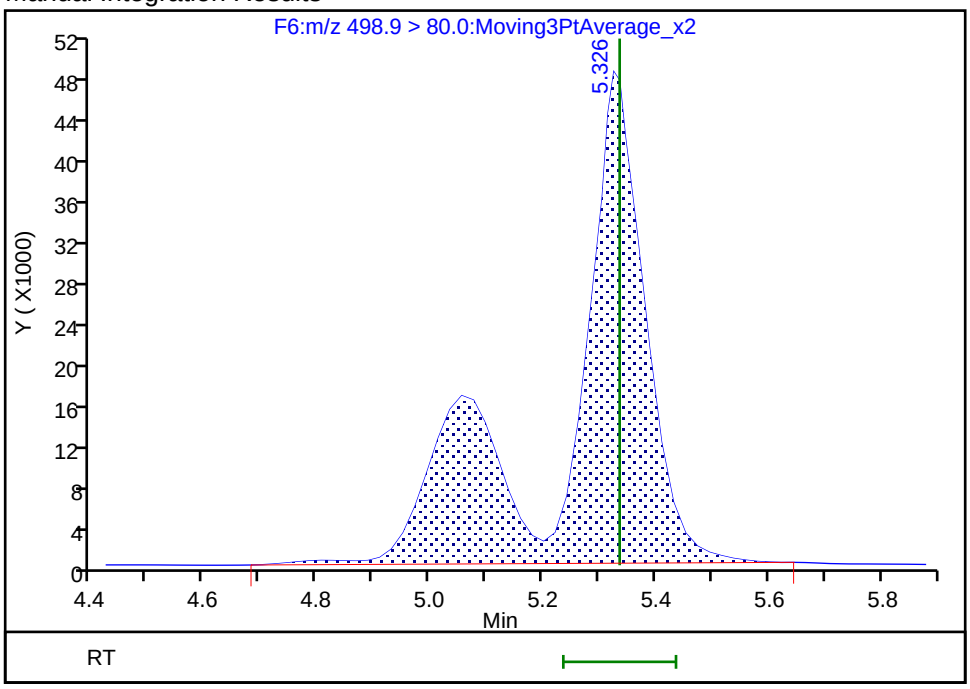
Processing Integration Results

Not Detected
Expected RT: 5.34



Manual Integration Results

RT: 5.33
Area: 468997
Amount: 109.0265
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 14:24:11
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

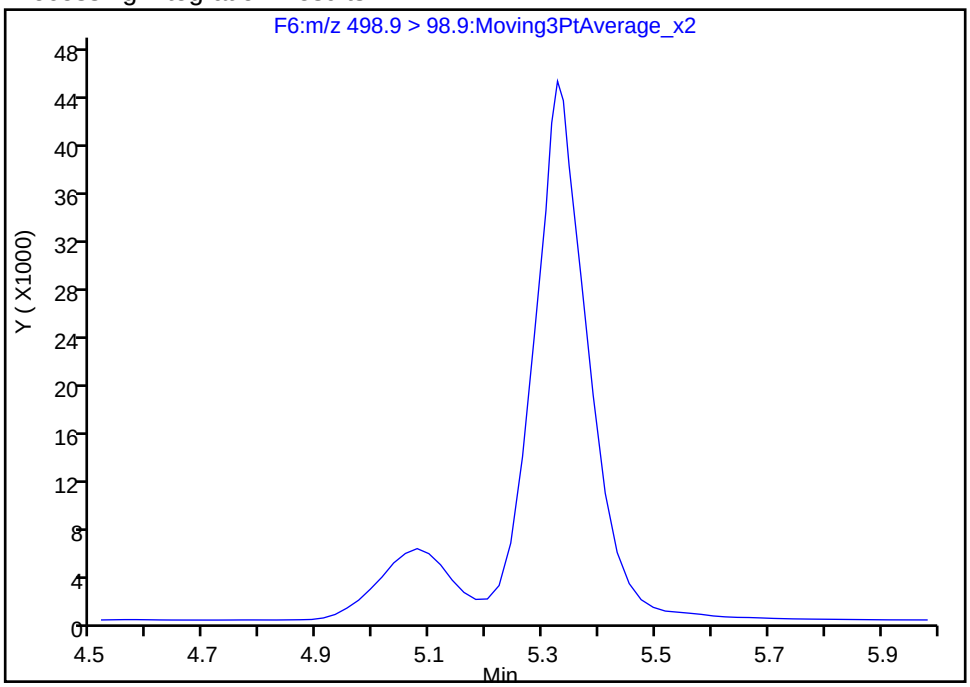
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A09.d				
Injection Date:	06-Jun-2019 14:31:57	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

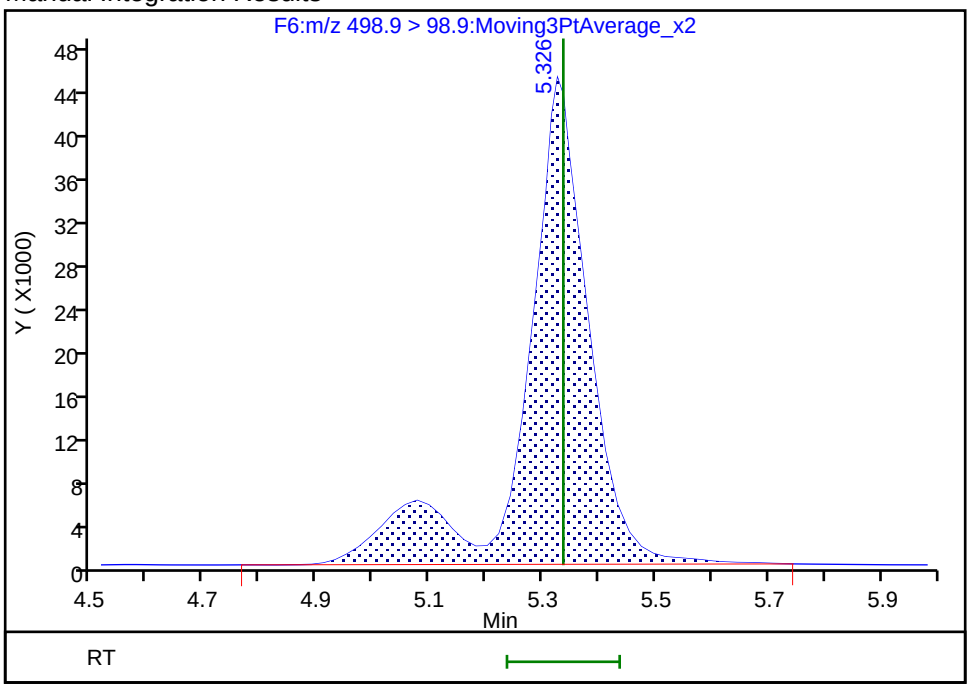
Processing Integration Results

Not Detected
Expected RT: 5.34



Manual Integration Results

RT: 5.33
Area: 348578
Amount: 109.0265
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 14:24:15
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

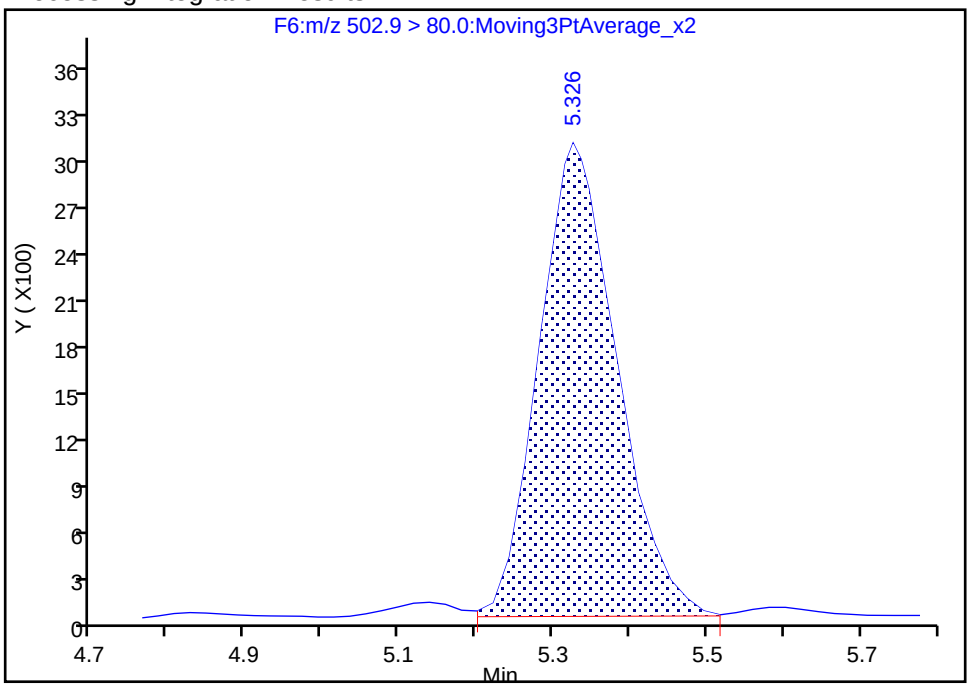
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A09.d				
Injection Date:	06-Jun-2019 14:31:57	Instrument ID:	LC410		
Lims ID:	200-48826-A-7-A	Lab Sample ID:	200-48826-7		
Client ID:	VEW-3 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

D 22 13C4 PFOS, CAS: STL00991

Signal: 1

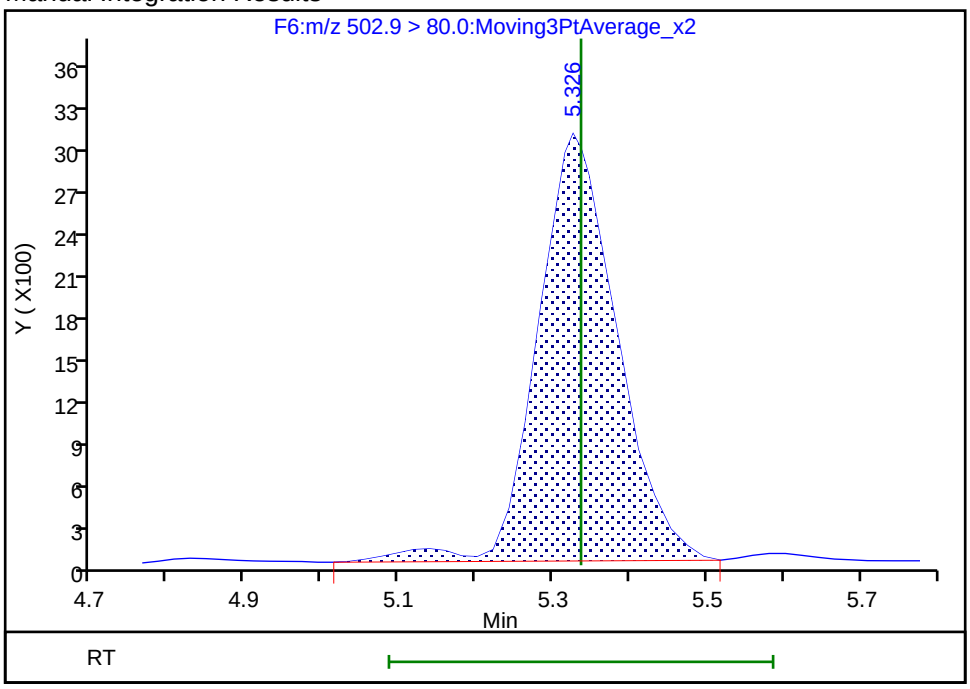
Processing Integration Results

RT: 5.33
Area: 20857
Amount: 3.145342
Amount Units: ng/ml



Manual Integration Results

RT: 5.33
Area: 21292
Amount: 3.210942
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 14:24:31

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-4 051419 Lab Sample ID: 200-48826-8

Matrix: Water Lab File ID: PF060419B10.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 12:22

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.2(mL) Date Analyzed: 06/05/2019 03:42

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.2	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	22		8.2	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	14		8.2	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	26		8.2	3.7
335-67-1	Perfluorooctanoic acid (PFOA)	110		8.2	2.6
375-95-1	Perfluorononanoic acid (PFNA)	9.6		8.2	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.2	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.2	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		8.2	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	29		8.2	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	21		8.2	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		82	7.0
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		82	6.1
27619-97-2	6:2 FTS	ND		82	19
39108-34-4	8:2 FTS	ND		82	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-4 051419 Lab Sample ID: 200-48826-8

Matrix: Water Lab File ID: PF060419B10.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 12:22

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.2(mL) Date Analyzed: 06/05/2019 03:42

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	21	*	25-150
STL00992	13C4 PFBA	23	*	25-150
STL01893	13C5 PFPeA	29		25-150
STL00993	13C2 PFHxA	33	*	50-150
STL01892	13C4 PFHpA	47	*	50-150
STL00990	13C4 PFOA	60		50-150
STL00995	13C5 PFNA	52		50-150
STL00996	13C2 PFDA	61		50-150
STL00997	13C2 PFUnA	59		50-150
STL00998	13C2 PFDoA	58		50-150
STL02116	13C2 PFTeDA	46	*	50-150
STL02337	13C3 PFBS	36	*	50-150
STL00994	18O2 PFHxS	25	*	50-150
STL00991	13C4 PFOS	39	*	50-150
STL02118	d3-NMeFOSAA	46	*	50-150
STL02117	d5-NEtFOSAA	59		50-150
STL02279	M2-6:2 FTS	103		25-150
STL02280	M2-8:2 FTS	112		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d
Lims ID: 200-48826-A-8-A
Client ID: VEW-4 051419
Sample Type: Client
Inject. Date: 05-Jun-2019 03:42:38 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036200-010 8
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 11:49:20
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.298	2.360	-0.062	1.000	18053	2.33		23.3	36.0	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.769	2.830	-0.061	1.000	13419	2.66			2.2	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.769	2.830	-0.061	1.000	16845	2.86		28.6	12.9	M
D 5 13C3 PFBS										
302.0 > 79.8	2.830	2.901	-0.071	1.000	8526	3.33		35.8	17.9	
7 Perfluorohexanoic acid										RM
312.9 > 268.9	3.238	3.302	-0.064	1.000	14103	1.73	Target=14.34		1.9	R
312.9 > 118.9	3.238	3.302	-0.064	1.000	423		33.34(7.17-21.51)		2.3	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.238	3.334	-0.096	1.000	58172	3.30		33.0	335	
D 10 13C4 PFHpA										M
366.9 > 321.8	3.798	3.905	-0.107	1.000	116903	4.70		47.0	483	M
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.762	3.905	-0.143	0.991	43385	3.16	Target=2.84		14.2	
362.9 > 168.9	3.798	3.905	-0.107	1.000	19506		2.22(1.42-4.26)		14.6	M
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.798	3.925	-0.127	0.991	6170	3.60	Target=1.34		6.2	M
398.9 > 98.9	3.798	3.925	-0.127	0.991	6271		0.98(0.67-2.01)		33.8	M
D 12 18O2 PFHxS										M
402.9 > 83.8	3.833	3.925	-0.092	1.000	7670	2.34		24.8	17.9	M
D 14 M2-6:2 FTS										
428.6 > 408.6	4.475	4.547	-0.072	1.000	17357	9.82		103	73.7	
* 16 13C2 PFOA										s
414.9 > 369.8	4.526	4.589	-0.063		317170	10.0			856	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.526	4.589	-0.063	1.000	255942	13.8	Target=2.43		532	
412.9 > 168.9	4.526	4.589	-0.063	1.000	115485		2.22(1.22-3.64)		335	M
D 17 13C4 PFOA										
416.9 > 371.8	4.526	4.609	-0.083	1.000	183369	5.96		59.6	525	
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.568	4.609	-0.041	0.859	6412	2.57	Target=1.30		35.8	
448.9 > 98.9	4.547	4.609	-0.062	1.000	6126		1.05(0.65-1.95)		19.5	M
19 Perfluorononanoic acid										
462.9 > 418.7	5.306	5.368	-0.062	1.000	22215	1.18	Target=5.00		29.2	
462.9 > 168.9	5.326	5.368	-0.042	1.004	5259		4.22(2.50-7.50)		13.9	
D 20 13C5 PFNA										
467.8 > 422.8	5.306	5.389	-0.083	1.000	213742	5.18		51.8	537	
21 Perfluorooctanesulfonic acid										EM
498.9 > 80.0	5.316	5.389	-0.073	1.000	744675	268.8	Target=1.41		1632	EM
498.9 > 98.9	5.316	5.389	-0.073	1.000	691114		1.08(0.71-2.12)		2066	M
D 22 13C4 PFOS										
502.9 > 80.0	5.316	5.411	-0.095	1.000	27420	3.72		38.9	154	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	5.994	6.131	-0.137	0.994	720	0.1351			4.6	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.028	6.131	-0.103	1.000	69216	10.8		112	247	
D 25 13C2 PFDA										
514.9 > 469.5	6.028	6.199	-0.171	1.000	216289	6.14		61.4	865	
D 27 d3-NMeFOSAA										M
572.9 > 418.7	6.371	6.549	-0.178	1.000	53034	4.62		46.2	222	M
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.729	6.897	-0.168	1.000	3285	0.7313			24.7	M
31 Perfluorodecanesulfonic acid										R
598.9 > 80.0	6.753	6.897	-0.144	1.270	554	0.1861	Target=1.25		2.8	R
598.9 > 98.9	6.777	6.897	-0.120	1.000	932		0.59(0.63-1.88)		2.6	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.729	6.921	-0.192	1.000	55783	5.89		58.9	287	
D 33 13C2 PFUnA										
564.8 > 519.8	6.753	6.945	-0.192	1.000	199928	5.88		58.8	562	
D 34 13C8 FOSA										
505.9 > 78.0	6.993	7.026	-0.033	1.000	26215	2.06		20.6	81.6	
36 Perfluorododecanoic acid										R
612.9 > 568.5	7.557	7.616	-0.059	0.997	5461	0.2295	Target=5.37		41.2	R
612.9 > 168.9	7.557	7.616	-0.059	0.997	462		11.82(2.68-8.06)		3.0	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	250802	5.78		57.8	463	
D 40 13C2 PFTeDA										M
714.9 > 669.5	8.786	8.819	-0.033	1.000	177134	4.55		45.5	290	M

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

E - Exceeded Maximum Amount

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:51:16 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d

Injection Date: 05-Jun-2019 03:42:38 Instrument ID: LC410

Lims ID: 200-48826-A-8-A Lab Sample ID: 200-48826-8

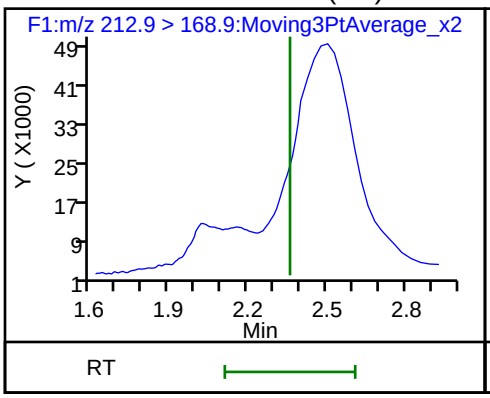
Client ID: VEW-4 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10

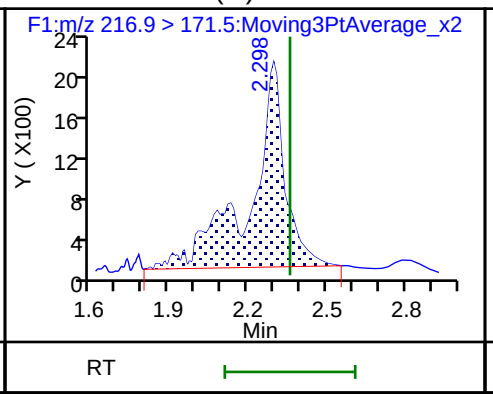
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

2 Perfluorobutanoic acid (ND)



D 1 13C4 PFBA (M)



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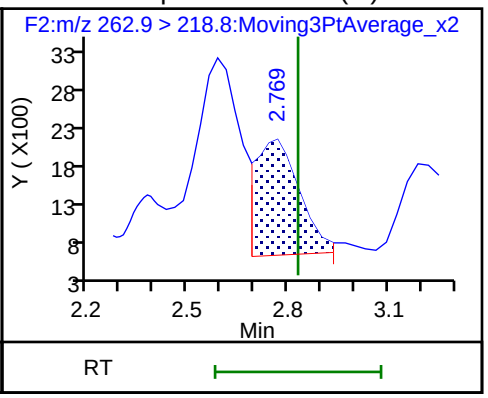
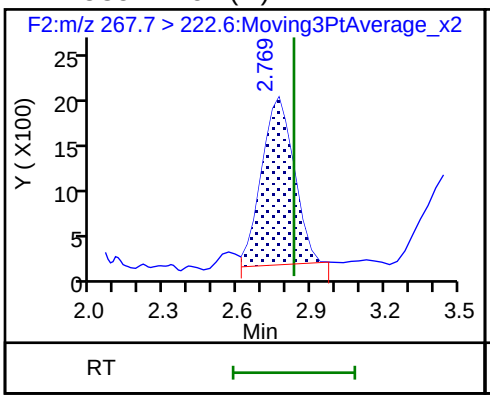
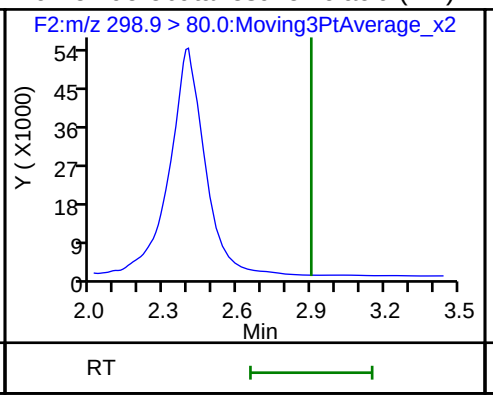


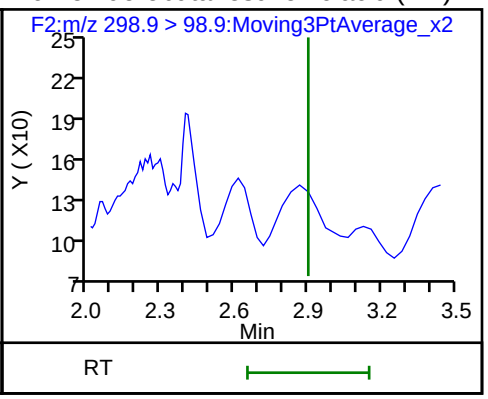
D 4 13C5 PFPeA (M)



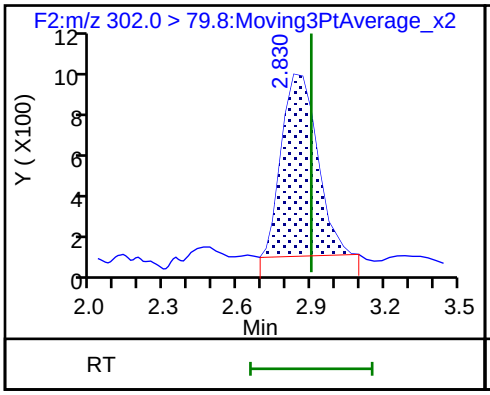
6 Perfluorobutanesulfonic acid (ND)



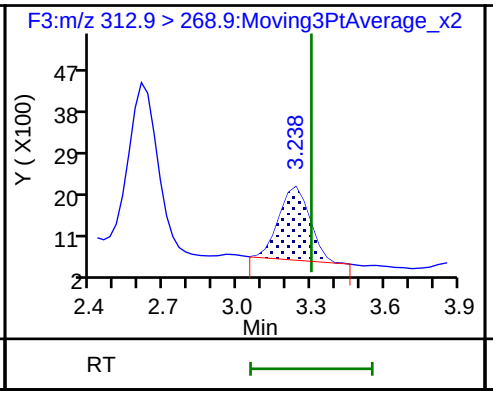
6 Perfluorobutanesulfonic acid (ND)



D 5 13C3 PFBS



7 Perfluorohexanoic acid



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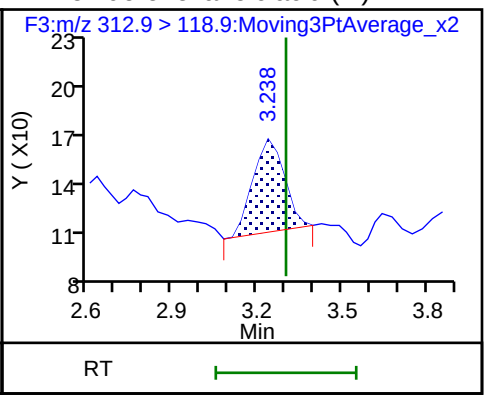
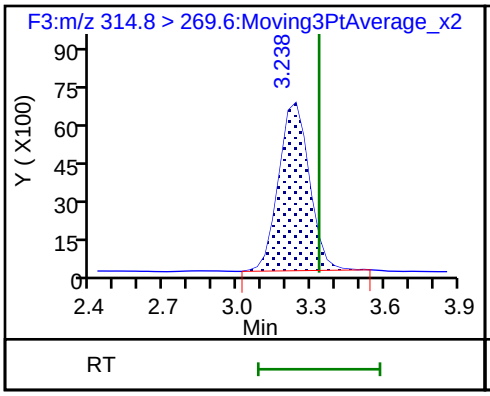
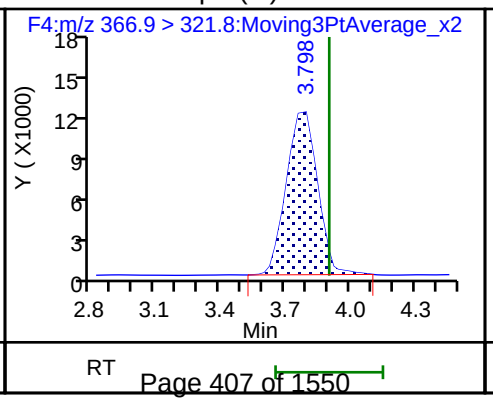


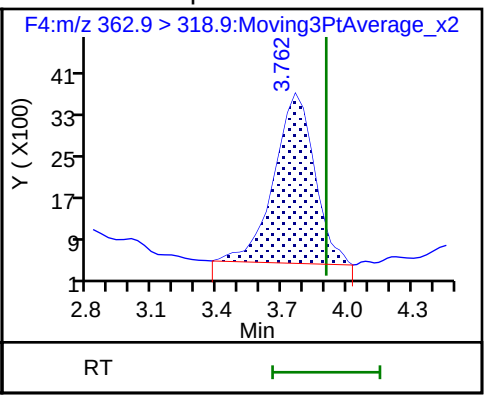
D 8 13C2 PFHxA



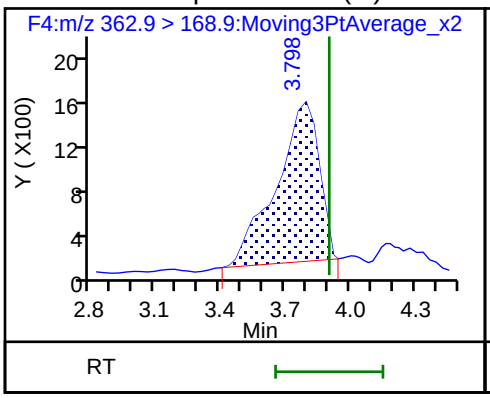
D 10 13C4 PFHpA (M)



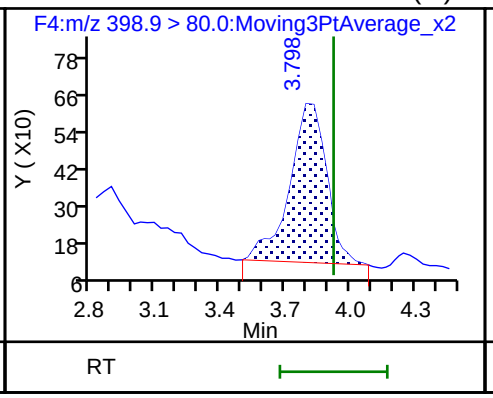
9 Perfluoroheptanoic acid



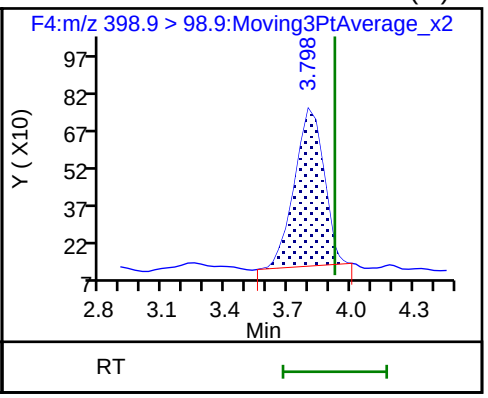
9 Perfluoroheptanoic acid (M)



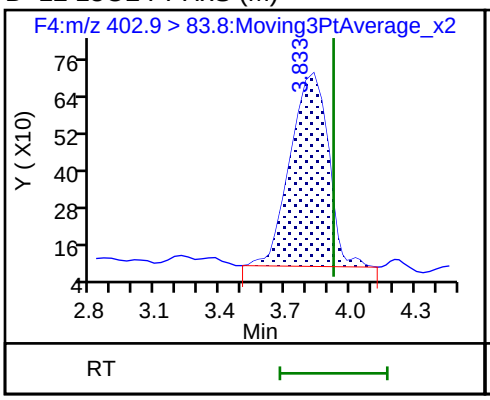
11 Perfluorohexanesulfonic acid (M)



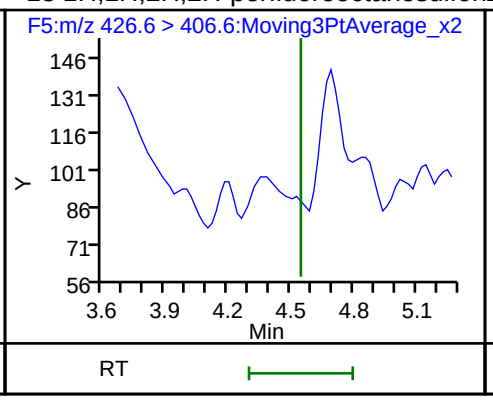
11 Perfluorohexanesulfonic acid (M)



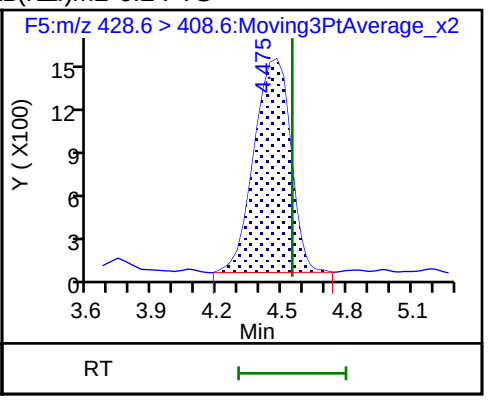
D 12 18O2 PFHxS (M)



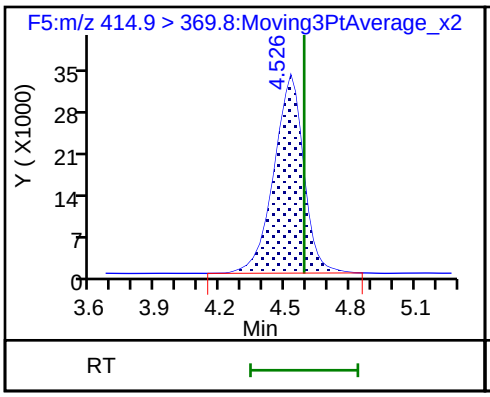
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2)



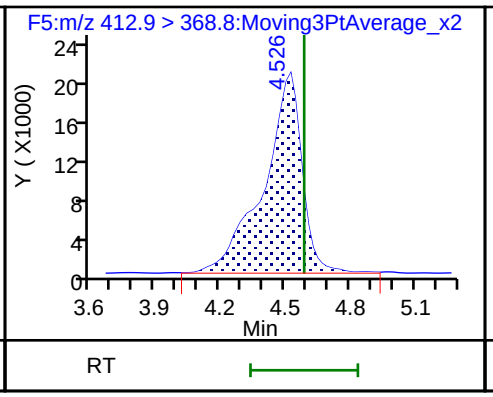
D (M2)M2-6:2 FTS



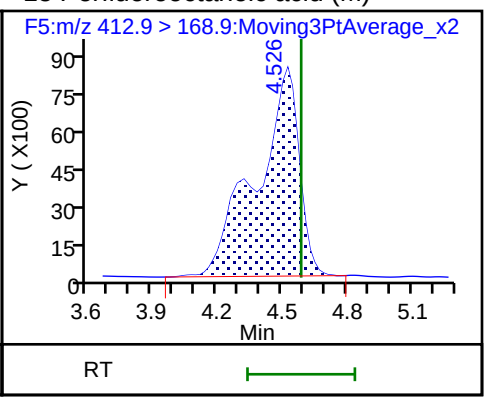
* 16 13C2 PFOA



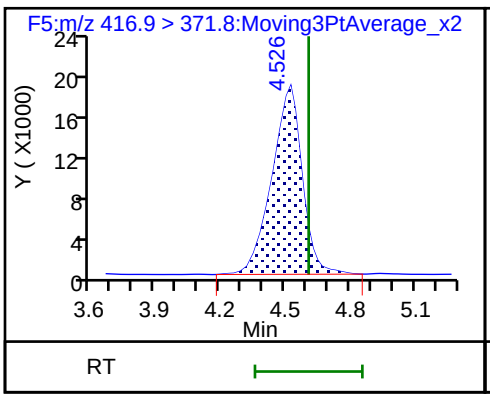
15 Perfluorooctanoic acid



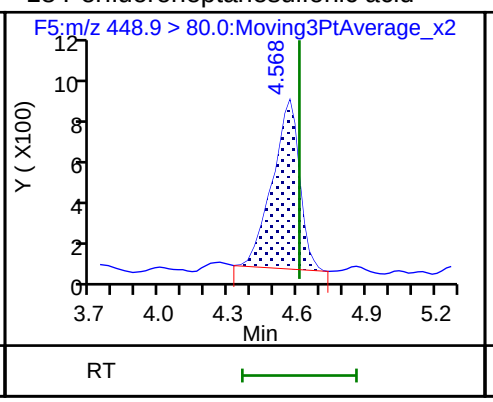
15 Perfluorooctanoic acid (M)



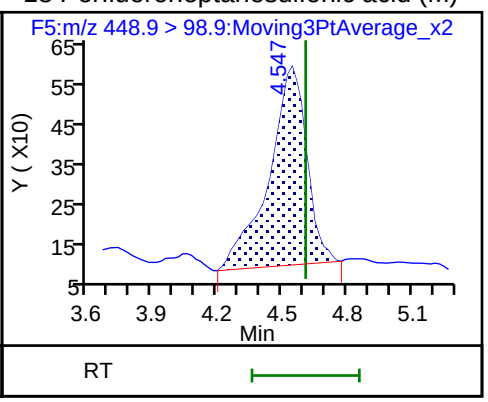
D 17 13C4 PFOA



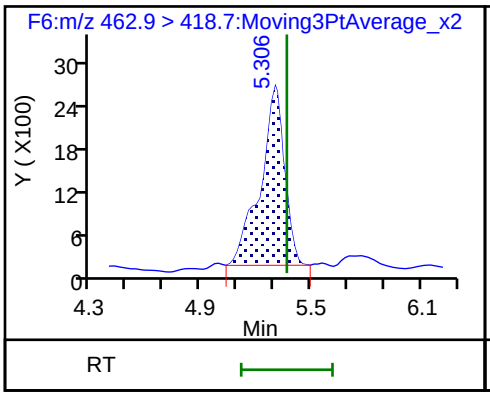
18 Perfluoroheptanesulfonic acid



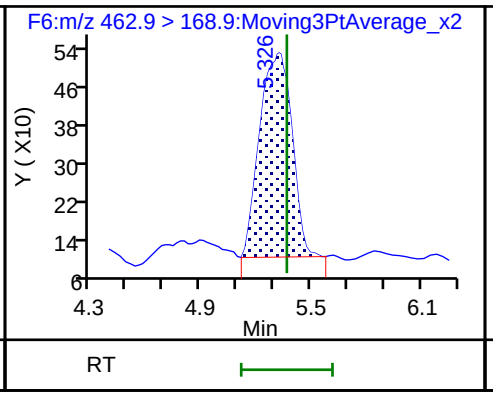
18 Perfluoroheptanesulfonic acid (M)



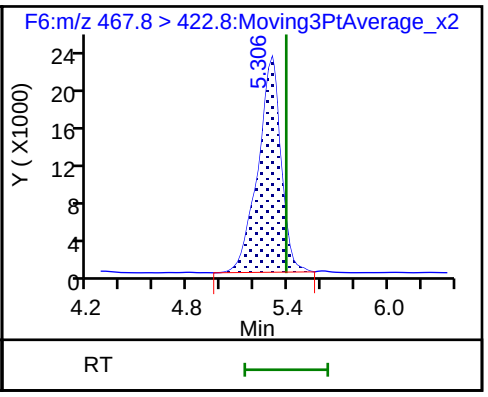
19 Perfluorononanoic acid



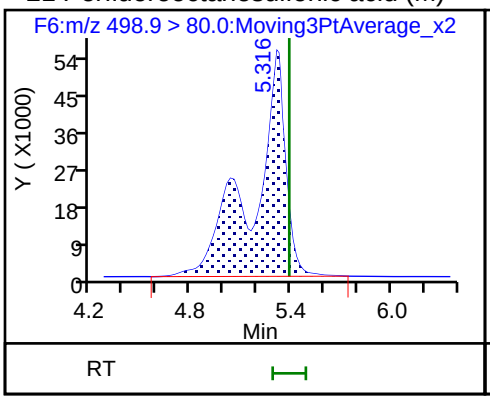
19 Perfluorononanoic acid



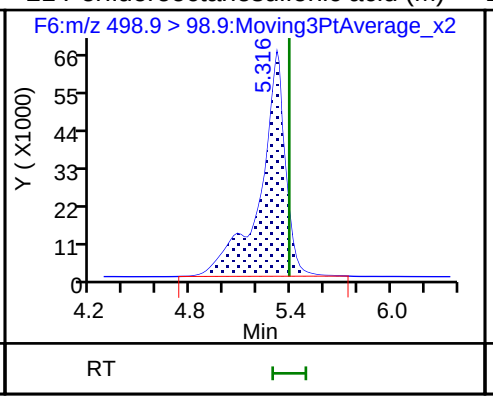
D 20 13C5 PFNA



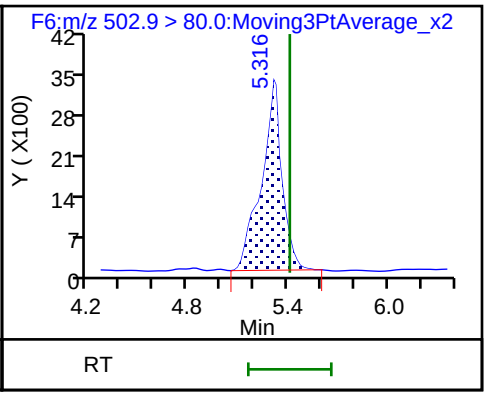
21 Perfluorooctanesulfonic acid (M)



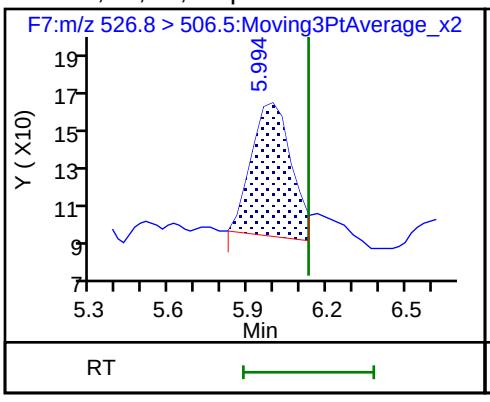
21 Perfluorooctanesulfonic acid (M)



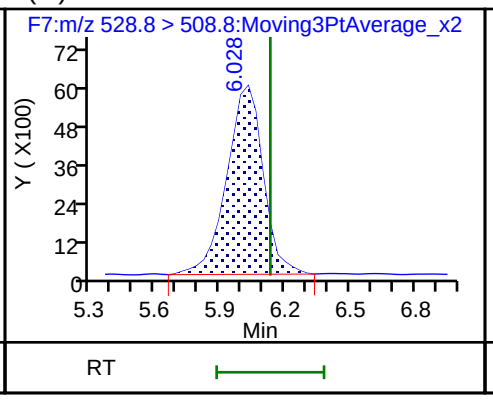
D 22 13C4 PFOS



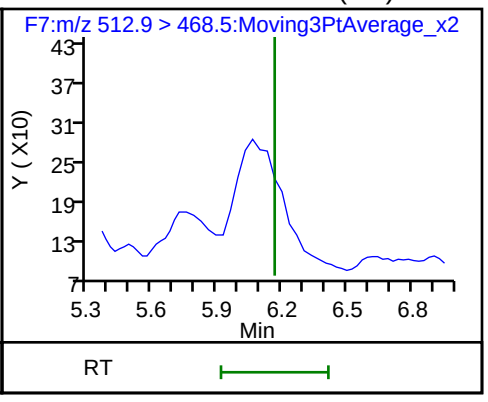
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



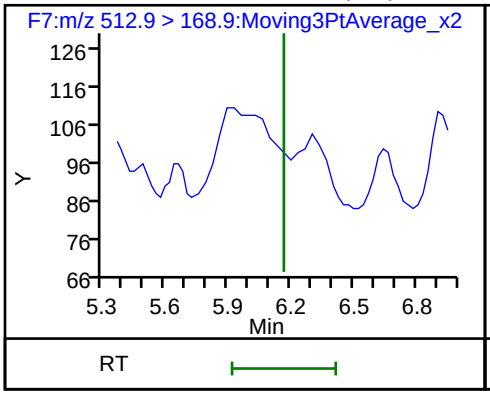
D 24 M2-8:2 FTS



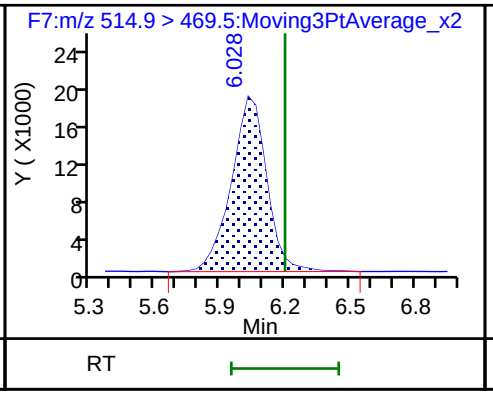
26 Perfluorodecanoic acid (ND)



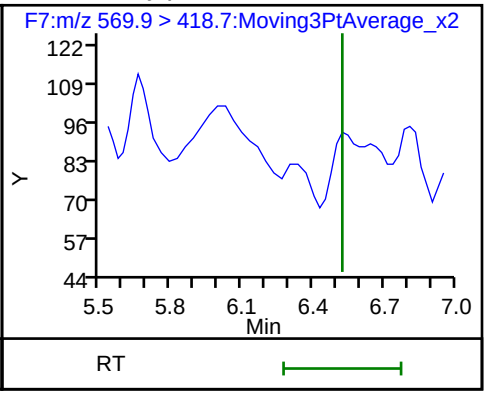
26 Perfluorodecanoic acid (ND)



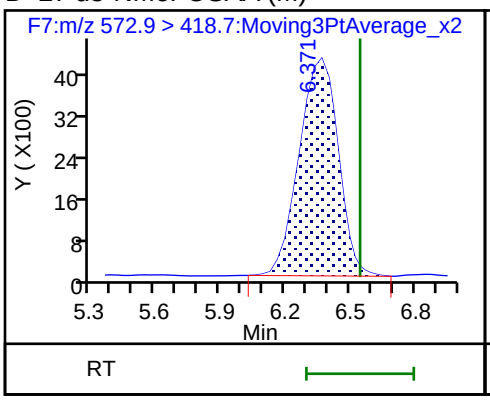
D 25 13C2 PFDA



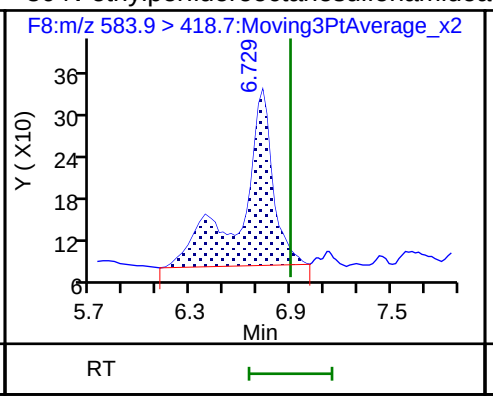
28 N-methylperfluorooctanesulfonamido (ND)



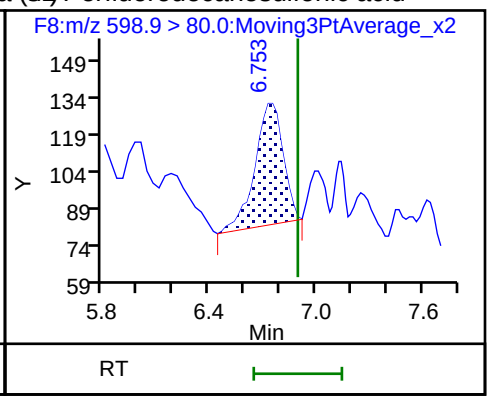
D 27 d3-NMeFOSAA (M)



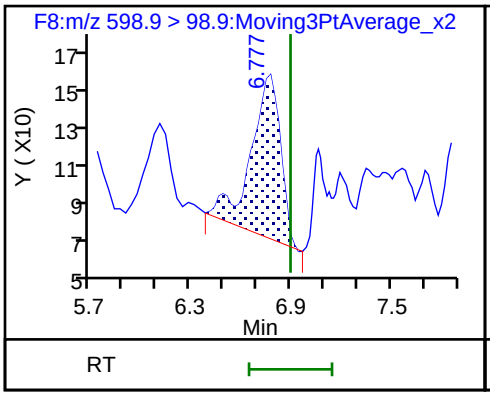
30 N-ethylperfluorooctanesulfonamidoa (M)



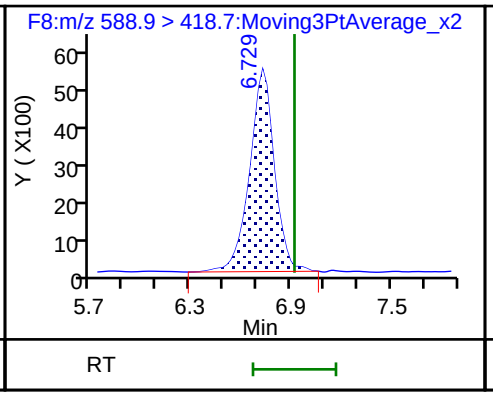
31 Perfluorodecanesulfonic acid



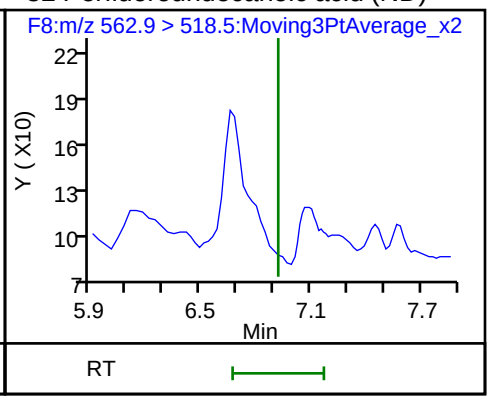
31 Perfluorodecanesulfonic acid



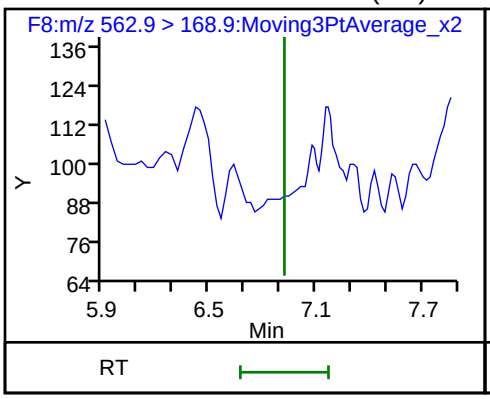
D 29 d5-NEtFOSAA



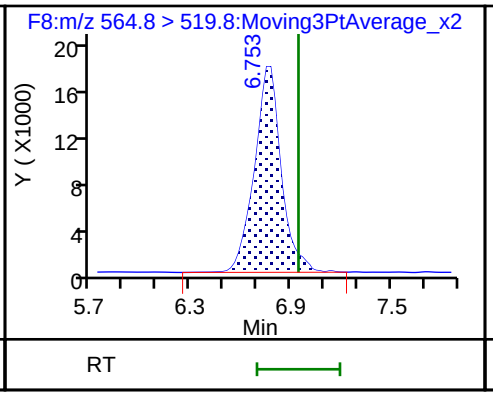
32 Perfluoroundecanoic acid (ND)



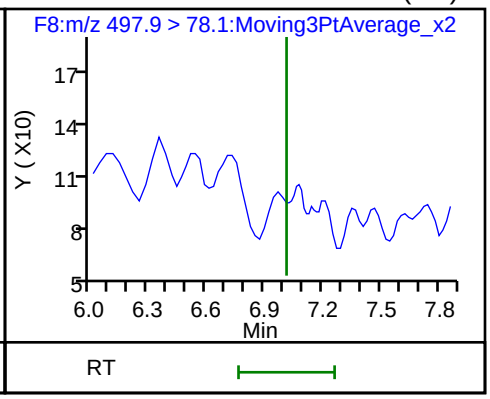
32 Perfluoroundecanoic acid (ND)



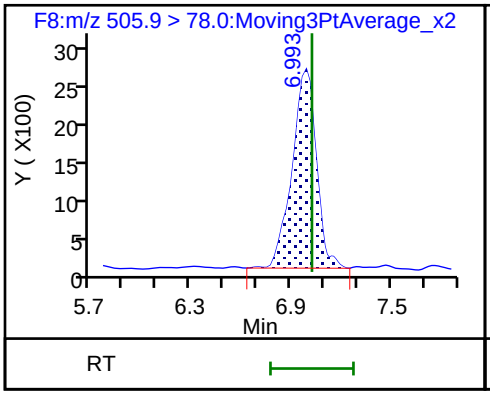
D 33 13C2 PFUnA



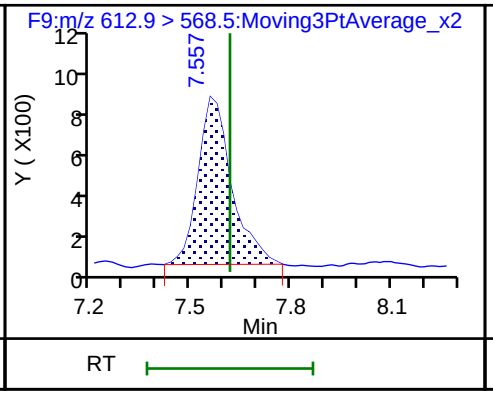
35 Perfluorooctanesulfonamide (ND)



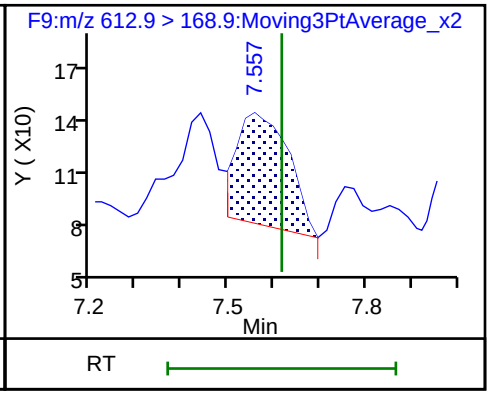
D 34 13C8 FOSA



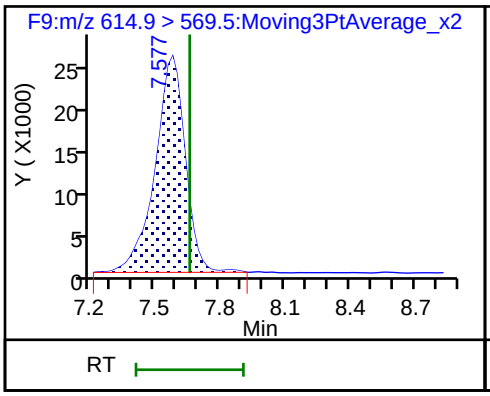
36 Perfluorododecanoic acid



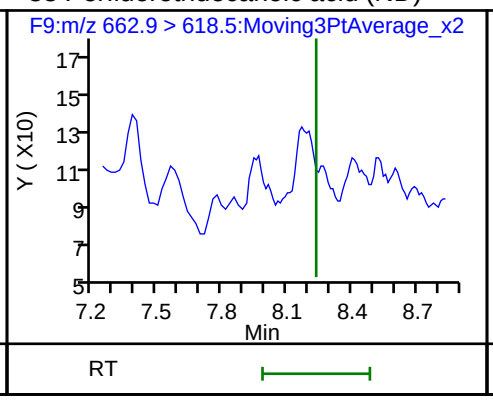
36 Perfluorododecanoic acid



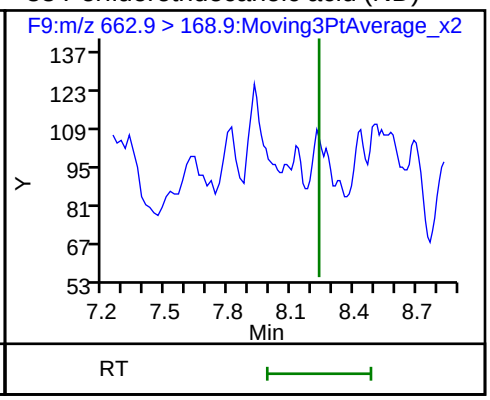
D 37 13C2 PFDoA



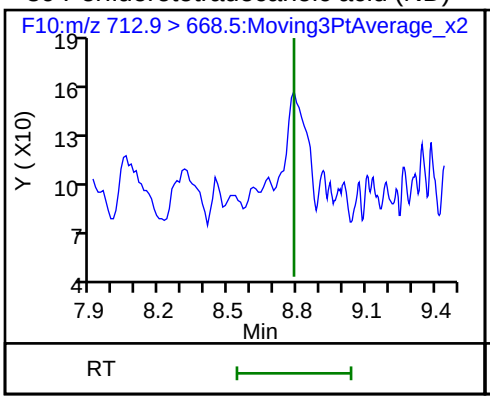
38 Perfluorotridecanoic acid (ND)



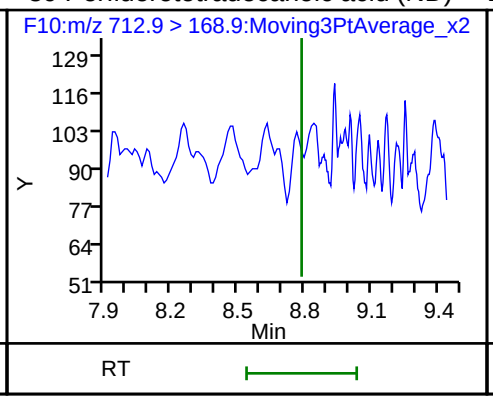
38 Perfluorotridecanoic acid (ND)



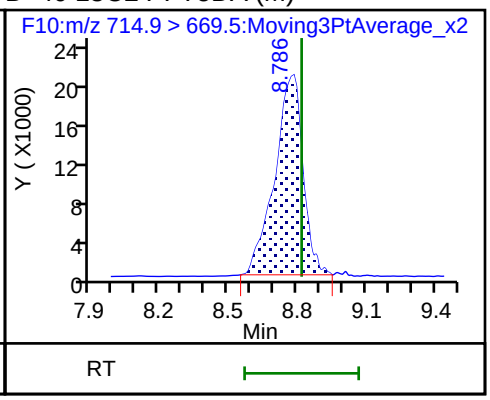
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA (M)



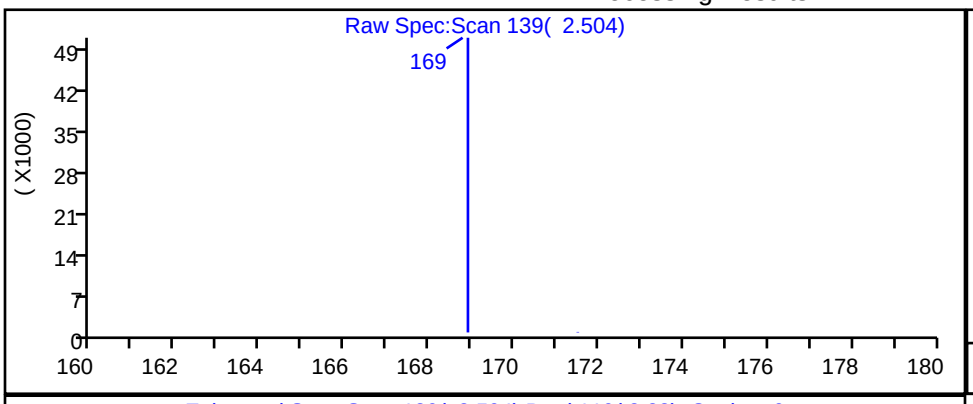
User Disabled Compound Report

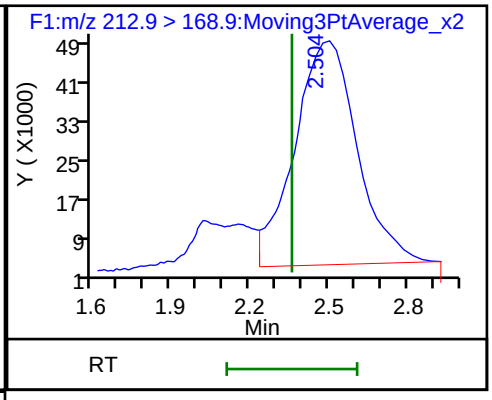
Eurofins TestAmerica, Burlington

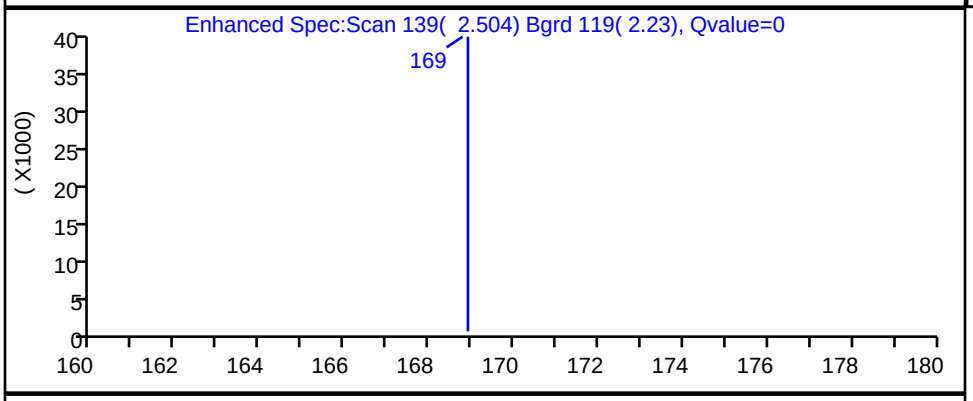
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

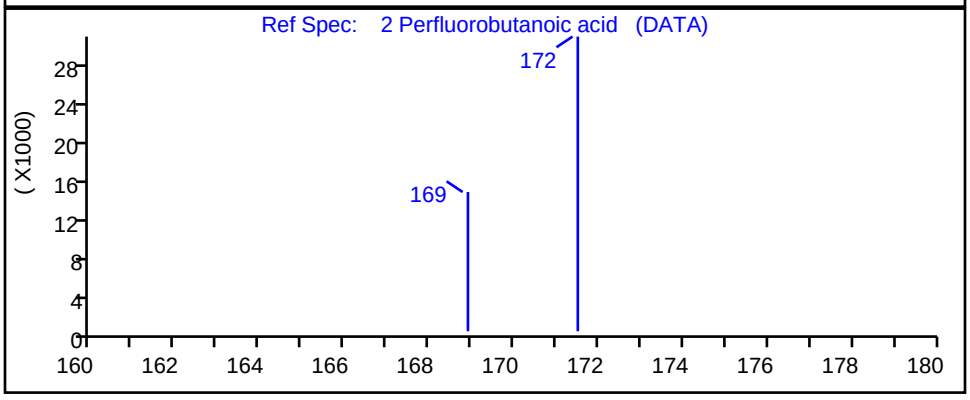
2 Perfluorobutanoic acid, CAS: 375-22-4

Processing Results









RT	Mass	Response	Amount
2.50	168.90	759891	268.1052

Reviewer: chirgwinb, 05-Jun-2019 11:37:28

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

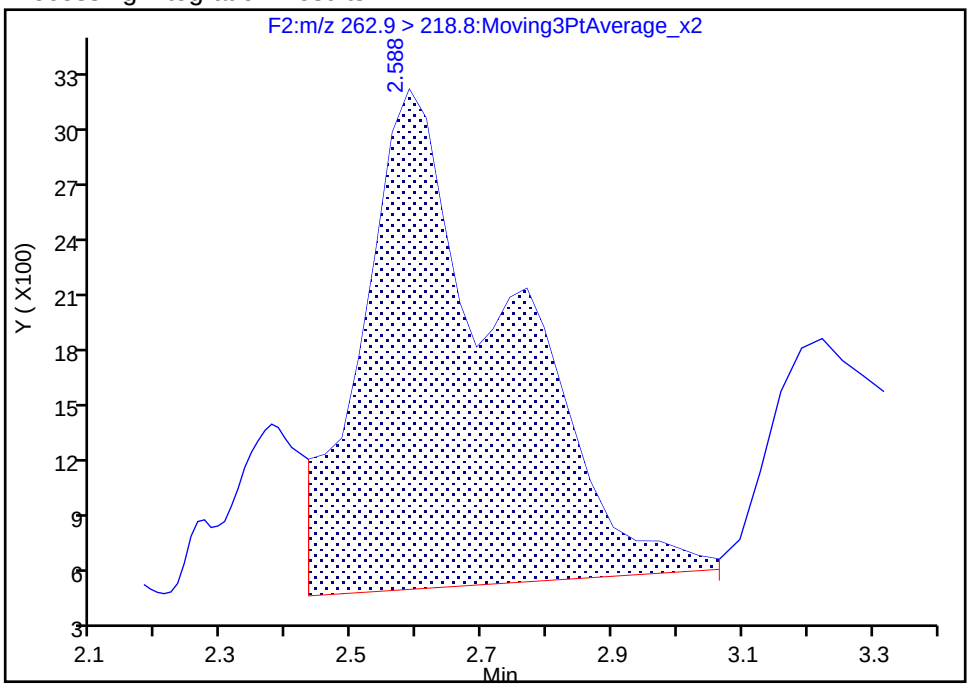
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

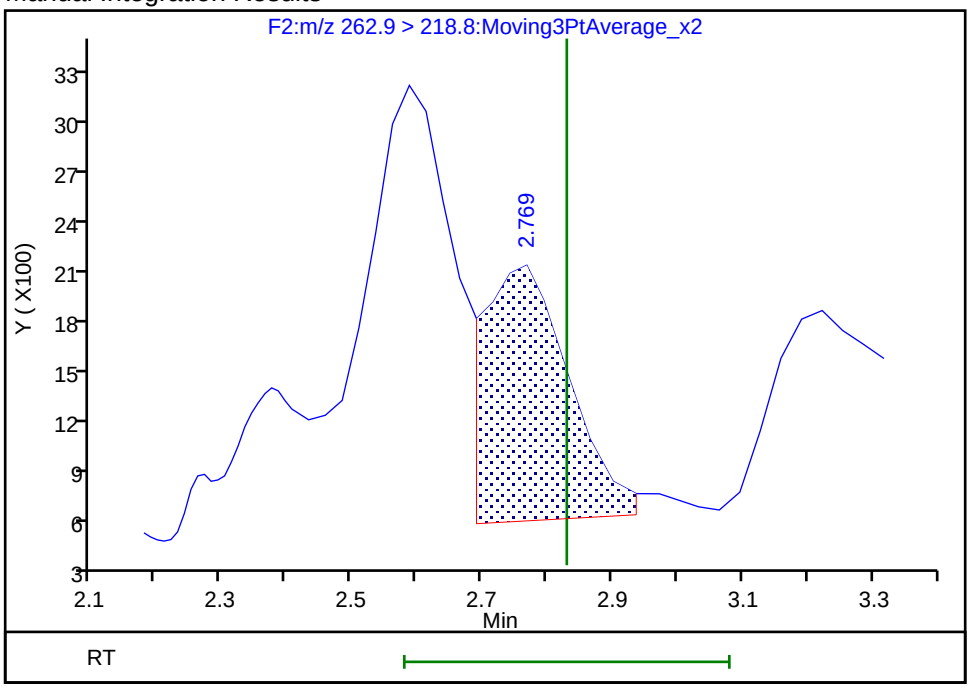
Processing Integration Results

RT: 2.59
Area: 41227
Amount: 8.174521
Amount Units: ng/ml



Manual Integration Results

RT: 2.77
Area: 13419
Amount: 2.660256
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:39:17

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

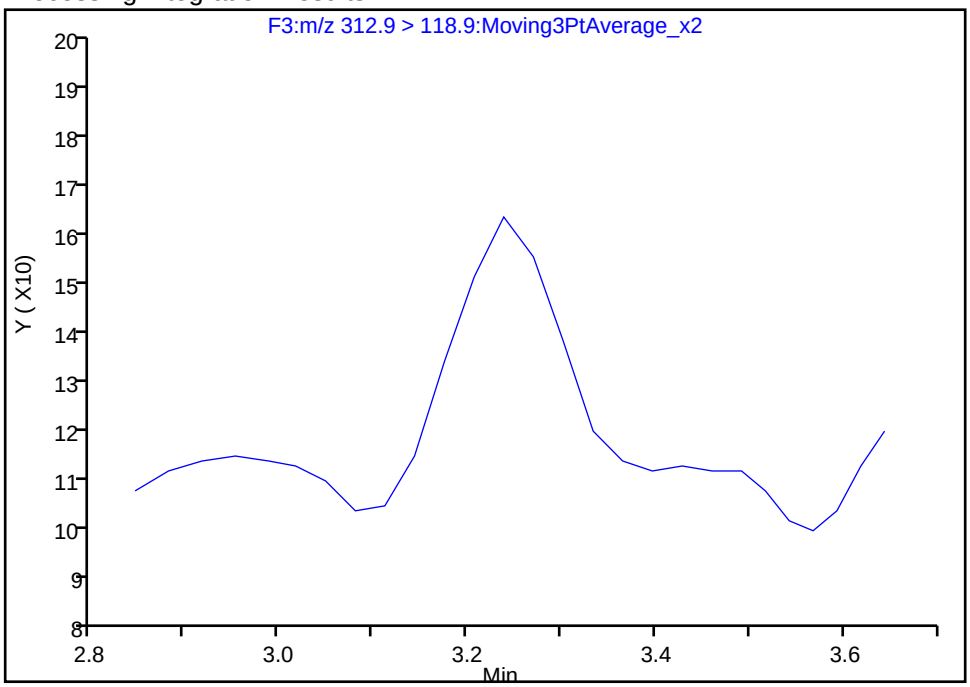
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

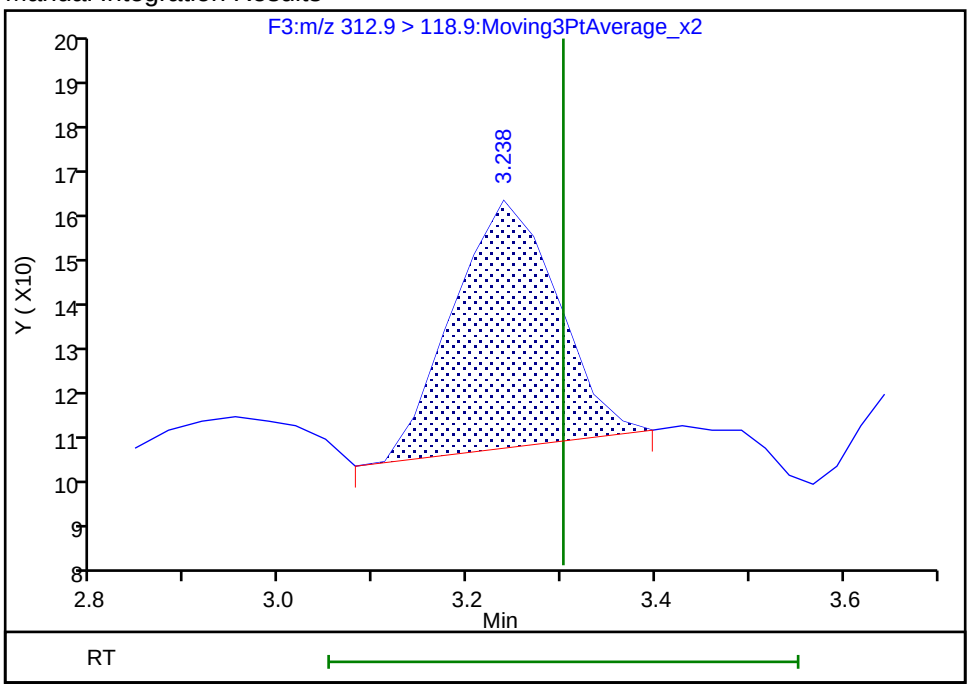
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.24
Area: 423
Amount: 1.734187
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:39:48
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

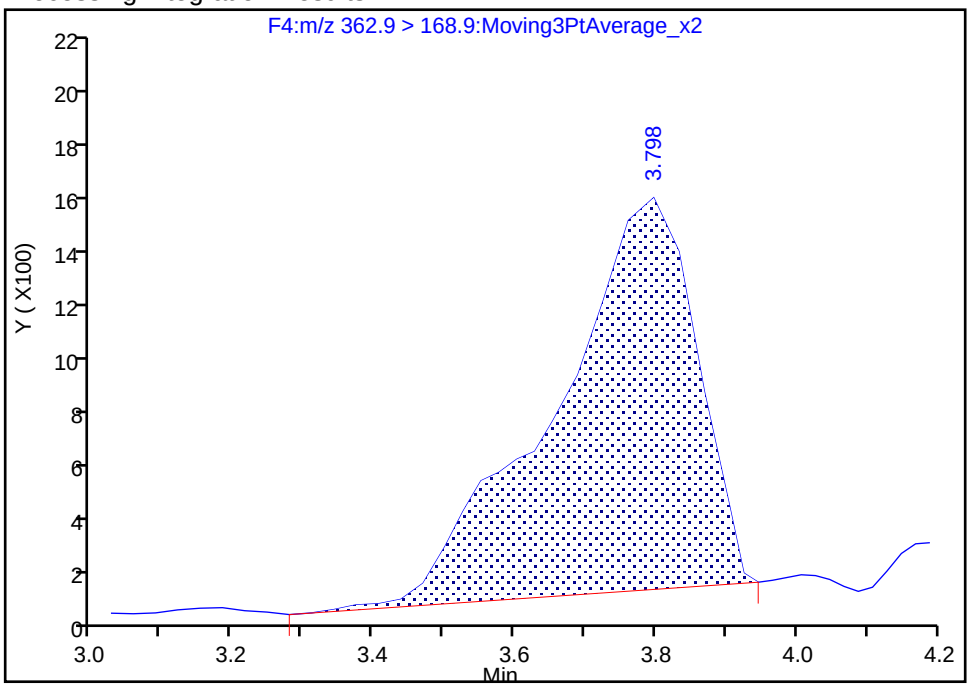
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

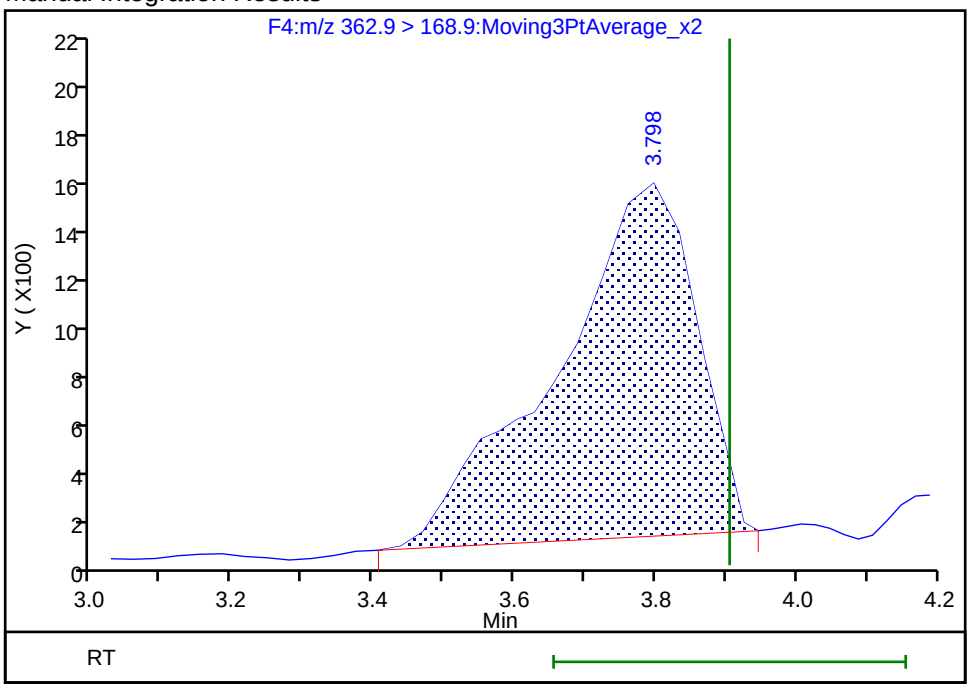
Processing Integration Results

RT: 3.80
Area: 19841
Amount: 3.162283
Amount Units: ng/ml



Manual Integration Results

RT: 3.80
Area: 19506
Amount: 3.162283
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:40:09
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

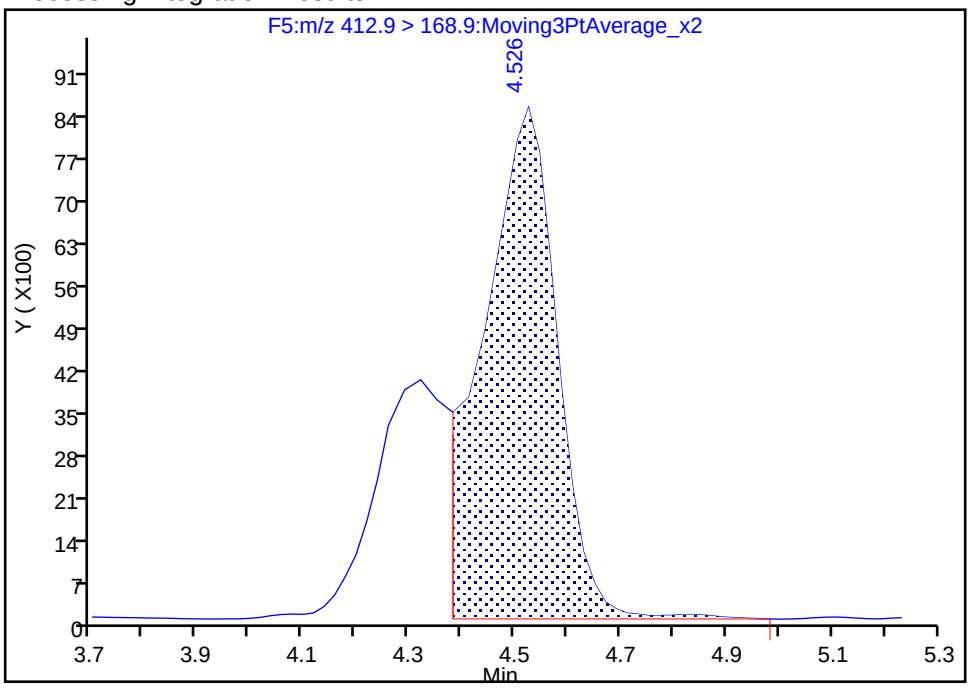
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

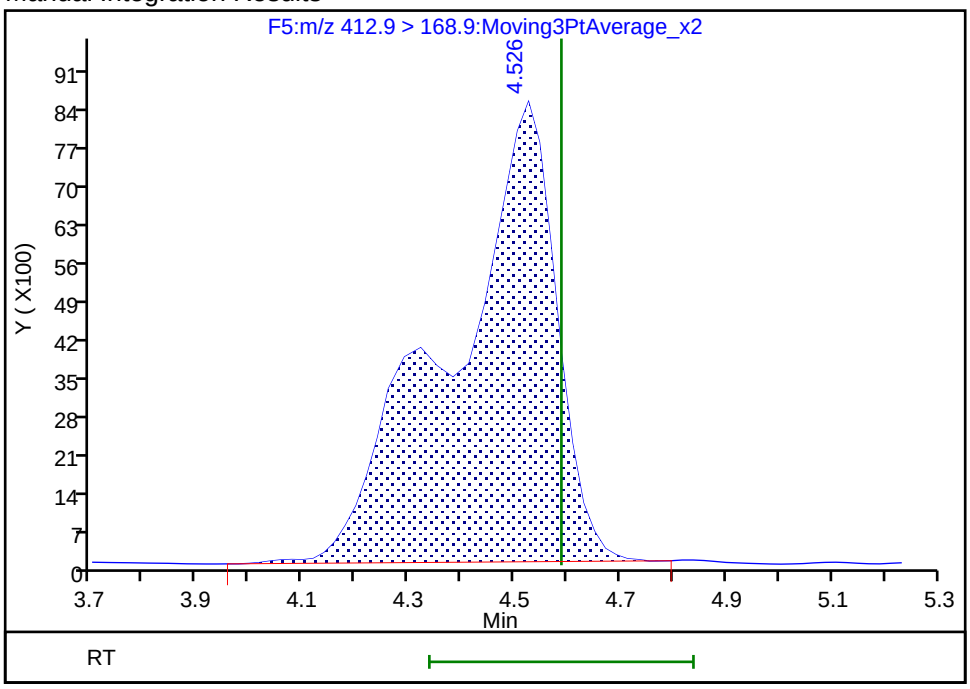
Processing Integration Results

RT: 4.53
Area: 80579
Amount: 13.793430
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 115485
Amount: 13.793430
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:45:25

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

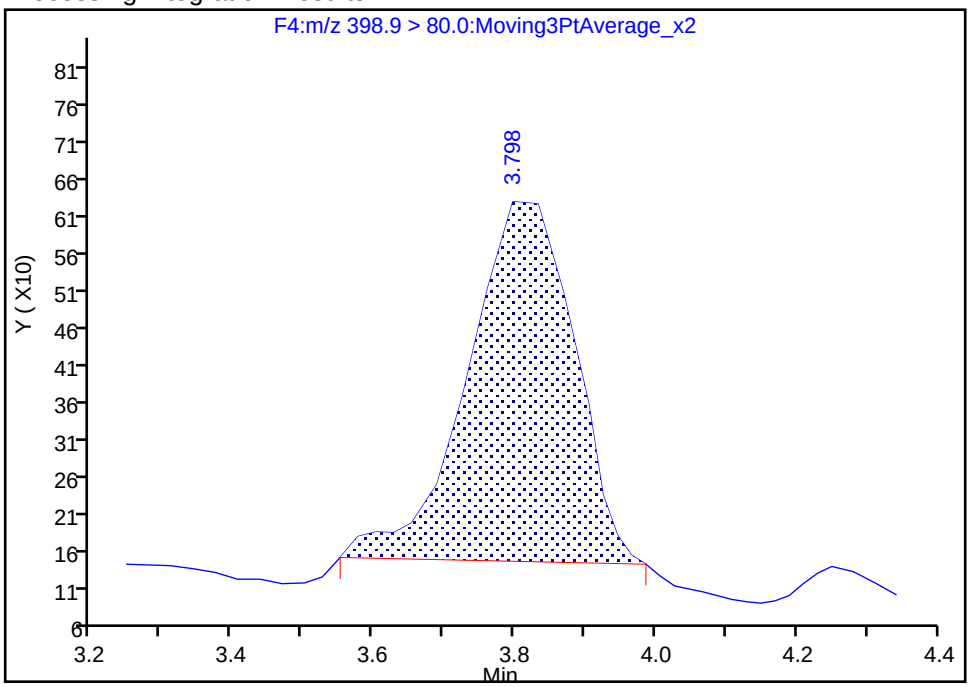
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

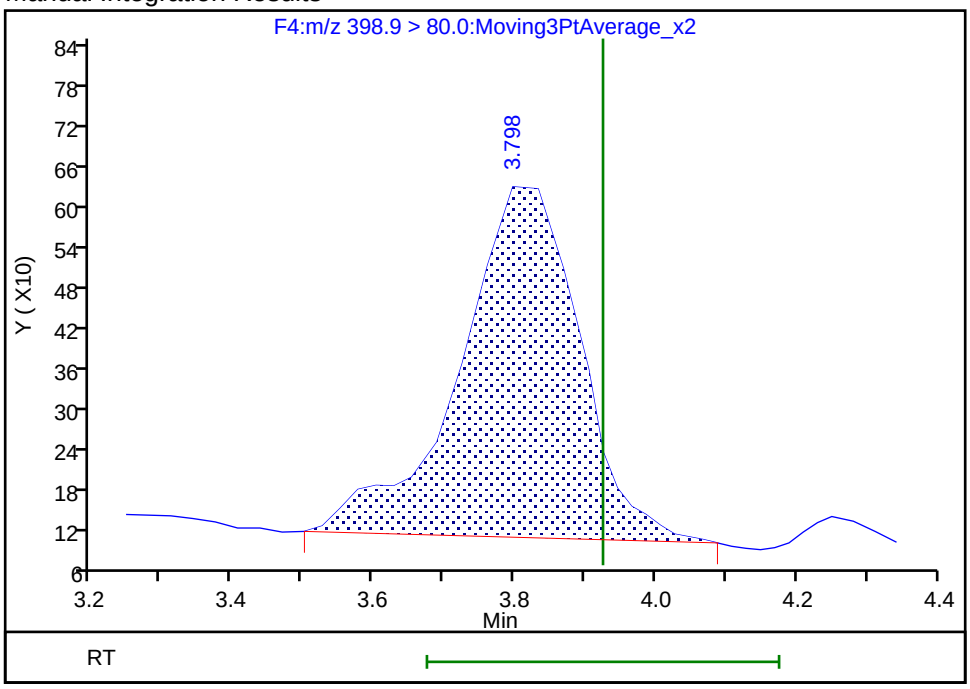
Processing Integration Results

RT: 3.80
Area: 5078
Amount: 3.065086
Amount Units: ng/ml



Manual Integration Results

RT: 3.80
Area: 6170
Amount: 3.596031
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:40:23
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

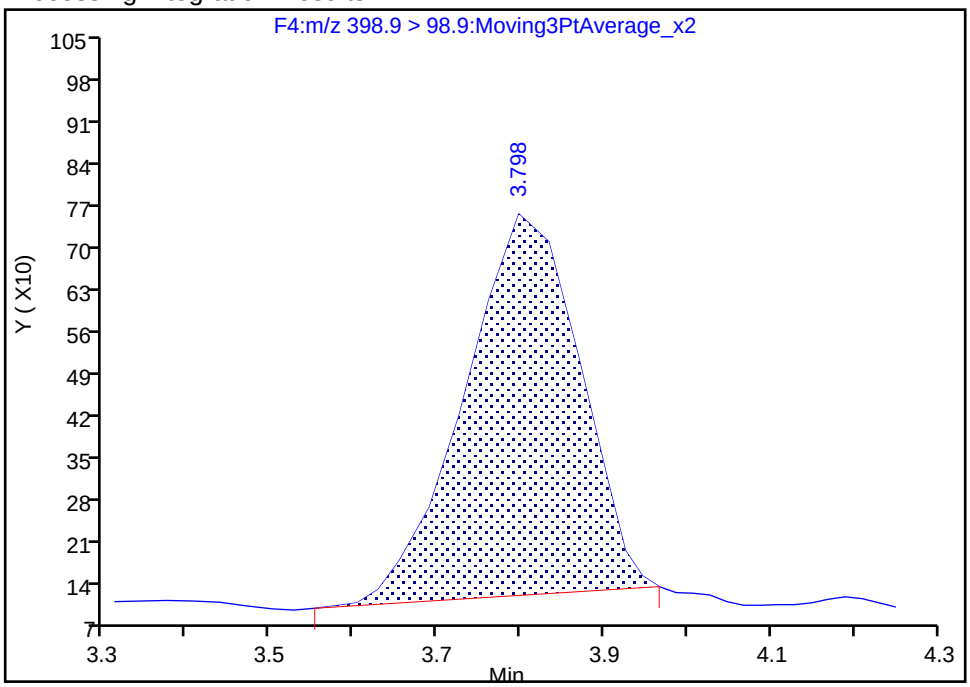
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

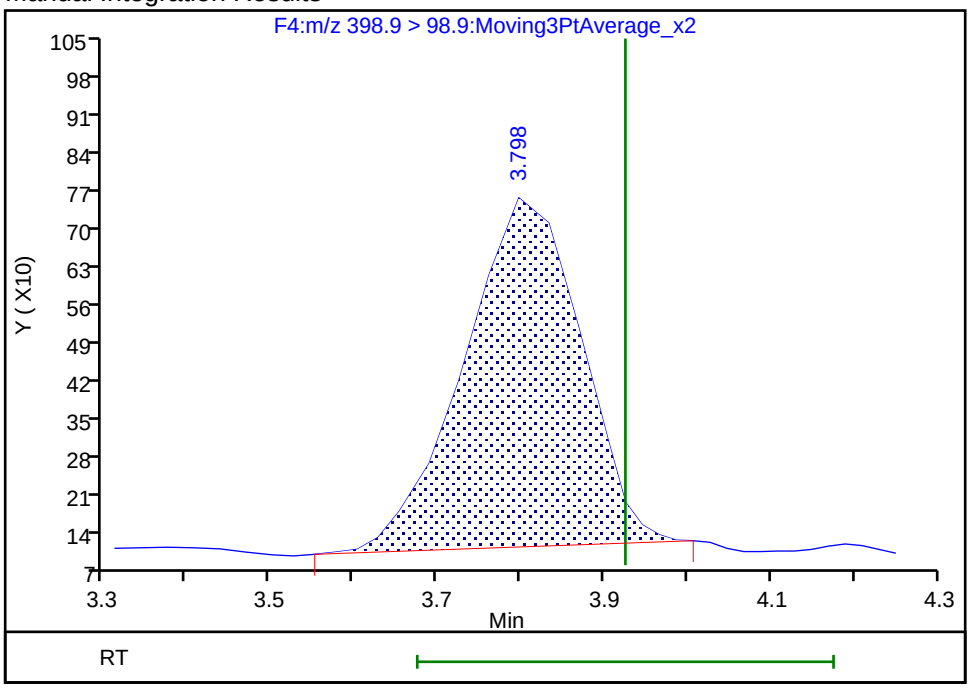
Processing Integration Results

RT: 3.80
Area: 6095
Amount: 3.065086
Amount Units: ng/ml



Manual Integration Results

RT: 3.80
Area: 6271
Amount: 3.596031
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:40:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

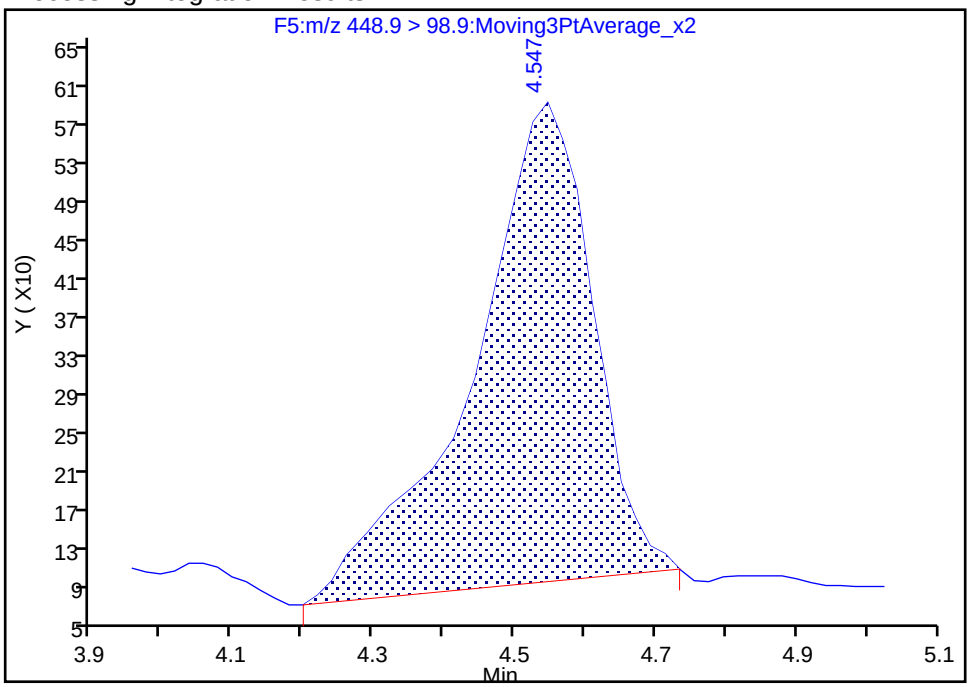
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 2

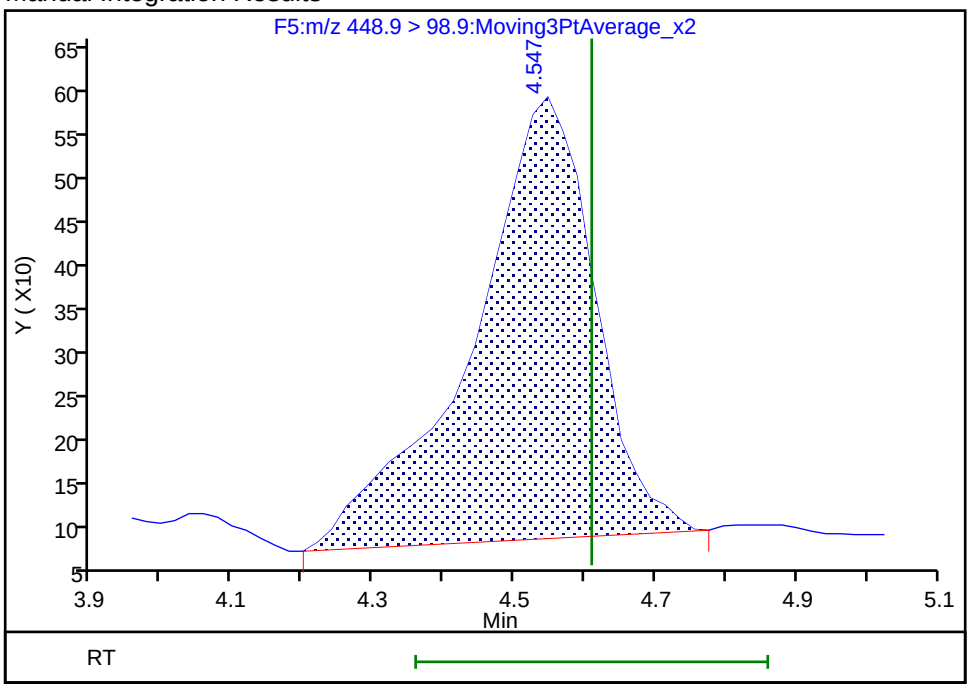
Processing Integration Results

RT: 4.55
Area: 5878
Amount: 2.567884
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 6126
Amount: 2.567884
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:45:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

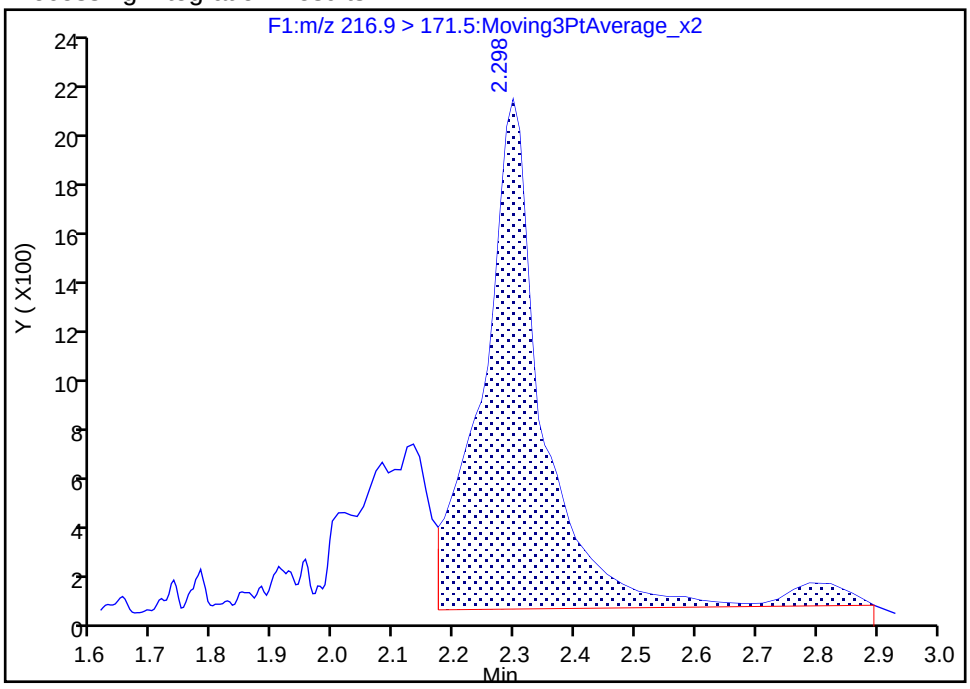
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

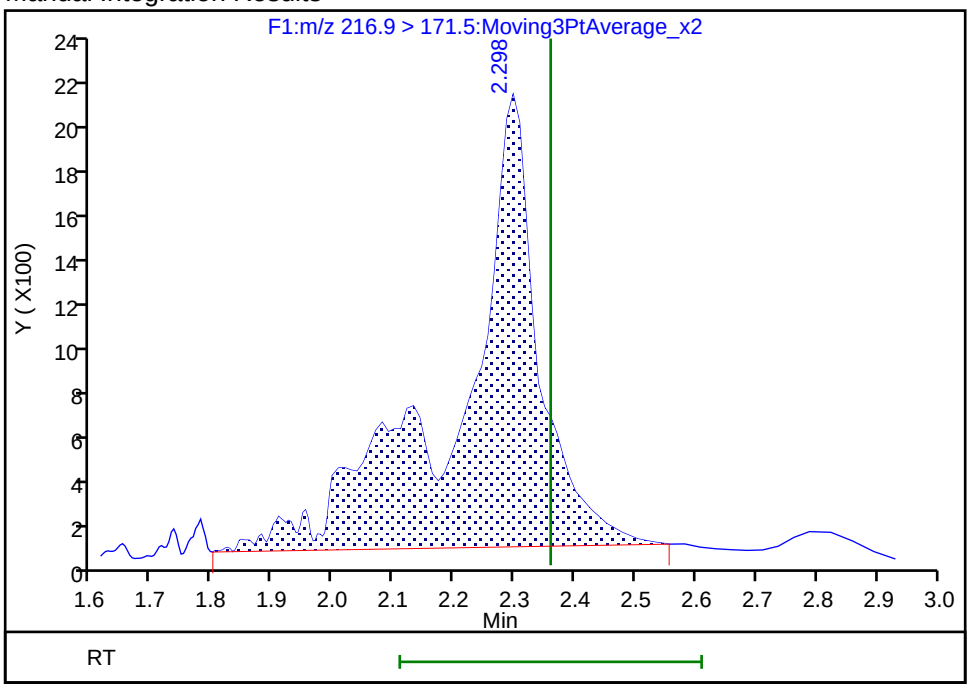
Processing Integration Results

RT: 2.30
Area: 14067
Amount: 1.813724
Amount Units: ng/ml



Manual Integration Results

RT: 2.30
Area: 18053
Amount: 2.327657
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:37:10

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

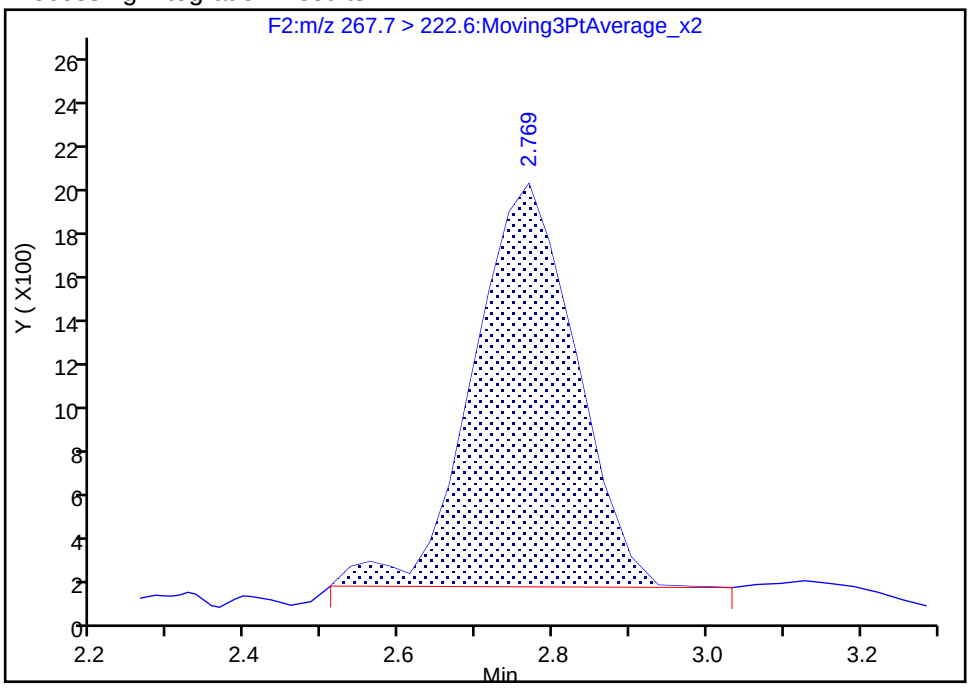
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

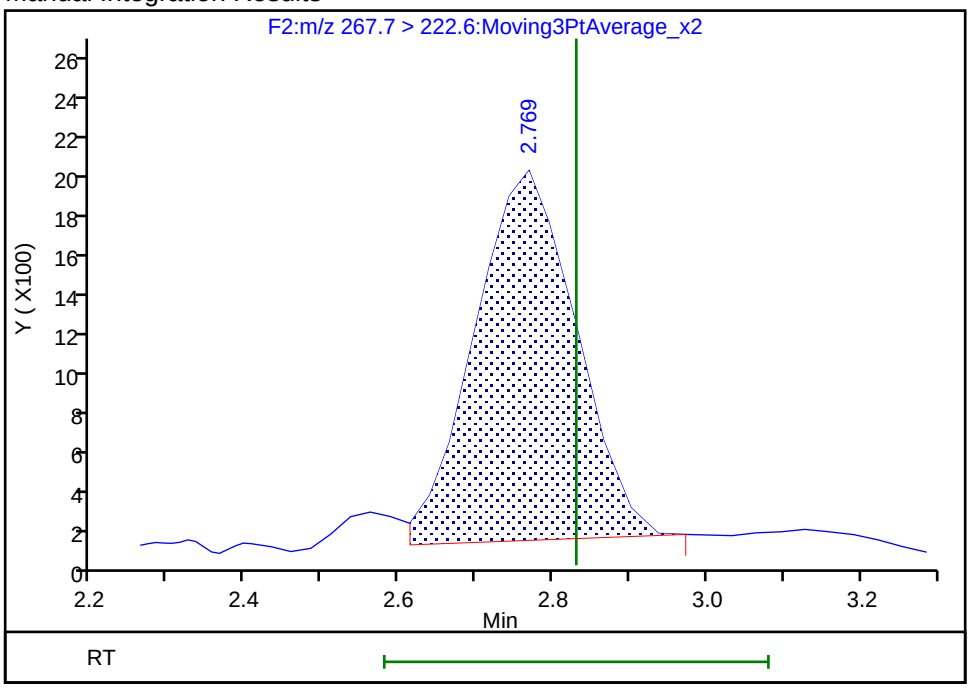
Processing Integration Results

RT: 2.77
Area: 16842
Amount: 2.862487
Amount Units: ng/ml



Manual Integration Results

RT: 2.77
Area: 16845
Amount: 2.862997
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:39:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

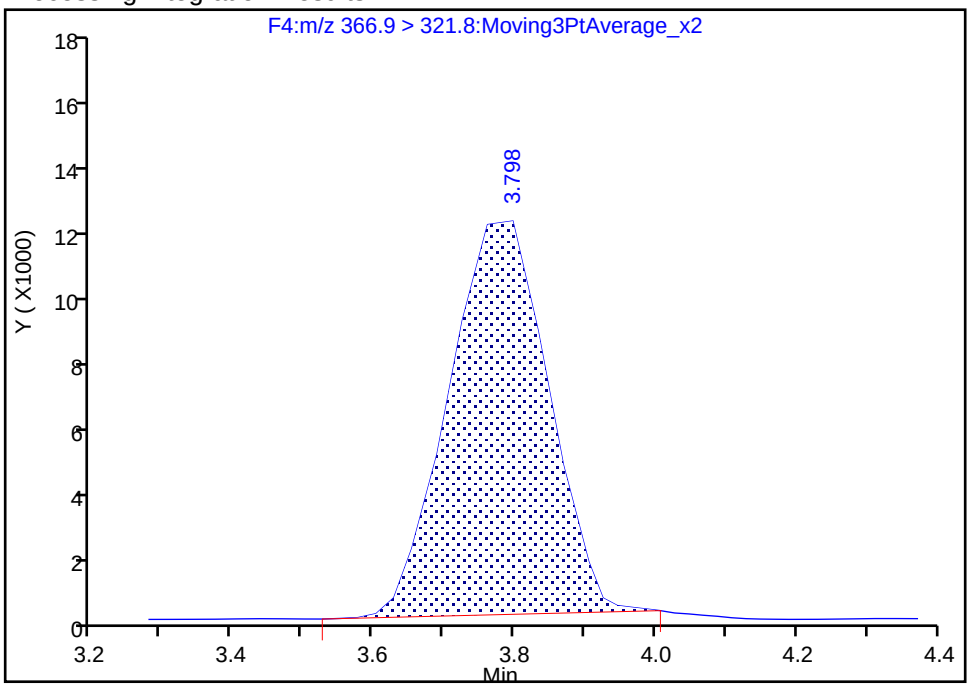
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 10 13C4 PFHpA, CAS: STL01892

Signal: 1

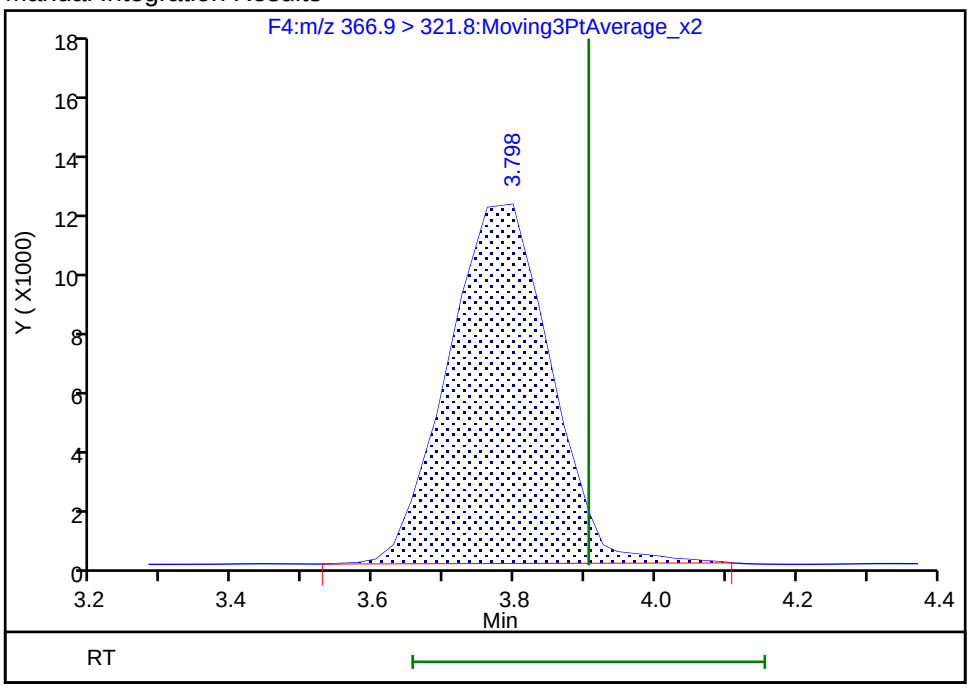
Processing Integration Results

RT: 3.80
Area: 113237
Amount: 4.553659
Amount Units: ng/ml



Manual Integration Results

RT: 3.80
Area: 116903
Amount: 4.701082
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:40:01
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

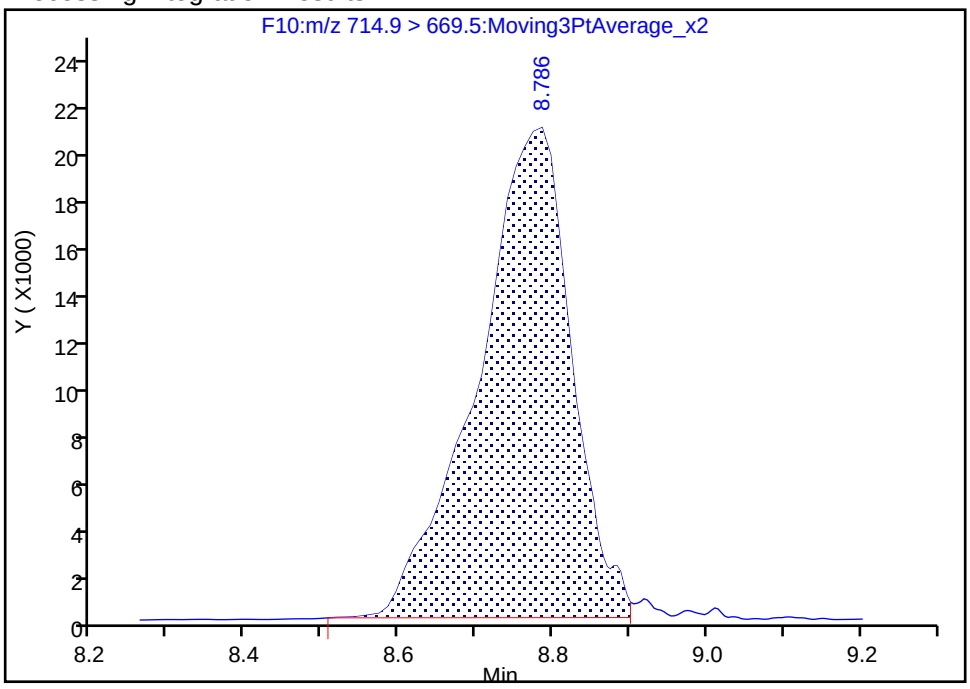
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F10:MRM		

D 40 13C2 PFTeDA, CAS: STL02116

Signal: 1

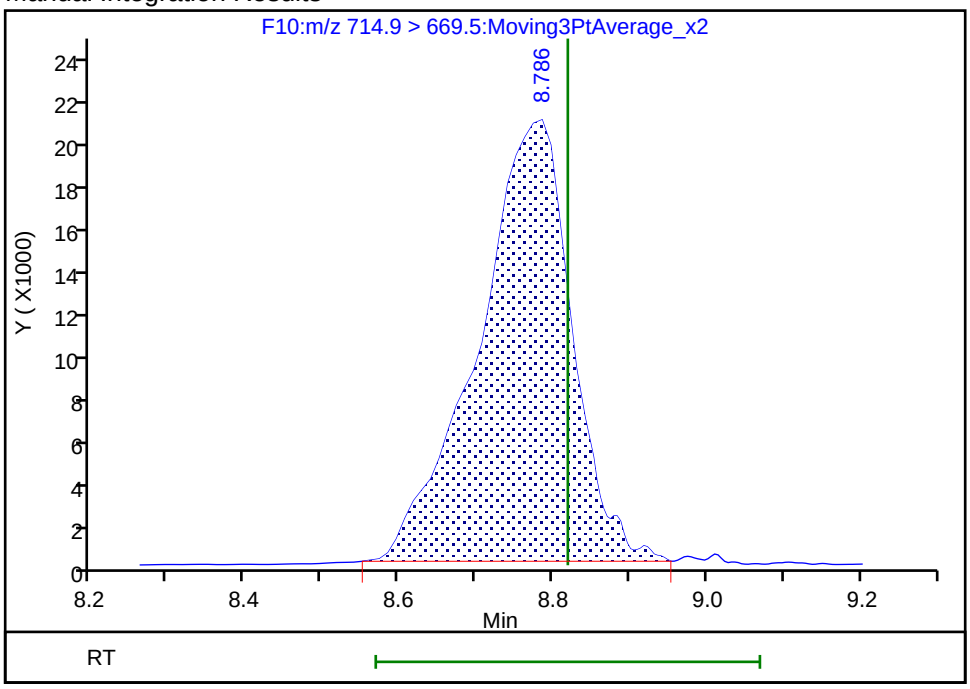
Processing Integration Results

RT: 8.79
Area: 177448
Amount: 4.558690
Amount Units: ng/ml



Manual Integration Results

RT: 8.79
Area: 177134
Amount: 4.550623
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:48:16

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

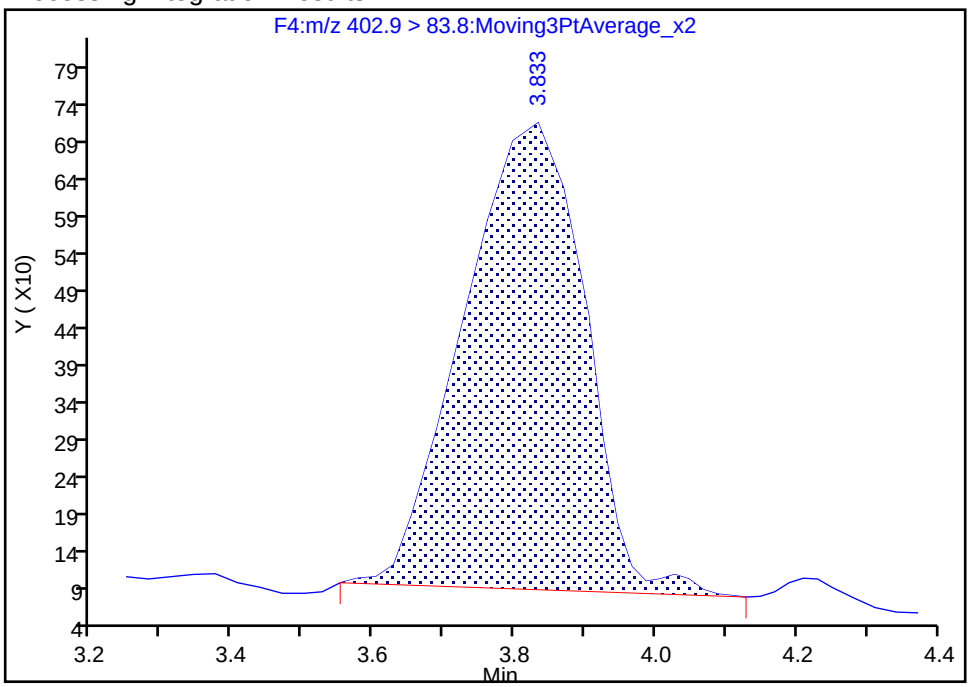
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

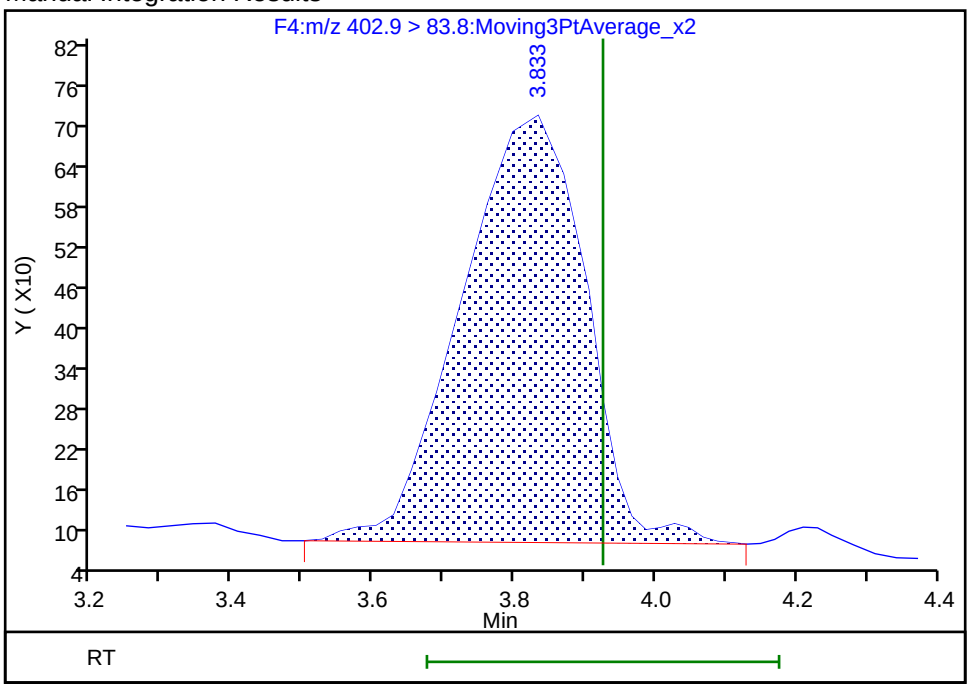
Processing Integration Results

RT: 3.83
Area: 7406
Amount: 2.263724
Amount Units: ng/ml



Manual Integration Results

RT: 3.83
Area: 7670
Amount: 2.344419
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:40:35

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

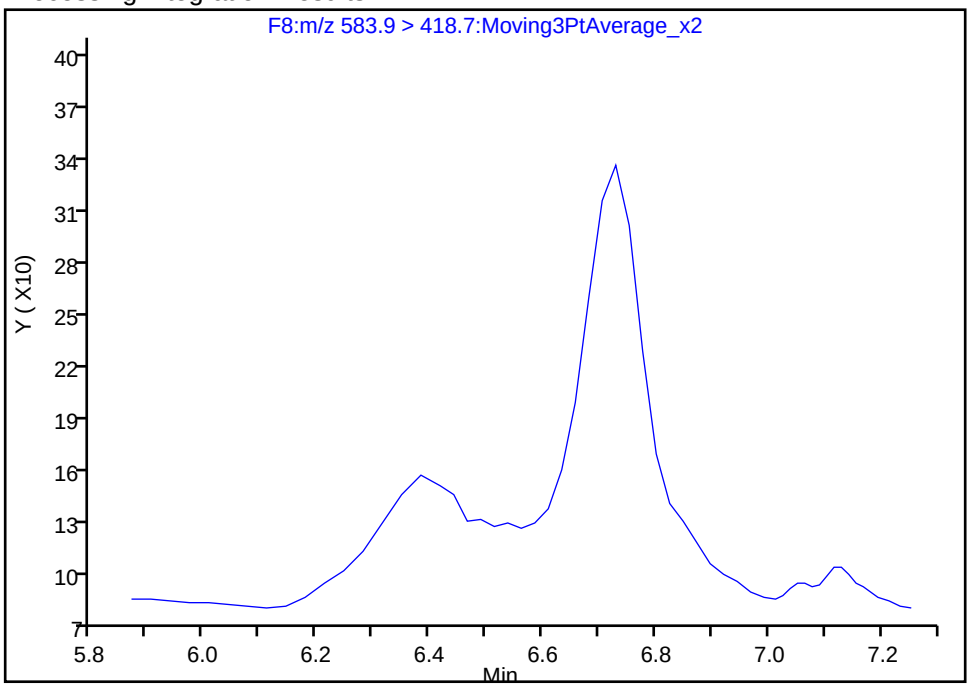
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

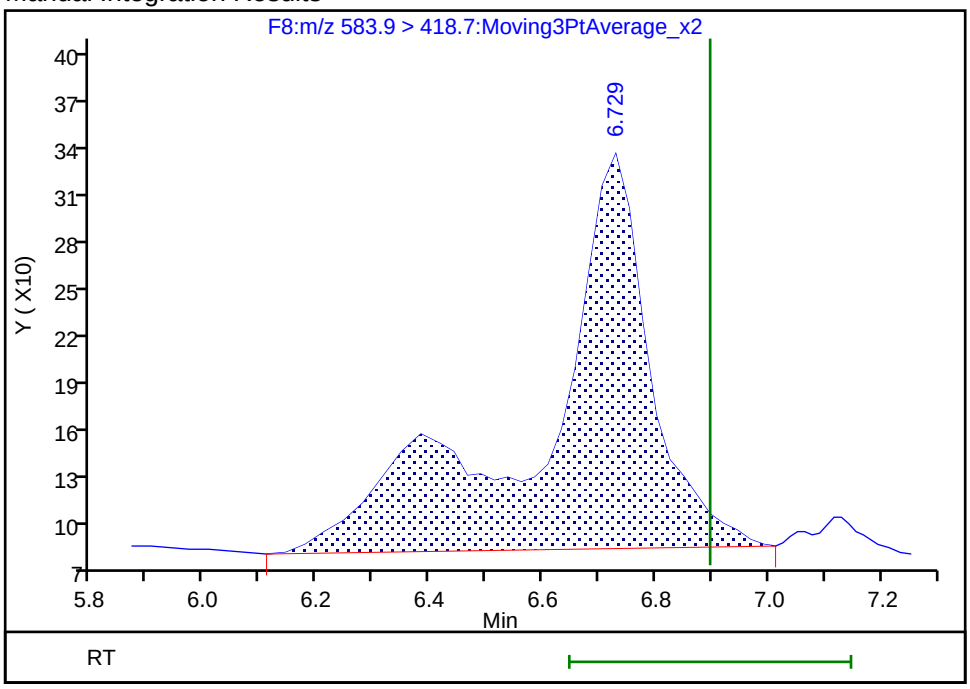
Not Detected
Expected RT: 6.90

Processing Integration Results



Manual Integration Results

RT: 6.73
Area: 3285
Amount: 0.731274
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:48:36
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

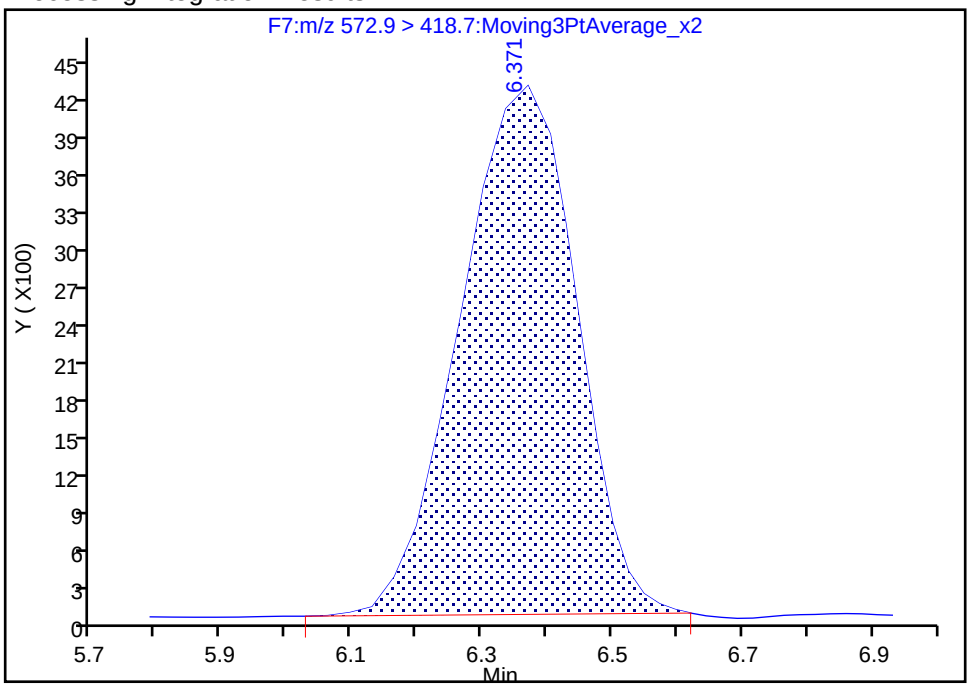
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 27 d3-NMeFOSAA, CAS: STL02118

Signal: 1

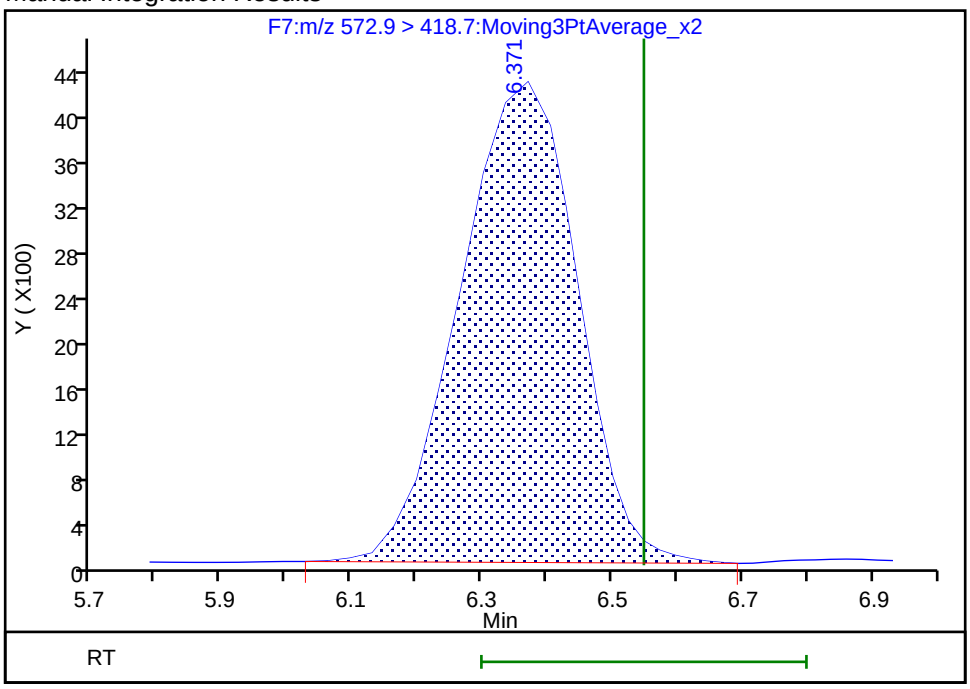
Processing Integration Results

RT: 6.37
Area: 52254
Amount: 4.550131
Amount Units: ng/ml



Manual Integration Results

RT: 6.37
Area: 53034
Amount: 4.618051
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:47:23

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

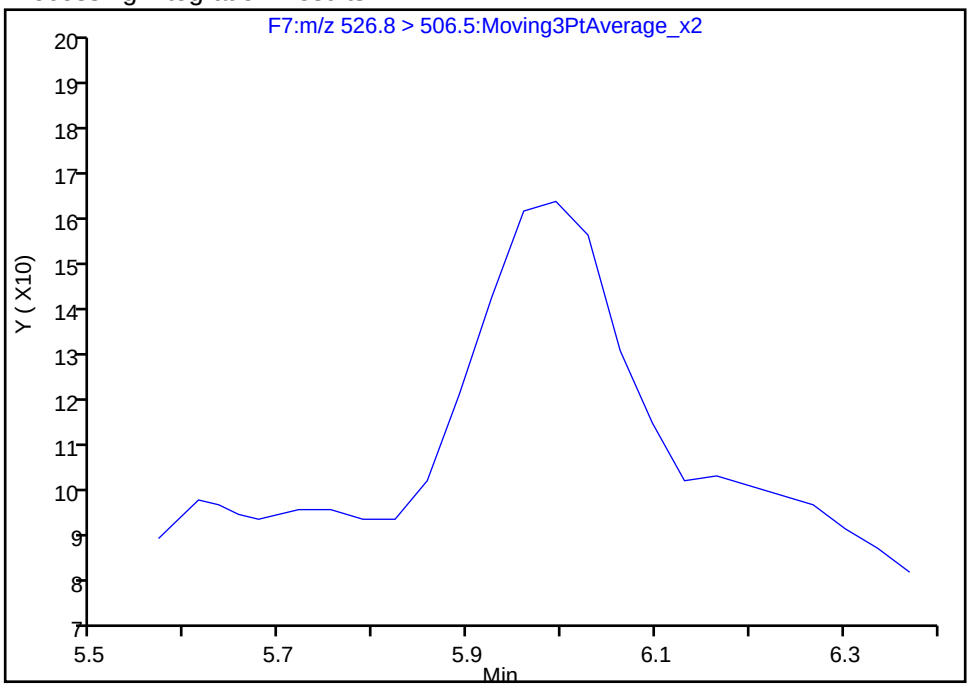
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B10.d				
Injection Date:	05-Jun-2019 03:42:38	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

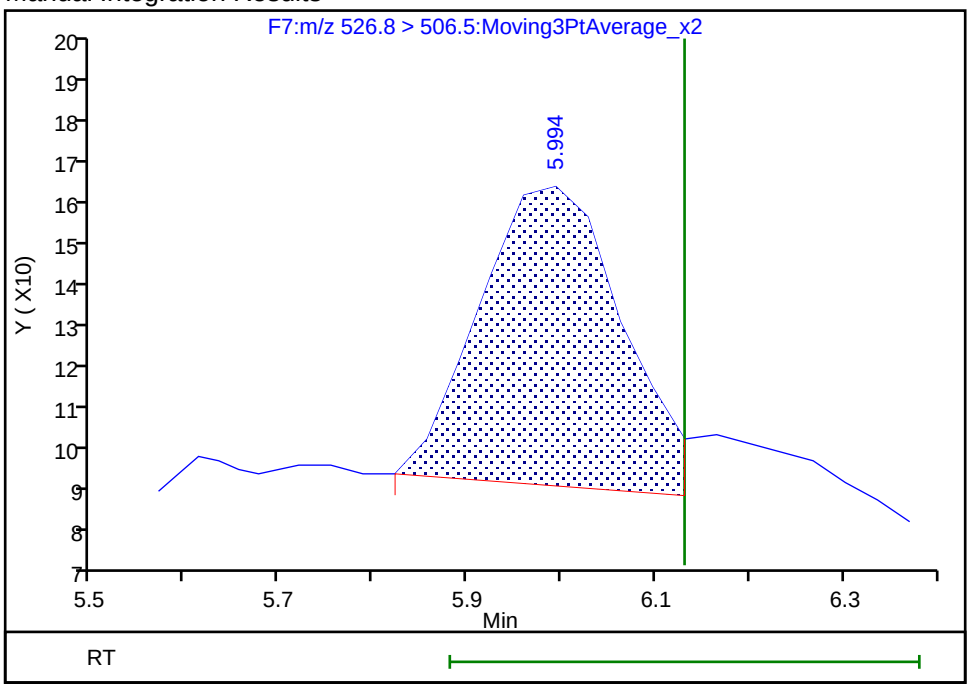
Not Detected
Expected RT: 6.13

Processing Integration Results



Manual Integration Results

RT: 5.99
Area: 720
Amount: 0.135111
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:48:50
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-4 051419 Lab Sample ID: 200-48826-8

Matrix: Water Lab File ID: PF060619A10.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 12:22

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.2(mL) Date Analyzed: 06/06/2019 14:47

Con. Extract Vol.: 0.5(mL) Dilution Factor: 10

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1800	B *	16	5.0

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	74		50-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A10.d
Lims ID: 200-48826-A-8-A
Client ID: VEW-4 051419
Sample Type: Client
Inject. Date: 06-Jun-2019 14:47:56 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 10.0000
Sample Info: 200-0036227010 8
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:18:10 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 07-Jun-2019 14:25:06
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
216.9 > 171.5	2.318	2.349	-0.031	1.000	19490	2.29		45.8	20.8	
2 Perfluorobutanoic acid										
212.9 > 168.9	2.530	2.360	0.170	1.091	500166	81.7			11.9	
D 4 13C5 PFPeA										
267.7 > 222.6	2.743	2.830	-0.087	1.000	16811	2.60		52.1	21.7	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.795	2.830	-0.035	1.019	12086	1.20			2.2	
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.901	-0.035	1.000	12673	4.51		97.0	26.8	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.302	-0.032	1.000	41560	2.15		42.9	227	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.798	3.869	-0.071	1.000	30141	1.79	Target=2.84		17.1	
362.9 > 168.9	3.726	3.869	-0.143	0.981	9453		3.19(1.42-4.26)		7.4	
D 10 13C4 PFHpA										
366.9 > 321.8	3.798	3.869	-0.071	1.000	71659	2.63		52.5	253	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.869	3.905	-0.036	1.000	5515	1.41	Target=1.34		13.0	
398.9 > 98.9	3.833	3.905	-0.072	0.991	2996		1.84(0.67-2.01)		12.3	
D 12 18O2 PFHxS										
402.9 > 83.8	3.869	3.925	-0.056	1.000	8748	2.44		51.5	37.4	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.475	4.526	-0.051	1.000	9299	4.79		101	43.2	
D 17 13C4 PFOA										
416.9 > 371.8	4.526	4.547	-0.021	1.000	104276	3.09		61.7	534	
* 16 13C2 PFOA										s
414.9 > 369.8	4.526	4.568	-0.042		174040	5.00			927	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										
412.9 > 368.8	4.526	4.568	-0.042	1.000	116778	5.53	Target=2.43		45.9	
412.9 > 168.9	4.526	4.568	-0.042	1.000	42225		2.77(1.22-3.64)		27.2	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.547	4.589	-0.042	0.855	4831	0.9306	Target=1.30		30.4	
448.9 > 98.9	4.568	4.589	-0.021	1.000	2683		1.80(0.65-1.95)		14.8	
D 20 13C5 PFNA										
467.8 > 422.8	5.285	5.336	-0.051	1.000	107320	2.37		47.4	577	
19 Perfluorononanoic acid										
462.9 > 418.7	5.316	5.336	-0.020	1.006	8064	0.4255	Target=5.00		22.7	
462.9 > 168.9	5.316	5.336	-0.020	1.006	2412		3.34(2.50-7.50)		17.2	
D 22 13C4 PFOS										
502.9 > 80.0	5.316	5.336	-0.020	1.000	28503	3.52		73.7	132	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.316	5.336	-0.020	1.000	632405	109.8	Target=1.41		2199	M
498.9 > 98.9	5.316	5.336	-0.020	1.000	436092		1.45(0.71-2.12)		2797	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.028	6.097	-0.069	1.000	35778	5.07		106	140	
D 25 13C2 PFDA										
514.9 > 469.5	6.062	6.131	-0.069	1.000	97166	2.51		50.2	271	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.405	6.477	-0.072	1.000	23493	1.86		37.3	116	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.753	6.849	-0.096	1.000	23447	2.26		45.1	166	
D 33 13C2 PFUnA										
564.8 > 519.8	6.777	6.897	-0.120	1.000	130775	3.50		70.1	816	
D 34 13C8 FOSA										
505.9 > 78.0	6.921	6.945	-0.024	1.000	34075	2.45		48.9	222	
D 37 13C2 PFDoA										
614.9 > 569.5	7.537	7.577	-0.040	1.000	108878	2.29		45.7	703	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.730	8.741	-0.011	1.000	82144	1.92		38.5	393	

QC Flag Legend

Processing Flags

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

Report Date: 10-Jun-2019 10:18:38 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A10.d

Injection Date: 06-Jun-2019 14:47:56 Instrument ID: LC410

Lims ID: 200-48826-A-8-A Lab Sample ID: 200-48826-8

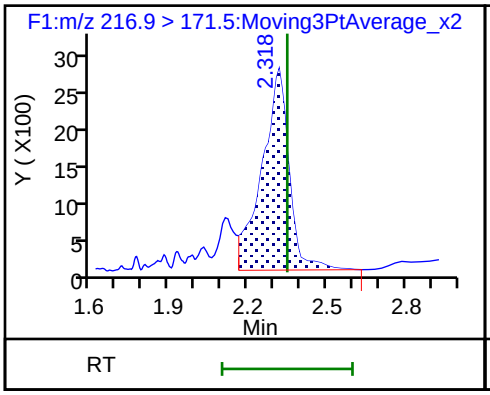
Client ID: VEW-4 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10

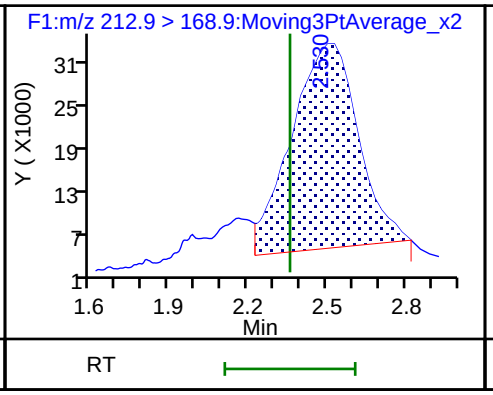
Injection Vol: 20.0 ul Dil. Factor: 10.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

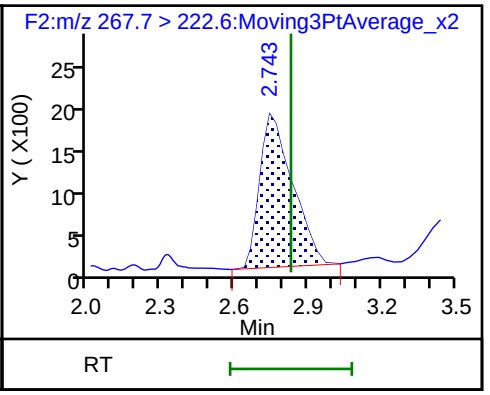
D 1 13C4 PFBA



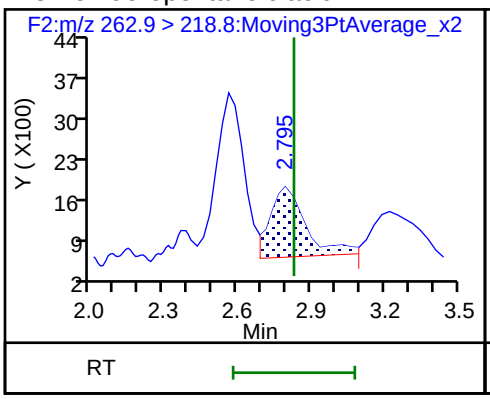
2 Perfluorobutanoic acid



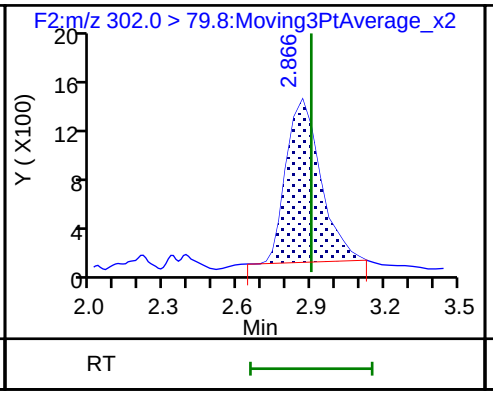
D 4 13C5 PFPeA



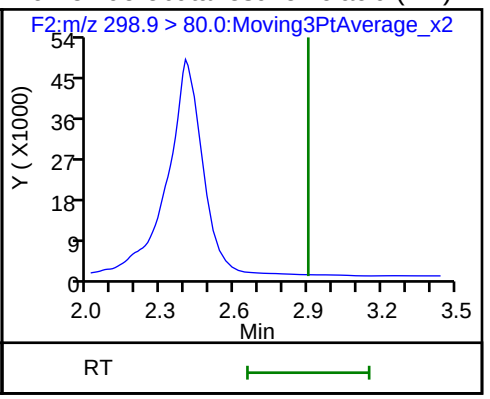
3 Perfluoropentanoic acid



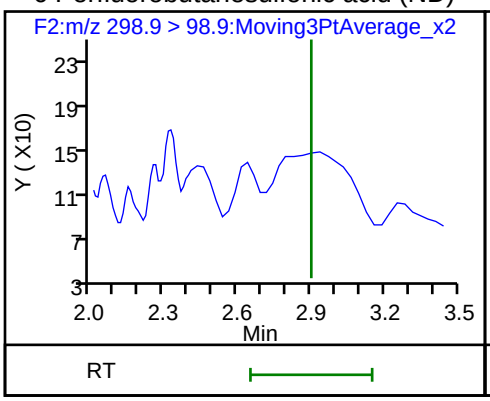
D 5 13C3 PFBS



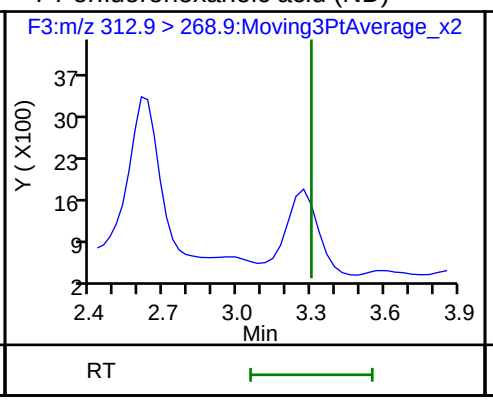
6 Perfluorobutanesulfonic acid (ND)



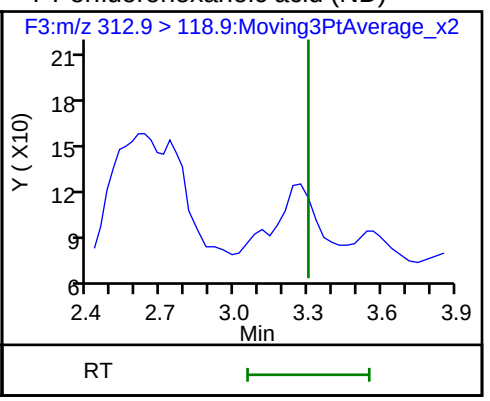
6 Perfluorobutanesulfonic acid (ND)



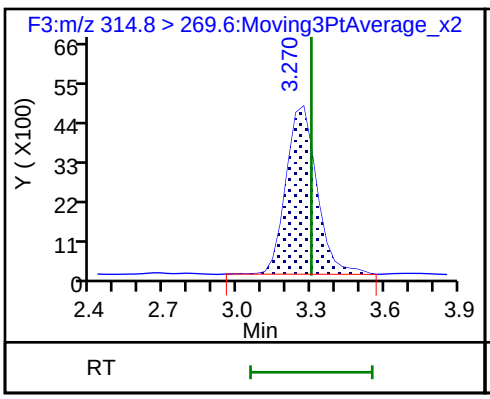
7 Perfluorohexanoic acid (ND)



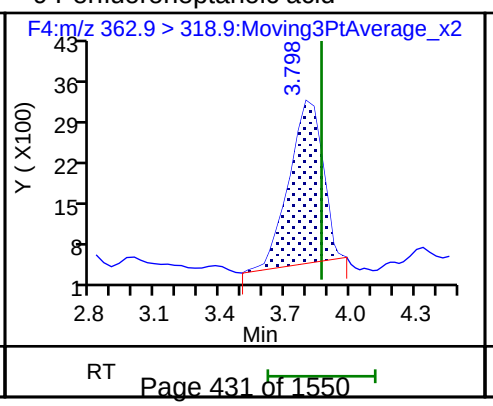
7 Perfluorohexanoic acid (ND)



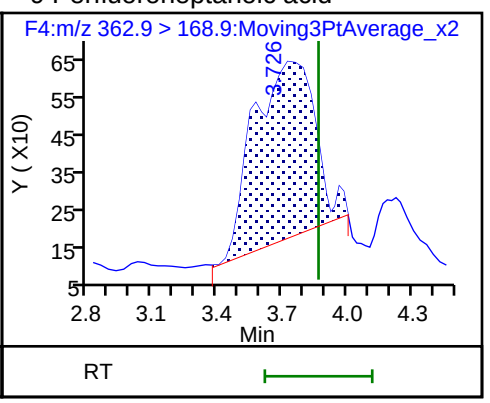
D 8 13C2 PFHxA



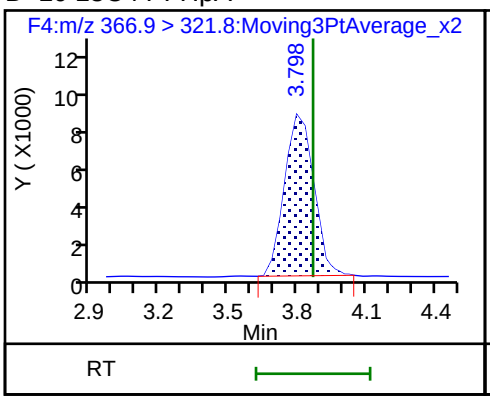
9 Perfluoroheptanoic acid



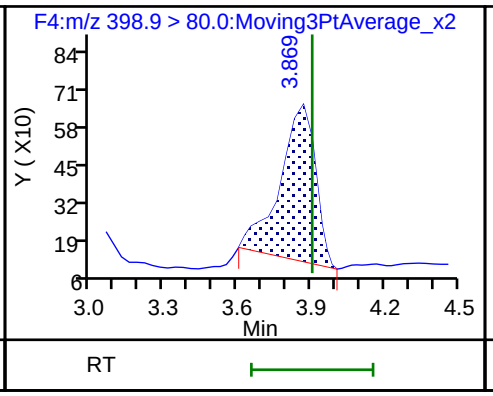
9 Perfluoroheptanoic acid



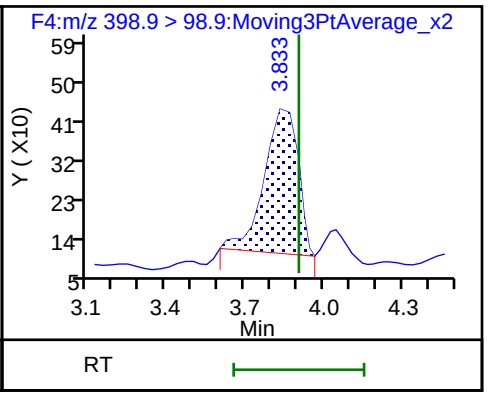
D 10 13C4 PFHpA



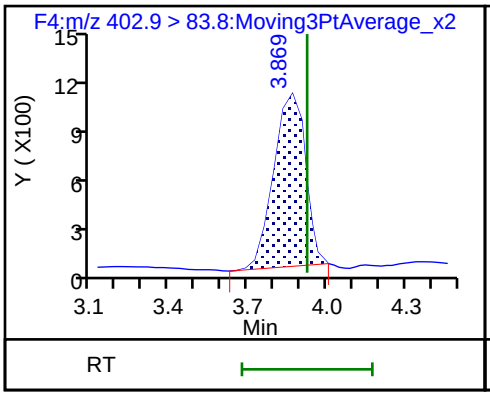
11 Perfluorohexanesulfonic acid



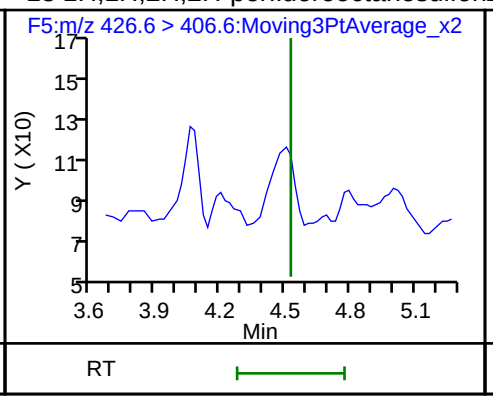
11 Perfluorohexanesulfonic acid



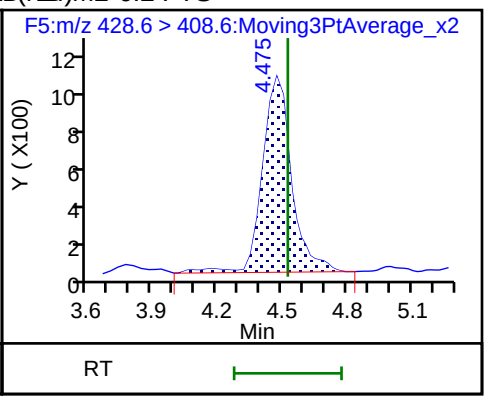
D 12 18O2 PFHxS



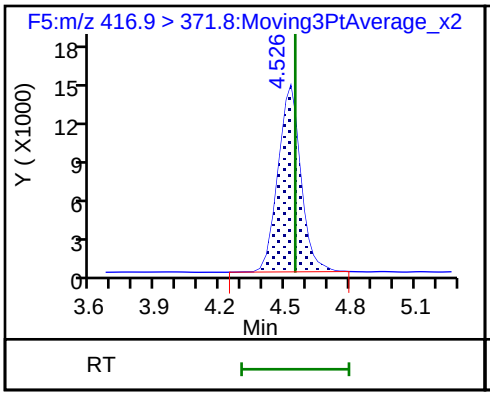
13 1H,1H,2H,2H-perfluorooctanesulfonic(NA)



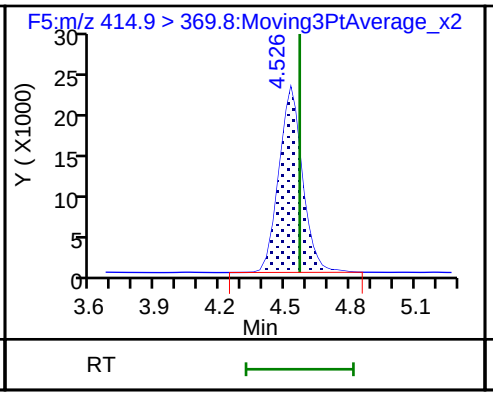
D(NA)M2-6:2 FTS



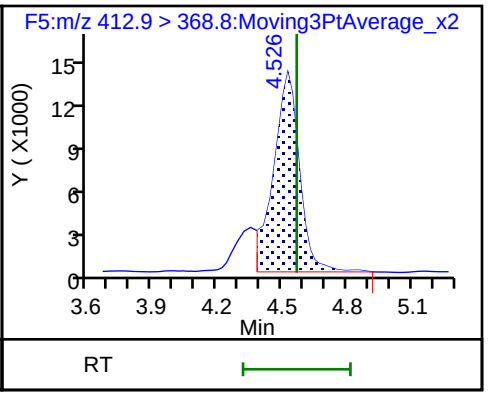
D 17 13C4 PFOA



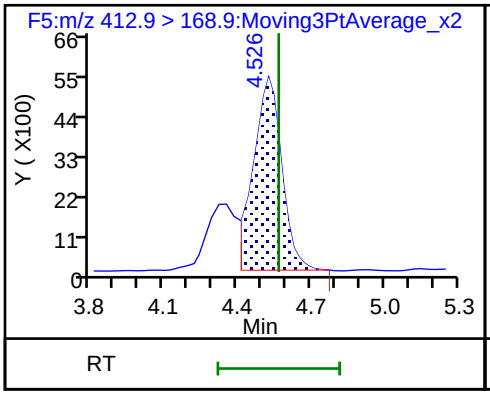
* 16 13C2 PFOA



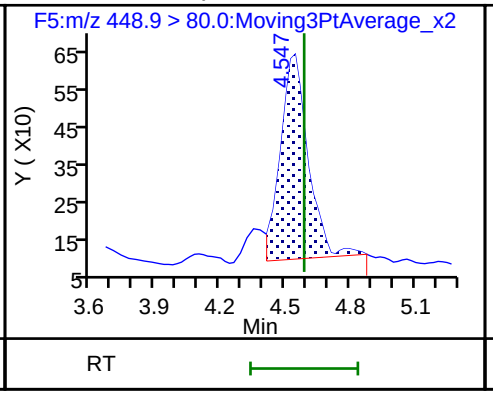
15 Perfluorooctanoic acid



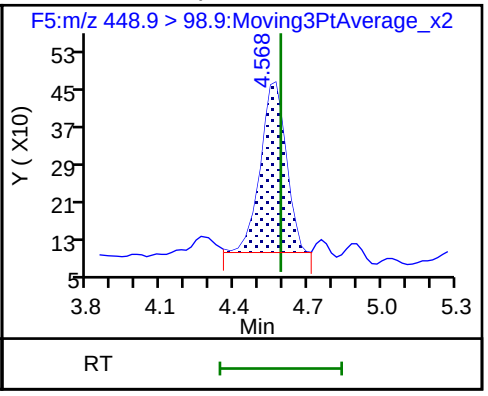
15 Perfluorooctanoic acid



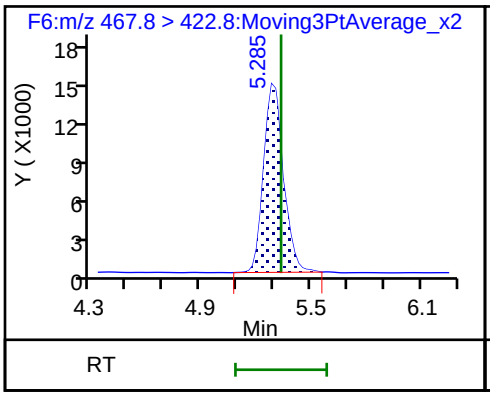
18 Perfluoroheptanesulfonic acid



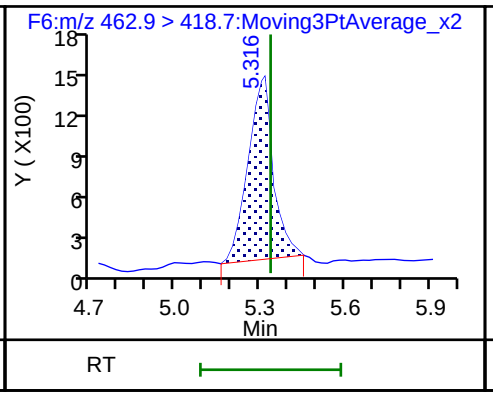
18 Perfluoroheptanesulfonic acid



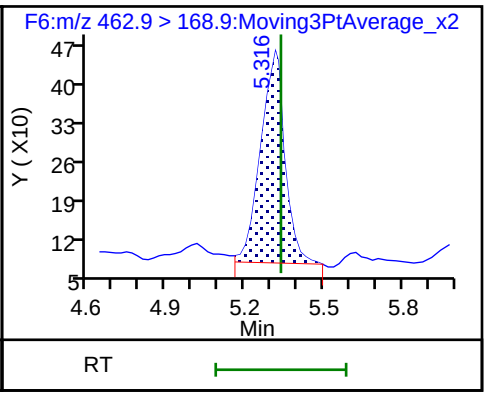
D 20 13C5 PFNA



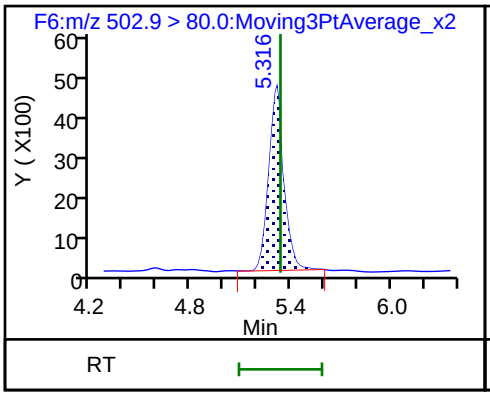
19 Perfluorononanoic acid



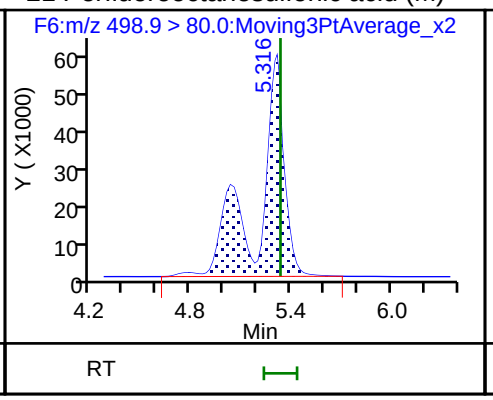
19 Perfluorononanoic acid



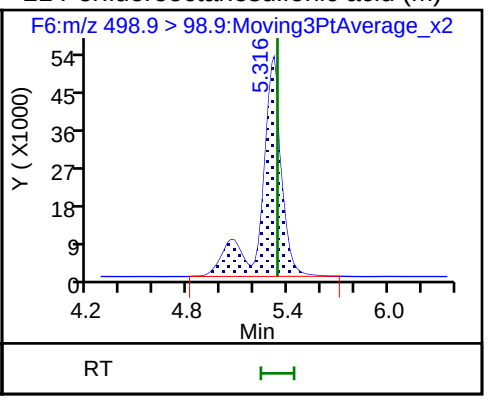
D 22 13C4 PFOS



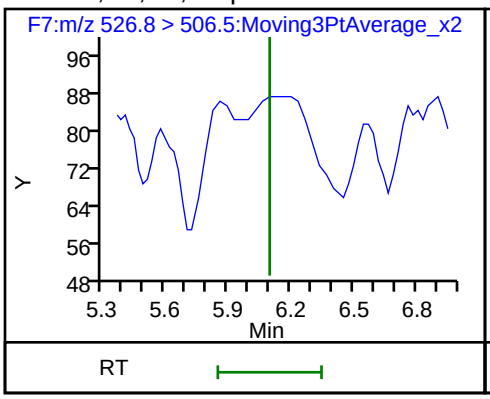
21 Perfluorooctanesulfonic acid (M)



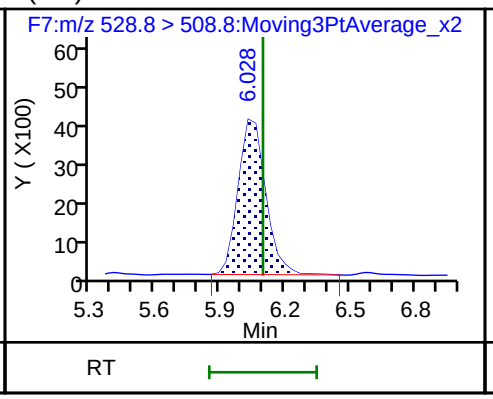
21 Perfluorooctanesulfonic acid (M)



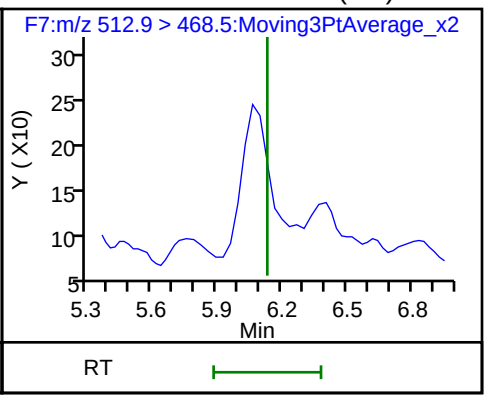
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



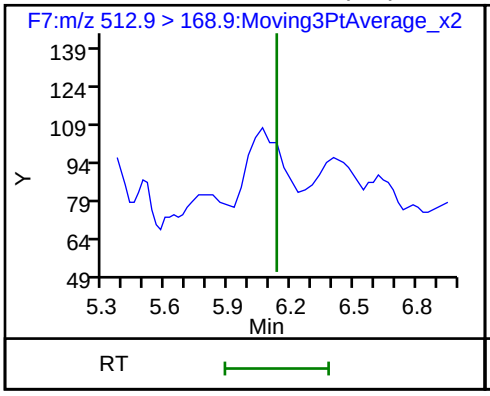
D 24 M2-8:2 FTS



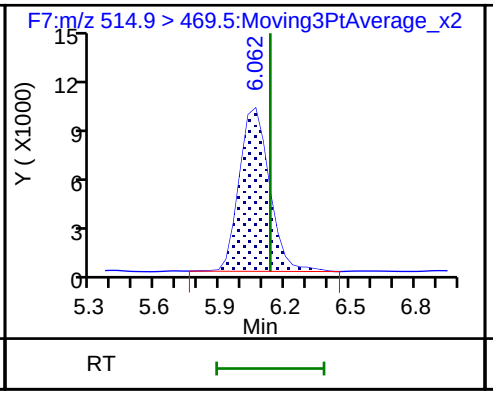
26 Perfluorodecanoic acid (ND)



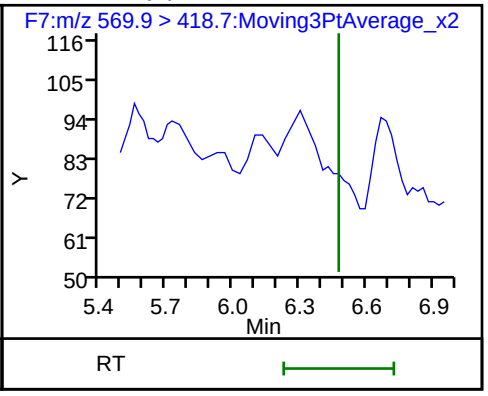
26 Perfluorodecanoic acid (ND)



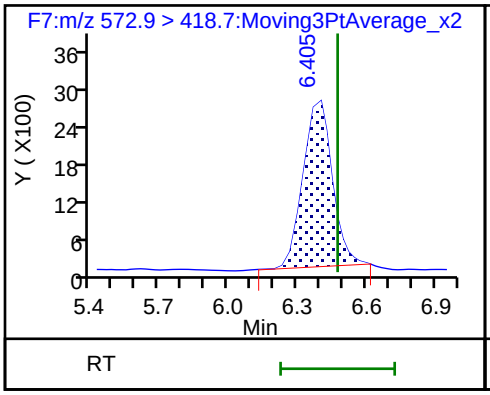
D 25 13C2 PFDA



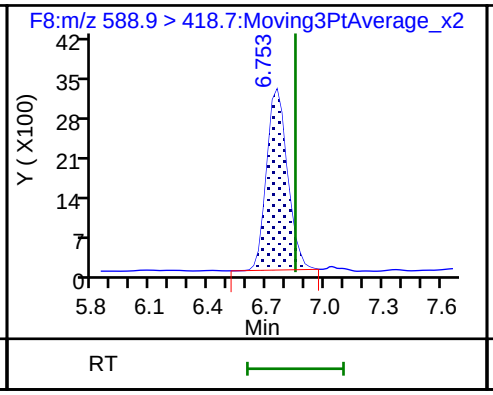
28 N-methylperfluorooctanesulfonamido (ND)



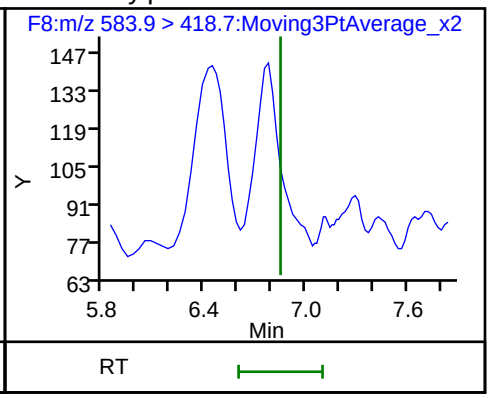
D 27 d3-NMeFOSAA



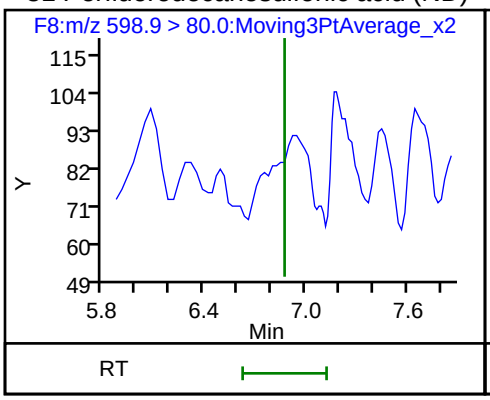
D 29 d5-NEtFOSAA



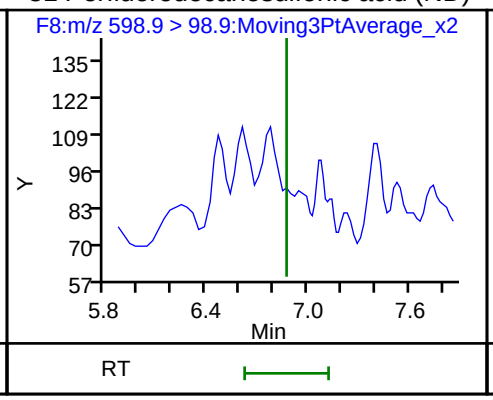
30 N-ethylperfluorooctanesulfonamidoa (ND)



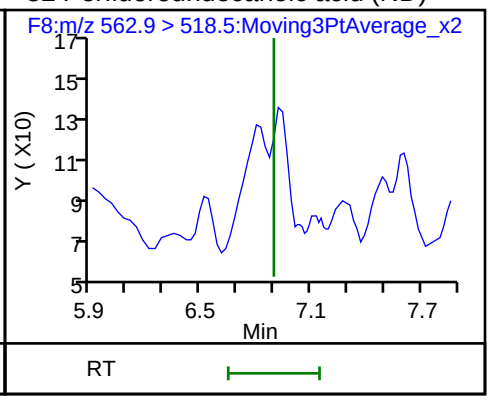
31 Perfluorodecanesulfonic acid (ND)



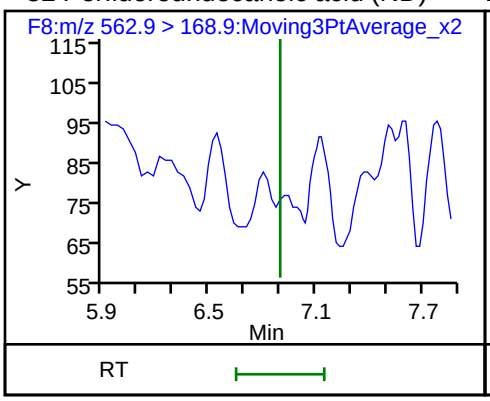
31 Perfluorodecanesulfonic acid (ND)



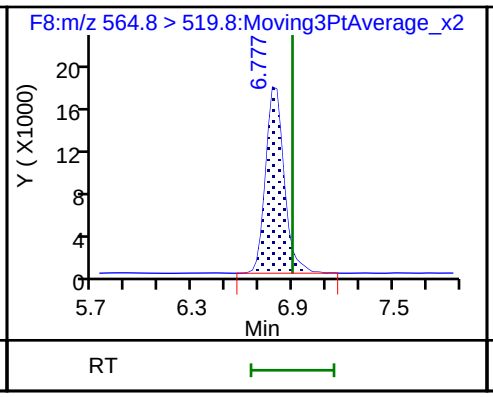
32 Perfluoroundecanoic acid (ND)



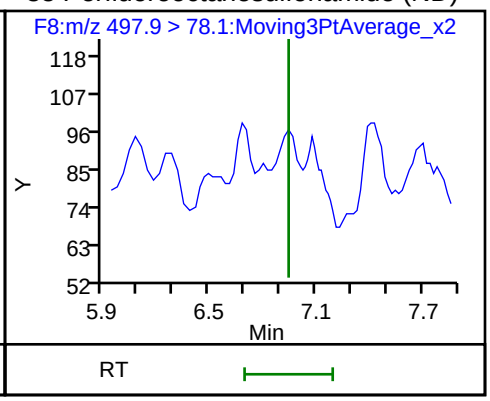
32 Perfluoroundecanoic acid (ND)



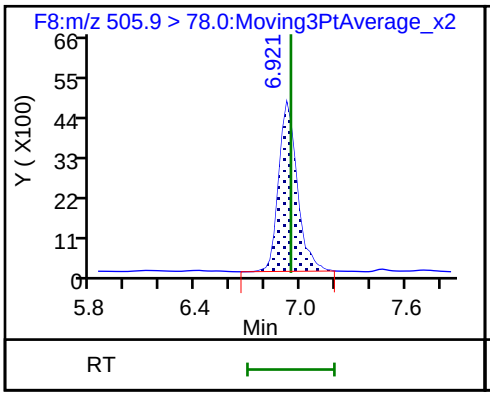
D 33 13C2 PFUnA



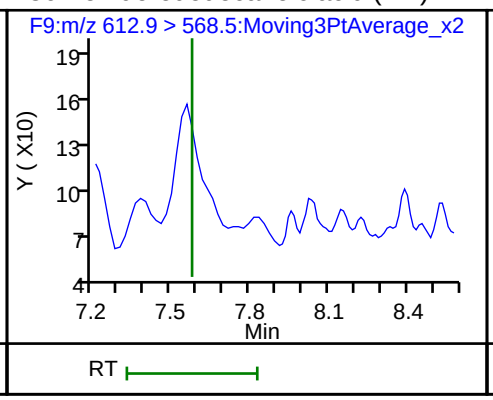
35 Perfluorooctanesulfonamide (ND)



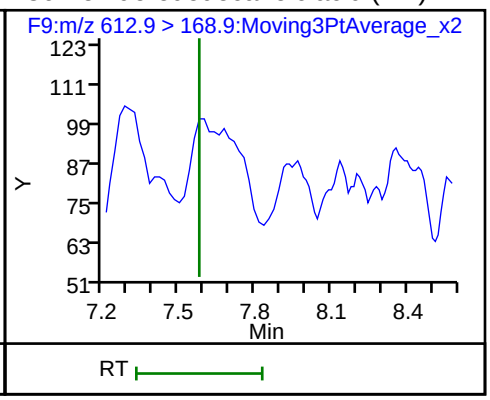
D 34 13C8 FOSA



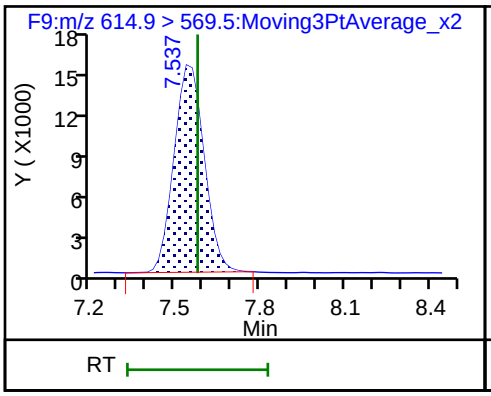
36 Perfluorododecanoic acid (ND)



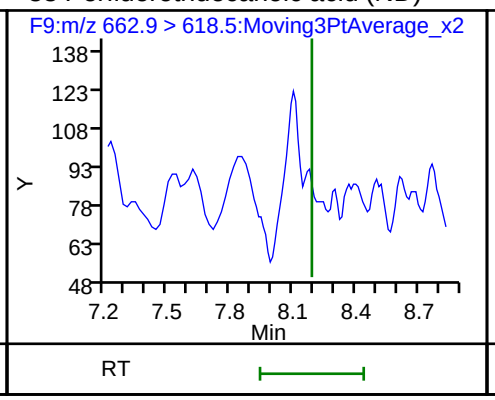
36 Perfluorododecanoic acid (ND)



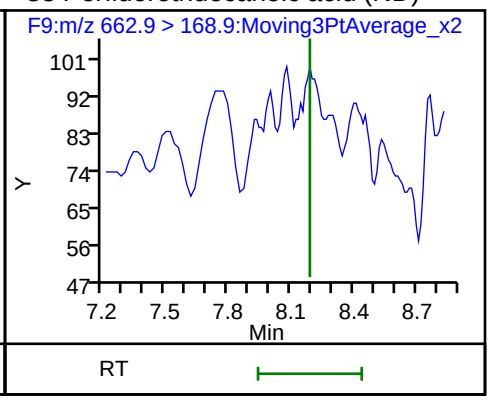
D 37 13C2 PFDoA



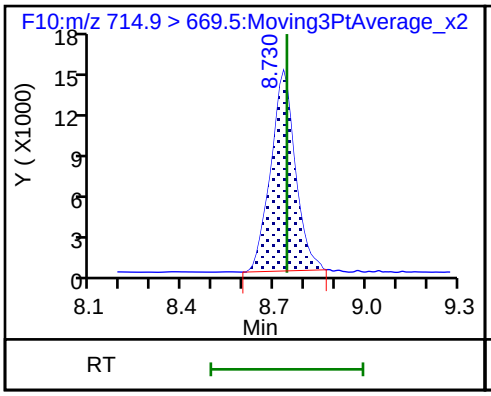
38 Perfluorotridecanoic acid (ND)



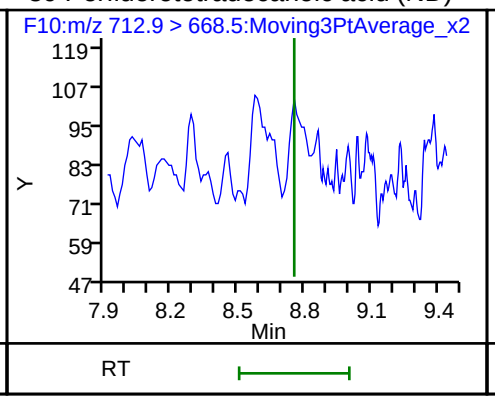
38 Perfluorotridecanoic acid (ND)



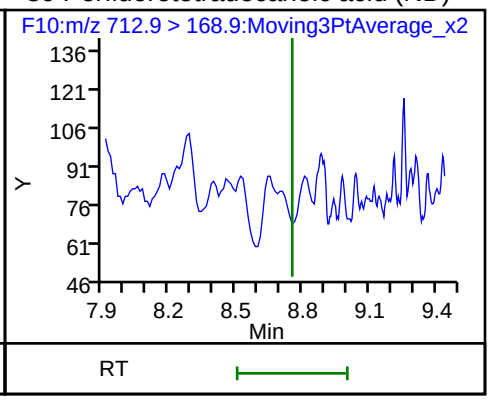
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



Eurofins TestAmerica, Burlington

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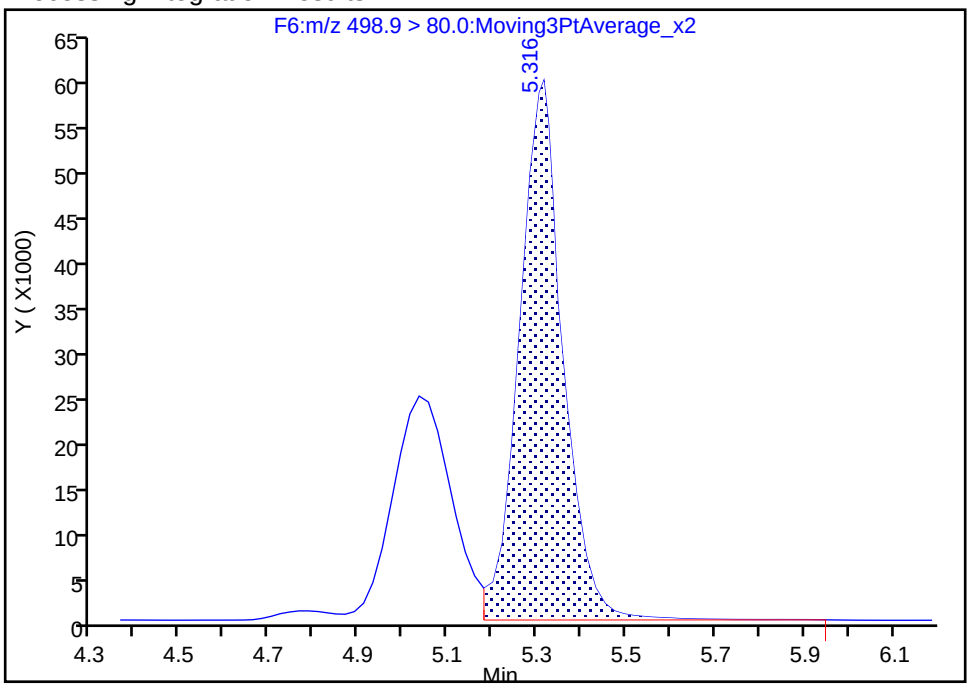
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

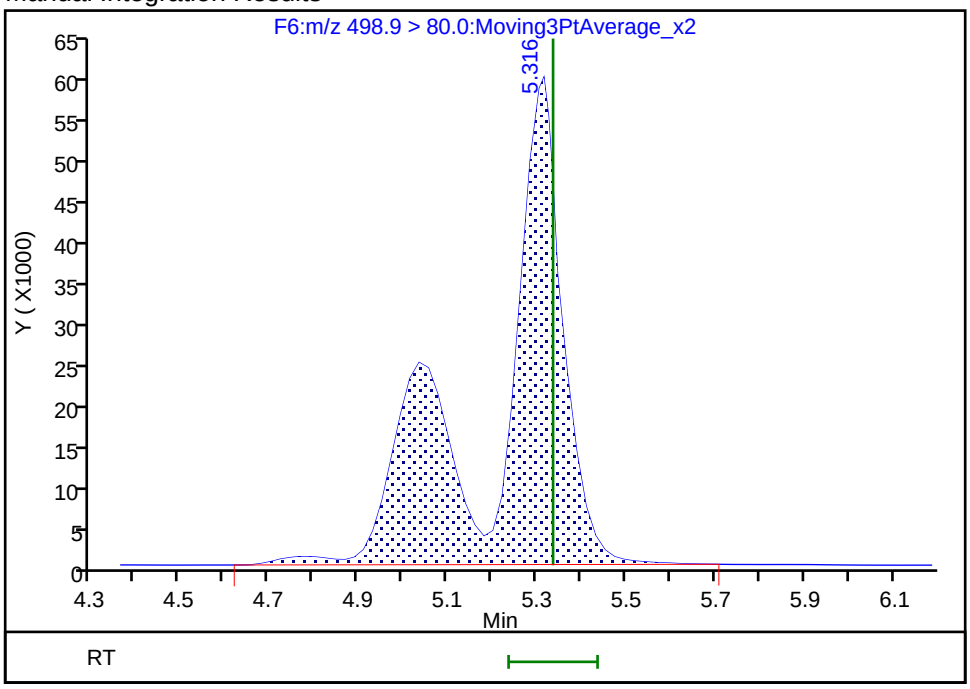
Processing Integration Results

RT: 5.32
Area: 401190
Amount: 69.668761
Amount Units: ng/ml



Manual Integration Results

RT: 5.32
Area: 632405
Amount: 109.8205
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 14:24:59
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

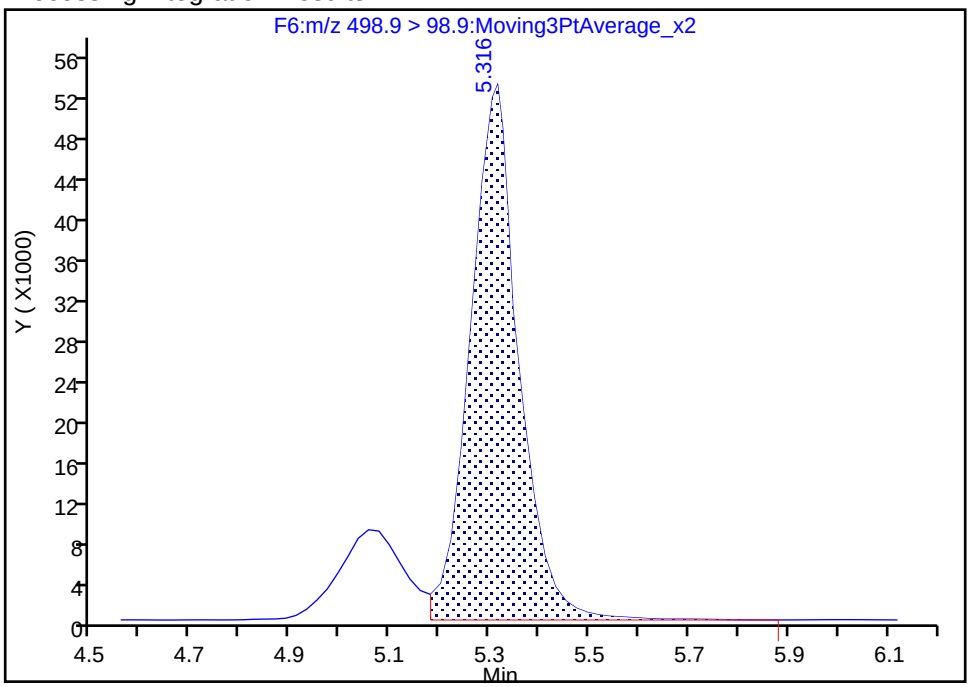
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A10.d				
Injection Date:	06-Jun-2019 14:47:56	Instrument ID:	LC410		
Lims ID:	200-48826-A-8-A	Lab Sample ID:	200-48826-8		
Client ID:	VEW-4 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	10
Injection Vol:	20.0 ul	Dil. Factor:	10.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

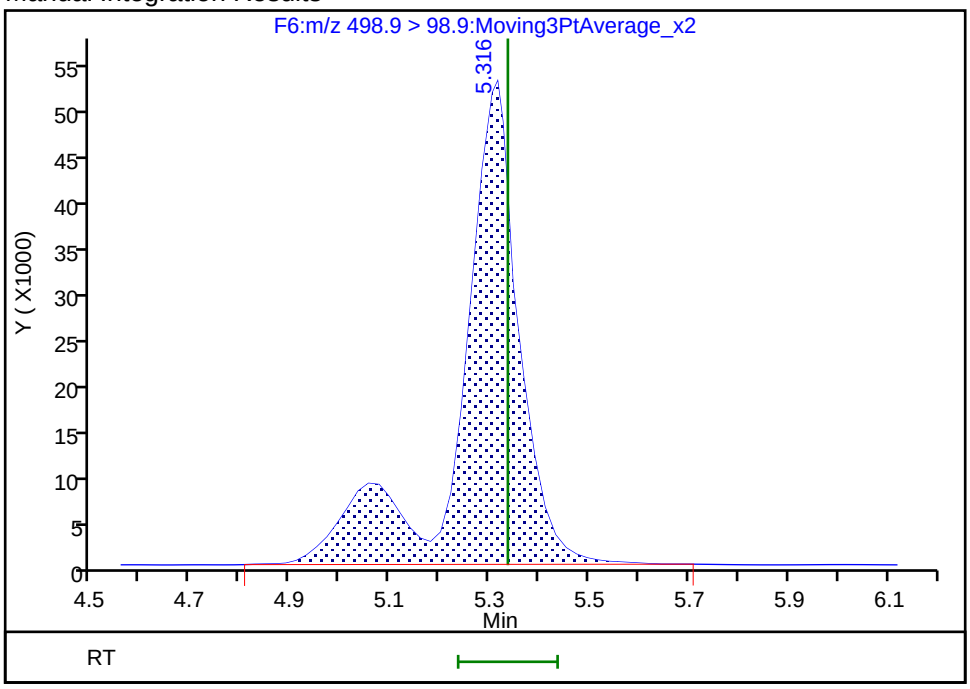
Processing Integration Results

RT: 5.32
Area: 357829
Amount: 69.668761
Amount Units: ng/ml



Manual Integration Results

RT: 5.32
Area: 436092
Amount: 109.8205
Amount Units: ng/ml



Reviewer: murrayjw, 07-Jun-2019 14:25:01

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: ASW 051419 Lab Sample ID: 200-48826-9

Matrix: Water Lab File ID: PF060419B11.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 13:54

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 307.4(mL) Date Analyzed: 06/05/2019 03:58

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.1	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		8.1	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	6.2	J	8.1	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	8.1		8.1	3.7
335-67-1	Perfluorooctanoic acid (PFOA)	24		8.1	2.6
375-95-1	Perfluorononanoic acid (PFNA)	6.5	J	8.1	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.1	3.7
375-73-5	Perfluorobutanesulfonic acid (PFBS)	22		8.1	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	12		8.1	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	7.5	J	8.1	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.1	3.7
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	240	B *	8.1	2.5
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.1	2.6
27619-97-2	6:2 FTS	ND		81	19

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	9	*	25-150
STL00992	13C4 PFBA	17	*	25-150
STL01893	13C5 PFPeA	39		25-150
STL00993	13C2 PFHxA	29	*	50-150
STL01892	13C4 PFHpA	45	*	50-150
STL00990	13C4 PFOA	59		50-150
STL00995	13C5 PFNA	50		50-150
STL02116	13C2 PFTeDA	62		50-150
STL02337	13C3 PFBS	28	*	50-150
STL00994	18O2 PFHxS	36	*	50-150
STL00991	13C4 PFOS	47	*	50-150
STL02279	M2-6:2 FTS	144		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d
Lims ID: 200-48826-A-9-A
Client ID: ASW 051419
Sample Type: Client
Inject. Date: 05-Jun-2019 03:58:29 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036200-011 9
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 12:01:33
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.246	2.360	-0.114	1.000	12137	1.66		16.6	13.8	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.717	2.830	-0.113	1.000	21384	3.85		38.5	6.0	
6 Perfluorobutanesulfonic acid										Ma
298.9 > 80.0	2.665	2.901	-0.236	0.954	4511	2.66	Target=1.67		0.1	a
298.9 > 98.9	2.769	2.901	-0.132	0.991	2671		1.69(0.83-2.51)		6.5	
D 5 13C3 PFBS										
302.0 > 79.8	2.795	2.901	-0.106	1.000	6268	2.60		27.9	28.0	
7 Perfluorohexanoic acid										RM
312.9 > 268.9	3.175	3.302	-0.127	1.000	5159	0.7623	Target=14.34		1.0	R
312.9 > 118.9	3.080	3.302	-0.222	0.970	93		55.47(7.17-21.51)		0.1	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.175	3.334	-0.159	1.000	48409	2.91		29.1	86.5	
D 10 13C4 PFHpA										
366.9 > 321.8	3.690	3.905	-0.215	1.000	105613	4.50		45.0	500	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.690	3.905	-0.215	1.000	12398	1.00	Target=2.84		5.7	M
362.9 > 168.9	3.654	3.905	-0.251	0.990	5774		2.15(1.42-4.26)		2.1	M
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.726	3.925	-0.199	1.000	3553	1.51	Target=1.34		3.8	M
398.9 > 98.9	3.726	3.925	-0.199	1.000	2481		1.43(0.67-2.01)		7.1	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.726	3.925	-0.199	1.000	10501	3.40		36.0	44.4	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.261	4.547	-0.286	0.000	22867	13.7		144	119	M
* 16 13C2 PFOA										sa
414.9 > 369.8	4.322	4.589	-0.267		299283	10.0			681	a

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.322	4.589	-0.267	1.000	51288	2.96	Target=2.43		138	M
412.9 > 168.9	4.353	4.589	-0.236	1.007	21583		2.38(1.22-3.64)		69.3	M
D 17 13C4 PFOA										M
416.9 > 371.8	4.322	4.609	-0.287	0.000	171514	5.90		59.0	629	M
18 Perfluoroheptanesulfonic acid										a
448.9 > 80.0	4.353	4.609	-0.256	0.898	2632	0.9228	Target=1.30		7.5	a
448.9 > 98.9	4.353	4.609	-0.256	1.000	1965		1.34(0.65-1.95)		7.4	
19 Perfluorononanoic acid										a
462.9 > 418.7	4.869	5.368	-0.499	1.004	13888	0.8016	Target=5.00		55.4	a
462.9 > 168.9	4.869	5.368	-0.499	1.004	3336		4.16(2.50-7.50)		12.6	
D 20 13C5 PFNA										a
467.8 > 422.8	4.848	5.389	-0.541	0.000	196220	5.04		50.4	937	a
21 Perfluorooctanesulfonic acid										a
498.9 > 80.0	4.703	5.389	-0.686	0.970	93608	29.6	Target=1.41		353	a
498.9 > 98.9	4.848	5.389	-0.541	1.000	63486		1.47(0.71-2.12)		321	
D 22 13C4 PFOS										a
502.9 > 80.0	4.848	5.411	-0.563	0.000	31322	4.50		47.1	124	a
D 34 13C8 FOSA										M
505.9 > 78.0	6.969	7.026	-0.057	1.000	10399	0.8678		8.7	21.7	M
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.819	-0.067	1.000	227314	6.19		61.9	247	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- s - Failed ISTD Recovery Test

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Report Date: 05-Jun-2019 15:51:19 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d

Injection Date: 05-Jun-2019 03:58:29 Instrument ID: LC410

Lims ID: 200-48826-A-9-A Lab Sample ID: 200-48826-9

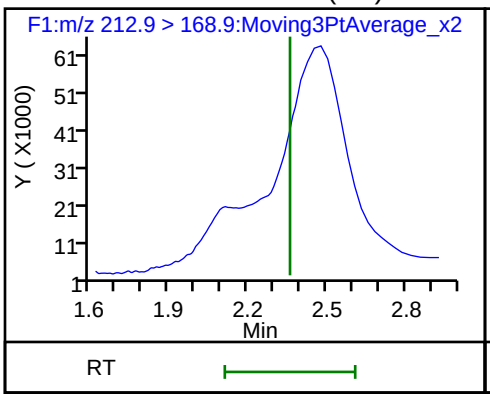
Client ID: ASW 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11

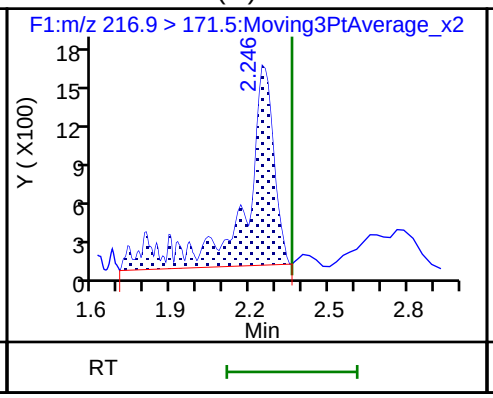
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

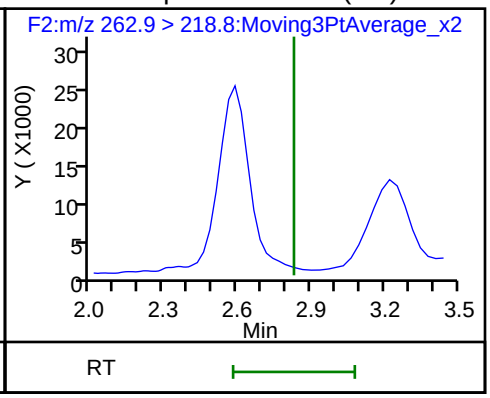
2 Perfluorobutanoic acid (ND)



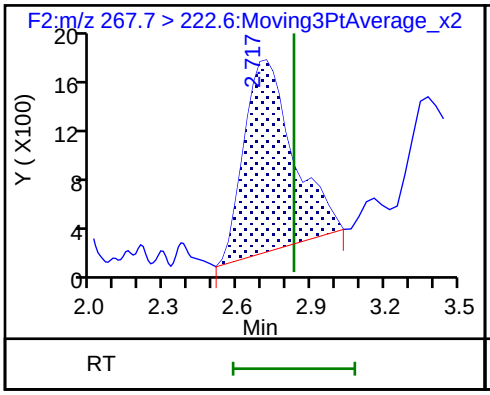
D 1 13C4 PFBA (M)



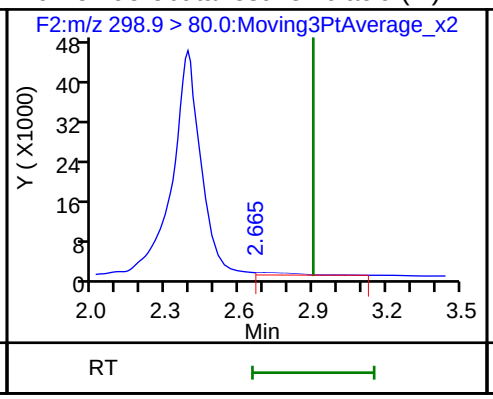
3 Perfluoropentanoic acid (ND)



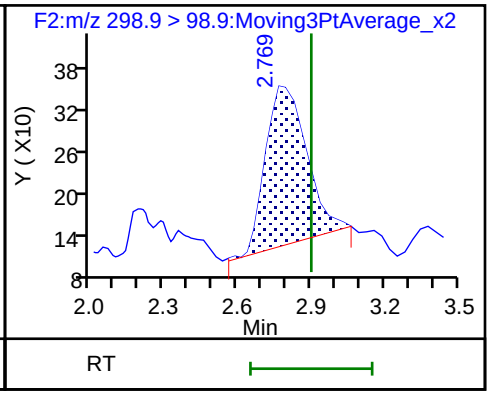
D 4 13C5 PFPeA



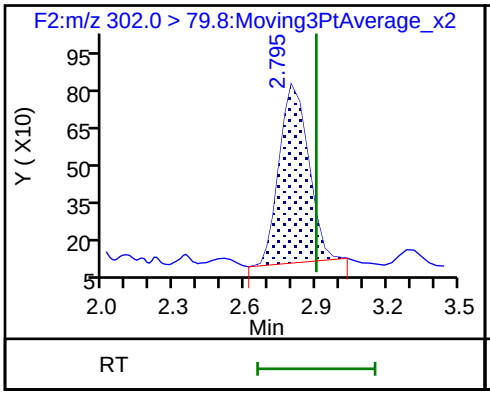
6 Perfluorobutanesulfonic acid (M)



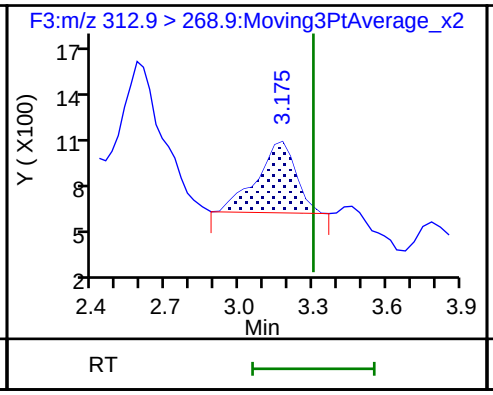
6 Perfluorobutanesulfonic acid



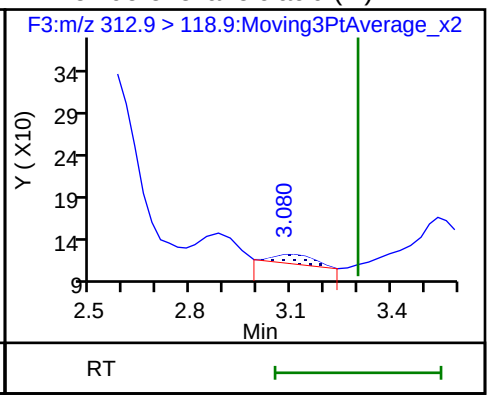
D 5 13C3 PFBS



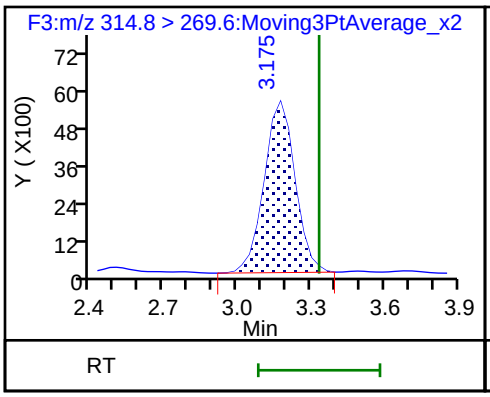
7 Perfluorohexanoic acid



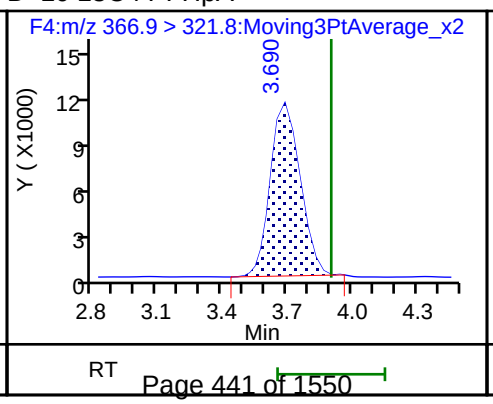
7 Perfluorohexanoic acid (M)



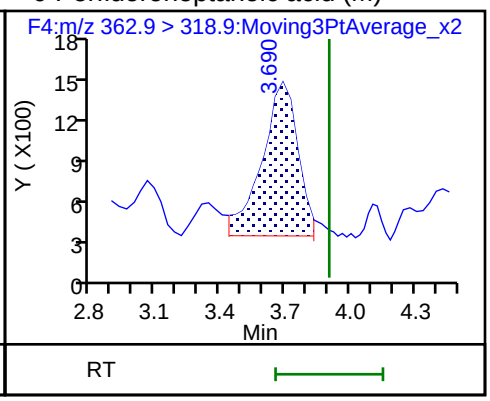
D 8 13C2 PFHxA



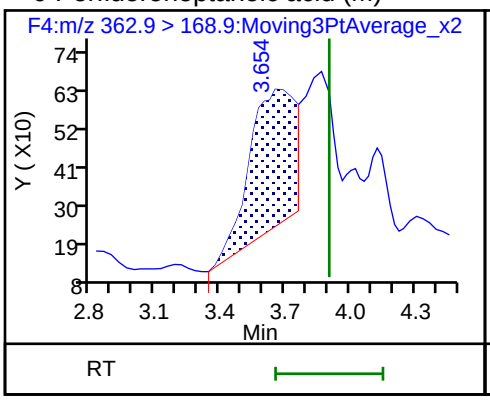
D 10 13C4 PFHpA



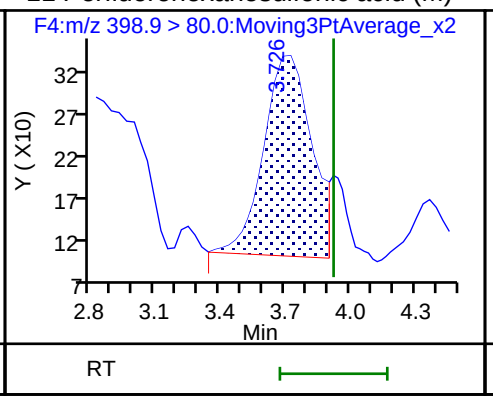
9 Perfluoroheptanoic acid (M)



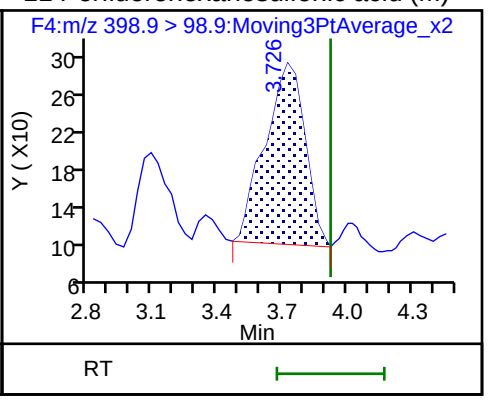
9 Perfluoroheptanoic acid (M)



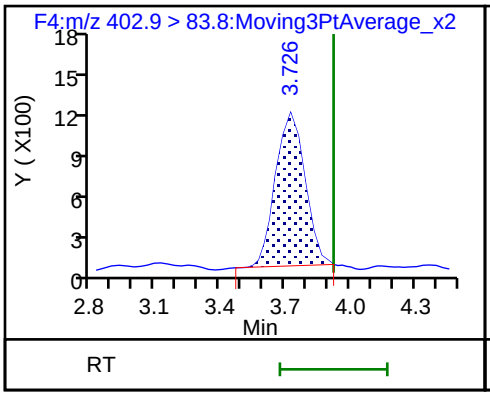
11 Perfluorohexanesulfonic acid (M)



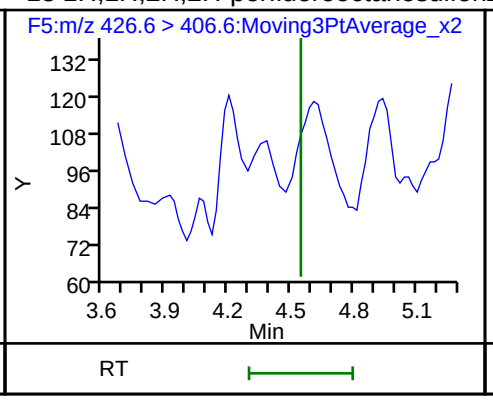
11 Perfluorohexanesulfonic acid (M)



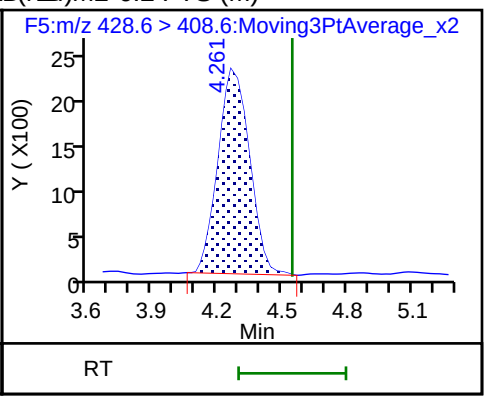
D 12 18O2 PFHxS



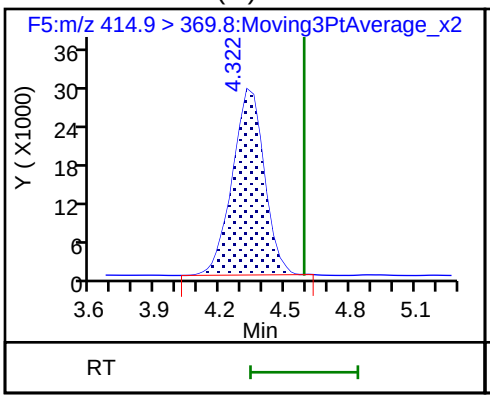
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2)



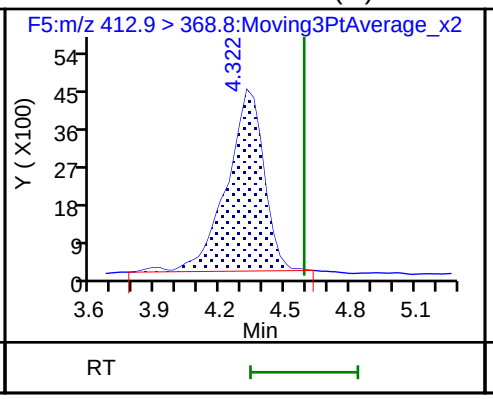
D (M2)M2-6:2 FTS (M)



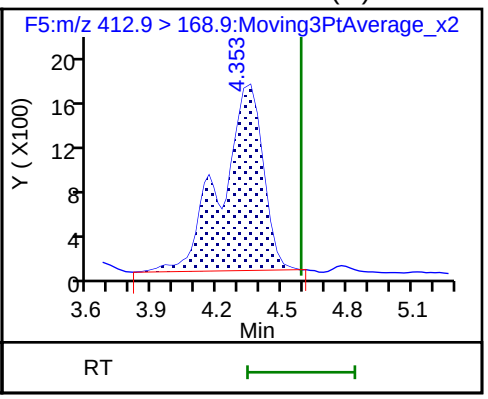
* 16 13C2 PFOA (M)



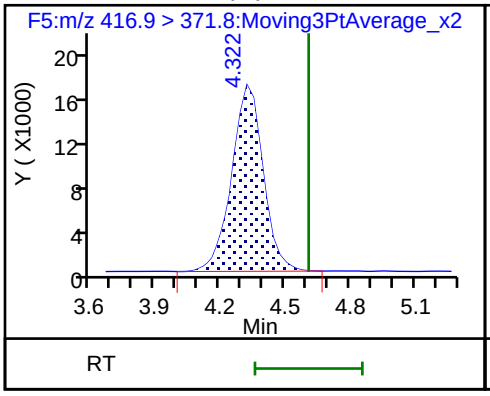
15 Perfluorooctanoic acid (M)



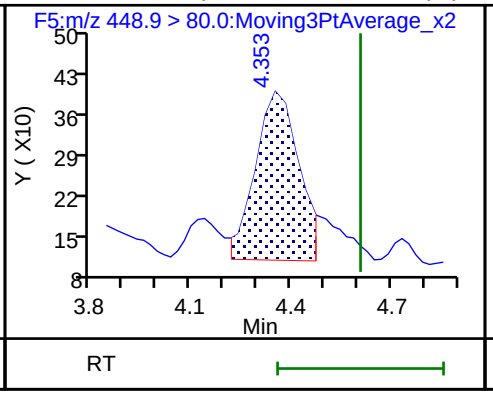
15 Perfluorooctanoic acid (M)



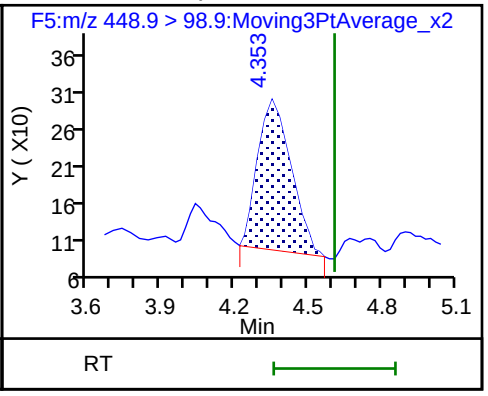
D 17 13C4 PFOA (M)



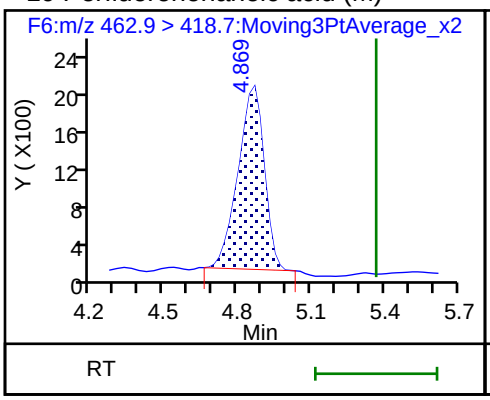
18 Perfluoroheptanesulfonic acid (M)



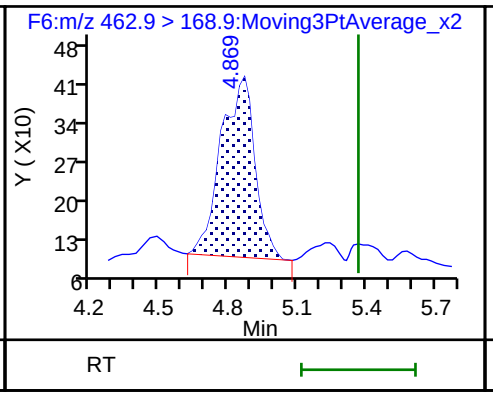
18 Perfluoroheptanesulfonic acid



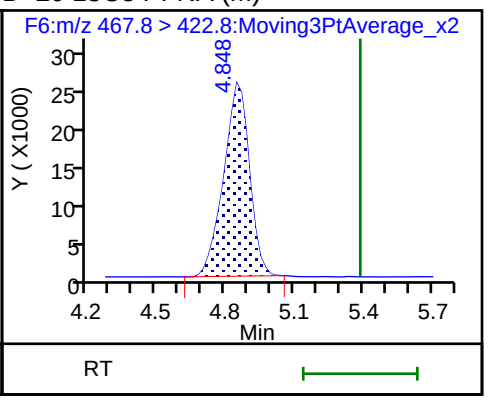
19 Perfluorononanoic acid (M)



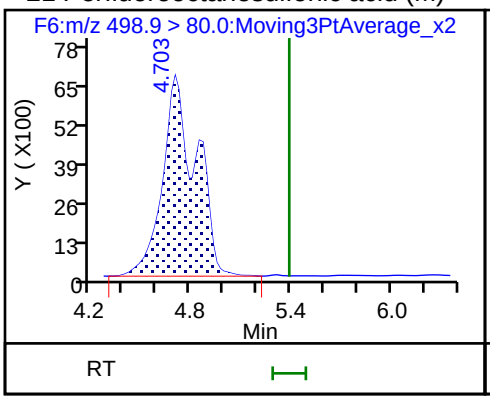
19 Perfluorononanoic acid



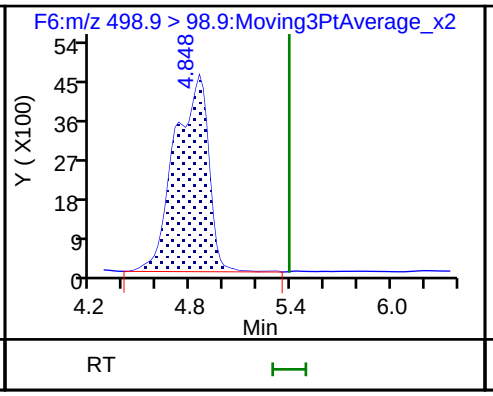
D 20 13C5 PFNA (M)



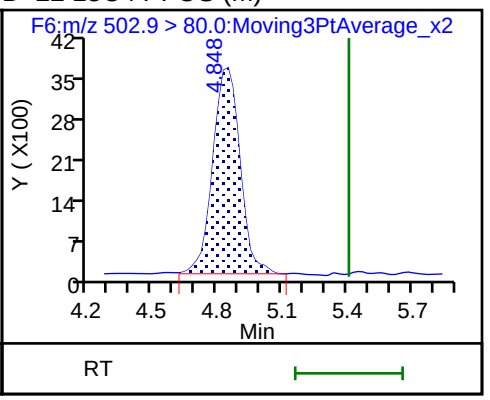
21 Perfluorooctanesulfonic acid (M)



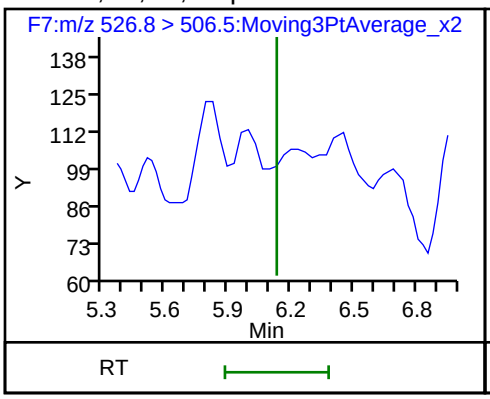
21 Perfluorooctanesulfonic acid



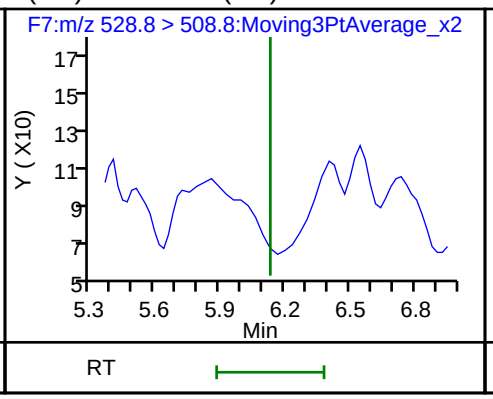
D 22 13C4 PFOS (M)



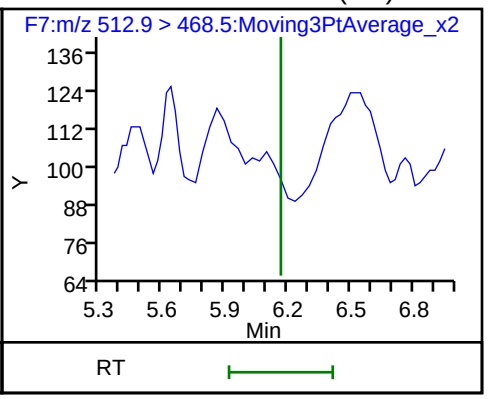
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



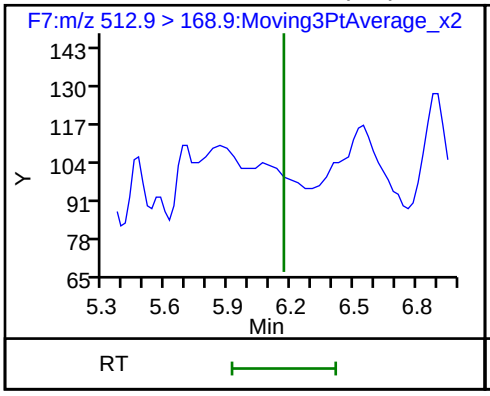
D 24 M2-8:2 FTS (ND)



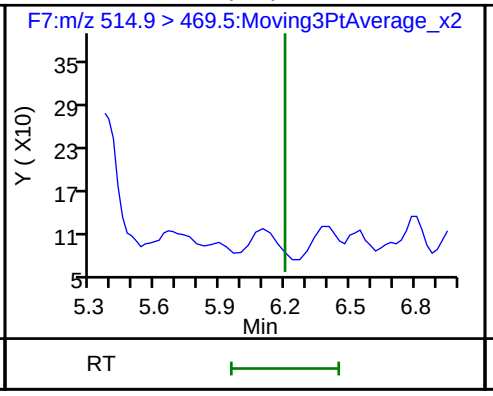
26 Perfluorodecanoic acid (ND)



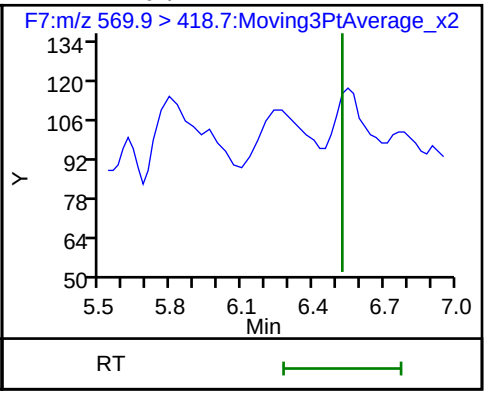
26 Perfluorodecanoic acid (ND)



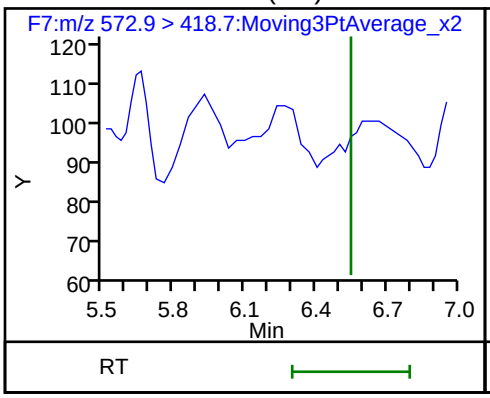
D 25 13C2 PFDA (ND)



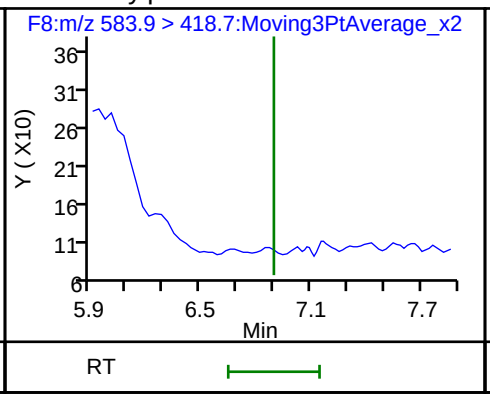
28 N-methylperfluorooctanesulfonamido (ND)



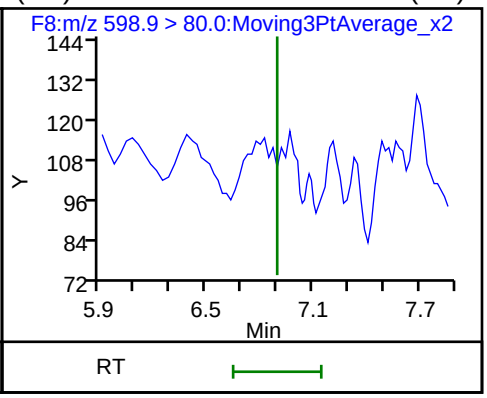
D 27 d3-NMeFOSAA (ND)



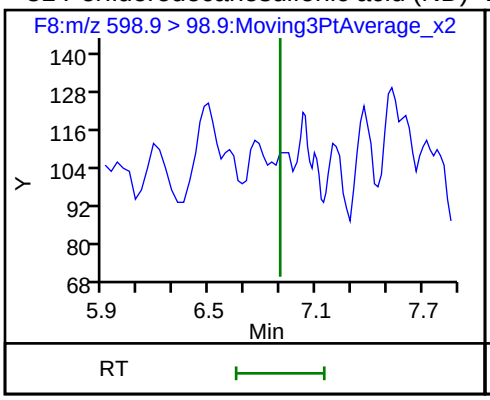
30 N-ethylperfluorooctanesulfonamidoa (ND)



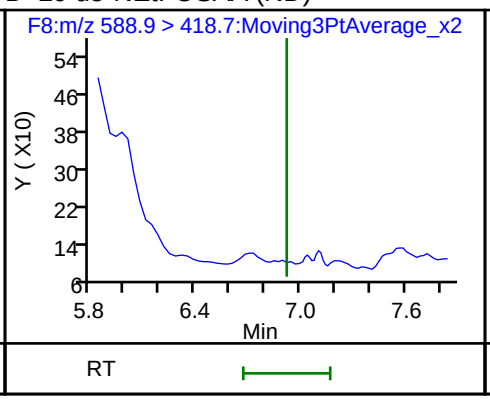
31 Perfluorodecanesulfonic acid (ND)



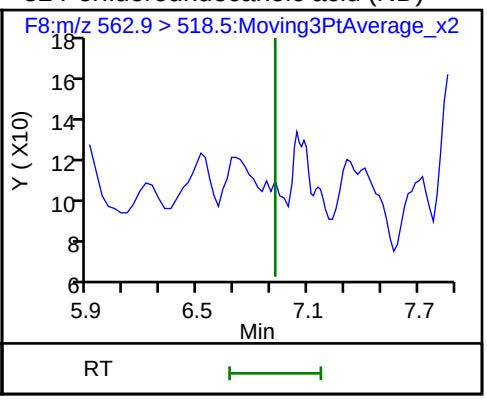
31 Perfluorodecanesulfonic acid (ND)



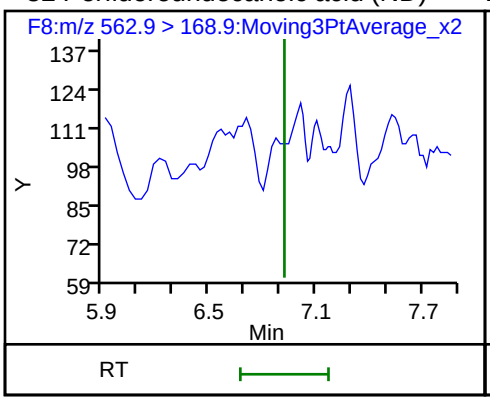
D 29 d5-NEtFOSAA (ND)



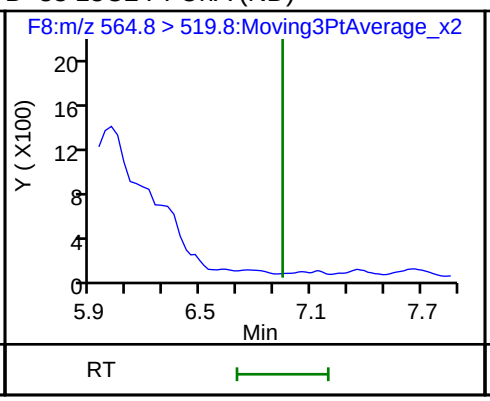
32 Perfluoroundecanoic acid (ND)



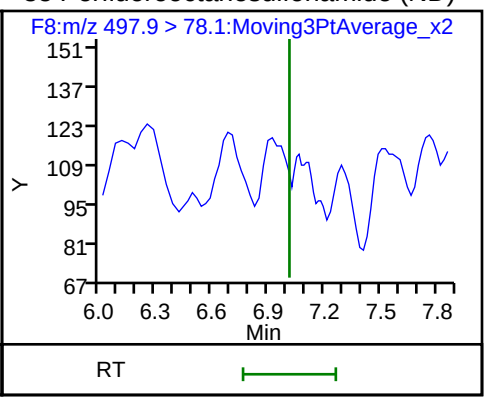
32 Perfluoroundecanoic acid (ND)



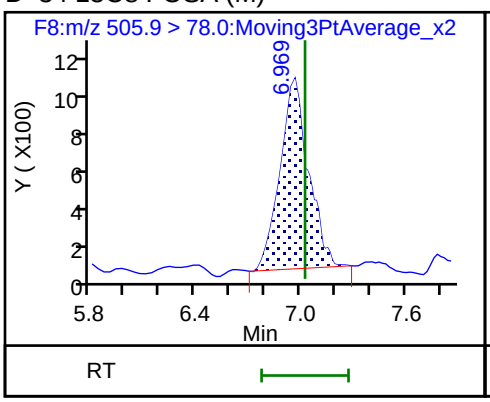
D 33 13C2 PFUnA (ND)



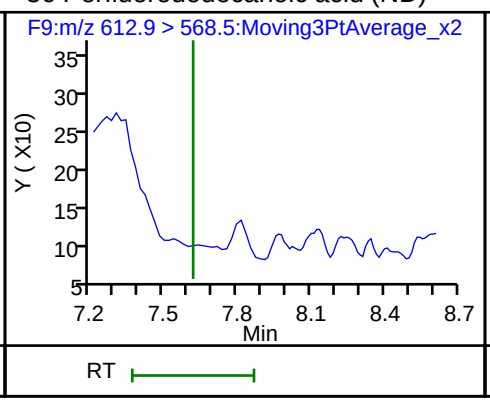
35 Perfluorooctanesulfonamide (ND)



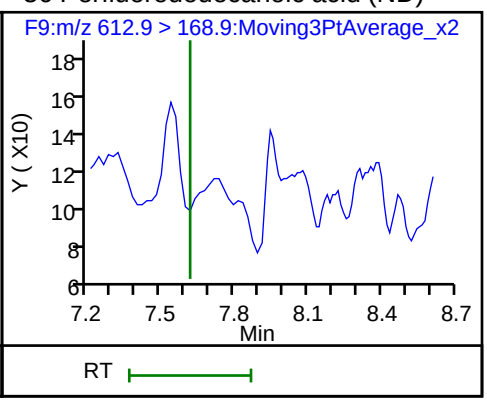
D 34 13C8 FOSA (M)



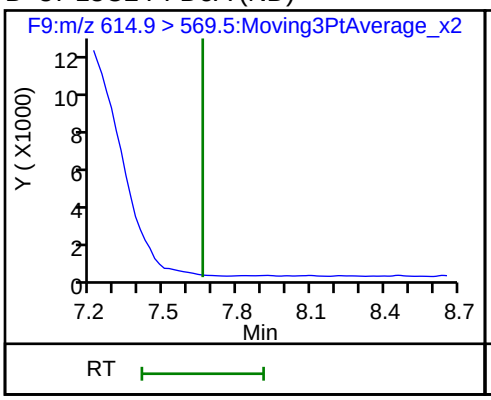
36 Perfluorododecanoic acid (ND)



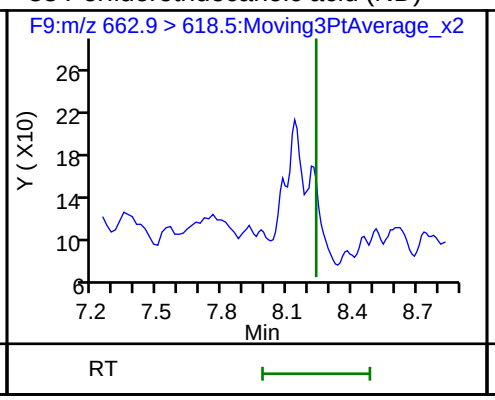
36 Perfluorododecanoic acid (ND)



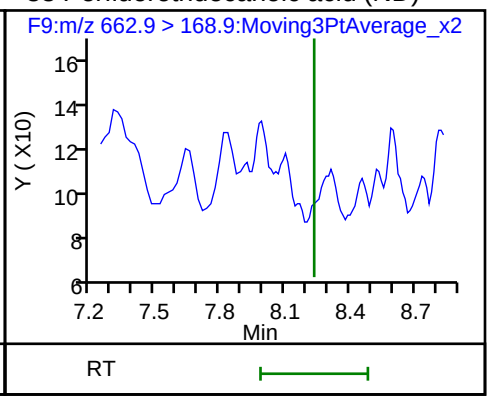
D 37 13C2 PFDoA (ND)



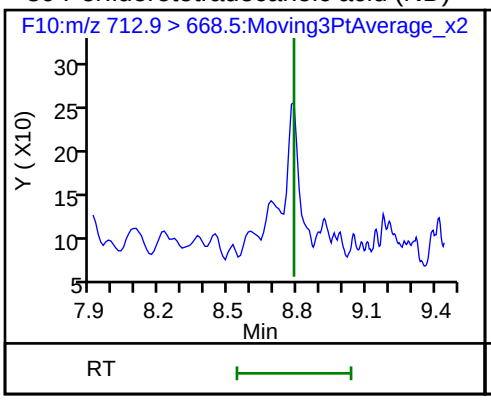
38 Perfluorotridecanoic acid (ND)



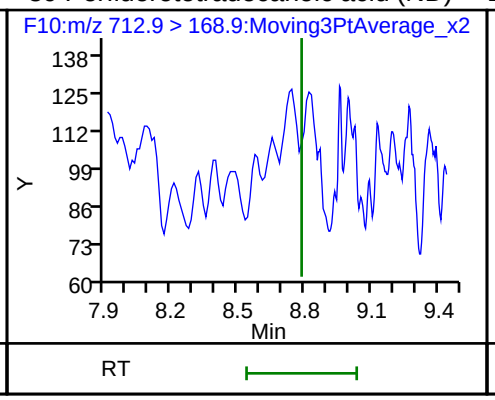
38 Perfluorotridecanoic acid (ND)



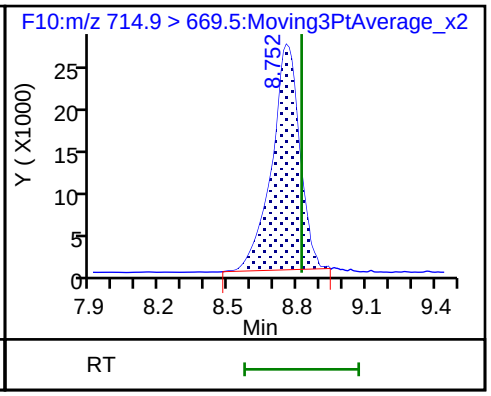
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



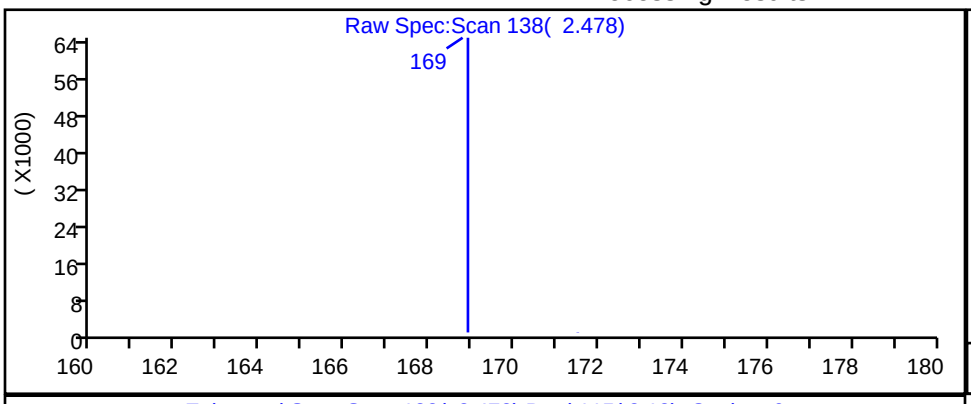
User Disabled Compound Report

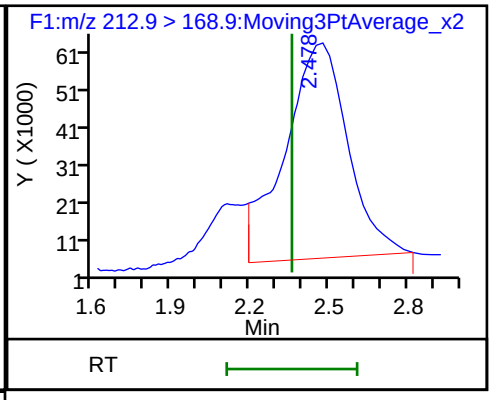
Eurofins TestAmerica, Burlington

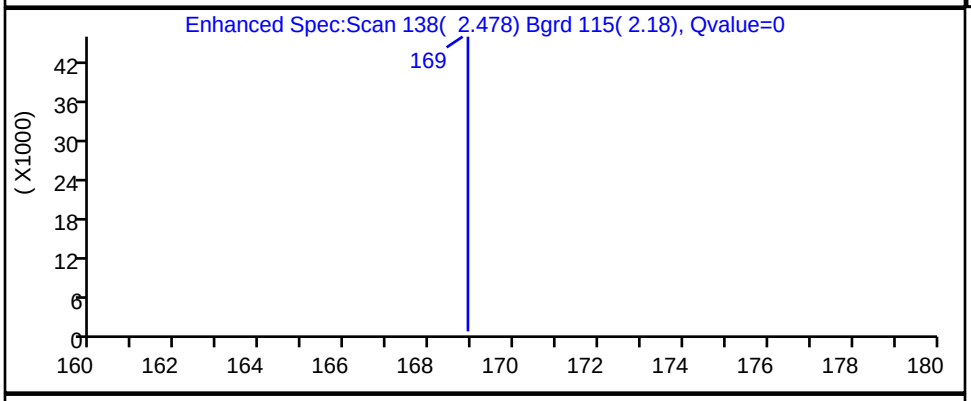
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

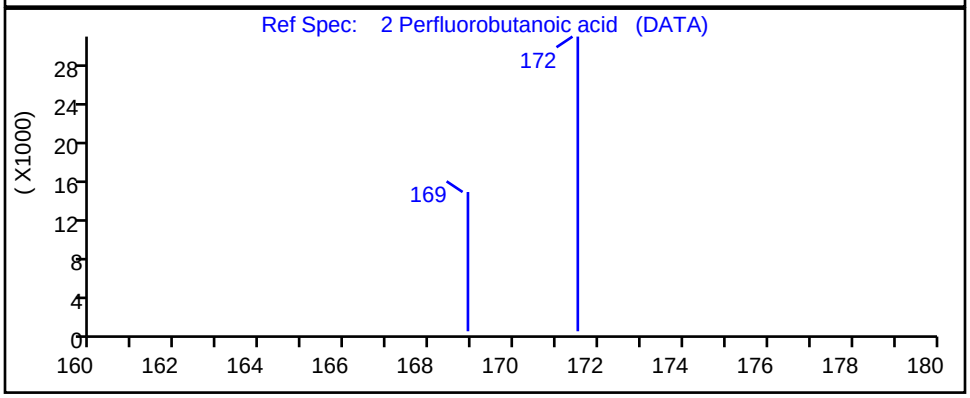
2 Perfluorobutanoic acid, CAS: 375-22-4

Processing Results









RT	Mass	Response	Amount
2.48	168.90	966044	

Reviewer: chirgwinb, 05-Jun-2019 11:53:13

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

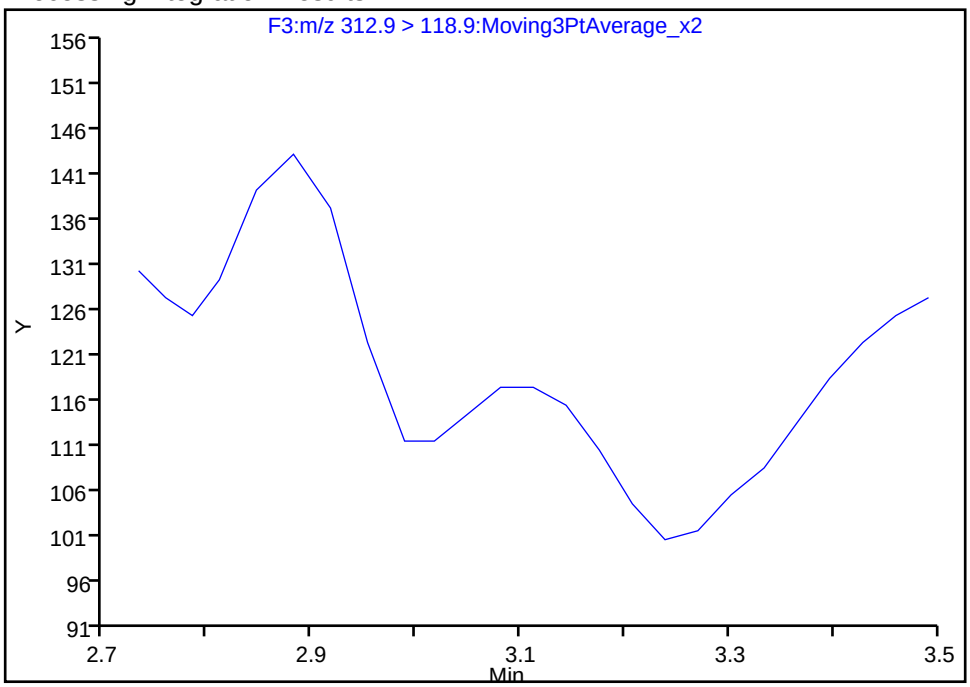
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

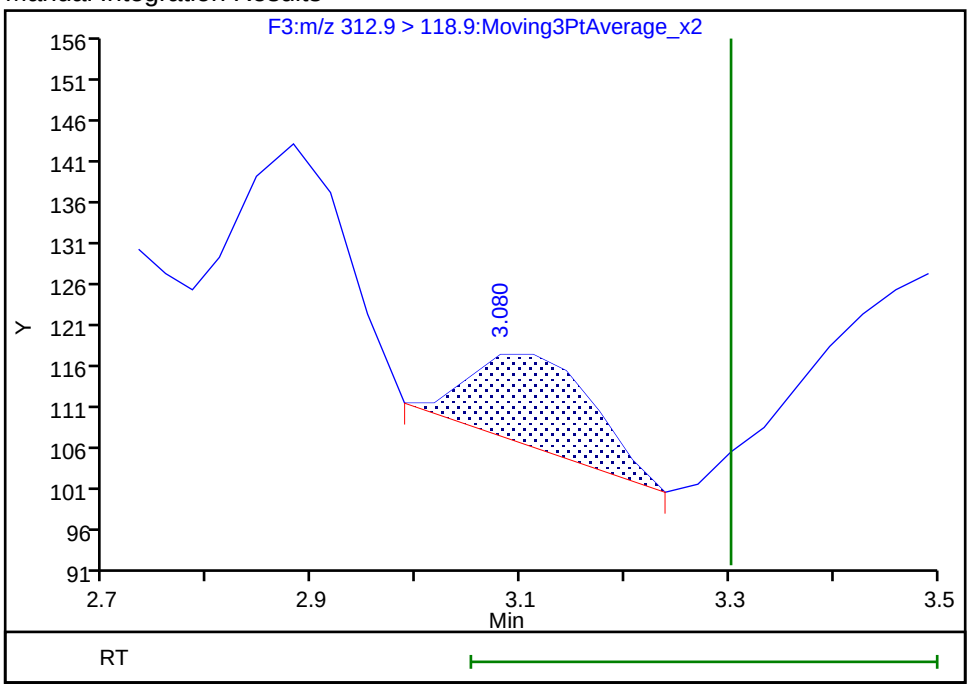
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.08
Area: 93
Amount: 0.762321
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:56:08
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

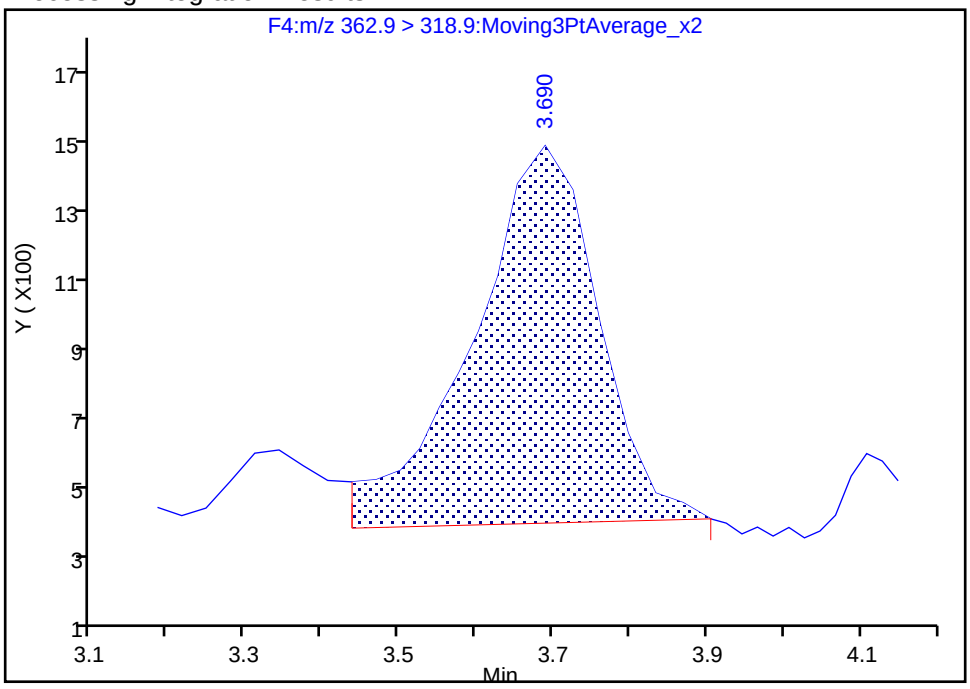
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

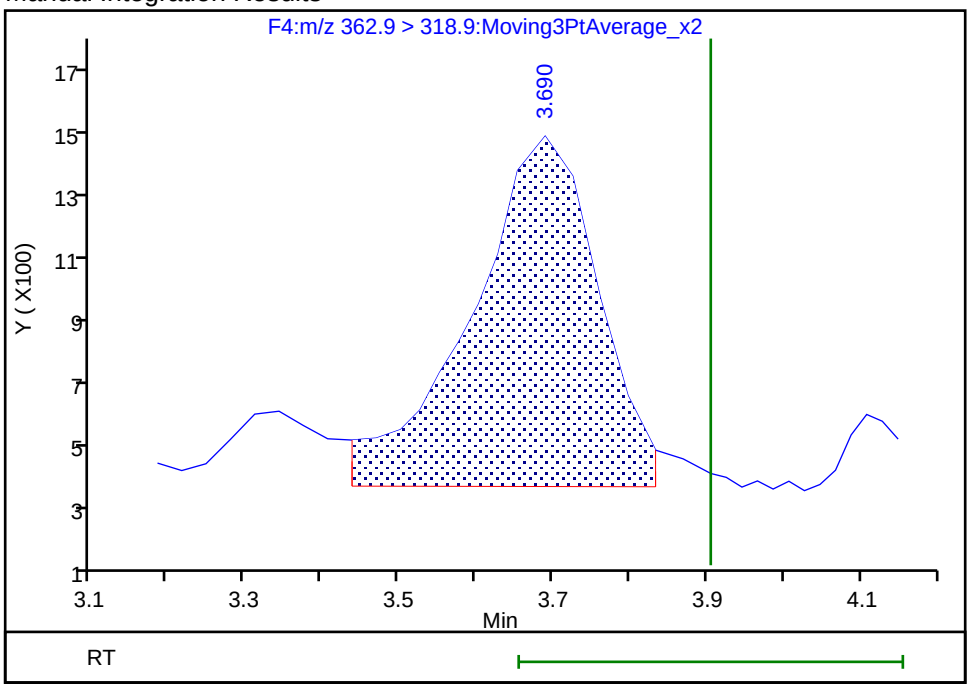
Processing Integration Results

RT: 3.69
Area: 11989
Amount: 0.967281
Amount Units: ng/ml



Manual Integration Results

RT: 3.69
Area: 12398
Amount: 1.000279
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:56:39

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

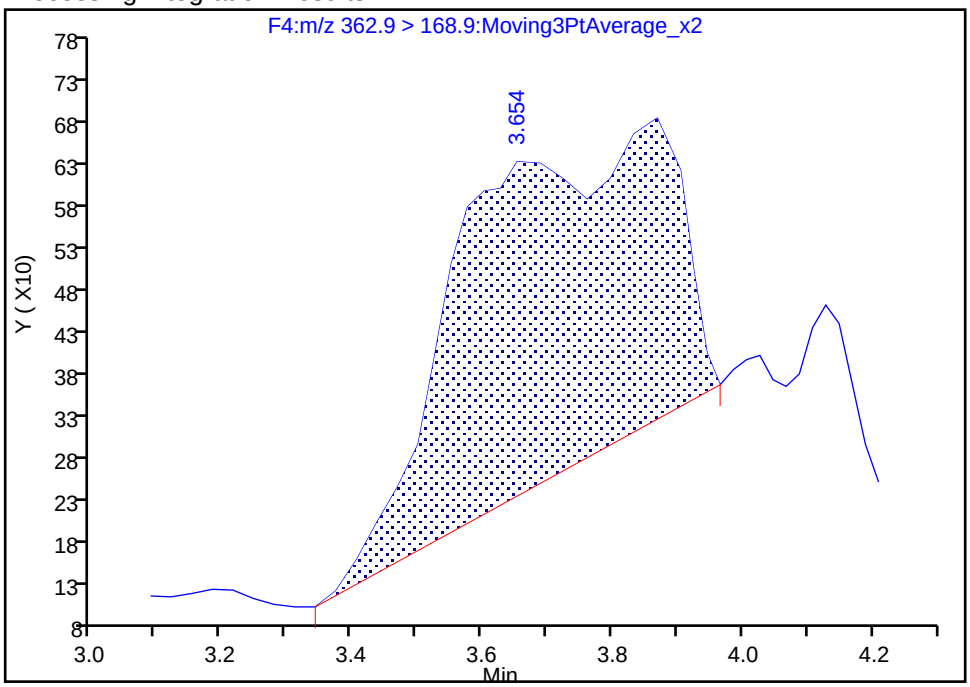
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

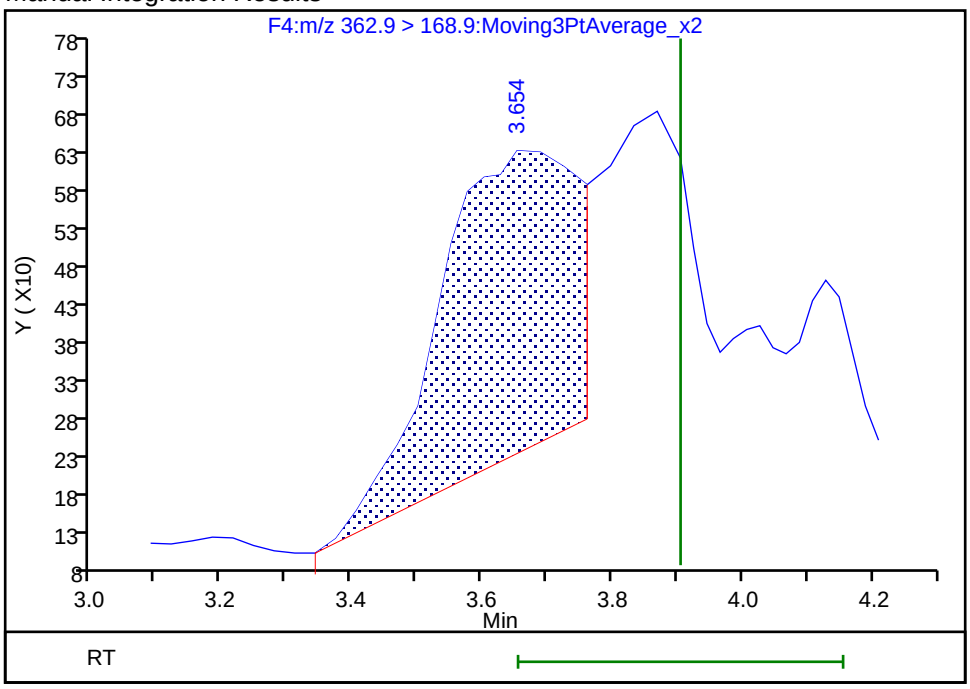
Processing Integration Results

RT: 3.65
Area: 9037
Amount: 0.967281
Amount Units: ng/ml



Manual Integration Results

RT: 3.65
Area: 5774
Amount: 1.000279
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:56:41

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

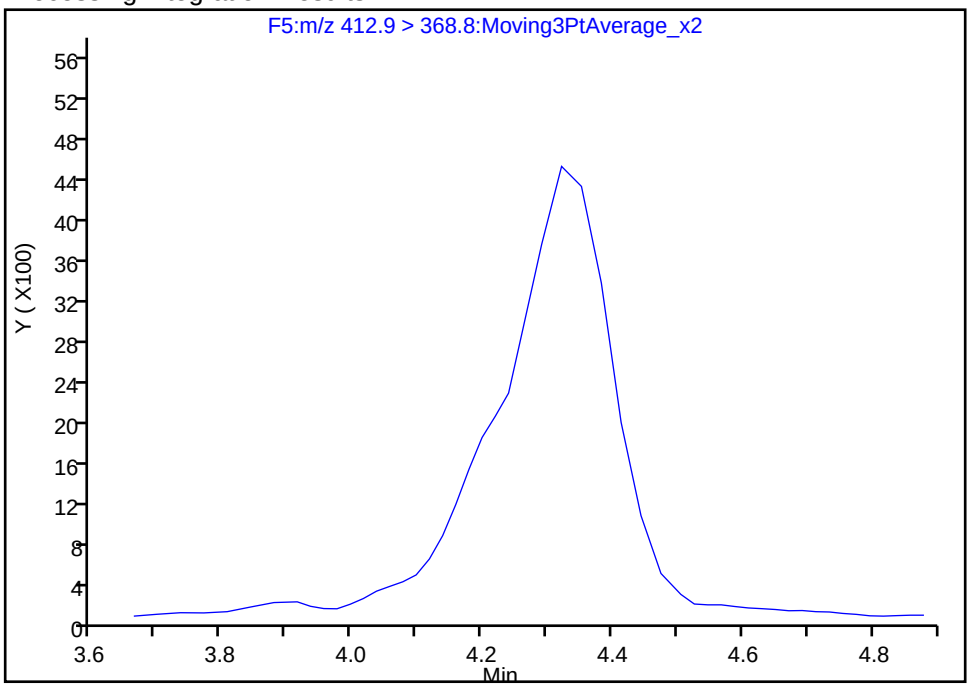
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

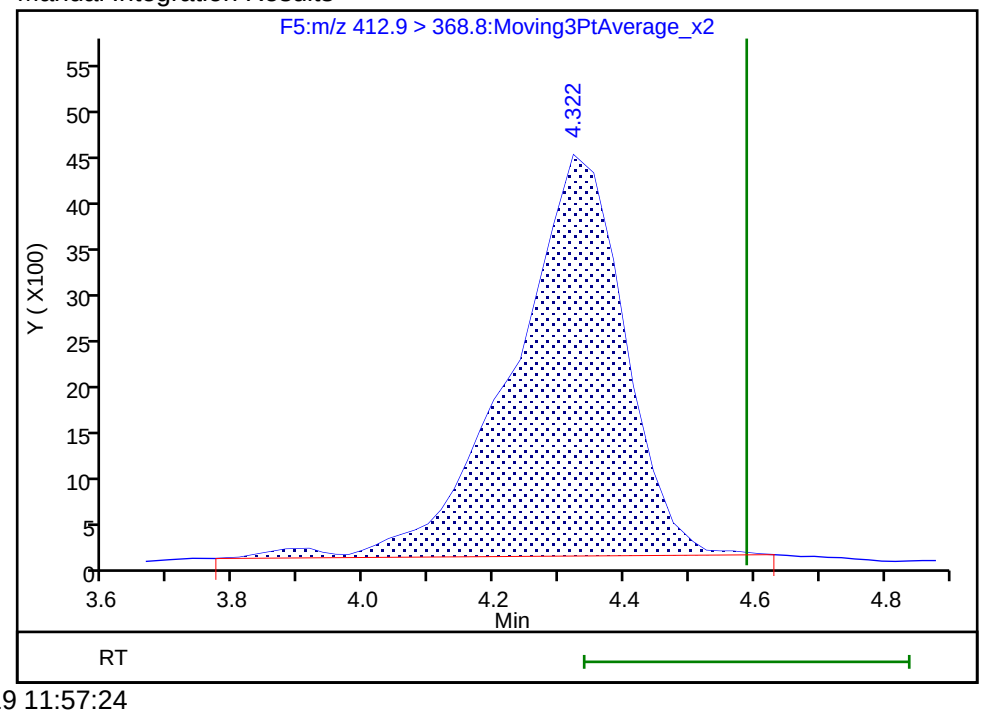
Not Detected
Expected RT: 4.59

Processing Integration Results



Manual Integration Results

RT: 4.32
Area: 51288
Amount: 2.955104
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:57:24
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

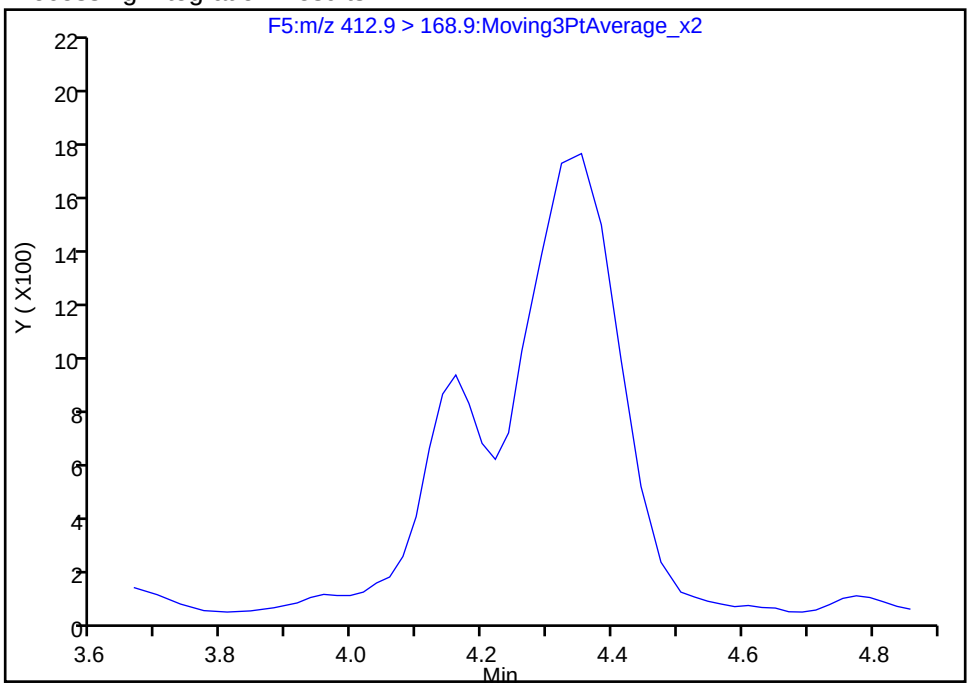
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

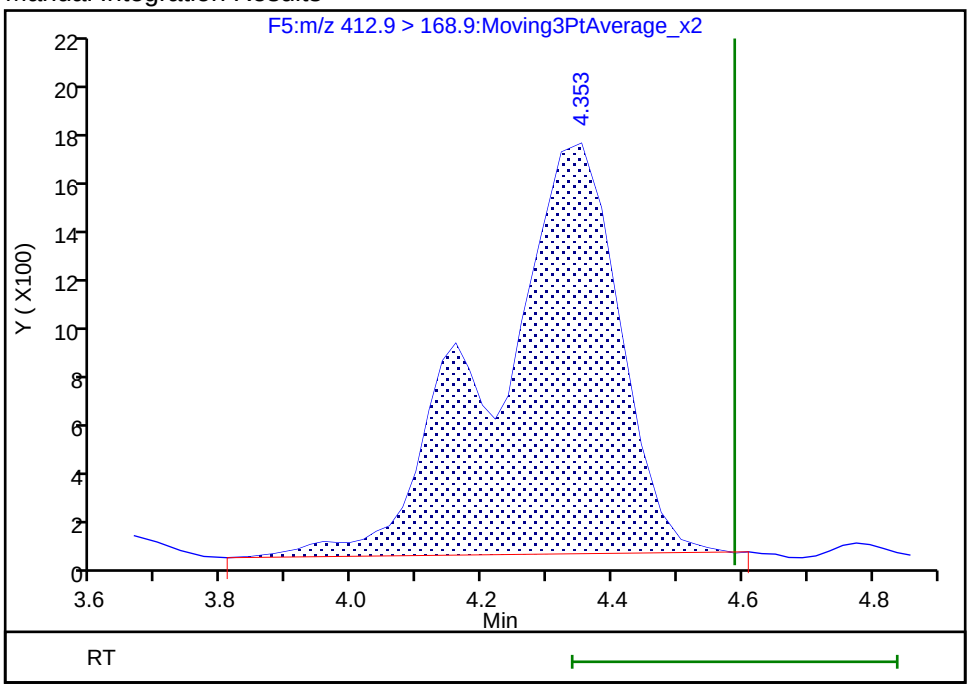
Not Detected
Expected RT: 4.59

Processing Integration Results



Manual Integration Results

RT: 4.35
Area: 21583
Amount: 2.955104
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:57:28
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

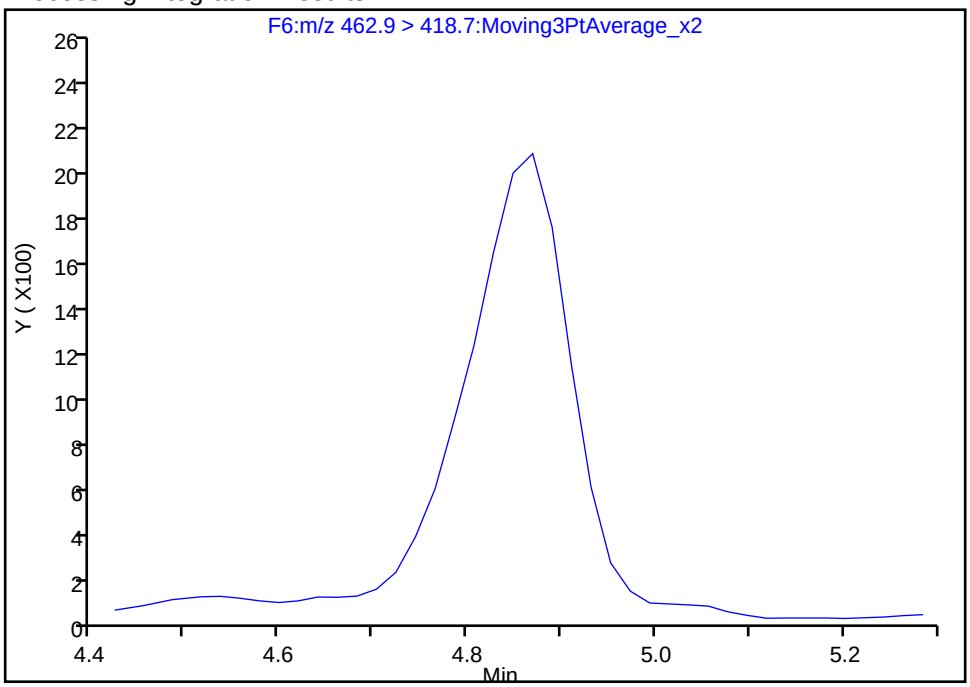
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

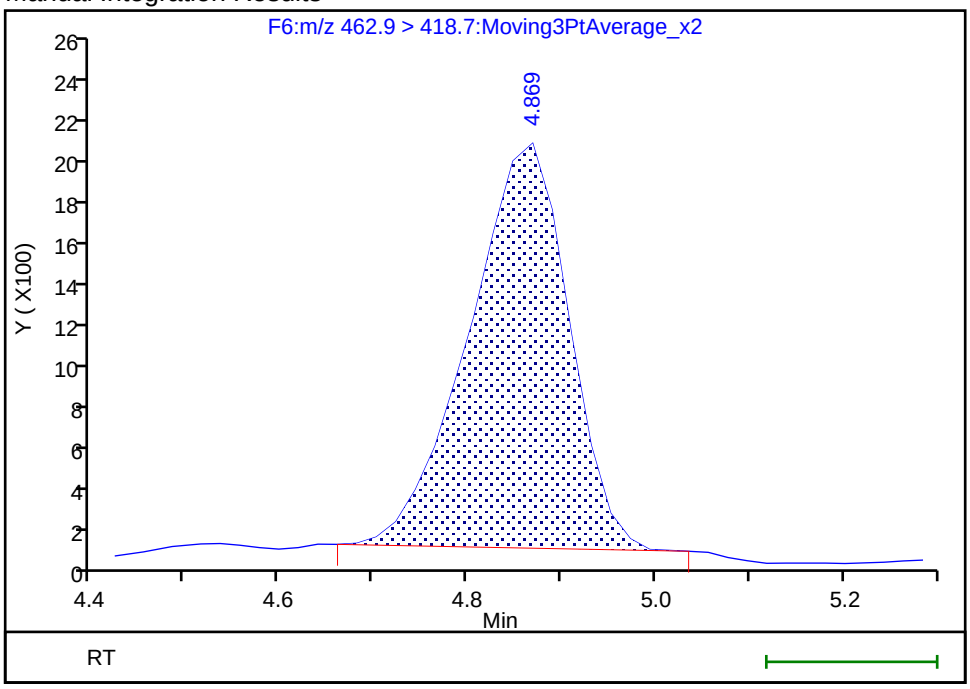
Not Detected
Expected RT: 5.37

Processing Integration Results



Manual Integration Results

RT: 4.87
Area: 13888
Amount: 0.801579
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:57:49
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

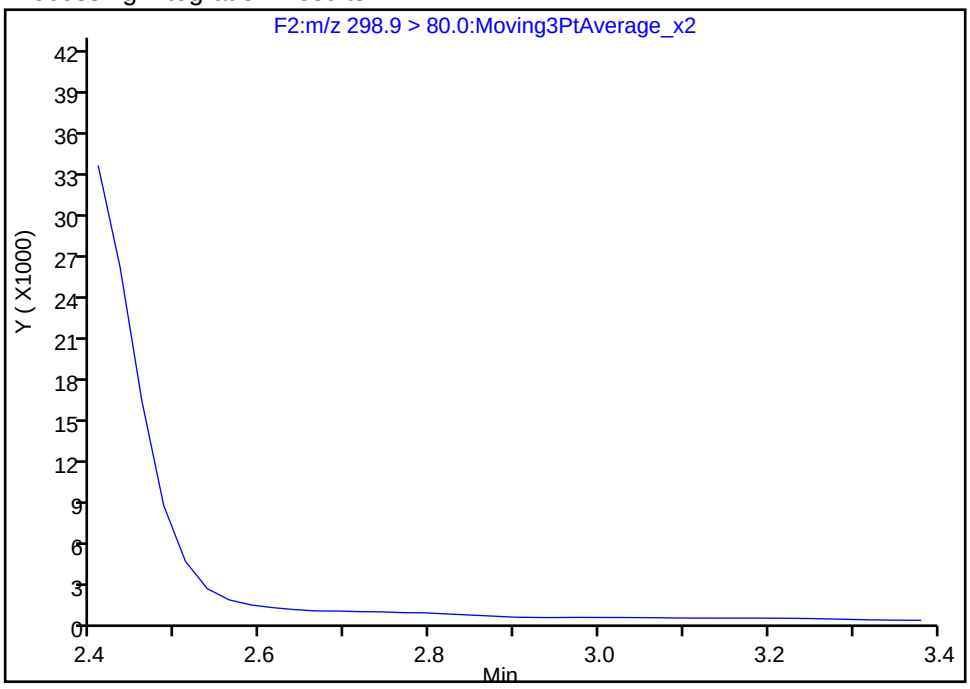
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

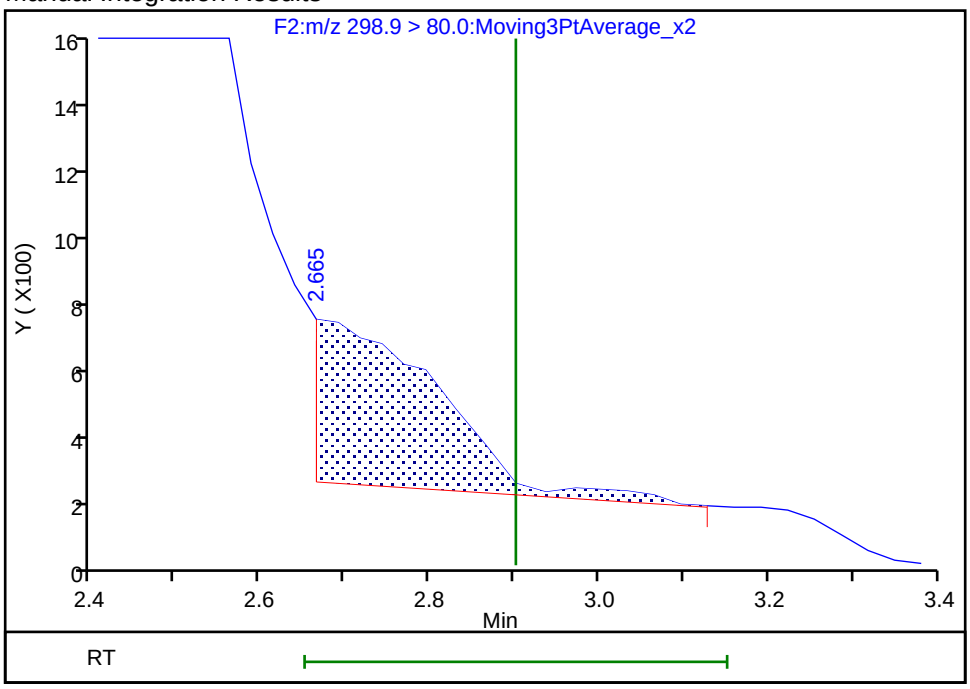
Not Detected
Expected RT: 2.90

Processing Integration Results



Manual Integration Results

RT: 2.67
Area: 4511
Amount: 2.662906
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:55:32
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

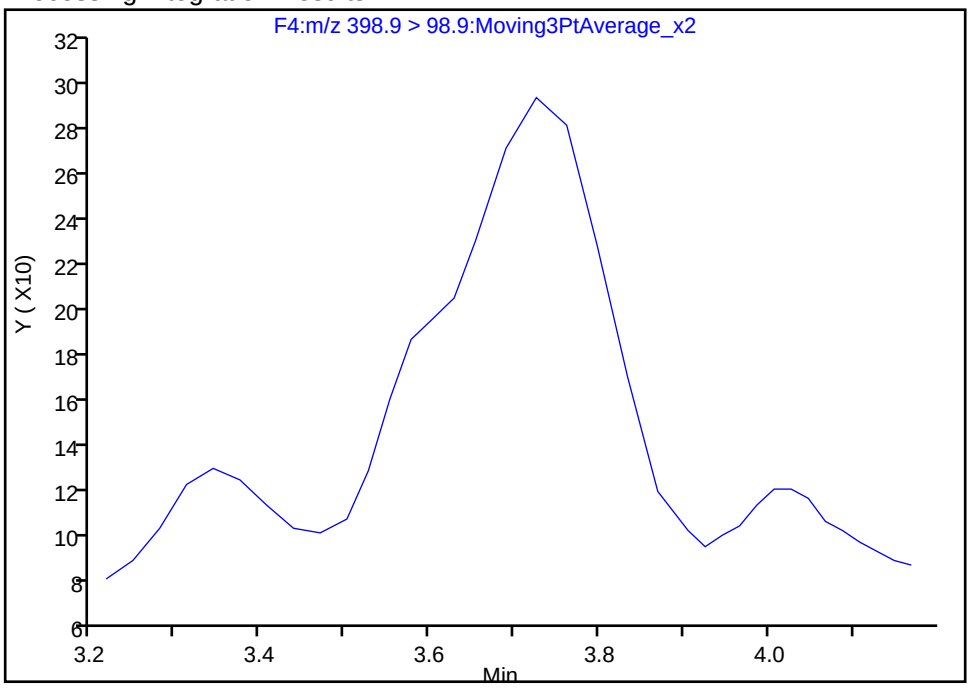
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

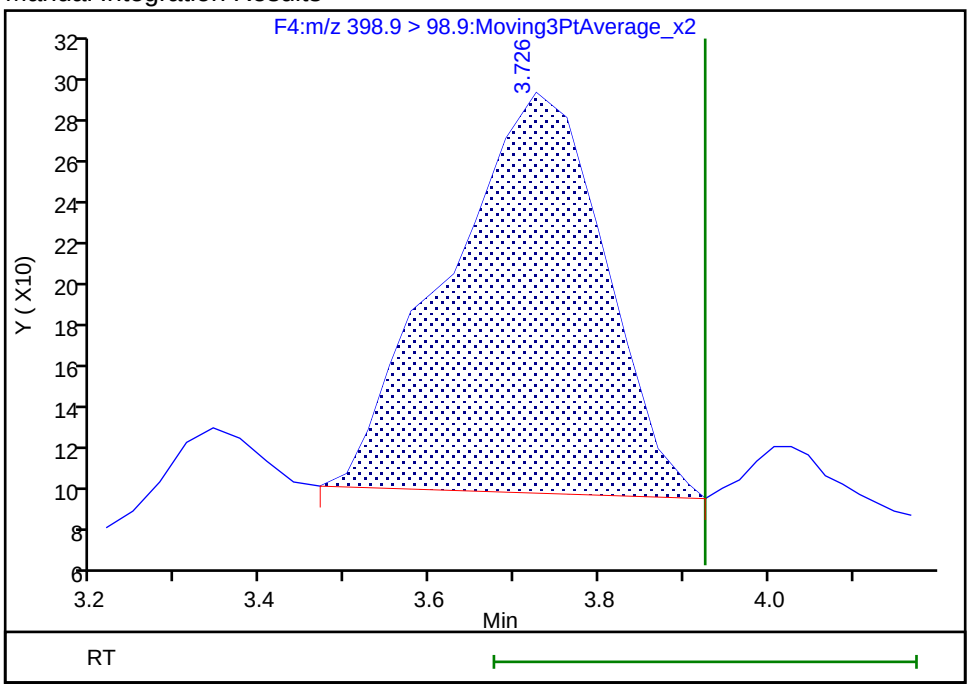
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.73
Area: 2481
Amount: 1.512510
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:57:04
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

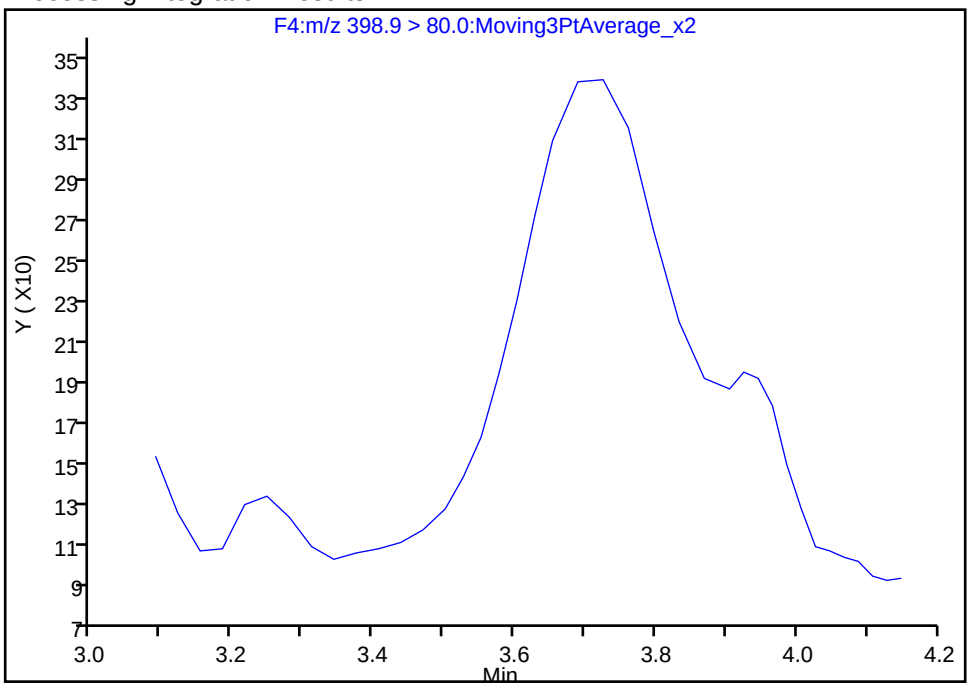
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

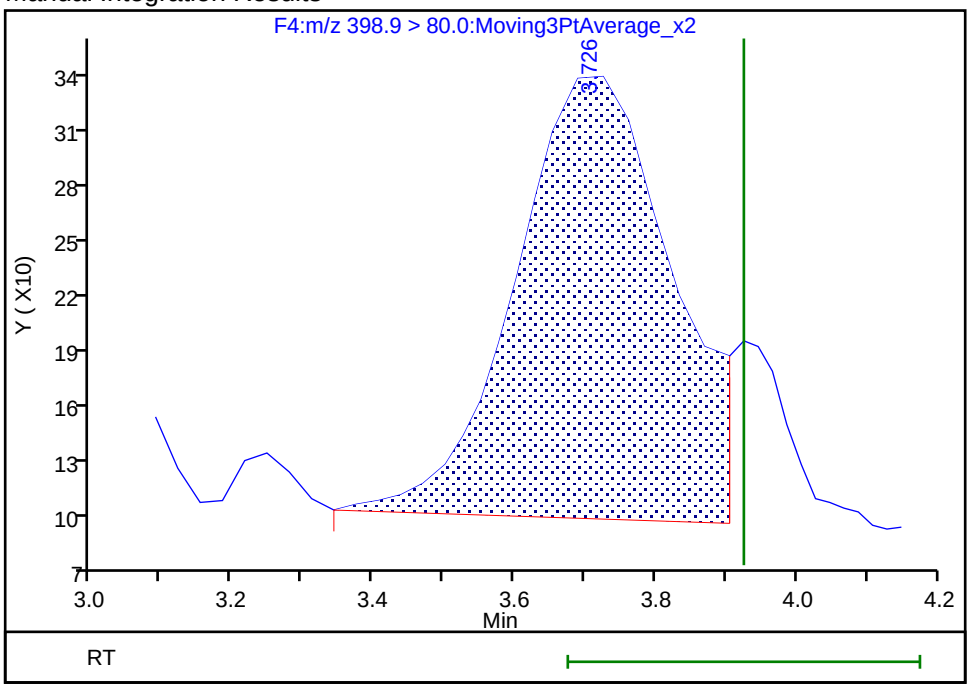
Processing Integration Results

Not Detected
Expected RT: 3.93



Manual Integration Results

RT: 3.73
Area: 3553
Amount: 1.512510
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:57:06
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

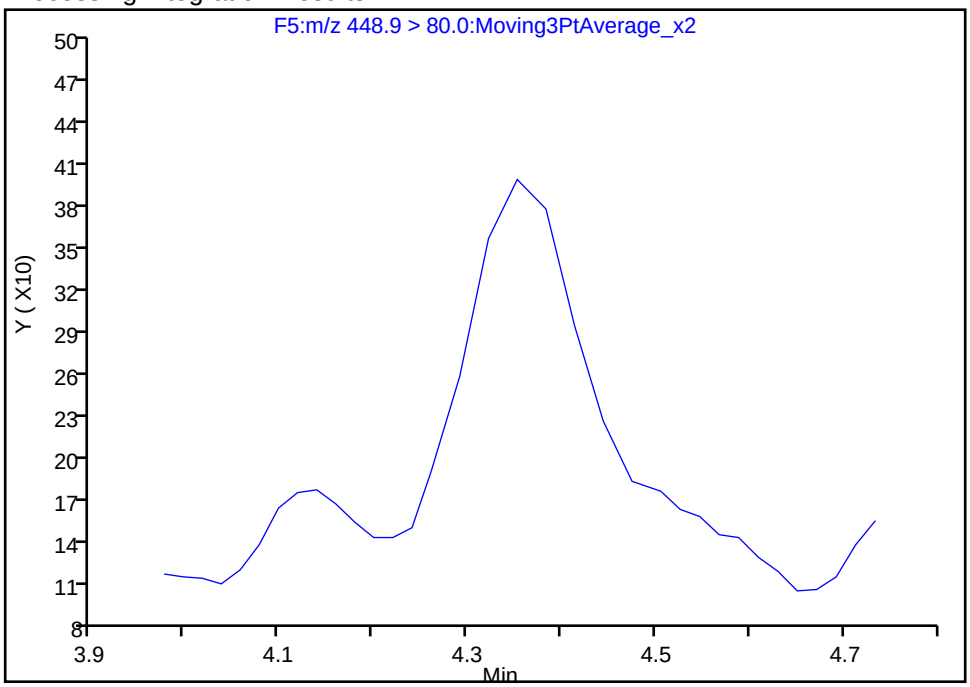
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

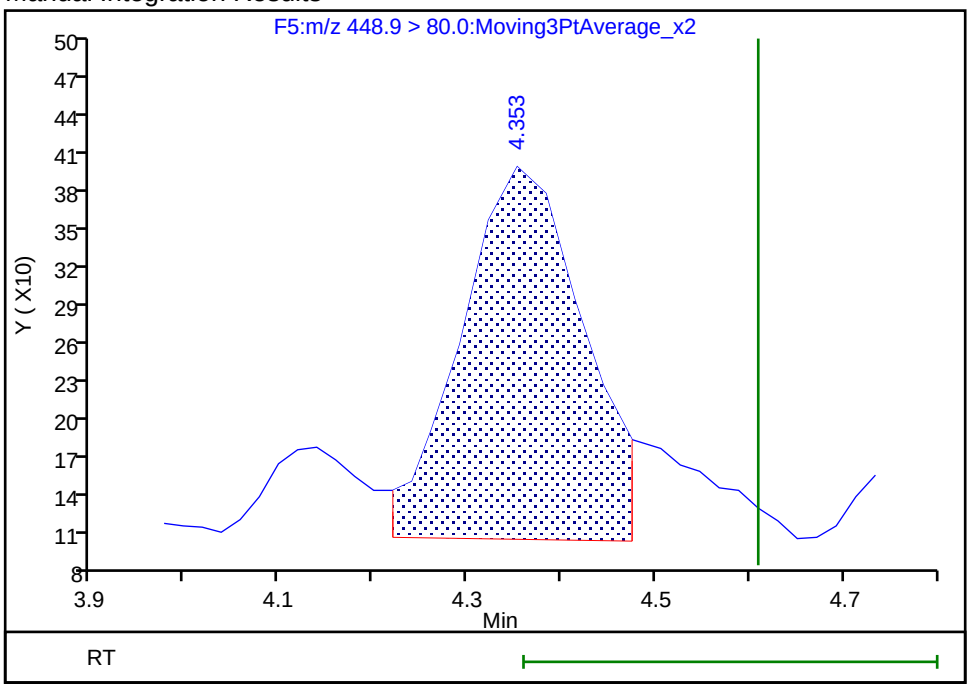
Not Detected
Expected RT: 4.61

Processing Integration Results



Manual Integration Results

RT: 4.35
Area: 2632
Amount: 0.922754
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:57:41
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

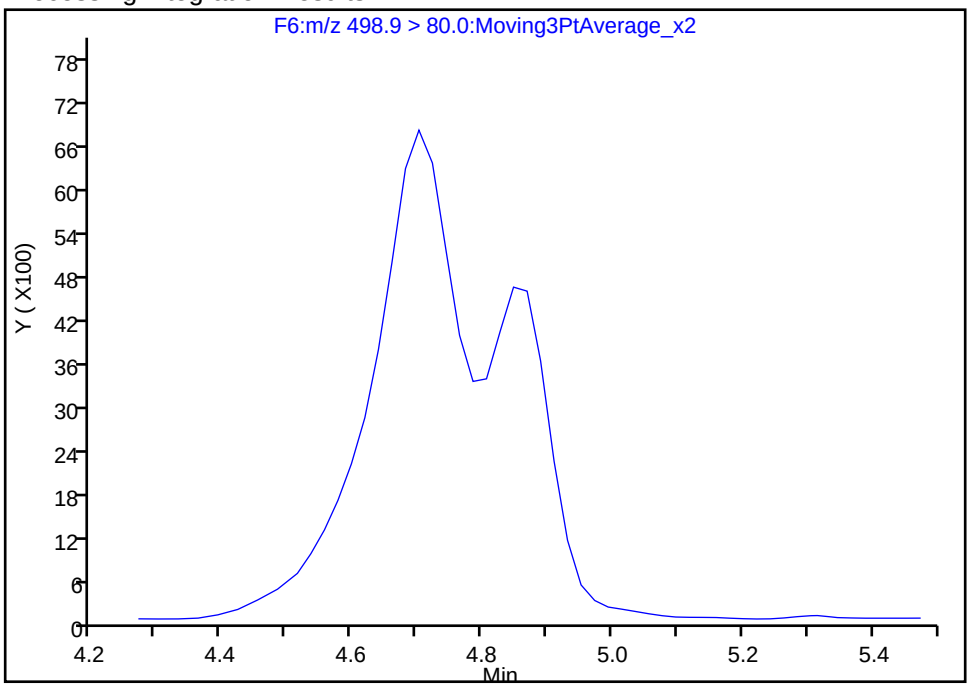
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

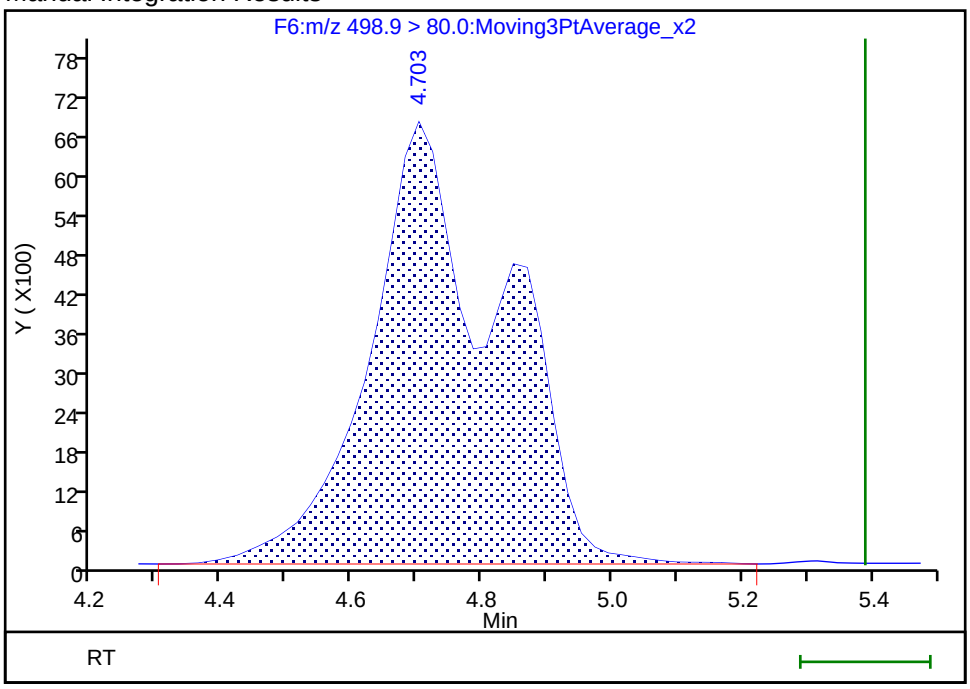
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 4.70
Area: 93608
Amount: 29.585031
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:51:12
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

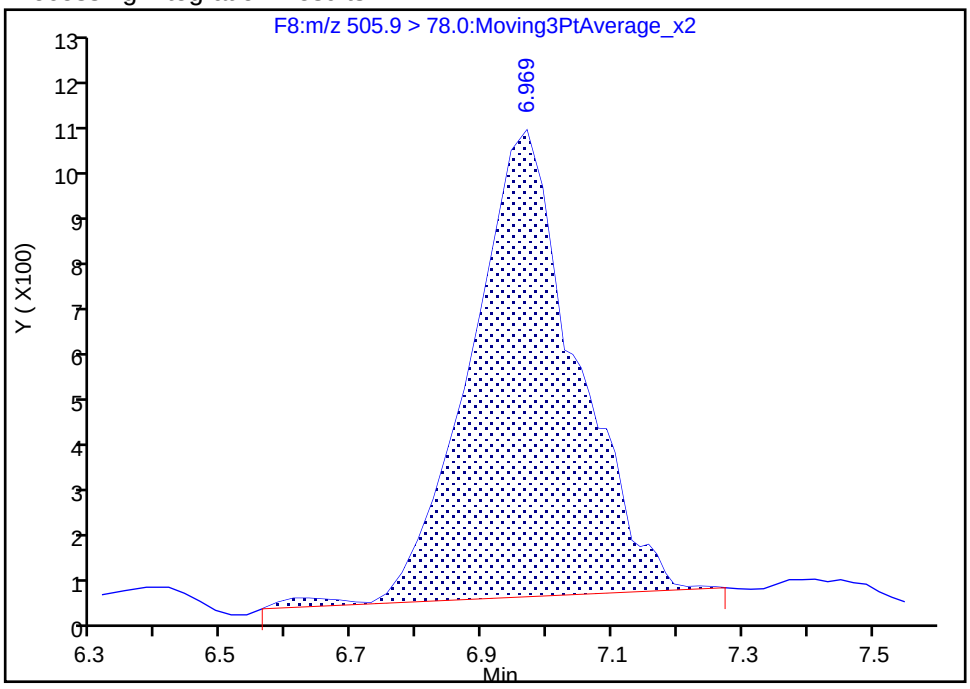
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 34 13C8 FOSA, CAS: STL01056

Signal: 1

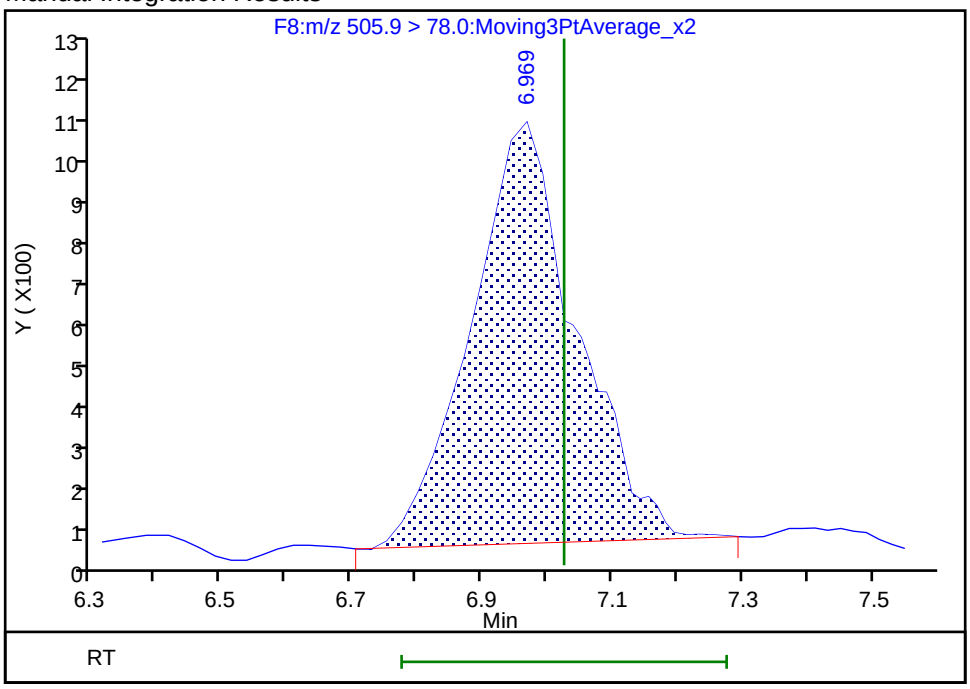
Processing Integration Results

RT: 6.97
Area: 10528
Amount: 0.878612
Amount Units: ng/ml



Manual Integration Results

RT: 6.97
Area: 10399
Amount: 0.867847
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:59:11

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

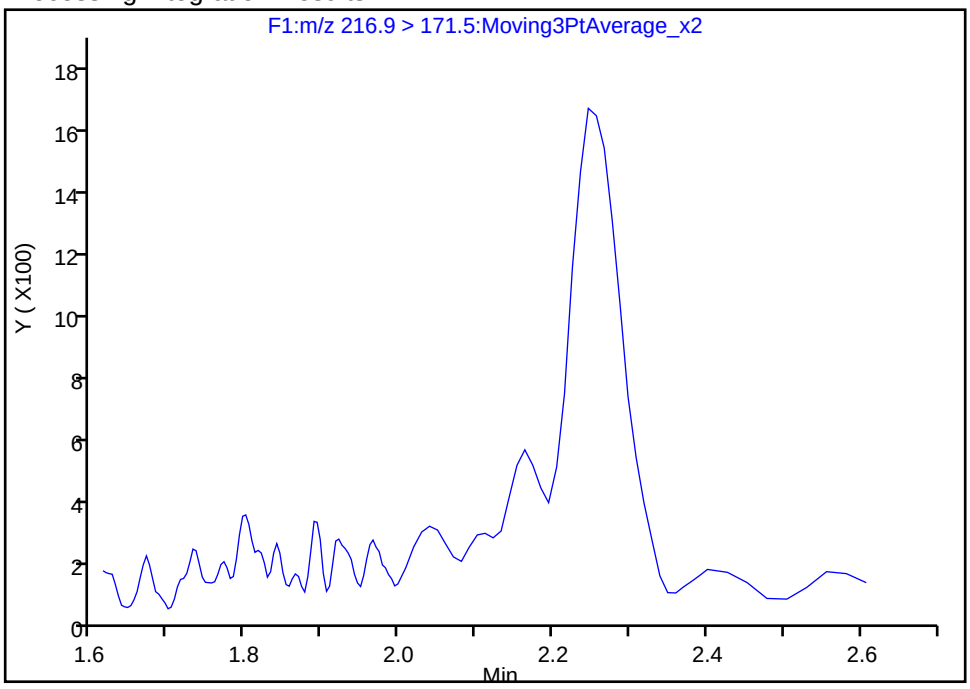
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

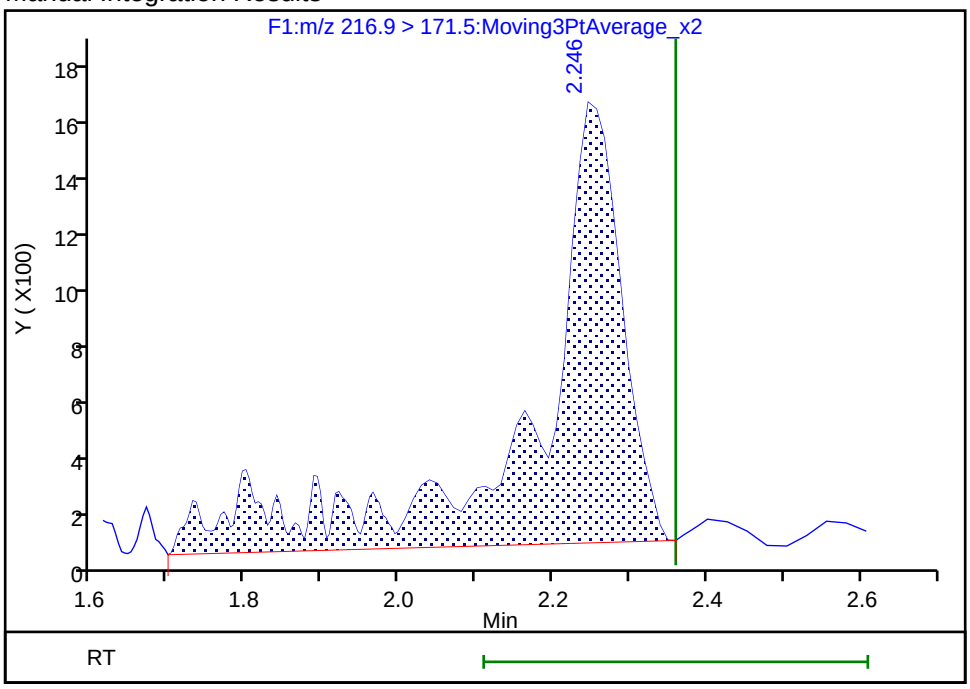
Processing Integration Results

Not Detected
Expected RT: 2.36



Manual Integration Results

RT: 2.25
Area: 12137
Amount: 1.658407
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:53:23
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

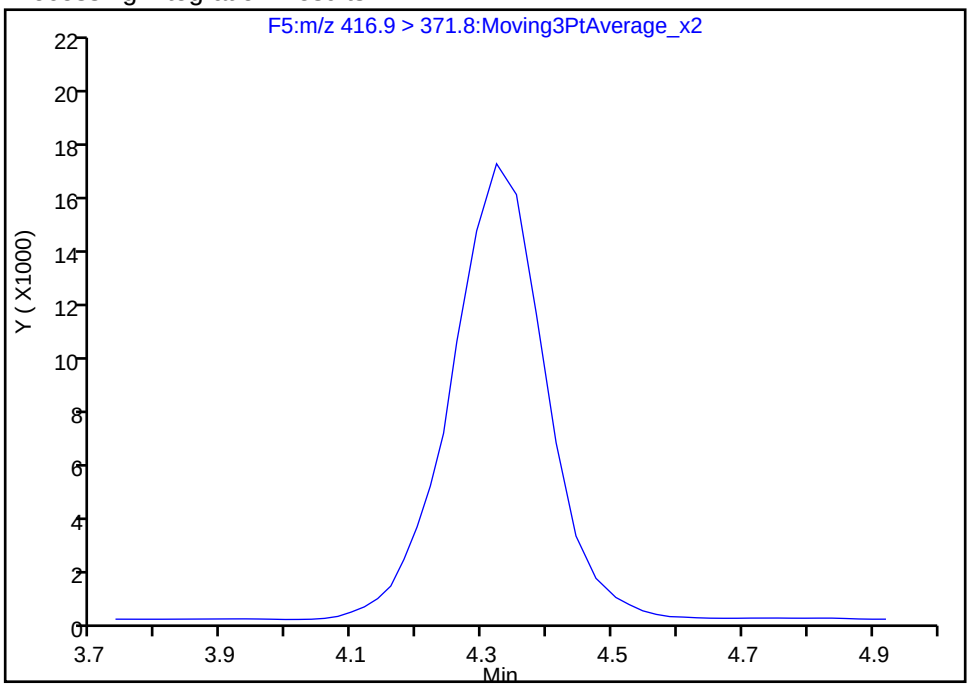
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 17 13C4 PFOA, CAS: STL00990

Signal: 1

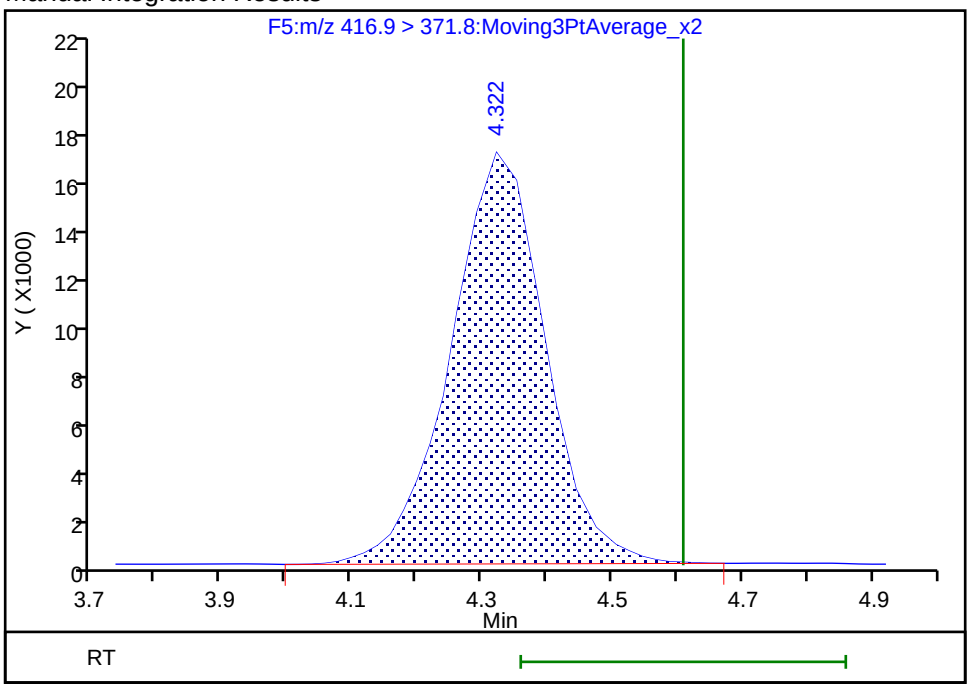
Processing Integration Results

Not Detected
Expected RT: 4.61



Manual Integration Results

RT: 4.32
Area: 171514
Amount: 5.904163
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:57:32
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

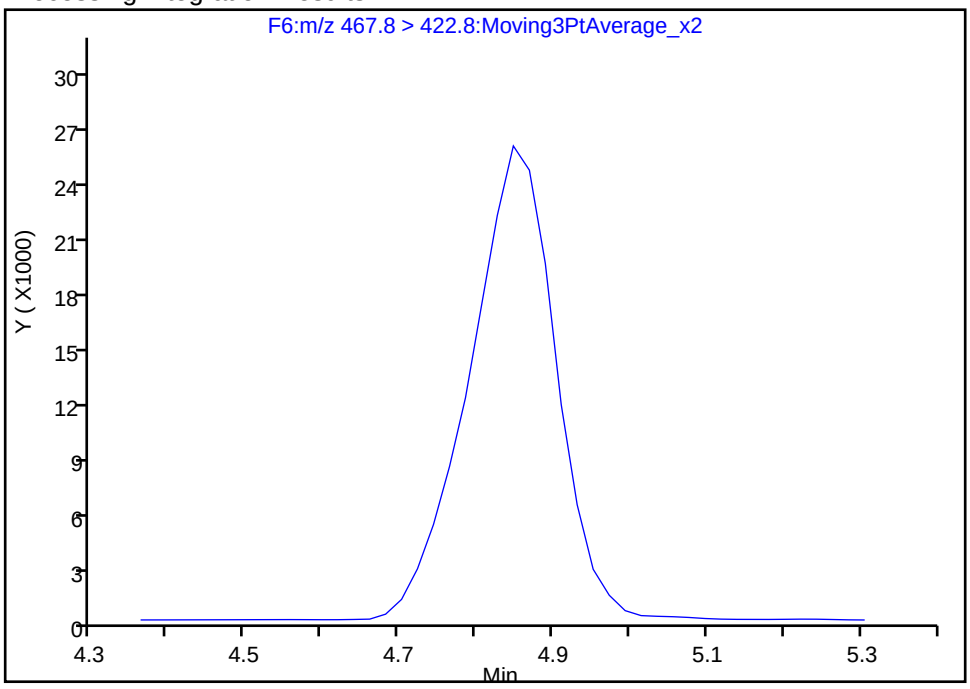
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

D 20 13C5 PFNA, CAS: STL00995

Signal: 1

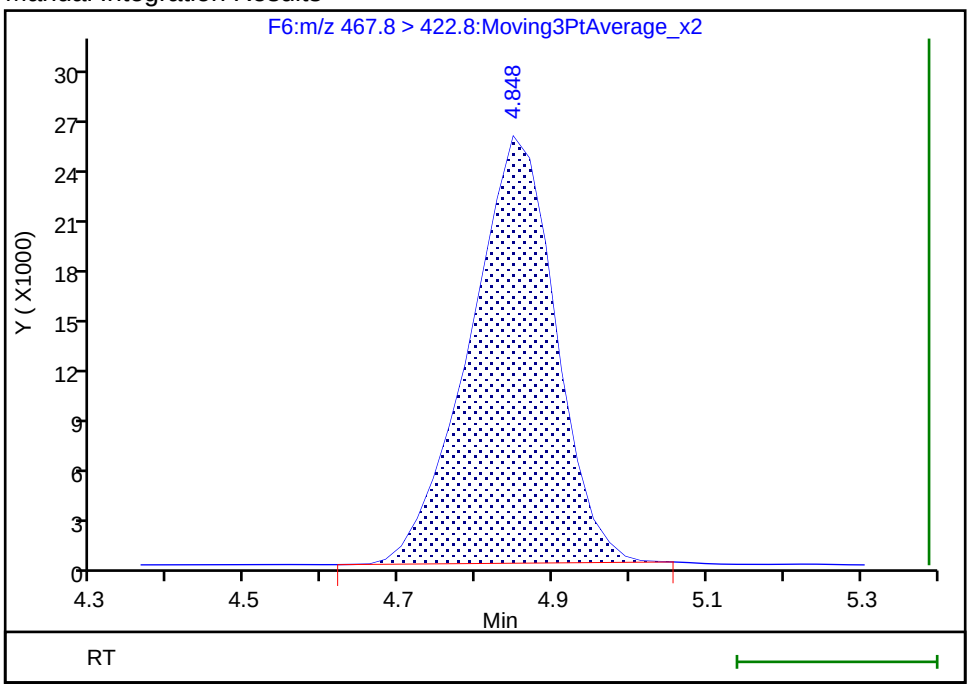
Processing Integration Results

Not Detected
Expected RT: 5.39



Manual Integration Results

RT: 4.85
Area: 196220
Amount: 5.035623
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:58:38
Audit Action: Assigned Compound ID Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

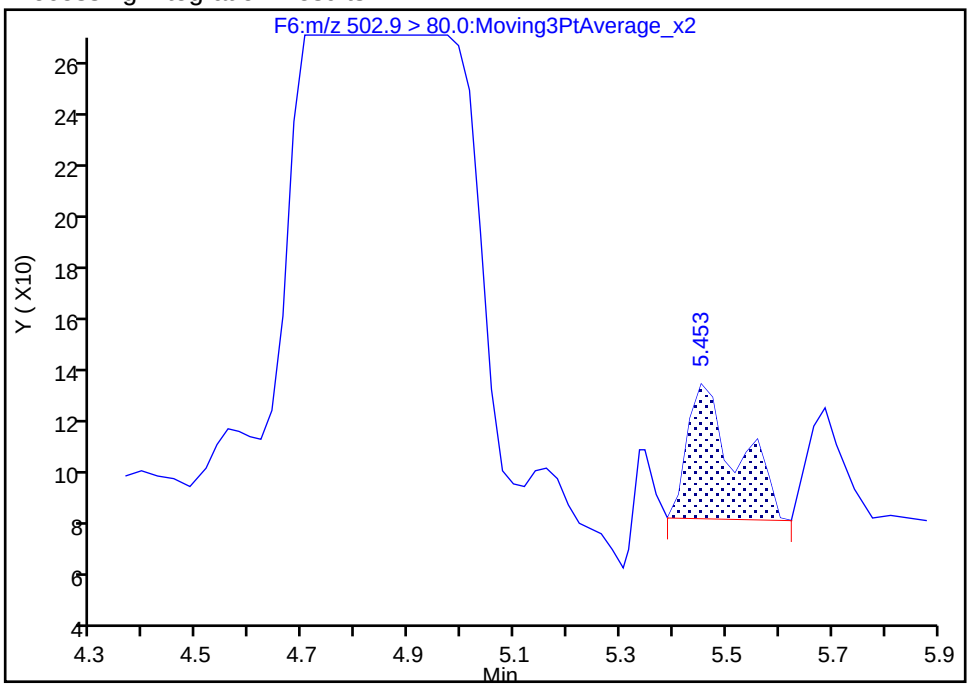
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

D 22 13C4 PFOS, CAS: STL00991

Signal: 1

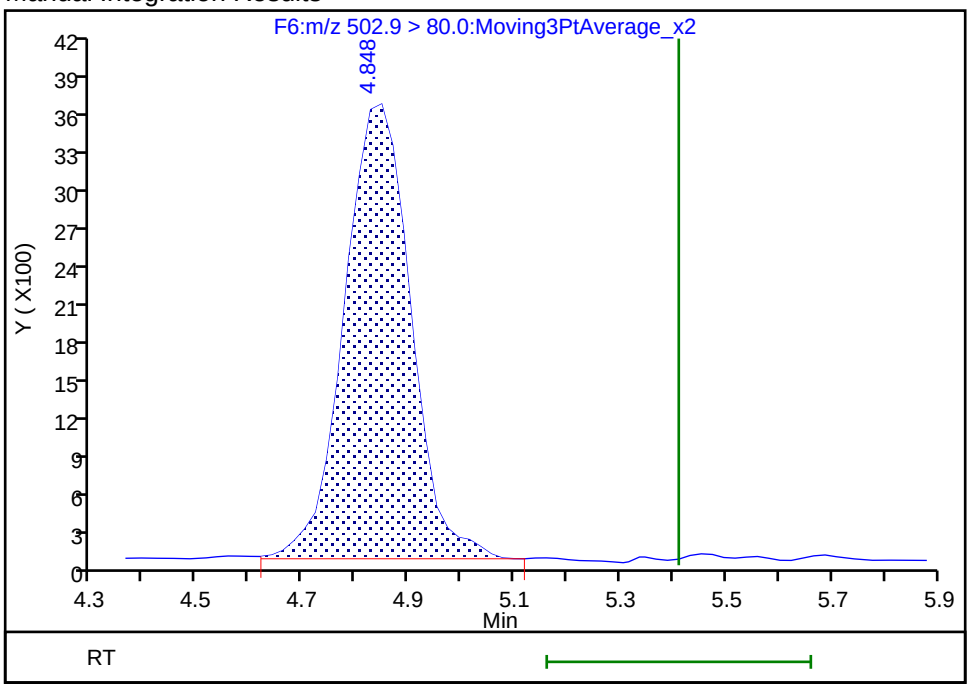
Processing Integration Results

RT: 5.45
Area: 331
Amount: 0.047549
Amount Units: ng/ml



Manual Integration Results

RT: 4.85
Area: 31322
Amount: 4.499512
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:51:17

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

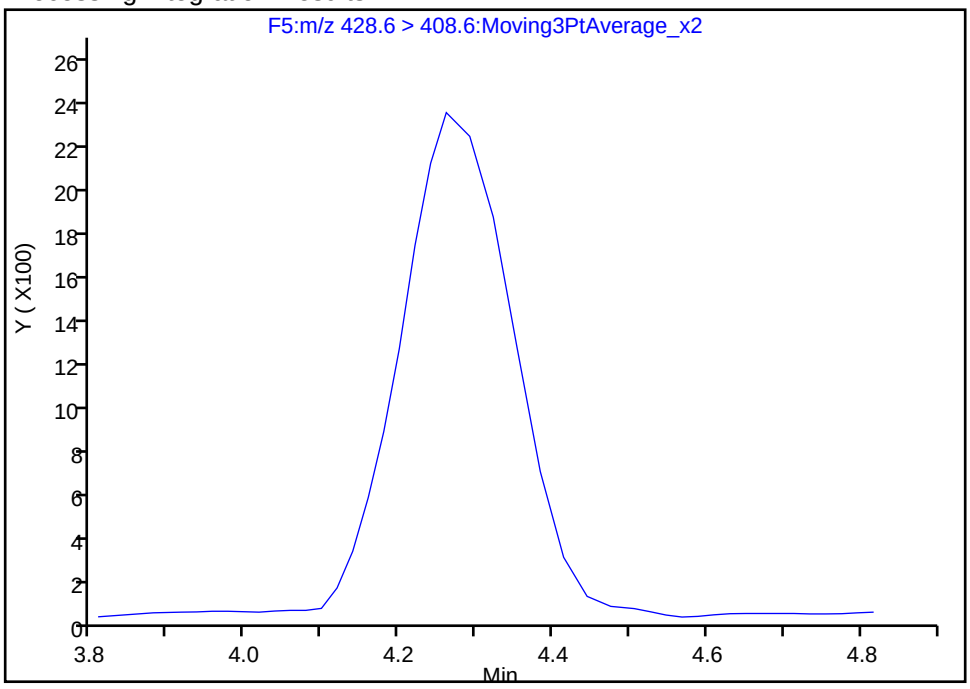
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

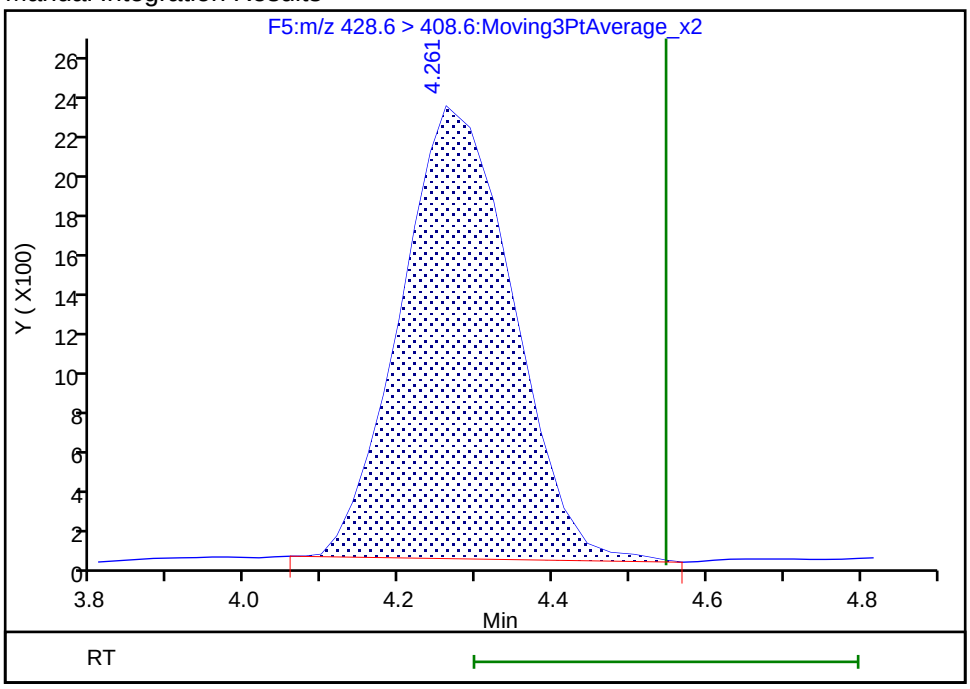
Not Detected
Expected RT: 4.55

Processing Integration Results



Manual Integration Results

RT: 4.26
Area: 22867
Amount: 13.713238
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:57:18
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

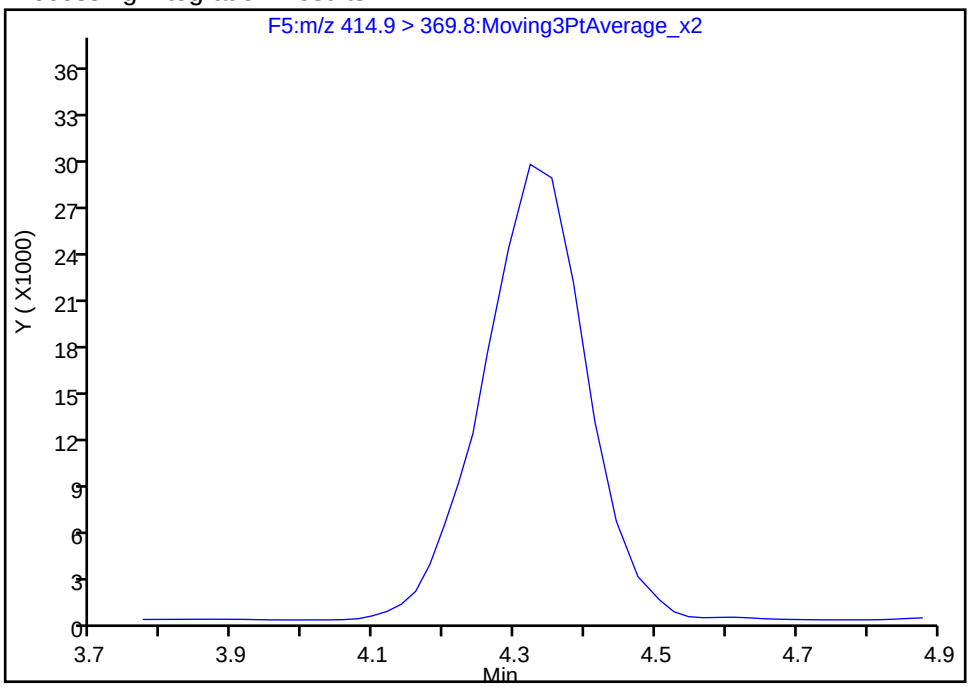
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B11.d				
Injection Date:	05-Jun-2019 03:58:29	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

* 16 13C2 PFOA, CAS: STL00623

Signal: 1

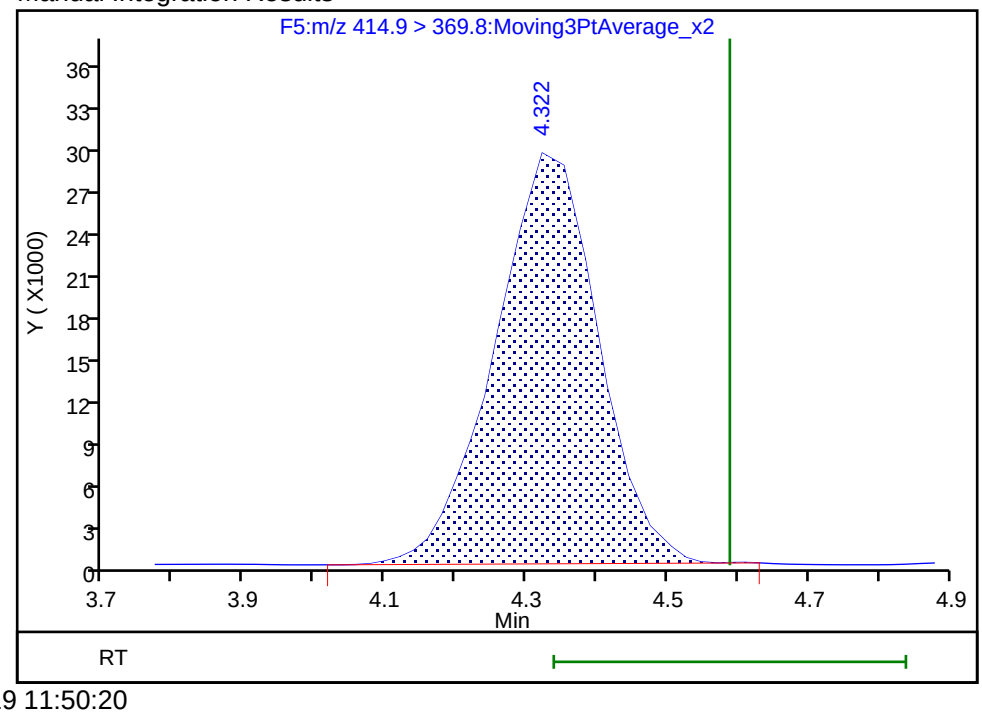
Not Detected
Expected RT: 4.59

Processing Integration Results



Manual Integration Results

RT: 4.32
Area: 299283
Amount: 10.000000
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:50:20
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: ASW 051419 Lab Sample ID: 200-48826-9

Matrix: Water Lab File ID: PF060619A11.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 13:54

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 307.4(mL) Date Analyzed: 06/06/2019 15:03

Con. Extract Vol.: 0.5(mL) Dilution Factor: 20

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
335-76-2	Perfluorodecanoic acid (PFDA)	ND		33	13
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		33	8.6
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		33	9.6
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		33	9.8
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		330	28
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	170	J	330	24
39108-34-4	8:2 FTS	ND		330	47

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00996	13C2 PFDA	45	*	50-150
STL00997	13C2 PFUnA	26	*	50-150
STL00998	13C2 PFDoA	52		50-150
STL02118	d3-NMeFOSAA	21	*	50-150
STL02117	d5-NEtFOSAA	7	*	50-150
STL02280	M2-8:2 FTS	105		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A11.d
Lims ID: 200-48826-A-9-A
Client ID: ASW 051419
Sample Type: Client
Inject. Date: 06-Jun-2019 15:03:47 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 20.0000
Sample Info: 200-0036227011 9
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:18:10 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 06-Jun-2019 17:42:41
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
216.9 > 171.5	2.308	2.349	-0.041	1.000	13723	1.66		66.6	19.3	
D 4 13C5 PFPeA										M
267.7 > 222.6	2.769	2.830	-0.061	1.000	10305	1.65		65.9	14.9	M
D 5 13C3 PFBS										M
302.0 > 79.8	2.866	2.901	-0.035	1.000	2846	1.05		45.0	23.1	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.238	3.302	-0.064	1.000	27765	1.48		59.2	309	
9 Perfluoroheptanoic acid										RM
362.9 > 318.9	3.797	3.869	-0.072	1.000	9540	0.6134	Target=2.84		3.4	R
362.9 > 168.9	3.654	3.869	-0.215	0.962	8710		1.10(1.42-4.26)		5.4	M
D 10 13C4 PFHpA										
366.9 > 321.8	3.797	3.869	-0.072	1.000	33133	1.25		50.1	111	
D 12 18O2 PFHxS										
402.9 > 83.8	3.833	3.925	-0.092	1.000	11841	3.40		144	80.8	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.444	4.526	-0.082	1.000	6138	3.27		138	49.3	M
D 17 13C4 PFOA										
416.9 > 371.8	4.475	4.547	-0.072	1.000	52913	1.62		64.7	269	
* 16 13C2 PFOA										s
414.9 > 369.8	4.475	4.568	-0.093		84296	2.50			557	
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.475	4.568	-0.093	1.000	17411	0.8129	Target=2.43		28.6	M
412.9 > 168.9	4.475	4.568	-0.093	1.000	6909		2.52(1.22-3.64)		18.1	M
D 20 13C5 PFNA										
467.8 > 422.8	5.181	5.336	-0.155	1.000	66483	1.51		60.6	459	
D 22 13C4 PFOS										
502.9 > 80.0	5.181	5.336	-0.155	1.000	10351	1.32		55.2	65.7	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	4.931	5.336	-0.405	0.952	40993	9.80	Target=1.41		128	M
498.9 > 98.9	5.181	5.336	-0.155	1.000	22771		1.80(0.71-2.12)		129	M
D 24 M2-8:2 FTS										a
528.8 > 508.8	5.613	6.097	-0.484	0.000	17103	2.50		105	135	a
D 25 13C2 PFDA										a
514.9 > 469.5	5.635	6.131	-0.496	0.000	42200	1.13		45.0	304	a
D 27 d3-NMeFOSAA										a
572.9 > 418.7	5.857	6.477	-0.620	0.000	6345	0.5197		20.8	39.6	a
D 29 d5-NEtFOSAA										M
588.9 > 418.7	6.247	6.849	-0.602	0.000	1691	0.1680		6.7	10.2	M
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.281	6.849	-0.568	1.005	2769	5.08			13.5	M
D 33 13C2 PFUnA										a
564.8 > 519.8	6.349	6.897	-0.548	0.000	23877	0.6602		26.4	77.5	a
D 34 13C8 FOSA										M
505.9 > 78.0	6.921	6.945	-0.024	1.000	9555	0.7078		28.3	52.7	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.419	7.577	-0.158	1.000	59515	1.29		51.6	449	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.719	8.741	-0.022	1.000	51784	1.25		50.1	224	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- s - Failed ISTD Recovery Test

Review Flags
- M - Manually Integrated
- a - User Assigned ID

Report Date: 10-Jun-2019 10:18:43 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A11.d

Injection Date: 06-Jun-2019 15:03:47 Instrument ID: LC410

Lims ID: 200-48826-A-9-A Lab Sample ID: 200-48826-9

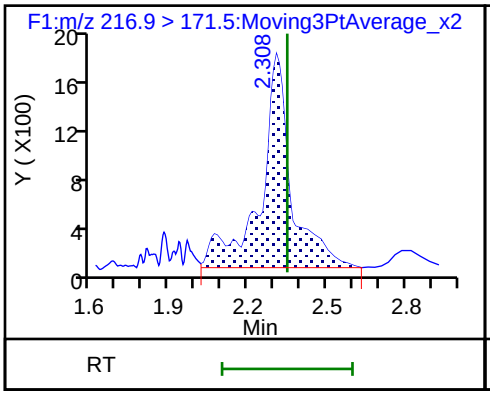
Client ID: ASW 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 11

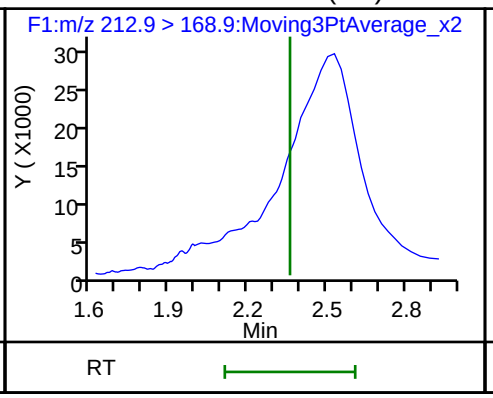
Injection Vol: 20.0 ul Dil. Factor: 20.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

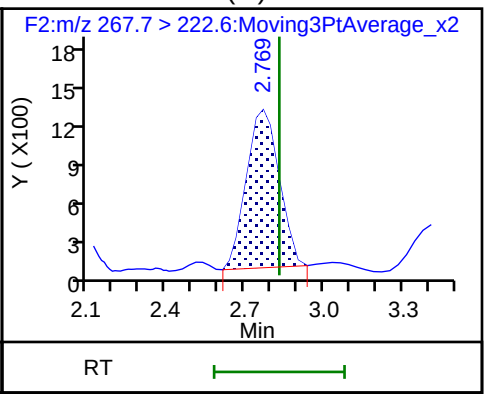
D 1 13C4 PFBA



2 Perfluorobutanoic acid (ND)



D 4 13C5 PFPeA (M)



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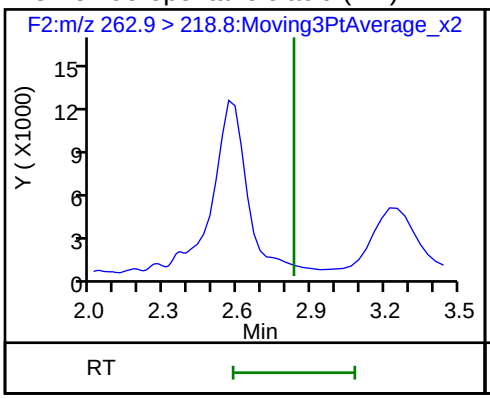
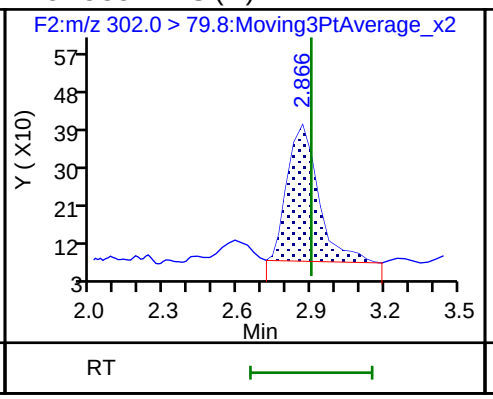
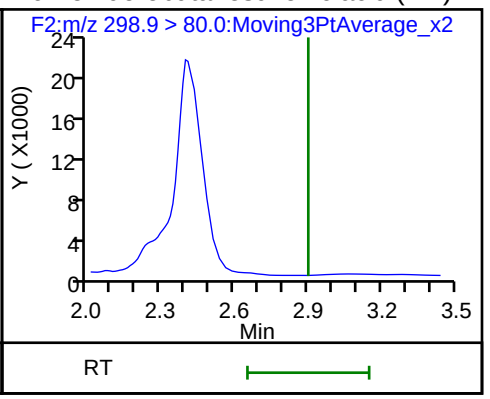


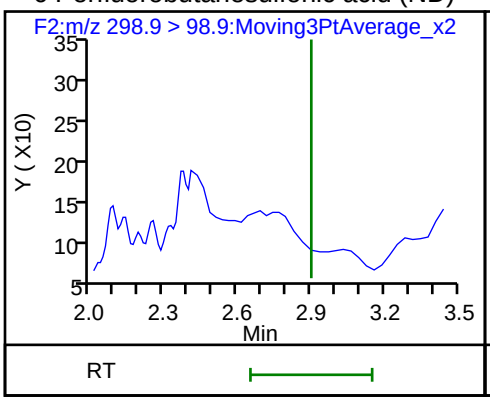
D 5 13C3 PFBS (M)



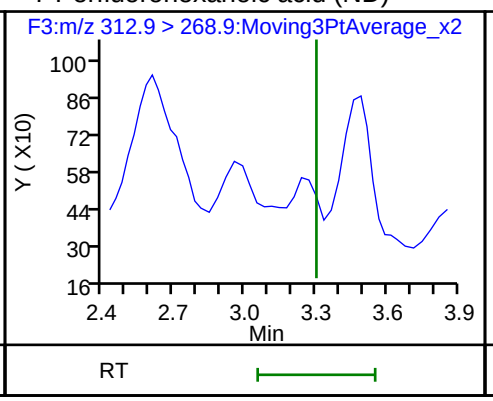
6 Perfluorobutanesulfonic acid (ND)



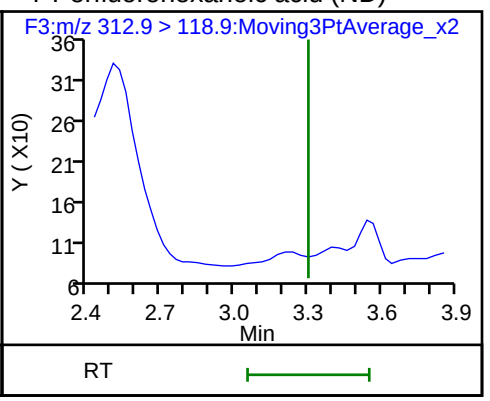
6 Perfluorobutanesulfonic acid (ND)



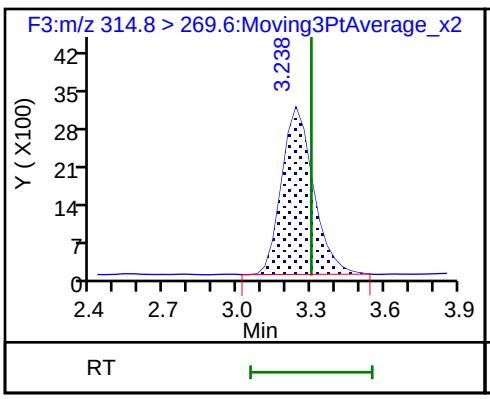
7 Perfluorohexanoic acid (ND)



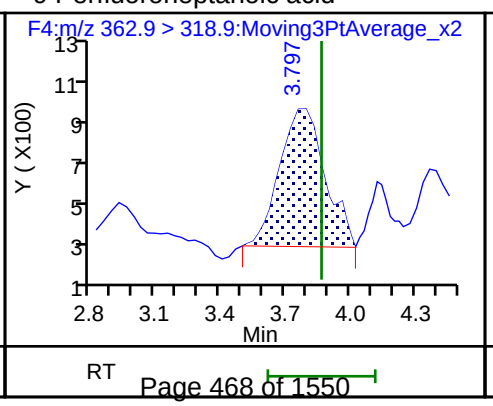
7 Perfluorohexanoic acid (ND)



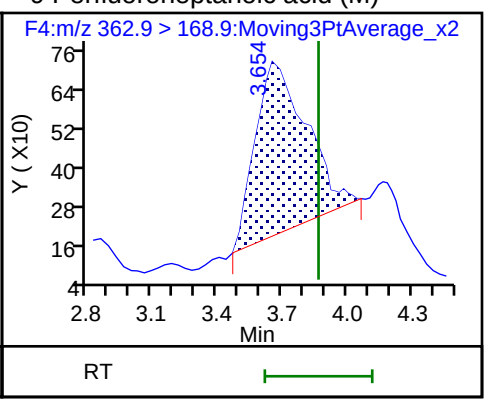
D 8 13C2 PFHxA



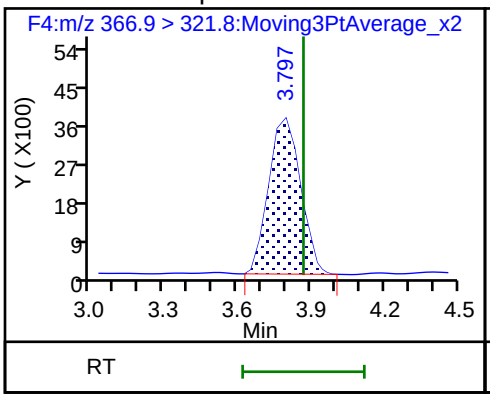
9 Perfluoroheptanoic acid



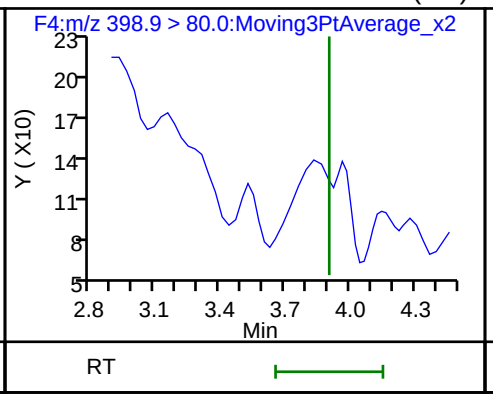
9 Perfluoroheptanoic acid (M)



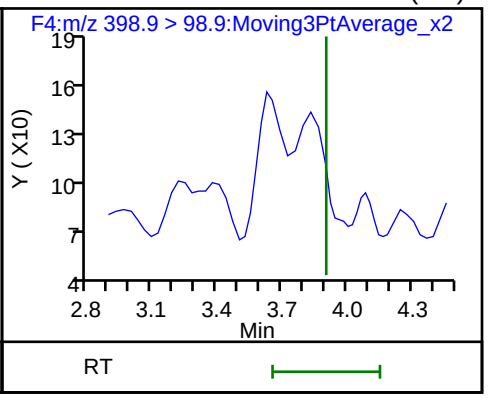
D 10 13C4 PFHpA



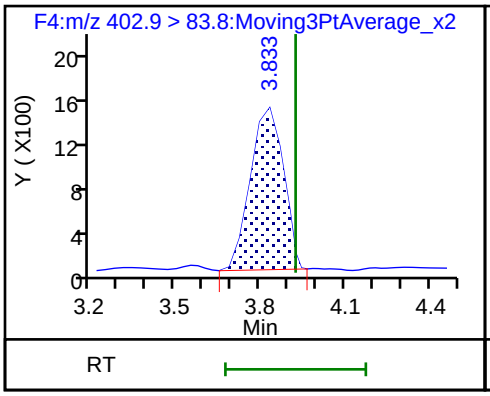
11 Perfluorohexanesulfonic acid (ND)



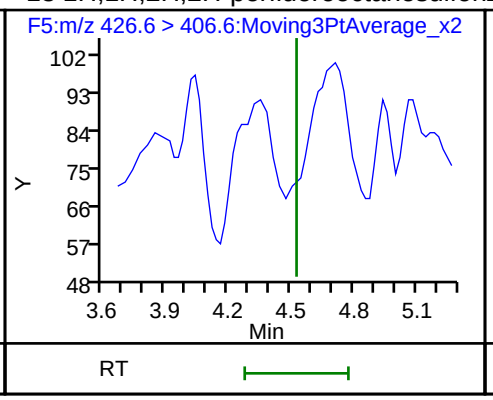
11 Perfluorohexanesulfonic acid (ND)



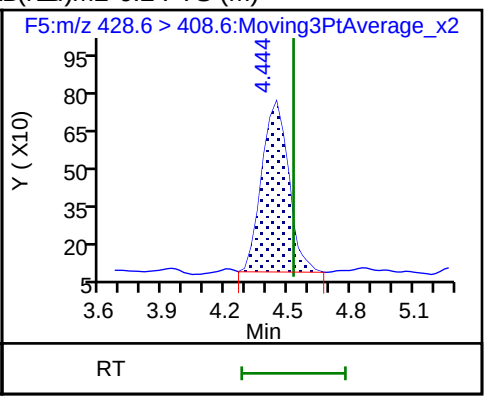
D 12 18O2 PFHxS



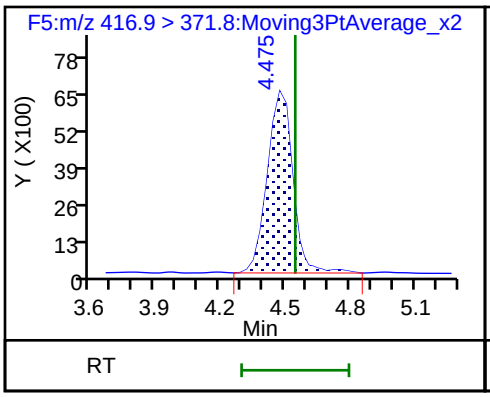
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2)



D (M2)M2-6:2 FTS (M)



D 17 13C4 PFOA



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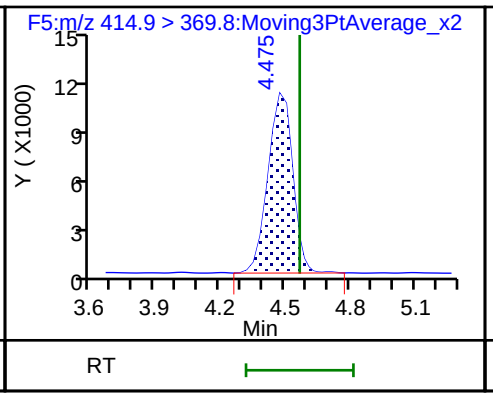
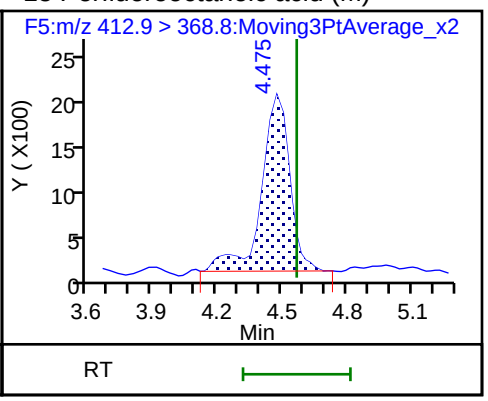
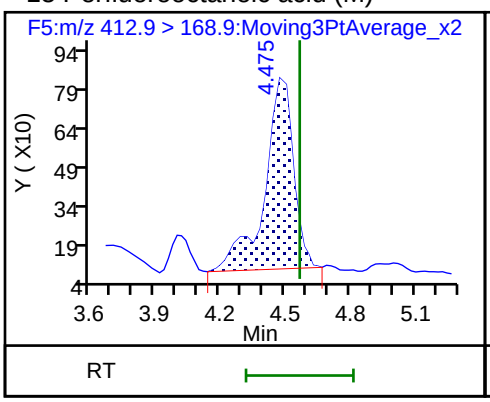


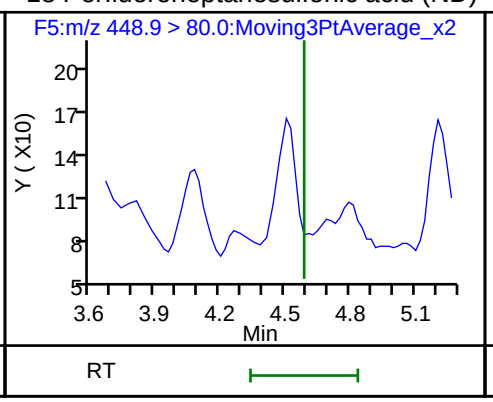
15 Perfluorooctanoic acid (M)



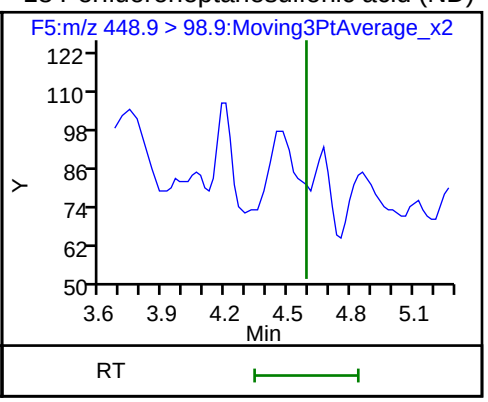
15 Perfluorooctanoic acid (M)



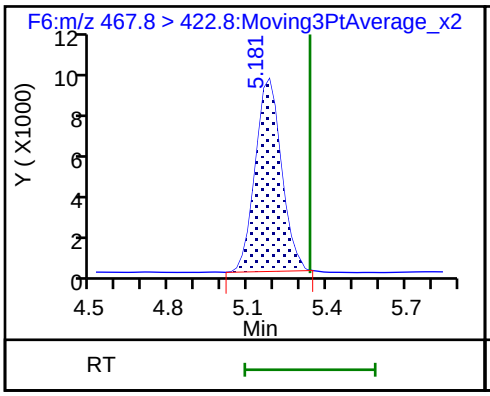
18 Perfluoroheptanesulfonic acid (ND)



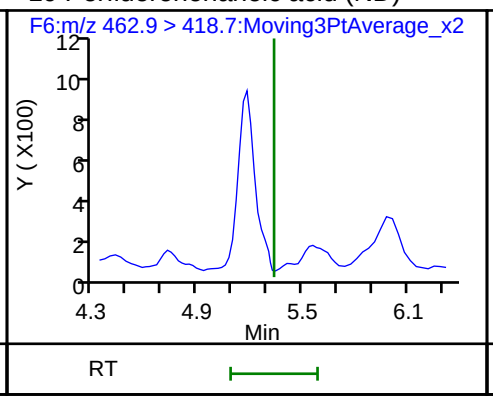
18 Perfluoroheptanesulfonic acid (ND)



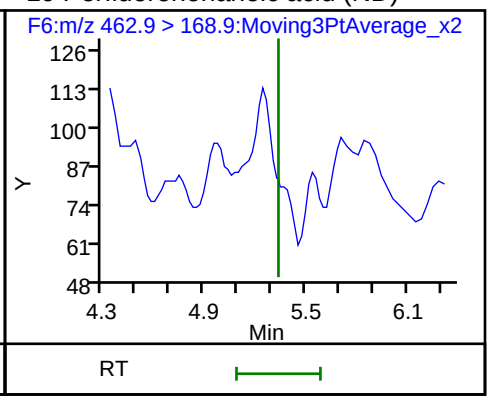
D 20 13C5 PFNA



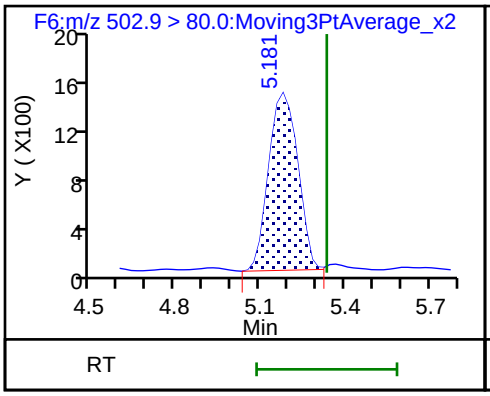
19 Perfluorononanoic acid (ND)



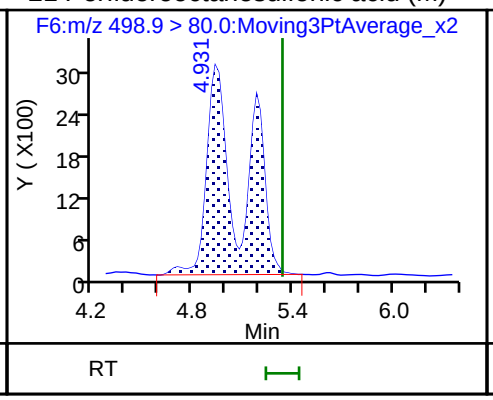
19 Perfluorononanoic acid (ND)



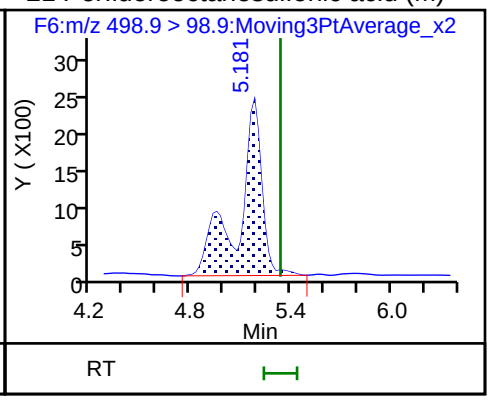
D 22 13C4 PFOS



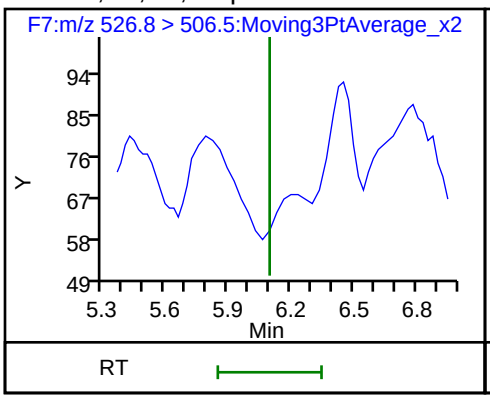
21 Perfluorooctanesulfonic acid (M)



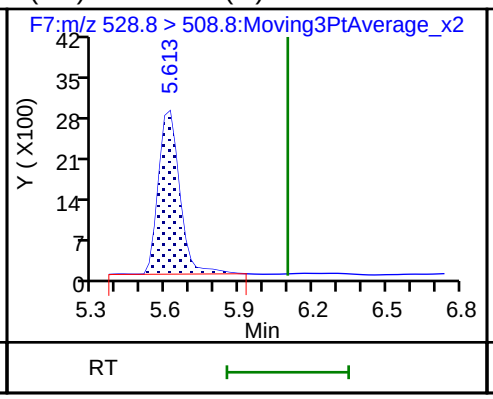
21 Perfluorooctanesulfonic acid (M)



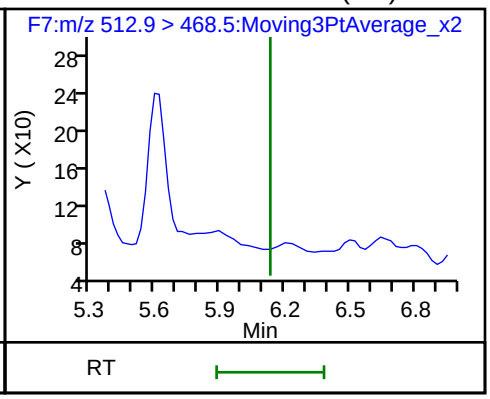
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



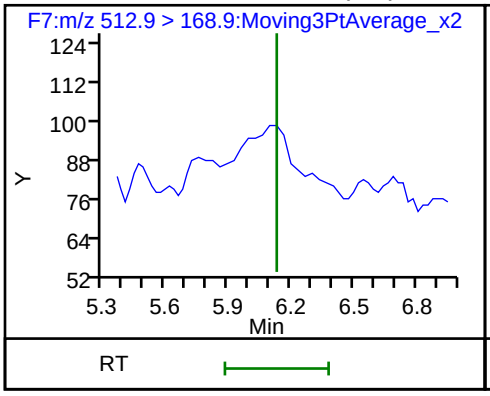
D 24 M2-8:2 FTS (M)



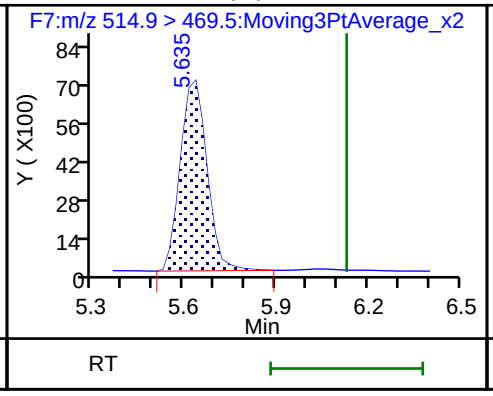
26 Perfluorodecanoic acid (ND)



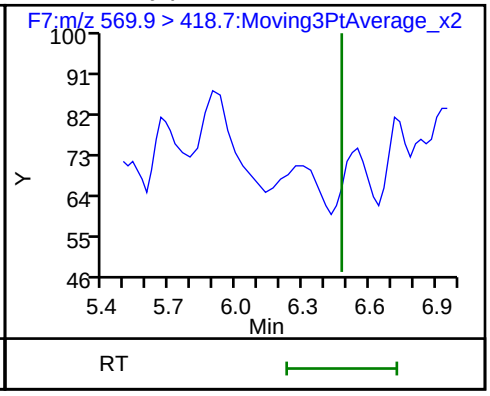
26 Perfluorodecanoic acid (ND)



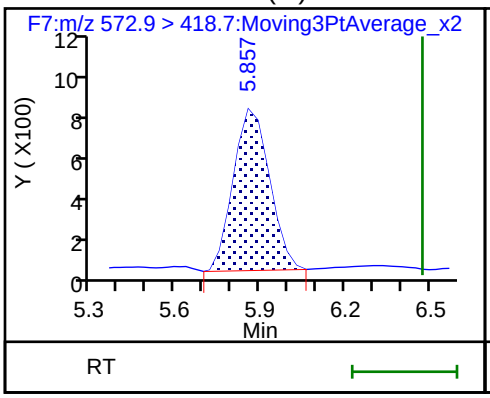
D 25 13C2 PFDA (M)



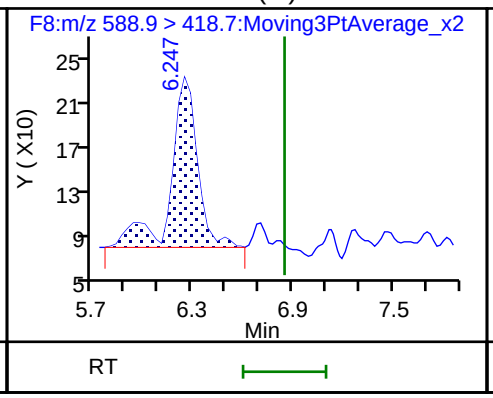
28 N-methylperfluorooctanesulfonamido (ND)



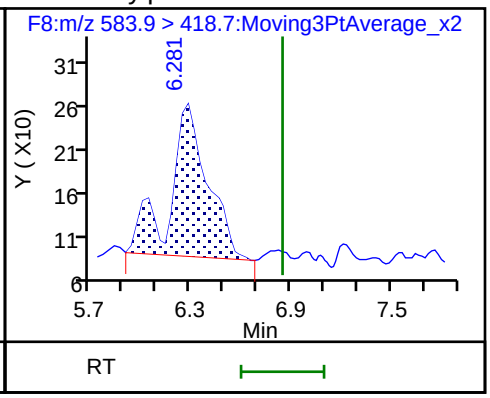
D 27 d3-NMeFOSAA (M)



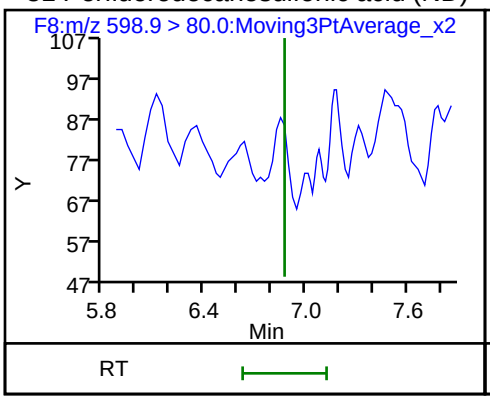
D 29 d5-NEtFOSAA (M)



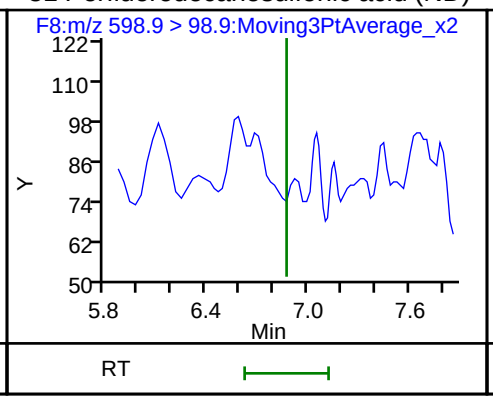
30 N-ethylperfluorooctanesulfonamidoa (M)



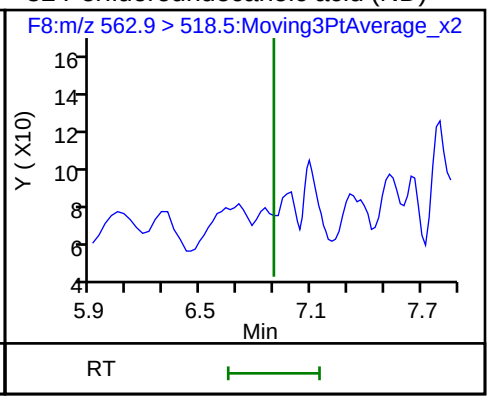
31 Perfluorodecanesulfonic acid (ND)



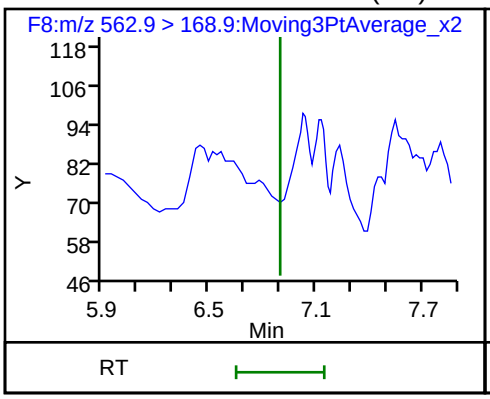
31 Perfluorodecanesulfonic acid (ND)



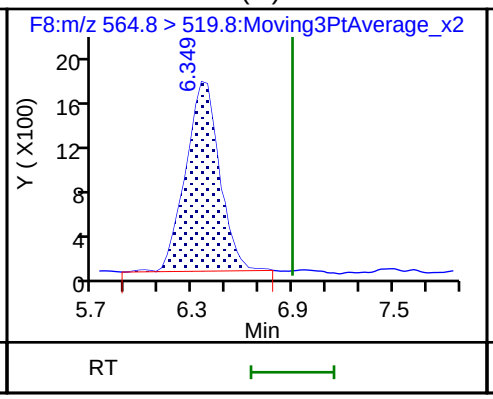
32 Perfluoroundecanoic acid (ND)



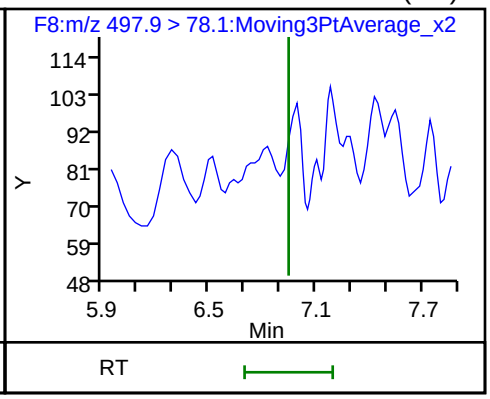
32 Perfluoroundecanoic acid (ND)



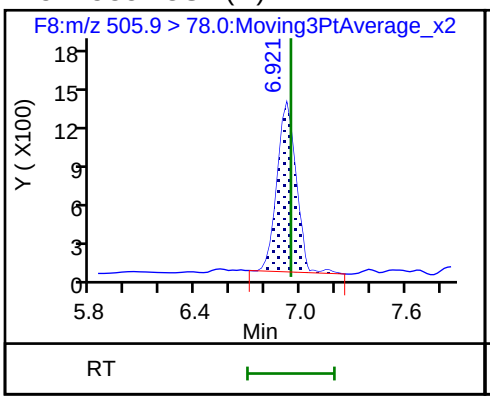
D 33 13C2 PFUnA (M)



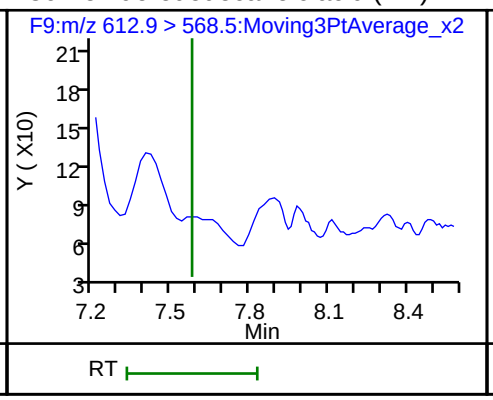
35 Perfluorooctanesulfonamide (ND)



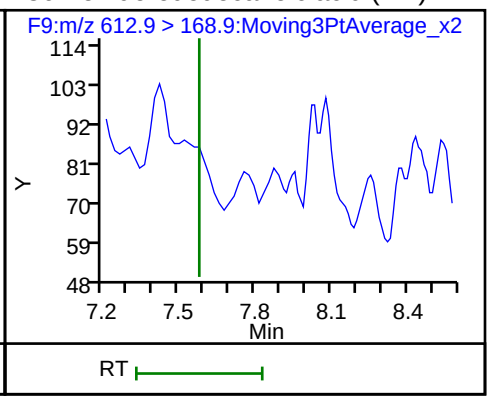
D 34 13C8 FOSA (M)



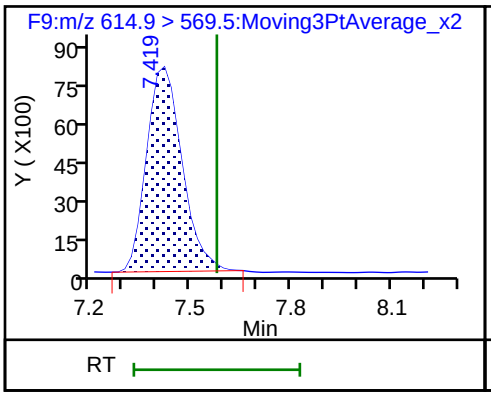
36 Perfluorododecanoic acid (ND)



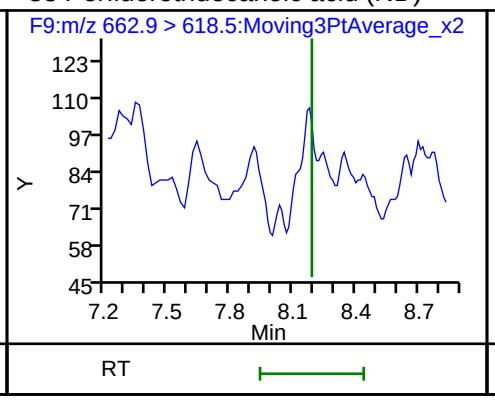
36 Perfluorododecanoic acid (ND)



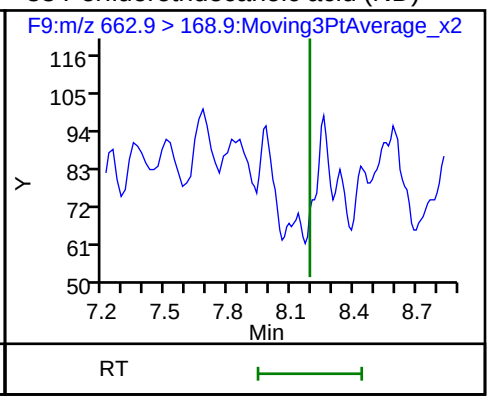
D 37 13C2 PFDoA



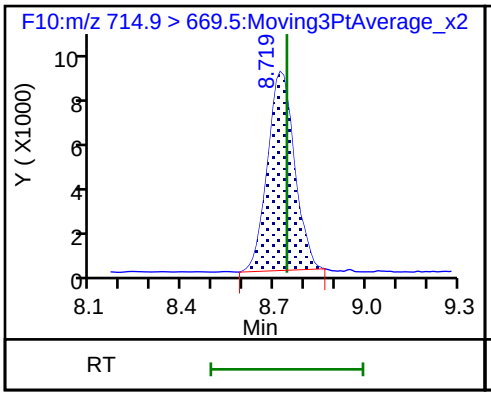
38 Perfluorotridecanoic acid (ND)



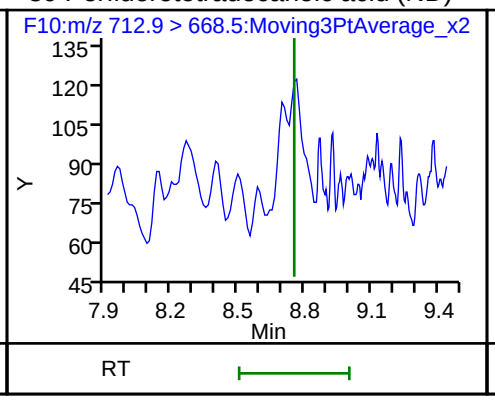
38 Perfluorotridecanoic acid (ND)



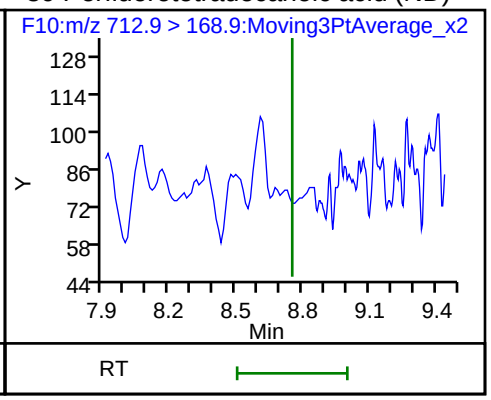
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

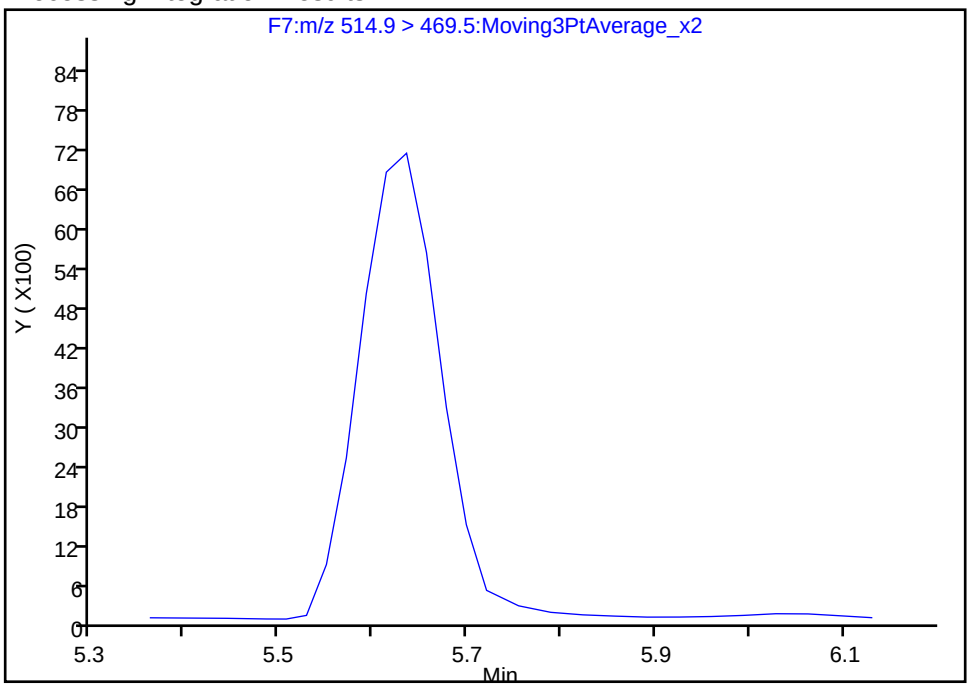
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A11.d				
Injection Date:	06-Jun-2019 15:03:47	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	20.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 25 13C2 PFDA, CAS: STL00996

Signal: 1

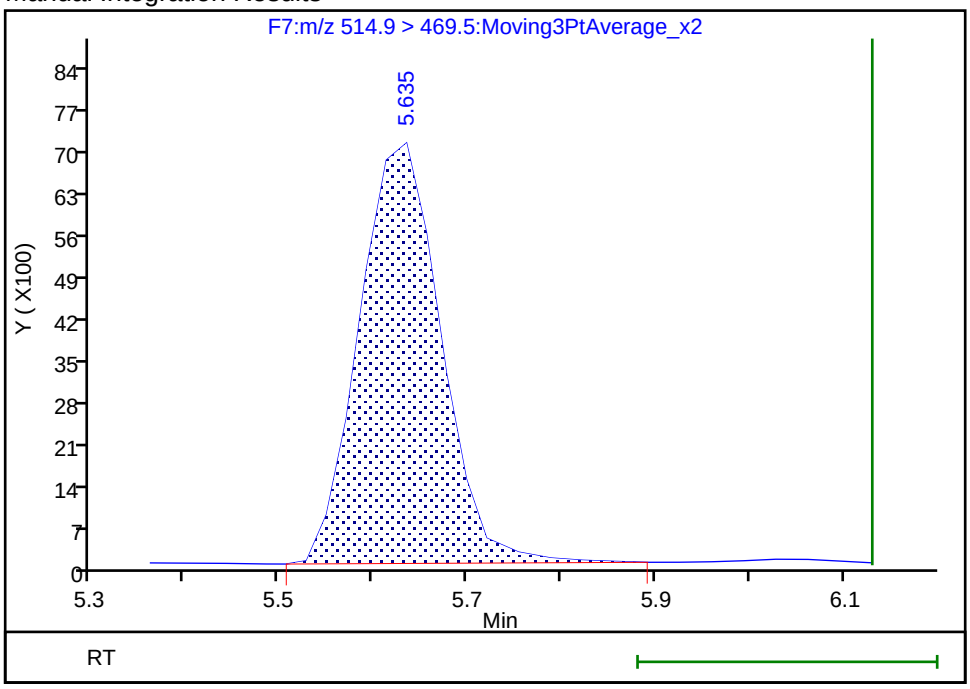
Not Detected
Expected RT: 6.13

Processing Integration Results



Manual Integration Results

RT: 5.63
Area: 42200
Amount: 1.126128
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 17:40:02
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

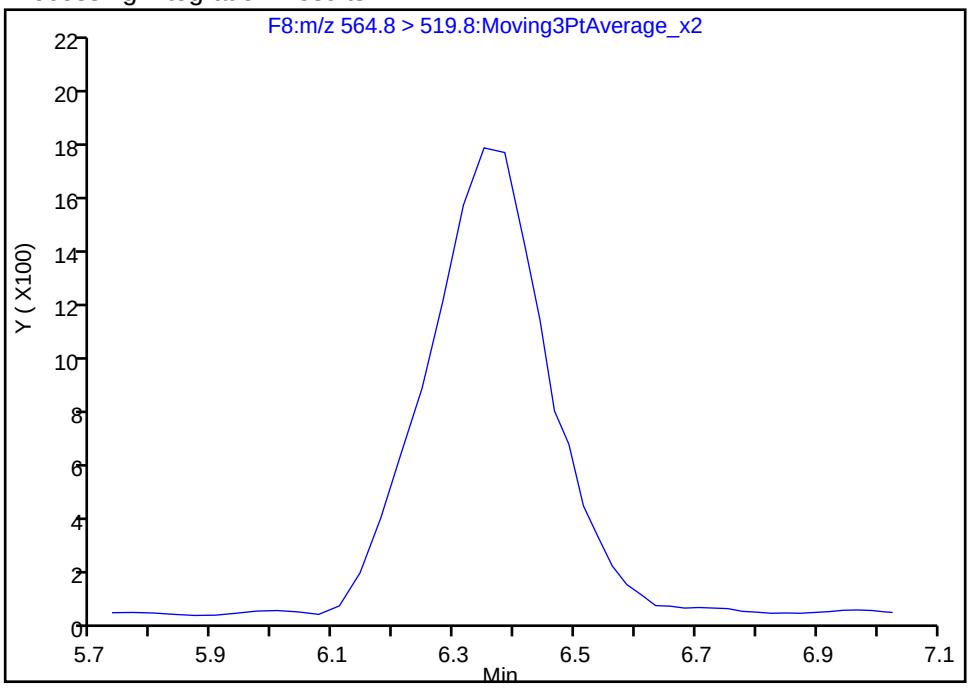
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A11.d				
Injection Date:	06-Jun-2019 15:03:47	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	20.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 33 13C2 PFUnA, CAS: STL00997

Signal: 1

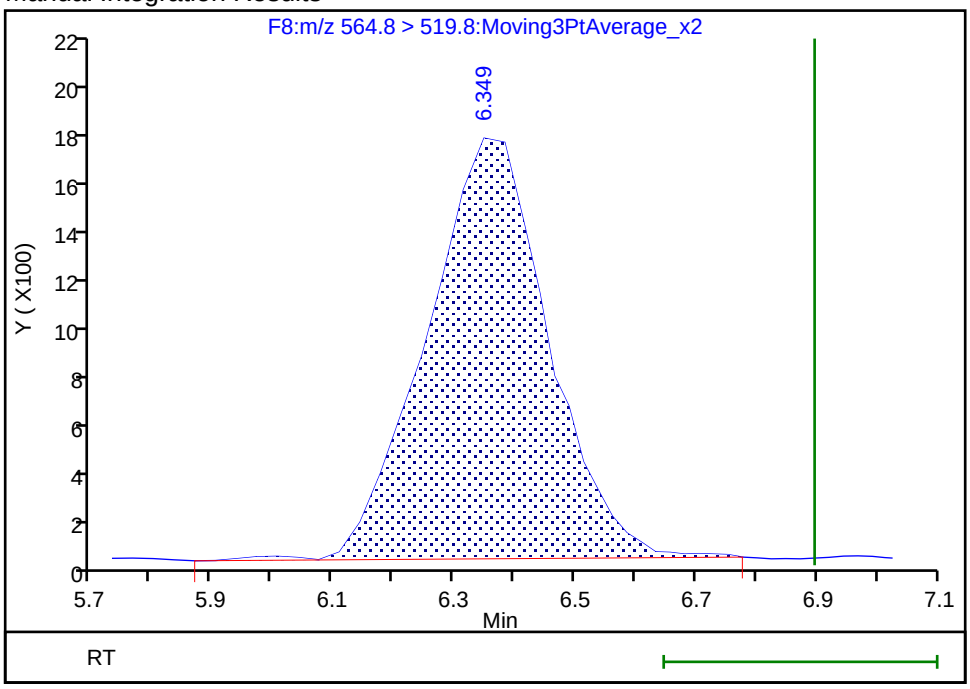
Not Detected
Expected RT: 6.90

Processing Integration Results



Manual Integration Results

RT: 6.35
Area: 23877
Amount: 0.660156
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 17:40:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

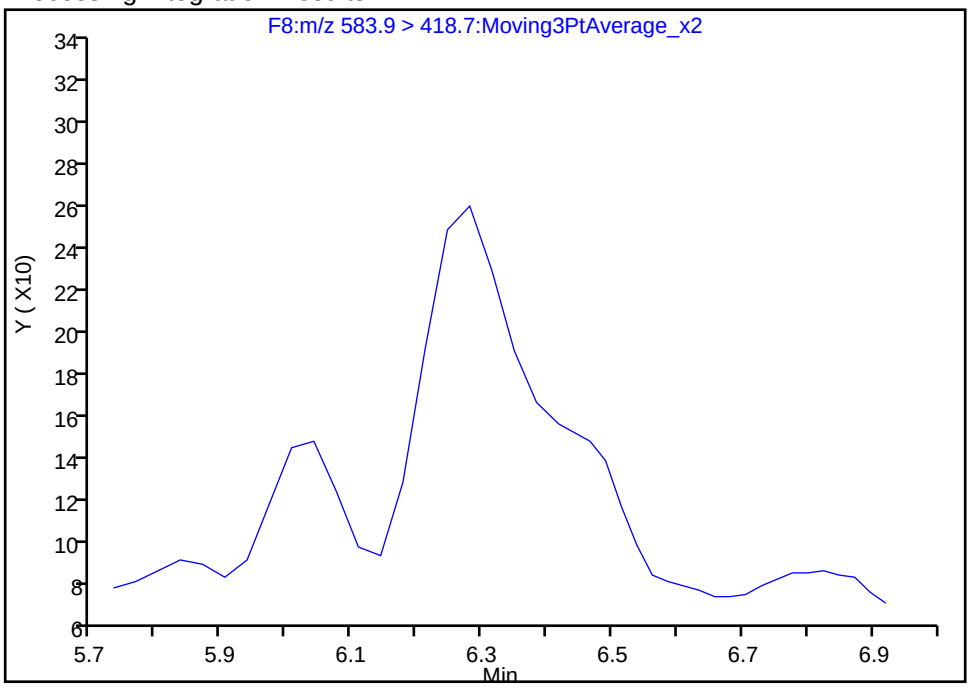
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A11.d				
Injection Date:	06-Jun-2019 15:03:47	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	20.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

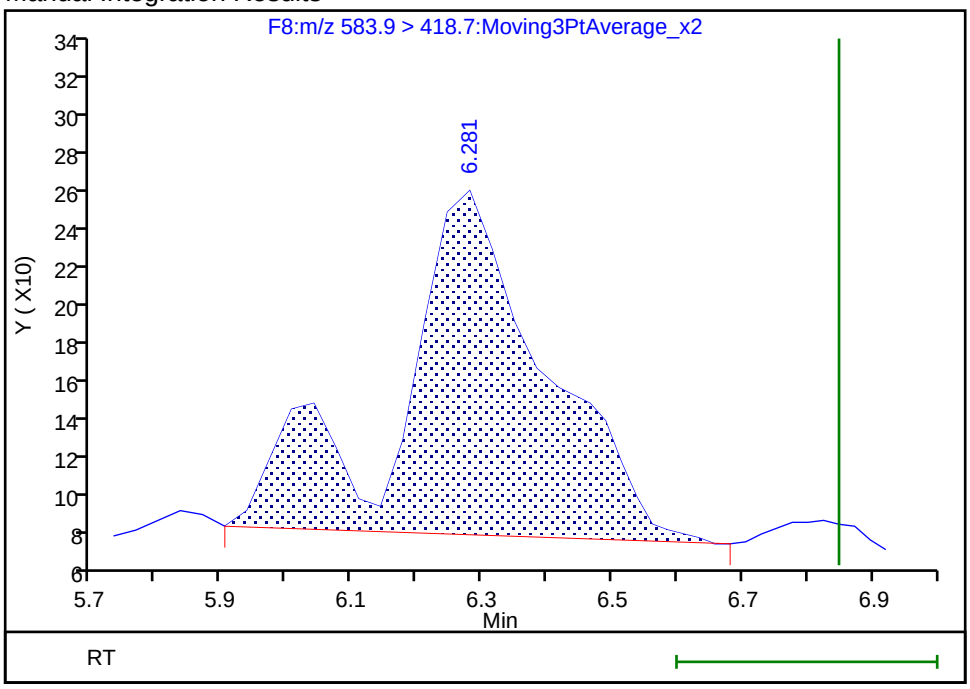
Processing Integration Results

Not Detected
Expected RT: 6.85



Manual Integration Results

RT: 6.28
Area: 2769
Amount: 5.083538
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 17:40:32
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

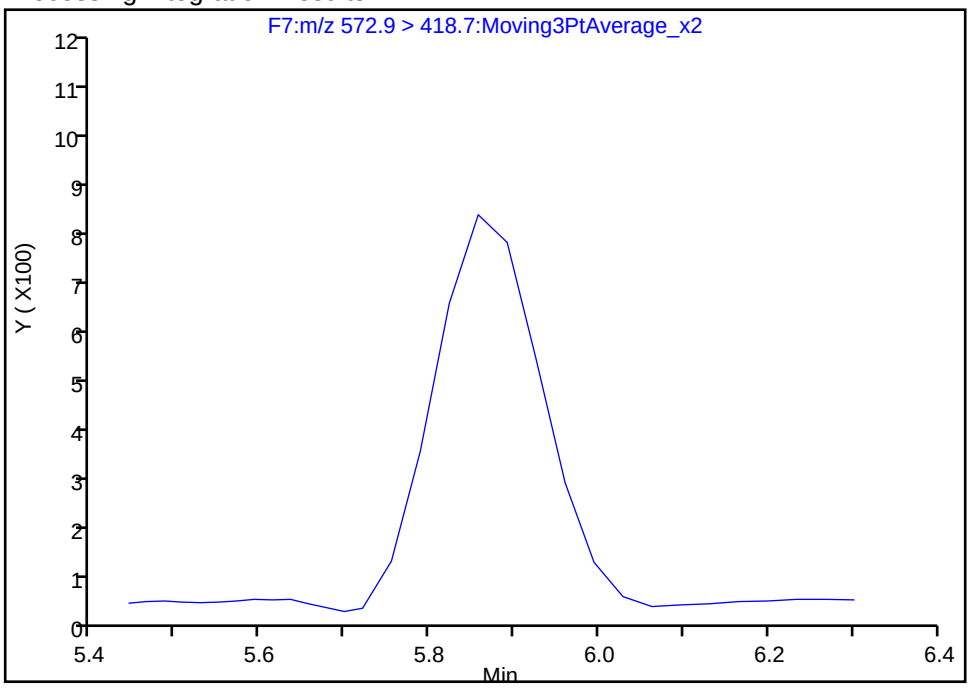
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A11.d				
Injection Date:	06-Jun-2019 15:03:47	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	20.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 27 d3-NMeFOSAA, CAS: STL02118

Signal: 1

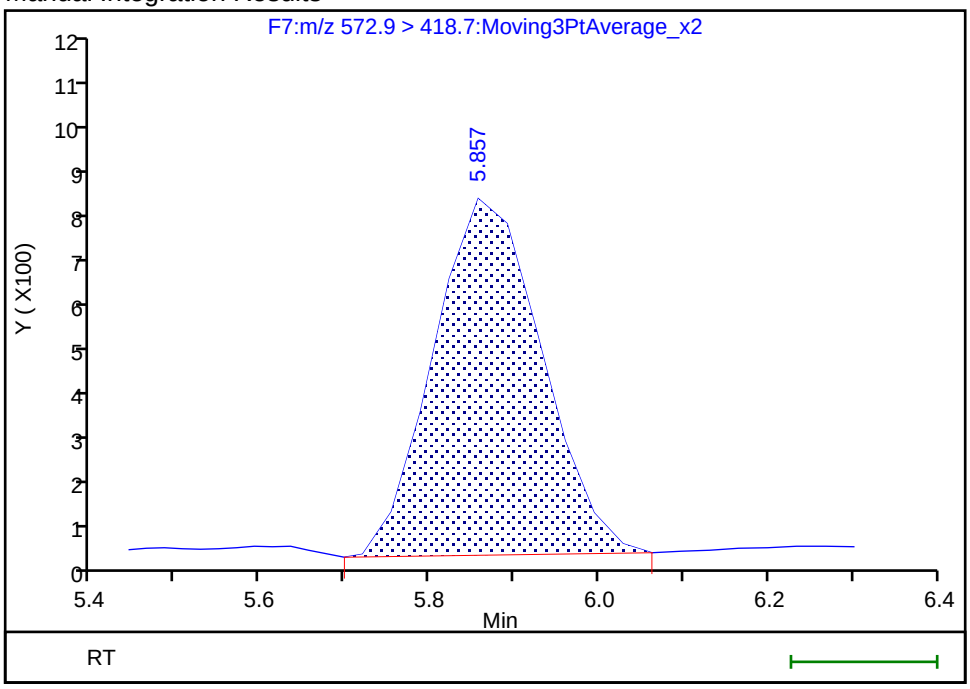
Processing Integration Results

Not Detected
Expected RT: 6.48



Manual Integration Results

RT: 5.86
Area: 6345
Amount: 0.519710
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 17:40:04
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

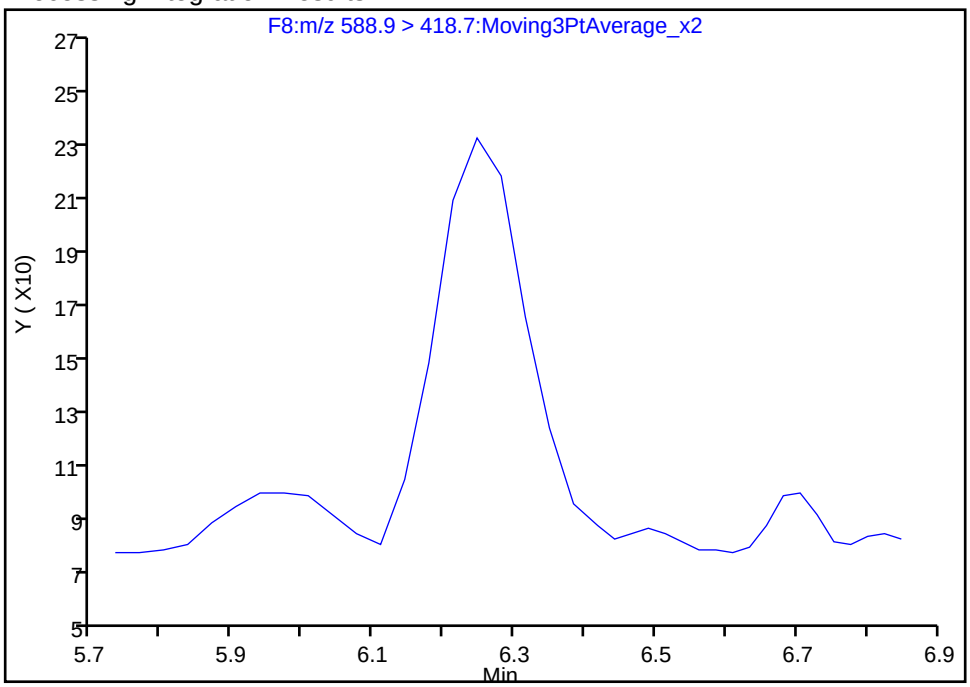
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A11.d				
Injection Date:	06-Jun-2019 15:03:47	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	20.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 29 d5-NEtFOSAA, CAS: STL02117

Signal: 1

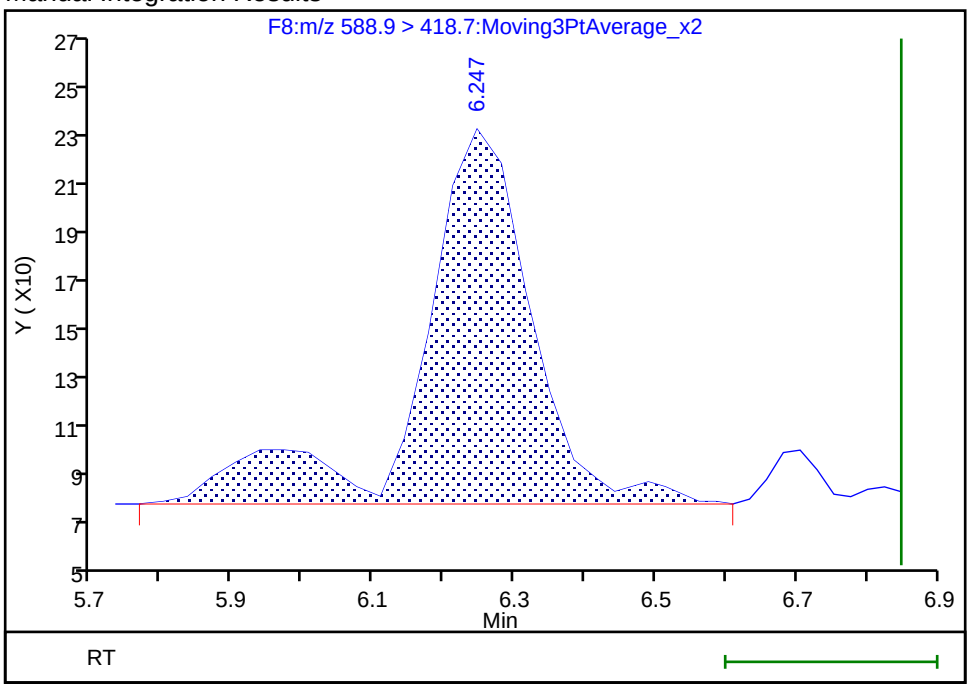
Not Detected
Expected RT: 6.85

Processing Integration Results



Manual Integration Results

RT: 6.25
Area: 1691
Amount: 0.167962
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 17:40:40
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

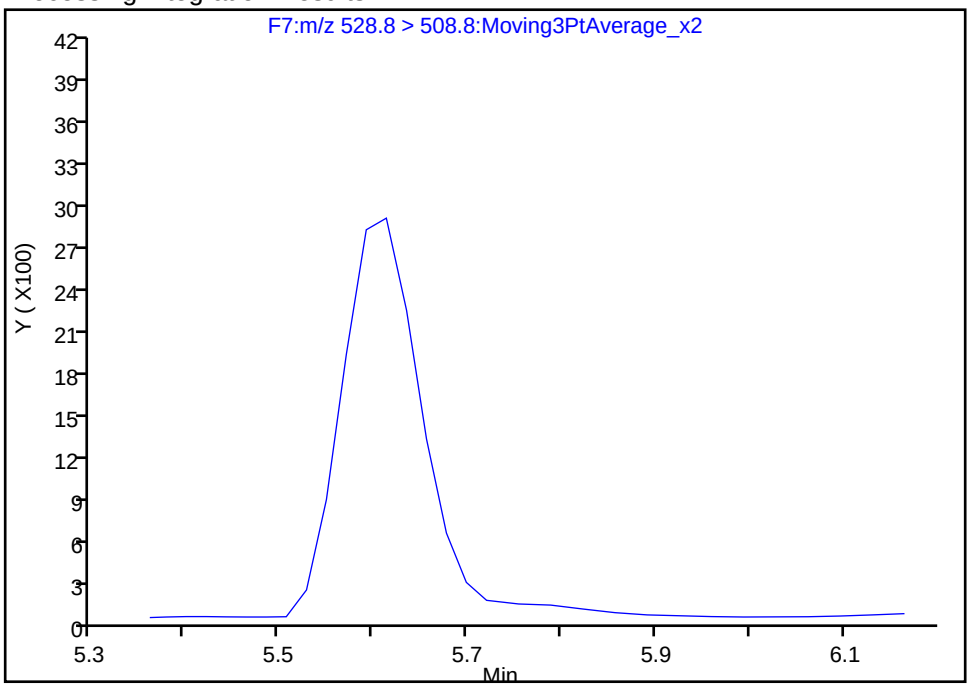
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A11.d				
Injection Date:	06-Jun-2019 15:03:47	Instrument ID:	LC410		
Lims ID:	200-48826-A-9-A	Lab Sample ID:	200-48826-9		
Client ID:	ASW 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	20.0 ul	Dil. Factor:	20.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 24 M2-8:2 FTS, CAS: STL02280

Signal: 1

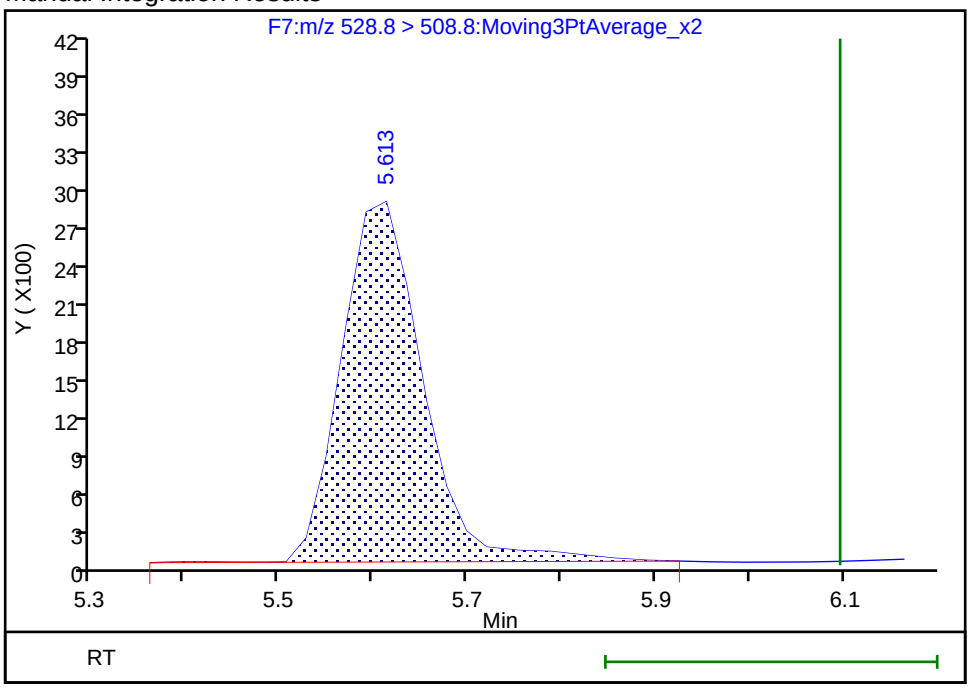
Not Detected
Expected RT: 6.10

Processing Integration Results



Manual Integration Results

RT: 5.61
Area: 17103
Amount: 2.503222
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 17:40:00
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-23 051419 Lab Sample ID: 200-48826-10

Matrix: Water Lab File ID: PF060419B12.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 15:02

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.6(mL) Date Analyzed: 06/05/2019 04:14

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.2	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	17		8.2	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	26		8.2	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	42		8.2	3.7
335-67-1	Perfluorooctanoic acid (PFOA)	150		8.2	2.6
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.2	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.2	3.1
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.2	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	8.1	J	8.2	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	13		8.2	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.2	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	52	B *	8.2	2.5
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		82	7.0
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		82	6.1
27619-97-2	6:2 FTS	ND		82	19
39108-34-4	8:2 FTS	ND		82	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-23 051419 Lab Sample ID: 200-48826-10

Matrix: Water Lab File ID: PF060419B12.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 15:02

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.6(mL) Date Analyzed: 06/05/2019 04:14

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	19	*	25-150
STL00992	13C4 PFBA	28		25-150
STL01893	13C5 PFPeA	35		25-150
STL00993	13C2 PFHxA	34	*	50-150
STL01892	13C4 PFHpA	49	*	50-150
STL00990	13C4 PFOA	64		50-150
STL00995	13C5 PFNA	53		50-150
STL00996	13C2 PFDA	62		50-150
STL00997	13C2 PFUnA	47	*	50-150
STL00998	13C2 PFDoA	58		50-150
STL02116	13C2 PFTeDA	40	*	50-150
STL02337	13C3 PFBS	40	*	50-150
STL00994	18O2 PFHxS	24	*	50-150
STL00991	13C4 PFOS	46	*	50-150
STL02118	d3-NMeFOSAA	31	*	50-150
STL02117	d5-NEtFOSAA	38	*	50-150
STL02279	M2-6:2 FTS	70		25-150
STL02280	M2-8:2 FTS	115		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d
Lims ID: 200-48826-A-10-A
Client ID: MW-23 051419
Sample Type: Client
Inject. Date: 05-Jun-2019 04:14:20 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036200-012 10
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 12:18:06
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.329	2.360	-0.031	1.000	20734	2.82		28.2	19.2	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.795	2.830	-0.035	1.009	11758	2.04			2.2	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.769	2.830	-0.061	1.000	19289	3.46		34.6	13.5	
6 Perfluorobutanesulfonic acid										Ma
298.9 > 80.0	2.717	2.901	-0.184	0.948	2397	0.9900	Target=1.67		0.1	a
298.9 > 98.9	2.795	2.901	-0.106	0.975	1716		1.40(0.83-2.51)		3.5	
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.901	-0.035	1.000	8959	3.70		39.7	26.5	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.238	3.302	-0.064	0.990	25503	3.20	Target=14.34		6.0	
312.9 > 118.9	3.270	3.302	-0.032	1.000	1819		14.02(7.17-21.51)		11.1	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.334	-0.064	1.000	57015	3.41		34.1	166	
D 10 13C4 PFHpA										
366.9 > 321.8	3.833	3.905	-0.072	1.000	114746	4.87		48.7	471	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.833	3.905	-0.072	1.000	69793	5.18	Target=2.84		47.1	
362.9 > 168.9	3.833	3.905	-0.072	1.000	21023		3.32(1.42-4.26)		77.9	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.833	3.925	-0.092	1.000	2496	1.56	Target=1.34		8.4	M
398.9 > 98.9	3.925	3.925	0.0	1.024	2594		0.96(0.67-2.01)		8.4	M
D 12 18O2 PFHxS										M
402.9 > 83.8	3.833	3.925	-0.092	1.000	7169	2.31		24.5	29.1	M
13 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.414	4.547	-0.133	0.975	596	0.5348			3.9	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	11202	6.69		70.5	52.5	M
* 16 13C2 PFOA										s
414.9 > 369.8	4.547	4.589	-0.042		300400	10.0			1022	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.547	4.589	-0.042	1.000	340200	17.9	Target=2.43		410	
412.9 > 168.9	4.547	4.589	-0.042	1.000	145180		2.34(1.22-3.64)		308	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.609	-0.062	1.000	187632	6.43		64.3	945	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.568	4.609	-0.041	0.858	413	0.1463	Target=1.30		2.6	
448.9 > 98.9	4.568	4.609	-0.041	1.000	618		0.67(0.65-1.95)		2.5	
D 20 13C5 PFNA										
467.8 > 422.8	5.326	5.389	-0.063	1.000	209135	5.35		53.5	792	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.336	5.389	-0.053	1.002	19810	6.33	Target=1.41		39.4	M
498.9 > 98.9	5.326	5.389	-0.063	1.000	16447		1.20(0.71-2.12)		56.8	M
D 22 13C4 PFOS										
502.9 > 80.0	5.326	5.411	-0.085	1.000	30999	4.44		46.4	91.7	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	5.994	6.131	-0.137	1.000	1117	0.2170			4.0	M
D 24 M2-8:2 FTS										
528.8 > 508.8	5.994	6.131	-0.137	1.000	66847	11.0		115	305	
26 Perfluorodecanoic acid										RM
512.9 > 468.5	5.994	6.165	-0.171	1.000	968	0.0513	Target=7.23		4.5	RM
512.9 > 168.9	5.994	6.165	-0.171	1.000	515		1.88(3.61-10.84)		3.2	M
D 25 13C2 PFDA										
514.9 > 469.5	5.994	6.199	-0.205	1.000	206142	6.17		61.7	609	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.302	6.549	-0.247	1.000	33933	3.12		31.2	148	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.705	6.897	-0.192	1.007	944	0.3415			6.8	M
D 29 d5-NEtFOSAA										a
588.9 > 418.7	6.658	6.921	-0.263	0.000	34330	3.83		38.3	149	a
D 33 13C2 PFUnA										
564.8 > 519.8	6.705	6.945	-0.240	1.000	150114	4.66		46.6	457	
D 34 13C8 FOSA										
505.9 > 78.0	6.969	7.026	-0.057	1.000	22952	1.91		19.1	95.7	
36 Perfluorododecanoic acid										M
612.9 > 568.5	7.577	7.616	-0.039	1.000	3645	0.1618	Target=5.37		21.1	M
612.9 > 168.9	7.596	7.616	-0.020	1.003	535		6.81(2.68-8.06)		3.0	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	237365	5.78		57.8	625	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.764	8.819	-0.055	1.000	148008	4.01		40.1	324	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

a - User Assigned ID

Report Date: 05-Jun-2019 15:51:22 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d

Injection Date: 05-Jun-2019 04:14:20 Instrument ID: LC410

Lims ID: 200-48826-A-10-A Lab Sample ID: 200-48826-10

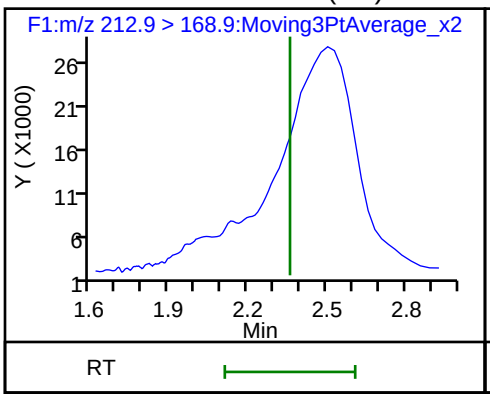
Client ID: MW-23 051419

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 12

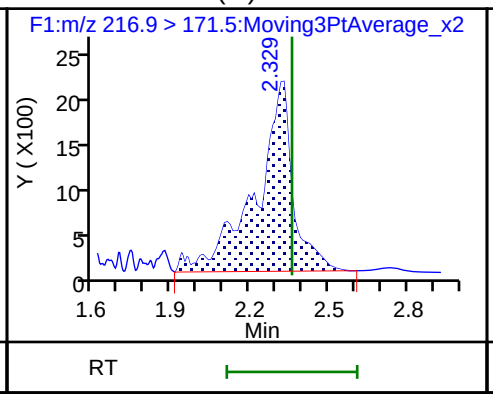
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

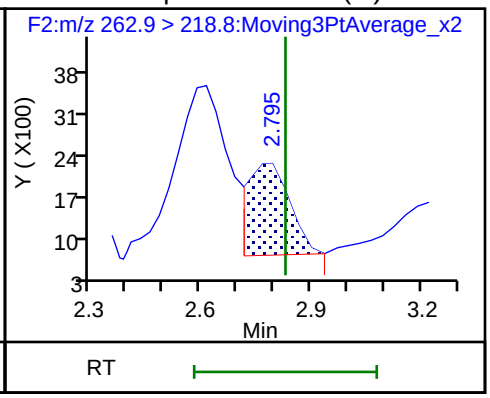
2 Perfluorobutanoic acid (ND)



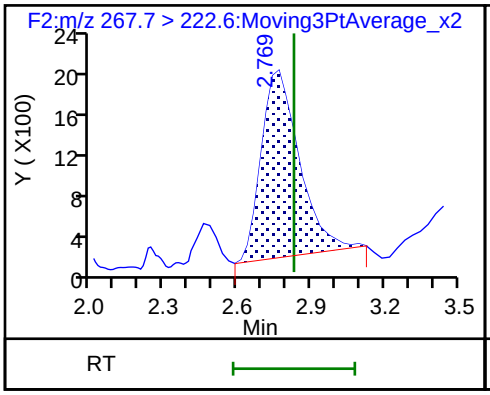
D 1 13C4 PFBA (M)



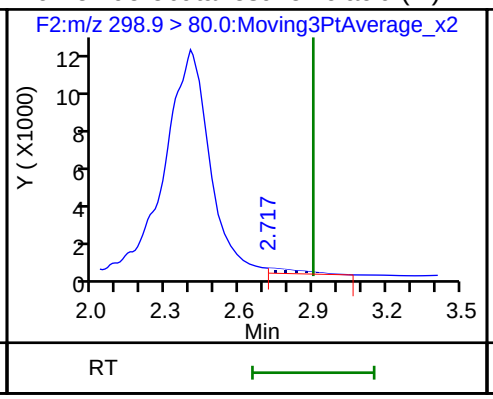
3 Perfluoropentanoic acid (M)



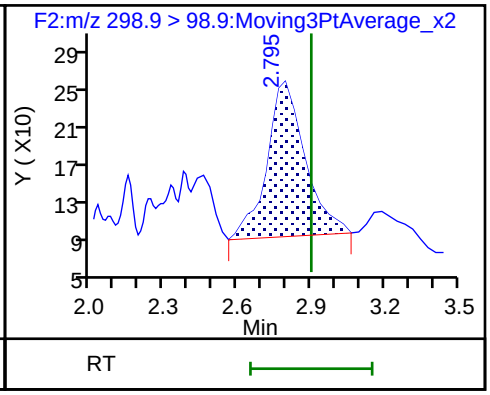
D 4 13C5 PFPeA



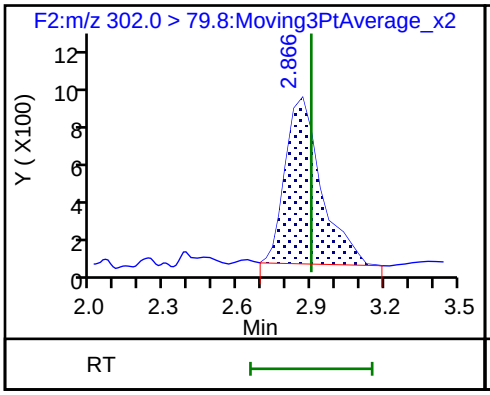
6 Perfluorobutanesulfonic acid (M)



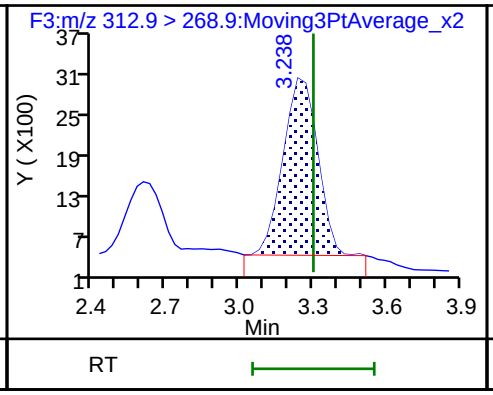
6 Perfluorobutanesulfonic acid



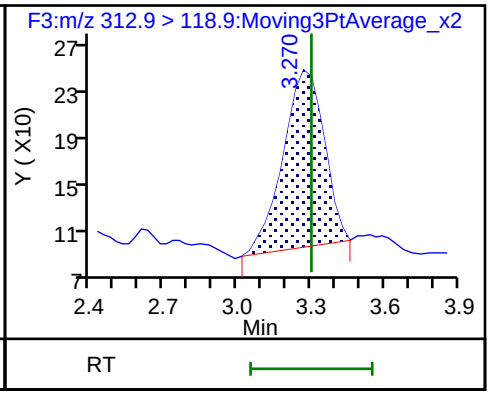
D 5 13C3 PFBS



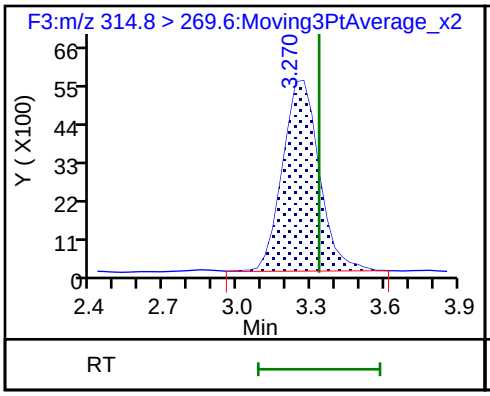
7 Perfluorohexanoic acid



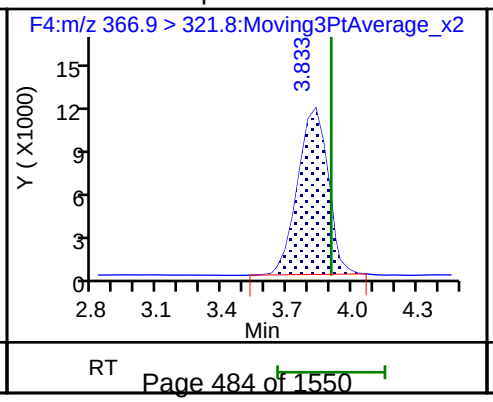
7 Perfluorohexanoic acid



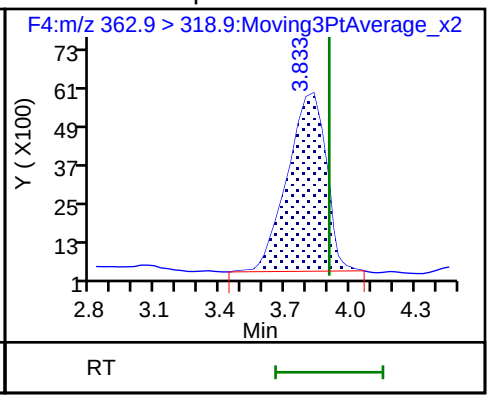
D 8 13C2 PFHxA



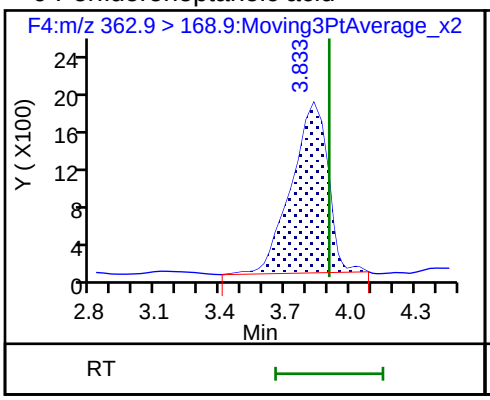
D 10 13C4 PFHpA



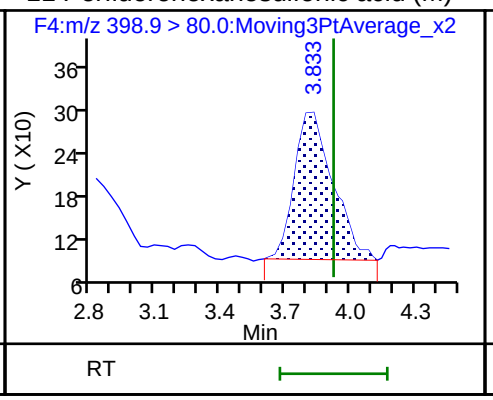
9 Perfluoroheptanoic acid



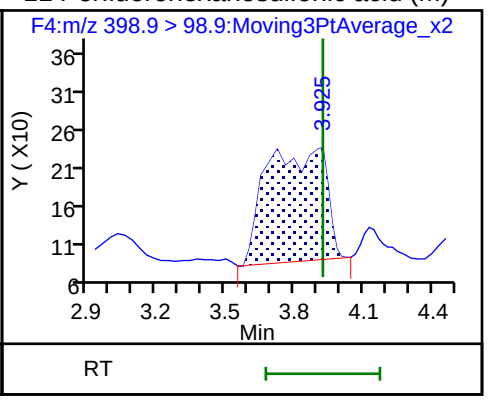
9 Perfluoroheptanoic acid



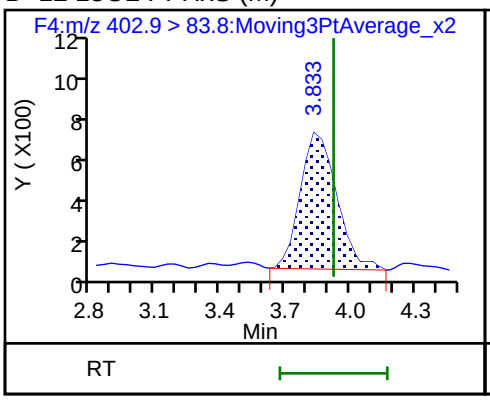
11 Perfluorohexanesulfonic acid (M)



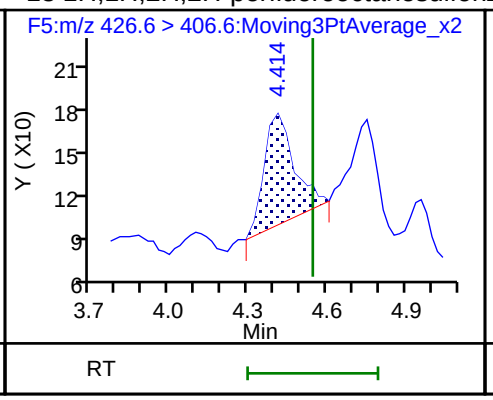
11 Perfluorohexanesulfonic acid (M)



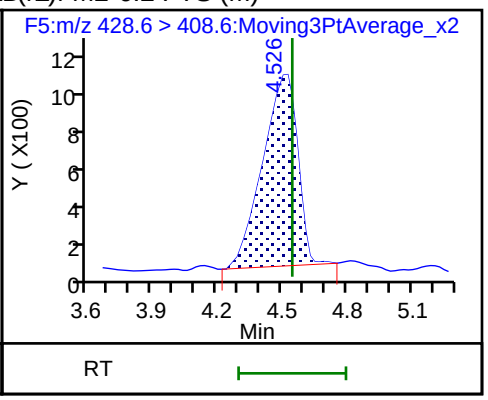
D 12 18O2 PFHxS (M)



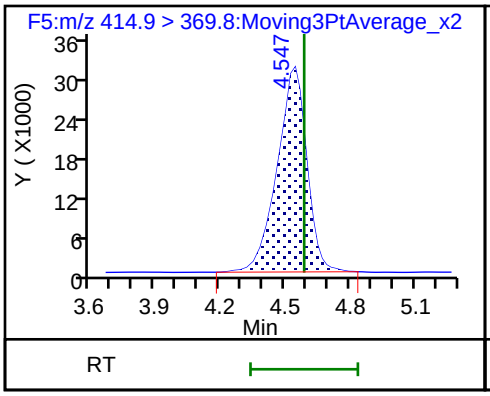
13 1H,1H,2H,2H-perfluorooctanesulfonic (M)



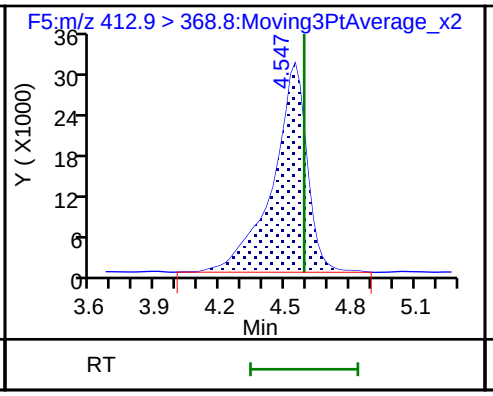
D 14 M2-6:2 FTS (M)



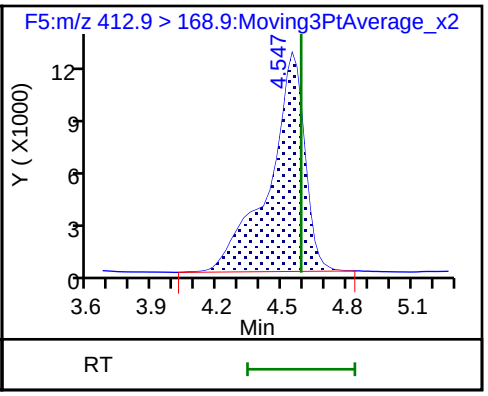
* 16 13C2 PFOA



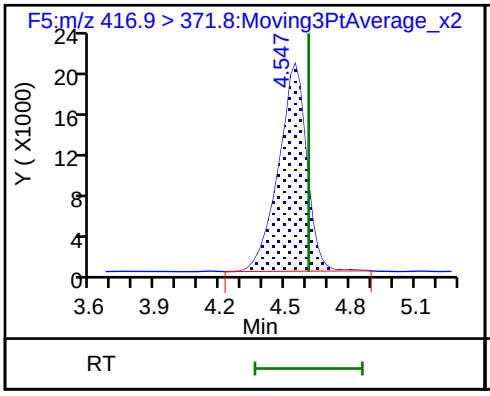
15 Perfluorooctanoic acid



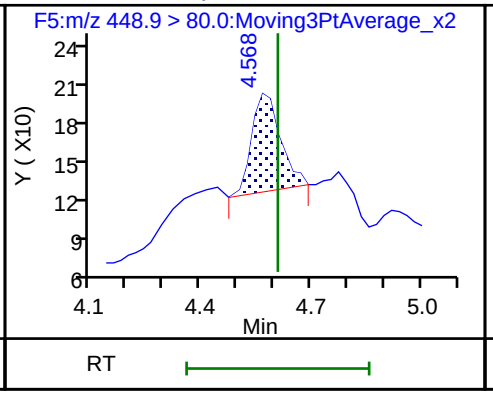
15 Perfluorooctanoic acid



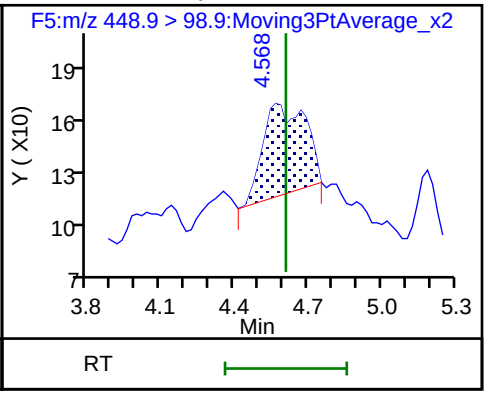
D 17 13C4 PFOA



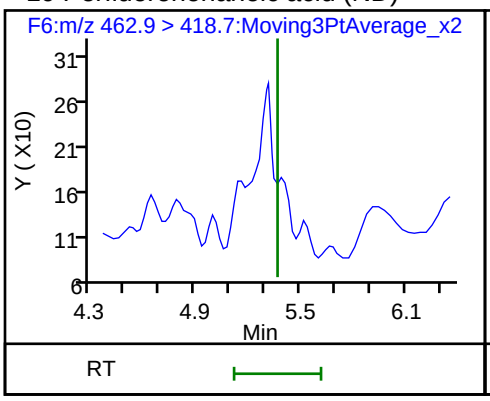
18 Perfluoroheptanesulfonic acid



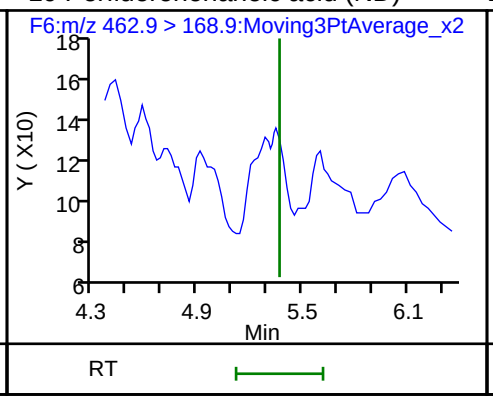
18 Perfluoroheptanesulfonic acid



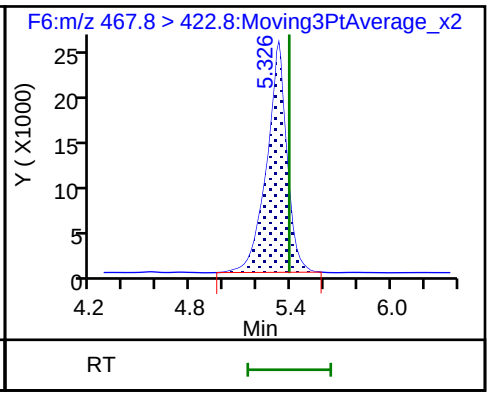
19 Perfluorononanoic acid (ND)



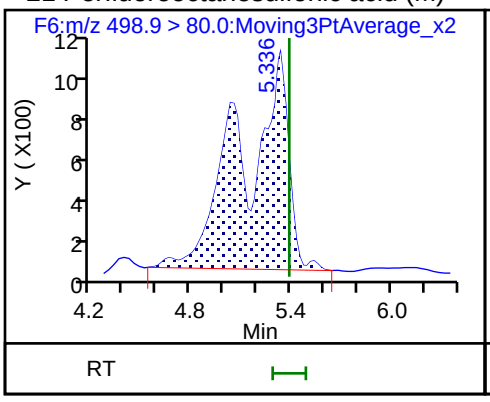
19 Perfluorononanoic acid (ND)



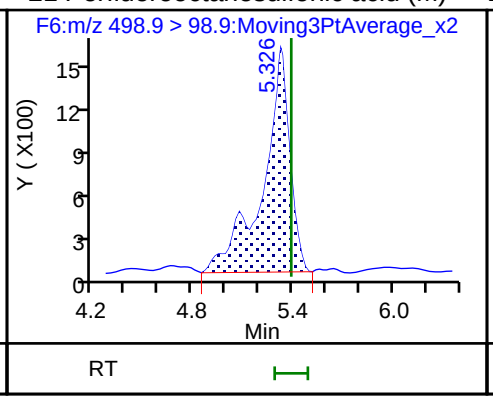
D 20 13C5 PFNA



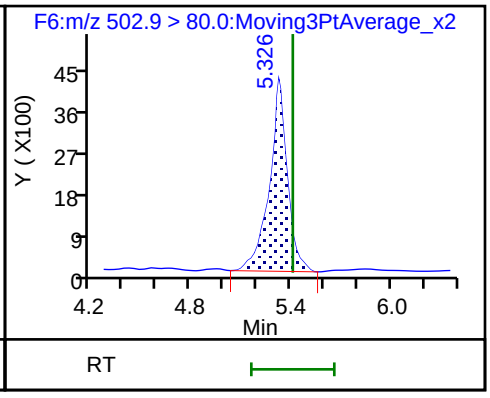
21 Perfluorooctanesulfonic acid (M)



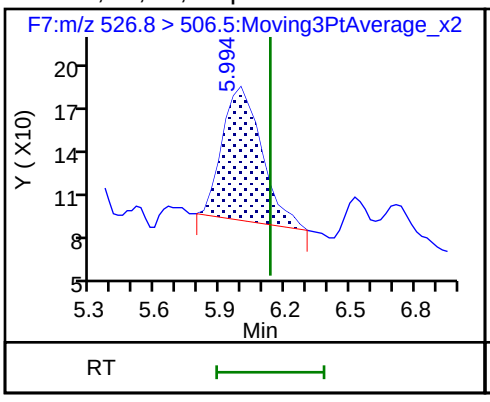
21 Perfluorooctanesulfonic acid (M)



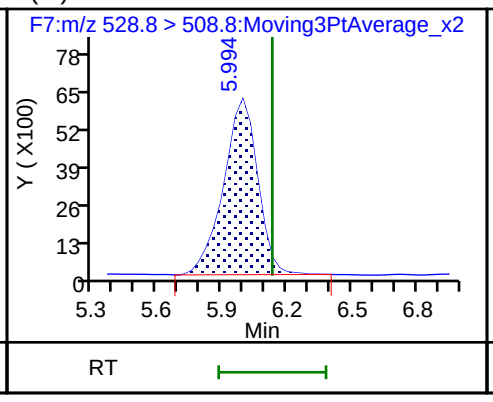
D 22 13C4 PFOS



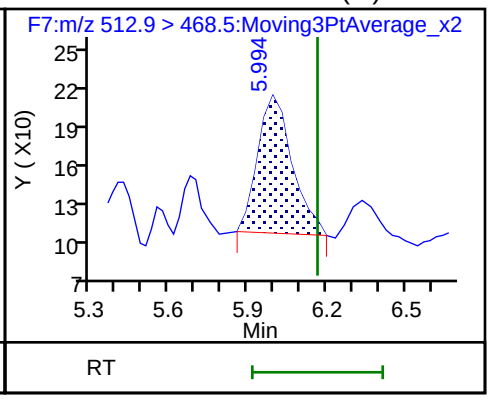
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



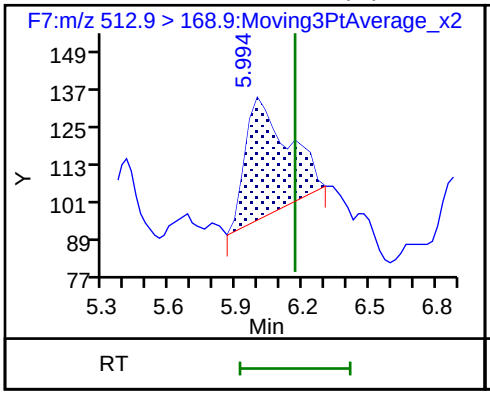
D 24 M2-8:2 FTS



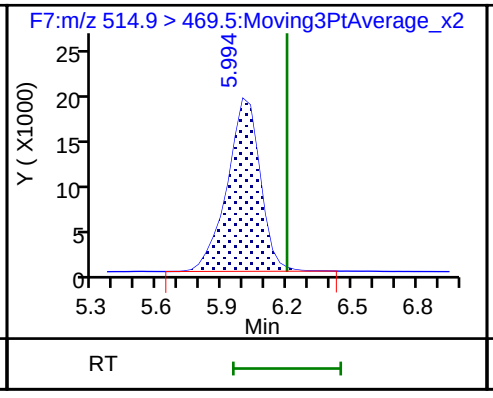
26 Perfluorodecanoic acid (M)



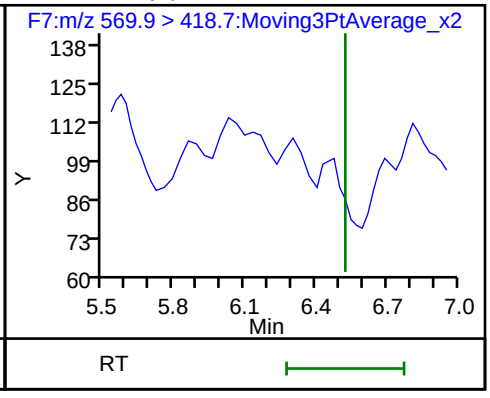
26 Perfluorodecanoic acid (M)



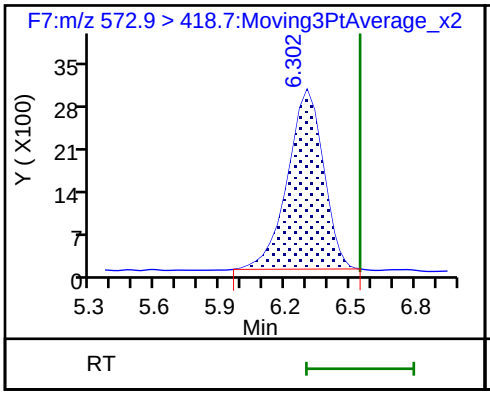
D 25 13C2 PFDA



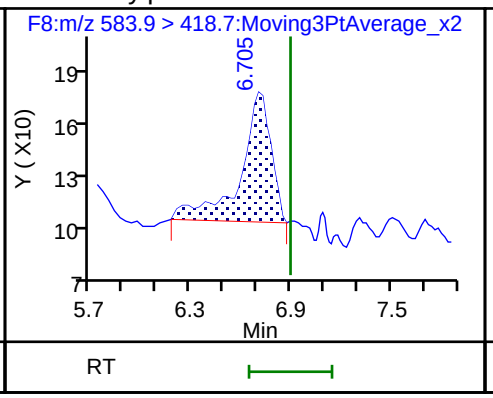
28 N-methylperfluorooctanesulfonamido (ND)



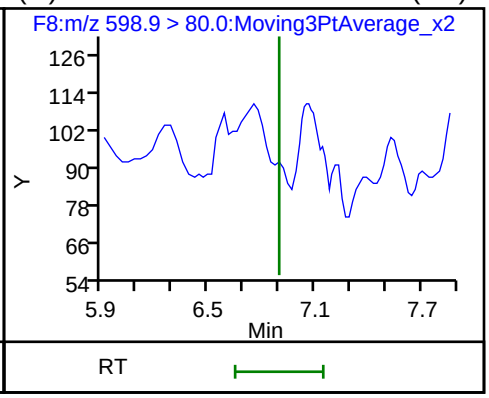
D 27 d3-NMeFOSAA



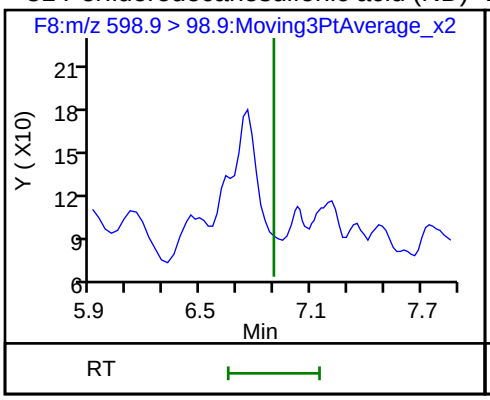
30 N-ethylperfluorooctanesulfonamidoa (M)



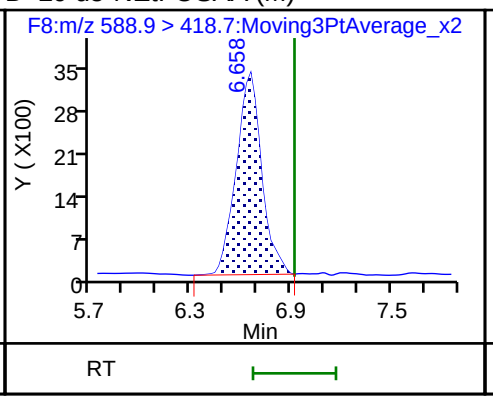
31 Perfluorodecanesulfonic acid (ND)



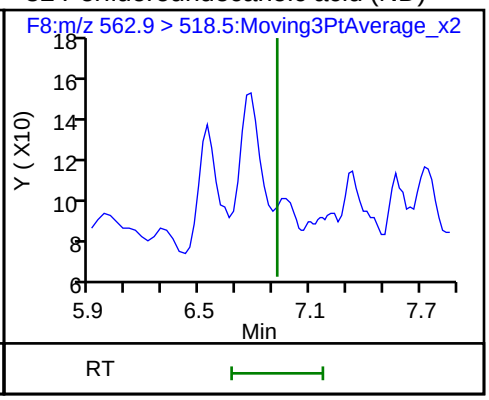
31 Perfluorodecanesulfonic acid (ND)



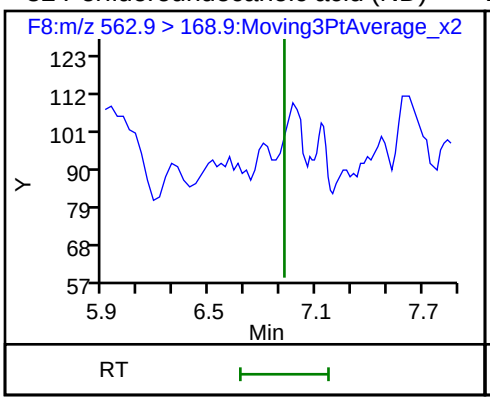
D 29 d5-NEtFOSAA (M)



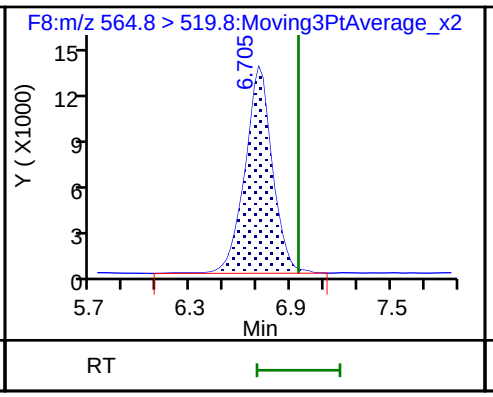
32 Perfluoroundecanoic acid (ND)



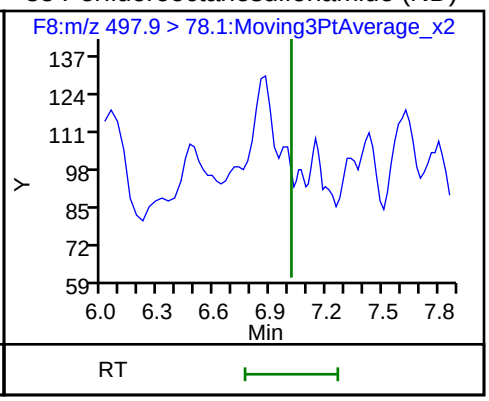
32 Perfluoroundecanoic acid (ND)



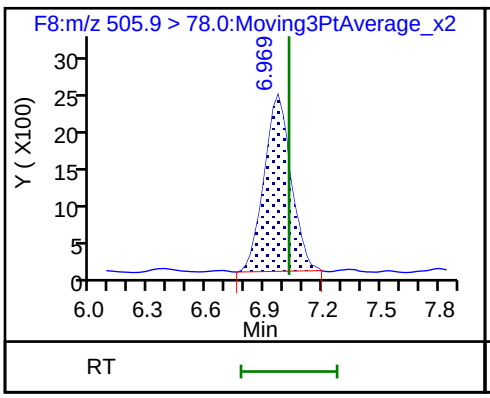
D 33 13C2 PFUnA



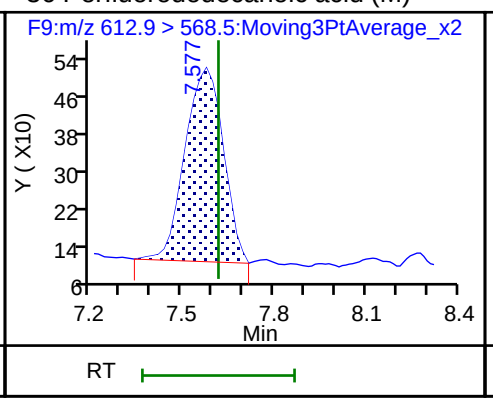
35 Perfluorooctanesulfonamide (ND)



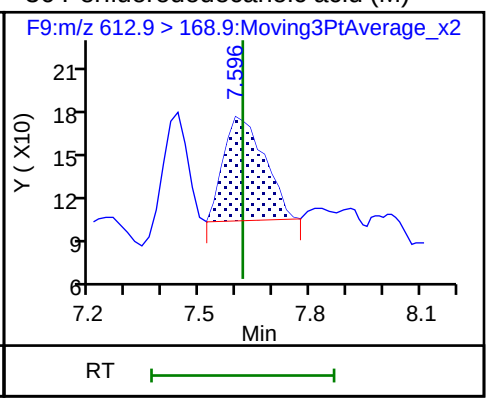
D 34 13C8 FOSA



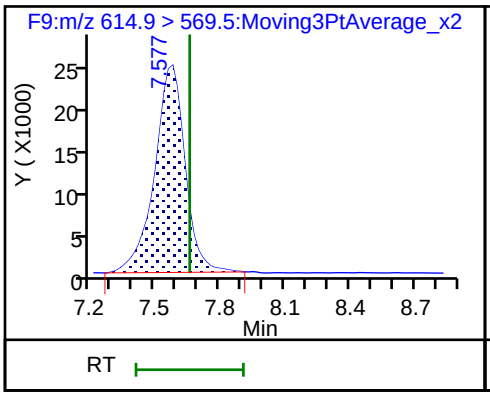
36 Perfluorododecanoic acid (M)



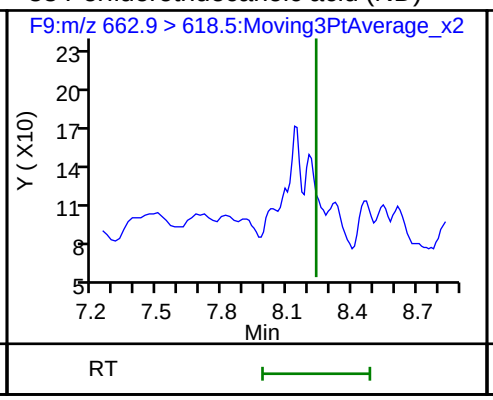
36 Perfluorododecanoic acid (M)



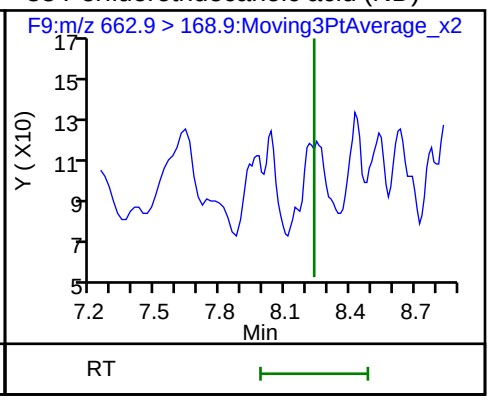
D 37 13C2 PFDoA



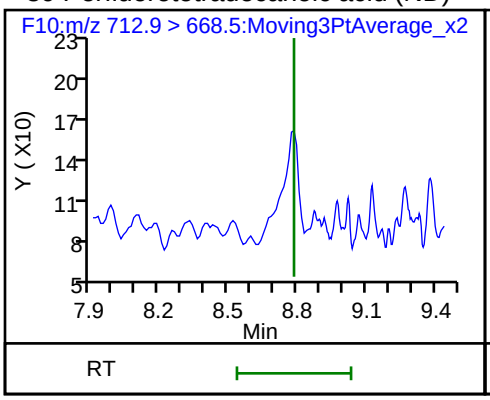
38 Perfluorotridecanoic acid (ND)



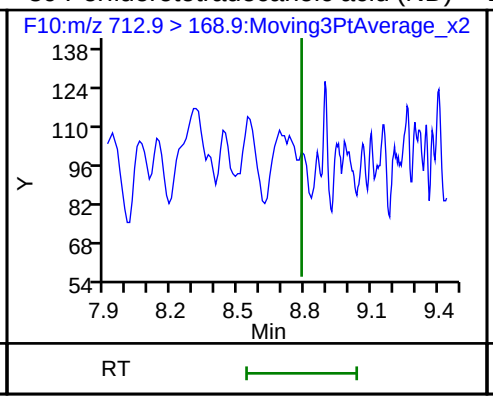
38 Perfluorotridecanoic acid (ND)



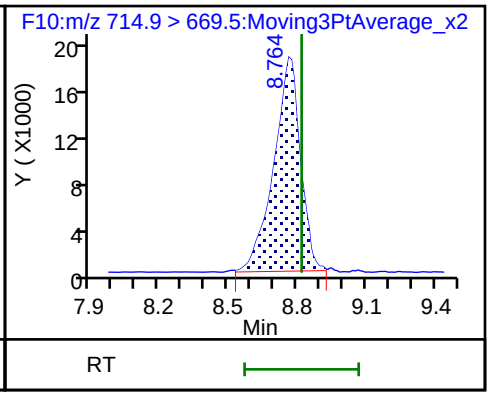
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



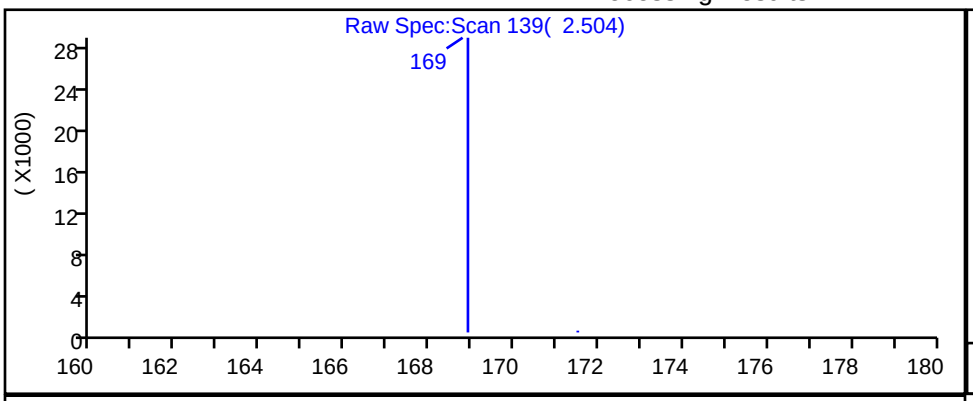
User Disabled Compound Report

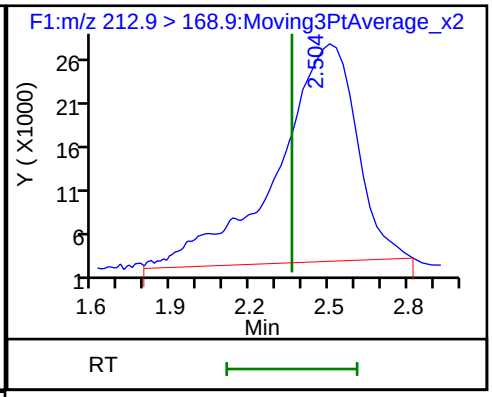
Eurofins TestAmerica, Burlington

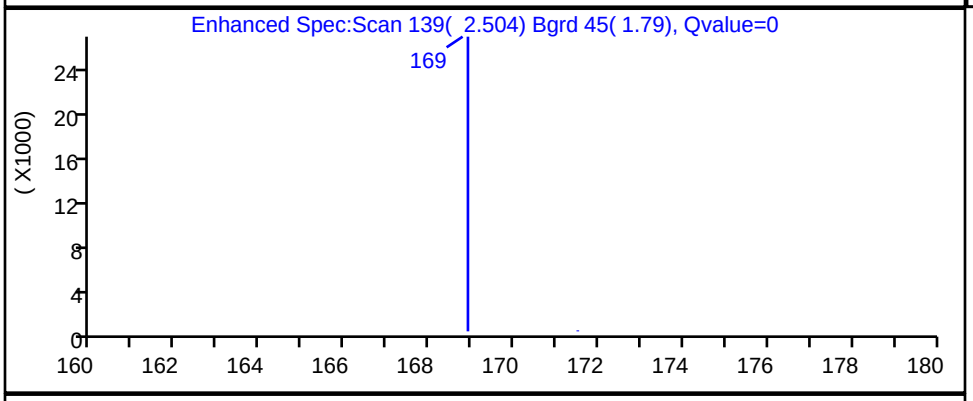
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

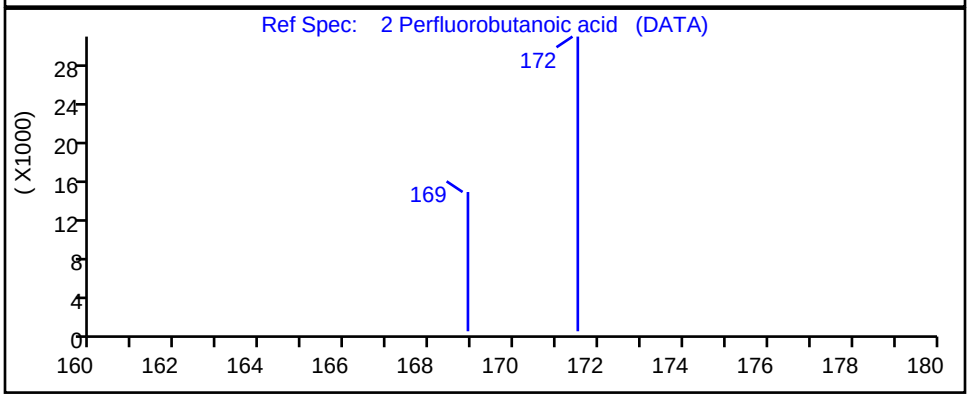
2 Perfluorobutanoic acid, CAS: 375-22-4

Processing Results









RT	Mass	Response	Amount
2.50	168.90	528364	253.0185

Reviewer: chirgwinb, 05-Jun-2019 12:12:38

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Eurofins TestAmerica, Burlington

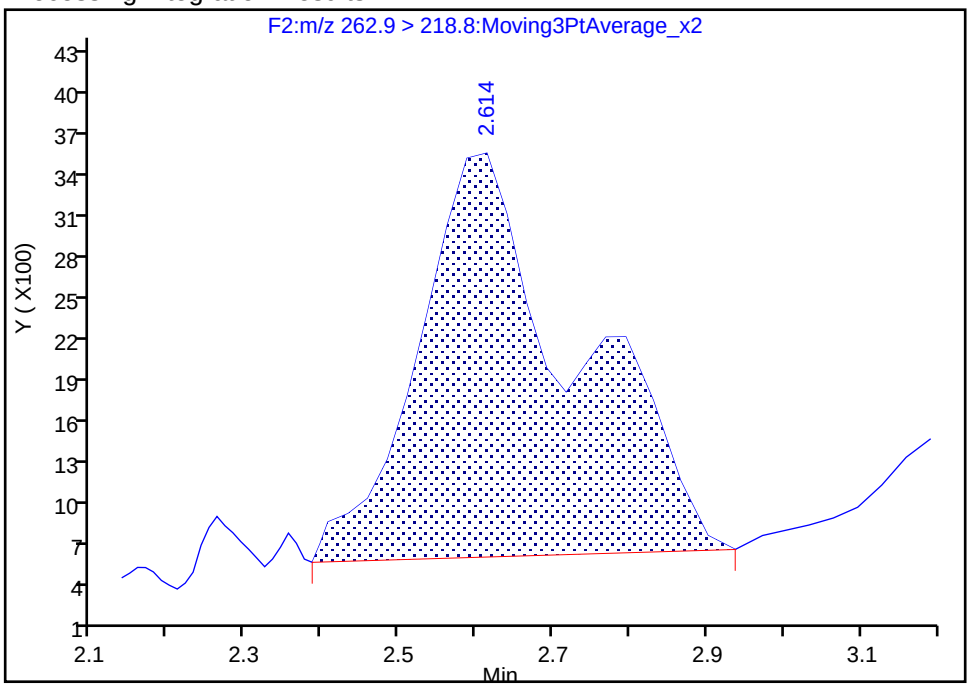
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

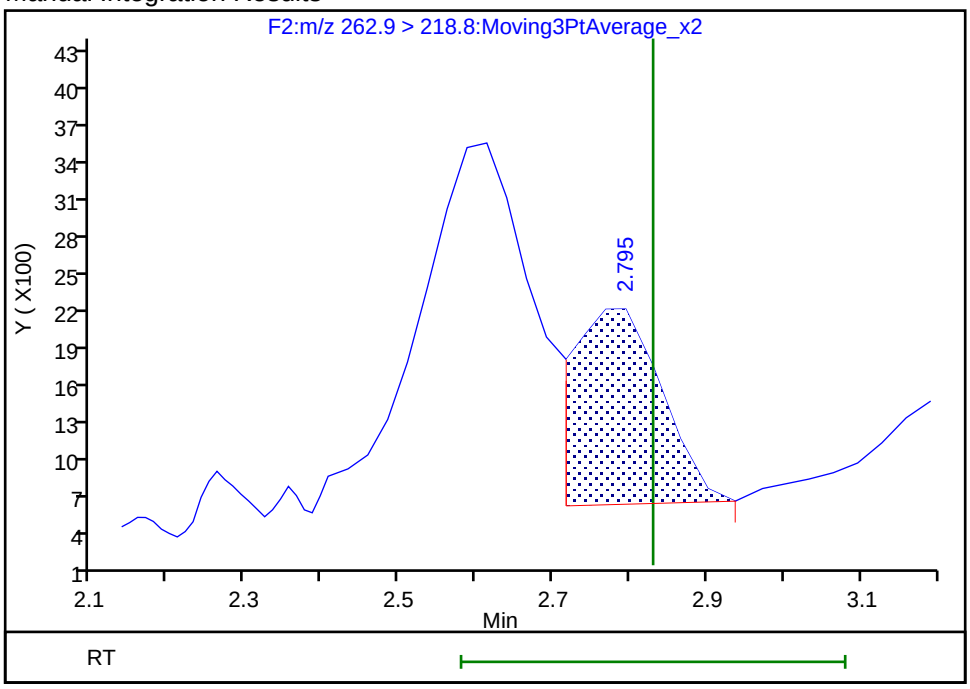
Processing Integration Results

RT: 2.61
Area: 40878
Amount: 7.077081
Amount Units: ng/ml



Manual Integration Results

RT: 2.79
Area: 11758
Amount: 2.035626
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:12:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

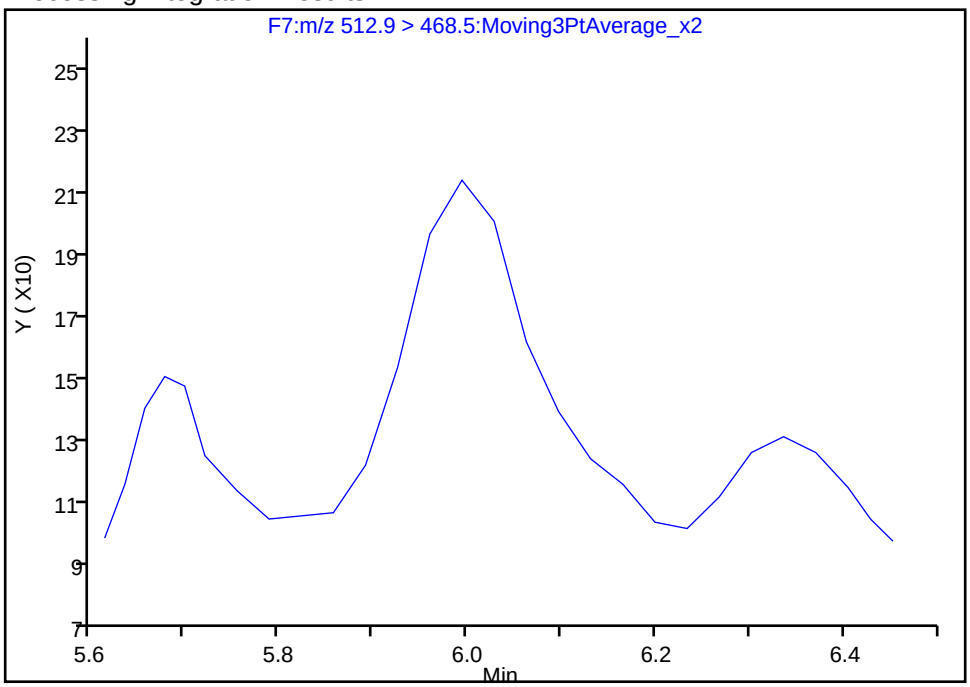
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

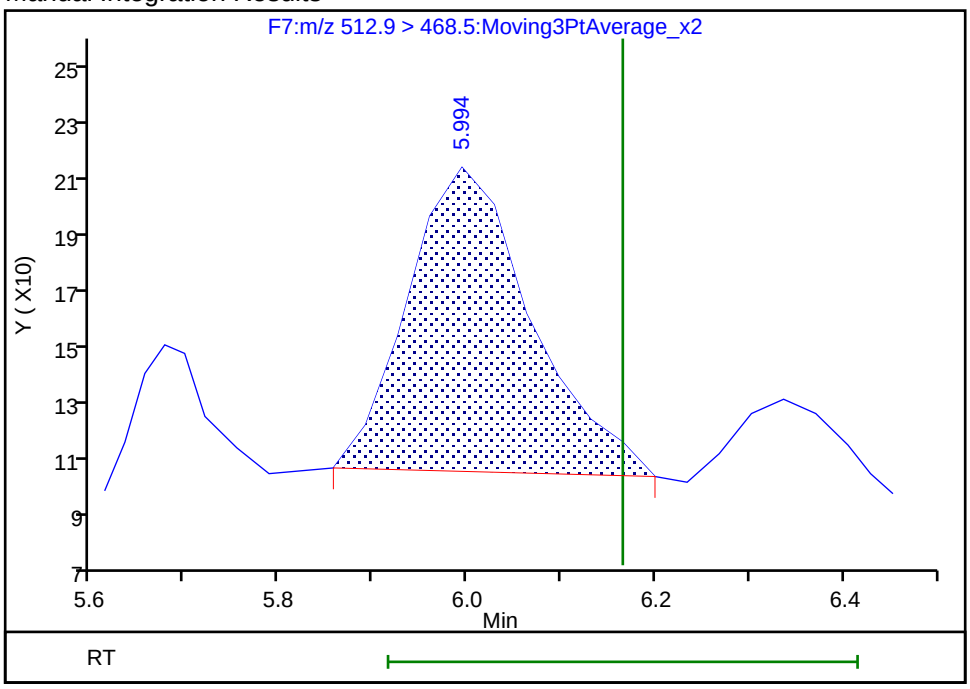
Not Detected
Expected RT: 6.17

Processing Integration Results



Manual Integration Results

RT: 5.99
Area: 968
Amount: 0.051292
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:17:06
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

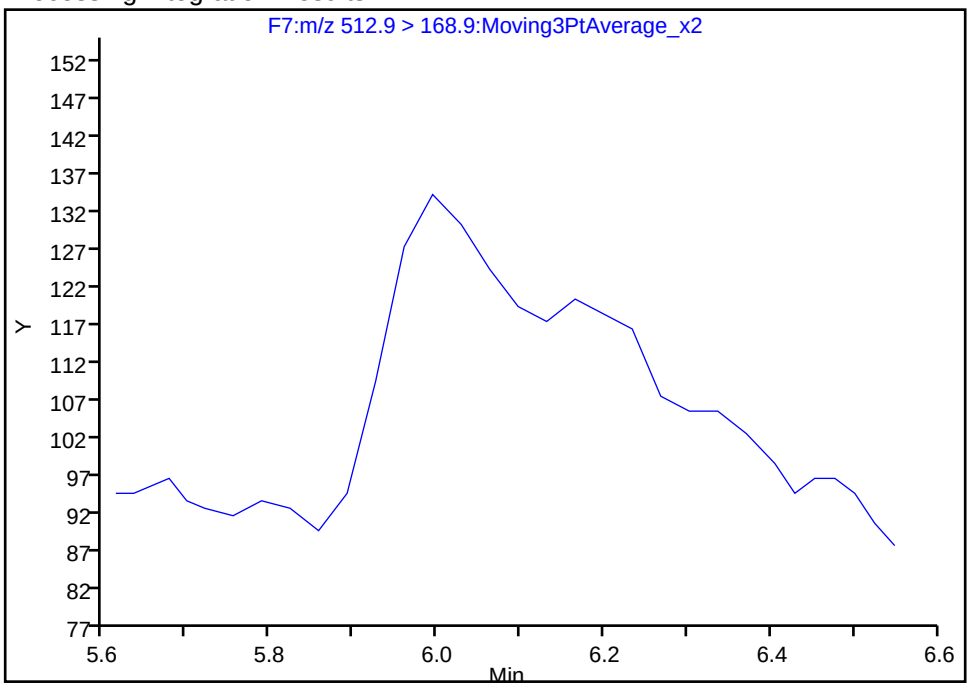
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

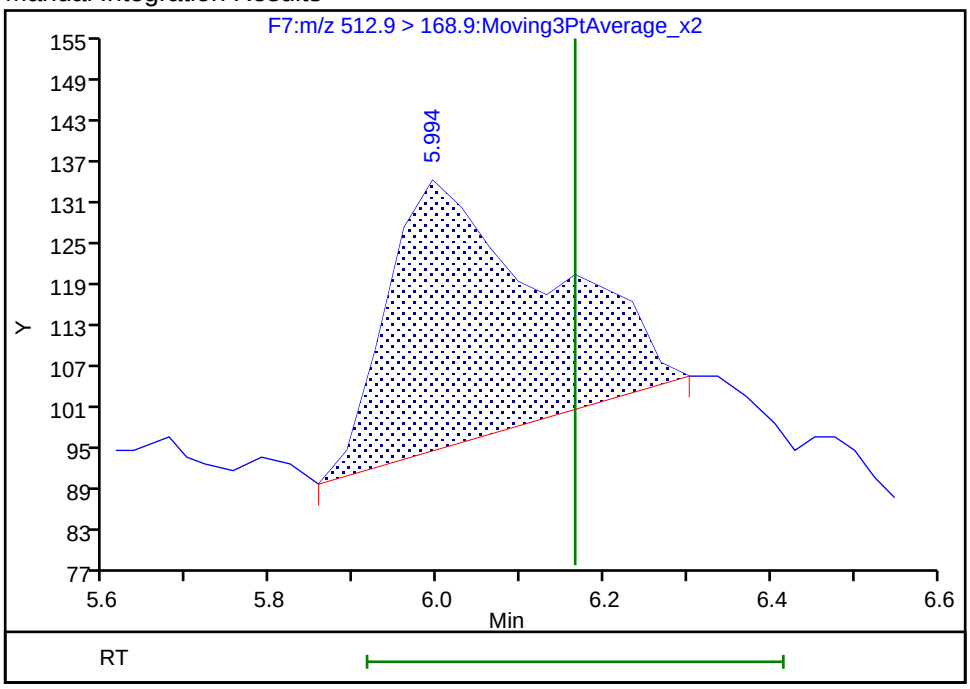
Processing Integration Results

Not Detected
Expected RT: 6.17



Manual Integration Results

RT: 5.99
Area: 515
Amount: 0.051292
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:17:09
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

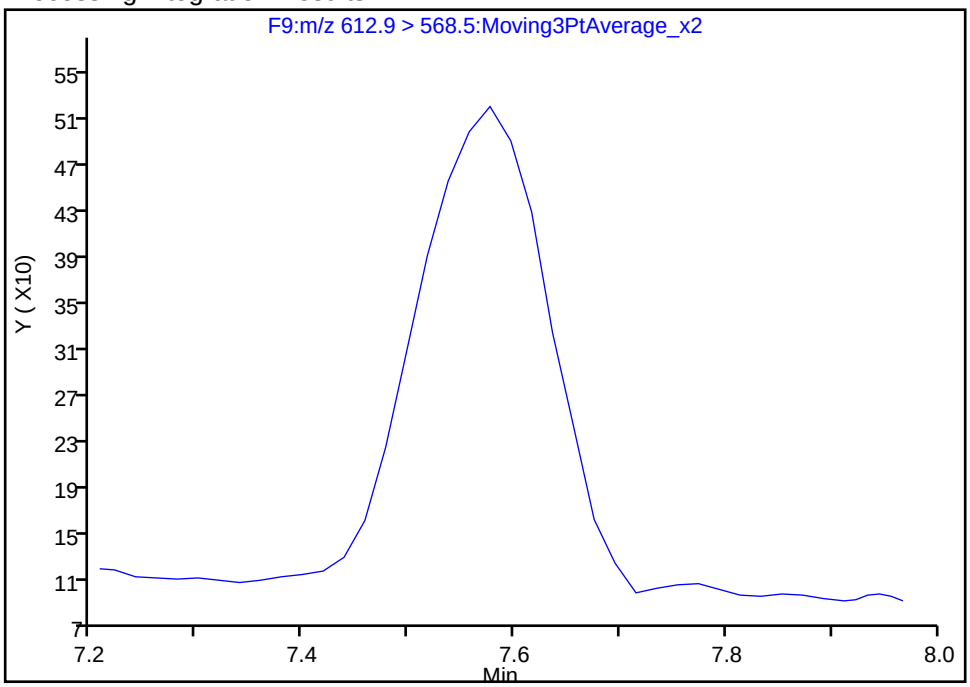
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F9:MRM		

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

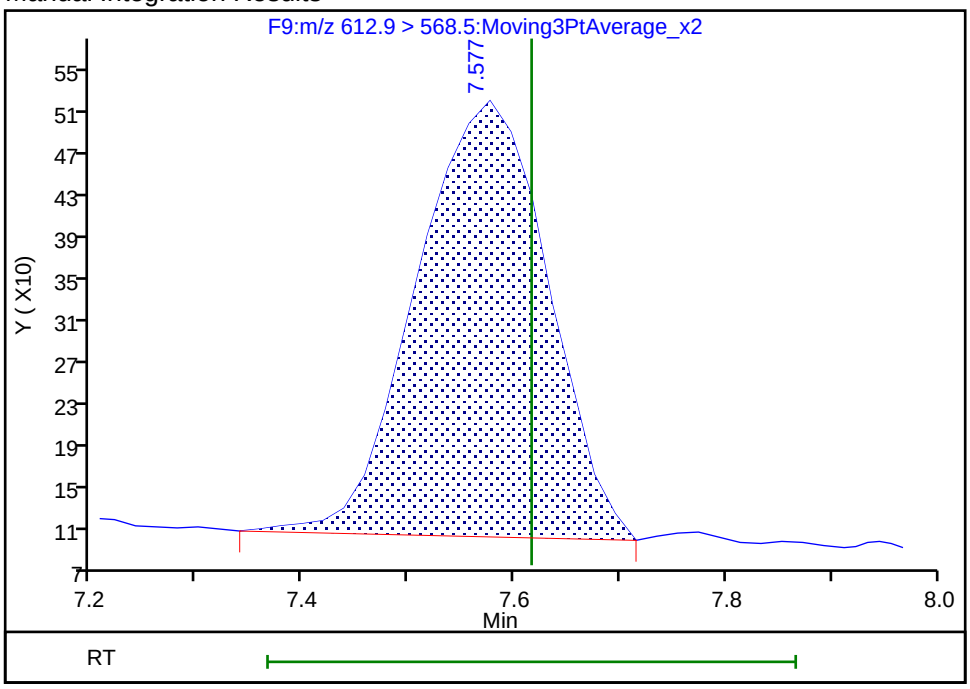
Not Detected
Expected RT: 7.62

Processing Integration Results



Manual Integration Results

RT: 7.58
Area: 3645
Amount: 0.161846
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:16:38
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

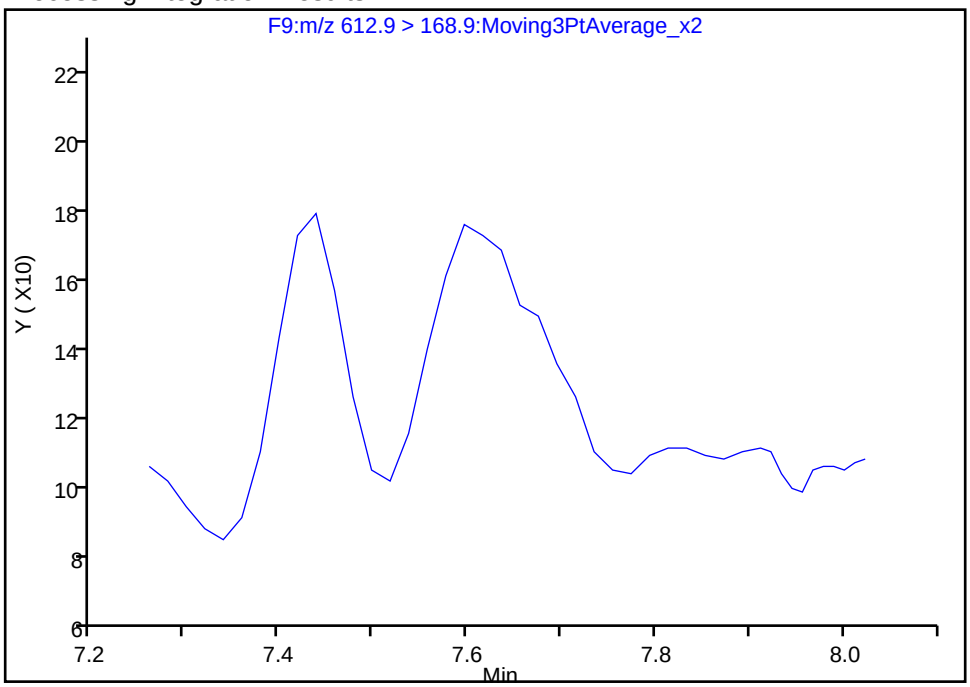
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F9:MRM		

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

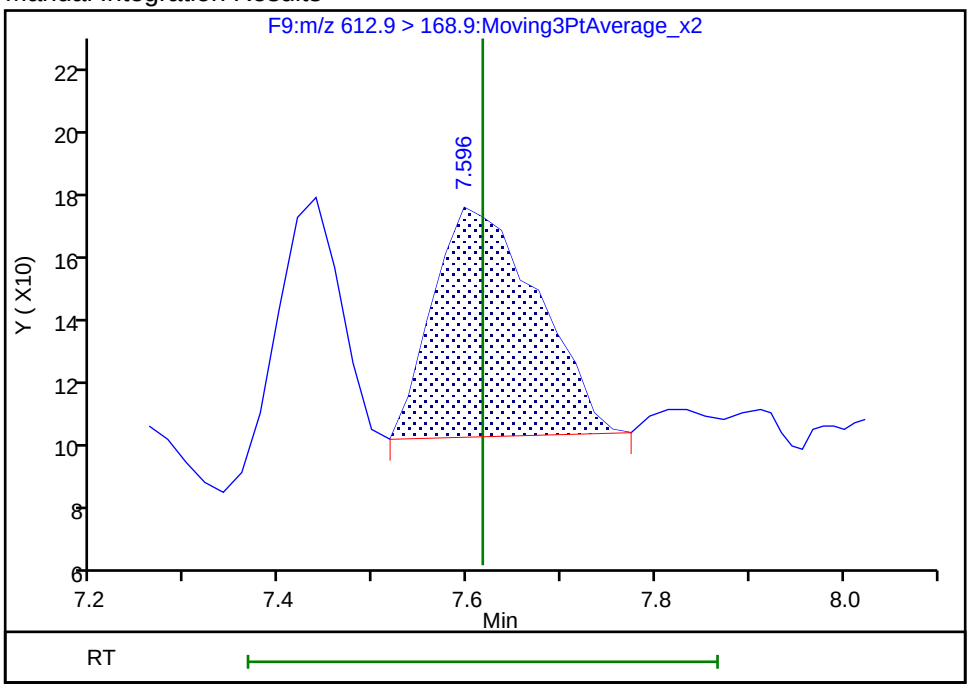
Processing Integration Results

Not Detected
Expected RT: 7.62



Manual Integration Results

RT: 7.60
Area: 535
Amount: 0.161846
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:16:48
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

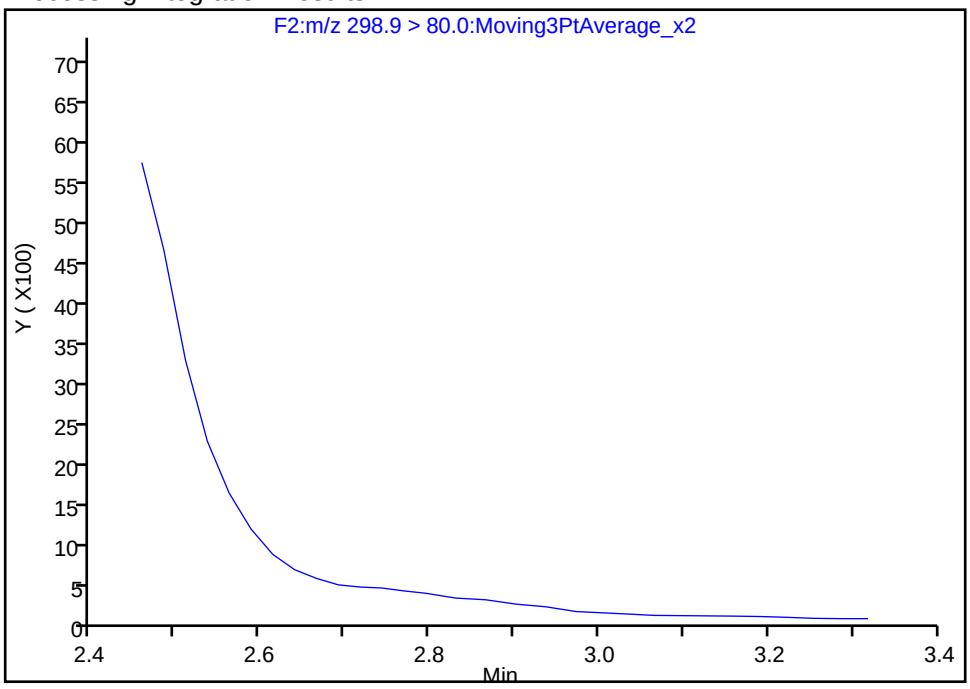
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

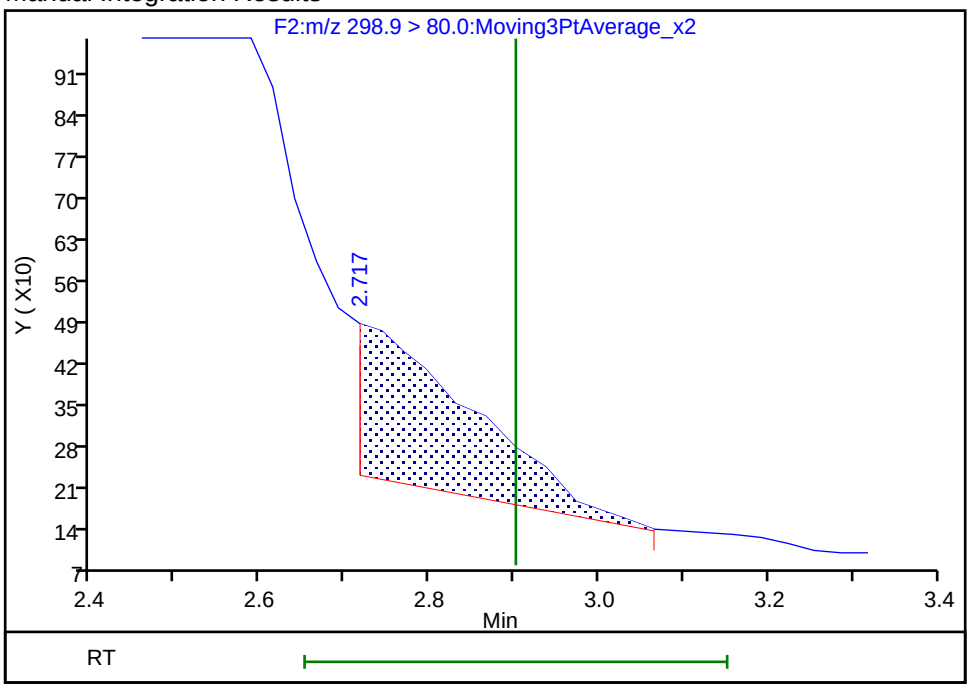
Not Detected
Expected RT: 2.90

Processing Integration Results



Manual Integration Results

RT: 2.72
Area: 2397
Amount: 0.989966
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:17:57
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

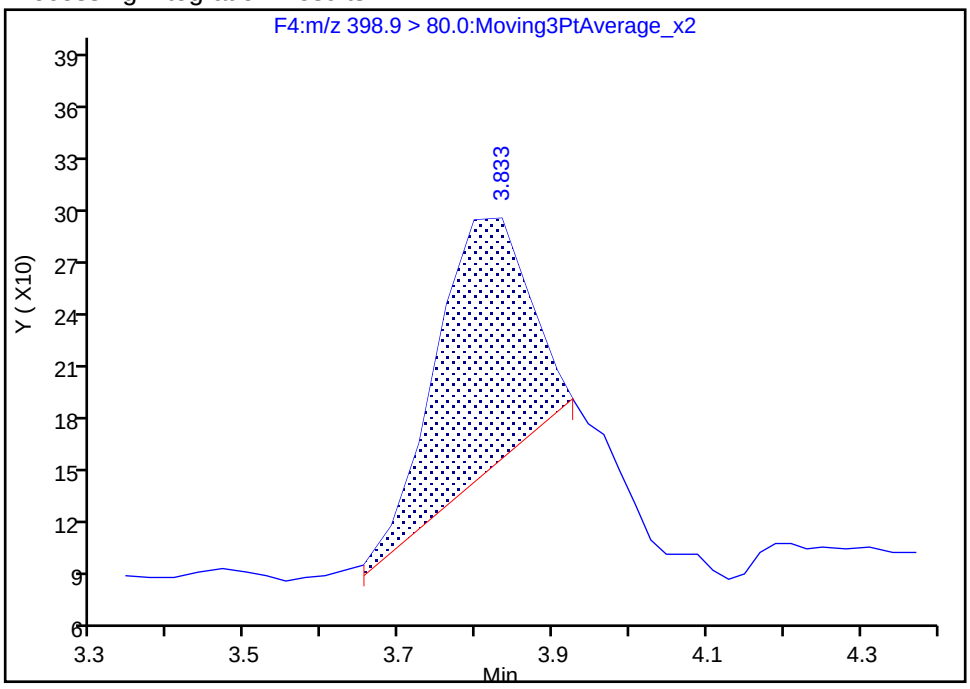
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

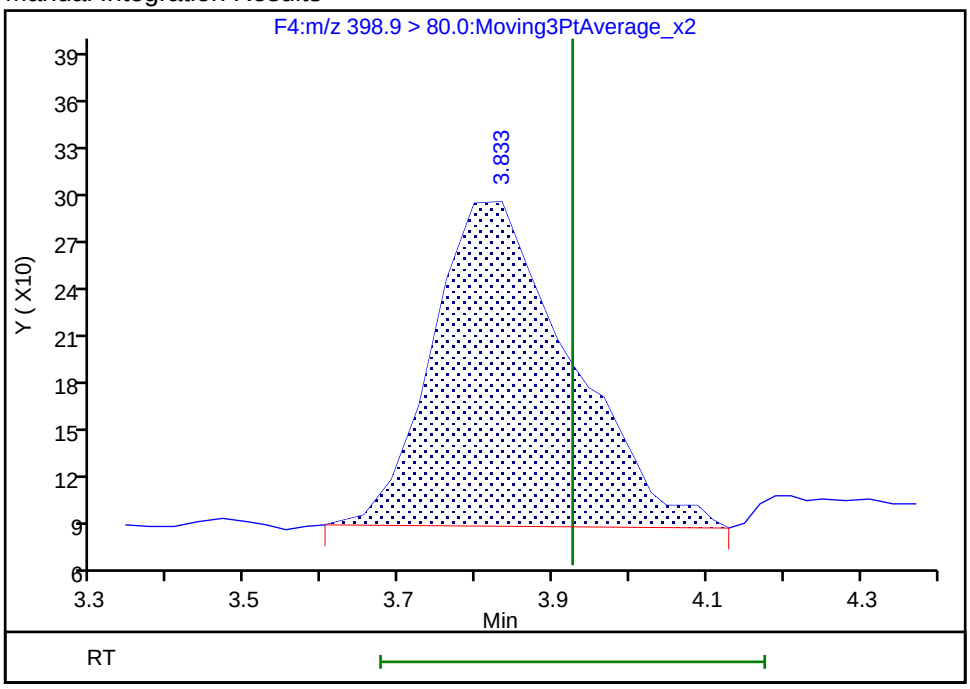
Processing Integration Results

RT: 3.83
Area: 1195
Amount: 0.873157
Amount Units: ng/ml



Manual Integration Results

RT: 3.83
Area: 2496
Amount: 1.556394
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:13:08
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

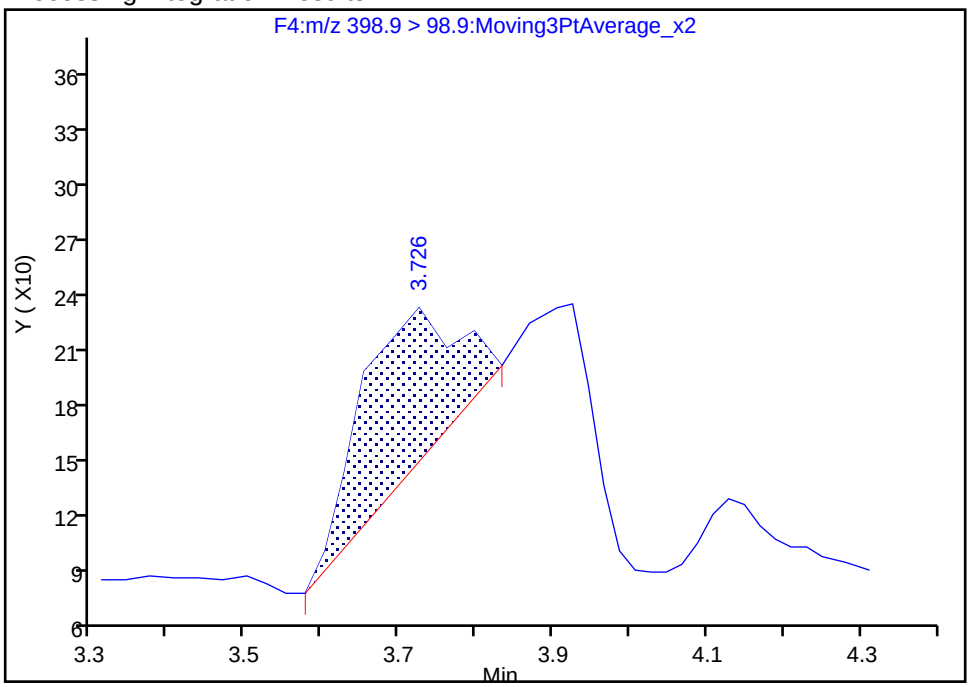
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

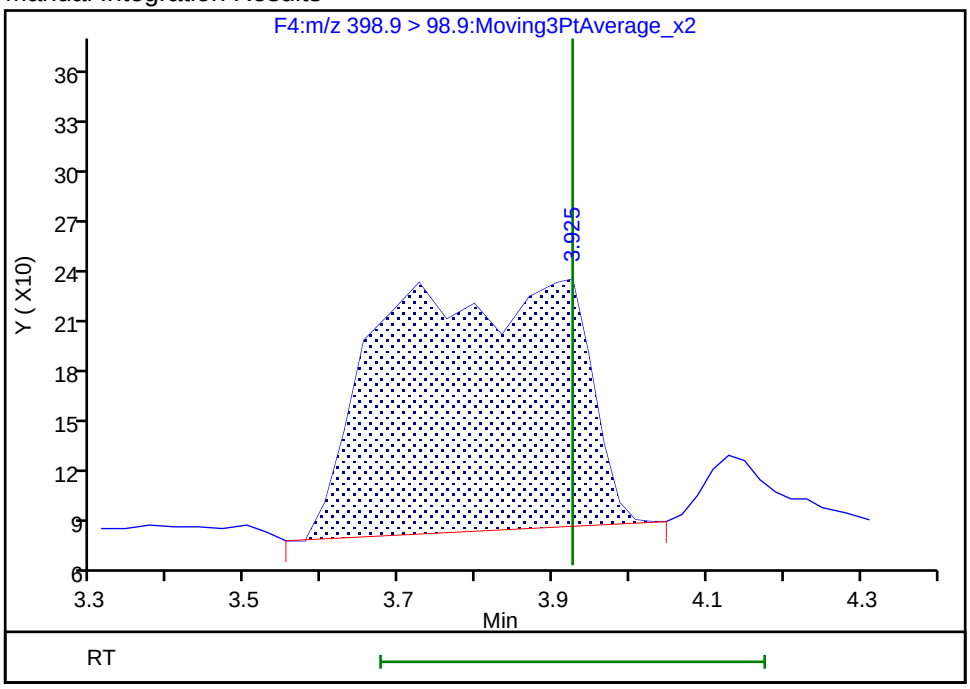
Processing Integration Results

RT: 3.73
Area: 730
Amount: 0.873157
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 2594
Amount: 1.556394
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:13:11

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

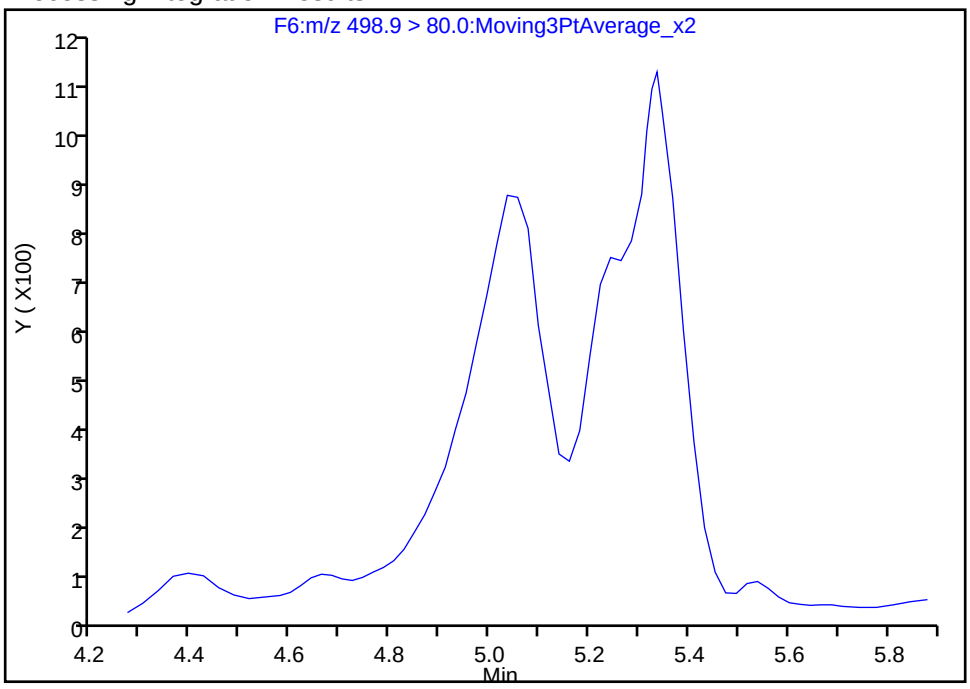
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

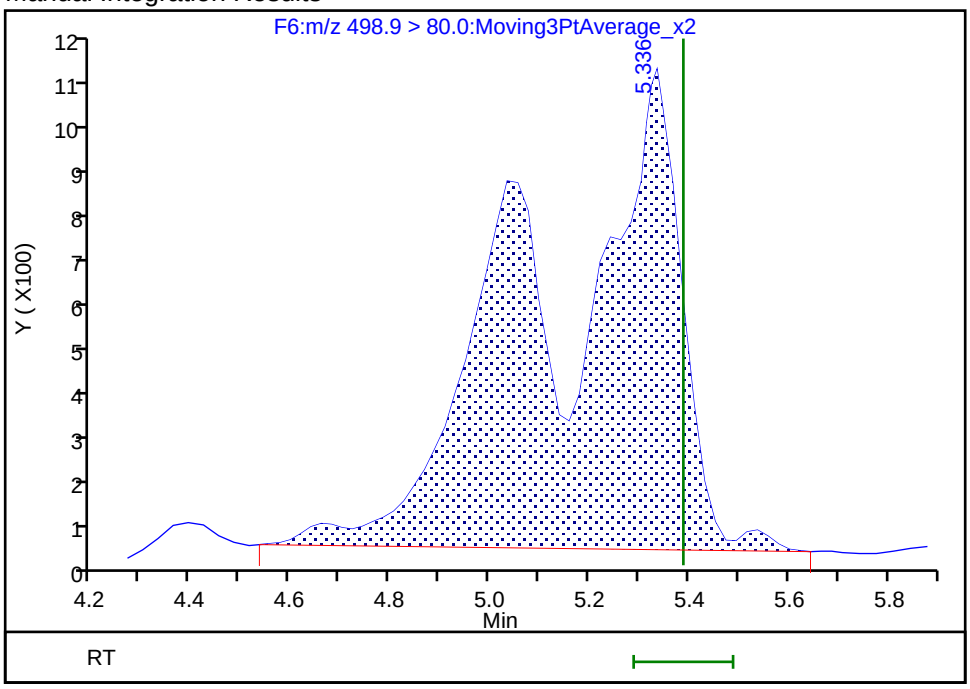
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 19810
Amount: 6.326235
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:01:58
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

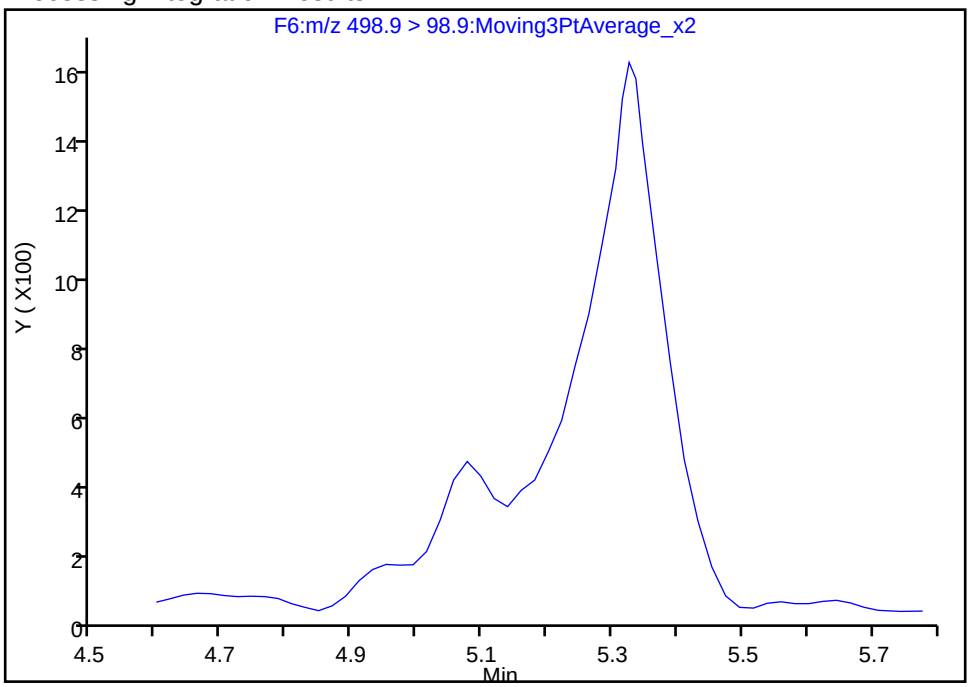
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

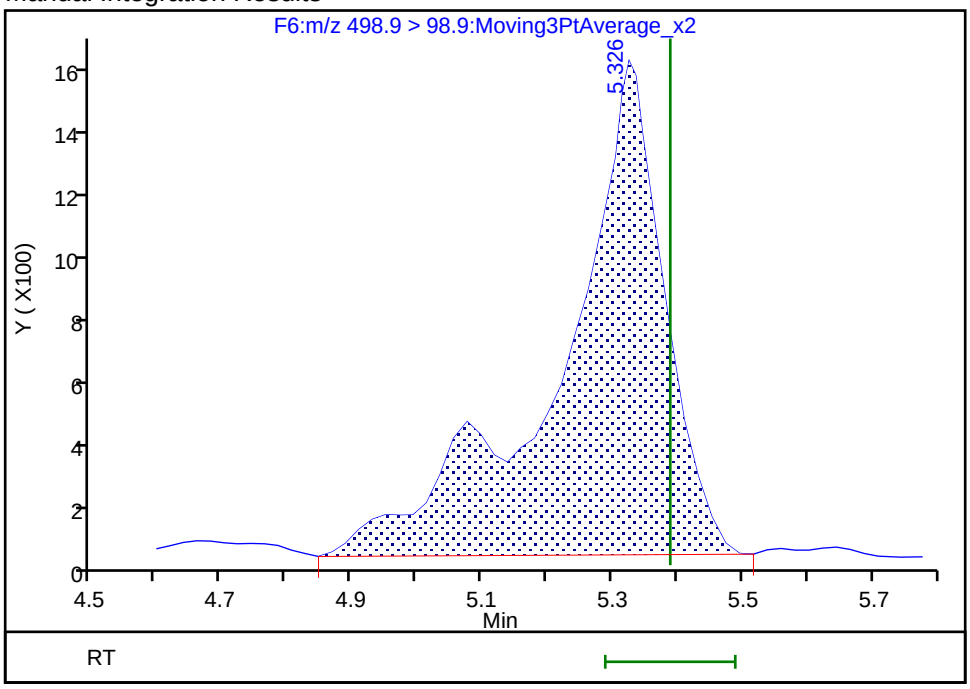
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.33
Area: 16447
Amount: 6.326235
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:02:02
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

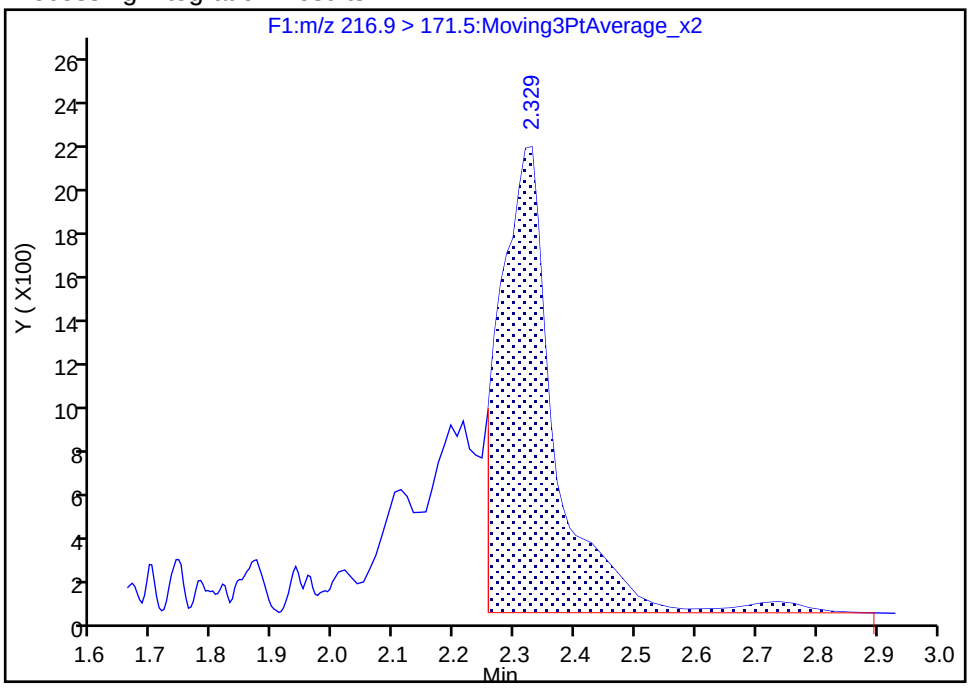
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

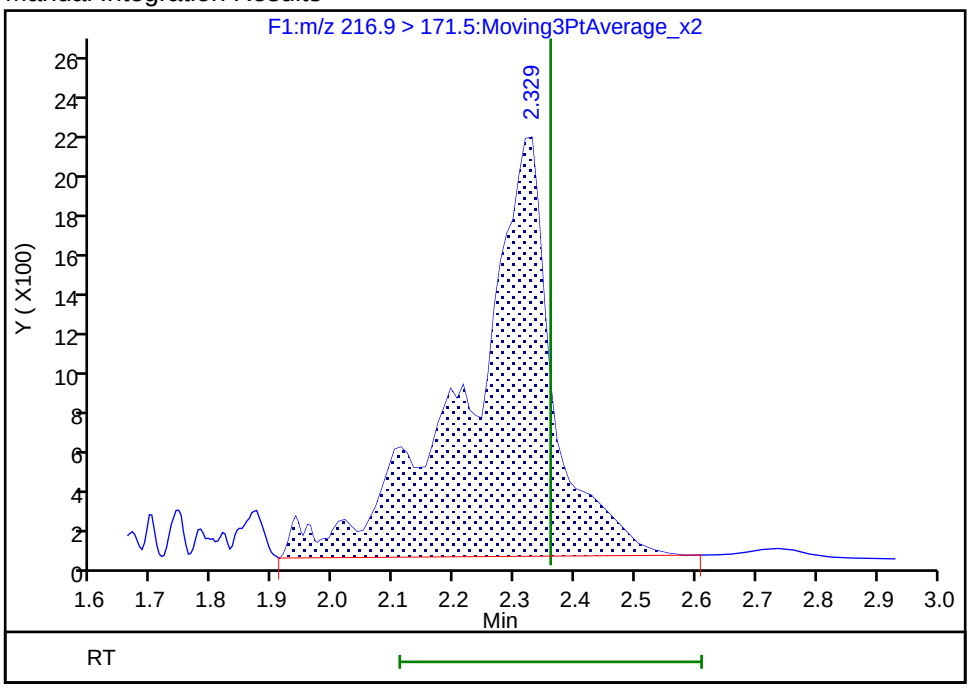
Processing Integration Results

RT: 2.33
Area: 13301
Amount: 1.810699
Amount Units: ng/ml



Manual Integration Results

RT: 2.33
Area: 20734
Amount: 2.822572
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:12:45

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

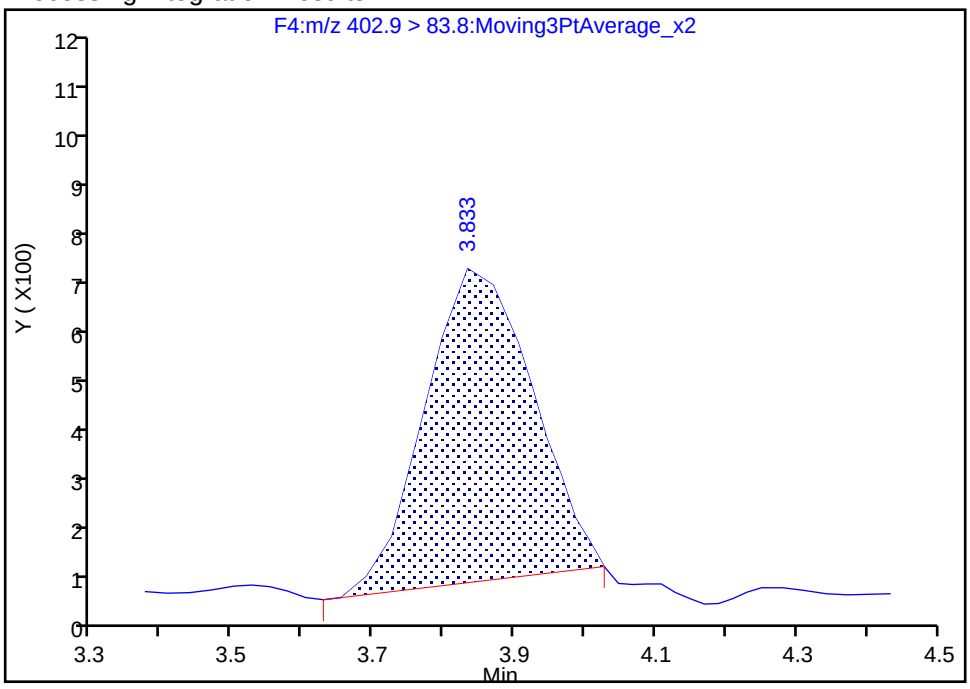
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

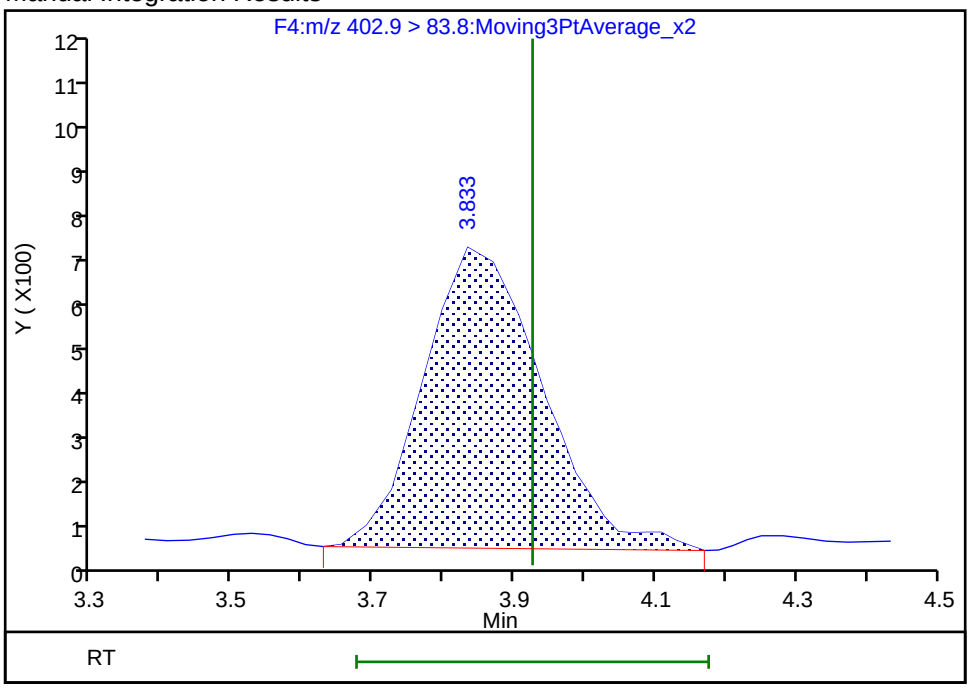
Processing Integration Results

RT: 3.83
Area: 6118
Amount: 1.974429
Amount Units: ng/ml



Manual Integration Results

RT: 3.83
Area: 7169
Amount: 2.313612
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:13:21
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

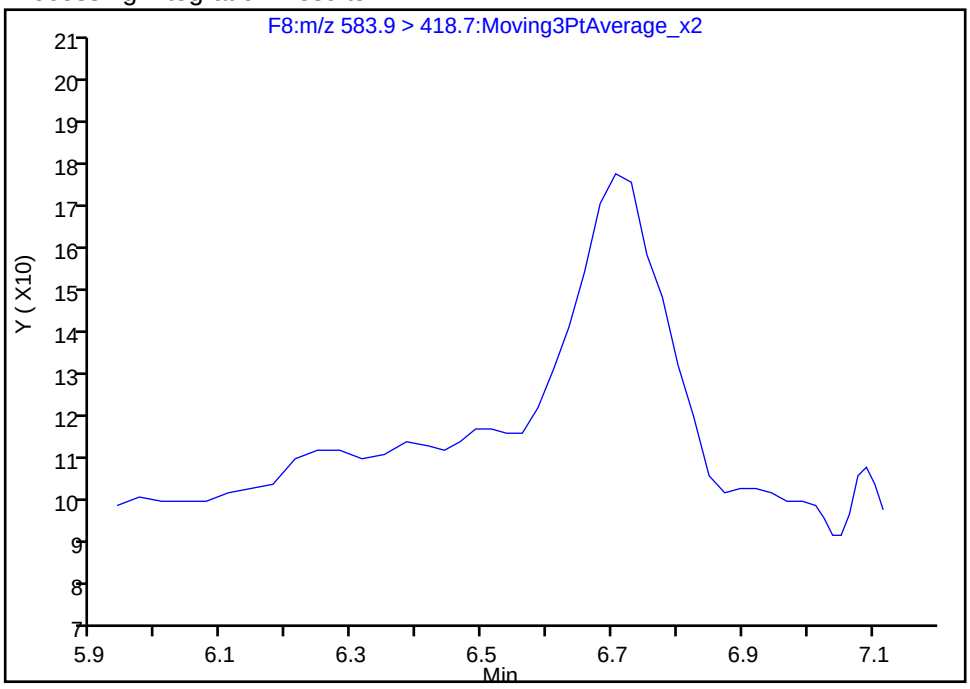
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

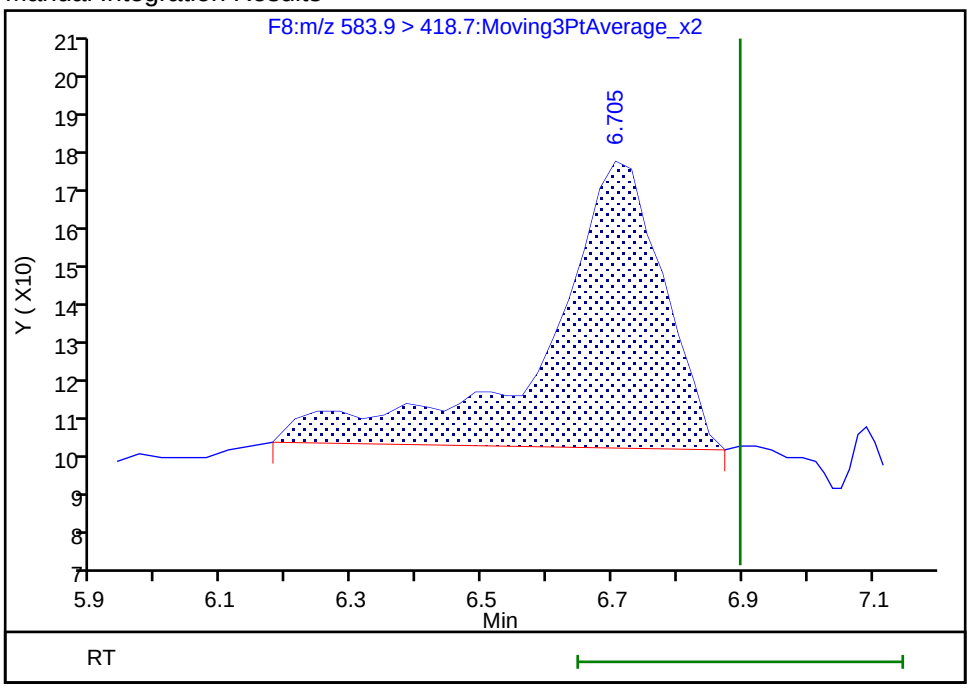
Not Detected
Expected RT: 6.90

Processing Integration Results



Manual Integration Results

RT: 6.71
Area: 944
Amount: 0.341464
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:16:58
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

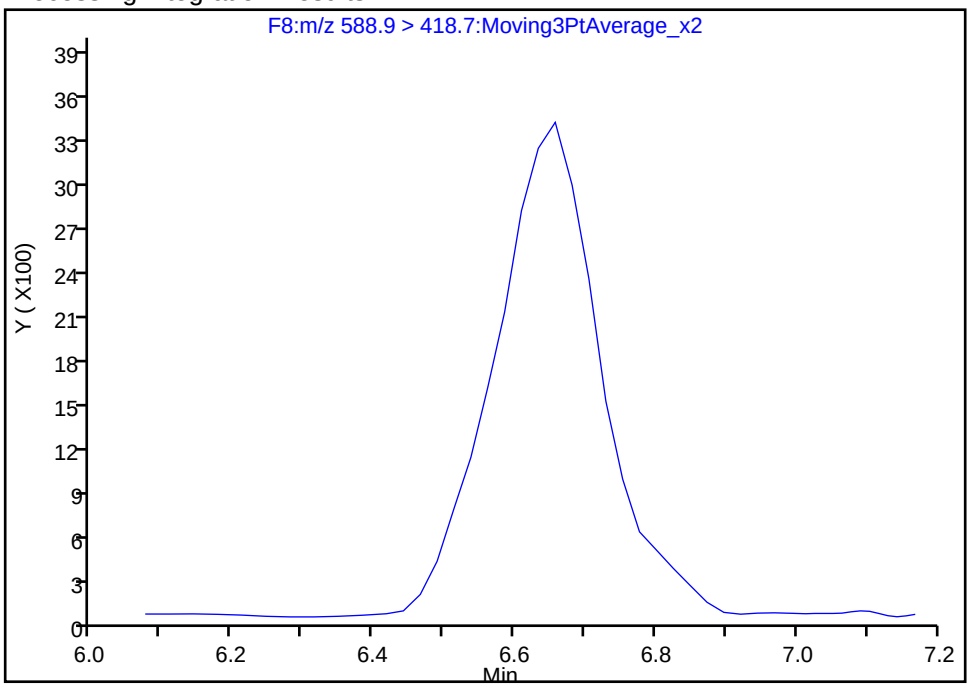
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 29 d5-NEtFOSAA, CAS: STL02117

Signal: 1

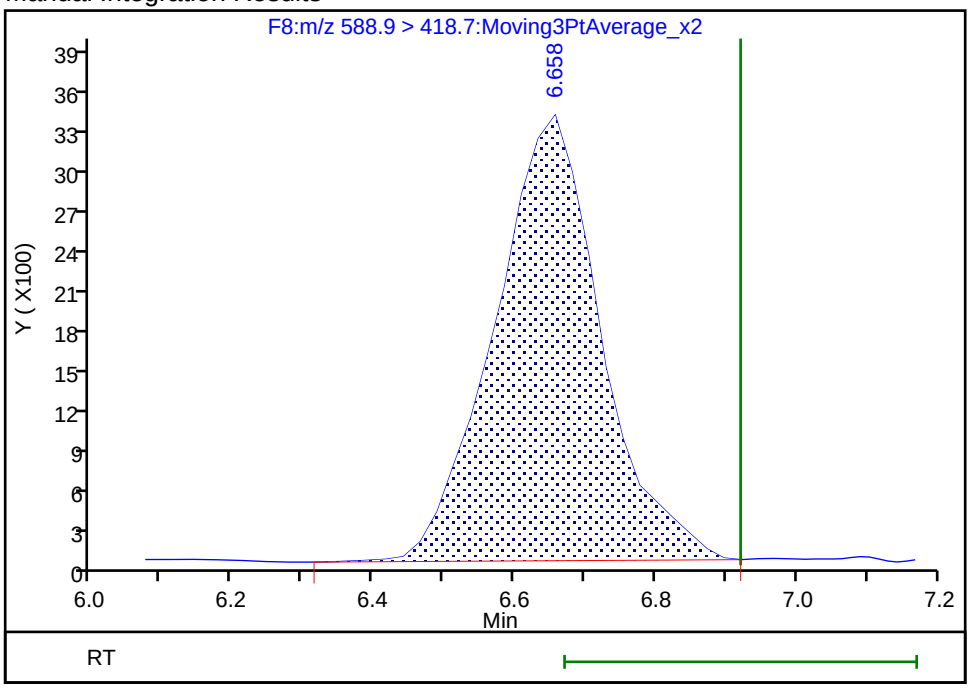
Not Detected
Expected RT: 6.92

Processing Integration Results



Manual Integration Results

RT: 6.66
Area: 34330
Amount: 3.827432
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:16:14
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

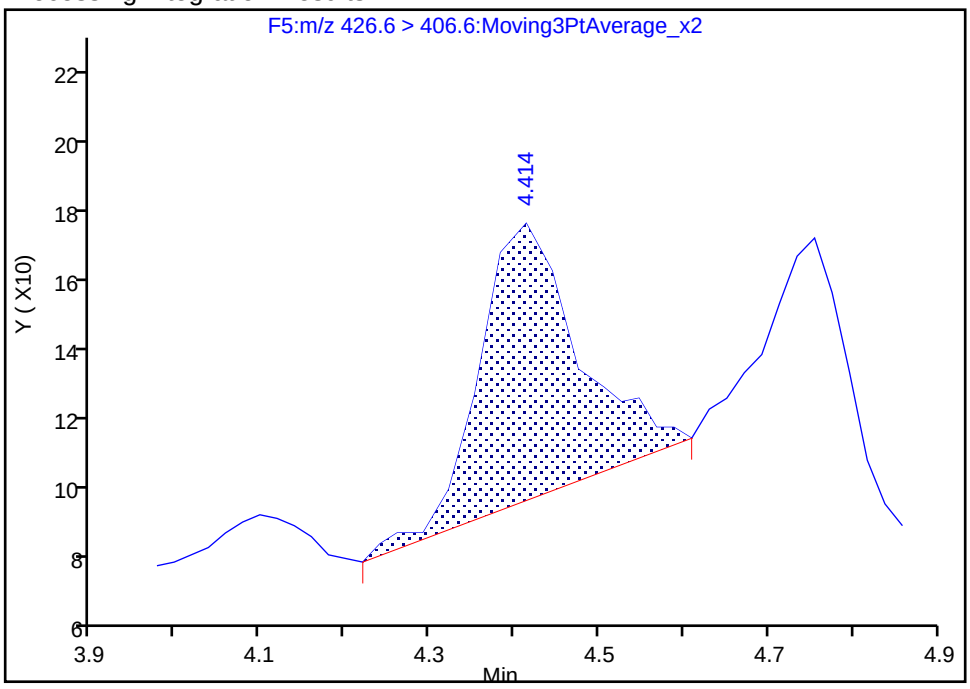
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

13 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

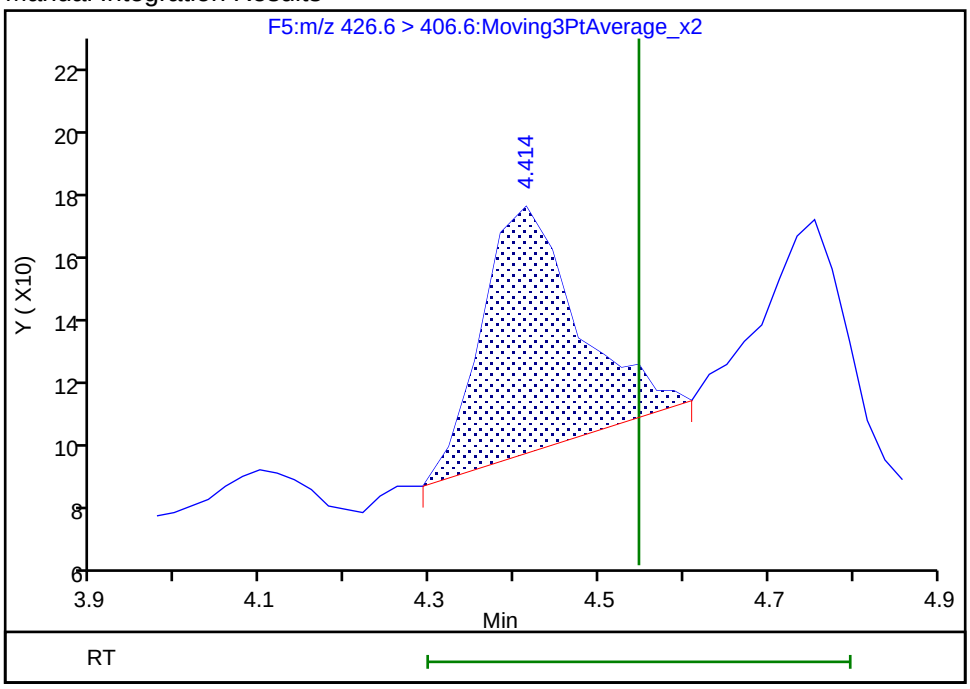
Processing Integration Results

RT: 4.41
Area: 625
Amount: 0.534299
Amount Units: ng/ml



Manual Integration Results

RT: 4.41
Area: 596
Amount: 0.534796
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:13:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

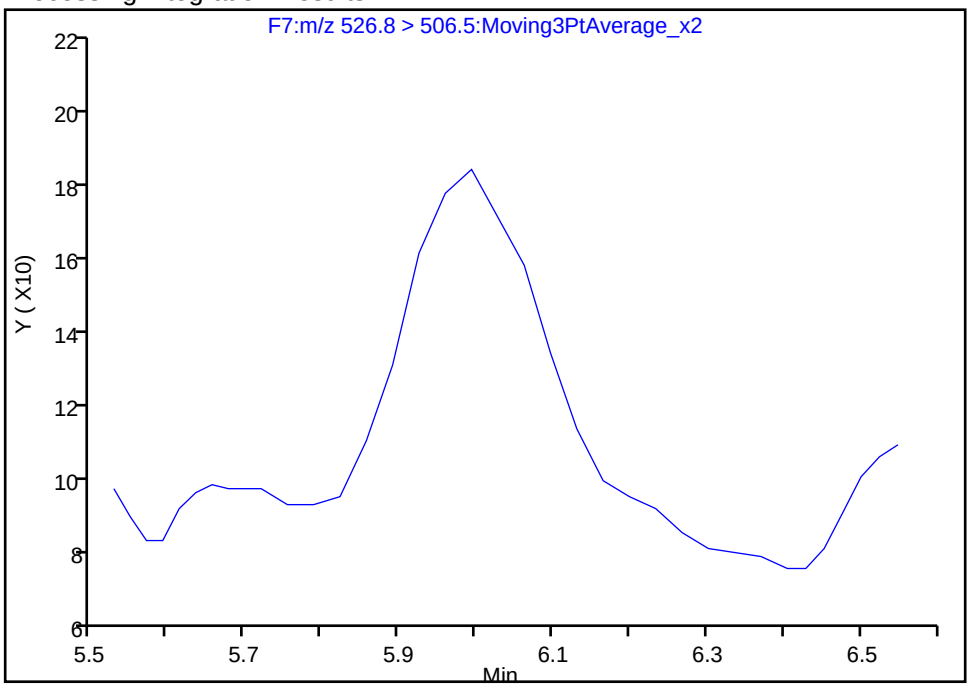
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

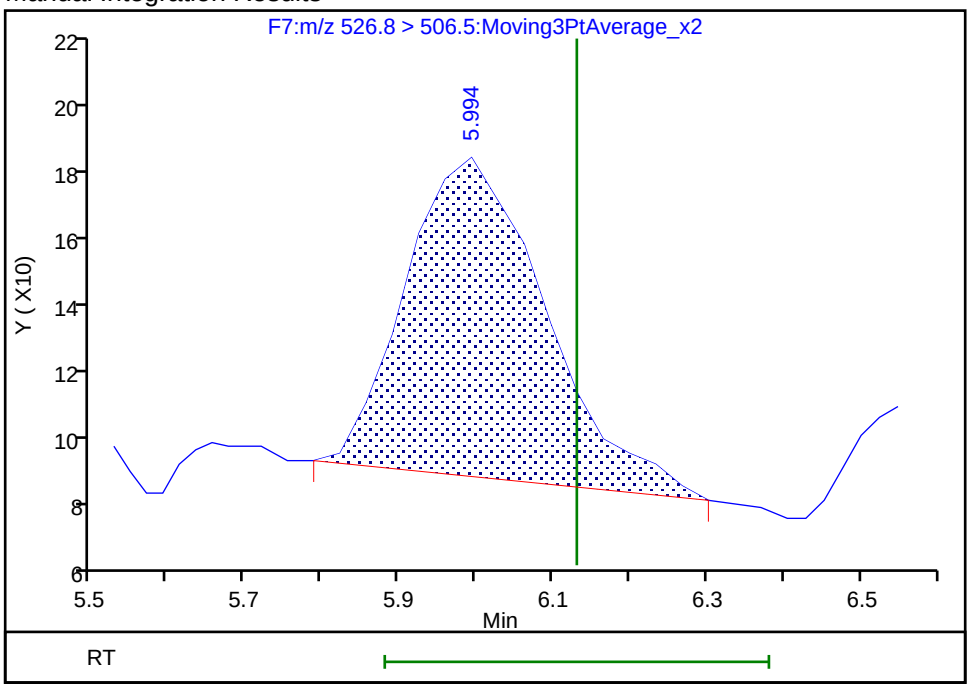
Not Detected
Expected RT: 6.13

Processing Integration Results



Manual Integration Results

RT: 5.99
Area: 1117
Amount: 0.217039
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:17:13
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

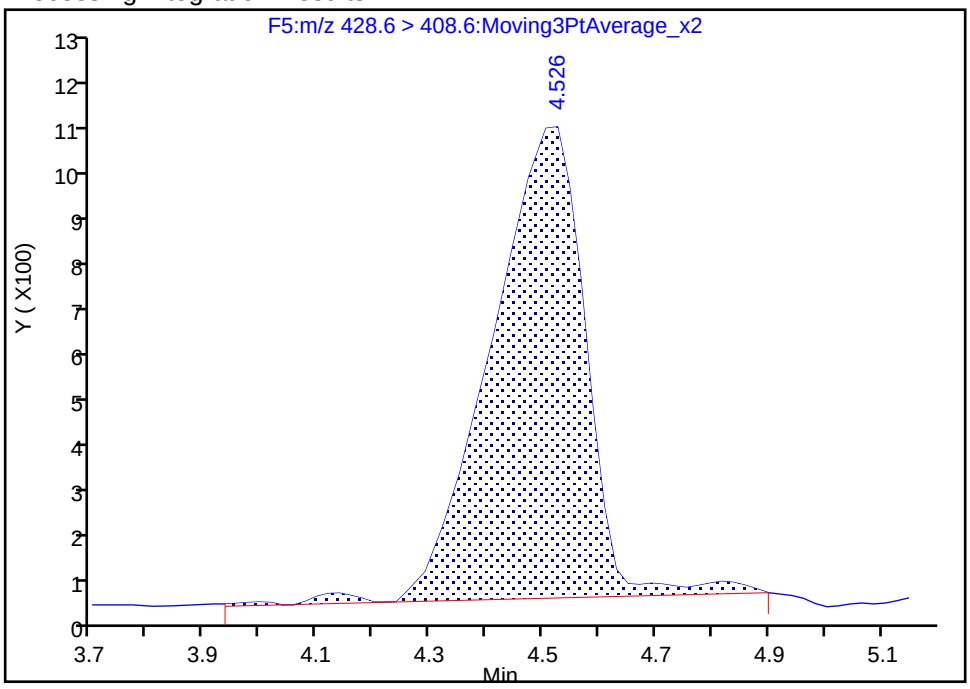
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B12.d				
Injection Date:	05-Jun-2019 04:14:20	Instrument ID:	LC410		
Lims ID:	200-48826-A-10-A	Lab Sample ID:	200-48826-10		
Client ID:	MW-23 051419				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

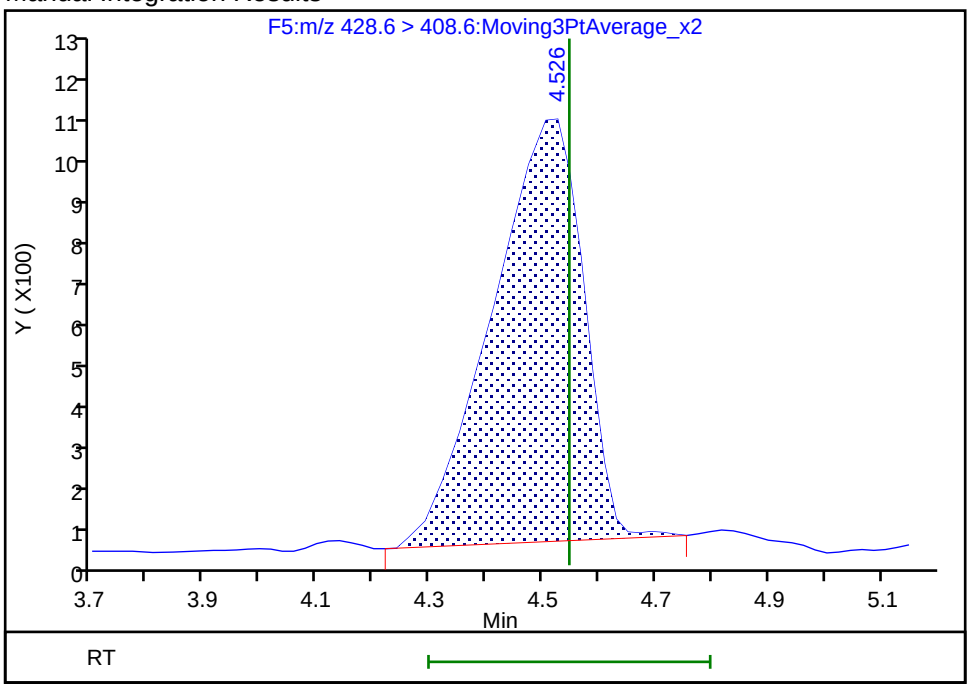
Processing Integration Results

RT: 4.53
Area: 11758
Amount: 7.025001
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 11202
Amount: 6.692810
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:13:32
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-22 051519 Lab Sample ID: 200-48826-11

Matrix: Water Lab File ID: PF060419B13.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 09:35

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 299.5(mL) Date Analyzed: 06/05/2019 04:30

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	45		8.3	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	34		8.3	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	21		8.3	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	14		8.3	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	95		8.3	2.6
375-95-1	Perfluorononanoic acid (PFNA)	55		8.3	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	3.5	J	8.3	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.3	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.3	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.3	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.3	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		8.3	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	33		8.3	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	9.4		8.3	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.3	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	350	B *	8.3	2.5
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.3	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		83	7.1
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		83	6.3
27619-97-2	6:2 FTS	ND		83	19
39108-34-4	8:2 FTS	ND		83	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-22 051519 Lab Sample ID: 200-48826-11

Matrix: Water Lab File ID: PF060419B13.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 09:35

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 299.5(mL) Date Analyzed: 06/05/2019 04:30

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	36		25-150
STL00992	13C4 PFBA	34		25-150
STL01893	13C5 PFPeA	40		25-150
STL00993	13C2 PFHxA	54		50-150
STL01892	13C4 PFHpA	58		50-150
STL00990	13C4 PFOA	63		50-150
STL00995	13C5 PFNA	52		50-150
STL00996	13C2 PFDA	54		50-150
STL00997	13C2 PFUnA	61		50-150
STL00998	13C2 PFDoA	50		50-150
STL02116	13C2 PFTeDA	43	*	50-150
STL02337	13C3 PFBS	37	*	50-150
STL00994	18O2 PFHxS	37	*	50-150
STL00991	13C4 PFOS	50		50-150
STL02118	d3-NMeFOSAA	47	*	50-150
STL02117	d5-NEtFOSAA	45	*	50-150
STL02279	M2-6:2 FTS	79		25-150
STL02280	M2-8:2 FTS	78		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d
Lims ID: 200-48826-A-11-A
Client ID: MW-22 051519
Sample Type: Client
Inject. Date: 05-Jun-2019 04:30:19 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036200-013 11
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 12:23:21
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.360	2.360	0.0	1.004	19307	5.37			13.4	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.349	2.360	-0.011	1.000	22914	3.38		33.8	28.5	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.795	2.830	-0.035	0.987	24557	4.04			10.0	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.830	2.830	0.0	1.000	20306	3.95		39.5	43.9	M
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	7736	3.46		37.2	22.6	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	28848	2.47	Target=14.34		5.3	
312.9 > 118.9	3.302	3.302	0.0	1.000	1595		18.09(7.17-21.51)		5.3	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	83435	5.41		54.1	123	
D 10 13C4 PFHpA										
366.9 > 321.8	3.833	3.905	-0.072	1.000	126890	5.84		58.4	313	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.869	3.905	-0.036	1.009	24426	1.64	Target=2.84		11.2	M
362.9 > 168.9	3.869	3.905	-0.036	1.009	6668		3.66(1.42-4.26)		28.2	M
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.925	-0.020	1.009	8768	3.93	Target=1.34		28.3	M
398.9 > 98.9	3.925	3.925	0.0	1.015	6627		1.32(0.67-2.01)		27.6	M
D 12 18O2 PFHxS										M
402.9 > 83.8	3.869	3.925	-0.056	1.000	9986	3.50		36.9	51.4	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	11518	7.46		78.6	83.9	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 16 13C2 PFOA										
414.9 > 369.8	4.547	4.589	-0.042		276987	10.0			653	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.547	4.589	-0.042	1.000	193112	11.3	Target=2.43		213	
412.9 > 168.9	4.547	4.589	-0.042	1.000	77418		2.49(1.22-3.64)		360	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.609	-0.062	1.000	168164	6.25		62.5	303	
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.547	4.609	-0.062	0.850	3136	1.13	Target=1.30		11.8	M
448.9 > 98.9	4.609	4.609	0.0	1.000	3096		1.01(0.65-1.95)		12.3	M
19 Perfluorononanoic acid										
462.9 > 418.7	5.336	5.368	-0.032	1.000	109438	6.60	Target=5.00		260	
462.9 > 168.9	5.336	5.368	-0.032	1.000	27362		4.00(2.50-7.50)		106	
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.389	-0.053	1.000	187653	5.20		52.0	681	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.389	-0.042	1.000	130586	42.3	Target=1.41		537	M
498.9 > 98.9	5.347	5.389	-0.042	1.000	118140		1.11(0.71-2.12)		491	M
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	30554	4.74		49.6	115	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.131	-0.034	1.000	42062	7.49		78.2	109	
26 Perfluorodecanoic acid										M
512.9 > 468.5	6.131	6.165	-0.034	1.000	6377	0.4220	Target=7.23		18.7	M
512.9 > 168.9	6.097	6.165	-0.068	0.994	908		7.02(3.61-10.84)		3.0	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	165054	5.36		53.6	450	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.549	-0.072	1.000	46821	4.67		46.7	204	
D 29 d5-NEtFOSAA										M
588.9 > 418.7	6.849	6.921	-0.072	1.000	37103	4.49		44.9	146	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	180818	6.09		60.9	792	
D 34 13C8 FOSA										
505.9 > 78.0	6.993	7.026	-0.033	1.000	39625	3.57		35.7	115	
36 Perfluorododecanoic acid										M
612.9 > 568.5	7.577	7.616	-0.039	0.997	3894	0.2177	Target=5.37		28.2	M
612.9 > 168.9	7.616	7.616	0.0	1.003	500		7.79(2.68-8.06)		2.6	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	188544	4.98		49.8	437	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.764	8.819	-0.055	1.000	147529	4.34		43.4	219	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:51:26 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d

Injection Date: 05-Jun-2019 04:30:19 Instrument ID: LC410

Lims ID: 200-48826-A-11-A Lab Sample ID: 200-48826-11

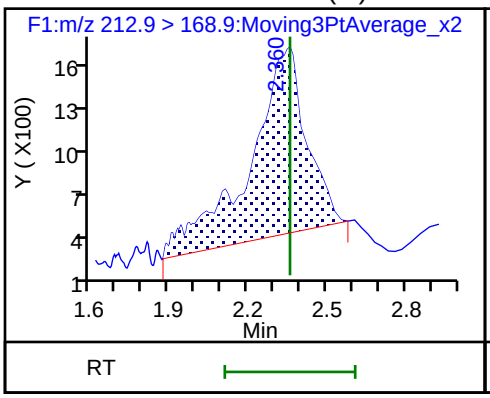
Client ID: MW-22 051519

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 13

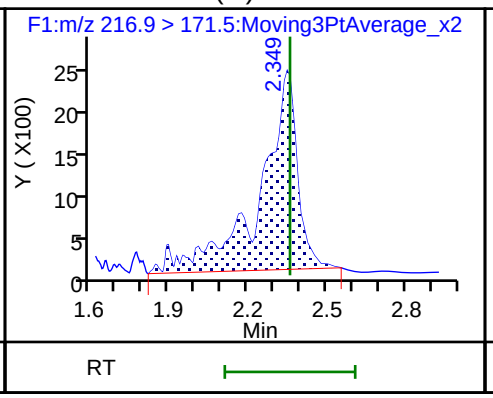
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

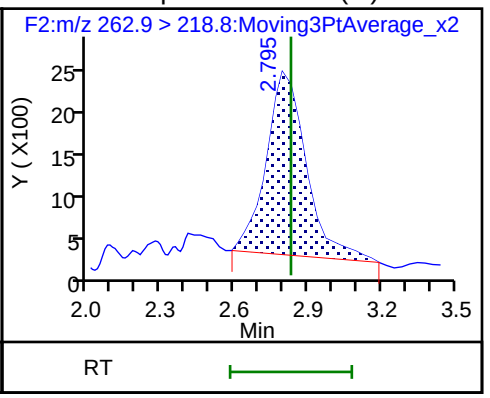
2 Perfluorobutanoic acid (M)



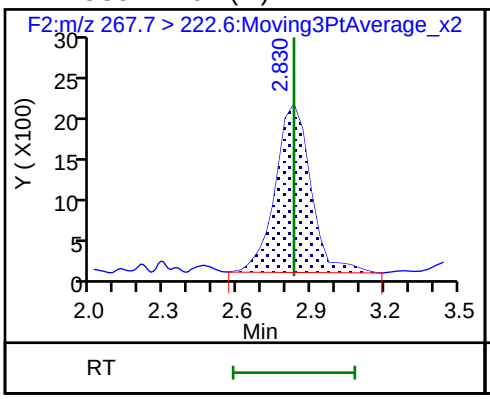
D 1 13C4 PFBA (M)



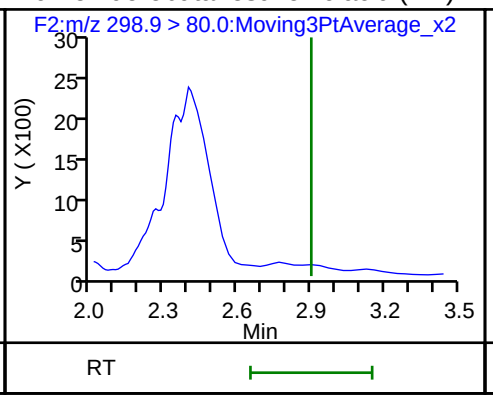
3 Perfluoropentanoic acid (M)



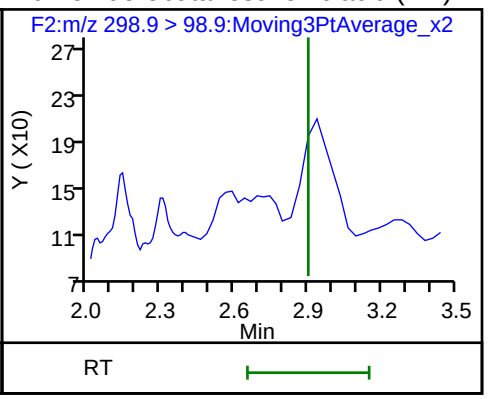
D 4 13C5 PFPeA (M)



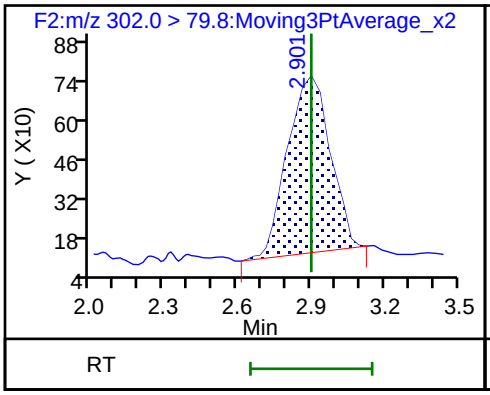
6 Perfluorobutanesulfonic acid (ND)



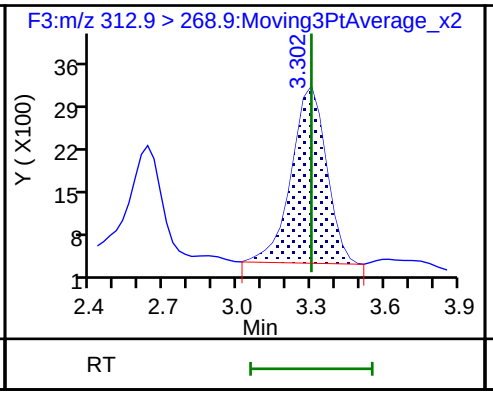
6 Perfluorobutanesulfonic acid (ND)



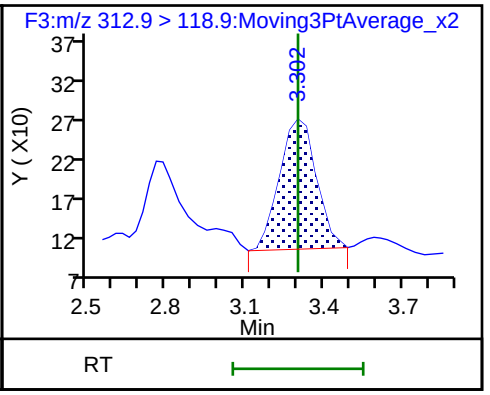
D 5 13C3 PFBS



7 Perfluorohexanoic acid



7 Perfluorohexanoic acid



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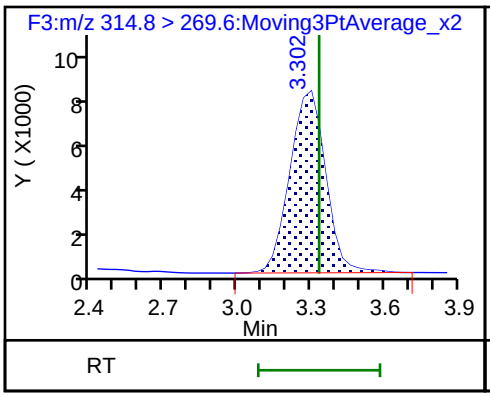
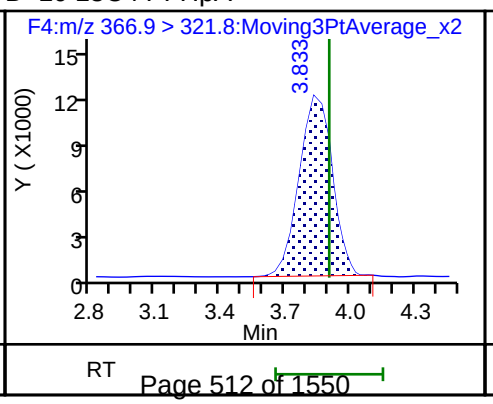


D 10 13C4 PFHpA



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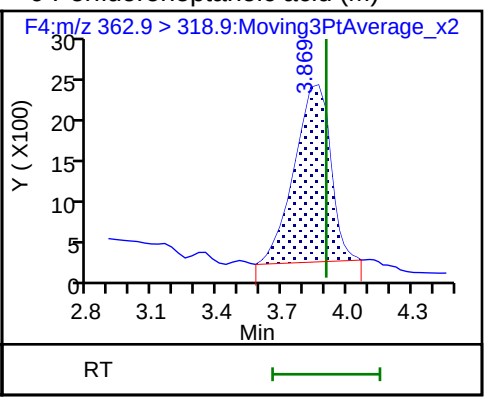

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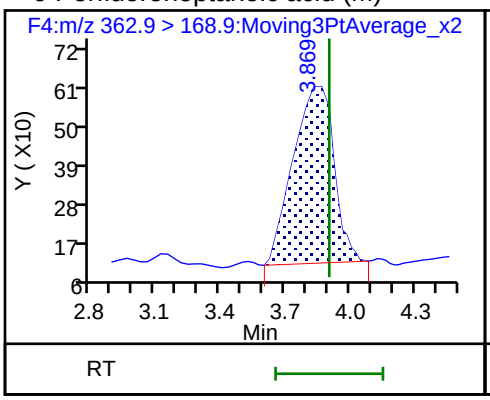
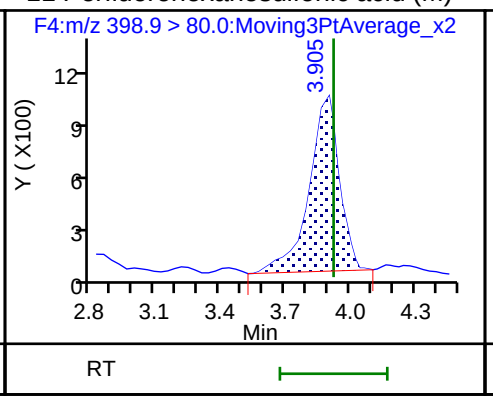
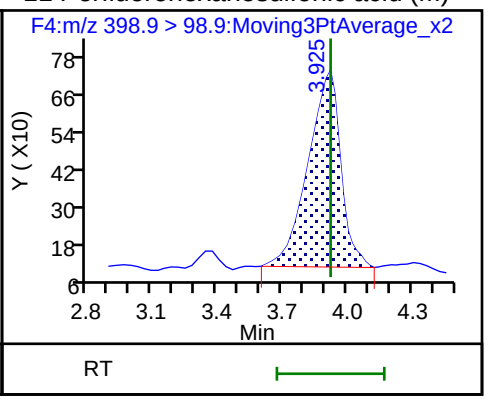


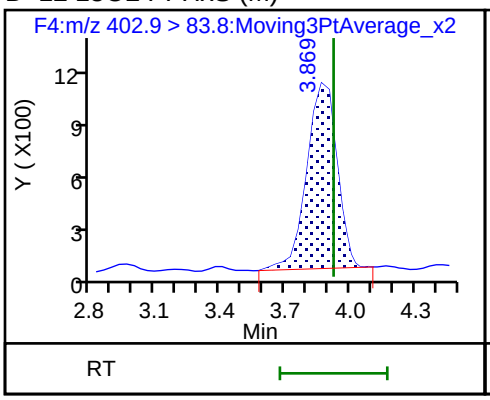
11 Perfluorohexanesulfonic acid (M)



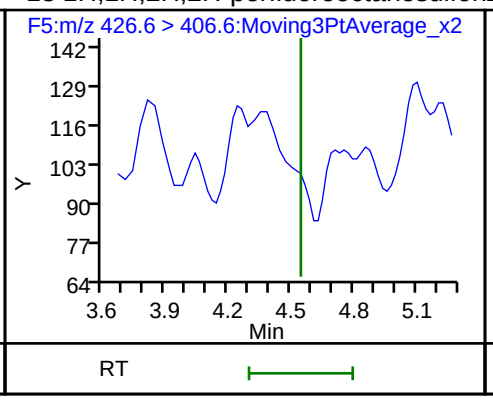
11 Perfluorohexanesulfonic acid (M)



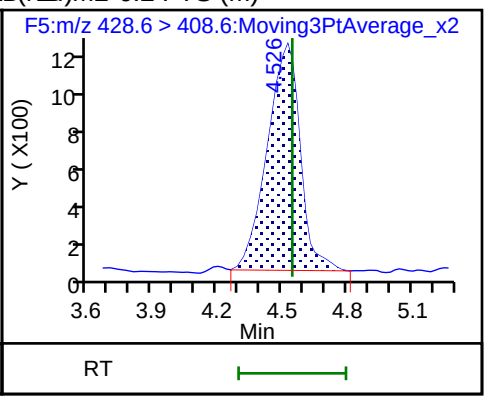
D 12 18O2 PFHxS (M)



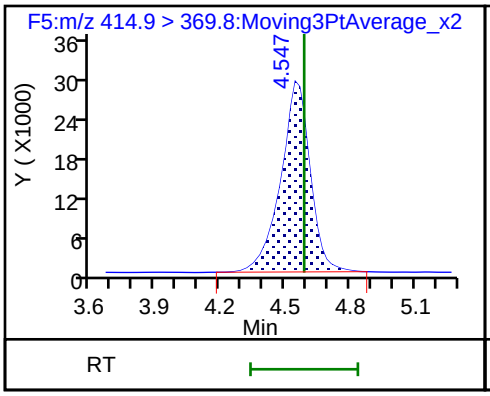
13 1H,1H,2H,2H-perfluorooctanesulfonic(M2)



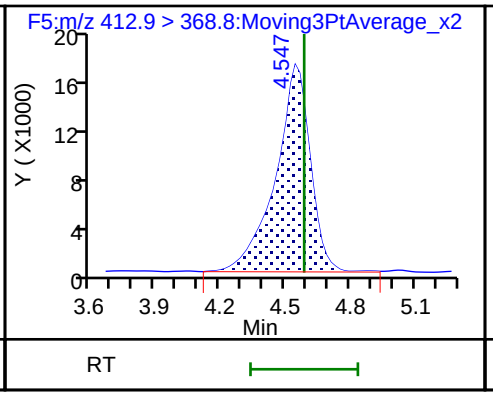
D(M2)M2-6:2 FTS (M)



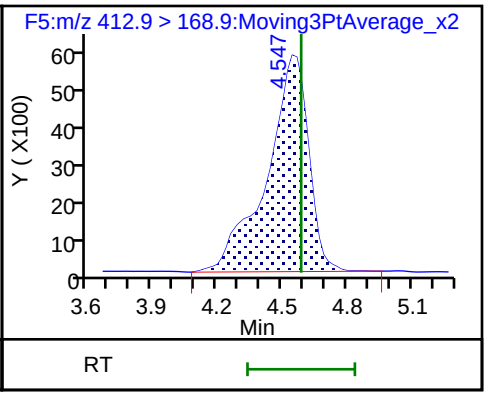
* 16 13C2 PFOA



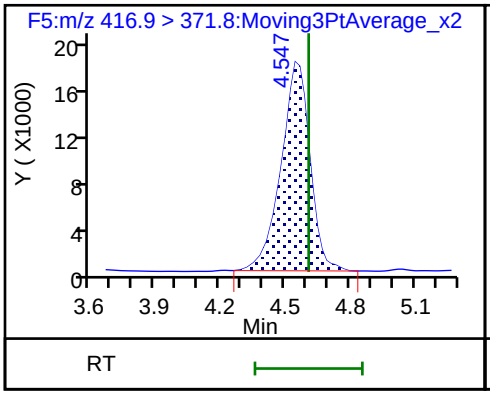
15 Perfluorooctanoic acid



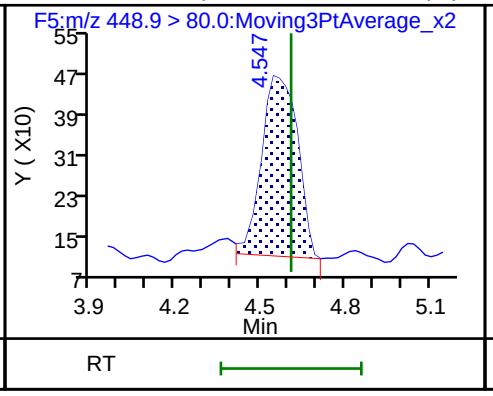
15 Perfluorooctanoic acid



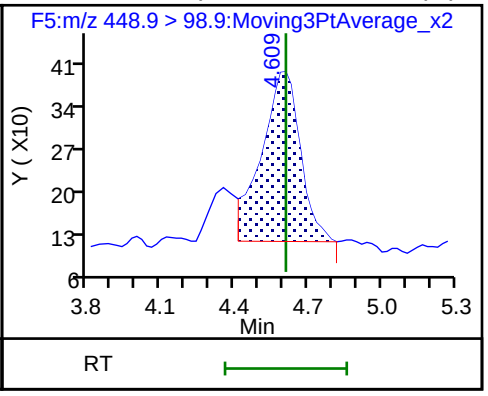
D 17 13C4 PFOA



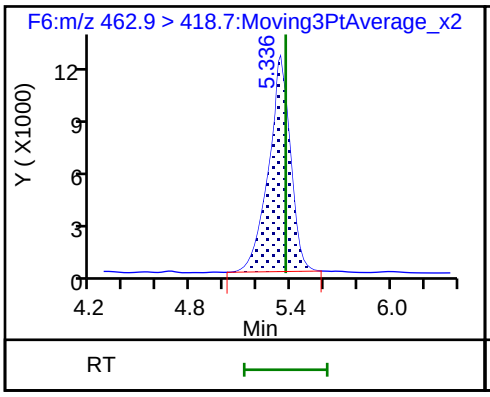
18 Perfluoroheptanesulfonic acid (M)



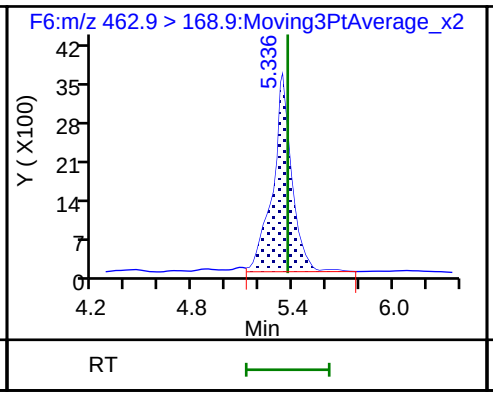
18 Perfluoroheptanesulfonic acid (M)



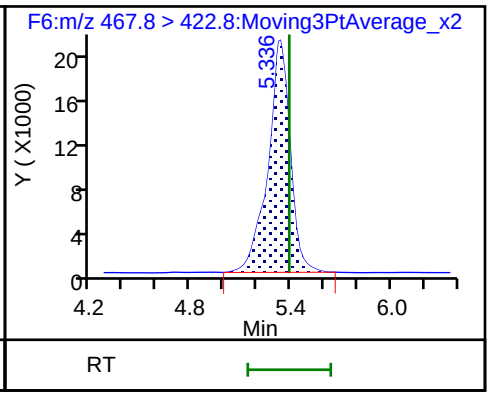
19 Perfluorononanoic acid



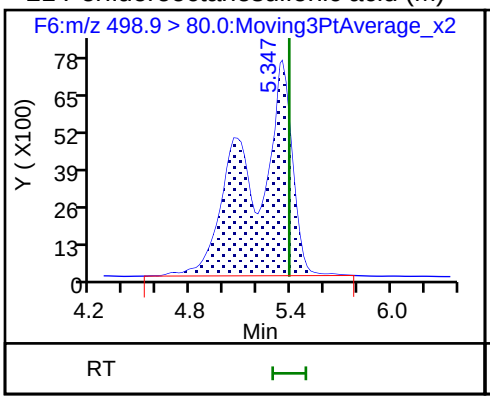
19 Perfluorononanoic acid



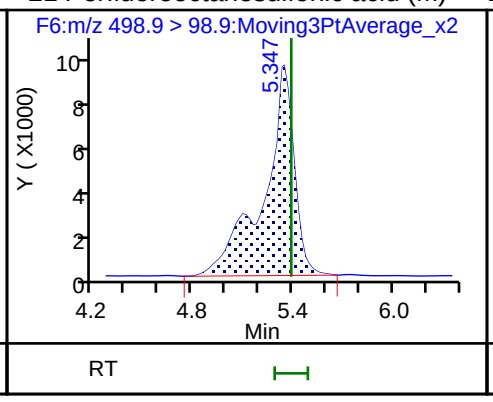
D 20 13C5 PFNA



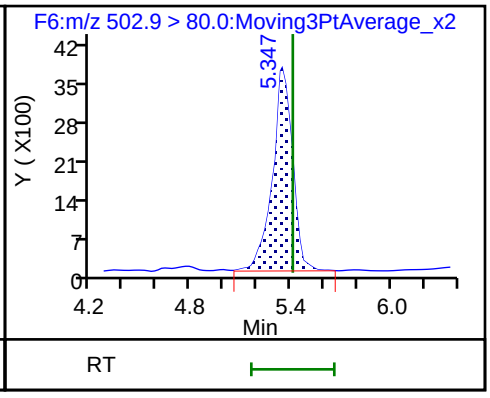
21 Perfluorooctanesulfonic acid (M)



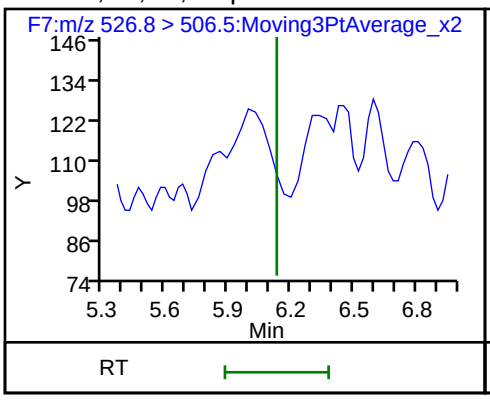
21 Perfluorooctanesulfonic acid (M)



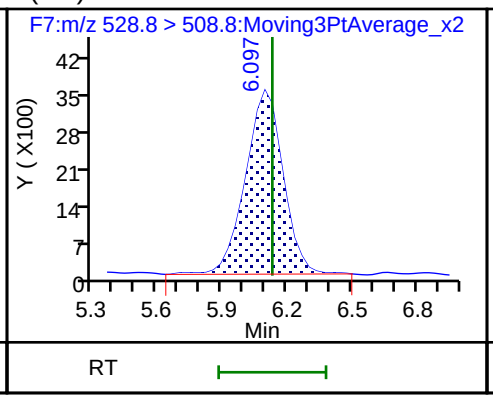
D 22 13C4 PFOS



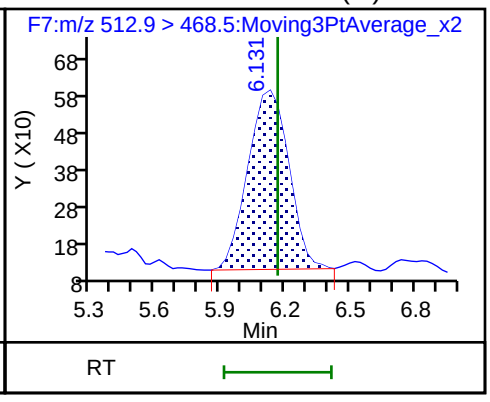
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



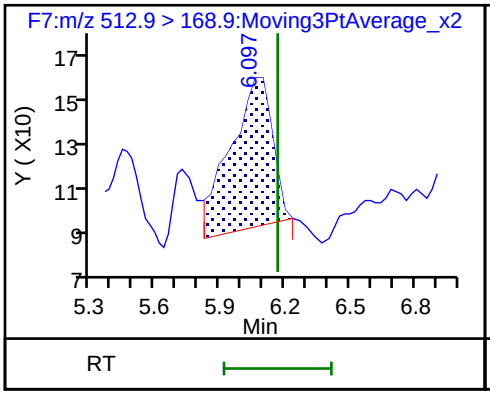
D 24 M2-8:2 FTS



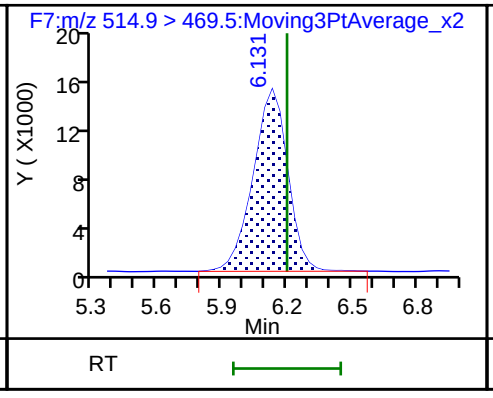
26 Perfluorodecanoic acid (M)



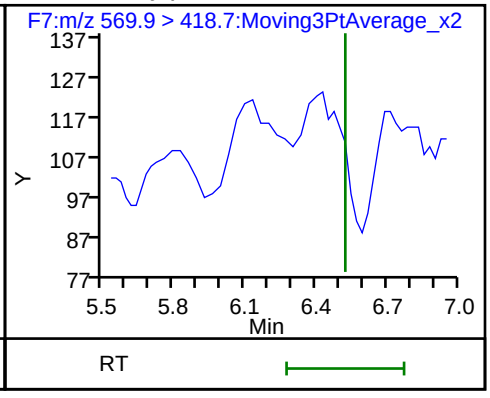
26 Perfluorodecanoic acid



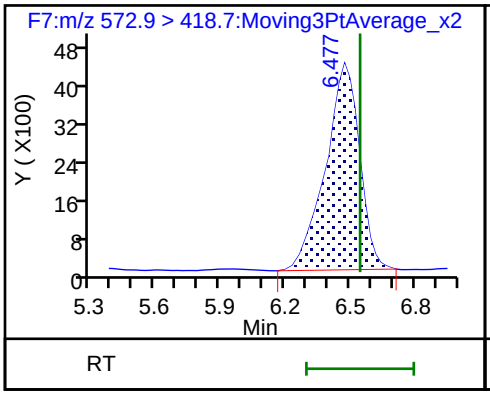
D 25 13C2 PFDA



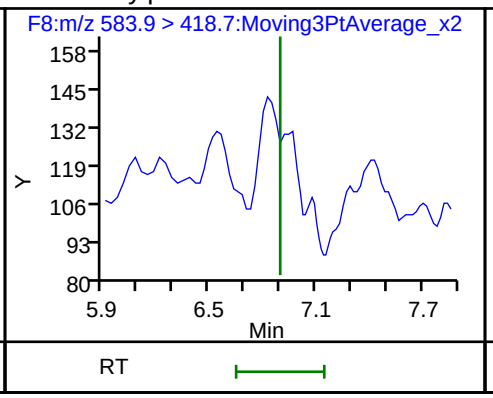
28 N-methylperfluorooctanesulfonamido (ND)



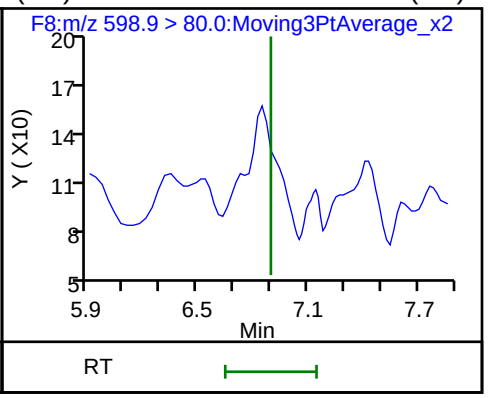
D 27 d3-NMeFOSAA



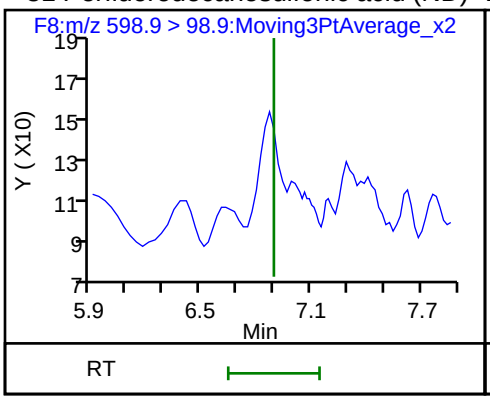
30 N-ethylperfluorooctanesulfonamidoa (ND)



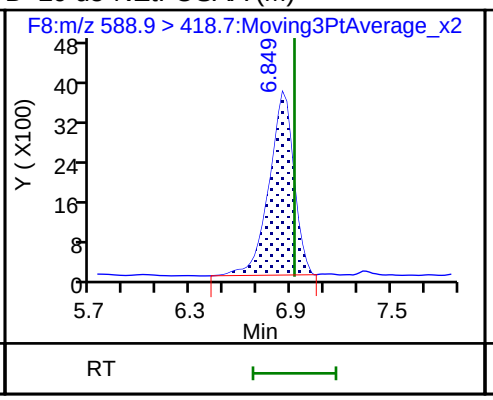
31 Perfluorodecanesulfonic acid (ND)



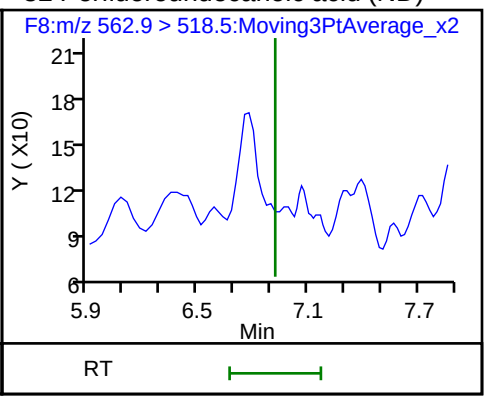
31 Perfluorodecanesulfonic acid (ND)



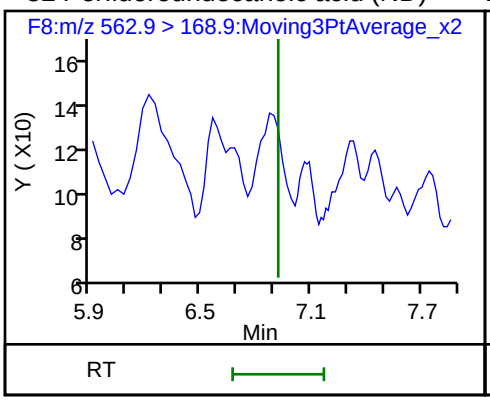
D 29 d5-NEtFOSAA (M)



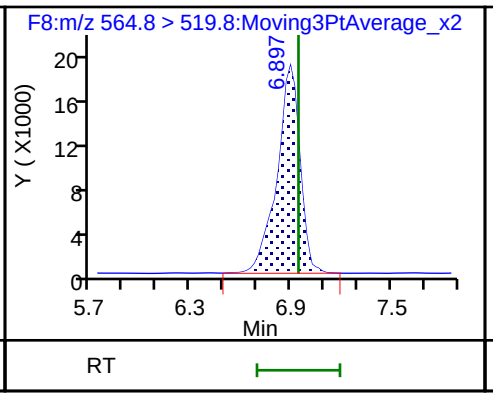
32 Perfluoroundecanoic acid (ND)



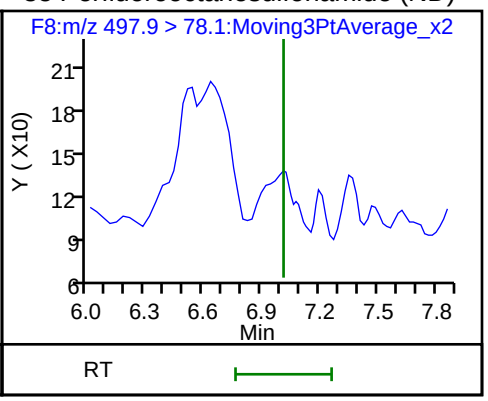
32 Perfluoroundecanoic acid (ND)



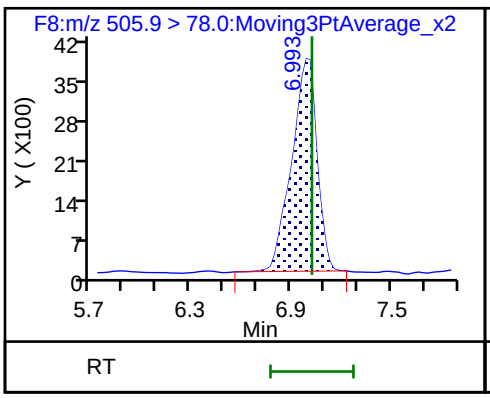
D 33 13C2 PFUnA



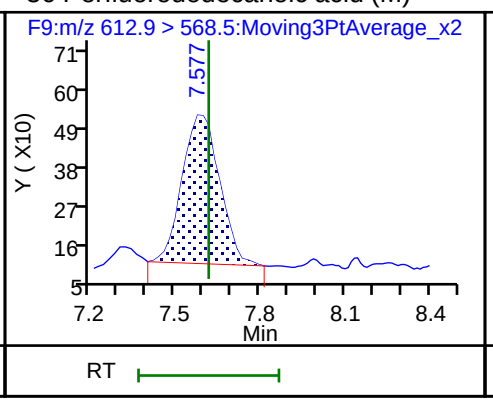
35 Perfluorooctanesulfonamide (ND)



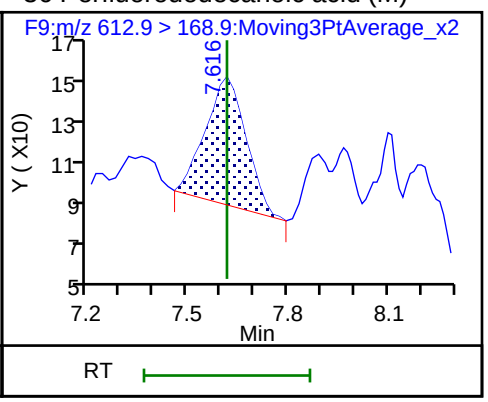
D 34 13C8 FOSA



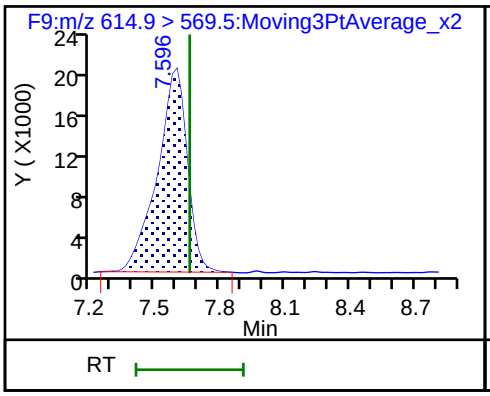
36 Perfluorododecanoic acid (M)



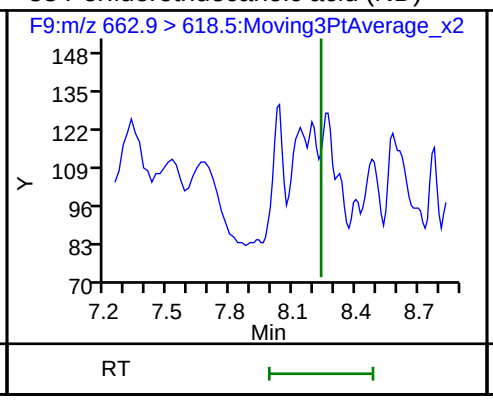
36 Perfluorododecanoic acid (M)



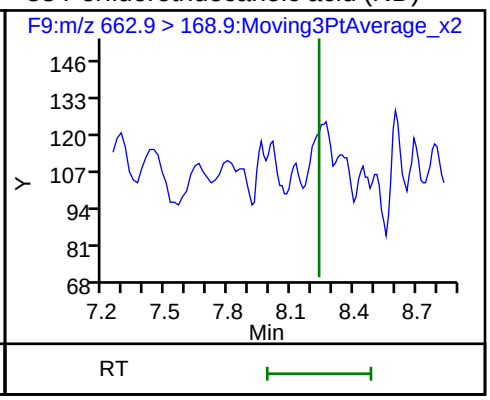
D 37 13C2 PFDoA



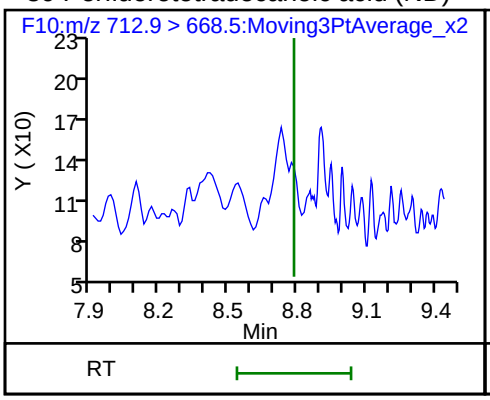
38 Perfluorotridecanoic acid (ND)



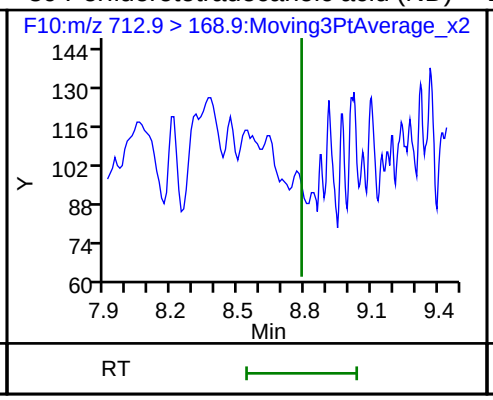
38 Perfluorotridecanoic acid (ND)



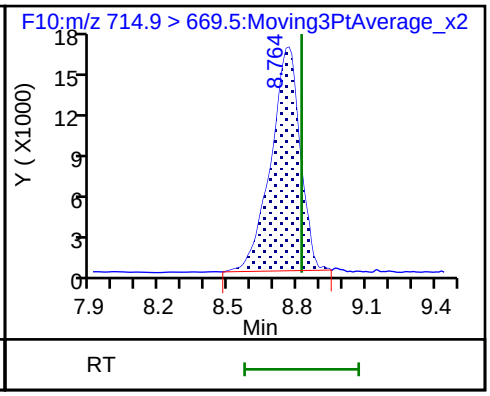
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

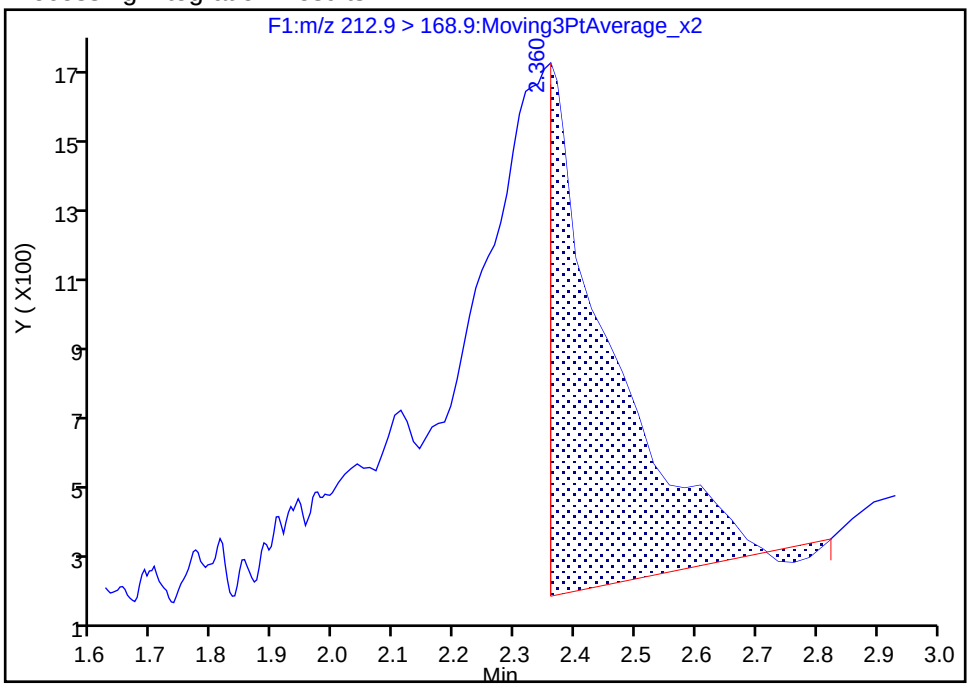
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

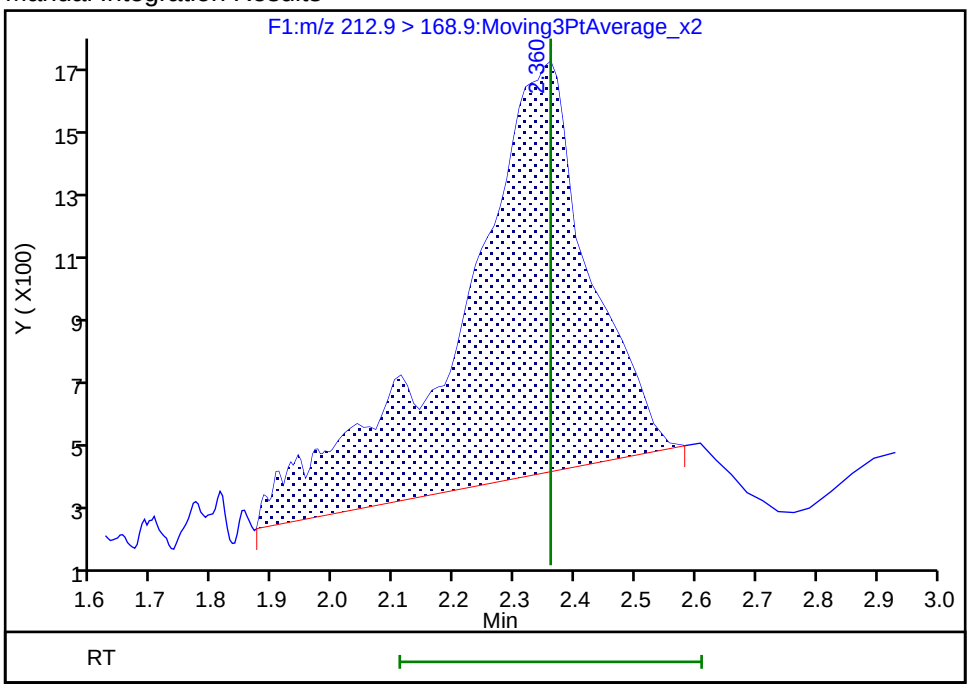
Processing Integration Results

RT: 2.36
Area: 9678
Amount: 0
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 19307
Amount: 5.366823
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:19:10

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

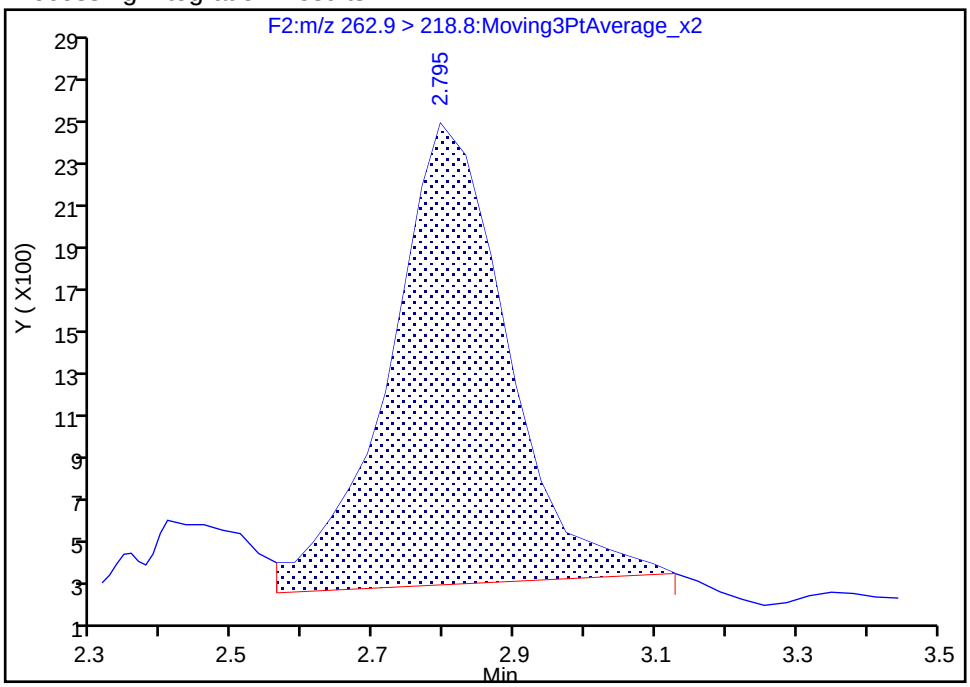
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

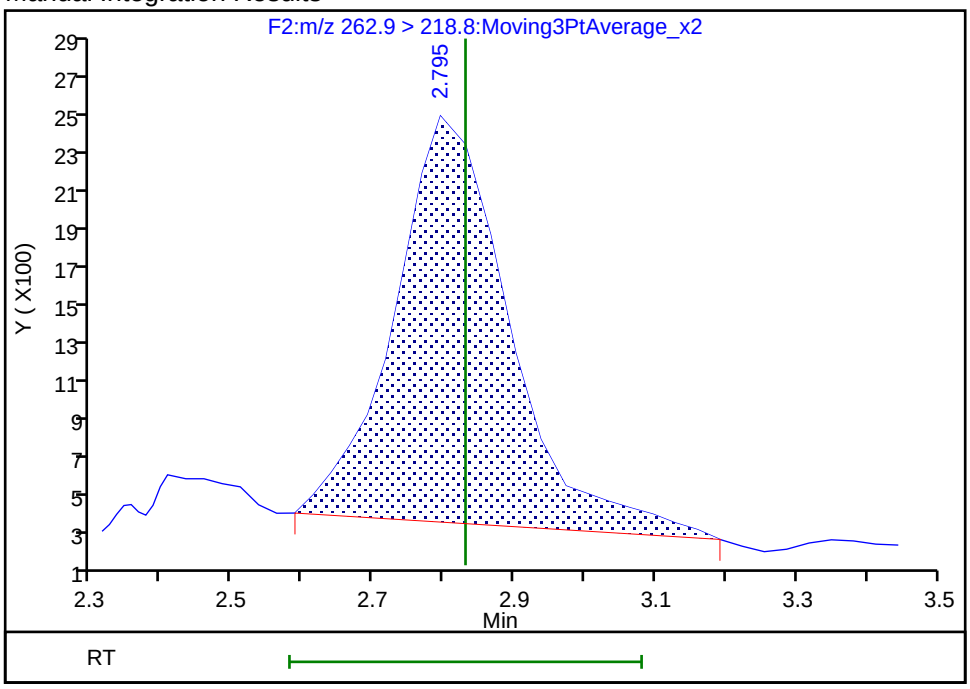
Processing Integration Results

RT: 2.79
Area: 25717
Amount: 4.616486
Amount Units: ng/ml



Manual Integration Results

RT: 2.79
Area: 24557
Amount: 4.038547
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:38:17

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

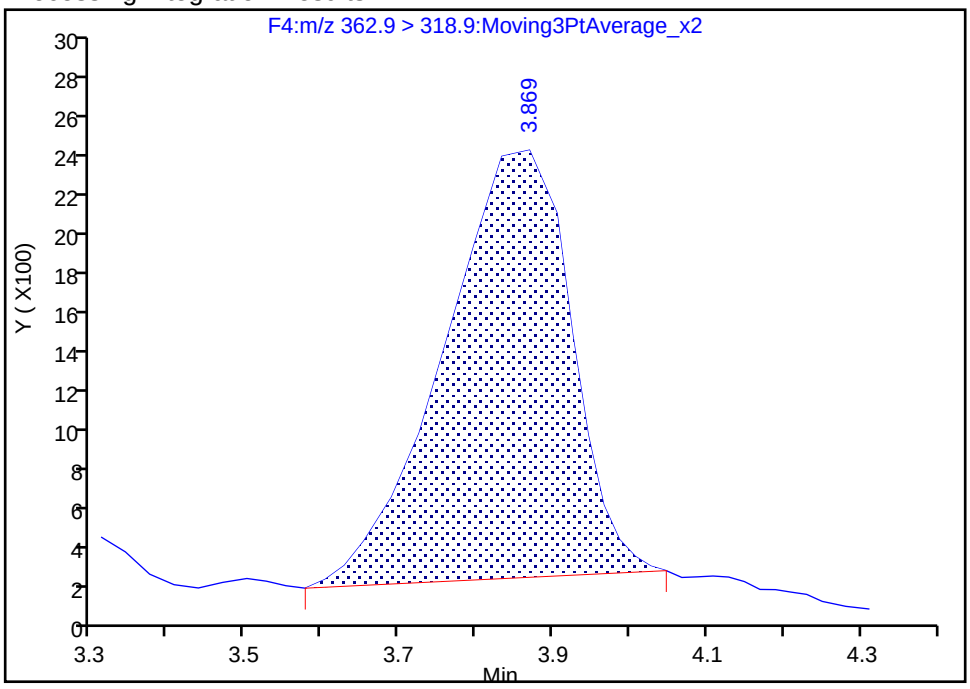
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

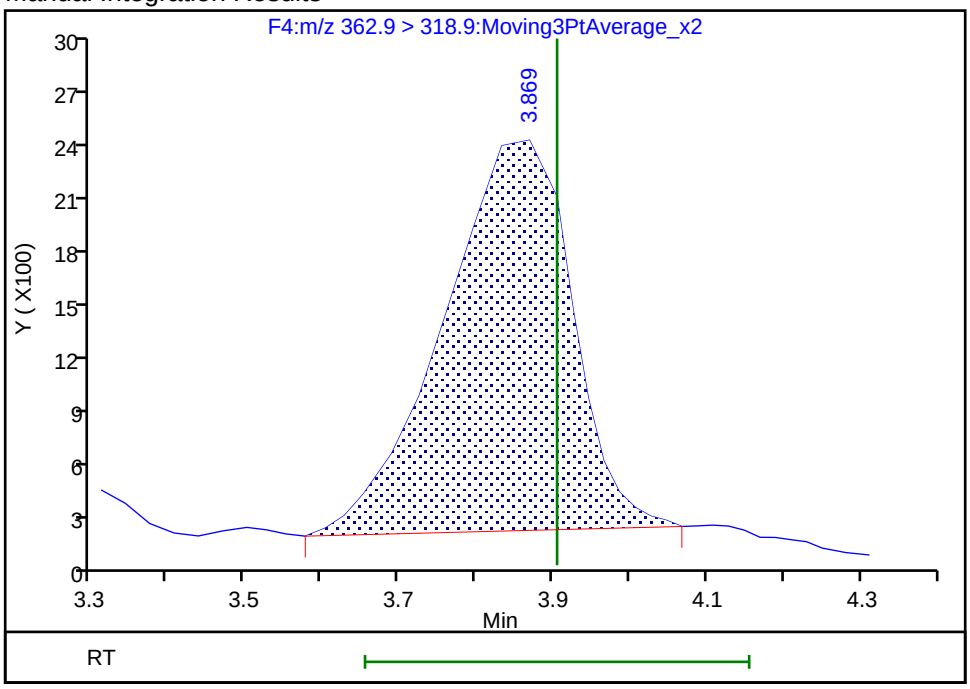
Processing Integration Results

RT: 3.87
Area: 23909
Amount: 1.605539
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 24426
Amount: 1.640257
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:38:40

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

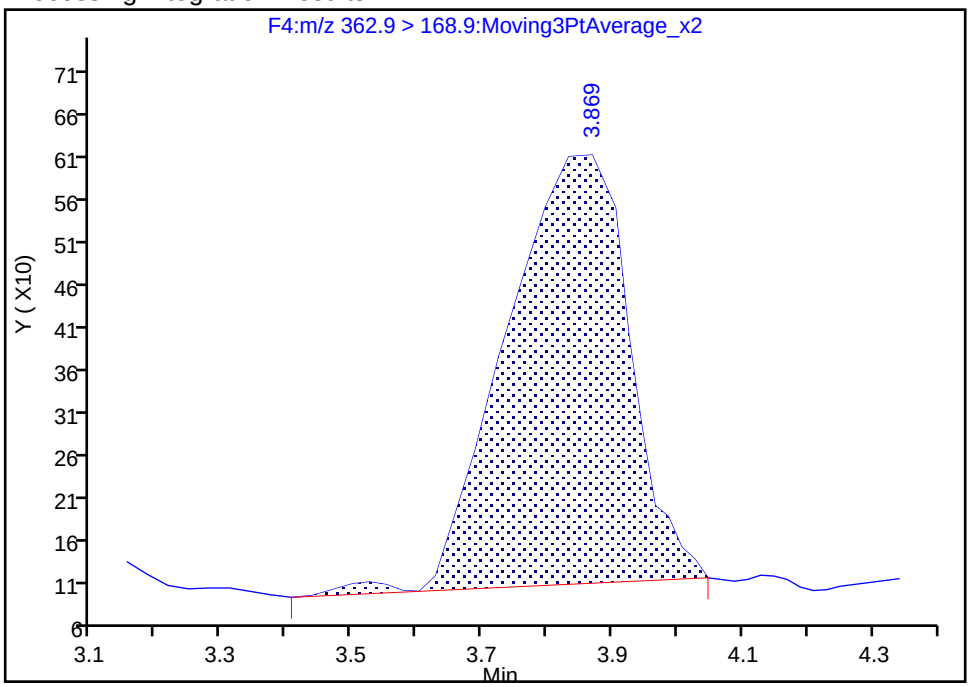
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

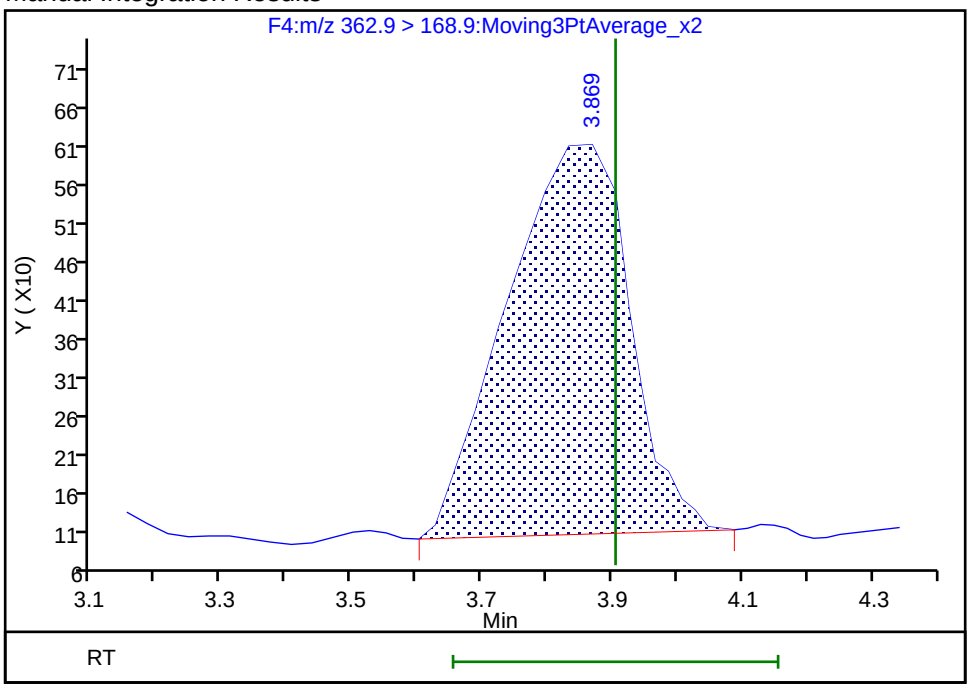
Processing Integration Results

RT: 3.87
Area: 6669
Amount: 1.605539
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 6668
Amount: 1.640257
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:38:42

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

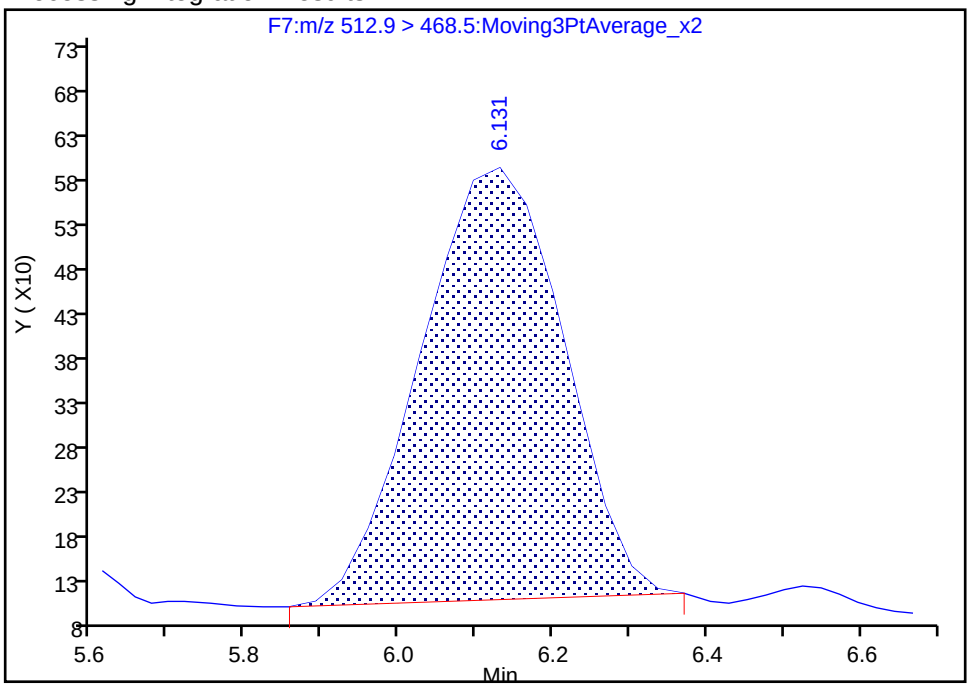
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

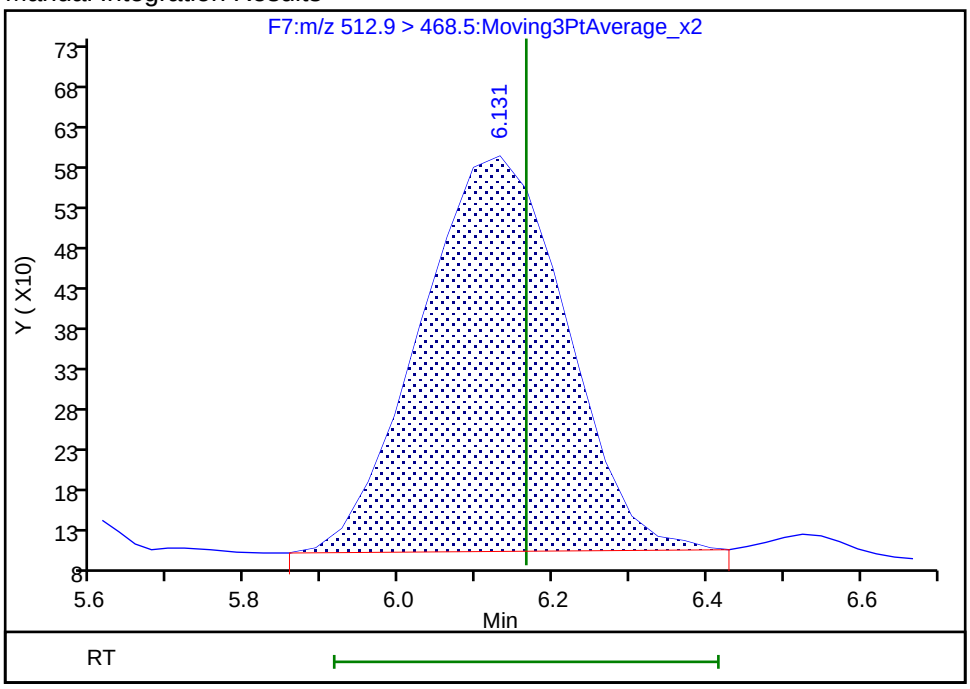
Processing Integration Results

RT: 6.13
Area: 6186
Amount: 0.409380
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 6377
Amount: 0.422020
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:40:24
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

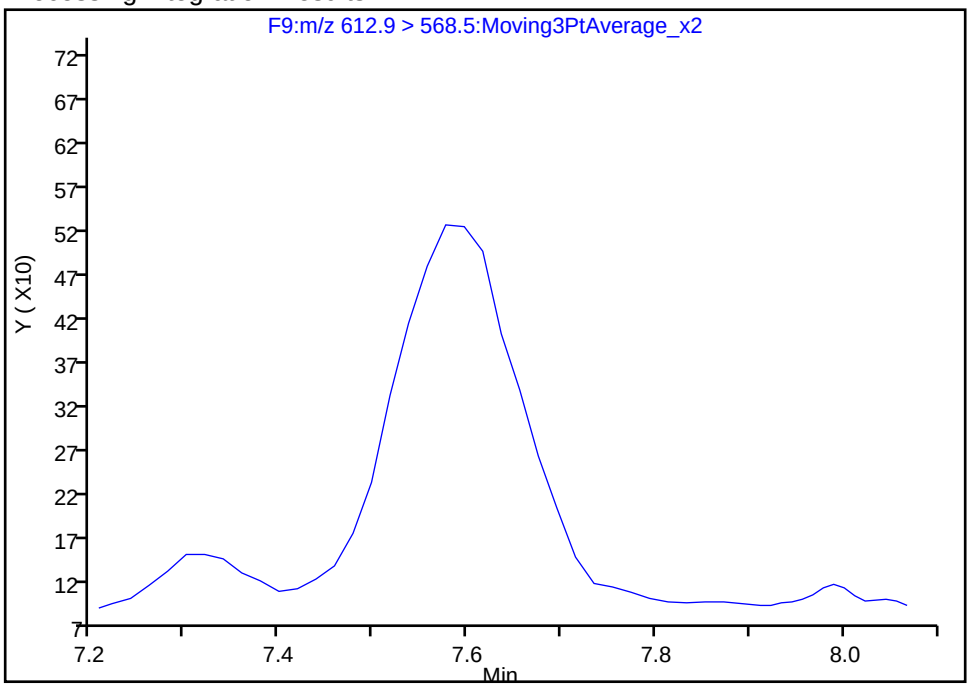
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F9:MRM		

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

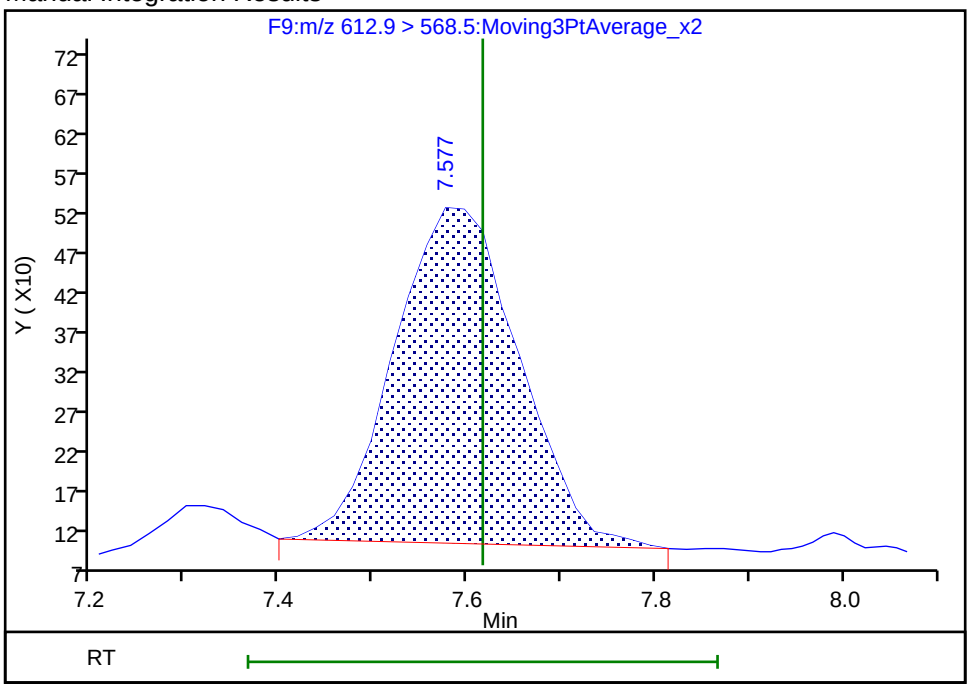
Processing Integration Results

Not Detected
Expected RT: 7.62



Manual Integration Results

RT: 7.58
Area: 3894
Amount: 0.217673
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:41:02
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

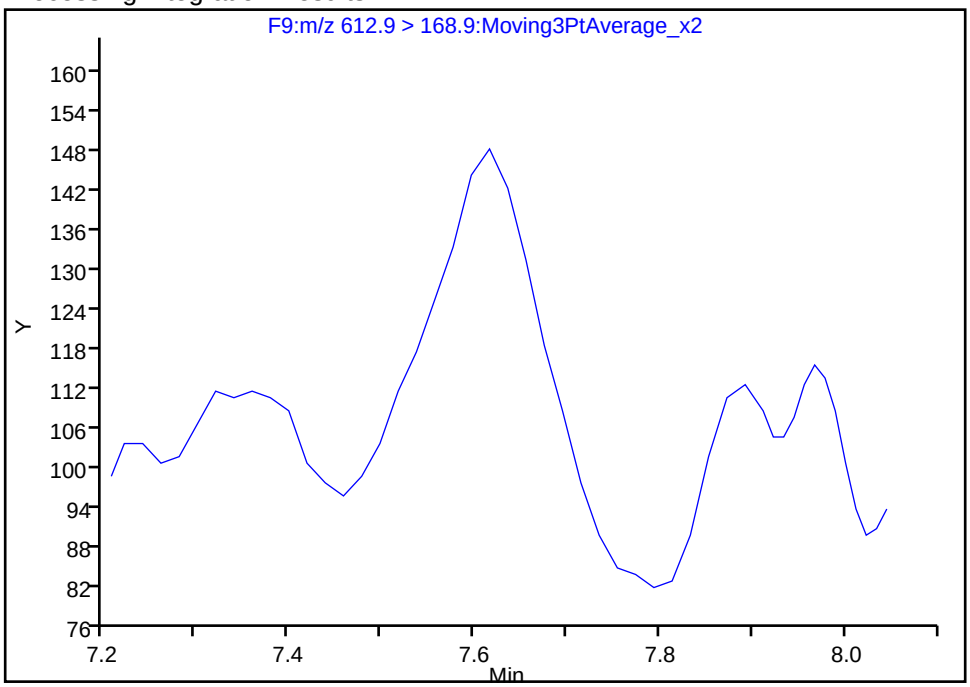
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F9:MRM		

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

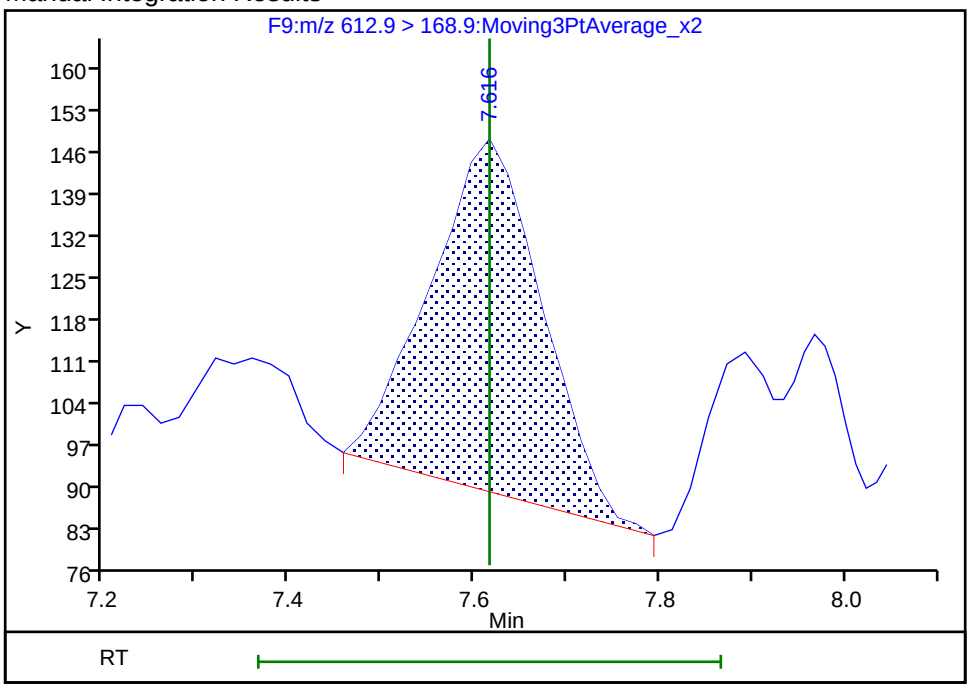
Not Detected
Expected RT: 7.62

Processing Integration Results



Manual Integration Results

RT: 7.62
Area: 500
Amount: 0.217673
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:41:04
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

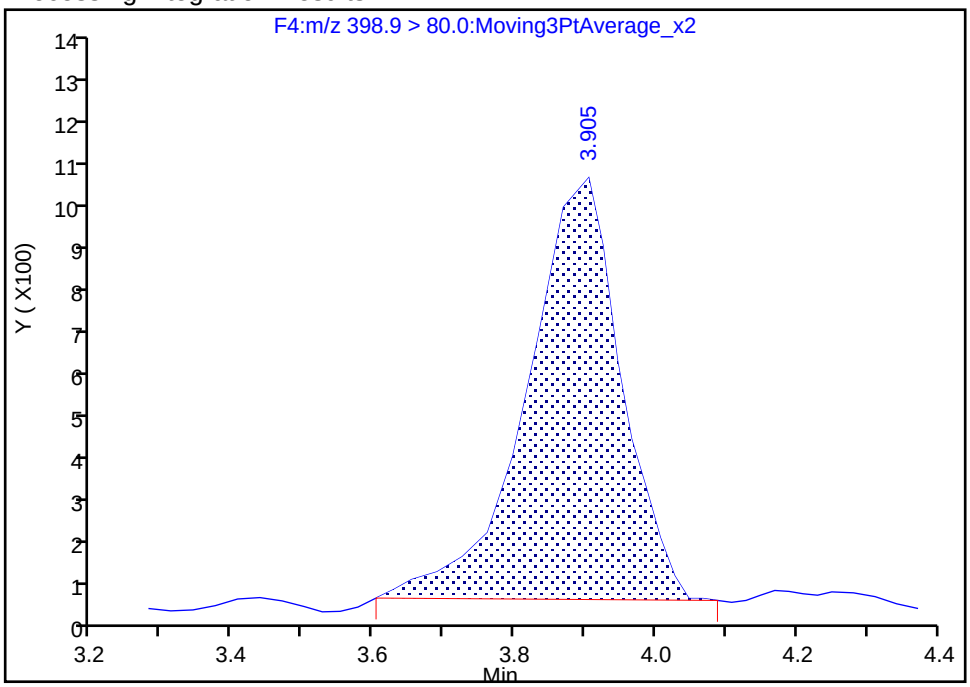
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

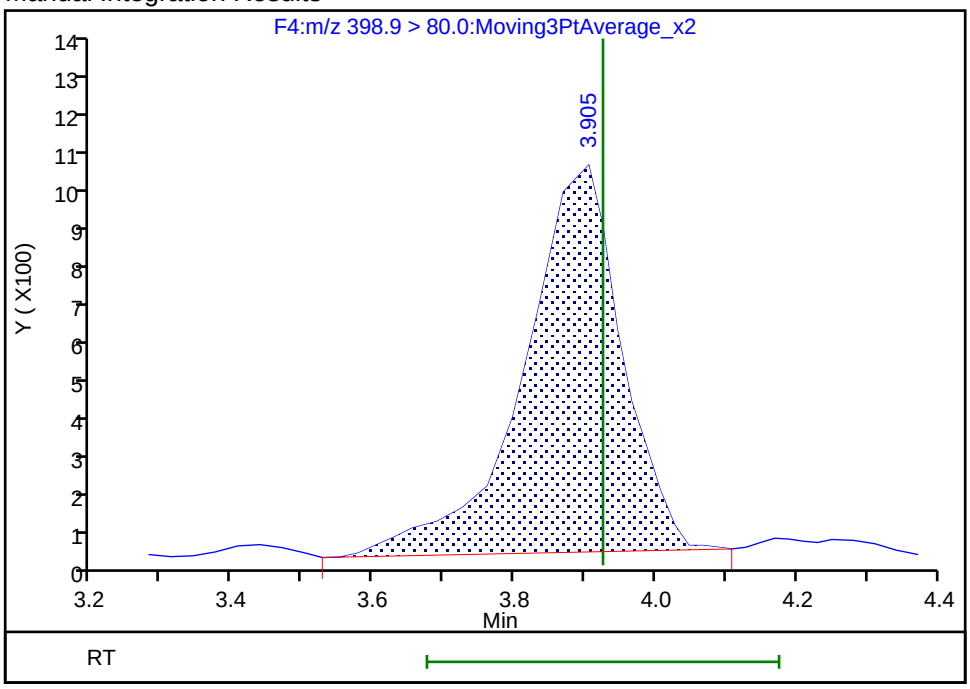
Processing Integration Results

RT: 3.91
Area: 8280
Amount: 3.778849
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 8768
Amount: 3.925027
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:38:47
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

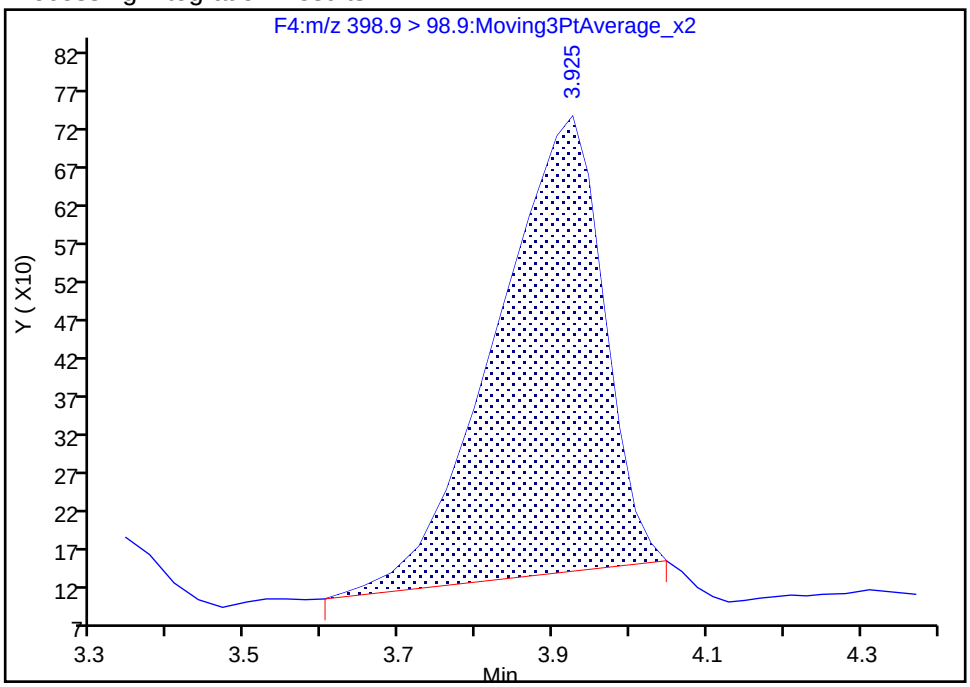
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

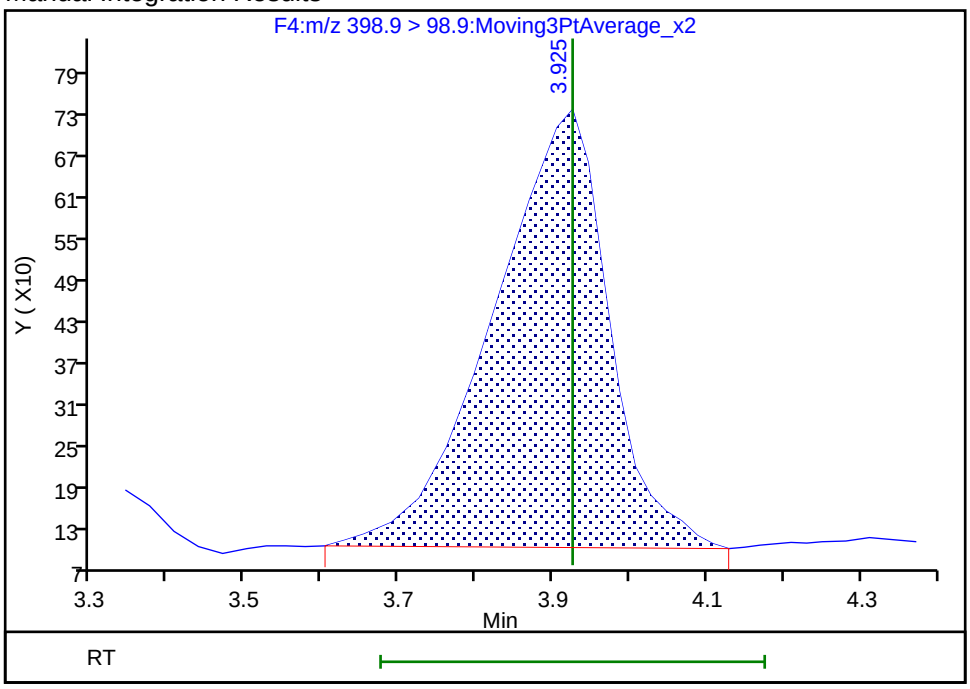
Processing Integration Results

RT: 3.93
Area: 5804
Amount: 3.778849
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 6627
Amount: 3.925027
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:38:50

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

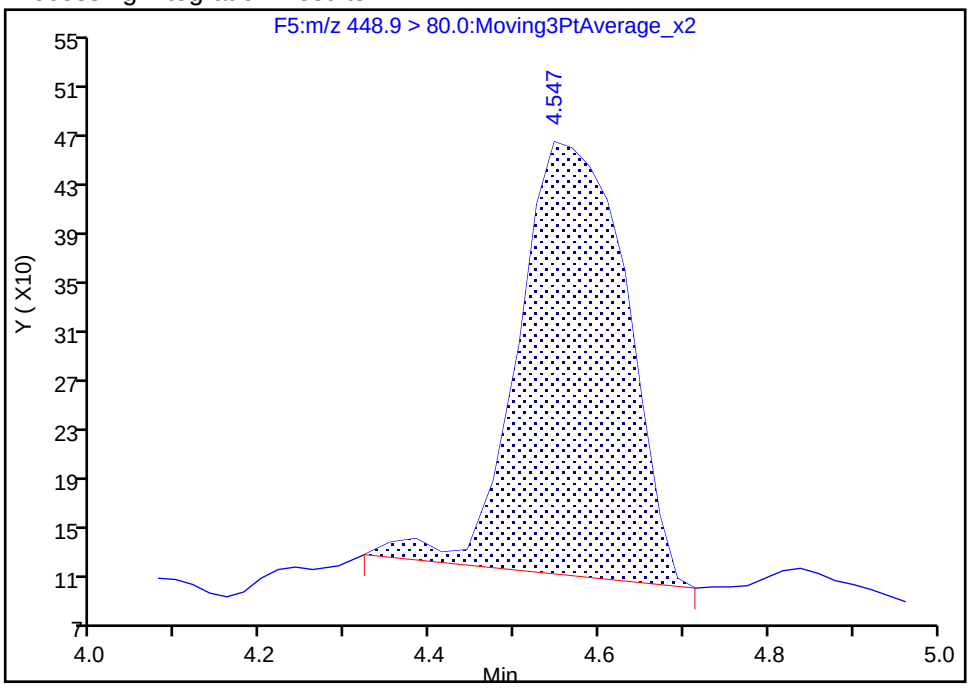
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

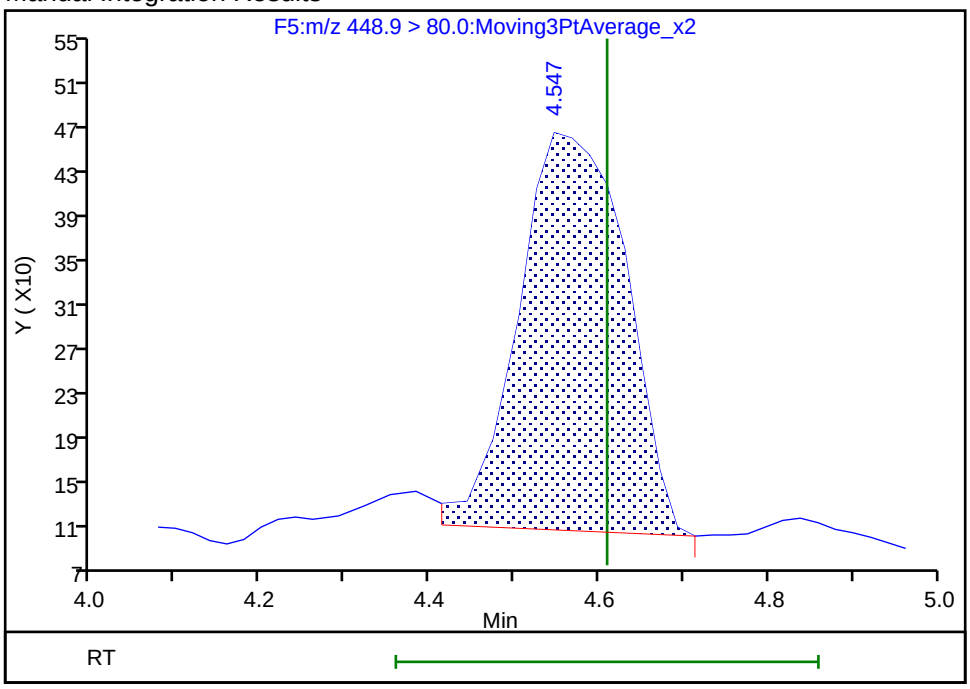
Processing Integration Results

RT: 4.55
Area: 3102
Amount: 1.114867
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 3136
Amount: 1.127087
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:39:11

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

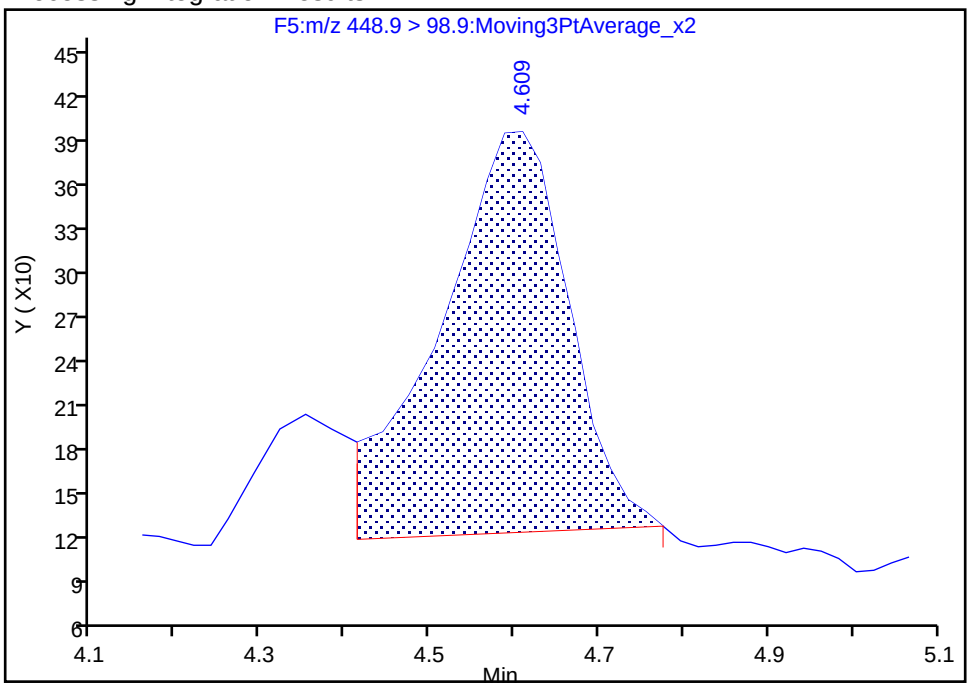
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 2

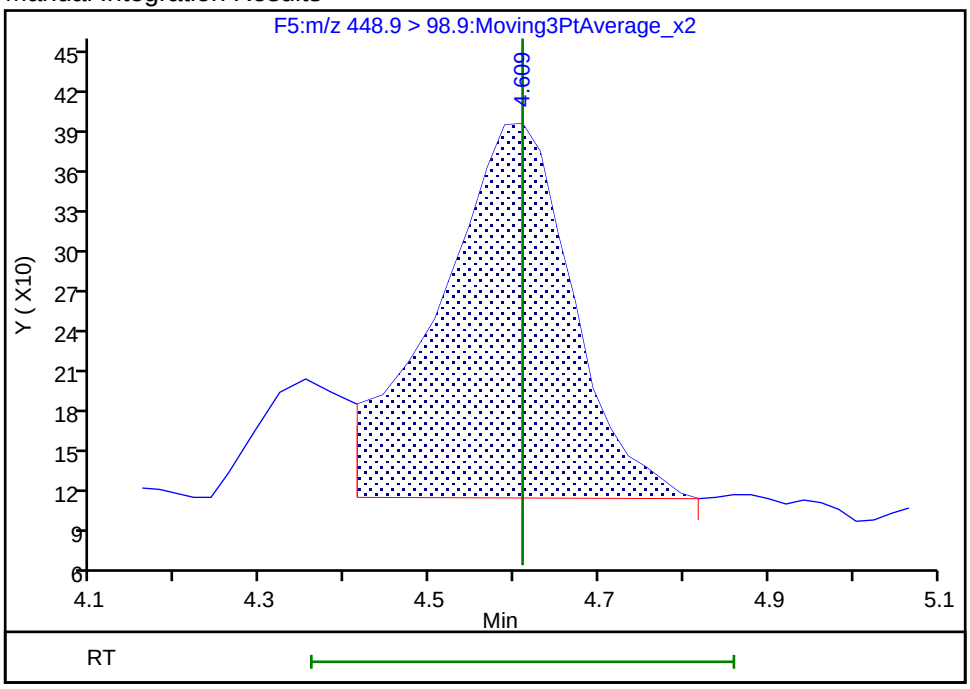
Processing Integration Results

RT: 4.61
Area: 2888
Amount: 1.114867
Amount Units: ng/ml



Manual Integration Results

RT: 4.61
Area: 3096
Amount: 1.127087
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:39:18

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

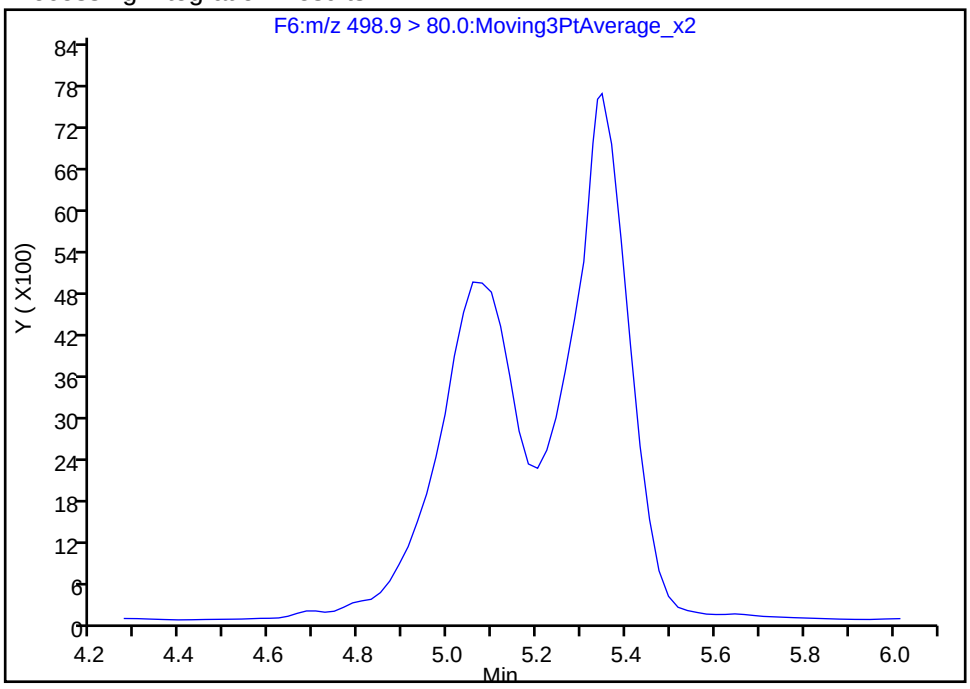
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

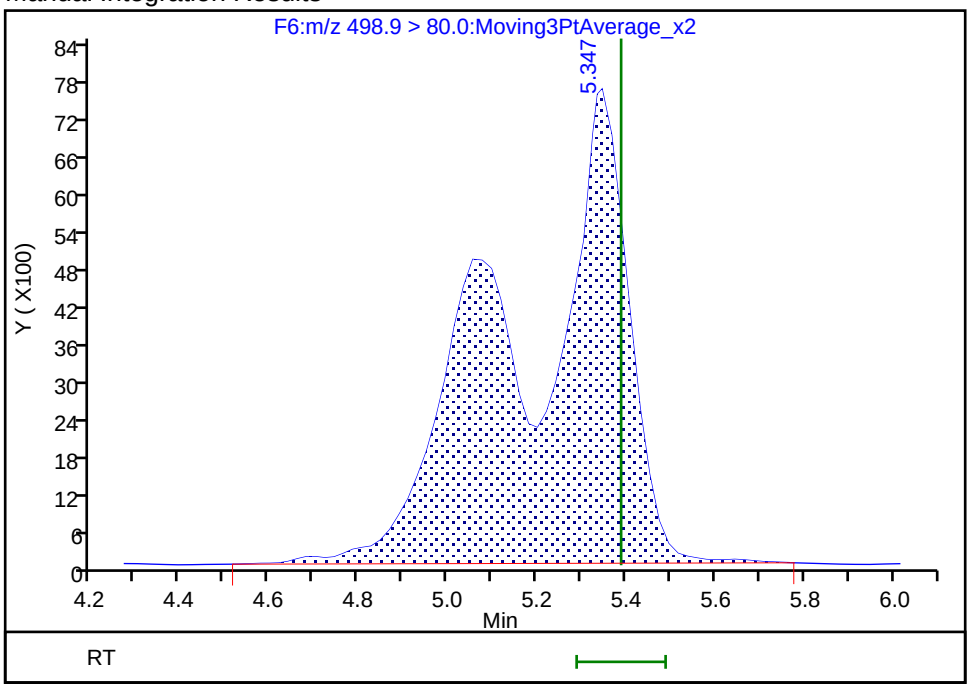
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.35
Area: 130586
Amount: 42.309423
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:40:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

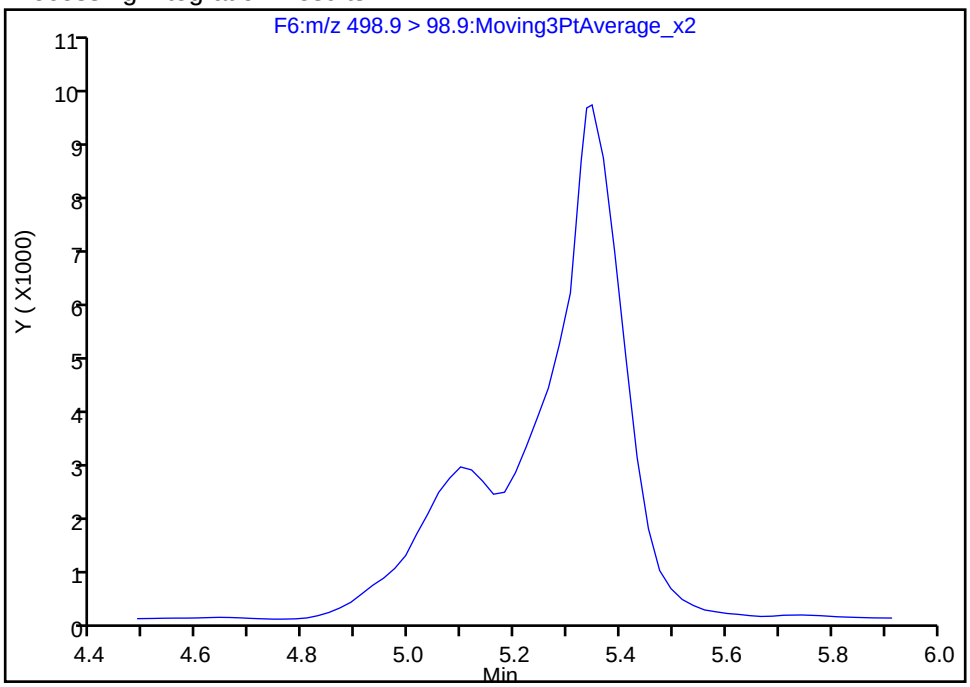
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

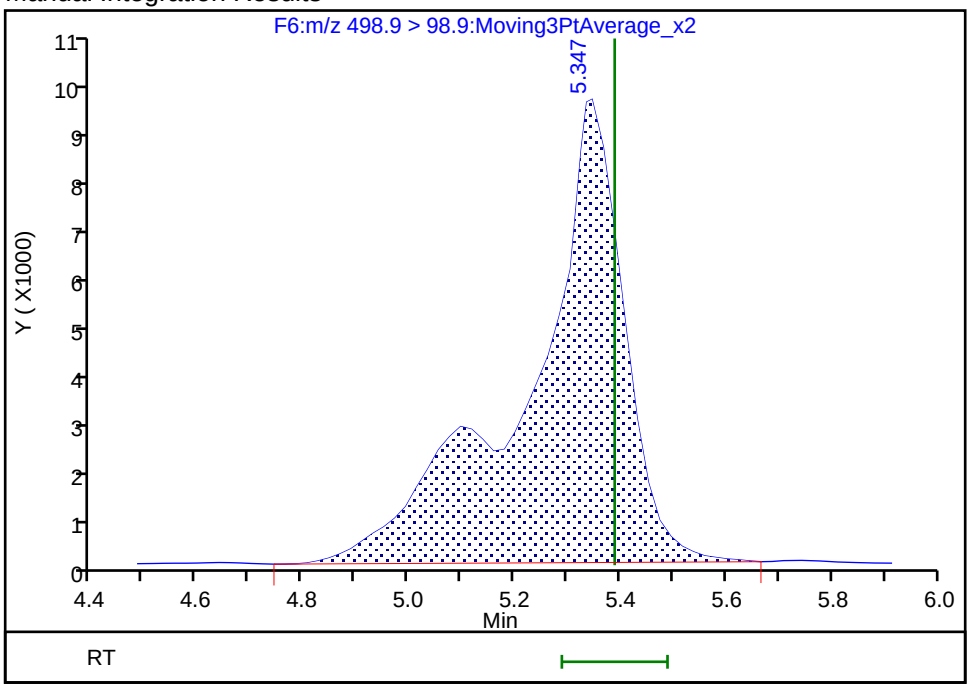
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.35
Area: 118140
Amount: 42.309423
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:40:13
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

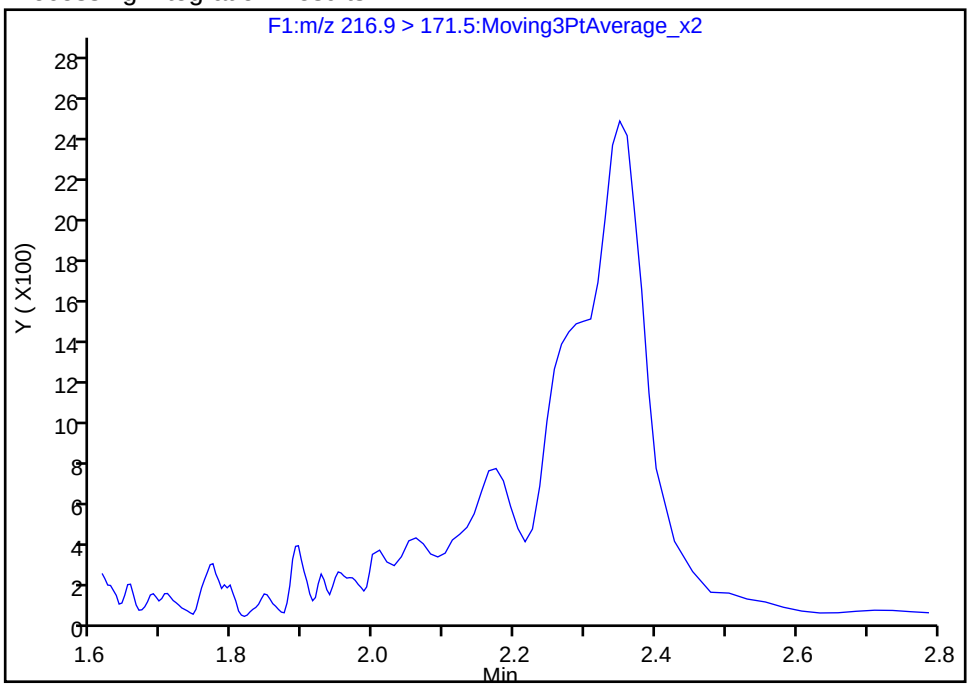
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

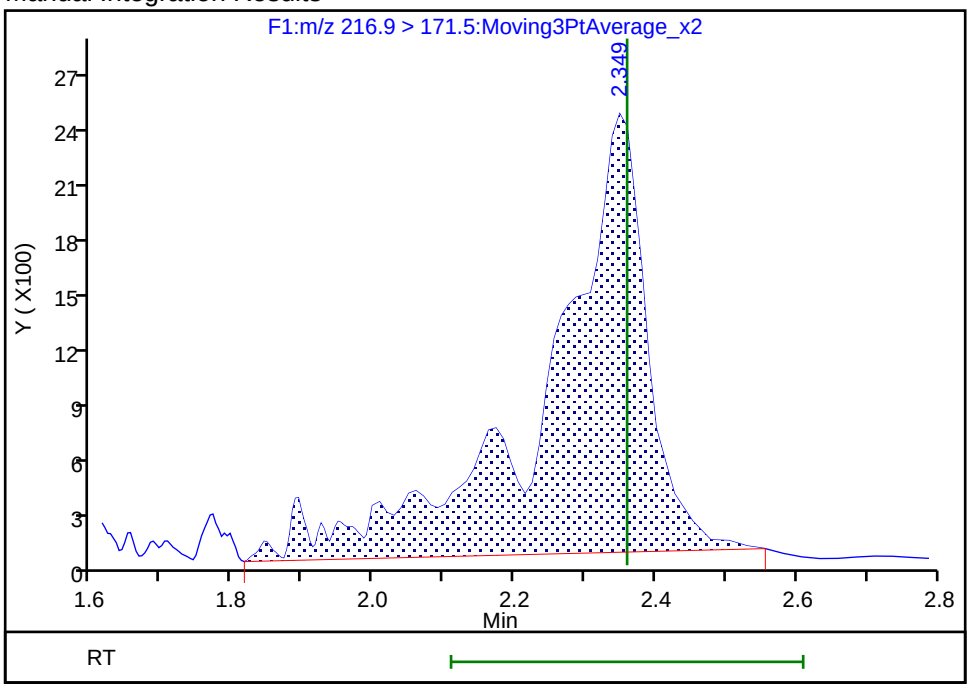
Not Detected
Expected RT: 2.36

Processing Integration Results



Manual Integration Results

RT: 2.35
Area: 22914
Amount: 3.383010
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:19:22
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

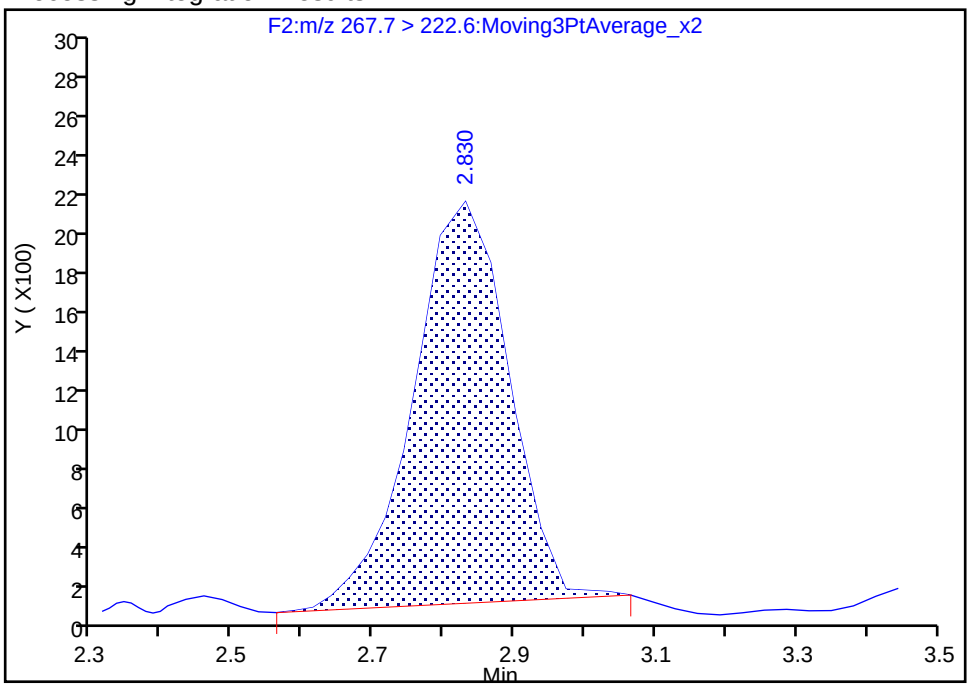
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

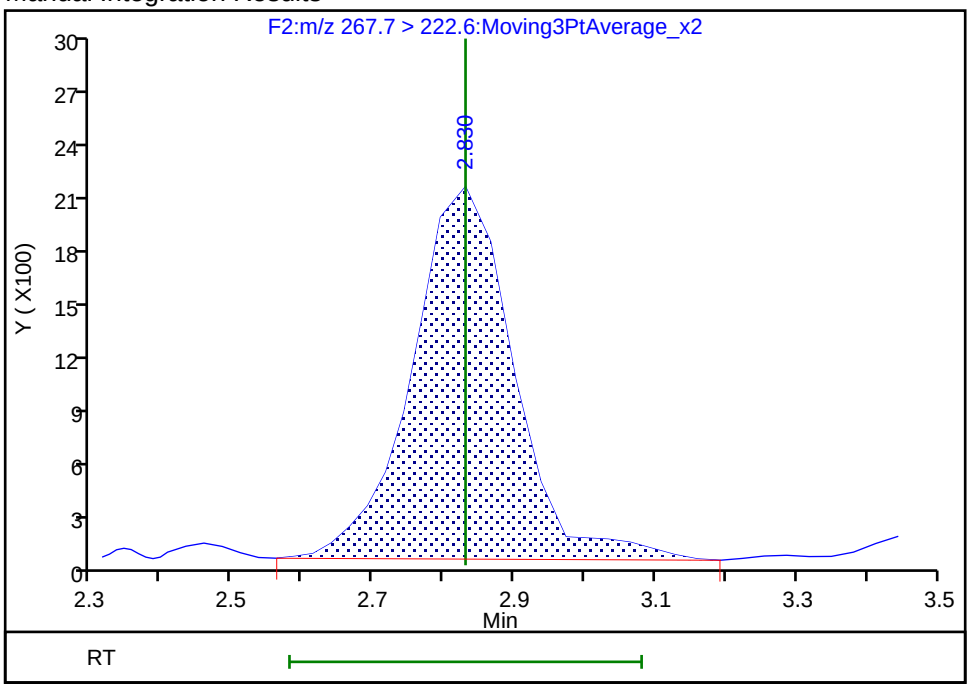
Processing Integration Results

RT: 2.83
Area: 18603
Amount: 3.620475
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 20306
Amount: 3.951909
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:38:21

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

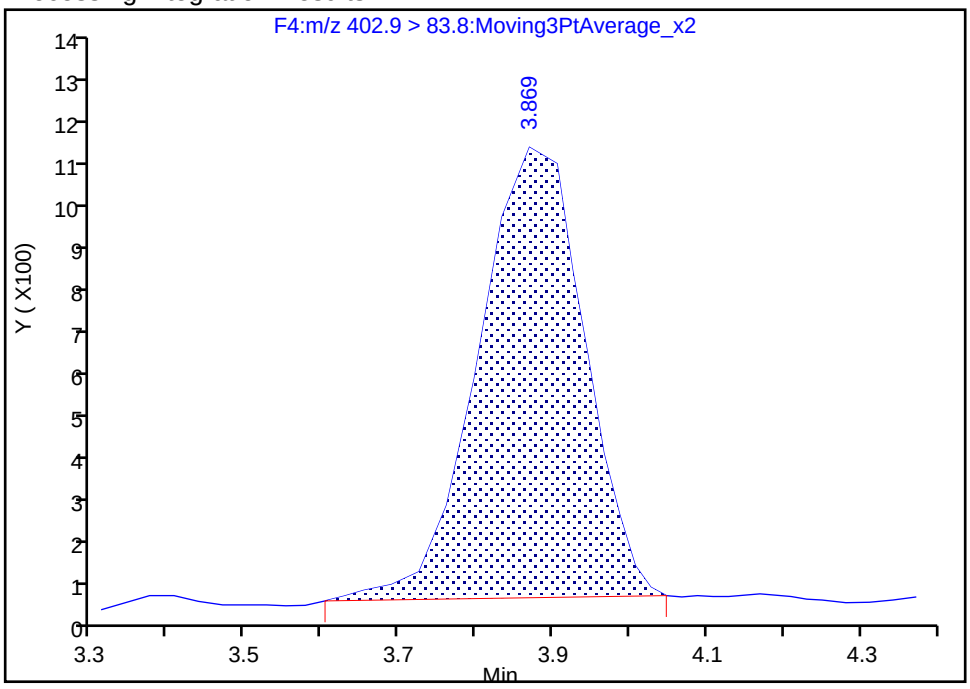
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

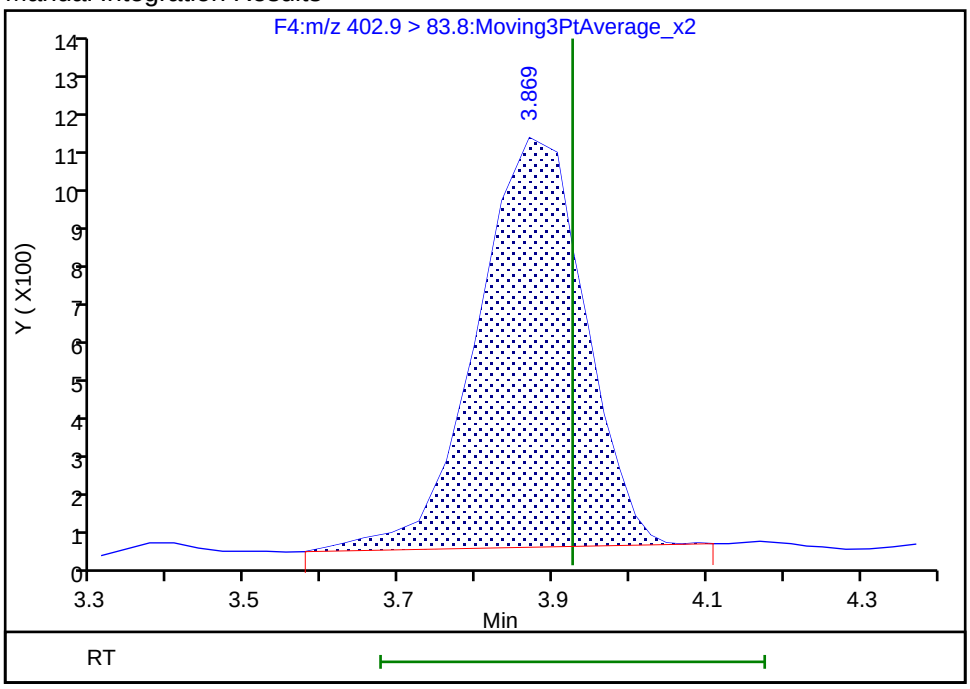
Processing Integration Results

RT: 3.87
Area: 9795
Amount: 3.428285
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 9986
Amount: 3.495136
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:38:53

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

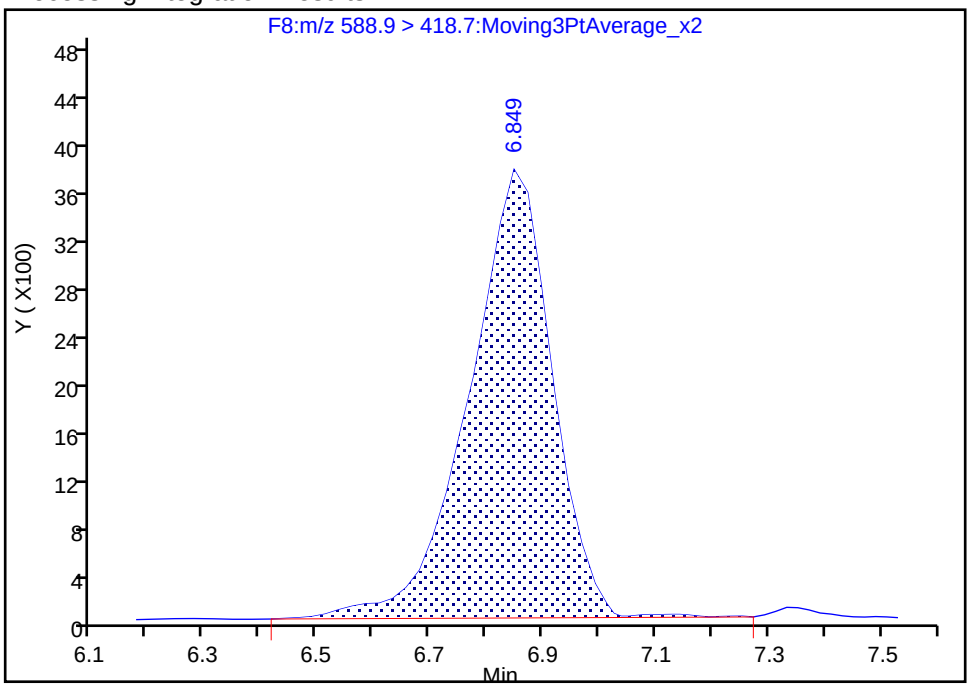
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 29 d5-NEtFOSAA, CAS: STL02117

Signal: 1

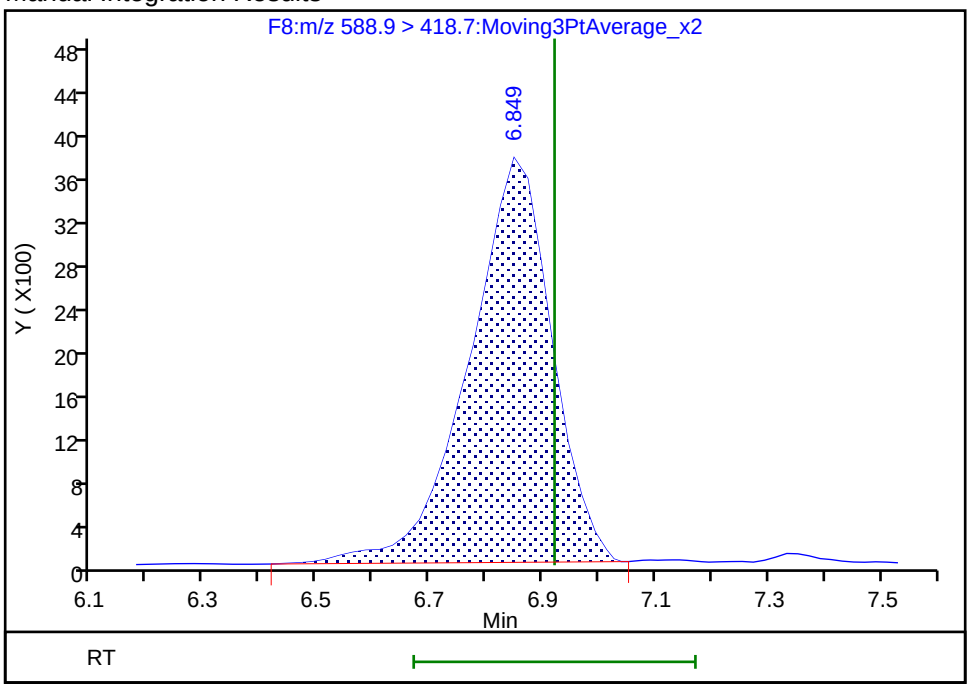
Processing Integration Results

RT: 6.85
Area: 37449
Amount: 4.528084
Amount Units: ng/ml



Manual Integration Results

RT: 6.85
Area: 37103
Amount: 4.486248
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:40:37

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

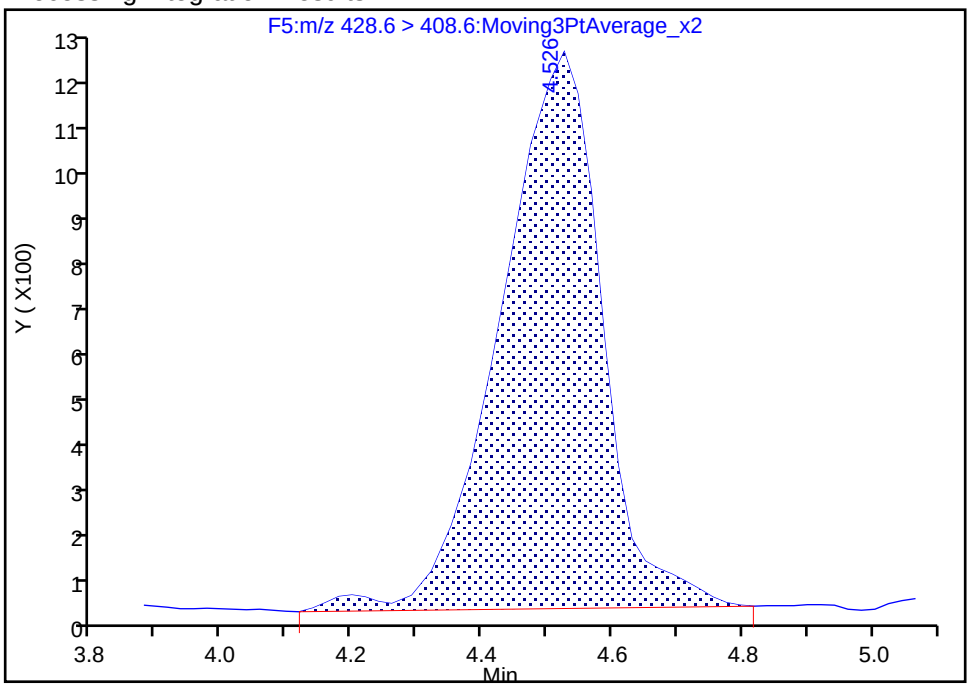
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B13.d				
Injection Date:	05-Jun-2019 04:30:19	Instrument ID:	LC410		
Lims ID:	200-48826-A-11-A	Lab Sample ID:	200-48826-11		
Client ID:	MW-22 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

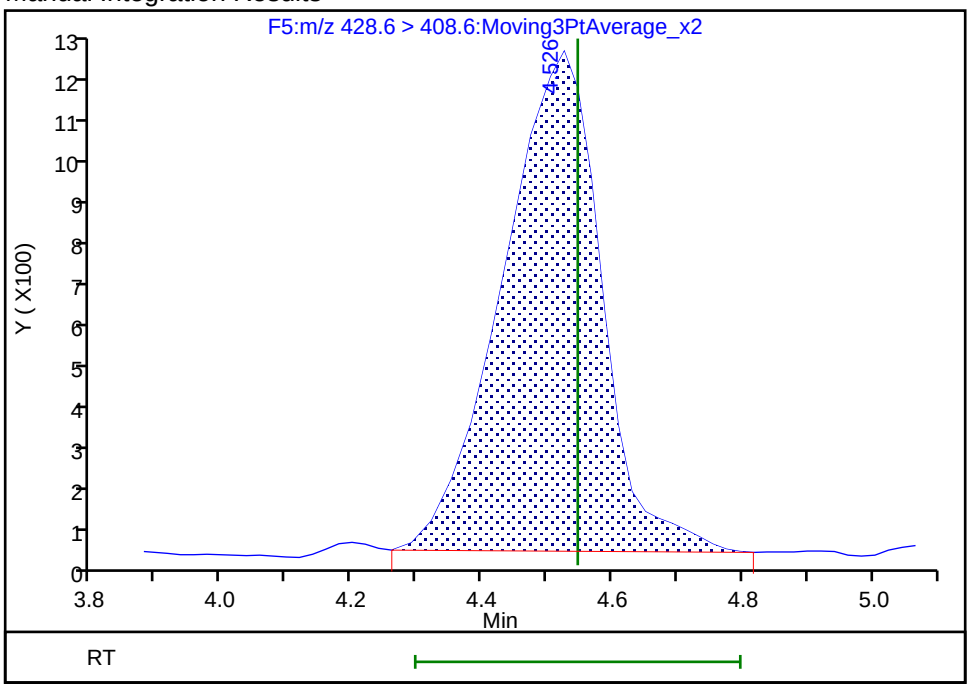
Processing Integration Results

RT: 4.53
Area: 11915
Amount: 7.720537
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 11518
Amount: 7.463294
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:38:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: K-2 051519 Lab Sample ID: 200-48826-12

Matrix: Water Lab File ID: PF060419B14.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 10:50

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 291.5(mL) Date Analyzed: 06/05/2019 04:46

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.6	4.3
2706-90-3	Perfluoropentanoic acid (PFPeA)	4.8	J	8.6	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	4.6	J	8.6	3.3
375-85-9	Perfluoroheptanoic acid (PFHpA)	6.1	J	8.6	3.9
335-67-1	Perfluorooctanoic acid (PFOA)	44		8.6	2.7
375-95-1	Perfluorononanoic acid (PFNA)	1.6	J	8.6	1.2
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.6	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.6	2.3
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.6	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.6	2.6
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.6	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		8.6	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	5.0	J	8.6	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.6	4.1
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.6	3.9
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1400	B *	8.6	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.6	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		86	7.3
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		86	6.4
27619-97-2	6:2 FTS	ND		86	20
39108-34-4	8:2 FTS	ND		86	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: K-2 051519 Lab Sample ID: 200-48826-12

Matrix: Water Lab File ID: PF060419B14.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 10:50

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 291.5(mL) Date Analyzed: 06/05/2019 04:46

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	48		25-150
STL00992	13C4 PFBA	41		25-150
STL01893	13C5 PFPeA	42		25-150
STL00993	13C2 PFHxA	57		50-150
STL01892	13C4 PFHpA	69		50-150
STL00990	13C4 PFOA	66		50-150
STL00995	13C5 PFNA	51		50-150
STL00996	13C2 PFDA	56		50-150
STL00997	13C2 PFUnA	64		50-150
STL00998	13C2 PFDoA	54		50-150
STL02116	13C2 PFTeDA	50		50-150
STL02337	13C3 PFBS	27	*	50-150
STL00994	18O2 PFHxS	47	*	50-150
STL00991	13C4 PFOS	45	*	50-150
STL02118	d3-NMeFOSAA	46	*	50-150
STL02117	d5-NEtFOSAA	50		50-150
STL02279	M2-6:2 FTS	72		25-150
STL02280	M2-8:2 FTS	82		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d
Lims ID: 200-48826-A-12-A
Client ID: K-2 051519
Sample Type: Client
Inject. Date: 05-Jun-2019 04:46:10 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036200-014 12
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 12:50:52
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.349	2.360	-0.011	0.996	1724	0.4016			3.4	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.360	2.360	0.0	1.000	27340	4.08		40.8	35.2	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.795	2.830	-0.035	1.000	3595	0.5635			1.3	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.795	2.830	-0.035	1.000	21304	4.19		41.9	76.5	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	5652	2.55		27.5	14.2	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.302	3.302	0.0	1.000	6626	0.5412	Target=14.34		6.2	M
312.9 > 118.9	3.302	3.302	0.0	1.000	406		16.32(7.17-21.51)		2.9	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	87572	5.74		57.4	612	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	148040	6.88		68.8	904	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.905	3.905	0.0	1.009	12429	0.7154	Target=2.84		9.6	
362.9 > 168.9	3.905	3.905	0.0	1.009	3626		3.43(1.42-4.26)		30.9	M
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.926	3.925	0.001	1.000	1622	0.5813	Target=1.34		7.6	M
398.9 > 98.9	3.869	3.925	-0.056	0.986	2444		0.66(0.67-2.01)		15.2	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.926	3.925	0.001	1.000	12474	4.41		46.6	69.6	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	10389	6.80		71.6	58.4	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		274273	10.0			1119	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.589	-0.021	0.995	90361	5.11	Target=2.43		233	
412.9 > 168.9	4.568	4.589	-0.021	0.995	33887		2.67(1.22-3.64)		116	
D 17 13C4 PFOA										M
416.9 > 371.8	4.589	4.609	-0.020	1.000	174684	6.56		65.6	923	M
19 Perfluorononanoic acid										RM
462.9 > 418.7	5.432	5.368	0.064	1.018	3066	0.1917	Target=5.00		11.2	RM
462.9 > 168.9	5.368	5.368	0.0	1.006	1231		2.49(2.50-7.50)		6.6	M
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.389	-0.053	1.000	181116	5.07		50.7	462	
21 Perfluorooctanesulfonic acid										
498.9 > 80.0	5.368	5.389	-0.021	1.000	462383	168.5	Target=1.41		7359	
498.9 > 98.9	5.368	5.389	-0.021	1.000	501675		0.92(0.71-2.12)		5062	
D 22 13C4 PFOS										
502.9 > 80.0	5.368	5.411	-0.043	1.000	27168	4.26		44.5	140	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	43699	7.86		82.1	152	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.199	-0.034	1.000	170748	5.60		56.0	992	
D 27 d3-NMeFOSAA										M
572.9 > 418.7	6.501	6.549	-0.048	1.000	45937	4.63		46.3	243	M
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.921	-0.048	1.000	41033	5.01		50.1	222	
32 Perfluoroundecanoic acid										R
562.9 > 518.5	6.921	6.921	0.0	1.000	775	0.0492	Target=7.06		3.8	R
562.9 > 168.9	6.801	6.921	-0.120	0.983	611		1.27(3.53-10.58)		2.5	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.945	-0.024	1.000	189382	6.44		64.4	447	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	53254	4.85		48.5	229	
36 Perfluorododecanoic acid										M
612.9 > 568.5	7.577	7.616	-0.039	0.997	2431	0.1265	Target=5.37		18.1	M
612.9 > 168.9	7.596	7.616	-0.020	1.000	766		3.17(2.68-8.06)		4.8	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	202488	5.40		54.0	859	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.775	8.819	-0.044	1.000	168513	5.01		50.1	479	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags
M - Manually Integrated

Report Date: 05-Jun-2019 15:51:30 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d

Injection Date: 05-Jun-2019 04:46:10 Instrument ID: LC410

Lims ID: 200-48826-A-12-A Lab Sample ID: 200-48826-12

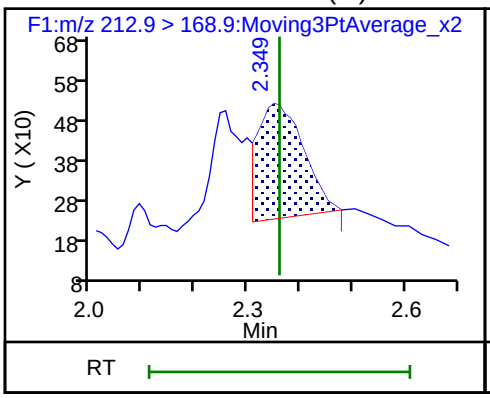
Client ID: K-2 051519

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 14

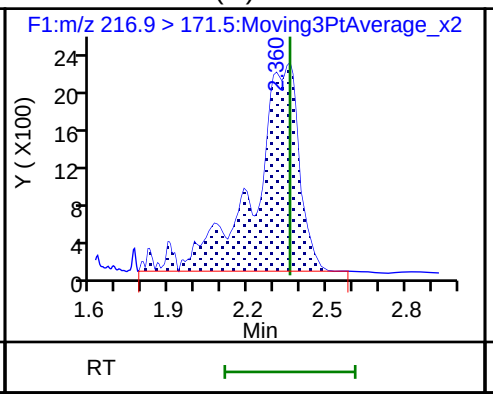
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

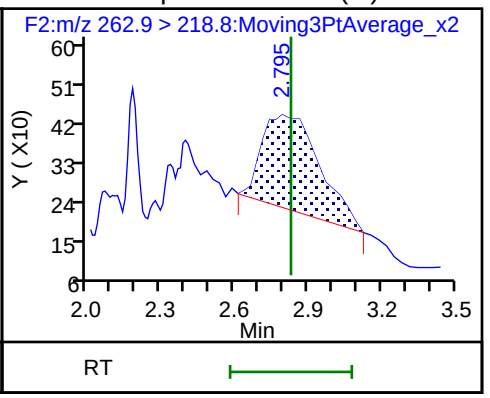
2 Perfluorobutanoic acid (M)



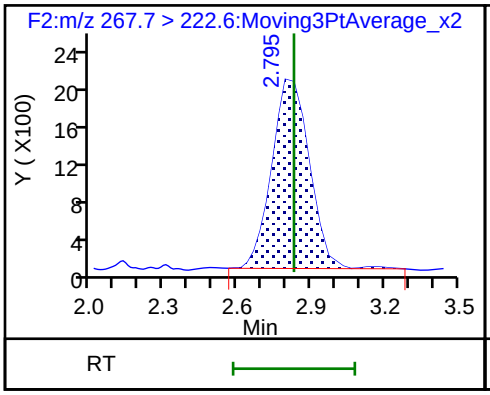
D 1 13C4 PFBA (M)



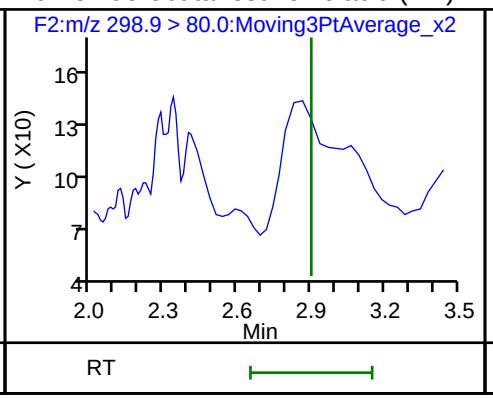
3 Perfluoropentanoic acid (M)



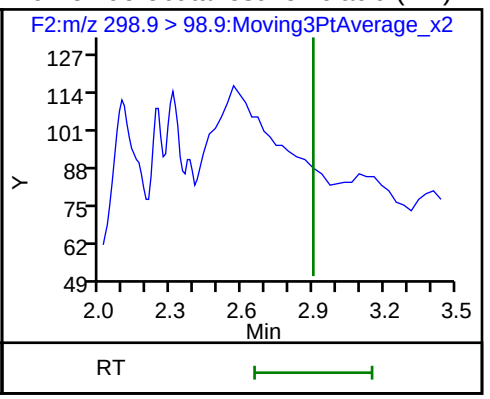
D 4 13C5 PFPeA



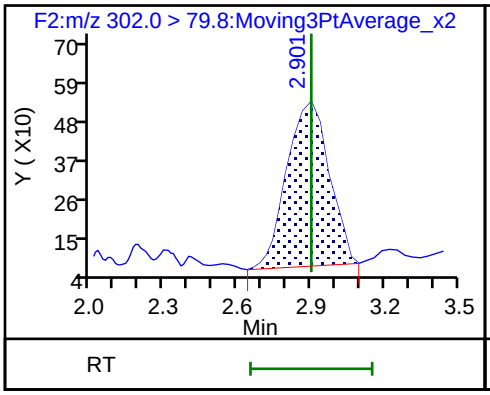
6 Perfluorobutanesulfonic acid (ND)



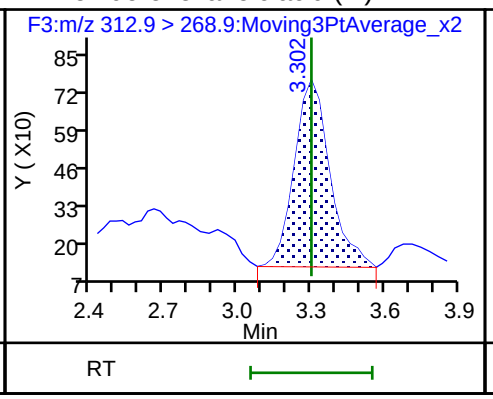
6 Perfluorobutanesulfonic acid (ND)



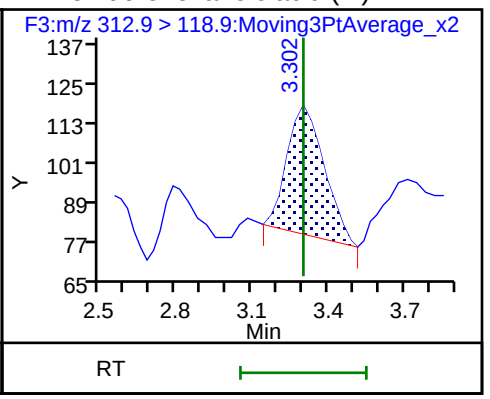
D 5 13C3 PFBS



7 Perfluorohexanoic acid (M)



7 Perfluorohexanoic acid (M)



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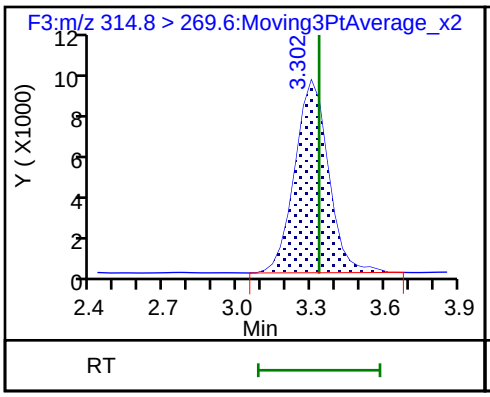
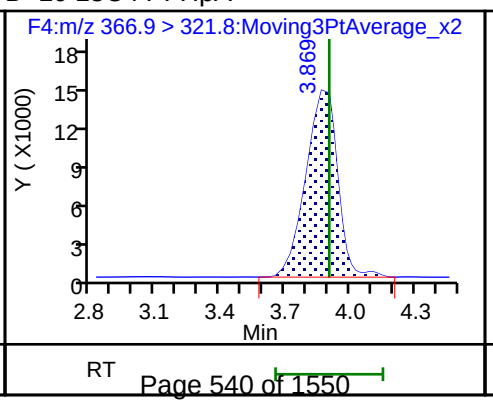
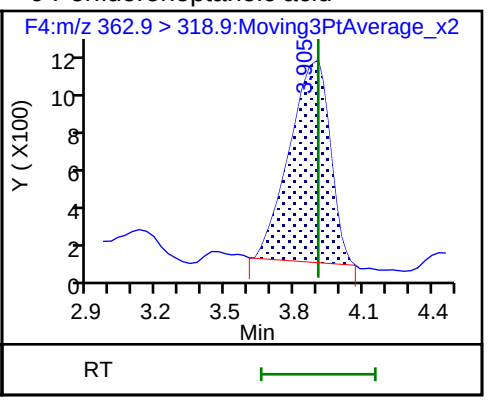


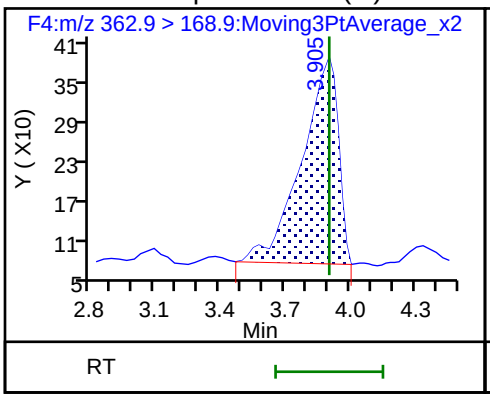
D 10 13C4 PFHpA



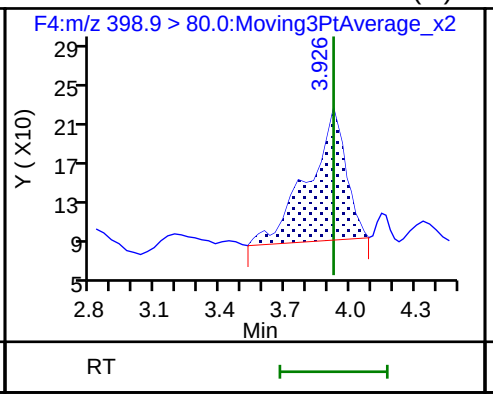
9 Perfluoroheptanoic acid



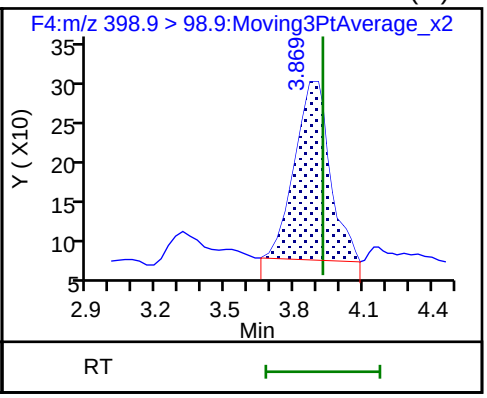
9 Perfluoroheptanoic acid (M)



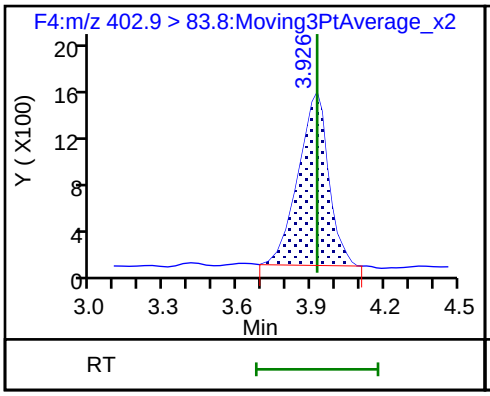
11 Perfluorohexanesulfonic acid (M)



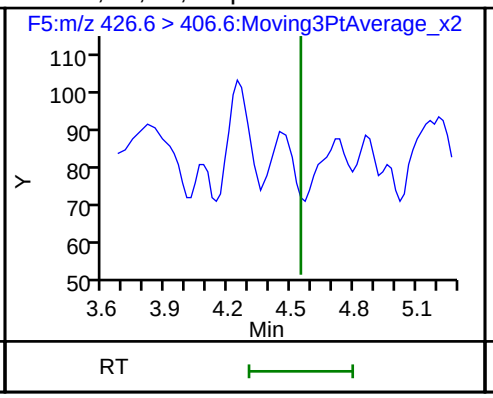
11 Perfluorohexanesulfonic acid (M)



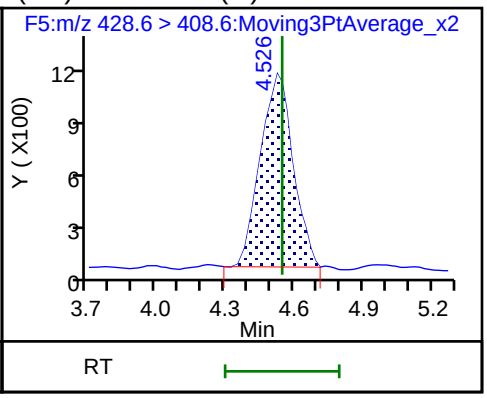
D 12 18O2 PFHxS



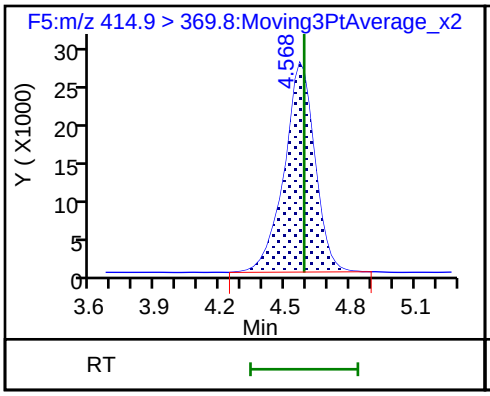
13 1H,1H,2H,2H-perfluorooctanesulfonic acid (M)



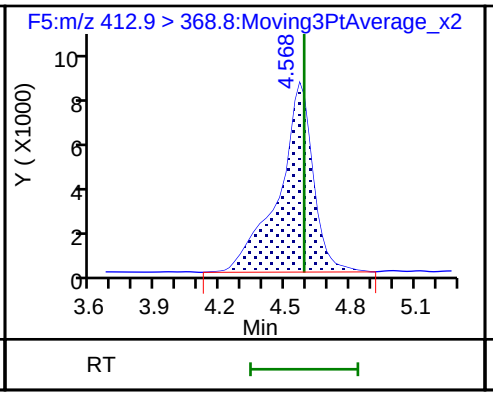
D (ND)M2-6:2 FTS (M)



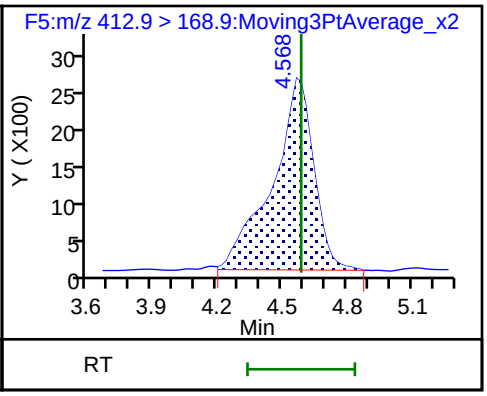
* 16 13C2 PFOA



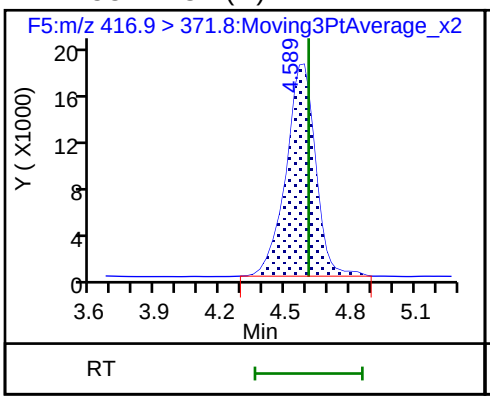
15 Perfluorooctanoic acid



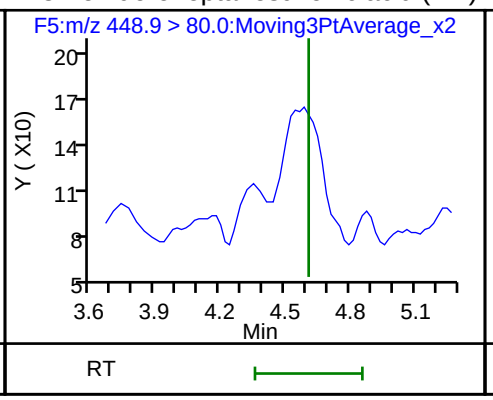
15 Perfluorooctanoic acid



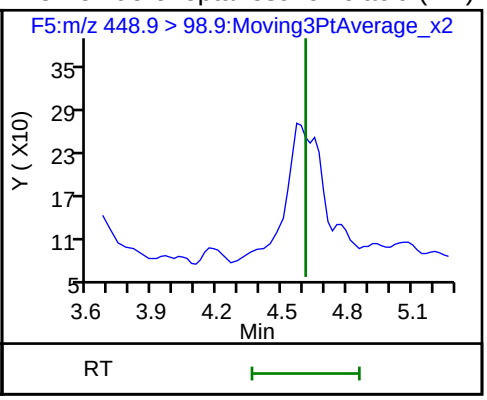
D 17 13C4 PFOA (M)



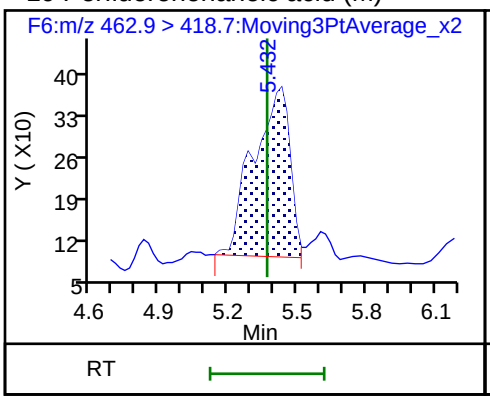
18 Perfluoroheptanesulfonic acid (ND)



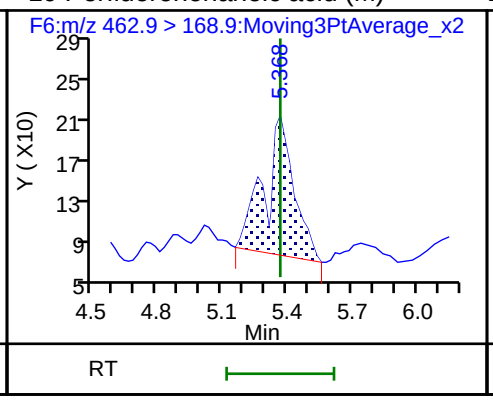
18 Perfluoroheptanesulfonic acid (ND)



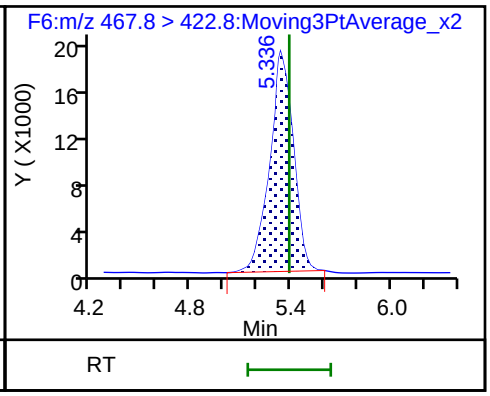
19 Perfluorononanoic acid (M)



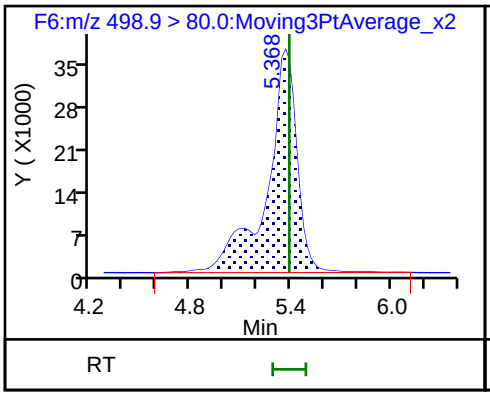
19 Perfluorononanoic acid (M)



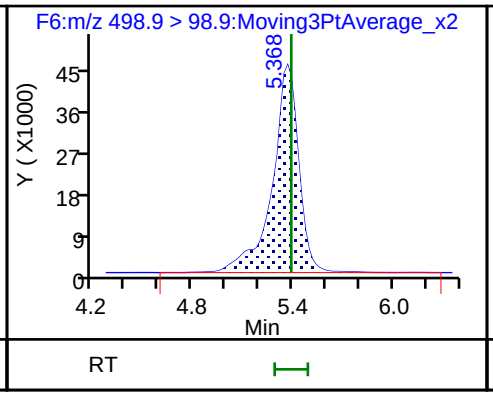
D 20 13C5 PFNA



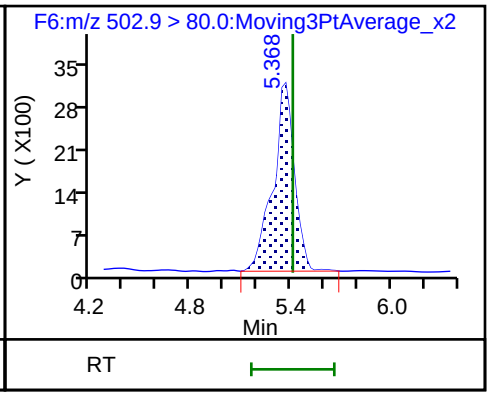
21 Perfluorooctanesulfonic acid



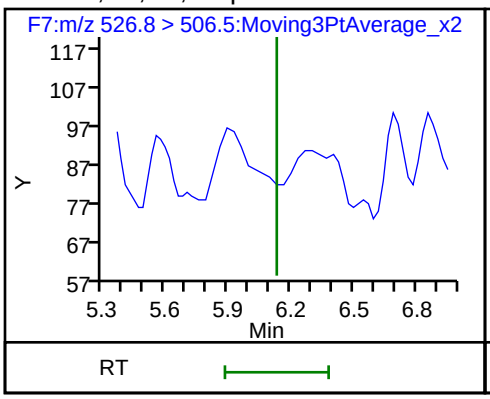
21 Perfluorooctanesulfonic acid



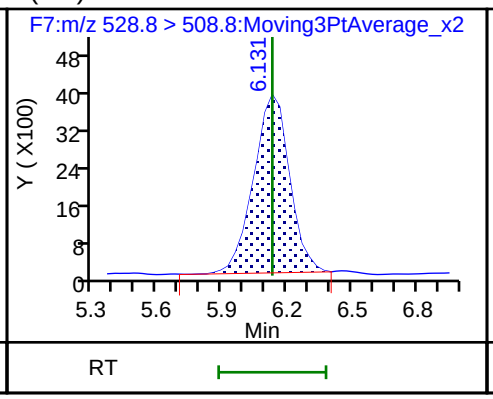
D 22 13C4 PFOS



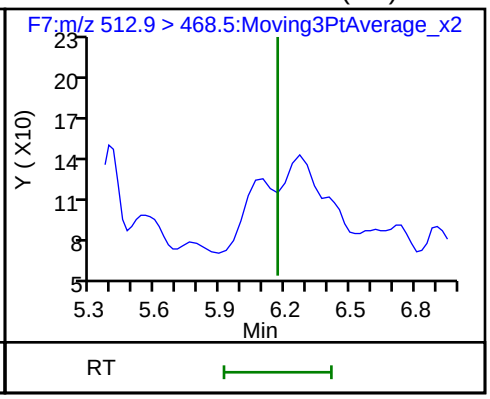
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M2-8:2 FTS)



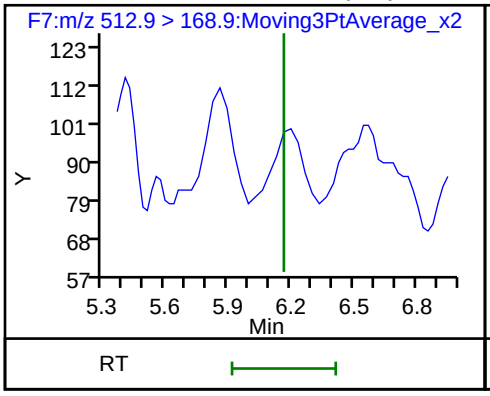
D 24



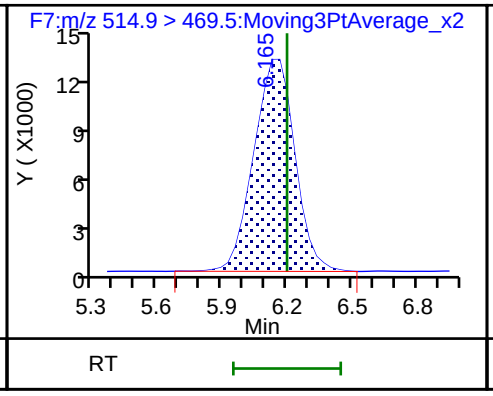
26 Perfluorodecanoic acid (ND)



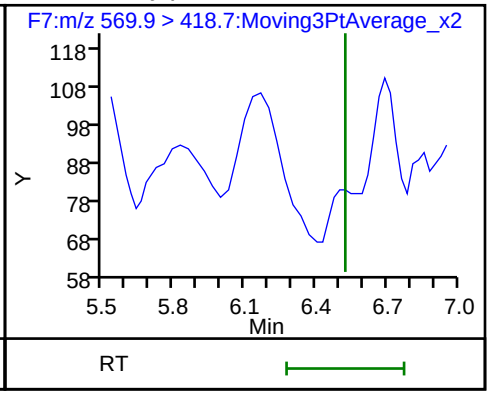
26 Perfluorodecanoic acid (ND)



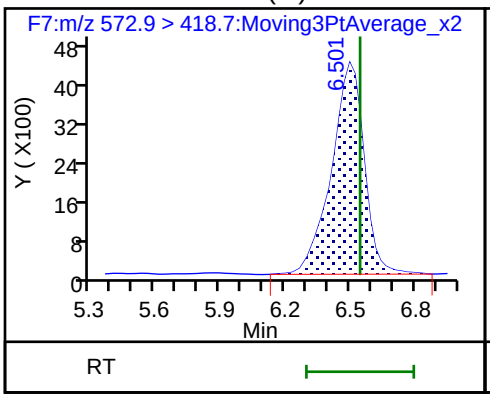
D 25 13C2 PFDA



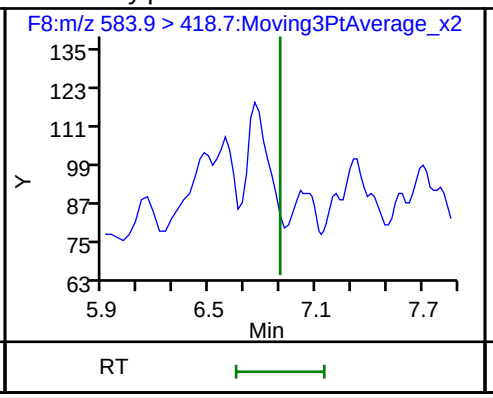
28 N-methylperfluorooctanesulfonamido (ND)



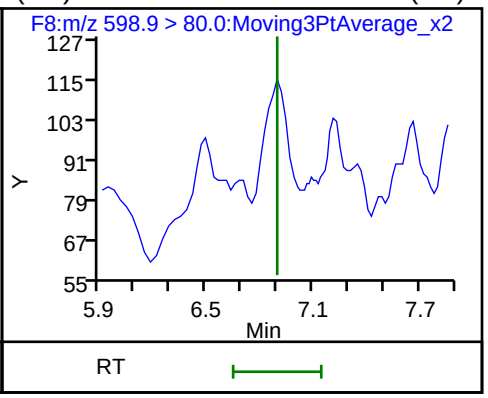
D 27 d3-NMeFOSAA (M)



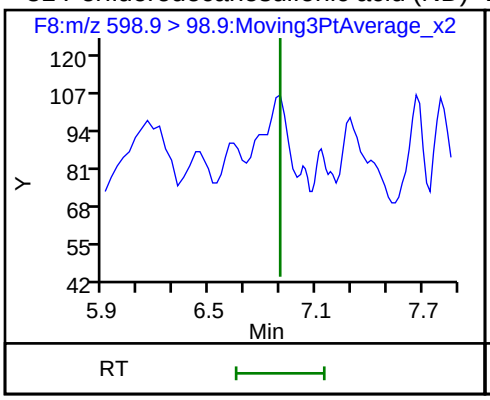
30 N-ethylperfluorooctanesulfonamidoa (ND)



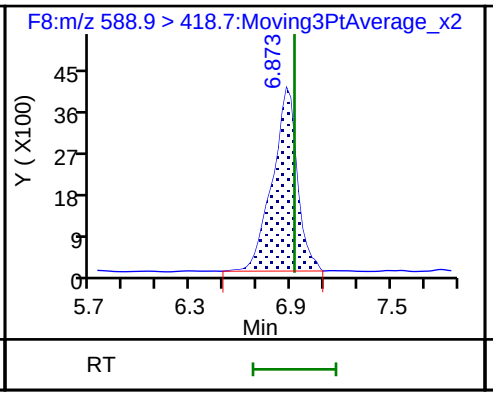
31 Perfluorodecanesulfonic acid (ND)



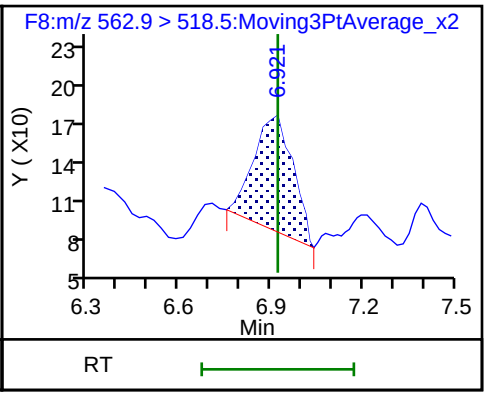
31 Perfluorodecanesulfonic acid (ND)



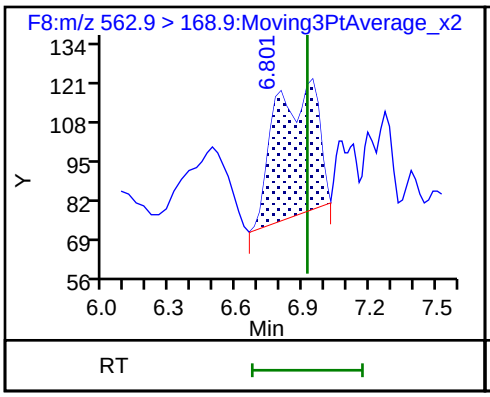
D 29 d5-NEtFOSAA



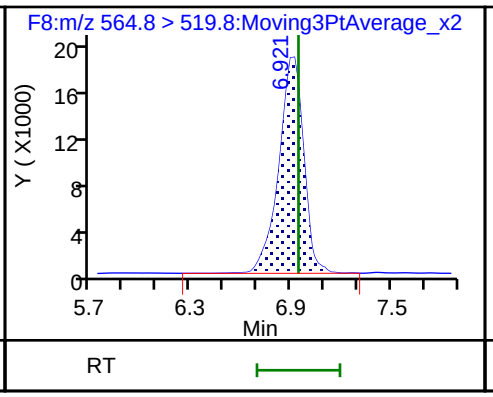
32 Perfluoroundecanoic acid



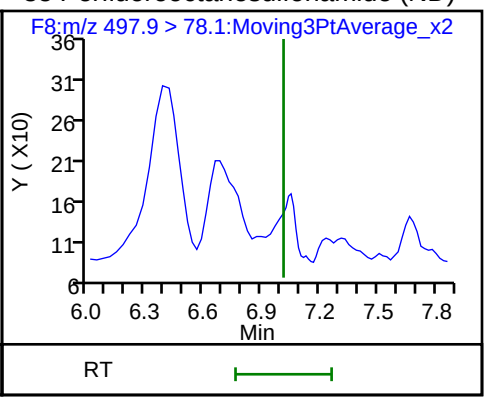
32 Perfluoroundecanoic acid



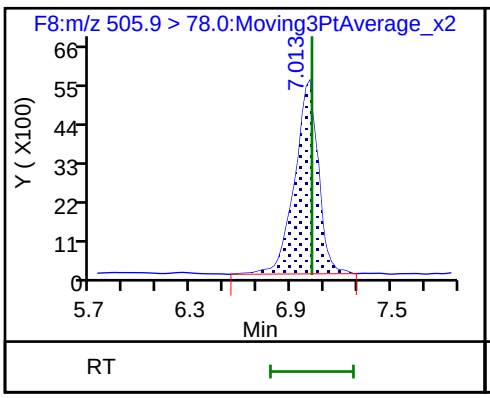
D 33 13C2 PFUnA



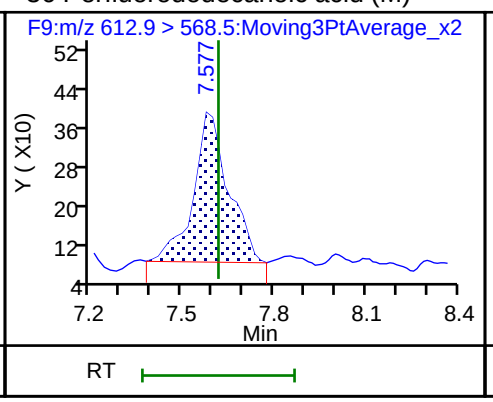
35 Perfluorooctanesulfonamide (ND)



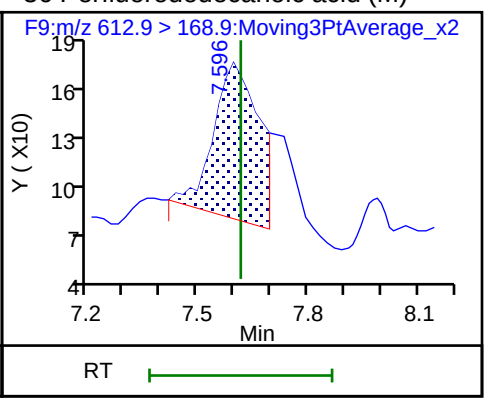
D 34 13C8 FOSA



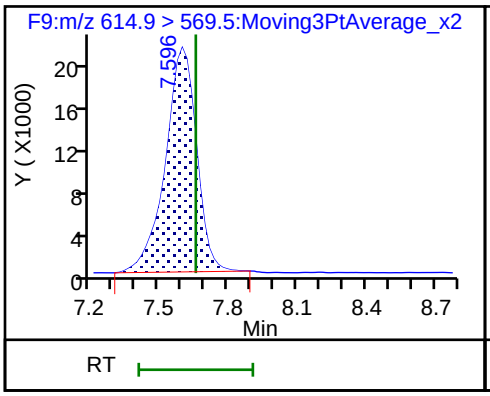
36 Perfluorododecanoic acid (M)



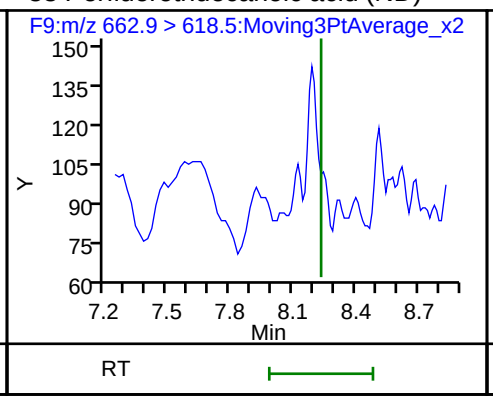
36 Perfluorododecanoic acid (M)



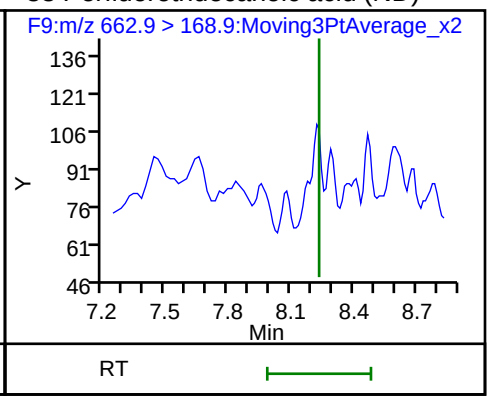
D 37 13C2 PFDoA



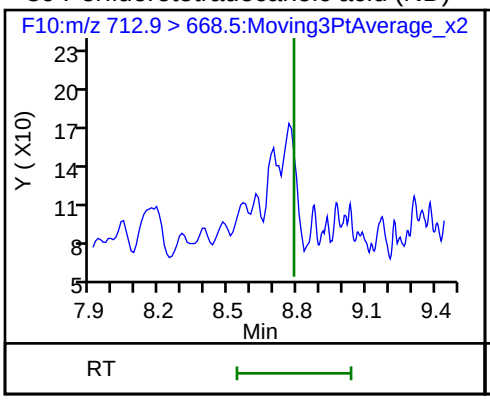
38 Perfluorotridecanoic acid (ND)



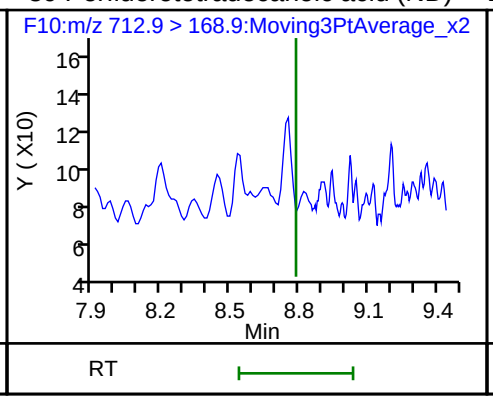
38 Perfluorotridecanoic acid (ND)



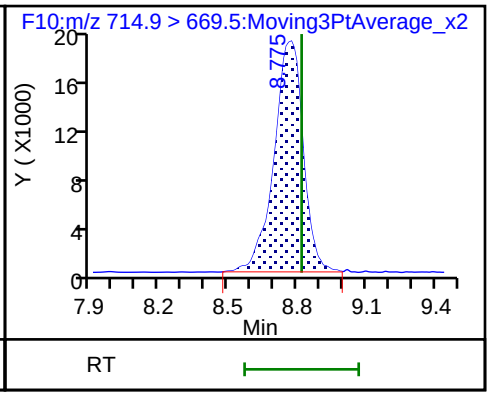
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

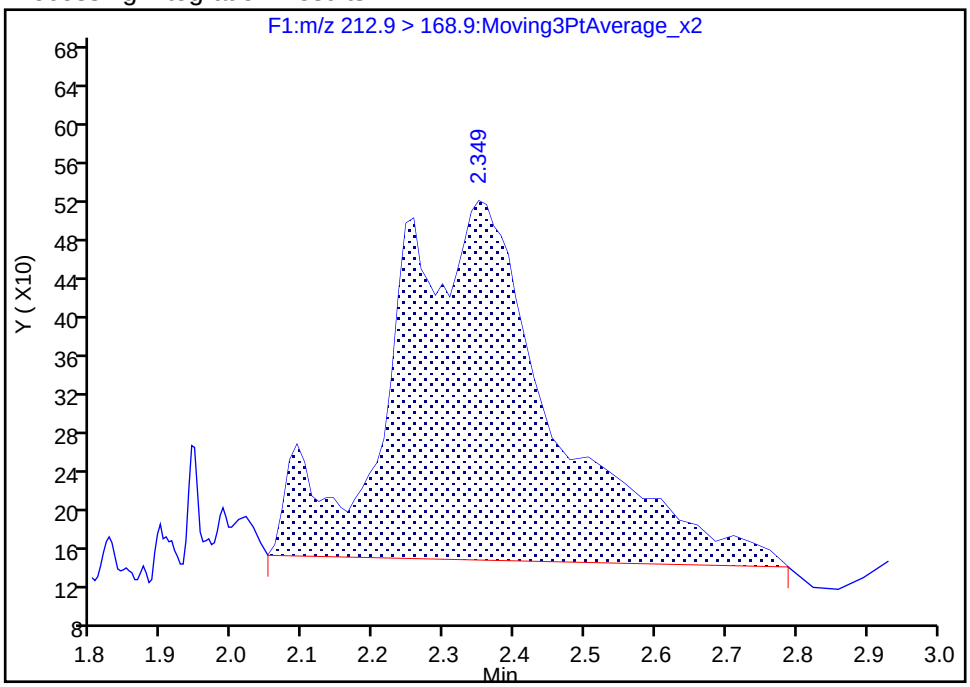
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

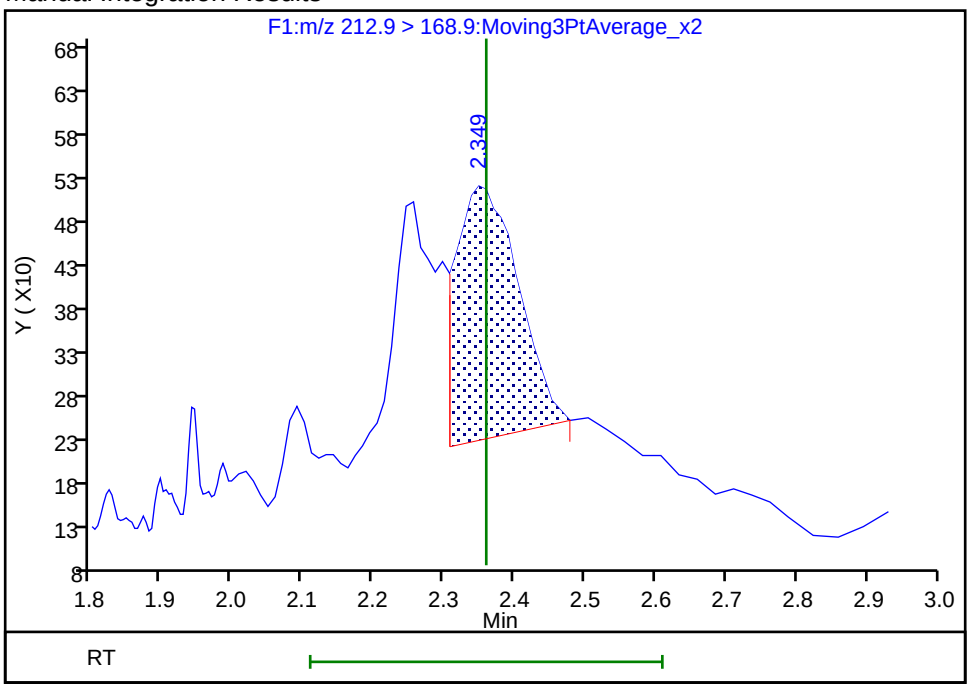
Processing Integration Results

RT: 2.35
Area: 5859
Amount: 1.947437
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 1724
Amount: 0.401645
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:42:02

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

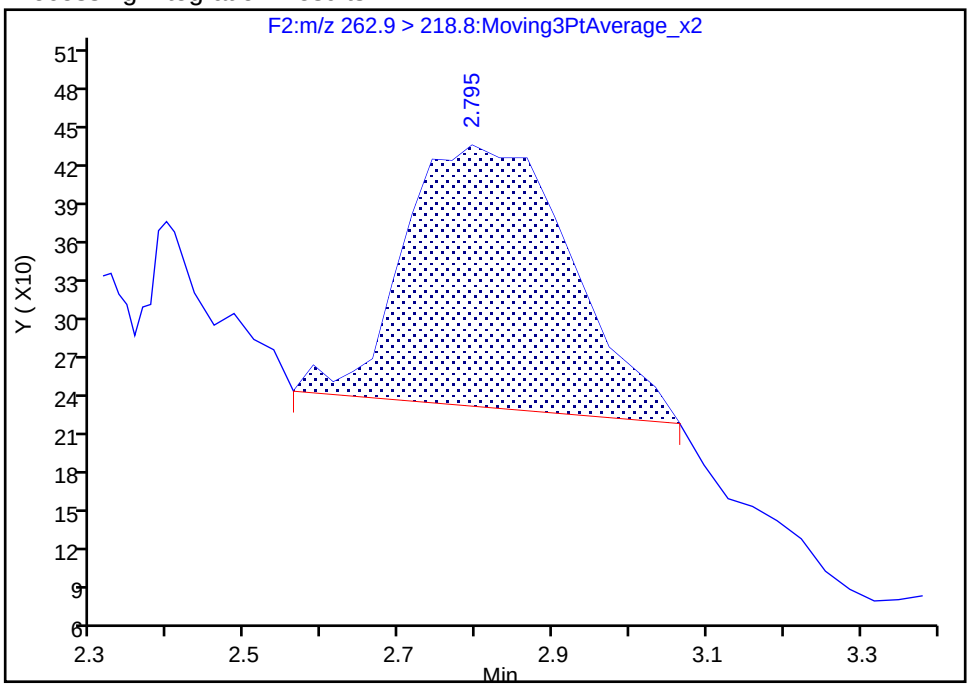
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

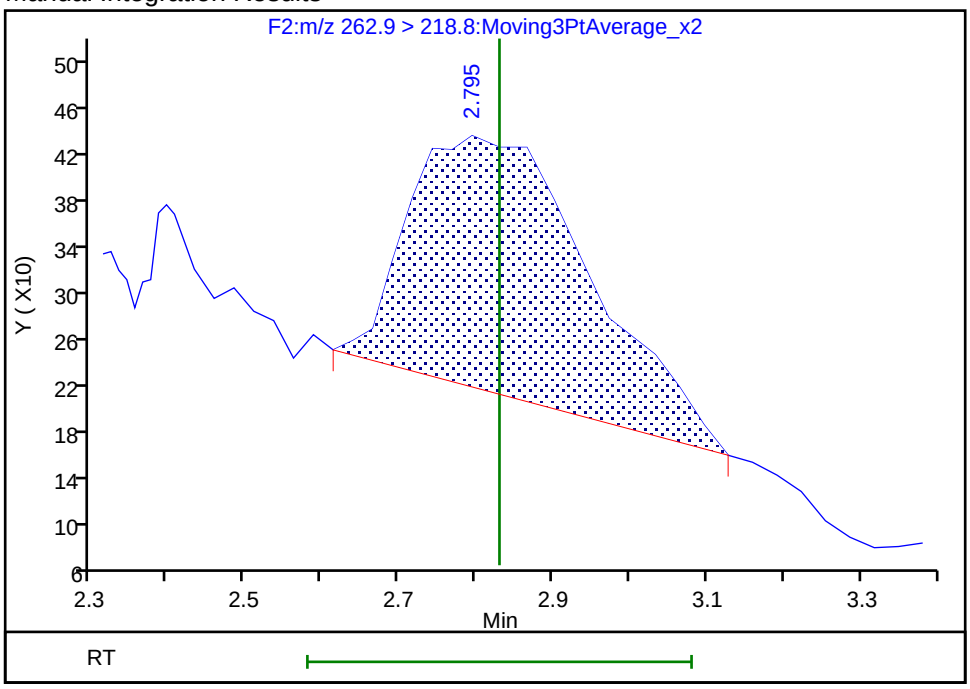
Processing Integration Results

RT: 2.79
Area: 3046
Amount: 0.477467
Amount Units: ng/ml



Manual Integration Results

RT: 2.79
Area: 3595
Amount: 0.563523
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:50:49

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

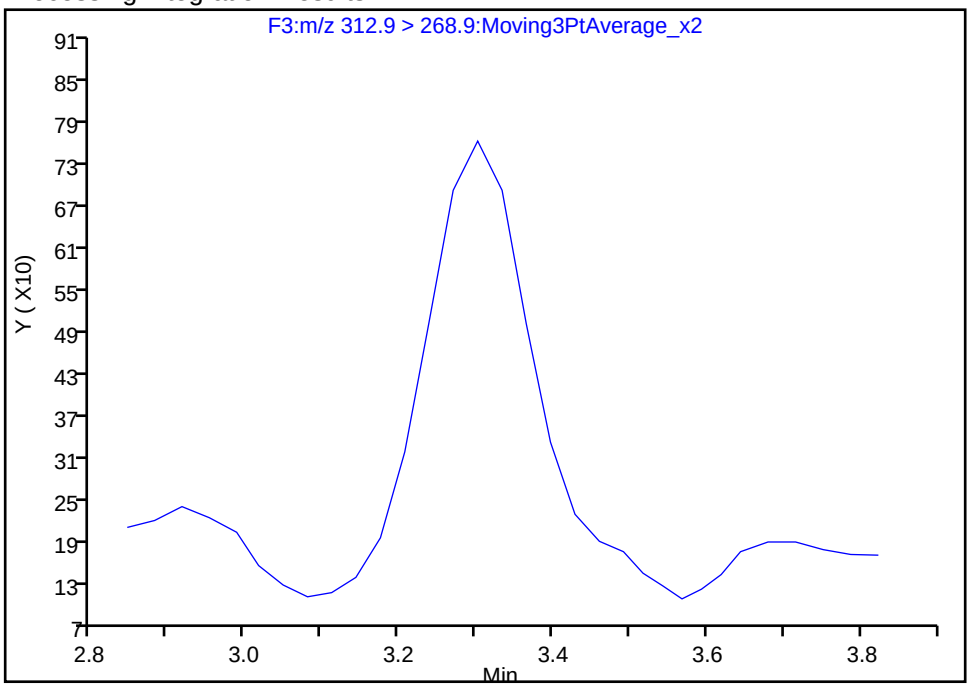
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

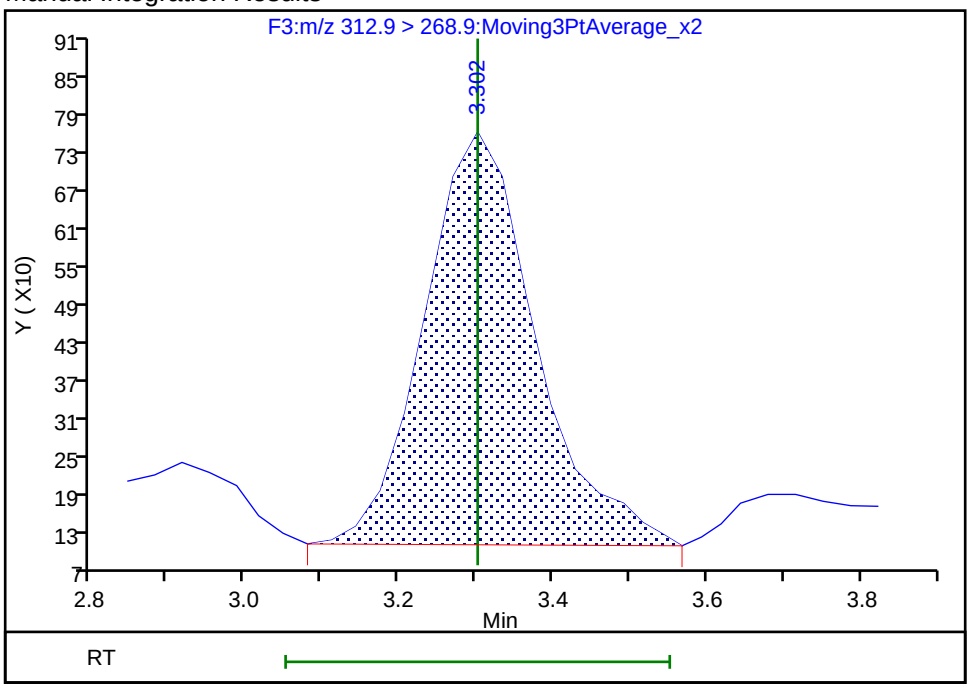
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.30
Area: 6626
Amount: 0.541234
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:50:36
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

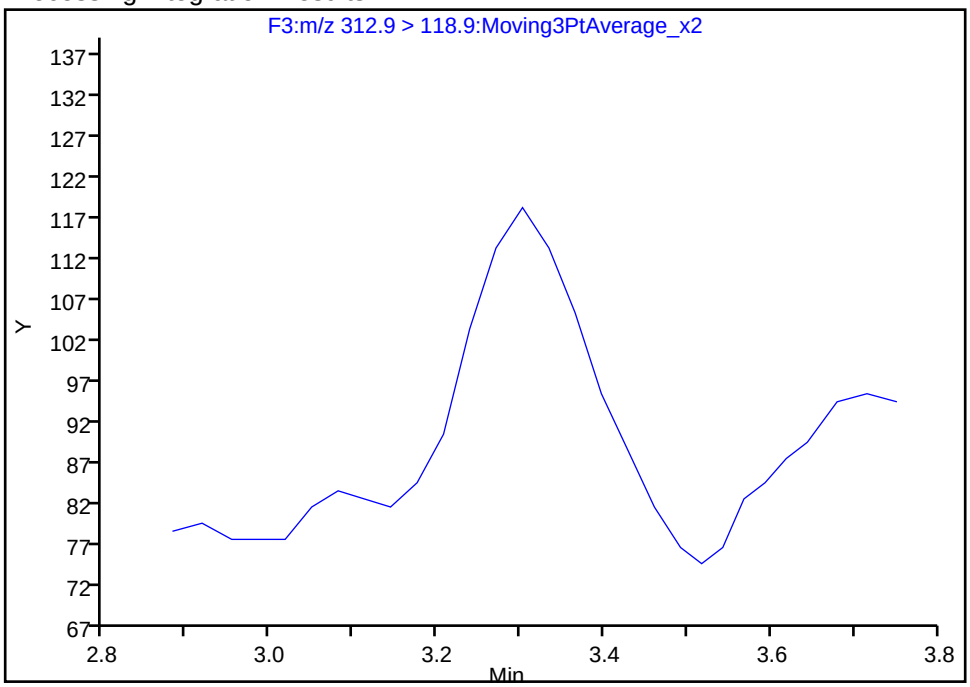
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

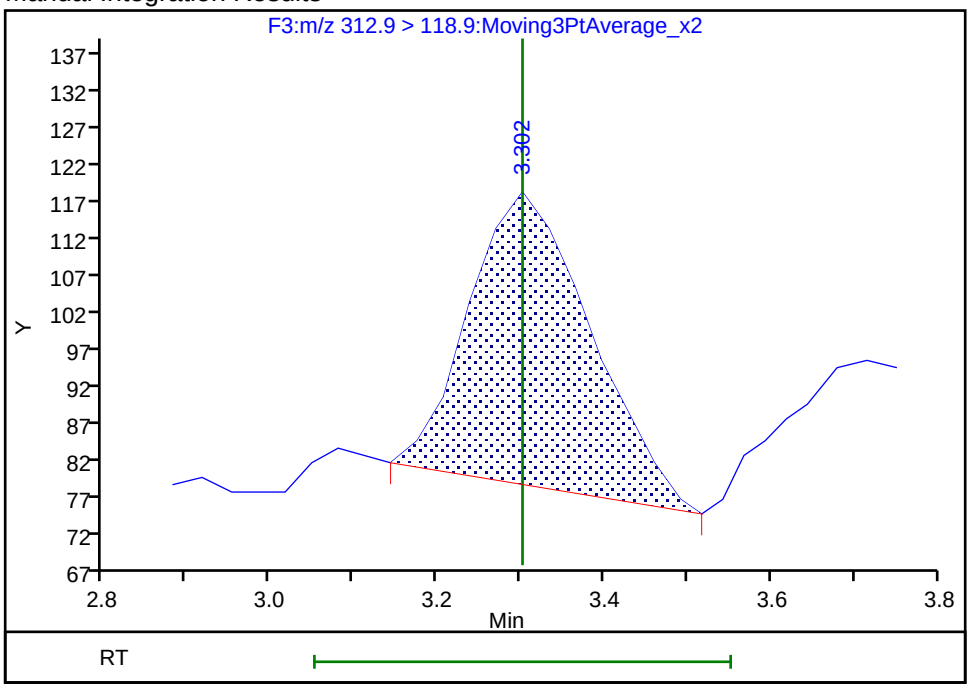
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.30
Area: 406
Amount: 0.541234
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:50:38
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

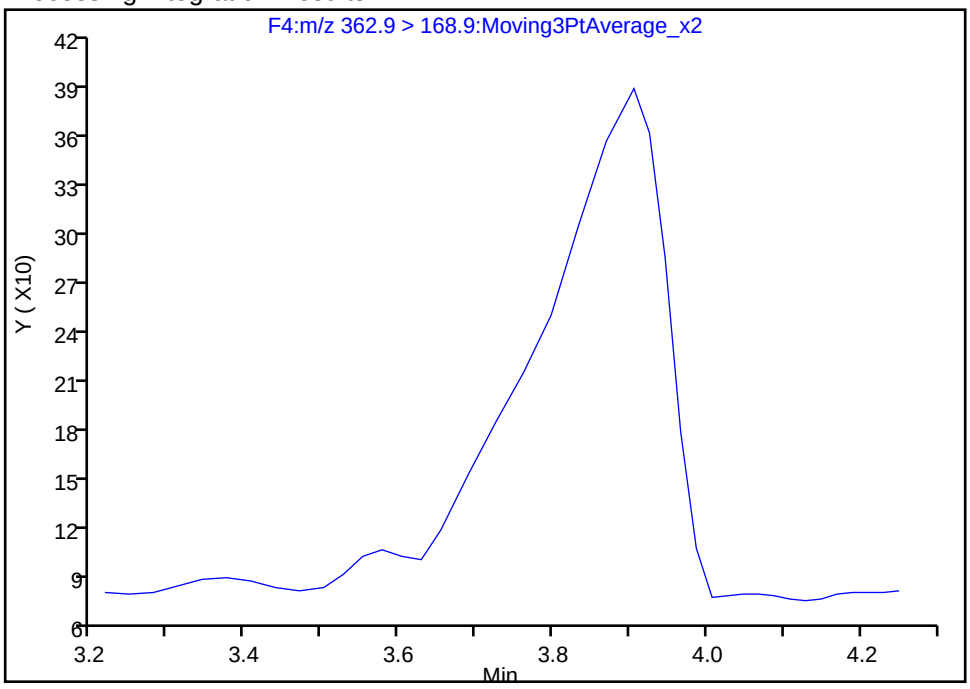
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

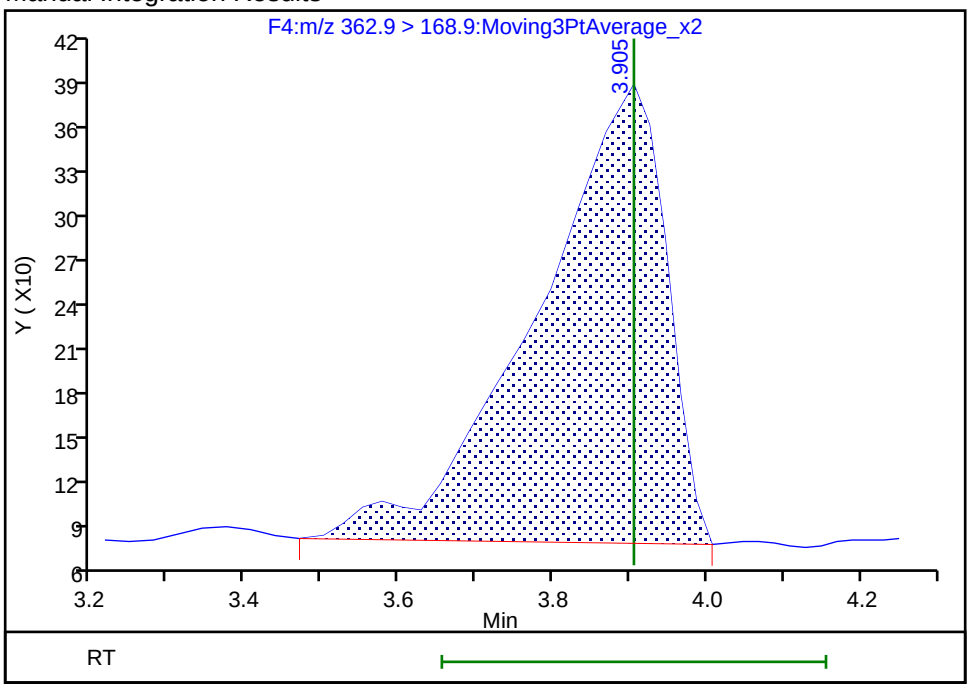
Not Detected
Expected RT: 3.91

Processing Integration Results



Manual Integration Results

RT: 3.91
Area: 3626
Amount: 0.715392
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:50:26
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

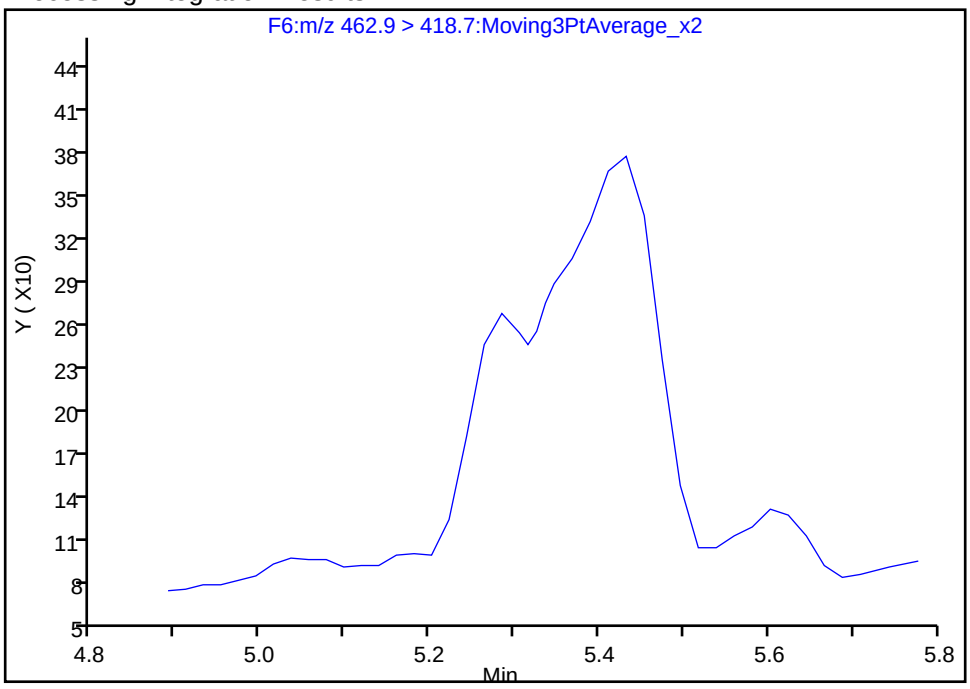
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

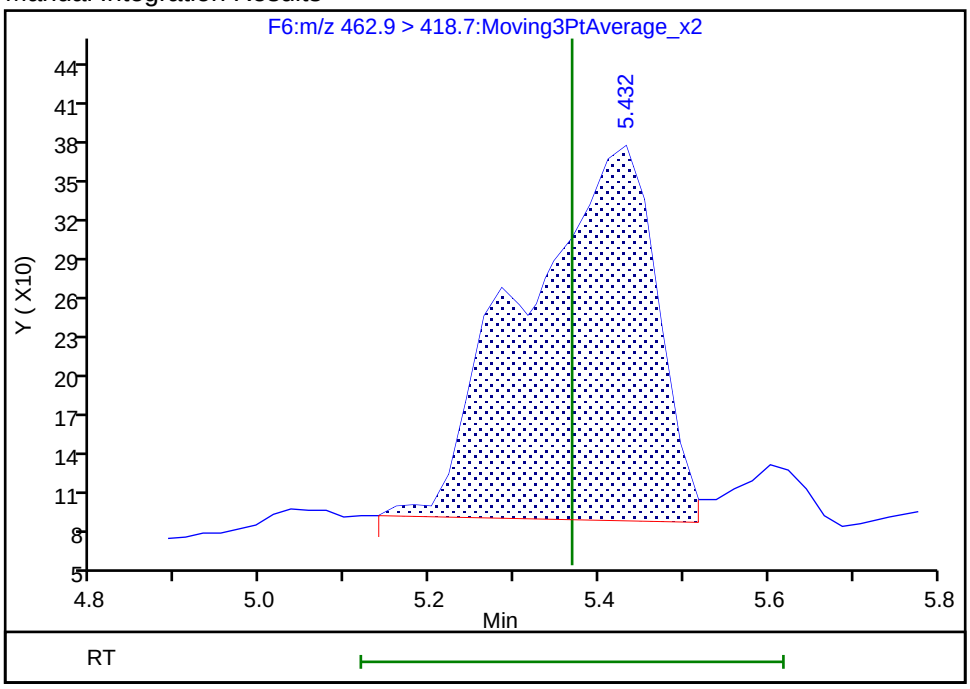
Not Detected
Expected RT: 5.37

Processing Integration Results



Manual Integration Results

RT: 5.43
Area: 3066
Amount: 0.191719
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:48:29
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

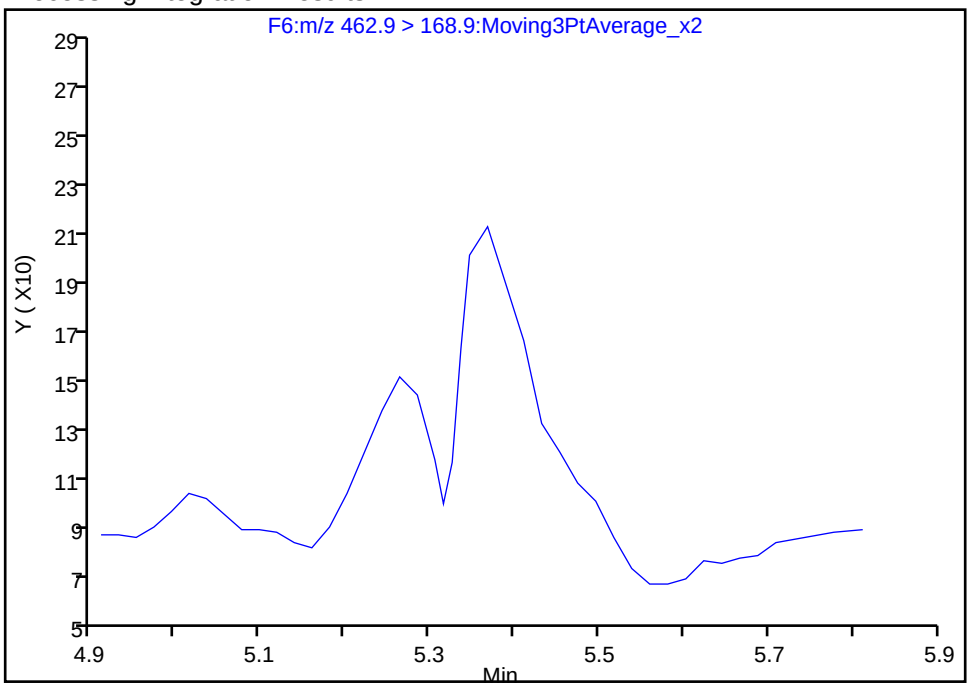
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

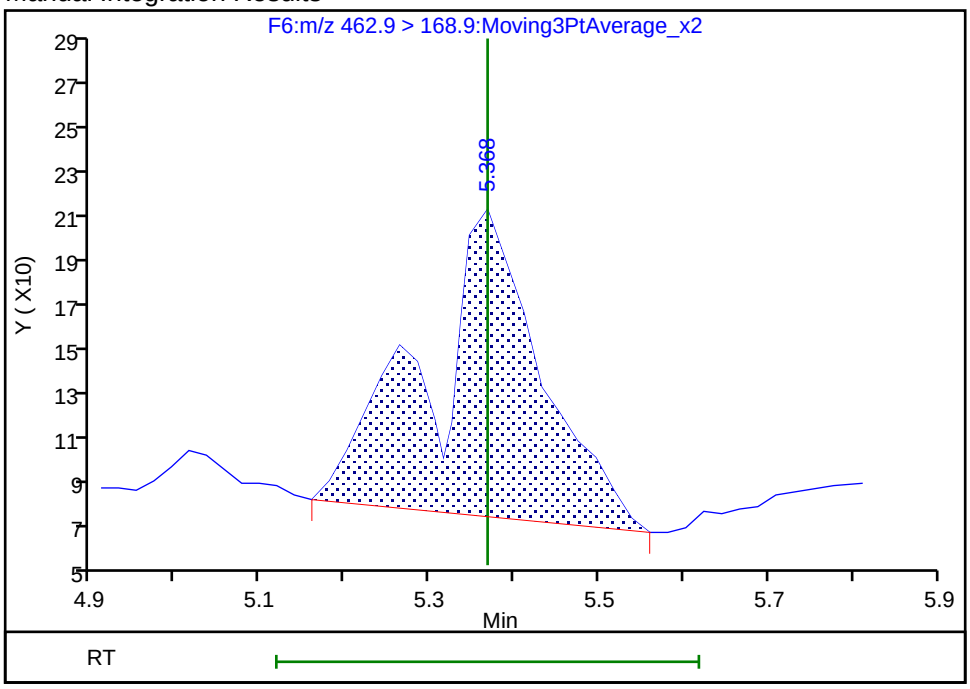
Not Detected
Expected RT: 5.37

Processing Integration Results



Manual Integration Results

RT: 5.37
Area: 1231
Amount: 0.191719
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:48:34
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

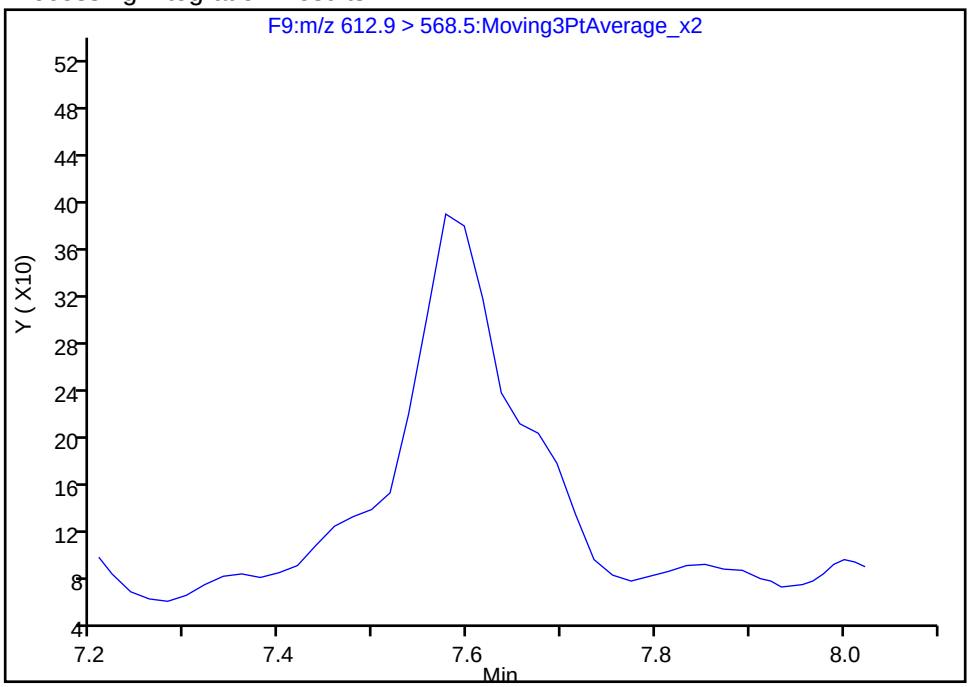
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F9:MRM		

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

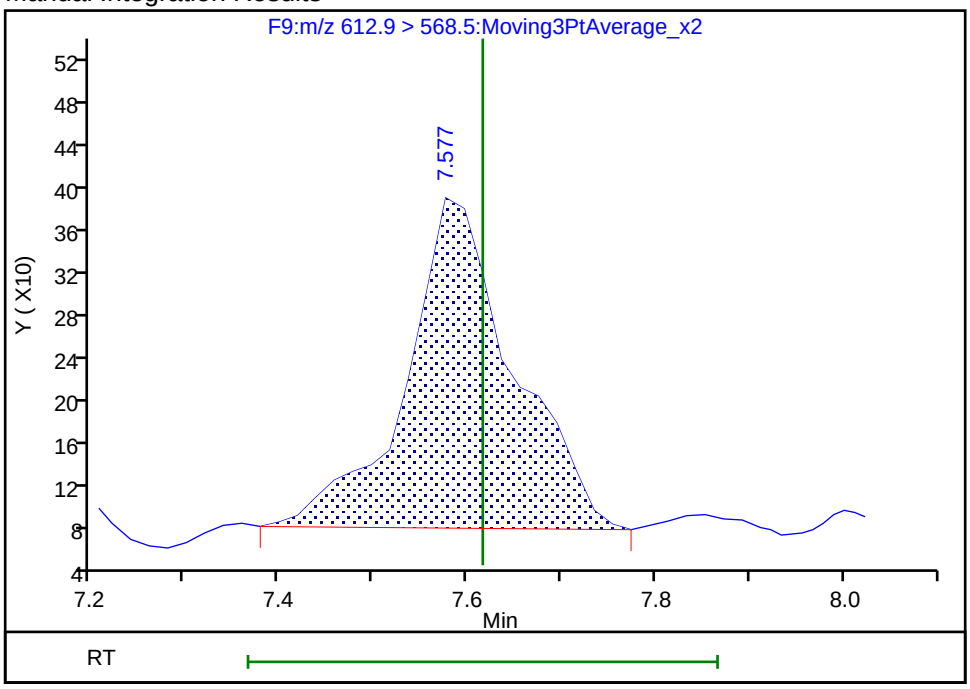
Not Detected
Expected RT: 7.62

Processing Integration Results



Manual Integration Results

RT: 7.58
Area: 2431
Amount: 0.126534
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:47:55
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

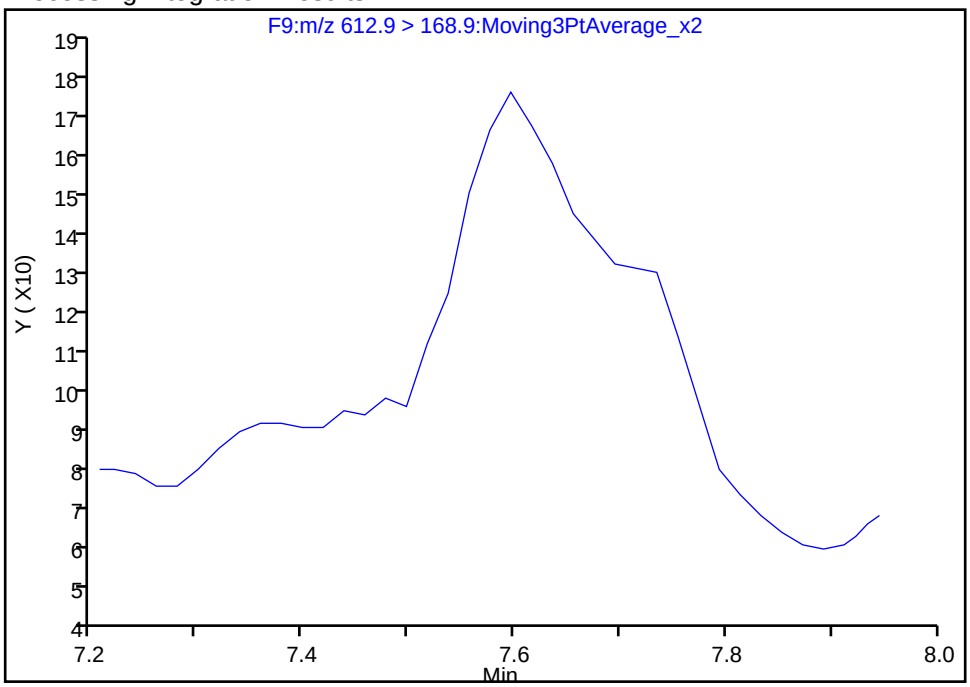
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F9:MRM		

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

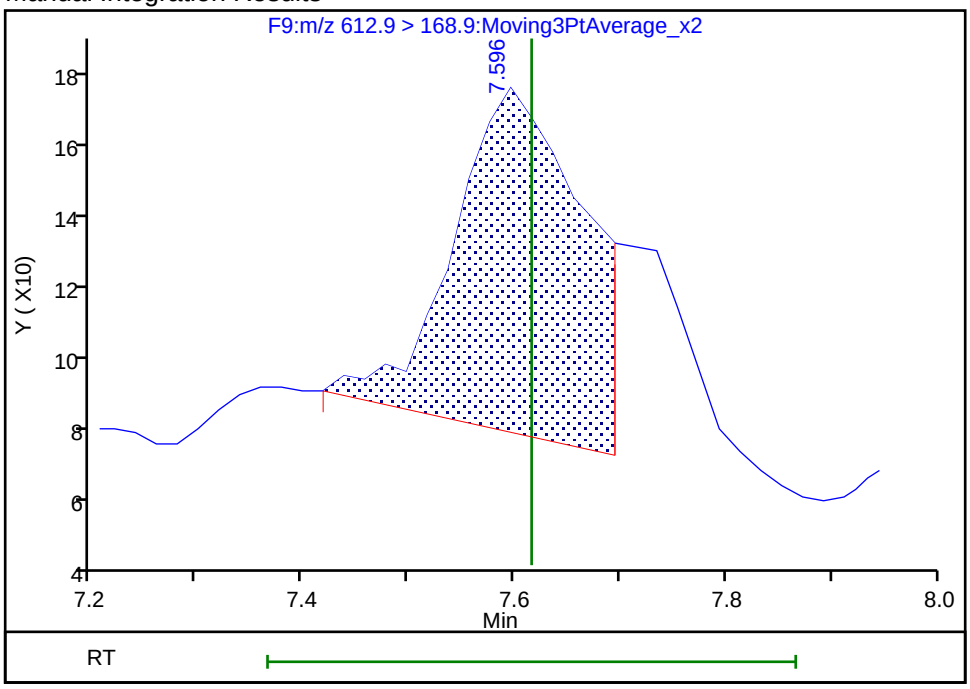
Not Detected
Expected RT: 7.62

Processing Integration Results



Manual Integration Results

RT: 7.60
Area: 766
Amount: 0.126534
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:48:04
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

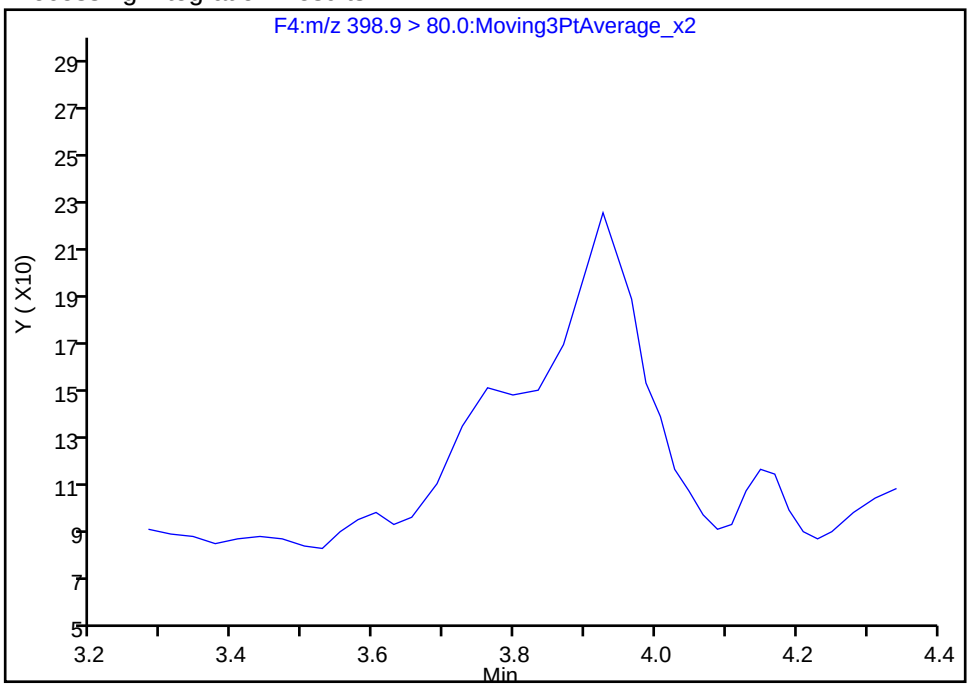
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

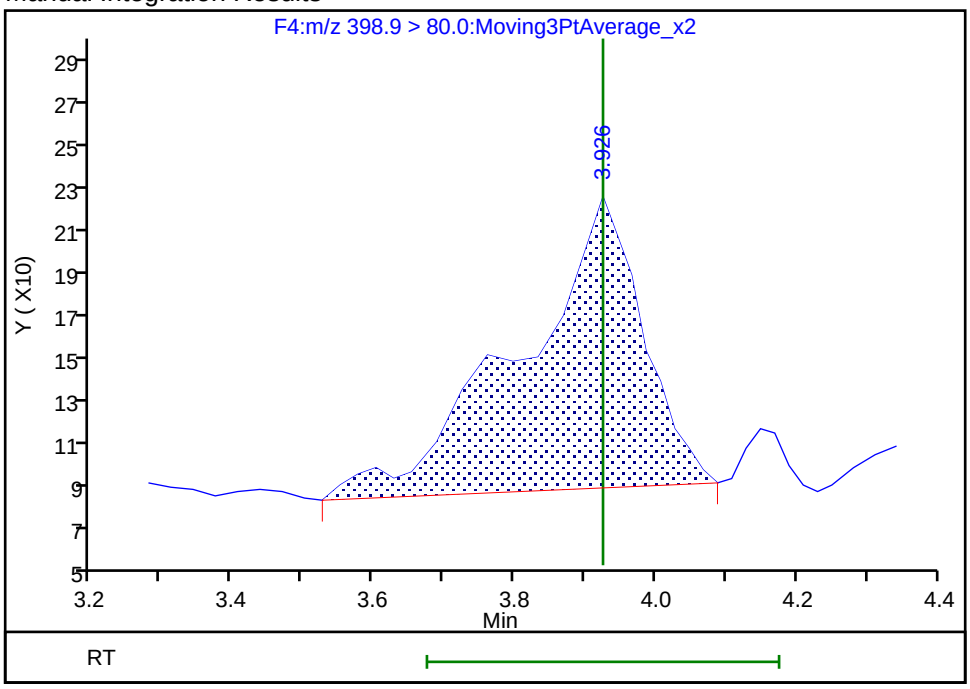
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.93
Area: 1622
Amount: 0.581271
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:50:17
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

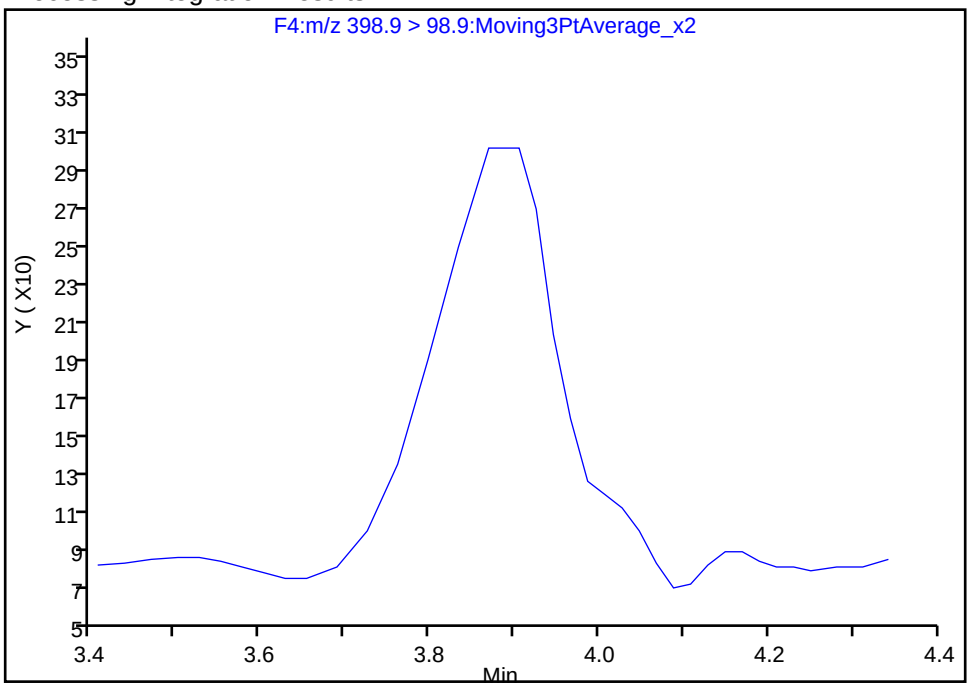
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

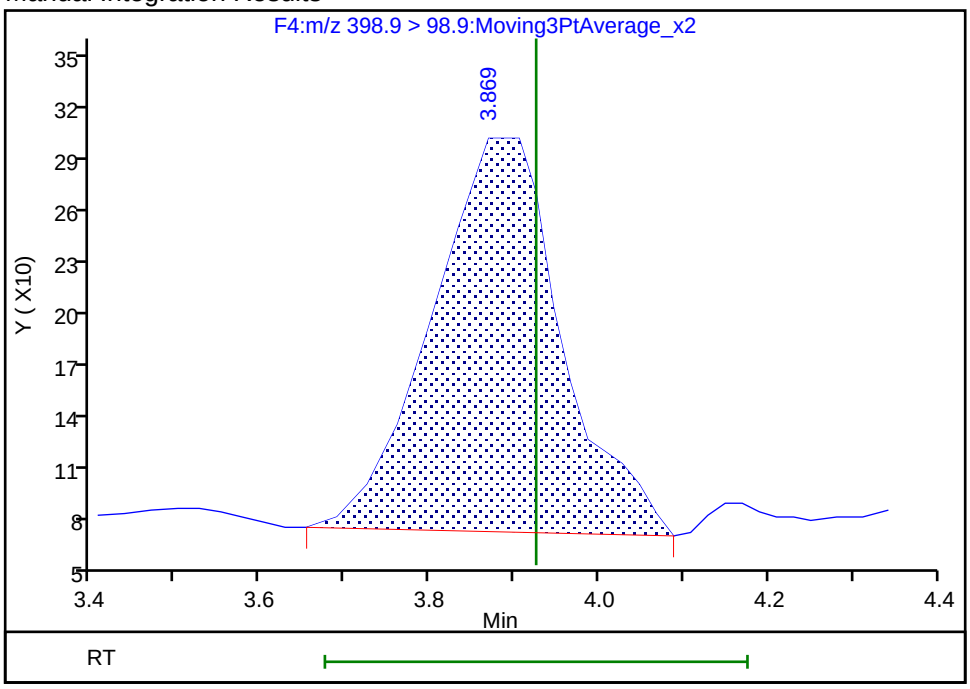
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 2444
Amount: 0.581271
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:50:19
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

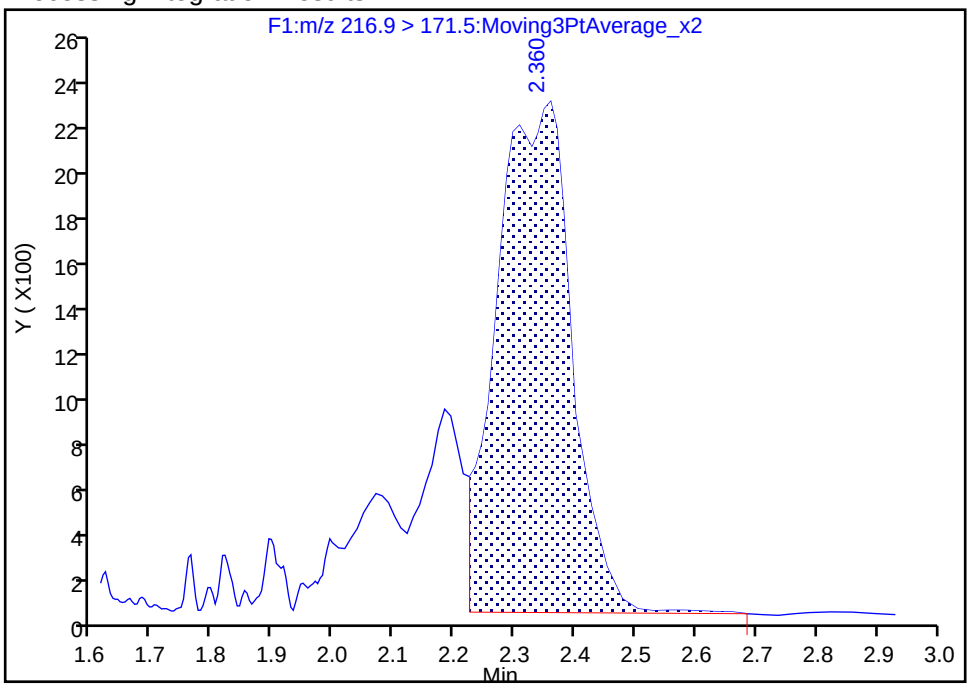
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

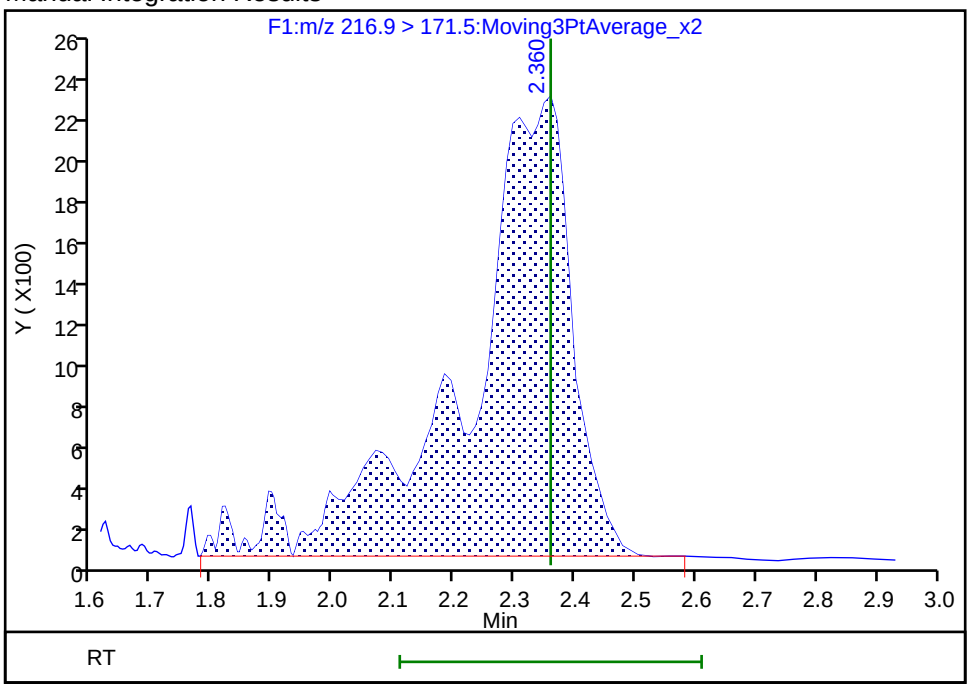
Processing Integration Results

RT: 2.36
Area: 19163
Amount: 2.857211
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 27340
Amount: 4.076404
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:41:47

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

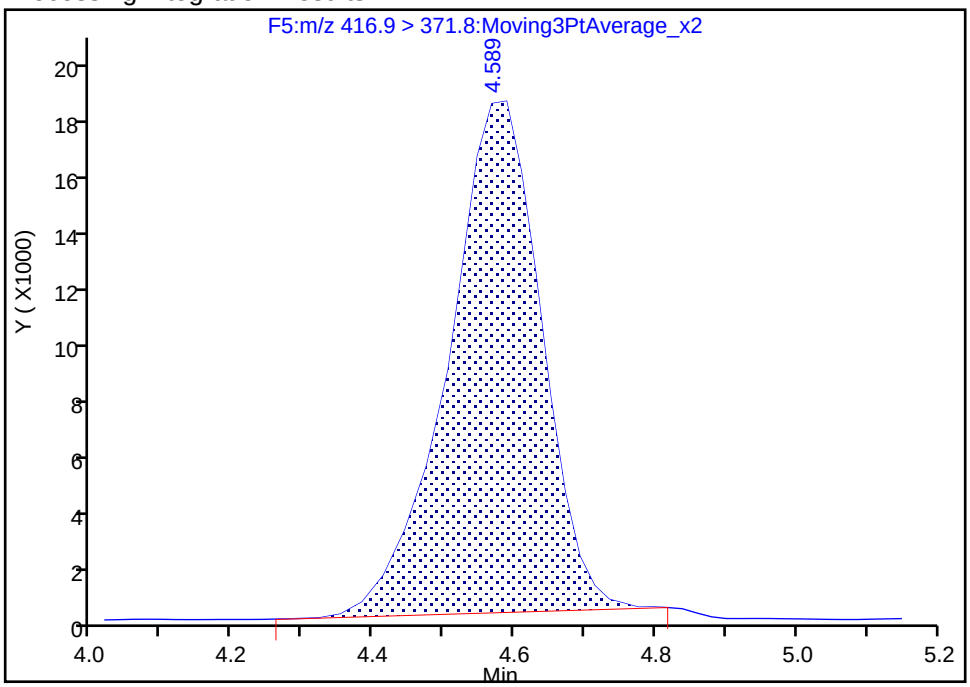
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 17 13C4 PFOA, CAS: STL00990

Signal: 1

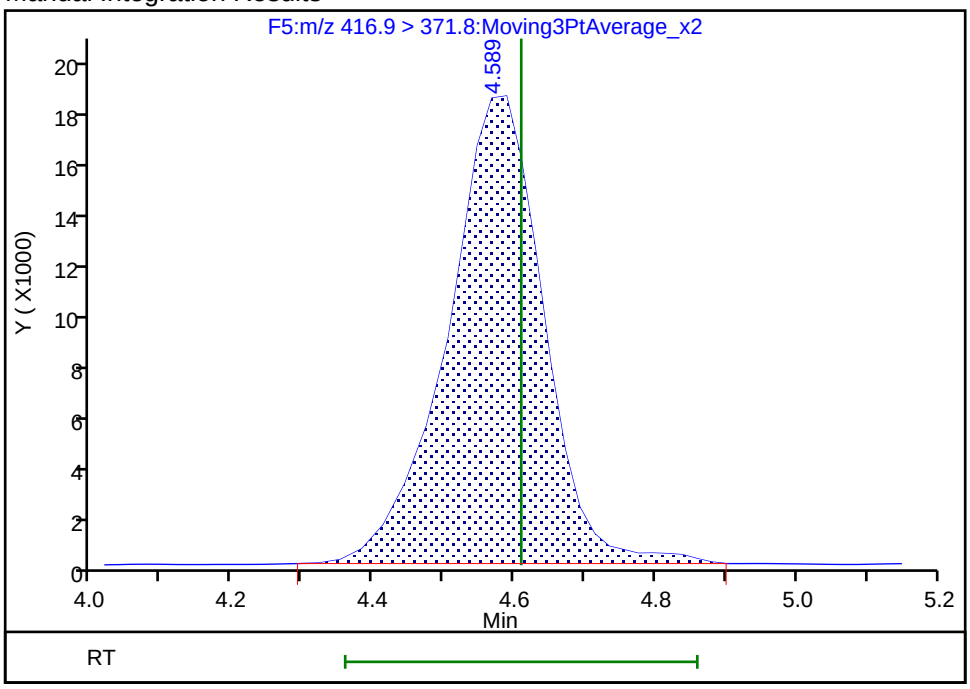
Processing Integration Results

RT: 4.59
Area: 167689
Amount: 6.298865
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 174684
Amount: 6.561617
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:42:31

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

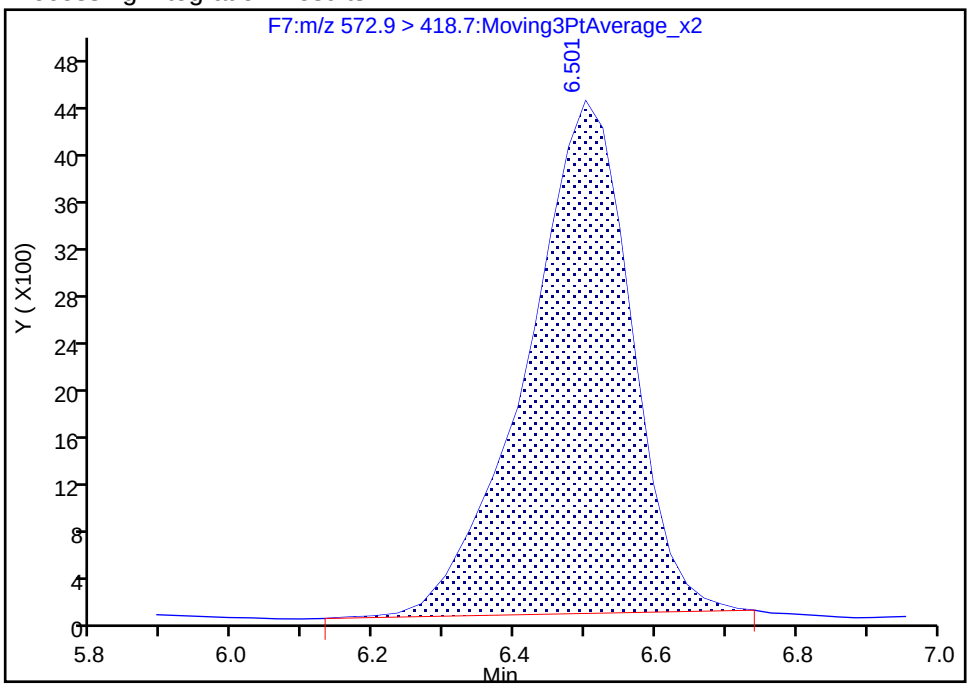
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 27 d3-NMeFOSAA, CAS: STL02118

Signal: 1

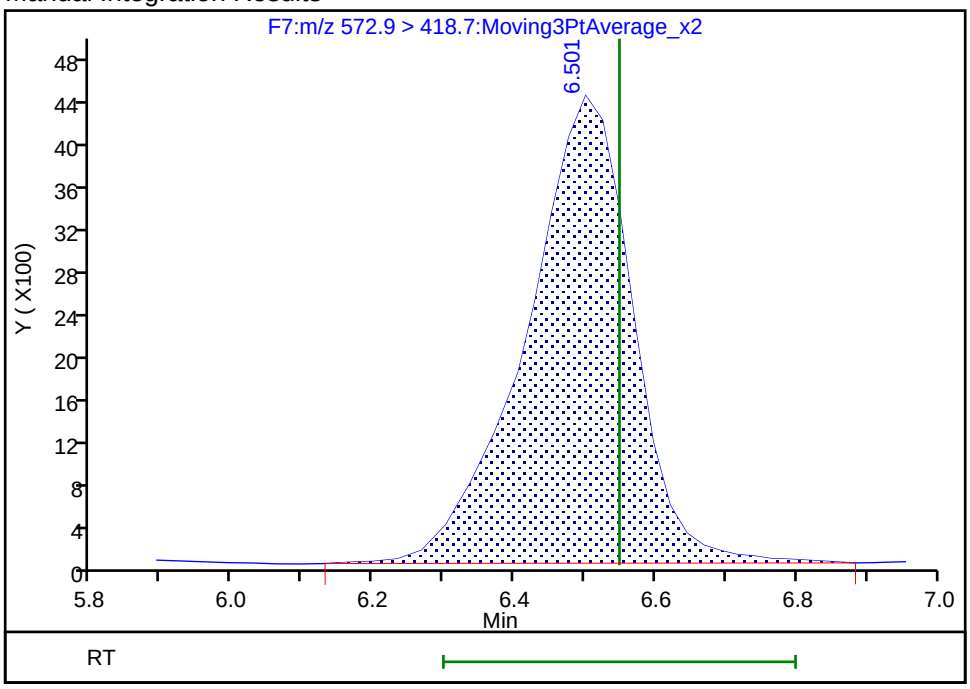
Processing Integration Results

RT: 6.50
Area: 44516
Amount: 4.482595
Amount Units: ng/ml



Manual Integration Results

RT: 6.50
Area: 45937
Amount: 4.625685
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:47:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

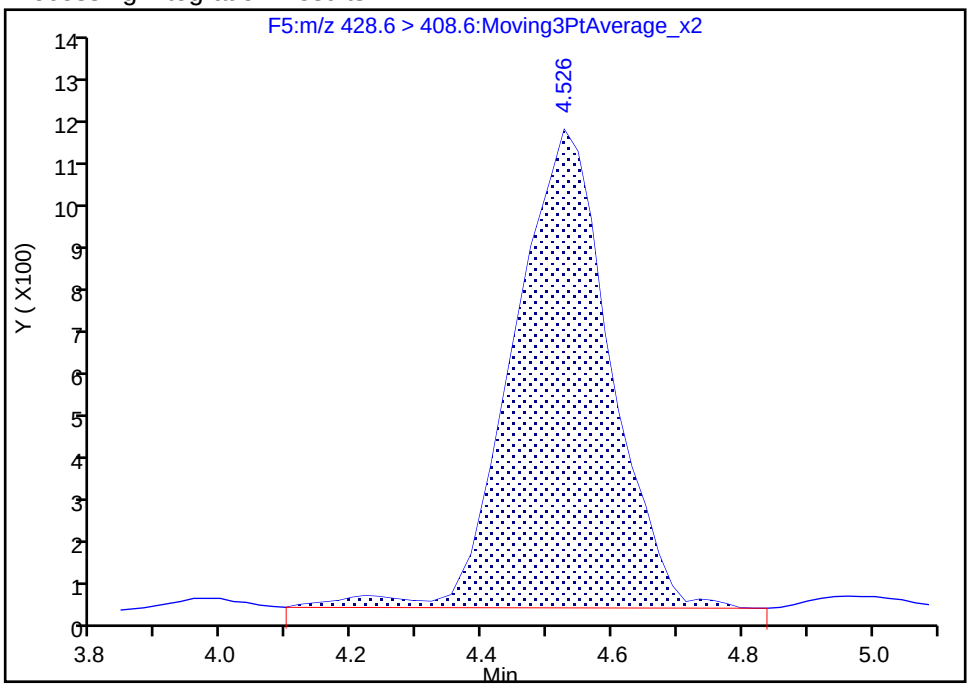
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B14.d				
Injection Date:	05-Jun-2019 04:46:10	Instrument ID:	LC410		
Lims ID:	200-48826-A-12-A	Lab Sample ID:	200-48826-12		
Client ID:	K-2 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

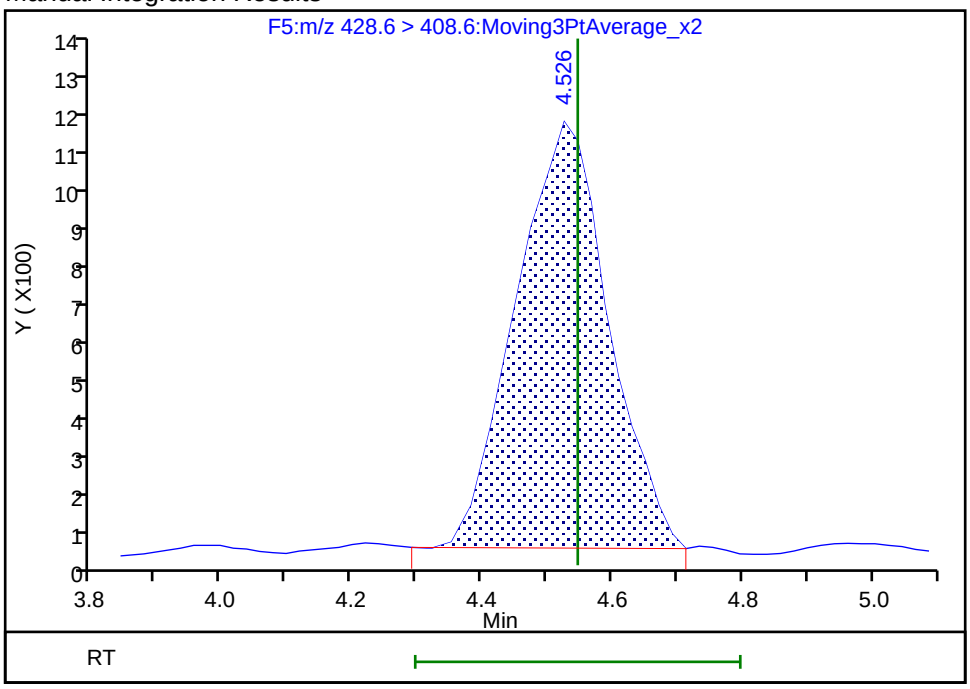
Processing Integration Results

RT: 4.53
Area: 11012
Amount: 7.206029
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 10389
Amount: 6.798350
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:42:22

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-15D 051519 Lab Sample ID: 200-48826-13

Matrix: Water Lab File ID: PF060419B15.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 12:18

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 288.5(mL) Date Analyzed: 06/05/2019 05:02

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.8		1.7	0.87
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.55
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.66
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.79
335-67-1	Perfluorooctanoic acid (PFOA)	2.1		1.7	0.55
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.67
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.51
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.52
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.80
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.69
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.82
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.78
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND	*	1.7	0.53
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3
27619-97-2	6:2 FTS	ND		17	4.0
39108-34-4	8:2 FTS	ND		17	2.5

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-15D 051519 Lab Sample ID: 200-48826-13

Matrix: Water Lab File ID: PF060419B15.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 12:18

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 288.5(mL) Date Analyzed: 06/05/2019 05:02

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	45		25-150
STL00992	13C4 PFBA	31		25-150
STL01893	13C5 PFPeA	50		25-150
STL00993	13C2 PFHxA	54		50-150
STL01892	13C4 PFHpA	64		50-150
STL00990	13C4 PFOA	62		50-150
STL00995	13C5 PFNA	56		50-150
STL00996	13C2 PFDA	62		50-150
STL00997	13C2 PFUnA	64		50-150
STL00998	13C2 PFDoA	63		50-150
STL02116	13C2 PFTeDA	47	*	50-150
STL02337	13C3 PFBS	52		50-150
STL00994	18O2 PFHxS	46	*	50-150
STL00991	13C4 PFOS	42	*	50-150
STL02118	d3-NMeFOSAA	45	*	50-150
STL02117	d5-NEtFOSAA	52		50-150
STL02279	M2-6:2 FTS	61		25-150
STL02280	M2-8:2 FTS	74		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B15.d
Lims ID: 200-48826-A-13-A
Client ID: MW-15D 051519
Sample Type: Client
Inject. Date: 05-Jun-2019 05:02:01 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-015 13
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 12:54:40
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.453	2.360	0.093	1.035	3354	1.05			4.9	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.370	2.360	0.010	1.000	101671	15.5		31.0	71.3	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	125166	25.2		50.3	159	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	52078	24.1		51.8	178	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.270	3.302	-0.032	0.990	3393	0.3031	Target=14.34		4.9	M
312.9 > 118.9	3.302	3.302	0.0	0.000	0		0.00(7.17-21.51)			
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	400322	26.8		53.7	778	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	671228	31.9		63.9	1204	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.926	3.925	0.001	1.005	876	0.3290	Target=1.34		6.1	M
398.9 > 98.9	3.926	3.925	0.001	1.005	688		1.27(0.67-2.01)		3.7	M
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.925	-0.020	1.000	59510	21.5		45.5	220	M
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.547	-0.021	1.000	43573	29.2		61.4	234	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1340238	50.0			2223	
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.568	4.589	-0.021	1.000	19533	1.19	Target=2.43		39.1	
412.9 > 168.9	4.568	4.589	-0.021	1.000	10355		1.89(1.22-3.64)		58.8	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	808685	31.1		62.2	1615	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.389	-0.042	1.000	980006	28.1		56.2	2416	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	123774	19.9		41.5	311	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	191329	35.2		73.5	615	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	920400	30.9		61.8	2840	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.549	-0.048	1.000	217150	22.4		44.7	713	
31 Perfluorodecanesulfonic acid										R
598.9 > 80.0	7.091	6.897	0.194	1.326	406	0.1510	Target=1.25		2.5	R
598.9 > 98.9	6.969	6.897	0.072	1.000	1443		0.28(0.63-1.88)		2.6	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.921	-0.072	1.000	208655	26.1		52.1	565	
32 Perfluoroundecanoic acid										R
562.9 > 518.5	6.897	6.921	-0.024	1.000	1477	0.0970	Target=7.06		11.1	R
562.9 > 168.9	6.873	6.921	-0.048	0.997	488		3.03(3.53-10.58)		1.2	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	914559	31.8		63.6	1594	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	240013	22.4		44.7	1018	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	1147902	31.3		62.6	2293	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.819	-0.067	1.000	766544	23.3		46.6	722	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:51:33 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B15.d

Injection Date: 05-Jun-2019 05:02:01 Instrument ID: LC410

Lims ID: 200-48826-A-13-A Lab Sample ID: 200-48826-13

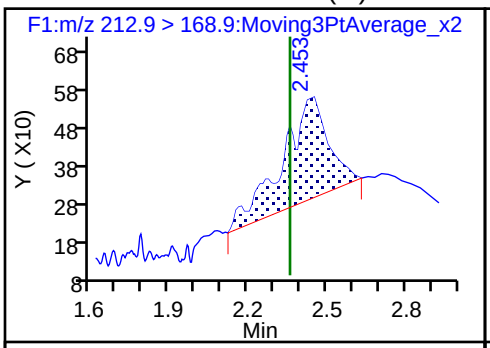
Client ID: MW-15D 051519

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 15

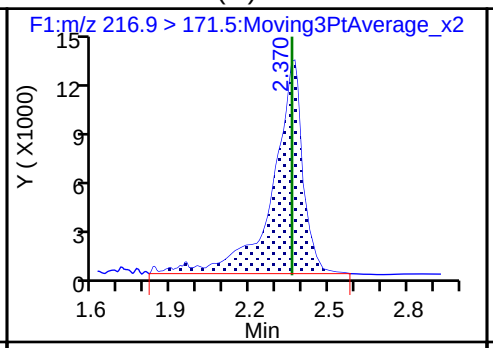
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

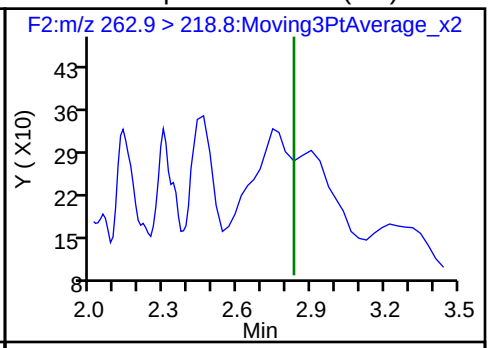
2 Perfluorobutanoic acid (M)



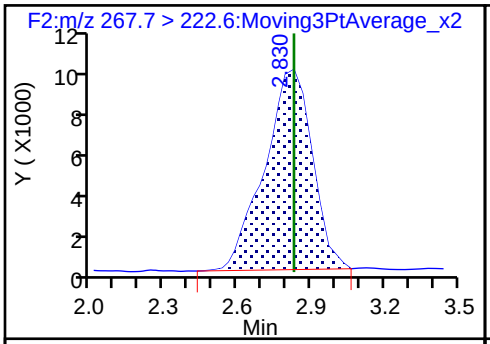
D 1 13C4 PFBA (M)



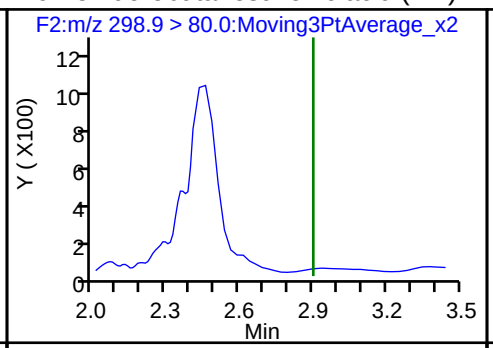
3 Perfluoropentanoic acid (ND)



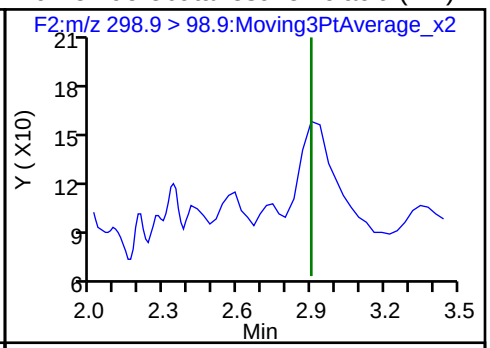
D 4 13C5 PFPeA



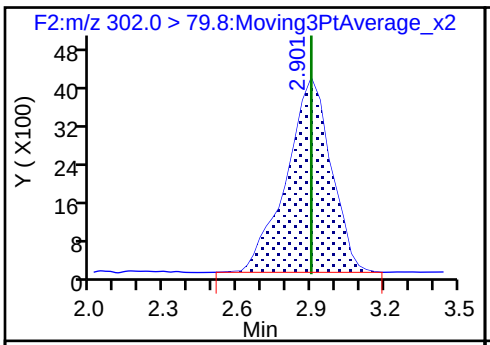
6 Perfluorobutanesulfonic acid (ND)



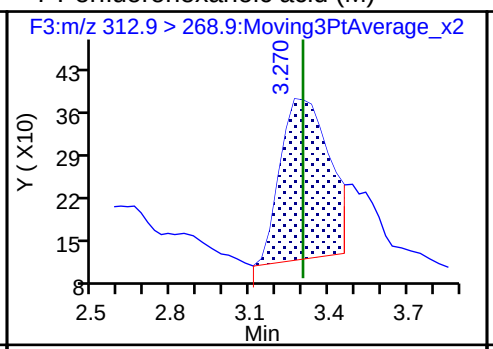
6 Perfluorobutanesulfonic acid (ND)



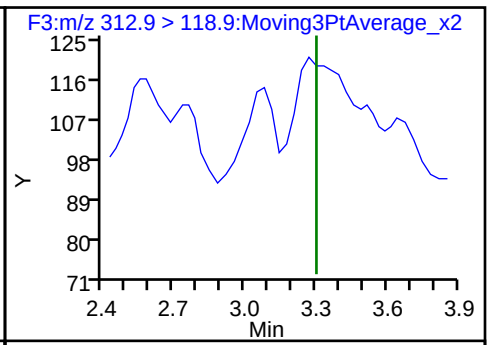
D 5 13C3 PFBS



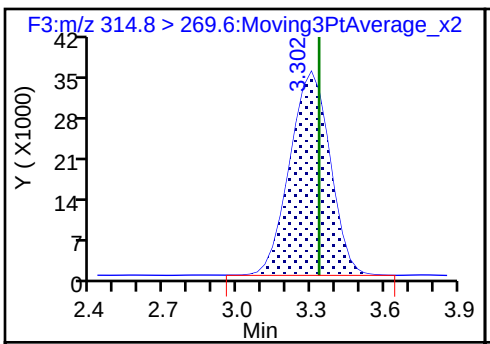
7 Perfluorohexanoic acid (M)



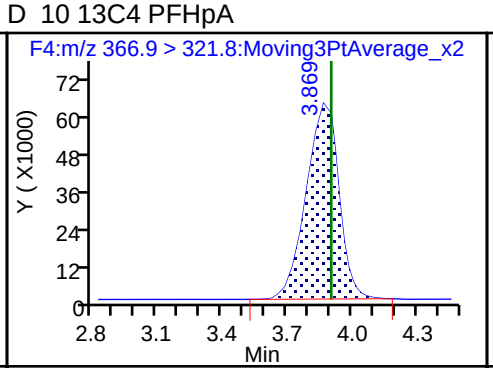
7 Perfluorohexanoic acid



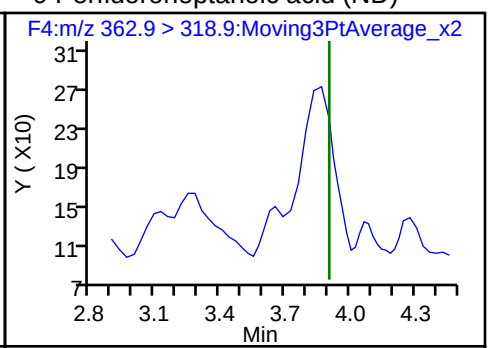
D 8 13C2 PFHxA



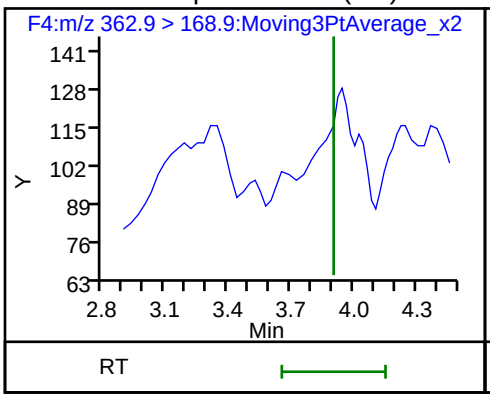
D 10 13C4 PFHpA



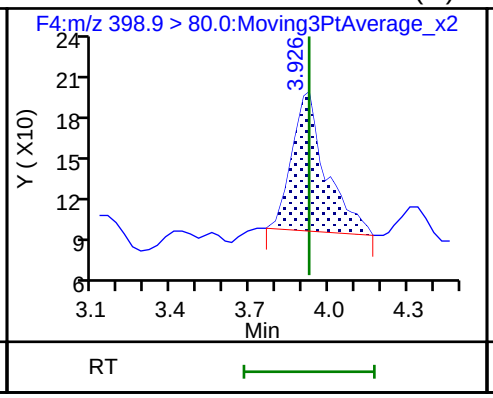
9 Perfluoroheptanoic acid (ND)



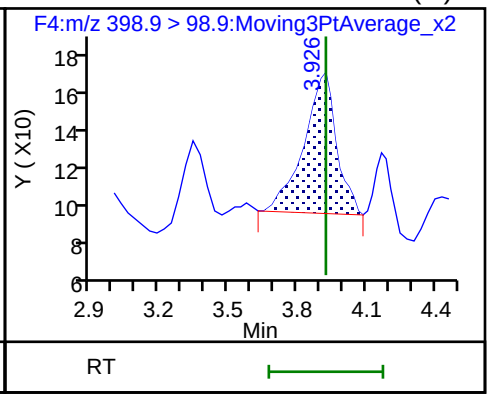
9 Perfluoroheptanoic acid (ND)



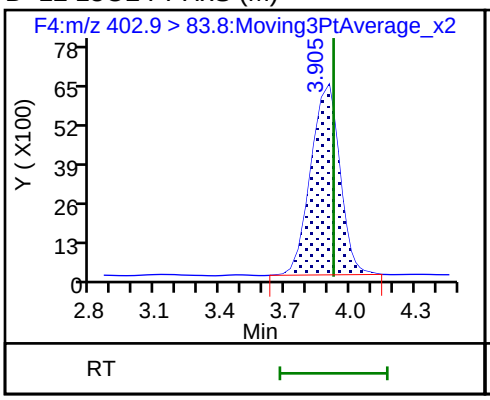
11 Perfluorohexanesulfonic acid (M)



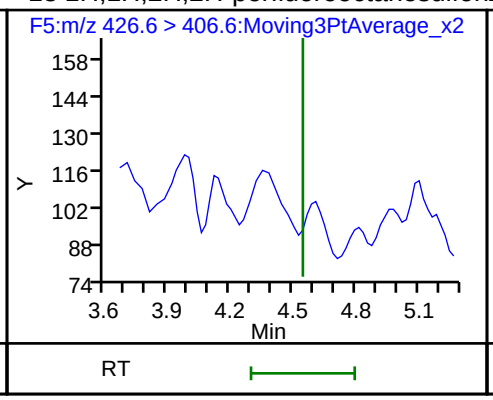
11 Perfluorohexanesulfonic acid (M)



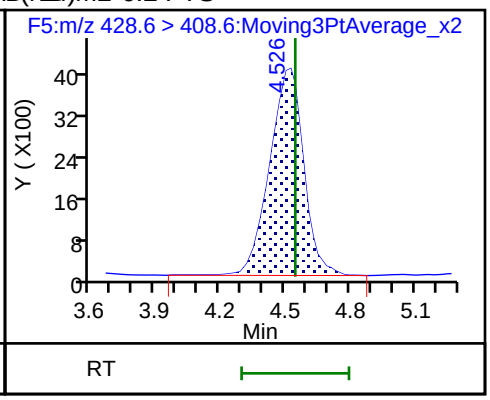
D 12 18O2 PFHxS (M)



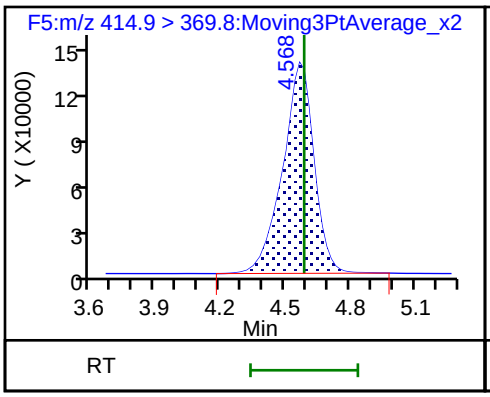
13 1H,1H,2H,2H-perfluorooctanesulfonic (M)



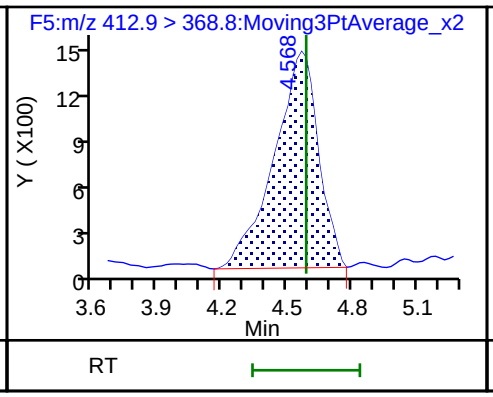
D (M2-6:2 FTS



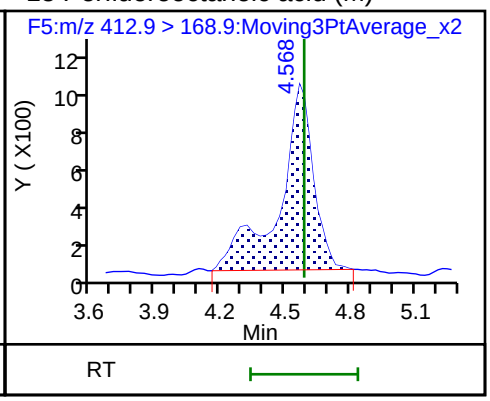
* 16 13C2 PFOA



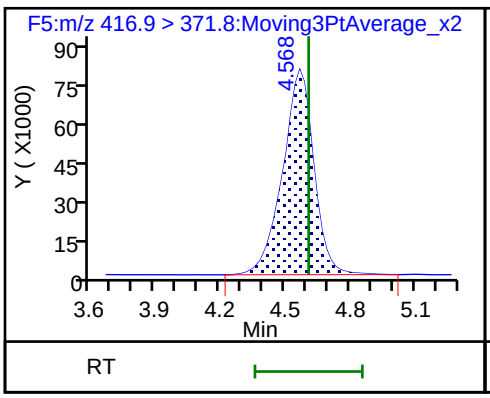
15 Perfluorooctanoic acid



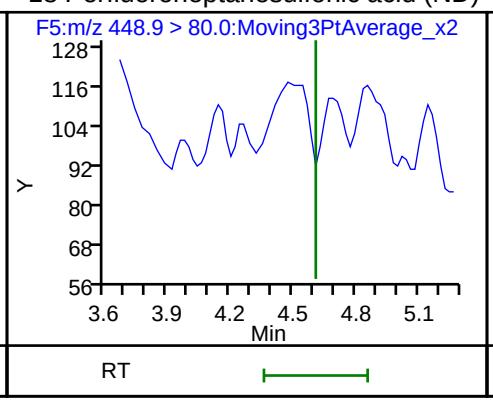
15 Perfluorooctanoic acid (M)



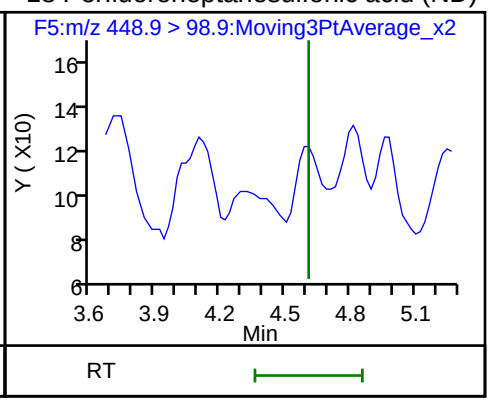
D 17 13C4 PFOA



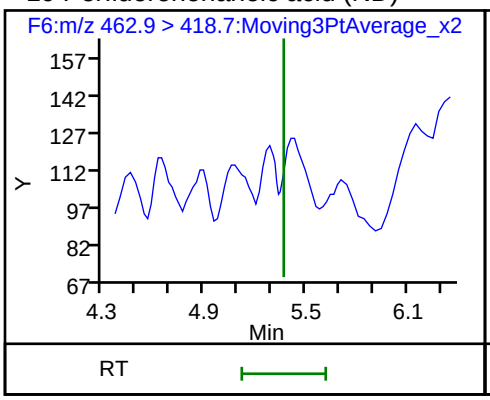
18 Perfluoroheptanesulfonic acid (ND)



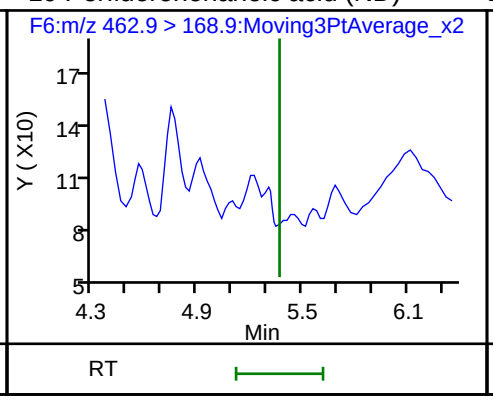
18 Perfluoroheptanesulfonic acid (ND)



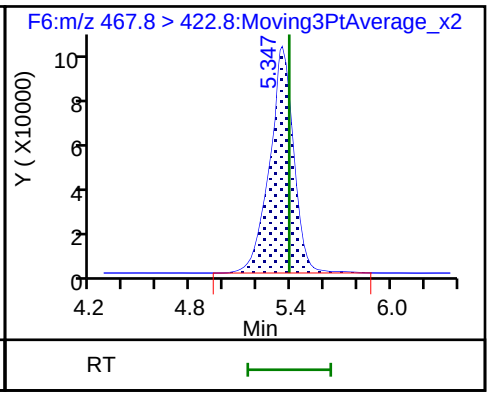
19 Perfluorononanoic acid (ND)



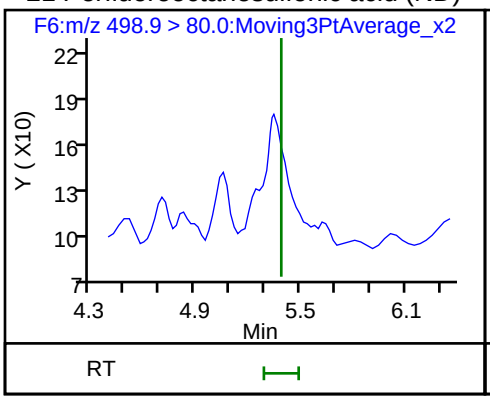
19 Perfluorononanoic acid (ND)



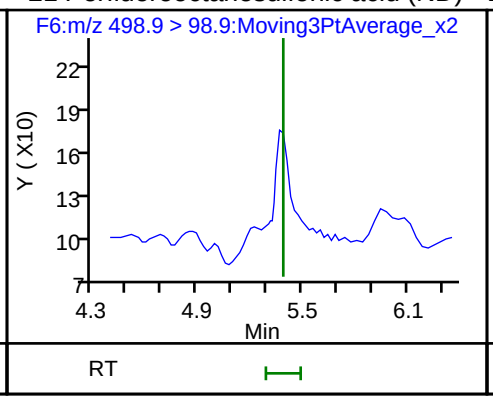
D 20 13C5 PFNA



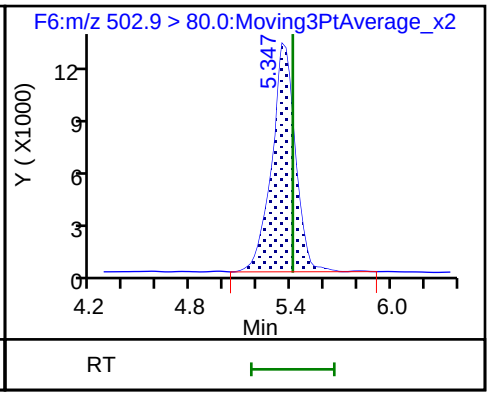
21 Perfluorooctanesulfonic acid (ND)



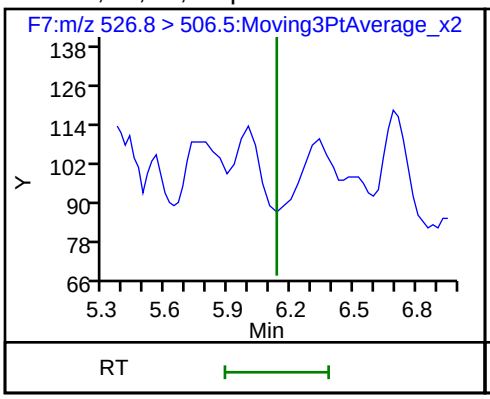
21 Perfluorooctanesulfonic acid (ND)



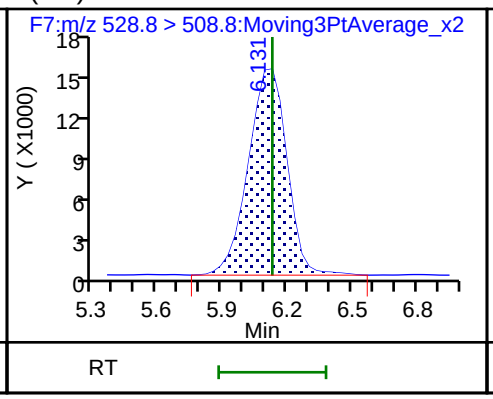
D 22 13C4 PFOS



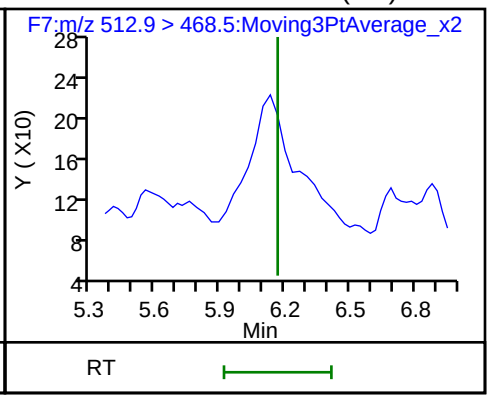
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (ND)



D 24 M2-8:2 FTS



26 Perfluorodecanoic acid (ND)



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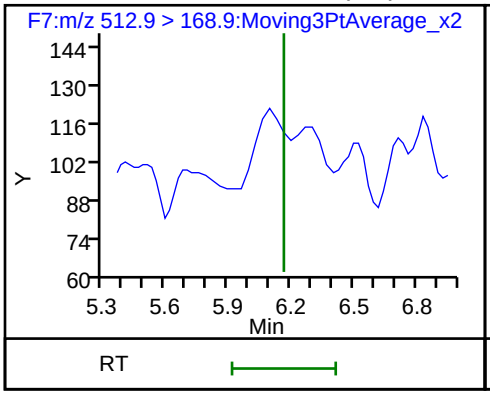
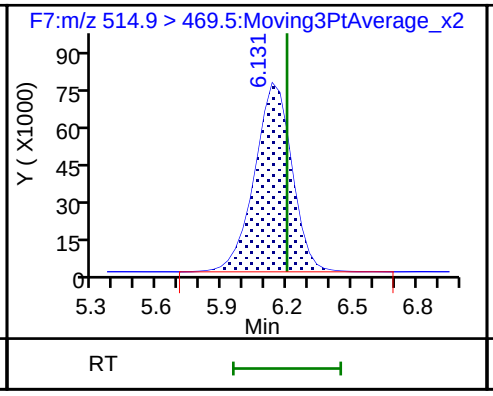
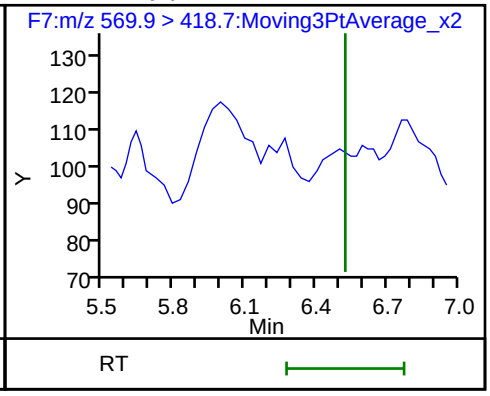


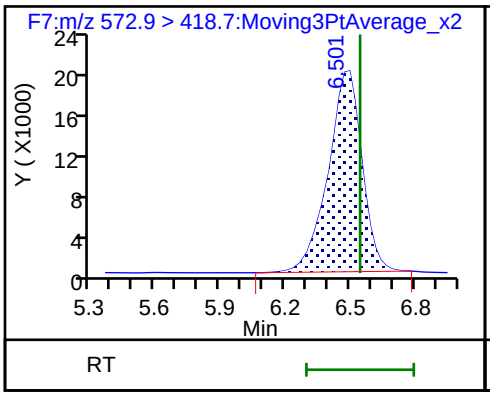
D 25 13C2 PFDA



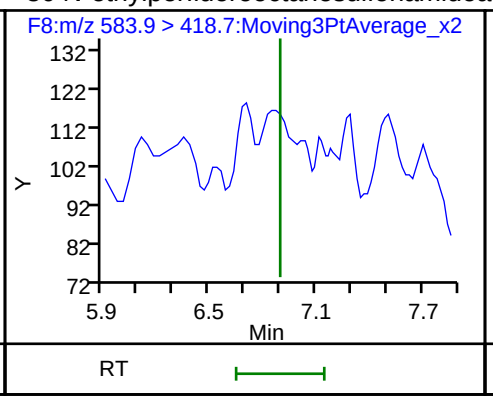
28 N-methylperfluorooctanesulfonamido (ND)



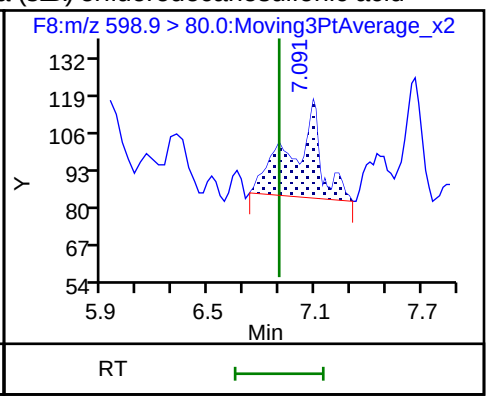
D 27 d3-NMeFOSAA



30 N-ethylperfluorooctanesulfonamidoa (ND)



31 Perfluorodecanesulfonic acid



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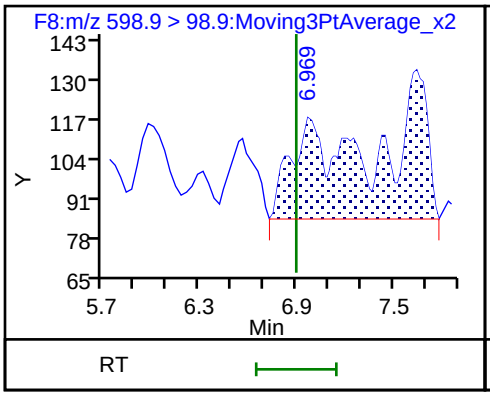
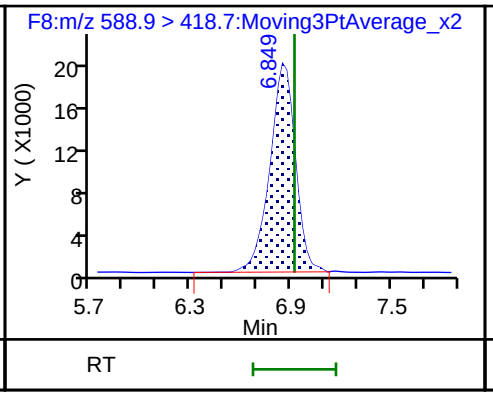


D 29 d5-NEtFOSAA



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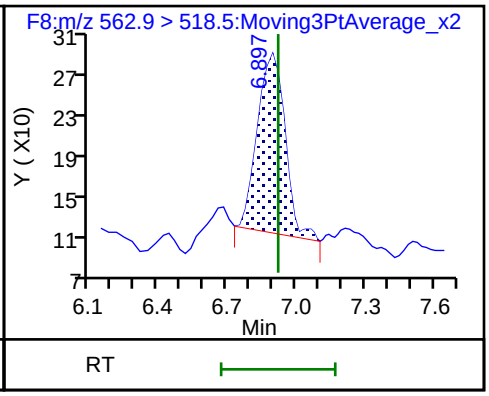
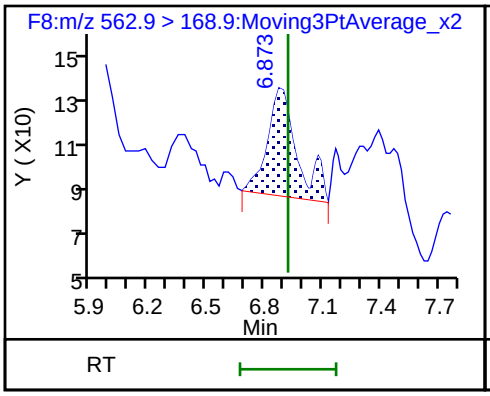
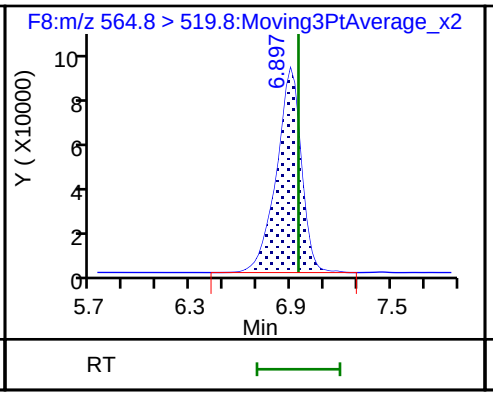


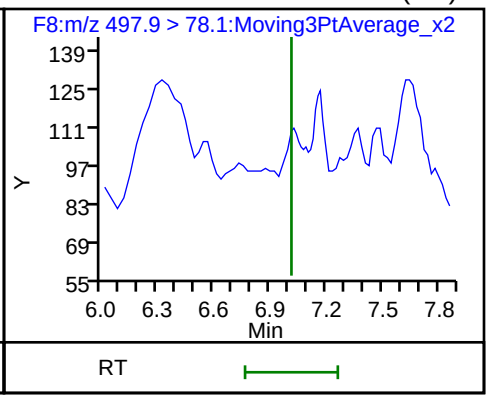
32 Perfluoroundecanoic acid



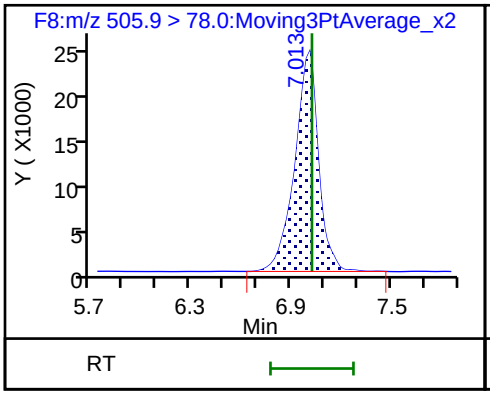
D 33 13C2 PFUnA



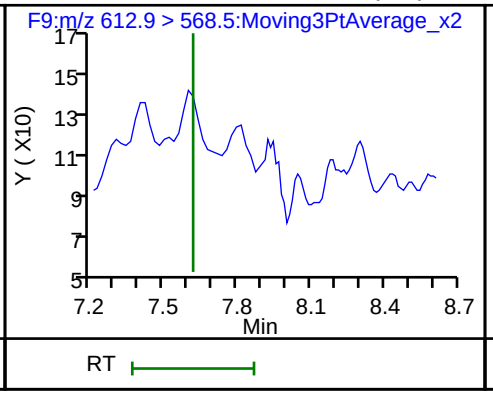
35 Perfluorooctanesulfonamide (ND)



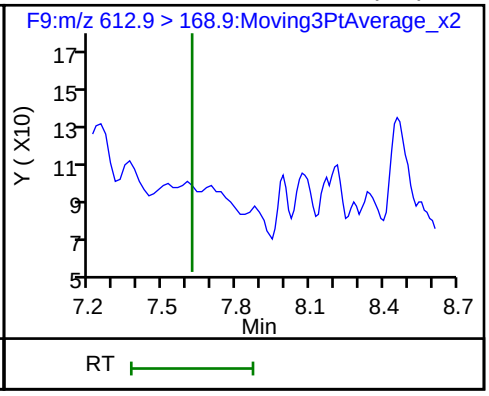
D 34 13C8 FOSA



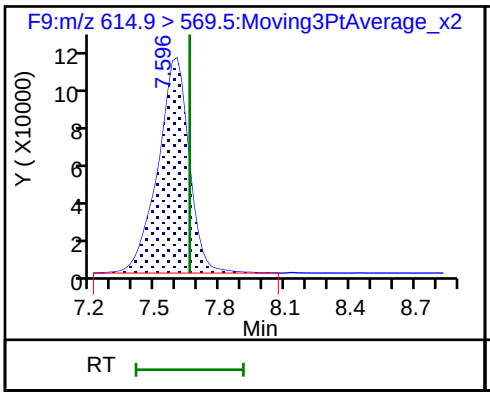
36 Perfluorododecanoic acid (ND)



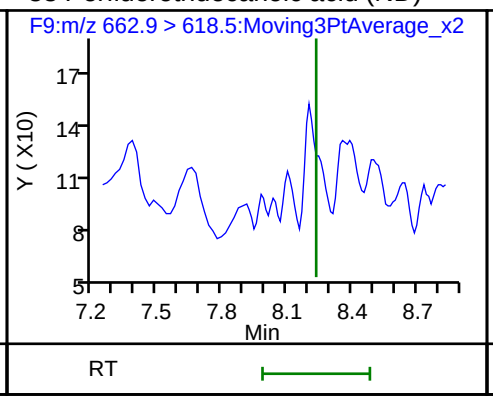
36 Perfluorododecanoic acid (ND)



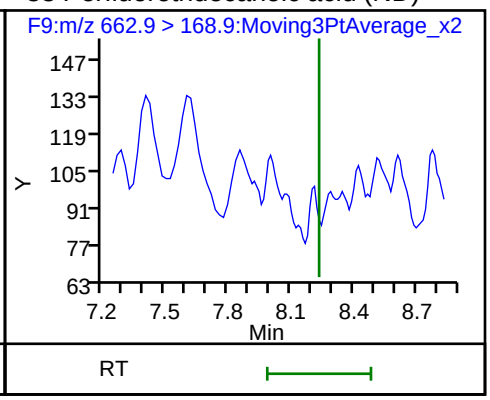
D 37 13C2 PFDoA



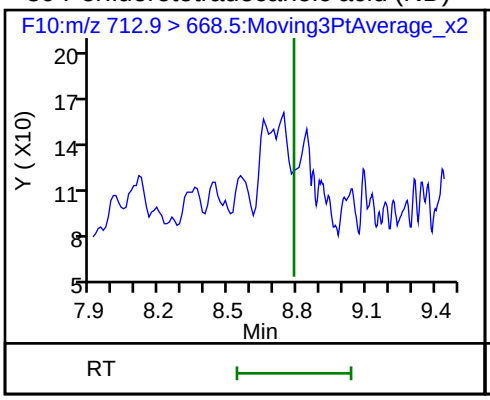
38 Perfluorotridecanoic acid (ND)



38 Perfluorotridecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



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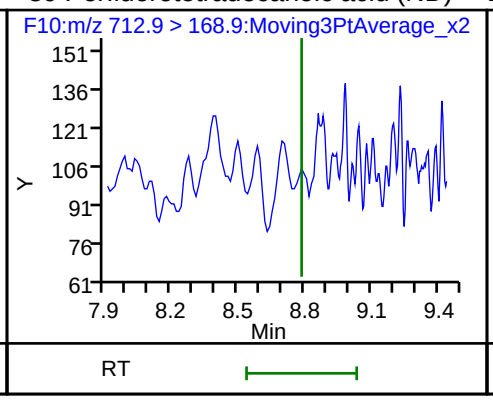
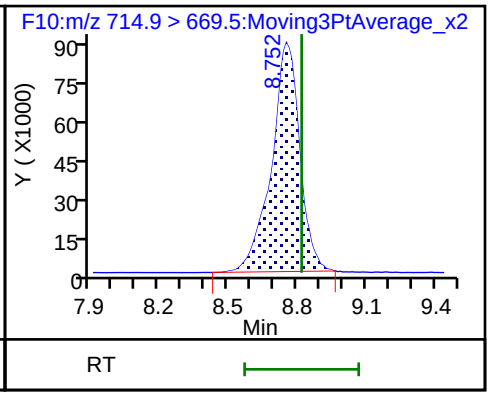


D 40 13C2 PFTeDA



Eurofins TestAmerica, Burlington

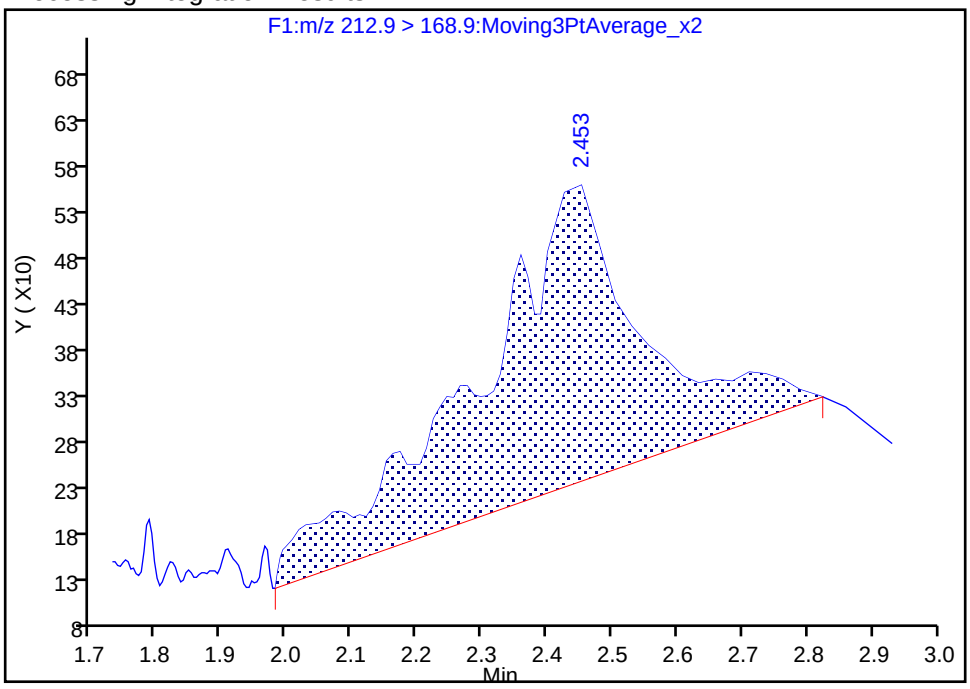
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B15.d				
Injection Date:	05-Jun-2019 05:02:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-13-A	Lab Sample ID:	200-48826-13		
Client ID:	MW-15D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

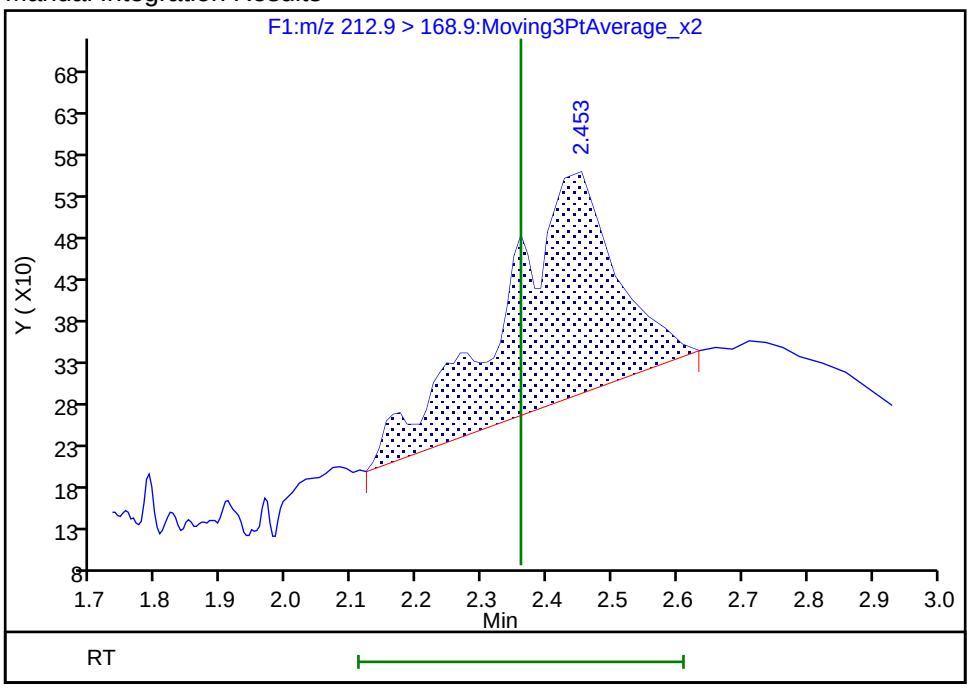
Processing Integration Results

RT: 2.45
Area: 5857
Amount: 6.529560
Amount Units: ng/ml



Manual Integration Results

RT: 2.45
Area: 3354
Amount: 1.050605
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:51:16
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

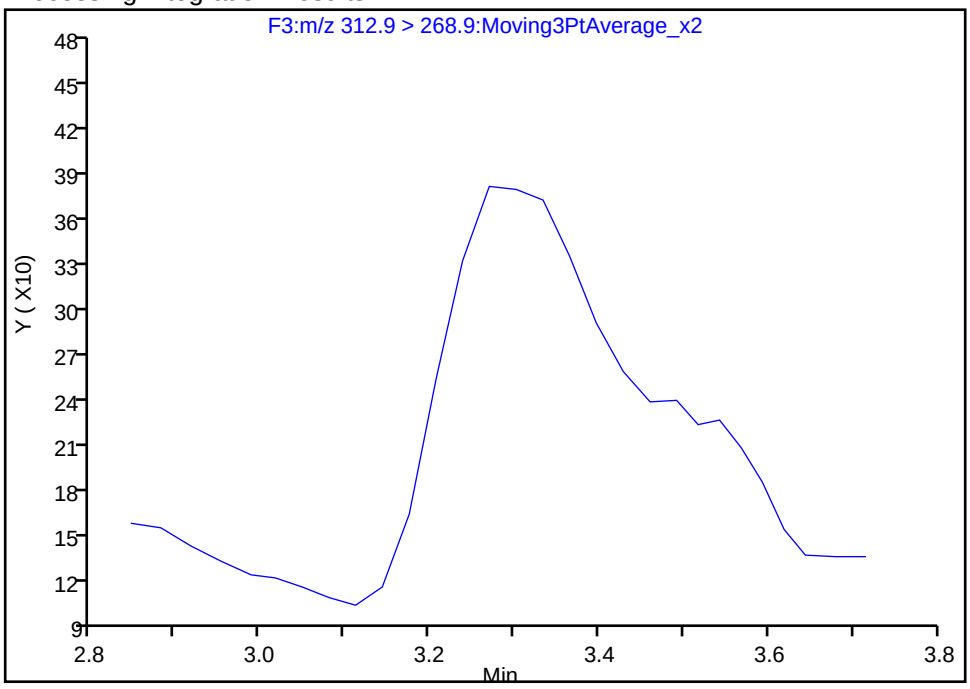
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B15.d				
Injection Date:	05-Jun-2019 05:02:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-13-A	Lab Sample ID:	200-48826-13		
Client ID:	MW-15D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

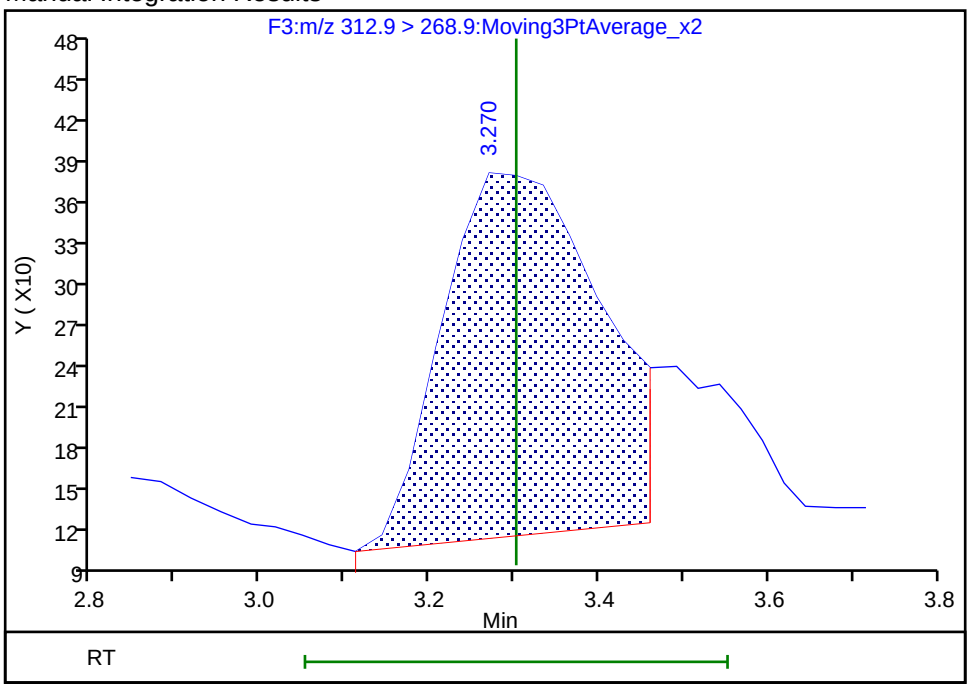
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.27
Area: 3393
Amount: 0.303140
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:53:14
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

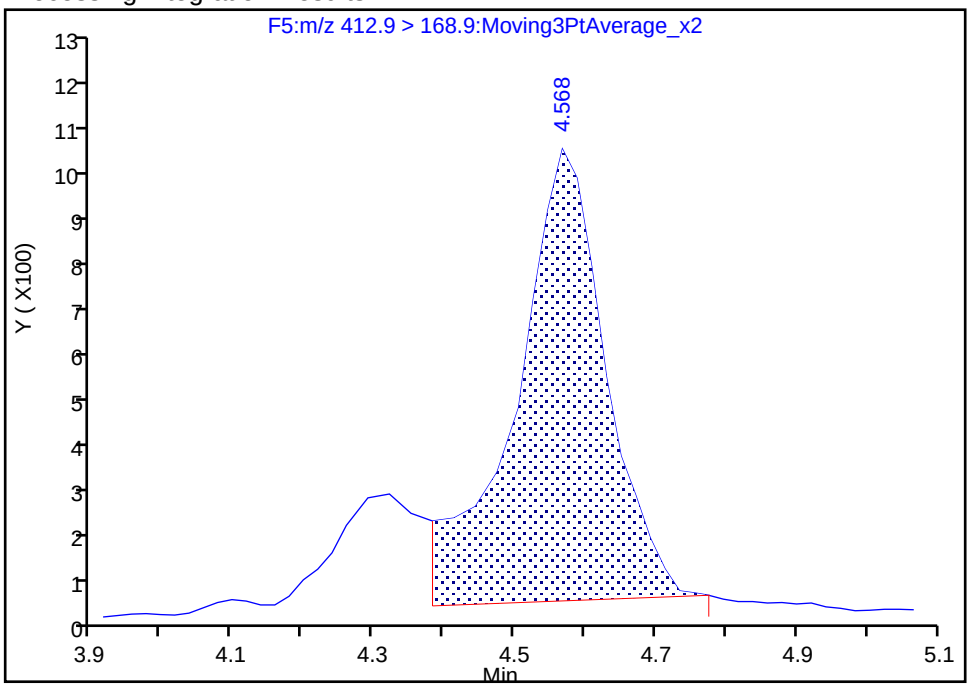
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B15.d				
Injection Date:	05-Jun-2019 05:02:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-13-A	Lab Sample ID:	200-48826-13		
Client ID:	MW-15D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

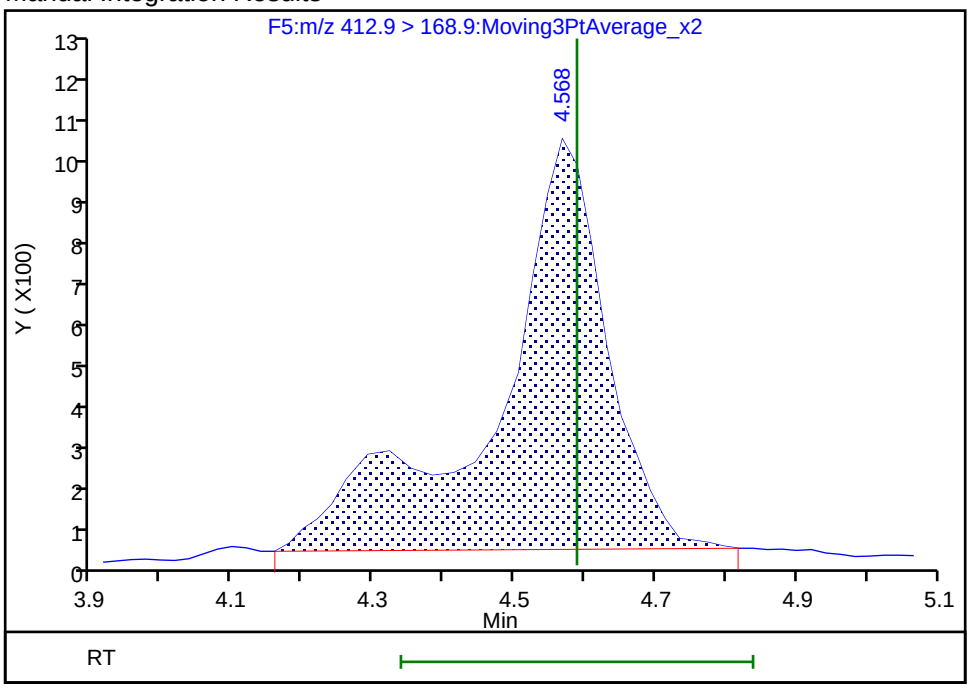
Processing Integration Results

RT: 4.57
Area: 8353
Amount: 1.193483
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 10355
Amount: 1.193483
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:52:03
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

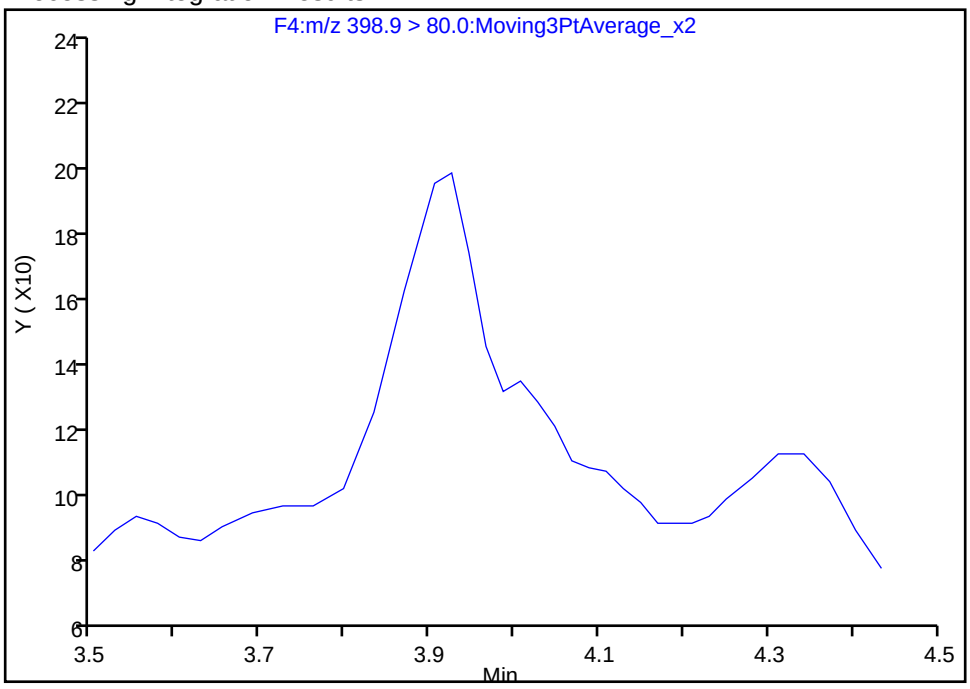
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B15.d				
Injection Date:	05-Jun-2019 05:02:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-13-A	Lab Sample ID:	200-48826-13		
Client ID:	MW-15D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

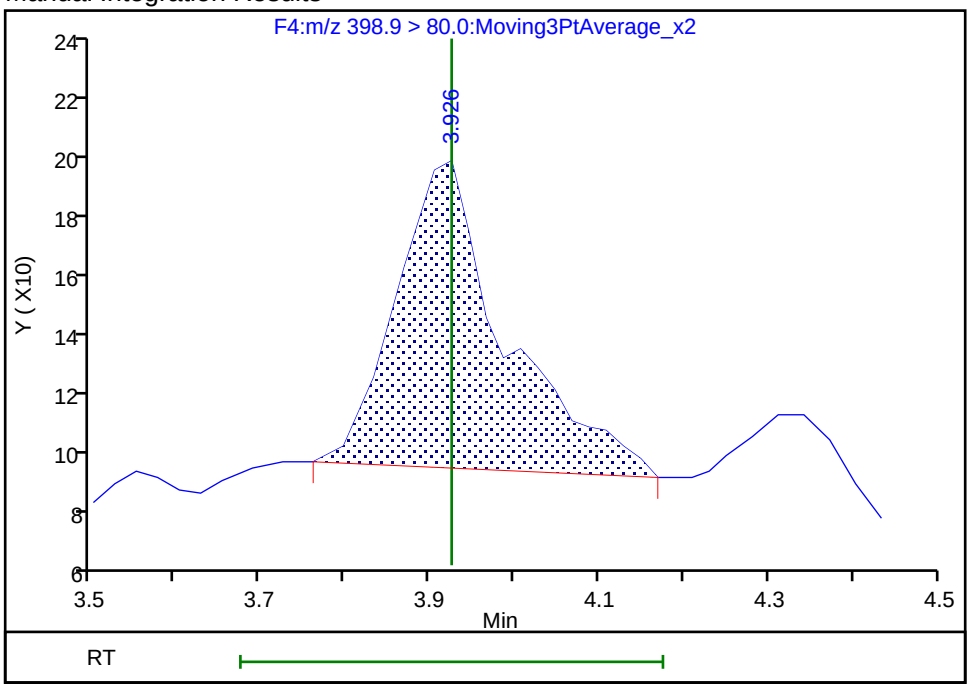
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.93
Area: 876
Amount: 0.329017
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:52:57
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

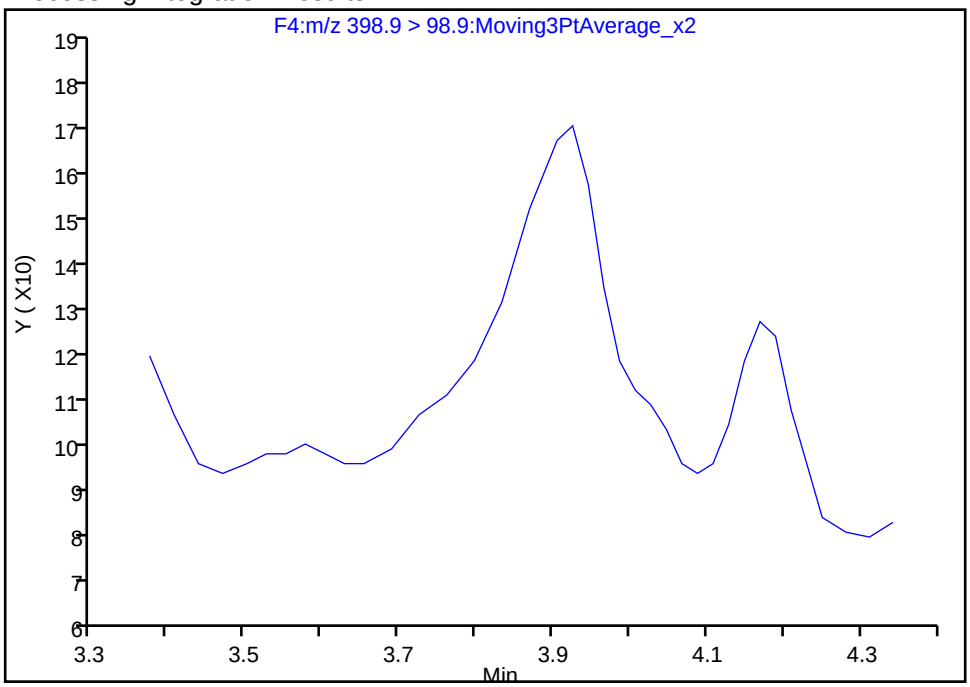
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B15.d				
Injection Date:	05-Jun-2019 05:02:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-13-A	Lab Sample ID:	200-48826-13		
Client ID:	MW-15D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

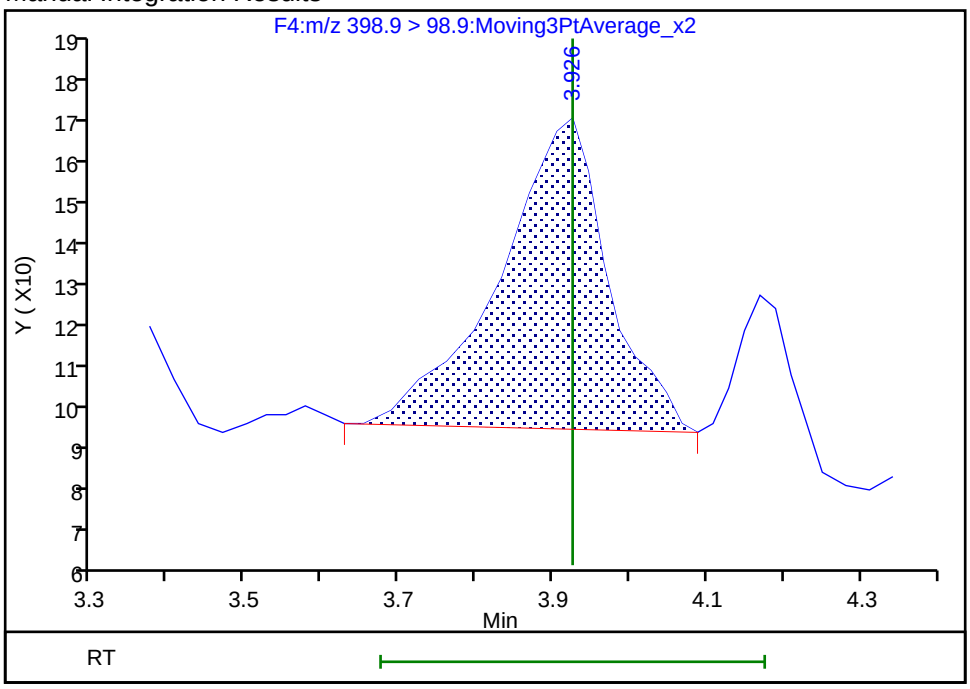
Processing Integration Results

Not Detected
Expected RT: 3.93



Manual Integration Results

RT: 3.93
Area: 688
Amount: 0.329017
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:53:00
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

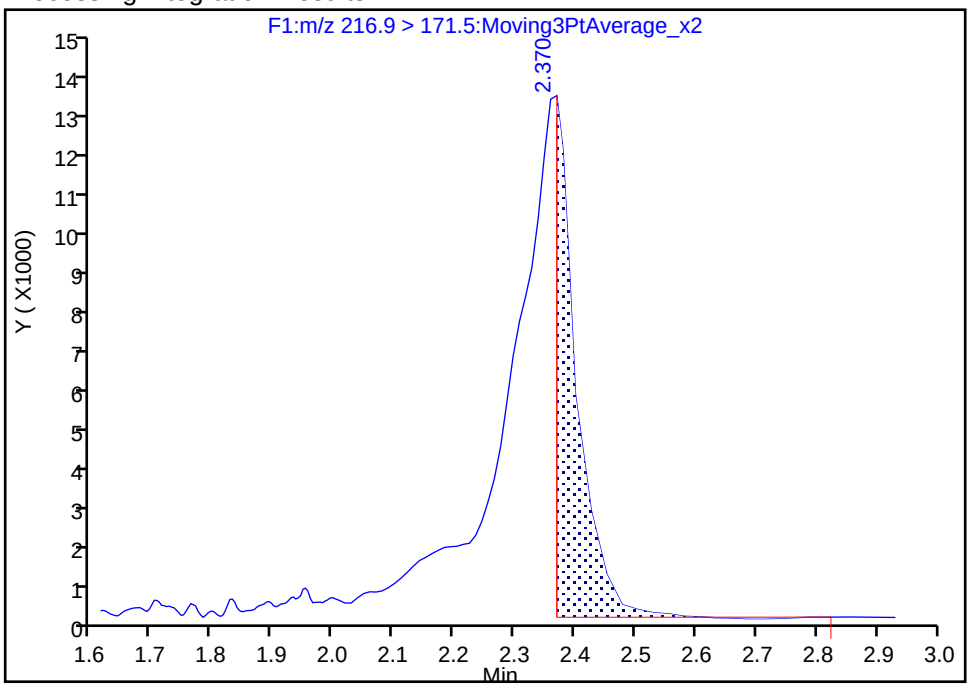
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B15.d				
Injection Date:	05-Jun-2019 05:02:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-13-A	Lab Sample ID:	200-48826-13		
Client ID:	MW-15D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

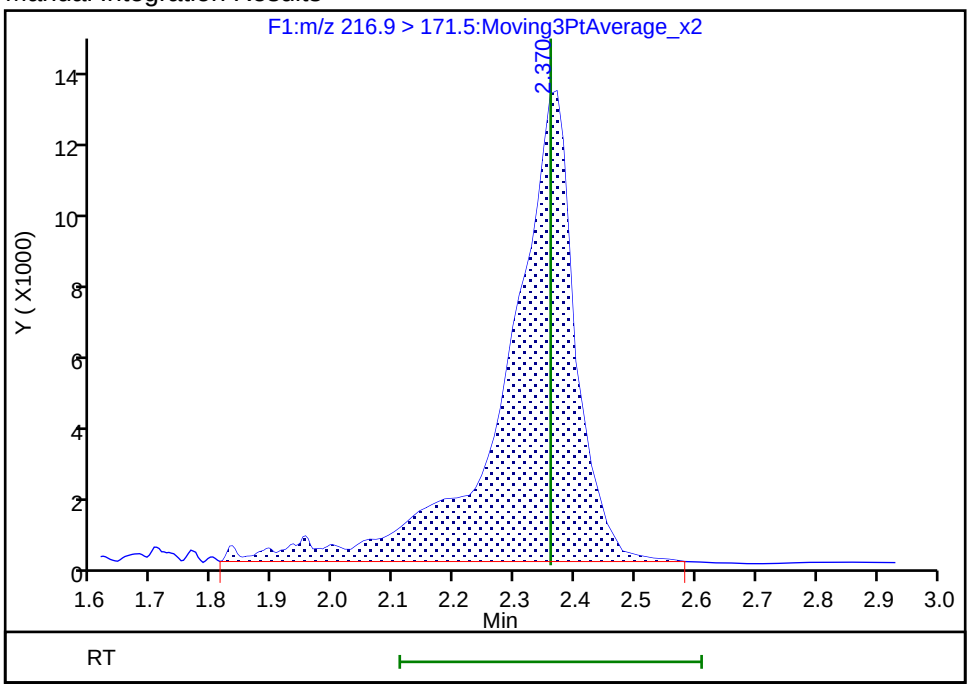
Processing Integration Results

RT: 2.37
Area: 28567
Amount: 4.358274
Amount Units: ng/ml



Manual Integration Results

RT: 2.37
Area: 101671
Amount: 15.511256
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:51:29

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

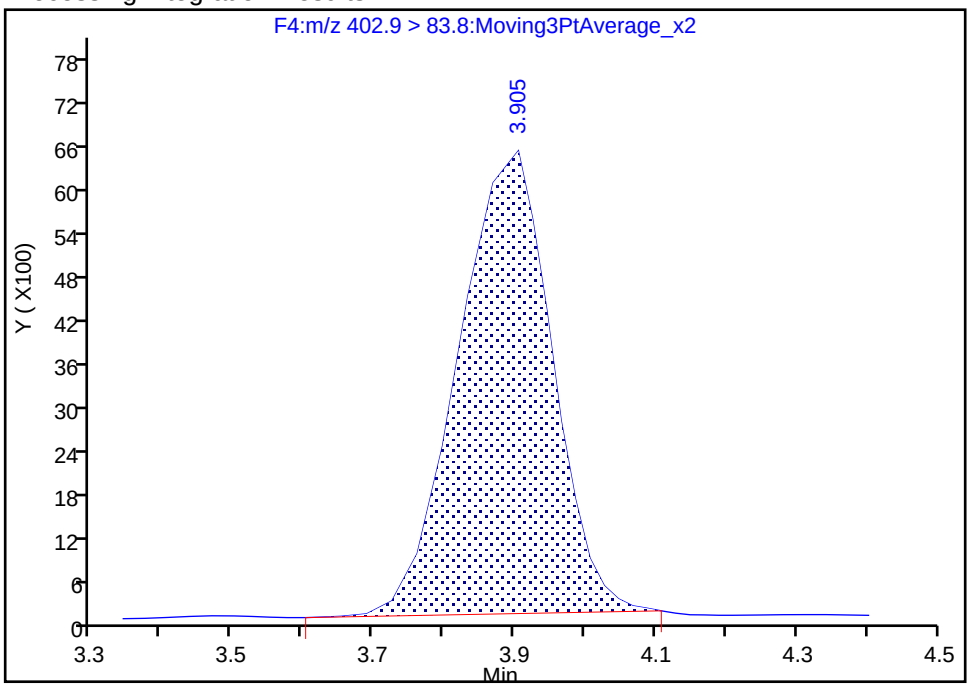
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B15.d				
Injection Date:	05-Jun-2019 05:02:01	Instrument ID:	LC410		
Lims ID:	200-48826-A-13-A	Lab Sample ID:	200-48826-13		
Client ID:	MW-15D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	15
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

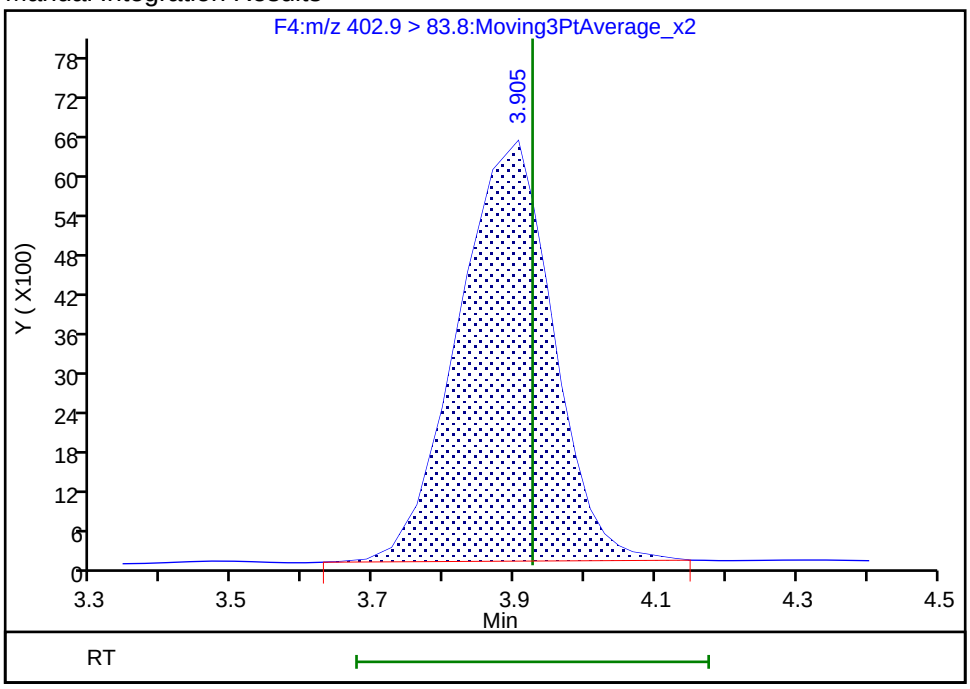
Processing Integration Results

RT: 3.91
Area: 58685
Amount: 21.224971
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 59510
Amount: 21.523354
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:51:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-16D 051519 Lab Sample ID: 200-48826-14

Matrix: Water Lab File ID: PF060419B16.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 13:42

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 301.2(mL) Date Analyzed: 06/05/2019 05:17

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.7	0.83
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.60	J	1.7	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	0.94	J	1.7	0.63
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.0	J	1.7	0.76
335-67-1	Perfluorooctanoic acid (PFOA)	6.1		1.7	0.52
375-95-1	Perfluorononanoic acid (PFNA)	0.48	J	1.7	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.64
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.49
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.50
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.76
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.41
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.66
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.79
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.75
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.6	J B *	1.7	0.51
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.53
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.2
27619-97-2	6:2 FTS	ND		17	3.8
39108-34-4	8:2 FTS	ND		17	2.4

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-16D 051519 Lab Sample ID: 200-48826-14

Matrix: Water Lab File ID: PF060419B16.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 13:42

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 301.2(mL) Date Analyzed: 06/05/2019 05:17

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	39		25-150
STL00992	13C4 PFBA	12	*	25-150
STL01893	13C5 PFPeA	37		25-150
STL00993	13C2 PFHxA	53		50-150
STL01892	13C4 PFHpA	65		50-150
STL00990	13C4 PFOA	61		50-150
STL00995	13C5 PFNA	49	*	50-150
STL00996	13C2 PFDA	52		50-150
STL00997	13C2 PFUnA	51		50-150
STL00998	13C2 PFDoA	42	*	50-150
STL02116	13C2 PFTeDA	34	*	50-150
STL02337	13C3 PFBS	45	*	50-150
STL00994	18O2 PFHxS	45	*	50-150
STL00991	13C4 PFOS	35	*	50-150
STL02118	d3-NMeFOSAA	38	*	50-150
STL02117	d5-NEtFOSAA	43	*	50-150
STL02279	M2-6:2 FTS	65		25-150
STL02280	M2-8:2 FTS	61		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d
Lims ID: 200-48826-A-14-A
Client ID: MW-16D 051519
Sample Type: Client
Inject. Date: 05-Jun-2019 05:17:52 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-016 14
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 12:59:29
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.349	2.360	-0.011	0.996	250	0.1829			1.6	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.360	2.360	0.0	1.000	43523	6.08		12.2	62.8	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.830	2.830	0.0	1.000	2182	0.3592			2.3	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	101438	18.7		37.4	343	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	49914	21.1		45.5	179	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.302	3.302	0.0	1.000	6864	0.5645	Target=14.34		12.1	M
312.9 > 118.9	3.302	3.302	0.0	1.000	425		16.15(7.17-21.51)		4.5	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	434926	26.7		53.4	1172	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	745095	32.5		65.0	1122	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.869	3.905	-0.036	1.000	10858	0.6209	Target=2.84		22.3	M
362.9 > 168.9	3.869	3.905	-0.036	1.000	3016		3.60(1.42-4.26)		16.5	M
11 Perfluorohexanesulfonic acid										RM
398.9 > 80.0	3.869	3.925	-0.056	0.991	562	0.1962	Target=1.34		3.7	RM
398.9 > 98.9	3.905	3.925	-0.020	1.000	1032		0.54(0.67-2.01)		17.1	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	64020	21.2		44.8	407	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.506	4.547	-0.041	1.000	50039	30.7		64.6	181	M

Report Date: 05-Jun-2019 15:51:35 Chrom Revision: 2.3 03-May-2019 15:52:00
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
* 16 13C2 PFOA										s
414.9 > 369.8	4.547	4.589	-0.042		1462956	50.0			2759	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.547	4.589	-0.042	1.000	64228	3.69	Target=2.43		236	
412.9 > 168.9	4.547	4.589	-0.042	1.000	27807		2.31(1.22-3.64)		125	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.609	-0.062	1.000	860891	30.3		60.6	1301	
19 Perfluorononanoic acid										M
462.9 > 418.7	5.336	5.368	-0.032	1.000	4793	0.2921	Target=5.00		18.5	M
462.9 > 168.9	5.306	5.368	-0.062	0.994	829		5.78(2.50-7.50)		7.5	M
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.389	-0.053	1.000	929272	24.4		48.8	2551	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.316	5.389	-0.073	0.996	2260	0.99	Target=1.41		8.6	M
498.9 > 98.9	5.368	5.389	-0.021	1.006	2724		0.83(0.71-2.12)		15.3	M
D 22 13C4 PFOS										
502.9 > 80.0	5.336	5.411	-0.075	1.000	112949	16.6		34.7	454	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.131	-0.034	1.000	173981	29.3		61.3	540	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	837864	25.8		51.5	3220	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.549	-0.072	1.000	199840	18.9		37.7	814	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.921	-0.072	1.000	189141	21.7		43.3	797	
32 Perfluoroundecanoic acid										M
562.9 > 518.5	6.945	6.921	0.024	1.007	1897	0.1413	Target=7.06		13.5	M
562.9 > 168.9	6.969	6.921	0.048	1.010	234		8.11(3.53-10.58)		1.0	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	806567	25.7		51.4	2150	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	231024	19.7		39.4	1041	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	835085	20.9		41.7	1521	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.819	-0.067	1.000	603408	16.8		33.6	501	

QC Flag Legend

Processing Flags
- R - Failed Signal Ratio Test
- s - Failed ISTD Recovery Test

Review Flags
- M - Manually Integrated

Report Date: 05-Jun-2019 15:51:35 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d

Injection Date: 05-Jun-2019 05:17:52 Instrument ID: LC410

Lims ID: 200-48826-A-14-A Lab Sample ID: 200-48826-14

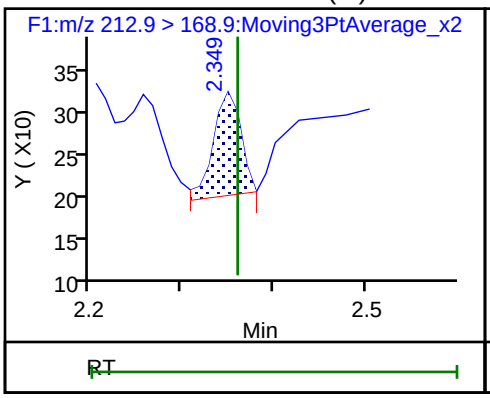
Client ID: MW-16D 051519

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 16

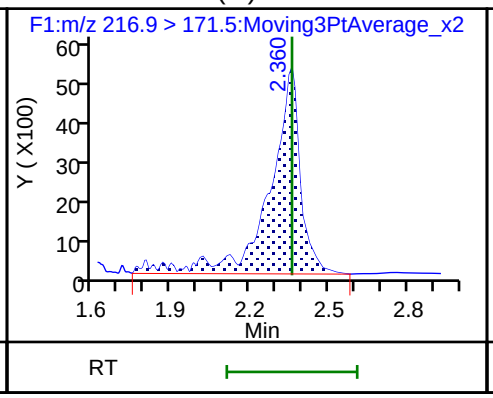
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

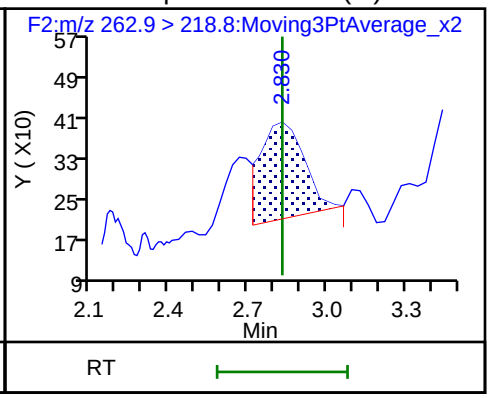
2 Perfluorobutanoic acid (M)



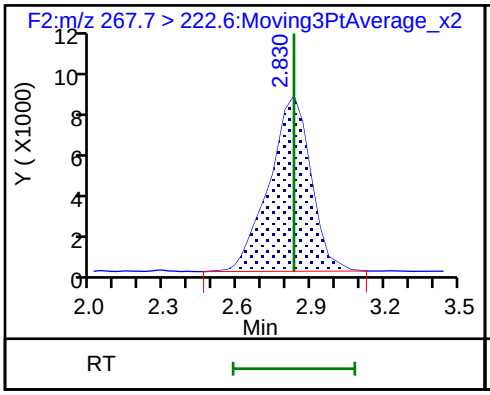
D 1 13C4 PFBA (M)



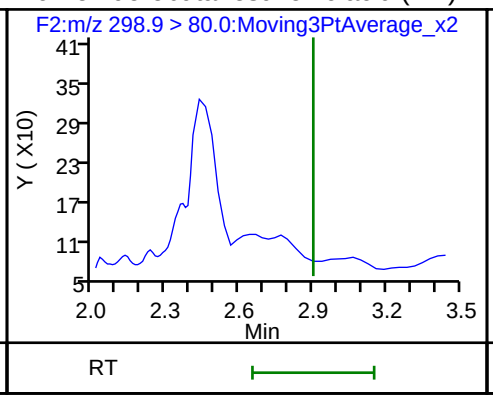
3 Perfluoropentanoic acid (M)



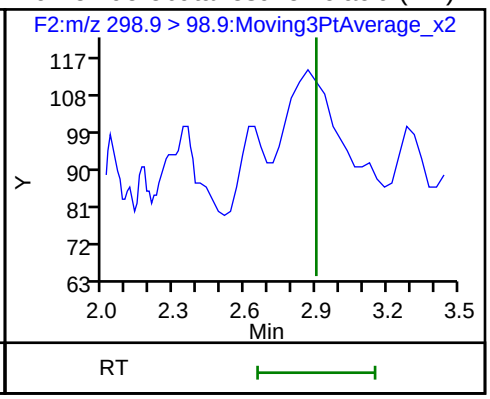
D 4 13C5 PFPeA



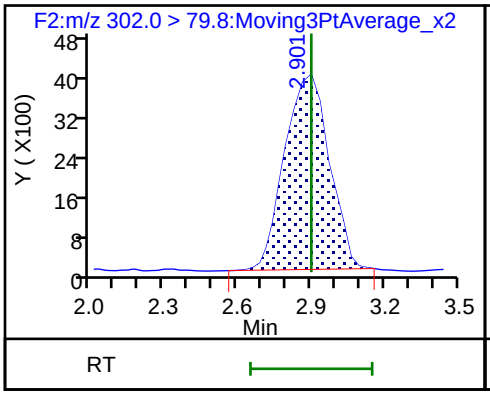
6 Perfluorobutanesulfonic acid (ND)



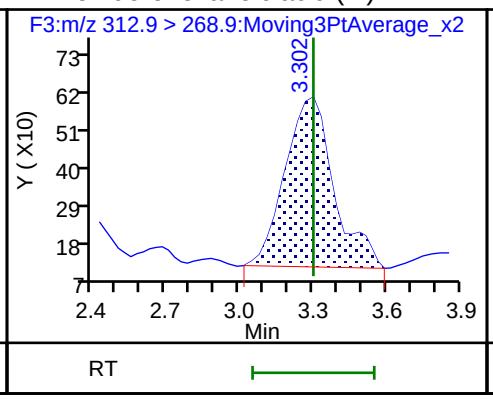
6 Perfluorobutanesulfonic acid (ND)



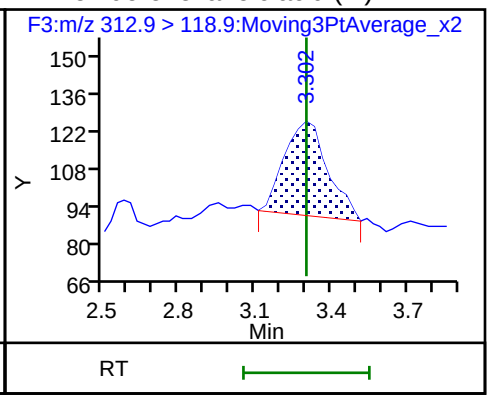
D 5 13C3 PFBS



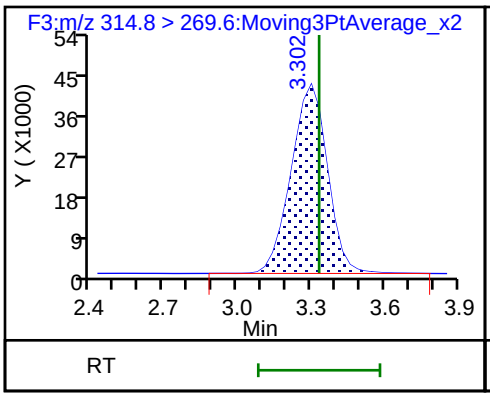
7 Perfluorohexanoic acid (M)



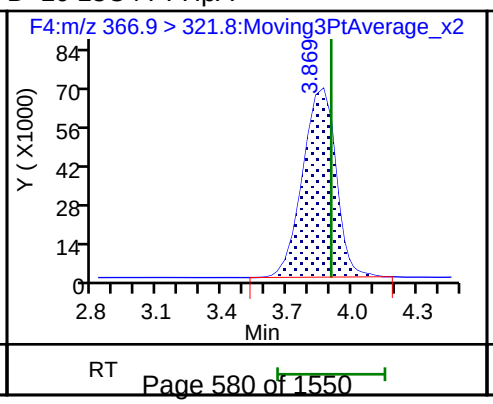
7 Perfluorohexanoic acid (M)



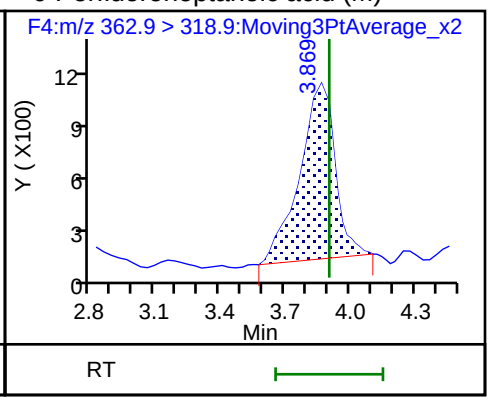
D 8 13C2 PFHxA



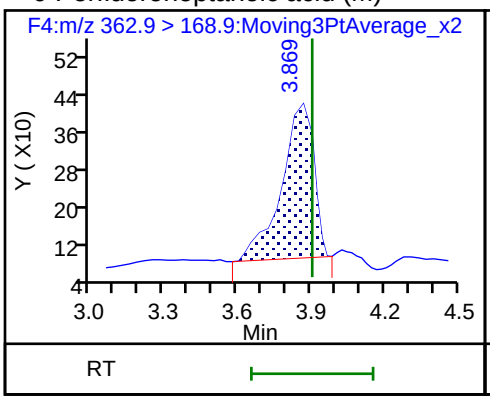
D 10 13C4 PFHpA



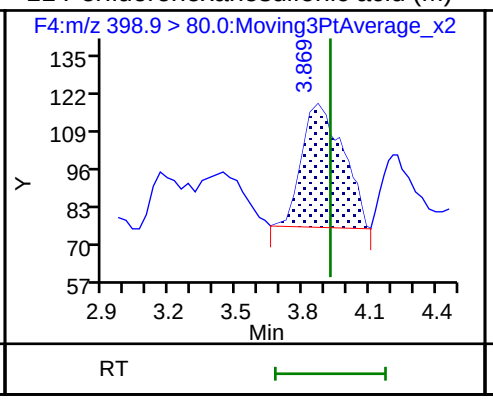
9 Perfluoroheptanoic acid (M)



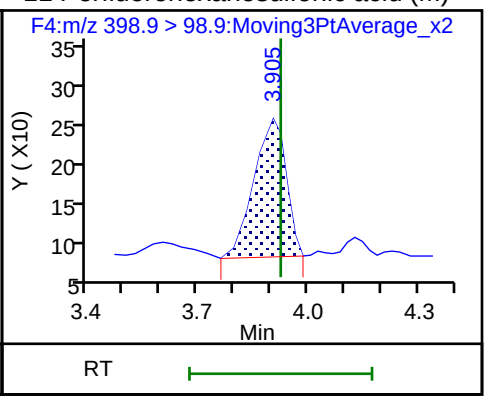
9 Perfluoroheptanoic acid (M)



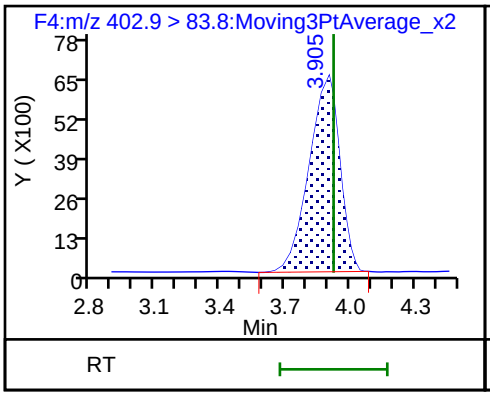
11 Perfluorohexanesulfonic acid (M)



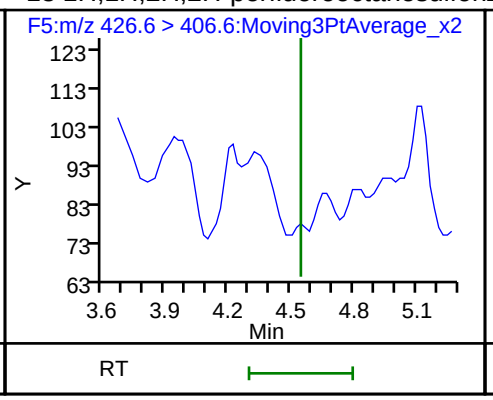
11 Perfluorohexanesulfonic acid (M)



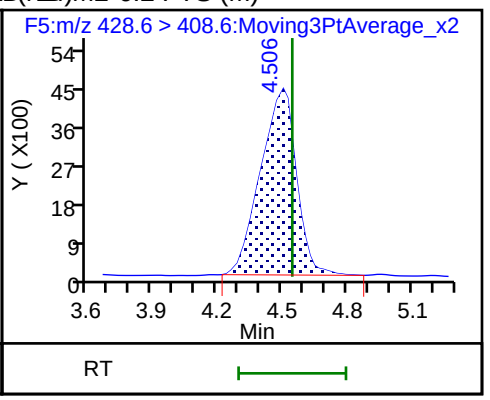
D 12 18O2 PFHxS



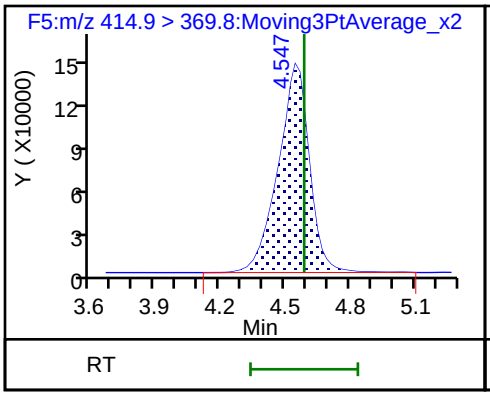
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2)



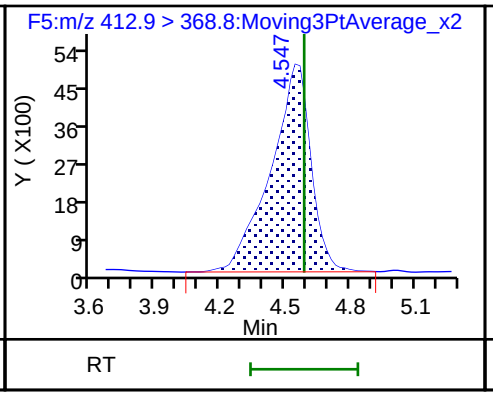
D (M2-6:2 FTS (M)



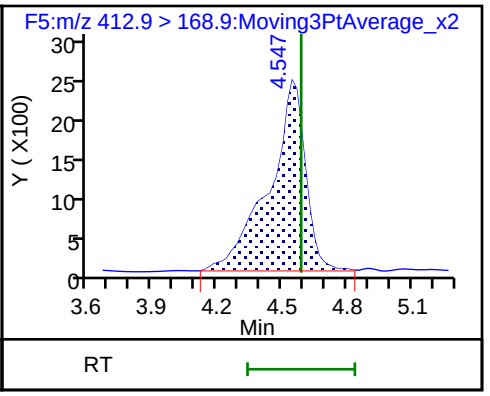
* 16 13C2 PFOA



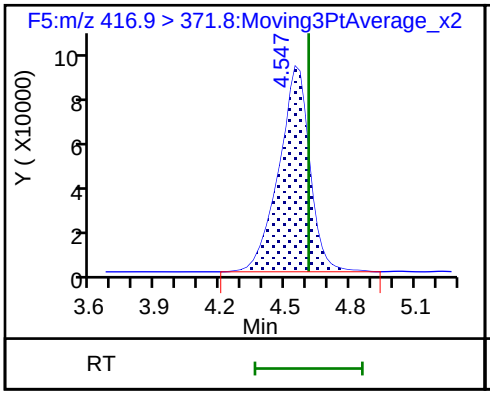
15 Perfluorooctanoic acid



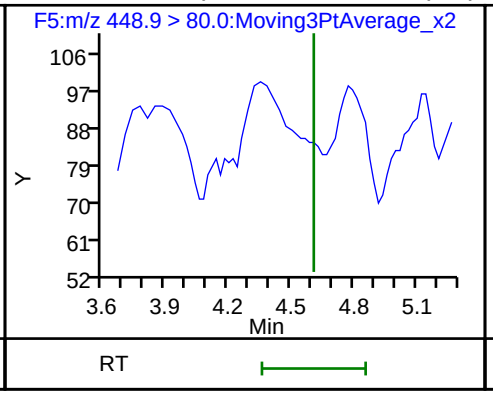
15 Perfluorooctanoic acid



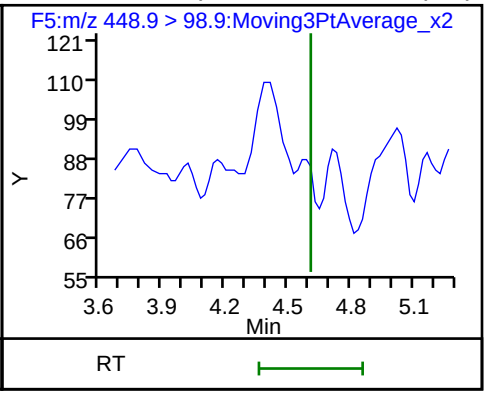
D 17 13C4 PFOA



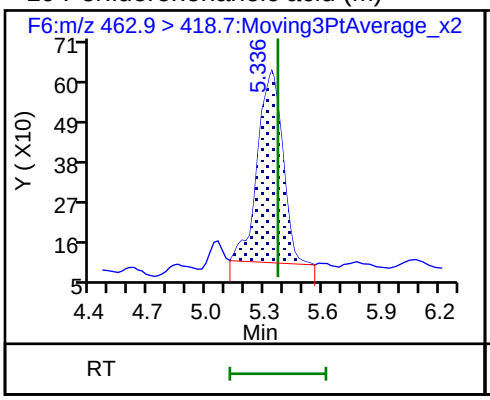
18 Perfluoroheptanesulfonic acid (ND)



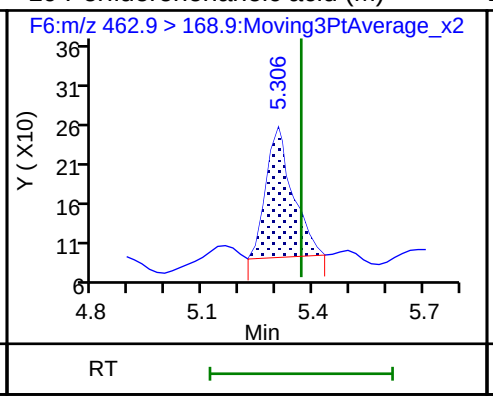
18 Perfluoroheptanesulfonic acid (ND)



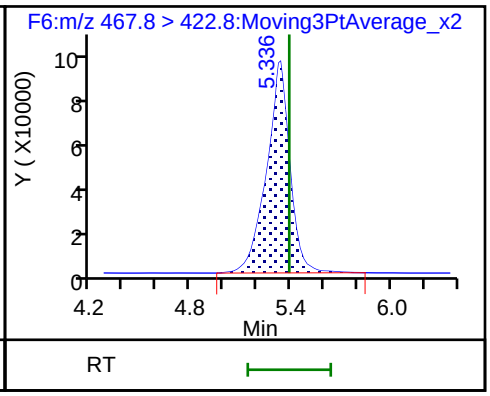
19 Perfluorononanoic acid (M)



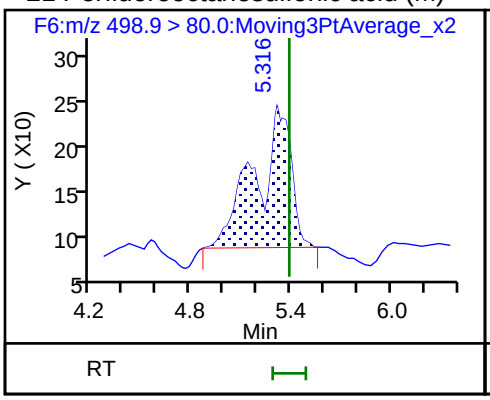
19 Perfluorononanoic acid (M)



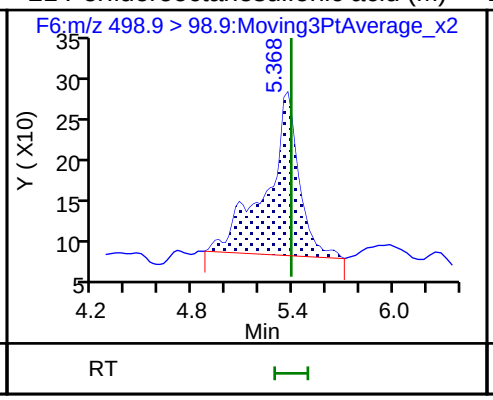
D 20 13C5 PFNA



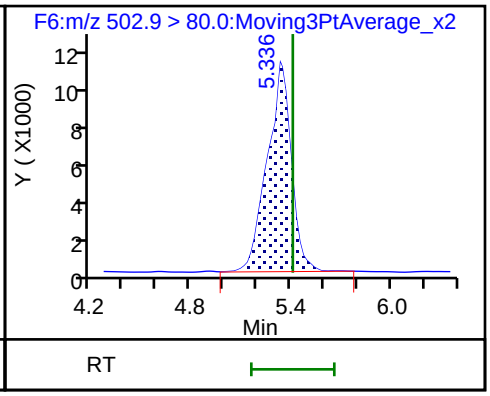
21 Perfluorooctanesulfonic acid (M)



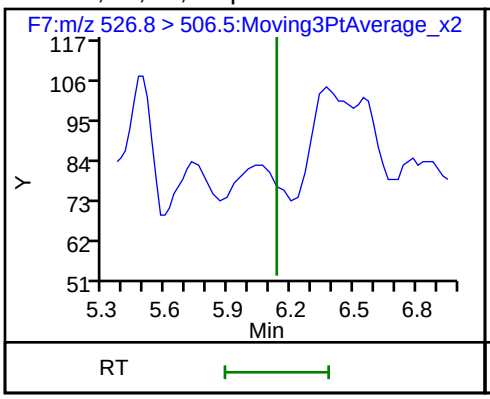
21 Perfluorooctanesulfonic acid (M)



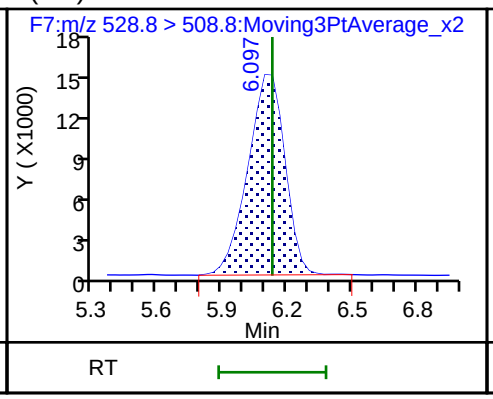
D 22 13C4 PFOS



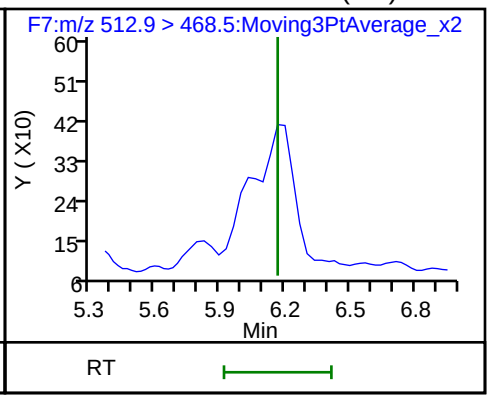
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M2-8:2 FTS)



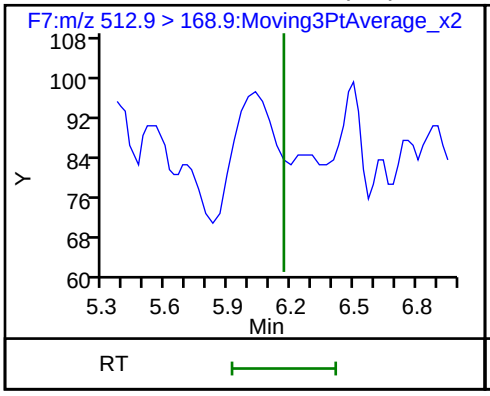
D 24 M2-8:2 FTS



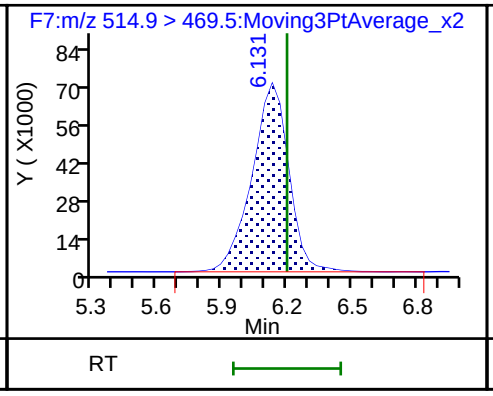
26 Perfluorodecanoic acid (ND)



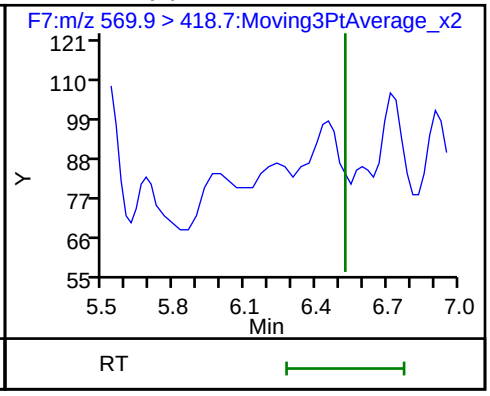
26 Perfluorodecanoic acid (ND)



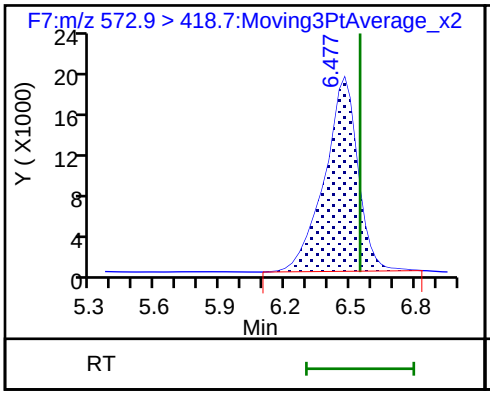
D 25 13C2 PFDA



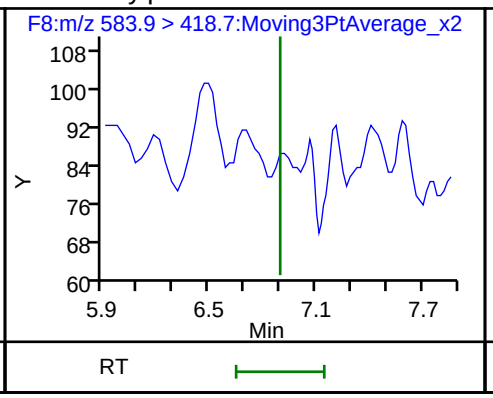
28 N-methylperfluorooctanesulfonamido (ND)



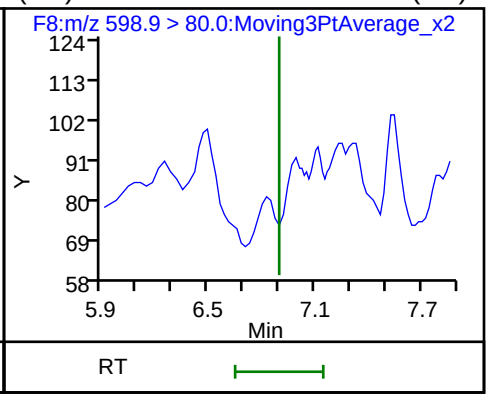
D 27 d3-NMeFOSAA



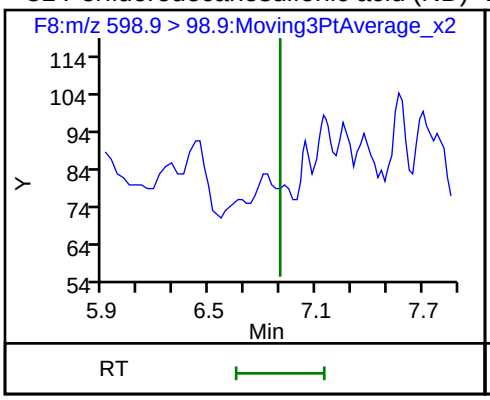
30 N-ethylperfluorooctanesulfonamidoa (ND)



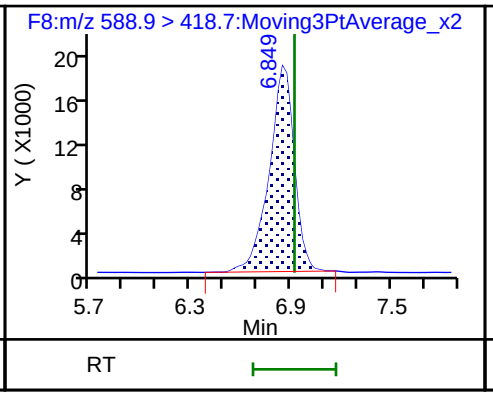
31 Perfluorodecanesulfonic acid (ND)



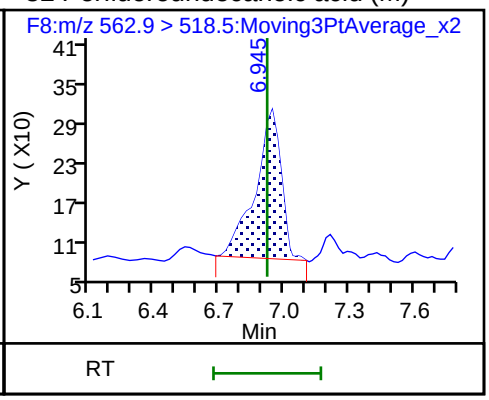
31 Perfluorodecanesulfonic acid (ND)



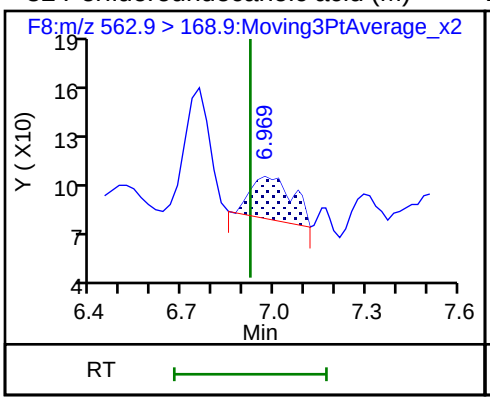
D 29 d5-NEtFOSAA



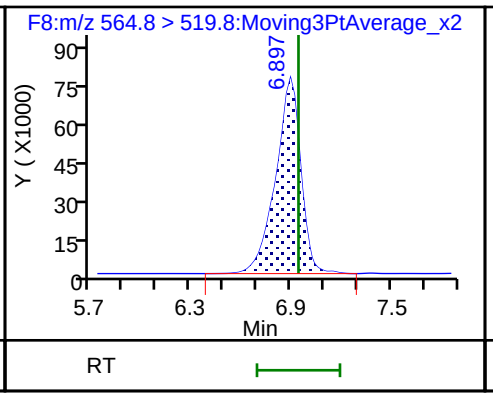
32 Perfluoroundecanoic acid (M)



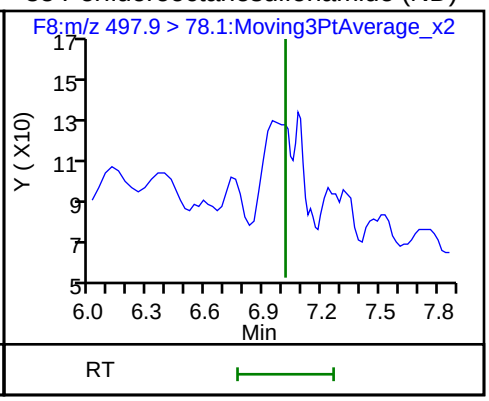
32 Perfluoroundecanoic acid (M)



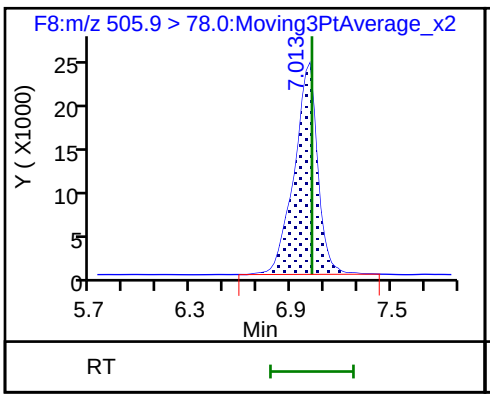
D 33 13C2 PFUnA



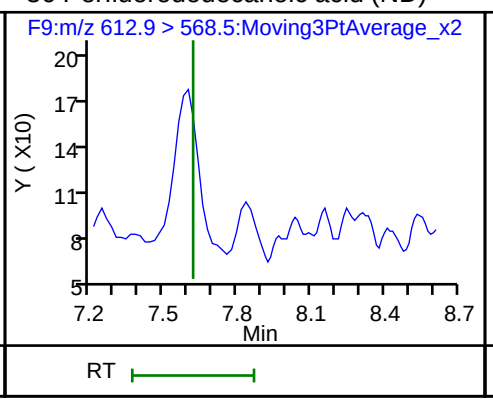
35 Perfluorooctanesulfonamide (ND)



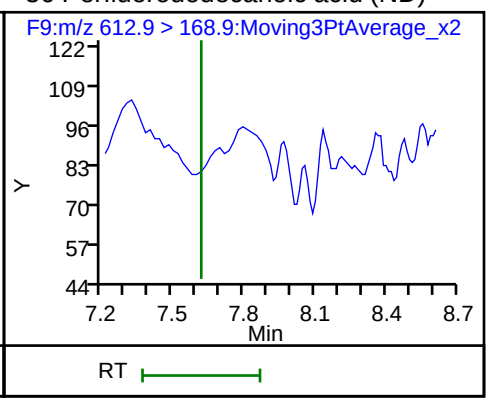
D 34 13C8 FOSA



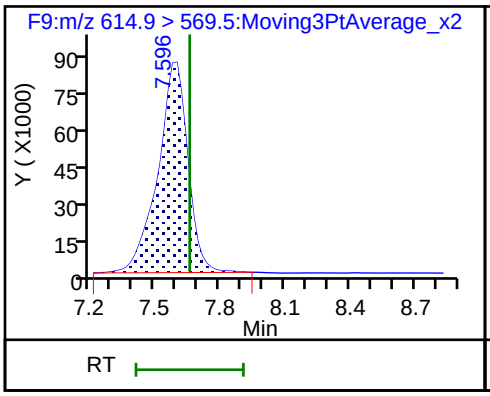
36 Perfluorododecanoic acid (ND)



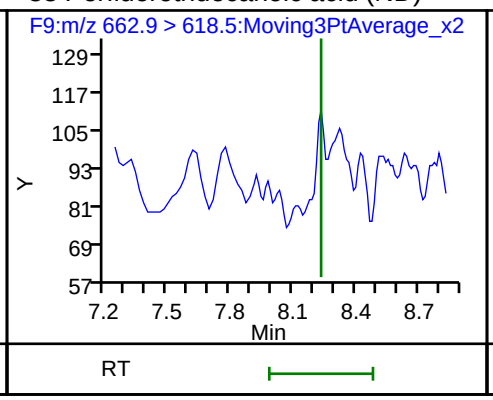
36 Perfluorododecanoic acid (ND)



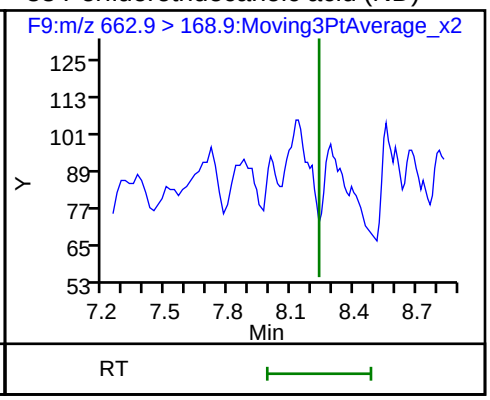
D 37 13C2 PFDoA



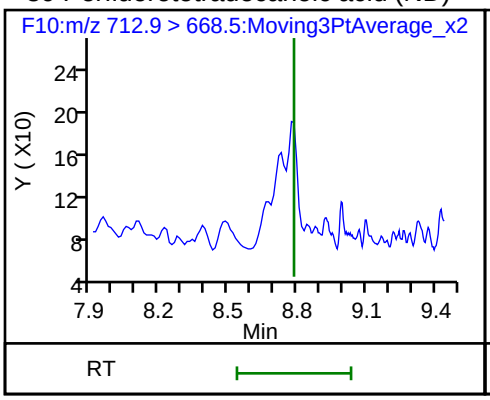
38 Perfluorotridecanoic acid (ND)



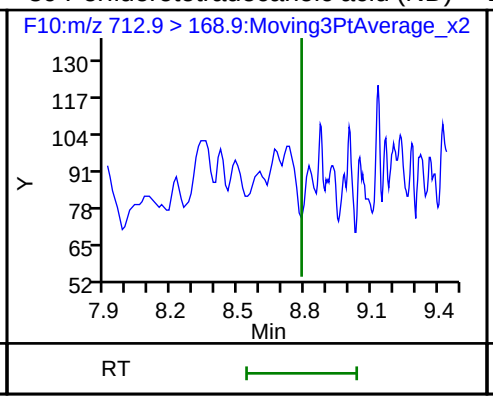
38 Perfluorotridecanoic acid (ND)



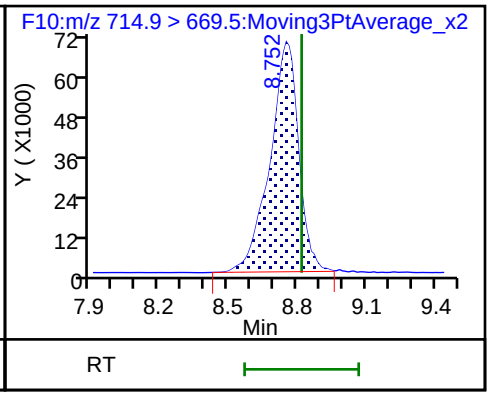
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

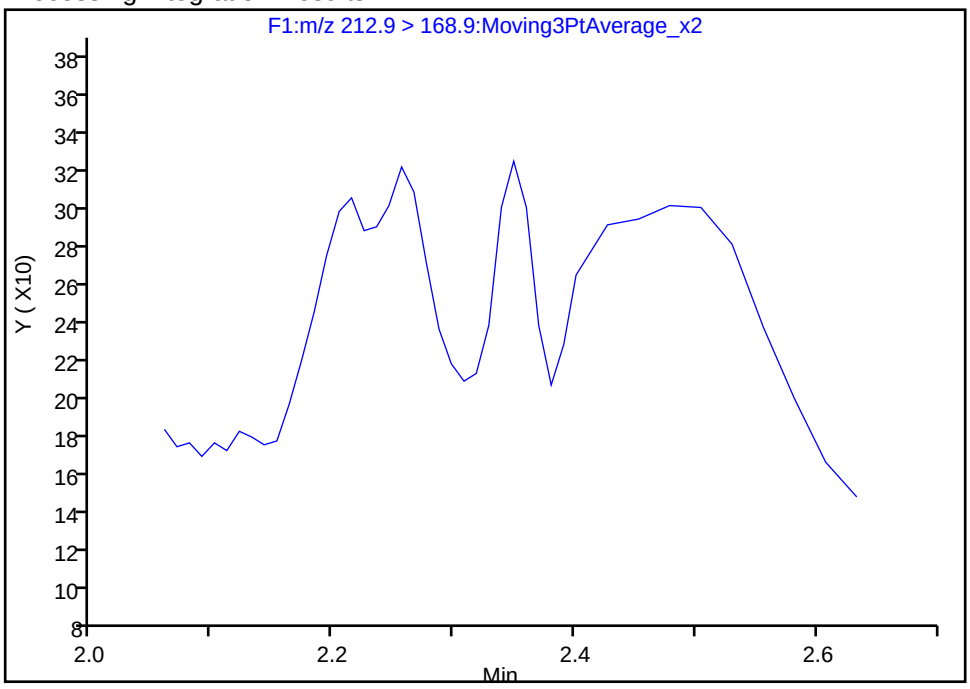
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

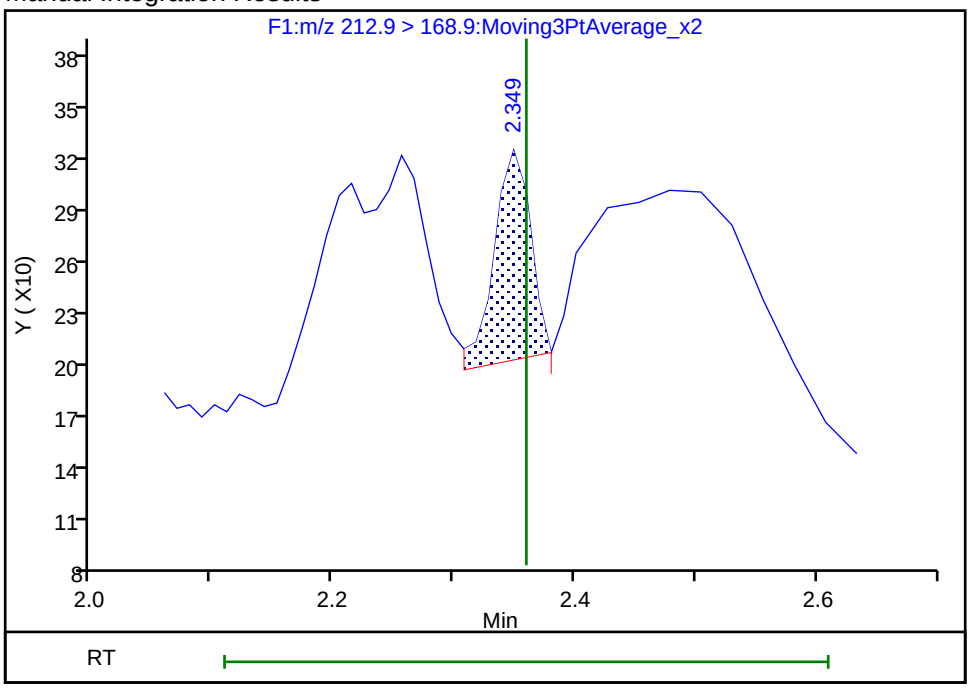
Not Detected
Expected RT: 2.36

Processing Integration Results



Manual Integration Results

RT: 2.35
Area: 250
Amount: 0.182934
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:55:32
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

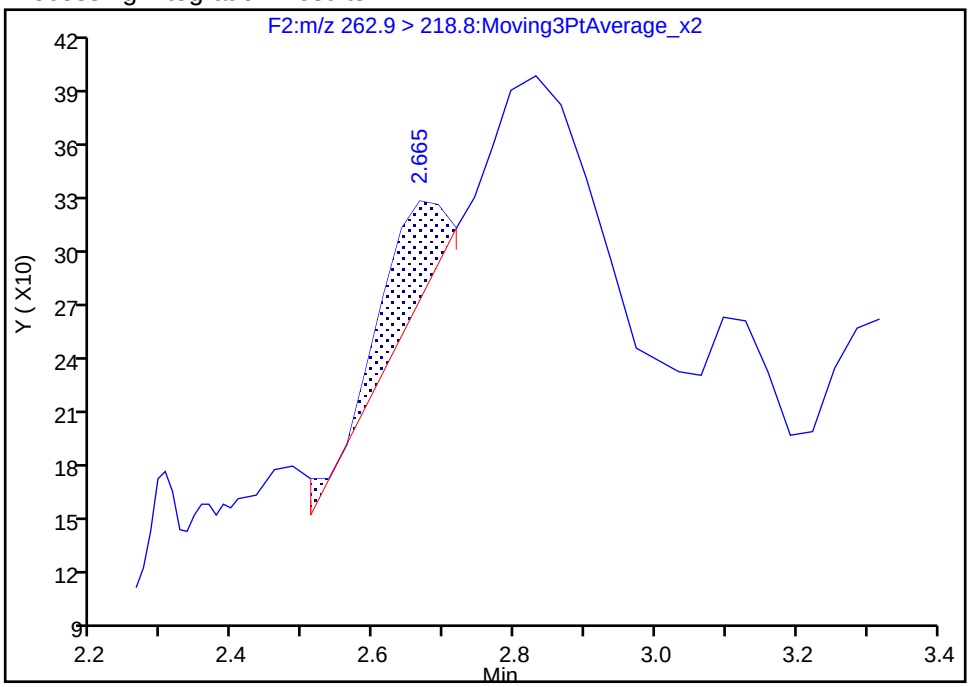
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

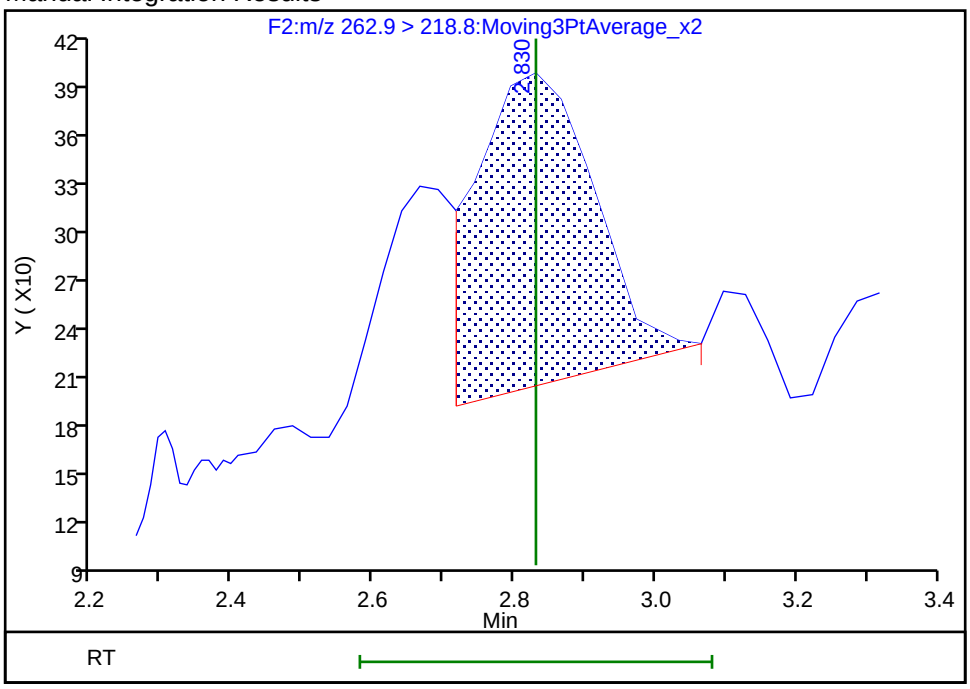
Processing Integration Results

RT: 2.67
Area: 337
Amount: 0.055472
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 2182
Amount: 0.359169
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:55:48

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

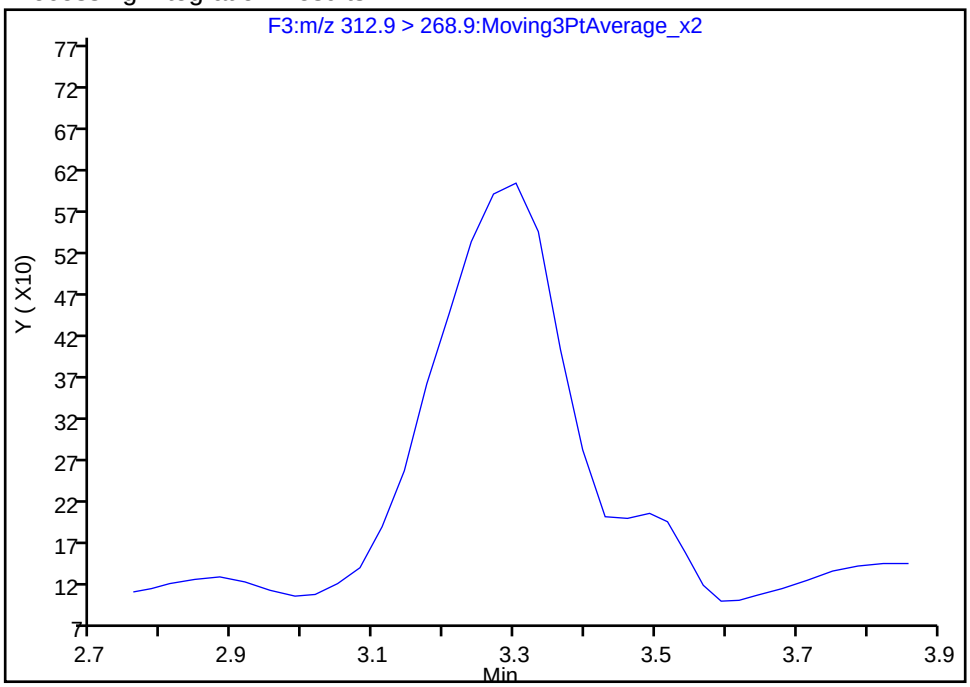
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

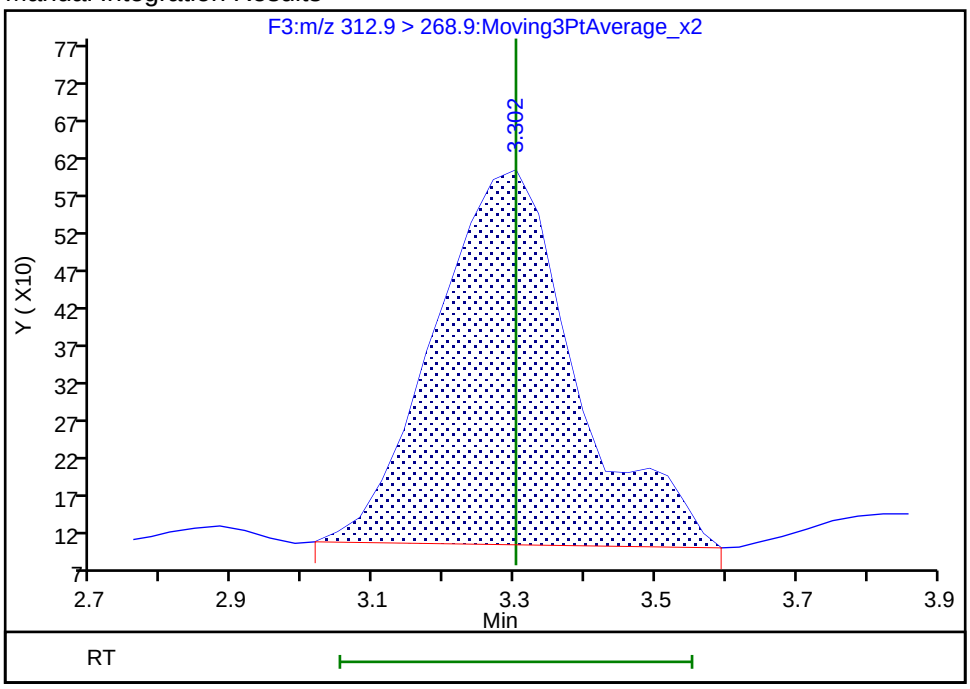
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.30
Area: 6864
Amount: 0.564456
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:59:16
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

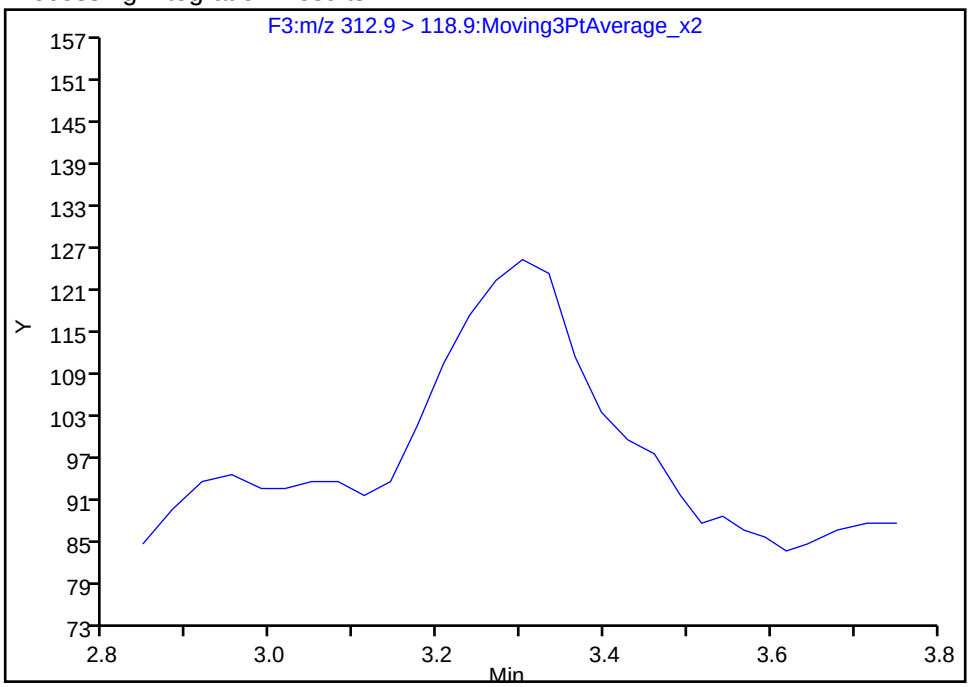
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

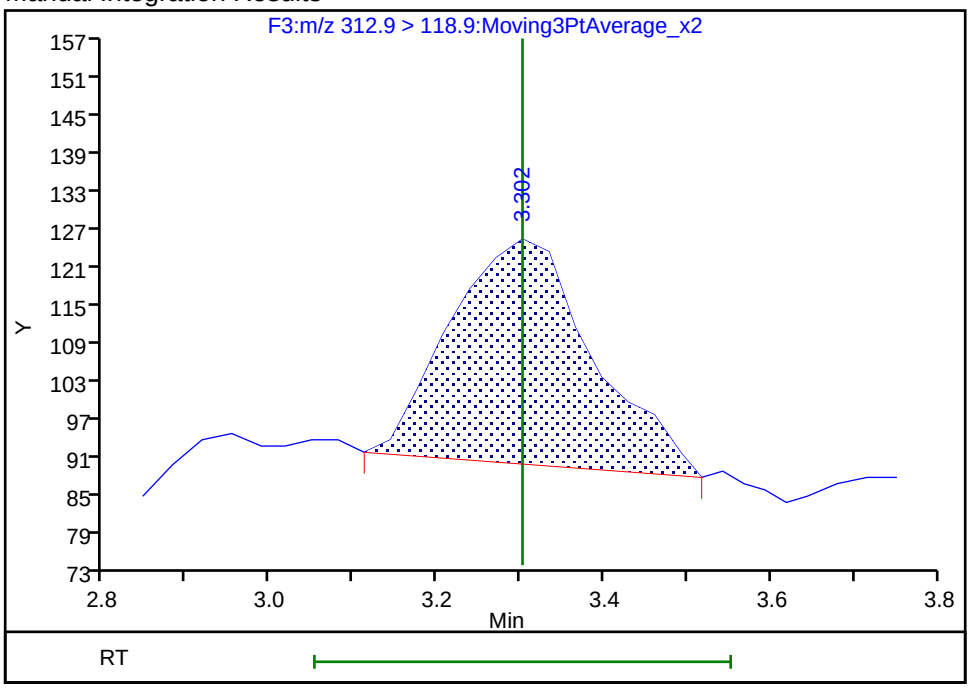
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.30
Area: 425
Amount: 0.564456
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:59:19
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

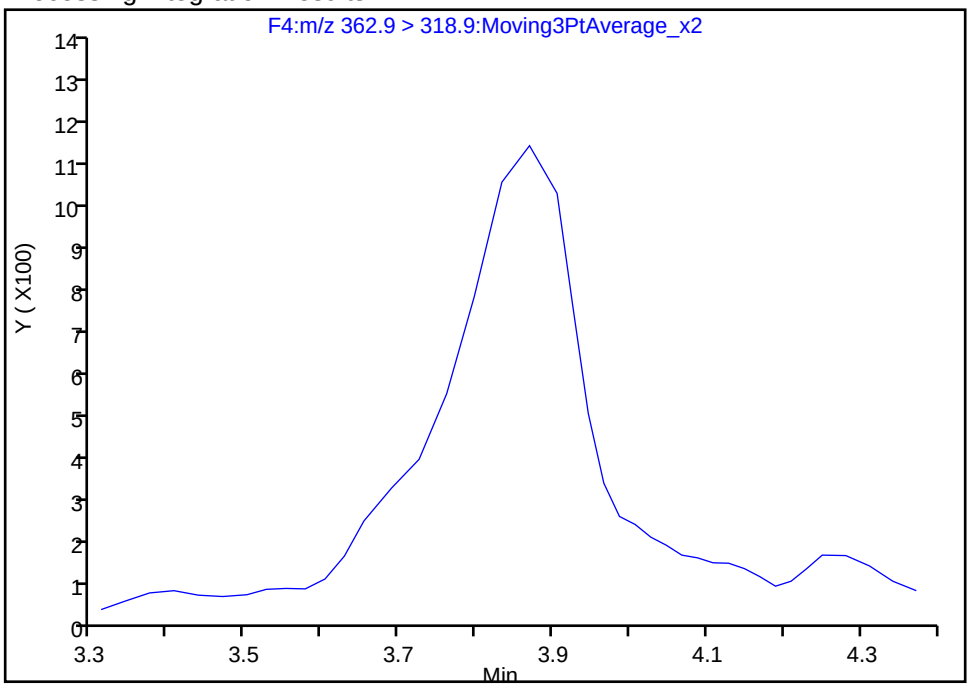
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

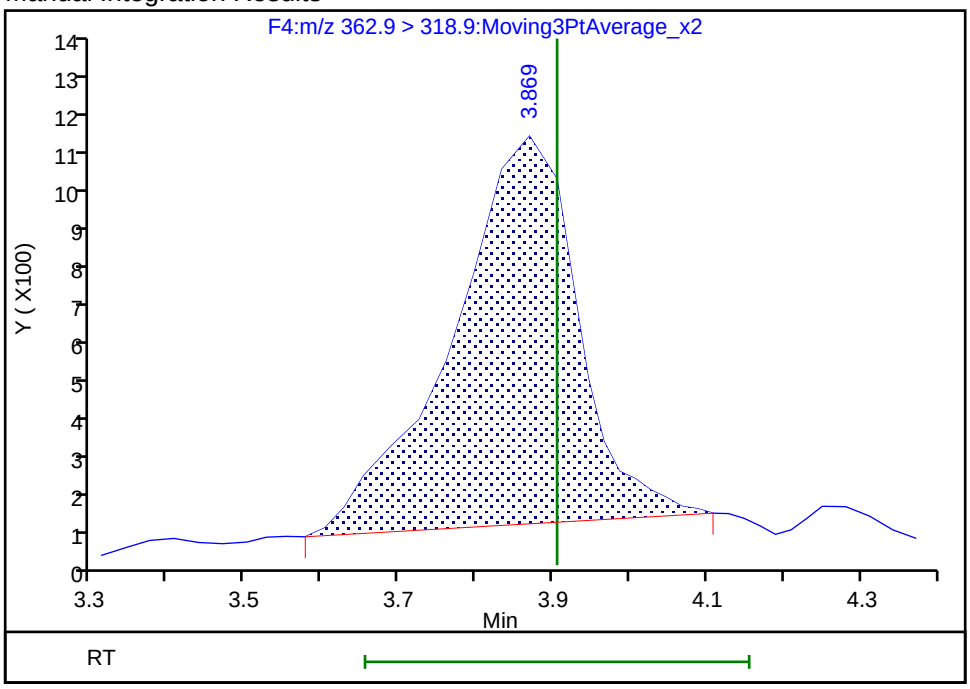
Not Detected
Expected RT: 3.91

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 10858
Amount: 0.620862
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:59:03
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

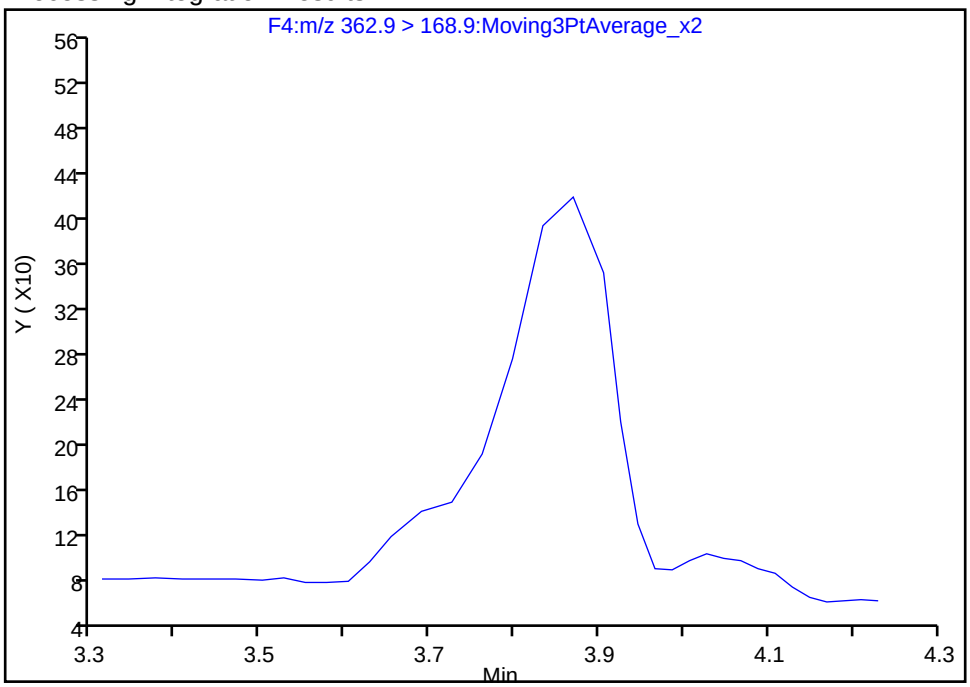
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

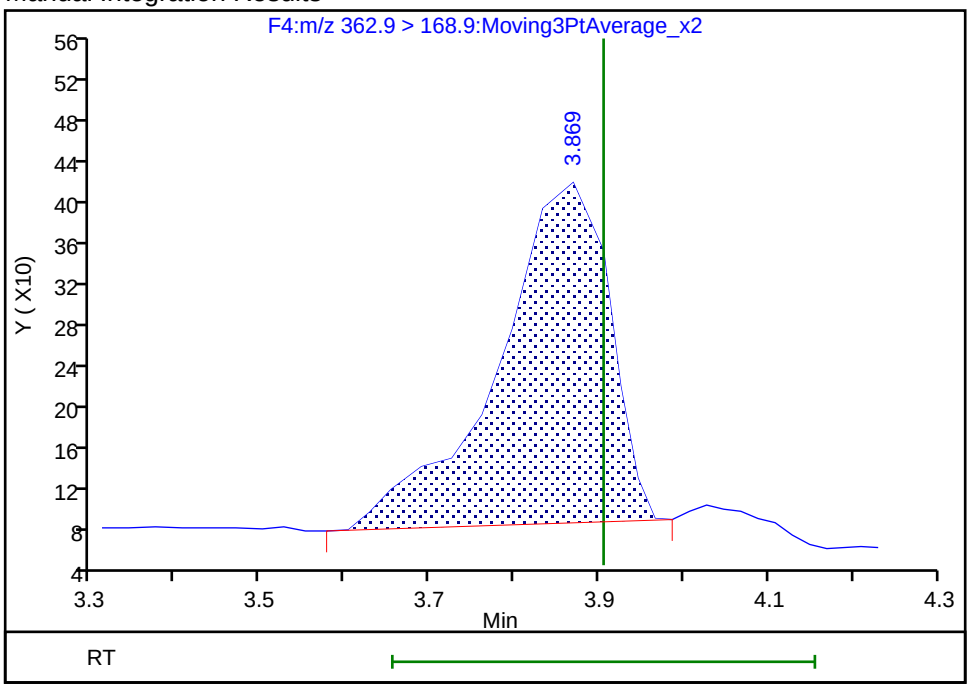
Not Detected
Expected RT: 3.91

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 3016
Amount: 0.620862
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:59:06
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

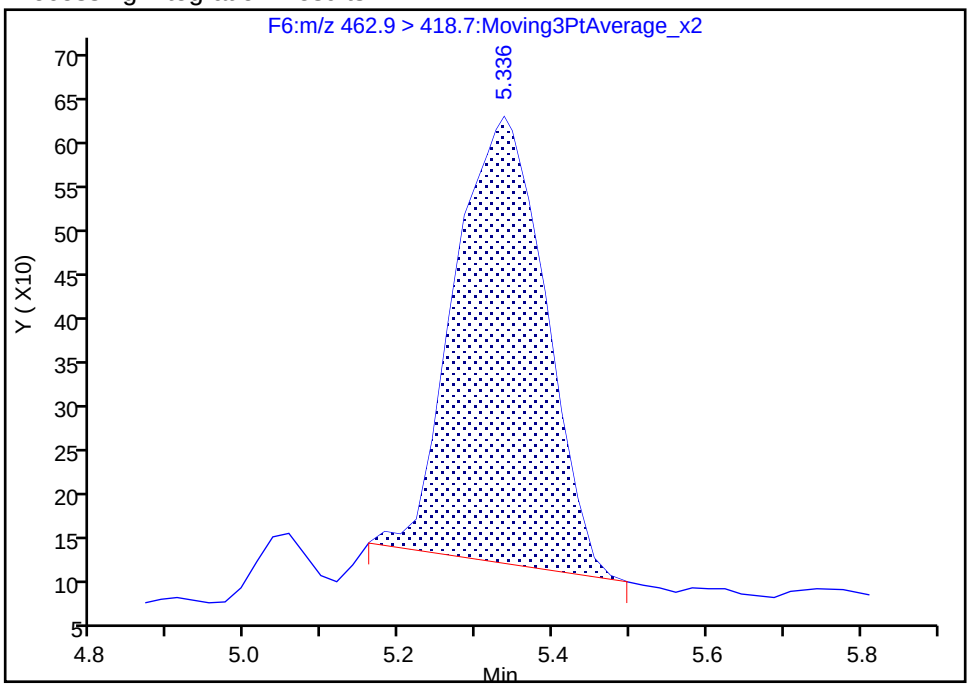
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

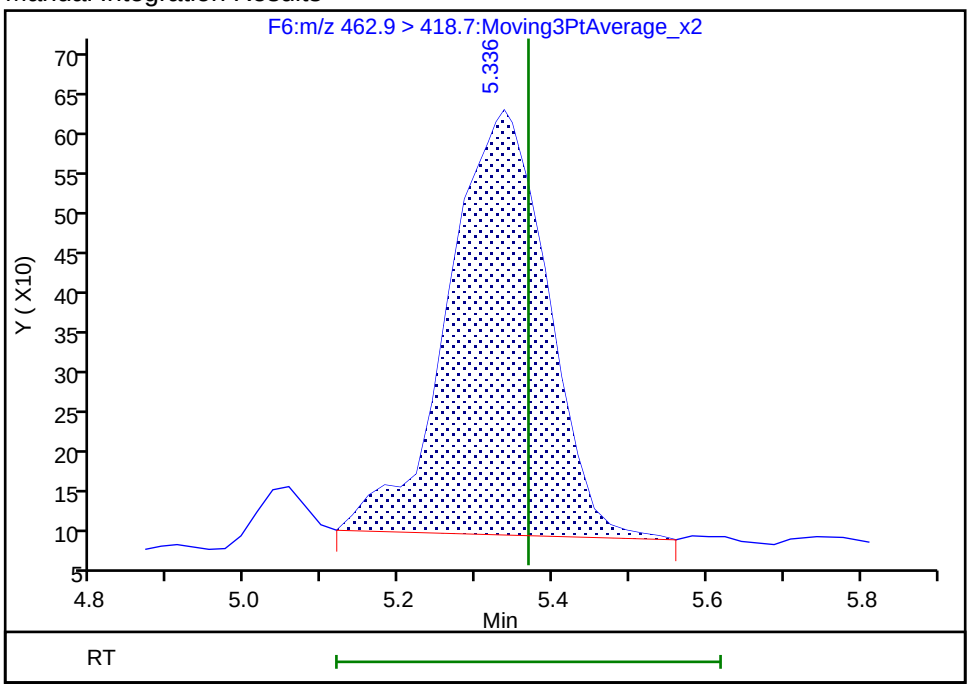
Processing Integration Results

RT: 5.34
Area: 4161
Amount: 0.253556
Amount Units: ng/ml



Manual Integration Results

RT: 5.34
Area: 4793
Amount: 0.292068
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:56:30
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

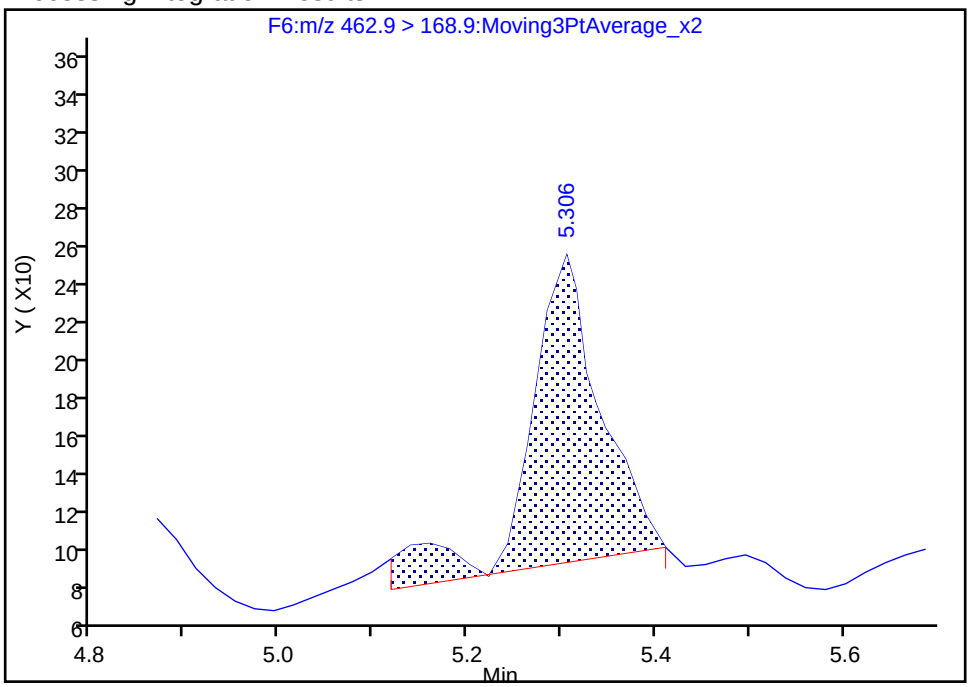
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

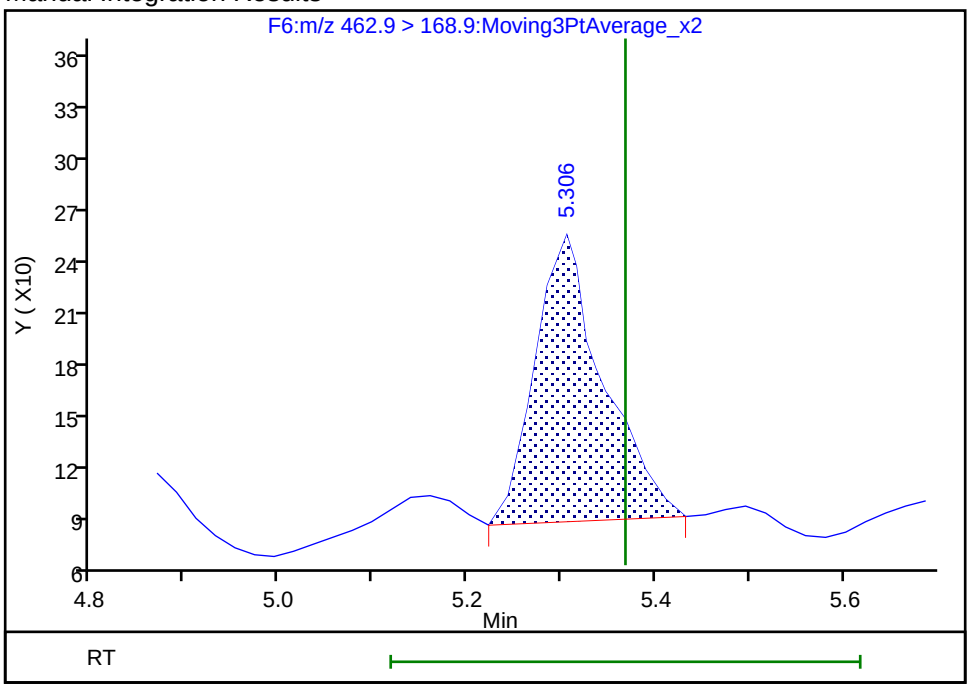
Processing Integration Results

RT: 5.31
Area: 849
Amount: 0.253556
Amount Units: ng/ml



Manual Integration Results

RT: 5.31
Area: 829
Amount: 0.292068
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:56:33

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

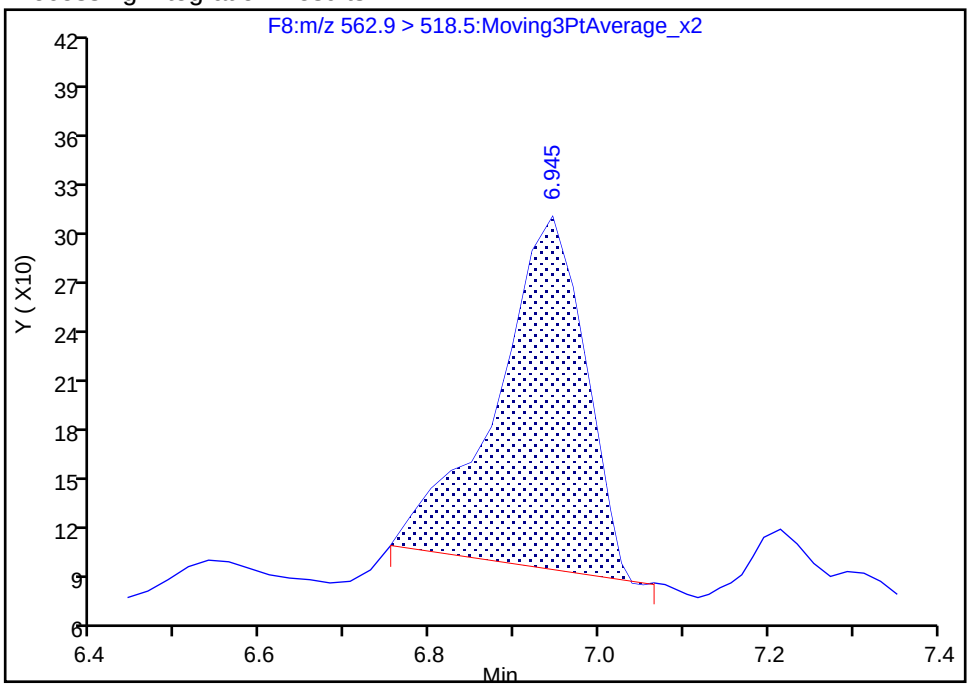
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

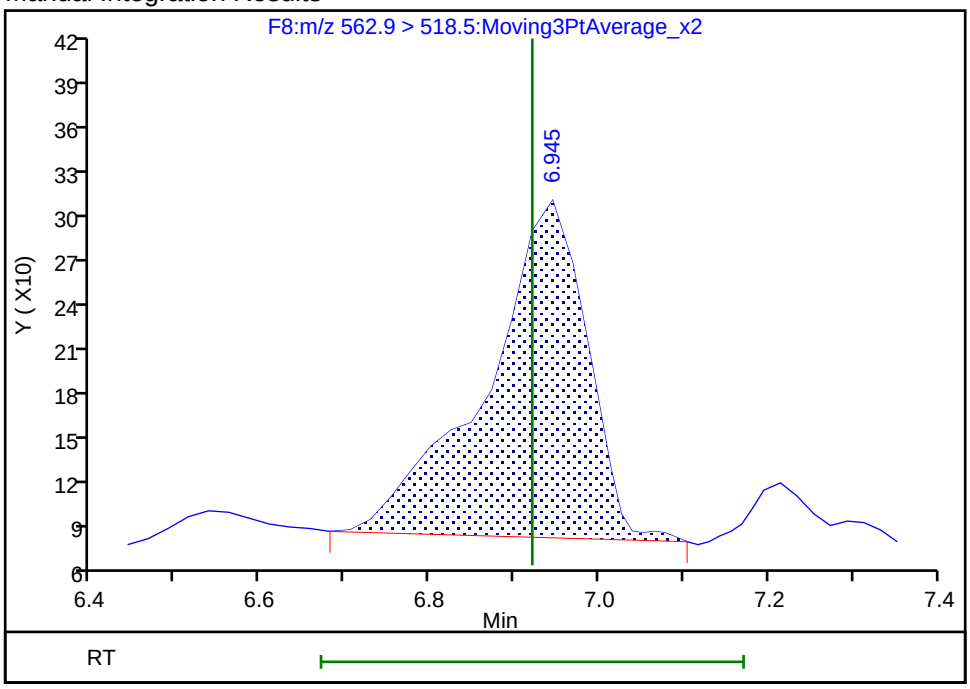
Processing Integration Results

RT: 6.94
Area: 1580
Amount: 0.117652
Amount Units: ng/ml



Manual Integration Results

RT: 6.94
Area: 1897
Amount: 0.141257
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:58:02
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

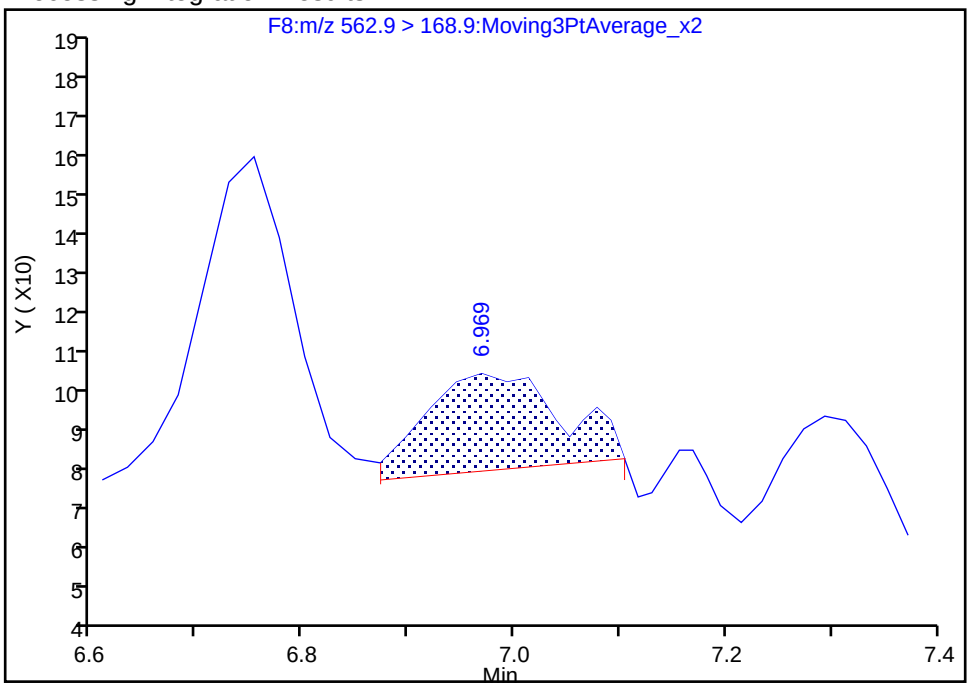
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

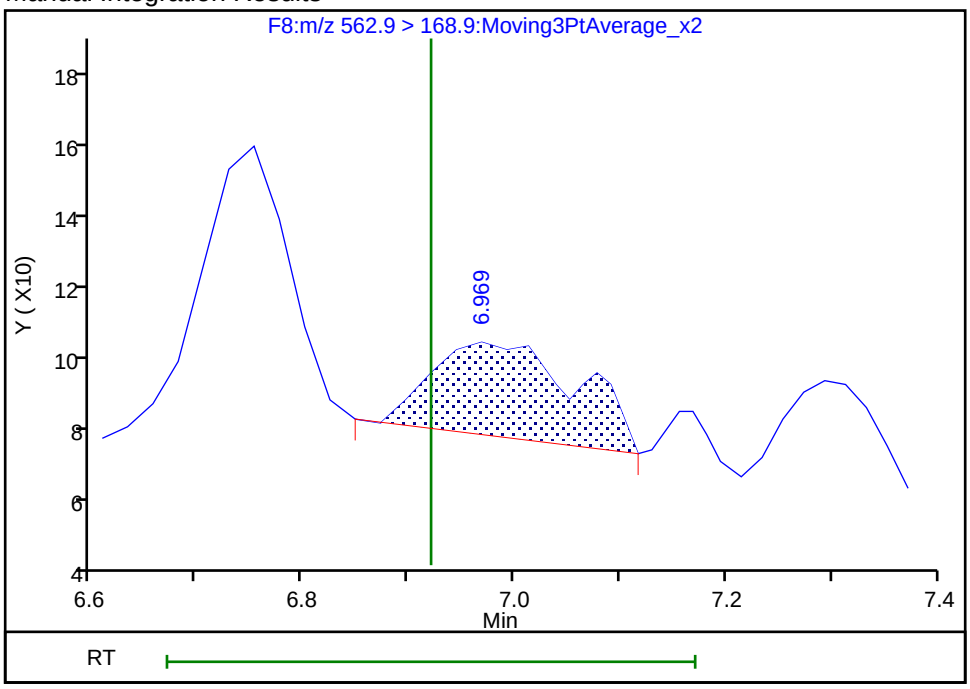
Processing Integration Results

RT: 6.97
Area: 201
Amount: 0.117652
Amount Units: ng/ml



Manual Integration Results

RT: 6.97
Area: 234
Amount: 0.141257
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:58:04

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

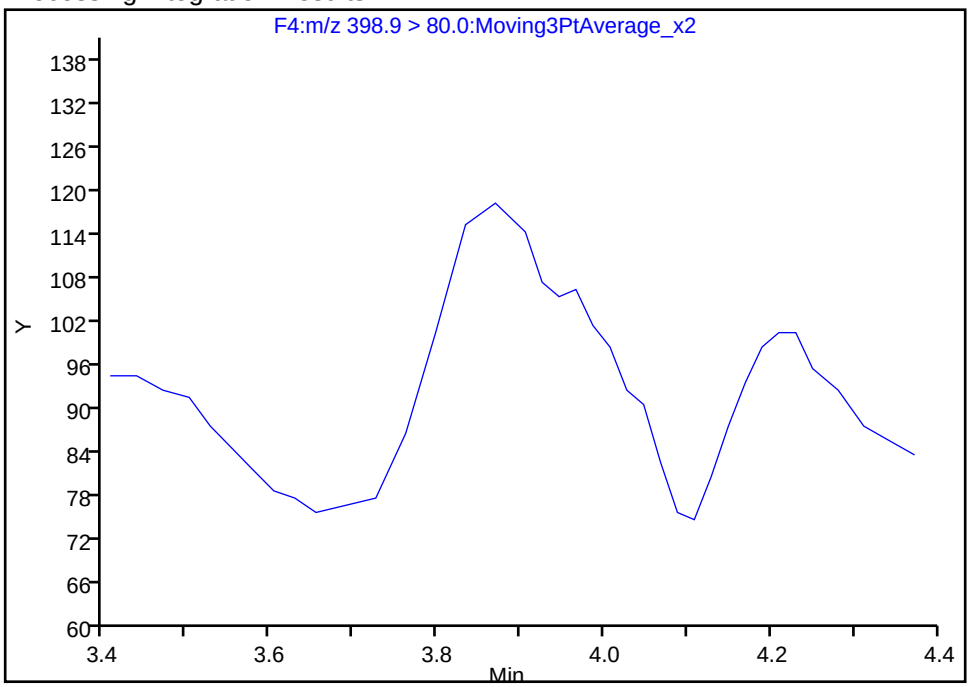
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

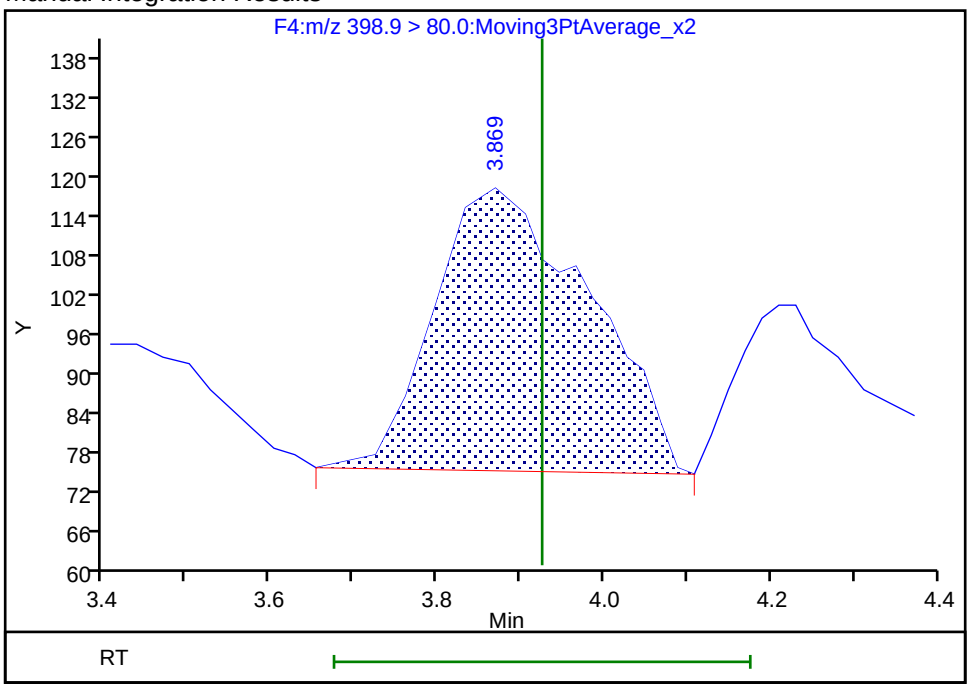
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 562
Amount: 0.196211
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:58:54
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

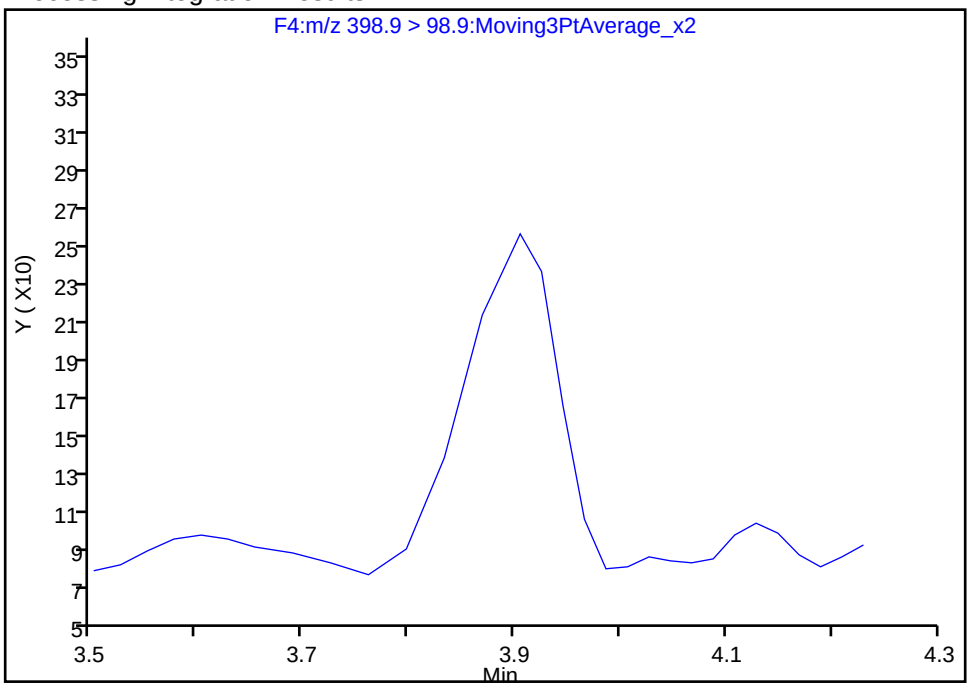
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

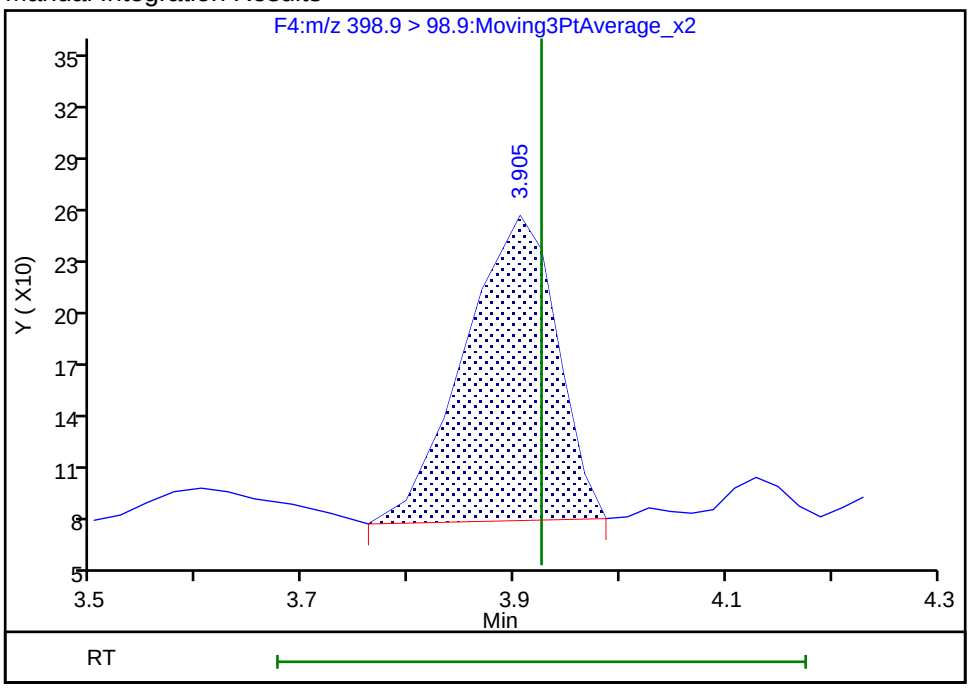
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.91
Area: 1032
Amount: 0.196211
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:58:58
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

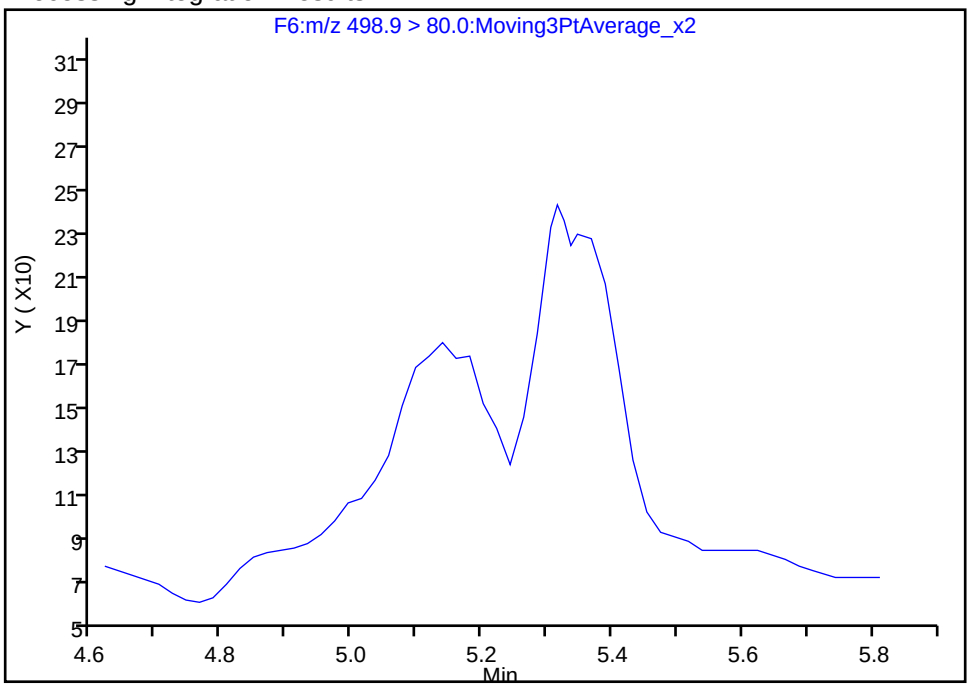
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

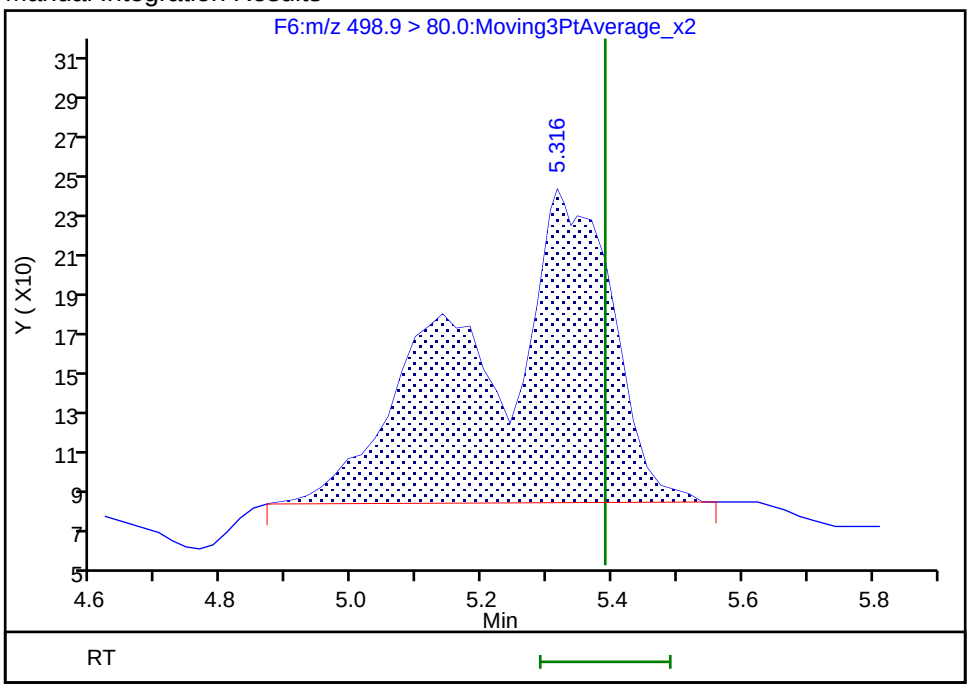
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.32
Area: 2260
Amount: 0.990386
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:58:23
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

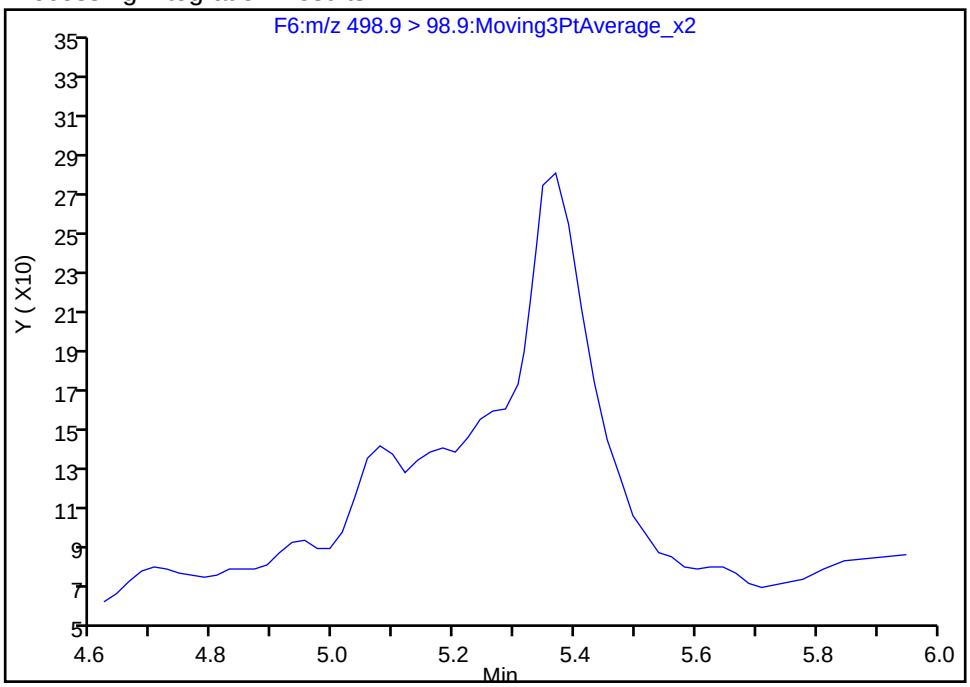
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

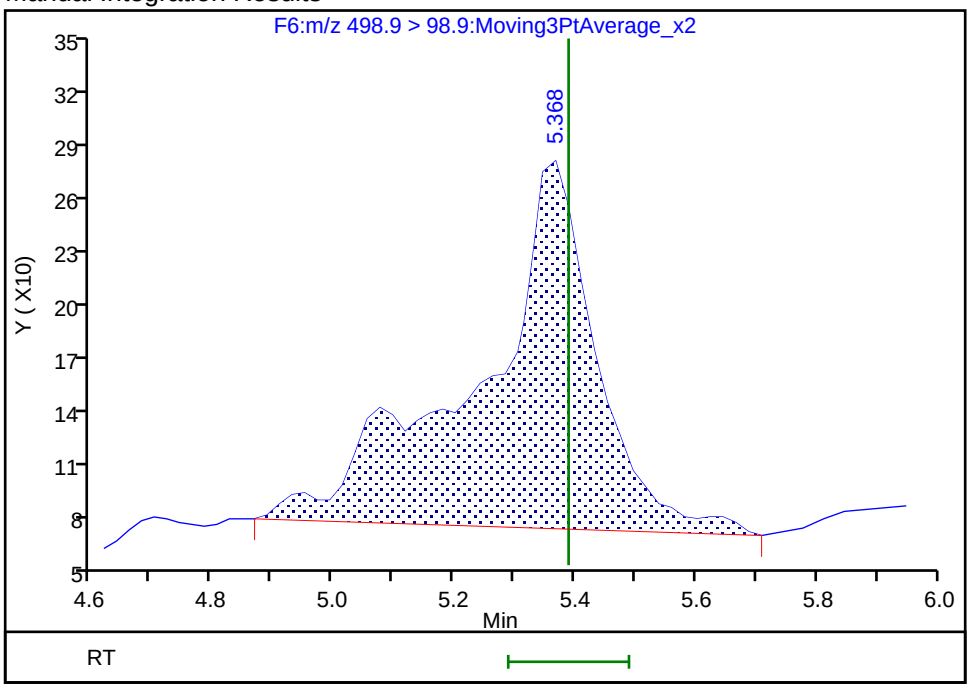
Processing Integration Results

Not Detected
Expected RT: 5.39



Manual Integration Results

RT: 5.37
Area: 2724
Amount: 0.990386
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:58:33
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

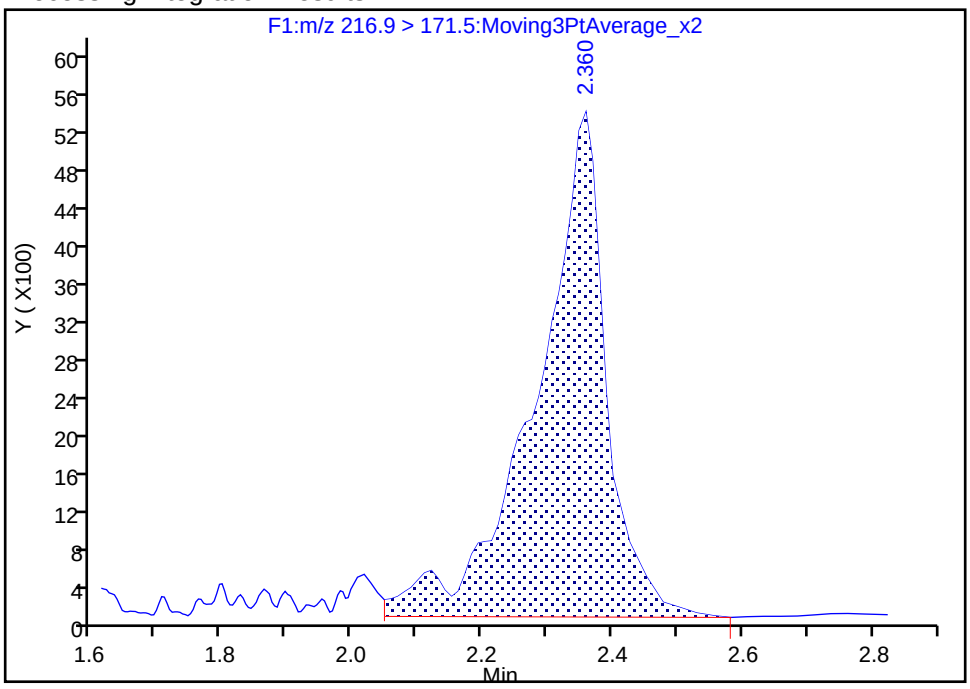
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

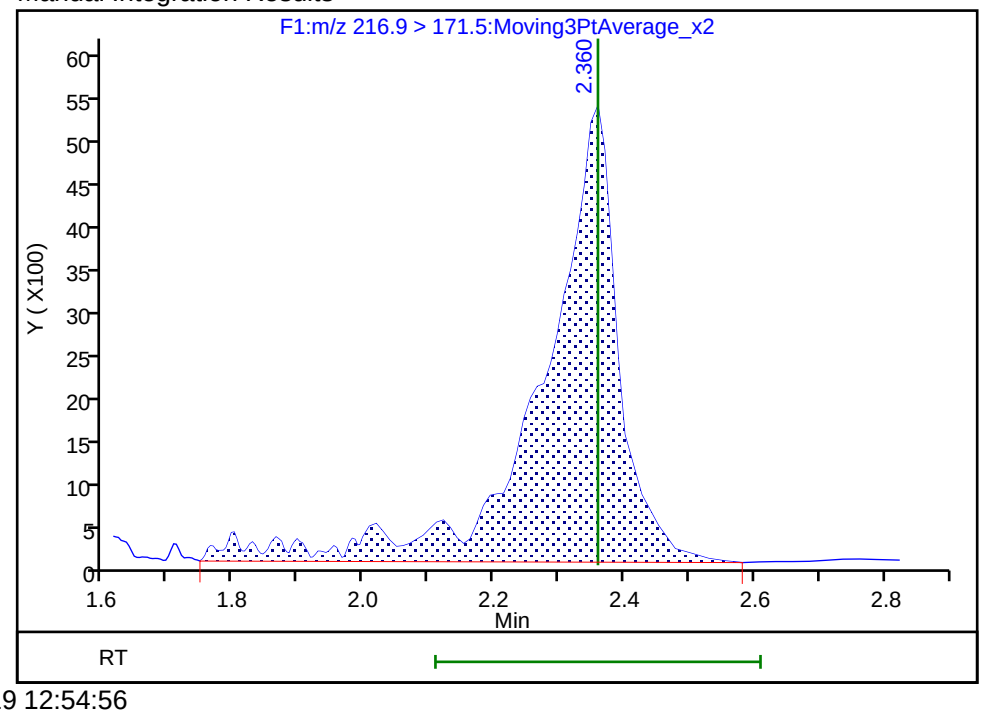
Processing Integration Results

RT: 2.36
Area: 40081
Amount: 5.601948
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 43523
Amount: 6.083022
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:54:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

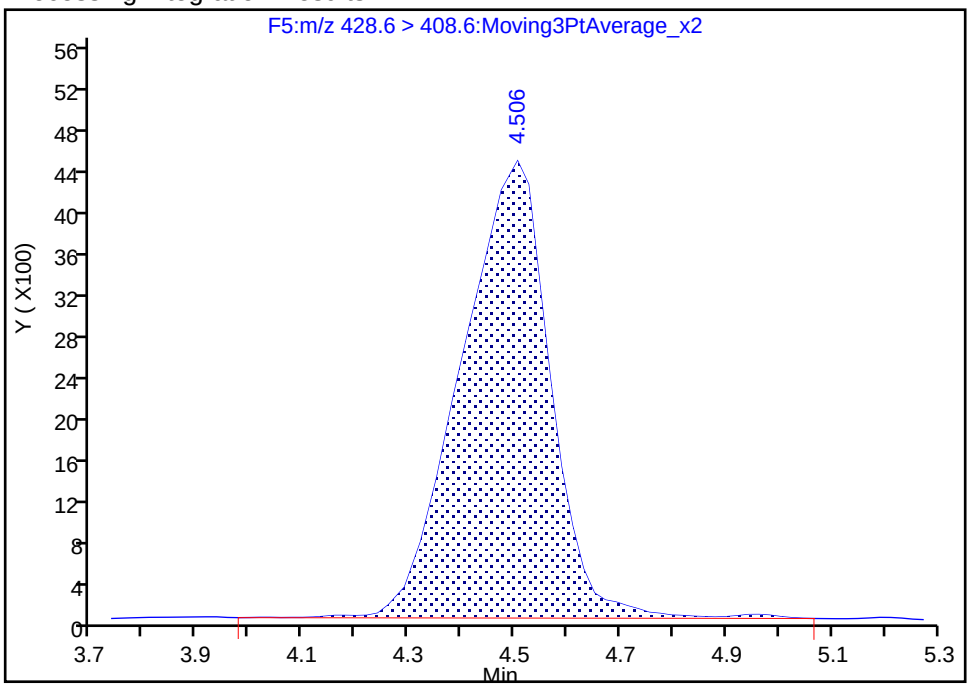
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B16.d				
Injection Date:	05-Jun-2019 05:17:52	Instrument ID:	LC410		
Lims ID:	200-48826-A-14-A	Lab Sample ID:	200-48826-14		
Client ID:	MW-16D 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

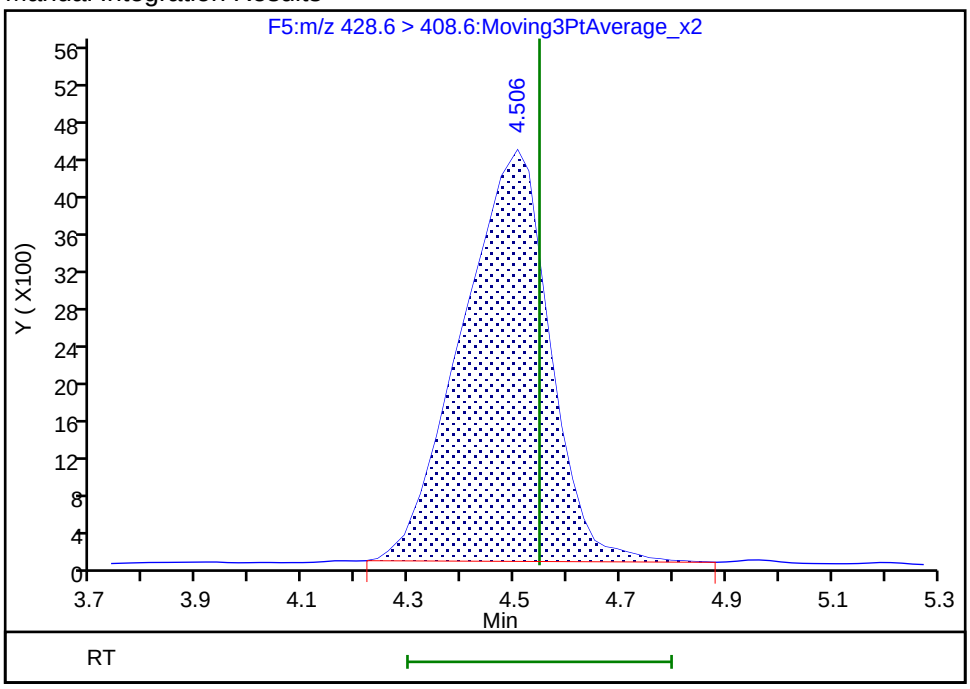
Processing Integration Results

RT: 4.51
Area: 51092
Amount: 31.340397
Amount Units: ng/ml



Manual Integration Results

RT: 4.51
Area: 50039
Amount: 30.694476
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 12:56:17

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-24 051519 Lab Sample ID: 200-48826-15

Matrix: Water Lab File ID: PF060419B18.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 14:56

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 296.8(mL) Date Analyzed: 06/05/2019 05:49

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.7	0.84
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.3	J	1.7	0.53
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.64
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.0		1.7	0.77
335-67-1	Perfluorooctanoic acid (PFOA)	8.5		1.7	0.53
375-95-1	Perfluorononanoic acid (PFNA)	0.90	J	1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.65
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.77
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.2		1.7	0.41
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.9		1.7	0.67
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.80
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.76
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	36	B *	1.7	0.51
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.54
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3
27619-97-2	6:2 FTS	ND		17	3.9
39108-34-4	8:2 FTS	ND		17	2.4

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-24 051519 Lab Sample ID: 200-48826-15

Matrix: Water Lab File ID: PF060419B18.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 14:56

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 296.8(mL) Date Analyzed: 06/05/2019 05:49

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	35		25-150
STL00992	13C4 PFBA	29		25-150
STL01893	13C5 PFPeA	35		25-150
STL00993	13C2 PFHxA	49	*	50-150
STL01892	13C4 PFHpA	58		50-150
STL00990	13C4 PFOA	58		50-150
STL00995	13C5 PFNA	46	*	50-150
STL00996	13C2 PFDA	46	*	50-150
STL00997	13C2 PFUnA	44	*	50-150
STL00998	13C2 PFDoA	38	*	50-150
STL02116	13C2 PFTeDA	40	*	50-150
STL02337	13C3 PFBS	44	*	50-150
STL00994	18O2 PFHxS	44	*	50-150
STL00991	13C4 PFOS	40	*	50-150
STL02118	d3-NMeFOSAA	32	*	50-150
STL02117	d5-NEtFOSAA	37	*	50-150
STL02279	M2-6:2 FTS	78		25-150
STL02280	M2-8:2 FTS	66		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d
Lims ID: 200-48826-A-15-A
Client ID: MW-24 051519
Sample Type: Client
Inject. Date: 05-Jun-2019 05:49:42 ALS Bottle#: 0 Worklist Smp#: 18
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-018 15
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 13:04:42
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.329	2.360	-0.031	1.000	95305	14.7		29.5	43.4	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.866	2.830	0.036	1.025	4041	0.7758			2.4	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.795	2.830	-0.035	1.000	86976	17.7		35.5	154	M
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.012	3111	1.30	Target=1.67		2.4	
298.9 > 98.9	2.901	2.901	0.0	1.012	2202		1.41(0.83-2.51)		6.6	
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.901	-0.035	1.000	44122	20.7		44.5	83.3	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	356757	24.3		48.5	616	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	605823	29.2		58.5	1568	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.905	-0.036	1.000	16850	1.18	Target=2.84		7.2	
362.9 > 168.9	3.869	3.905	-0.036	1.000	6269		2.69(1.42-4.26)		25.2	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.925	-0.020	1.000	2805	1.10	Target=1.34		7.2	M
398.9 > 98.9	3.905	3.925	-0.020	1.000	2670		1.05(0.67-2.01)		17.3	M
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.925	-0.020	1.000	56809	20.8		44.0	174	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	54711	37.1		78.2	170	M
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1321646	50.0			2024	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.547	4.589	-0.042	0.995	75735	5.07	Target=2.43		97.9	M
412.9 > 168.9	4.589	4.589	0.0	1.005	26444		2.86(1.22-3.64)		95.0	M
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	737895	28.8		57.5	1183	
19 Perfluorononanoic acid										M
462.9 > 418.7	5.347	5.368	-0.021	1.000	7434	0.5338	Target=5.00		13.4	M
462.9 > 168.9	5.368	5.368	0.0	1.004	2331		3.19(2.50-7.50)		8.7	M
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.389	-0.042	1.000	788616	22.9		45.8	1896	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.368	5.389	-0.021	1.004	50734	21.6	Target=1.41		143	M
498.9 > 98.9	5.347	5.389	-0.042	1.000	42339		1.20(0.71-2.12)		184	M
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	116448	18.9		39.6	537	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.199	6.131	0.068	1.011	119	0.0459			0.7	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	168442	31.4		65.7	553	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	674235	23.0		45.9	1750	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.549	-0.048	1.000	155349	16.2		32.5	850	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.921	-0.048	1.000	144789	18.3		36.7	415	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	618002	21.8		43.6	1377	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	186989	17.7		35.3	487	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	680206	18.8		37.6	1020	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.819	-0.067	1.000	644674	19.9		39.7	335	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:51:41 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d

Injection Date: 05-Jun-2019 05:49:42 Instrument ID: LC410

Lims ID: 200-48826-A-15-A Lab Sample ID: 200-48826-15

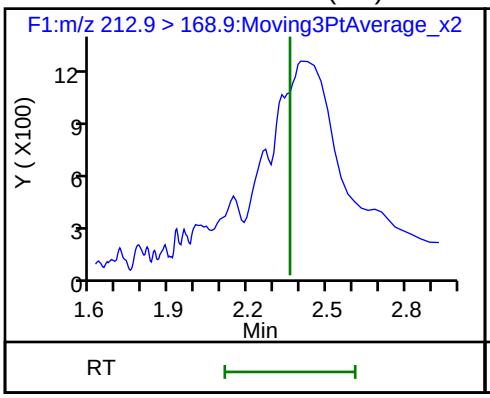
Client ID: MW-24 051519

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 18

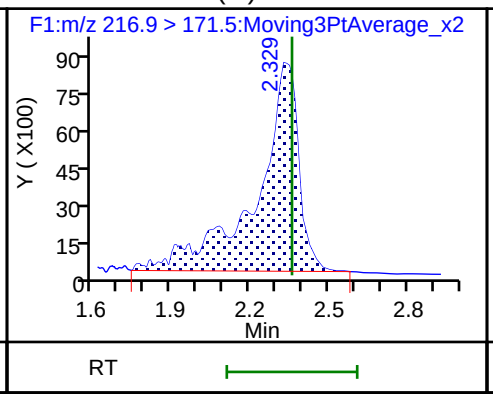
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

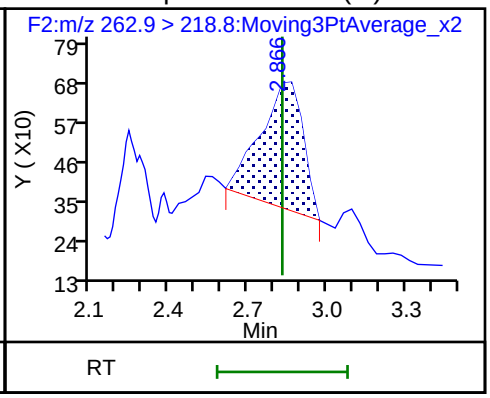
2 Perfluorobutanoic acid (ND)



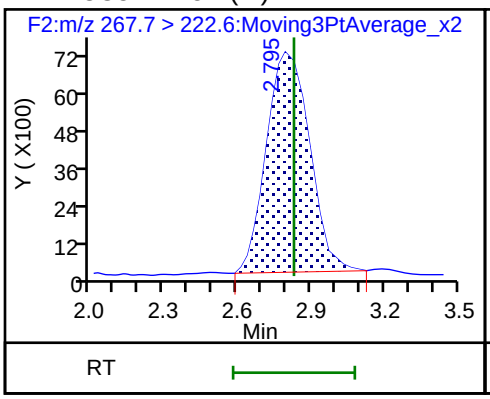
D 1 13C4 PFBA (M)



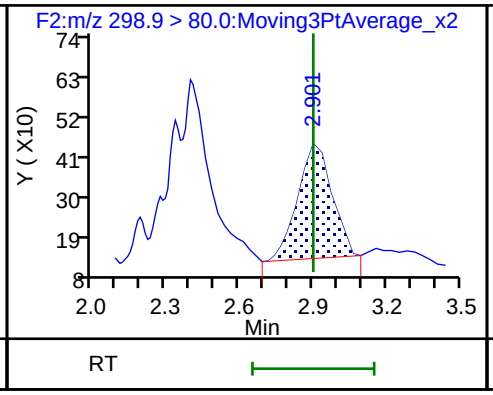
3 Perfluoropentanoic acid (M)



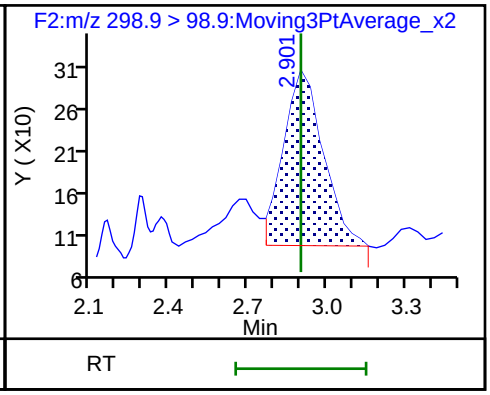
D 4 13C5 PFPeA (M)



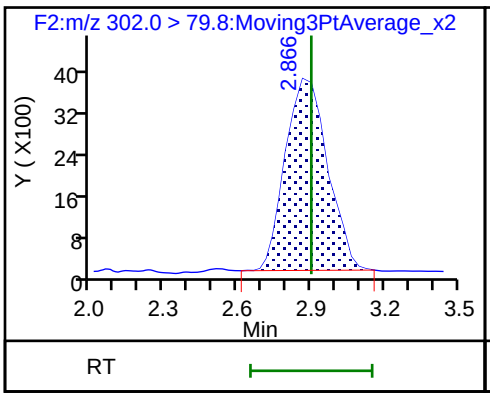
6 Perfluorobutanesulfonic acid



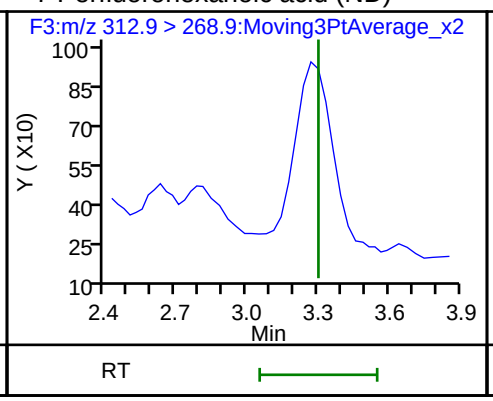
6 Perfluorobutanesulfonic acid



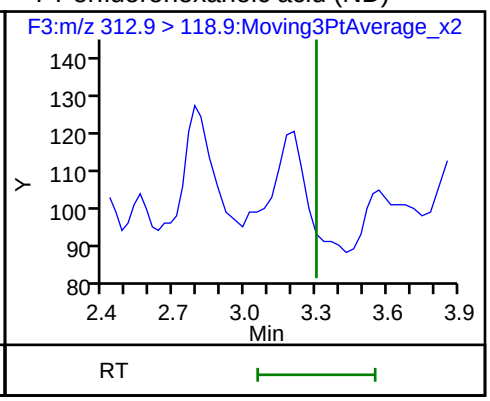
D 5 13C3 PFBS



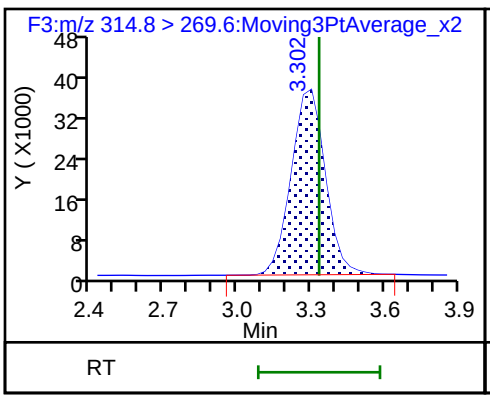
7 Perfluorohexanoic acid (ND)



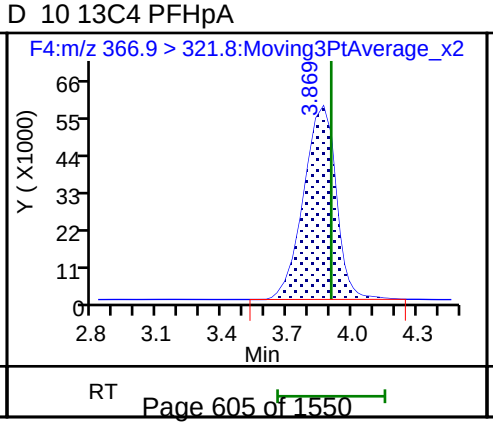
7 Perfluorohexanoic acid (ND)



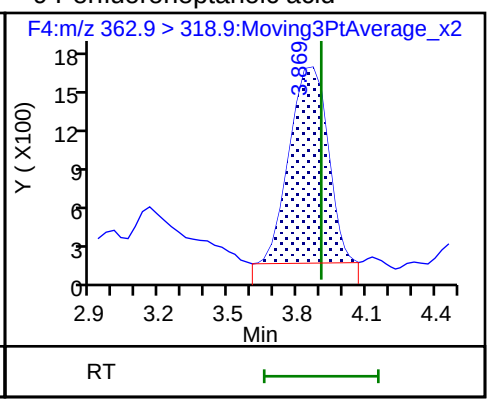
D 8 13C2 PFHxA



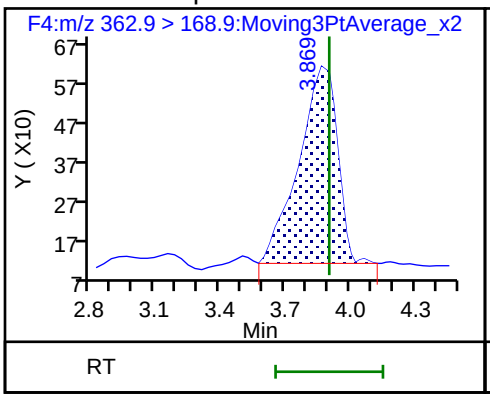
D 10 13C4 PFHpA



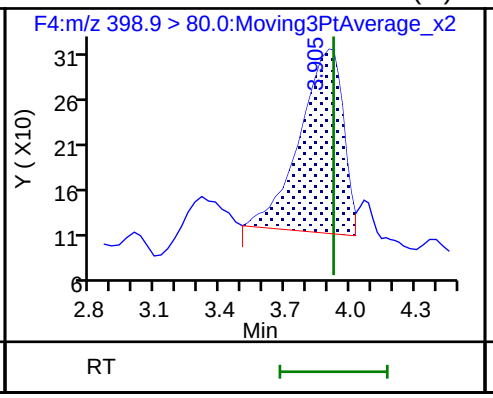
9 Perfluoroheptanoic acid



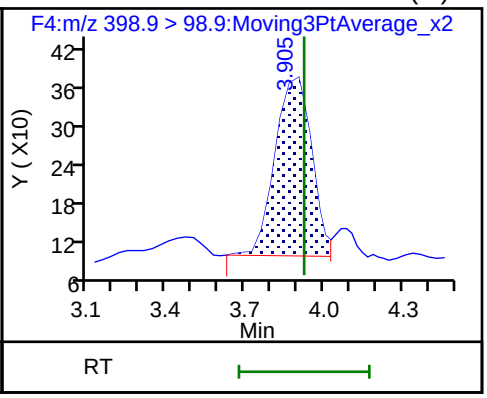
9 Perfluoroheptanoic acid



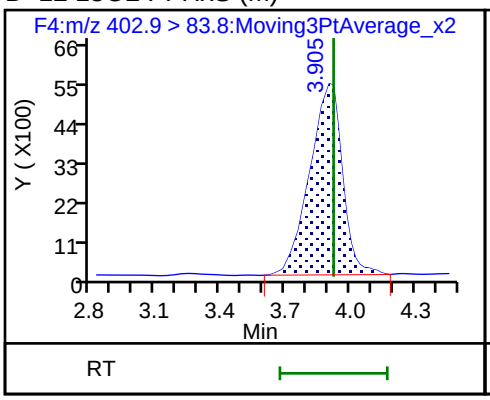
11 Perfluorohexanesulfonic acid (M)



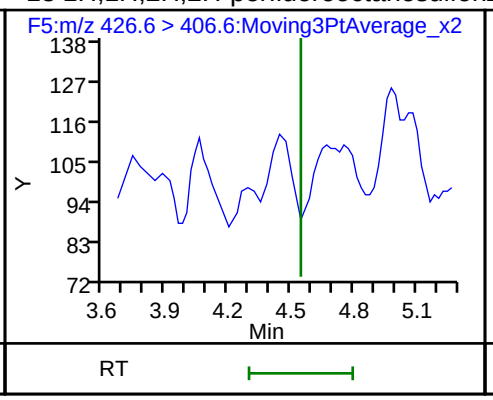
11 Perfluorohexanesulfonic acid (M)



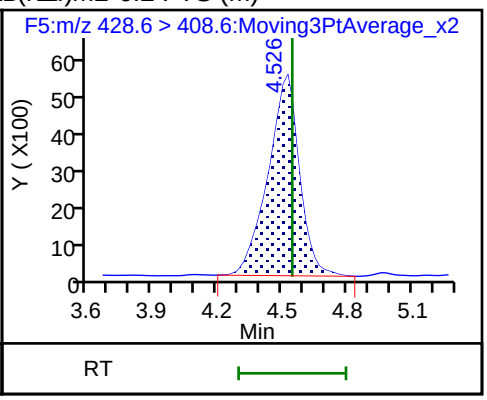
D 12 18O2 PFHxS (M)



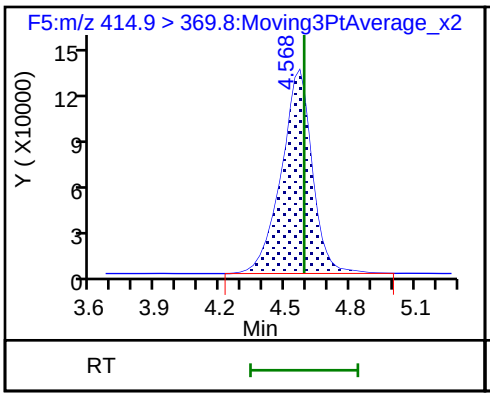
13 1H,1H,2H,2H-perfluorooctanesulfonic (M)



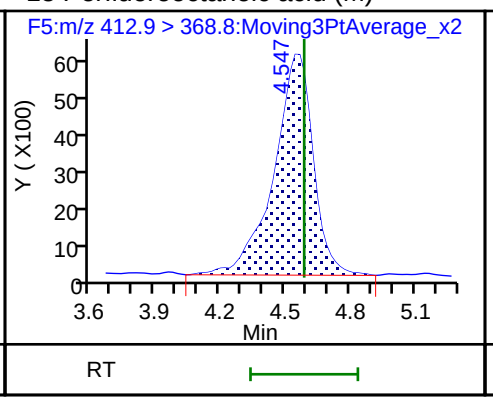
D 14 M2-6:2 FTS (M)



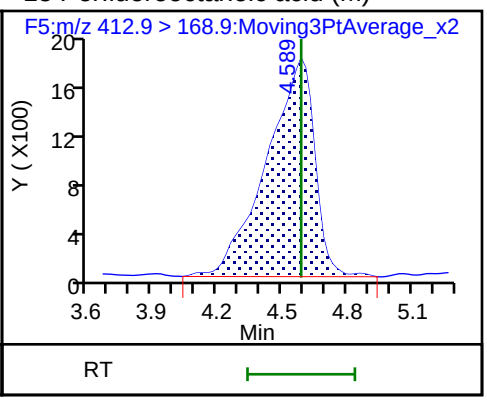
* 16 13C2 PFOA



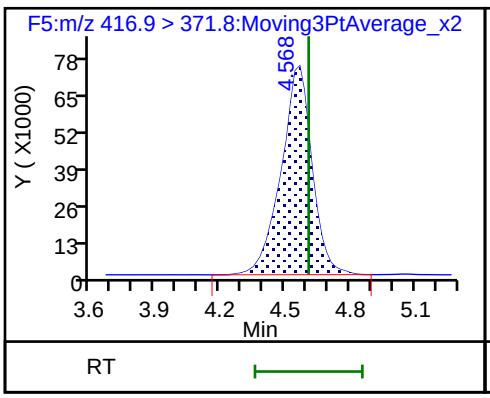
15 Perfluorooctanoic acid (M)



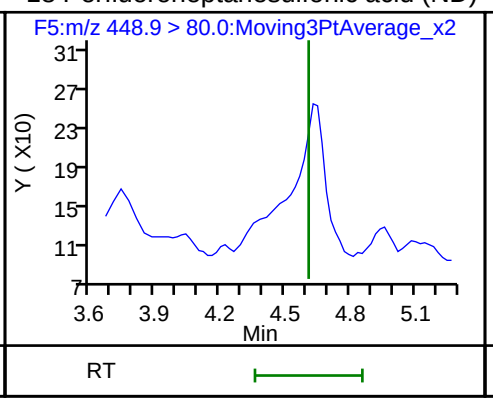
15 Perfluorooctanoic acid (M)



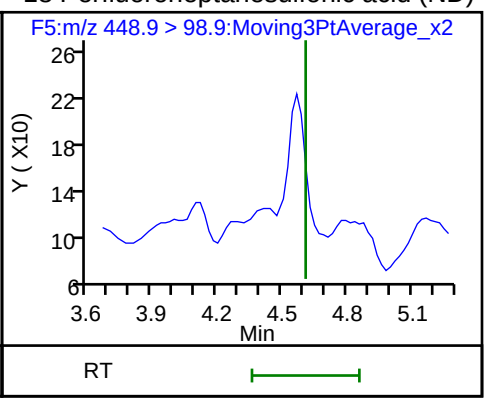
D 17 13C4 PFOA



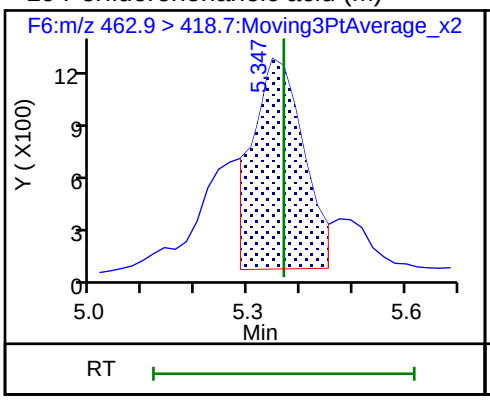
18 Perfluoroheptanesulfonic acid (ND)



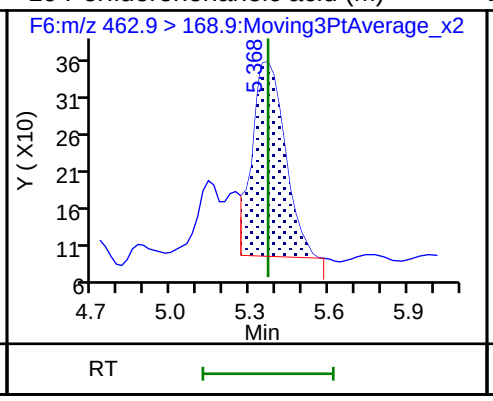
18 Perfluoroheptanesulfonic acid (ND)



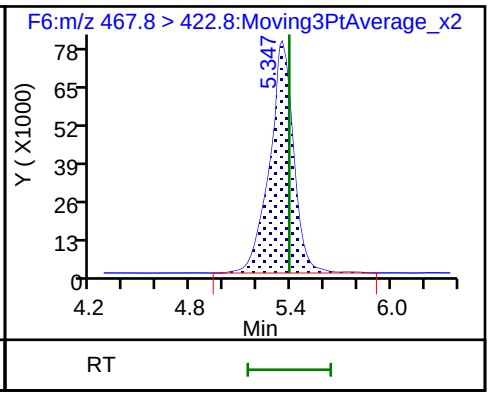
19 Perfluorononanoic acid (M)



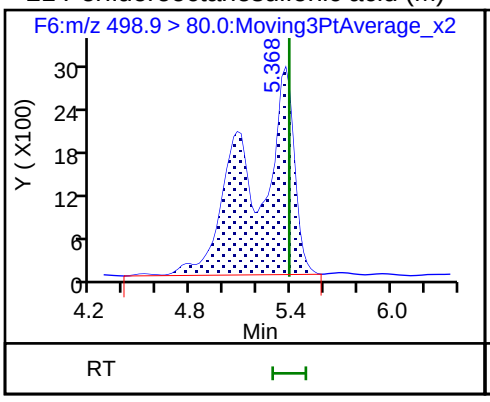
19 Perfluorononanoic acid (M)



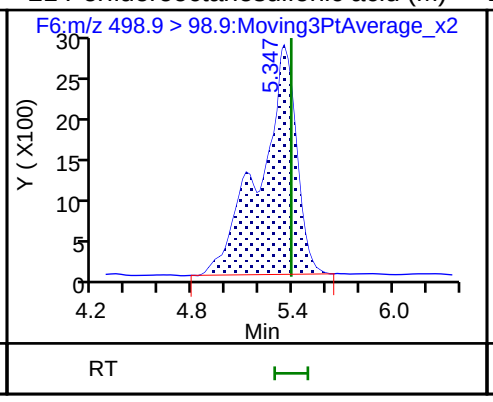
D 20 13C5 PFNA



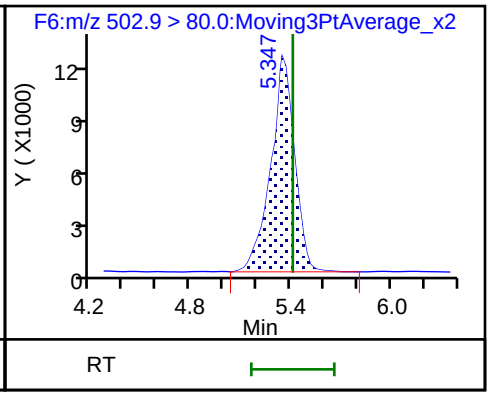
21 Perfluorooctanesulfonic acid (M)



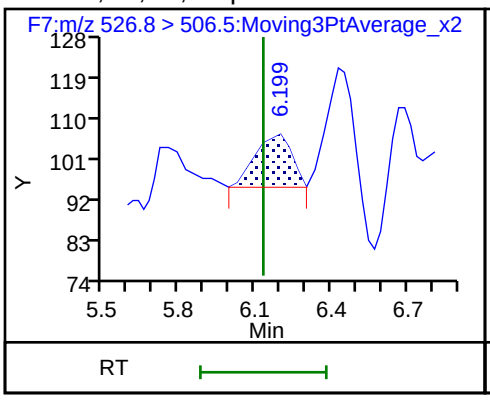
21 Perfluorooctanesulfonic acid (M)



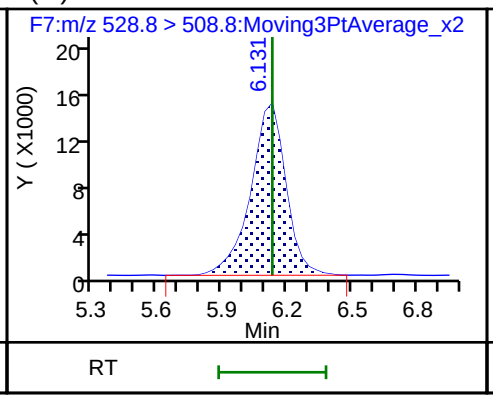
D 22 13C4 PFOS



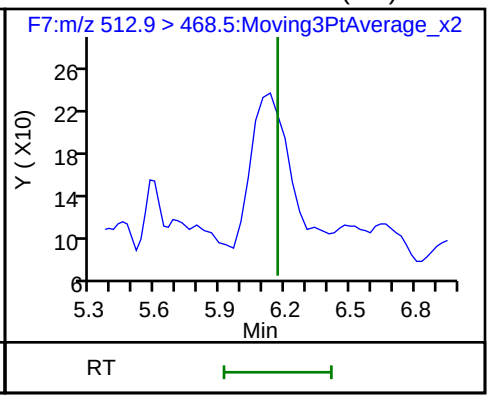
23 1H,1H,2H,2H-perfluorodecanesulfonic (4:2) M2-8:2 FTS



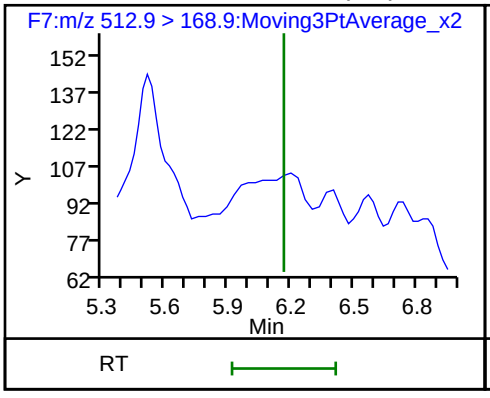
D 24



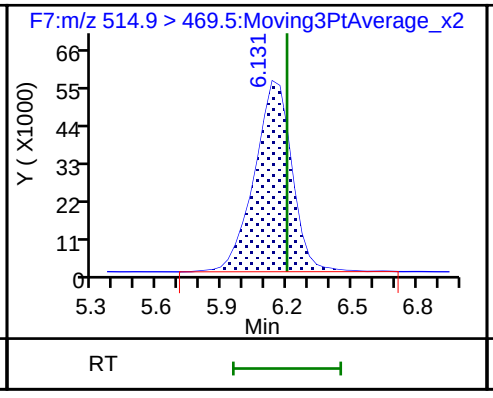
26 Perfluorodecanoic acid (ND)



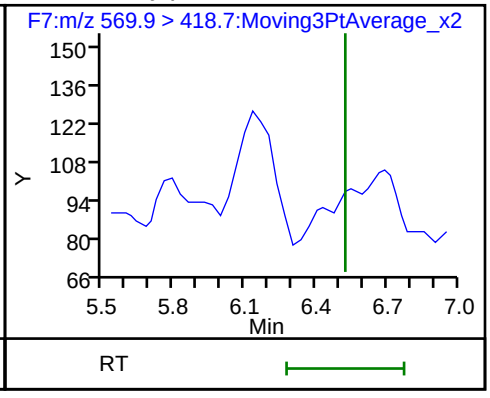
26 Perfluorodecanoic acid (ND)



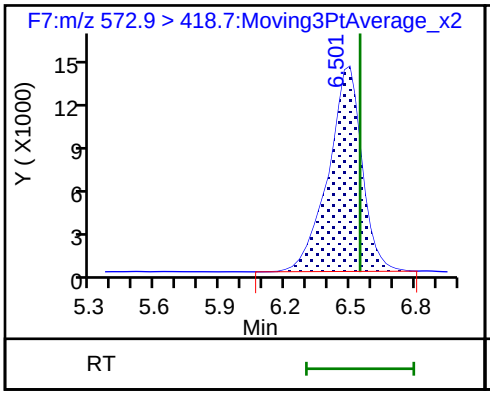
D 25 13C2 PFDA



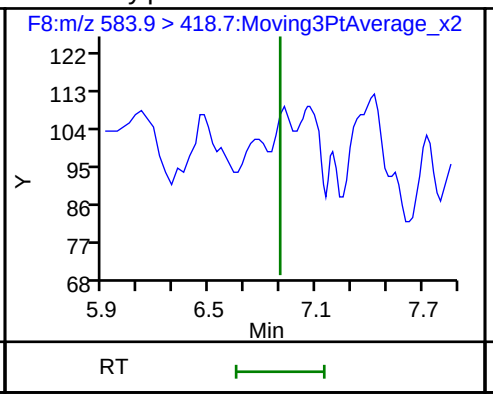
28 N-methylperfluorooctanesulfonamido (ND)



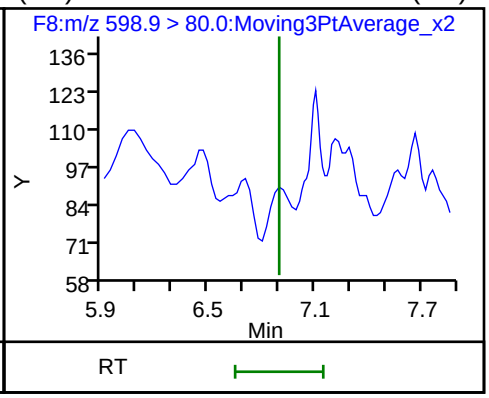
D 27 d3-NMeFOSAA



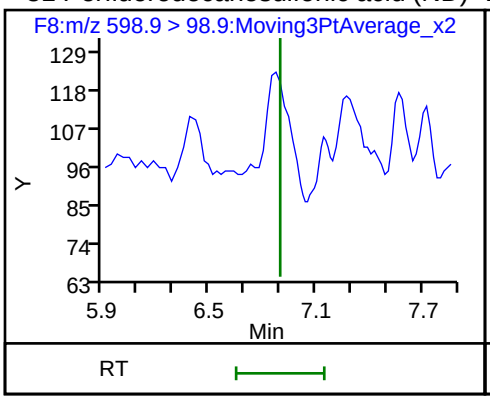
30 N-ethylperfluorooctanesulfonamidoa (ND)



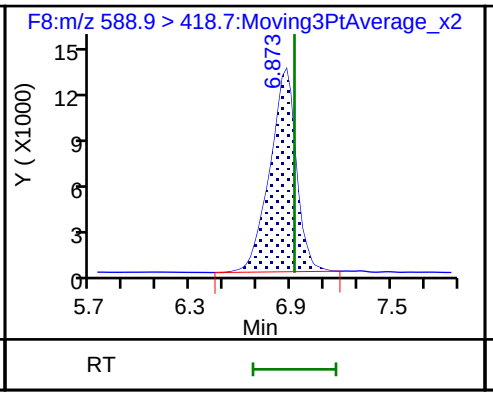
31 Perfluorodecanesulfonic acid (ND)



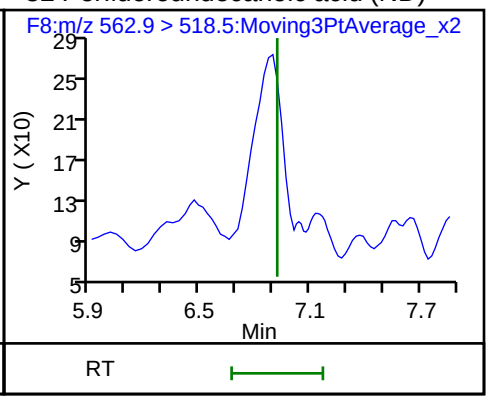
31 Perfluorodecanesulfonic acid (ND)



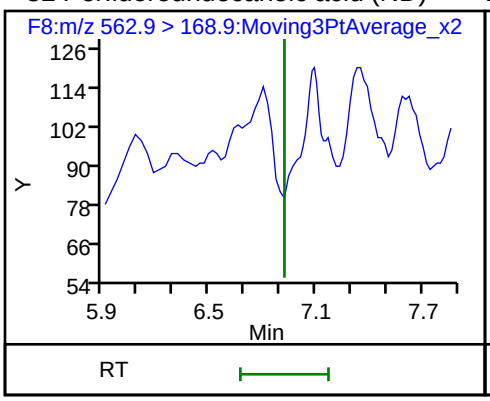
D 29 d5-NEtFOSAA



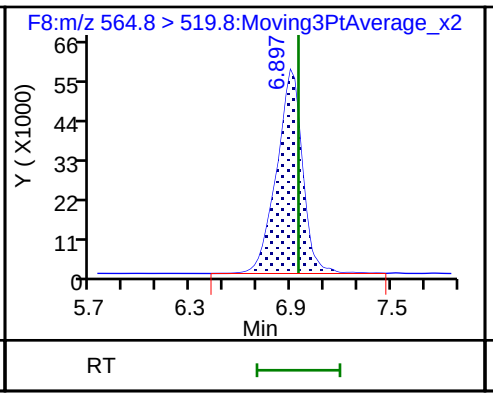
32 Perfluoroundecanoic acid (ND)



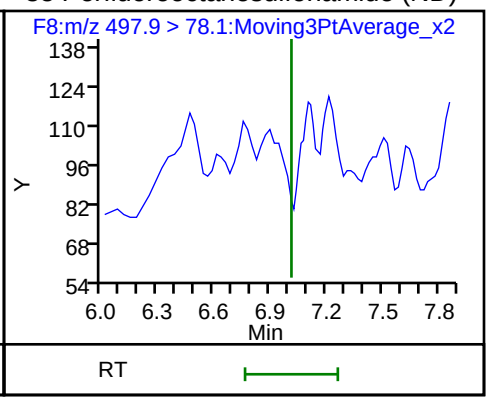
32 Perfluoroundecanoic acid (ND)



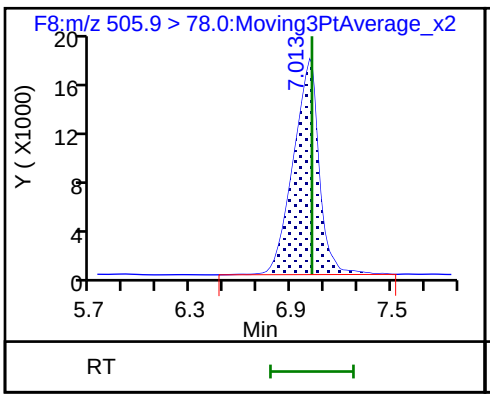
D 33 13C2 PFUnA



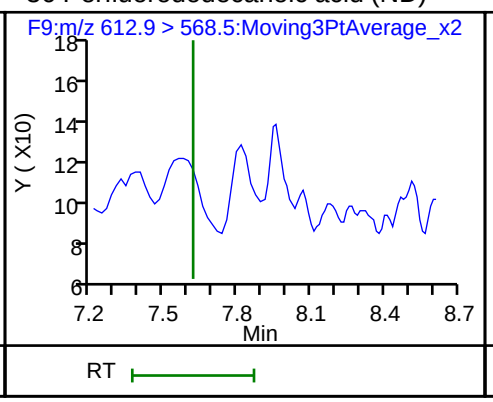
35 Perfluorooctanesulfonamide (ND)



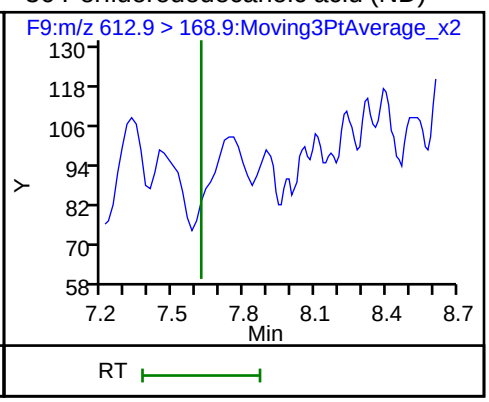
D 34 13C8 FOSA



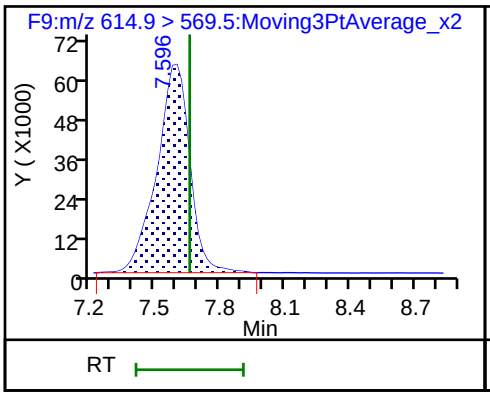
36 Perfluorododecanoic acid (ND)



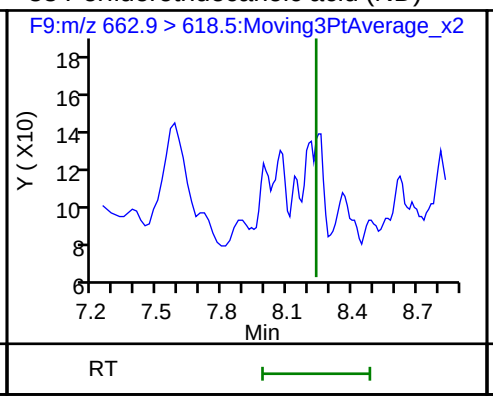
36 Perfluorododecanoic acid (ND)



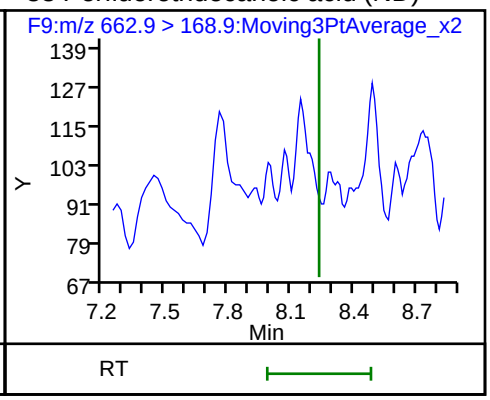
D 37 13C2 PFDoA



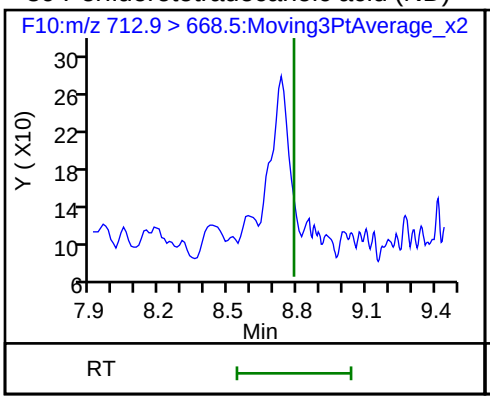
38 Perfluorotridecanoic acid (ND)



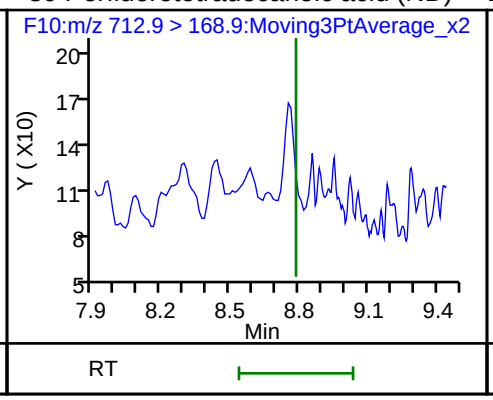
38 Perfluorotridecanoic acid (ND)



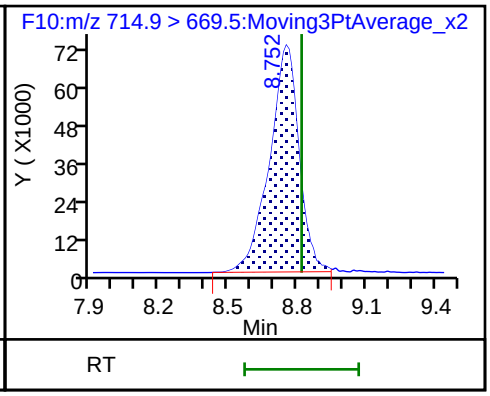
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



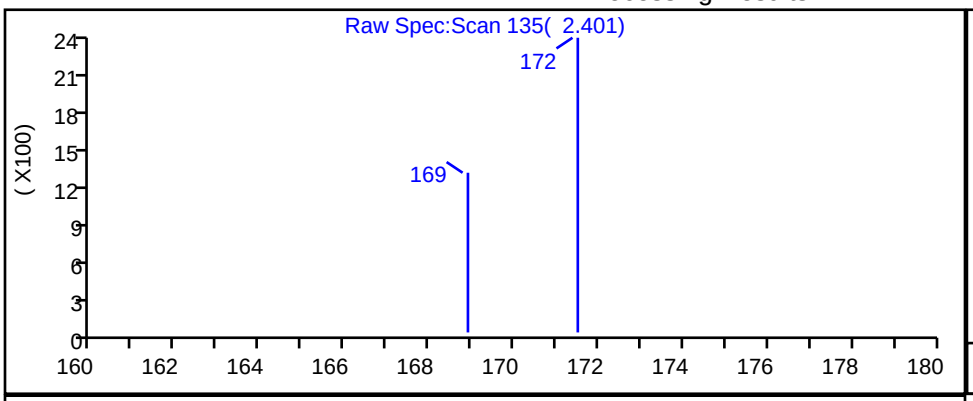
User Disabled Compound Report

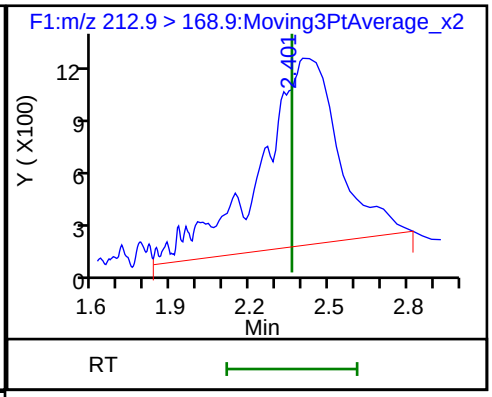
Eurofins TestAmerica, Burlington

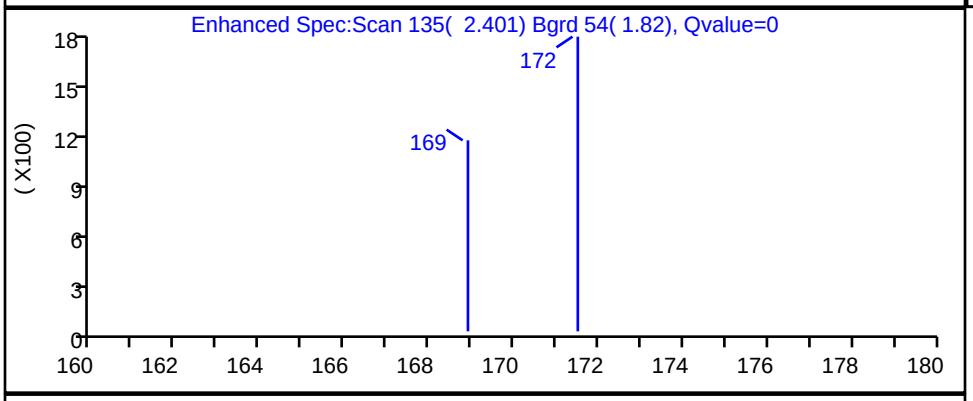
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

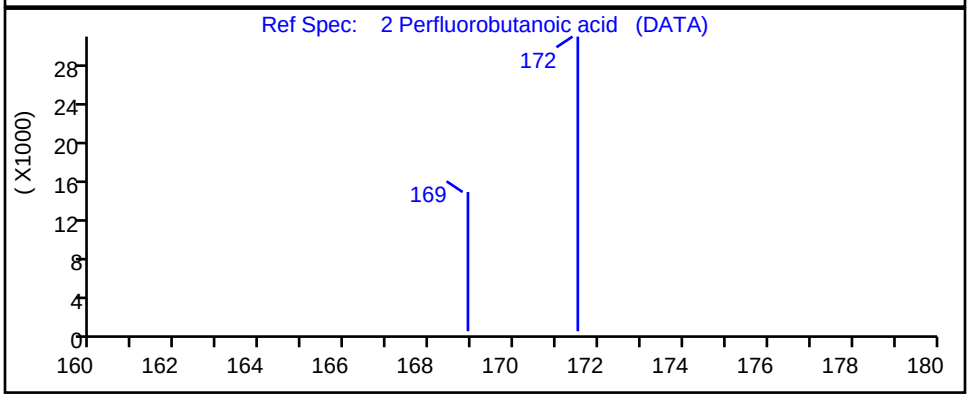
2 Perfluorobutanoic acid, CAS: 375-22-4

Processing Results









RT	Mass	Response	Amount
2.40	168.90	21550	8.653408

Reviewer: chirgwinb, 05-Jun-2019 13:01:07

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

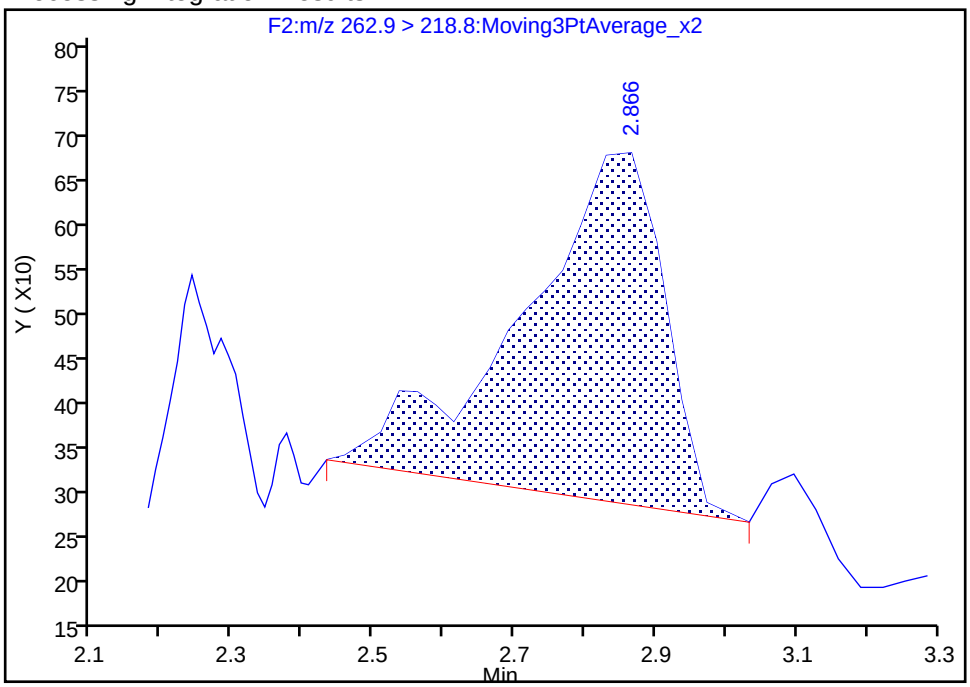
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

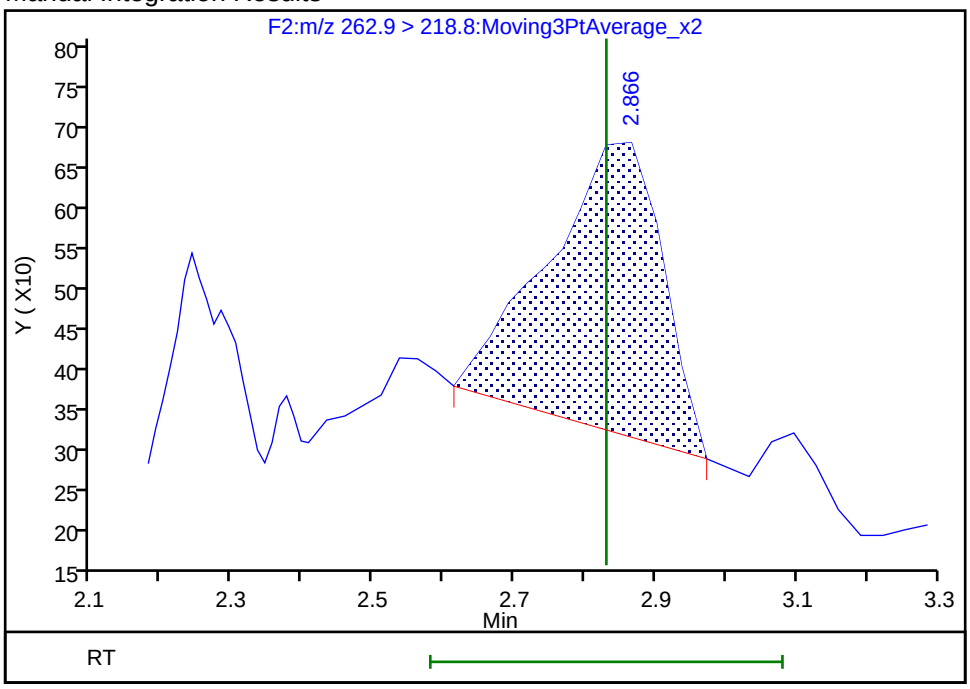
Processing Integration Results

RT: 2.87
Area: 5470
Amount: 1.050104
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 4041
Amount: 0.775771
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:04:37

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

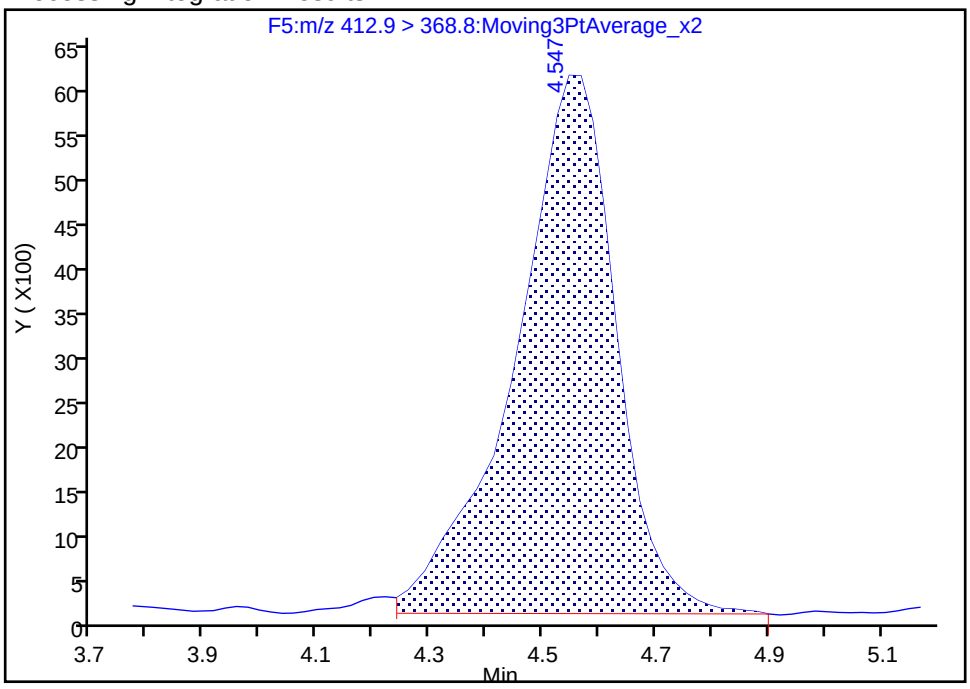
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

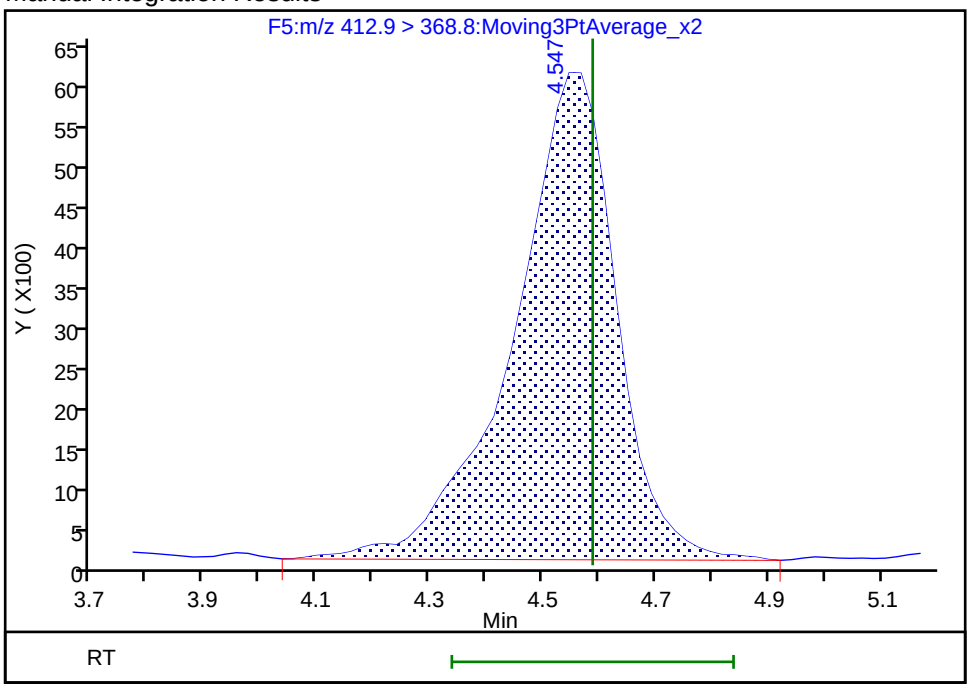
Processing Integration Results

RT: 4.55
Area: 74351
Amount: 4.978734
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 75735
Amount: 5.071410
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:01:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

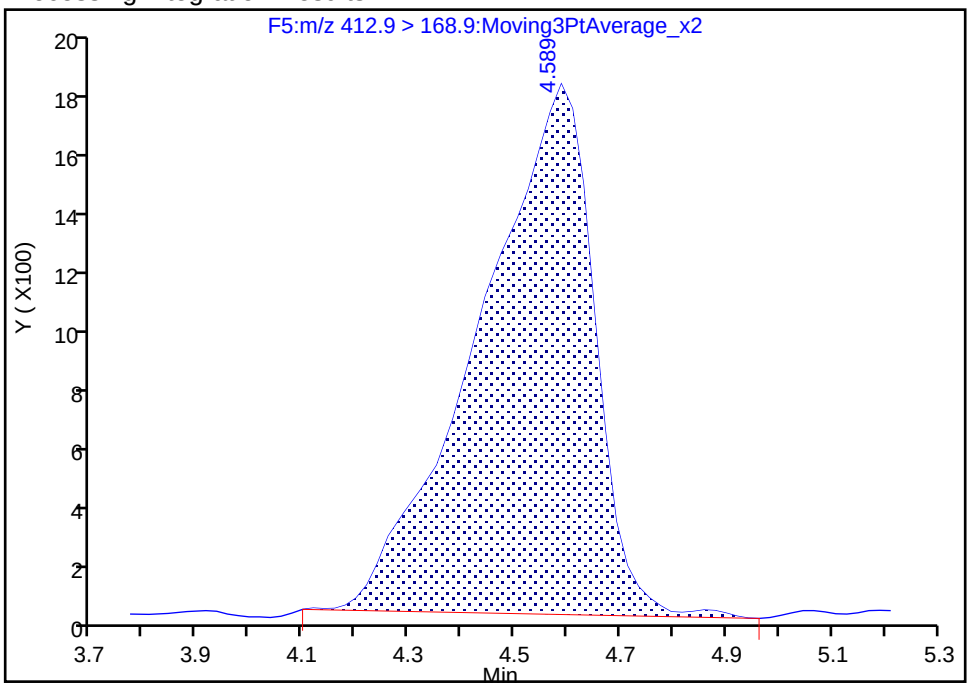
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

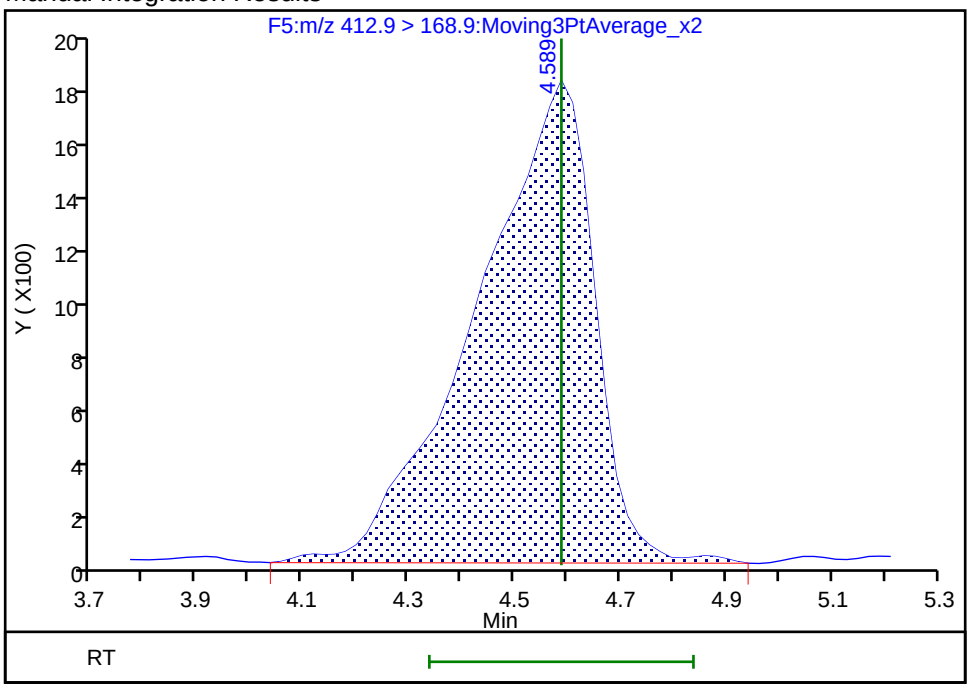
Processing Integration Results

RT: 4.59
Area: 25752
Amount: 4.978734
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 26444
Amount: 5.071410
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:01:46

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

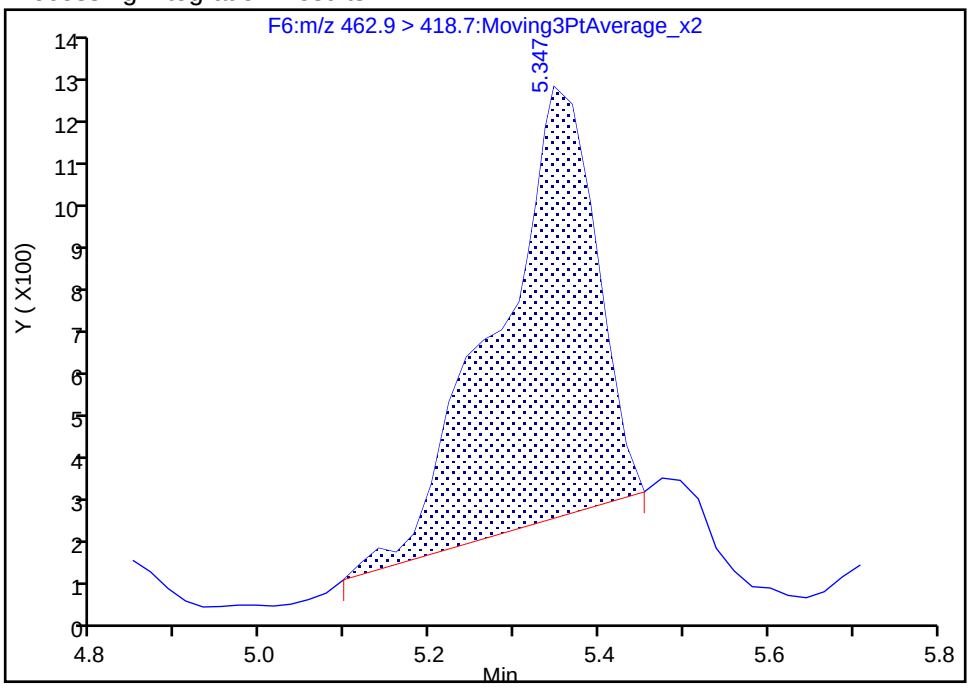
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

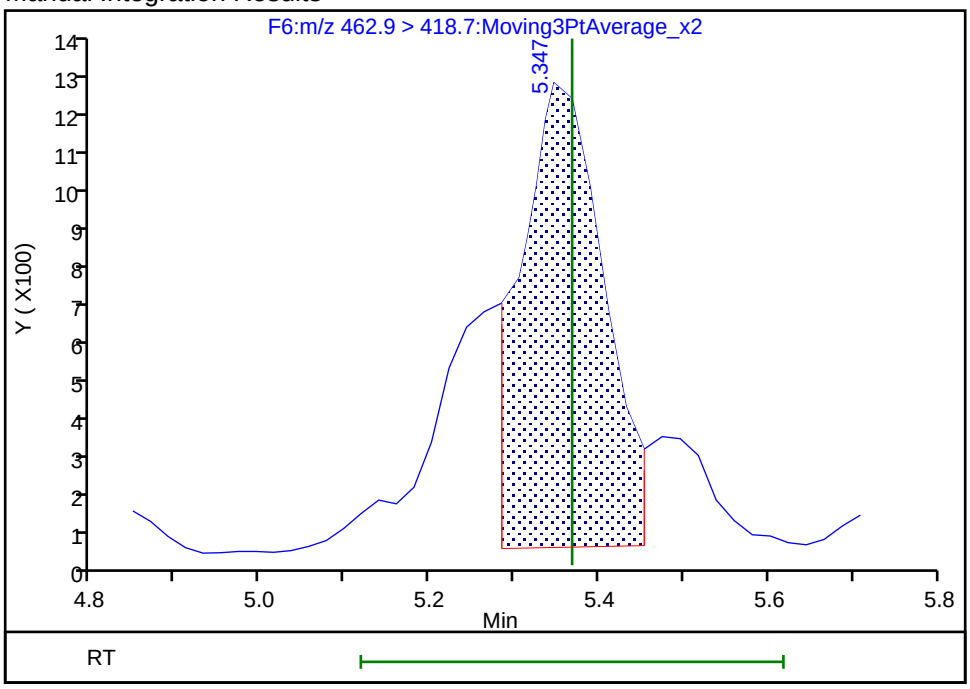
Processing Integration Results

RT: 5.35
Area: 7608
Amount: 0.546292
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 7434
Amount: 0.533798
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:02:24
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

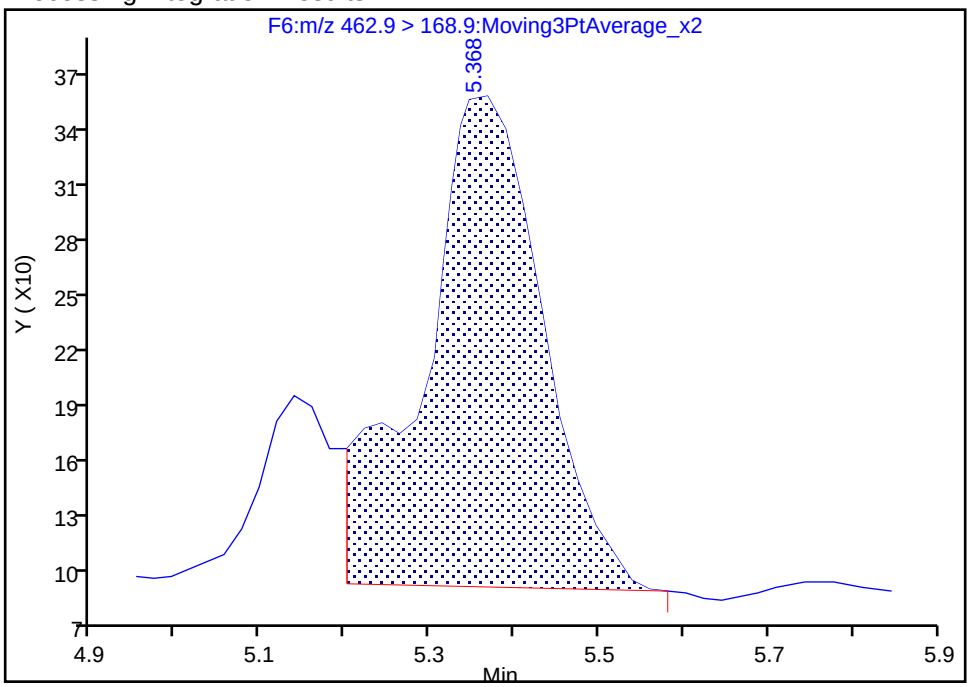
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

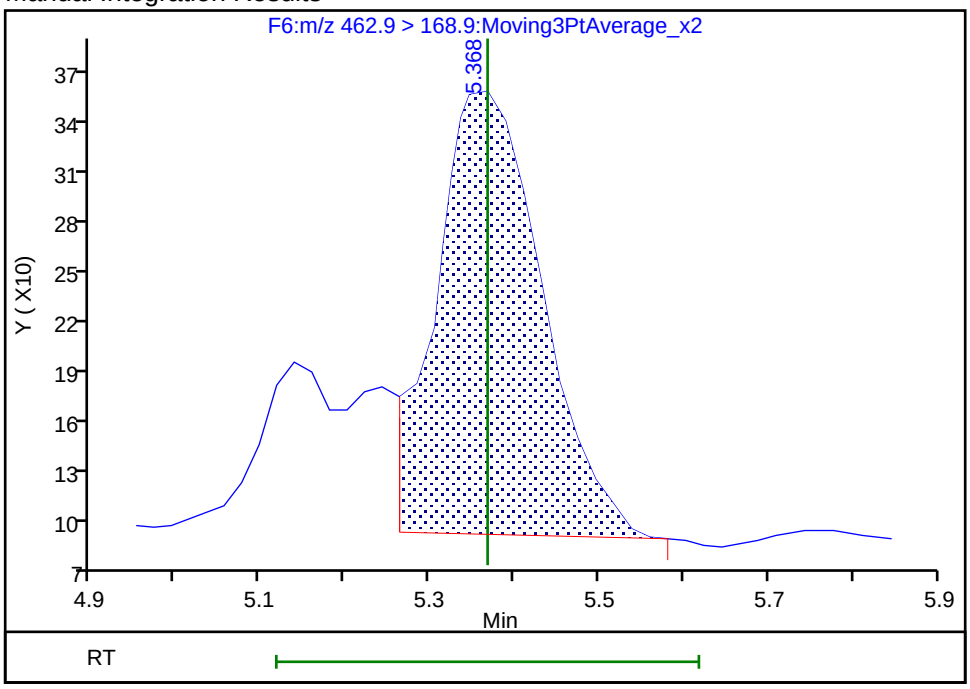
Processing Integration Results

RT: 5.37
Area: 2651
Amount: 0.546292
Amount Units: ng/ml



Manual Integration Results

RT: 5.37
Area: 2331
Amount: 0.533798
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:02:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

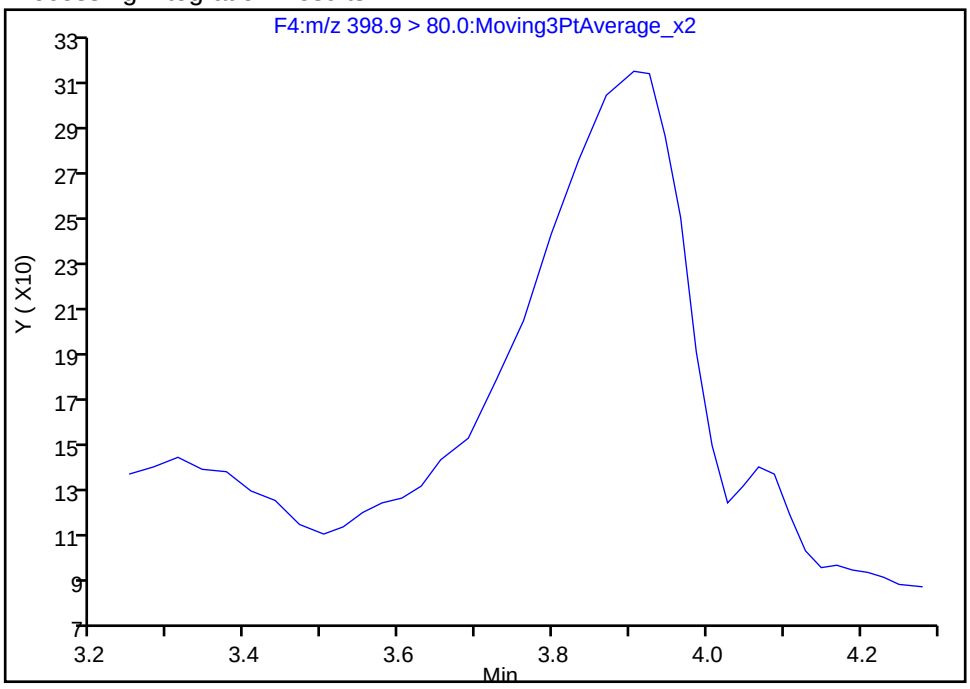
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

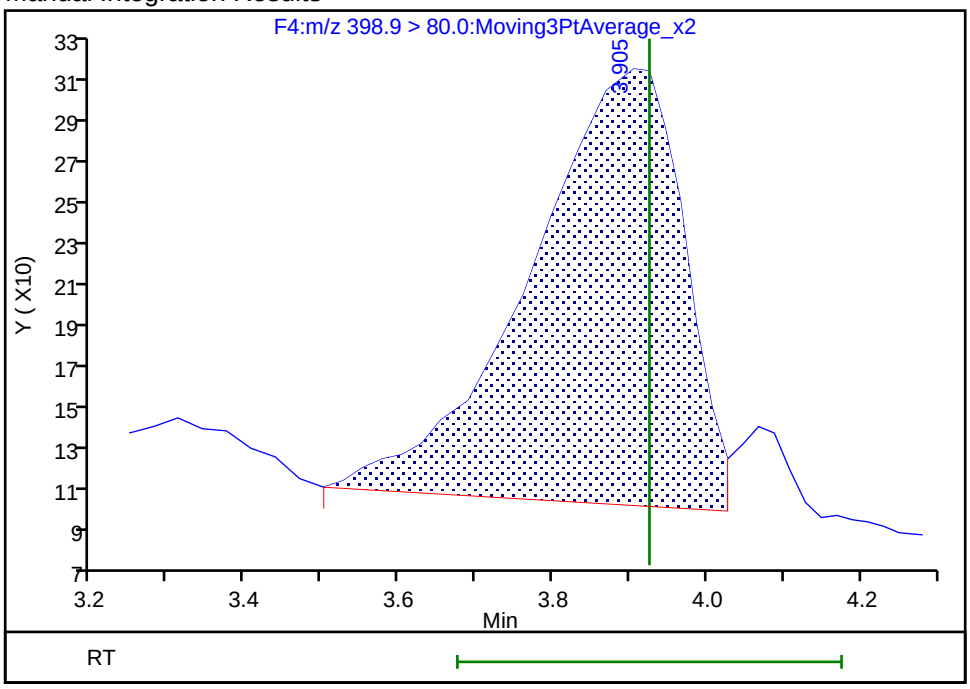
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.91
Area: 2805
Amount: 1.103620
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:04:08
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

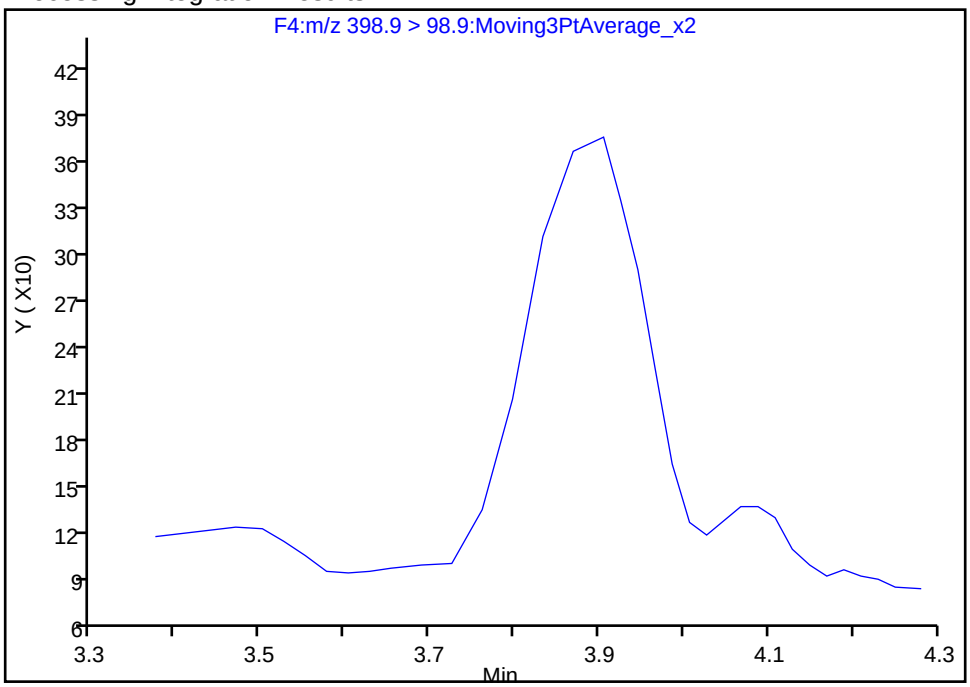
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

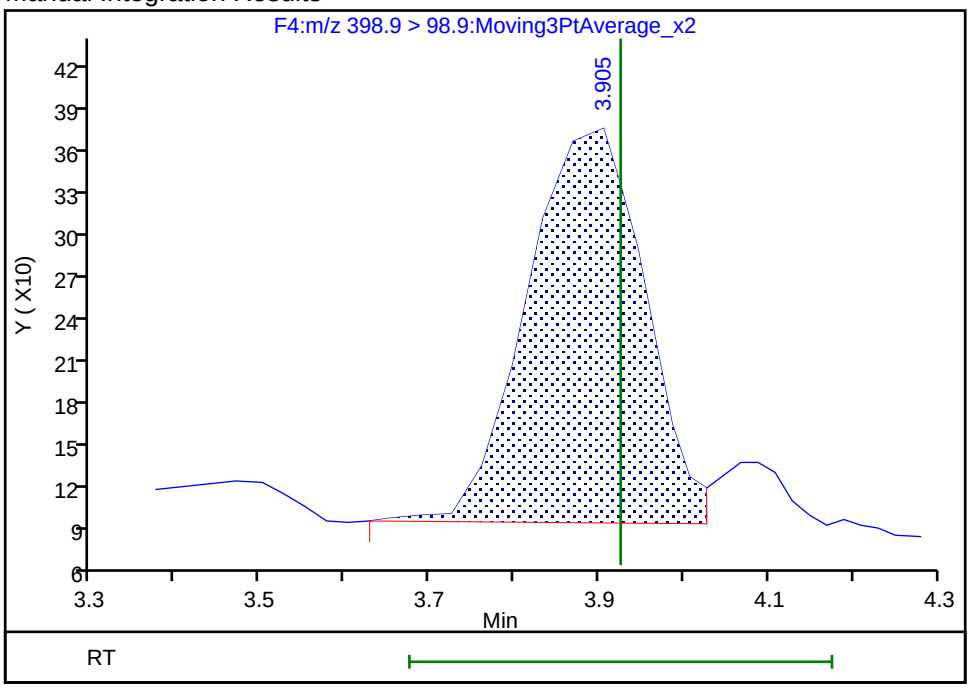
Processing Integration Results

Not Detected
Expected RT: 3.93



Manual Integration Results

RT: 3.91
Area: 2670
Amount: 1.103620
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:04:15
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

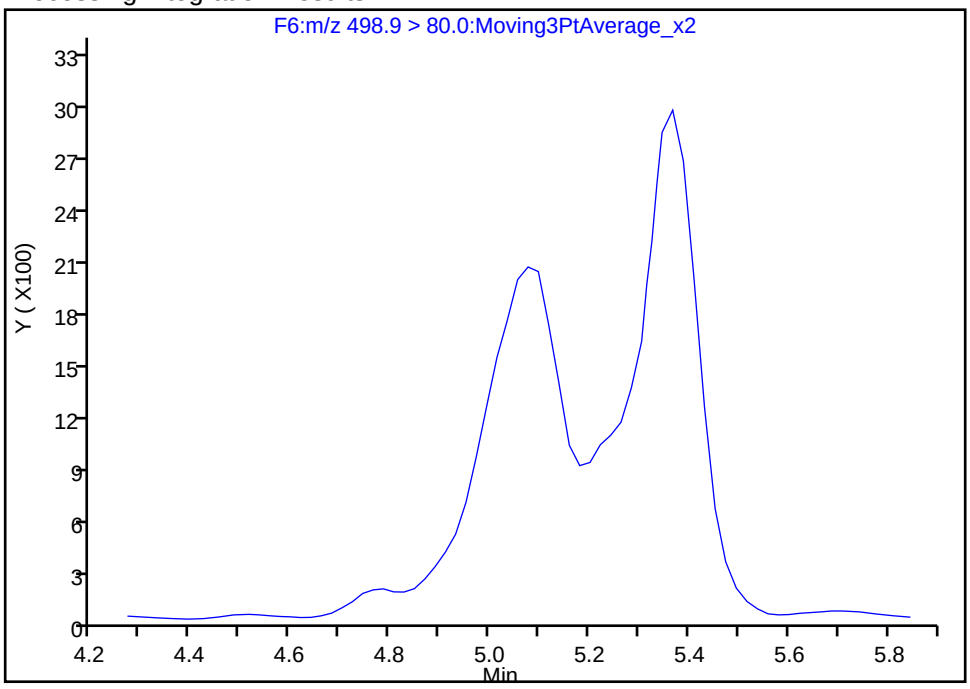
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

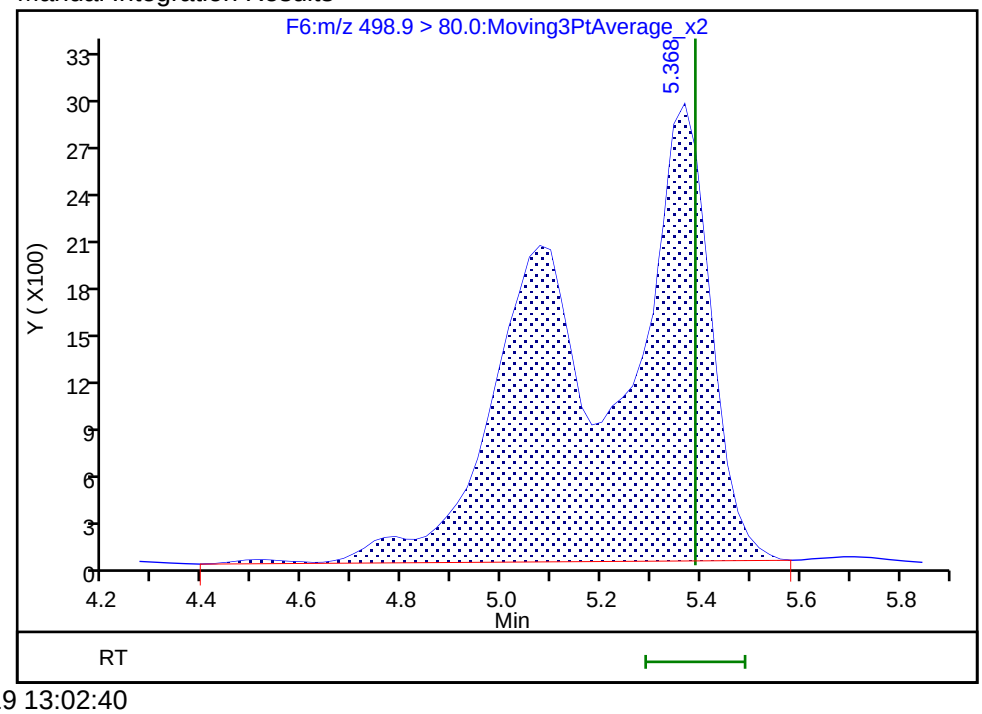
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.37
Area: 50734
Amount: 21.564810
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:02:40
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

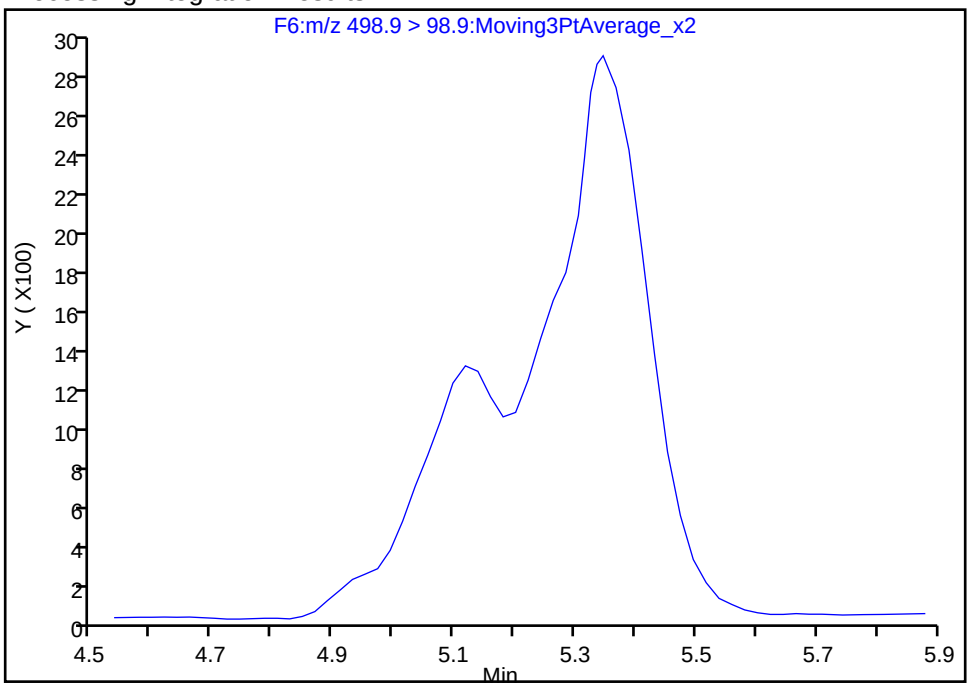
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

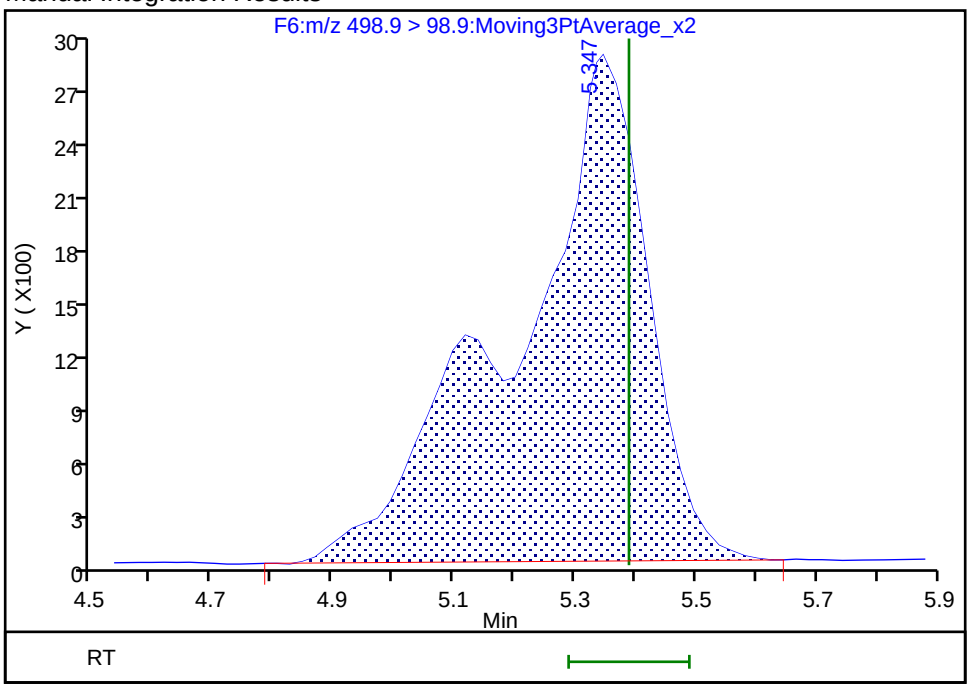
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.35
Area: 42339
Amount: 21.564810
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:02:44
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

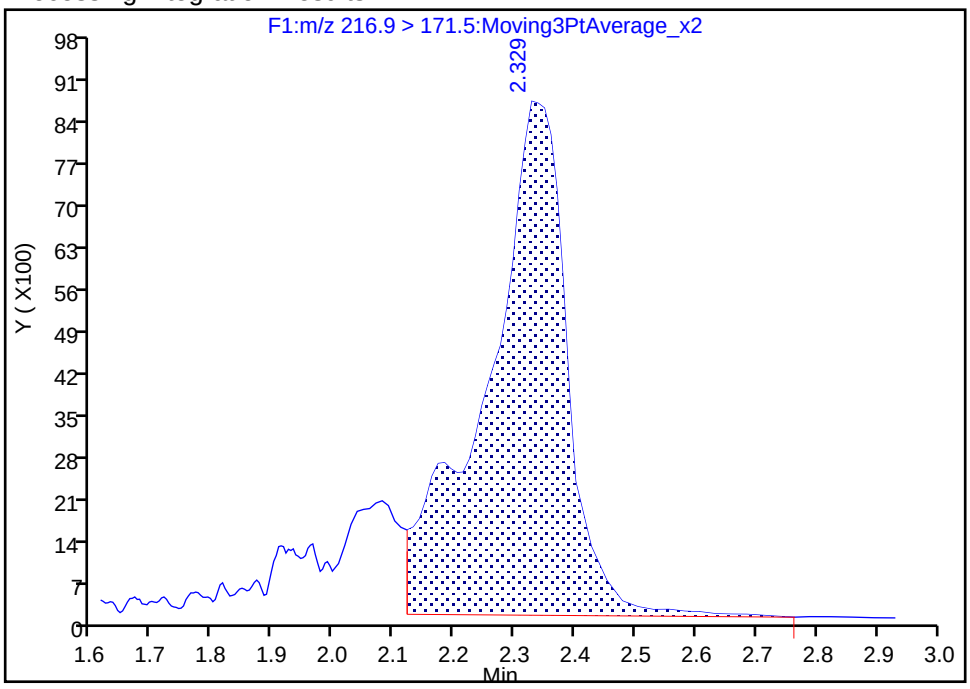
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

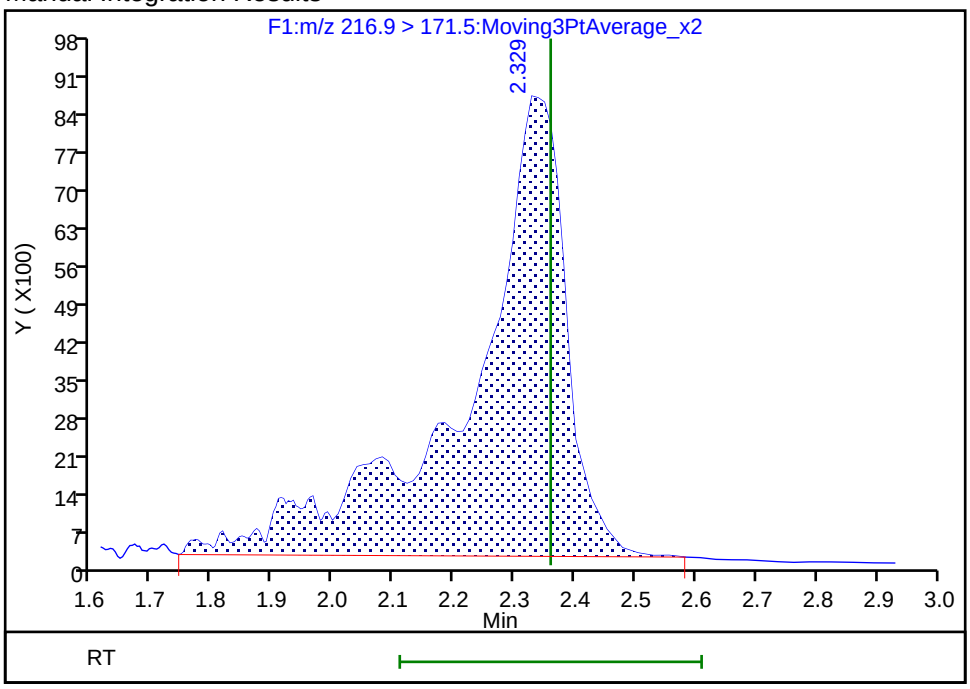
Processing Integration Results

RT: 2.33
Area: 79311
Amount: 12.270156
Amount Units: ng/ml



Manual Integration Results

RT: 2.33
Area: 95305
Amount: 14.744578
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:01:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

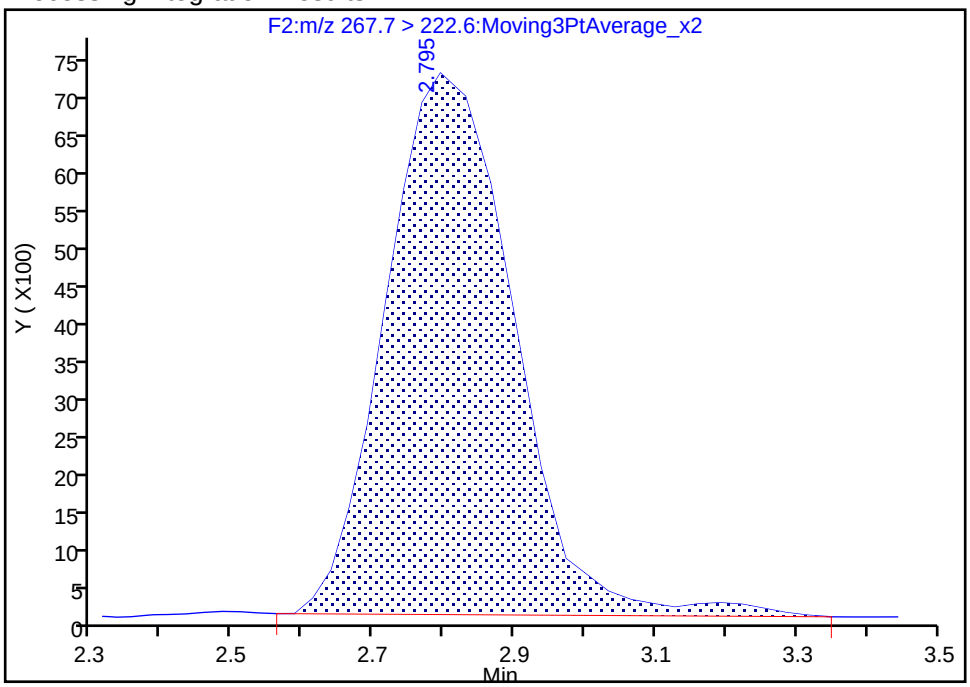
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

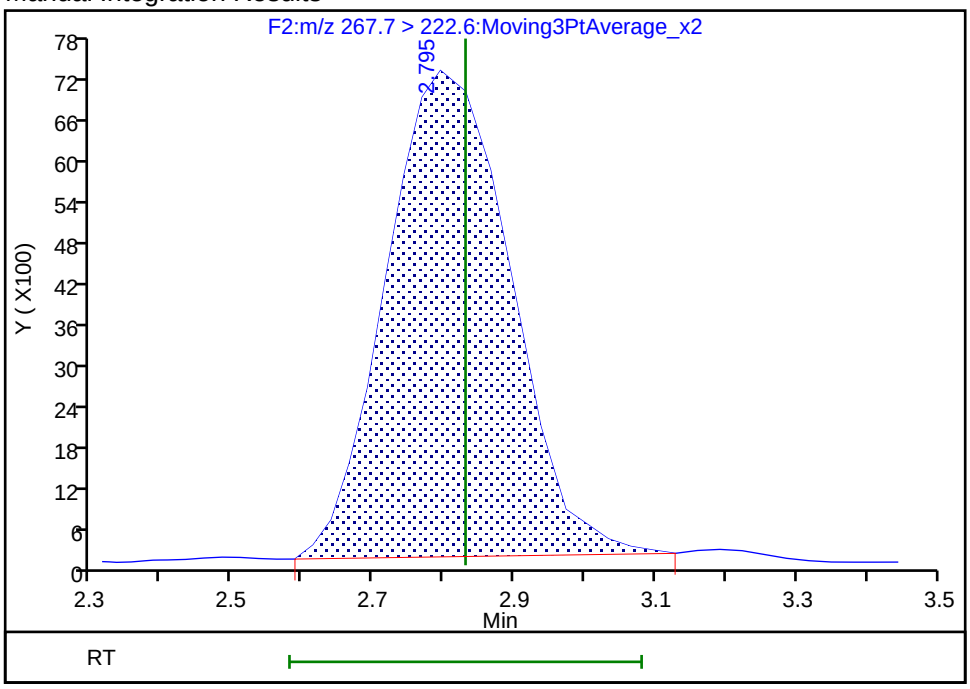
Processing Integration Results

RT: 2.79
Area: 90237
Amount: 18.402696
Amount Units: ng/ml



Manual Integration Results

RT: 2.79
Area: 86976
Amount: 17.737656
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:01:21
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

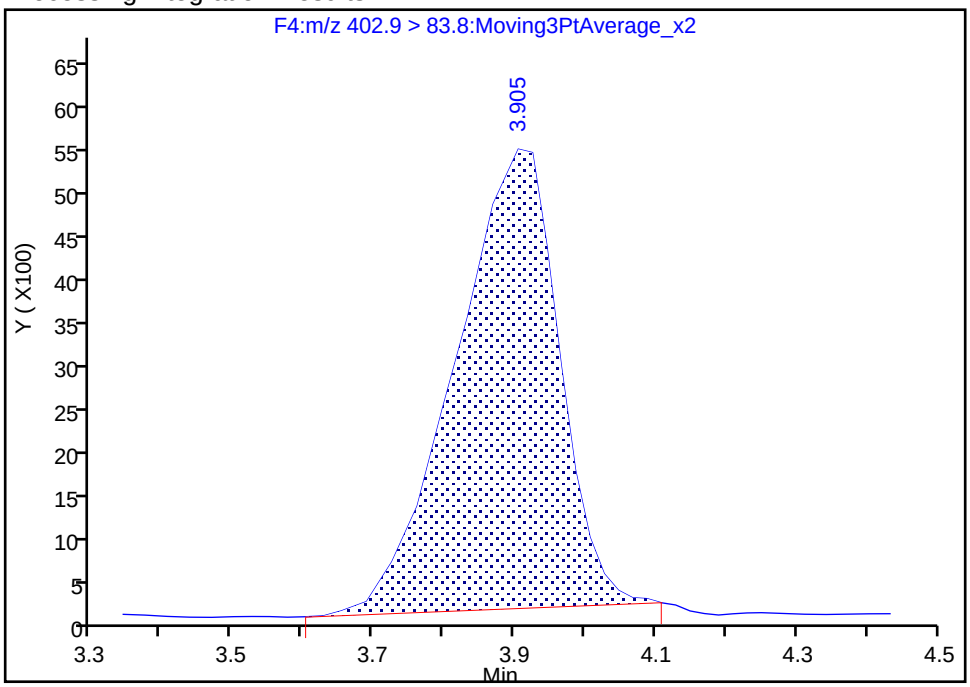
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

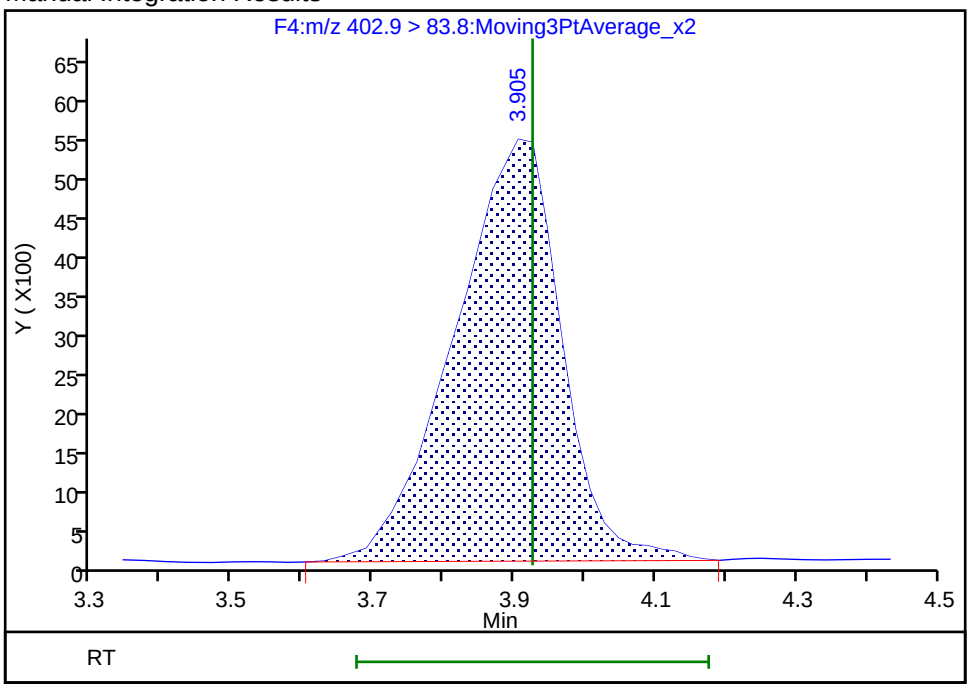
Processing Integration Results

RT: 3.91
Area: 54377
Amount: 19.943529
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 56809
Amount: 20.835500
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:01:34
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

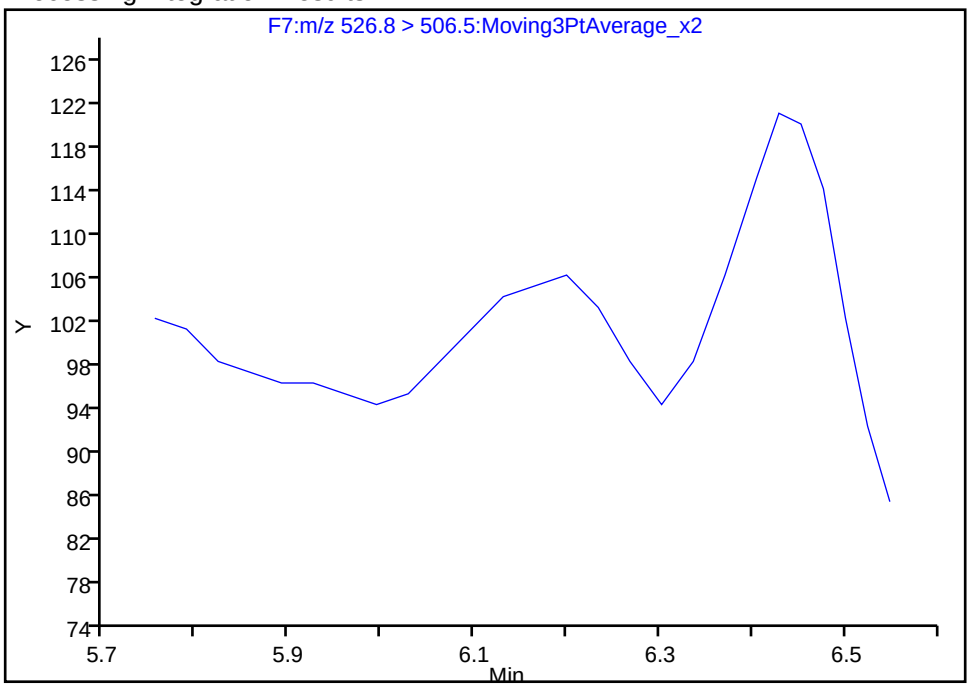
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

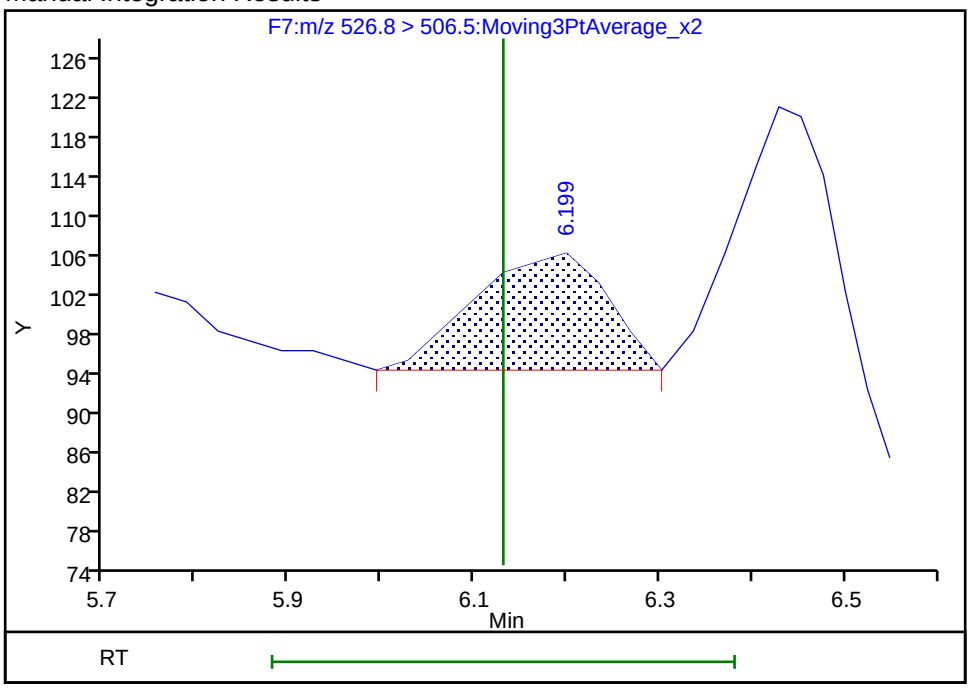
Processing Integration Results

Not Detected
Expected RT: 6.13



Manual Integration Results

RT: 6.20
Area: 119
Amount: 0.045881
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:02:50
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

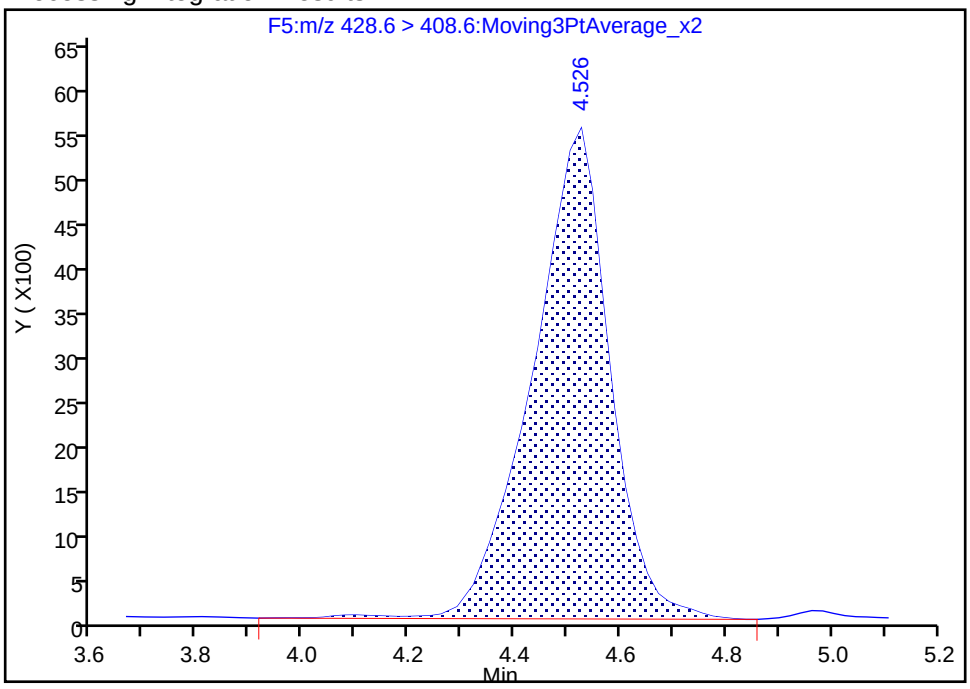
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B18.d				
Injection Date:	05-Jun-2019 05:49:42	Instrument ID:	LC410		
Lims ID:	200-48826-A-15-A	Lab Sample ID:	200-48826-15		
Client ID:	MW-24 051519				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

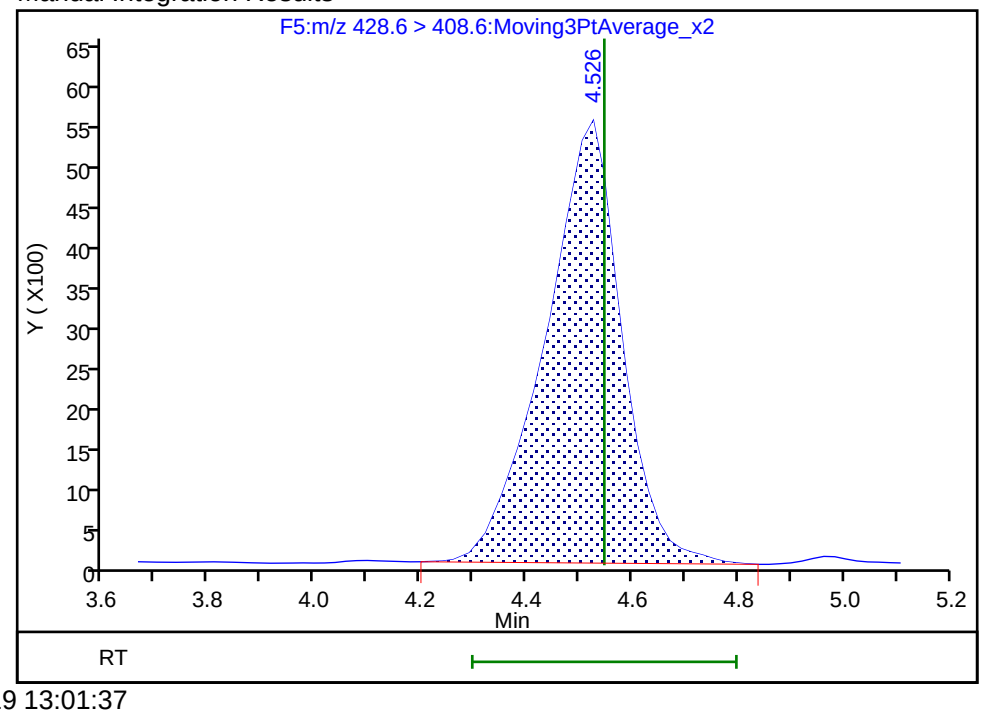
Processing Integration Results

RT: 4.53
Area: 55425
Amount: 37.633397
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 54711
Amount: 37.148593
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:01:37

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8D 051619 Lab Sample ID: 200-48826-16

Matrix: Water Lab File ID: PF060419B19.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 09:44

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 289.1(mL) Date Analyzed: 06/05/2019 06:05

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.0	J	1.7	0.86
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.2		1.7	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	1.4	J	1.7	0.66
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.1	J	1.7	0.79
335-67-1	Perfluorooctanoic acid (PFOA)	2.7		1.7	0.54
375-95-1	Perfluorononanoic acid (PFNA)	0.24	J	1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.67
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.51
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.52
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.80
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.69
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.82
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.78
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.1	B *	1.7	0.53
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3
27619-97-2	6:2 FTS	ND		17	4.0
39108-34-4	8:2 FTS	ND		17	2.5

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8D 051619 Lab Sample ID: 200-48826-16

Matrix: Water Lab File ID: PF060419B19.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 09:44

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 289.1(mL) Date Analyzed: 06/05/2019 06:05

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	40		25-150
STL00992	13C4 PFBA	12	*	25-150
STL01893	13C5 PFPeA	30		25-150
STL00993	13C2 PFHxA	46	*	50-150
STL01892	13C4 PFHpA	54		50-150
STL00990	13C4 PFOA	58		50-150
STL00995	13C5 PFNA	50		50-150
STL00996	13C2 PFDA	54		50-150
STL00997	13C2 PFUnA	55		50-150
STL00998	13C2 PFDoA	45	*	50-150
STL02116	13C2 PFTeDA	40	*	50-150
STL02337	13C3 PFBS	33	*	50-150
STL00994	18O2 PFHxS	33	*	50-150
STL00991	13C4 PFOS	37	*	50-150
STL02118	d3-NMeFOSAA	43	*	50-150
STL02117	d5-NEtFOSAA	52		50-150
STL02279	M2-6:2 FTS	109		25-150
STL02280	M2-8:2 FTS	89		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d
Lims ID: 200-48826-A-16-A
Client ID: MW-8D 051619
Sample Type: Client
Inject. Date: 05-Jun-2019 06:05:33 ALS Bottle#: 0 Worklist Smp#: 19
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-019 16
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 13:08:20
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.329	2.360	-0.031	0.996	845	0.5925			1.8	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.339	2.360	-0.021	1.000	45422	5.98		12.0	60.1	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.769	2.830	-0.061	0.978	6645	1.29			1.4	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.830	2.830	0.0	1.000	86192	15.0		29.9	179	M
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.901	-0.035	1.000	38322	15.3		32.9	85.8	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.302	3.302	0.0	1.010	9136	0.8137	Target=14.34		5.5	M
312.9 > 118.9	3.207	3.302	-0.095	0.981	452		20.21(7.17-21.51)		2.2	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.334	-0.064	1.000	401569	23.2		46.5	907	
D 10 13C4 PFHpA										
366.9 > 321.8	3.833	3.905	-0.072	1.000	651958	26.8		53.5	1427	
9 Perfluoroheptanoic acid										RM
362.9 > 318.9	3.833	3.905	-0.072	1.000	9336	0.6101	Target=2.84		2.6	R
362.9 > 168.9	3.869	3.905	-0.036	1.009	685		13.63(1.42-4.26)		5.0	M
D 12 18O2 PFHxS										M
402.9 > 83.8	3.869	3.925	-0.056	1.000	50595	15.8		33.4	259	M
D 14 M2-6:2 FTS										
428.6 > 408.6	4.475	4.547	-0.072	1.000	89403	51.6		109	514	
* 16 13C2 PFOA										s
414.9 > 369.8	4.526	4.589	-0.063		1553728	50.0			2621	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.547	4.589	-0.042	1.005	27690	1.55	Target=2.43		26.7	M
412.9 > 168.9	4.526	4.589	-0.063	1.000	11617		2.38(1.22-3.64)		58.4	
D 17 13C4 PFOA										
416.9 > 371.8	4.526	4.609	-0.083	1.000	881803	29.2		58.5	4318	
19 Perfluorononanoic acid										M
462.9 > 418.7	5.306	5.368	-0.062	0.998	2492	0.1383	Target=5.00		6.6	M
462.9 > 168.9	5.347	5.368	-0.021	1.006	338		7.37(2.50-7.50)		3.5	M
D 20 13C5 PFNA										
467.8 > 422.8	5.316	5.389	-0.073	1.000	1020005	25.2		50.4	3540	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.316	5.389	-0.073	0.998	3248	1.24	Target=1.41		18.3	M
498.9 > 98.9	5.368	5.389	-0.021	1.008	1965		1.65(0.71-2.12)		11.8	M
D 22 13C4 PFOS										
502.9 > 80.0	5.326	5.411	-0.085	1.000	129427	17.9		37.5	514	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.097	6.131	-0.034	1.000	545	0.1322			2.1	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.131	-0.034	1.000	267719	42.5		88.8	537	
26 Perfluorodecanoic acid										M
512.9 > 468.5	6.097	6.165	-0.068	1.000	5624	0.3268	Target=7.23		17.6	
512.9 > 168.9	5.994	6.165	-0.171	0.983	896		6.28(3.61-10.84)		3.5	M
D 25 13C2 PFDA										
514.9 > 469.5	6.097	6.199	-0.102	1.000	939774	27.2		54.4	2021	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.453	6.549	-0.096	1.000	239264	21.3		42.5	701	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.825	6.921	-0.096	1.000	241549	26.0		52.1	1218	
32 Perfluoroundecanoic acid										R
562.9 > 518.5	6.873	6.921	-0.048	1.000	2461	0.1607	Target=7.06		13.2	R
562.9 > 168.9	6.801	6.921	-0.120	0.990	825		2.98(3.53-10.58)		4.3	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.945	-0.072	1.000	919604	27.6		55.2	3198	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	6.945	7.013	-0.068	0.993	974	0.1390			9.6	M
D 34 13C8 FOSA										
505.9 > 78.0	6.993	7.026	-0.033	1.000	246040	19.8		39.6	757	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	955068	22.5		45.0	1930	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.741	8.819	-0.078	1.000	770097	20.2		40.4	795	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:51:43 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d

Injection Date: 05-Jun-2019 06:05:33 Instrument ID: LC410

Lims ID: 200-48826-A-16-A Lab Sample ID: 200-48826-16

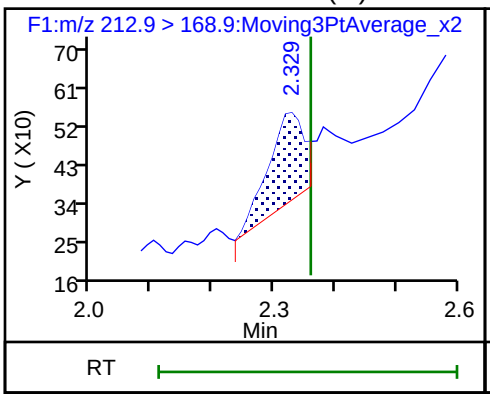
Client ID: MW-8D 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 19

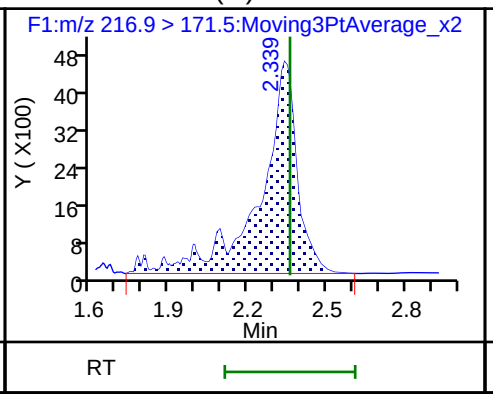
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

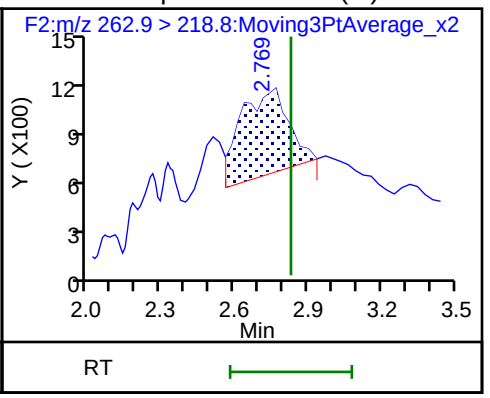
2 Perfluorobutanoic acid (M)



D 1 13C4 PFBA (M)



3 Perfluoropentanoic acid (M)



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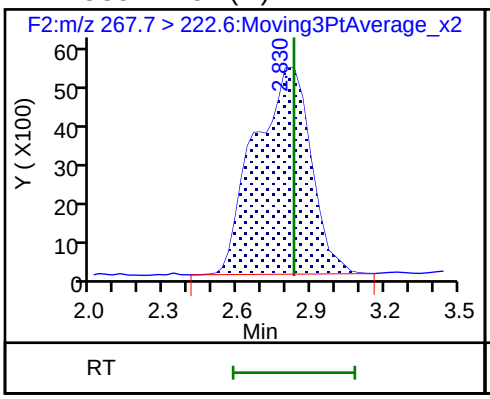
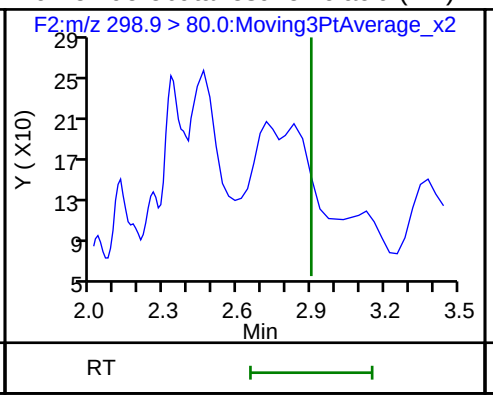
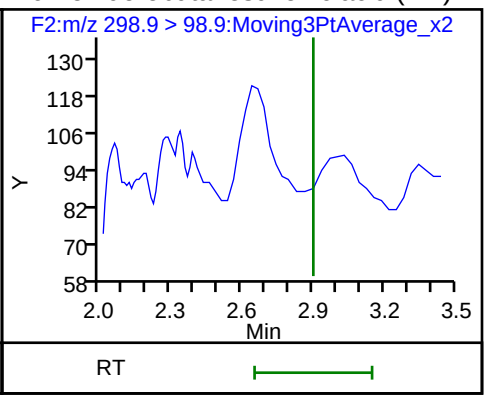


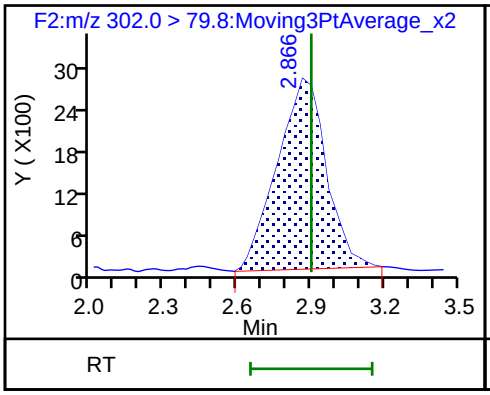
6 Perfluorobutanesulfonic acid (ND)



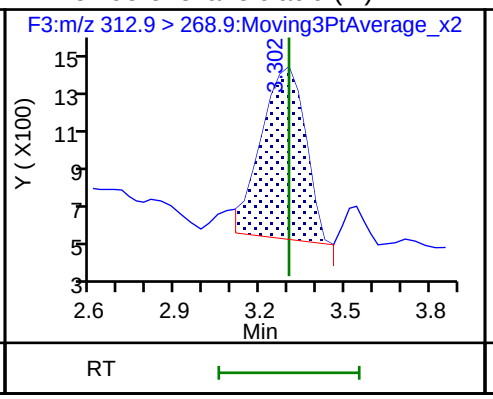
6 Perfluorobutanesulfonic acid (ND)



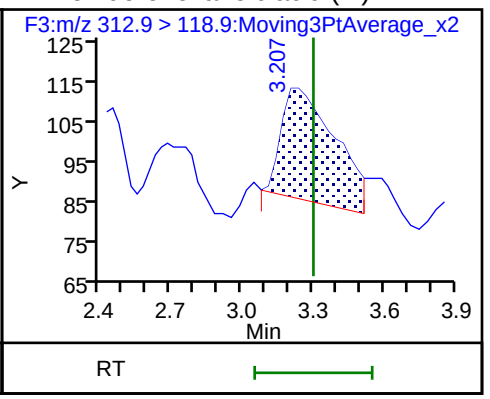
D 5 13C3 PFBS



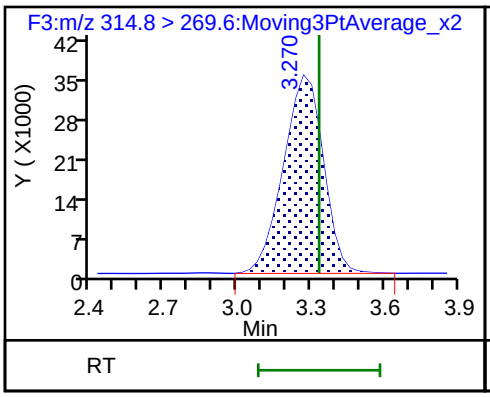
7 Perfluorohexanoic acid (M)



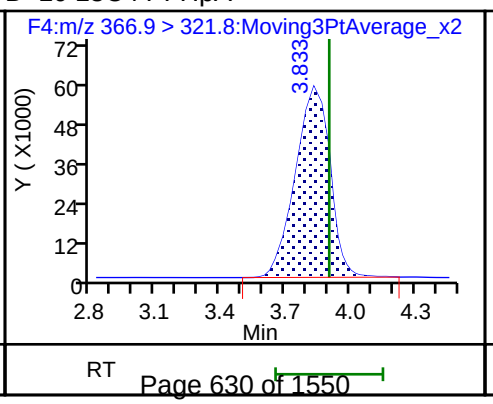
7 Perfluorohexanoic acid (M)



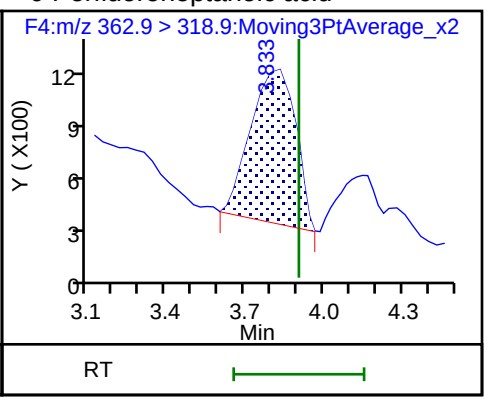
D 8 13C2 PFHxA



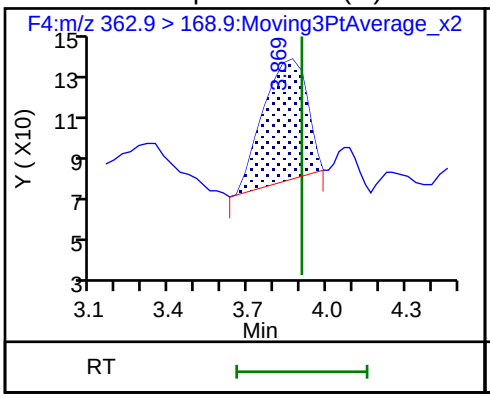
D 10 13C4 PFHpA



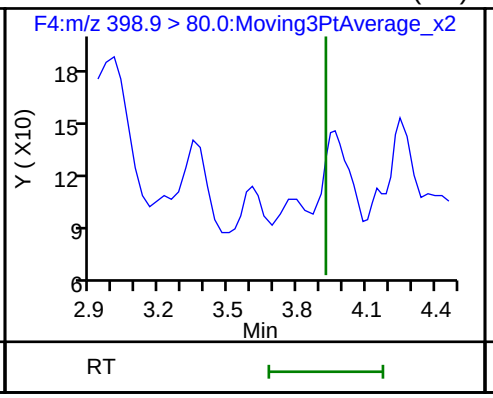
9 Perfluoroheptanoic acid



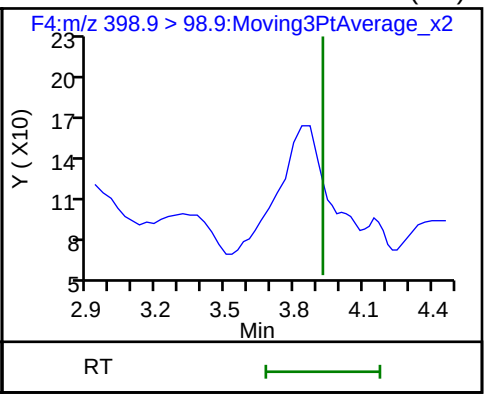
9 Perfluoroheptanoic acid (M)



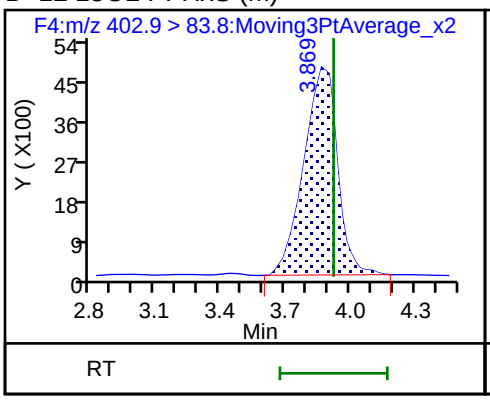
11 Perfluorohexanesulfonic acid (ND)



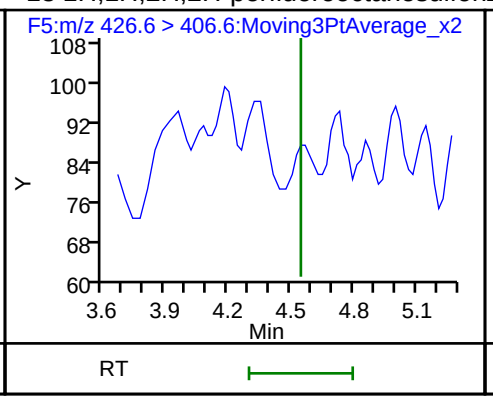
11 Perfluorohexanesulfonic acid (ND)



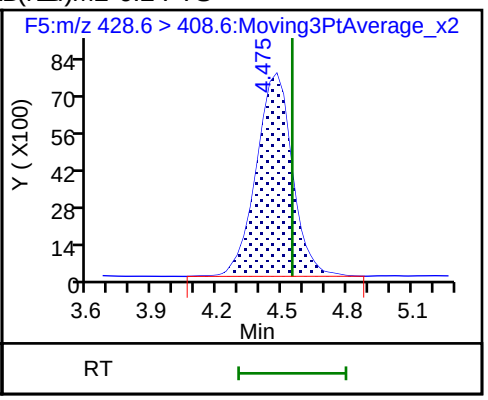
D 12 18O2 PFHxS (M)



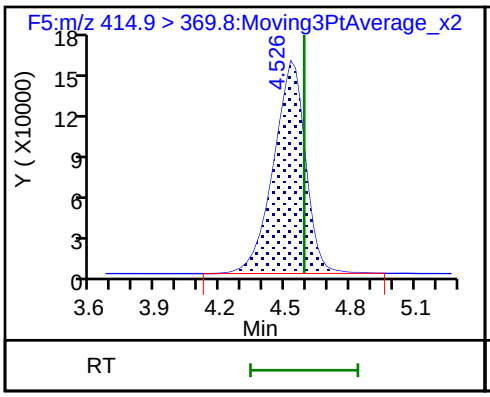
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2-6:2 FTS



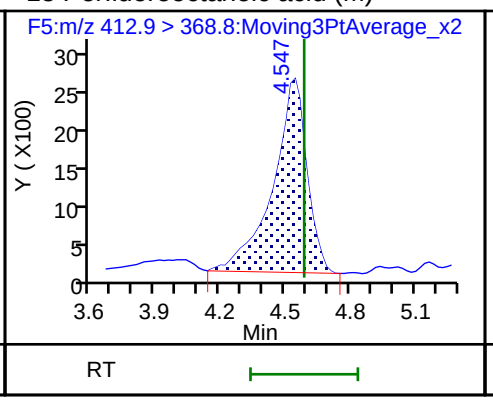
D 14 M2-6:2 FTS



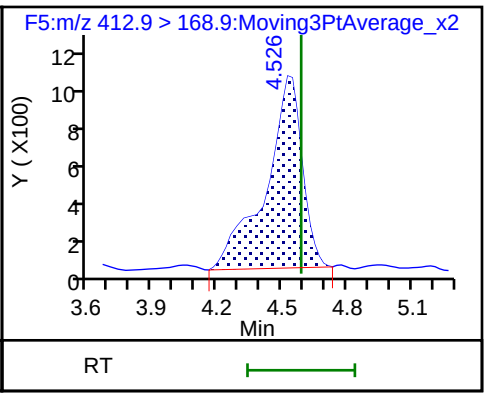
* 16 13C2 PFOA



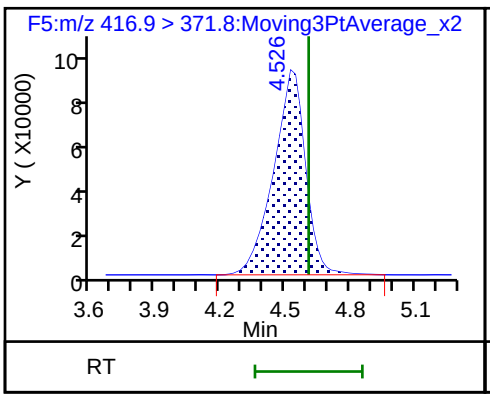
15 Perfluorooctanoic acid (M)



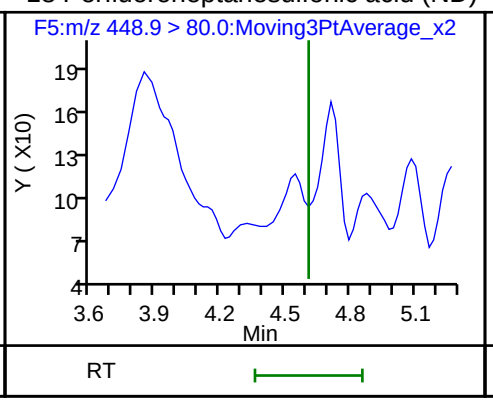
15 Perfluorooctanoic acid



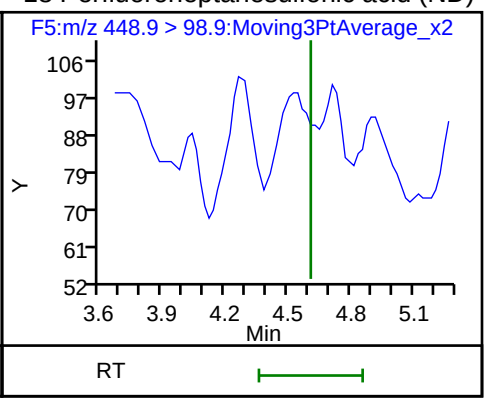
D 17 13C4 PFOA



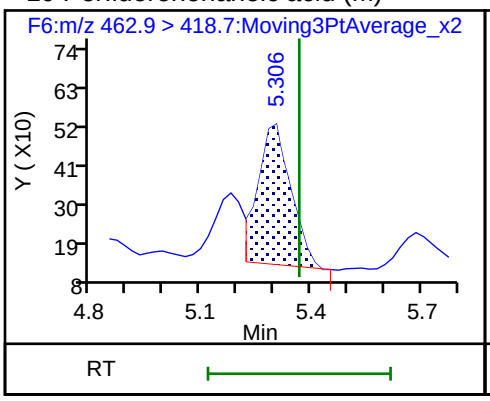
18 Perfluoroheptanesulfonic acid (ND)



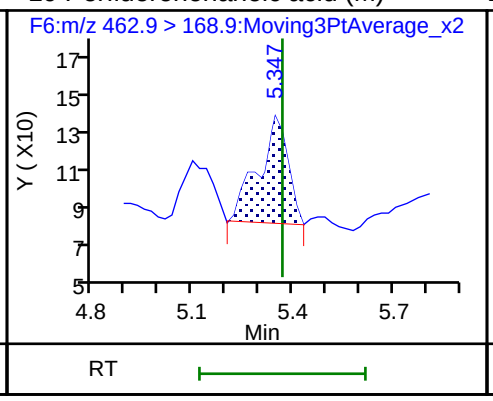
18 Perfluoroheptanesulfonic acid (ND)



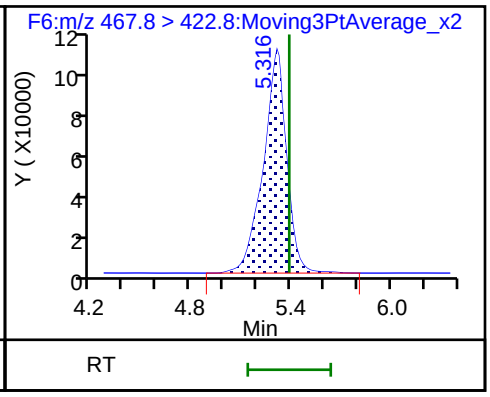
19 Perfluorononanoic acid (M)



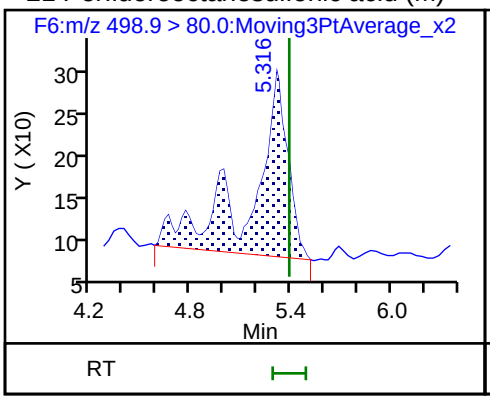
19 Perfluorononanoic acid (M)



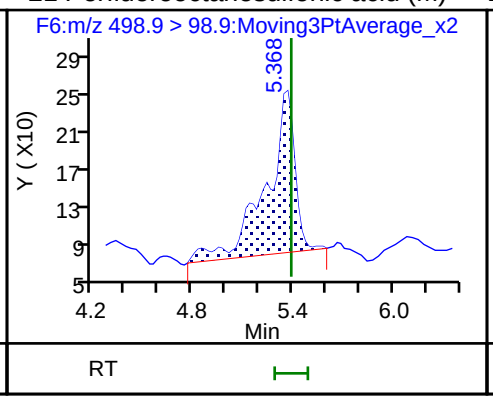
D 20 13C5 PFNA



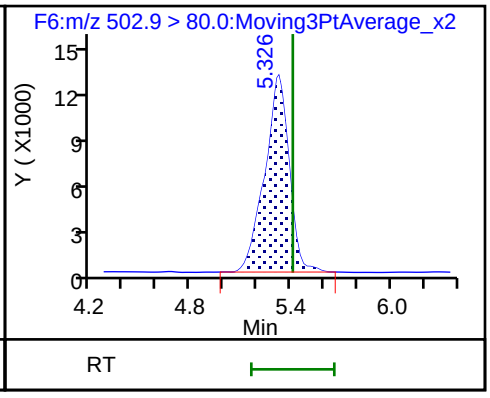
21 Perfluorooctanesulfonic acid (M)



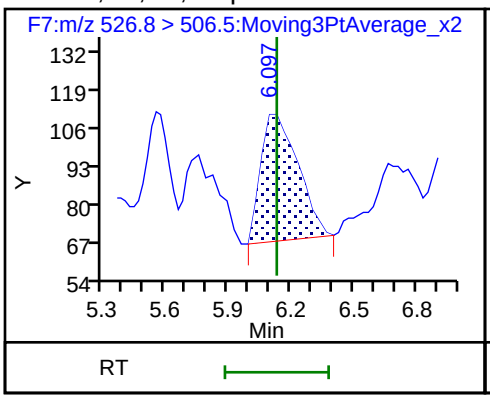
21 Perfluorooctanesulfonic acid (M)



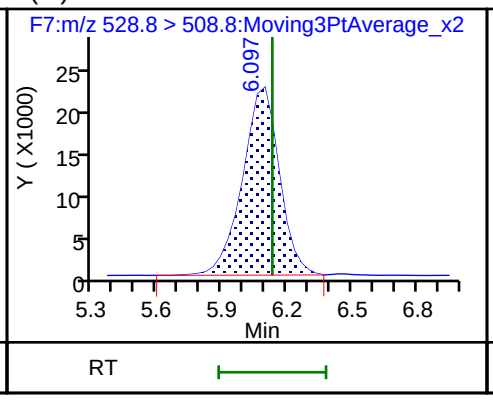
D 22 13C4 PFOS



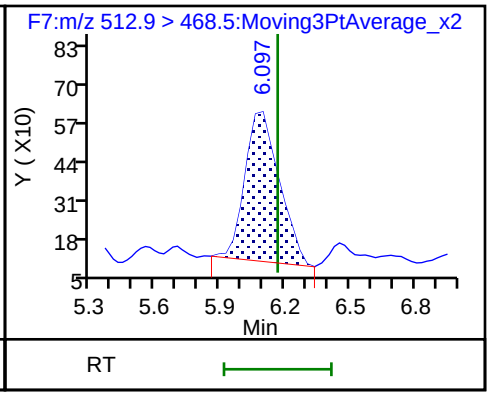
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



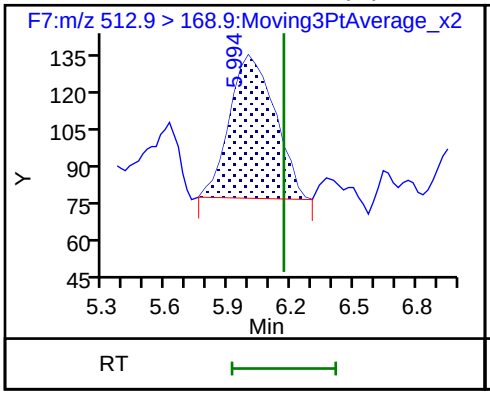
D 24 M2-8:2 FTS



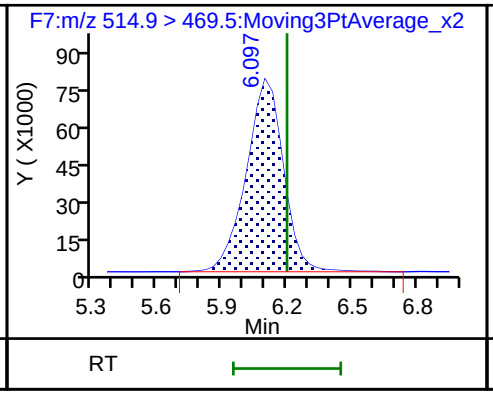
26 Perfluorodecanoic acid



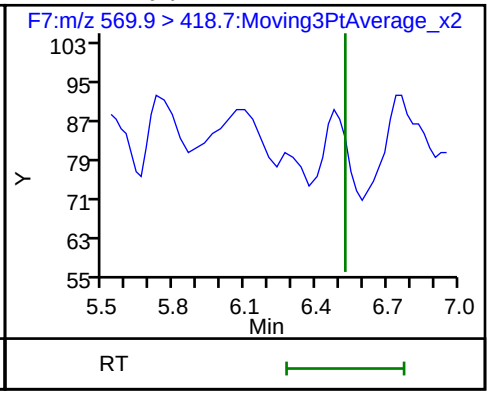
26 Perfluorodecanoic acid (M)



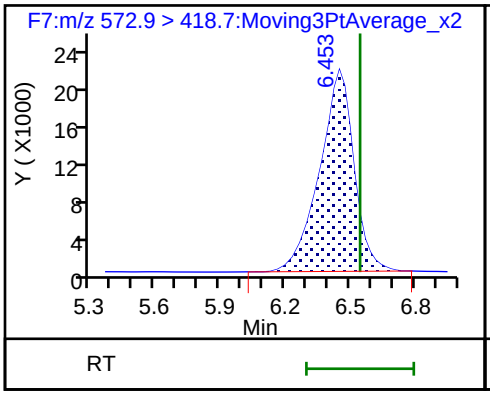
D 25 13C2 PFDA



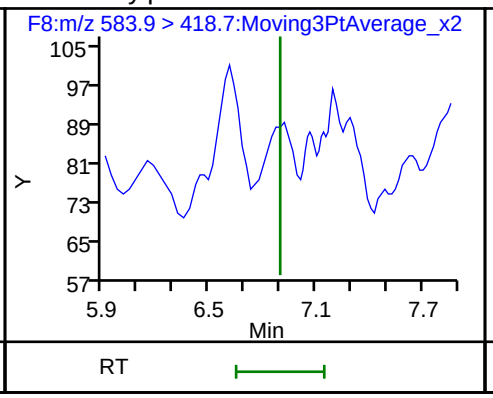
28 N-methylperfluorooctanesulfonamido (ND)



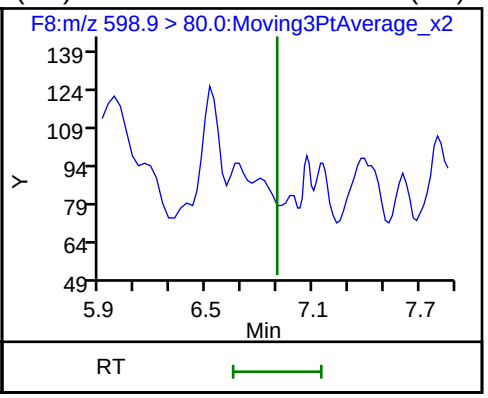
D 27 d3-NMeFOSAA



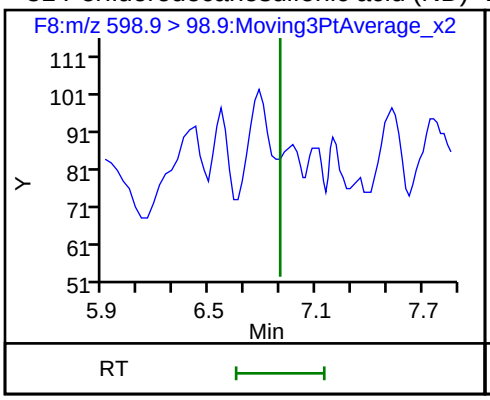
30 N-ethylperfluorooctanesulfonamidoa (ND)



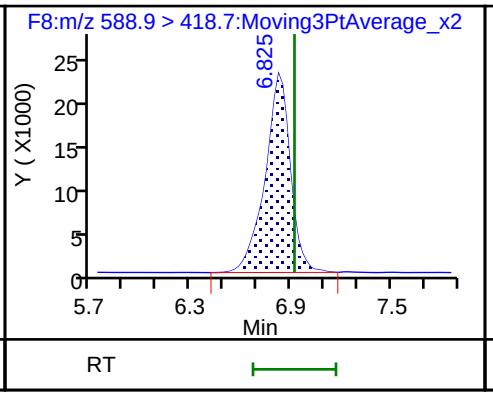
31 Perfluorodecanesulfonic acid (ND)



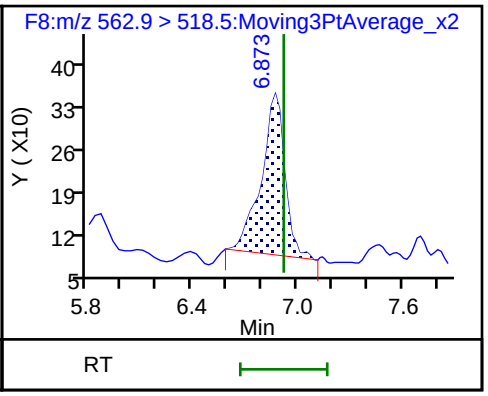
31 Perfluorodecanesulfonic acid (ND)



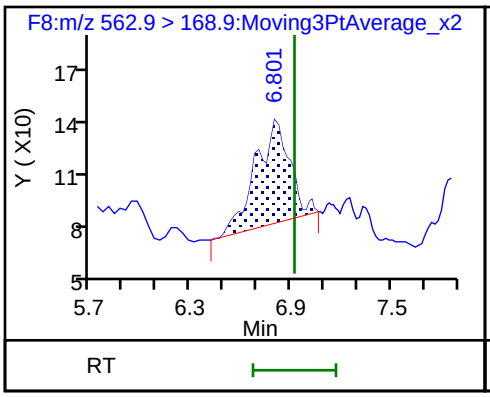
D 29 d5-NEtFOSAA



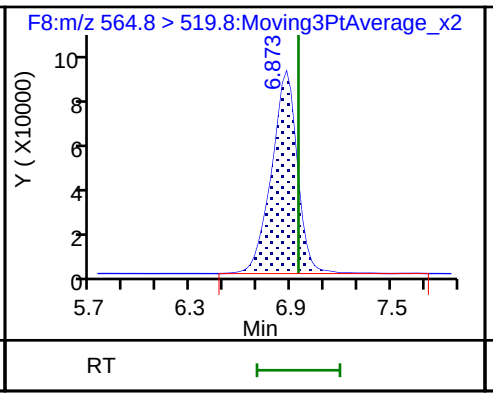
32 Perfluoroundecanoic acid



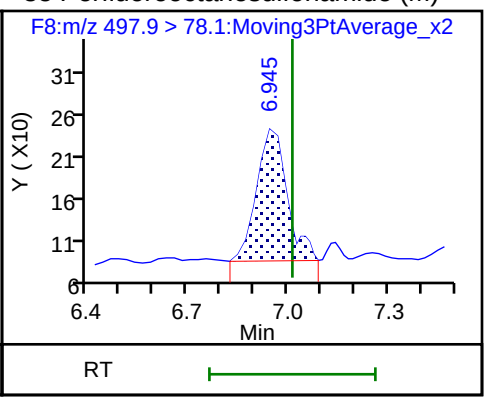
32 Perfluoroundecanoic acid



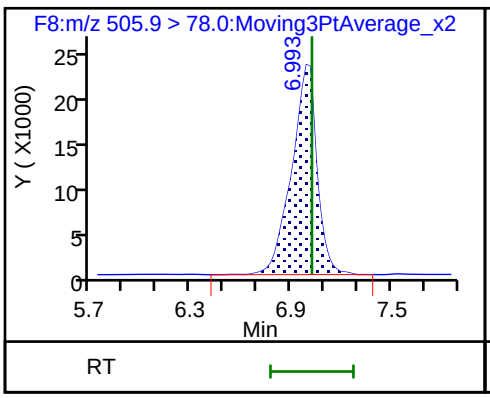
D 33 13C2 PFUnA



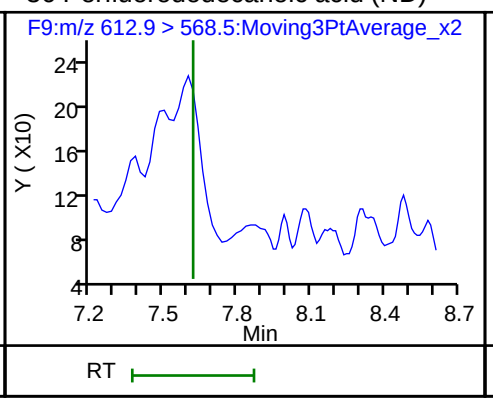
35 Perfluorooctanesulfonamide (M)



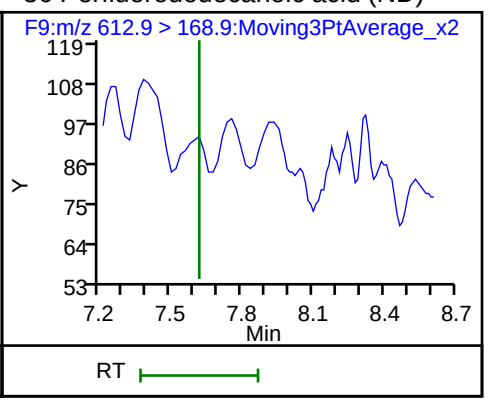
D 34 13C8 FOSA



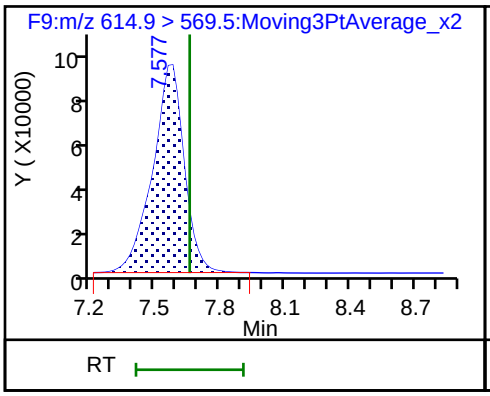
36 Perfluorododecanoic acid (ND)



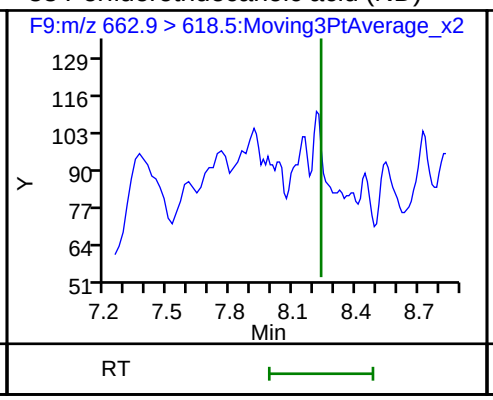
36 Perfluorododecanoic acid (ND)



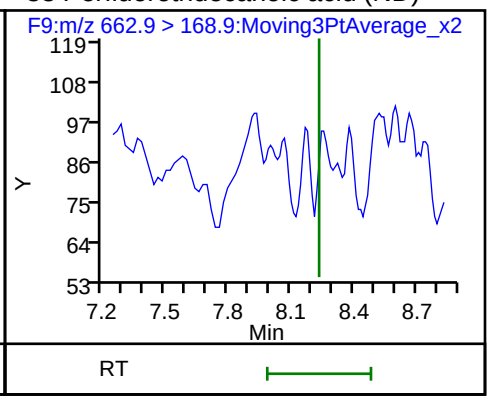
D 37 13C2 PFDoA



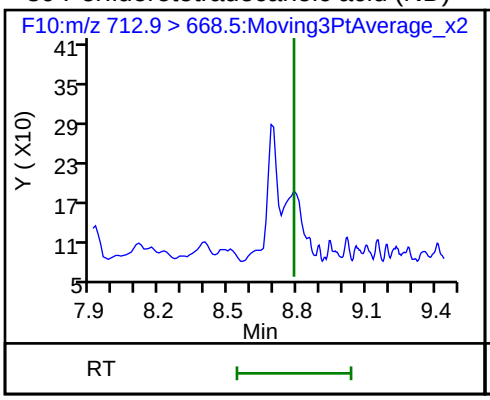
38 Perfluorotridecanoic acid (ND)



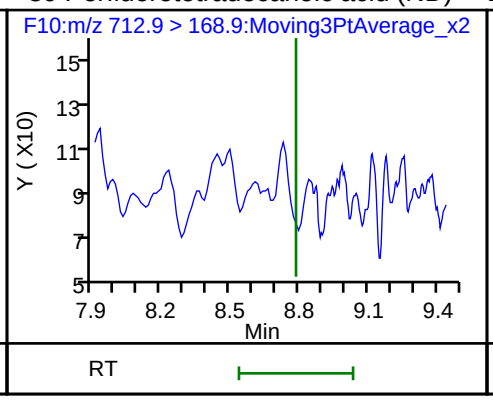
38 Perfluorotridecanoic acid (ND)



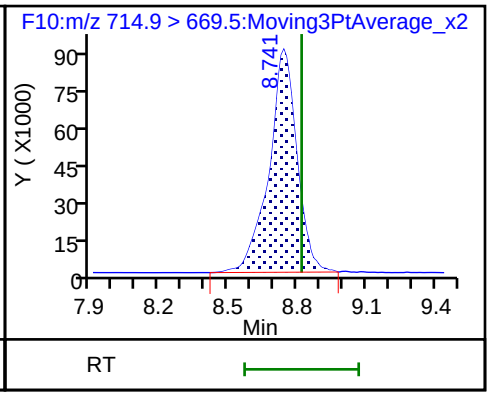
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

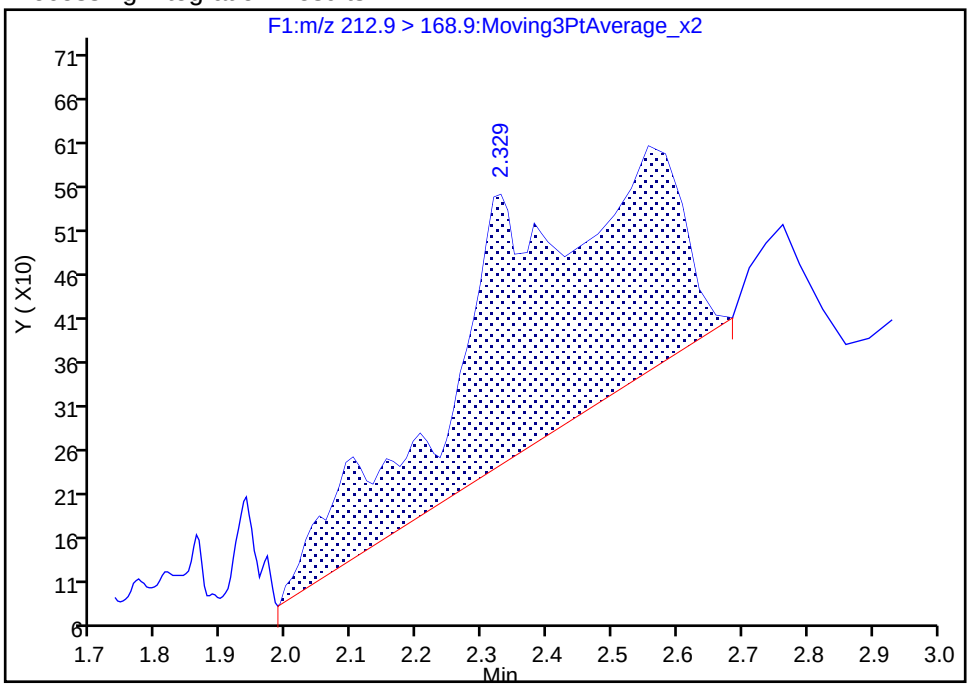
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

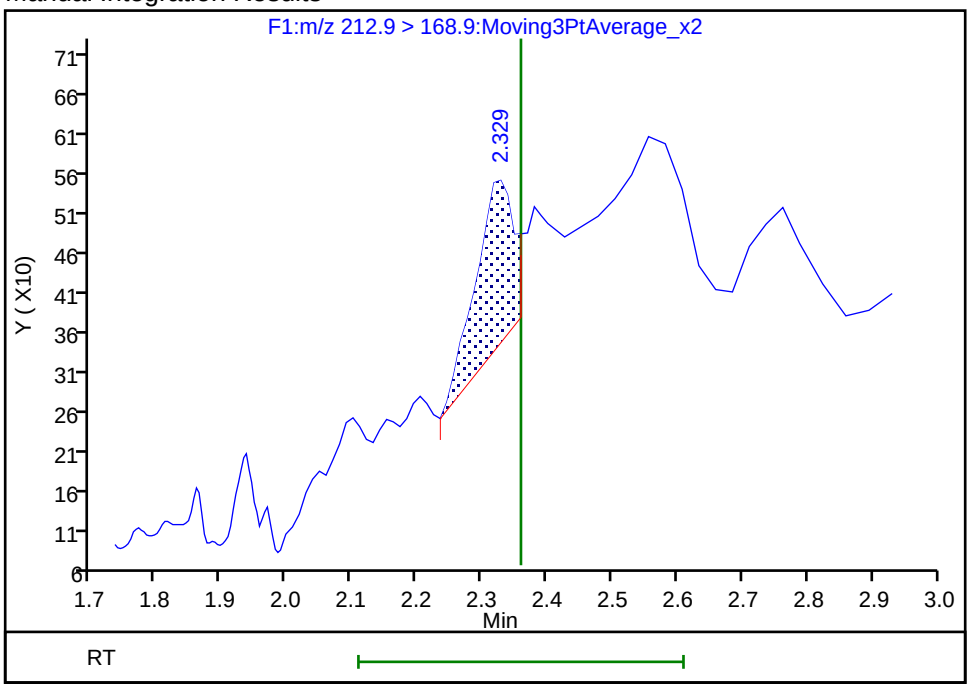
Processing Integration Results

RT: 2.33
Area: 5955
Amount: 12.434500
Amount Units: ng/ml



Manual Integration Results

RT: 2.33
Area: 845
Amount: 0.592467
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:05:45

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

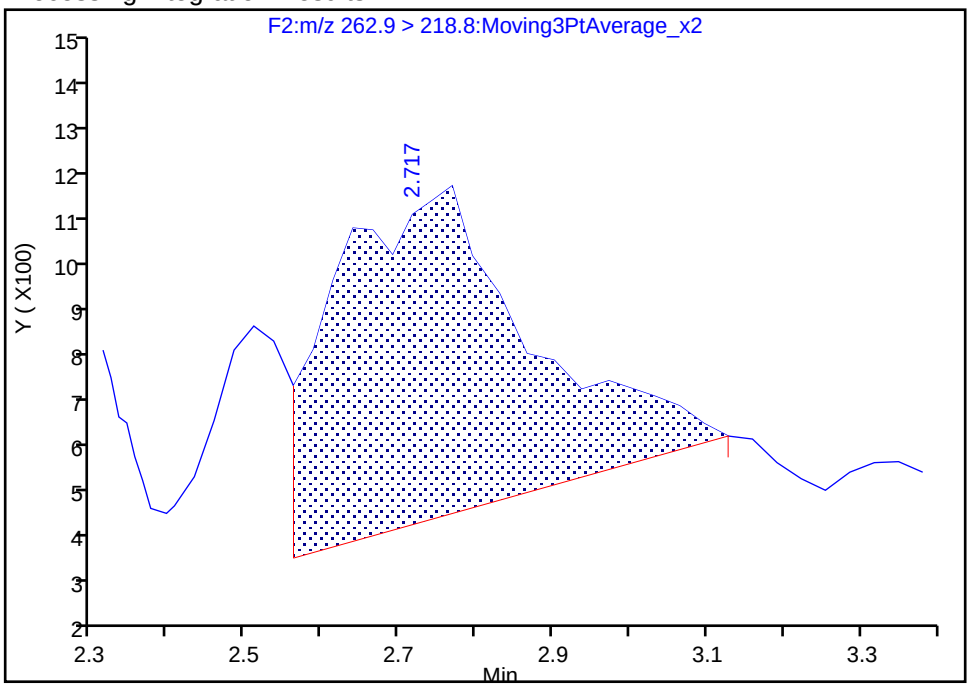
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

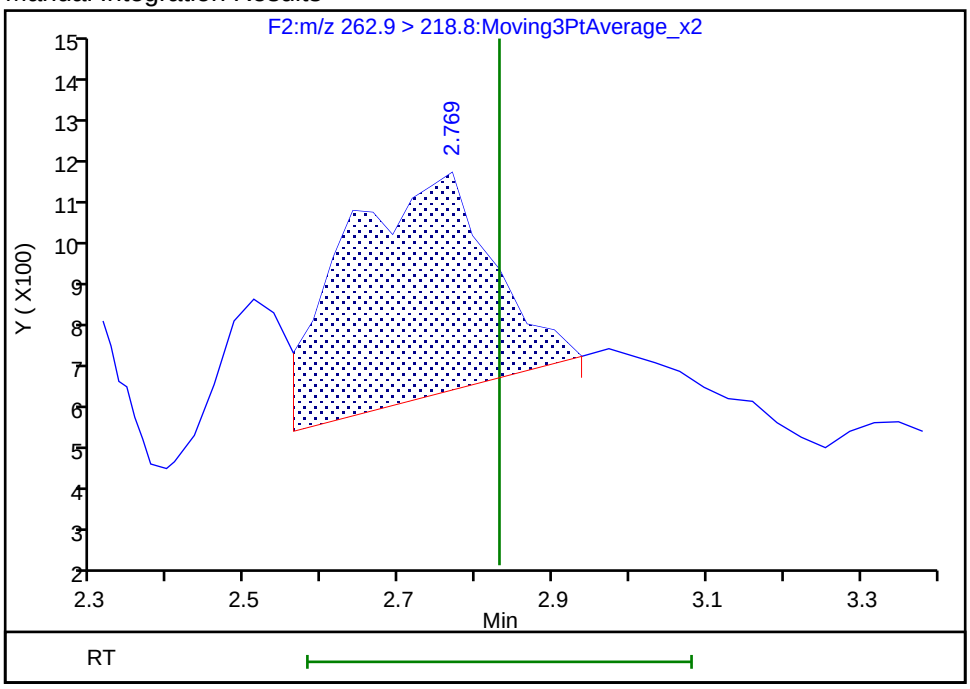
Processing Integration Results

RT: 2.72
Area: 11801
Amount: 3.320984
Amount Units: ng/ml



Manual Integration Results

RT: 2.77
Area: 6645
Amount: 1.287278
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:05:57

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

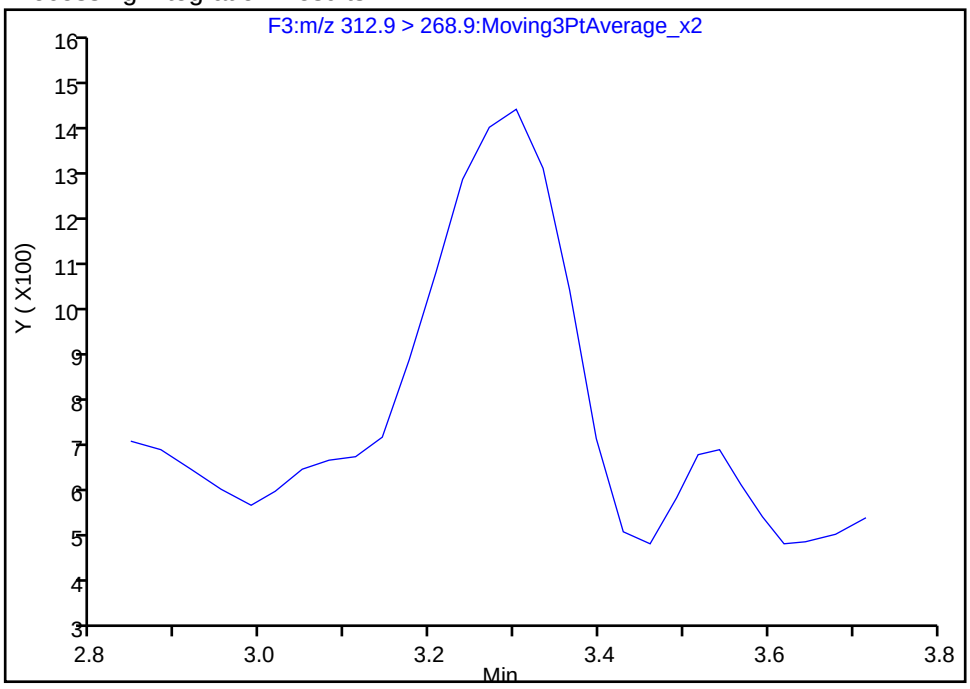
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

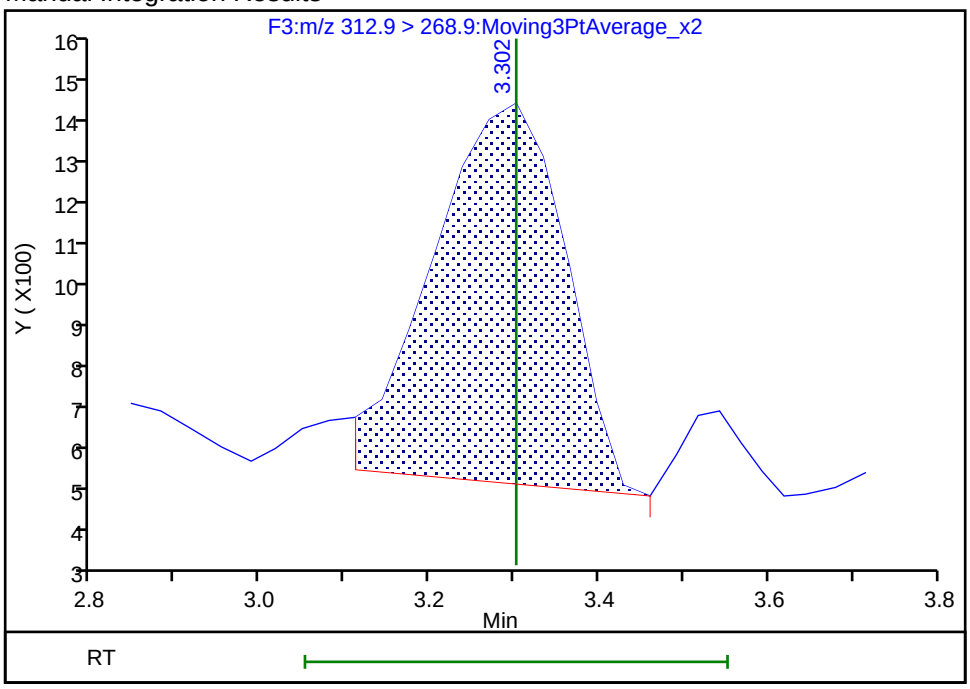
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.30
Area: 9136
Amount: 0.813700
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:08:03
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

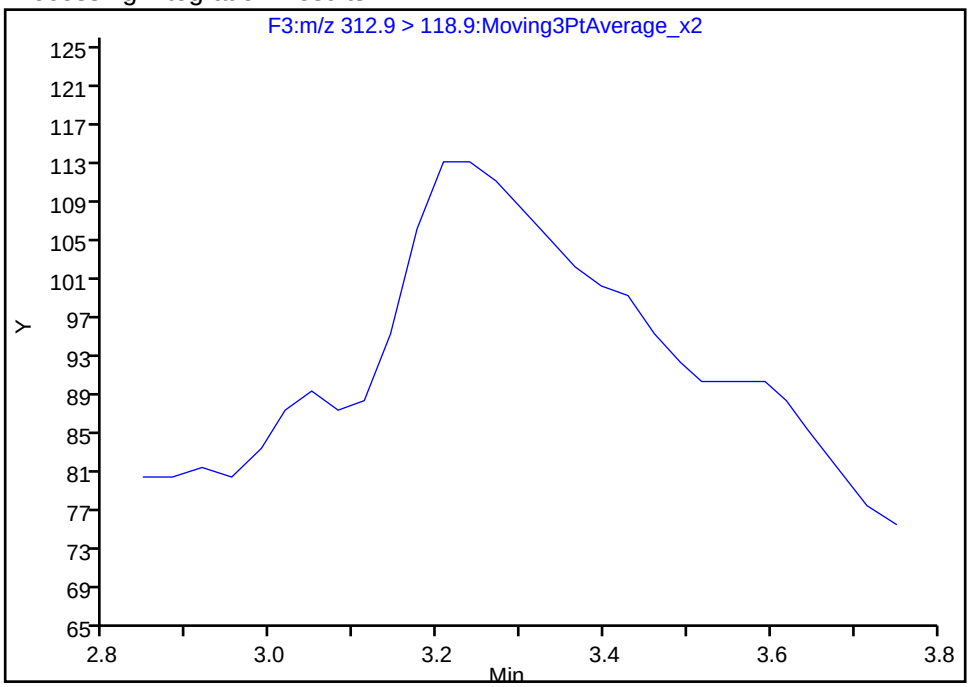
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

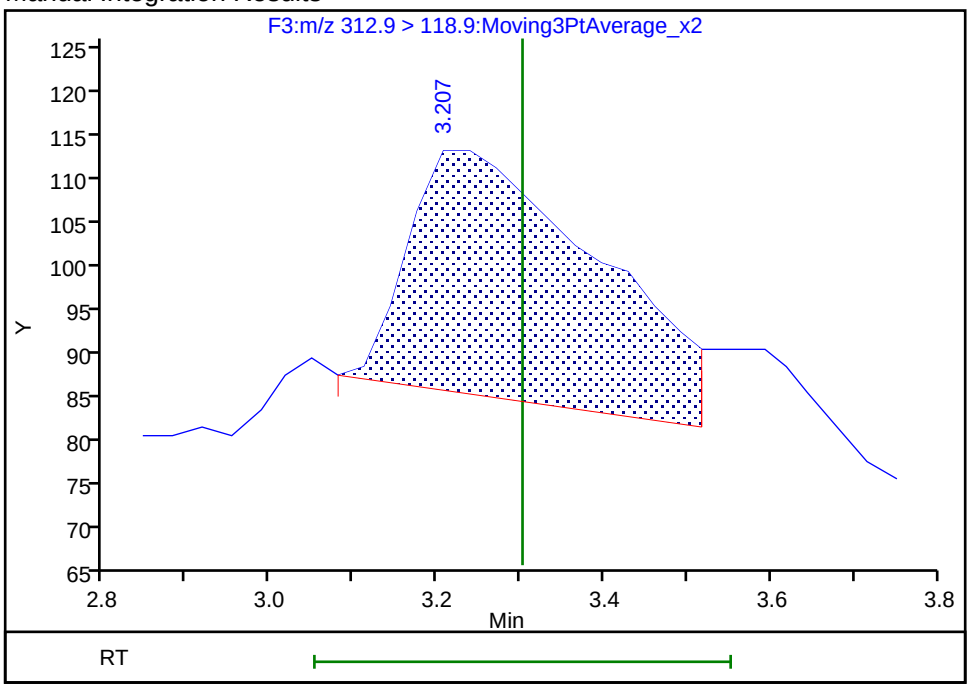
Processing Integration Results

Not Detected
Expected RT: 3.30



Manual Integration Results

RT: 3.21
Area: 452
Amount: 0.813700
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:08:11
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

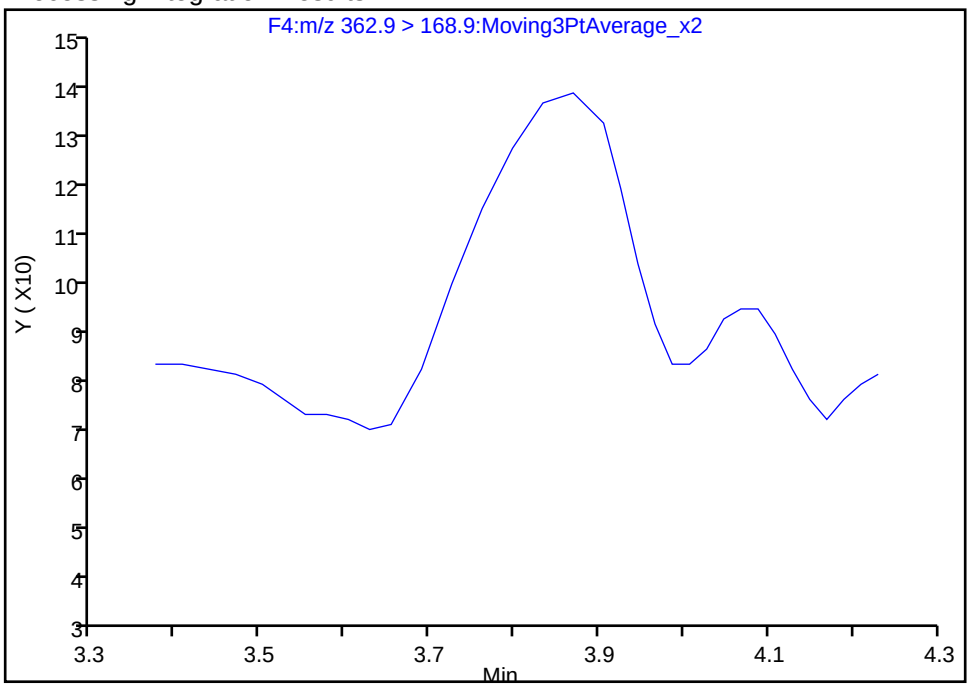
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

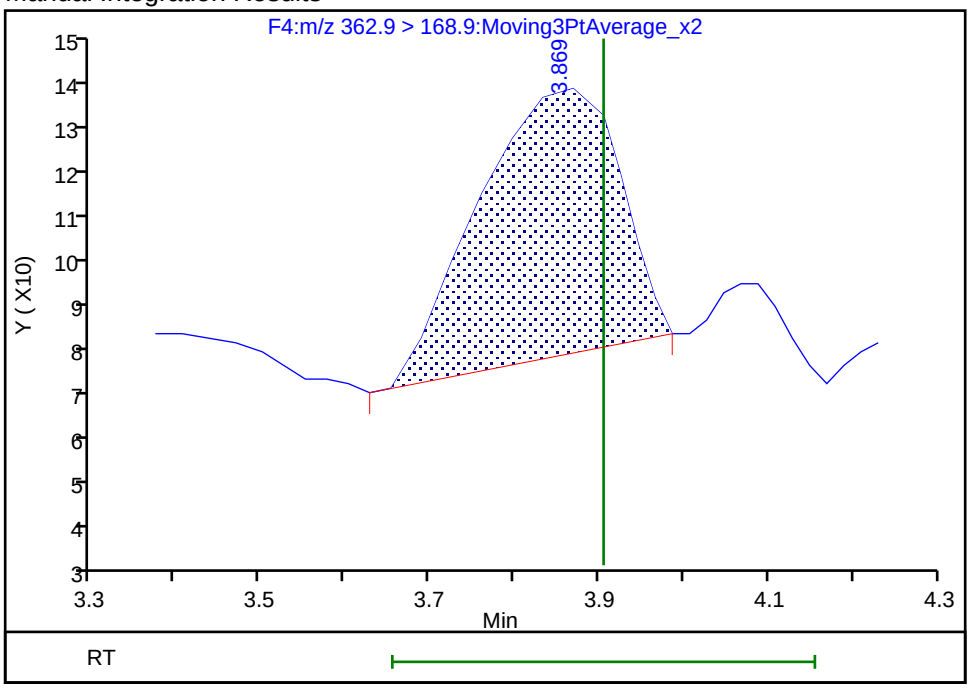
Processing Integration Results

Not Detected
Expected RT: 3.91



Manual Integration Results

RT: 3.87
Area: 685
Amount: 0.610096
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:07:47
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

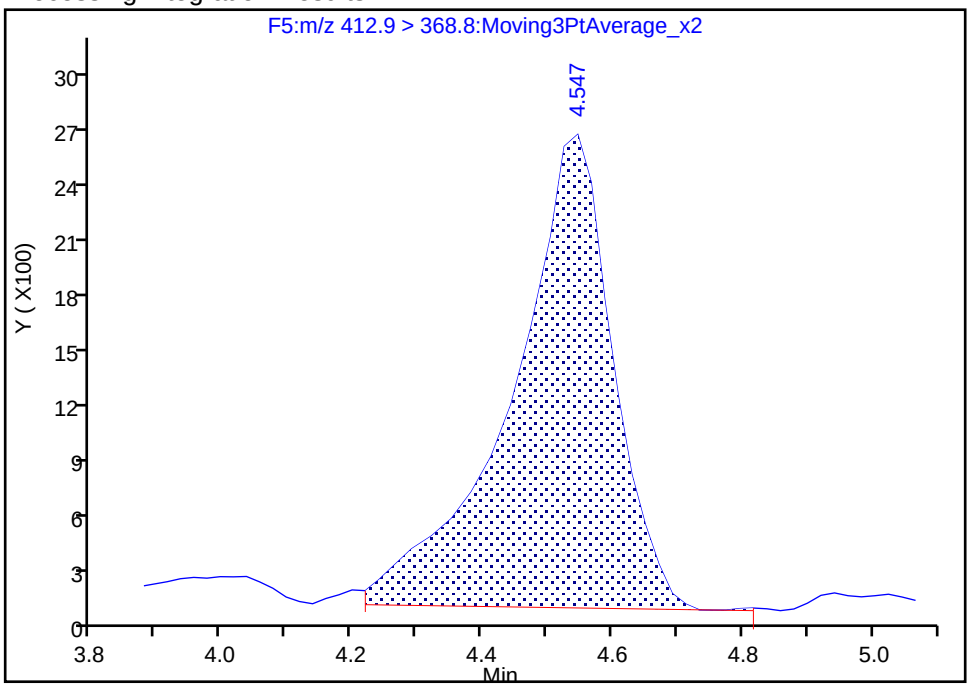
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

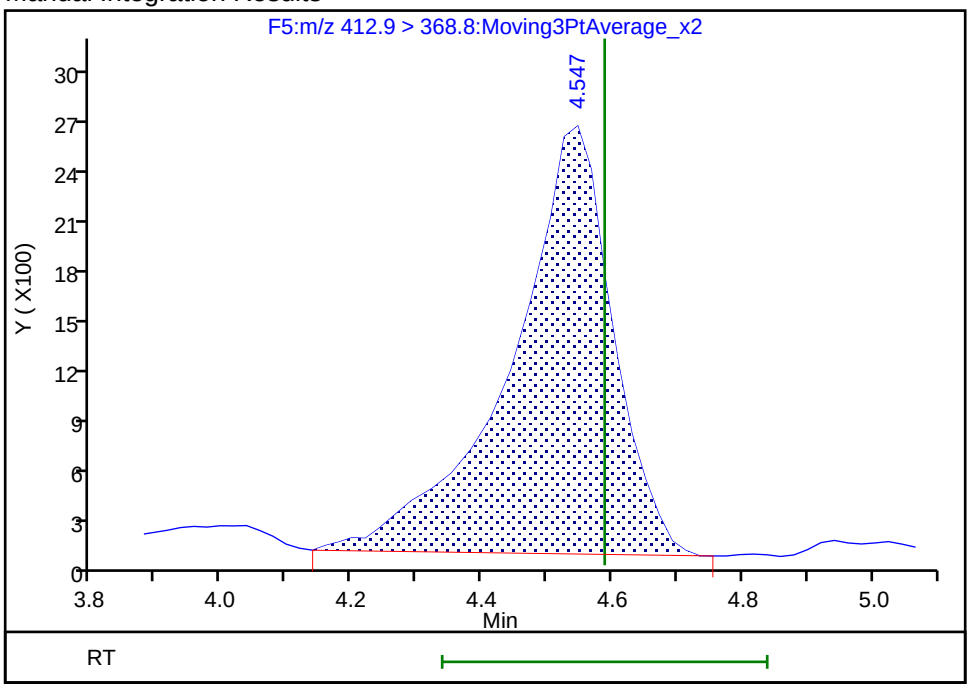
Processing Integration Results

RT: 4.55
Area: 27479
Amount: 1.539770
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 27690
Amount: 1.551594
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:06:17

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

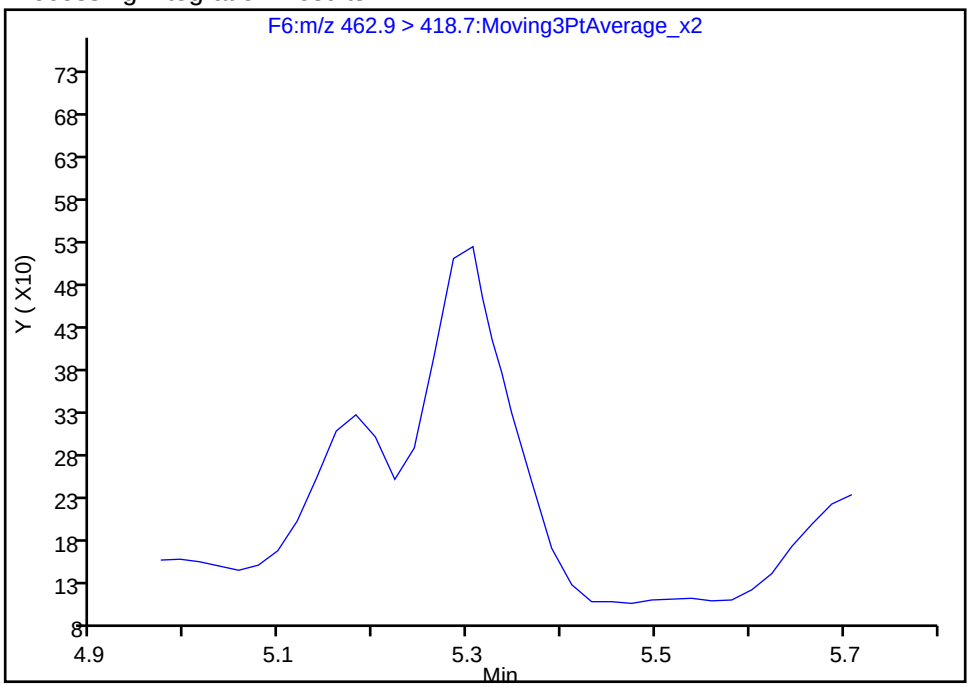
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

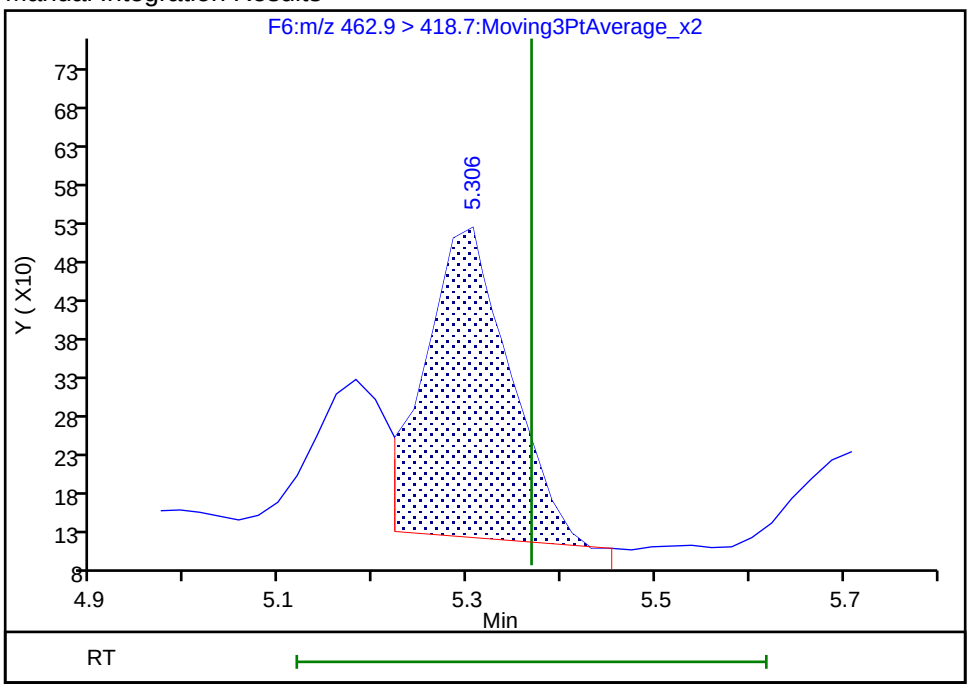
Not Detected
Expected RT: 5.37

Processing Integration Results



Manual Integration Results

RT: 5.31
Area: 2492
Amount: 0.138346
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:07:25
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

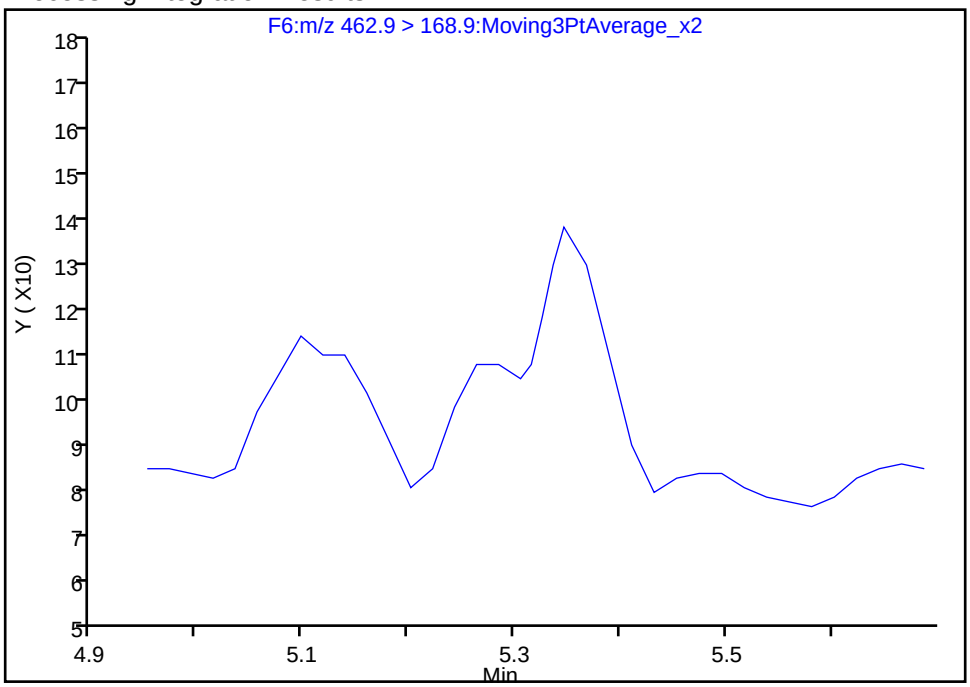
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

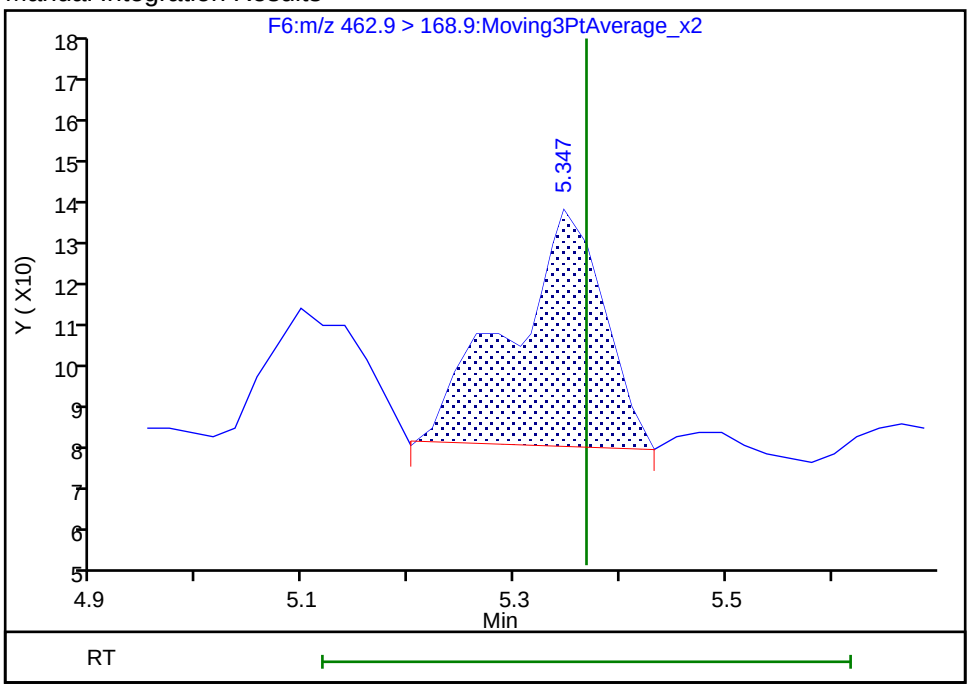
Not Detected
Expected RT: 5.37

Processing Integration Results



Manual Integration Results

RT: 5.35
Area: 338
Amount: 0.138346
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:07:32
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

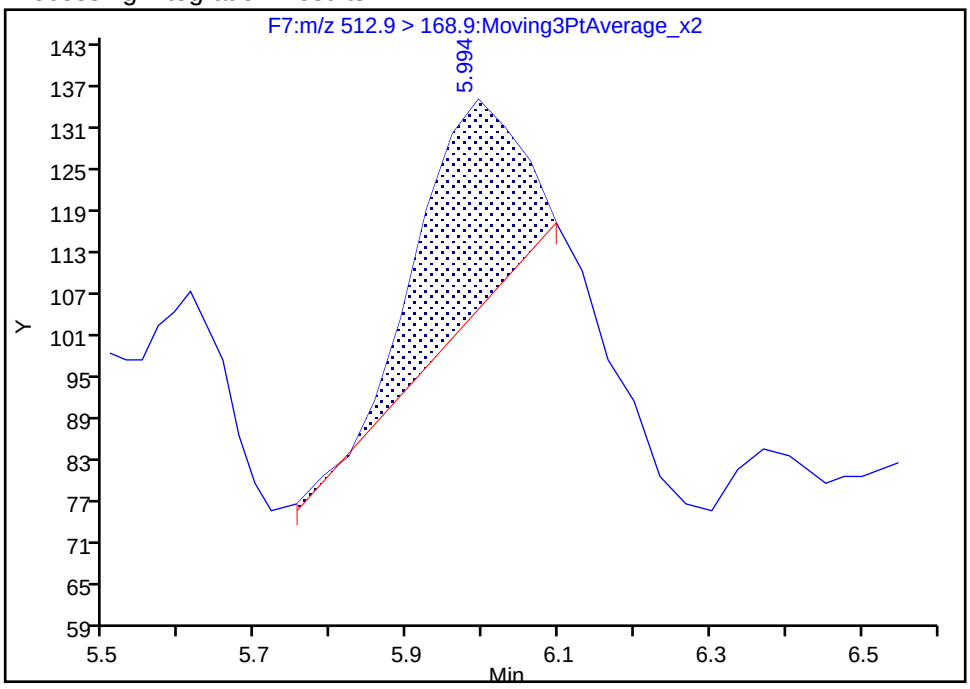
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

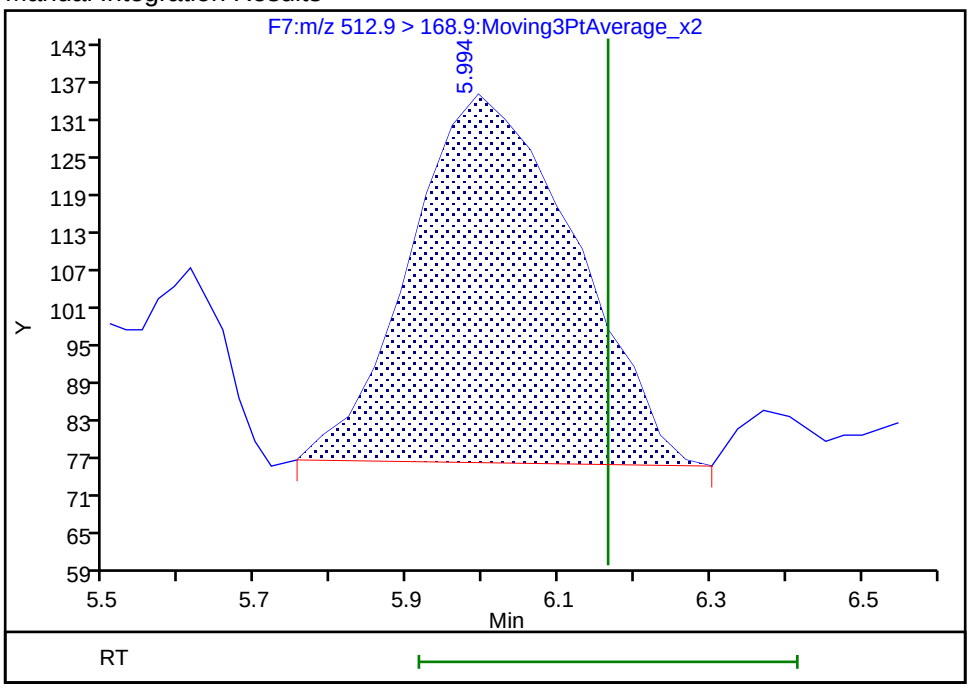
Processing Integration Results

RT: 5.99
Area: 276
Amount: 0.326840
Amount Units: ng/ml



Manual Integration Results

RT: 5.99
Area: 896
Amount: 0.326840
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:06:28

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

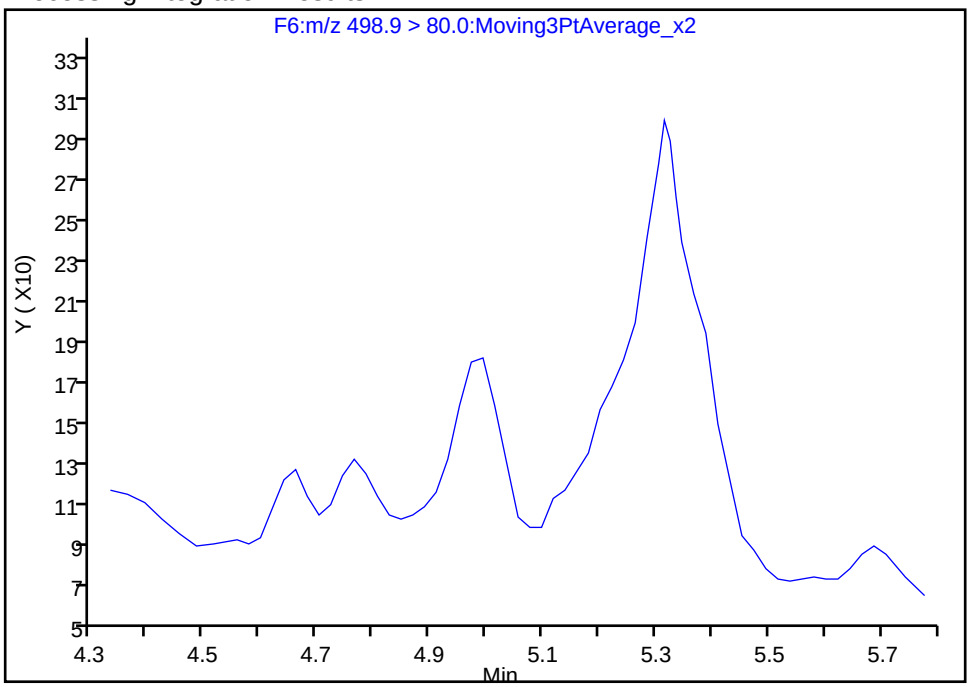
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

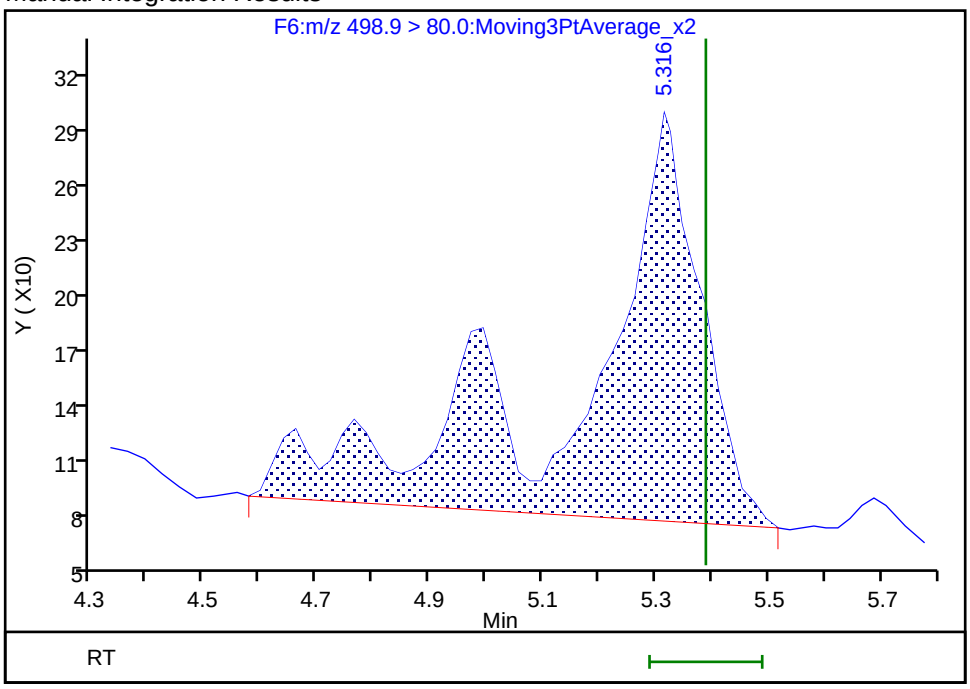
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.32
Area: 3248
Amount: 1.242138
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:07:13
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

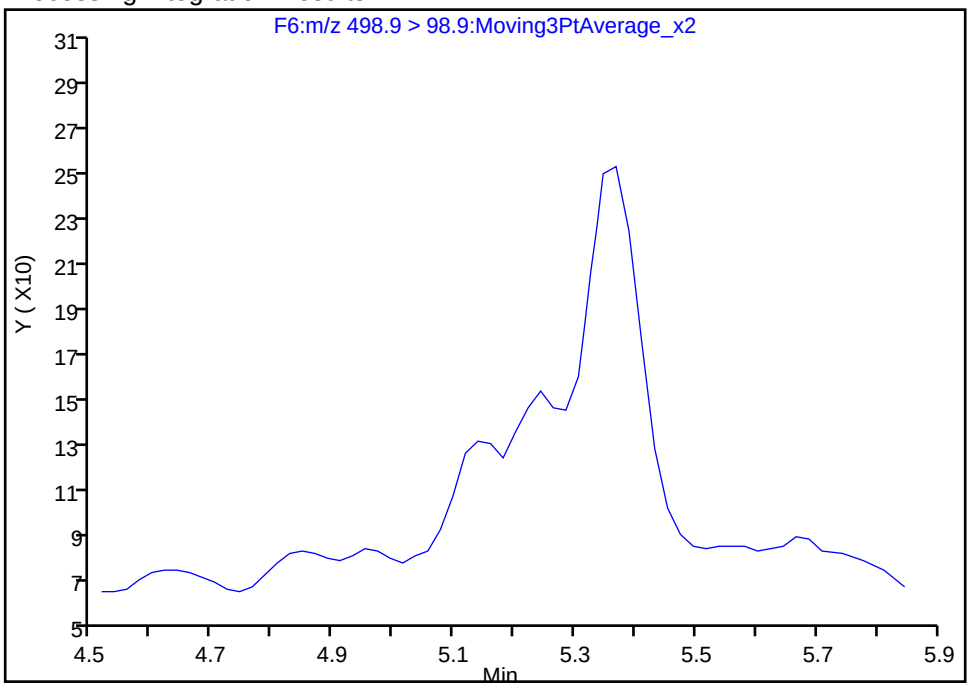
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

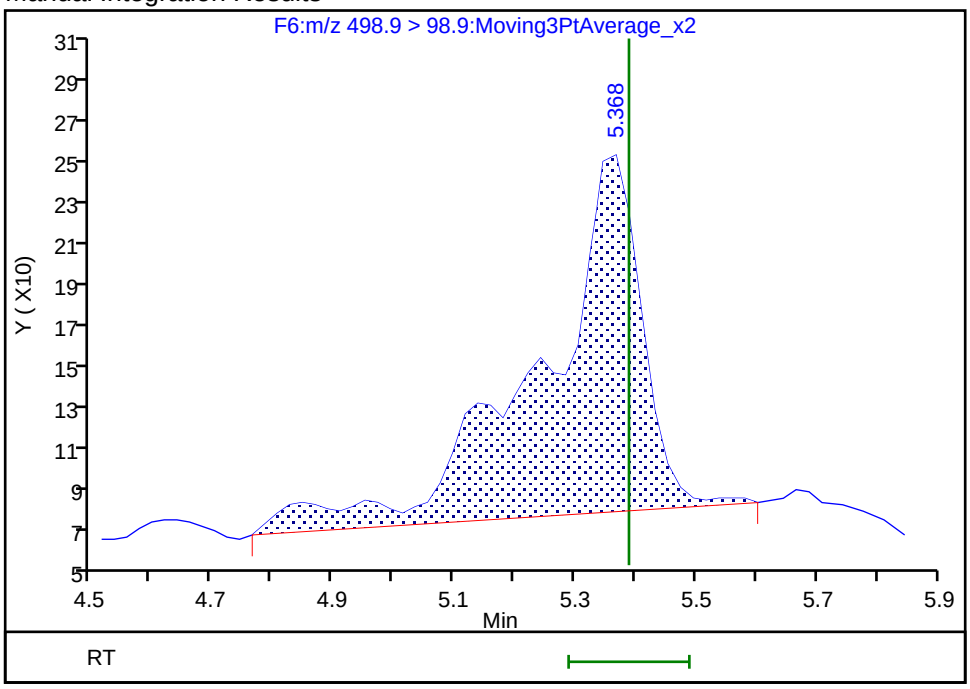
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.37
Area: 1965
Amount: 1.242138
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:07:17
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

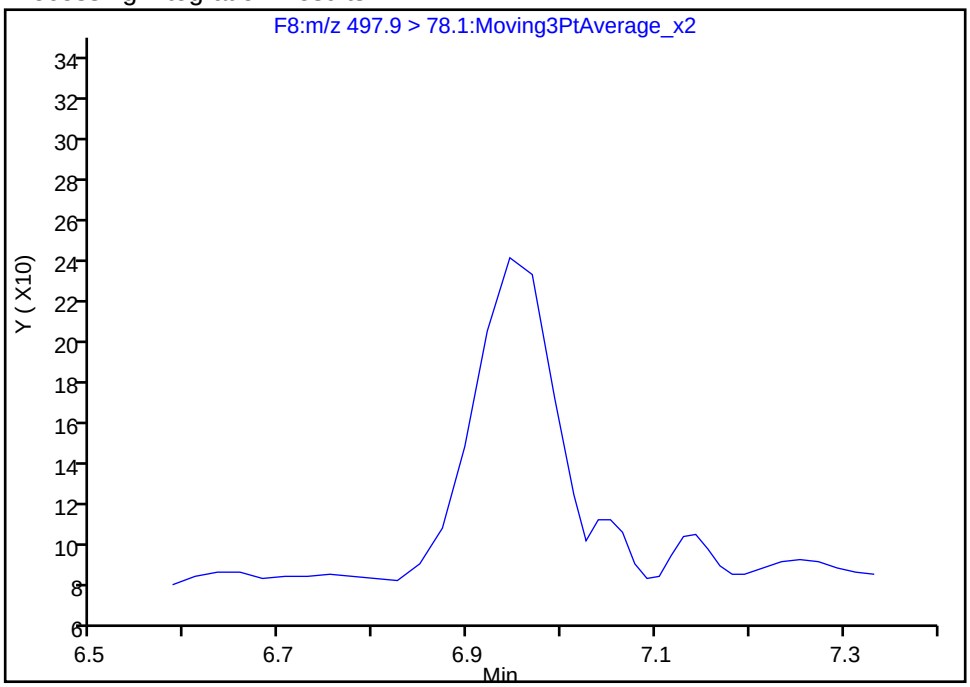
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

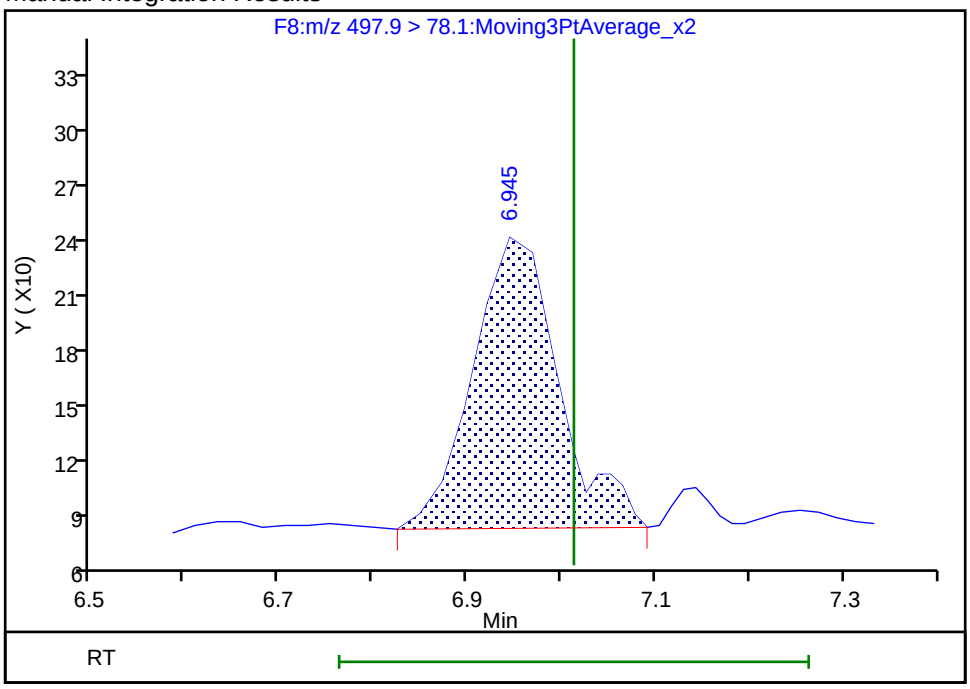
Not Detected
Expected RT: 7.01

Processing Integration Results



Manual Integration Results

RT: 6.94
Area: 974
Amount: 0.138992
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:06:57
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

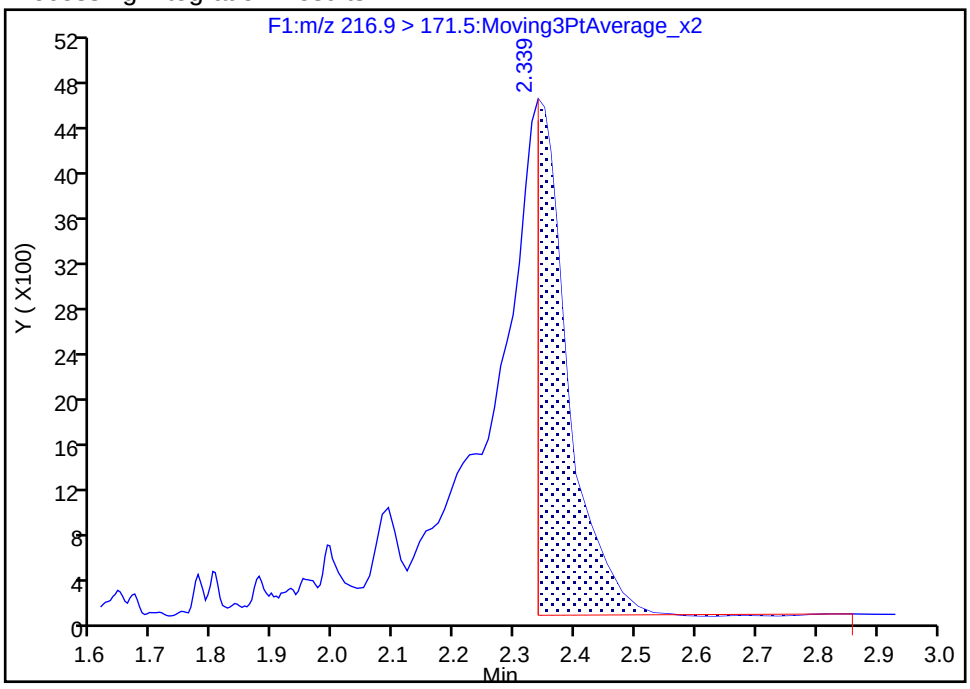
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

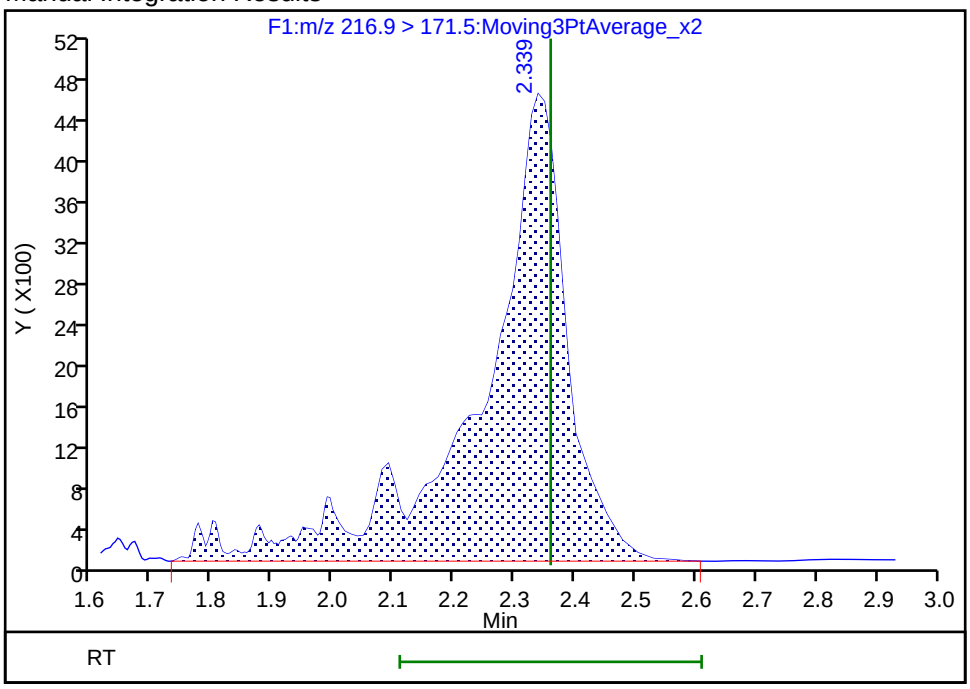
Processing Integration Results

RT: 2.34
Area: 15252
Amount: 2.007167
Amount Units: ng/ml



Manual Integration Results

RT: 2.34
Area: 45422
Amount: 5.977548
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:05:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

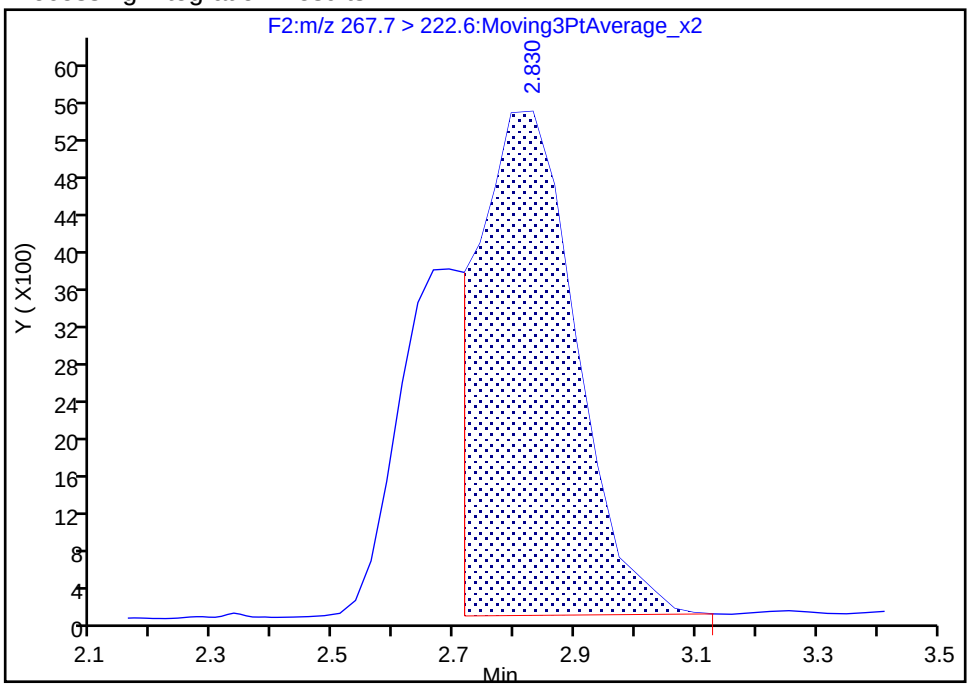
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

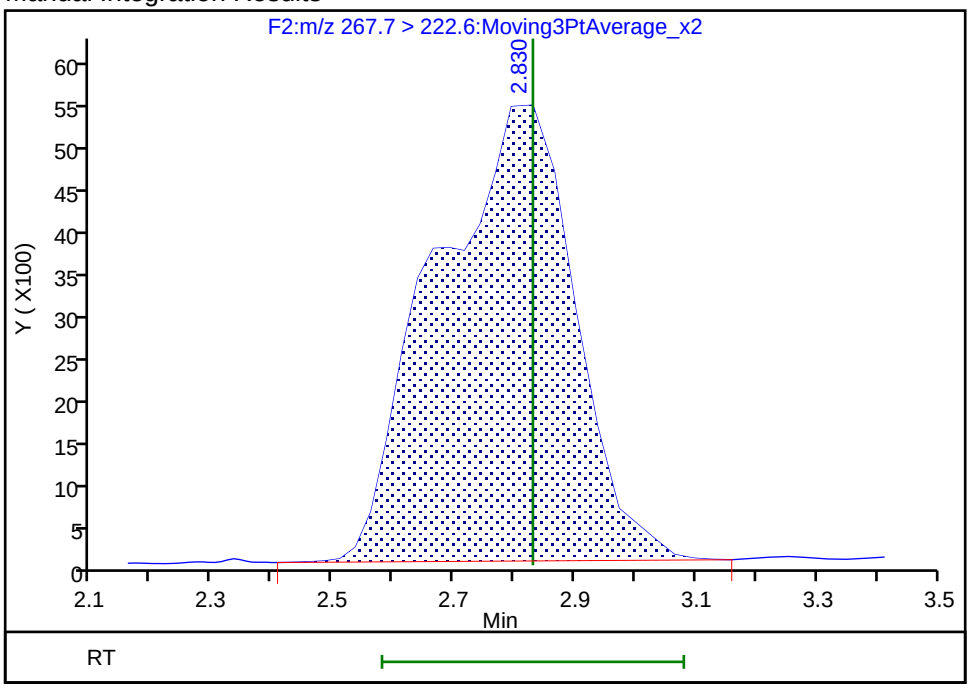
Processing Integration Results

RT: 2.83
Area: 59333
Amount: 10.292794
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 86192
Amount: 14.952159
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:06:01
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

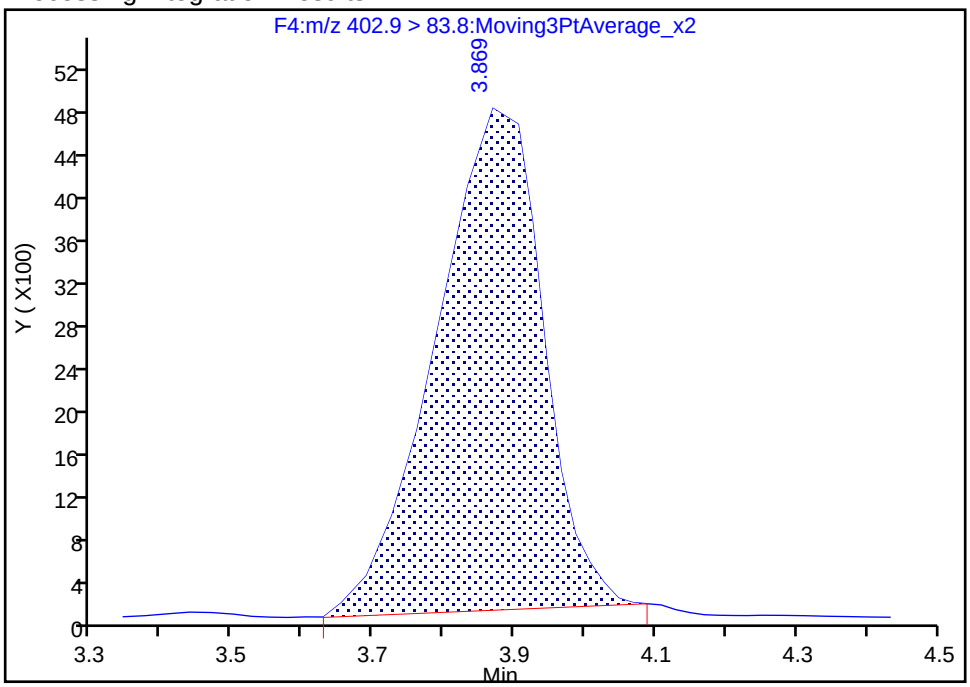
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

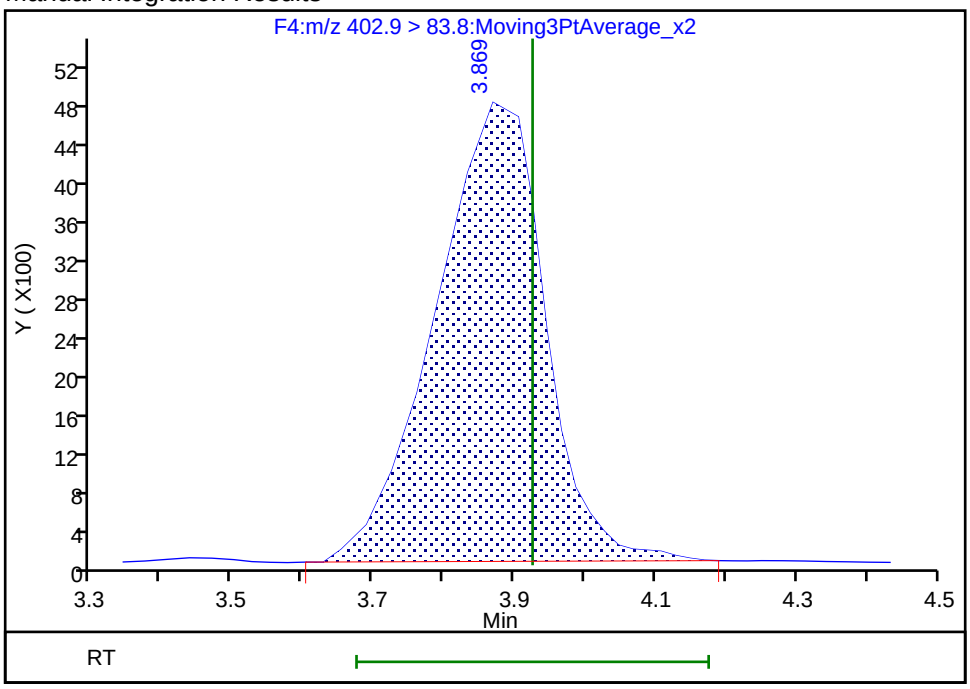
Processing Integration Results

RT: 3.87
Area: 48890
Amount: 15.252708
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 50595
Amount: 15.784634
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:06:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

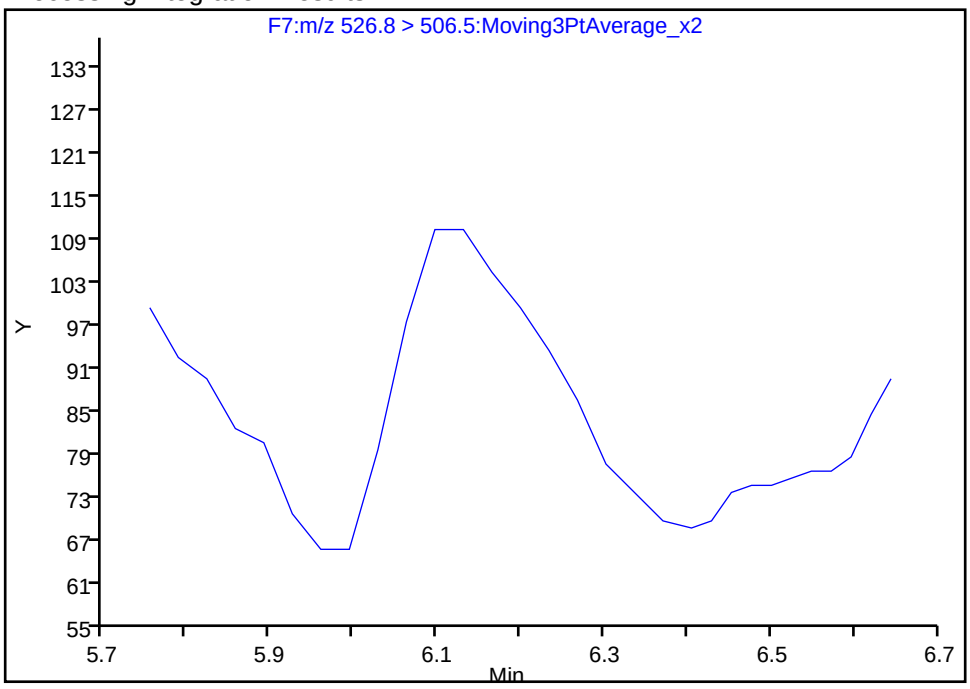
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B19.d				
Injection Date:	05-Jun-2019 06:05:33	Instrument ID:	LC410		
Lims ID:	200-48826-A-16-A	Lab Sample ID:	200-48826-16		
Client ID:	MW-8D 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

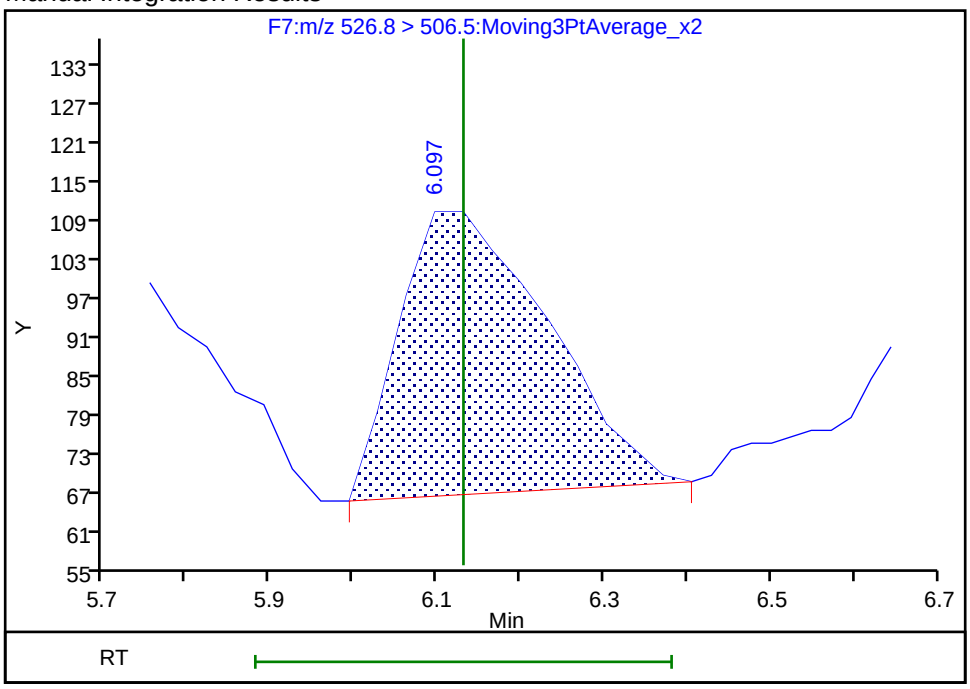
Not Detected
Expected RT: 6.13

Processing Integration Results



Manual Integration Results

RT: 6.10
Area: 545
Amount: 0.132207
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:07:07
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8S 051619 Lab Sample ID: 200-48826-17

Matrix: Water Lab File ID: PF060419B20.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 10:52

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 296.6(mL) Date Analyzed: 06/05/2019 06:21

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.7	0.84
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.53
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.64
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.77
335-67-1	Perfluorooctanoic acid (PFOA)	0.69	J	1.7	0.53
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.65
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.78
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.0	J	1.7	0.41
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.0	J	1.7	0.67
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.80
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.76
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	8.0	B *	1.7	0.51
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.54
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.7	J	17	1.3
27619-97-2	6:2 FTS	ND		17	3.9
39108-34-4	8:2 FTS	ND		17	2.4

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8S 051619 Lab Sample ID: 200-48826-17

Matrix: Water Lab File ID: PF060419B20.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 10:52

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 296.6(mL) Date Analyzed: 06/05/2019 06:21

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	34		25-150
STL00992	13C4 PFBA	22	*	25-150
STL01893	13C5 PFPeA	32		25-150
STL00993	13C2 PFHxA	45	*	50-150
STL01892	13C4 PFHpA	54		50-150
STL00990	13C4 PFOA	54		50-150
STL00995	13C5 PFNA	42	*	50-150
STL00996	13C2 PFDA	47	*	50-150
STL00997	13C2 PFUnA	52		50-150
STL00998	13C2 PFDoA	43	*	50-150
STL02116	13C2 PFTeDA	43	*	50-150
STL02337	13C3 PFBS	33	*	50-150
STL00994	18O2 PFHxS	42	*	50-150
STL00991	13C4 PFOS	40	*	50-150
STL02118	d3-NMeFOSAA	36	*	50-150
STL02117	d5-NEtFOSAA	40	*	50-150
STL02279	M2-6:2 FTS	63		25-150
STL02280	M2-8:2 FTS	62		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d
Lims ID: 200-48826-A-17-A
Client ID: MW-8S 051619
Sample Type: Client
Inject. Date: 05-Jun-2019 06:21:32 ALS Bottle#: 0 Worklist Smp#: 20
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-020 17
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 13:11:18
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.339	2.360	-0.021	1.000	73668	11.0		22.0	26.7	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.830	2.830	0.0	1.013	852	0.1749			1.5	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.795	2.830	-0.035	1.000	81332	16.0		32.0	325	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.937	2.901	0.036	1.012	1075	0.5943	Target=1.67		0.8	M
298.9 > 98.9	2.937	2.901	0.036	1.012	498		2.16(0.83-2.51)		1.4	M
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	33462	15.1		32.6	123	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	343282	22.5		45.0	2602	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.492	-0.032	1.000	2712	NR			3.4	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	579851	27.0		54.0	1035	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.925	-0.020	0.995	1547	0.6123	Target=1.34		4.4	M
398.9 > 98.9	3.869	3.925	-0.056	0.986	1811		0.85(0.67-2.01)		7.6	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.925	3.925	0.0	1.000	56469	20.0		42.2	200	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	45669	29.9		63.0	269	M
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1369897	50.0			1808	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.547	4.589	-0.042	0.995	6005	0.4101	Target=2.43		19.0	M
412.9 > 168.9	4.568	4.589	-0.021	1.000	2474		2.43(1.22-3.64)		6.5	M
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	723469	27.2		54.4	1433	
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.389	-0.053	1.000	750097	21.0		42.1	1986	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.389	-0.042	1.000	11799	4.75	Target=1.41		93.4	M
498.9 > 98.9	5.347	5.389	-0.042	1.000	9761		1.21(0.71-2.12)		59.2	M
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	122915	19.3		40.4	544	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	165729	29.9		62.3	422	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	717562	23.6		47.1	743	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.549	-0.072	1.000	180272	18.2		36.3	600	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.849	6.897	-0.048	1.000	2617	1.00			17.1	M
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.921	-0.072	1.000	162622	19.9		39.8	767	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	760837	25.9		51.8	1951	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	186087	17.0		33.9	643	
43 11-Chloroeicosafluoro-3-oxaundecan										M
631.0 > 450.6	7.195	7.274	-0.079	1.346	616	0.0427			4.1	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	804953	21.5		43.0	1542	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.819	-0.067	1.000	729695	21.7		43.4	611	
S 50 F-53B										
212.9 > 168.9						0.0427				

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:51:46 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d

Injection Date: 05-Jun-2019 06:21:32 Instrument ID: LC410

Lims ID: 200-48826-A-17-A Lab Sample ID: 200-48826-17

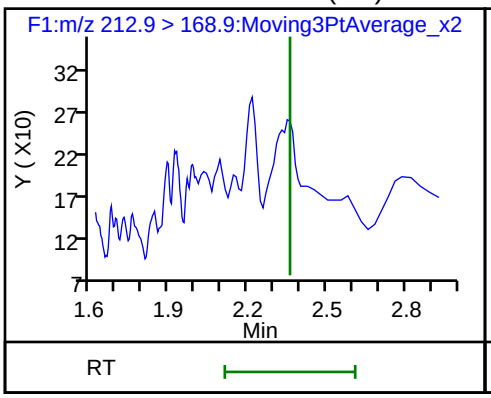
Client ID: MW-8S 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 20

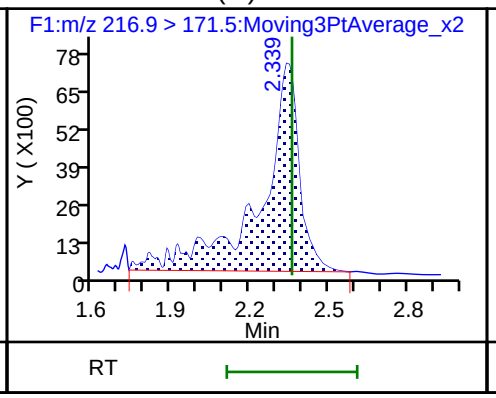
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

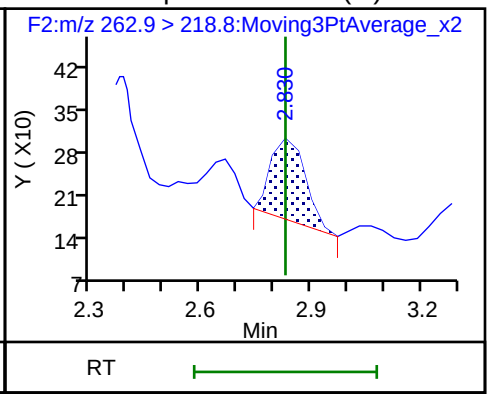
2 Perfluorobutanoic acid (ND)



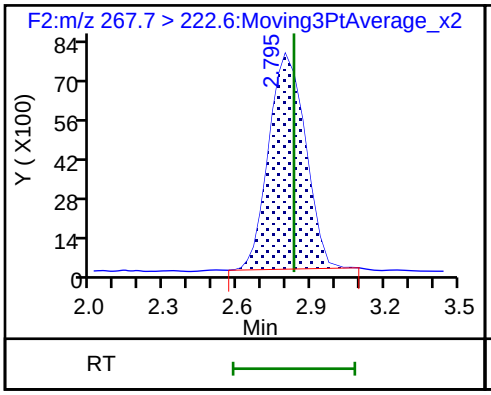
D 1 13C4 PFBA (M)



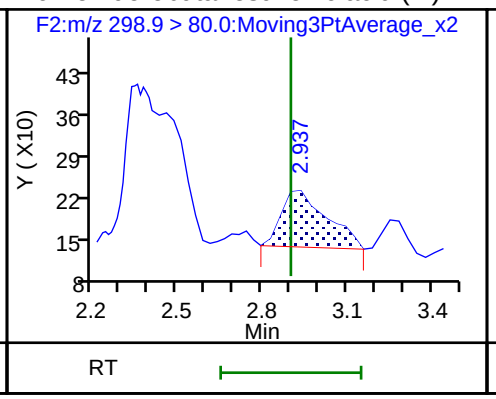
3 Perfluoropentanoic acid (M)



D 4 13C5 PFPeA



6 Perfluorobutanesulfonic acid (M)



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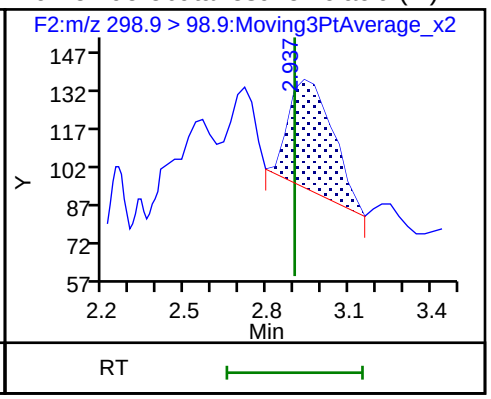
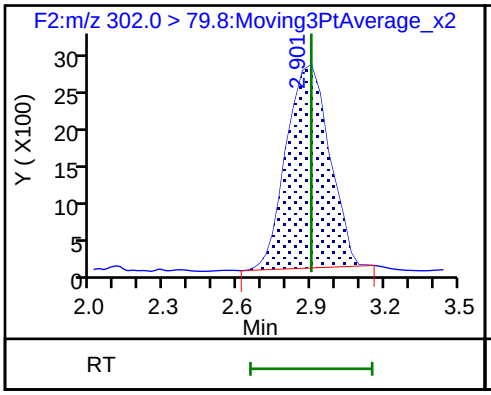
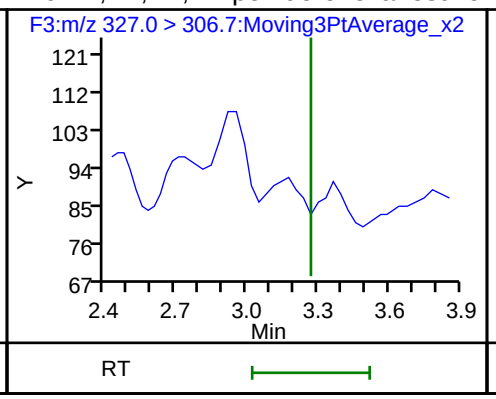


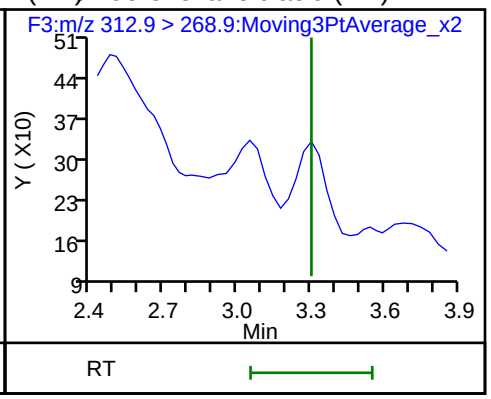
D 5 13C3 PFBS



46 1H,1H,2H,2H-perfluorohexanesulfoni (ND)



7 Perfluorohexanoic acid (ND)



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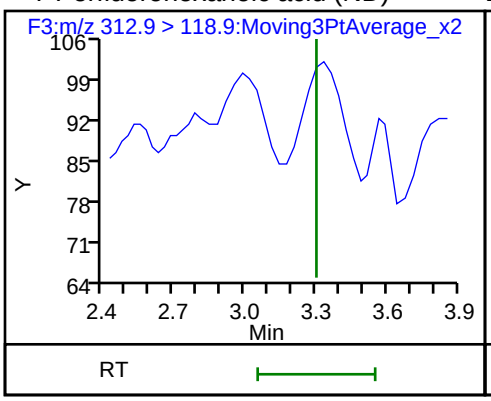
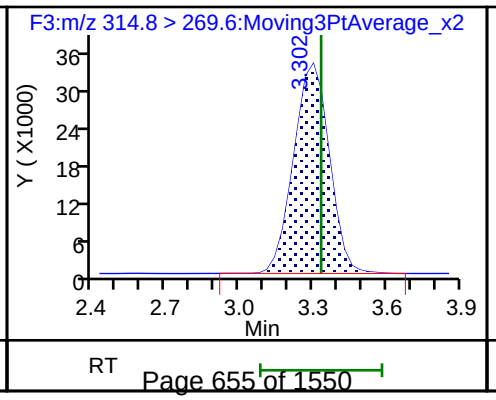
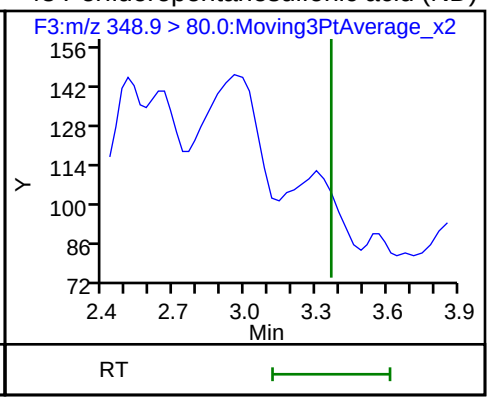


D 8 13C2 PFHxA



48 Perfluoropentanesulfonic acid (ND)



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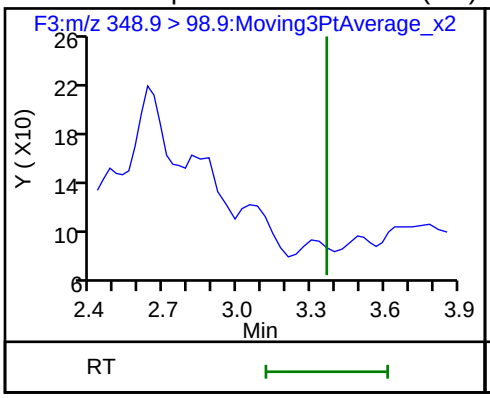
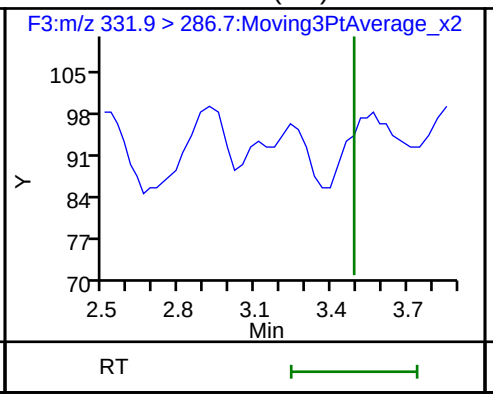
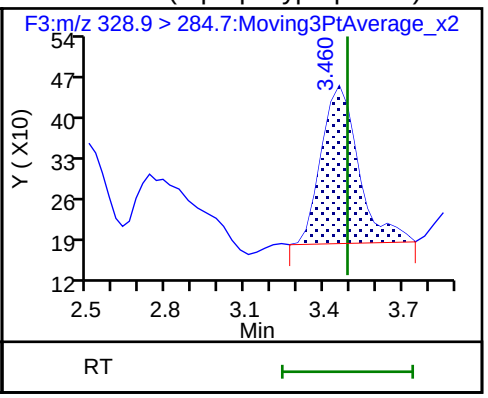


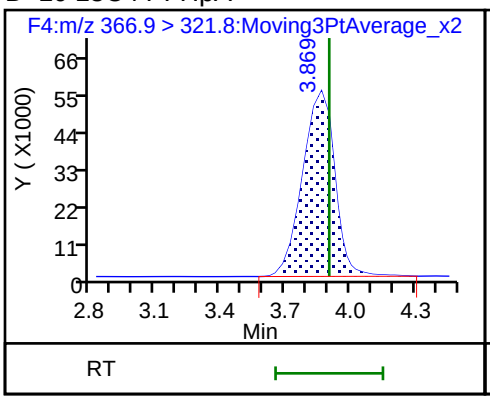
D 42 13C3 HFPO-DA (ND)



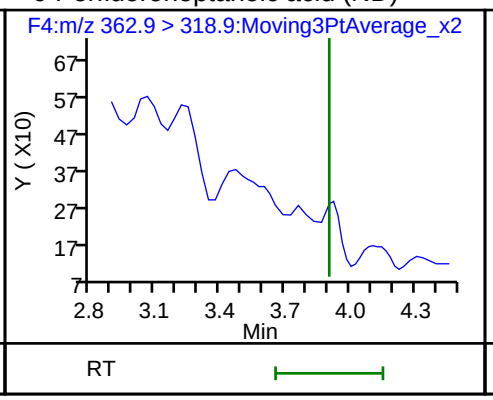
44 Perfluoro(2-propoxypropanoic) acid



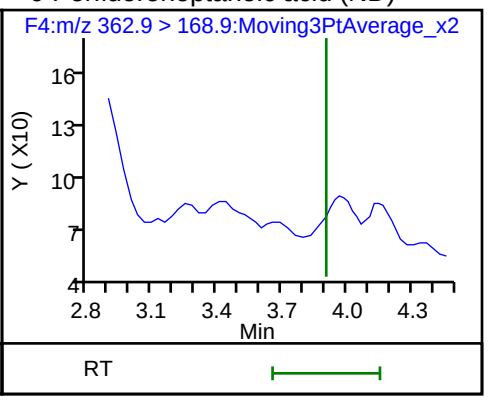
D 10 13C4 PFHpA



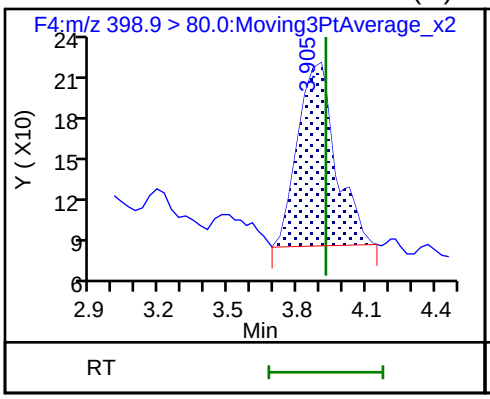
9 Perfluoroheptanoic acid (ND)



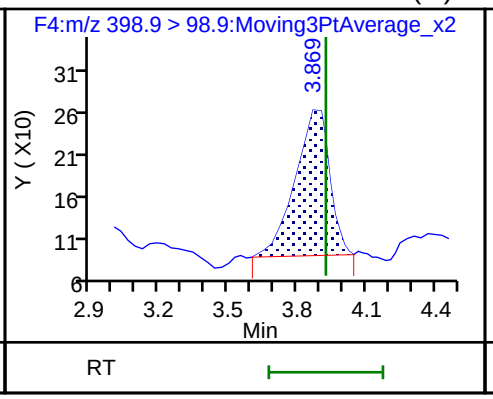
9 Perfluoroheptanoic acid (ND)



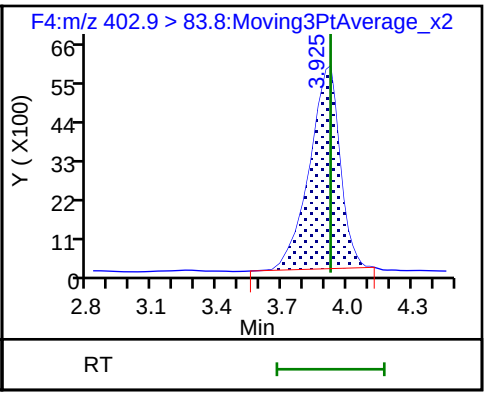
11 Perfluorohexanesulfonic acid (M)



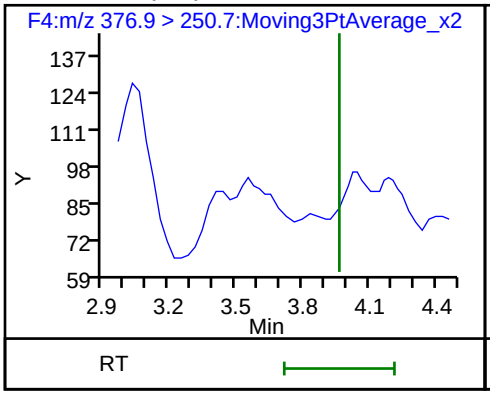
11 Perfluorohexanesulfonic acid (M)



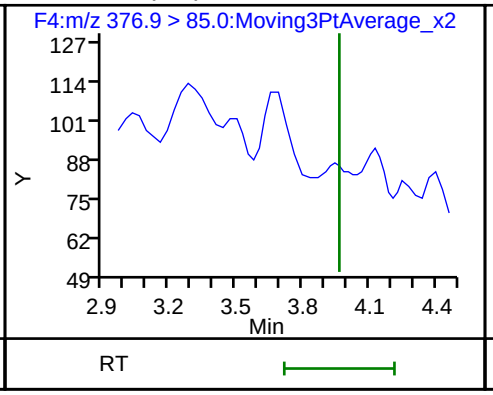
D 12 18O2 PFHxS



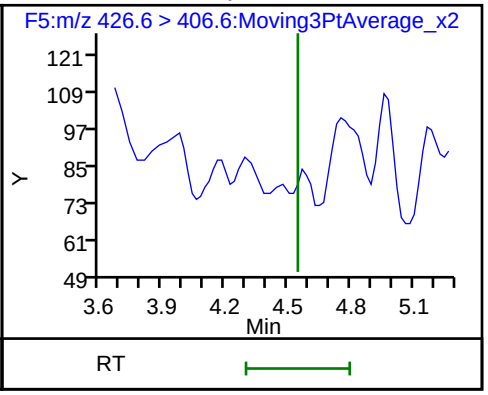
49 DONA (ND)



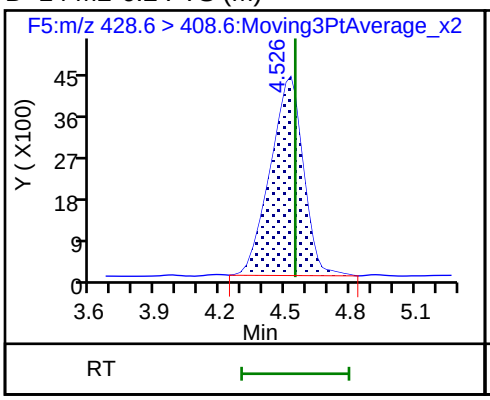
49 DONA (ND)



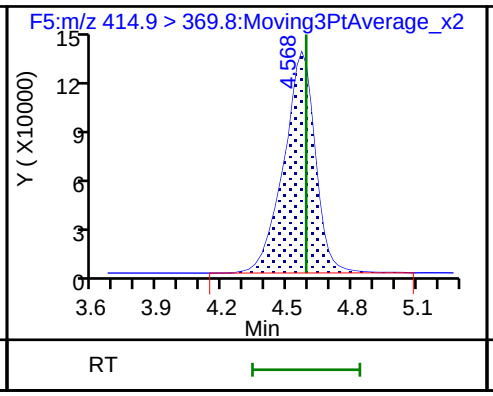
13 1H,1H,2H,2H-perfluorooctanesulfoni (ND)



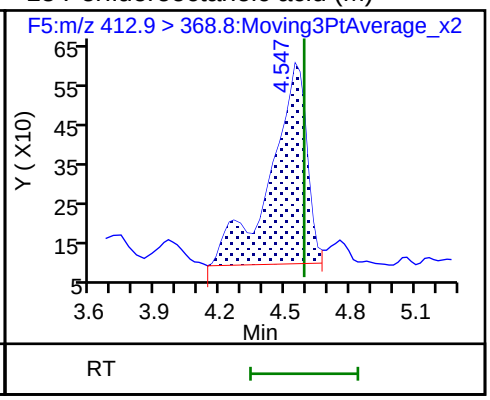
D 14 M2-6:2 FTS (M)



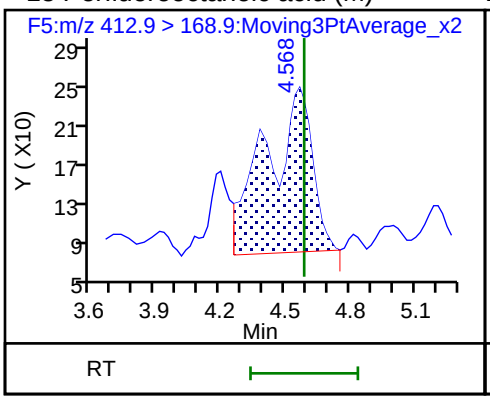
* 16 13C2 PFOA



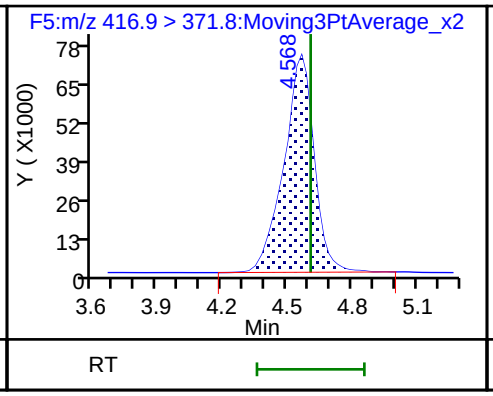
15 Perfluorooctanoic acid (M)



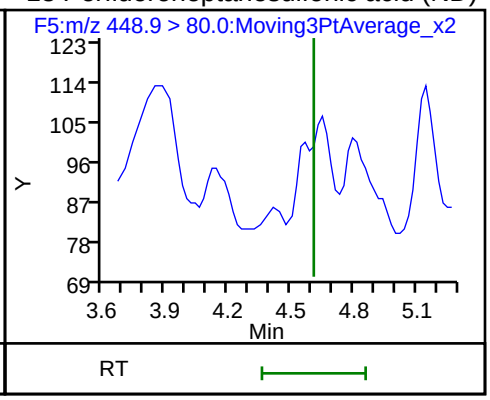
15 Perfluorooctanoic acid (M)



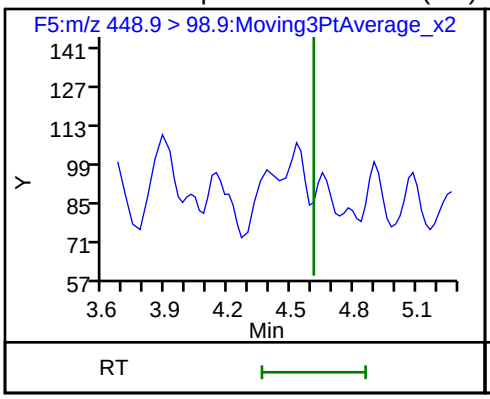
D 17 13C4 PFOA



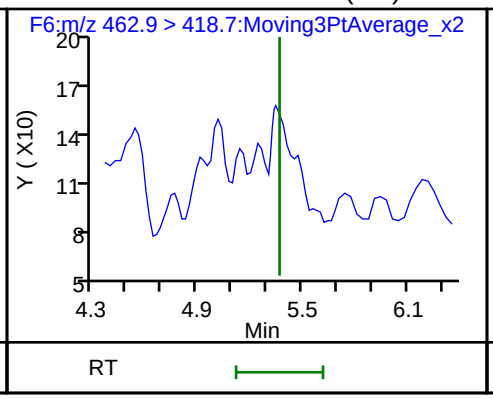
18 Perfluoroheptanesulfonic acid (ND)



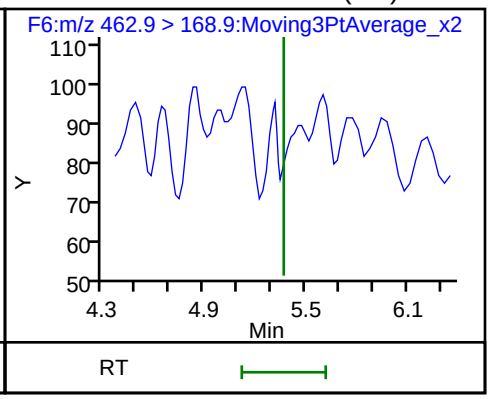
18 Perfluoroheptanesulfonic acid (ND)



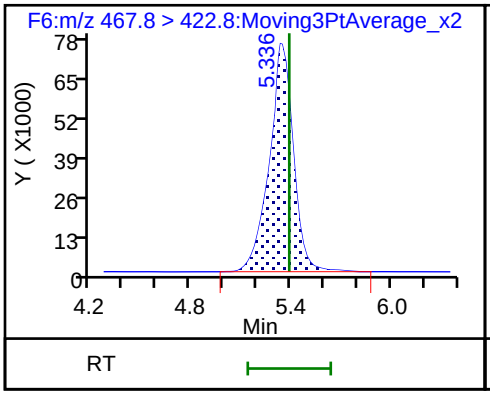
19 Perfluorononanoic acid (ND)



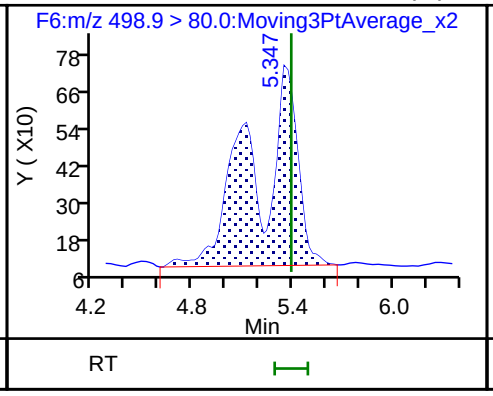
19 Perfluorononanoic acid (ND)



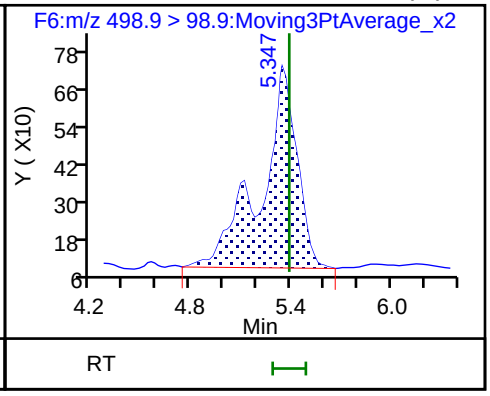
D 20 13C5 PFNA



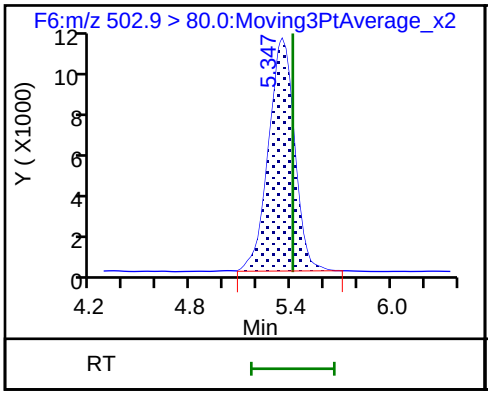
21 Perfluorooctanesulfonic acid (M)



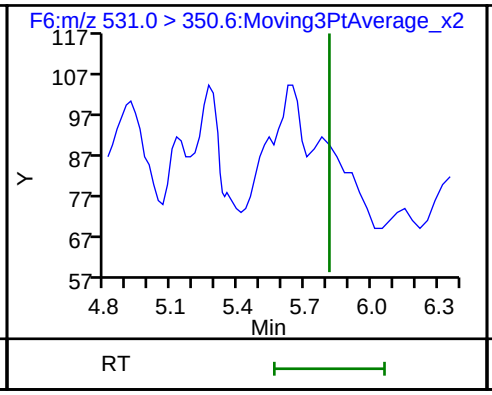
21 Perfluorooctanesulfonic acid (M)



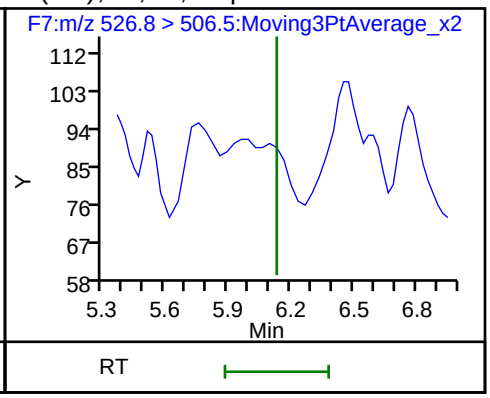
D 22 13C4 PFOS



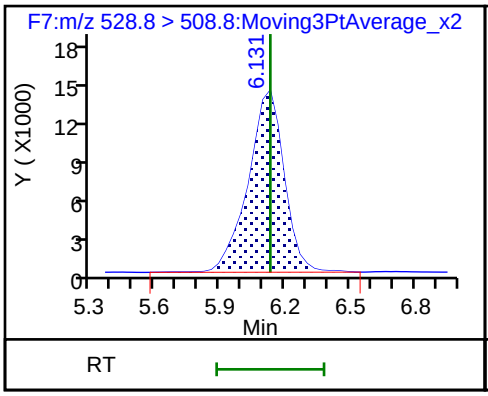
47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (ND)



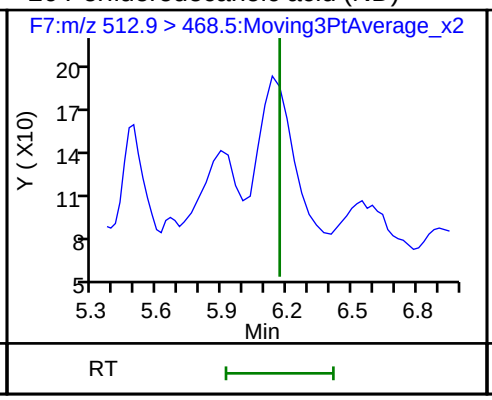
28 N-ethylperfluorooctanesulfonamidoacetic acid (ND)



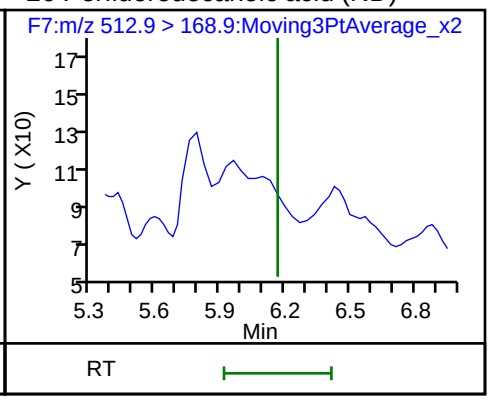
D 24 M2-8:2 FTS



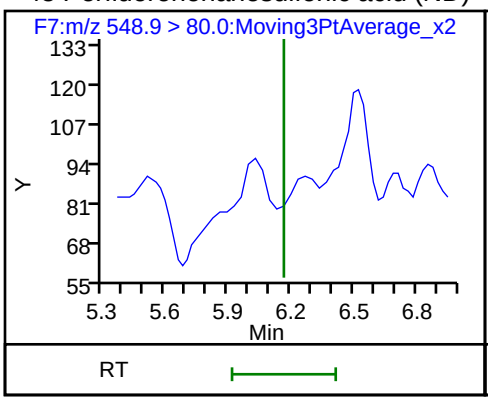
26 Perfluorodecanoic acid (ND)



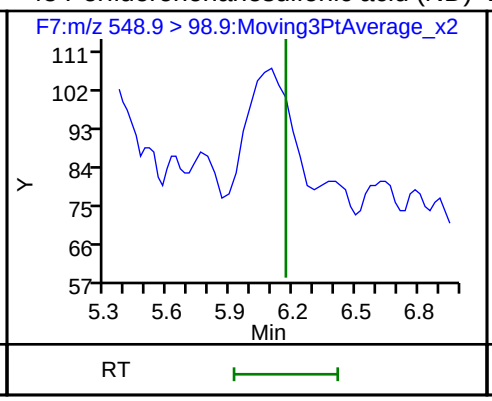
26 Perfluorodecanoic acid (ND)



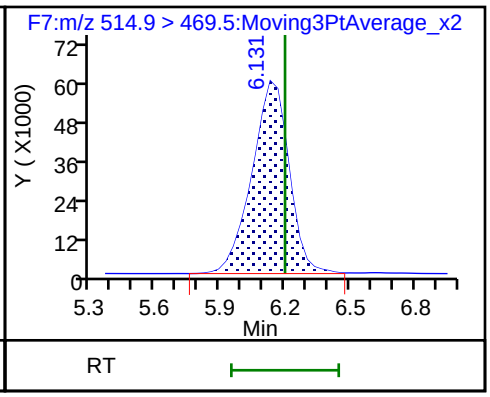
45 Perfluorononanesulfonic acid (ND)



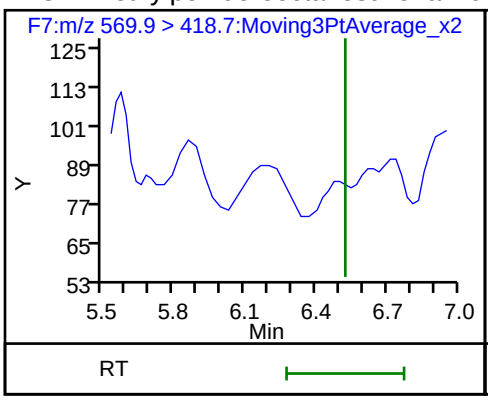
45 Perfluorononanesulfonic acid (ND)



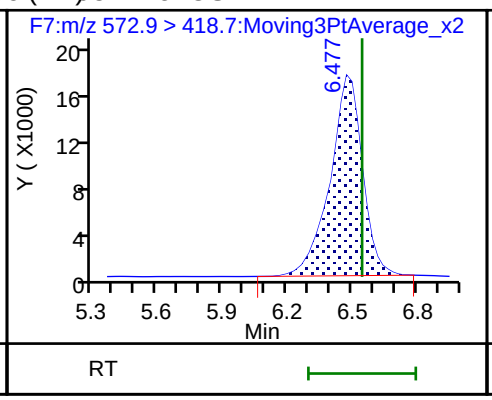
D 25 13C2 PFDA



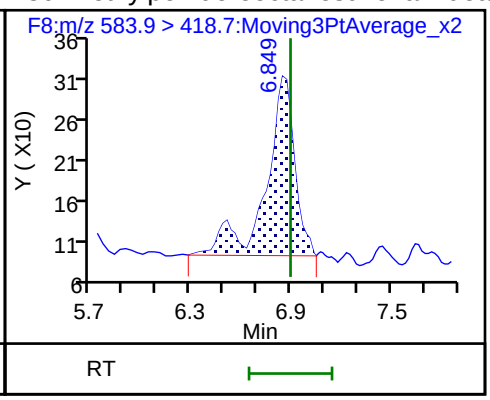
28 N-methylperfluorooctanesulfonamidoacetic acid (ND)



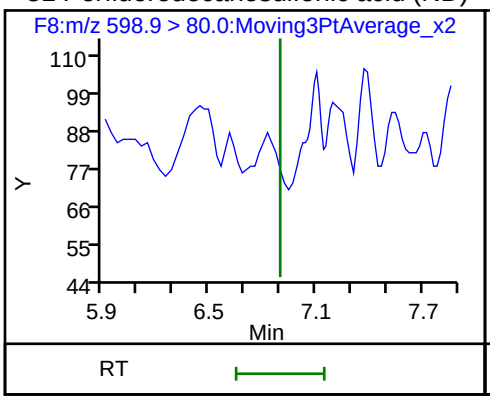
D [37] d3-NMeFOSAA



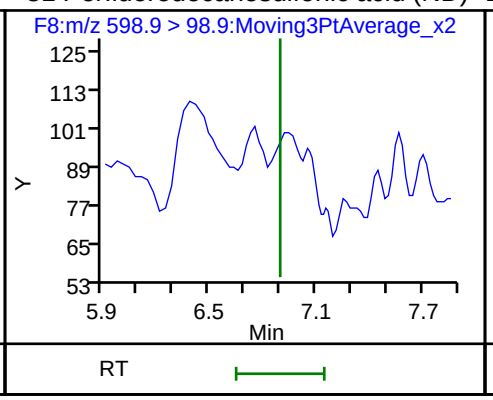
30 N-ethylperfluorooctanesulfonamidoa (M)



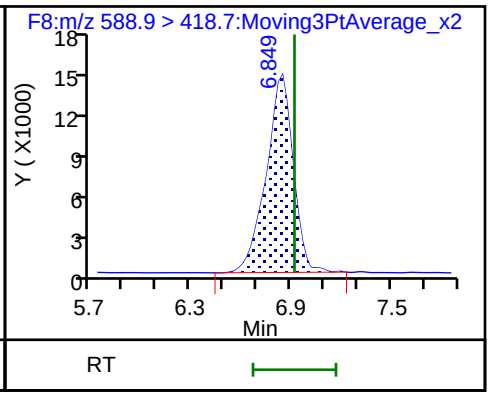
31 Perfluorodecanesulfonic acid (ND)



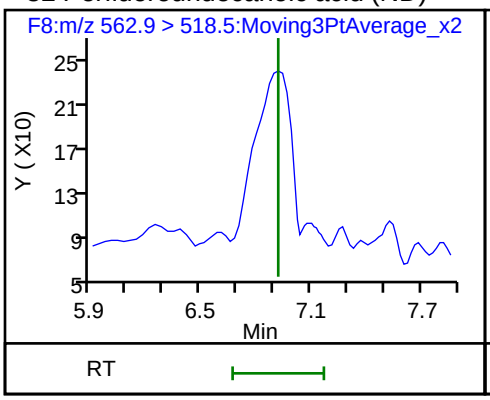
31 Perfluorodecanesulfonic acid (ND)



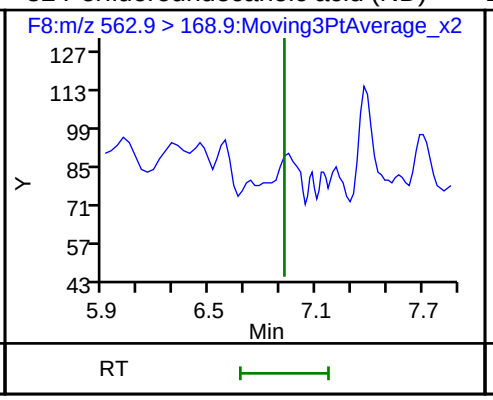
D 29 d5-NEtFOSAA



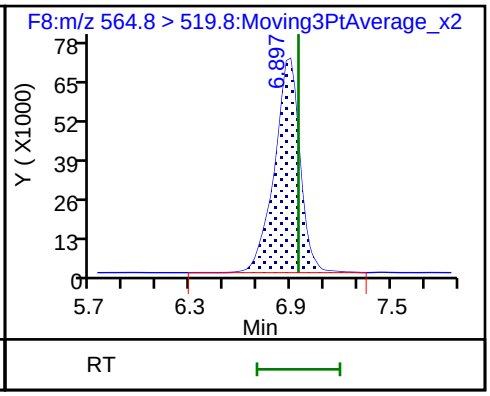
32 Perfluoroundecanoic acid (ND)



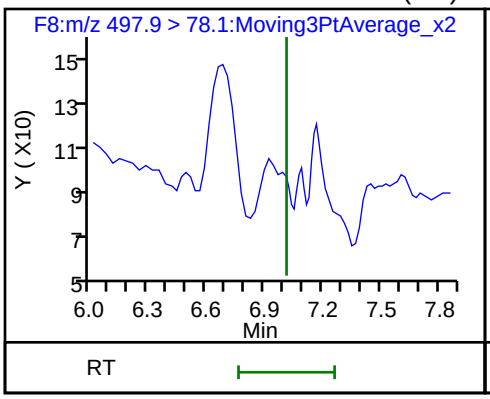
32 Perfluoroundecanoic acid (ND)



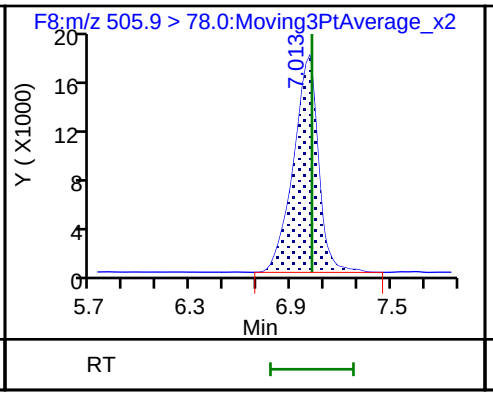
D 33 13C2 PFUnA



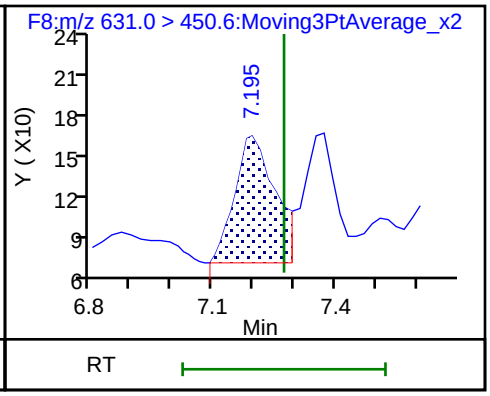
35 Perfluorooctanesulfonamide (ND)



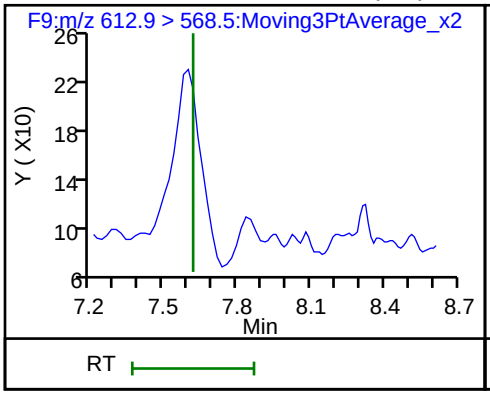
D 34 13C8 FOSA



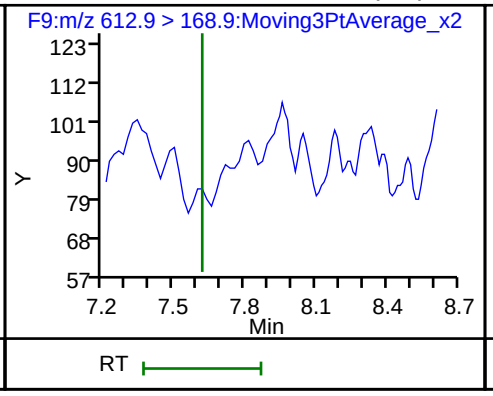
43 11-Chloroeicosafluoro-3-oxaundecan (M)



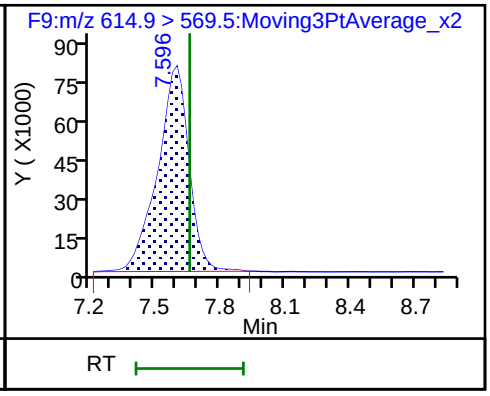
36 Perfluorododecanoic acid (ND)



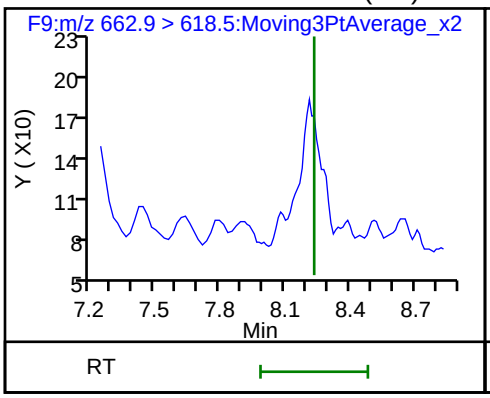
36 Perfluorododecanoic acid (ND)



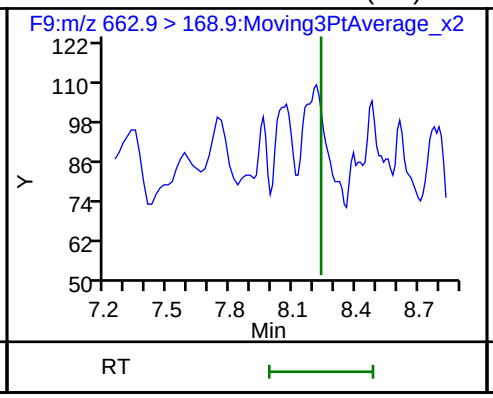
D 37 13C2 PFDoA



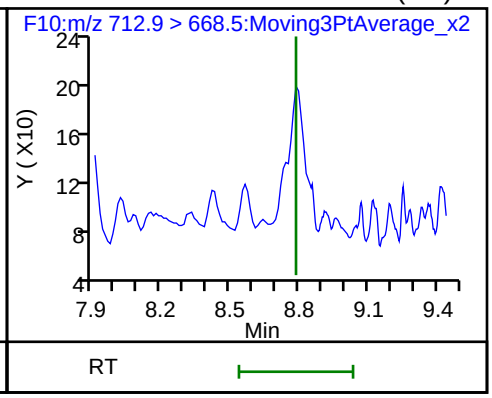
38 Perfluorotridecanoic acid (ND)



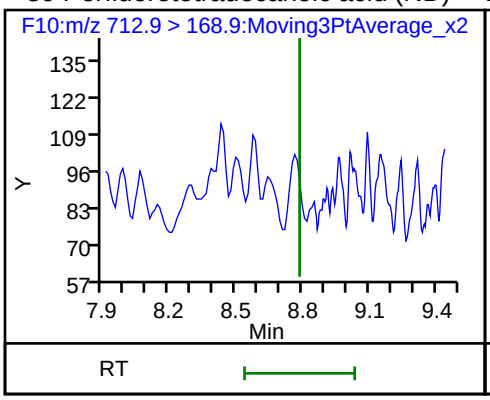
38 Perfluorotridecanoic acid (ND)



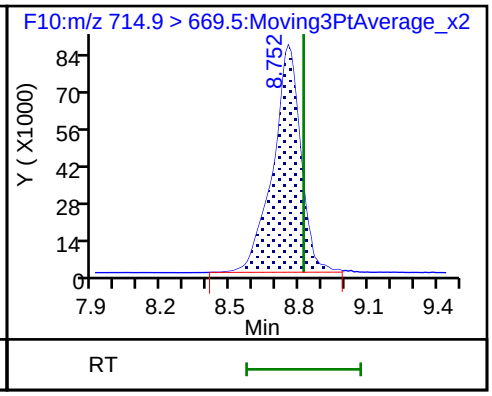
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Eurofins TestAmerica, Burlington

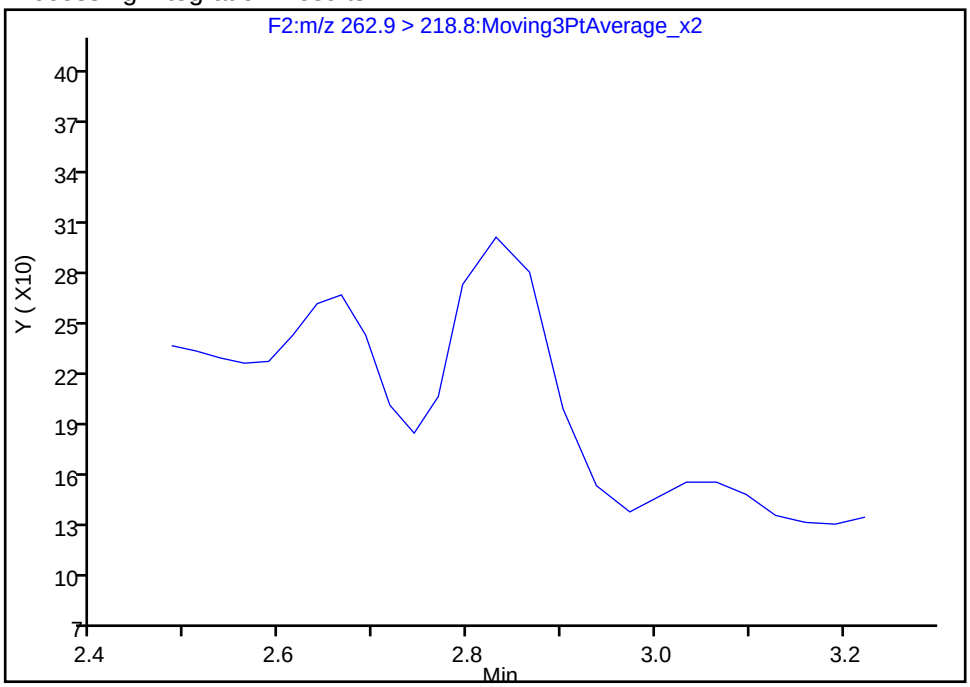
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

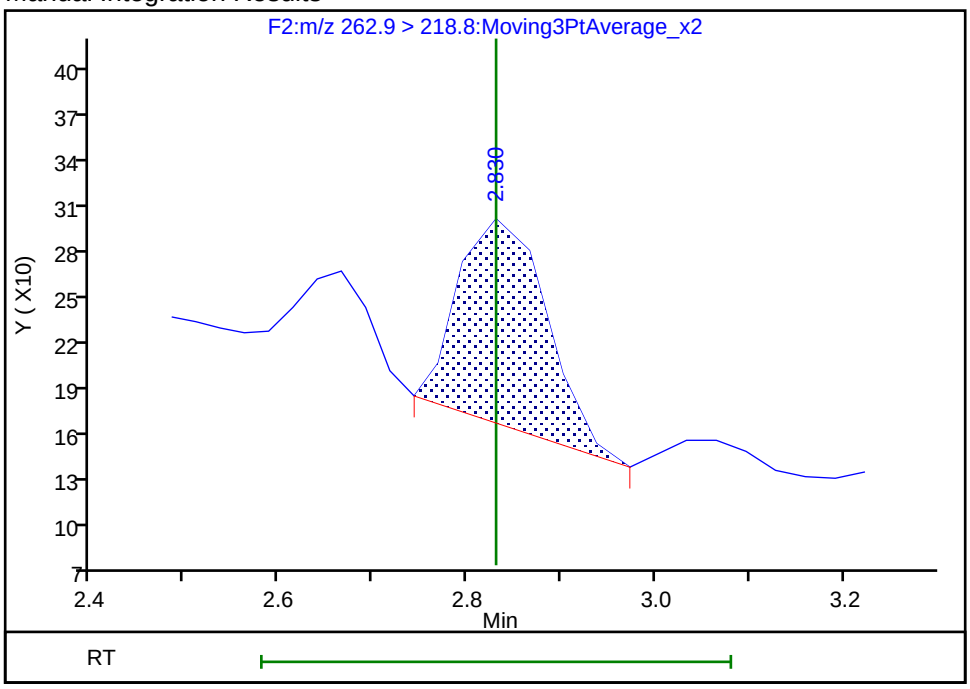
Not Detected
Expected RT: 2.83

Processing Integration Results



Manual Integration Results

RT: 2.83
Area: 852
Amount: 0.174913
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:11:14
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

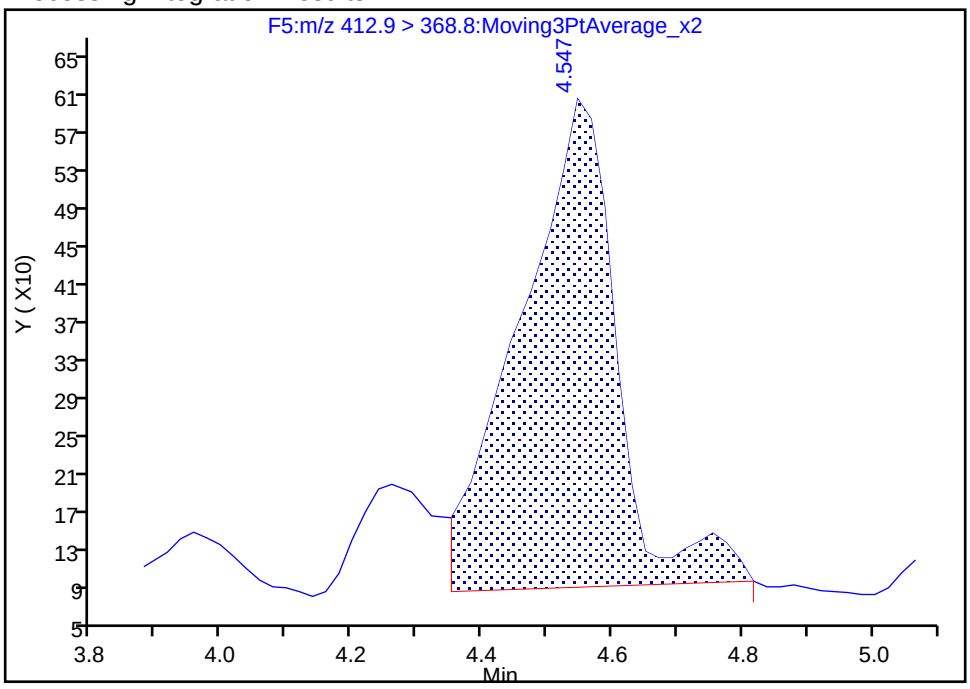
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

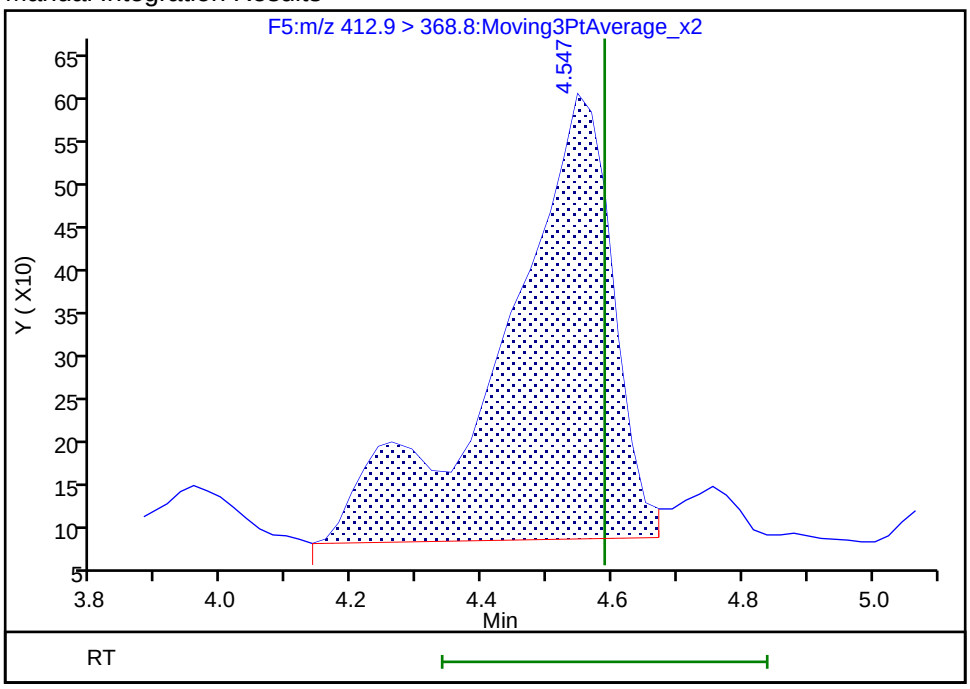
Processing Integration Results

RT: 4.55
Area: 5283
Amount: 0.360817
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 6005
Amount: 0.410128
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:09:18
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

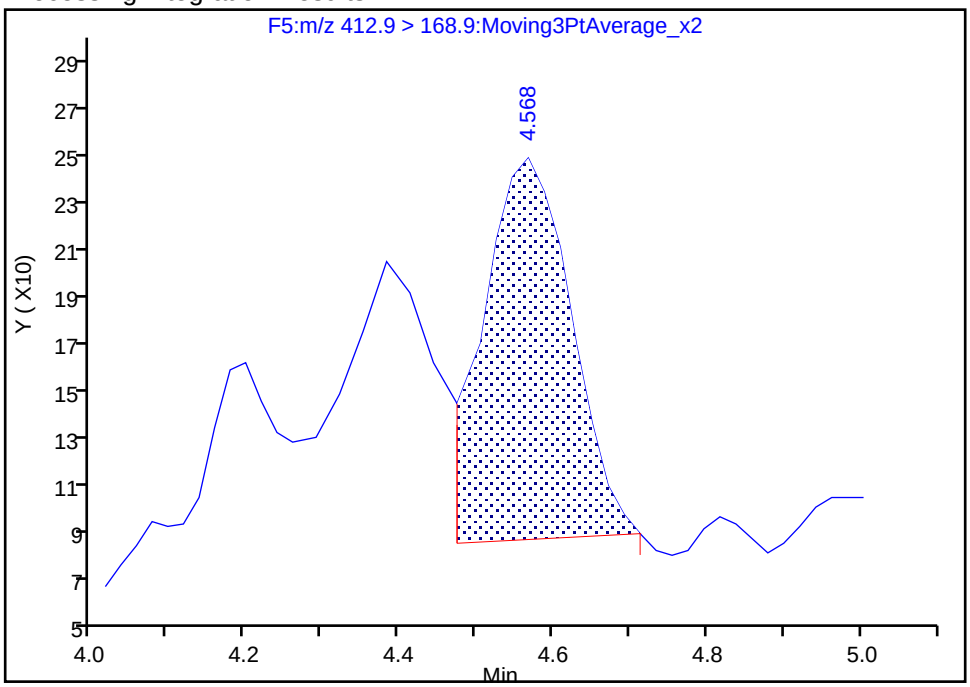
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

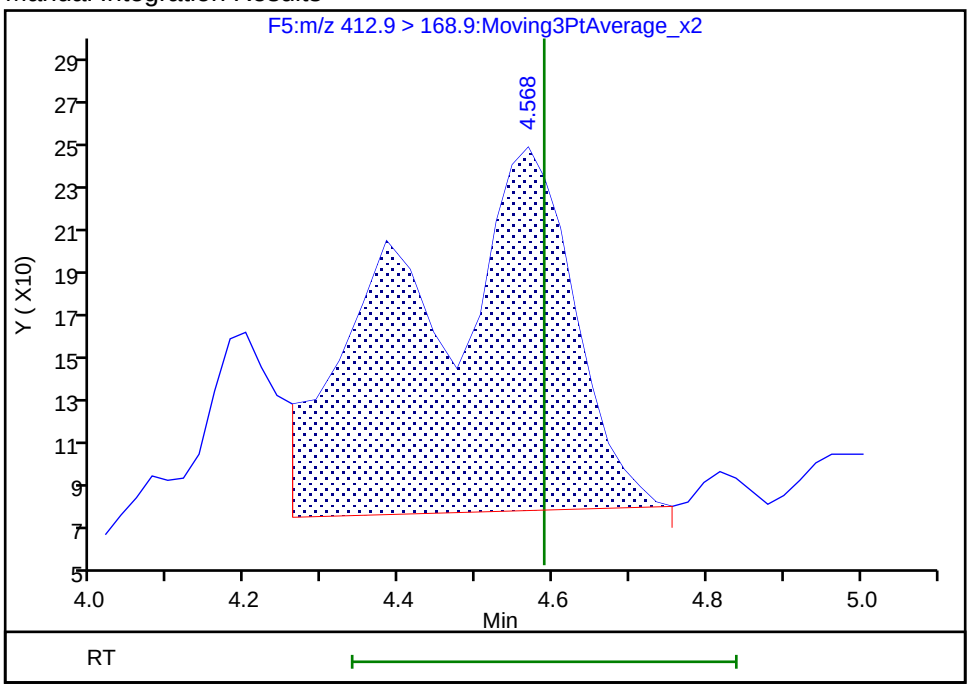
Processing Integration Results

RT: 4.57
Area: 1246
Amount: 0.360817
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 2474
Amount: 0.410128
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:09:26

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

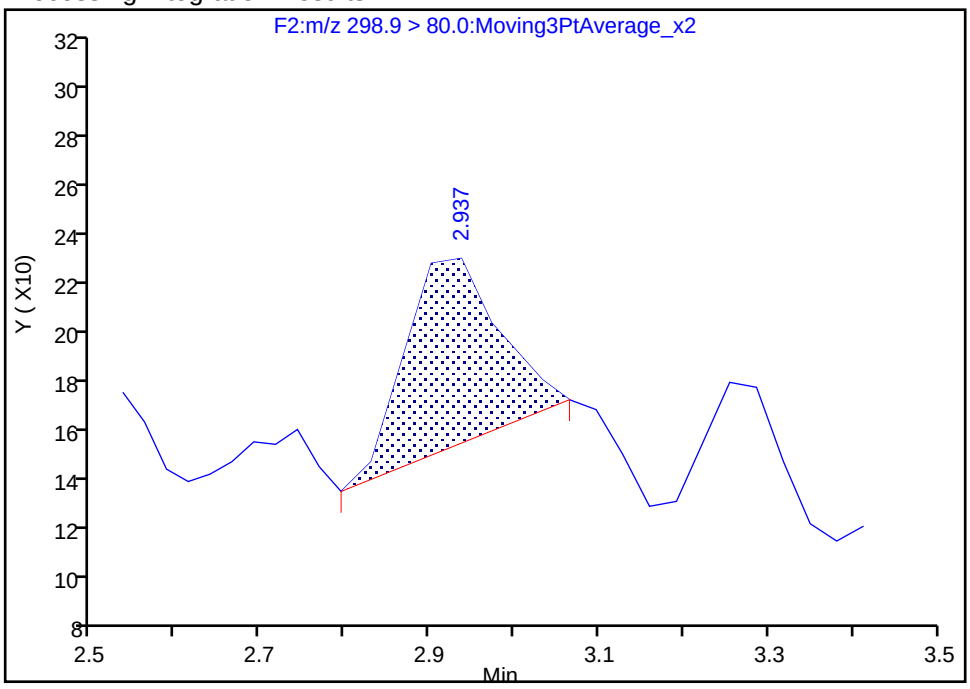
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

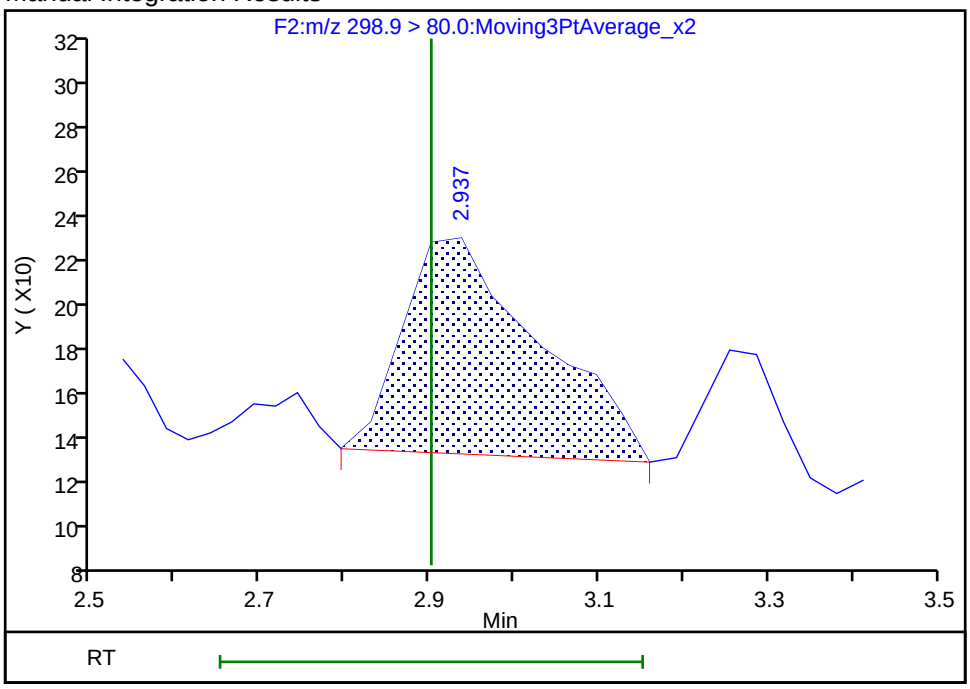
Processing Integration Results

RT: 2.94
Area: 589
Amount: 0.325646
Amount Units: ng/ml



Manual Integration Results

RT: 2.94
Area: 1075
Amount: 0.594345
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:08:50
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

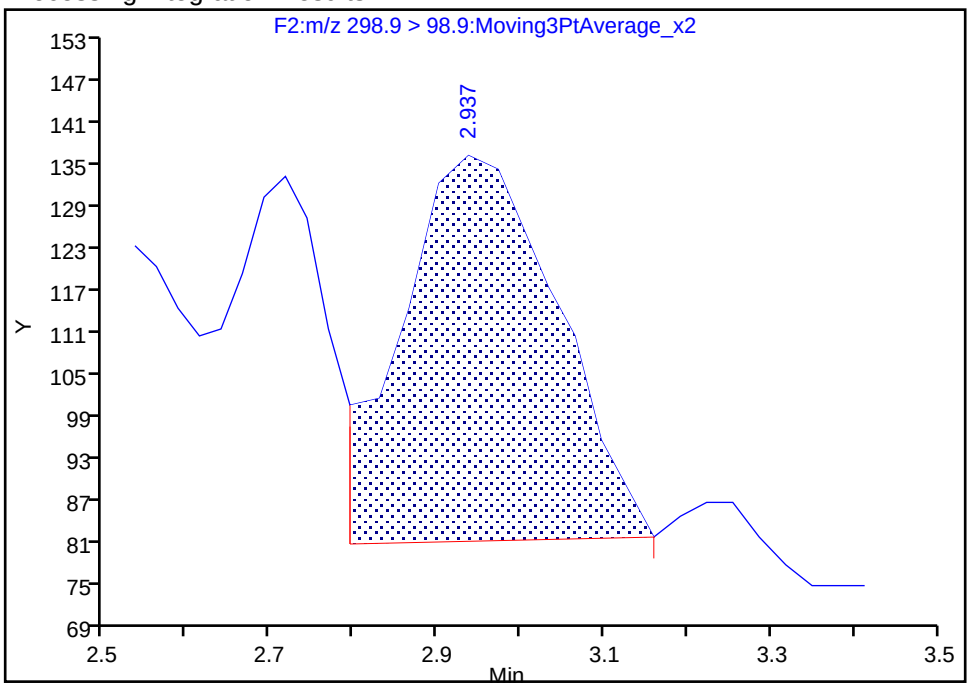
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

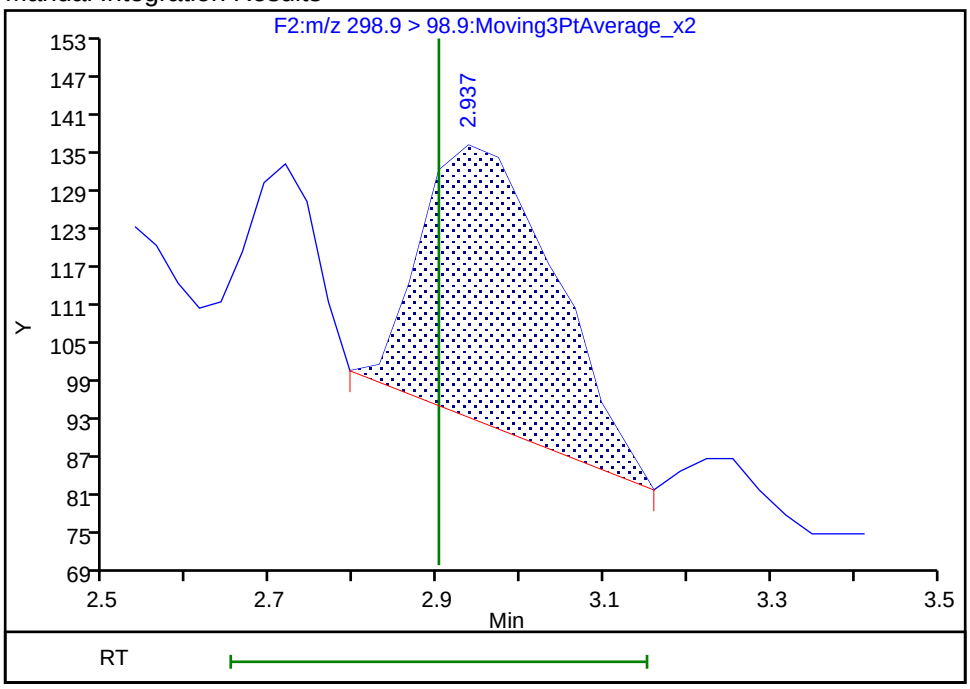
Processing Integration Results

RT: 2.94
Area: 714
Amount: 0.325646
Amount Units: ng/ml



Manual Integration Results

RT: 2.94
Area: 498
Amount: 0.594345
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:08:54

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

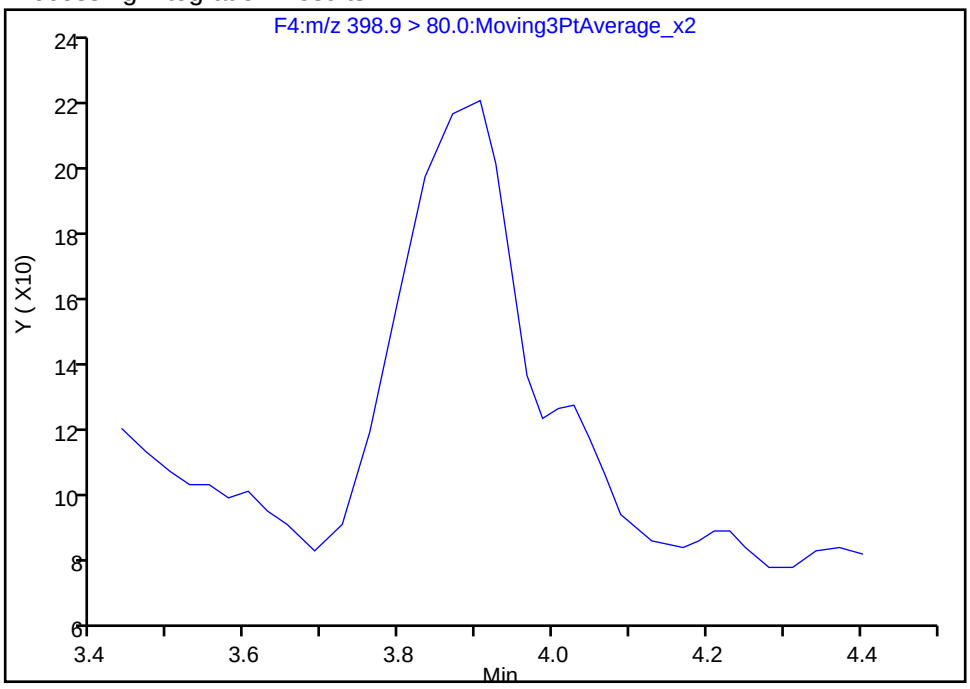
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

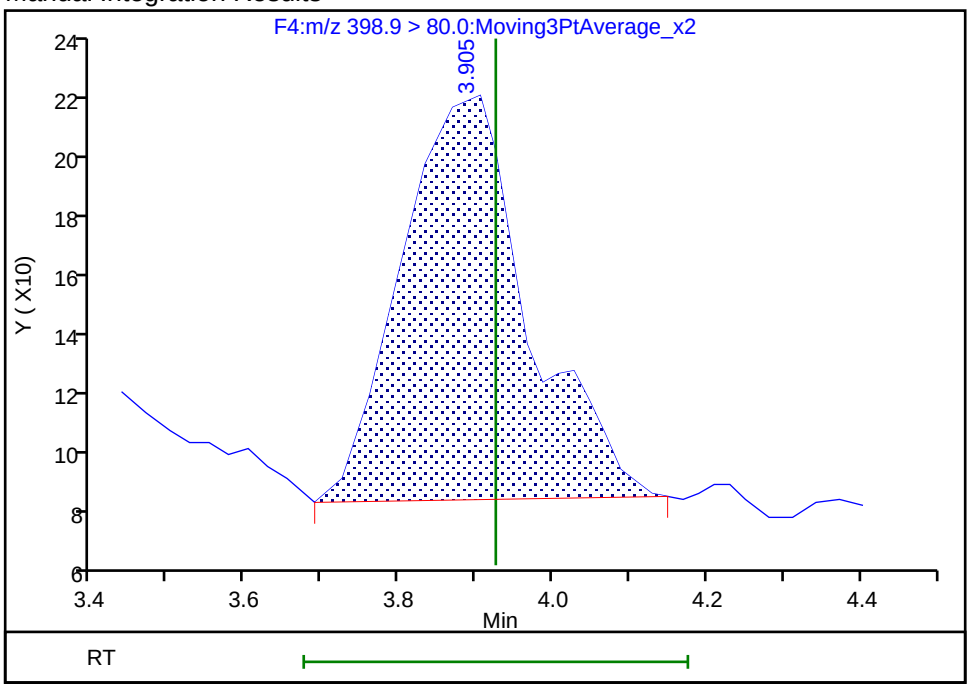
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.91
Area: 1547
Amount: 0.612328
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:10:53
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

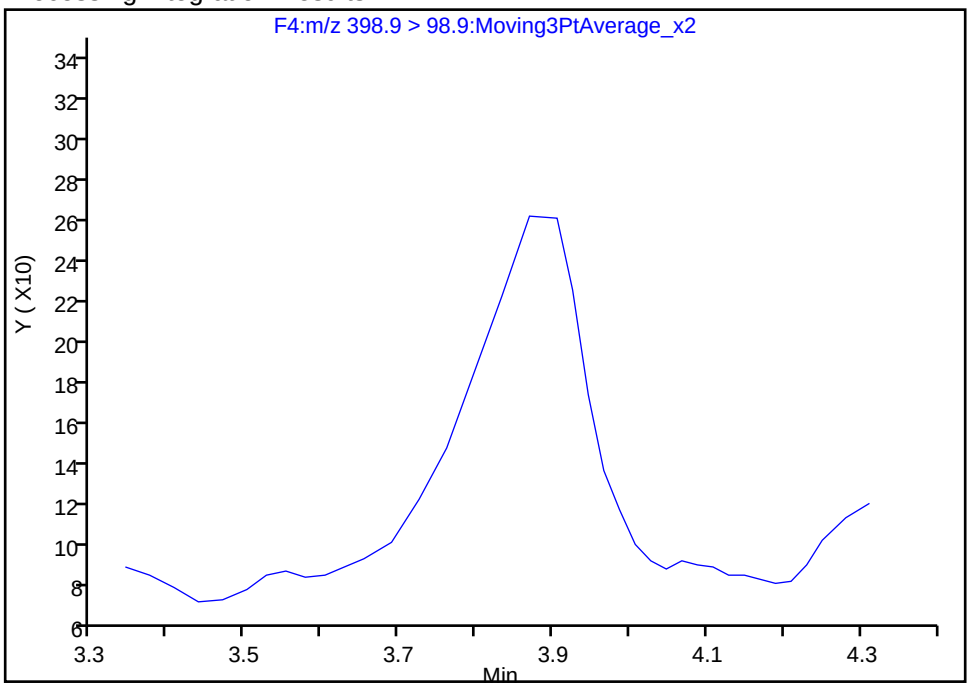
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

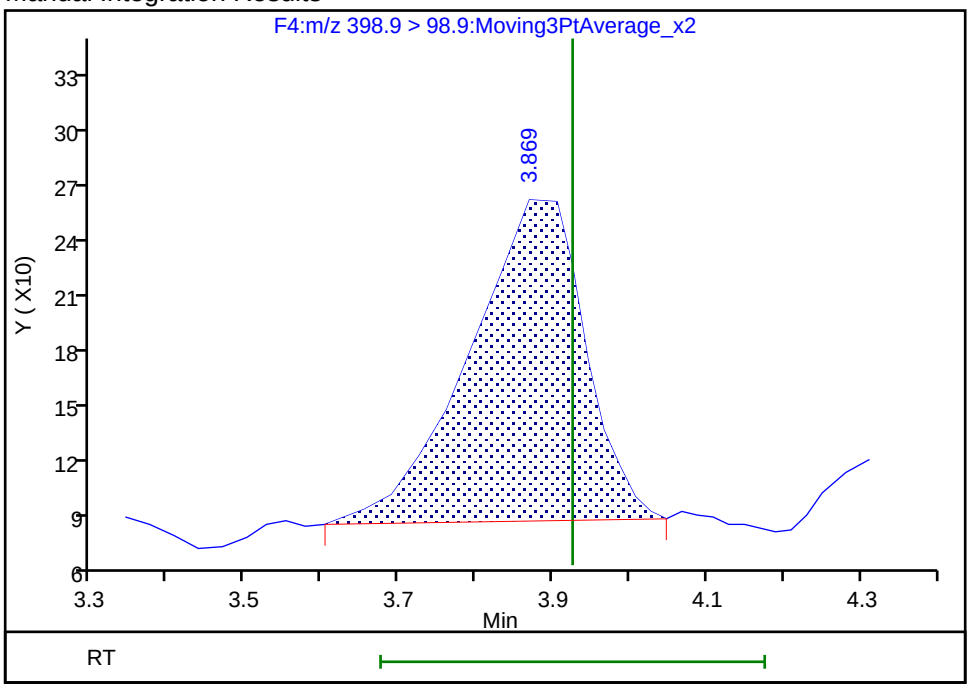
Processing Integration Results

Not Detected
Expected RT: 3.93



Manual Integration Results

RT: 3.87
Area: 1811
Amount: 0.612328
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:10:56
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

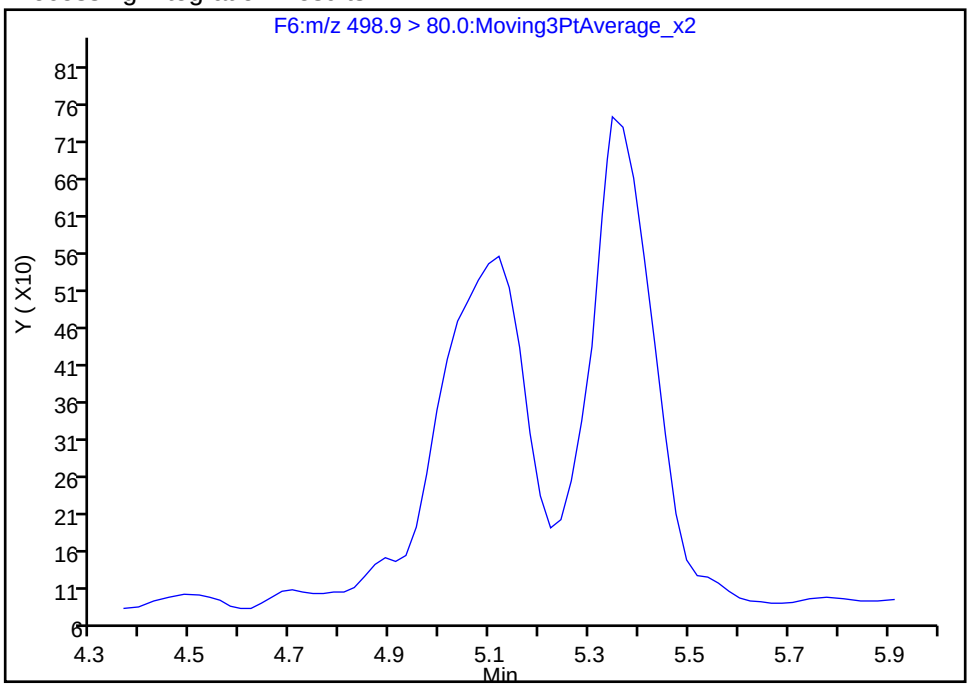
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

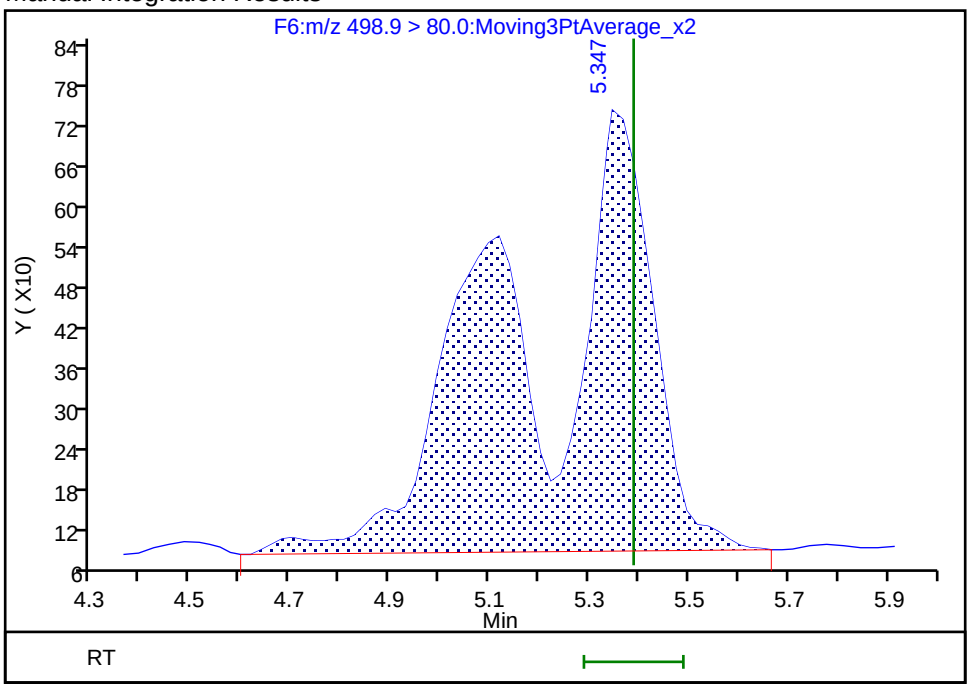
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.35
Area: 11799
Amount: 4.751370
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:10:41
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

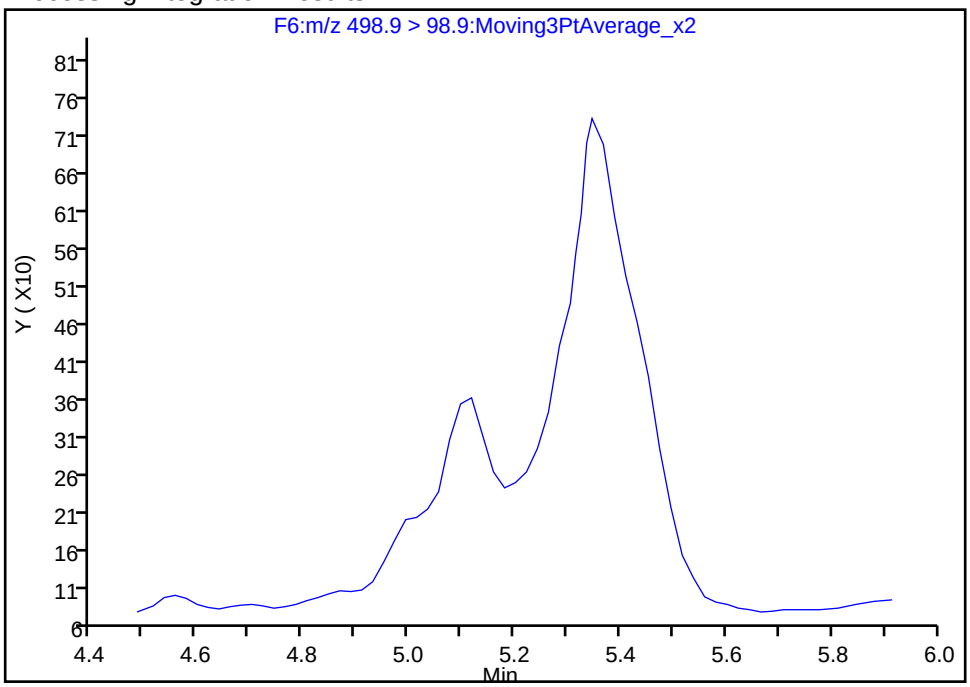
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

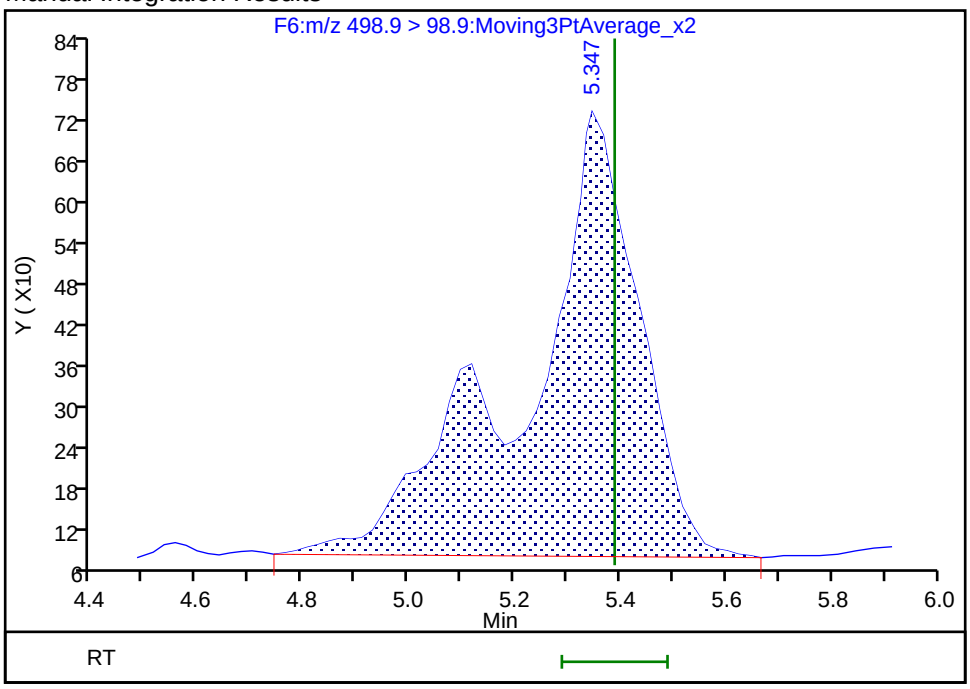
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.35
Area: 9761
Amount: 4.751370
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:10:44
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

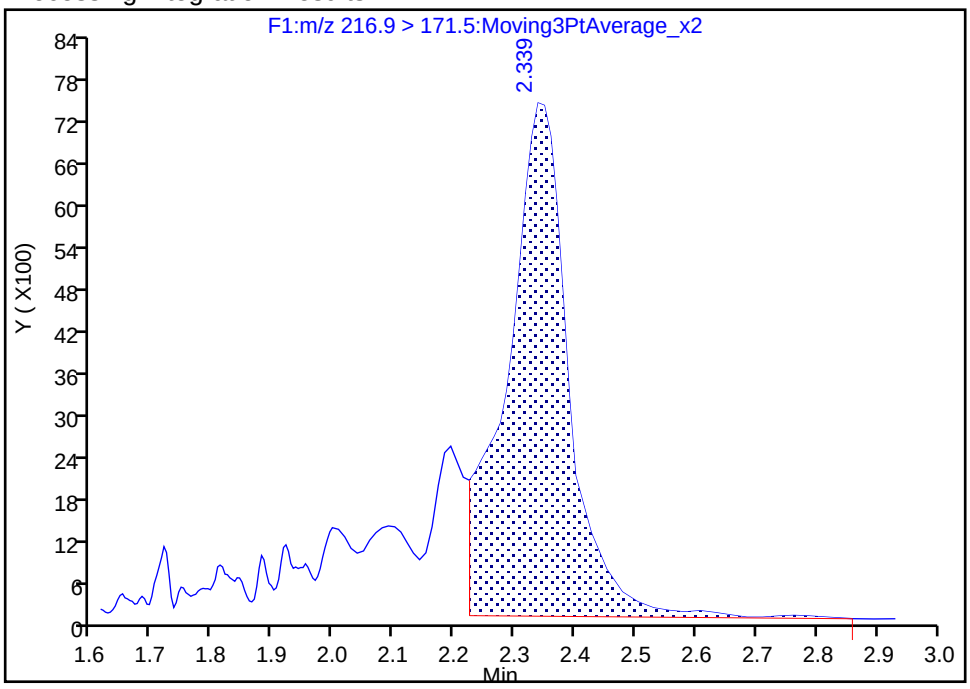
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

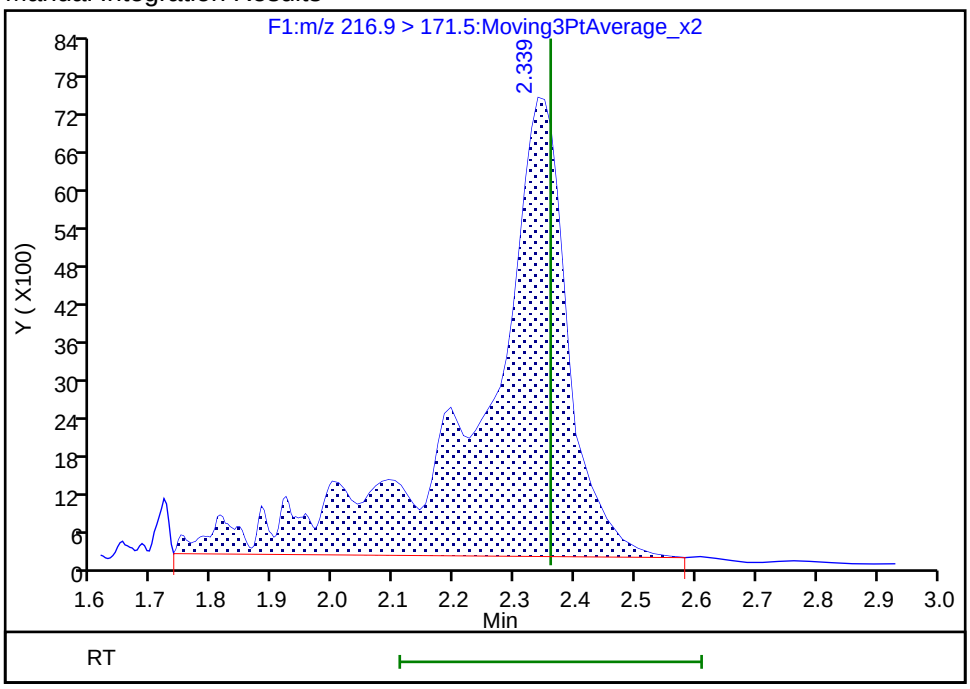
Processing Integration Results

RT: 2.34
Area: 51851
Amount: 7.739288
Amount Units: ng/ml



Manual Integration Results

RT: 2.34
Area: 73668
Amount: 10.995697
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:08:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

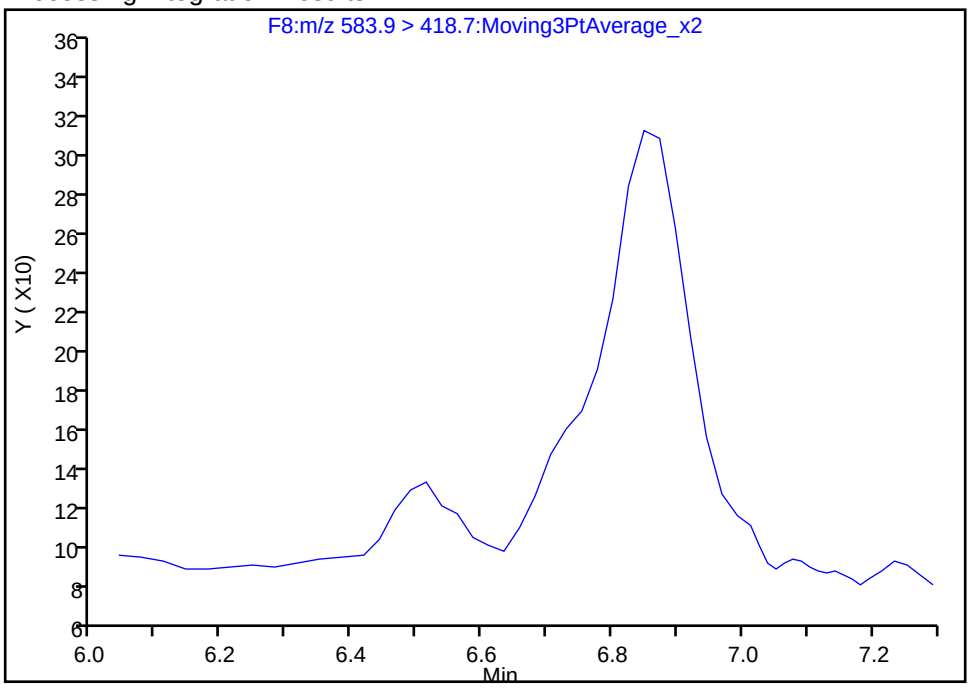
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

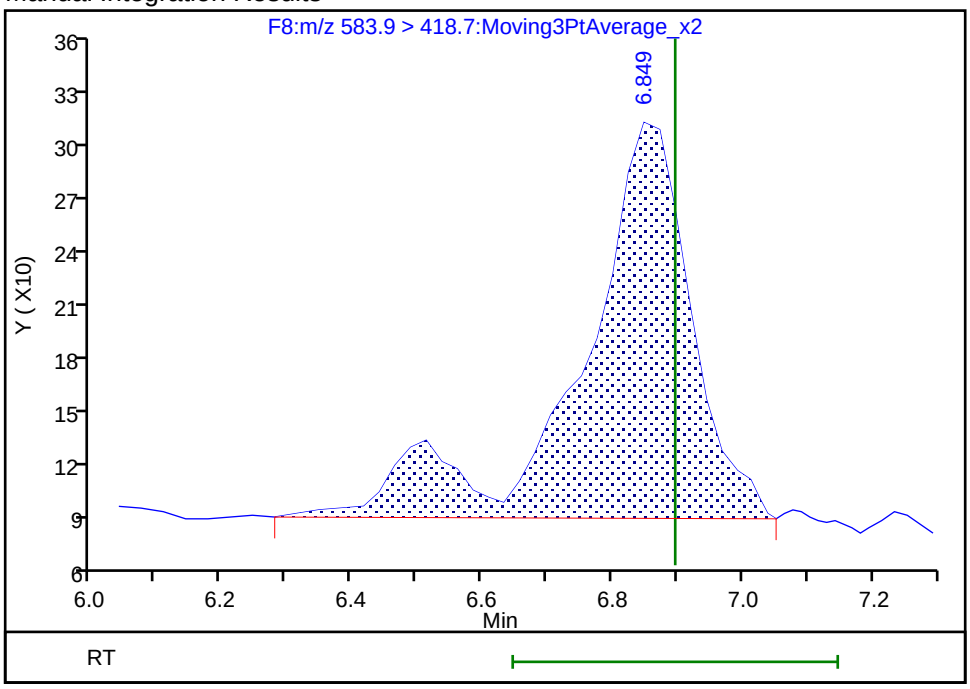
Not Detected
Expected RT: 6.90

Processing Integration Results



Manual Integration Results

RT: 6.85
Area: 2617
Amount: 0.999174
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:10:26
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

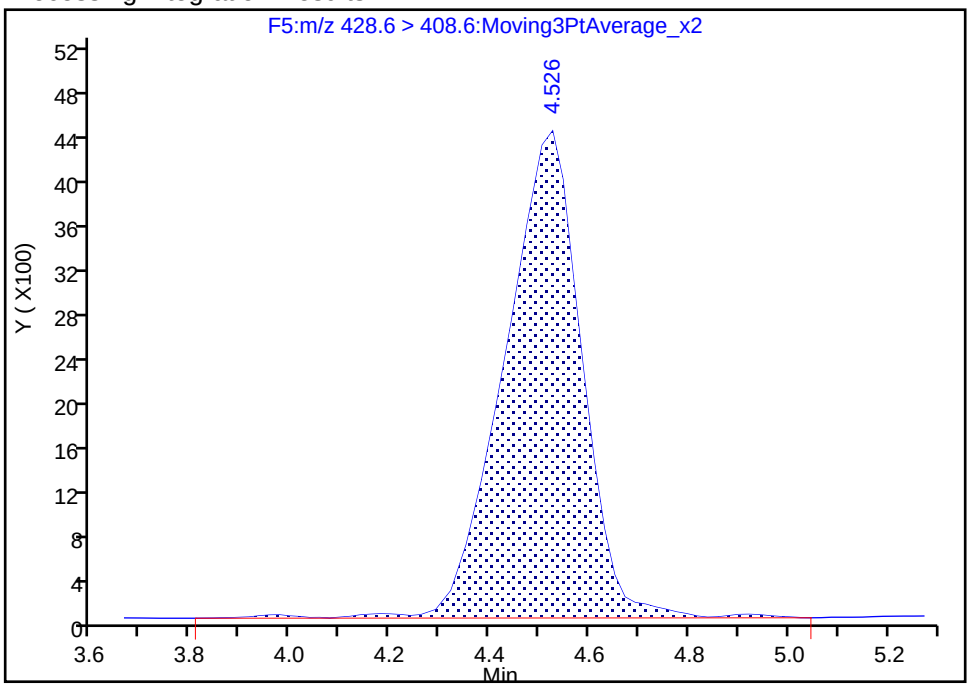
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B20.d				
Injection Date:	05-Jun-2019 06:21:32	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-A	Lab Sample ID:	200-48826-17		
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

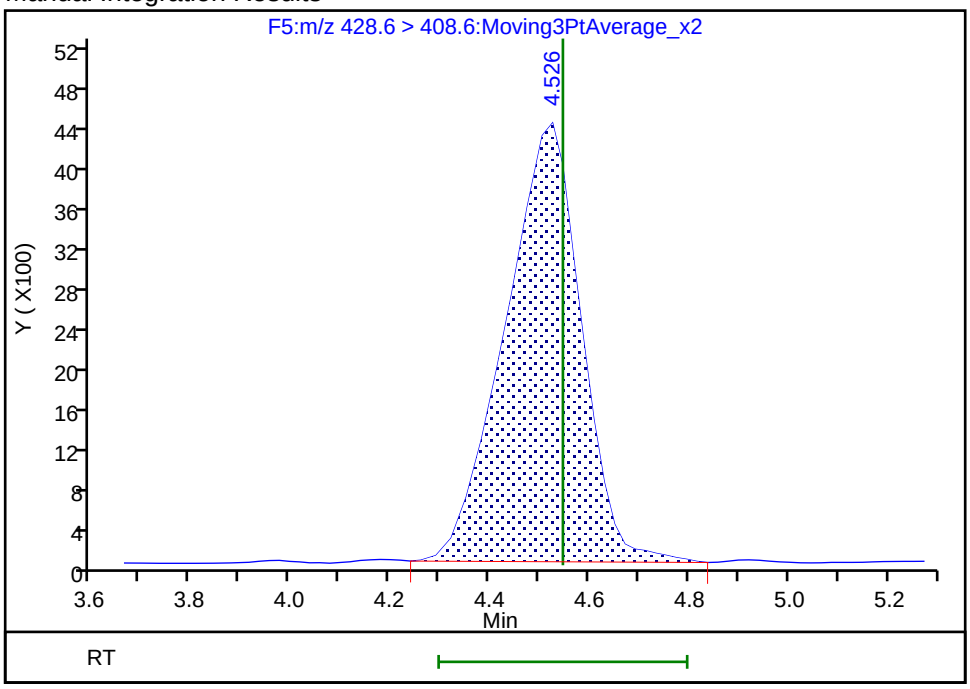
Processing Integration Results

RT: 4.53
Area: 46708
Amount: 30.597519
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 45669
Amount: 29.916890
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 13:09:10

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-21 051619 Lab Sample ID: 200-48826-18

Matrix: Water Lab File ID: PF060419B23.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 13:34

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 303.3(mL) Date Analyzed: 06/05/2019 07:09

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.2	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.2	J	8.2	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		8.2	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		8.2	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	7.0	J	8.2	2.6
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.2	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.2	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.2	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.4	J	8.2	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		8.2	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.2	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	510	B *	8.2	2.5
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		82	7.0
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		82	6.2
27619-97-2	6:2 FTS	ND		82	19
39108-34-4	8:2 FTS	ND		82	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-21 051619 Lab Sample ID: 200-48826-18

Matrix: Water Lab File ID: PF060419B23.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 13:34

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 303.3(mL) Date Analyzed: 06/05/2019 07:09

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	35		25-150
STL00992	13C4 PFBA	27		25-150
STL01893	13C5 PFPeA	35		25-150
STL00993	13C2 PFHxA	51		50-150
STL01892	13C4 PFHpA	58		50-150
STL00990	13C4 PFOA	57		50-150
STL00995	13C5 PFNA	45	*	50-150
STL00996	13C2 PFDA	51		50-150
STL00997	13C2 PFUnA	61		50-150
STL00998	13C2 PFDoA	46	*	50-150
STL02116	13C2 PFTeDA	38	*	50-150
STL02337	13C3 PFBS	34	*	50-150
STL00994	18O2 PFHxS	37	*	50-150
STL00991	13C4 PFOS	39	*	50-150
STL02118	d3-NMeFOSAA	36	*	50-150
STL02117	d5-NEtFOSAA	46	*	50-150
STL02279	M2-6:2 FTS	65		25-150
STL02280	M2-8:2 FTS	47		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d
Lims ID: 200-48826-A-18-A
Client ID: MW-21 051619
Sample Type: Client
Inject. Date: 05-Jun-2019 07:09:05 ALS Bottle#: 0 Worklist Smp#: 23
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036200-023 18
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 14:33:56
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.391	2.360	0.031	1.009	1265	0.3420			2.0	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.370	2.360	0.010	1.000	23563	2.71		27.1	33.3	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.830	2.830	0.0	1.000	2671	0.3919			2.1	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.830	2.830	0.0	1.000	22760	3.45		34.5	94.3	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.866	2.901	-0.035	0.988	1615	0.6599	Target=1.67		1.7	M
298.9 > 98.9	2.937	2.901	0.036	1.012	702		2.30(0.83-2.51)		3.0	M
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	9055	3.16		34.0	30.1	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.334	3.302	0.032	1.010	1785	0.1255	Target=14.34		1.4	M
312.9 > 118.9	3.334	3.302	0.032	1.010	172		10.38(7.17-21.51)		2.9	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	101774	5.15		51.5	454	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	160854	5.78		57.8	890	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.925	-0.020	1.000	12836	3.50		37.0	48.1	M
D 14 M2-6:2 FTS										
428.6 > 408.6	4.547	4.547	0.0	1.000	12242	6.18		65.1	139	
* 16 13C2 PFOA										s
414.9 > 369.8	4.568	4.589	-0.021		355248	10.0			5173	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.589	4.589	0.0	1.005	16912	0.8434	Target=2.43		37.1	M
412.9 > 168.9	4.609	4.589	0.020	1.009	6122		2.76(1.22-3.64)		18.2	M
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	198154	5.75		57.5	498	
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.589	4.609	-0.020	0.858	1188	0.4248	Target=1.30		7.6	M
448.9 > 98.9	4.589	4.609	-0.020	1.000	1823		0.65(0.65-1.95)		13.9	
19 Perfluorononanoic acid										RM
462.9 > 418.7	5.347	5.368	-0.021	1.002	1986	0.1080	Target=5.00		10.0	RM
462.9 > 168.9	5.347	5.368	-0.021	1.002	1083		1.83(2.50-7.50)		10.1	M
D 20 13C5 PFNA										M
467.8 > 422.8	5.336	5.389	-0.053	1.000	208263	4.50		45.0	1334	M
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.368	5.389	-0.021	1.004	191112	61.6	Target=1.41		655	M
498.9 > 98.9	5.368	5.389	-0.021	1.004	193857		0.99(0.71-2.12)		2035	
D 22 13C4 PFOS										M
502.9 > 80.0	5.347	5.411	-0.064	1.000	30710	3.72		38.9	113	M
D 24 M2-8:2 FTS										M
528.8 > 508.8	6.097	6.131	-0.034	1.000	32605	4.53		47.3	171	M
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	200180	5.07		50.7	398	
D 27 d3-NMeFOSAA										M
572.9 > 418.7	6.477	6.549	-0.072	1.000	46913	3.65		36.5	308	M
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.442	6.897	-0.455	0.941	2418	0.6088			10.2	M
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.921	-0.072	1.000	49321	4.65		46.5	411	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.945	-0.072	1.000	233365	6.12		61.2	780	
D 34 13C8 FOSA										M
505.9 > 78.0	7.013	7.026	-0.013	1.000	49795	3.50		35.0	190	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	221232	4.55		45.5	847	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.775	8.819	-0.044	1.000	166614	3.82		38.2	458	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:51:55 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d

Injection Date: 05-Jun-2019 07:09:05 Instrument ID: LC410

Lims ID: 200-48826-A-18-A Lab Sample ID: 200-48826-18

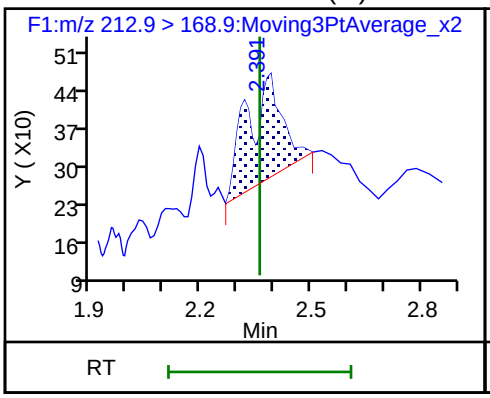
Client ID: MW-21 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 23

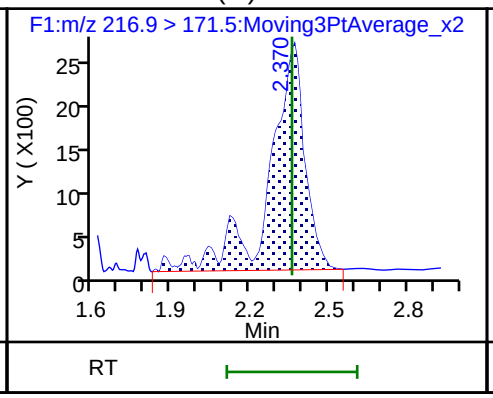
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

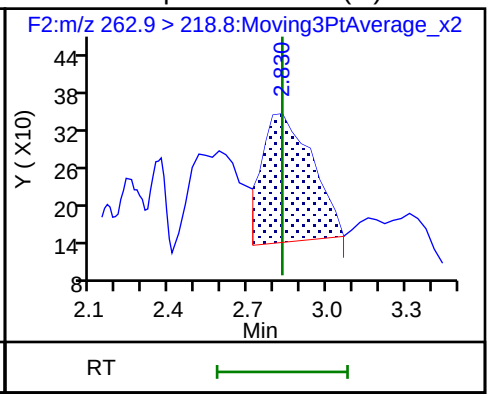
2 Perfluorobutanoic acid (M)



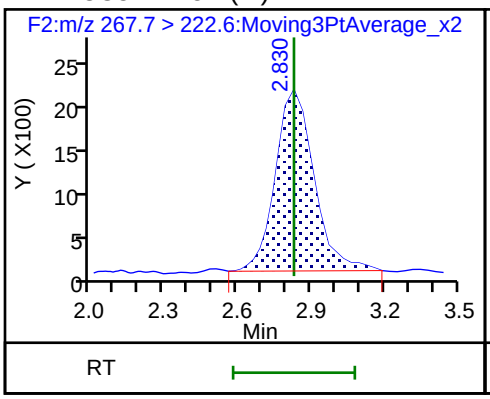
D 1 13C4 PFBA (M)



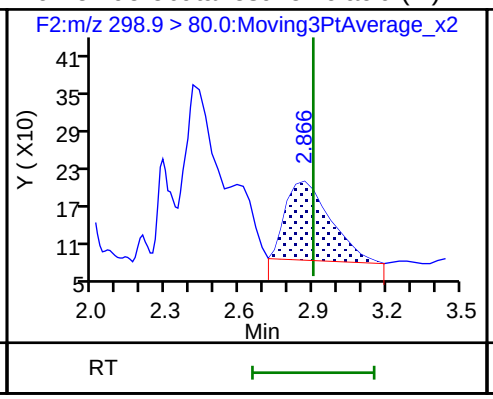
3 Perfluoropentanoic acid (M)



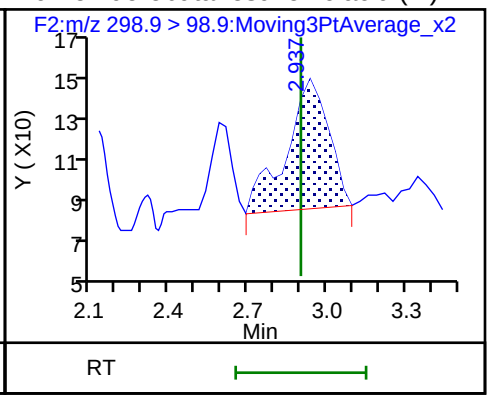
D 4 13C5 PFPeA (M)



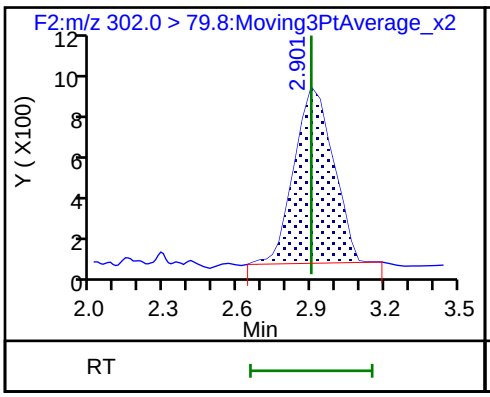
6 Perfluorobutanesulfonic acid (M)



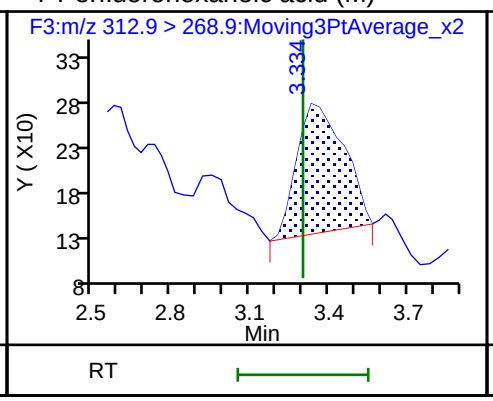
6 Perfluorobutanesulfonic acid (M)



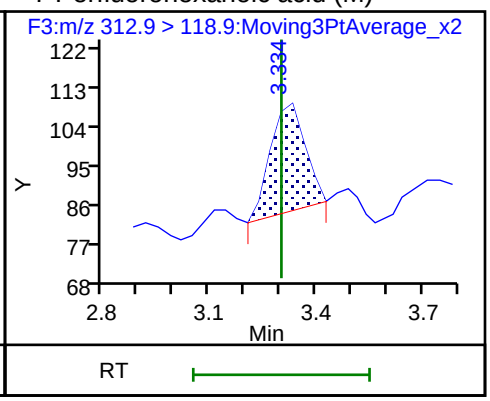
D 5 13C3 PFBS



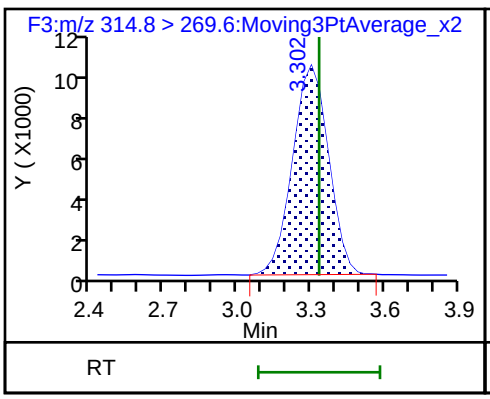
7 Perfluorohexanoic acid (M)



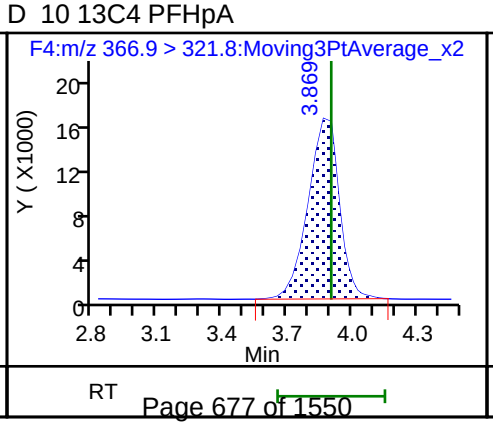
7 Perfluorohexanoic acid (M)



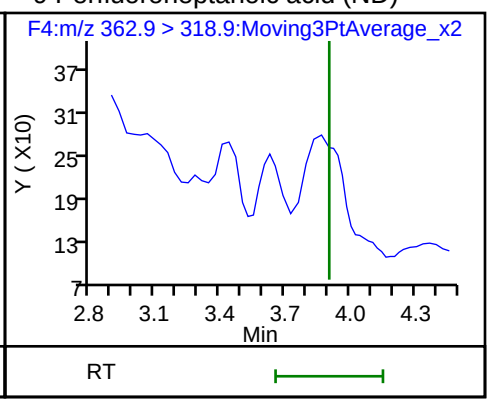
D 8 13C2 PFHxA



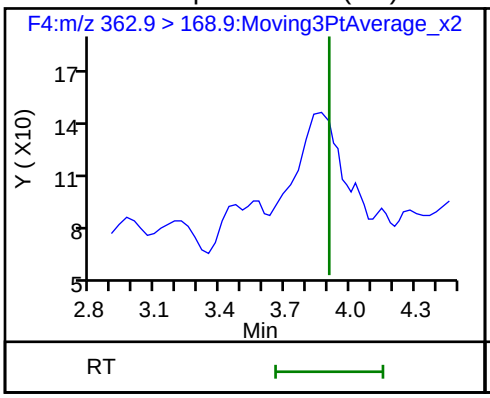
D 10 13C4 PFHpA



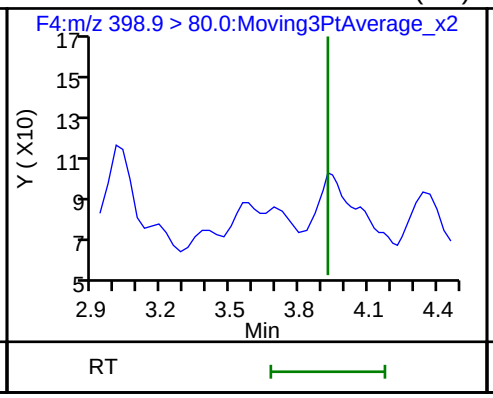
9 Perfluoroheptanoic acid (ND)



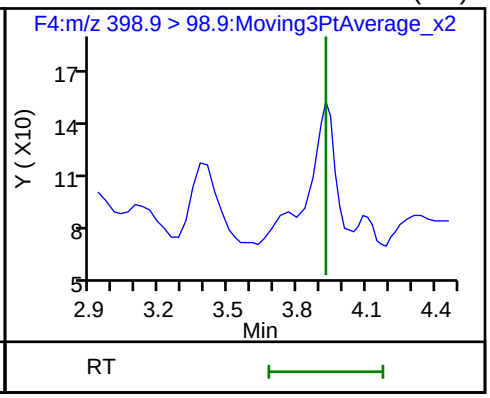
9 Perfluoroheptanoic acid (ND)



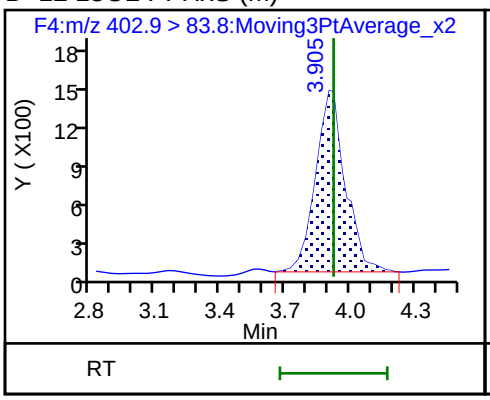
11 Perfluorohexanesulfonic acid (ND)



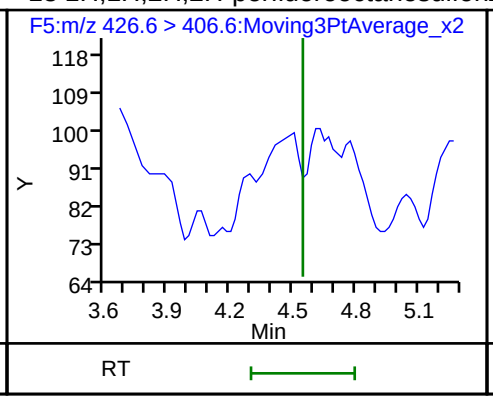
11 Perfluorohexanesulfonic acid (ND)



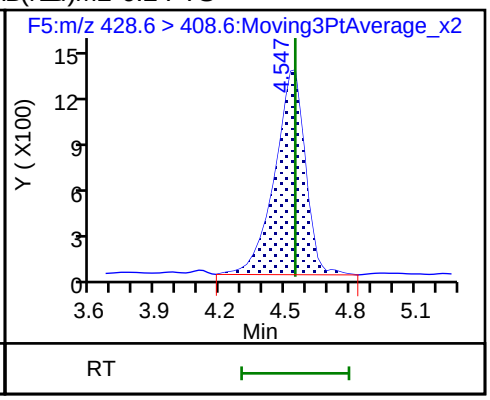
D 12 18O2 PFHxS (M)



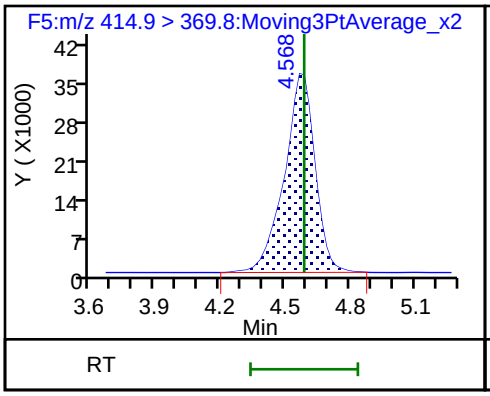
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2-6:2 FTS



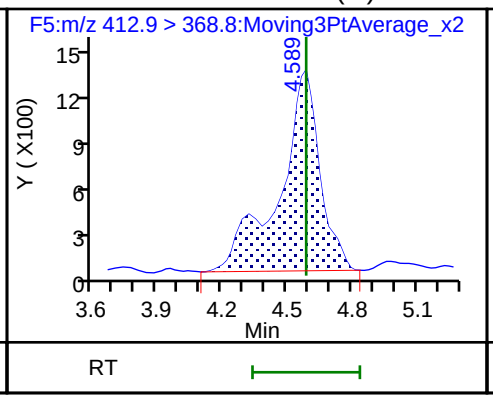
D 13 13C2 M2-6:2 FTS



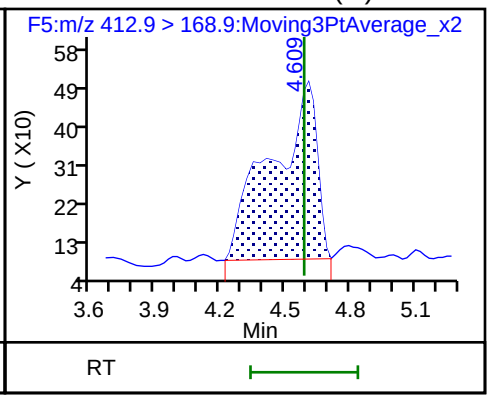
* 16 13C2 PFOA



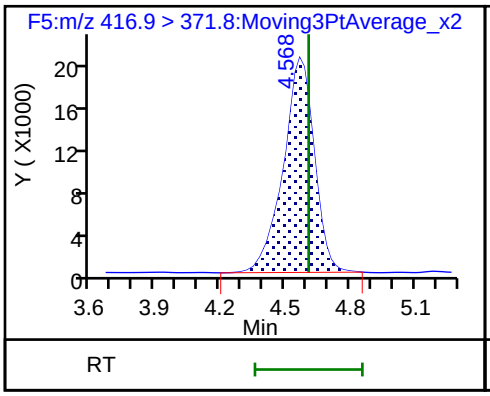
15 Perfluorooctanoic acid (M)



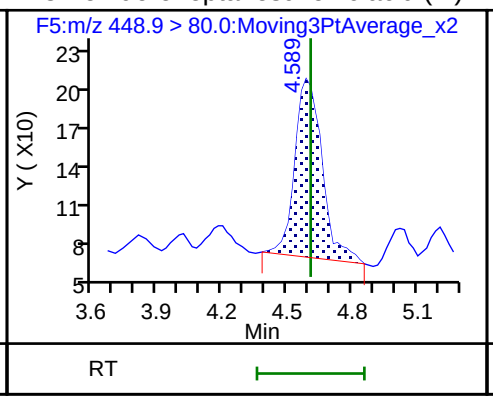
15 Perfluorooctanoic acid (M)



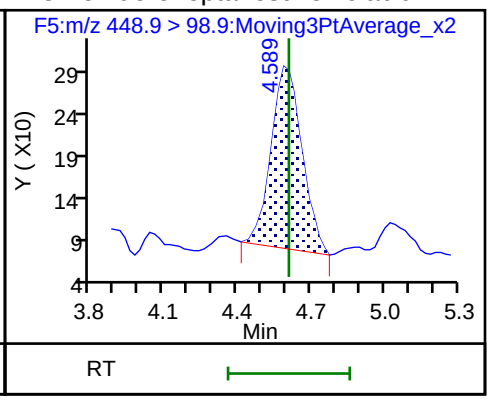
D 17 13C4 PFOA



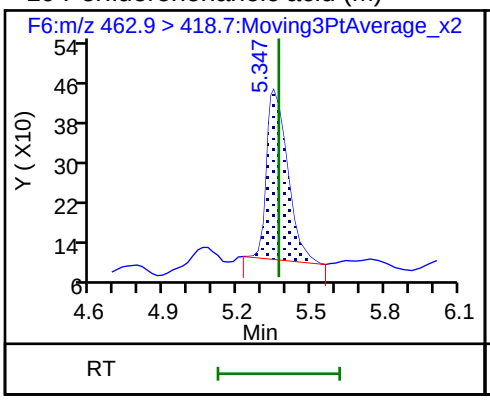
18 Perfluoroheptanesulfonic acid (M)



18 Perfluoroheptanesulfonic acid



19 Perfluorononanoic acid (M)



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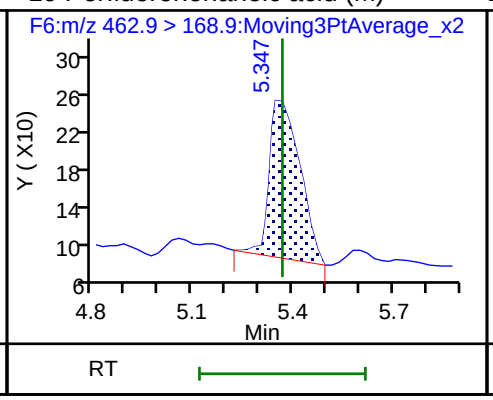
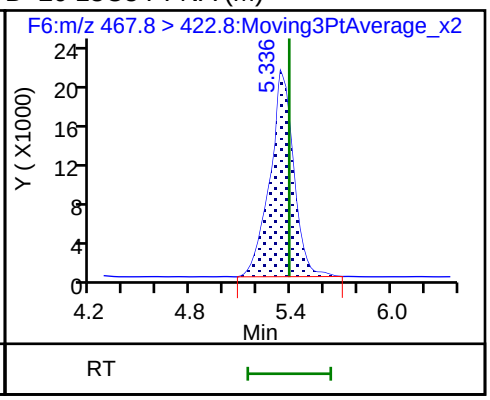
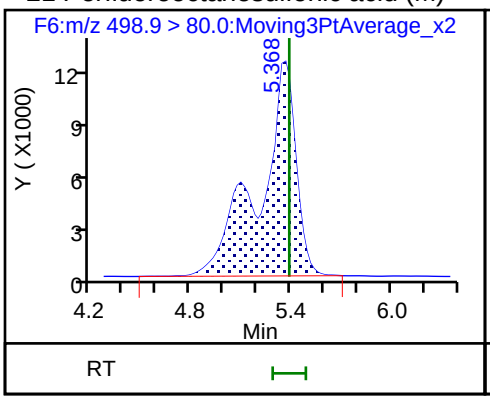


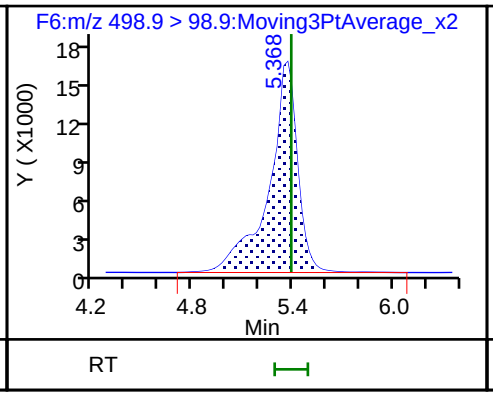
D 20 13C5 PFNA (M)



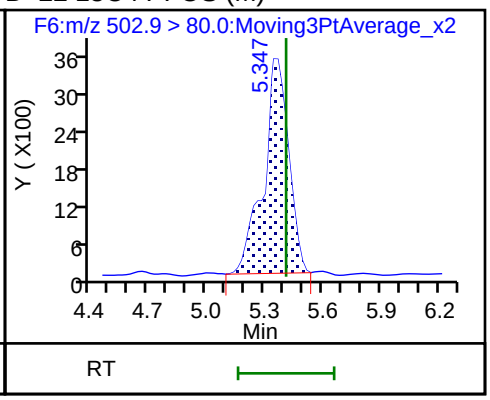
21 Perfluorooctanesulfonic acid (M)



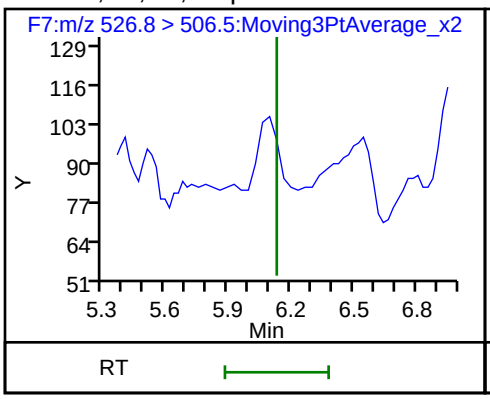
21 Perfluorooctanesulfonic acid



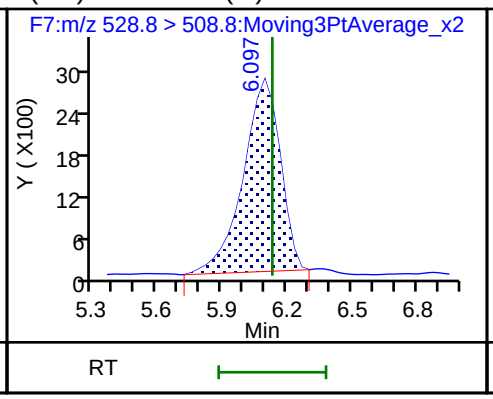
D 22 13C4 PFOS (M)



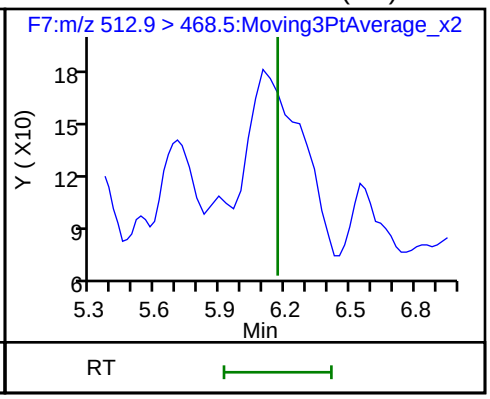
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



D 24 M2-8:2 FTS (M)



26 Perfluorodecanoic acid (ND)



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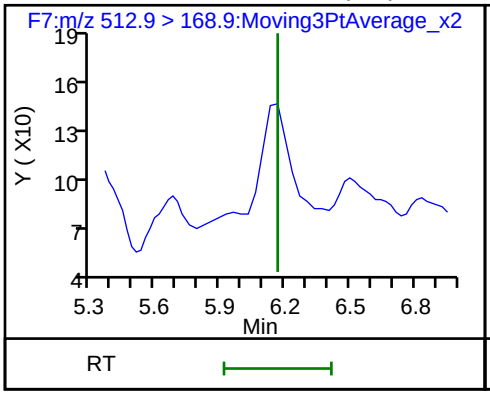
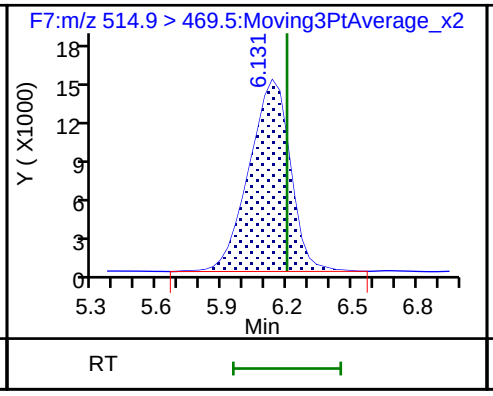
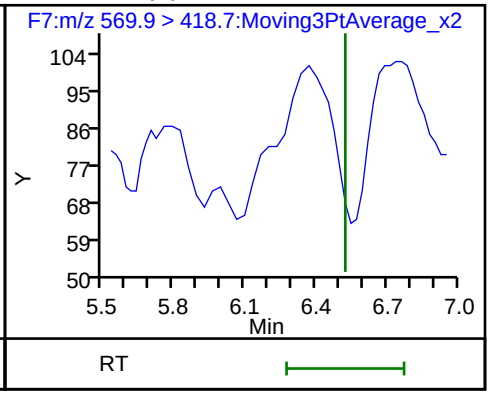


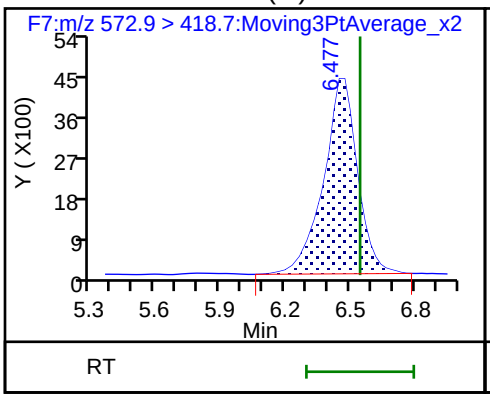
D 25 13C2 PFDA



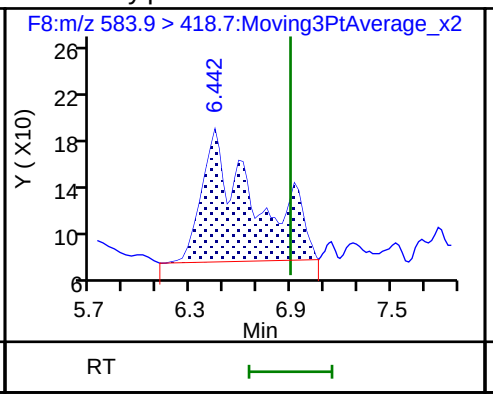
28 N-methylperfluorooctanesulfonamido (ND)



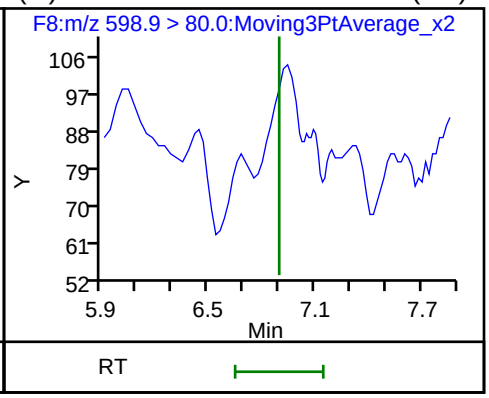
D 27 d3-NMeFOSAA (M)



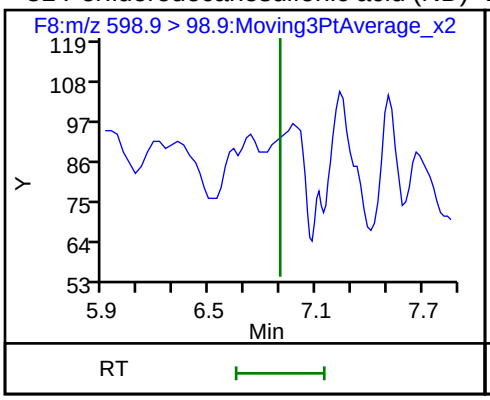
30 N-ethylperfluorooctanesulfonamidoa (M)



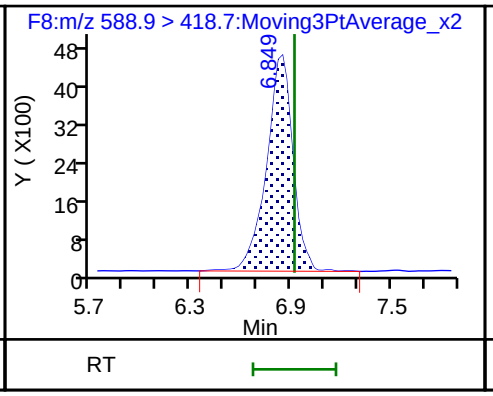
31 Perfluorodecanesulfonic acid (ND)



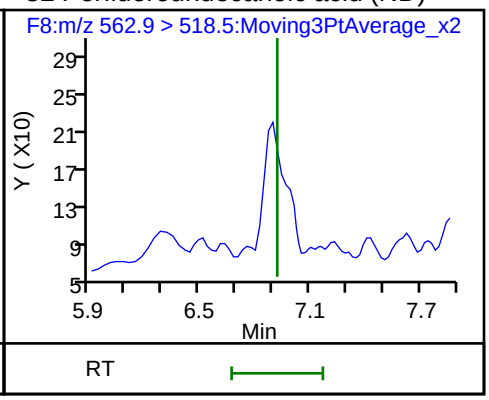
31 Perfluorodecanesulfonic acid (ND)



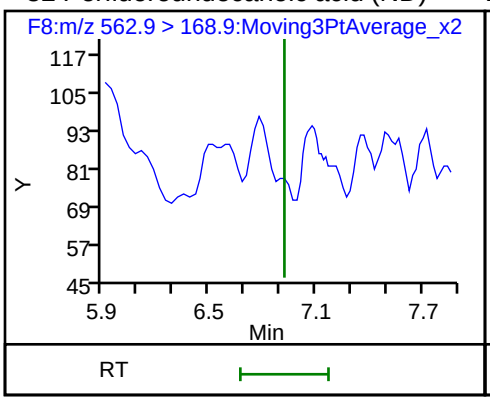
D 29 d5-NEtFOSAA



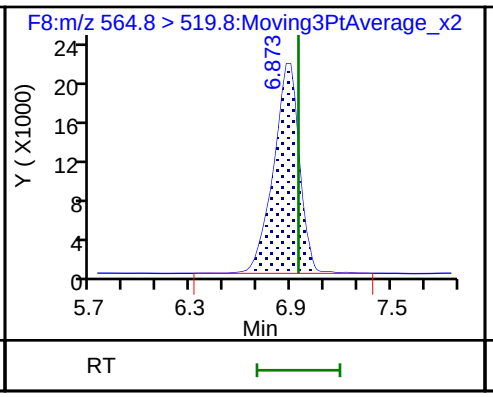
32 Perfluoroundecanoic acid (ND)



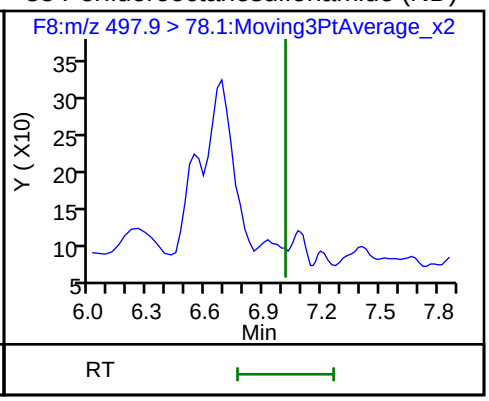
32 Perfluoroundecanoic acid (ND)



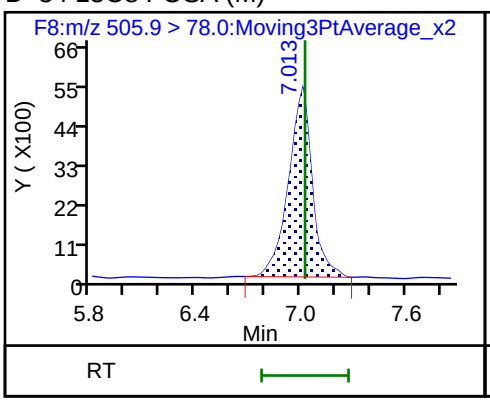
D 33 13C2 PFUnA



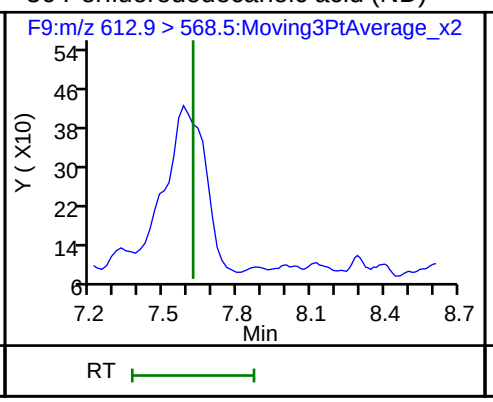
35 Perfluorooctanesulfonamide (ND)



D 34 13C8 FOSA (M)



36 Perfluorododecanoic acid (ND)



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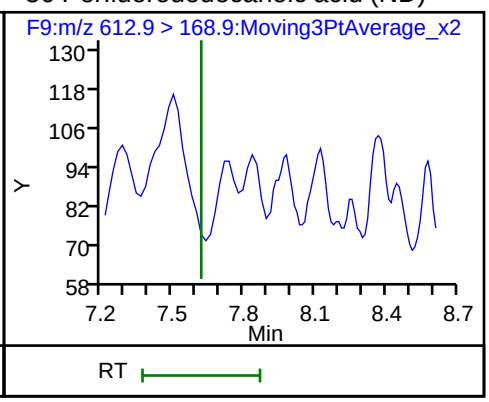
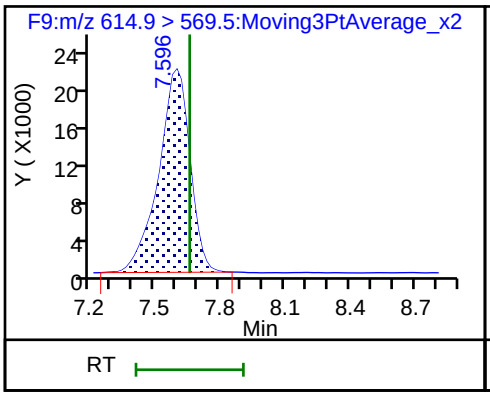
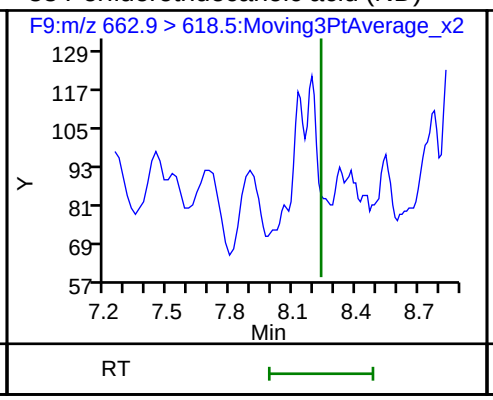


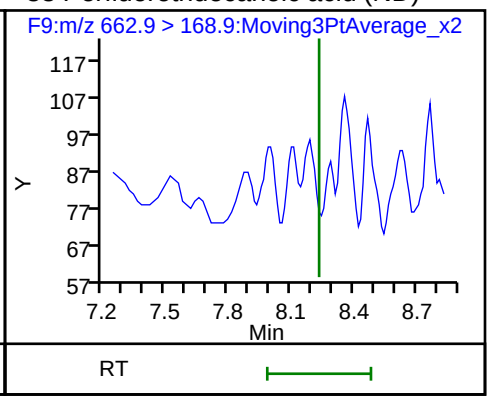
D 37 13C2 PFDoA



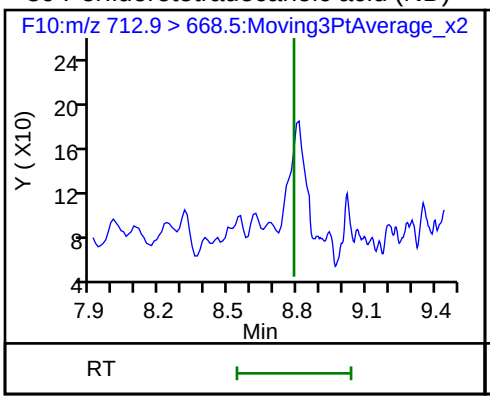
38 Perfluorotridecanoic acid (ND)



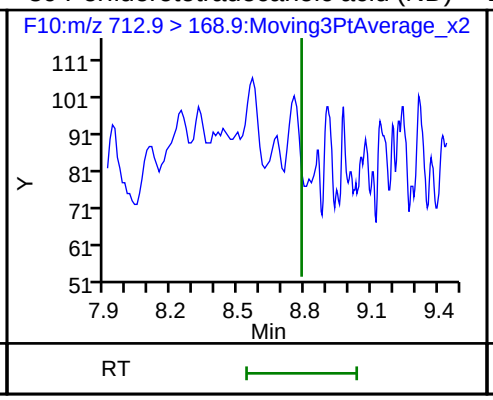
38 Perfluorotridecanoic acid (ND)



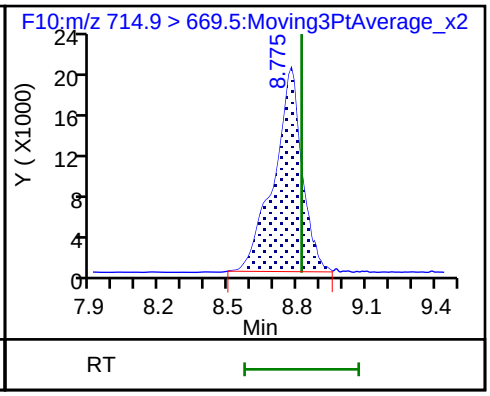
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

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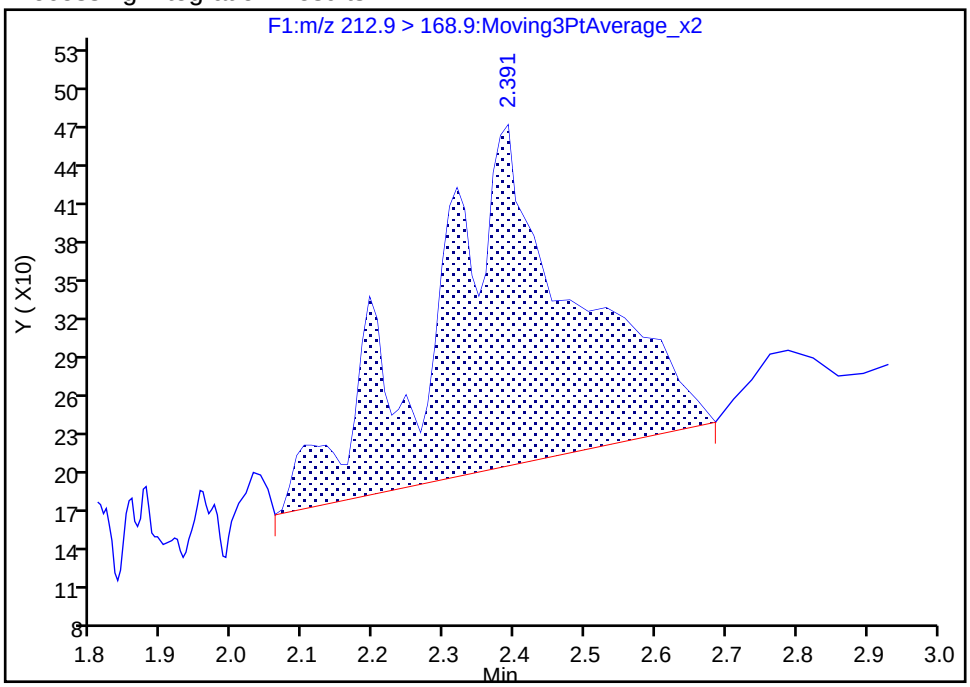
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

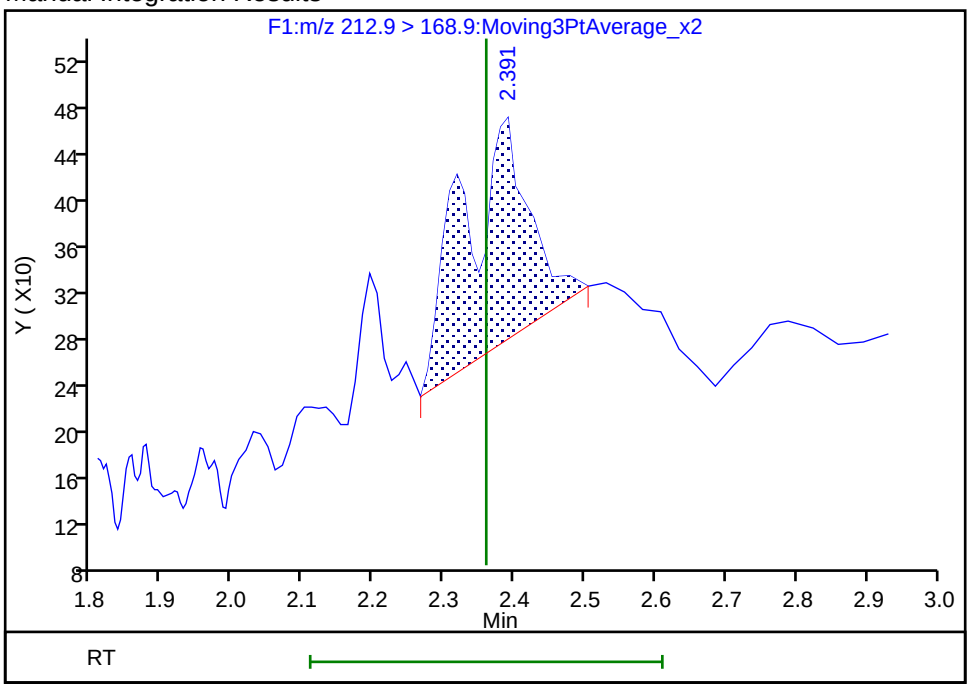
Processing Integration Results

RT: 2.39
Area: 3748
Amount: 1.213603
Amount Units: ng/ml



Manual Integration Results

RT: 2.39
Area: 1265
Amount: 0.341951
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:29:58

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

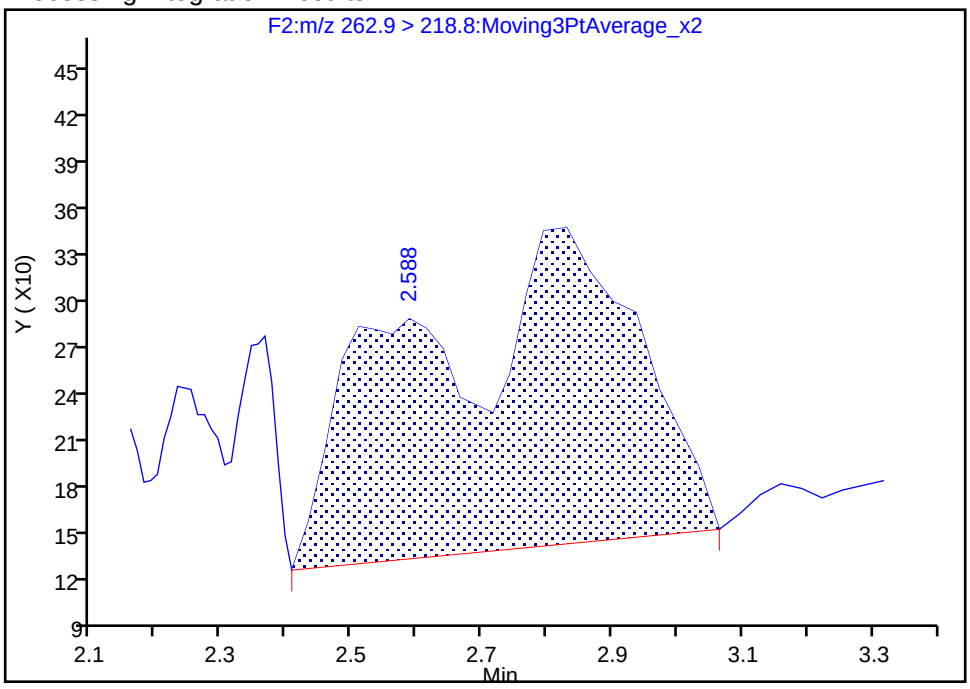
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

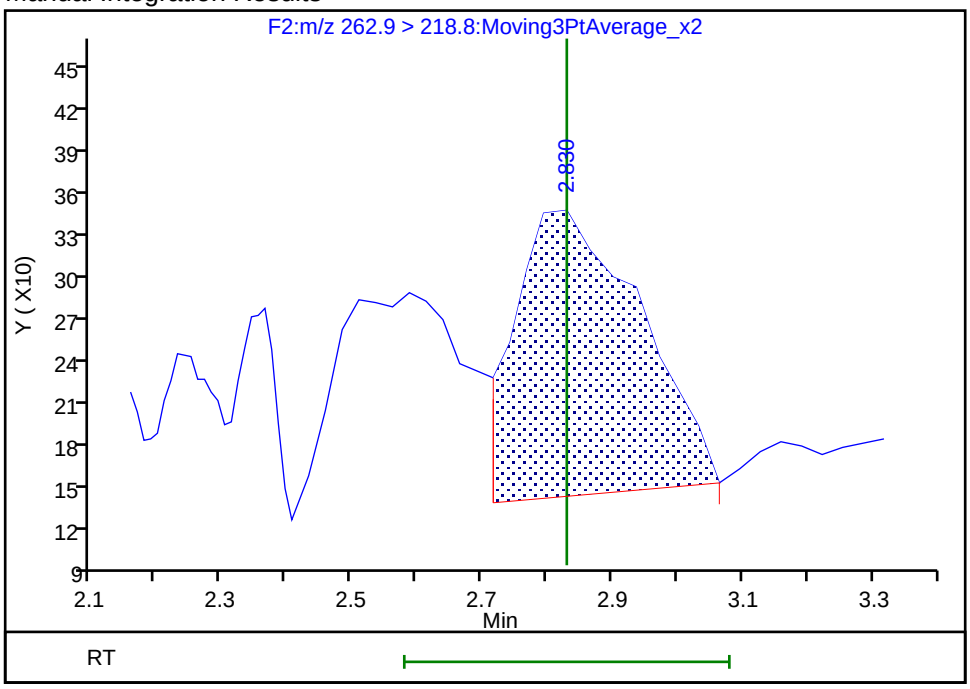
Processing Integration Results

RT: 2.59
Area: 4755
Amount: 0.753741
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 2671
Amount: 0.391901
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:08

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

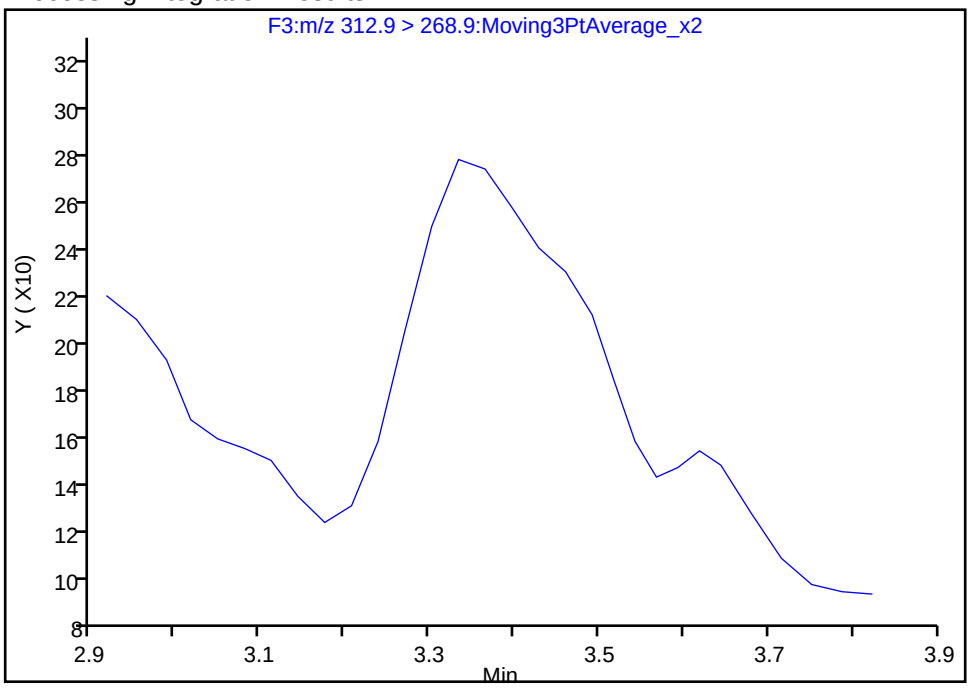
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

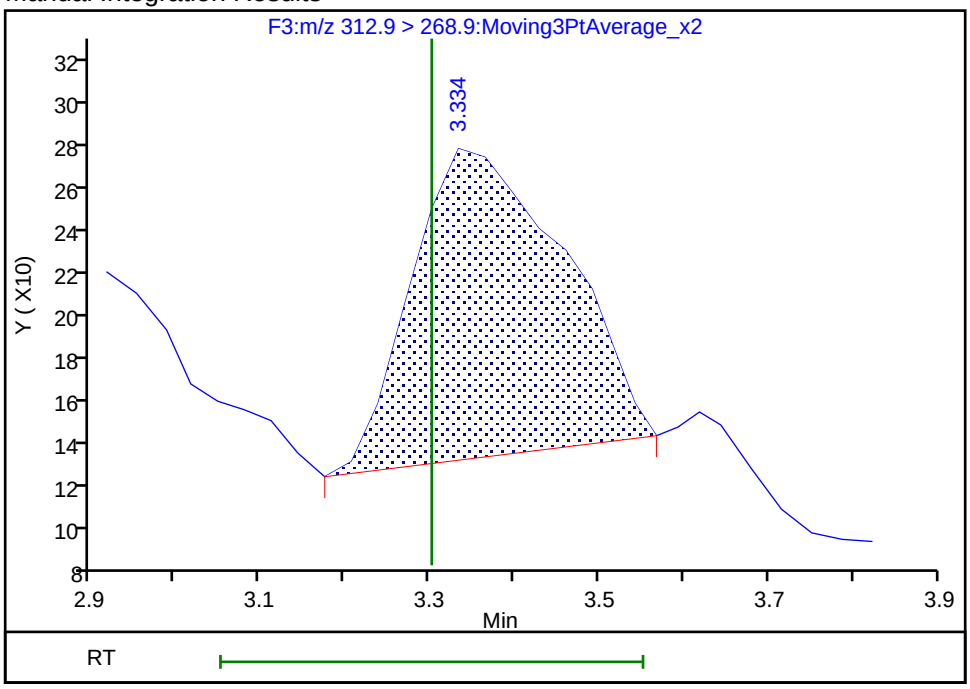
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.33
Area: 1785
Amount: 0.125458
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:33:47
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

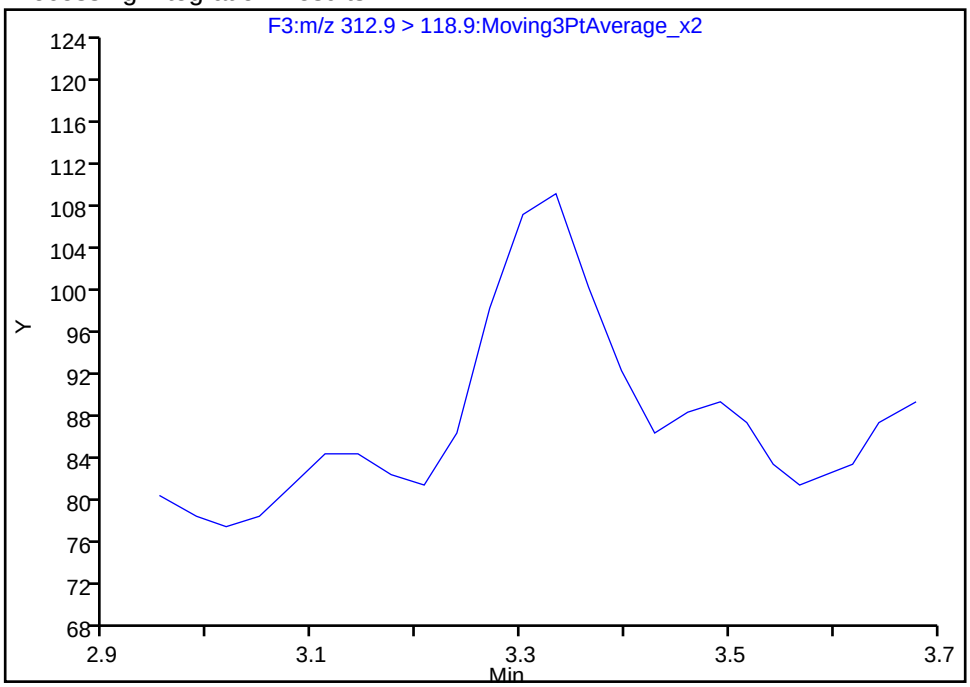
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

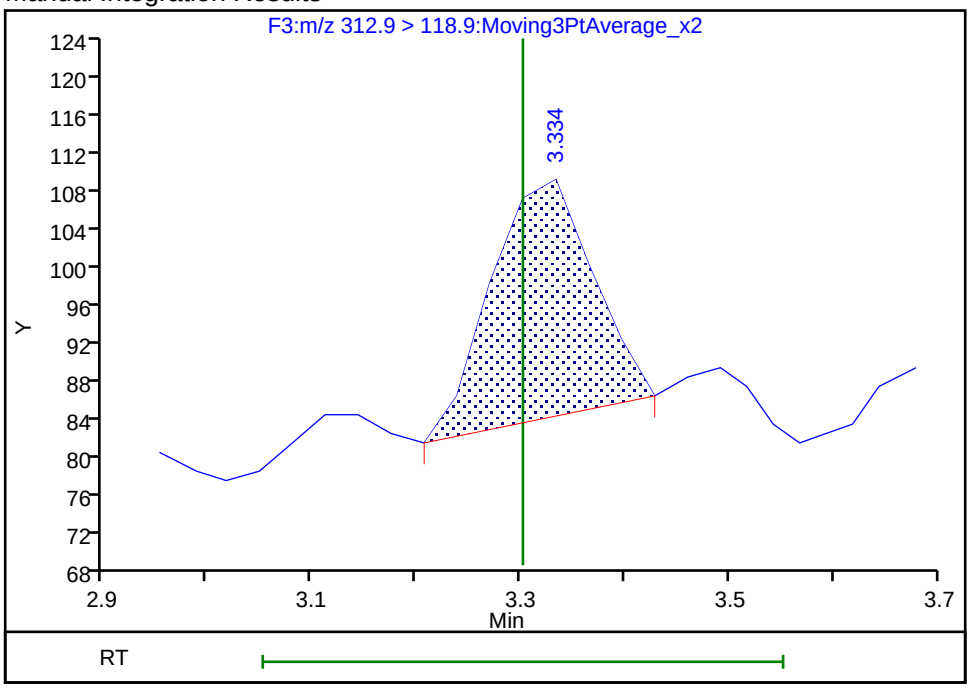
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.33
Area: 172
Amount: 0.125458
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:33:49
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

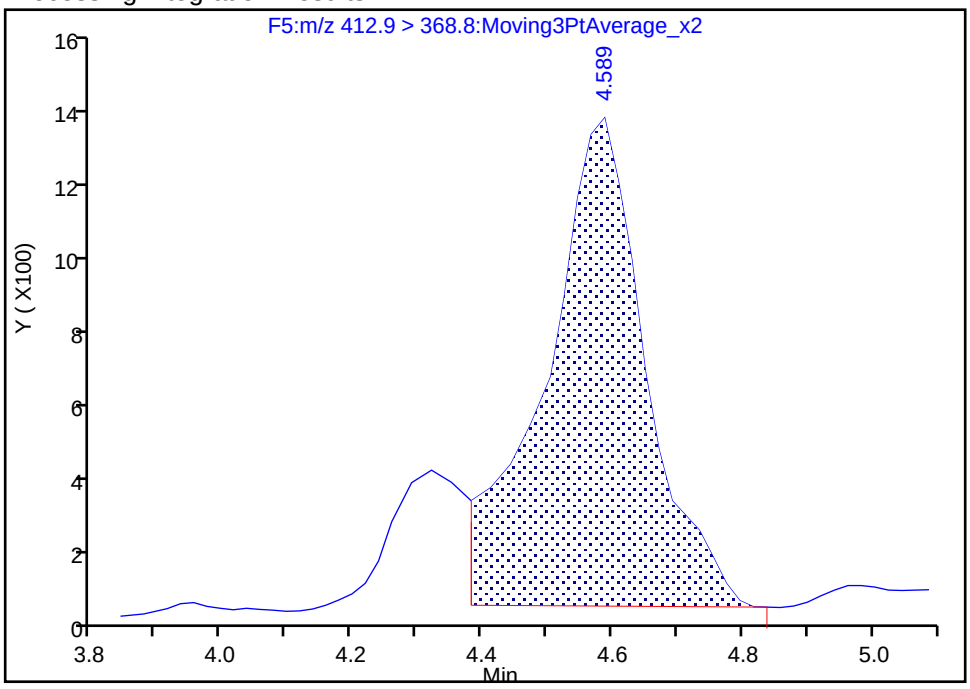
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

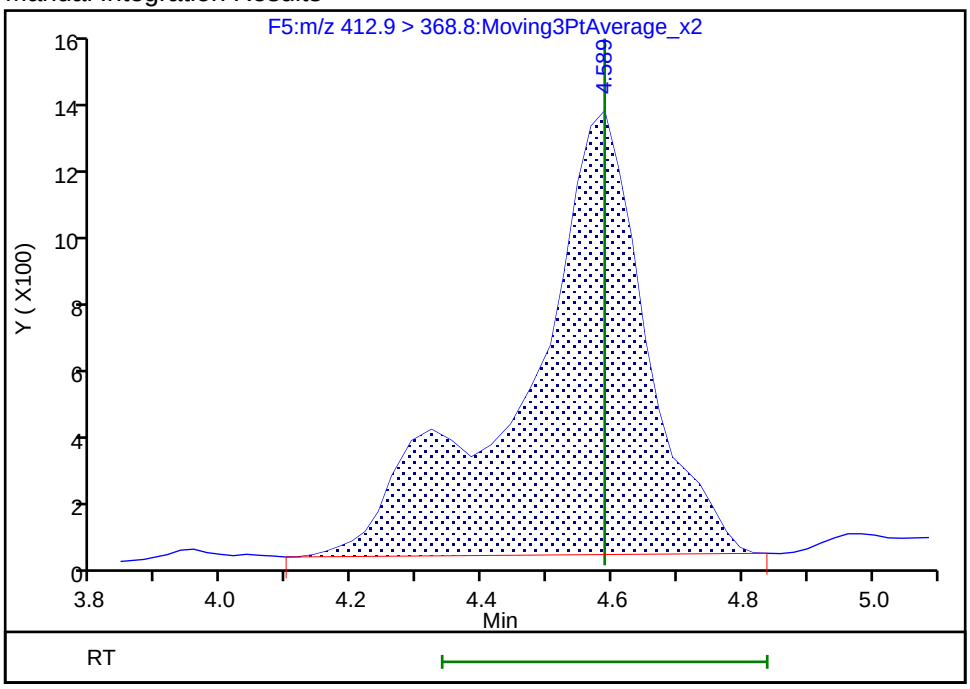
Processing Integration Results

RT: 4.59
Area: 13851
Amount: 0.690772
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 16912
Amount: 0.843429
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

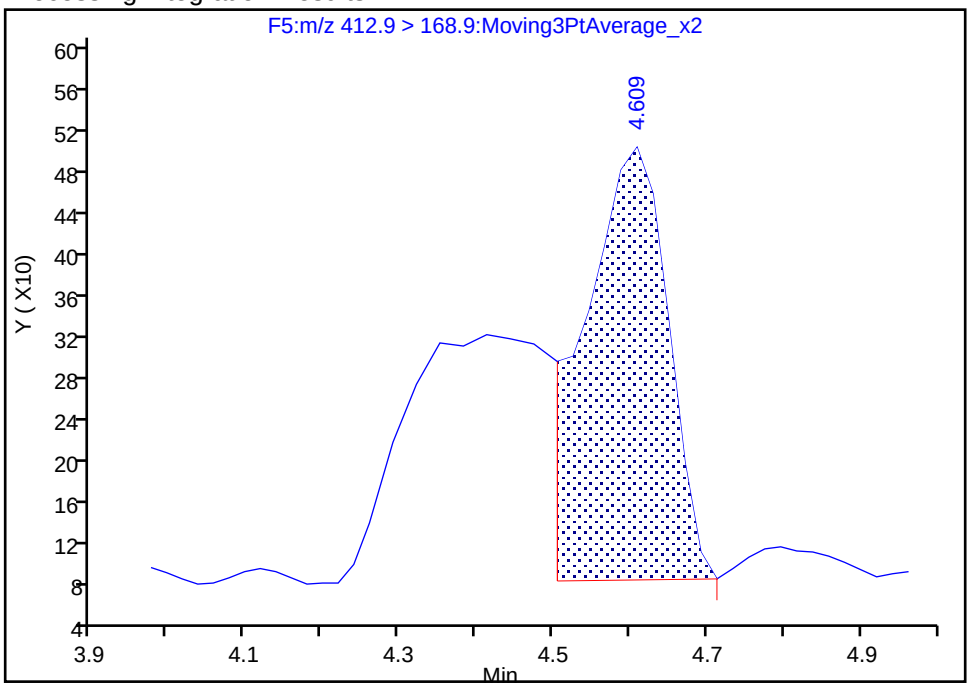
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

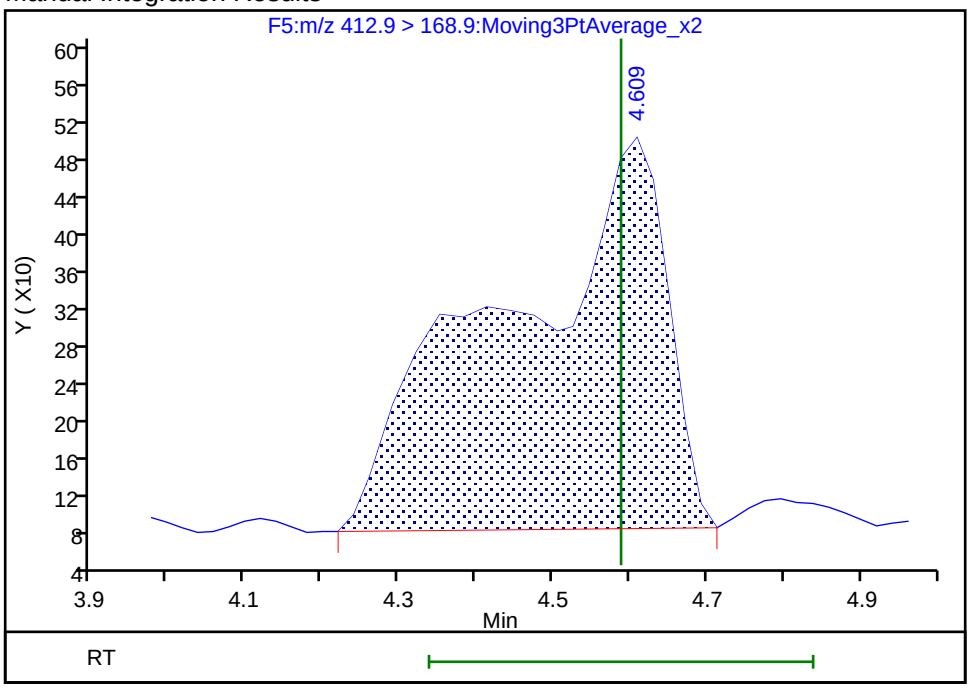
Processing Integration Results

RT: 4.61
Area: 3124
Amount: 0.690772
Amount Units: ng/ml



Manual Integration Results

RT: 4.61
Area: 6122
Amount: 0.843429
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:48

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

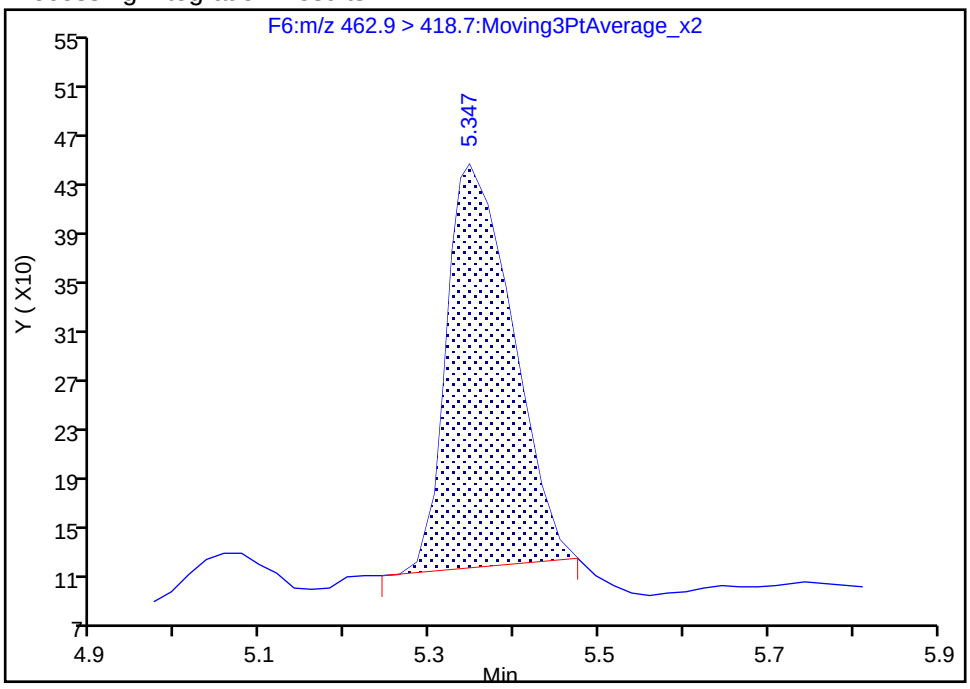
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

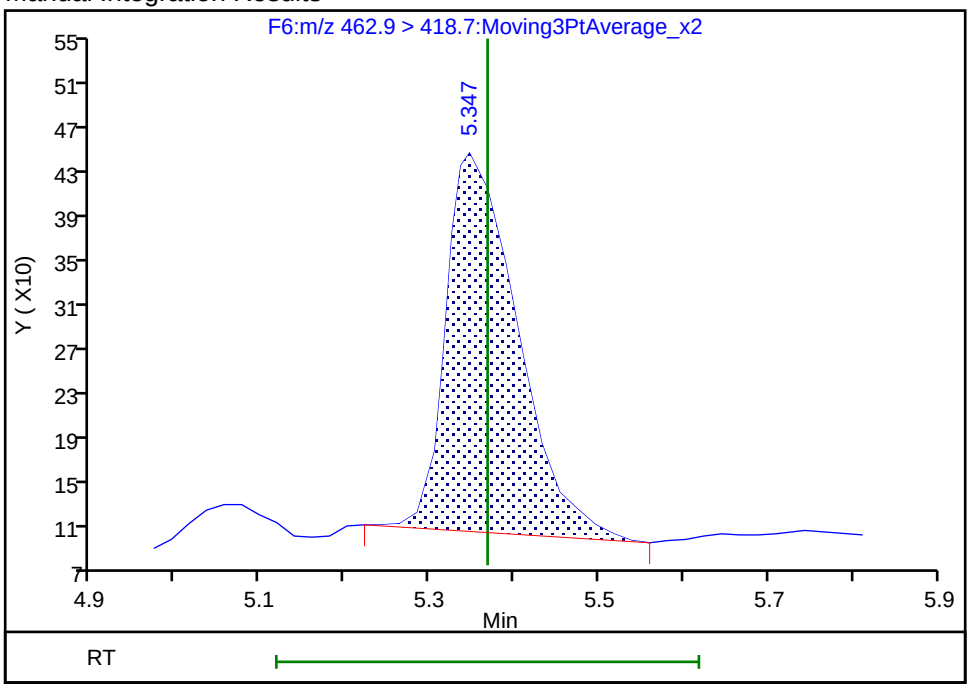
Processing Integration Results

RT: 5.35
Area: 1756
Amount: 0.099015
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 1986
Amount: 0.107998
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

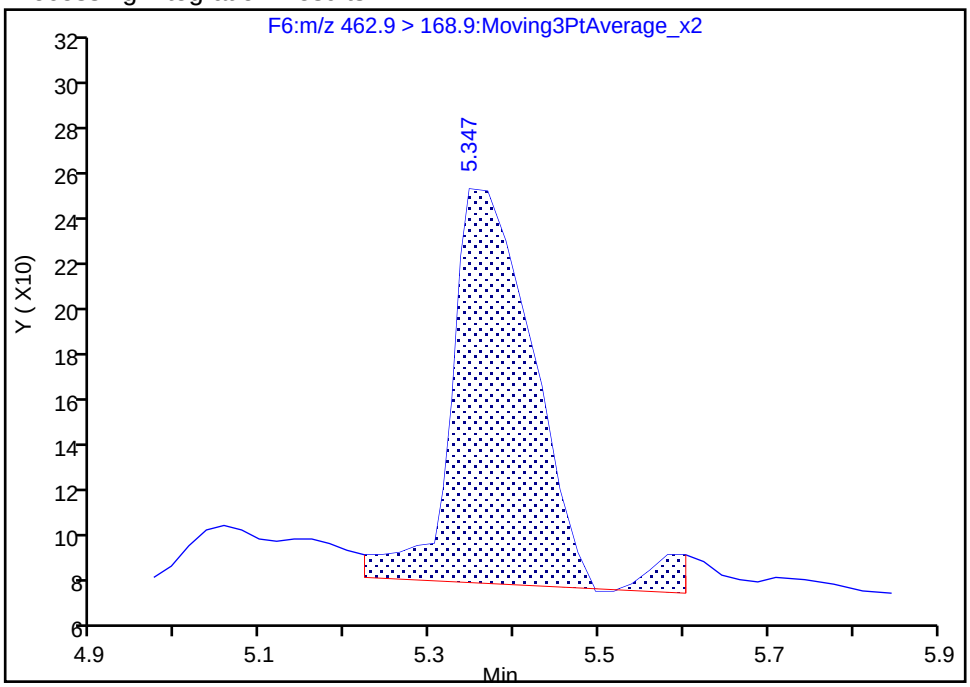
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

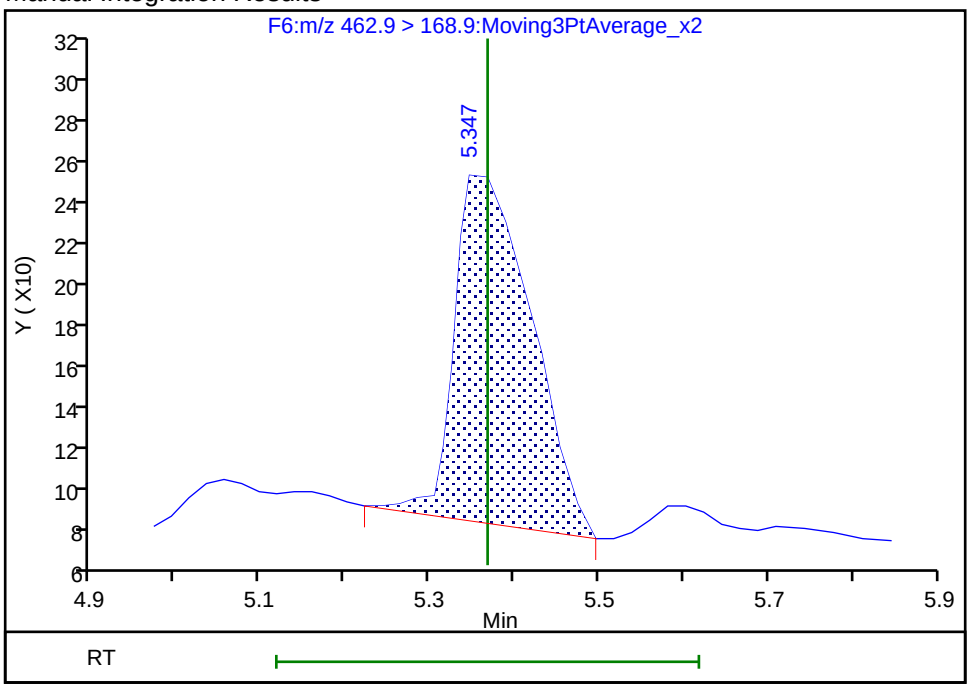
Processing Integration Results

RT: 5.35
Area: 1203
Amount: 0.099015
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 1083
Amount: 0.107998
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:31:03

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

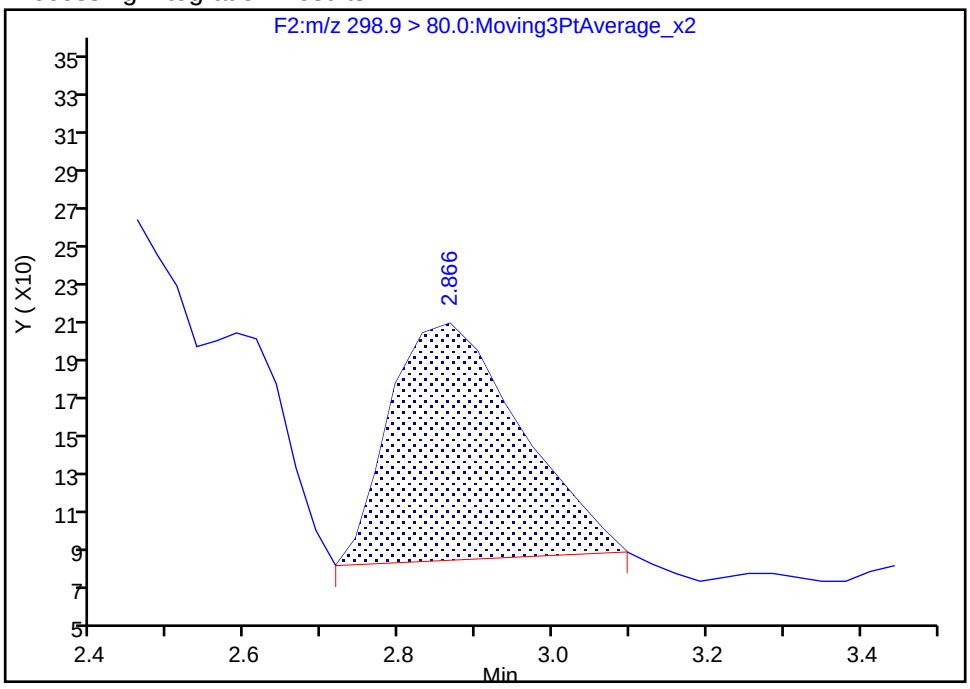
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

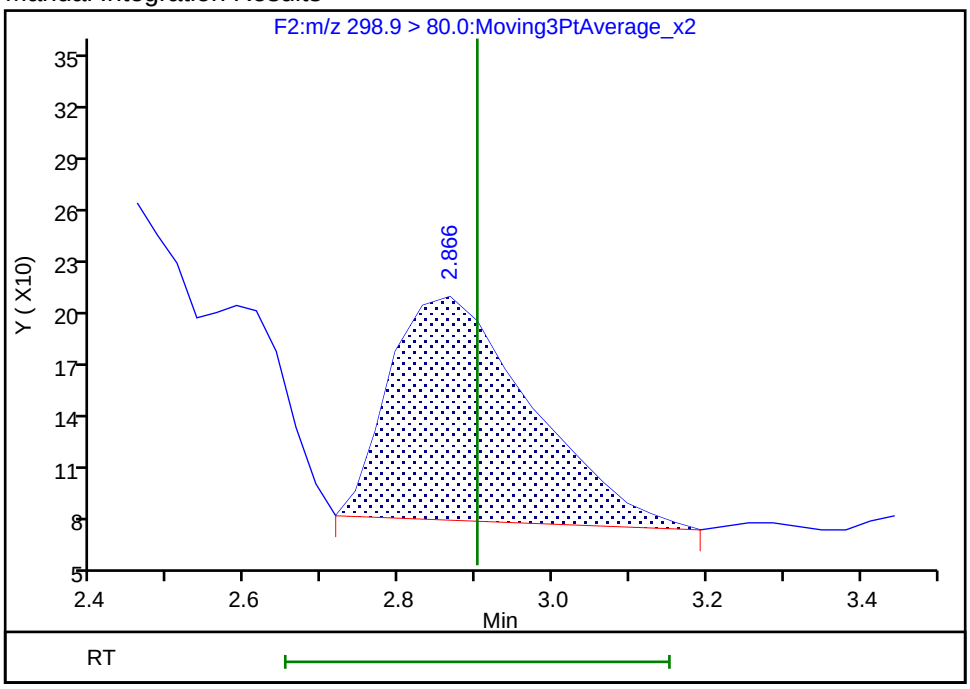
Processing Integration Results

RT: 2.87
Area: 1428
Amount: 0.583515
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 1615
Amount: 0.659927
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:17
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

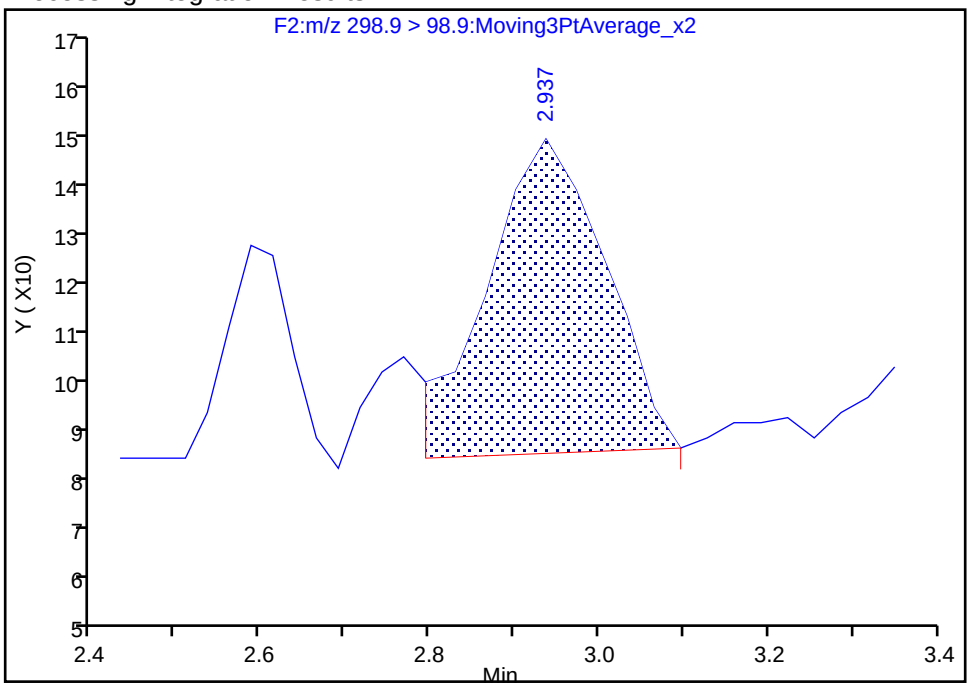
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

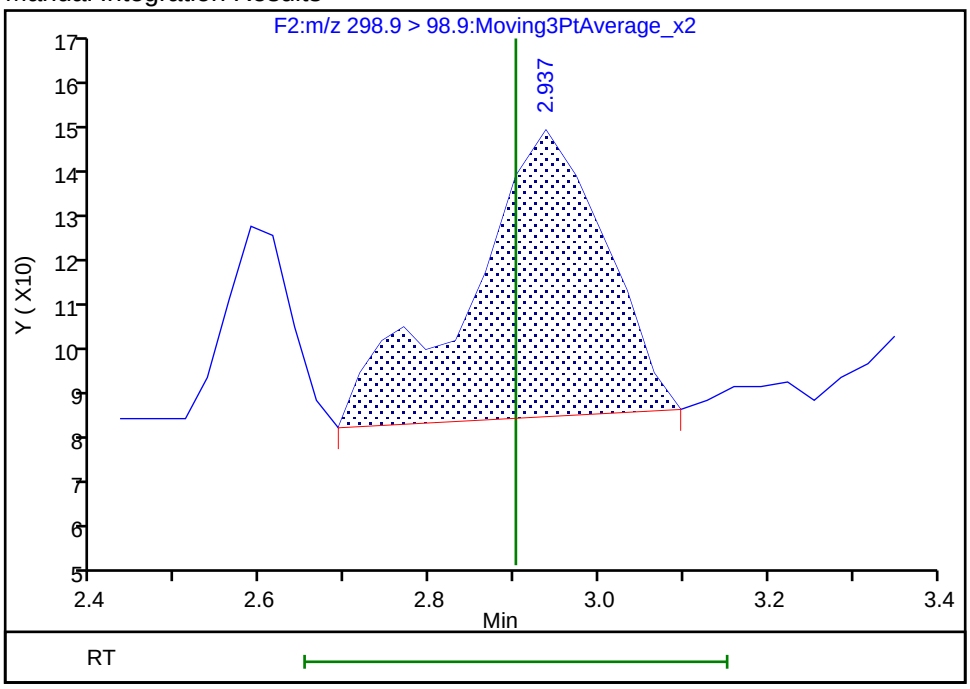
Processing Integration Results

RT: 2.94
Area: 599
Amount: 0.583515
Amount Units: ng/ml



Manual Integration Results

RT: 2.94
Area: 702
Amount: 0.659927
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:25

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

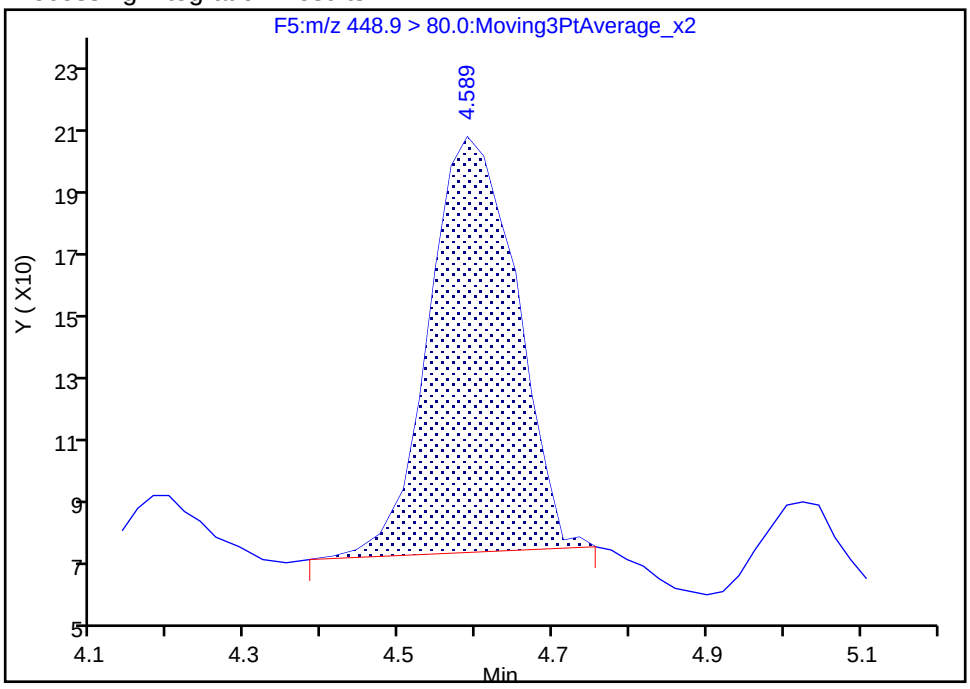
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

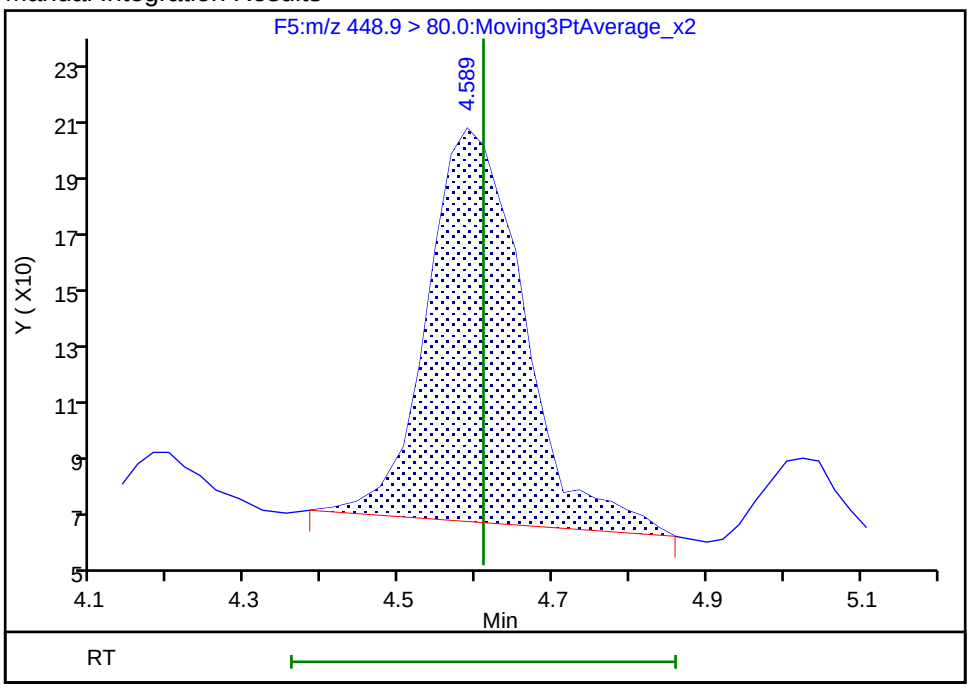
Processing Integration Results

RT: 4.59
Area: 1024
Amount: 0.435640
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 1188
Amount: 0.424801
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:53

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

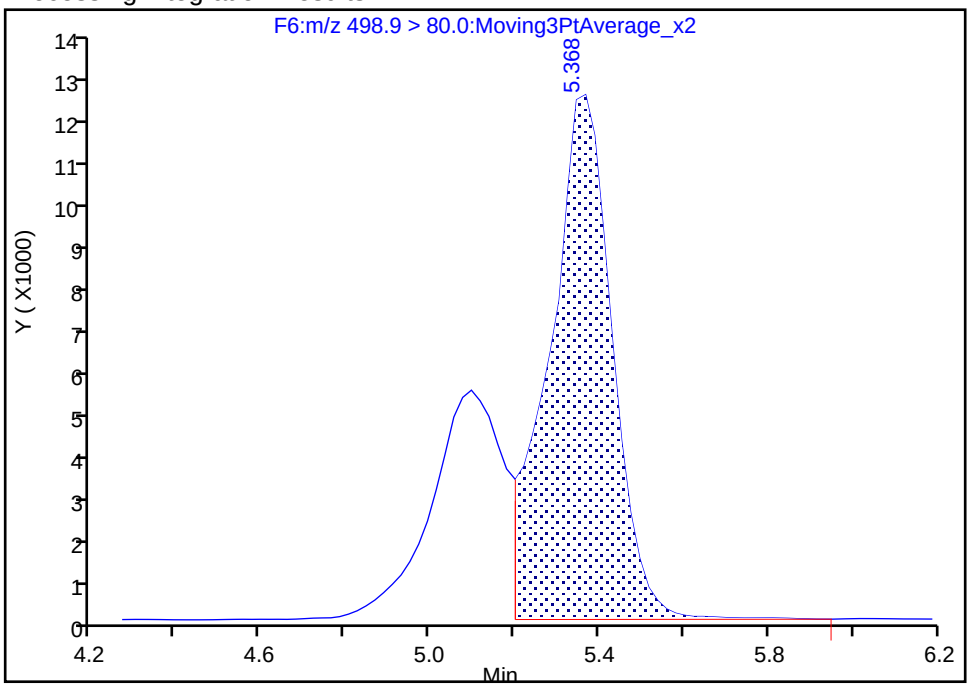
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

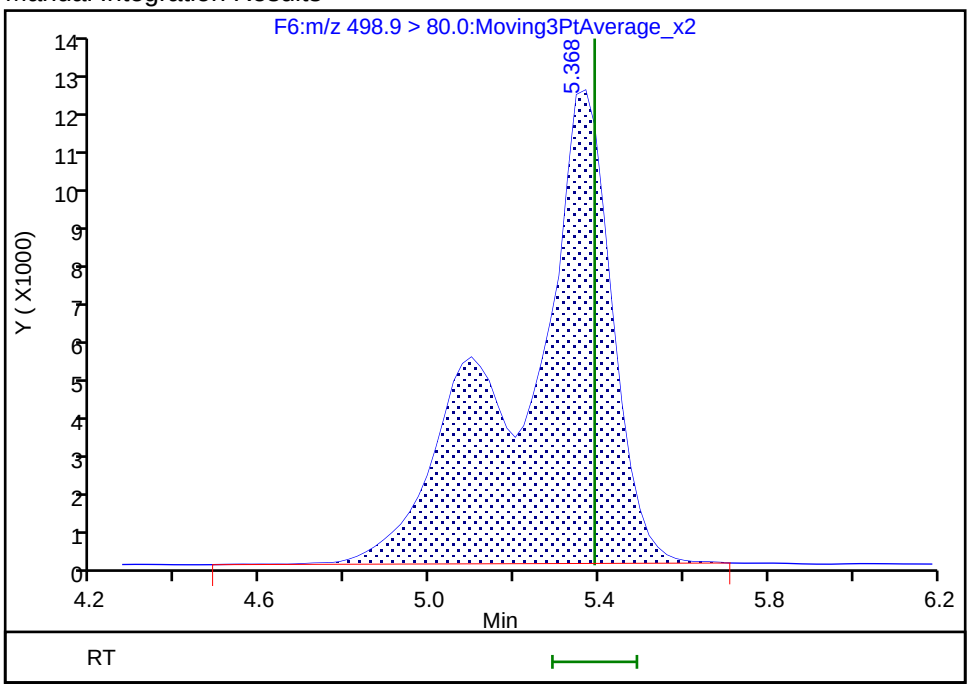
Processing Integration Results

RT: 5.37
Area: 128434
Amount: 49.256881
Amount Units: ng/ml



Manual Integration Results

RT: 5.37
Area: 191112
Amount: 61.605104
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:31:34
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

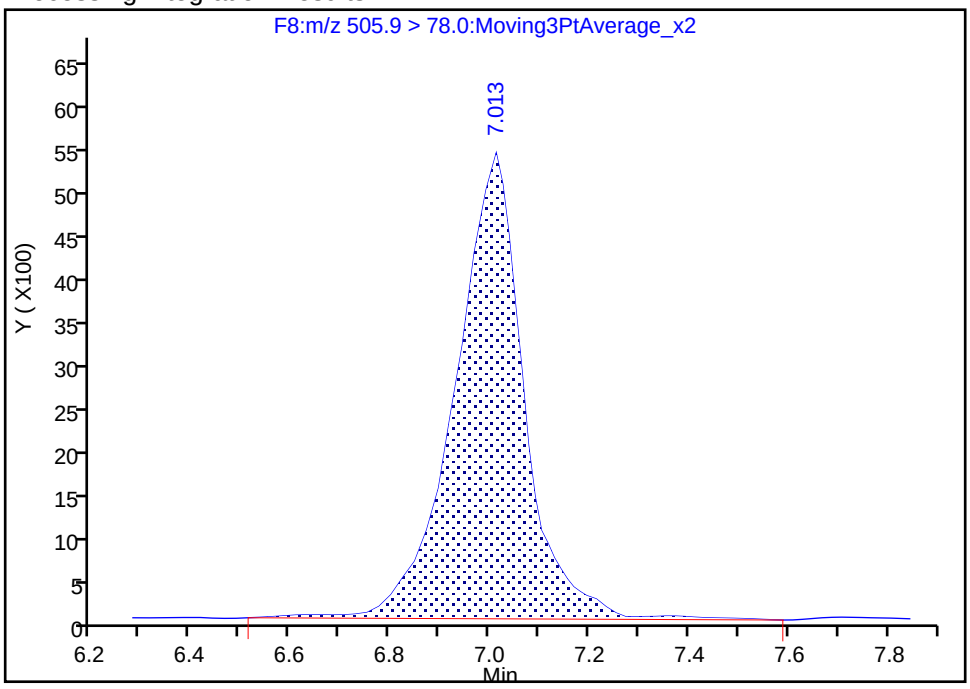
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 34 13C8 FOSA, CAS: STL01056

Signal: 1

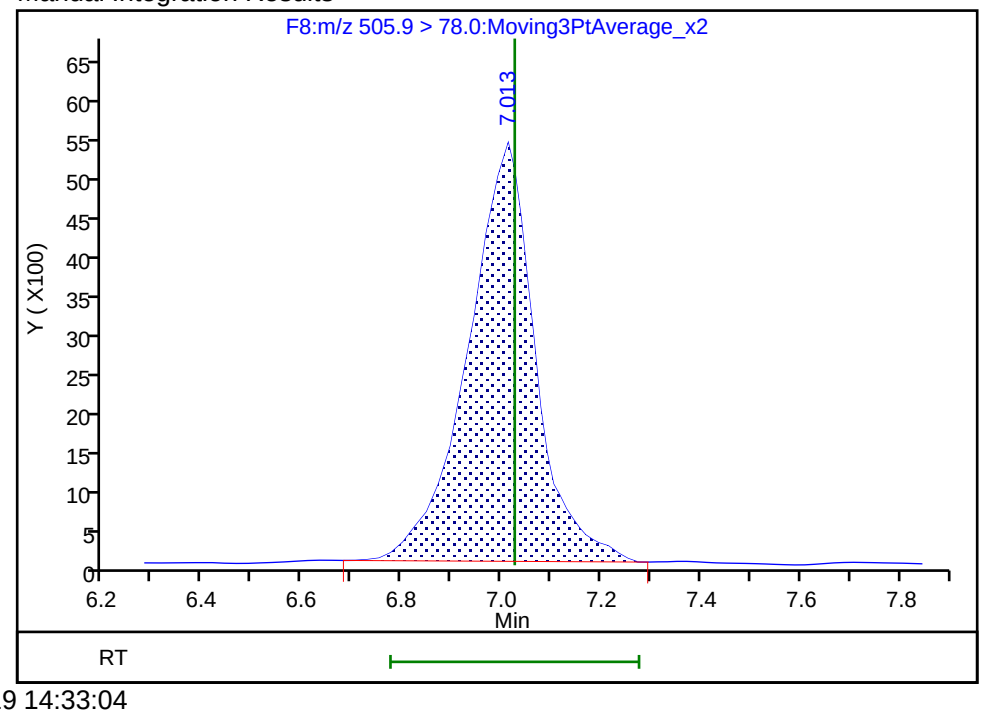
Processing Integration Results

RT: 7.01
Area: 51598
Amount: 3.627728
Amount Units: ng/ml



Manual Integration Results

RT: 7.01
Area: 49795
Amount: 3.500963
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:33:04

Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

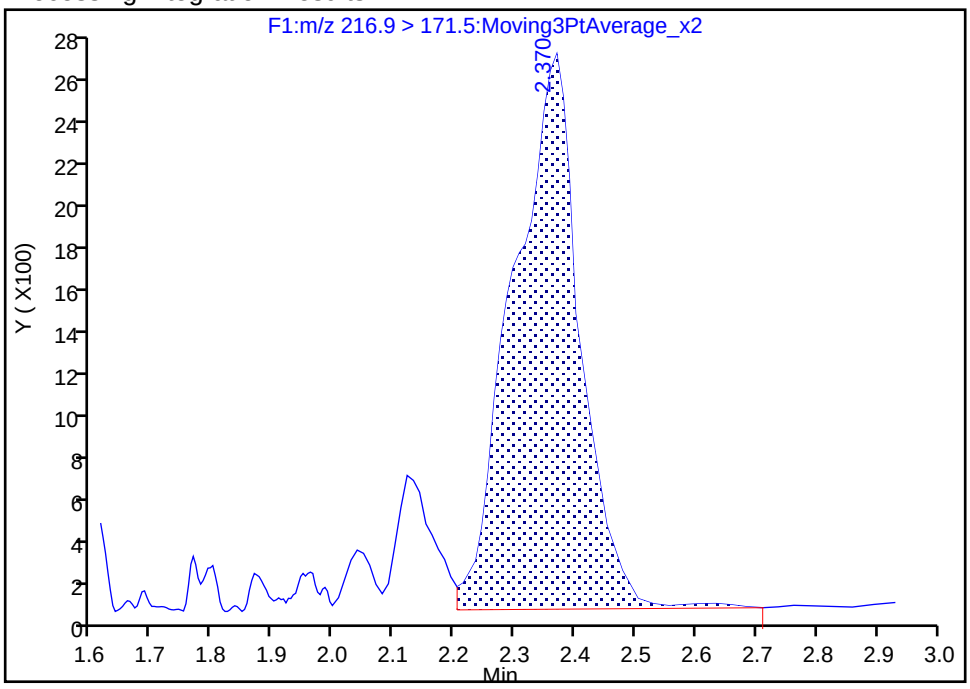
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

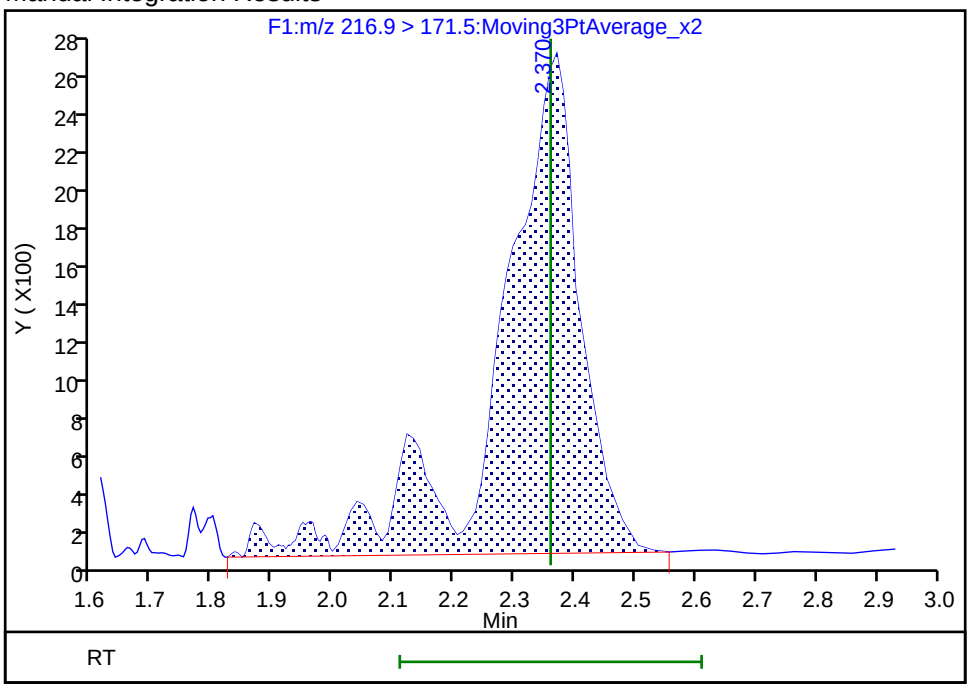
Processing Integration Results

RT: 2.37
Area: 19671
Amount: 2.264418
Amount Units: ng/ml



Manual Integration Results

RT: 2.37
Area: 23563
Amount: 2.712444
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:02

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

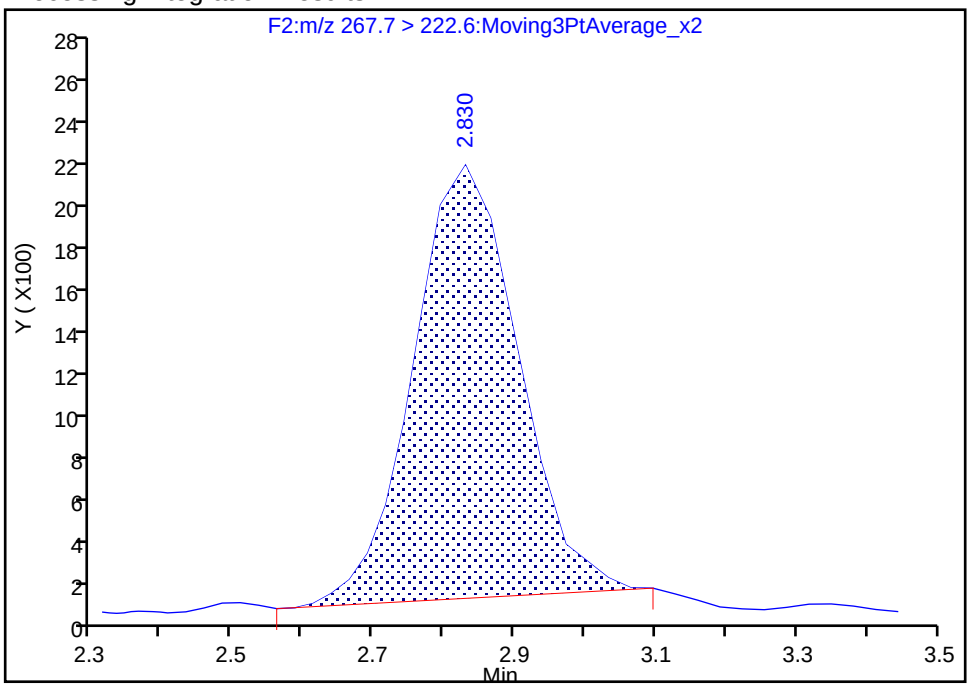
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

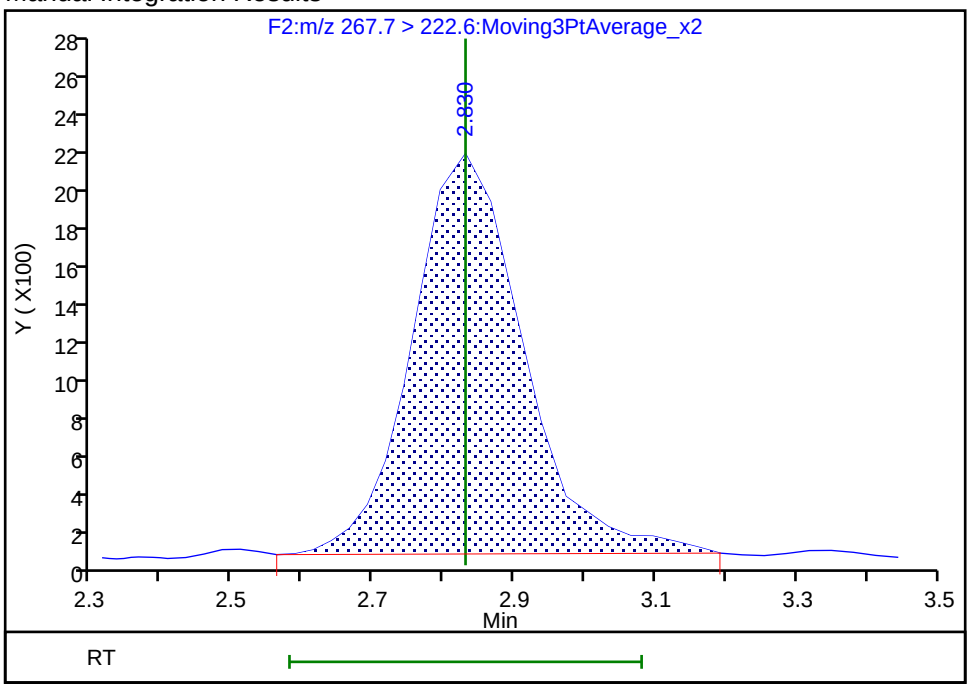
Processing Integration Results

RT: 2.83
Area: 21067
Amount: 3.196782
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 22760
Amount: 3.453684
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:13
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

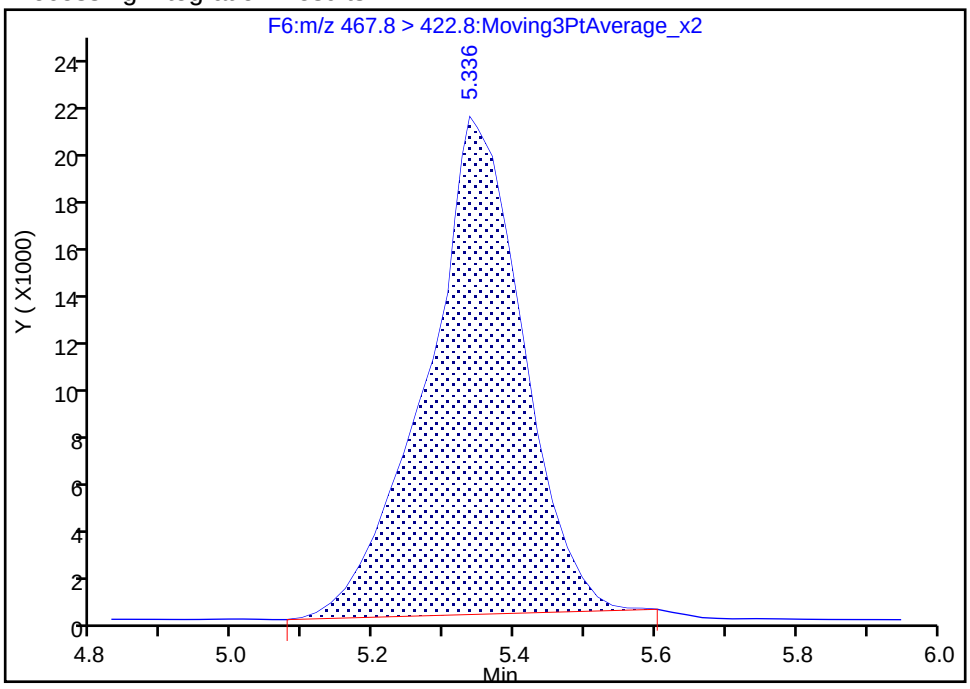
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

D 20 13C5 PFNA, CAS: STL00995

Signal: 1

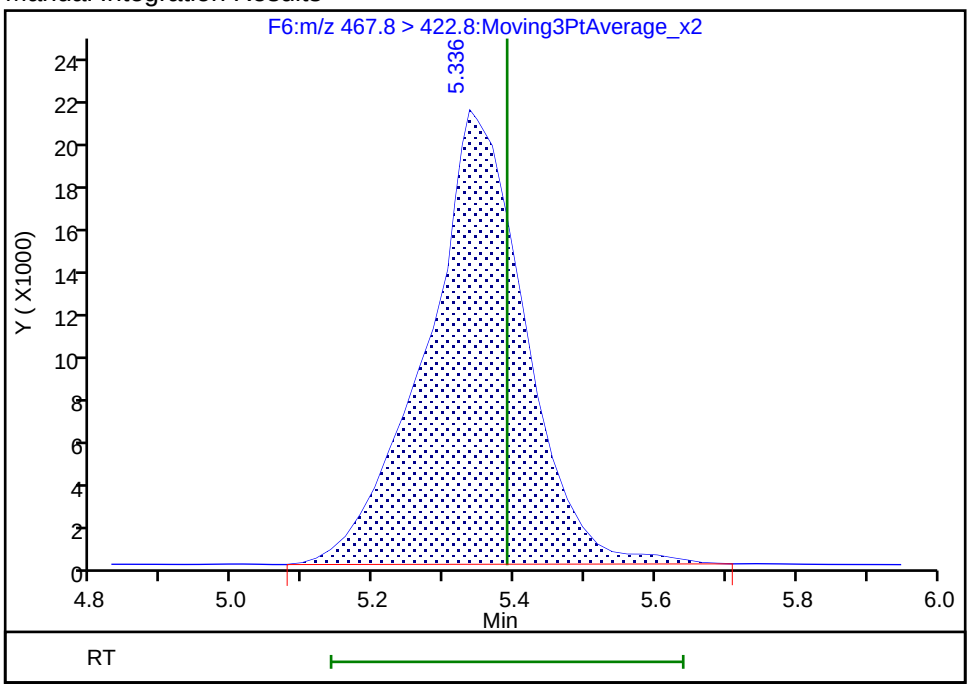
Processing Integration Results

RT: 5.34
Area: 200851
Amount: 4.342445
Amount Units: ng/ml



Manual Integration Results

RT: 5.34
Area: 208263
Amount: 4.502695
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:31:07
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

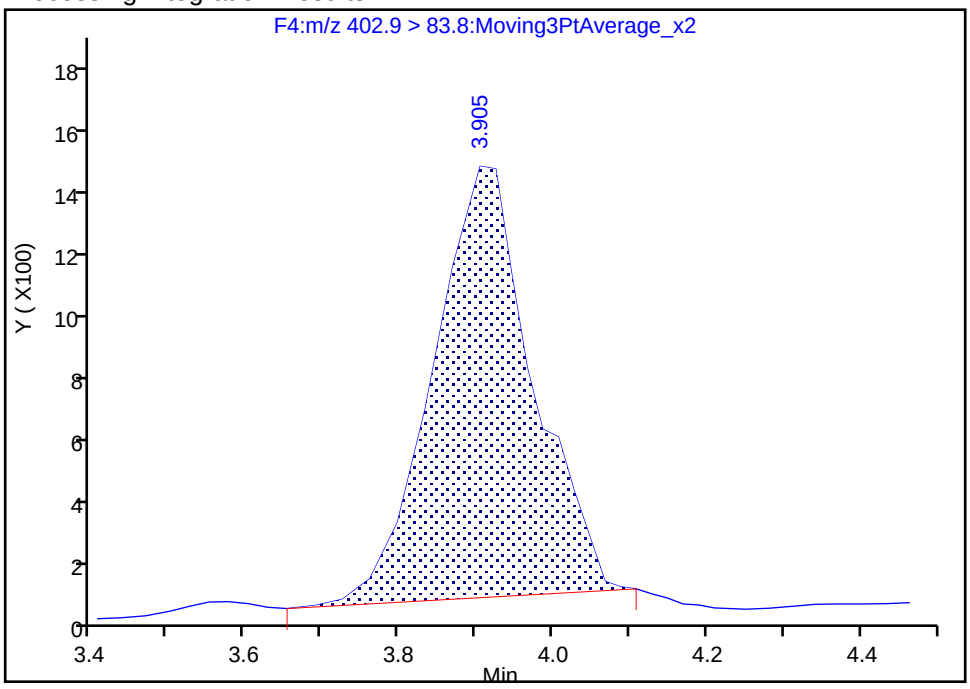
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

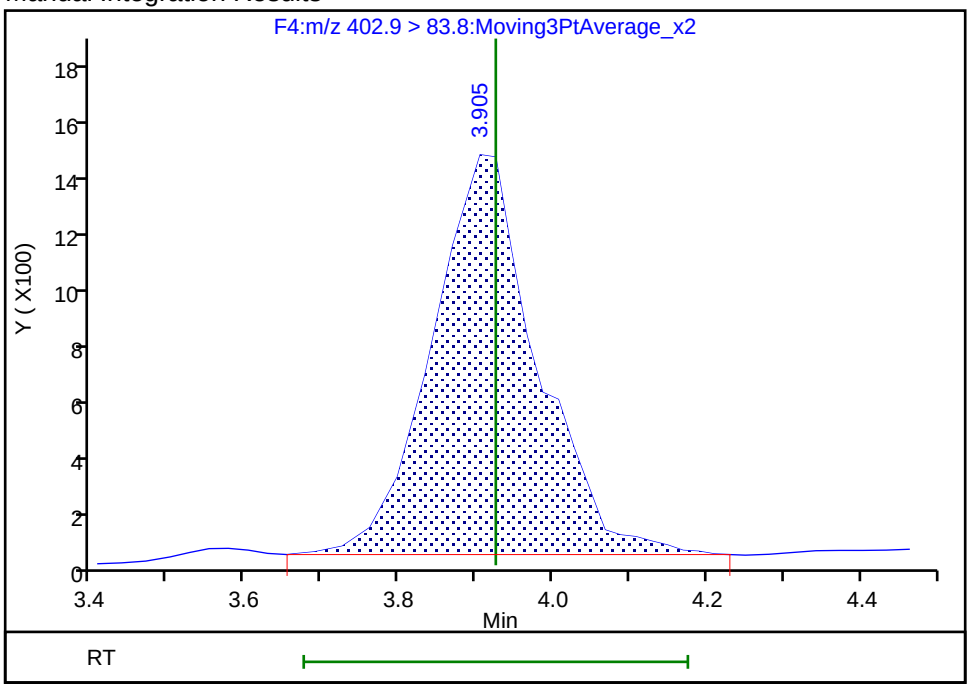
Processing Integration Results

RT: 3.91
Area: 11854
Amount: 3.234932
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 12836
Amount: 3.502918
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:30:38
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

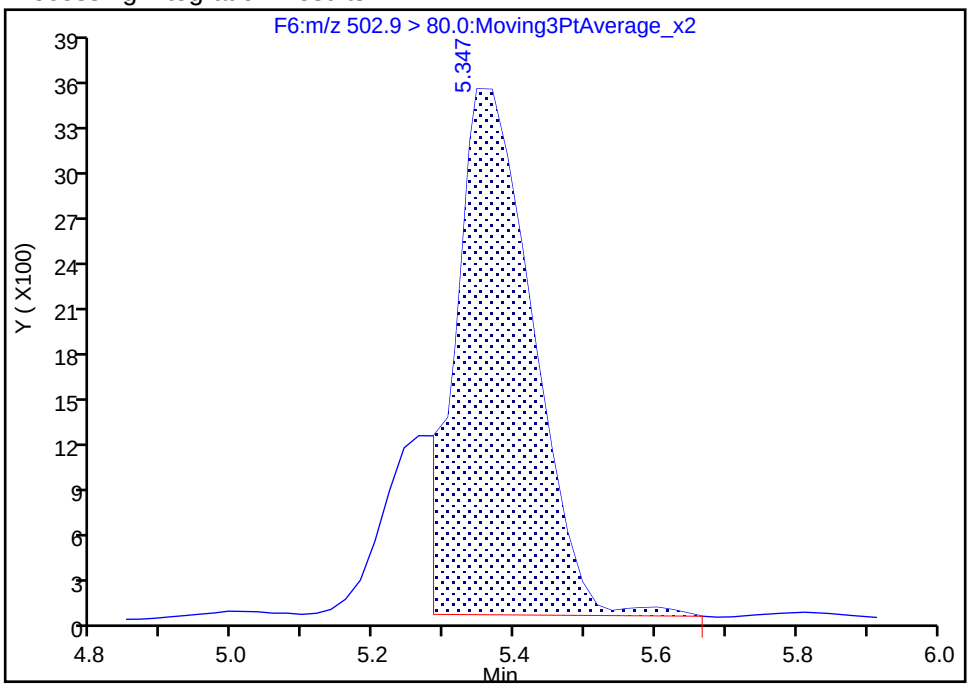
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

D 22 13C4 PFOS, CAS: STL00991

Signal: 1

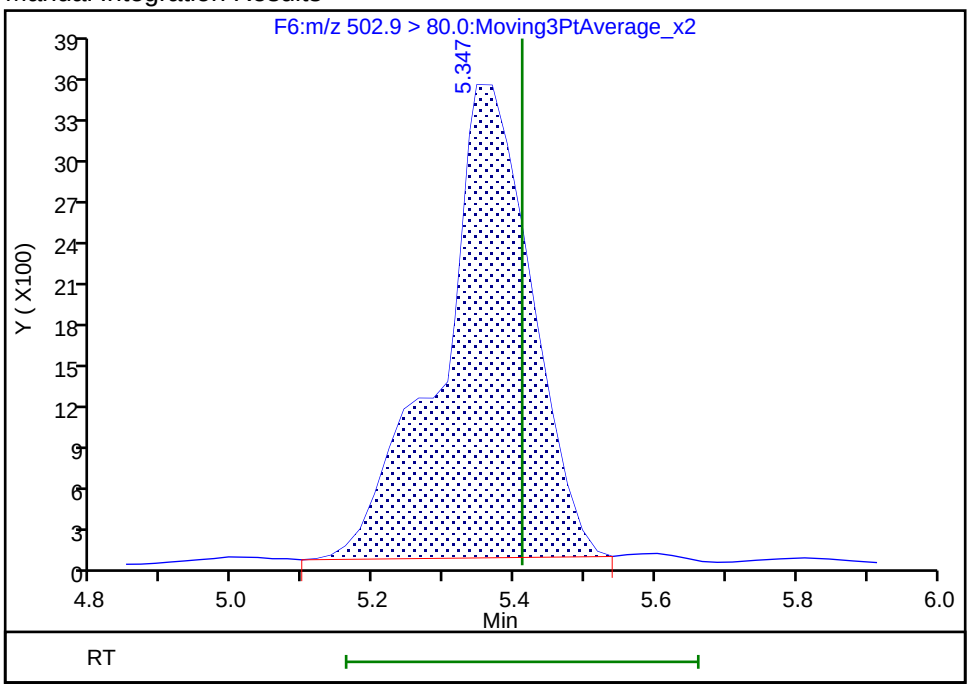
Processing Integration Results

RT: 5.35
Area: 25812
Amount: 3.123835
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 30710
Amount: 3.716603
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:31:43

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

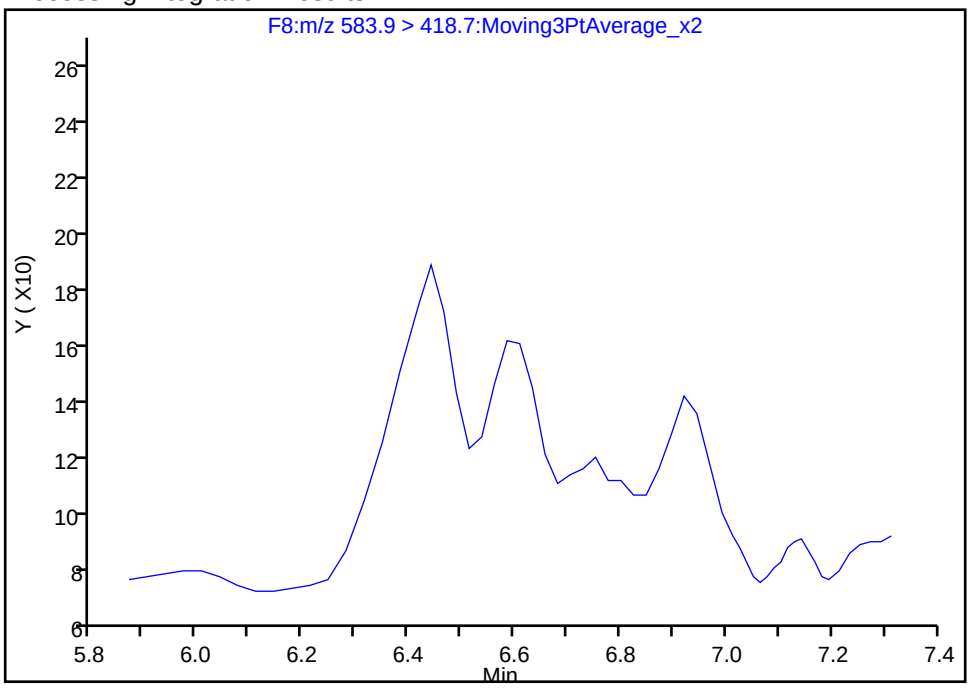
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

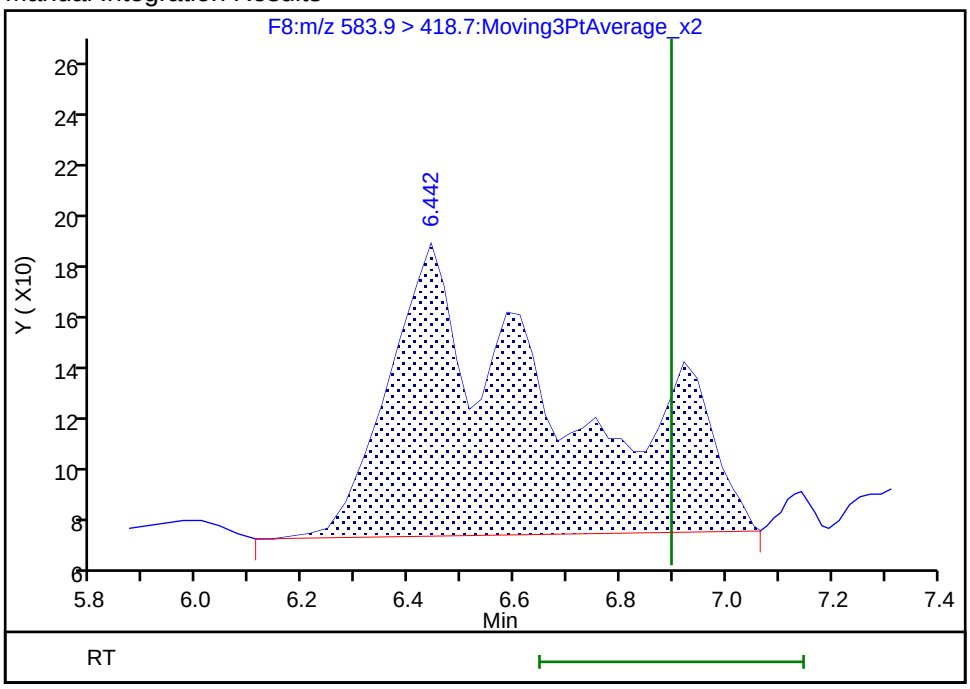
Not Detected
Expected RT: 6.90

Processing Integration Results



Manual Integration Results

RT: 6.44
Area: 2418
Amount: 0.608795
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:33:23
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

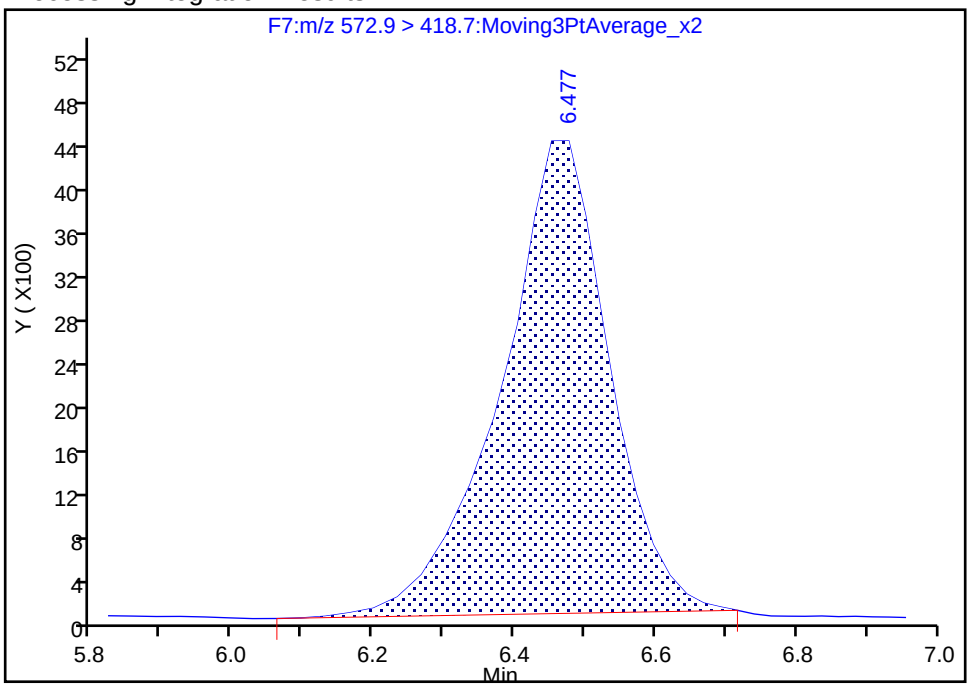
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 27 d3-NMeFOSAA, CAS: STL02118

Signal: 1

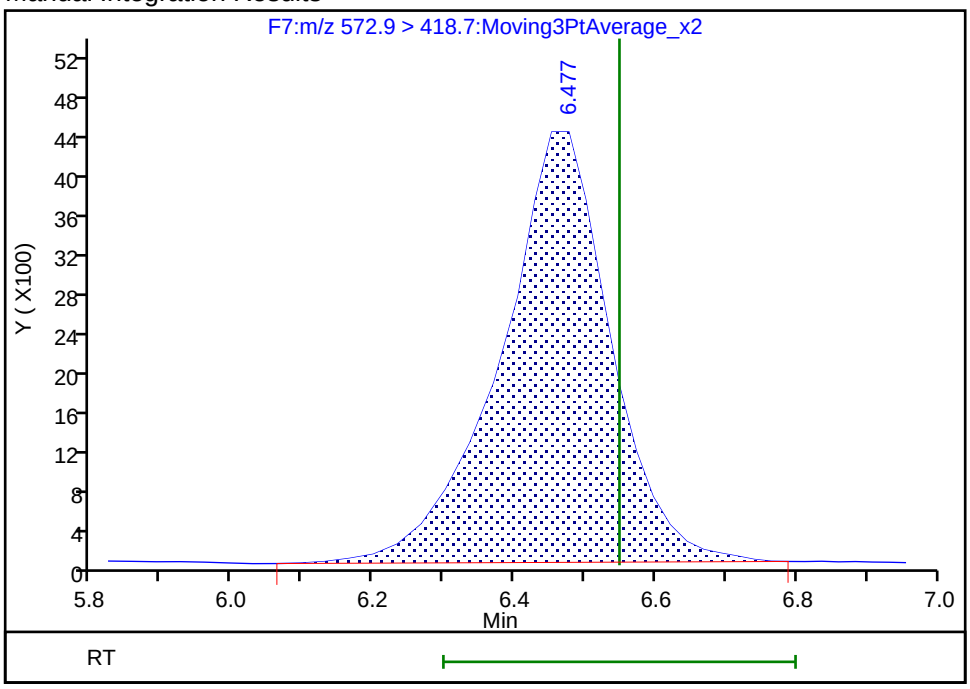
Processing Integration Results

RT: 6.48
Area: 45758
Amount: 3.557393
Amount Units: ng/ml



Manual Integration Results

RT: 6.48
Area: 46913
Amount: 3.647187
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:31:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

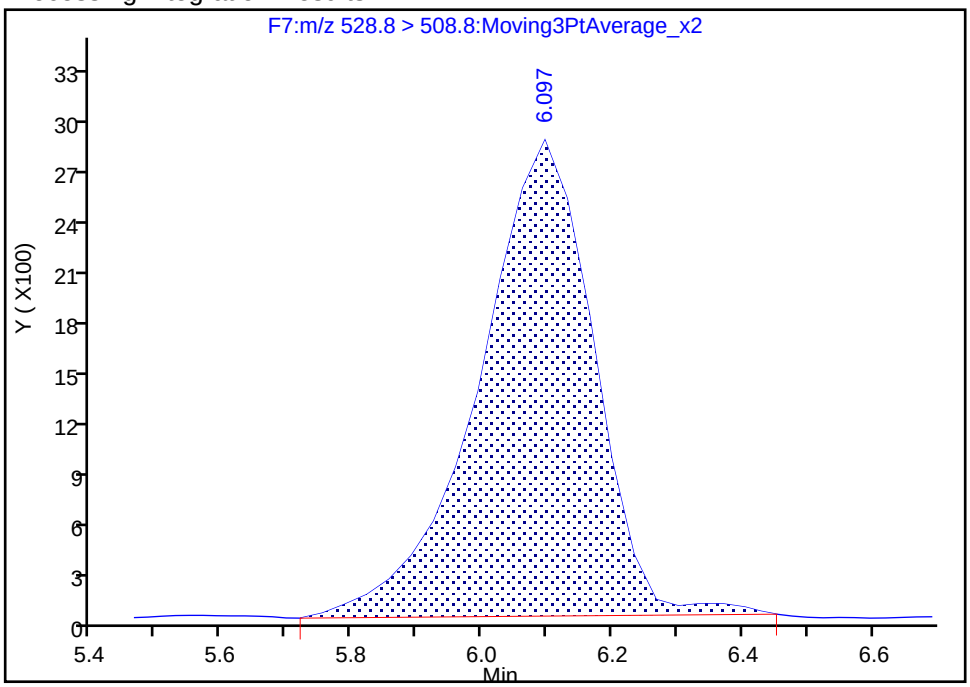
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B23.d				
Injection Date:	05-Jun-2019 07:09:05	Instrument ID:	LC410		
Lims ID:	200-48826-A-18-A	Lab Sample ID:	200-48826-18		
Client ID:	MW-21 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 24 M2-8:2 FTS, CAS: STL02280

Signal: 1

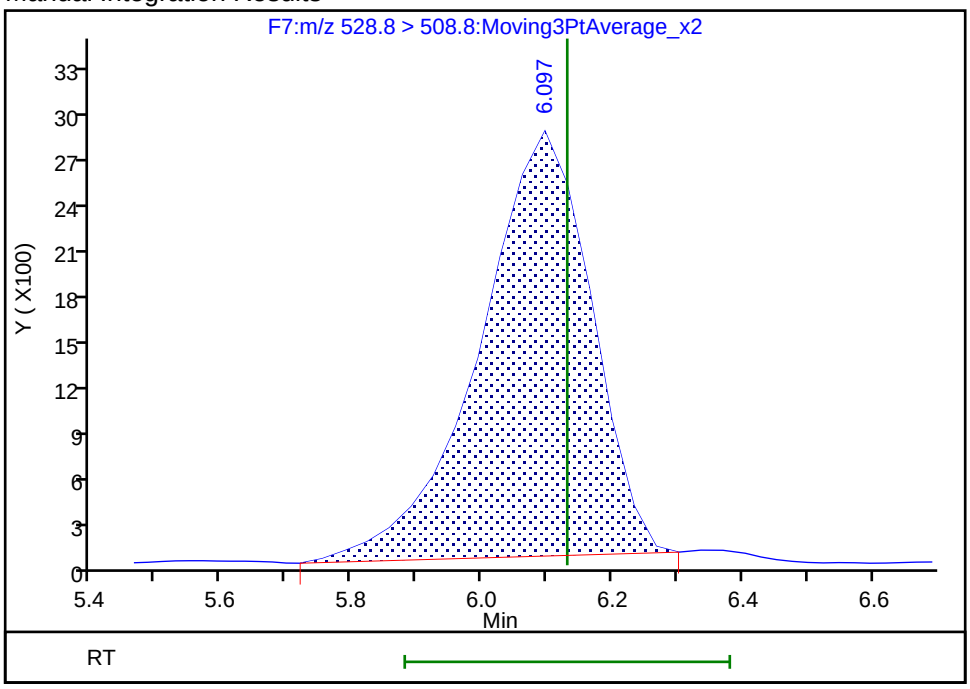
Processing Integration Results

RT: 6.10
Area: 33942
Amount: 4.715197
Amount Units: ng/ml



Manual Integration Results

RT: 6.10
Area: 32605
Amount: 4.529462
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:31:52
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-20 051619 Lab Sample ID: 200-48826-19

Matrix: Water Lab File ID: PF060419B24.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 14:40

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 295.7(mL) Date Analyzed: 06/05/2019 07:25

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	6.3	J	8.5	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	6.2	J	8.5	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		8.5	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		8.5	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	ND		8.5	2.7
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.5	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.5	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.5	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.5	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.5	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.5	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		8.5	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		8.5	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.5	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.5	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND	*	8.5	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.5	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		85	7.2
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		85	6.3
27619-97-2	6:2 FTS	ND		85	19
39108-34-4	8:2 FTS	ND		85	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-20 051619 Lab Sample ID: 200-48826-19

Matrix: Water Lab File ID: PF060419B24.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 14:40

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 295.7(mL) Date Analyzed: 06/05/2019 07:25

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	38		25-150
STL00992	13C4 PFBA	40		25-150
STL01893	13C5 PFPeA	23	*	25-150
STL00993	13C2 PFHxA	52		50-150
STL01892	13C4 PFHpA	63		50-150
STL00990	13C4 PFOA	63		50-150
STL00995	13C5 PFNA	49	*	50-150
STL00996	13C2 PFDA	48	*	50-150
STL00997	13C2 PFUnA	48	*	50-150
STL00998	13C2 PFDoA	38	*	50-150
STL02116	13C2 PFTeDA	33	*	50-150
STL02337	13C3 PFBS	18	*	50-150
STL00994	18O2 PFHxS	40	*	50-150
STL00991	13C4 PFOS	43	*	50-150
STL02118	d3-NMeFOSAA	39	*	50-150
STL02117	d5-NEtFOSAA	38	*	50-150
STL02279	M2-6:2 FTS	37		25-150
STL02280	M2-8:2 FTS	48		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d
Lims ID: 200-48826-A-19-A
Client ID: MW-20 051619
Sample Type: Client
Inject. Date: 05-Jun-2019 07:25:04 ALS Bottle#: 0 Worklist Smp#: 24
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036200-024 19
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 14:53:10
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.349	2.360	-0.011	1.009	1974	0.7433			9.8	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.329	2.360	-0.031	1.000	16915	3.98		39.8	46.4	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.743	2.830	-0.087	0.957	1604	0.7371			2.2	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.866	2.830	0.036	1.000	7267	2.25		22.5	32.1	M
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	2406	1.72		18.5	10.7	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	50539	5.23		52.3	269	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	86026	6.31		63.1	403	
D 12 18O2 PFHxS										
402.9 > 83.8	3.925	3.925	0.0	1.000	6789	3.79		40.0	37.6	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	3426	3.54		37.2	21.4	M
* 16 13C2 PFOA										
414.9 > 369.8	4.589	4.589	0.0		173772	10.0			821	
15 Perfluorooctanoic acid										RM
412.9 > 368.8	4.589	4.589	0.0	1.005	790	0.0734	Target=2.43		6.5	RM
412.9 > 168.9	4.547	4.589	-0.042	0.995	729		1.08(1.22-3.64)		3.6	M
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	106406	6.31		63.1	434	
D 20 13C5 PFNA										M
467.8 > 422.8	5.347	5.389	-0.042	1.000	110691	4.89		48.9	381	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 22 13C4 PFOS										
502.9 > 80.0	5.389	5.411	-0.022	1.000	16578	4.10		42.9	61.4	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	16227	4.61		48.1	40.5	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	92363	4.78		47.8	259	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.549	-0.048	1.000	24272	3.86		38.6	113	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.921	-0.048	1.000	19502	3.76		37.6	70.0	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	90068	4.83		48.3	294	
D 34 13C8 FOSA										M
505.9 > 78.0	7.052	7.026	0.026	1.000	26375	3.79		37.9	133	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	90460	3.81		38.1	326	
D 40 13C2 PFTeDA										M
714.9 > 669.5	8.775	8.819	-0.044	1.000	70732	3.32		33.2	245	M

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:51:58 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d

Injection Date: 05-Jun-2019 07:25:04 Instrument ID: LC410

Lims ID: 200-48826-A-19-A Lab Sample ID: 200-48826-19

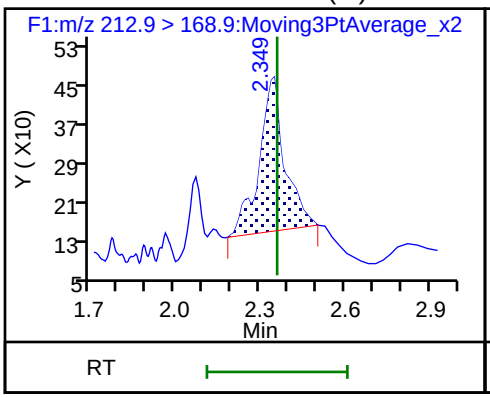
Client ID: MW-20 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 24

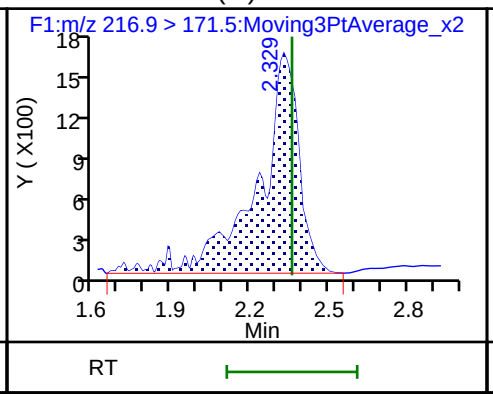
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

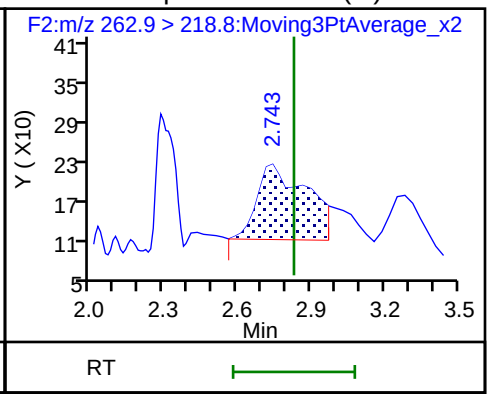
2 Perfluorobutanoic acid (M)



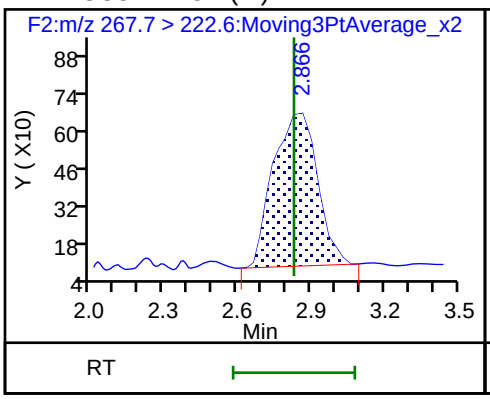
D 1 13C4 PFBA (M)



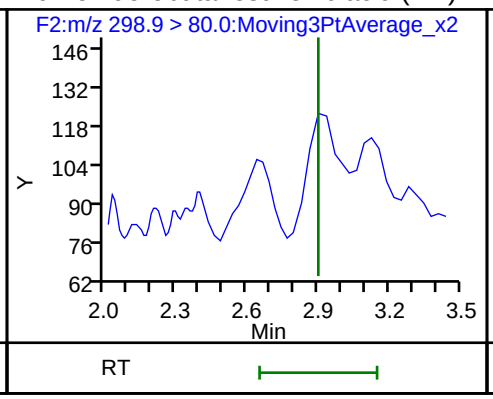
3 Perfluoropentanoic acid (M)



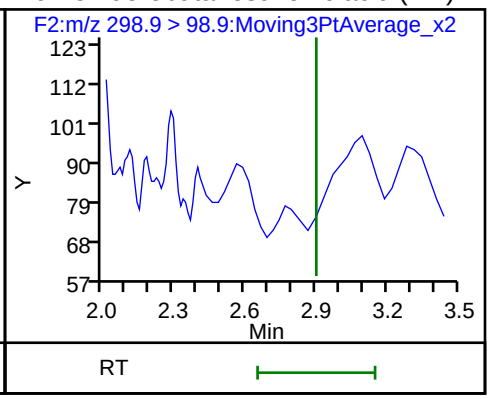
D 4 13C5 PFPeA (M)



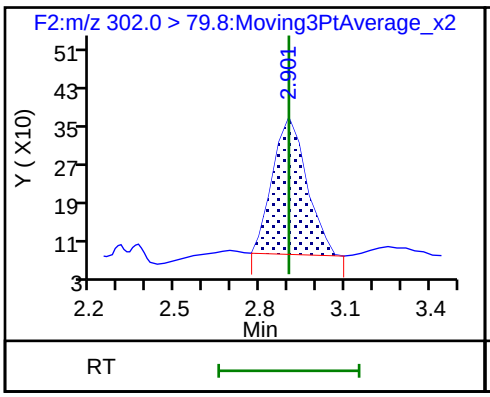
6 Perfluorobutanesulfonic acid (ND)



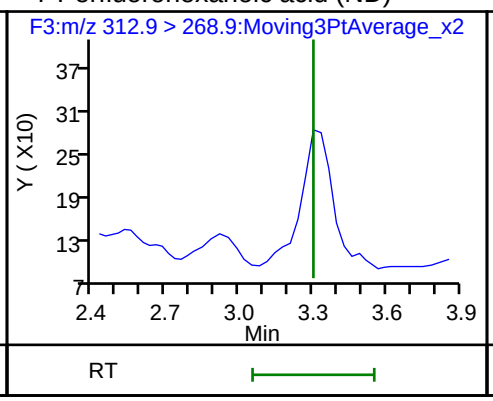
6 Perfluorobutanesulfonic acid (ND)



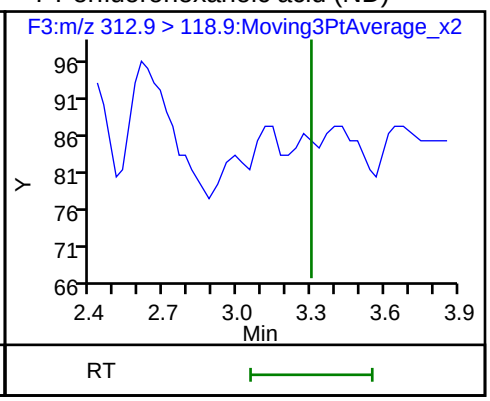
D 5 13C3 PFBS



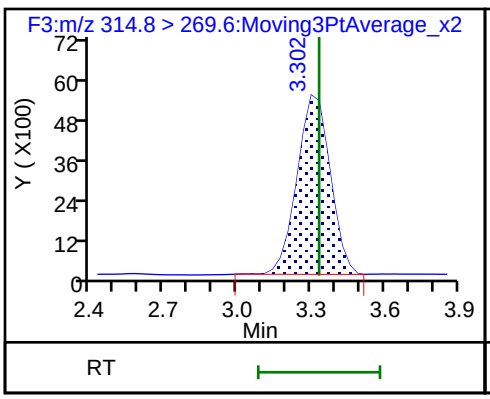
7 Perfluorohexanoic acid (ND)



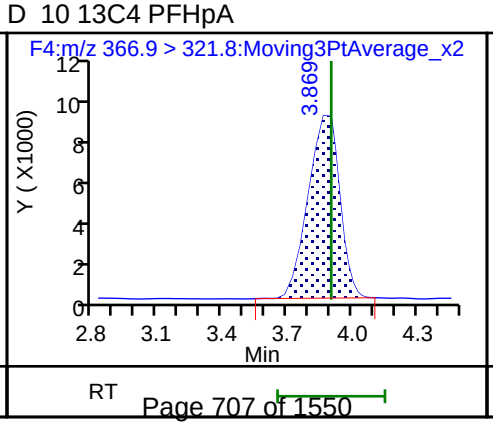
7 Perfluorohexanoic acid (ND)



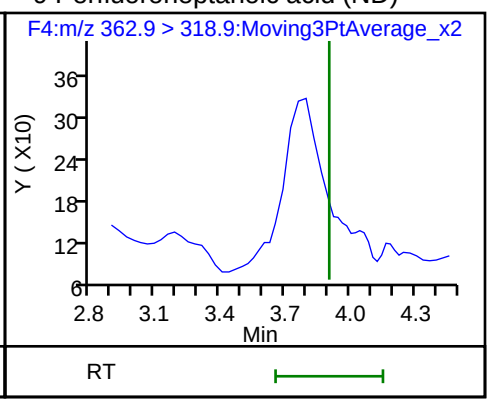
D 8 13C2 PFHxA



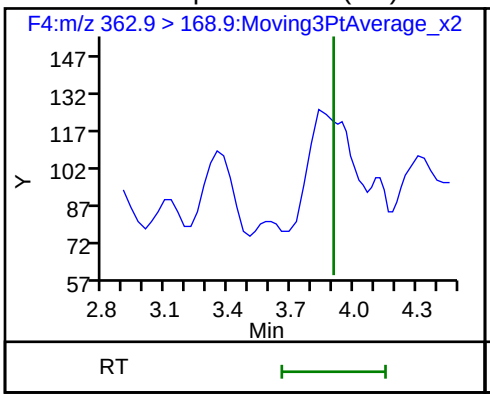
D 10 13C4 PFHpA



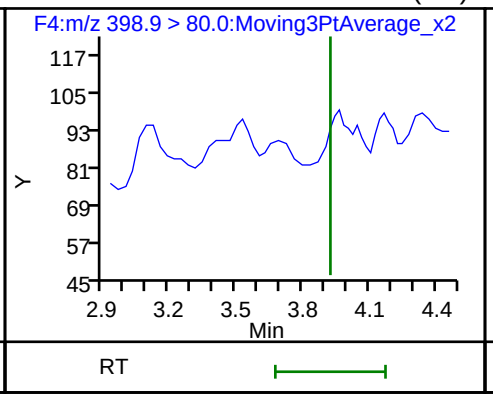
9 Perfluoroheptanoic acid (ND)



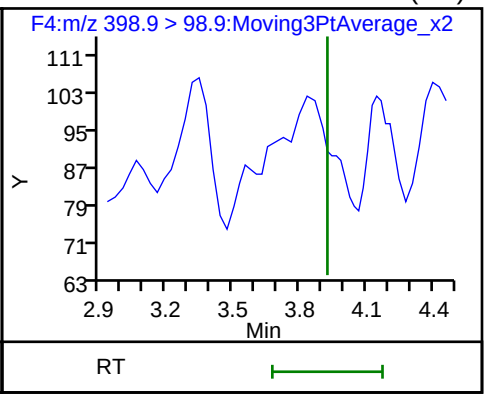
9 Perfluoroheptanoic acid (ND)



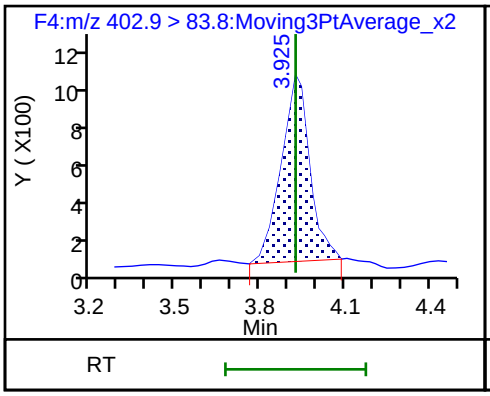
11 Perfluorohexanesulfonic acid (ND)



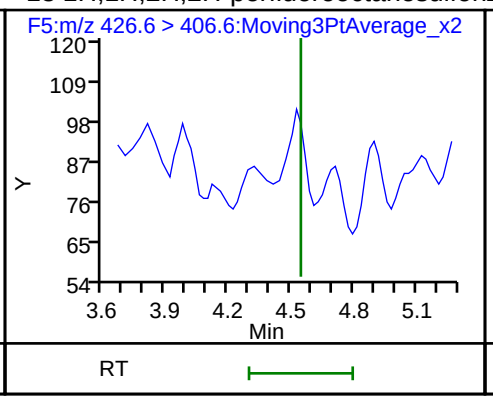
11 Perfluorohexanesulfonic acid (ND)



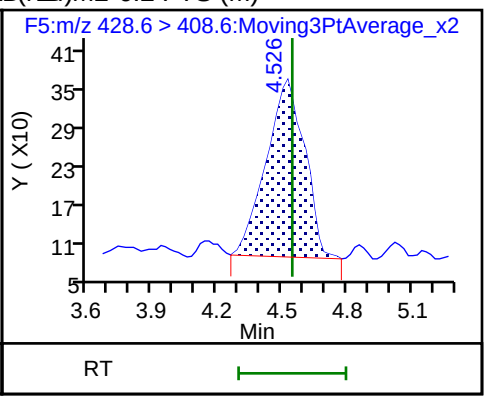
D 12 18O2 PFHxS



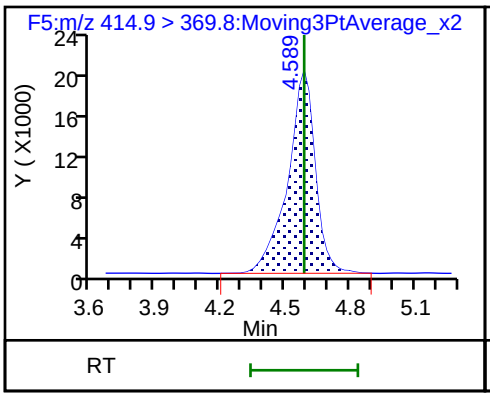
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2)



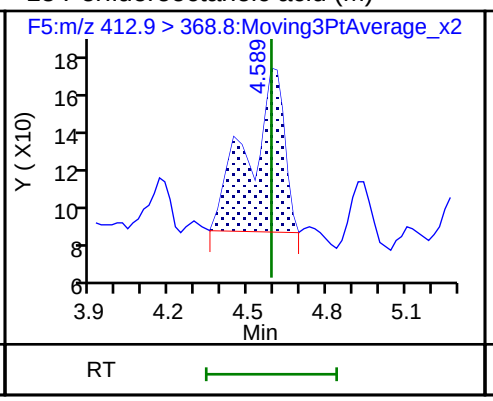
D (M2)M2-6:2 FTS (M)



* 16 13C2 PFOA



15 Perfluorooctanoic acid (M)



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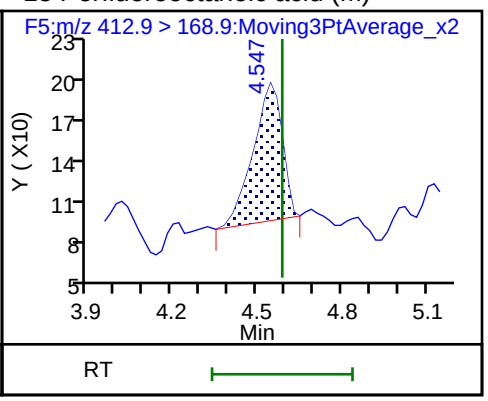
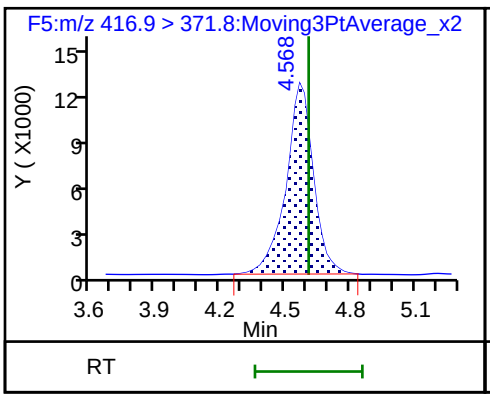
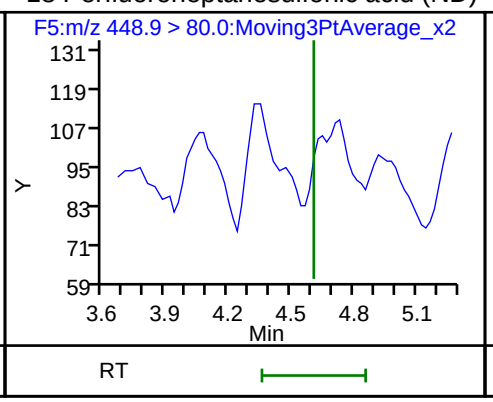


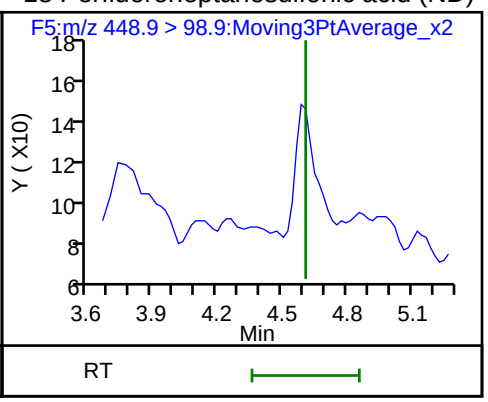
D 17 13C4 PFOA



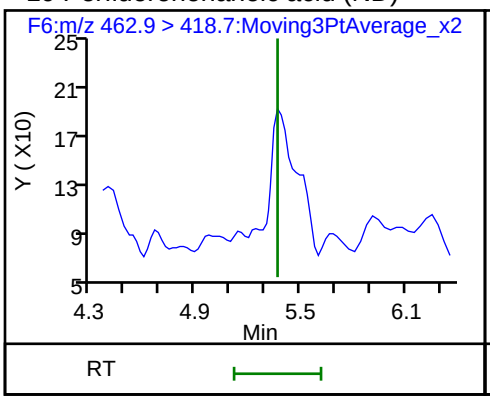
18 Perfluoroheptanesulfonic acid (ND)



18 Perfluoroheptanesulfonic acid (ND)



19 Perfluorononanoic acid (ND)



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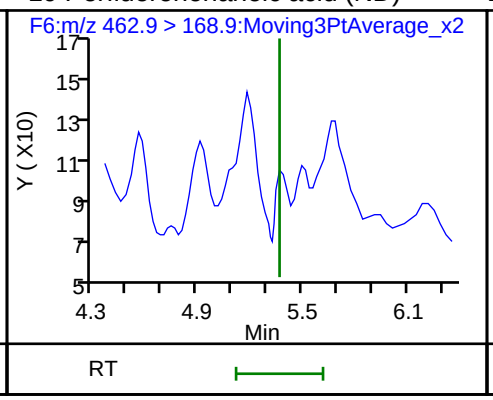
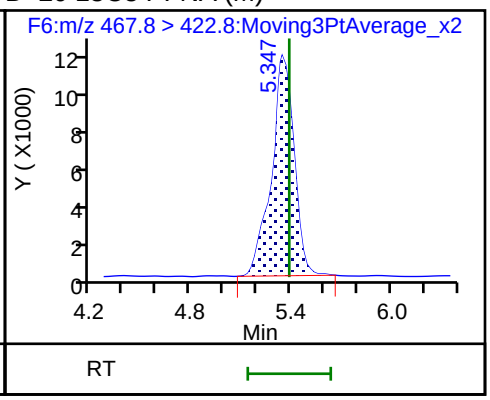
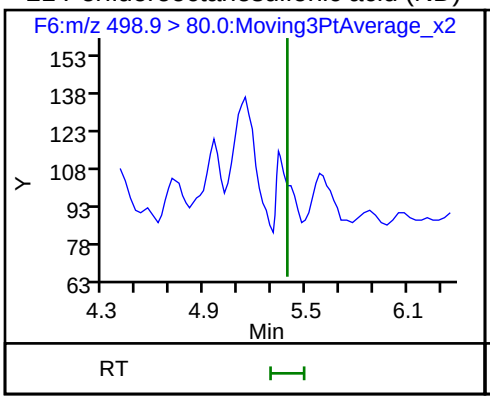


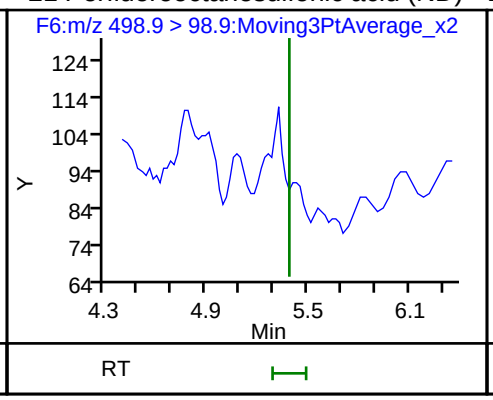
D 20 13C5 PFNA (M)



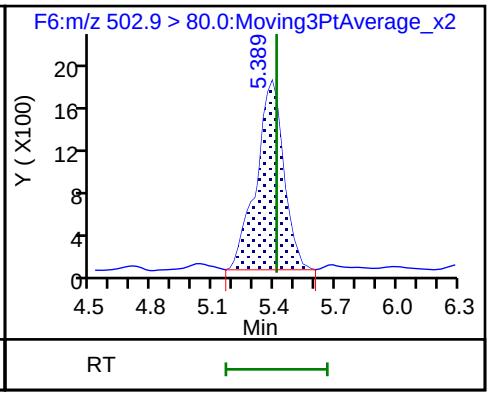
21 Perfluorooctanesulfonic acid (ND)



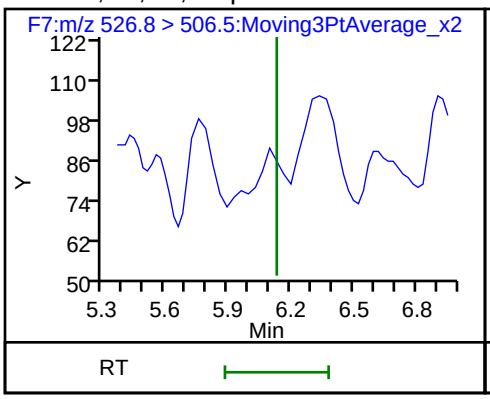
21 Perfluorooctanesulfonic acid (ND)



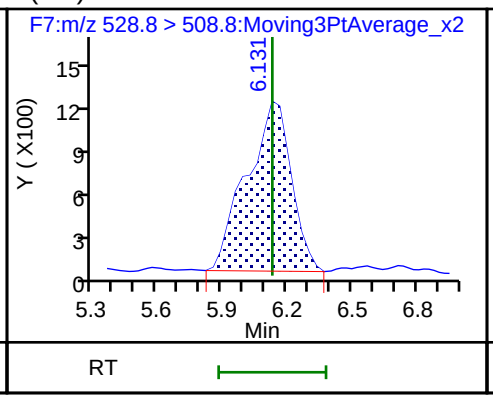
D 22 13C4 PFOS



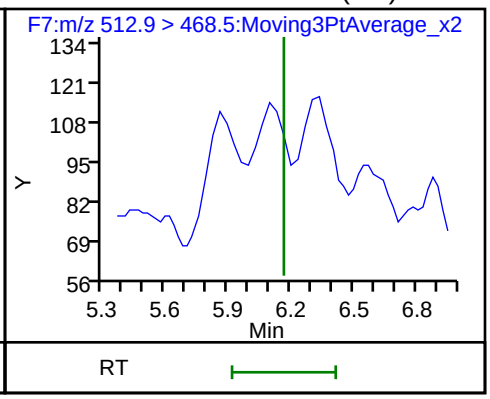
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (ND)



D 24 M2-8:2 FTS



26 Perfluorodecanoic acid (ND)



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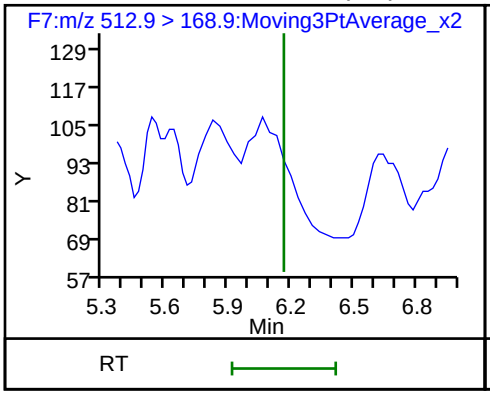
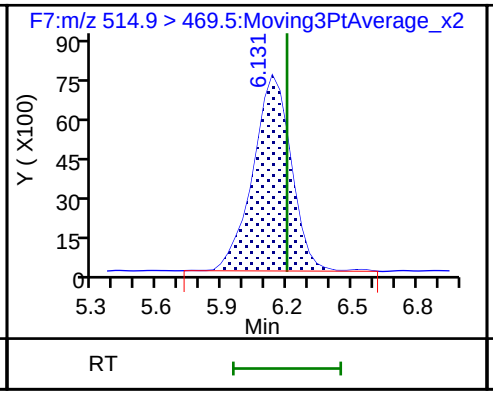
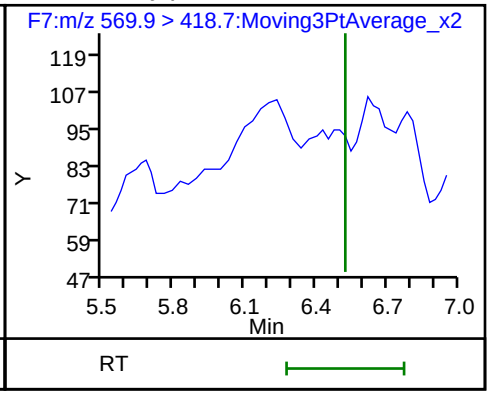


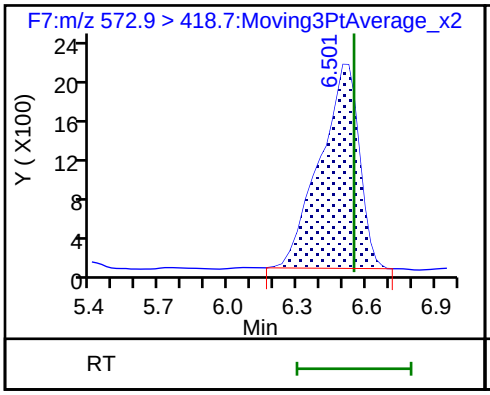
D 25 13C2 PFDA



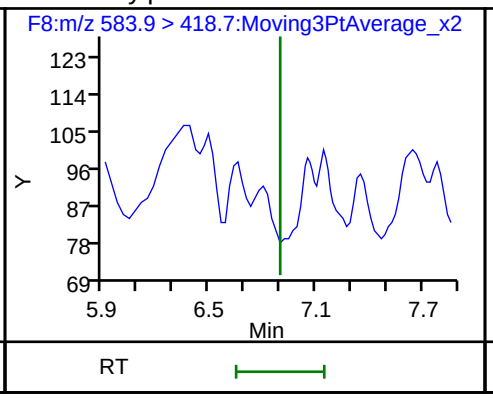
28 N-methylperfluorooctanesulfonamido (ND)



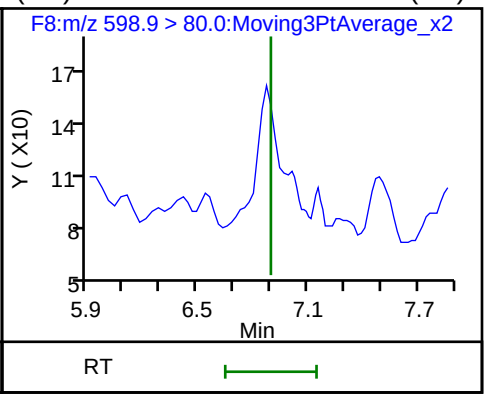
D 27 d3-NMeFOSAA



30 N-ethylperfluorooctanesulfonamidoa (ND)



31 Perfluorodecanesulfonic acid (ND)



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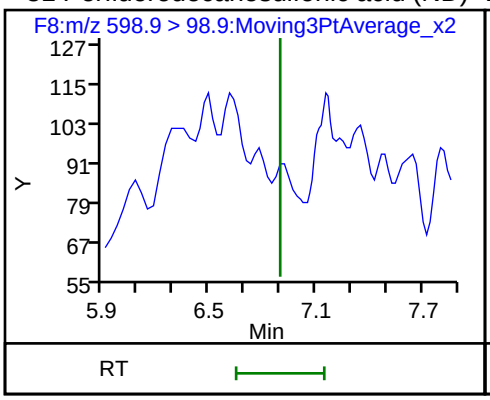
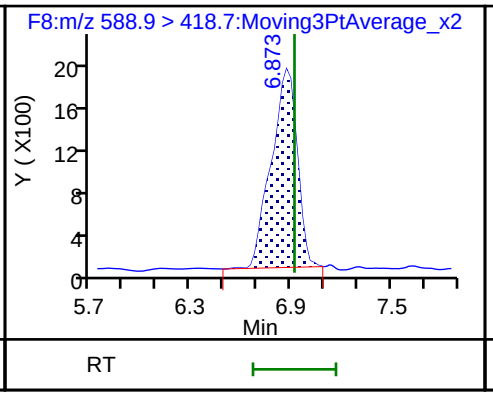
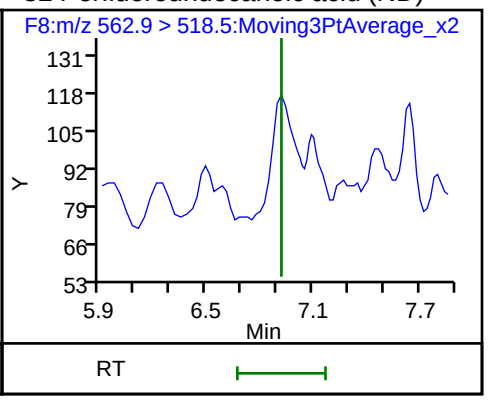


D 29 d5-NEtFOSAA



32 Perfluoroundecanoic acid (ND)



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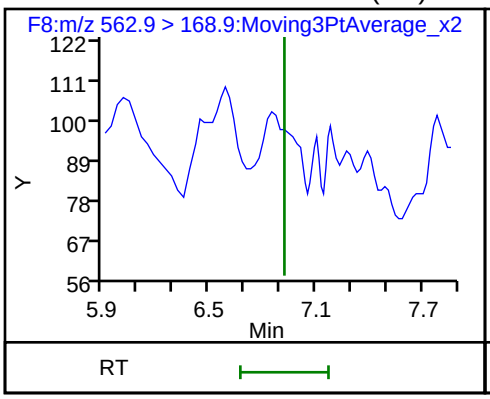
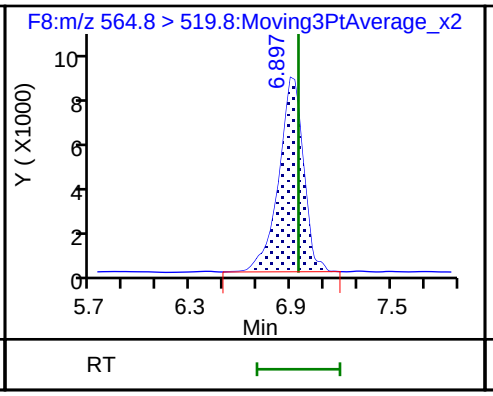
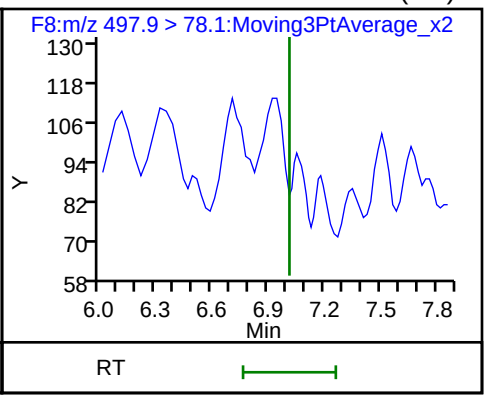


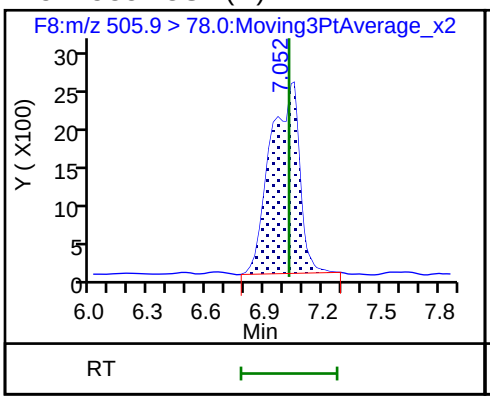
D 33 13C2 PFUnA



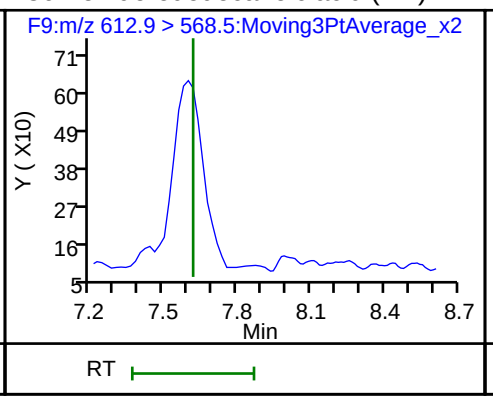
35 Perfluorooctanesulfonamide (ND)



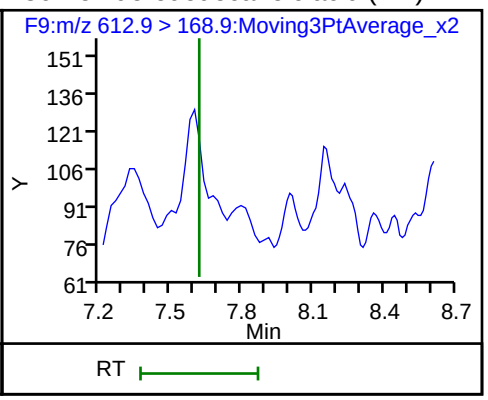
D 34 13C8 FOSA (M)



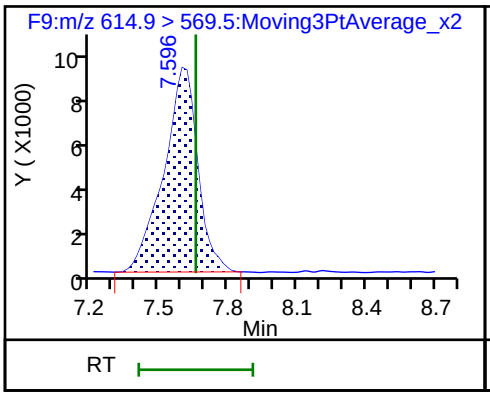
36 Perfluorododecanoic acid (ND)



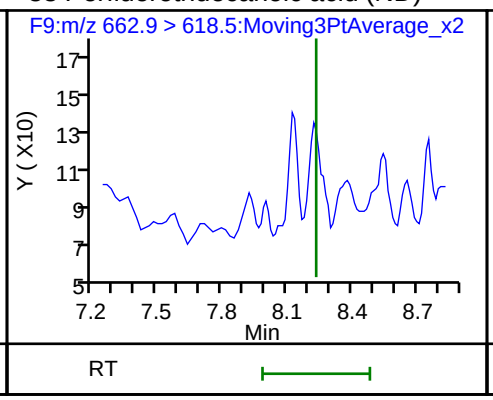
36 Perfluorododecanoic acid (ND)



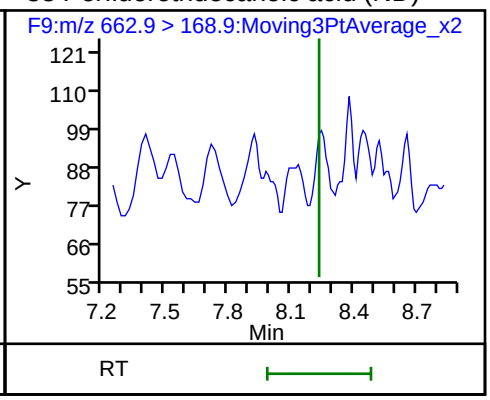
D 37 13C2 PFDoA



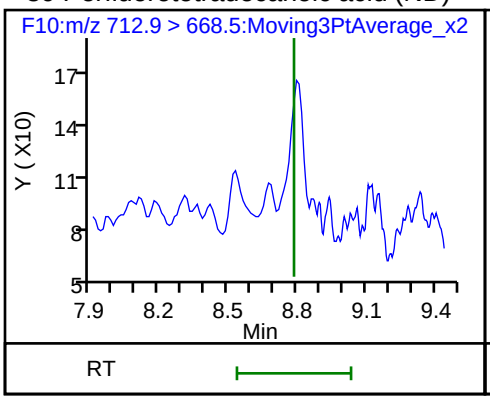
38 Perfluorotridecanoic acid (ND)



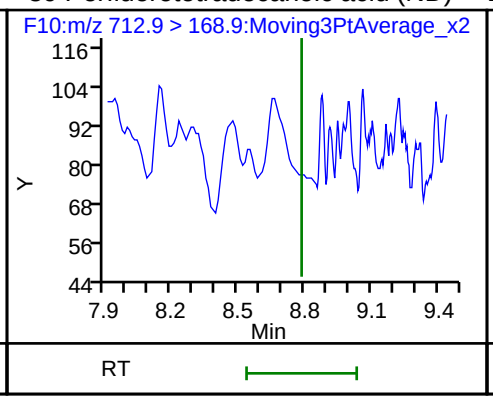
38 Perfluorotridecanoic acid (ND)



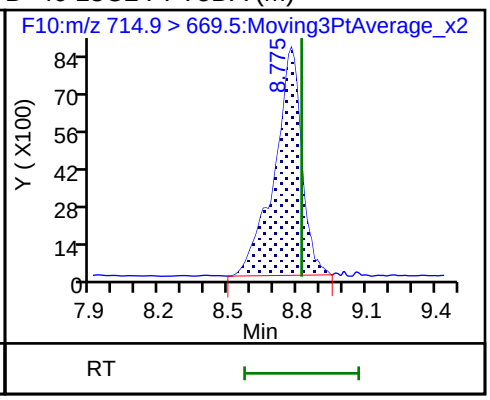
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA (M)



Eurofins TestAmerica, Burlington

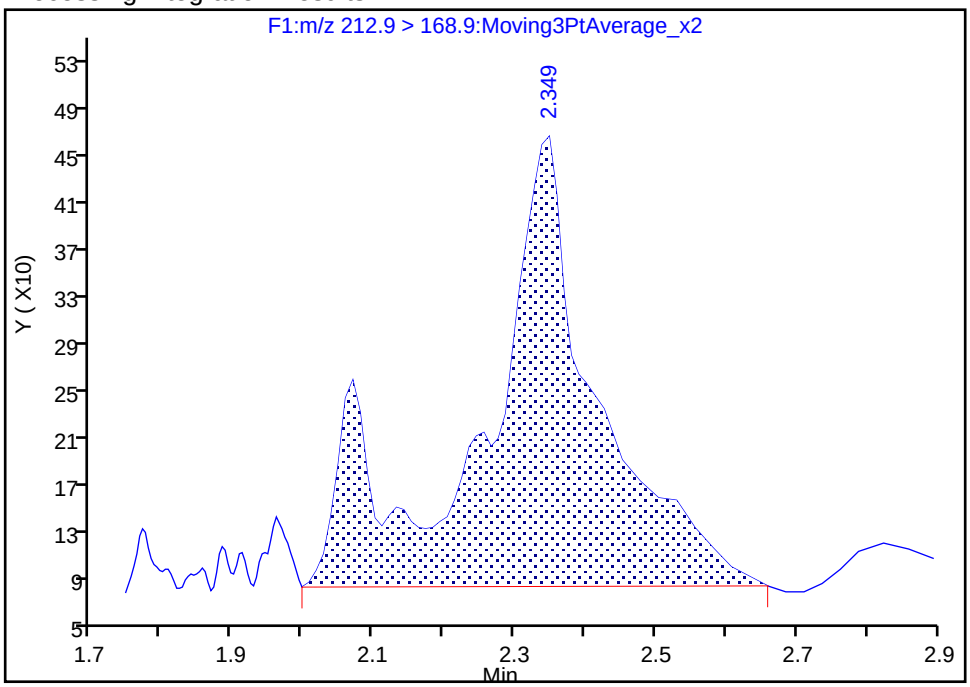
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

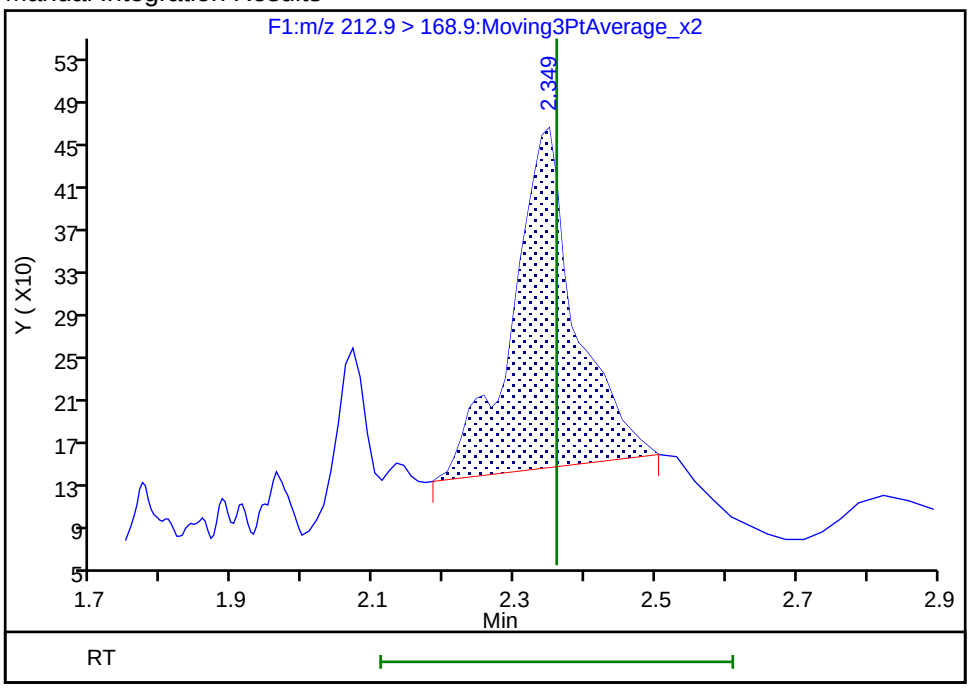
Processing Integration Results

RT: 2.35
Area: 4280
Amount: 2.702353
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 1974
Amount: 0.743325
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:50:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

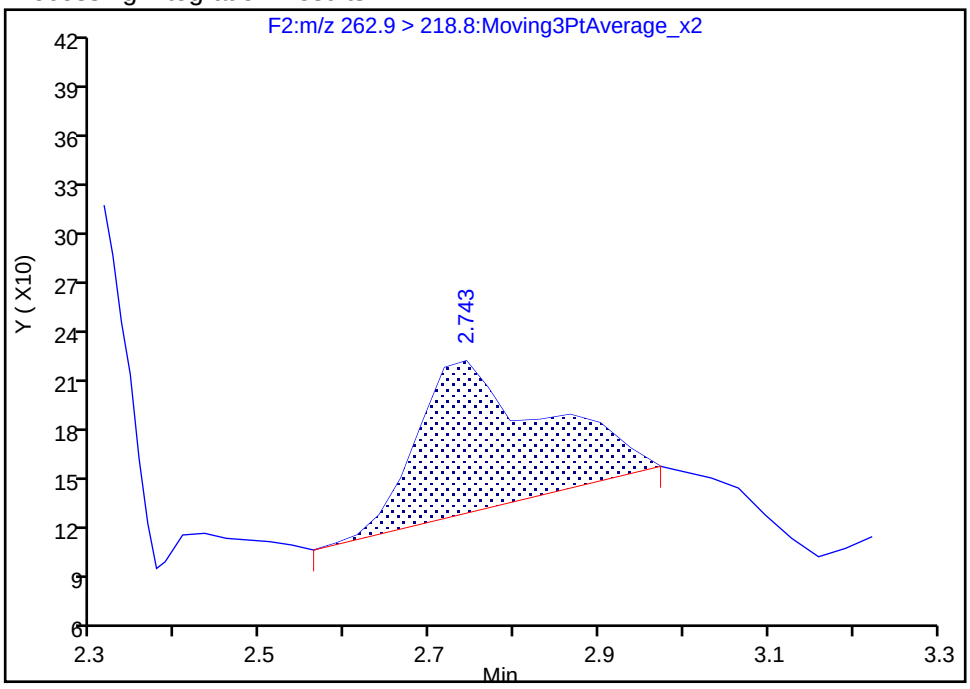
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

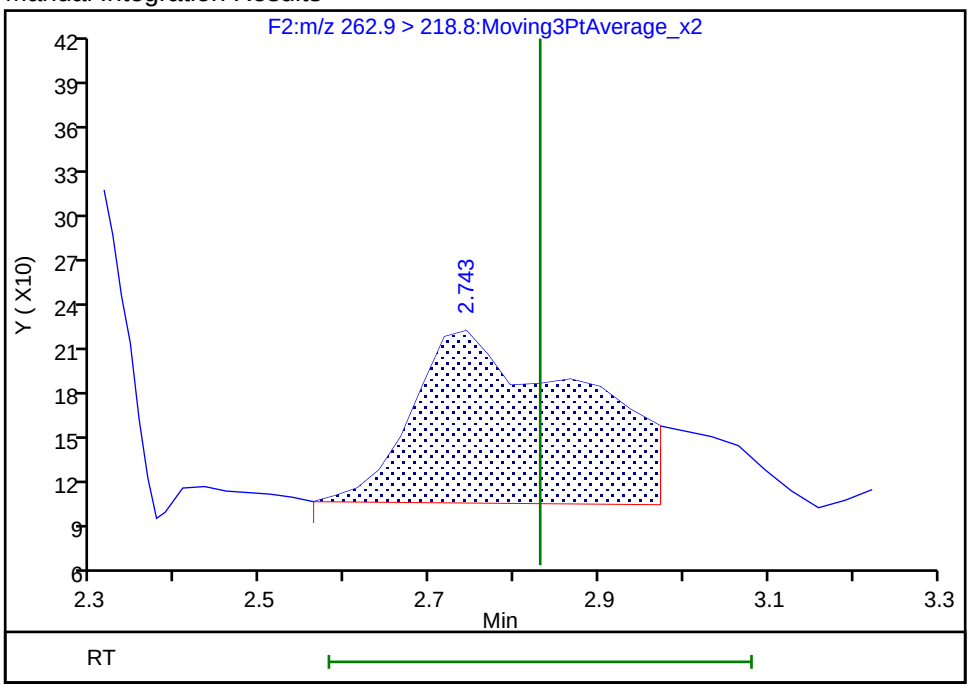
Processing Integration Results

RT: 2.74
Area: 944
Amount: 0.421618
Amount Units: ng/ml



Manual Integration Results

RT: 2.74
Area: 1604
Amount: 0.737095
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:51:00

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

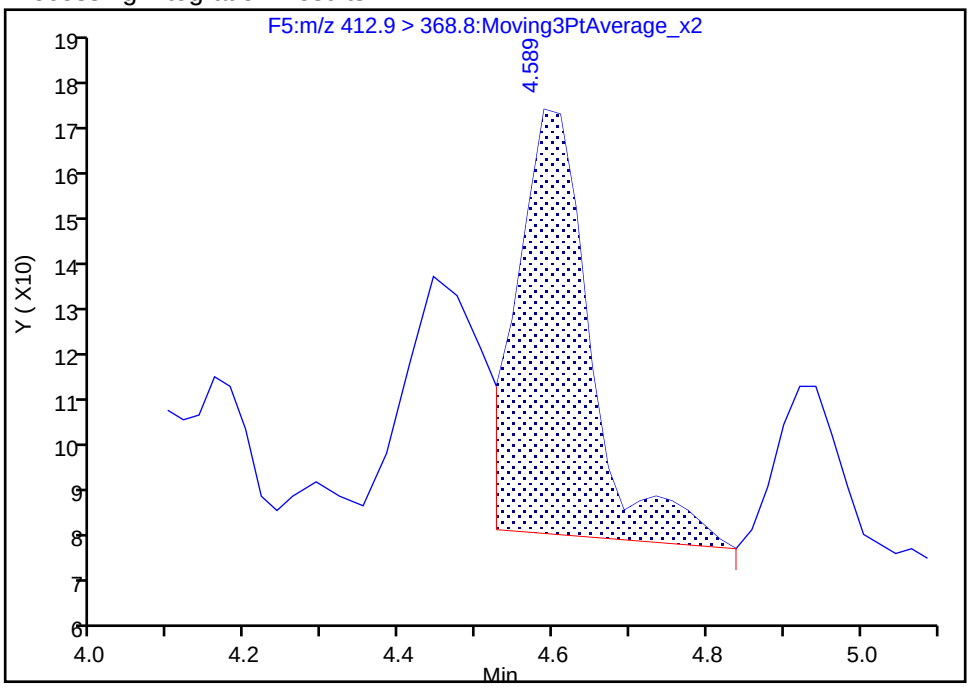
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

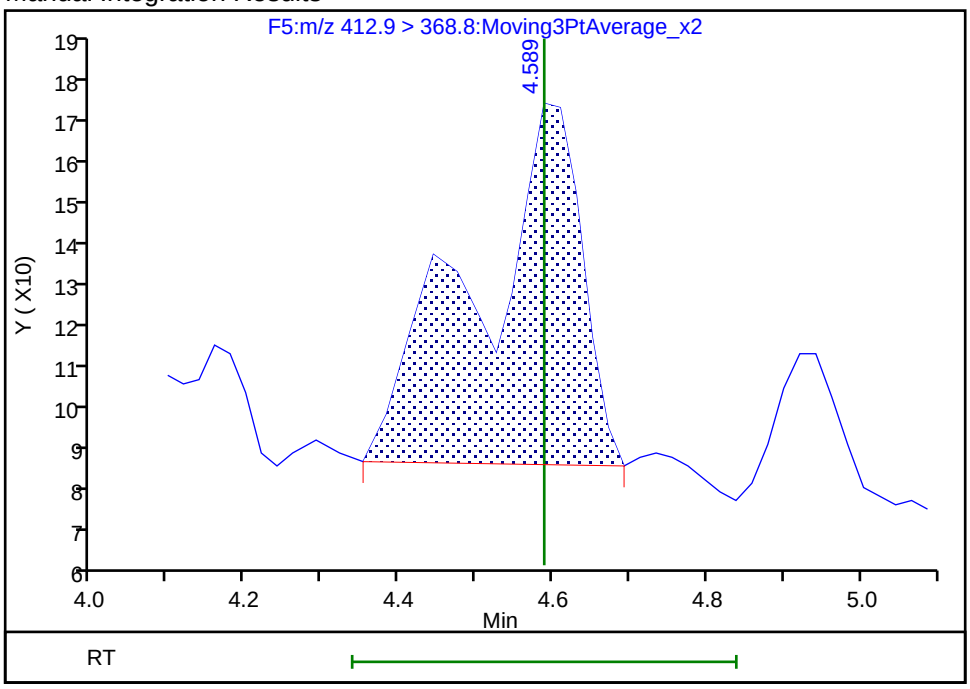
Processing Integration Results

RT: 4.59
Area: 584
Amount: 0.054238
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 790
Amount: 0.073370
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:51:29
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

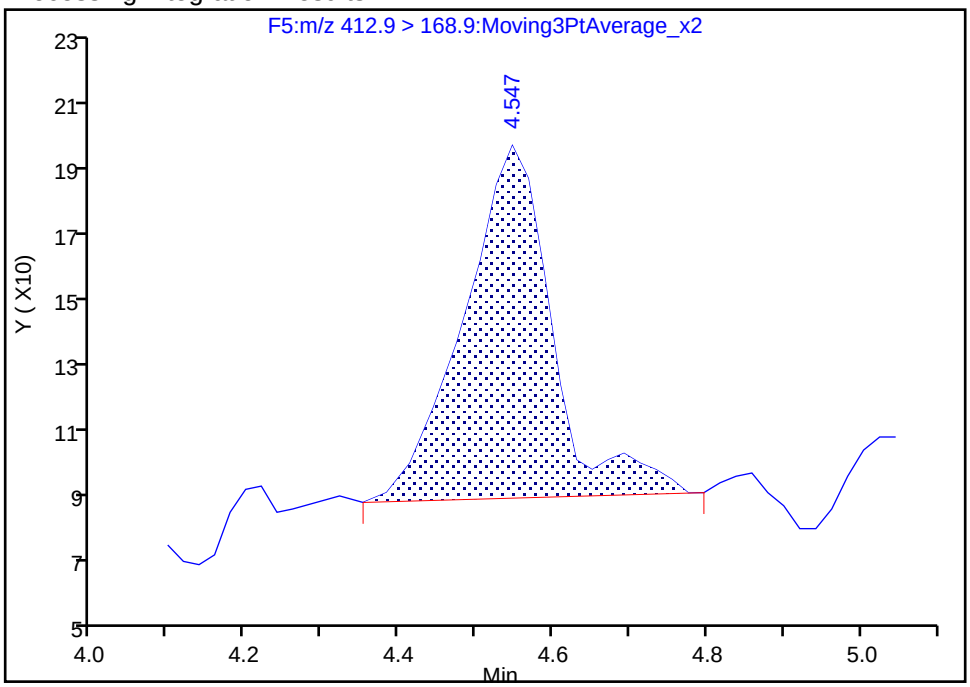
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

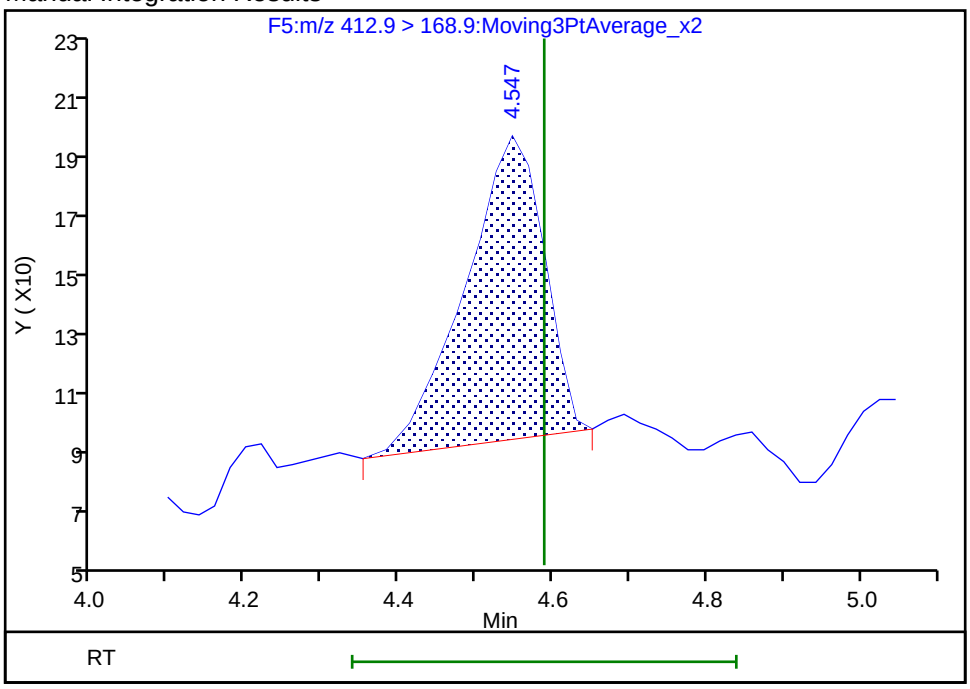
Processing Integration Results

RT: 4.55
Area: 861
Amount: 0.054238
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 729
Amount: 0.073370
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:51:33

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

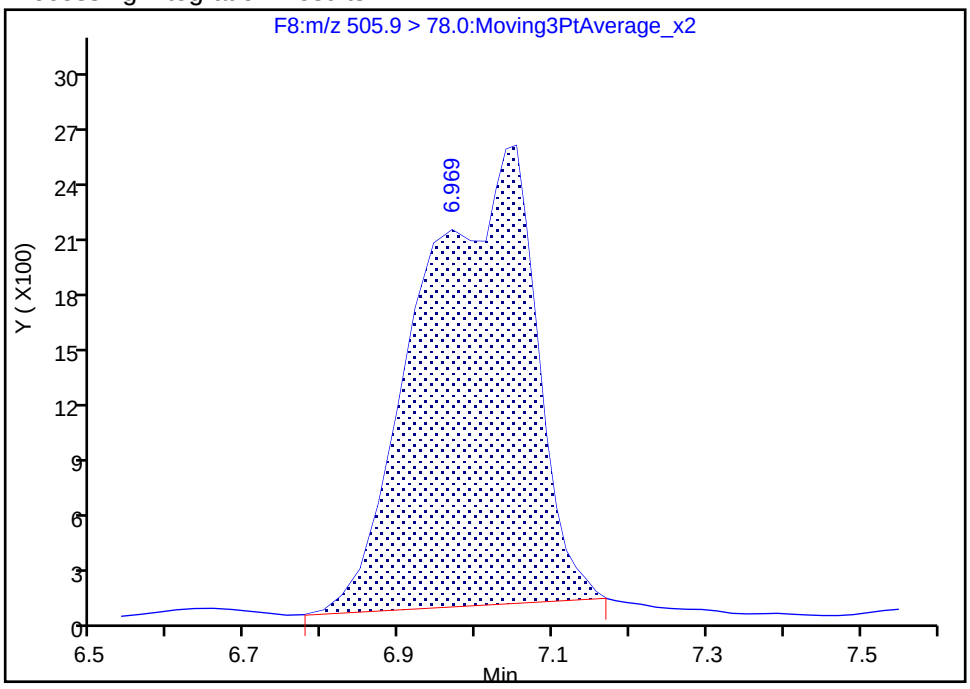
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 34 13C8 FOSA, CAS: STL01056

Signal: 1

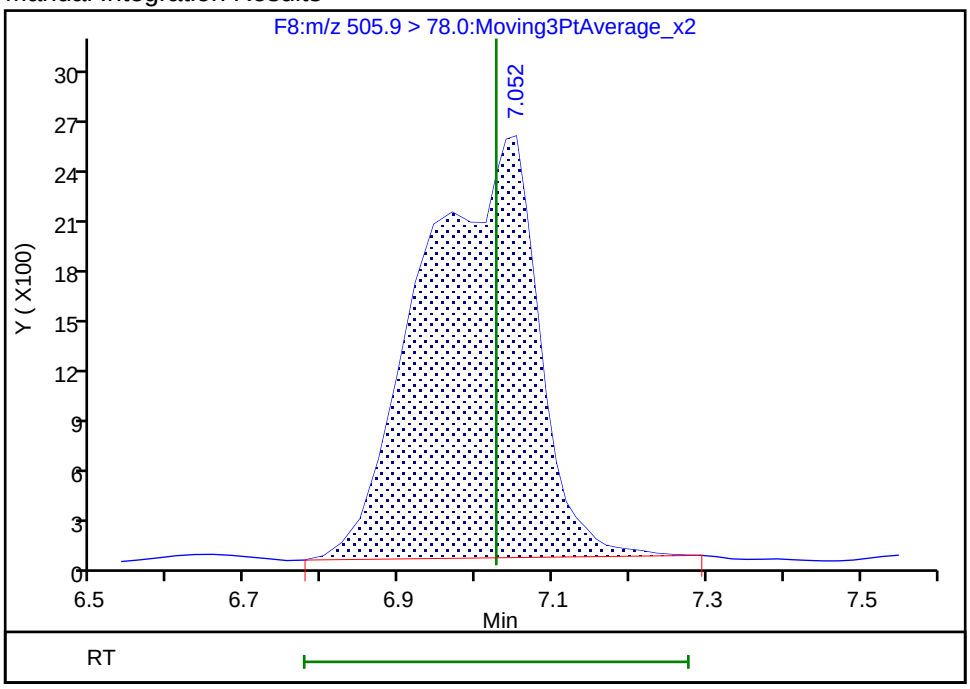
Processing Integration Results

RT: 6.97
Area: 25449
Amount: 3.657837
Amount Units: ng/ml



Manual Integration Results

RT: 7.05
Area: 26375
Amount: 3.790933
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:51:52

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

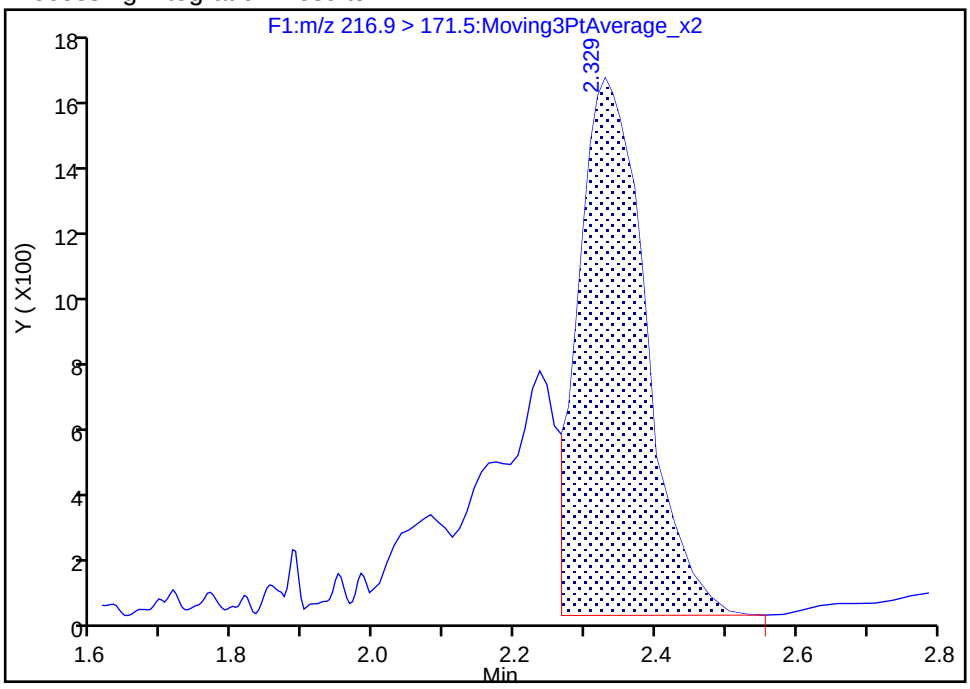
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

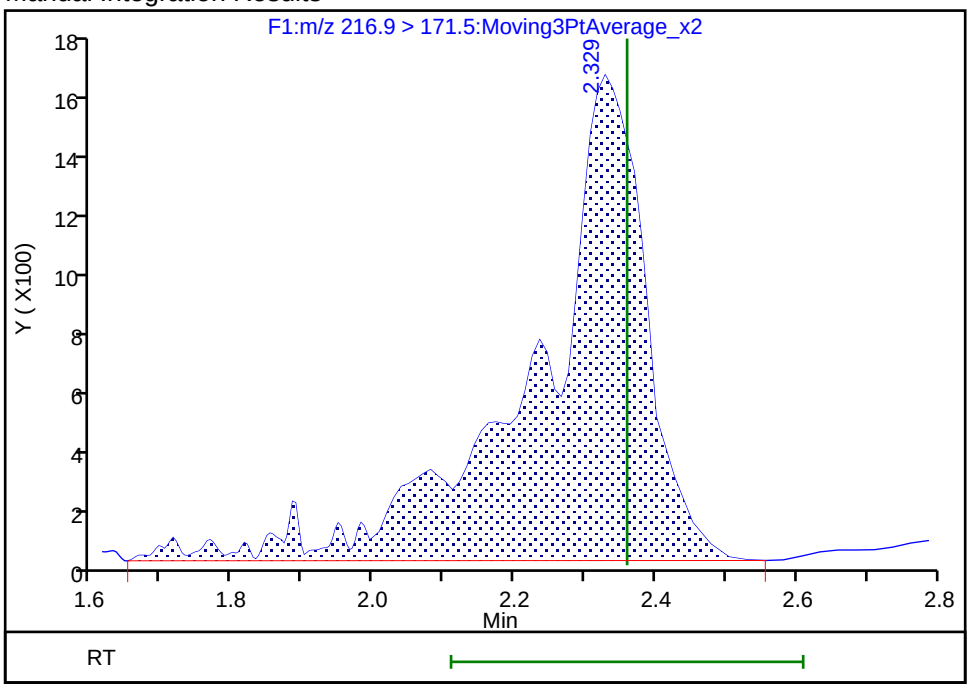
Processing Integration Results

RT: 2.33
Area: 10088
Amount: 2.374035
Amount Units: ng/ml



Manual Integration Results

RT: 2.33
Area: 16915
Amount: 3.980650
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:50:47
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

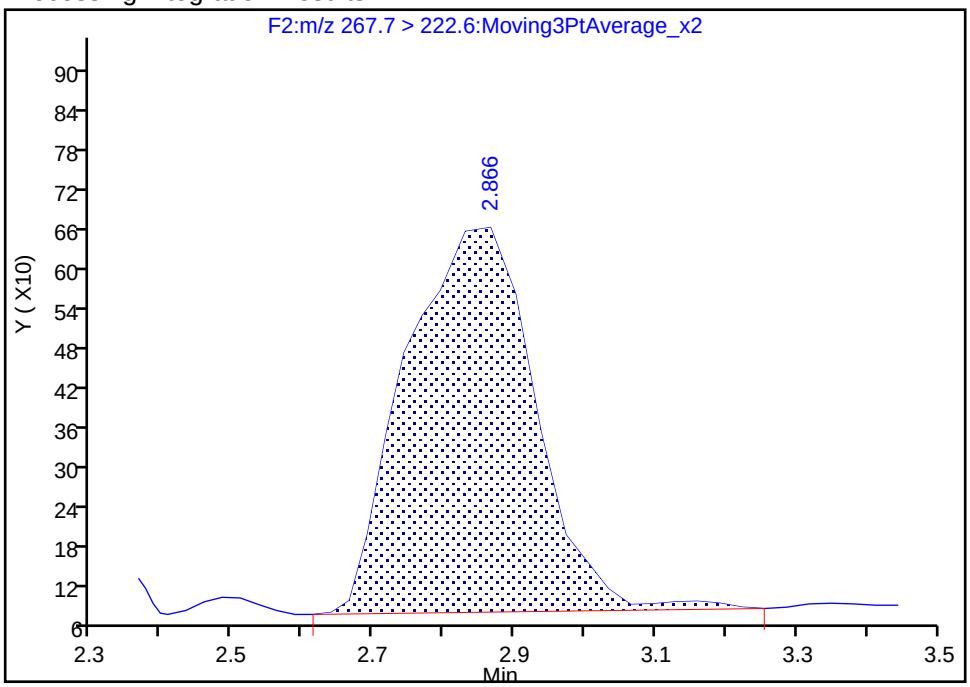
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

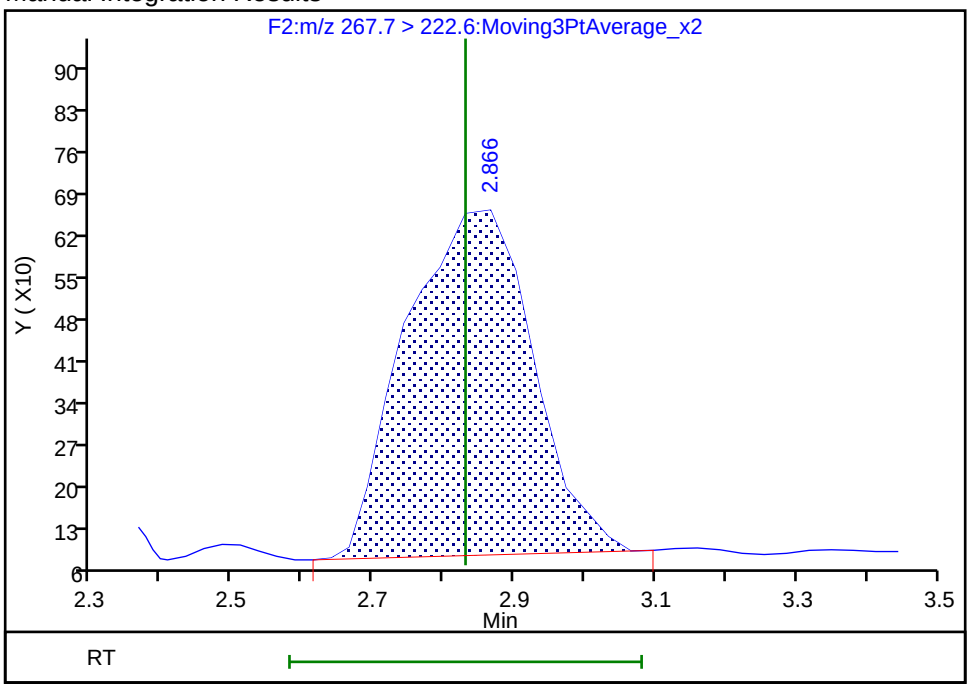
Processing Integration Results

RT: 2.87
Area: 7477
Amount: 2.319474
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 7267
Amount: 2.254329
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:51:05

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

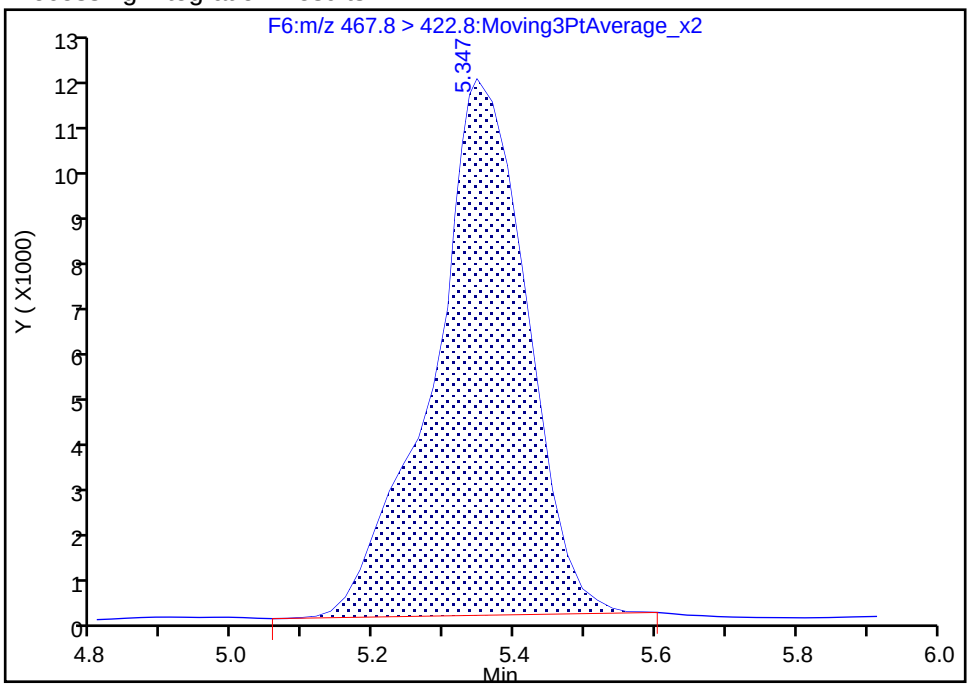
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

D 20 13C5 PFNA, CAS: STL00995

Signal: 1

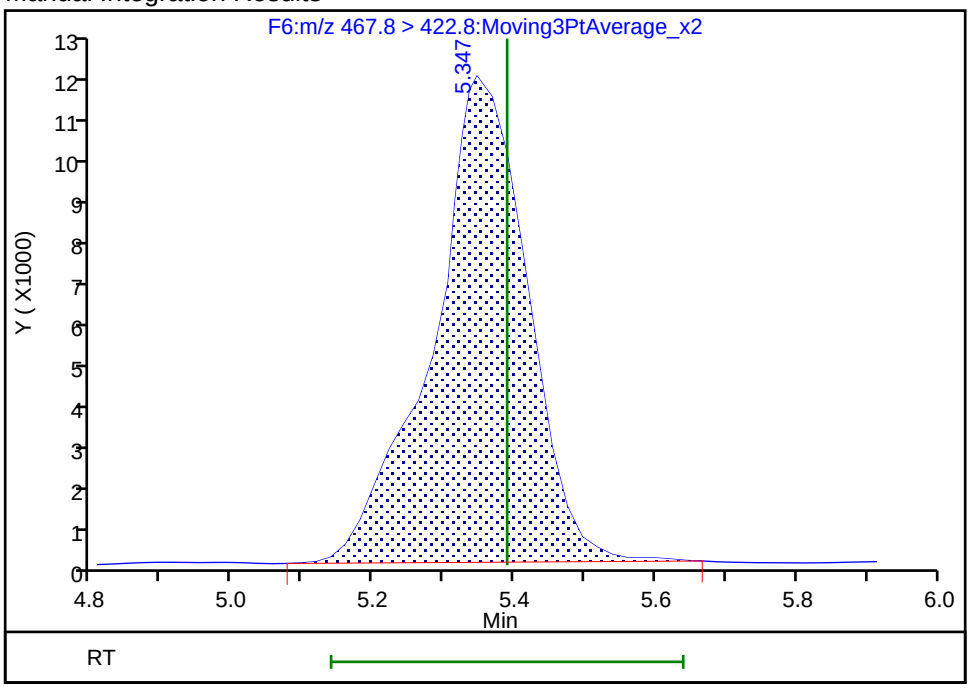
Processing Integration Results

RT: 5.35
Area: 109354
Amount: 4.833335
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 110691
Amount: 4.892429
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:51:39
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

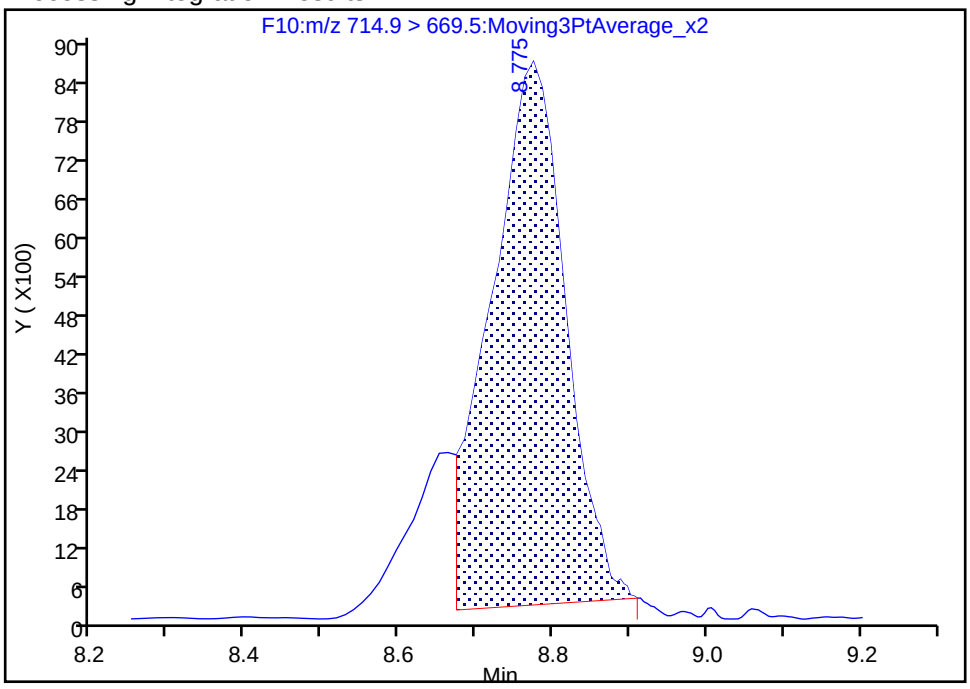
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F10:MRM		

D 40 13C2 PFTeDA, CAS: STL02116

Signal: 1

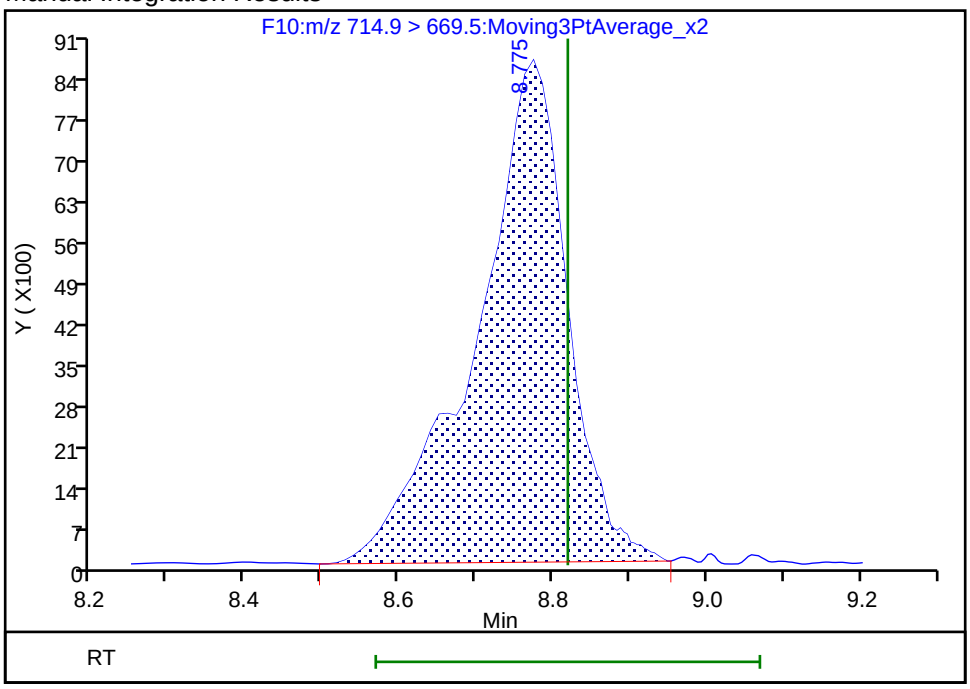
Processing Integration Results

RT: 8.77
Area: 56515
Amount: 2.649995
Amount Units: ng/ml



Manual Integration Results

RT: 8.77
Area: 70732
Amount: 3.316631
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:52:01
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

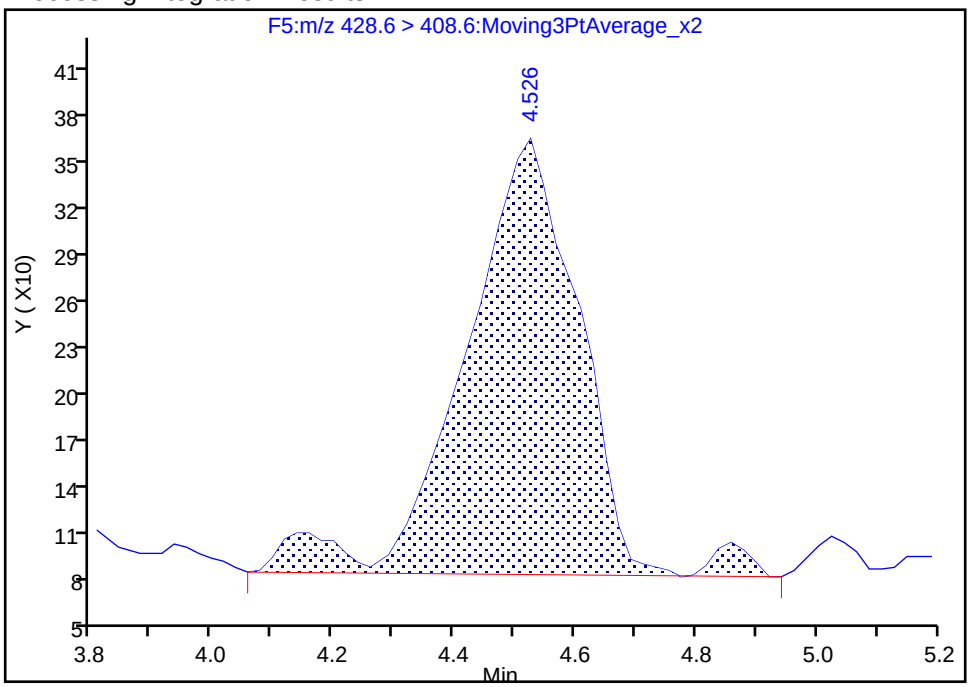
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B24.d				
Injection Date:	05-Jun-2019 07:25:04	Instrument ID:	LC410		
Lims ID:	200-48826-A-19-A	Lab Sample ID:	200-48826-19		
Client ID:	MW-20 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

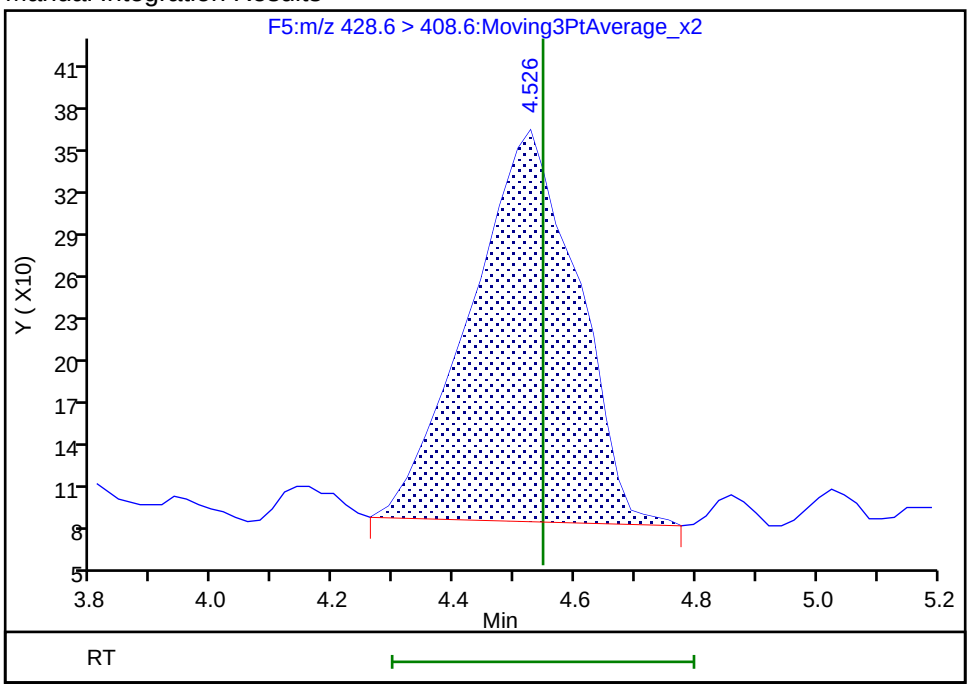
Processing Integration Results

RT: 4.53
Area: 3738
Amount: 3.860756
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 3426
Amount: 3.538510
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:51:22

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-19 051619 Lab Sample ID: 200-48826-20

Matrix: Water Lab File ID: PF060419B25.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 15:40

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 298.6(mL) Date Analyzed: 06/05/2019 07:40

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.4	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	12		8.4	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	11		8.4	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	15		8.4	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	20		8.4	2.6
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.4	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.4	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.4	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.4	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.4	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.4	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		8.4	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		8.4	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.4	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.4	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	38	B *	8.4	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.4	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		84	7.1
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		84	6.3
27619-97-2	6:2 FTS	ND		84	19
39108-34-4	8:2 FTS	ND		84	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-19 051619 Lab Sample ID: 200-48826-20

Matrix: Water Lab File ID: PF060419B25.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 15:40

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 298.6(mL) Date Analyzed: 06/05/2019 07:40

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	31		25-150
STL00992	13C4 PFBA	27		25-150
STL01893	13C5 PFPeA	37		25-150
STL00993	13C2 PFHxA	51		50-150
STL01892	13C4 PFHpA	52		50-150
STL00990	13C4 PFOA	52		50-150
STL00995	13C5 PFNA	48	*	50-150
STL00996	13C2 PFDA	48	*	50-150
STL00997	13C2 PFUnA	57		50-150
STL00998	13C2 PFDoA	41	*	50-150
STL02116	13C2 PFTeDA	38	*	50-150
STL02337	13C3 PFBS	40	*	50-150
STL00994	18O2 PFHxS	26	*	50-150
STL00991	13C4 PFOS	38	*	50-150
STL02118	d3-NMeFOSAA	38	*	50-150
STL02117	d5-NEtFOSAA	38	*	50-150
STL02279	M2-6:2 FTS	63		25-150
STL02280	M2-8:2 FTS	60		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d
Lims ID: 200-48826-A-20-A
Client ID: MW-19 051619
Sample Type: Client
Inject. Date: 05-Jun-2019 07:40:55 ALS Bottle#: 0 Worklist Smp#: 25
Injection Vol: 20.0 ul Dil. Factor: 5.0000
Sample Info: 200-0036200-025 20
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 15:16:30
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.349	2.360	-0.011	1.009	1270	0.4014			1.5	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.329	2.360	-0.031	1.000	20153	2.67		26.7	41.0	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	8828	1.38			4.3	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	21321	3.72		37.2	68.4	
D 5 13C3 PFBS										M
302.0 > 79.8	2.901	2.901	0.0	1.000	9191	3.69		39.7	25.9	M
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.302	3.302	0.0	1.000	16637	1.37	Target=14.34		13.0	M
312.9 > 118.9	3.334	3.302	0.032	1.010	1017		16.36(7.17-21.51)		13.0	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	87078	5.07		50.7	233	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	125214	5.17		51.7	297	
9 Perfluoroheptanoic acid										RM
362.9 > 318.9	3.869	3.905	-0.036	1.000	25678	1.75	Target=2.84		14.2	RM
362.9 > 168.9	3.869	3.905	-0.036	1.000	5416		4.74(1.42-4.26)		31.6	M
D 12 18O2 PFHxS										M
402.9 > 83.8	3.925	3.925	0.0	1.000	7816	2.45		25.9	30.2	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.506	4.547	-0.041	1.000	10302	5.99		63.0	48.9	M
* 16 13C2 PFOA										s
414.9 > 369.8	4.547	4.589	-0.042		308849	10.0			1289	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.547	4.589	-0.042	1.000	38453	2.42	Target=2.43		74.7	M
412.9 > 168.9	4.568	4.589	-0.021	1.005	11696		3.29(1.22-3.64)		59.5	M
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.609	-0.062	1.000	157203	5.24		52.4	484	
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.389	-0.053	1.000	194983	4.85		48.5	737	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.389	-0.042	1.000	12156	4.58	Target=1.41		46.1	M
498.9 > 98.9	5.336	5.389	-0.053	0.998	9266		1.31(0.71-2.12)		73.2	M
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	26252	3.65		38.2	101	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.131	-0.034	1.000	35952	5.74		60.0	77.0	
26 Perfluorodecanoic acid										RM
512.9 > 468.5	6.131	6.165	-0.034	1.006	1467	0.0967	Target=7.23		7.1	RM
512.9 > 168.9	6.131	6.165	-0.034	1.006	526		2.79(3.61-10.84)		1.3	M
D 25 13C2 PFDA										
514.9 > 469.5	6.097	6.199	-0.102	1.000	165701	4.83		48.3	546	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.549	-0.072	1.000	42165	3.77		37.7	299	
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.969	6.897	0.072	1.303	491	0.1722	Target=1.25		3.5	M
598.9 > 98.9	6.825	6.897	-0.072	1.000	713		0.69(0.63-1.88)		3.6	M
D 29 d5-NEtFOSAA										M
588.9 > 418.7	6.849	6.921	-0.072	1.000	34993	3.79		37.9	183	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.945	-0.072	1.000	189260	5.71		57.1	558	
D 34 13C8 FOSA										M
505.9 > 78.0	7.013	7.026	-0.013	1.000	38223	3.09		30.9	127	M
36 Perfluorododecanoic acid										M
612.9 > 568.5	7.557	7.616	-0.059	0.997	4345	0.2644	Target=5.37		21.4	M
612.9 > 168.9	7.537	7.616	-0.079	0.995	693		6.27(2.68-8.06)		5.1	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	173195	4.10		41.0	378	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.741	8.819	-0.078	1.000	142693	3.76		37.6	231	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

s - Failed ISTD Recovery Test

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:52:00 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d

Injection Date: 05-Jun-2019 07:40:55 Instrument ID: LC410

Lims ID: 200-48826-A-20-A Lab Sample ID: 200-48826-20

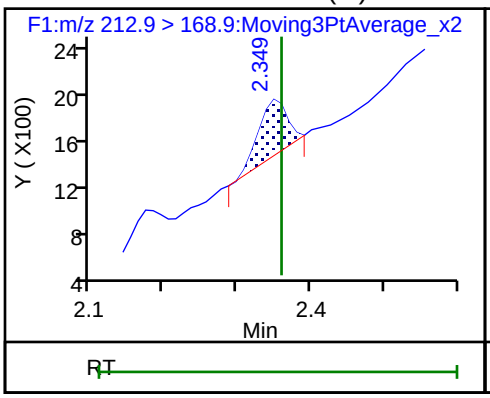
Client ID: MW-19 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 25

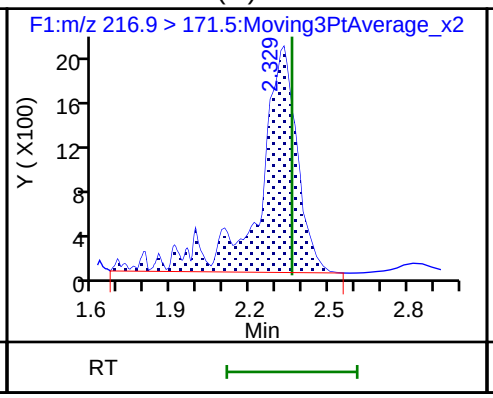
Injection Vol: 20.0 ul Dil. Factor: 5.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

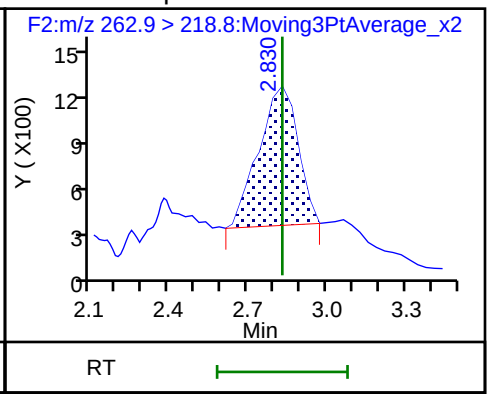
2 Perfluorobutanoic acid (M)



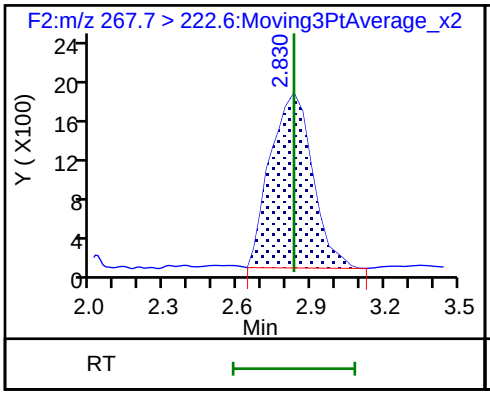
D 1 13C4 PFBA (M)



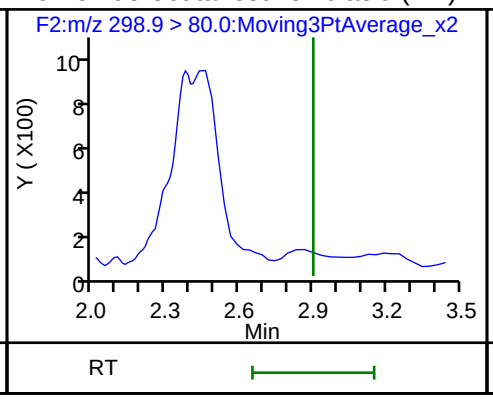
3 Perfluoropentanoic acid



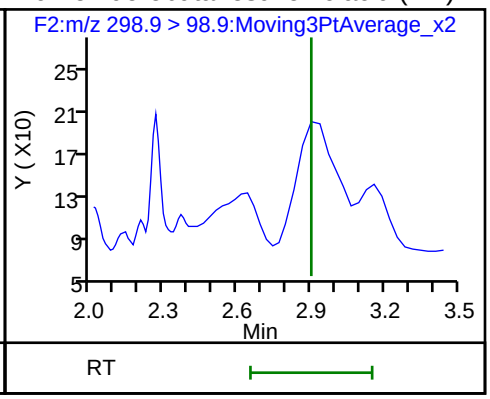
D 4 13C5 PFPeA



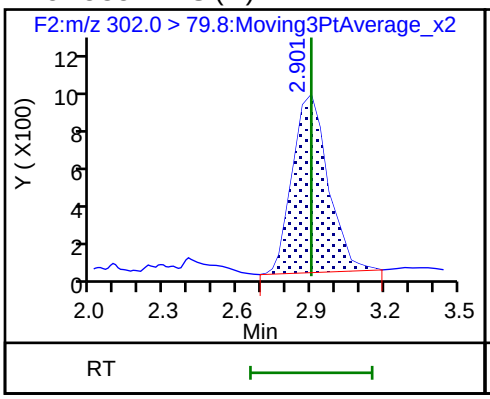
6 Perfluorobutanesulfonic acid (ND)



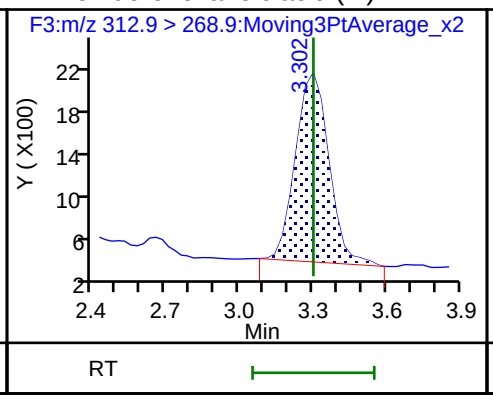
6 Perfluorobutanesulfonic acid (ND)



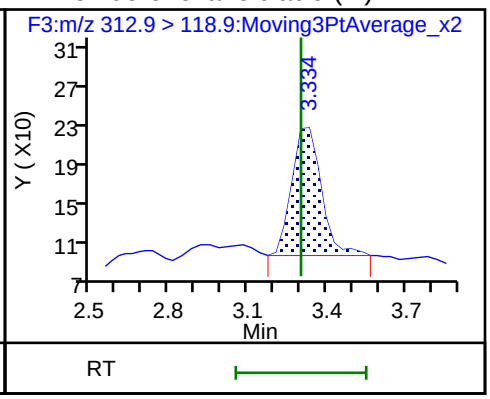
D 5 13C3 PFBS (M)



7 Perfluorohexanoic acid (M)



7 Perfluorohexanoic acid (M)



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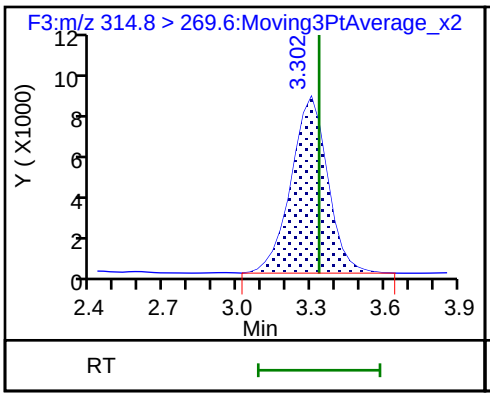

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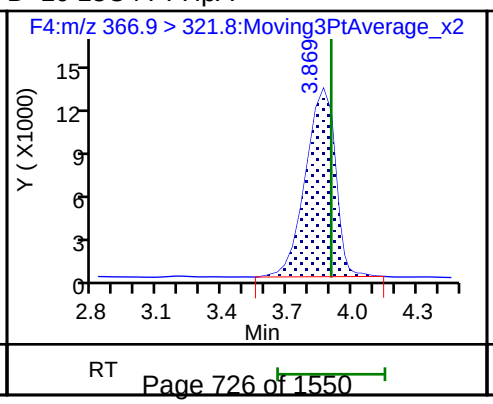

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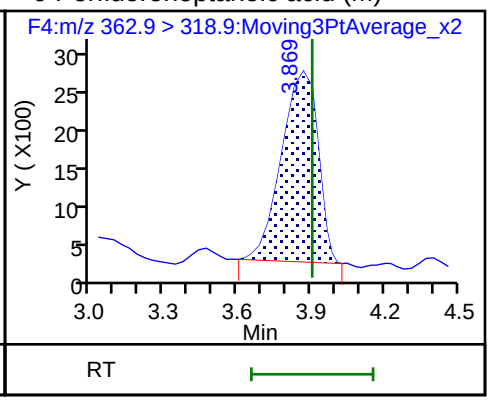
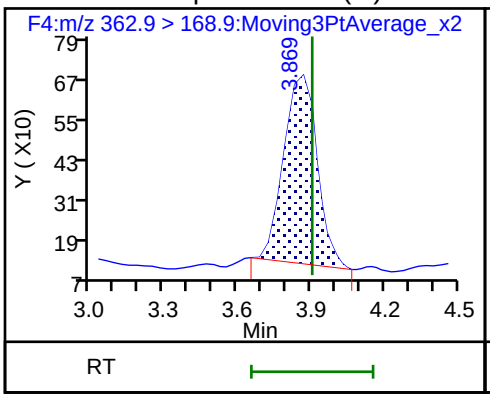
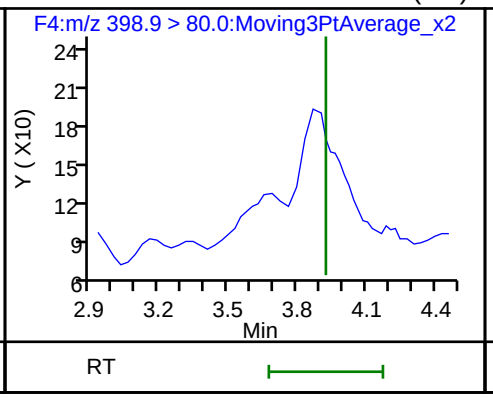


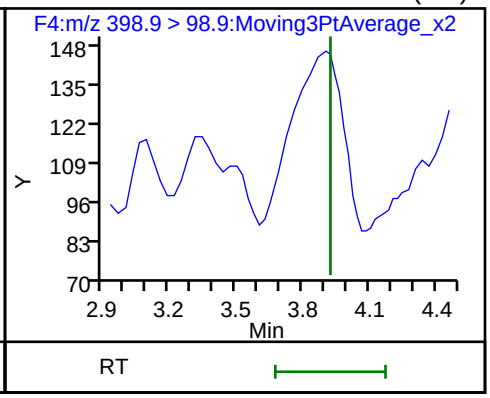
9 Perfluoroheptanoic acid (M)



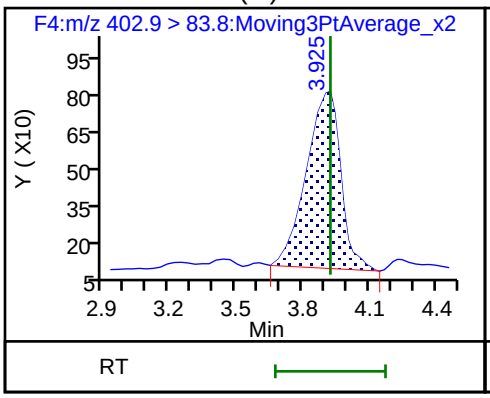
11 Perfluorohexanesulfonic acid (ND)



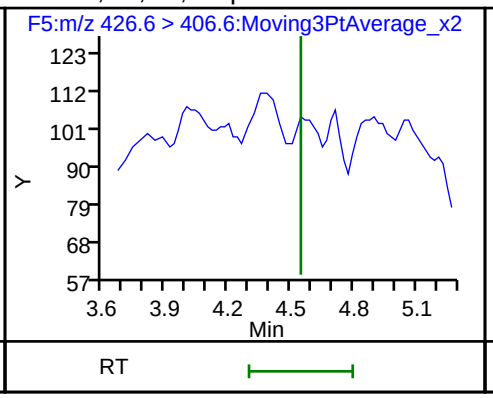
11 Perfluorohexanesulfonic acid (ND)



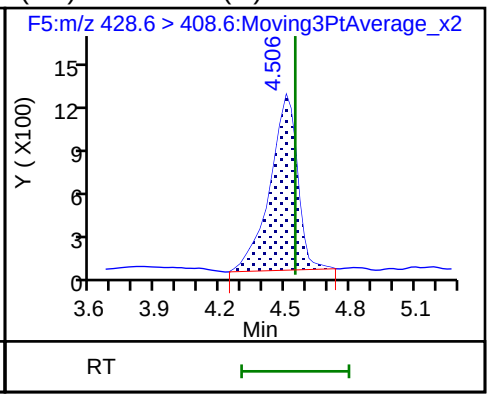
D 12 18O2 PFHxS (M)



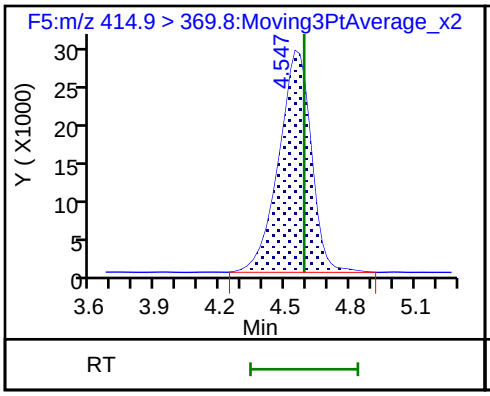
13 1H,1H,2H,2H-perfluorooctanesulfonic (M)



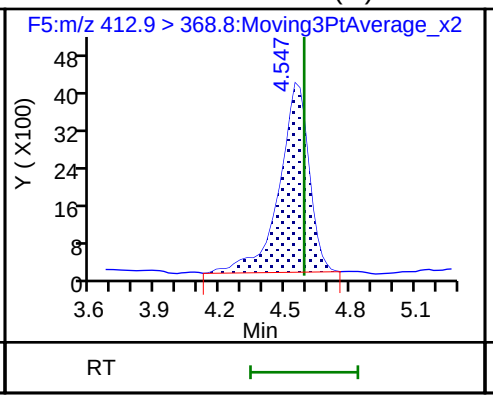
D (M)M2-6:2 FTS (M)



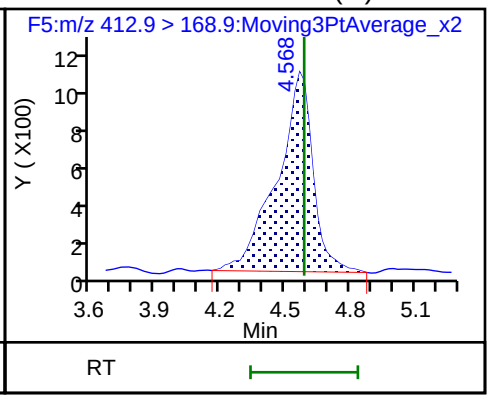
* 16 13C2 PFOA



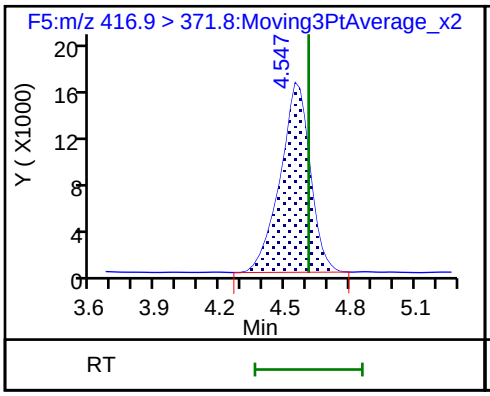
15 Perfluorooctanoic acid (M)



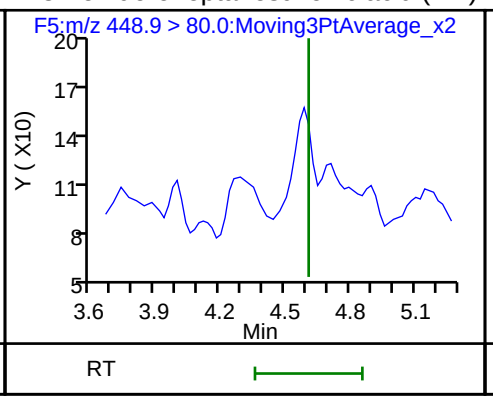
15 Perfluorooctanoic acid (M)



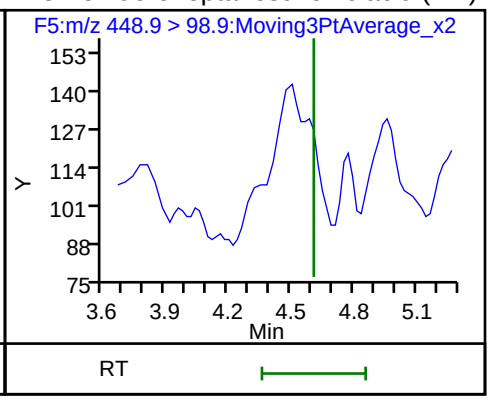
D 17 13C4 PFOA



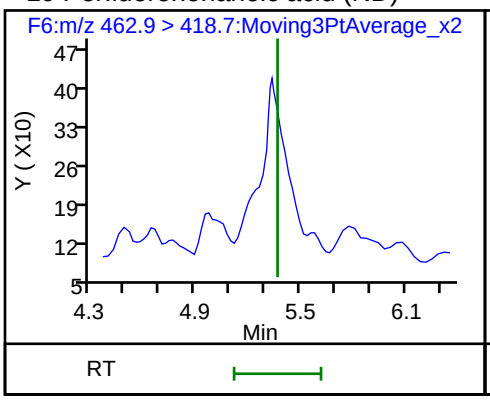
18 Perfluoroheptanesulfonic acid (ND)



18 Perfluoroheptanesulfonic acid (ND)



19 Perfluorononanoic acid (ND)



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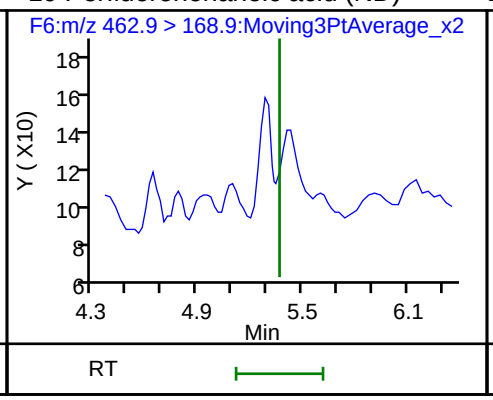
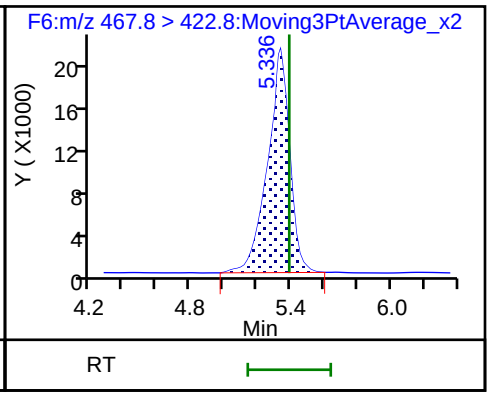
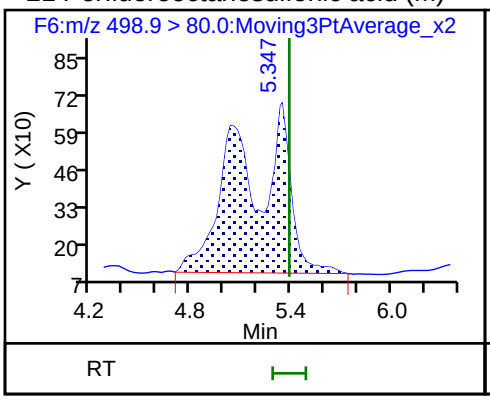


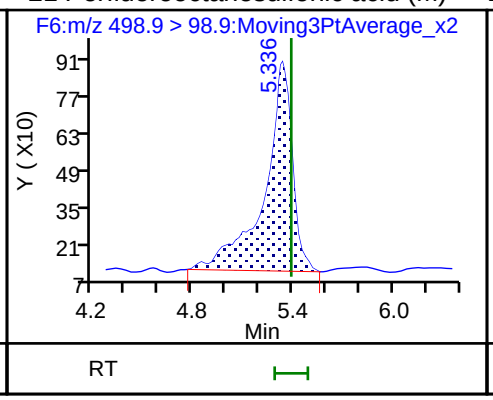
D 20 13C5 PFNA



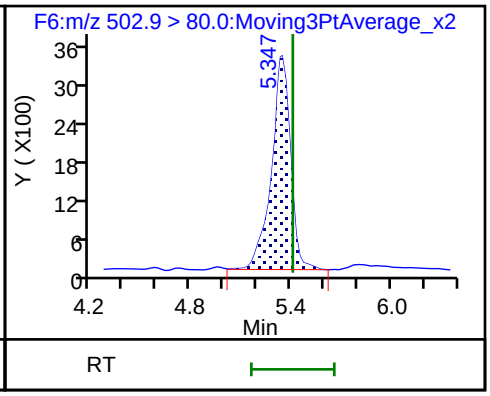
21 Perfluorooctanesulfonic acid (M)



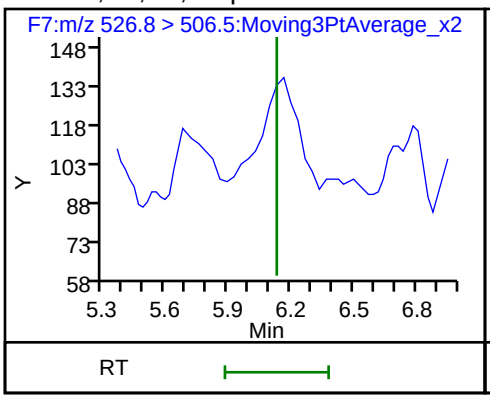
21 Perfluorooctanesulfonic acid (M)



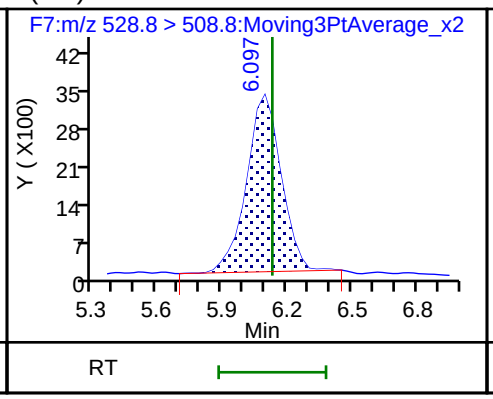
D 22 13C4 PFOS



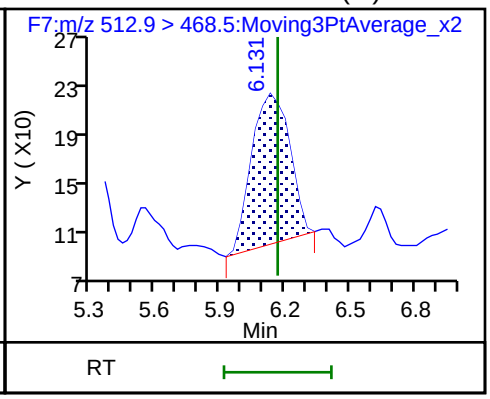
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (M)



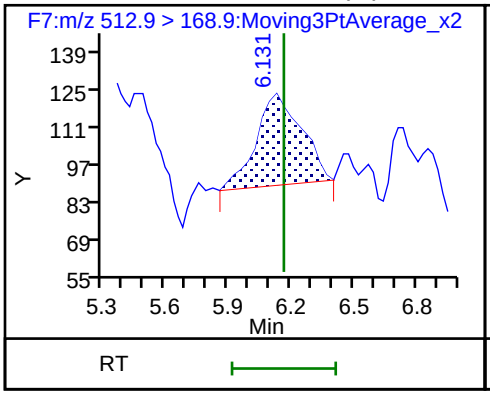
D 24 M2-8:2 FTS



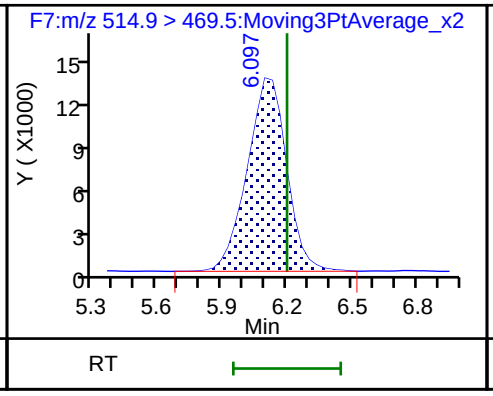
26 Perfluorodecanoic acid (M)



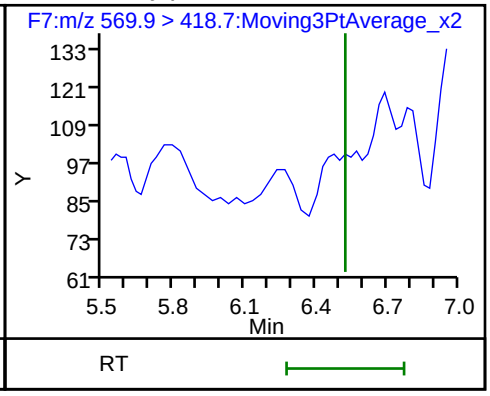
26 Perfluorodecanoic acid (M)



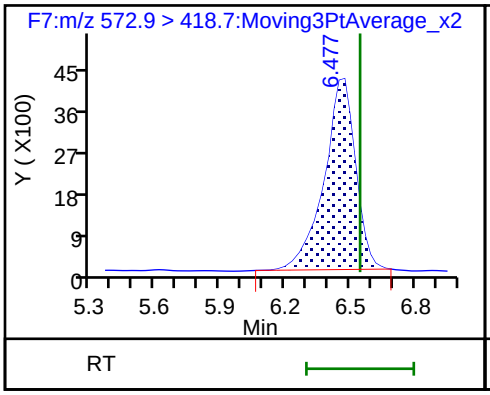
D 25 13C2 PFDA



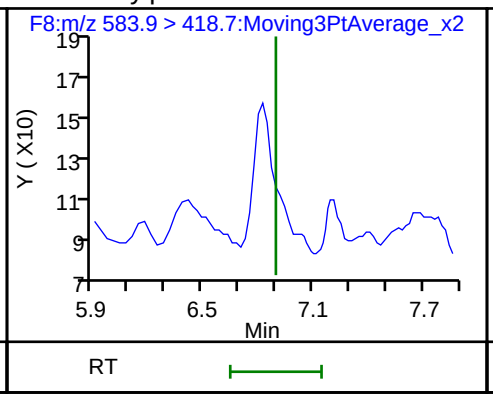
28 N-methylperfluorooctanesulfonamido (ND)



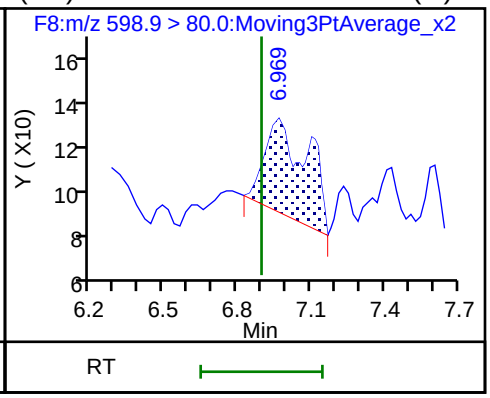
D 27 d3-NMeFOSAA



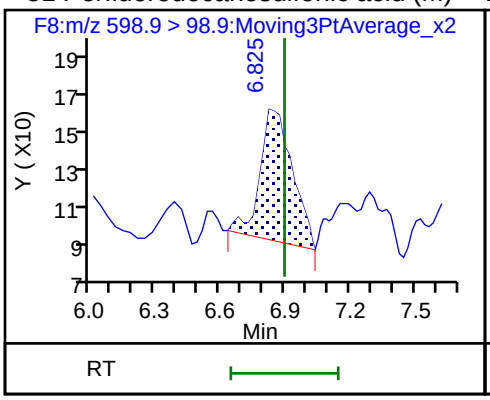
30 N-ethylperfluorooctanesulfonamidoa (ND)



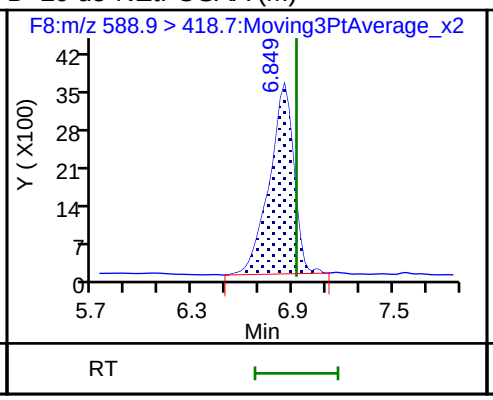
31 Perfluorodecanesulfonic acid (M)



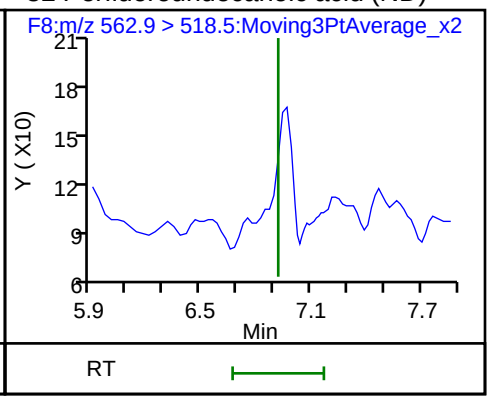
31 Perfluorodecanesulfonic acid (M)



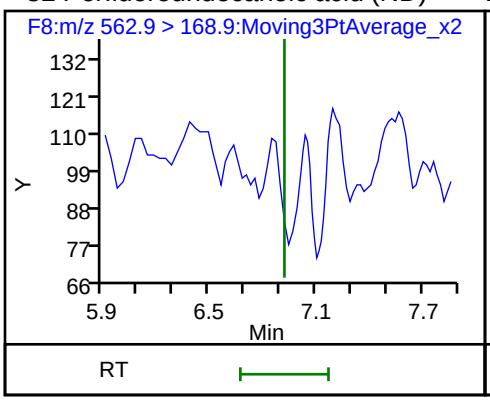
D 29 d5-NEtFOSAA (M)



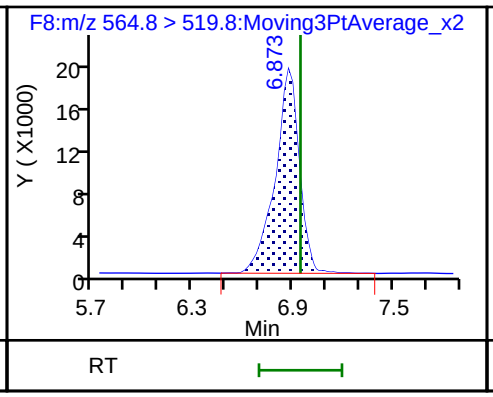
32 Perfluoroundecanoic acid (ND)



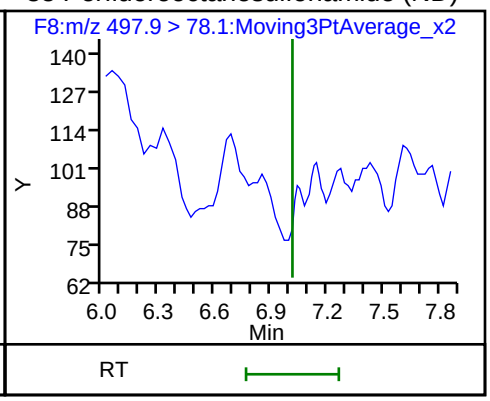
32 Perfluoroundecanoic acid (ND)



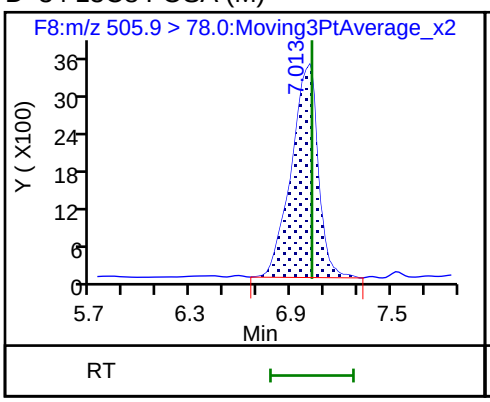
D 33 13C2 PFUnA



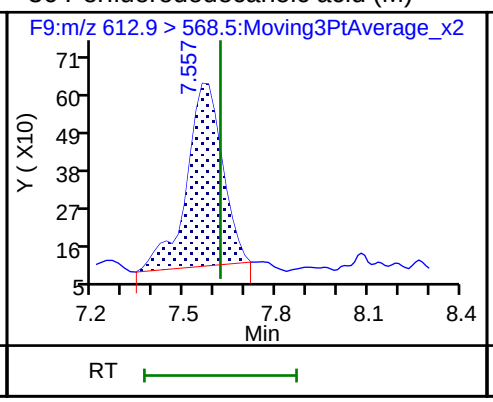
35 Perfluorooctanesulfonamide (ND)



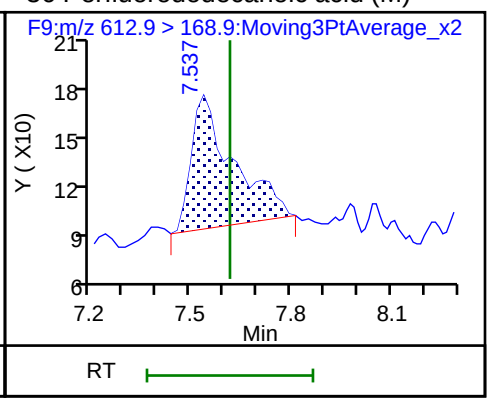
D 34 13C8 FOSA (M)



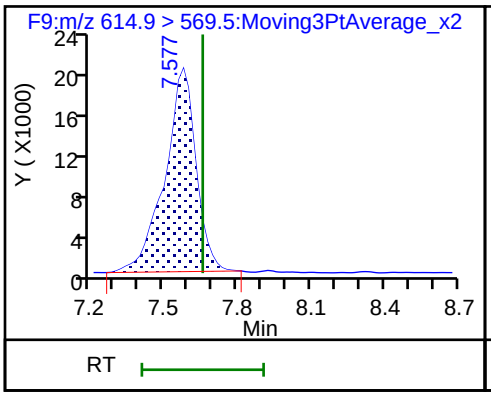
36 Perfluorododecanoic acid (M)



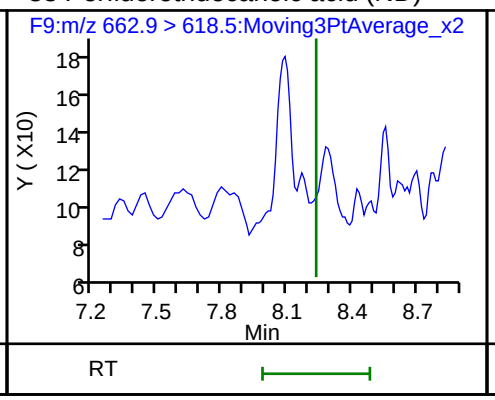
36 Perfluorododecanoic acid (M)



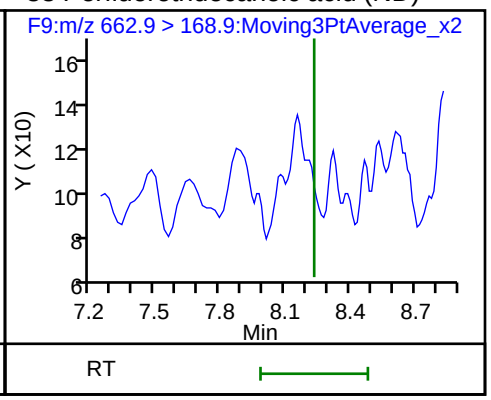
D 37 13C2 PFDoA



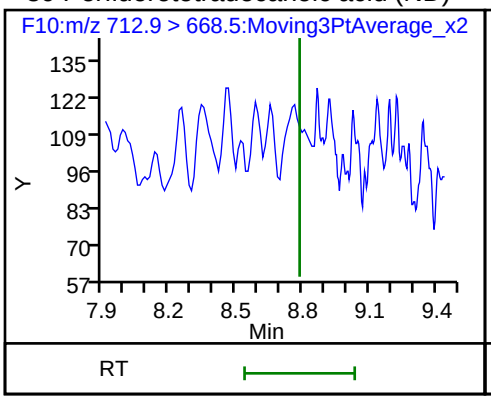
38 Perfluorotridecanoic acid (ND)



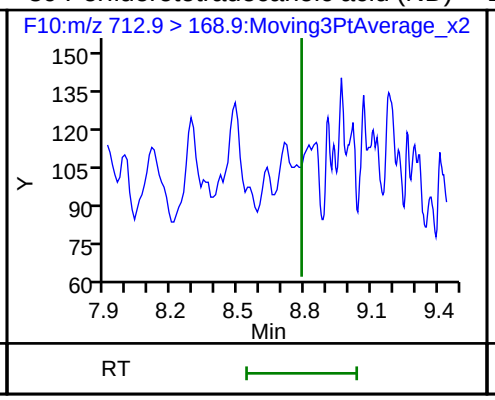
38 Perfluorotridecanoic acid (ND)



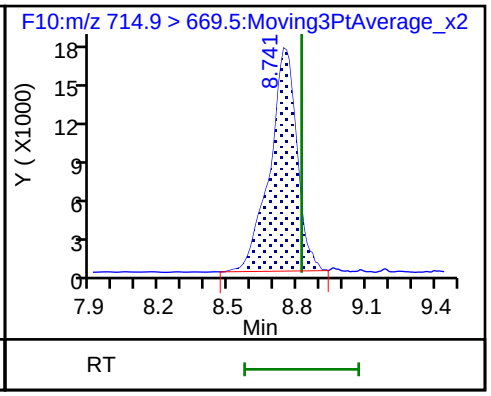
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

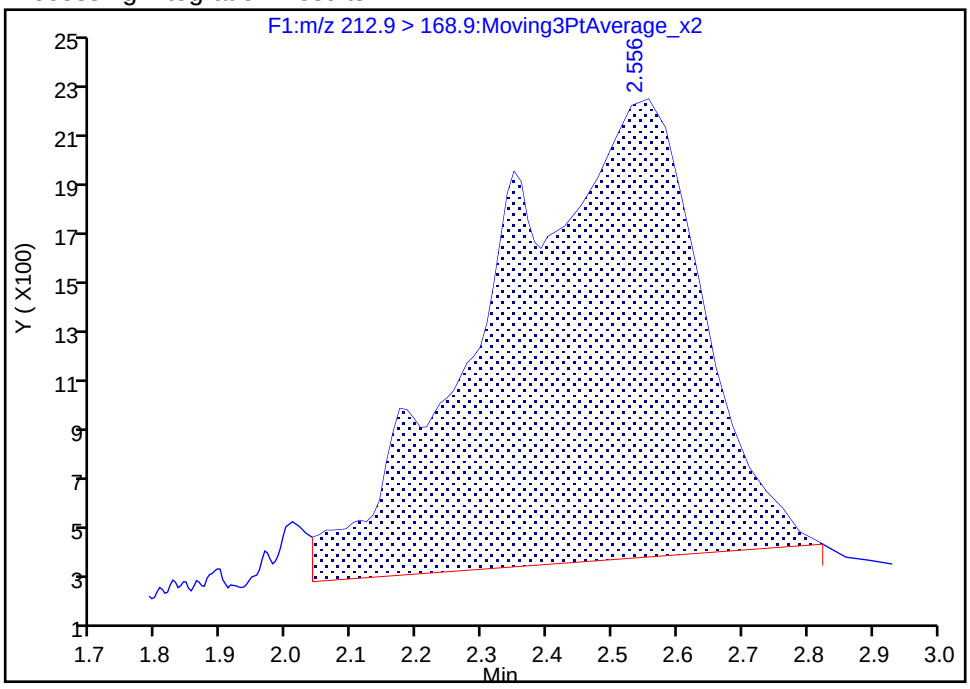
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

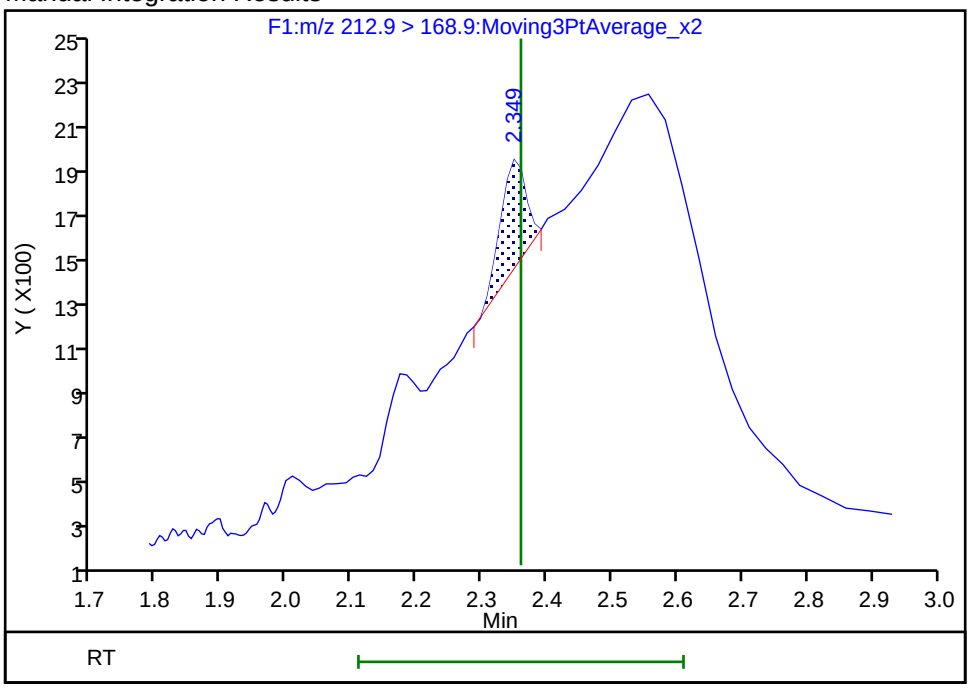
Processing Integration Results

RT: 2.56
Area: 40379
Amount: 12.762014
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 1270
Amount: 0.401391
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:12:05

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

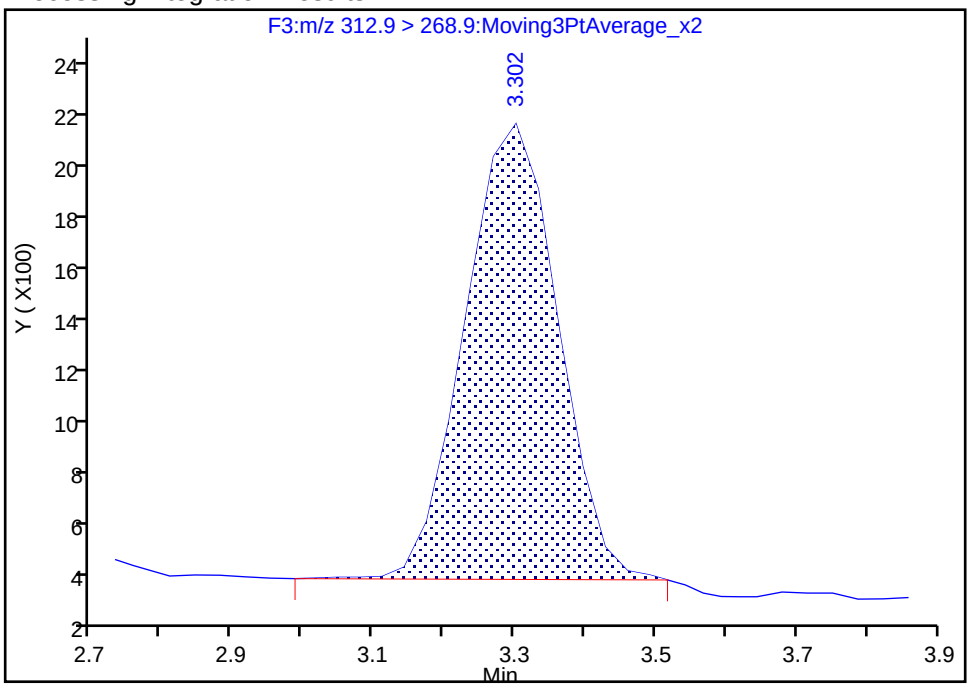
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

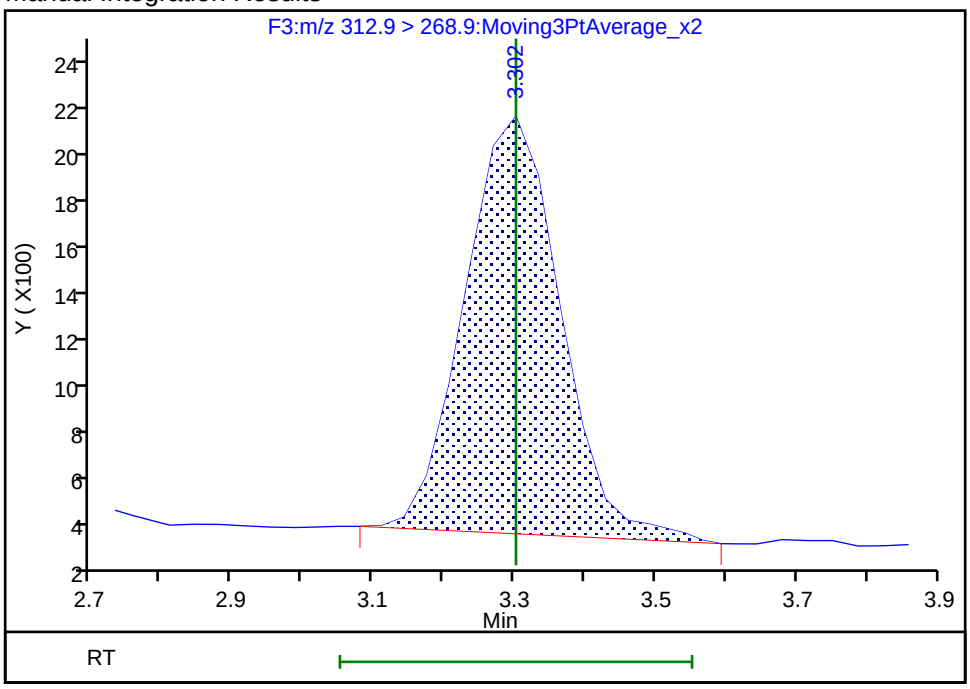
Processing Integration Results

RT: 3.30
Area: 15941
Amount: 1.309500
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 16637
Amount: 1.366675
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:12:18

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

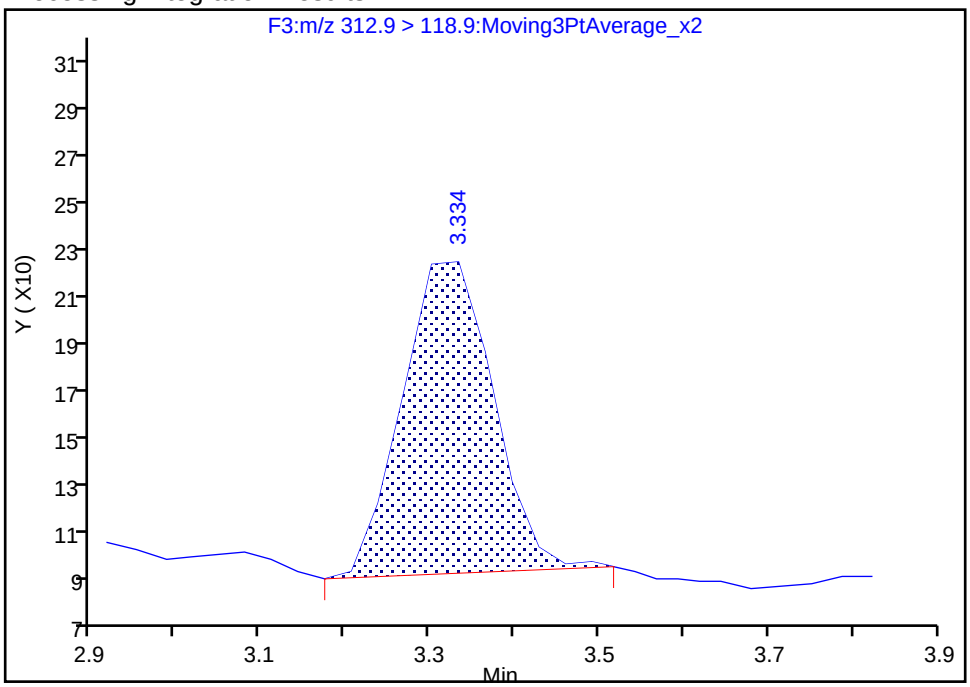
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

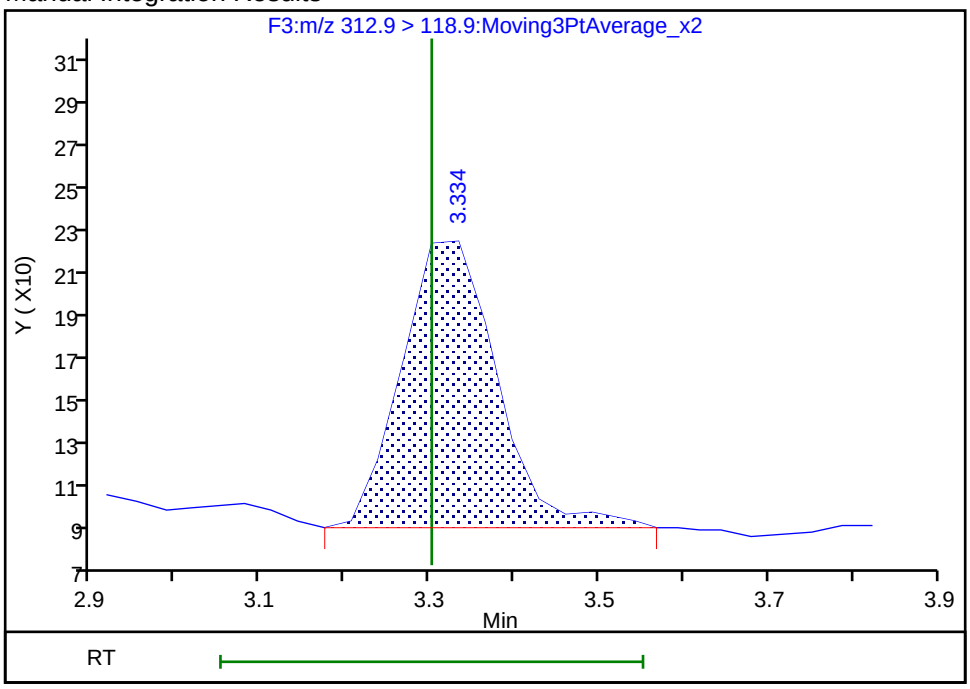
Processing Integration Results

RT: 3.33
Area: 957
Amount: 1.309500
Amount Units: ng/ml



Manual Integration Results

RT: 3.33
Area: 1017
Amount: 1.366675
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:12:21

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

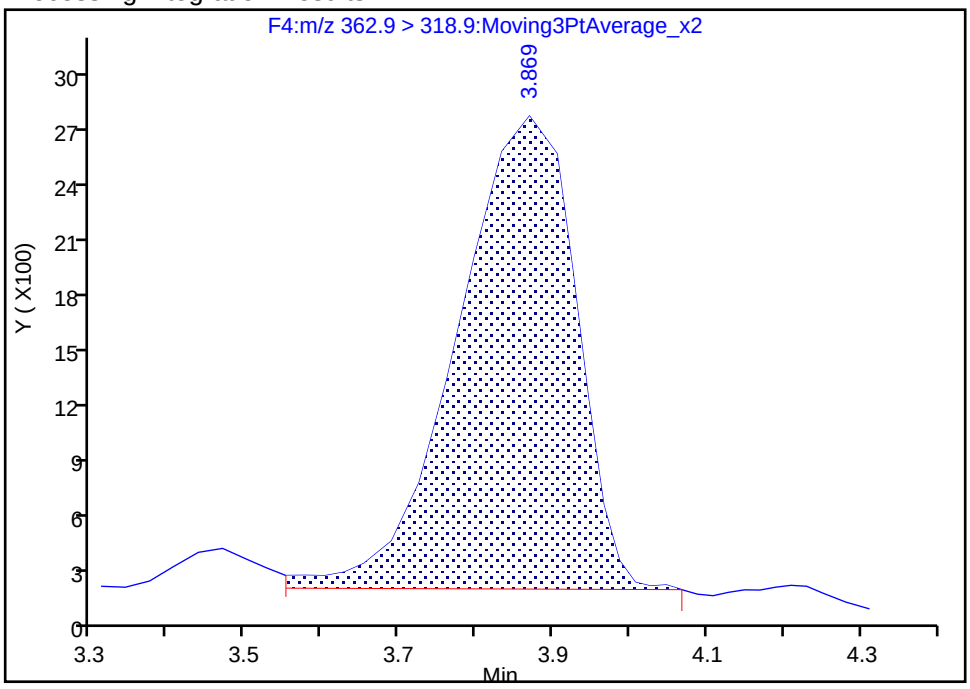
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

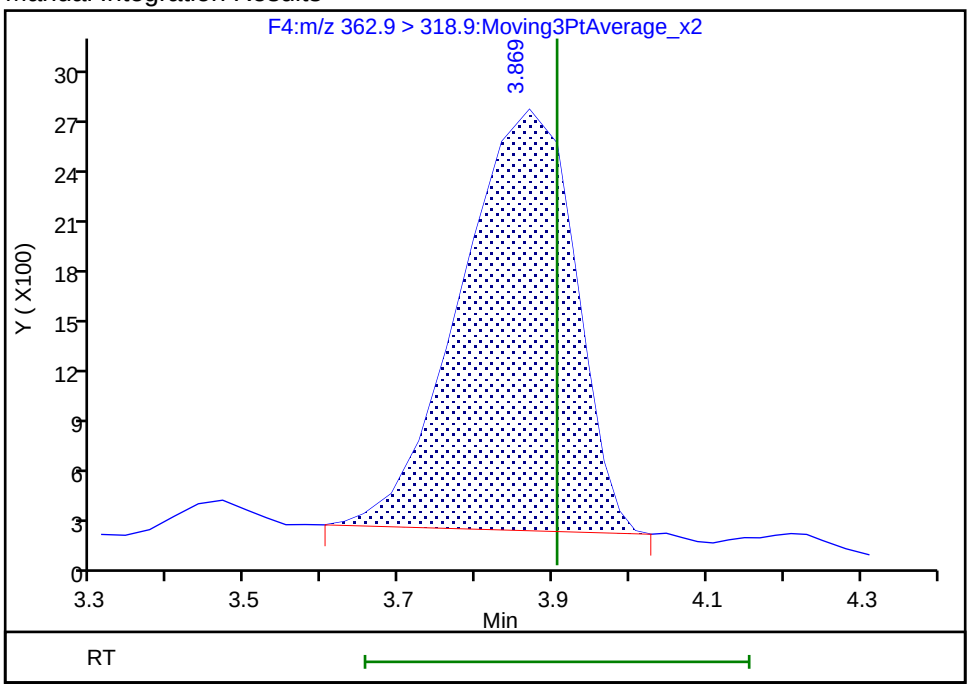
Processing Integration Results

RT: 3.87
Area: 27010
Amount: 1.838055
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 25678
Amount: 1.747411
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:12:38

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

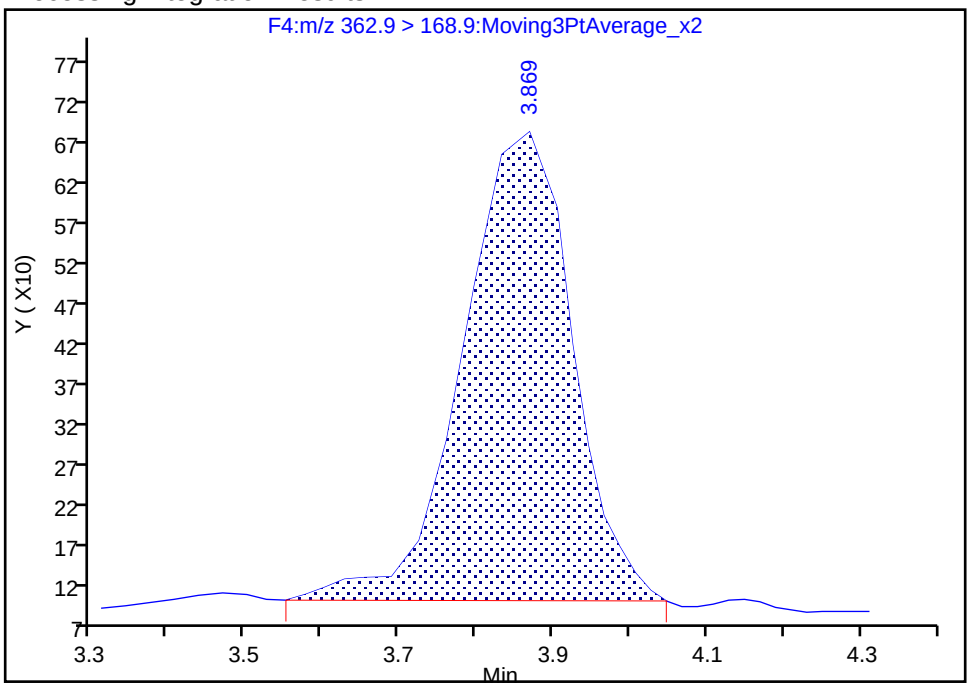
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

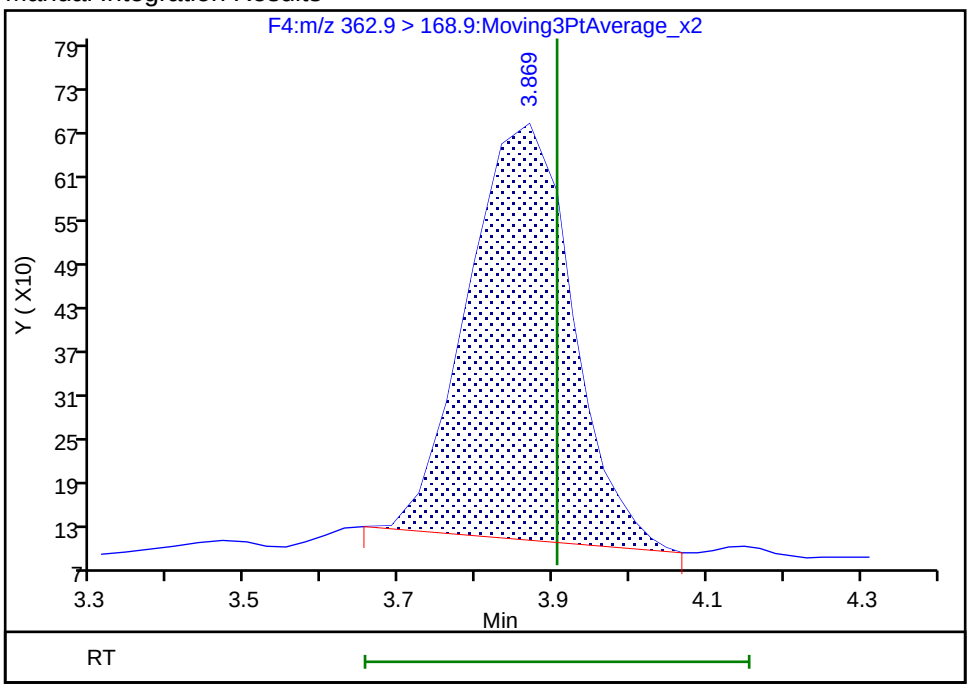
Processing Integration Results

RT: 3.87
Area: 5781
Amount: 1.838055
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 5416
Amount: 1.747411
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:12:40

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

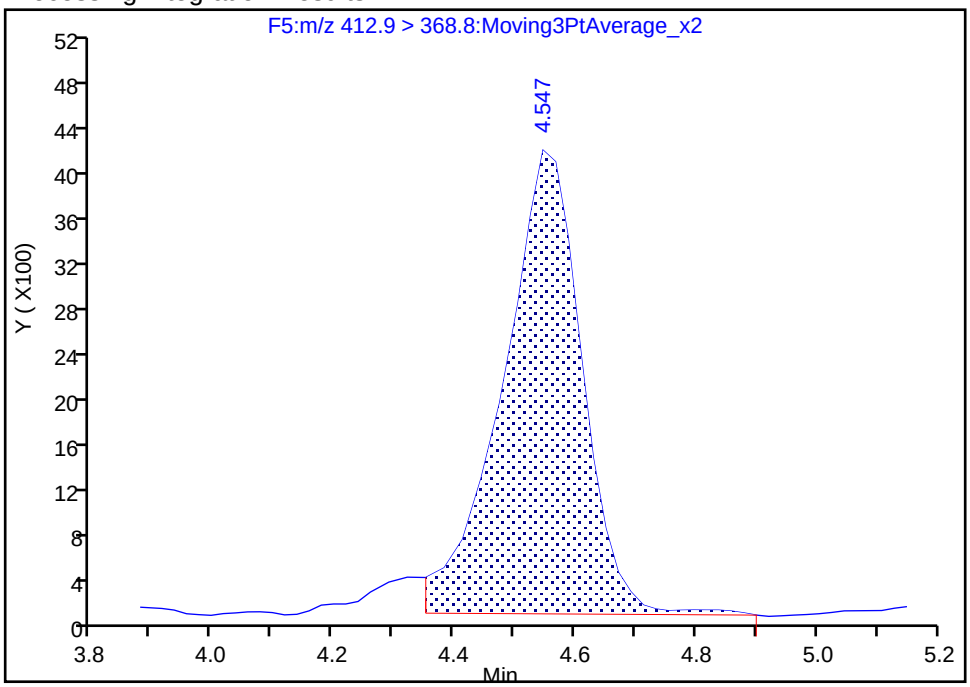
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

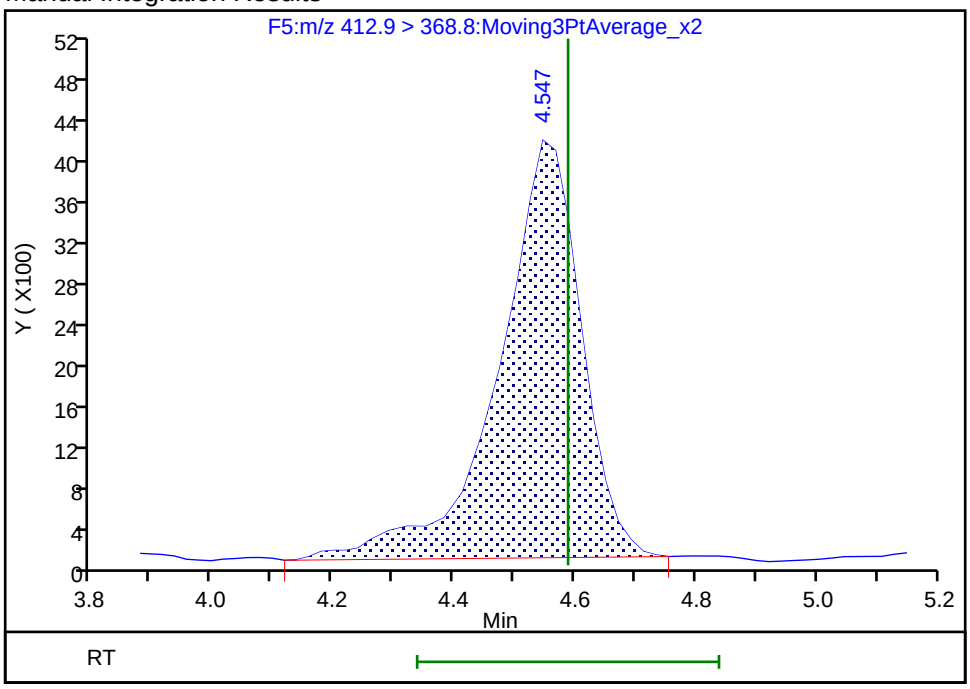
Processing Integration Results

RT: 4.55
Area: 36956
Amount: 2.323169
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 38453
Amount: 2.417275
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:14:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

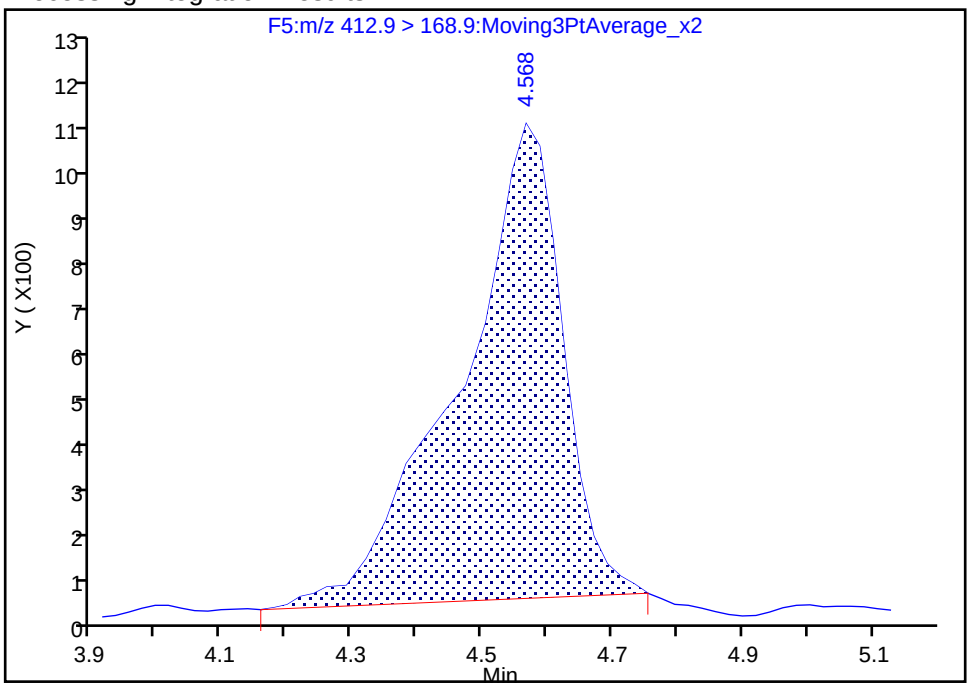
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

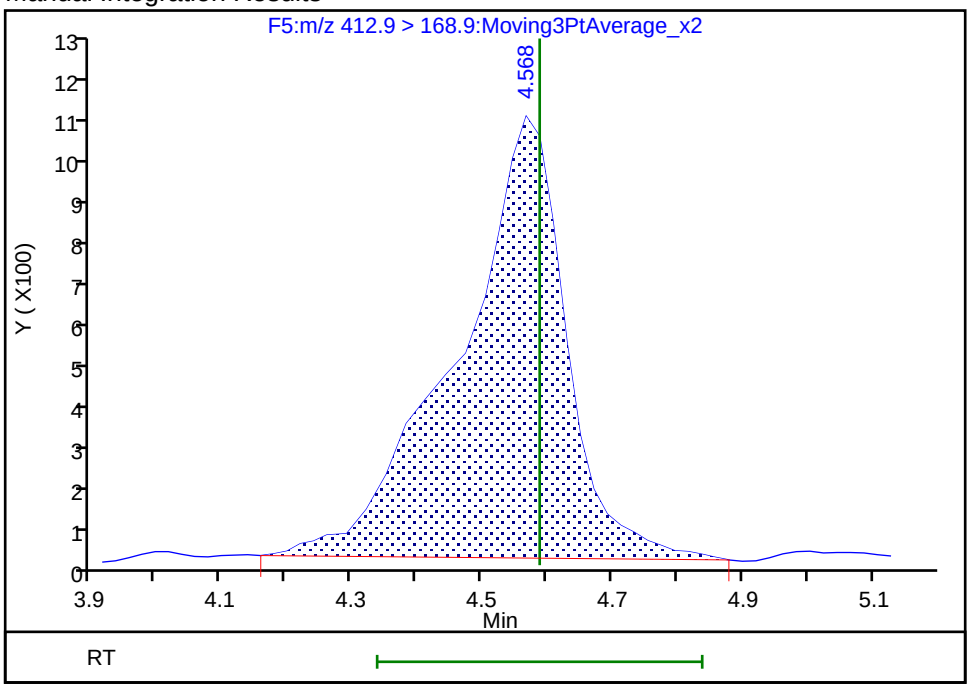
Processing Integration Results

RT: 4.57
Area: 10805
Amount: 2.323169
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 11696
Amount: 2.417275
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:14:29

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

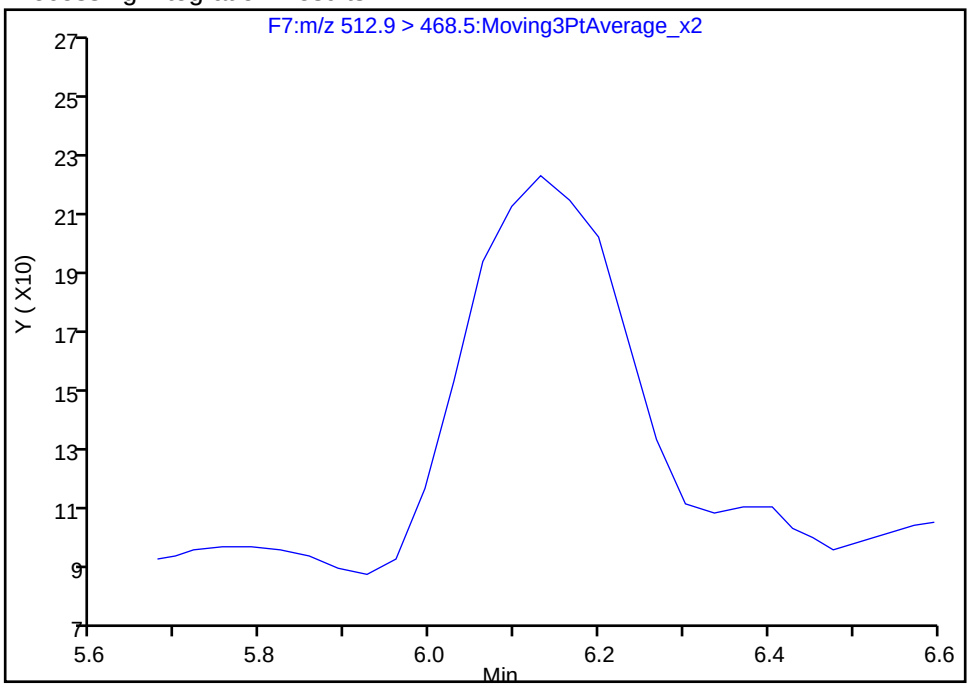
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 1

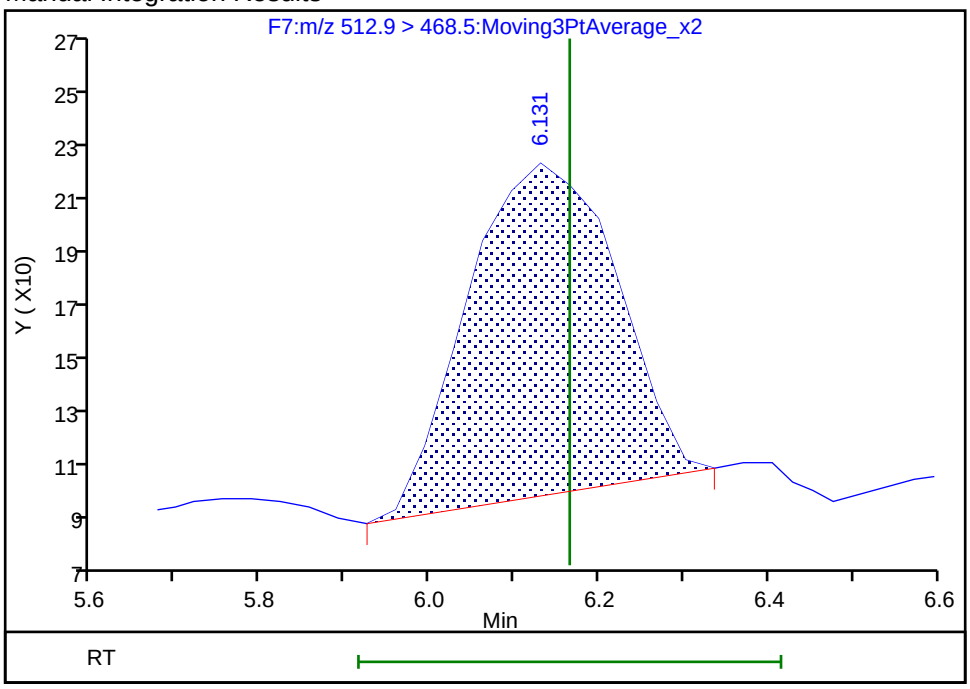
Not Detected
Expected RT: 6.17

Processing Integration Results



Manual Integration Results

RT: 6.13
Area: 1467
Amount: 0.096705
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:15:48
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

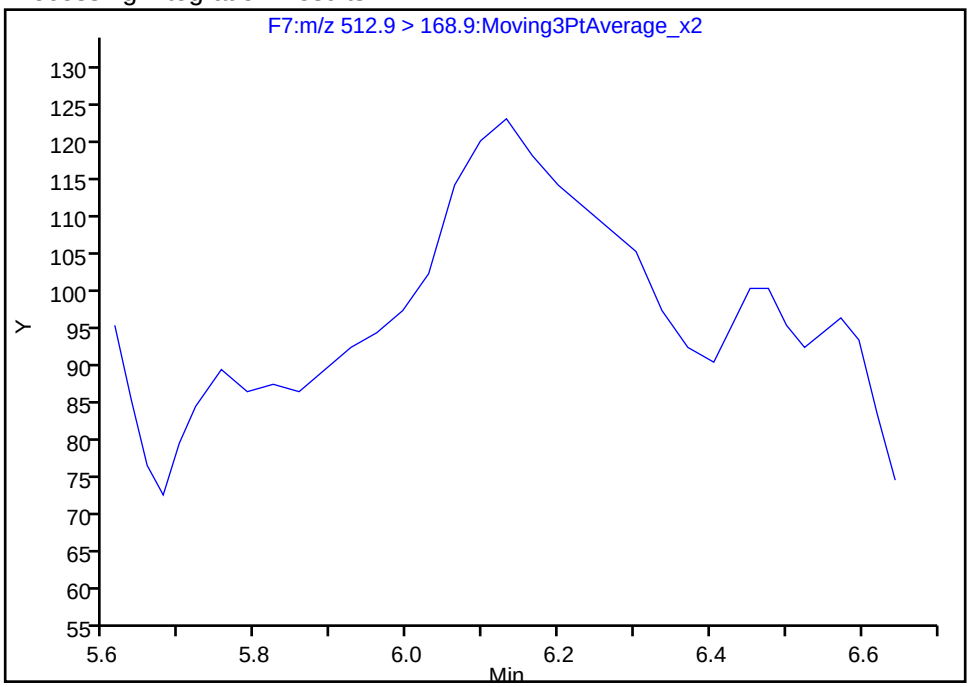
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

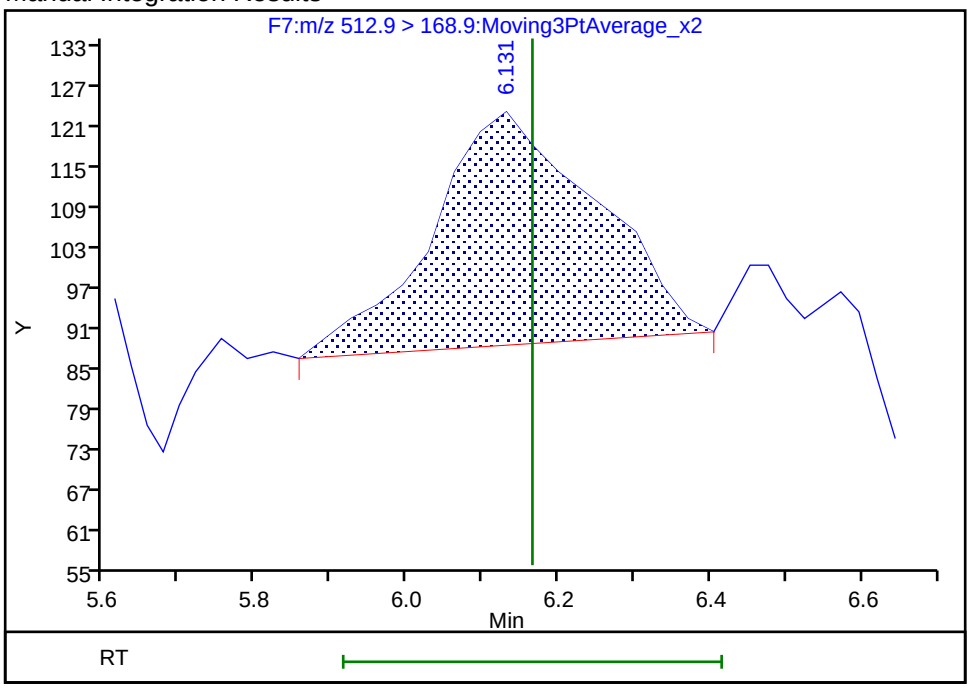
Not Detected
Expected RT: 6.17

Processing Integration Results



Manual Integration Results

RT: 6.13
Area: 526
Amount: 0.096705
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:15:51
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

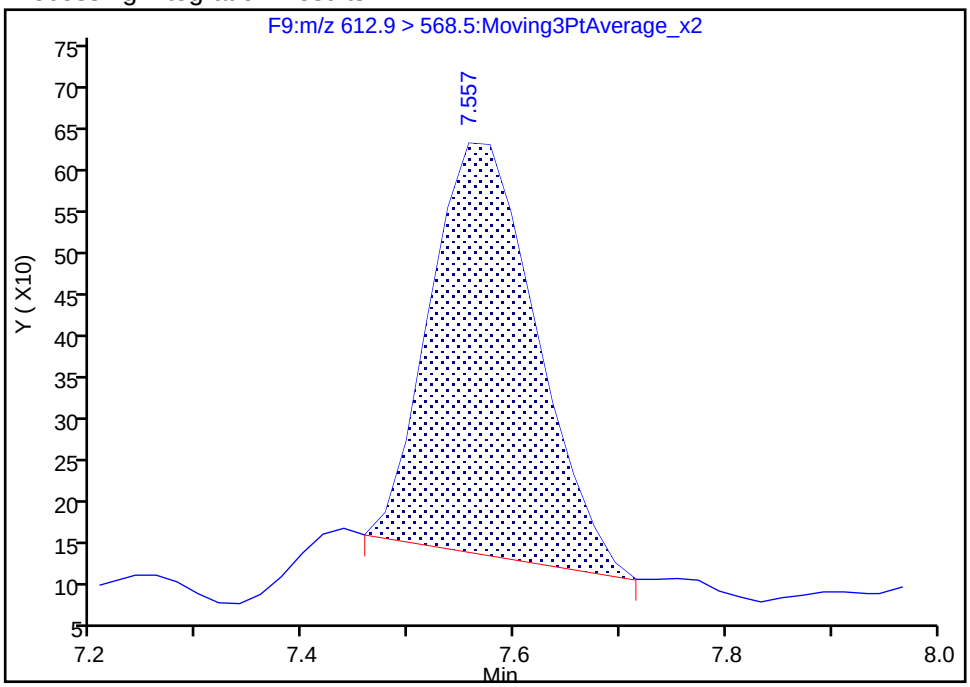
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F9:MRM		

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

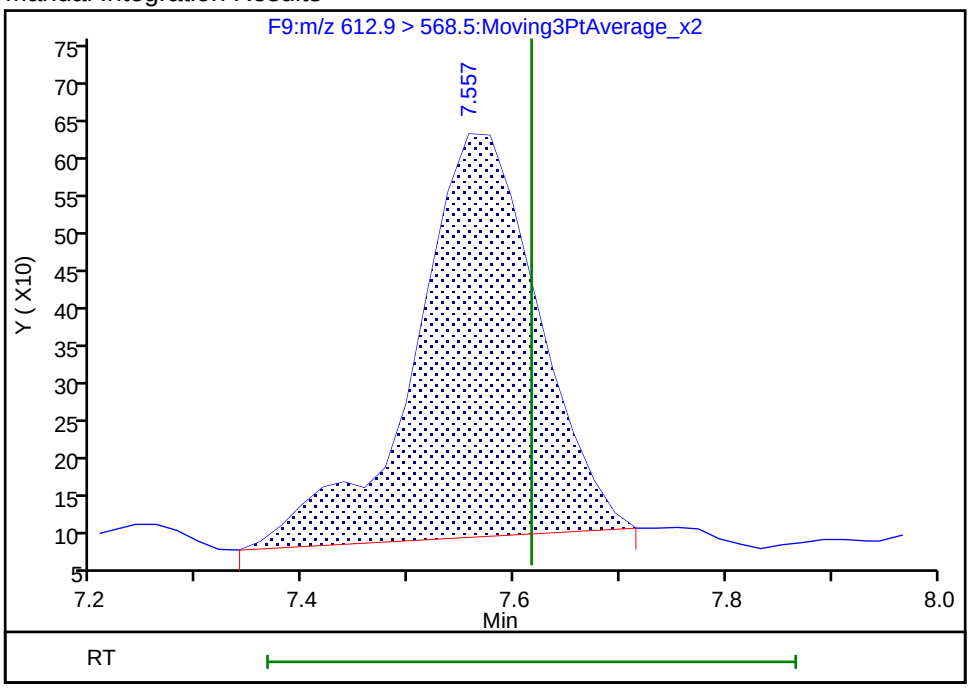
Processing Integration Results

RT: 7.56
Area: 3449
Amount: 0.209884
Amount Units: ng/ml



Manual Integration Results

RT: 7.56
Area: 4345
Amount: 0.264409
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:15:06

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

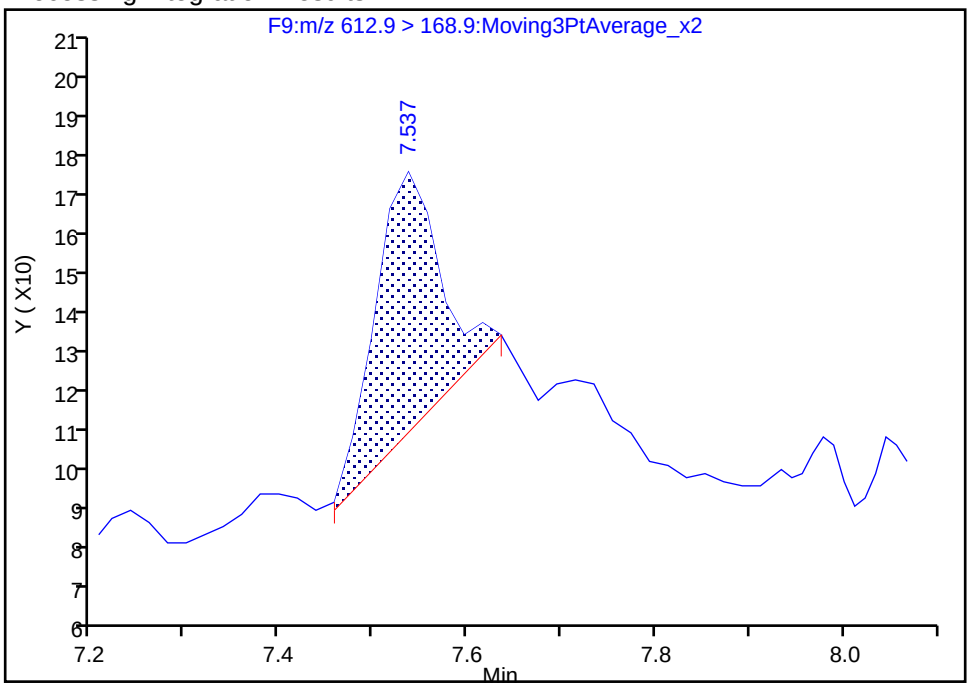
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F9:MRM		

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

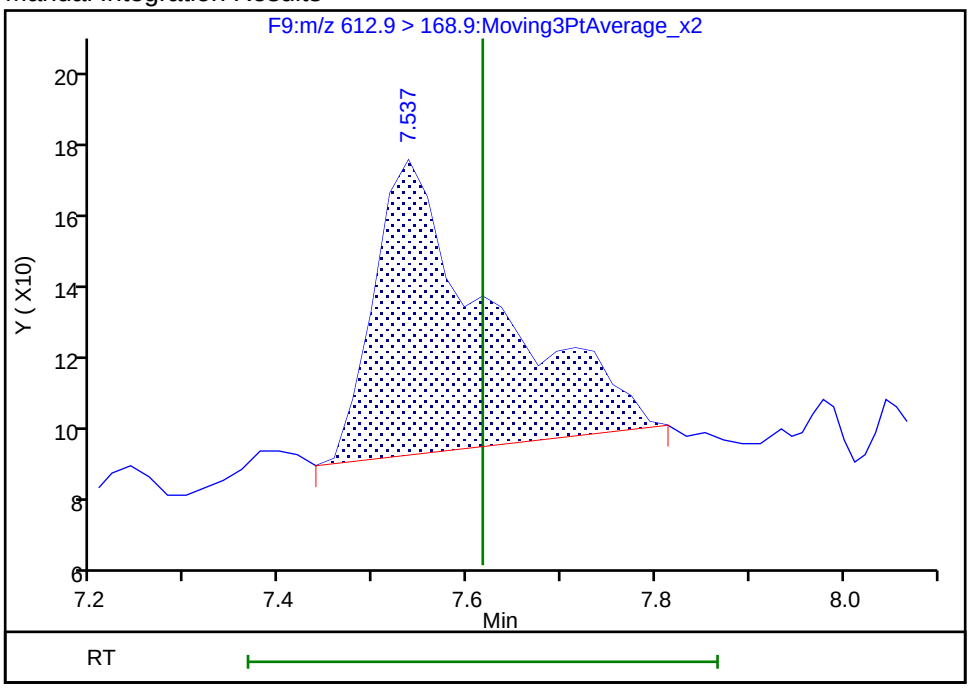
Processing Integration Results

RT: 7.54
Area: 307
Amount: 0.209884
Amount Units: ng/ml



Manual Integration Results

RT: 7.54
Area: 693
Amount: 0.264409
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:15:17

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

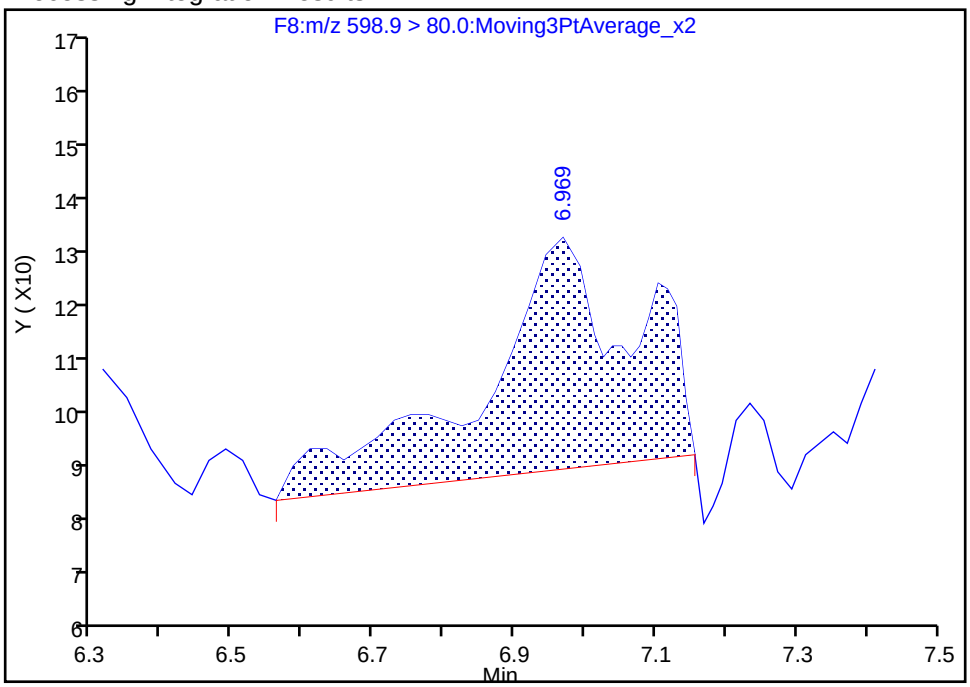
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

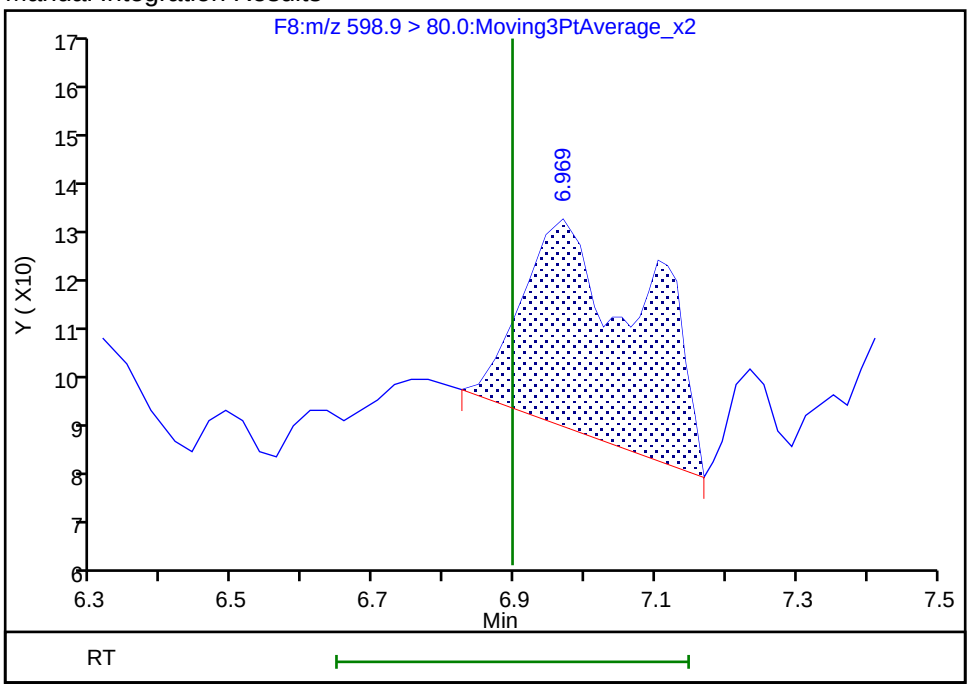
Processing Integration Results

RT: 6.97
Area: 606
Amount: 0.212580
Amount Units: ng/ml



Manual Integration Results

RT: 6.97
Area: 491
Amount: 0.172239
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:15:36

Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

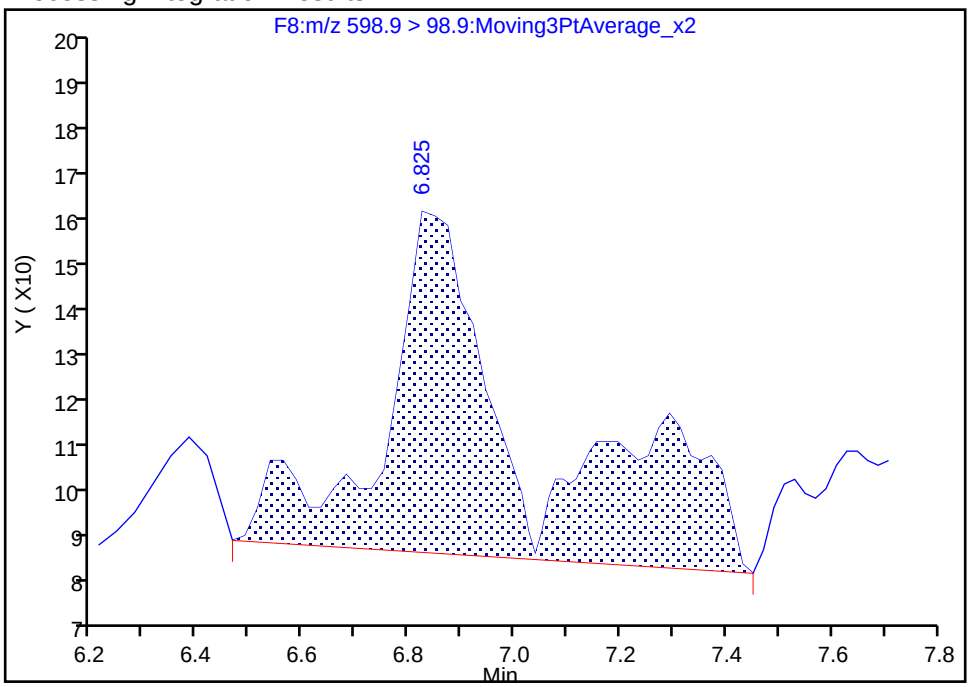
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 2

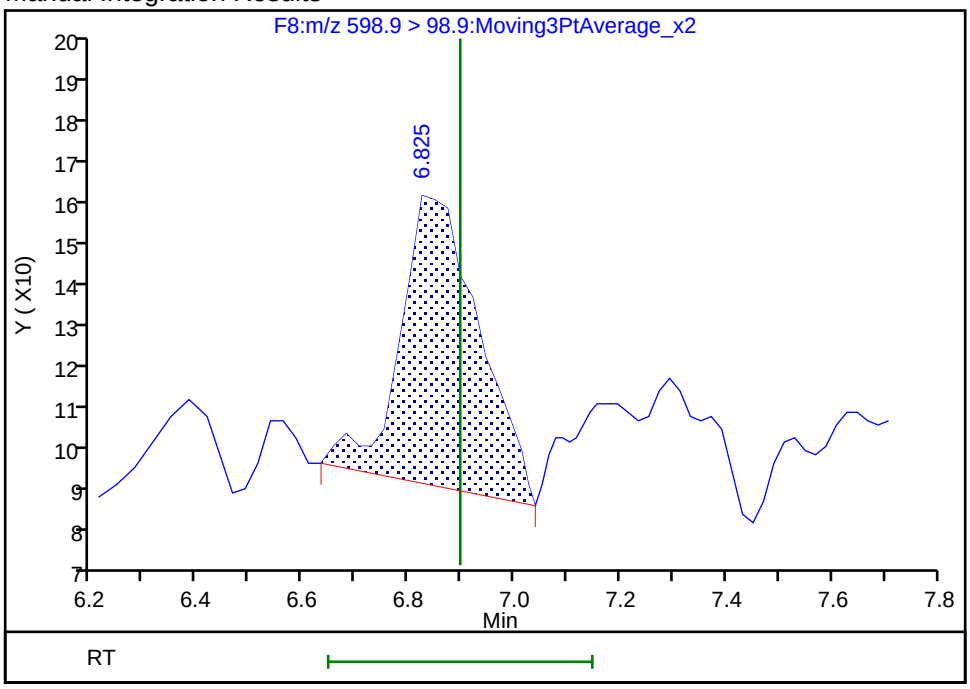
Processing Integration Results

RT: 6.83
Area: 1436
Amount: 0.212580
Amount Units: ng/ml



Manual Integration Results

RT: 6.83
Area: 713
Amount: 0.172239
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:15:40

Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

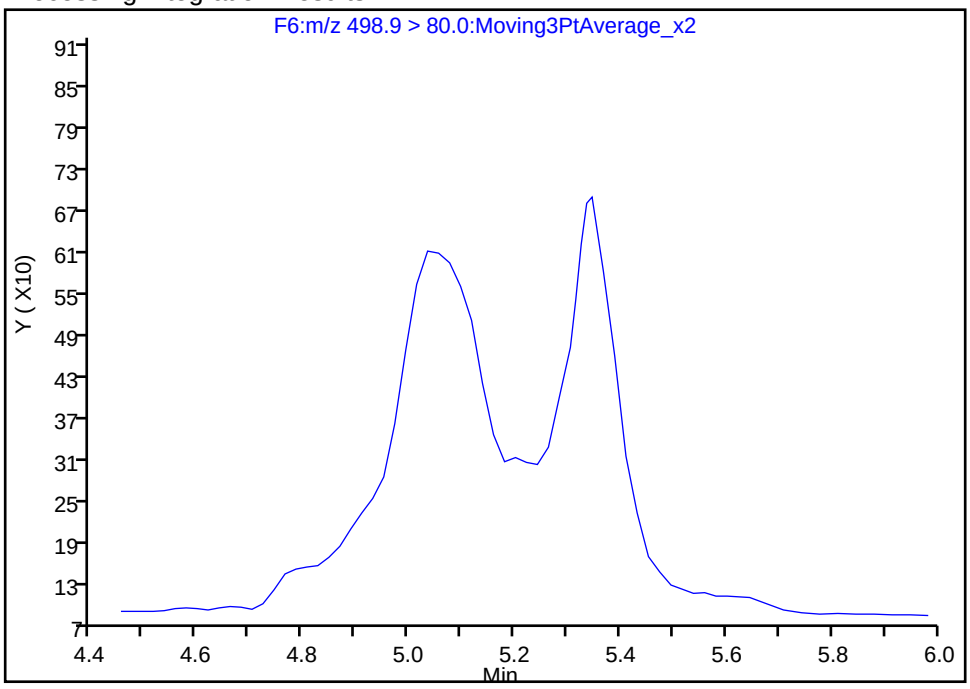
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

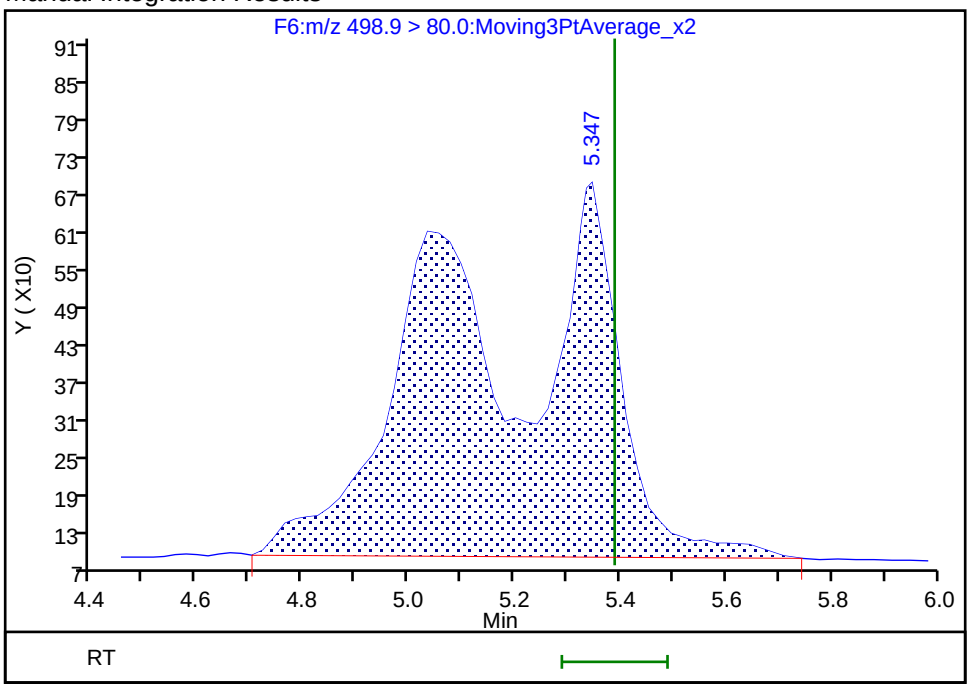
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.35
Area: 12156
Amount: 4.583918
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:15:59
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

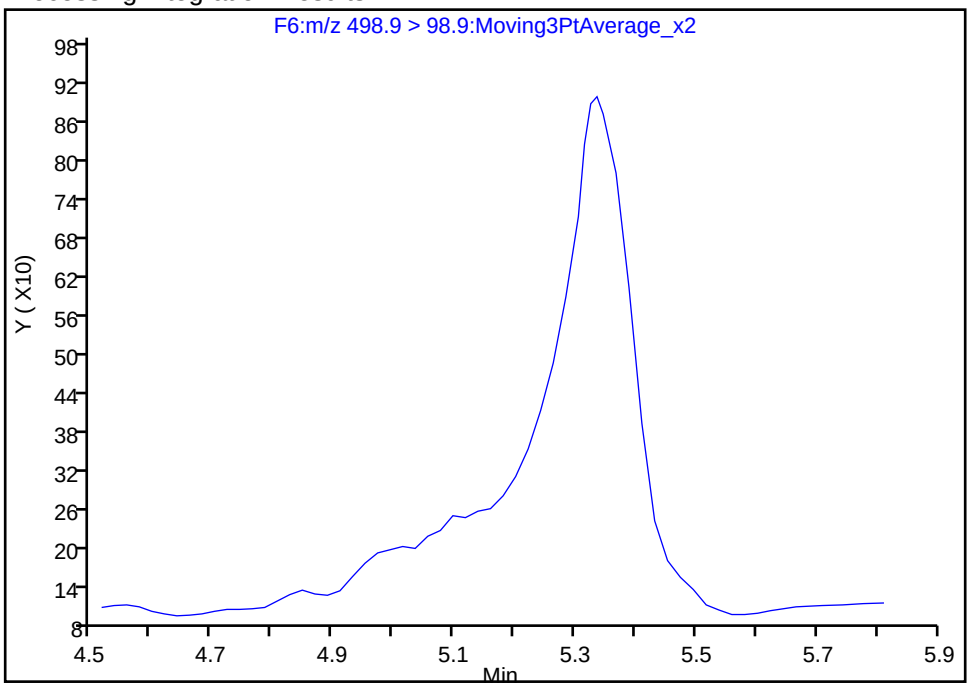
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

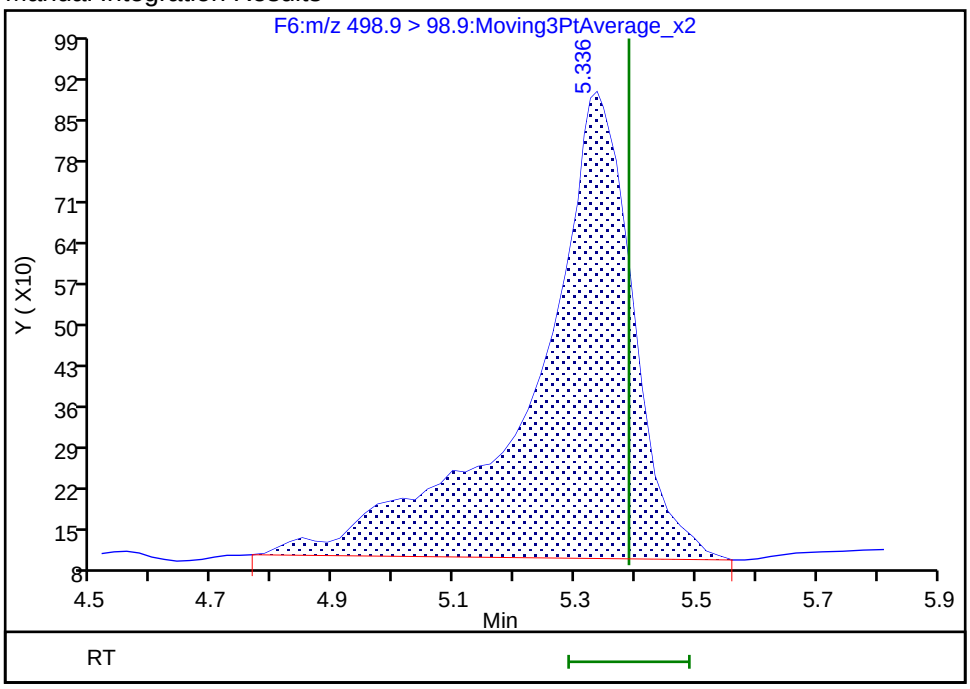
Processing Integration Results

Not Detected
Expected RT: 5.39



Manual Integration Results

RT: 5.34
Area: 9266
Amount: 4.583918
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:16:02
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

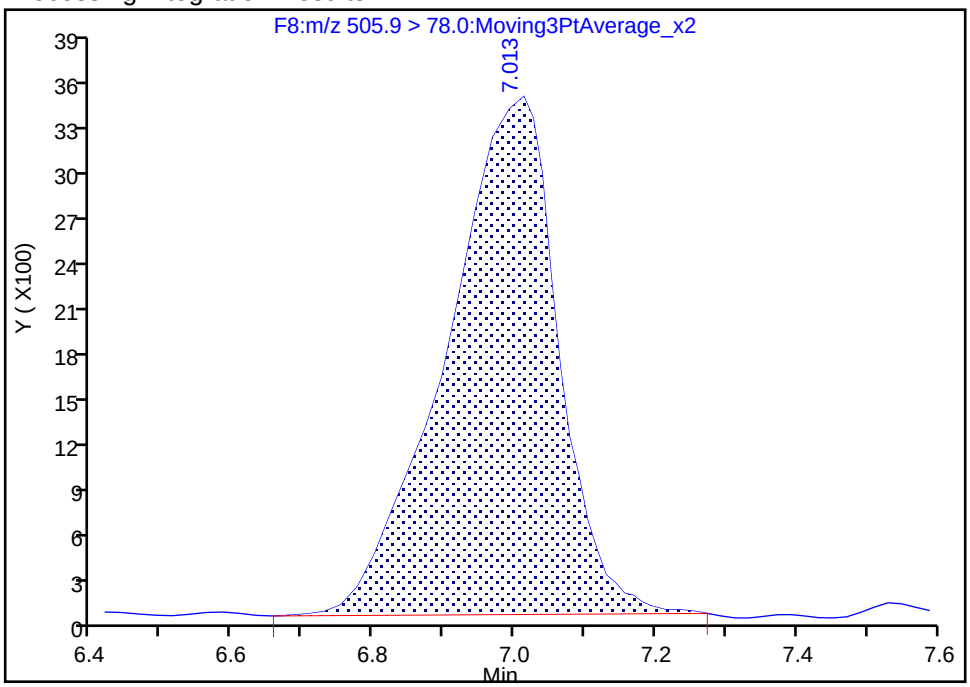
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 34 13C8 FOSA, CAS: STL01056

Signal: 1

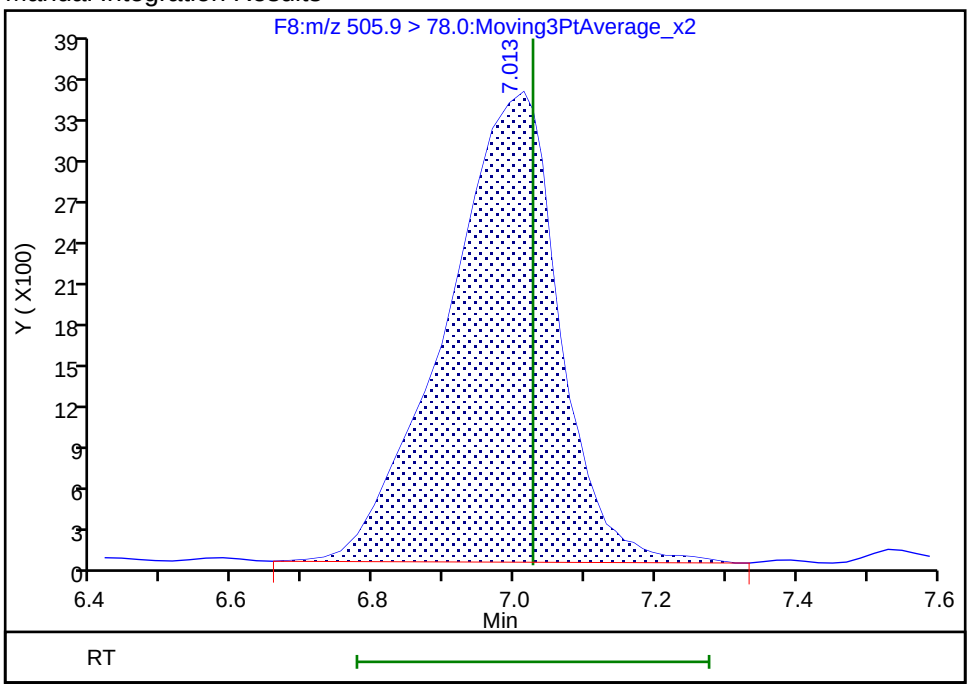
Processing Integration Results

RT: 7.01
Area: 37658
Amount: 3.045401
Amount Units: ng/ml



Manual Integration Results

RT: 7.01
Area: 38223
Amount: 3.091093
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:14:55

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

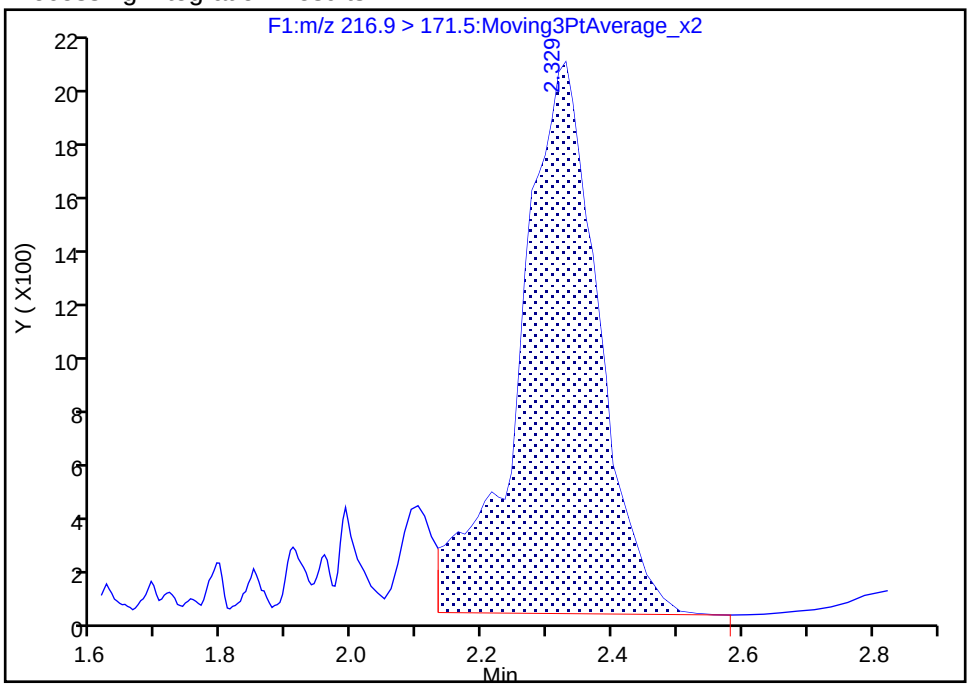
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

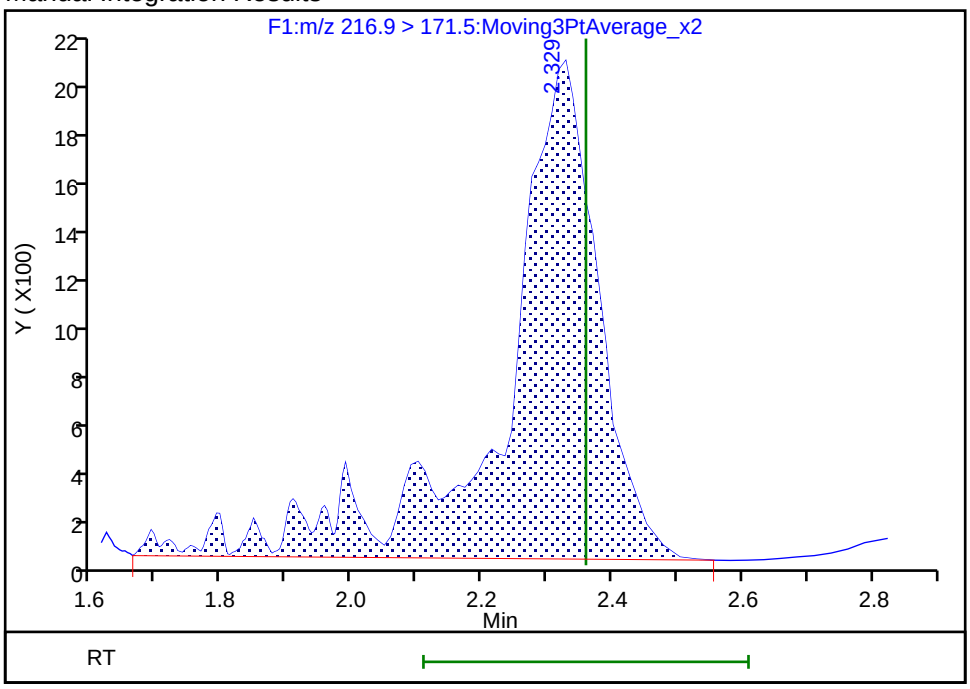
Processing Integration Results

RT: 2.33
Area: 16595
Amount: 2.197318
Amount Units: ng/ml



Manual Integration Results

RT: 2.33
Area: 20153
Amount: 2.668427
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:11:54

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

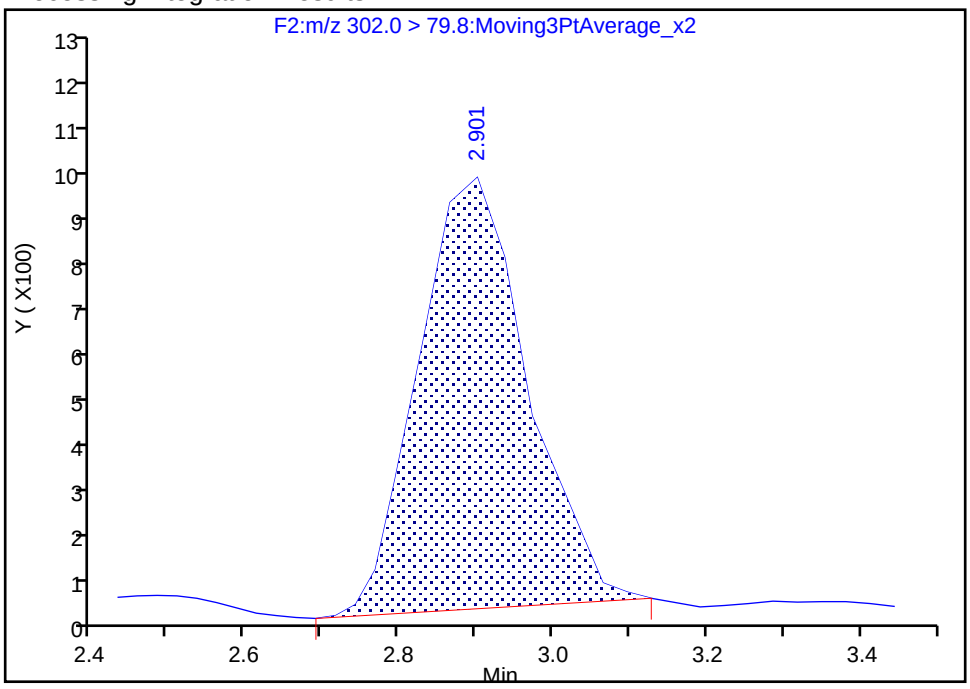
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 5 13C3 PFBS, CAS: STL02337

Signal: 1

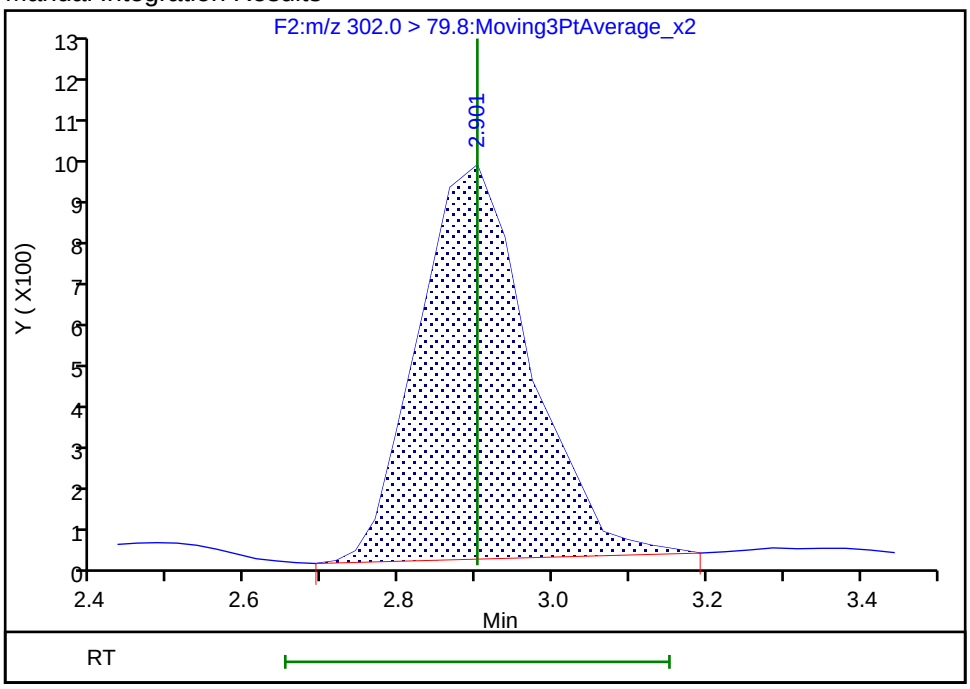
Processing Integration Results

RT: 2.90
Area: 8875
Amount: 3.561508
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 9191
Amount: 3.688318
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:12:15

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

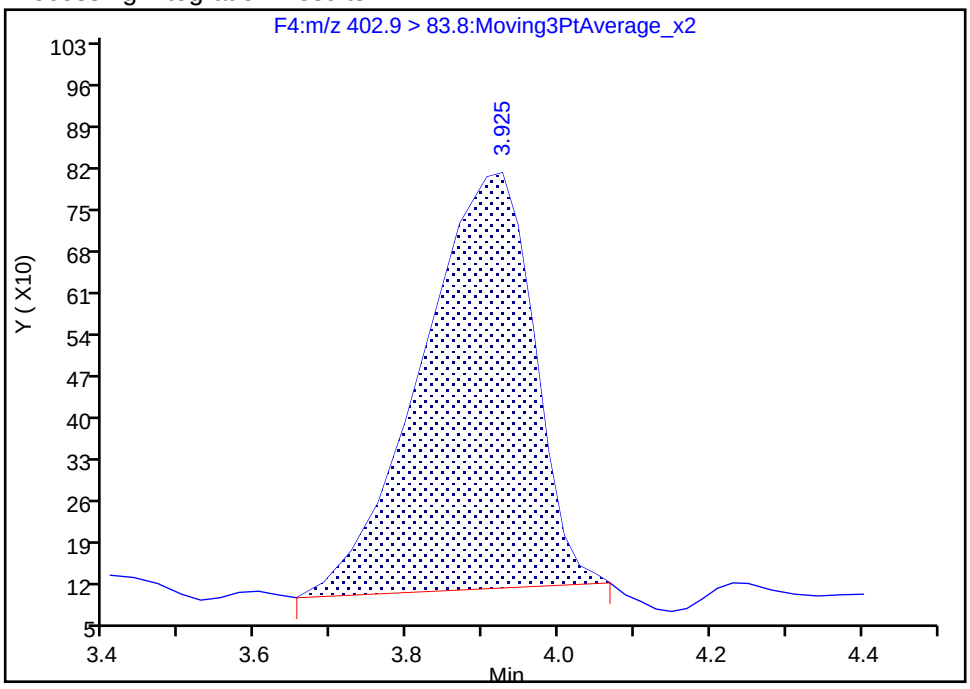
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

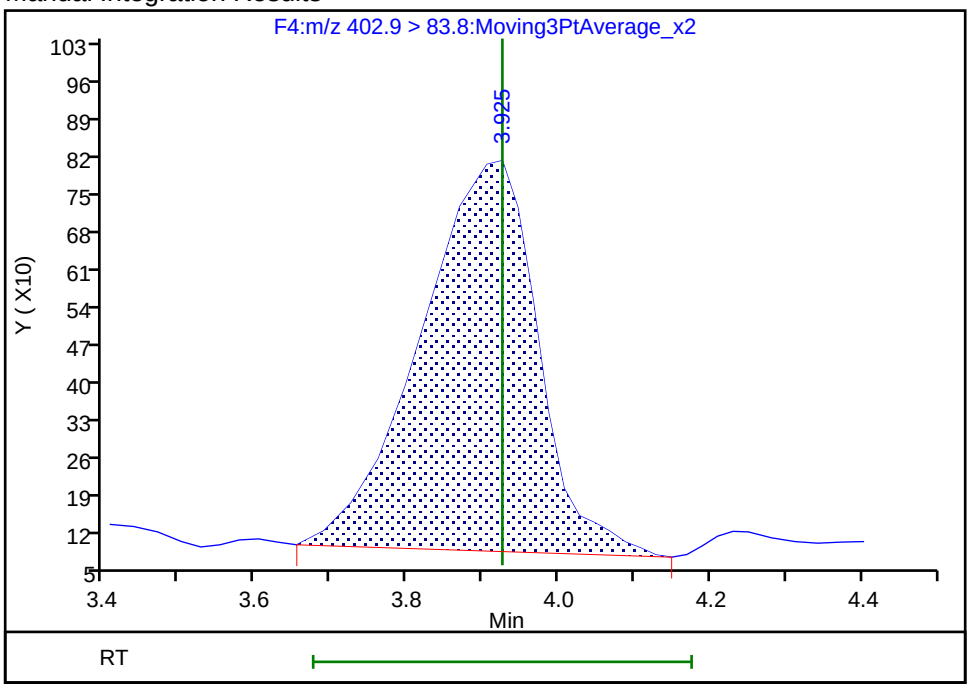
Processing Integration Results

RT: 3.93
Area: 7187
Amount: 2.255970
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 7816
Amount: 2.453411
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:12:46

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

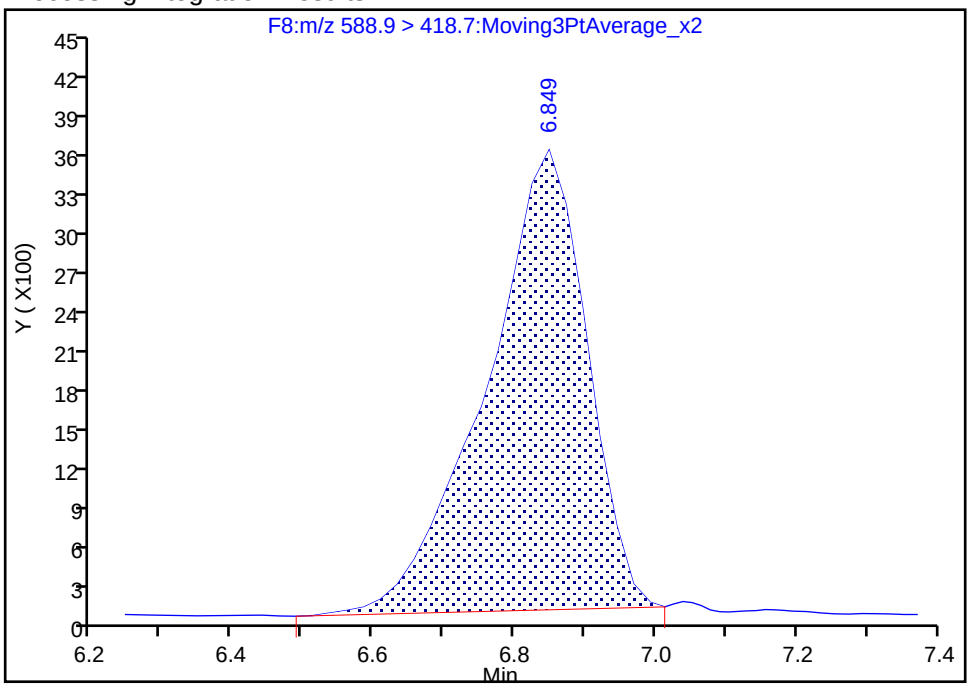
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

D 29 d5-NEtFOSAA, CAS: STL02117

Signal: 1

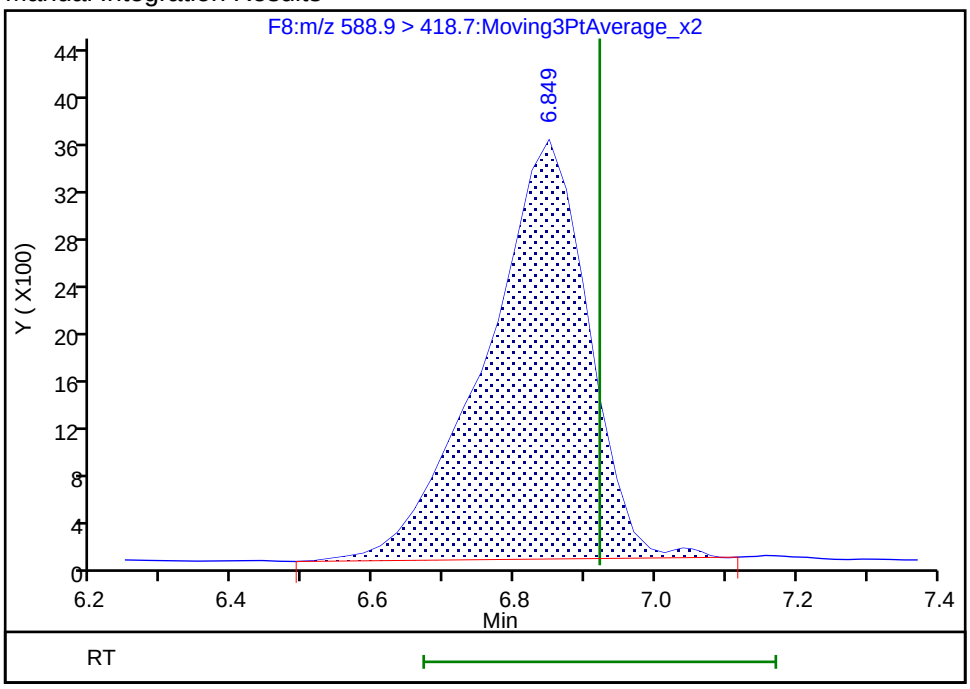
Processing Integration Results

RT: 6.85
Area: 34143
Amount: 3.702449
Amount Units: ng/ml



Manual Integration Results

RT: 6.85
Area: 34993
Amount: 3.794623
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:14:48

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

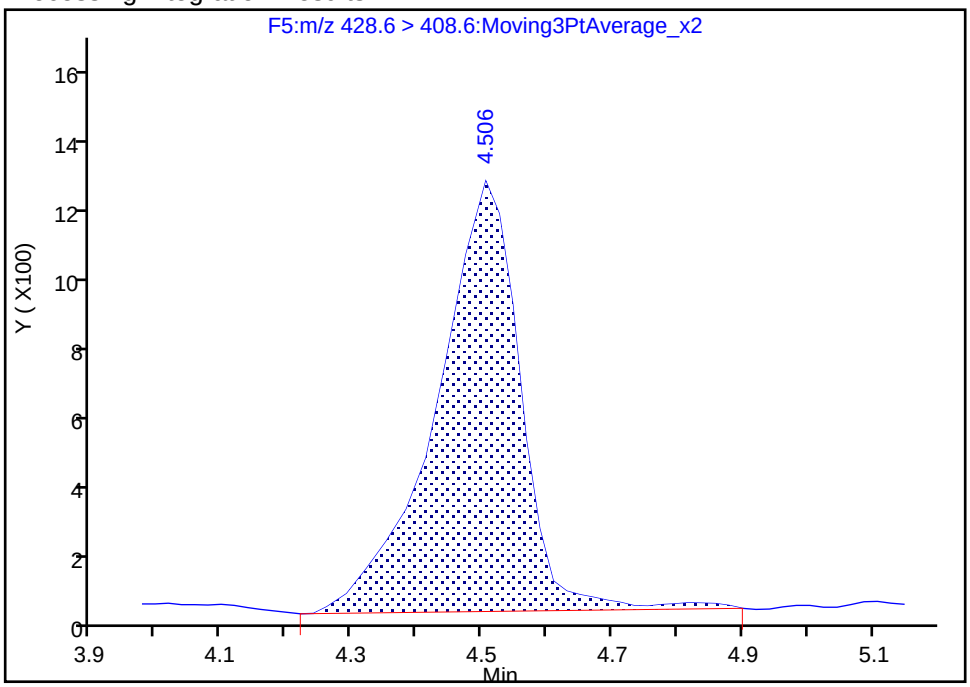
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B25.d				
Injection Date:	05-Jun-2019 07:40:55	Instrument ID:	LC410		
Lims ID:	200-48826-A-20-A	Lab Sample ID:	200-48826-20		
Client ID:	MW-19 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	5.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

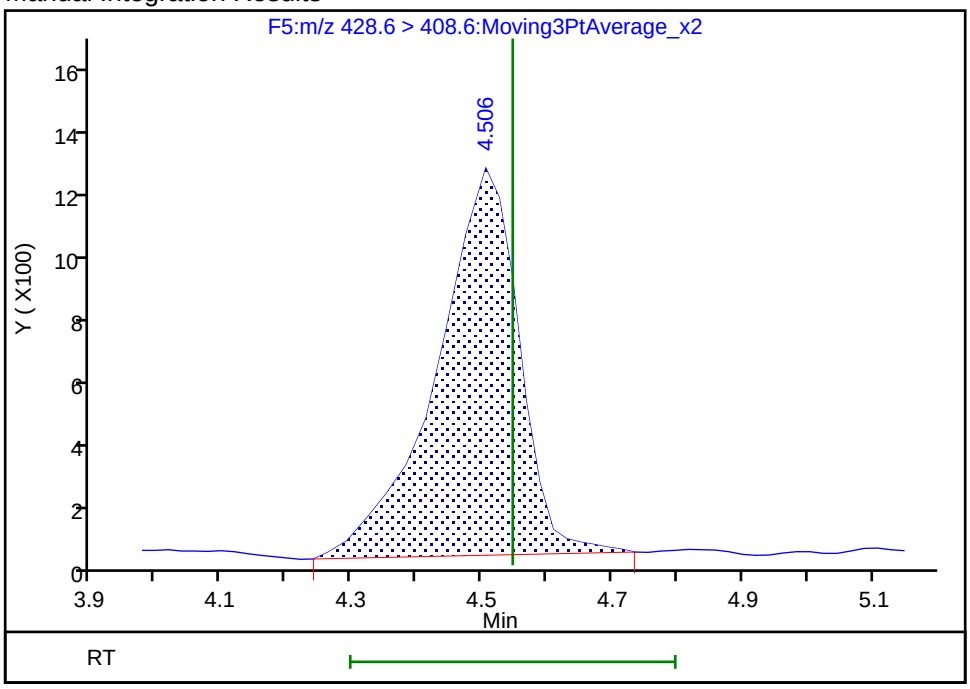
Processing Integration Results

RT: 4.51
Area: 10588
Amount: 6.152910
Amount Units: ng/ml



Manual Integration Results

RT: 4.51
Area: 10302
Amount: 5.986710
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:12:52
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: DUP 051619 Lab Sample ID: 200-48826-21

Matrix: Water Lab File ID: PF060419B26.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 00:00

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 292.1(mL) Date Analyzed: 06/05/2019 07:56

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.7	0.86
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.65
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.78
335-67-1	Perfluorooctanoic acid (PFOA)	0.59	J	1.7	0.54
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.66
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.79
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.2	J	1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.68
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.81
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.77
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND	*	1.7	0.52
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3
27619-97-2	6:2 FTS	ND		17	3.9
39108-34-4	8:2 FTS	ND		17	2.5

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: DUP 051619 Lab Sample ID: 200-48826-21

Matrix: Water Lab File ID: PF060419B26.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 00:00

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 292.1(mL) Date Analyzed: 06/05/2019 07:56

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	34		25-150
STL00992	13C4 PFBA	21	*	25-150
STL01893	13C5 PFPeA	35		25-150
STL00993	13C2 PFHxA	49	*	50-150
STL01892	13C4 PFHpA	48	*	50-150
STL00990	13C4 PFOA	54		50-150
STL00995	13C5 PFNA	43	*	50-150
STL00996	13C2 PFDA	48	*	50-150
STL00997	13C2 PFUnA	55		50-150
STL00998	13C2 PFDoA	45	*	50-150
STL02116	13C2 PFTeDA	44	*	50-150
STL02337	13C3 PFBS	30	*	50-150
STL00994	18O2 PFHxS	39	*	50-150
STL00991	13C4 PFOS	42	*	50-150
STL02118	d3-NMeFOSAA	35	*	50-150
STL02117	d5-NEtFOSAA	41	*	50-150
STL02279	M2-6:2 FTS	67		25-150
STL02280	M2-8:2 FTS	67		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B26.d
Lims ID: 200-48826-A-21-A
Client ID: DUP 051619
Sample Type: Client
Inject. Date: 05-Jun-2019 07:56:46 ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-026 21
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
216.9 > 171.5	2.339	2.360	-0.021	1.000	70489	10.5		21.0	14.8	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	88026	17.3		34.6	155	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.012	1123	0.6781	Target=1.67		0.8	
298.9 > 98.9	2.830	2.901	-0.071	0.988	602		1.87(0.83-2.51)		1.5	
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.901	-0.035	1.000	30638	13.8		29.8	75.6	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	376577	24.7		49.4	1315	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	511937	23.8		47.6	649	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	51656	18.3		38.6	160	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.506	4.547	-0.041	1.000	48362	31.7		66.6	206	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1371207	50.0			1561	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.589	4.589	0.0	1.009	4948	0.3433	Target=2.43		8.1	
412.9 > 168.9	4.589	4.589	0.0	1.009	1473		3.36(1.22-3.64)		10.1	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.609	-0.062	1.000	712149	26.8		53.5	1584	
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.389	-0.053	1.000	758863	21.3		42.5	1532	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	127496	20.0		41.8	403	

Report Date: 05-Jun-2019 15:52:03 Chrom Revision: 2.3 03-May-2019 15:52:00
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B26.d
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.131	-0.034	1.000	179589	32.3		67.5	1014	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	736651	24.2		48.3	1275	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.549	-0.072	1.000	172442	17.4		34.7	653	
31 Perfluorodecanesulfonic acid										R
598.9 > 80.0	6.801	6.897	-0.096	1.272	351	0.1268	Target=1.25		1.3	R
598.9 > 98.9	6.993	6.897	0.096	1.000	687		0.51(0.63-1.88)		2.4	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.825	6.921	-0.096	1.000	167747	20.5		41.0	614	
32 Perfluoroundecanoic acid										R
562.9 > 518.5	6.897	6.921	-0.024	1.003	1008	0.0750	Target=7.06		5.0	R
562.9 > 168.9	6.897	6.921	-0.024	1.003	367		2.75(3.53-10.58)		3.5	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.945	-0.072	1.000	807432	27.4		54.9	1496	
D 34 13C8 FOSA										
505.9 > 78.0	6.993	7.026	-0.033	1.000	184662	16.8		33.6	603	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	847174	22.6		45.2	1822	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.741	8.819	-0.078	1.000	732862	21.8		43.5	278	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Report Date: 05-Jun-2019 15:52:03 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B26.d

Injection Date: 05-Jun-2019 07:56:46 Instrument ID: LC410

Lims ID: 200-48826-A-21-A Lab Sample ID: 200-48826-21

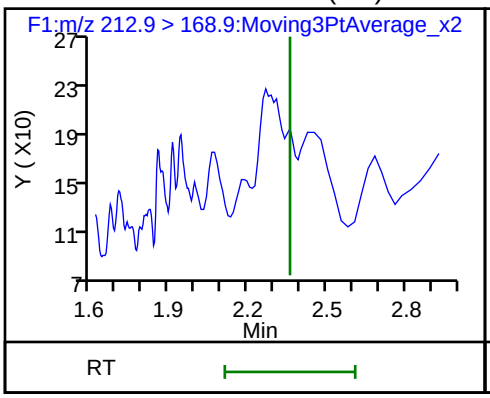
Client ID: DUP 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 26

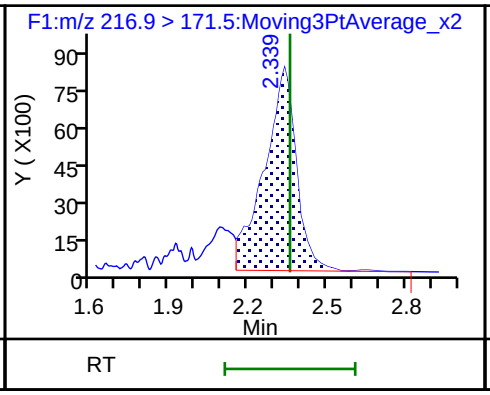
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

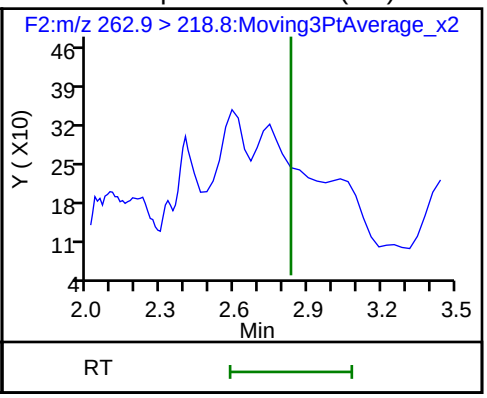
2 Perfluorobutanoic acid (ND)



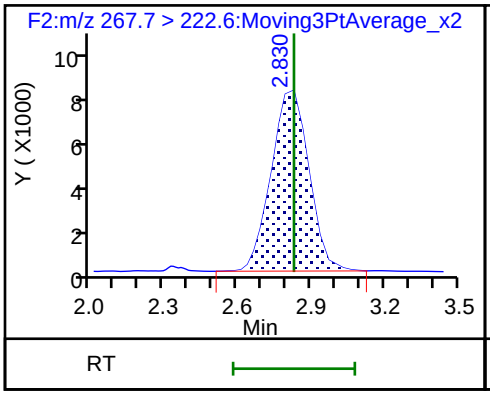
D 1 13C4 PFBA



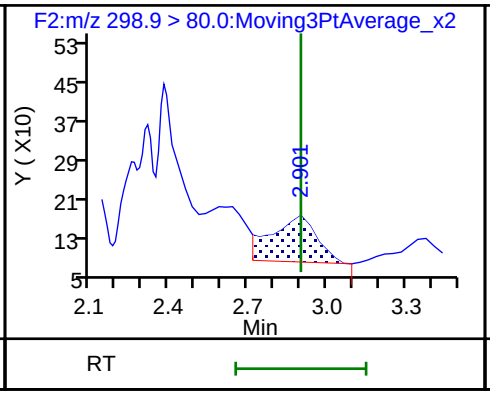
3 Perfluoropentanoic acid (ND)



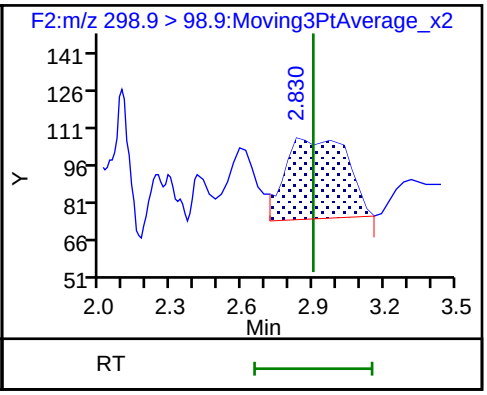
D 4 13C5 PFPeA



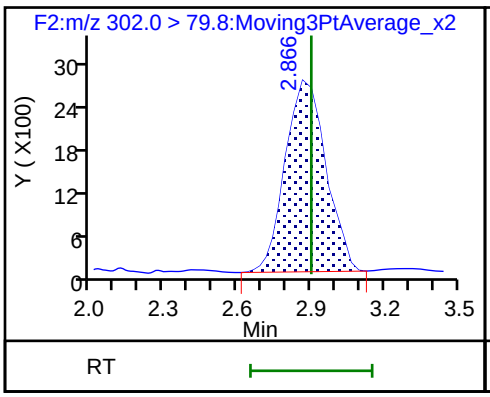
6 Perfluorobutanesulfonic acid



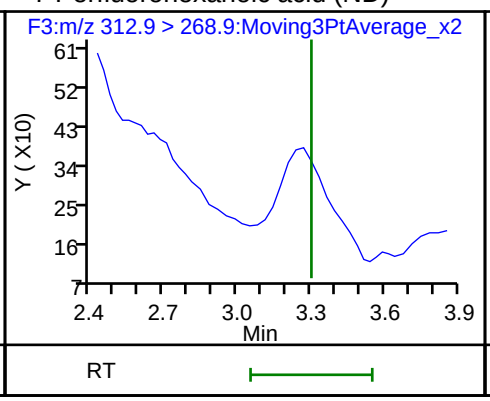
6 Perfluorobutanesulfonic acid



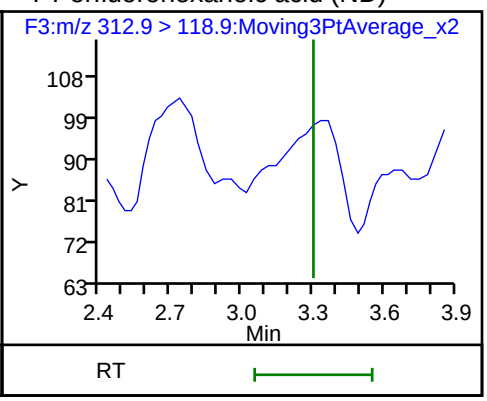
D 5 13C3 PFBS



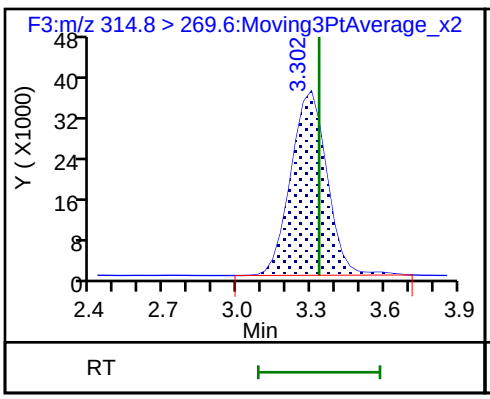
7 Perfluorohexanoic acid (ND)



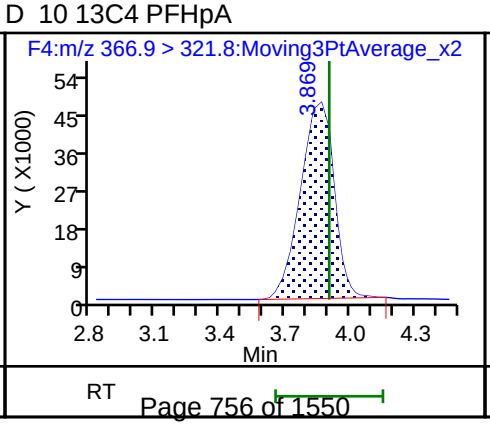
7 Perfluorohexanoic acid (ND)



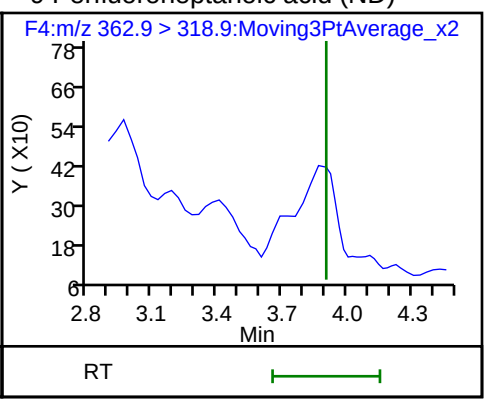
D 8 13C2 PFHxA



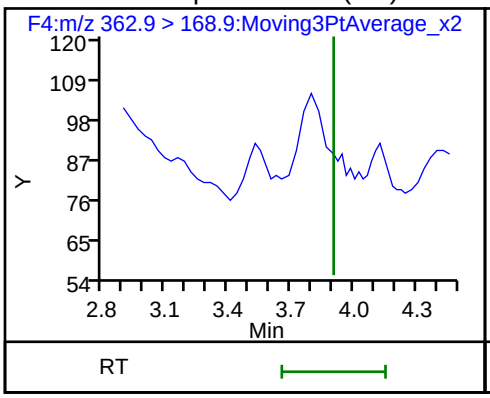
D 10 13C4 PFHpA



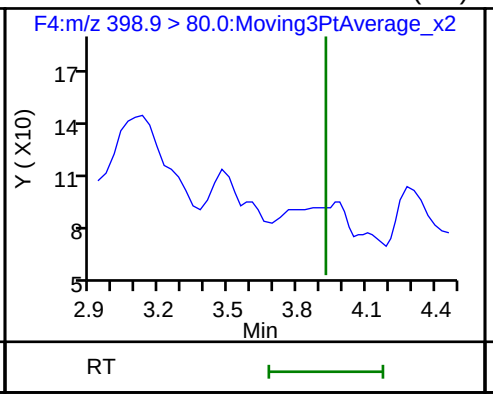
9 Perfluoroheptanoic acid (ND)



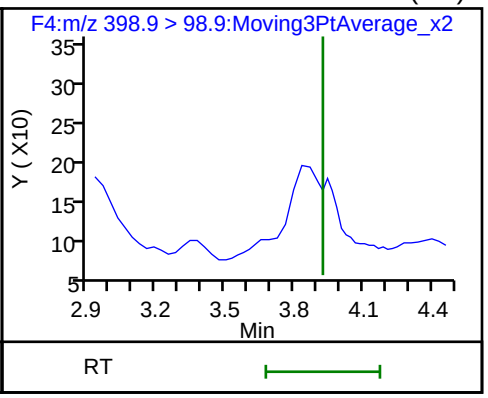
9 Perfluoroheptanoic acid (ND)



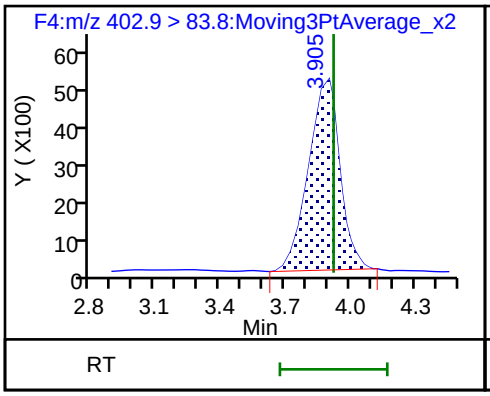
11 Perfluorohexanesulfonic acid (ND)



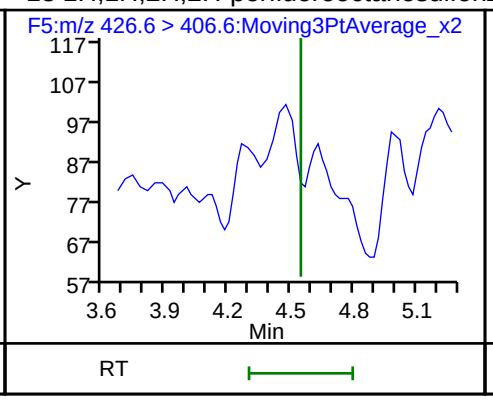
11 Perfluorohexanesulfonic acid (ND)



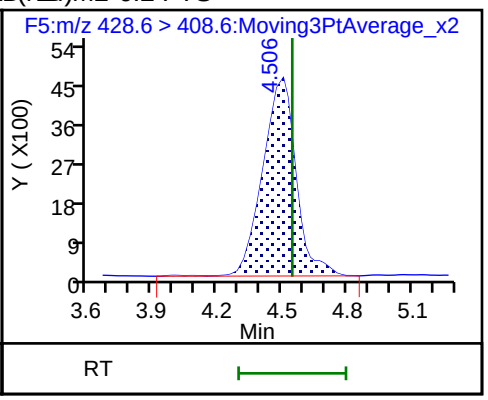
D 12 18O2 PFHxS



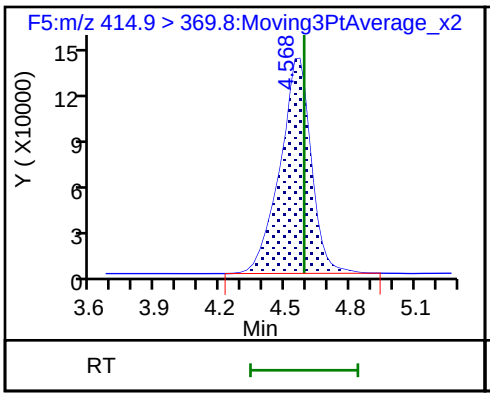
13 1H,1H,2H,2H-perfluorooctanesulfonic (NA)



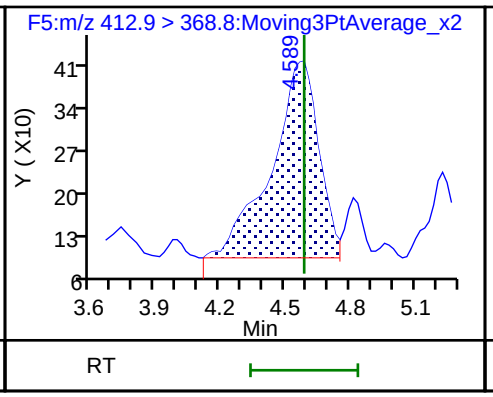
D 12 M2-6:2 FTS



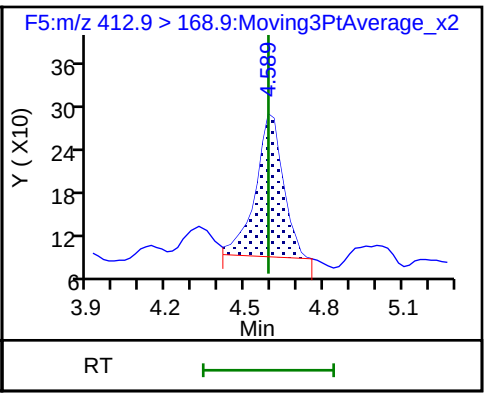
* 16 13C2 PFOA



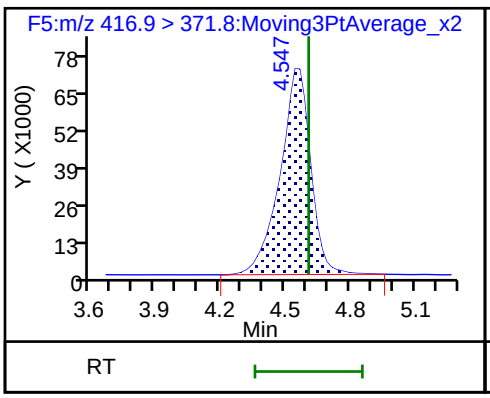
15 Perfluorooctanoic acid



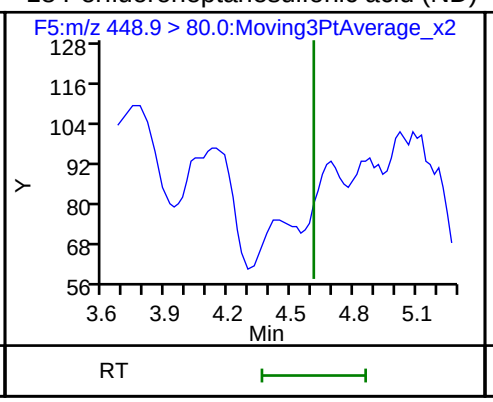
15 Perfluorooctanoic acid



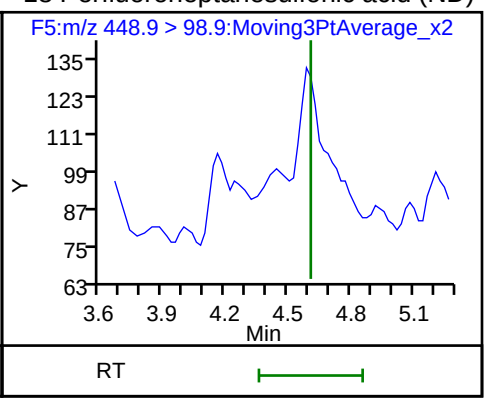
D 17 13C4 PFOA



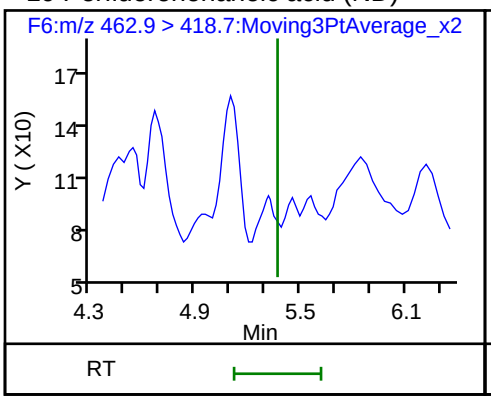
18 Perfluoroheptanesulfonic acid (ND)



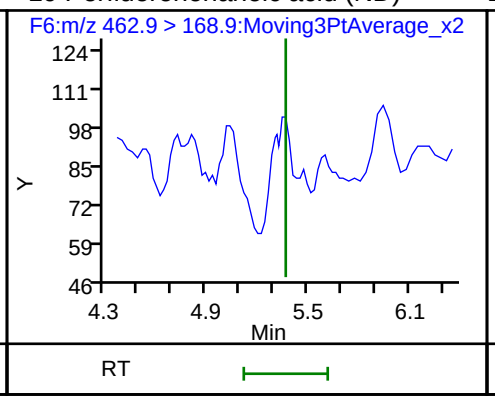
18 Perfluoroheptanesulfonic acid (ND)



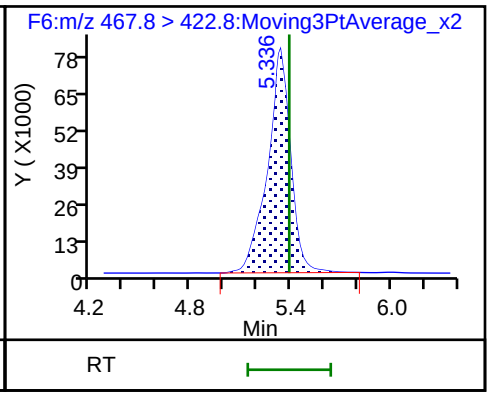
19 Perfluorononanoic acid (ND)



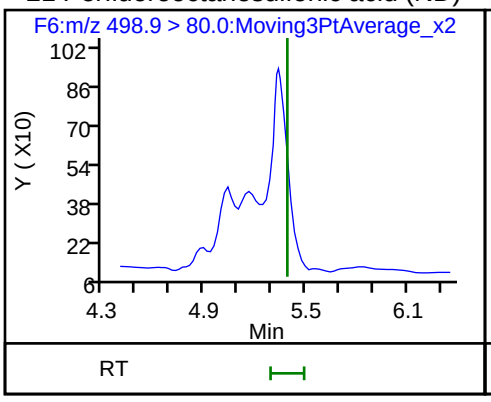
19 Perfluorononanoic acid (ND)



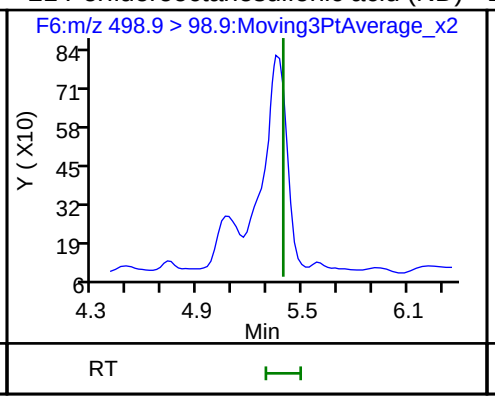
D 20 13C5 PFNA



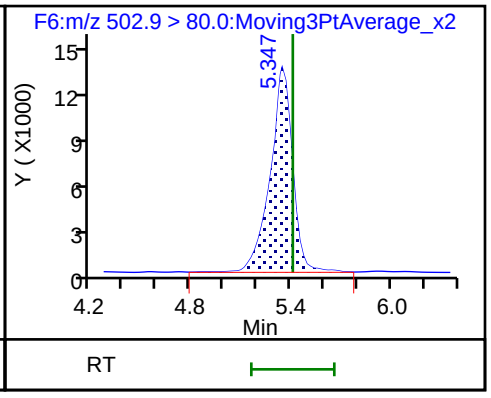
21 Perfluorooctanesulfonic acid (ND)



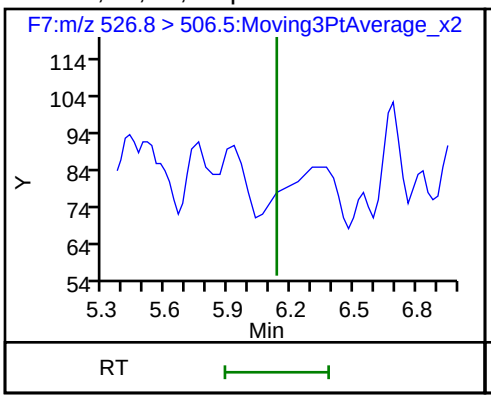
21 Perfluorooctanesulfonic acid (ND)



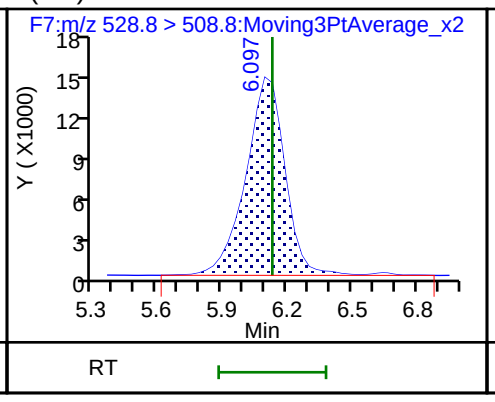
D 22 13C4 PFOS



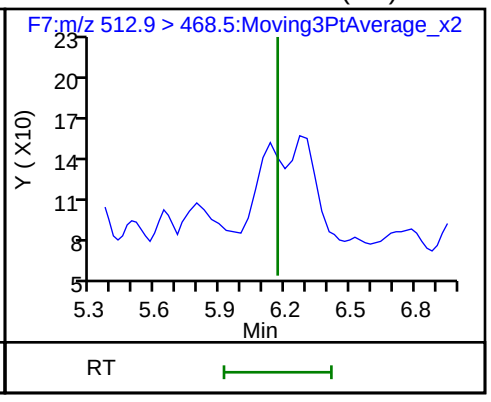
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (ND)



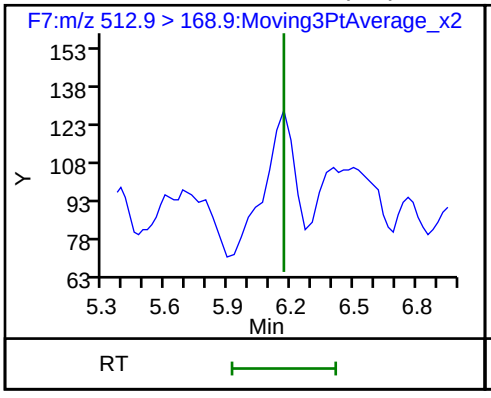
D 24 M2-8:2 FTS



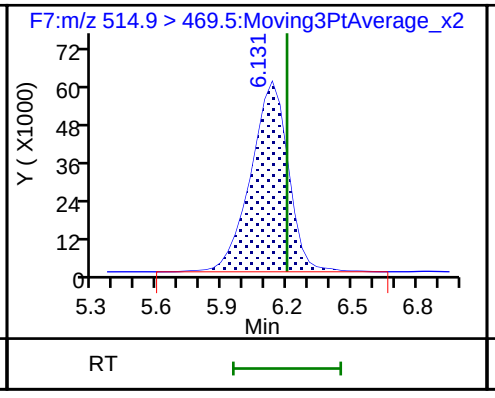
26 Perfluorodecanoic acid (ND)



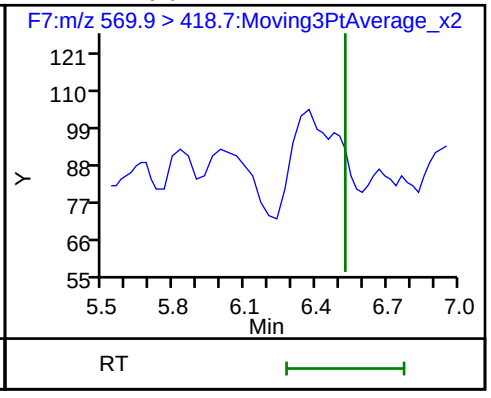
26 Perfluorodecanoic acid (ND)



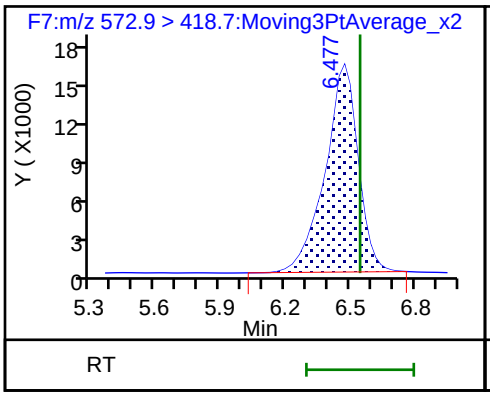
D 25 13C2 PFDA



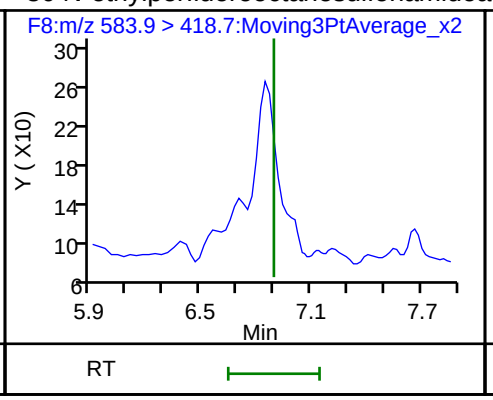
28 N-methylperfluorooctanesulfonamido (ND)



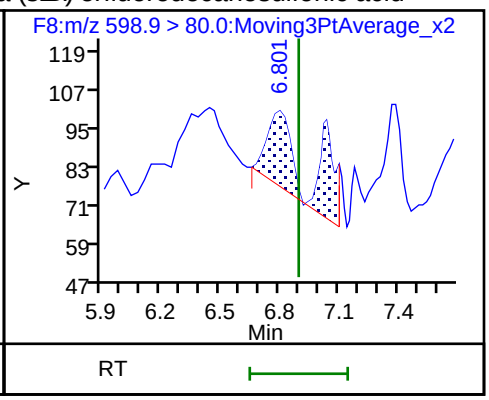
D 27 d3-NMeFOSAA



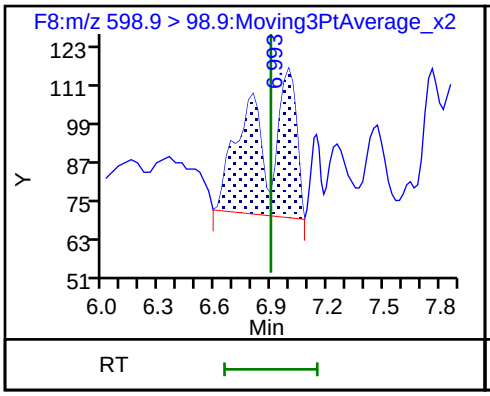
30 N-ethylperfluorooctanesulfonamidoa (ND)



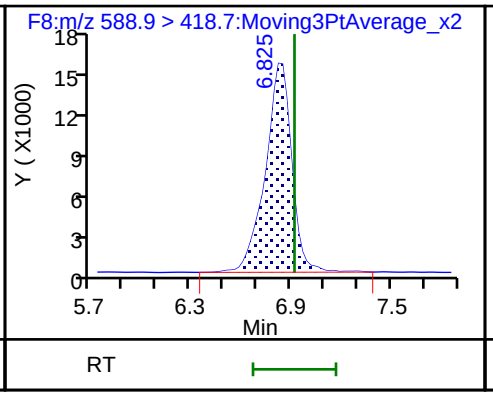
31 Perfluorodecanesulfonic acid



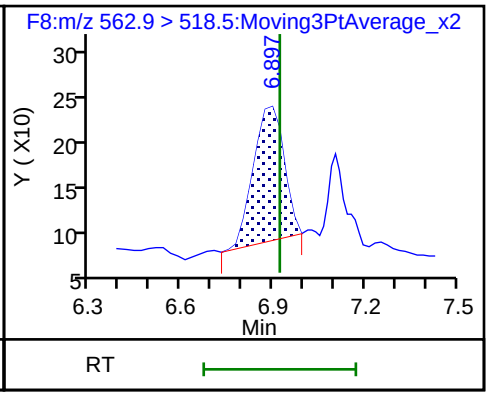
31 Perfluorodecanesulfonic acid



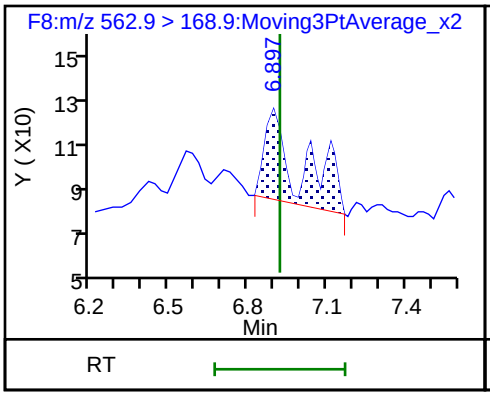
D 29 d5-NEtFOSAA



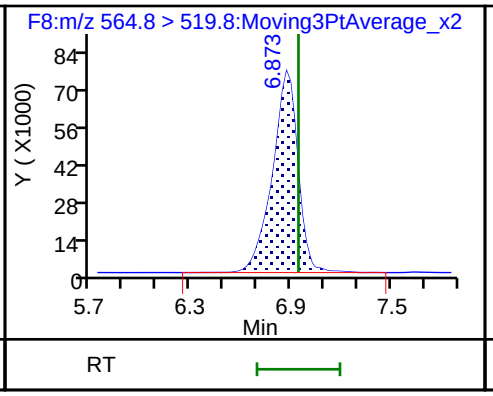
32 Perfluoroundecanoic acid



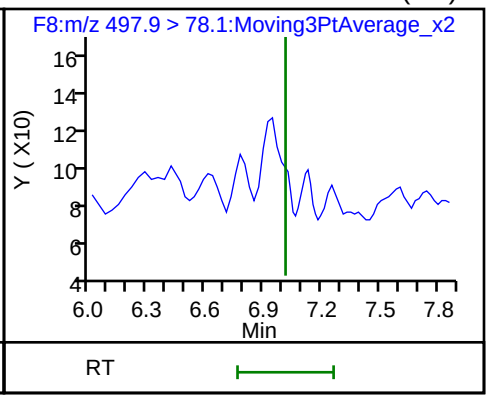
32 Perfluoroundecanoic acid



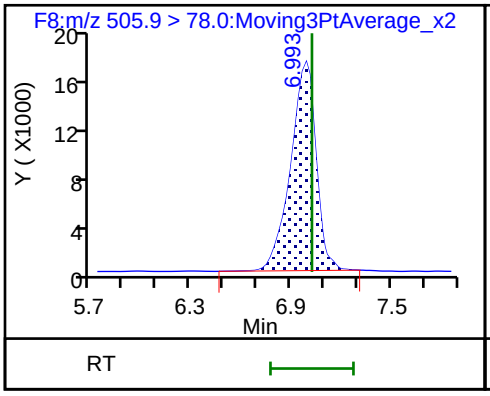
D 33 13C2 PFUnA



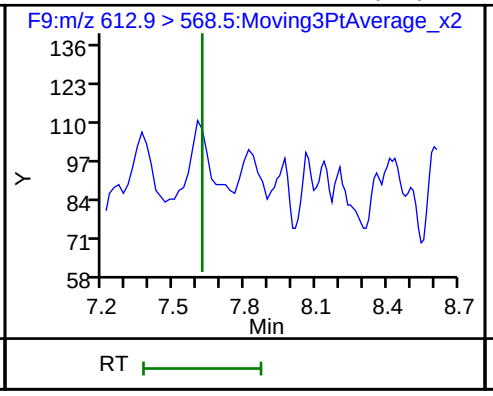
35 Perfluorooctanesulfonamide (ND)



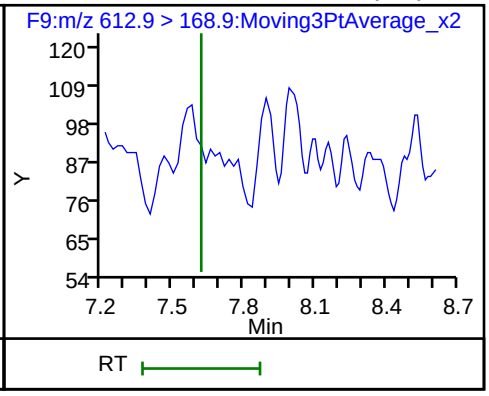
D 34 13C8 FOSA



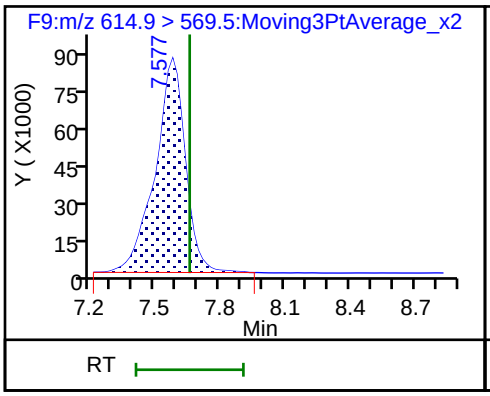
36 Perfluorododecanoic acid (ND)



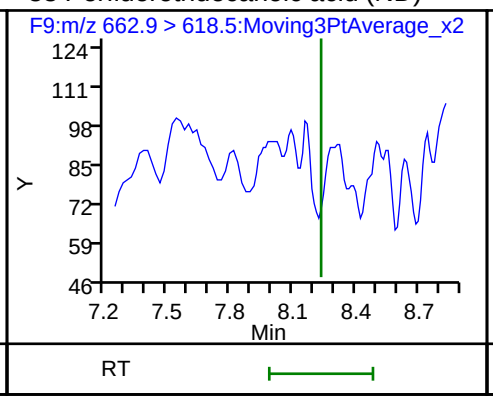
36 Perfluorododecanoic acid (ND)



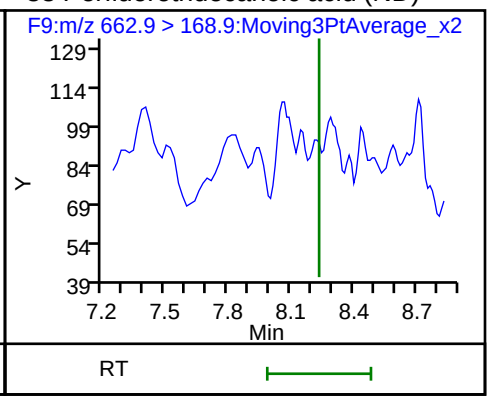
D 37 13C2 PFDoA



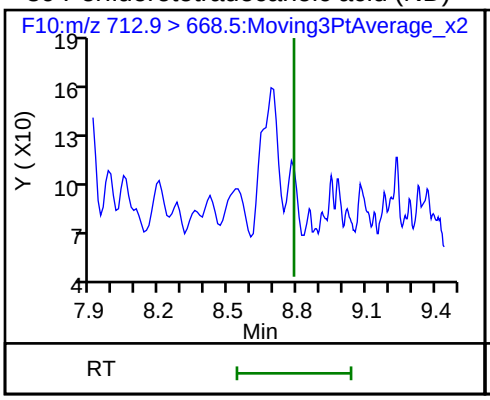
38 Perfluorotridecanoic acid (ND)



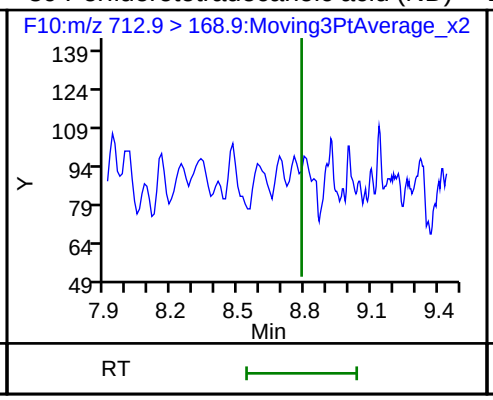
38 Perfluorotridecanoic acid (ND)



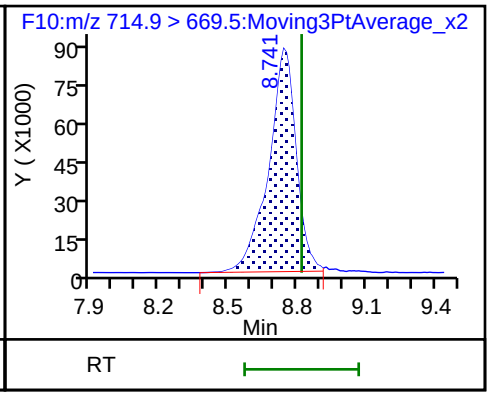
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: FIELD BLANK 051619 Lab Sample ID: 200-48826-22

Matrix: Water Lab File ID: PF060419B27.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 16:00

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.3(mL) Date Analyzed: 06/05/2019 08:12

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.6	0.82
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.6	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.6	0.62
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.75
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.6	0.52
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.6	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.6	0.63
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.43
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.6	0.48
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.49
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.75
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.40
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.66
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.78
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.74
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND	*	1.6	0.50
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.52
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		16	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		16	1.2
27619-97-2	6:2 FTS	ND		16	3.8
39108-34-4	8:2 FTS	ND		16	2.4

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: FIELD BLANK 051619 Lab Sample ID: 200-48826-22

Matrix: Water Lab File ID: PF060419B27.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 16:00

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.3(mL) Date Analyzed: 06/05/2019 08:12

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	29		25-150
STL00992	13C4 PFBA	38		25-150
STL01893	13C5 PFPeA	50		25-150
STL00993	13C2 PFHxA	58		50-150
STL01892	13C4 PFHpA	57		50-150
STL00990	13C4 PFOA	60		50-150
STL00995	13C5 PFNA	55		50-150
STL00996	13C2 PFDA	59		50-150
STL00997	13C2 PFUnA	55		50-150
STL00998	13C2 PFDoA	42	*	50-150
STL02116	13C2 PFTeDA	38	*	50-150
STL02337	13C3 PFBS	47	*	50-150
STL00994	18O2 PFHxS	37	*	50-150
STL00991	13C4 PFOS	44	*	50-150
STL02118	d3-NMeFOSAA	42	*	50-150
STL02117	d5-NEtFOSAA	42	*	50-150
STL02279	M2-6:2 FTS	52		25-150
STL02280	M2-8:2 FTS	61		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B27.d
Lims ID: 200-48826-A-22-A
Client ID: FIELD BLANK 051619
Sample Type: Client
Inject. Date: 05-Jun-2019 08:12:45 ALS Bottle#: 0 Worklist Smp#: 27
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-027 22
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 15:45:23
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.349	2.360	-0.011	0.996	1219	0.3215			4.4	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.360	2.360	0.0	1.000	120758	18.8		37.5	65.8	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.830	2.830	0.0	1.000	121426	24.9		49.8	404	M
D 5 13C3 PFBS										
302.0 > 79.8	2.902	2.901	0.001	1.000	46416	21.9		47.0	133	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.302	3.302	0.0	1.000	2316	0.1953	Target=14.34		28.6	M
312.9 > 118.9	3.302	3.302	0.0	0.000	0		0.00(7.17-21.51)			
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	424198	29.0		58.0	1506	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	588178	28.5		57.0	1520	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.925	-0.020	1.000	47541	17.5		37.0	126	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	36079	24.6		51.8	164	M
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1315305	50.0			1652	
15 Perfluorooctanoic acid										R
412.9 > 368.8	4.547	4.589	-0.042	1.000	884	0.0567	Target=2.43		6.5	R
412.9 > 168.9	4.526	4.589	-0.063	0.995	913		0.97(1.22-3.64)		5.9	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.609	-0.062	1.000	771037	30.2		60.4	4930	
D 20 13C5 PFNA										
467.8 > 422.8	5.337	5.389	-0.052	1.000	945318	27.6		55.2	5733	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 22 13C4 PFOS										
502.9 > 80.0	5.337	5.411	-0.074	1.000	129730	21.2		44.4	319	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.131	-0.034	1.000	154961	29.1		60.7	562	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	864963	29.6		59.2	1048	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.549	-0.072	1.000	198566	20.8		41.7	904	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.921	-0.072	1.000	164568	21.0		41.9	640	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	769540	27.3		54.5	2398	
D 34 13C8 FOSA										
505.9 > 78.0	6.993	7.026	-0.033	1.000	154417	14.7		29.3	502	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	757271	21.1		42.1	2083	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.730	8.819	-0.089	1.000	606284	18.8		37.6	839	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:52:05 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B27.d

Injection Date: 05-Jun-2019 08:12:45 Instrument ID: LC410

Lims ID: 200-48826-A-22-A Lab Sample ID: 200-48826-22

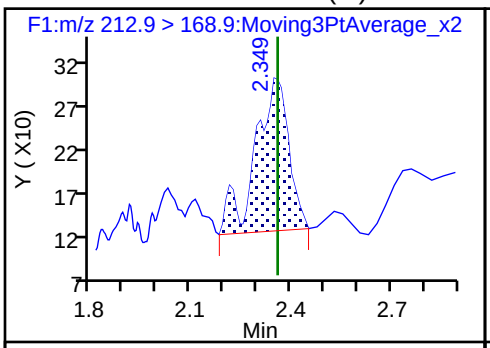
Client ID: FIELD BLANK 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 27

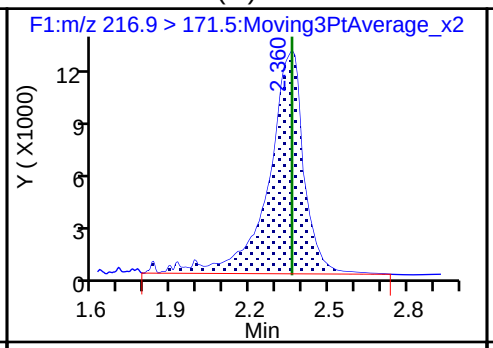
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

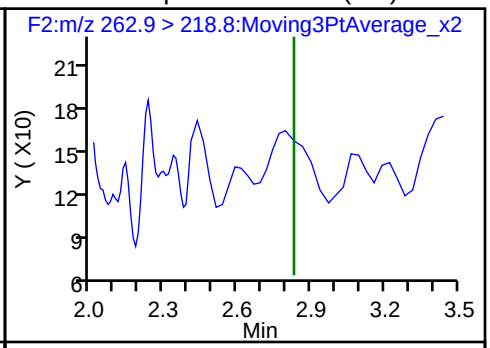
2 Perfluorobutanoic acid (M)



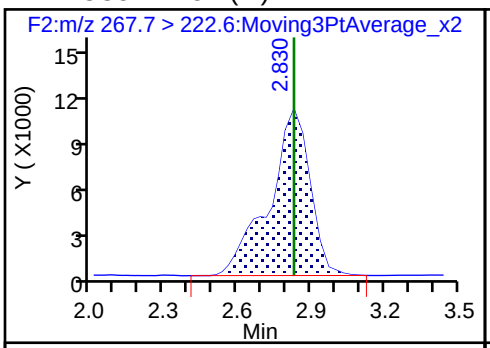
D 1 13C4 PFBA (M)



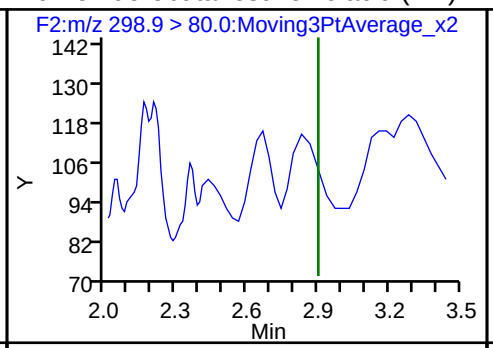
3 Perfluoropentanoic acid (ND)



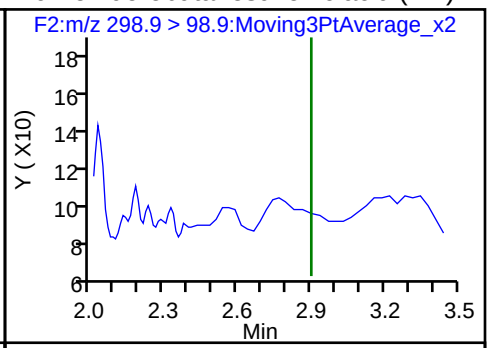
D 4 13C5 PFPeA (M)



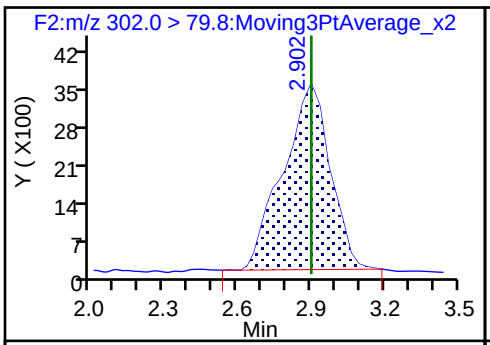
6 Perfluorobutanesulfonic acid (ND)



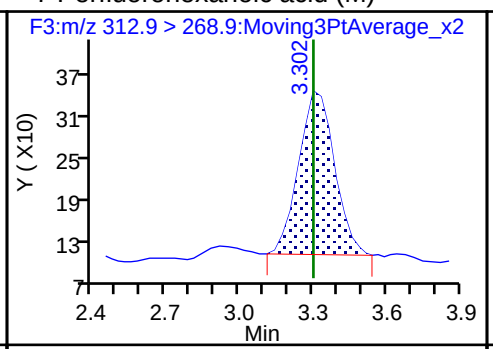
6 Perfluorobutanesulfonic acid (ND)



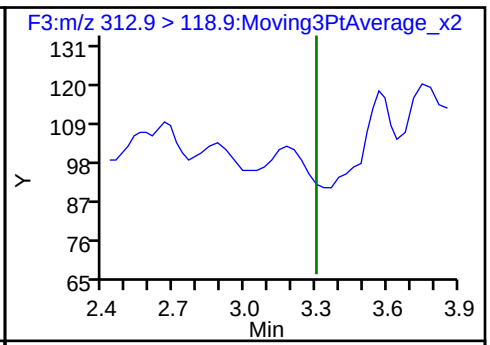
D 5 13C3 PFBS



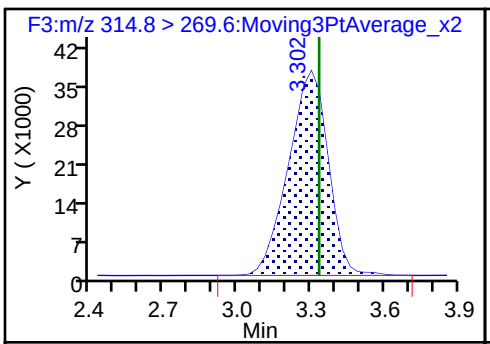
7 Perfluorohexanoic acid (M)



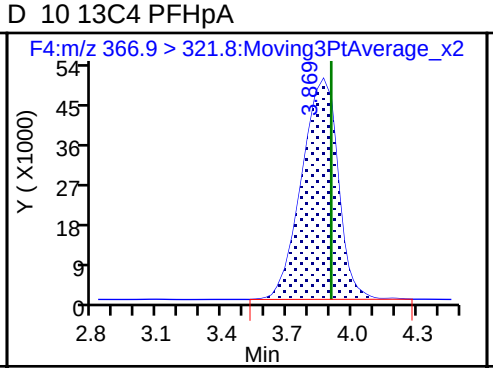
7 Perfluorohexanoic acid



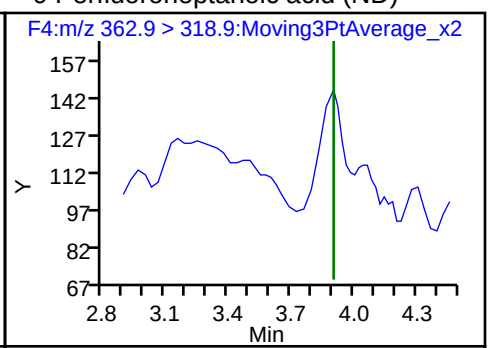
D 8 13C2 PFHxA



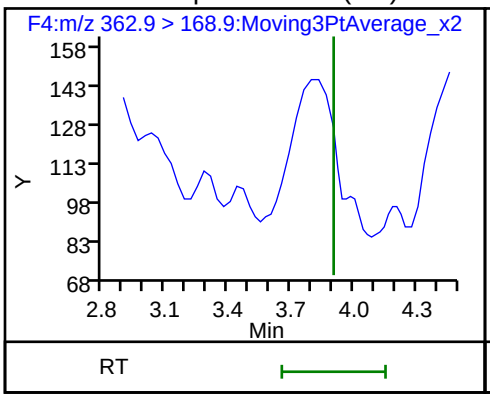
D 10 13C4 PFHpA



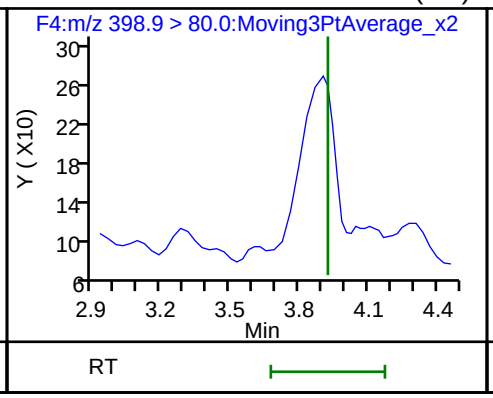
9 Perfluoroheptanoic acid (ND)



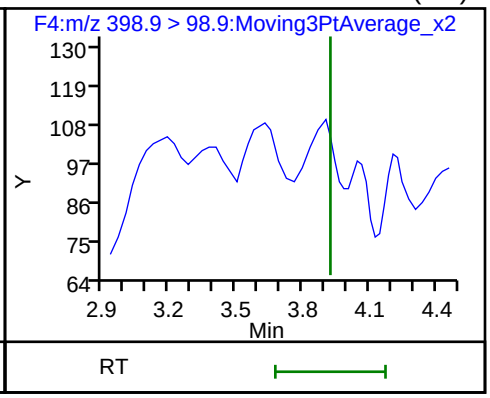
9 Perfluoroheptanoic acid (ND)



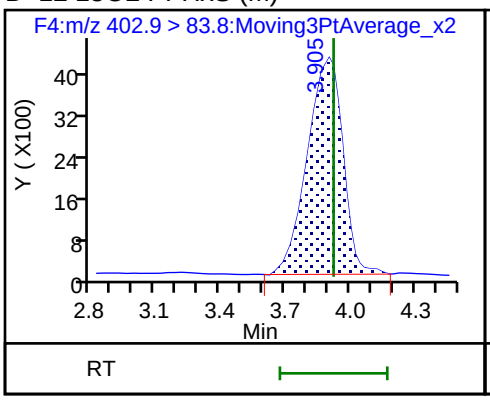
11 Perfluorohexanesulfonic acid (ND)



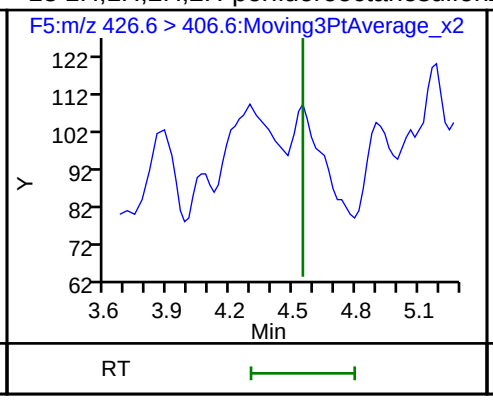
11 Perfluorohexanesulfonic acid (ND)



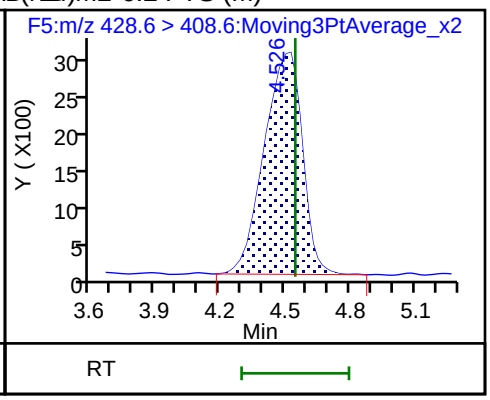
D 12 18O2 PFHxS (M)



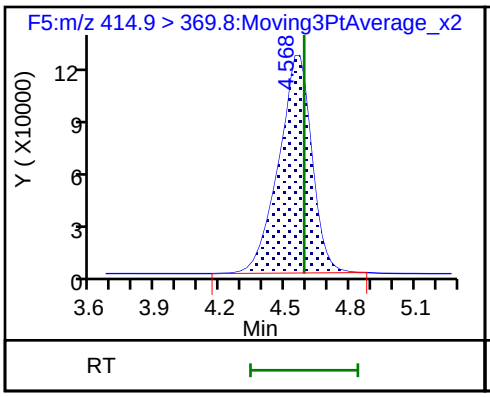
13 1H,1H,2H,2H-perfluorooctanesulfonic (M2)



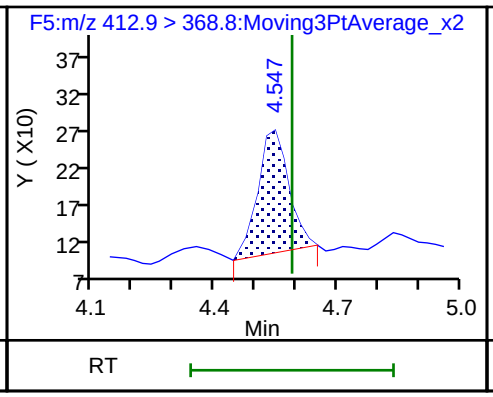
D 14 M2-6:2 FTS (M)



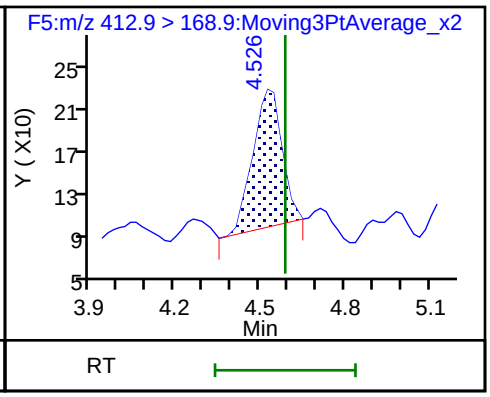
* 16 13C2 PFOA



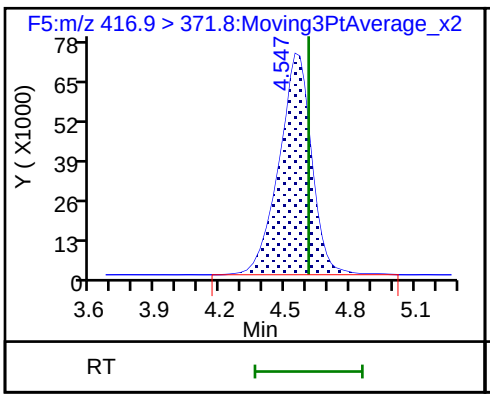
15 Perfluorooctanoic acid



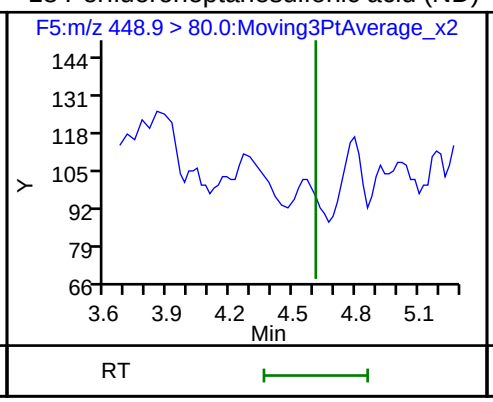
15 Perfluorooctanoic acid



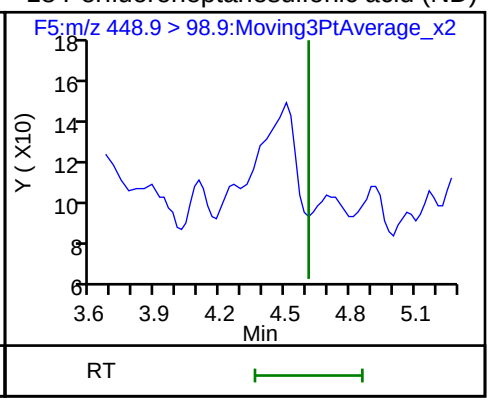
D 17 13C4 PFOA



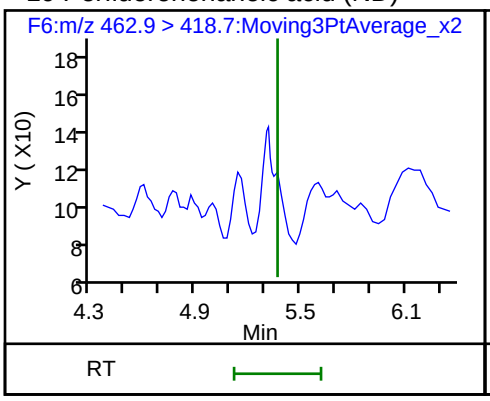
18 Perfluoroheptanesulfonic acid (ND)



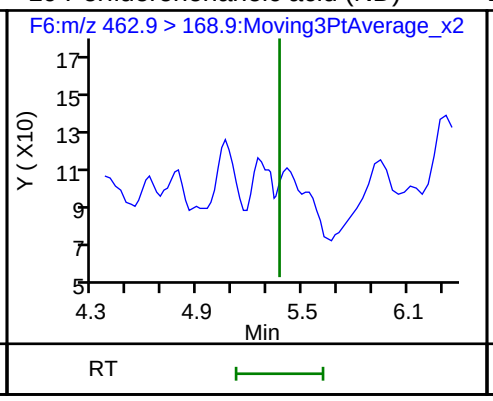
18 Perfluoroheptanesulfonic acid (ND)



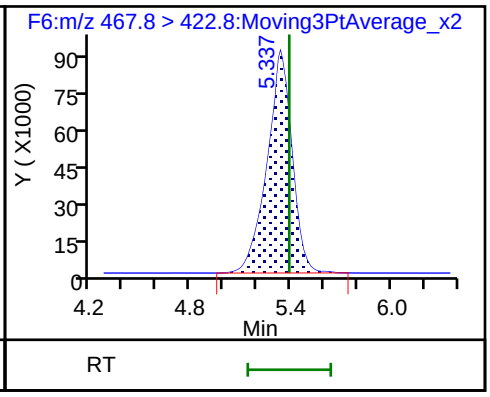
19 Perfluorononanoic acid (ND)



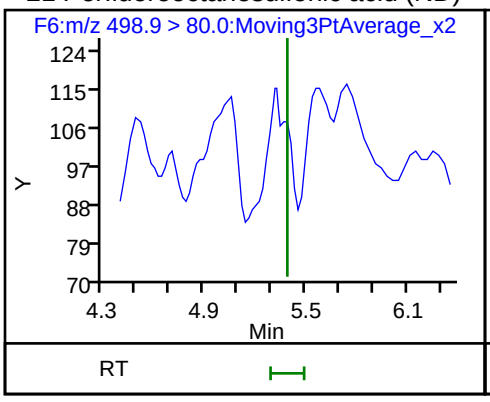
19 Perfluorononanoic acid (ND)



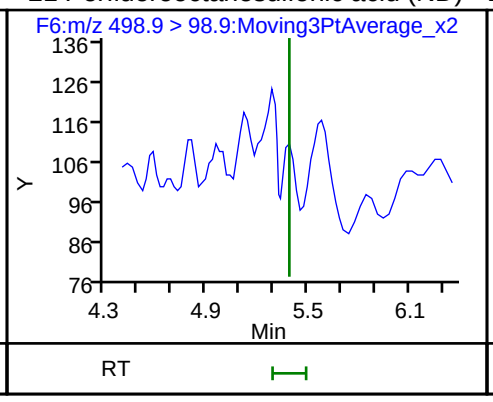
D 20 13C5 PFNA



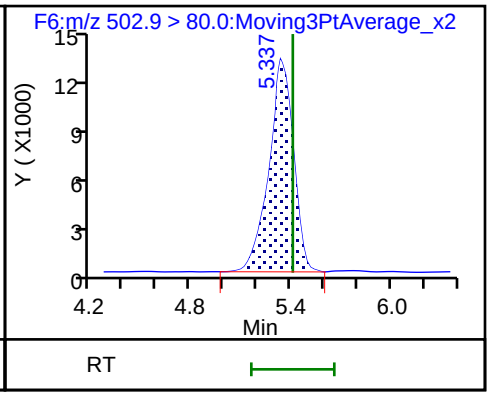
21 Perfluorooctanesulfonic acid (ND)



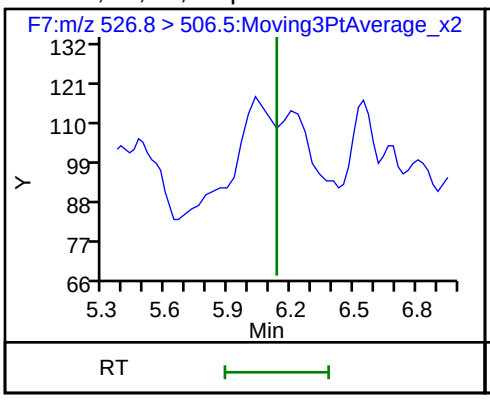
21 Perfluorooctanesulfonic acid (ND)



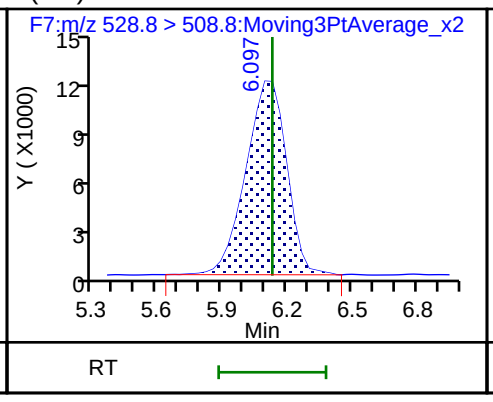
D 22 13C4 PFOS



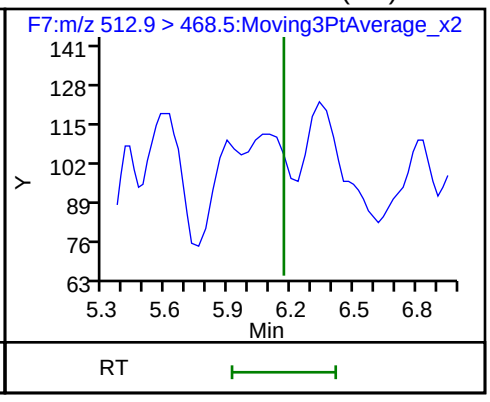
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (ND)



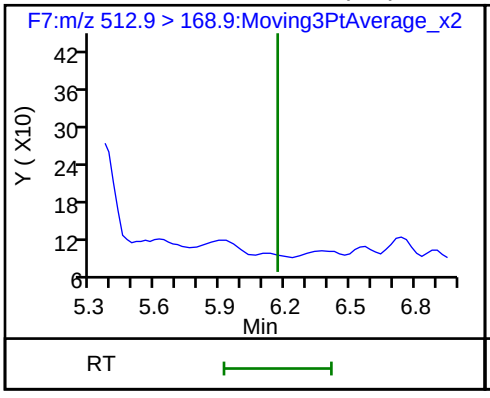
D 24 M2-8:2 FTS



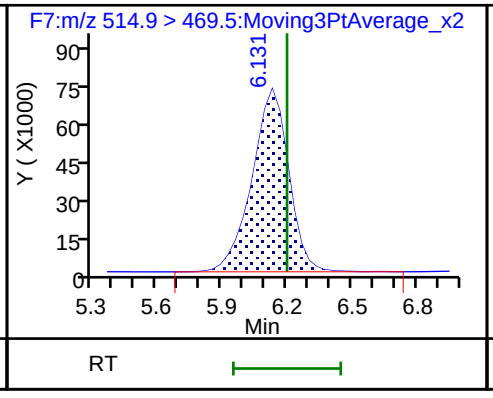
26 Perfluorodecanoic acid (ND)



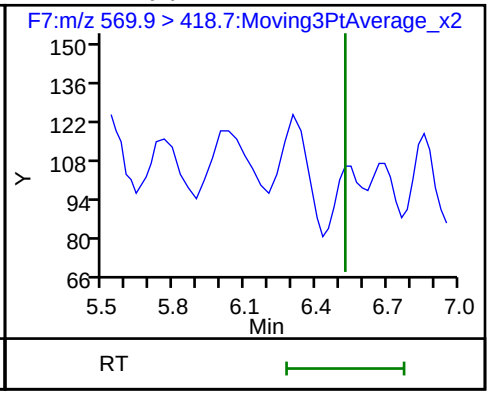
26 Perfluorodecanoic acid (ND)



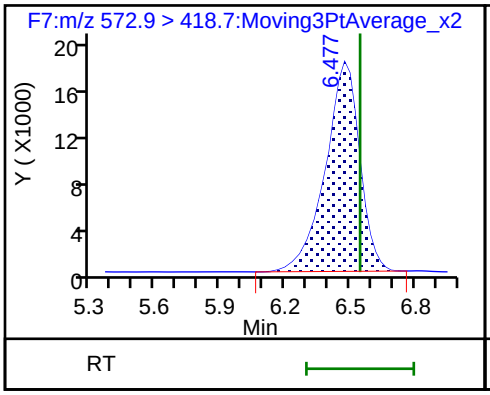
D 25 13C2 PFDA



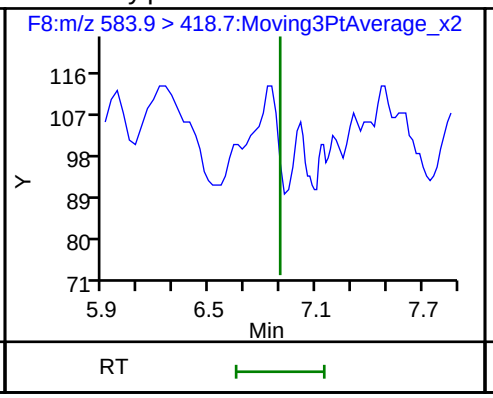
28 N-methylperfluorooctanesulfonamido (ND)



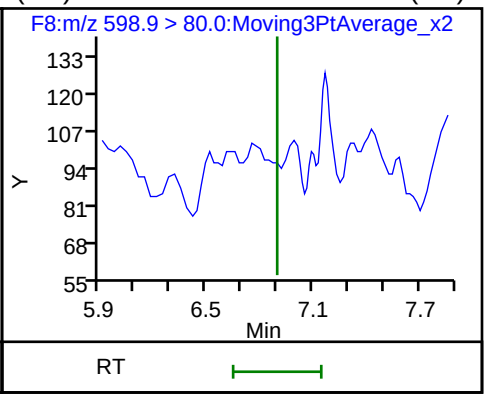
D 27 d3-NMeFOSAA



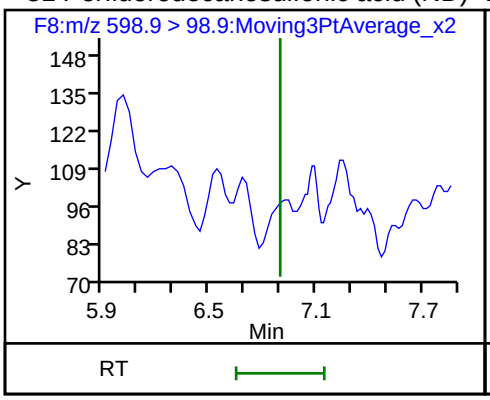
30 N-ethylperfluorooctanesulfonamidoa (ND)



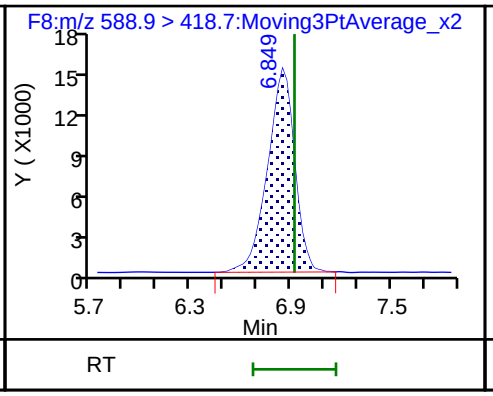
31 Perfluorodecanesulfonic acid (ND)



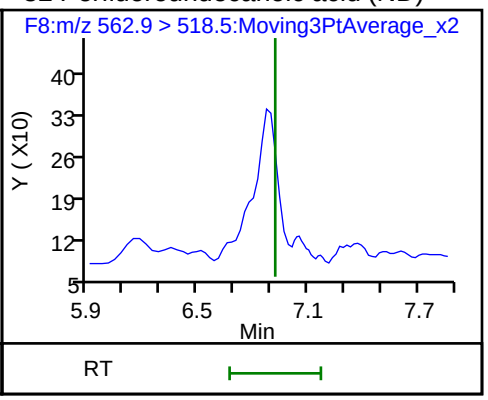
31 Perfluorodecanesulfonic acid (ND)



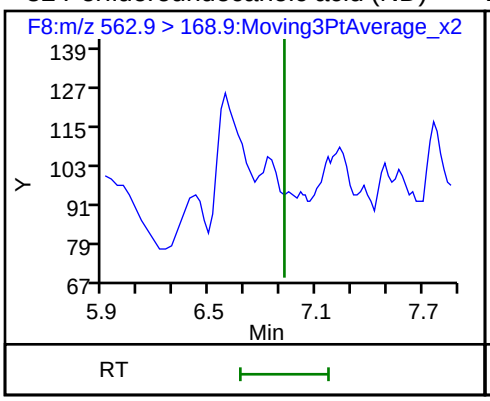
D 29 d5-NEtFOSAA



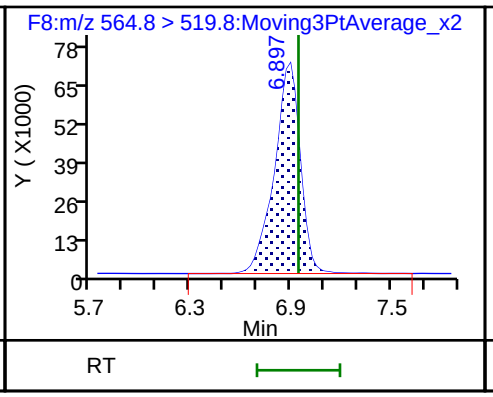
32 Perfluoroundecanoic acid (ND)



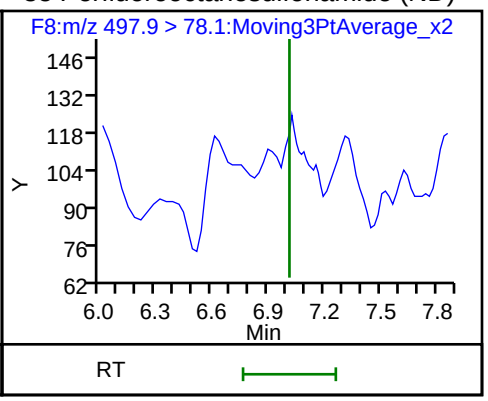
32 Perfluoroundecanoic acid (ND)



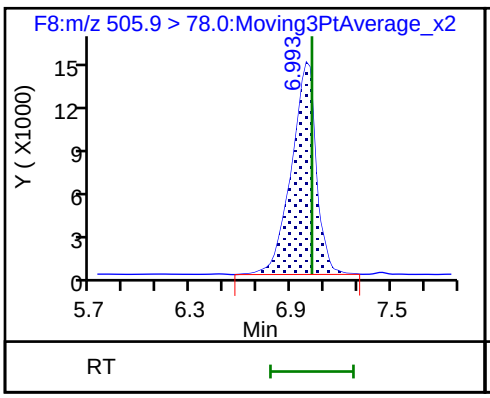
D 33 13C2 PFUnA



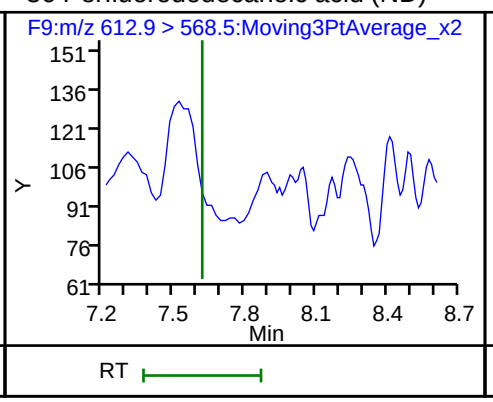
35 Perfluorooctanesulfonamide (ND)



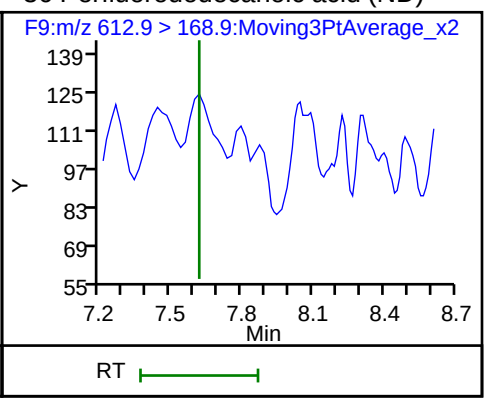
D 34 13C8 FOSA



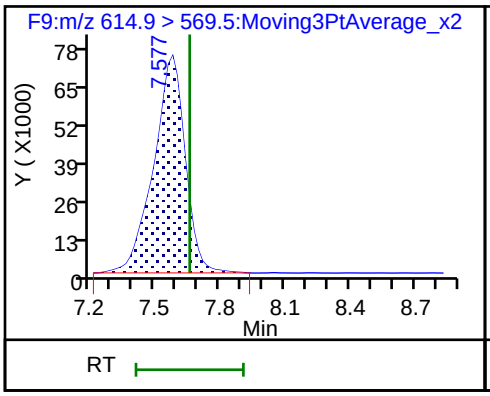
36 Perfluorododecanoic acid (ND)



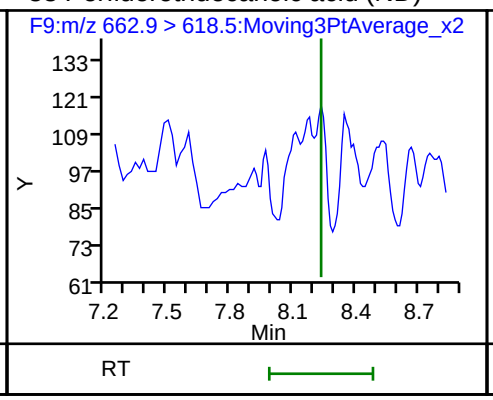
36 Perfluorododecanoic acid (ND)



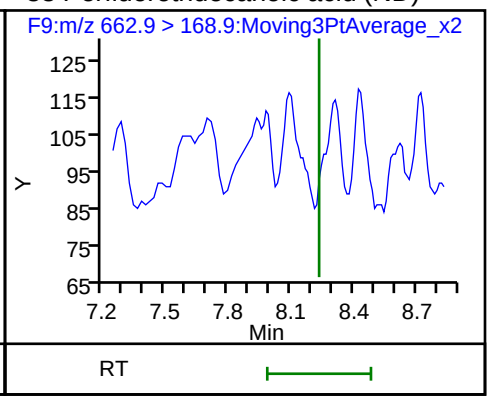
D 37 13C2 PFDoA



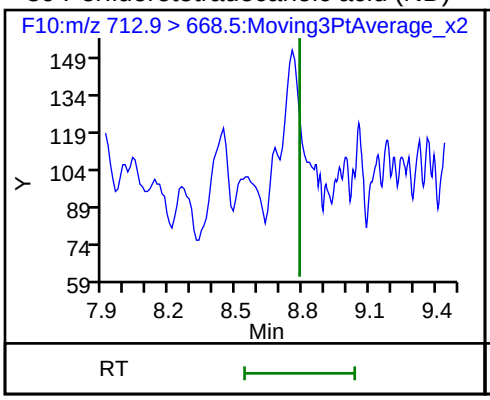
38 Perfluorotridecanoic acid (ND)



38 Perfluorotridecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



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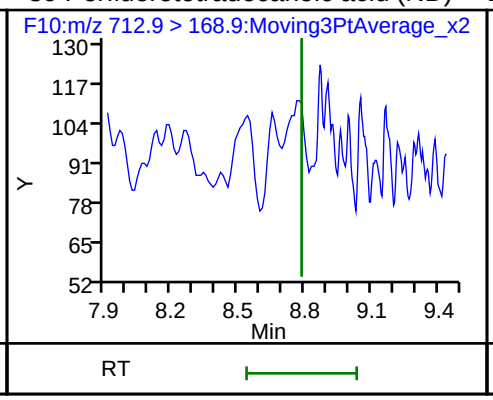
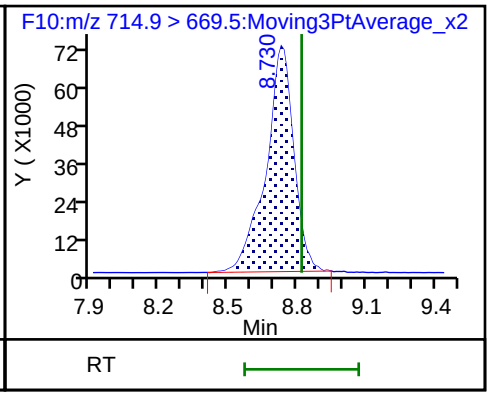


D 40 13C2 PFTeDA



Eurofins TestAmerica, Burlington

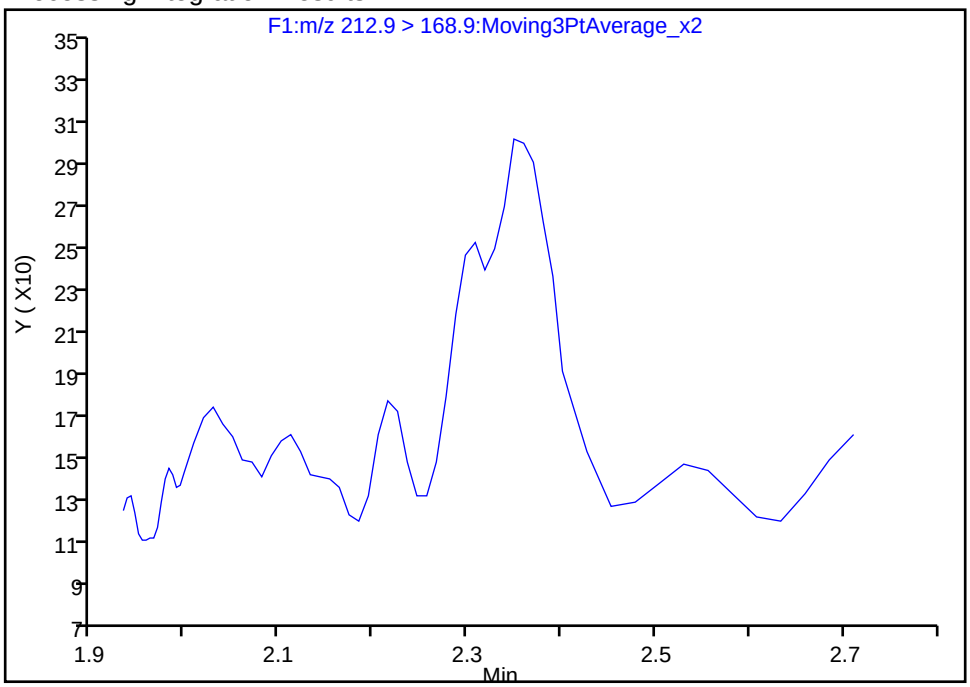
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B27.d				
Injection Date:	05-Jun-2019 08:12:45	Instrument ID:	LC410		
Lims ID:	200-48826-A-22-A	Lab Sample ID:	200-48826-22		
Client ID:	FIELD BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

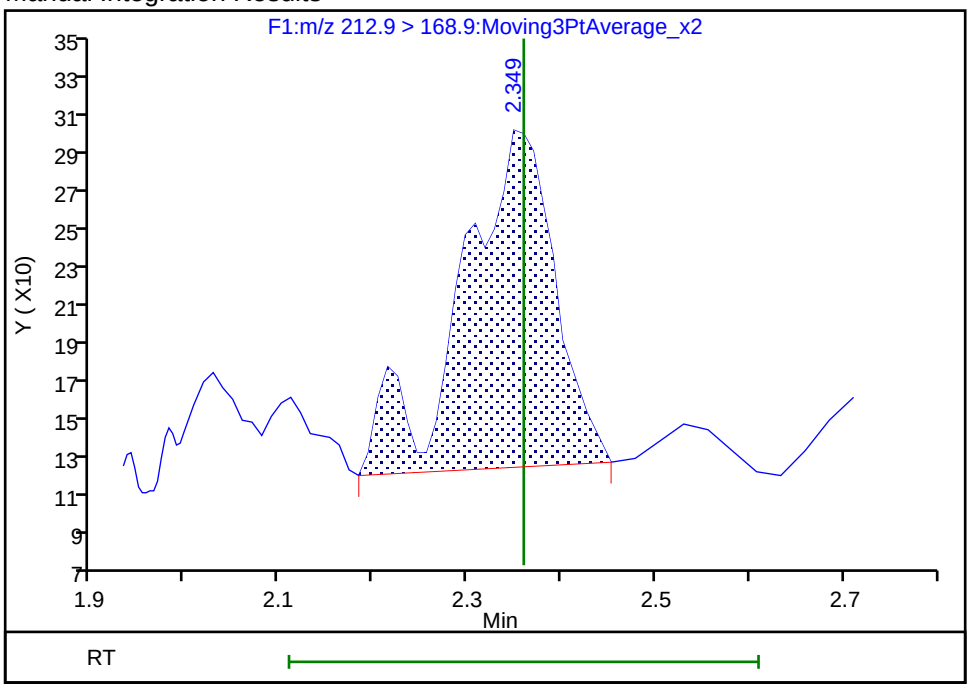
Not Detected
Expected RT: 2.36

Processing Integration Results



Manual Integration Results

RT: 2.35
Area: 1219
Amount: 0.321485
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:44:59
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

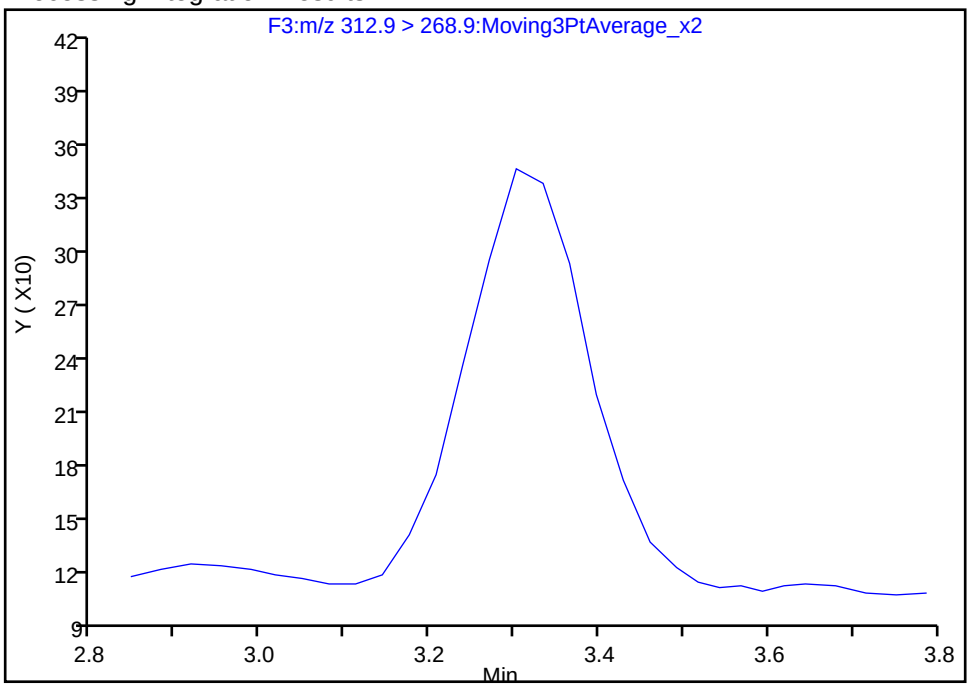
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B27.d				
Injection Date:	05-Jun-2019 08:12:45	Instrument ID:	LC410		
Lims ID:	200-48826-A-22-A	Lab Sample ID:	200-48826-22		
Client ID:	FIELD BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

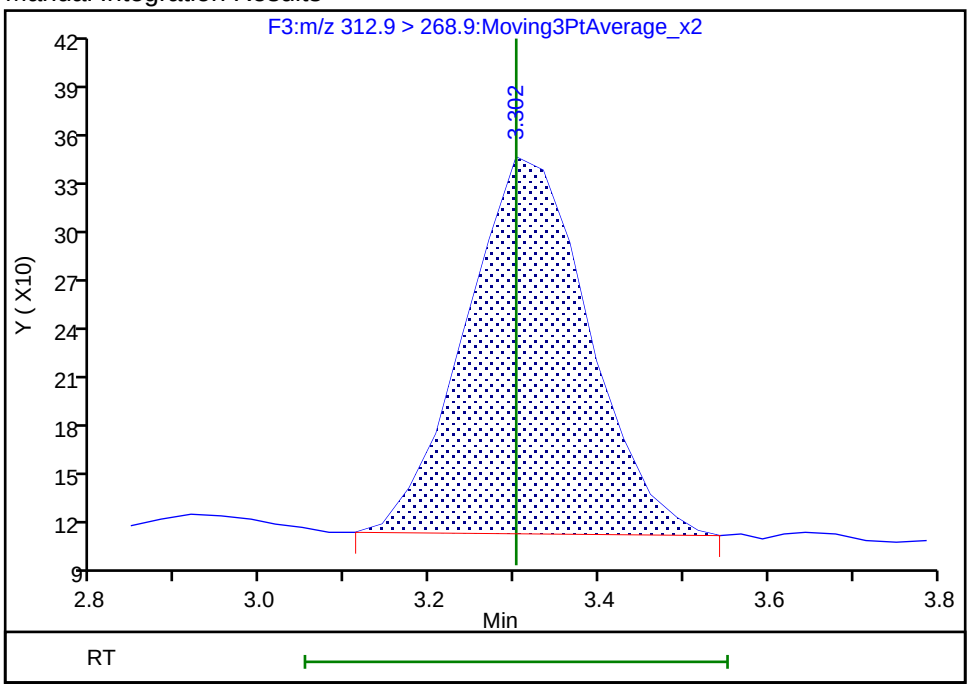
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.30
Area: 2316
Amount: 0.195271
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:43:46
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

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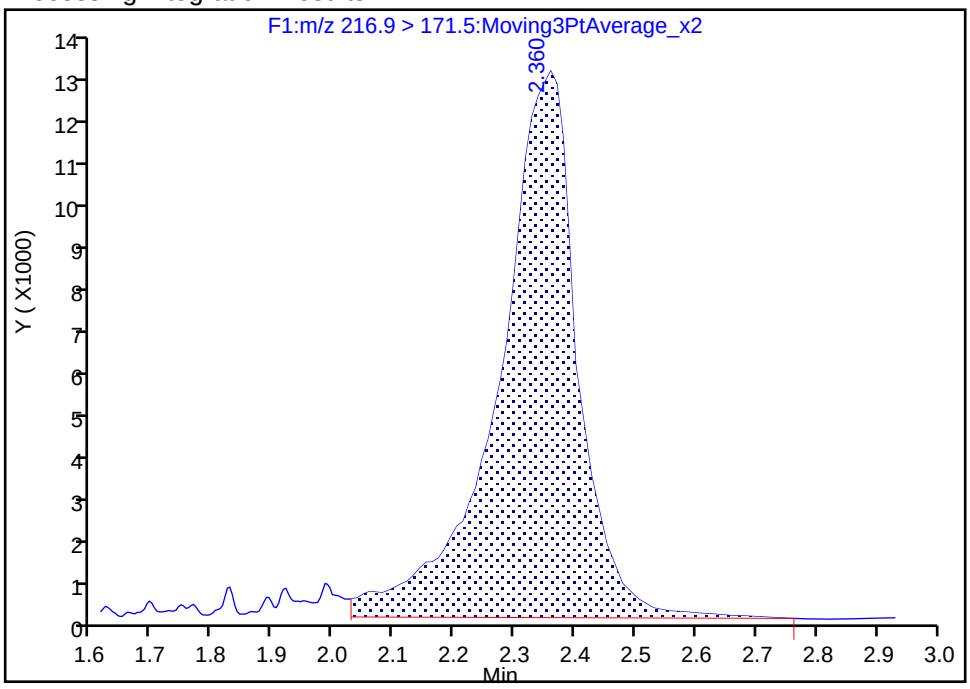
Injection Date:	05-Jun-2019 08:12:45	Instrument ID:	LC410		
Lims ID:	200-48826-A-22-A	Lab Sample ID:	200-48826-22		
Client ID:	FIELD BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

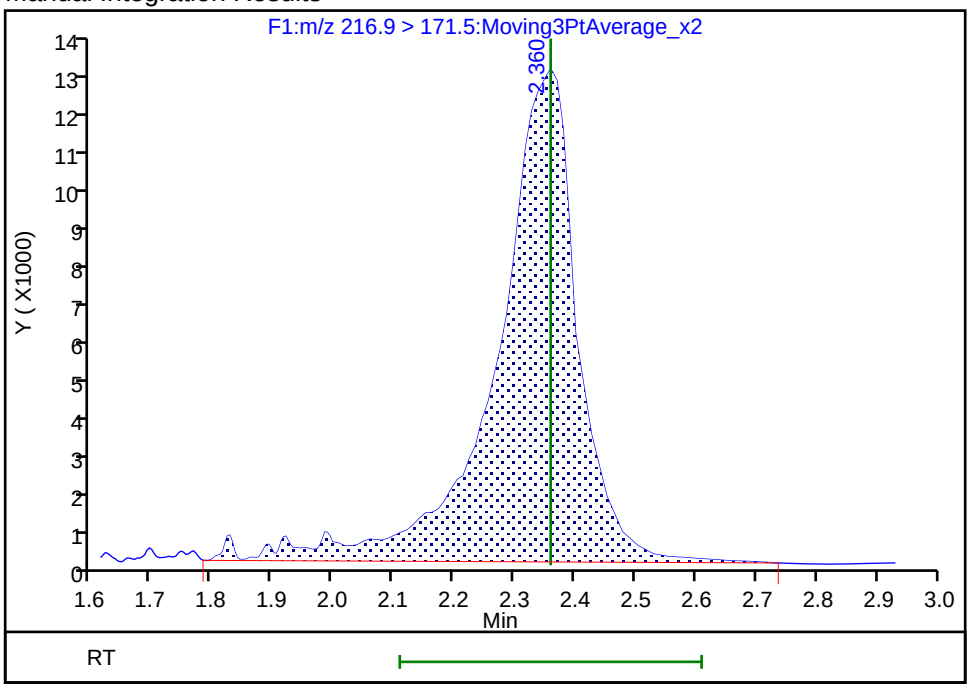
Processing Integration Results

RT: 2.36
Area: 117051
Amount: 18.196190
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 120758
Amount: 18.772462
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:40:14

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

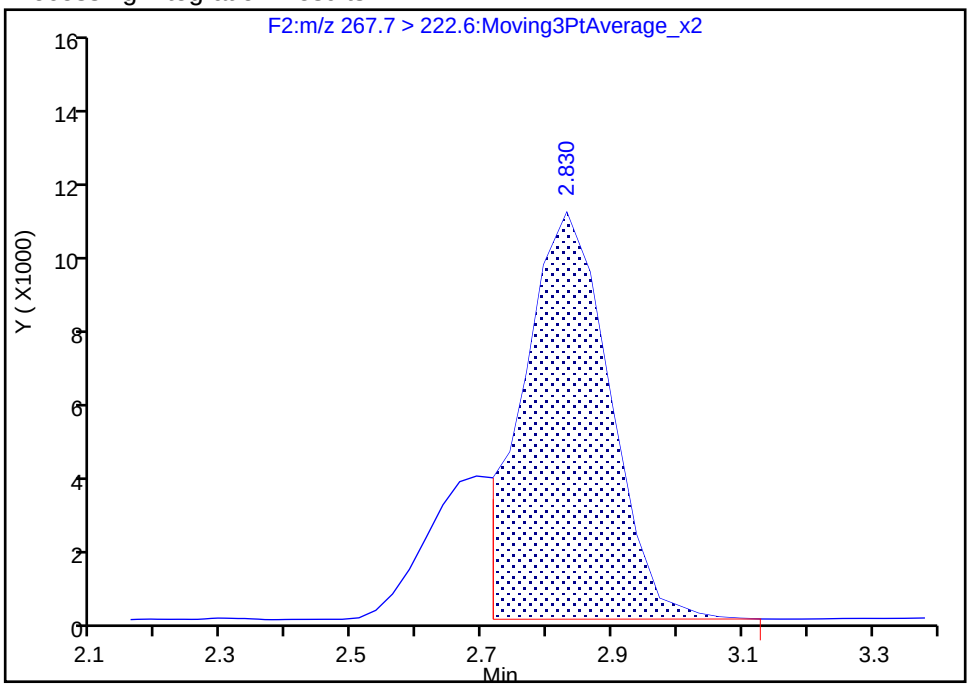
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B27.d				
Injection Date:	05-Jun-2019 08:12:45	Instrument ID:	LC410		
Lims ID:	200-48826-A-22-A	Lab Sample ID:	200-48826-22		
Client ID:	FIELD BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

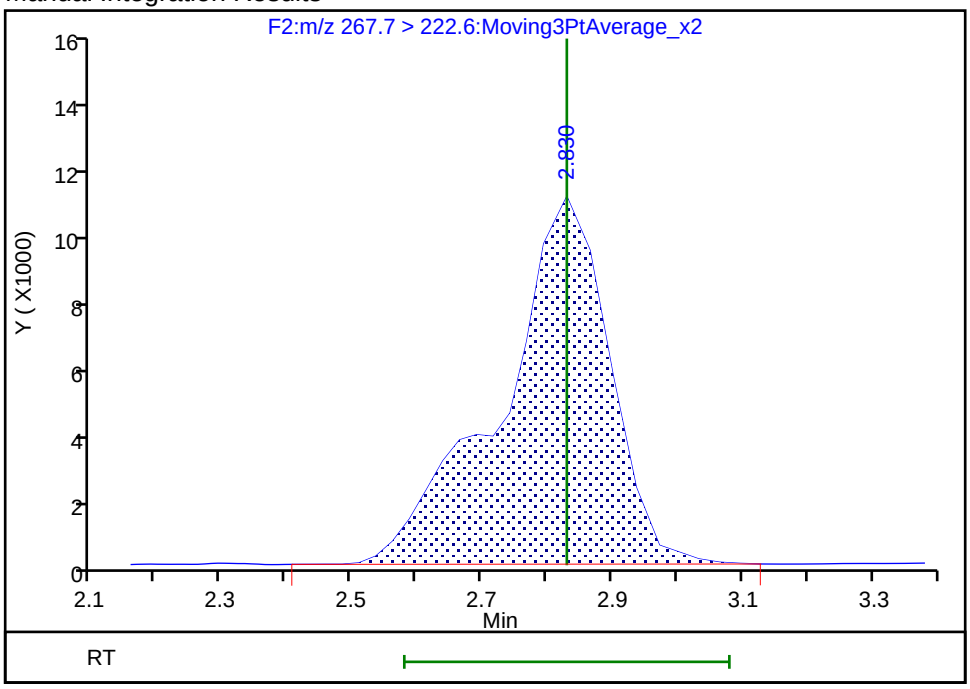
Processing Integration Results

RT: 2.83
Area: 96104
Amount: 19.693683
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 121426
Amount: 24.882681
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:40:21

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

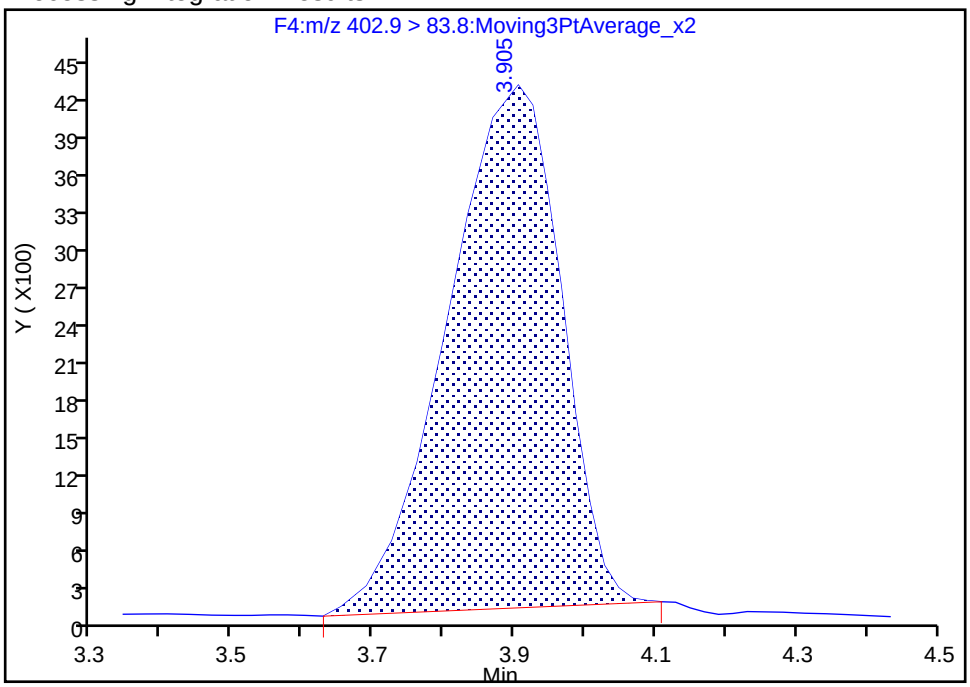
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B27.d				
Injection Date:	05-Jun-2019 08:12:45	Instrument ID:	LC410		
Lims ID:	200-48826-A-22-A	Lab Sample ID:	200-48826-22		
Client ID:	FIELD BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

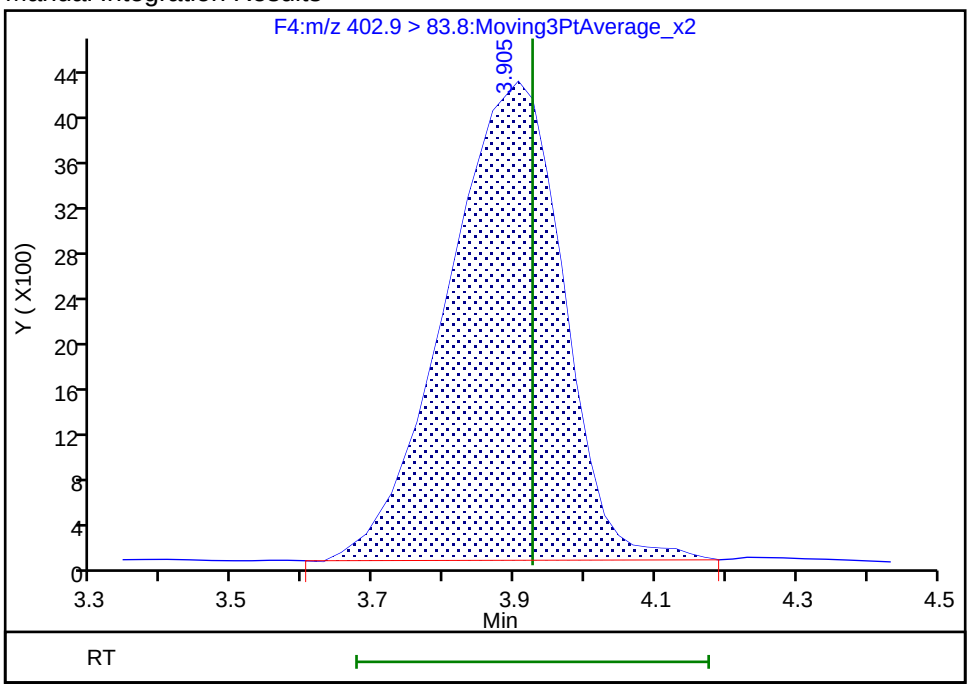
Processing Integration Results

RT: 3.91
Area: 45930
Amount: 16.926684
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 47541
Amount: 17.520390
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:40:36

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

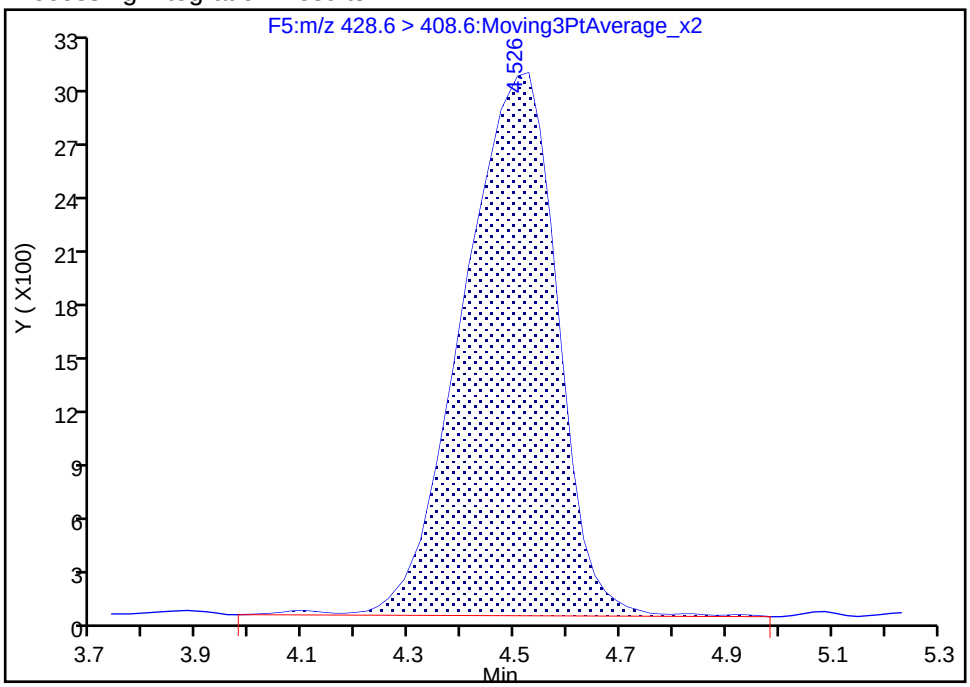
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B27.d				
Injection Date:	05-Jun-2019 08:12:45	Instrument ID:	LC410		
Lims ID:	200-48826-A-22-A	Lab Sample ID:	200-48826-22		
Client ID:	FIELD BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	27
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

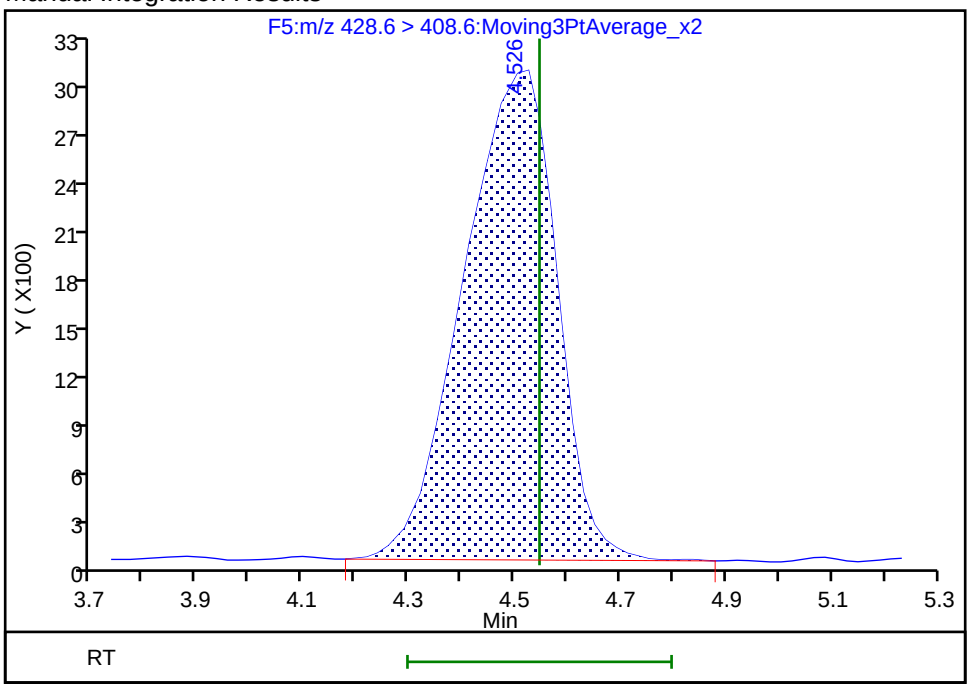
Processing Integration Results

RT: 4.53
Area: 36525
Amount: 24.919918
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 36079
Amount: 24.615626
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:40:42

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: EQUIPMENT BLANK 051619 Lab Sample ID: 200-48826-23

Matrix: Water Lab File ID: PF060419B28.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 16:10

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 292.5(mL) Date Analyzed: 06/05/2019 08:28

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.7	0.85
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.65
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.78
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.7	0.54
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.66
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.79
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.68
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.81
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.77
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND	*	1.7	0.52
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3
27619-97-2	6:2 FTS	ND		17	3.9
39108-34-4	8:2 FTS	ND		17	2.5

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: EQUIPMENT BLANK 051619 Lab Sample ID: 200-48826-23

Matrix: Water Lab File ID: PF060419B28.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 16:10

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 292.5(mL) Date Analyzed: 06/05/2019 08:28

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	32		25-150
STL00992	13C4 PFBA	35		25-150
STL01893	13C5 PFPeA	44		25-150
STL00993	13C2 PFHxA	56		50-150
STL01892	13C4 PFHpA	63		50-150
STL00990	13C4 PFOA	63		50-150
STL00995	13C5 PFNA	55		50-150
STL00996	13C2 PFDA	63		50-150
STL00997	13C2 PFUnA	58		50-150
STL00998	13C2 PFDoA	47	*	50-150
STL02116	13C2 PFTeDA	43	*	50-150
STL02337	13C3 PFBS	56		50-150
STL00994	18O2 PFHxS	50		50-150
STL00991	13C4 PFOS	48	*	50-150
STL02118	d3-NMeFOSAA	47	*	50-150
STL02117	d5-NEtFOSAA	47	*	50-150
STL02279	M2-6:2 FTS	49		25-150
STL02280	M2-8:2 FTS	65		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B28.d
Lims ID: 200-48826-A-23-A
Client ID: EQUIPMENT BLANK 051619
Sample Type: Client
Inject. Date: 05-Jun-2019 08:28:36 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-028 23
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 15:47:39
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.360	0.020	1.013	773	0.2147			2.9	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.349	2.360	-0.011	1.000	114660	17.5		35.0	69.8	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	109331	22.0		44.0	296	
D 5 13C3 PFBS										
302.0 > 79.8	2.902	2.901	0.001	1.000	56758	26.2		56.4	108	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.270	3.302	-0.032	0.990	1780	0.1538	Target=14.34		8.4	M
312.9 > 118.9	3.429	3.302	0.127	1.038	194		9.18(7.17-21.51)		4.0	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	413903	27.8		55.5	1357	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	667161	31.7		63.5	902	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.905	3.905	0.0	1.009	760	0.0485	Target=2.84		2.1	M
362.9 > 168.9	3.905	3.905	0.0	1.009	362		2.10(1.42-4.26)		2.2	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	65553	23.7		50.1	154	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.547	-0.021	1.000	35002	23.4		49.3	164	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1340147	50.0			1684	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.589	-0.021	1.000	2109	0.1268	Target=2.43		5.6	
412.9 > 168.9	4.609	4.589	0.020	1.009	754		2.80(1.22-3.64)		5.4	

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	4.568	4.609	-0.041	1.000	821601	31.6		63.2	1087	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.389	-0.042	1.000	957001	27.4		54.8	4554	
D 22 13C4 PFOS										
502.9 > 80.0	5.368	5.411	-0.043	1.000	142426	22.8		47.8	383	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	168809	31.1		64.9	540	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	932410	31.3		62.6	1985	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.549	-0.072	1.000	226306	23.3		46.6	1227	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.921	-0.072	1.000	187688	23.5		46.9	697	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	834521	29.0		58.1	2414	
D 34 13C8 FOSA										
505.9 > 78.0	6.993	7.026	-0.033	1.000	171958	16.0		32.0	414	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	864036	23.6		47.1	1567	
D 40 13C2 PFTeDA										M
714.9 > 669.5	8.752	8.819	-0.067	1.000	699623	21.3		42.5	1044	M

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:52:08 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B28.d

Injection Date: 05-Jun-2019 08:28:36 Instrument ID: LC410

Lims ID: 200-48826-A-23-A Lab Sample ID: 200-48826-23

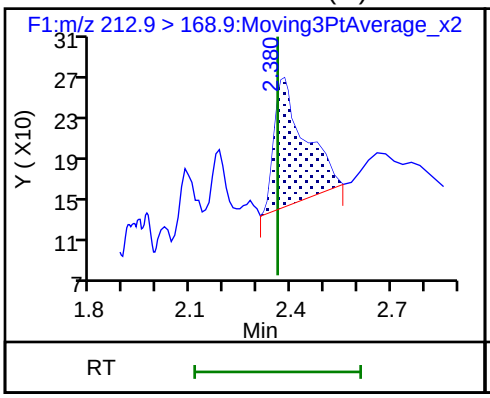
Client ID: EQUIPMENT BLANK 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 28

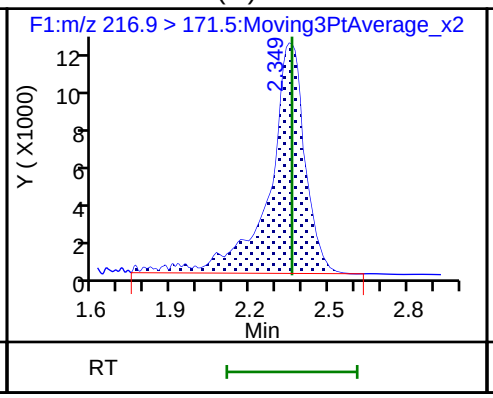
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

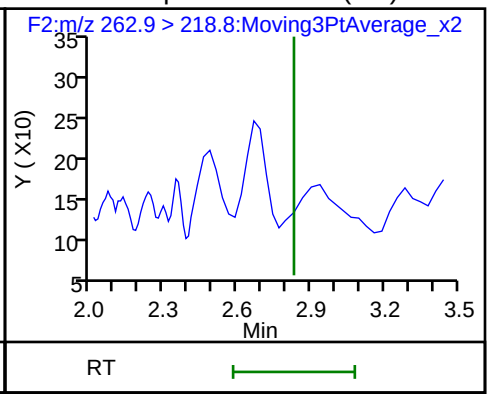
2 Perfluorobutanoic acid (M)



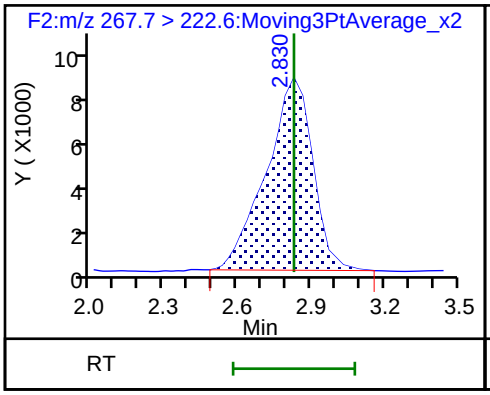
D 1 13C4 PFBA (M)



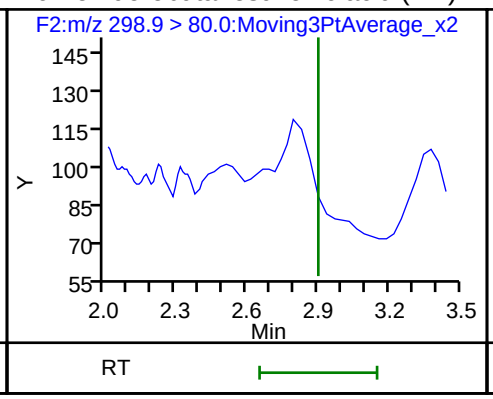
3 Perfluoropentanoic acid (ND)



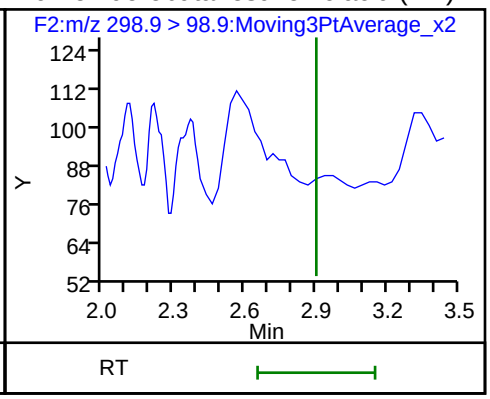
D 4 13C5 PFPeA



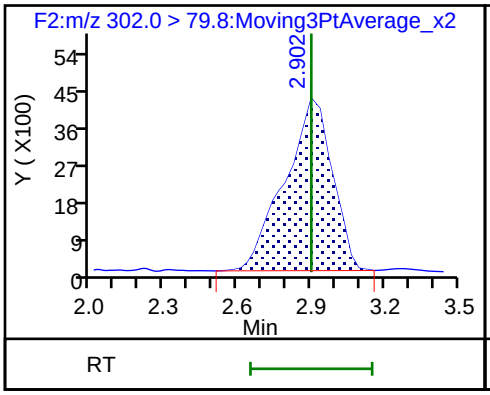
6 Perfluorobutanesulfonic acid (ND)



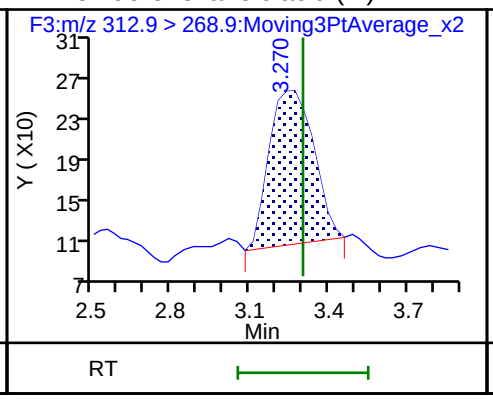
6 Perfluorobutanesulfonic acid (ND)



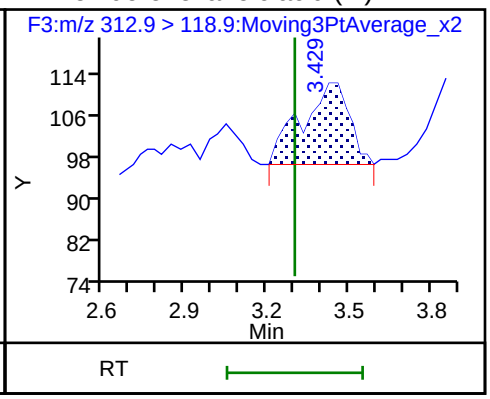
D 5 13C3 PFBS



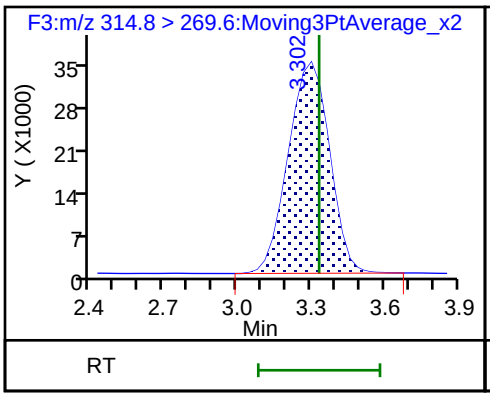
7 Perfluorohexanoic acid (M)



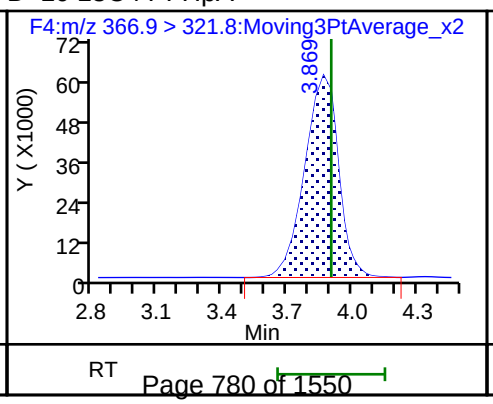
7 Perfluorohexanoic acid (M)



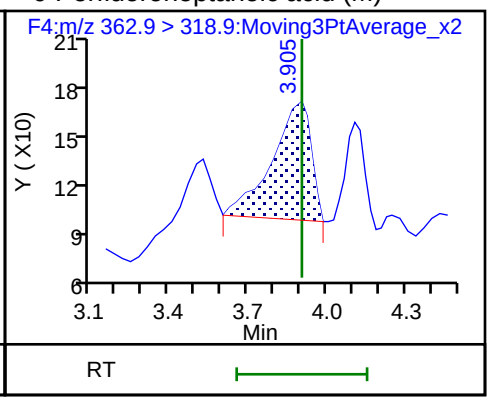
D 8 13C2 PFHxA



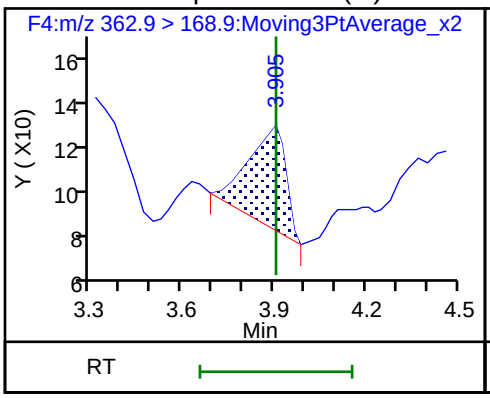
D 10 13C4 PFHpA



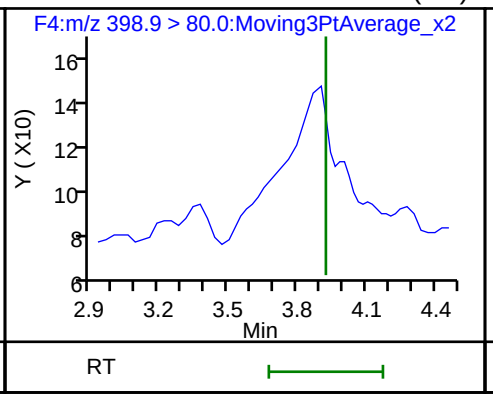
9 Perfluoroheptanoic acid (M)



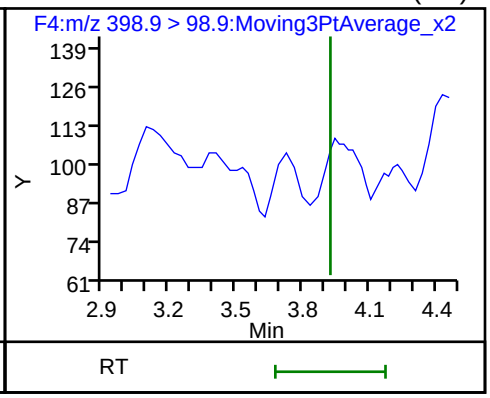
9 Perfluoroheptanoic acid (M)



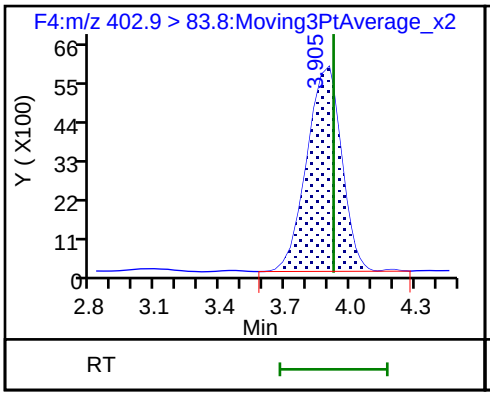
11 Perfluorohexanesulfonic acid (ND)



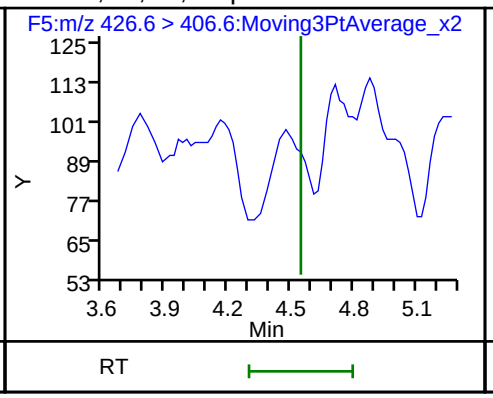
11 Perfluorohexanesulfonic acid (ND)



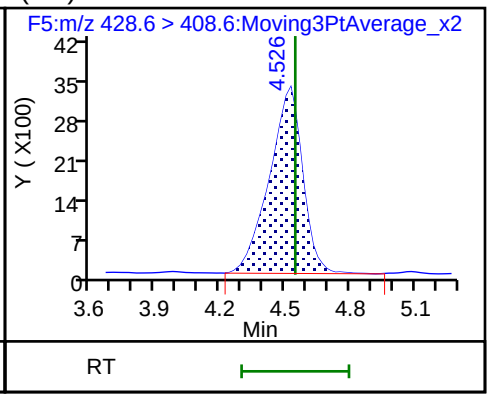
D 12 18O2 PFHxS



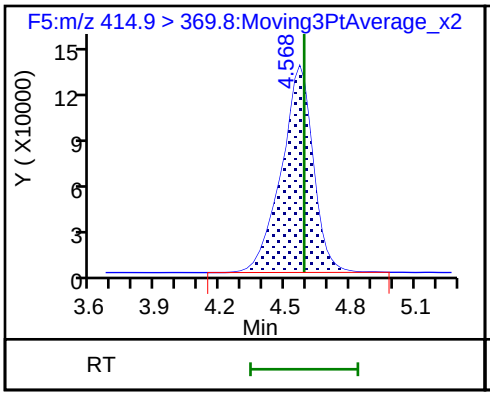
13 1H,1H,2H,2H-perfluorooctanesulfonic acid (M2-6:2 FTS



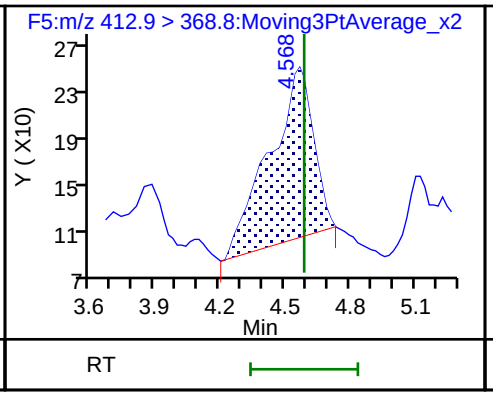
D (M2)



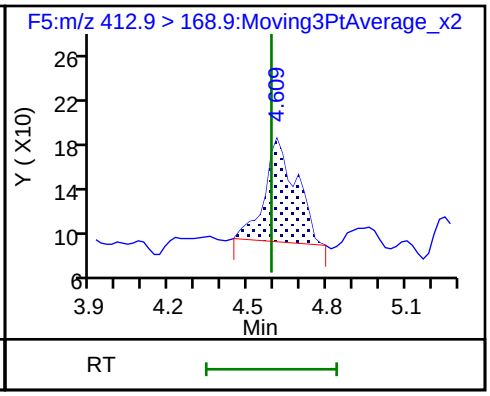
* 16 13C2 PFOA



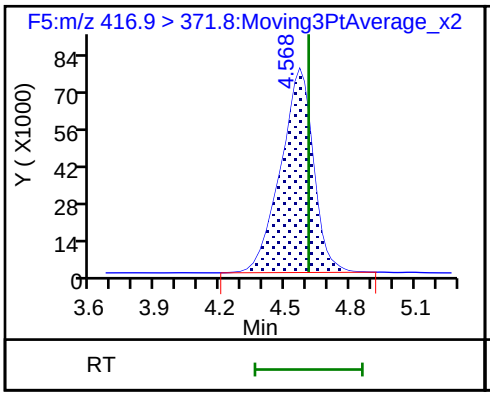
15 Perfluorooctanoic acid



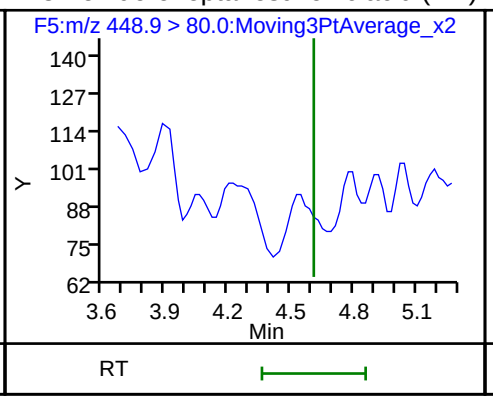
15 Perfluorooctanoic acid



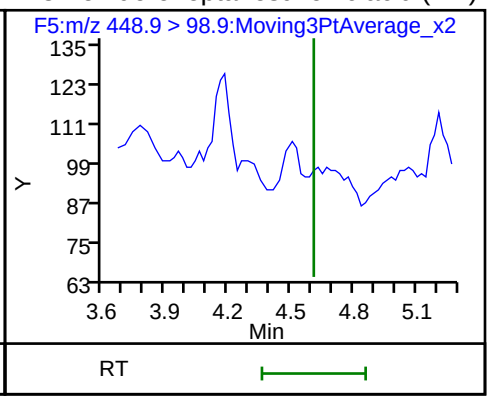
D 17 13C4 PFOA



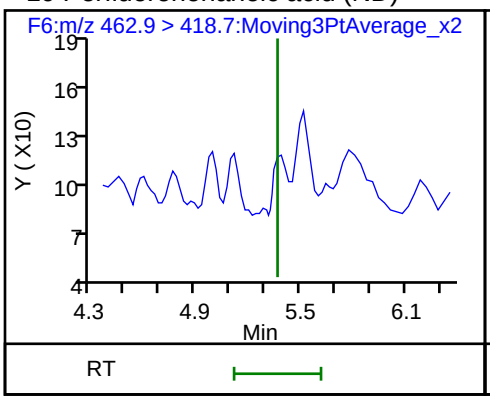
18 Perfluoroheptanesulfonic acid (ND)



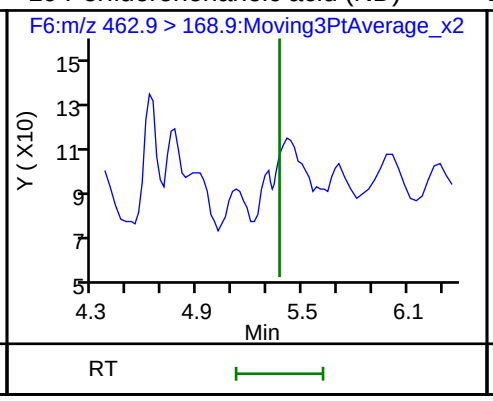
18 Perfluoroheptanesulfonic acid (ND)



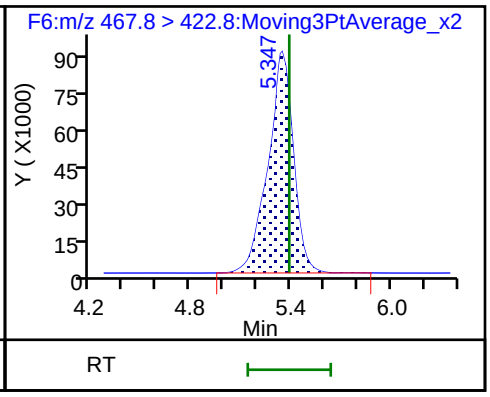
19 Perfluorononanoic acid (ND)



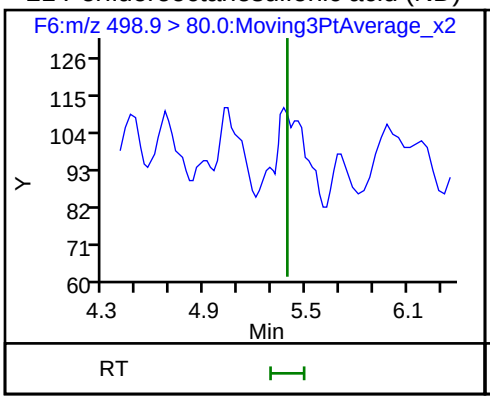
19 Perfluorononanoic acid (ND)



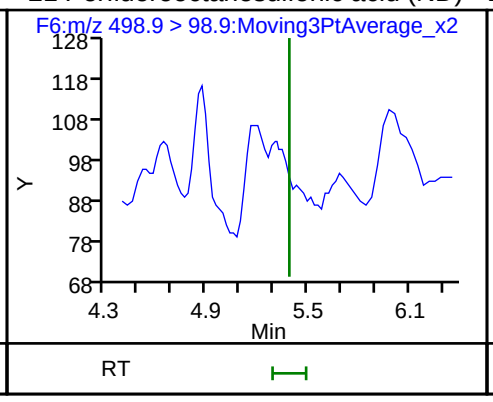
D 20 13C5 PFNA



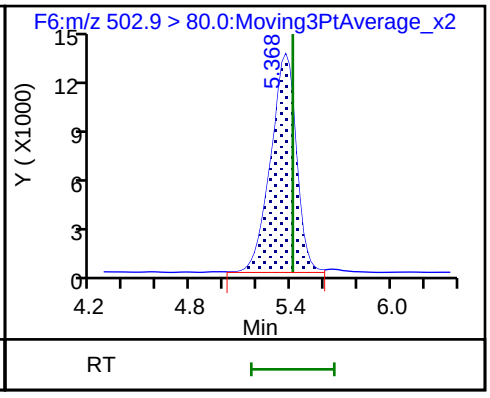
21 Perfluorooctanesulfonic acid (ND)



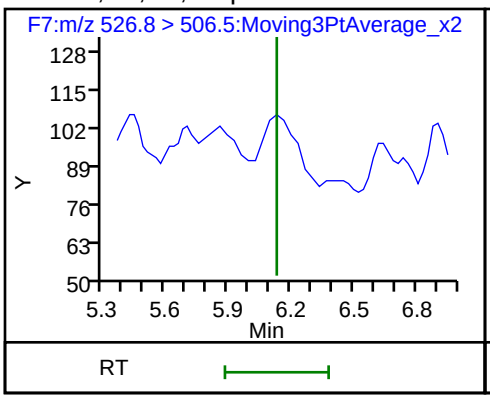
21 Perfluorooctanesulfonic acid (ND)



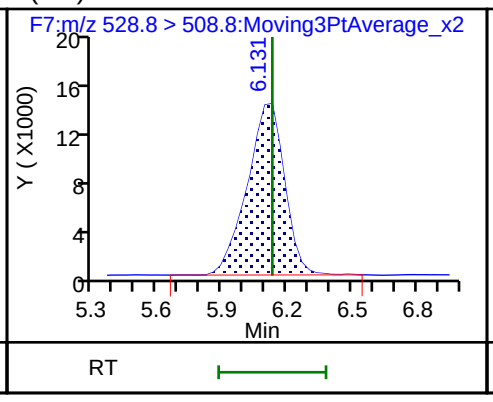
D 22 13C4 PFOS



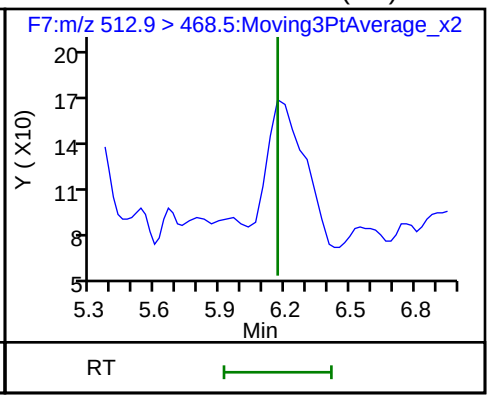
23 1H,1H,2H,2H-perfluorodecanesulfonic acid (ND)



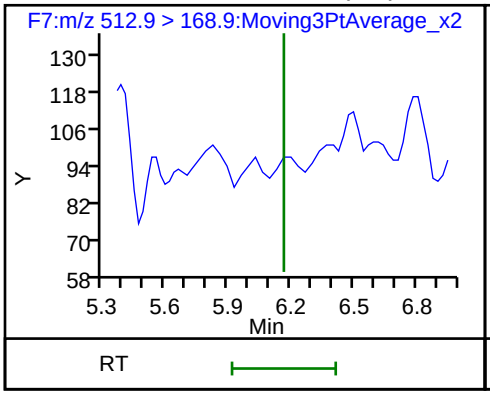
D 24 M2-8:2 FTS



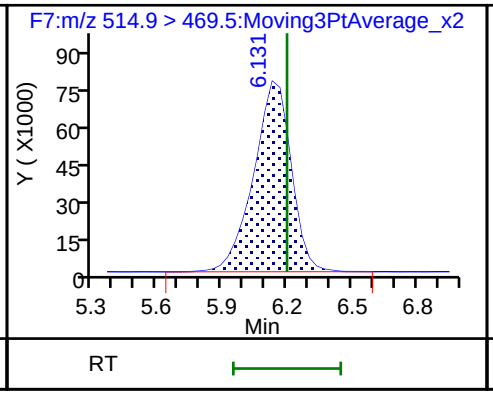
26 Perfluorodecanoic acid (ND)



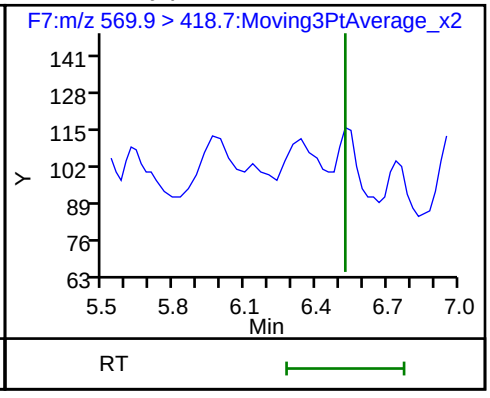
26 Perfluorodecanoic acid (ND)



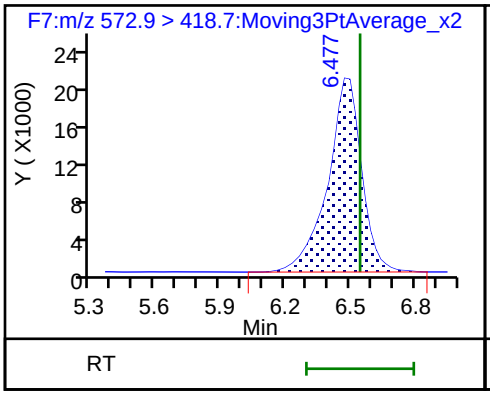
D 25 13C2 PFDA



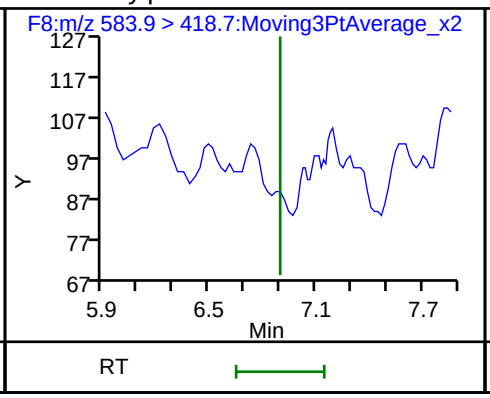
28 N-methylperfluorooctanesulfonamido (ND)



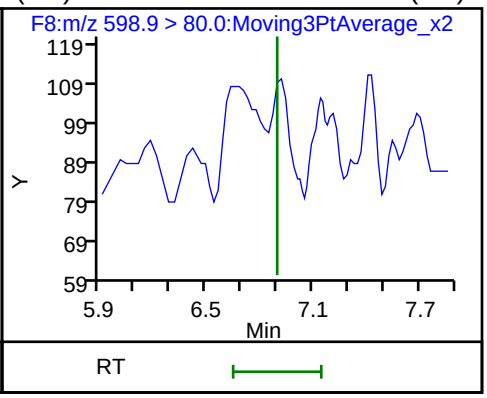
D 27 d3-NMeFOSAA



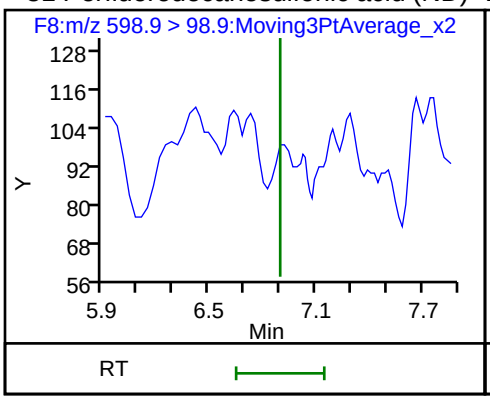
30 N-ethylperfluorooctanesulfonamidoa (ND)



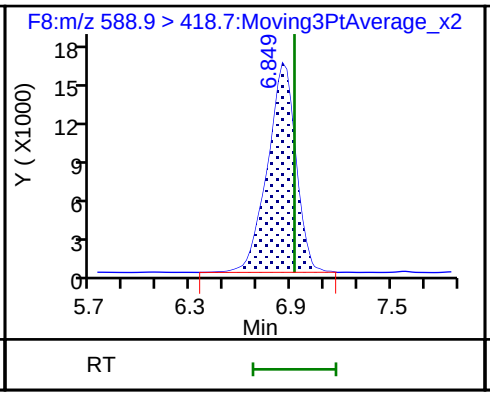
31 Perfluorodecanesulfonic acid (ND)



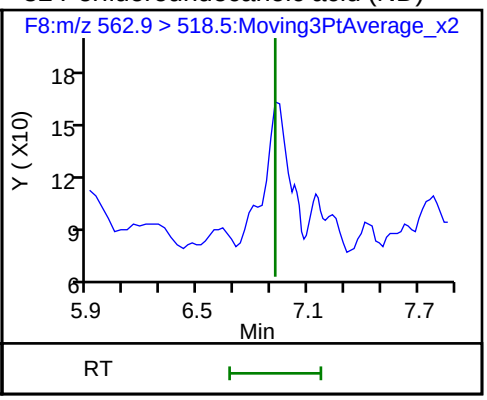
31 Perfluorodecanesulfonic acid (ND)



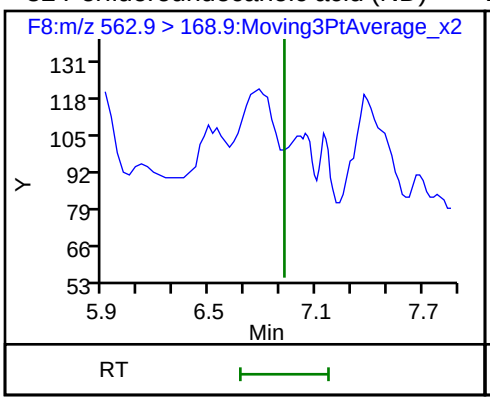
D 29 d5-NEtFOSAA



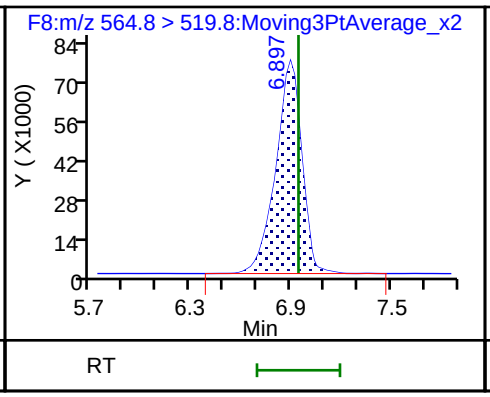
32 Perfluoroundecanoic acid (ND)



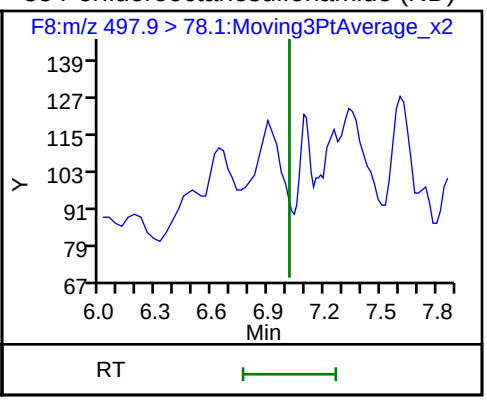
32 Perfluoroundecanoic acid (ND)



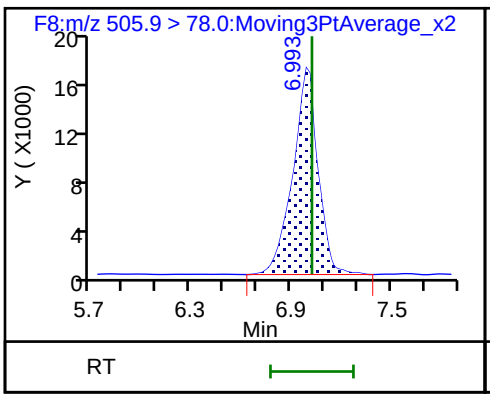
D 33 13C2 PFUnA



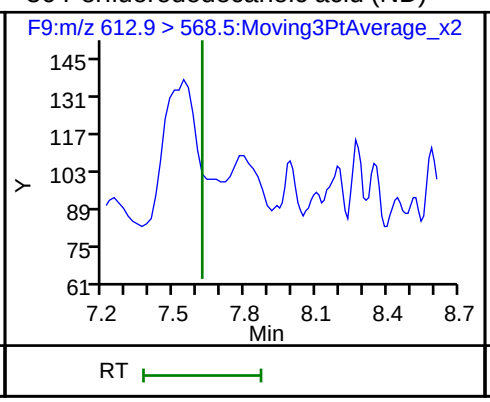
35 Perfluorooctanesulfonamide (ND)



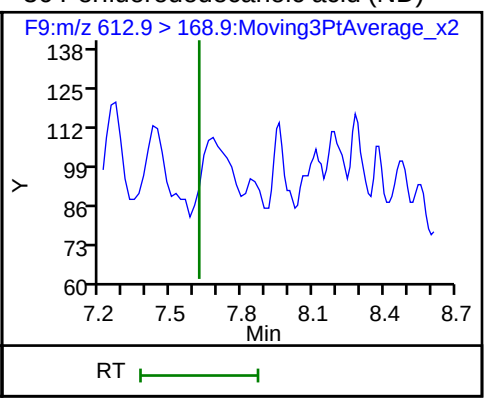
D 34 13C8 FOSA



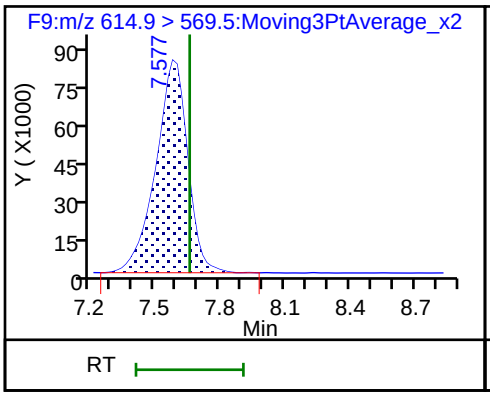
36 Perfluorododecanoic acid (ND)



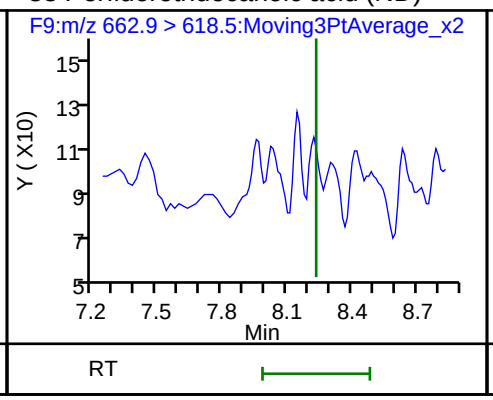
36 Perfluorododecanoic acid (ND)



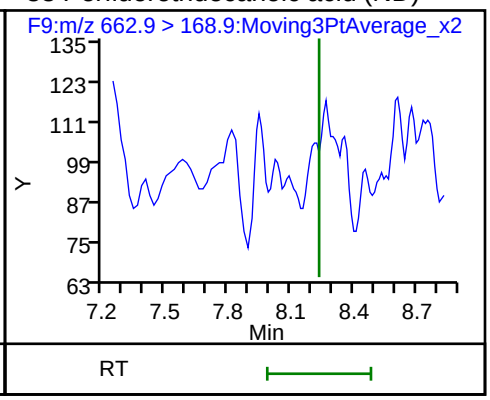
D 37 13C2 PFDoA



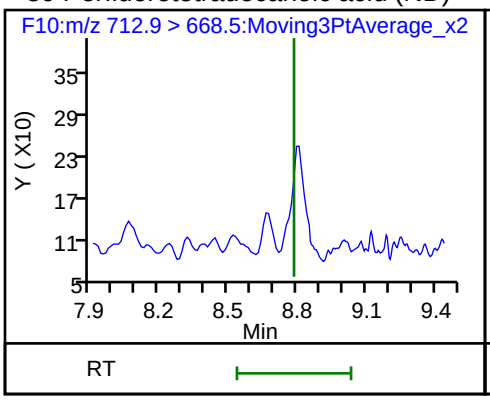
38 Perfluorotridecanoic acid (ND)



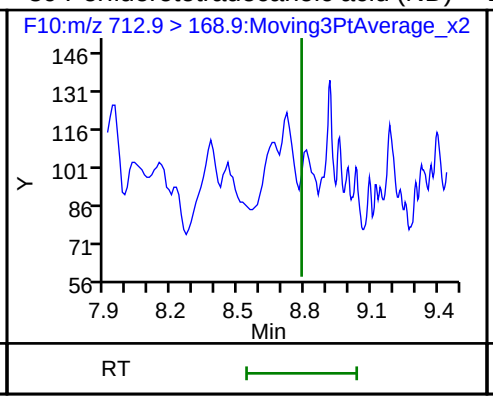
38 Perfluorotridecanoic acid (ND)



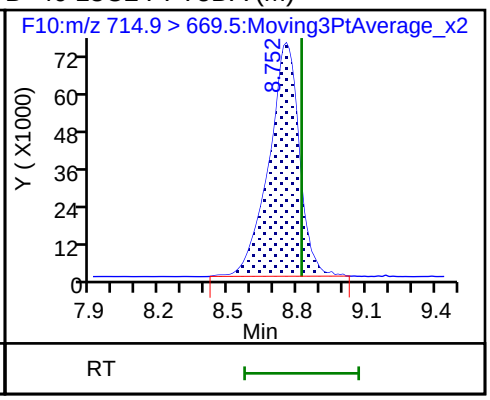
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA (M)



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

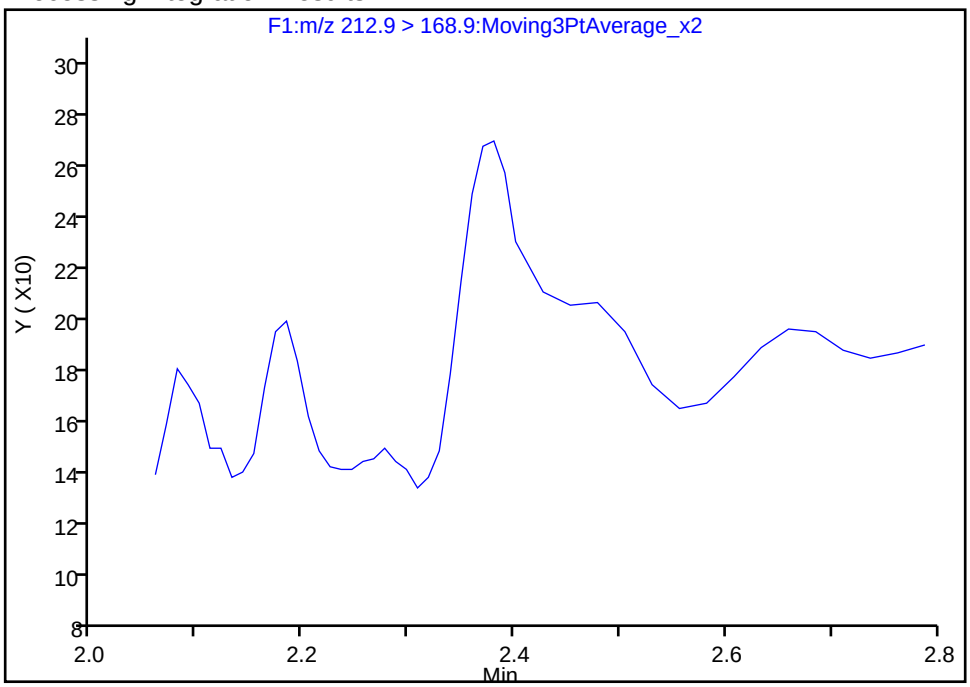
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B28.d				
Injection Date:	05-Jun-2019 08:28:36	Instrument ID:	LC410		
Lims ID:	200-48826-A-23-A	Lab Sample ID:	200-48826-23		
Client ID:	EQUIPMENT BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

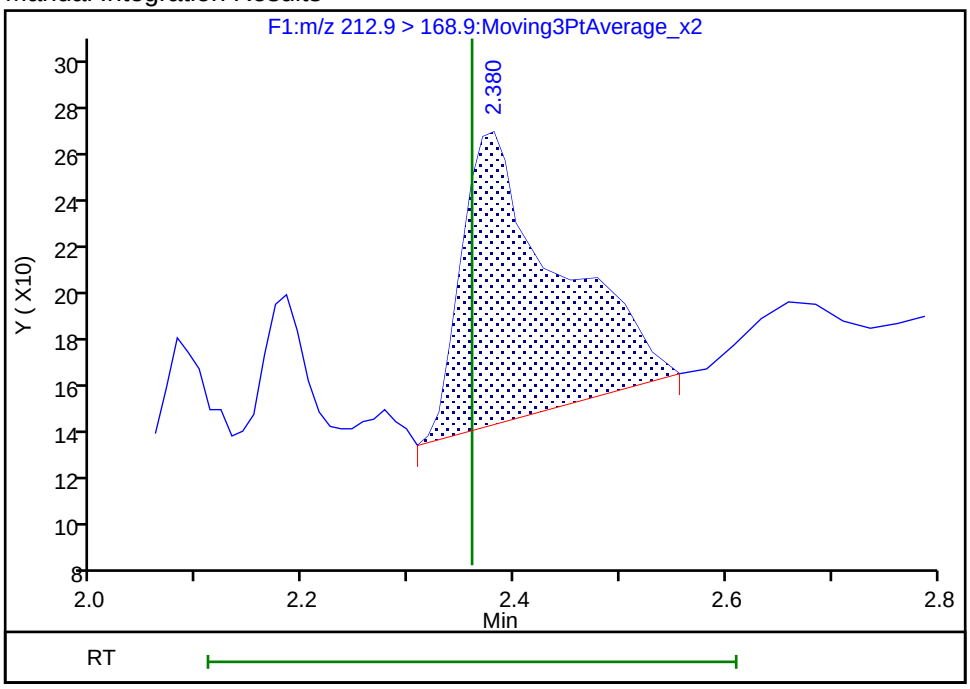
Not Detected
Expected RT: 2.36

Processing Integration Results



Manual Integration Results

RT: 2.38
Area: 773
Amount: 0.214704
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:47:29
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

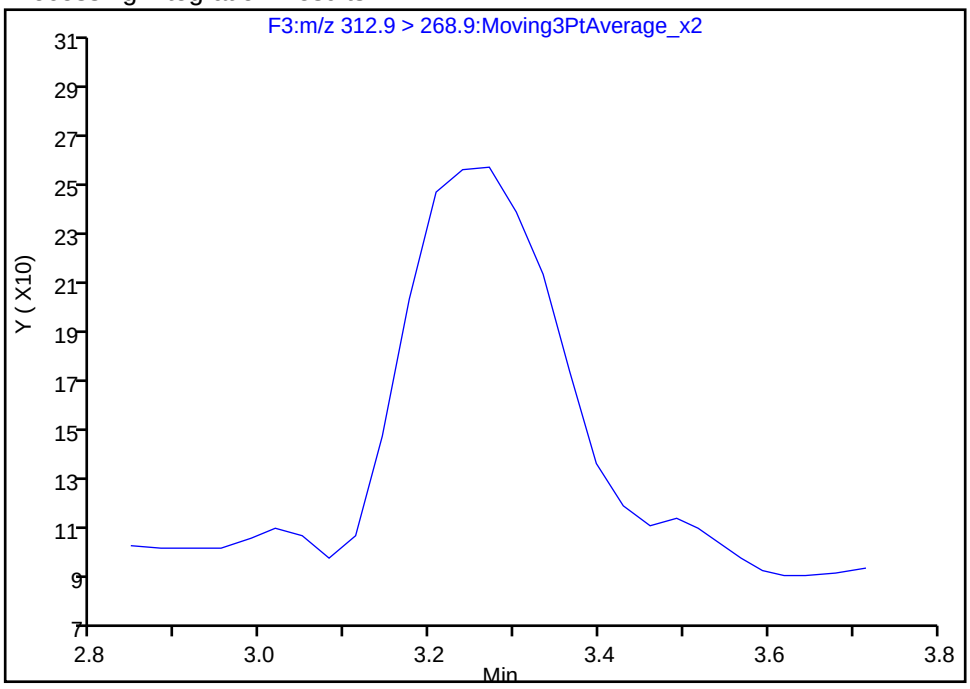
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B28.d				
Injection Date:	05-Jun-2019 08:28:36	Instrument ID:	LC410		
Lims ID:	200-48826-A-23-A	Lab Sample ID:	200-48826-23		
Client ID:	EQUIPMENT BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

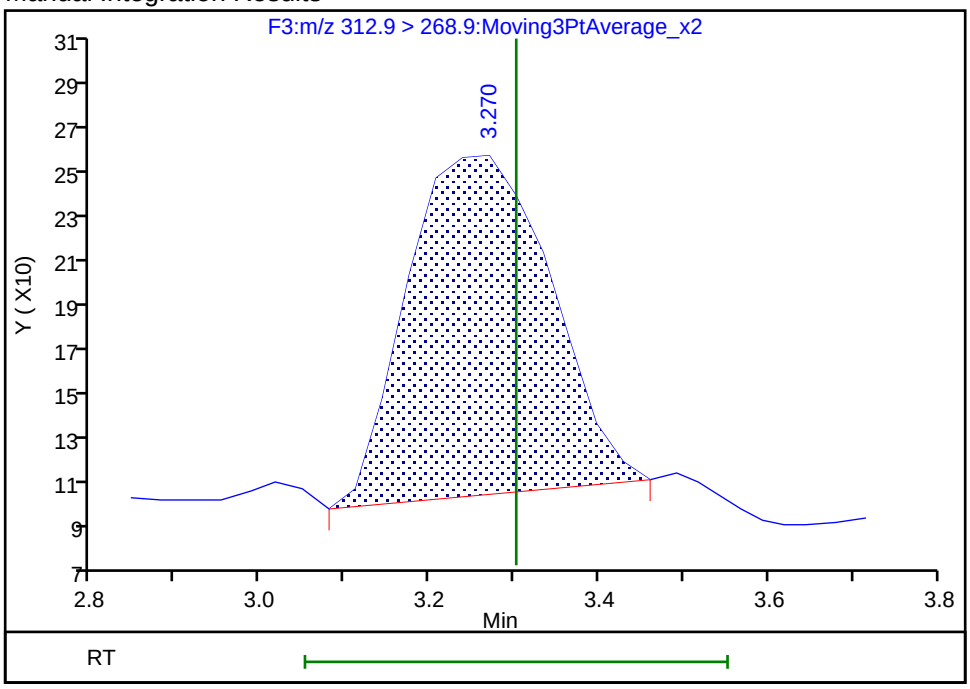
Not Detected
Expected RT: 3.30

Processing Integration Results



Manual Integration Results

RT: 3.27
Area: 1780
Amount: 0.153812
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:47:13
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

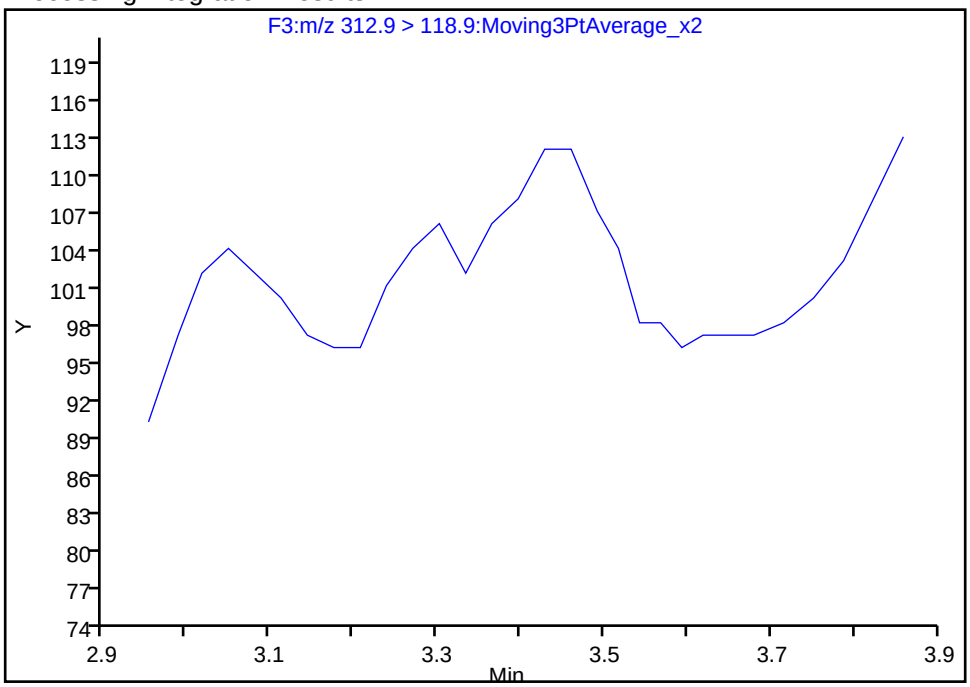
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B28.d				
Injection Date:	05-Jun-2019 08:28:36	Instrument ID:	LC410		
Lims ID:	200-48826-A-23-A	Lab Sample ID:	200-48826-23		
Client ID:	EQUIPMENT BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

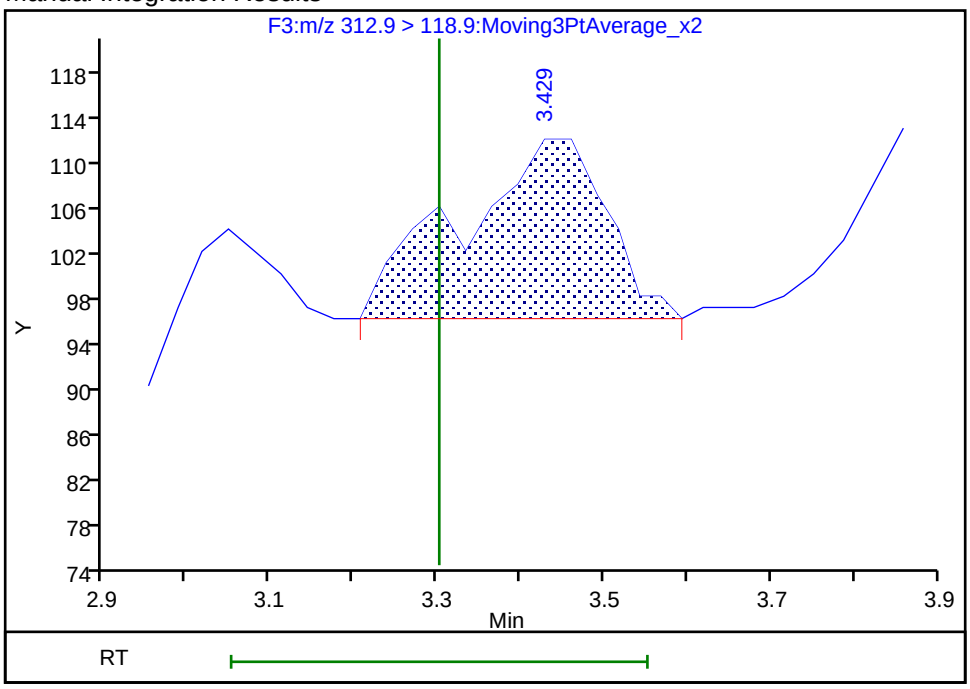
Processing Integration Results

Not Detected
Expected RT: 3.30



Manual Integration Results

RT: 3.43
Area: 194
Amount: 0.153812
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:47:15
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

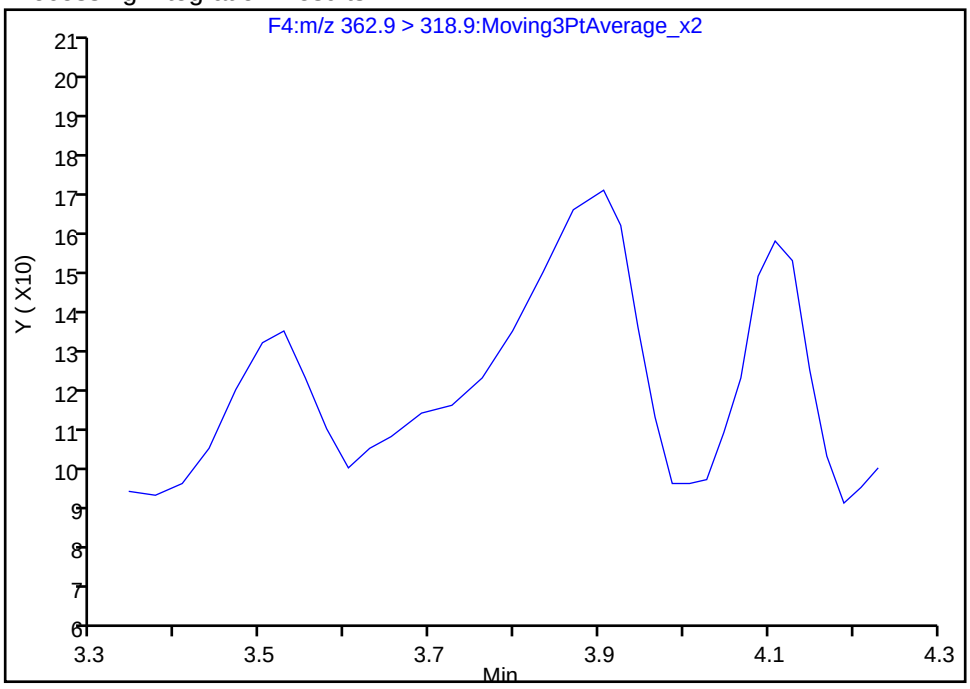
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B28.d				
Injection Date:	05-Jun-2019 08:28:36	Instrument ID:	LC410		
Lims ID:	200-48826-A-23-A	Lab Sample ID:	200-48826-23		
Client ID:	EQUIPMENT BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

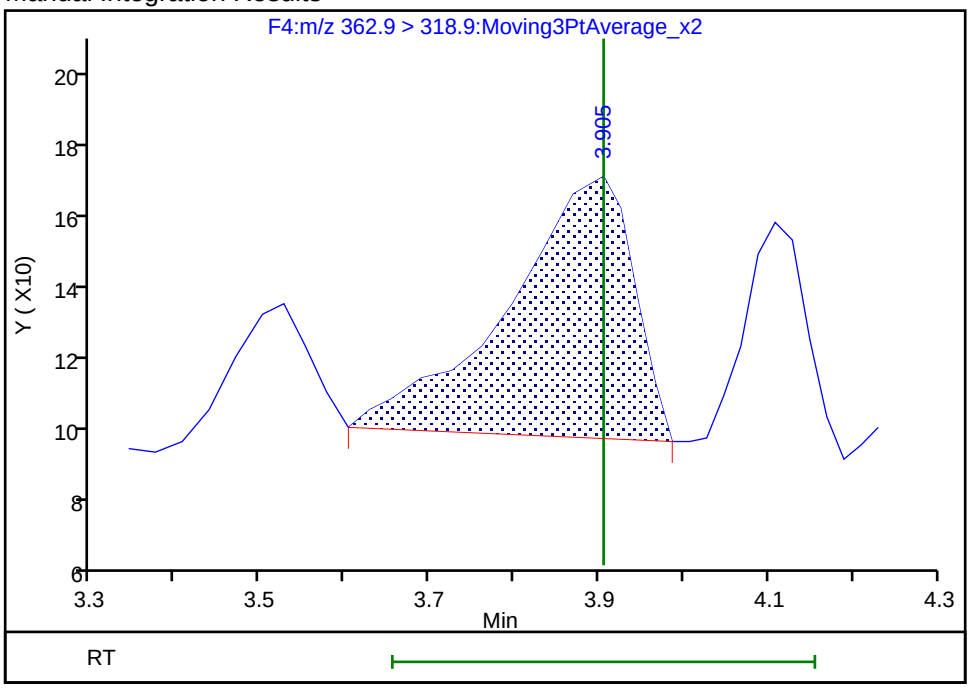
Not Detected
Expected RT: 3.91

Processing Integration Results



Manual Integration Results

RT: 3.91
Area: 760
Amount: 0.048533
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:47:06
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

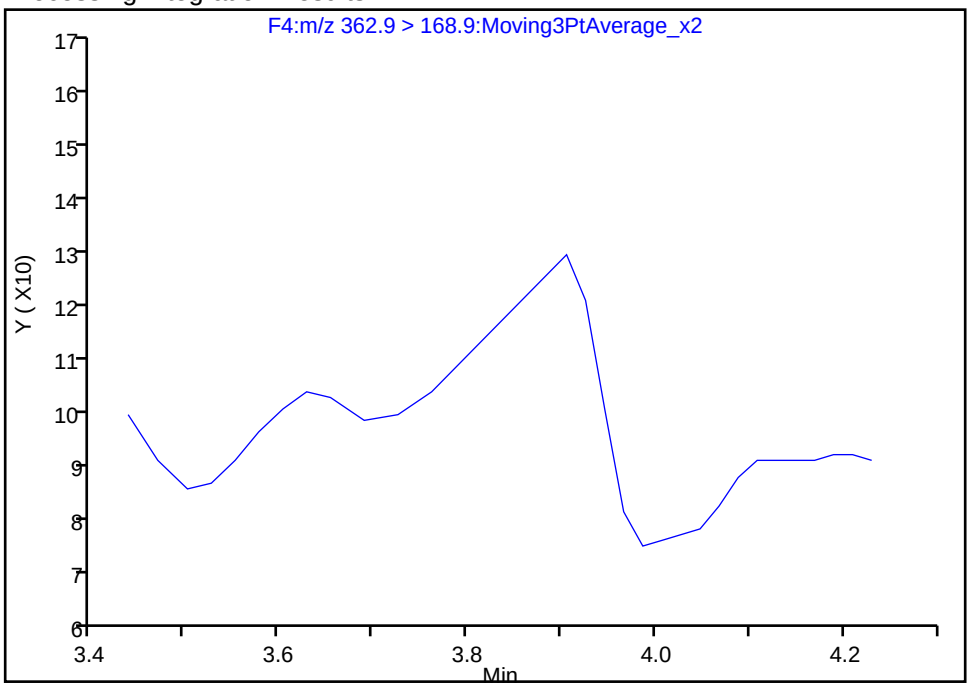
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B28.d				
Injection Date:	05-Jun-2019 08:28:36	Instrument ID:	LC410		
Lims ID:	200-48826-A-23-A	Lab Sample ID:	200-48826-23		
Client ID:	EQUIPMENT BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

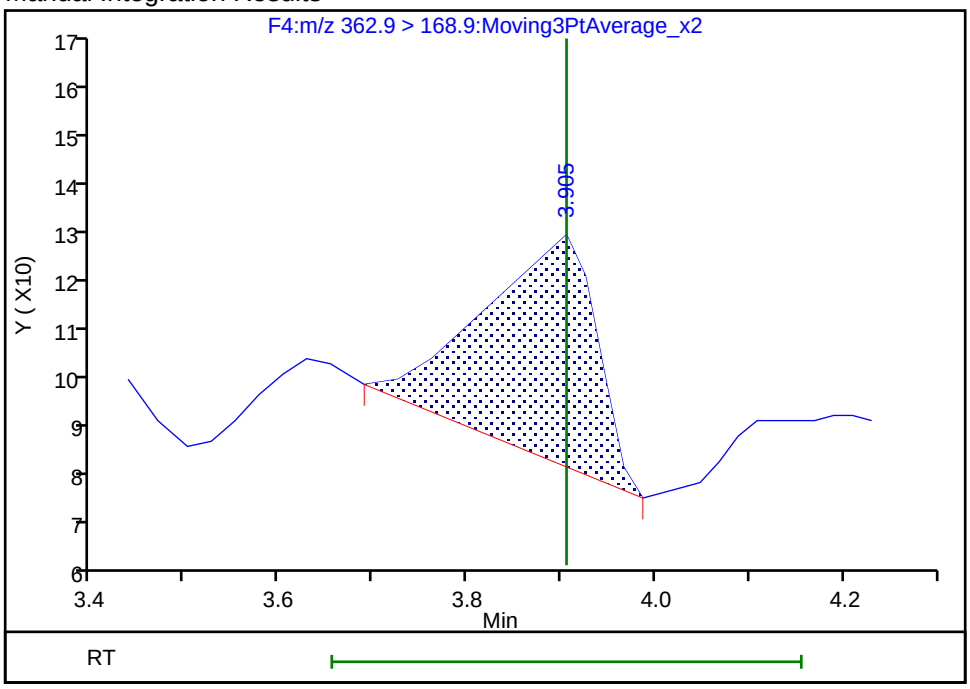
Not Detected
Expected RT: 3.91

Processing Integration Results



Manual Integration Results

RT: 3.91
Area: 362
Amount: 0.048533
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:47:08
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

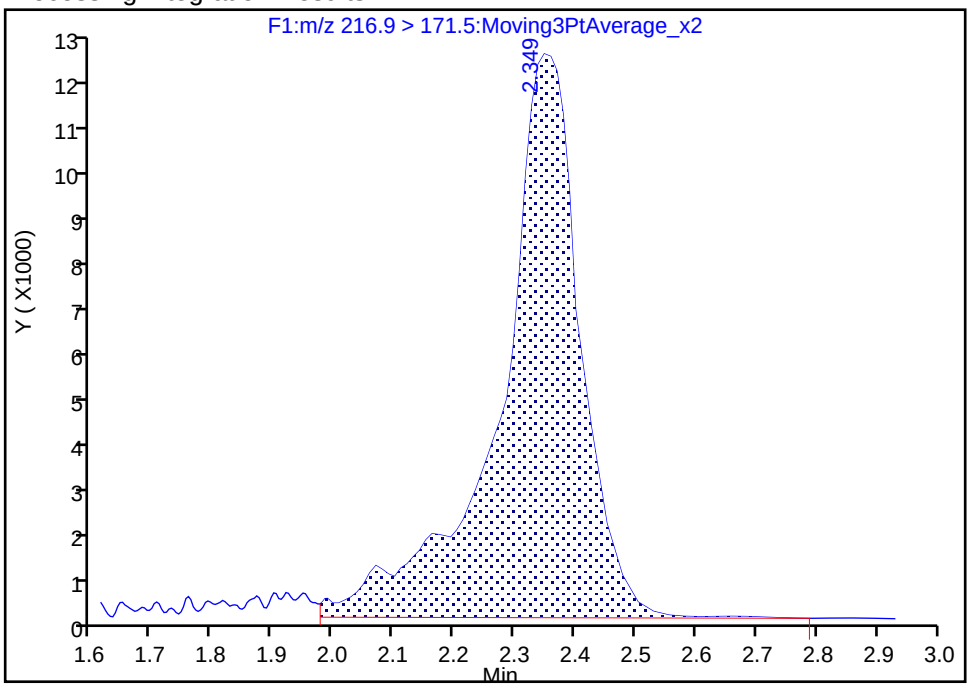
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B28.d				
Injection Date:	05-Jun-2019 08:28:36	Instrument ID:	LC410		
Lims ID:	200-48826-A-23-A	Lab Sample ID:	200-48826-23		
Client ID:	EQUIPMENT BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

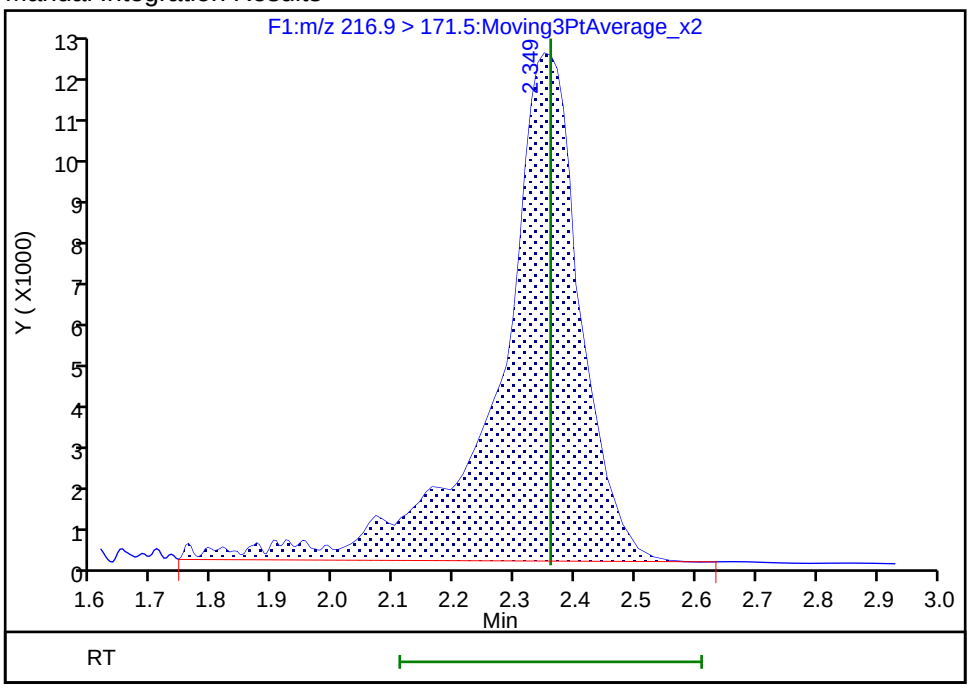
Processing Integration Results

RT: 2.35
Area: 112802
Amount: 17.210606
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 114660
Amount: 17.494088
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:45:42

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

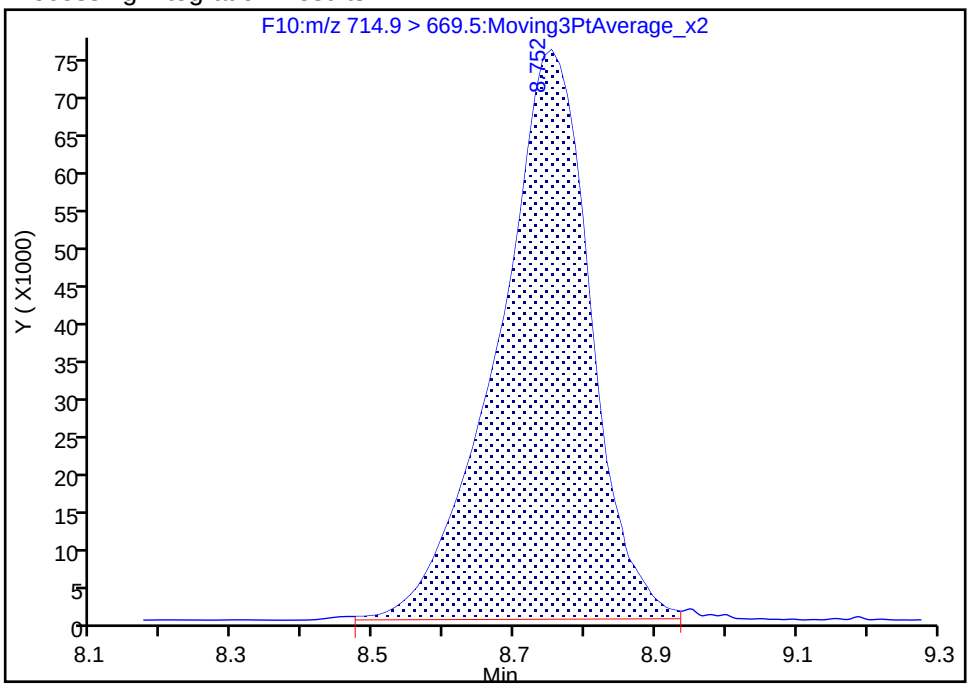
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B28.d				
Injection Date:	05-Jun-2019 08:28:36	Instrument ID:	LC410		
Lims ID:	200-48826-A-23-A	Lab Sample ID:	200-48826-23		
Client ID:	EQUIPMENT BLANK 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	28
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F10:MRM		

D 40 13C2 PFTeDA, CAS: STL02116

Signal: 1

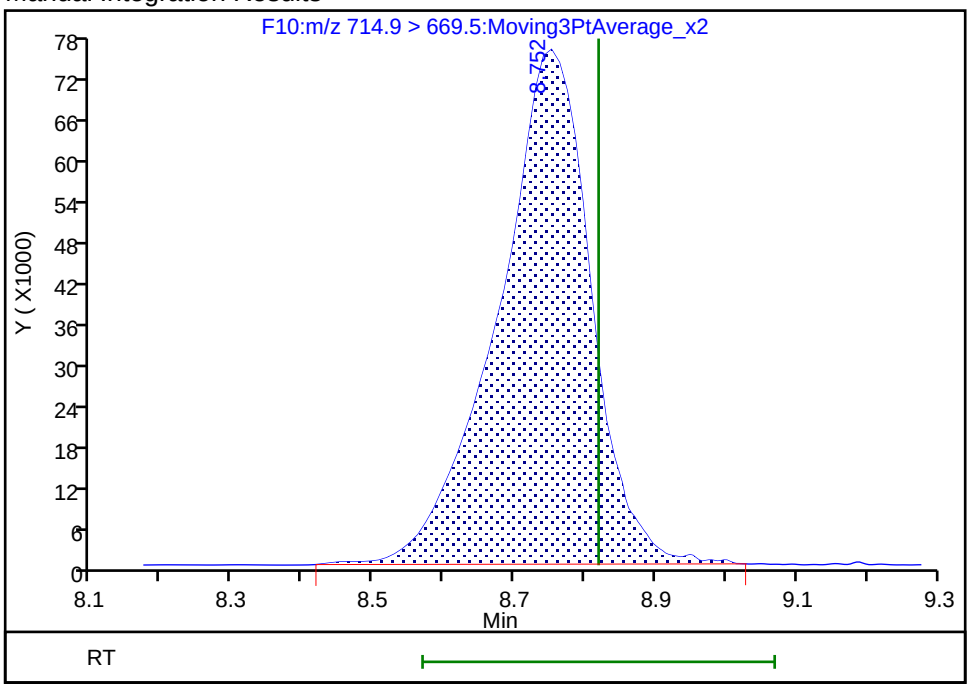
Processing Integration Results

RT: 8.75
Area: 695882
Amount: 21.155058
Amount Units: ng/ml



Manual Integration Results

RT: 8.75
Area: 699623
Amount: 21.268785
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 15:46:09

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1 Analy Batch No.: 143347

SDG No.:

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2019 12:19 Calibration End Date: 05/23/2019 14:26 Calibration ID: 41792

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-143347/2	PF052319B02.d
Level 2	IC 200-143347/3	PF052319B03.d
Level 3	IC 200-143347/4	PF052319B04.d
Level 4	IC 200-143347/5	PF052319B05.d
Level 5	ICIS 200-143347/6	PF052319B06.d
Level 6	IC 200-143347/7	PF052319B07.d
Level 7	IC 200-143347/8	PF052319B08.d
Level 8	IC 200-143347/9	PF052319B09.d
Level 9	IC 200-143347/10	PF052319B10.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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Perfluorobutanoic acid (PFBA)	1.8064 1.4767	1.4624 1.6029	1.7408 1.4248	1.6748 1.5685	1.3726	AveID		1.5700				9.5		35.0			
Perfluoropentanoic acid (PFPeA)	2.9253 3.0210	2.7185 3.0118	3.4552 3.2045	2.7901 3.1183	2.7059	AveID		2.9945				8.2		35.0			
Perfluorobutanesulfonic acid (PFBS)	2.2356 2.2578	2.6258 2.6667	2.7816 2.6959	2.2865 2.0825	2.9886	AveID		2.5135				12.2		35.0			
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	1.0273 1.0281	1.4688 1.2337	1.5312 1.8919	1.2432 1.1188	1.3798	AveID		1.3248				21.0		50.0			
Perfluorohexanoic acid (PFHxA)	1.4722 1.3505	1.2769 1.6515	1.2187 1.4376	1.3094 1.4757	1.3892	AveID		1.3980				9.3		35.0			
Perfluoropentanesulfonic acid	2.3301 2.6598	3.0246 3.0168	3.3382 3.3058	2.5793 2.2304	3.0848	AveID		2.8411				14.3		50.0			
HFPO-DA	1.2977 1.2245	1.0156 1.0457	1.2019 1.0063	1.0381 0.8069	1.0630	AveID		1.0777				13.5		35.0			
Perfluoroheptanoic acid (PFHpA)	0.9714 1.2290	1.0819 1.2452	1.2347 1.1129	1.1786 1.2492	1.2593	AveID		1.1736				8.4		35.0			
Perfluorohexanesulfonic acid (PFHxS)	2.4836 2.1557	2.7416 1.9351	1.7592 1.9911	1.8006 2.1543	2.0247	AveID		2.1162				15.1		35.0			
DONA	4.3565 4.3736	4.1631 4.1679	4.5425 4.2550	4.3507 4.2006	4.2890	AveID		4.2999				2.8		50.0			
6:2 FTS	1.1459 0.8902	0.8021 1.0591	1.0117 0.8600	1.0919 0.7540	0.8910	AveID		0.9451				14.5		35.0			
Perfluorooctanoic acid (PFOA)	1.1841 1.0240	0.9922 1.0032	0.9763 0.9584	0.9647 0.9749	1.0293	AveID		1.0119				6.8		35.0			
Perfluoroheptanesulfonic Acid (PFHpS)	0.6249 0.9034	0.9320 0.9014	0.8919 0.9285	0.7832 0.9172	0.9528	AveID		0.8706				11.9		50.0			

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: Eurofins TestAmerica, Burlington Job No.: 200-48826-1 Analy Batch No.: 143347

SDG No.:

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2019 12:19 Calibration End Date: 05/23/2019 14:26 Calibration ID: 41792

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Perfluorononanoic acid (PFNA)	0.9200 0.9027	0.7779 0.8964	0.8368 0.8807	0.8605 0.9372	0.9346	AveID		0.8830				5.8		35.0			
Perfluorooctanesulfonic acid (PFOS)	1.0291 0.9882	0.8144 0.9849	0.9633 0.9847	0.8596 1.0540	1.0132	AveID		0.9657				8.1		35.0			
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	4.2942 4.4696	4.2364 4.4923	4.4247 4.4732	4.1403 4.8296	4.2087	AveID		4.3966				4.7		50.0			
8:2 FTS	0.8989 0.6720	0.8656 0.9550	0.6001 0.7028	0.5975 0.6365	0.7096	AveID		0.7376				18.2		35.0			
Perfluorodecanoic acid (PFDA)	0.7963 0.8836	0.9321 0.9182	1.0357 0.8939	0.9394 0.9490	0.8912	AveID		0.9155				7.0		35.0			
Perfluorononanesulfonic acid	0.7150 1.0329	0.9139 1.0057	0.9399 1.0380	1.0285 1.0233	1.0298	AveID		0.9697				10.9		50.0			
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.6451 0.8246	0.8391 0.8643	0.8944 0.8368	0.8532 0.8324	0.8416	AveID		0.8257				8.6		35.0			
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.7996 0.8373	0.5907 0.8573	0.8789 0.8284	0.7953 0.8543	0.8059	AveID		0.8053				10.6		35.0			
Perfluorodecanesulfonic acid (PFDS)	1.1143 1.0214	1.2786 0.9806	1.1088 0.9737	0.9597 0.9431	0.9629	AveID		1.0381				10.6		50.0			
Perfluoroundecanoic acid (PFUnA)	0.9151 0.8173	0.7563 0.8372	0.8140 0.8325	0.8104 0.8829	0.8269	AveID		0.8325				5.4		35.0			
Perfluorooctanesulfonamide (FOSA)	1.5836 1.3931	1.3617 1.4884	1.3771 1.4467	1.3498 1.3897	1.4266	AveID		1.4241				5.2		35.0			
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	5.6343 5.6706	4.9902 5.7296	5.7416 5.8981	5.2701 6.1800	5.3702	AveID		5.6094				6.3		50.0			
Perfluorododecanoic acid (PFDoA)	1.1215 0.8821	1.0003 0.8963	1.0111 0.8741	0.9126 0.9269	0.9143	AveID		0.9488				8.5		35.0			
Perfluorotridecanoic acid (PFTriA)	0.8918 0.9664	0.9045 0.9584	0.9387 0.9140	0.9119 0.9684	0.9820	AveID		0.9373				3.5		50.0			
Perfluorotetradecanoic acid (PFTeA)	0.7738 0.8641	0.8781 0.8671	0.8520 0.8163	0.8686 0.8469	0.8720	AveID		0.8487				4.0		35.0			
13C4 PFBA	0.2230 0.2225	0.2219 0.2438	0.2214 0.2843	0.2423 0.2594	0.2821	Ave		0.2445				10.4		30.0			
13C5 PFPeA	0.1760 0.1566	0.1692 0.1899	0.1763 0.2101	0.1893 0.1914	0.2108	Ave		0.1855				9.7		30.0			
13C3 PFBS	0.0857 0.0764	0.0724 0.0806	0.0648 0.0802	0.0795 0.1092	0.0775	Ave		0.0807				15.1		30.0			
13C2 PFHxA	0.5519 0.5088	0.5450 0.5041	0.5654 0.6486	0.5654 0.5302	0.5875	Ave		0.5563				7.9		30.0			
13C3 HFPO-DA	0.0486 0.0379	0.0516 0.0570	0.0486 0.0646	0.0526 0.0598	0.0555	Ave		0.0529				14.5		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: Eurofins TestAmerica, Burlington Job No.: 200-48826-1 Analy Batch No.: 143347

SDG No.:

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2019 12:19 Calibration End Date: 05/23/2019 14:26 Calibration ID: 41792

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 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
13C4 PFHpA	0.7640 0.6810	0.8122 0.7732	0.7652 0.8846	0.8074 0.8011	0.7677	Ave		0.7840				6.9		30.0			
18O2 PFHxS	0.0975 0.0834	0.0909 0.1129	0.1097 0.1150	0.1082 0.1001	0.1106	Ave		0.1031				10.5		30.0			
M2-6:2 FTS	0.0552 0.0457	0.0483 0.0492	0.0527 0.0648	0.0546 0.0725	0.0585	Ave		0.0557				15.3		30.0			
13C4 PFOA	0.9332 0.8143	0.9940 0.9858	0.9803 1.0483	0.9805 1.0101	0.9893	Ave		0.9706				6.8		30.0			
13C5 PFNA	1.2814 1.1571	1.3201 1.3438	1.2950 1.3331	1.3701 1.2555	1.3617	Ave		1.3020				5.1		30.0			
13C4 PFOS	0.2174 0.2001	0.2239 0.2457	0.2175 0.2546	0.2429 0.2479	0.2432	Ave		0.2326				7.9		30.0			
M2-8:2 FTS	0.2057 0.1839	0.1946 0.1682	0.1903 0.2161	0.2102 0.2452	0.2095	Ave		0.2026				10.8		30.0			
13C2 PFDA	1.1788 1.0001	1.1579 1.1075	1.0845 1.1287	1.1393 1.0288	1.1767	Ave		1.1114				5.7		30.0			
d3-NMeFOSAA	0.3343 0.3162	0.3446 0.3857	0.3282 0.4041	0.3559 0.4215	0.3682	Ave		0.3621				9.9		30.0			
d5-NEtFOSAA	0.3120 0.2547	0.3099 0.3020	0.2865 0.2991	0.3230 0.2716	0.3285	Ave		0.2986				8.0		30.0			
13C2 PFUnA	1.0948 0.9314	1.1567 1.0819	1.0965 1.0495	1.1815 0.9351	1.1265	Ave		1.0727				8.2		30.0			
13C8 FOSA	0.3905 0.3497	0.4121 0.3951	0.3879 0.4120	0.4364 0.3930	0.4268	Ave		0.4004				6.3		30.0			
13C2 PFDoA	1.2908 1.1850	1.3633 1.4117	1.3292 1.5020	1.4041 1.4372	1.3835	Ave		1.3674				6.7		30.0			
13C2 PFTeDA	1.1863 1.0481	1.1787 1.2661	1.1932 1.3518	1.1941 1.3678	1.2594	Ave		1.2273				8.0		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1 Analy Batch No.: 143347

SDG No.:

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2019 12:19 Calibration End Date: 05/23/2019 14:26 Calibration ID: 41792

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-143347/2	PF052319B02.d
Level 2	IC 200-143347/3	PF052319B03.d
Level 3	IC 200-143347/4	PF052319B04.d
Level 4	IC 200-143347/5	PF052319B05.d
Level 5	ICIS 200-143347/6	PF052319B06.d
Level 6	IC 200-143347/7	PF052319B07.d
Level 7	IC 200-143347/8	PF052319B08.d
Level 8	IC 200-143347/9	PF052319B09.d
Level 9	IC 200-143347/10	PF052319B10.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorobutanoic acid (PFBA)		AveID	7882 202685	12546 337173	37026 650268	75076 1205204	141951	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluoropentanoic acid (PFPeA)		AveID	10076 291695	17782 493315	58539 1080848	97677 1767969	209107	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluorobutanesulfonic acid (PFBS)		AveID	3314 94046	6494 163864	15311 306879	29709 595307	75026	0.884 26.5	1.77 44.2	4.42 88.4	8.84 177	17.7
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)		AveID	1609 45247	3838 80096	8905 227535	17067 337902	36598	0.934 28.0	1.87 46.7	4.67 93.4	9.34 187	18.7
Perfluorohexanoic acid (PFHxA)		AveID	15896 423758	26905 718246	66198 1497063	136954 2317549	299220	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluoropentanesulfonic acid		AveID	3665 117554	7937 196699	19497 399292	35561 676540	82174	0.938 28.1	1.88 46.9	4.69 93.8	9.38 188	18.8
HFPO-DA		AveID	1233 28650	2026 51384	5612 104411	10102 142911	21610	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluoroheptanoic acid (PFHpA)		AveID	14519 516131	33969 830642	90780 1580515	176034 2964261	354411	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluorohexanesulfonic acid (PFHxS)		AveID	4312 100930	8768 171581	16873 334426	32785 581082	74742	0.910 27.3	1.82 45.5	4.55 91.0	9.10 182	18.2
DONA		AveID	17459 508514	33942 832317	89426 1638494	184154 2905461	360270	0.942 28.3	1.88 47.1	4.71 94.2	9.42 188	18.8
6:2 FTS		AveID	1174 23778	1419 42610	4852 84871	10457 153500	18105	0.948 28.4	1.90 47.4	4.74 94.8	9.48 190	19.0
Perfluorooctanoic acid (PFOA)		AveID	21618 514272	38131 853152	91957 1613040	174968 2916864	373325	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluoroheptanesulfonic Acid (PFHpS)		AveID	2531 106149	7679 181912	17745 361338	33502 641177	80881	0.952 28.6	1.90 47.6	4.76 95.2	9.52 190	19.0
Perfluorononanoic acid (PFNA)		AveID	23065 644174	39699 1039261	104119 1884866	218097 3485263	466574	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1 Analy Batch No.: 143347

SDG No.:

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2019 12:19 Calibration End Date: 05/23/2019 14:26 Calibration ID: 41792

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Perfluorooctanesulfonic acid (PFOS)		AveID	4063 113186	6541 193752	18683 373561	35846 718167	83846	0.928 27.8	1.86 46.4	4.64 92.8	9.28 186	18.6
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid		AveID	17027 514163	34173 887590	86184 1704207	173388 3305087	349774	0.932 28.0	1.86 46.6	4.66 93.2	9.32 186	18.6
8:2 FTS		AveID	3466 73018	6238 132763	10509 233624	22256 442842	52216	0.958 28.7	1.92 47.9	4.79 95.8	9.58 192	19.2
Perfluorodecanoic acid (PFDA)		AveID	18365 544994	41726 877332	107915 1619850	197986 2891861	384454	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluorononanesulfonic acid		AveID	2920 122395	7593 204669	18858 407353	44368 721326	88158	0.960 28.8	1.92 48.0	4.80 96.0	9.60 192	19.2
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)		AveID	4220 160790	11178 287583	28201 542896	56179 1039189	113594	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)		AveID	4881 131534	7077 223345	24189 397745	47525 687173	97057	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluorodecanesulfonic acid (PFDS)		AveID	4570 121530	10668 200389	22338 383701	41570 667528	82775	0.964 28.9	1.93 48.2	4.82 96.4	9.64 193	19.3
Perfluoroundecanoic acid (PFUnA)		AveID	19602 469506	33821 781416	85757 1402571	177118 2445366	341516	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluorooctanesulfonamide (FOSA)		AveID	12100 300414	21692 507286	51322 956789	108952 1617872	223229	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid		AveID	22580 659315	40685 1144202	113033 2271189	223070 4274585	451089	0.942 28.3	1.88 47.1	4.71 94.2	9.42 188	18.8
Perfluorododecanoic acid (PFDoA)		AveID	28323 644669	52721 1091572	129116 2107708	237036 3945923	463779	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluorotridecanoic acid (PFTriA)		AveID	22522 706275	47671 1167270	119876 2203866	236839 4122384	498093	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
Perfluorotetradecanoic acid (PFTeA)		AveID	17959 558564	40015 947055	97672 1771483	191853 3430839	402608	1.00 30.0	2.00 50.0	5.00 100	10.0 200	20.0
13C4 PFBA	13PFOA	Ave	218171 228759	214469 210351	212696 228200	224135 192091	258550	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
13C5 PFPeA	13PFOA	Ave	172220 160928	163530 163792	169424 168647	175044 141740	193192	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
13C3 PFBS	13PFOA	Ave	77975 73034	65045 64645	57908 59877	68348 75184	66027	46.5 46.5	46.5 46.5	46.5 46.5	46.5 46.5	46.5
13C2 PFHxA	13PFOA	Ave	539864 522959	526754 434897	543203 520666	522957 392623	538461	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
13C3 HFPO-DA	13PFOA	Ave	47506 38995	49873 49138	46694 51877	48658 44277	50825	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
13C4 PFHpA	13PFOA	Ave	747347 699954	784957 667058	735220 710110	746772 593210	703580	50.0 50.0	50.0 50.0	50.0 50.0	50.0 50.0	50.0
18O2 PFHxS	13PFOA	Ave	90244 81122	83117 92177	99708 87301	94643 70099	95938	47.3 47.3	47.3 47.3	47.3 47.3	47.3 47.3	47.3

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1 Analy Batch No.: 143347

SDG No.:

Instrument ID: LC410 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/23/2019 12:19 Calibration End Date: 05/23/2019 14:26 Calibration ID: 41792

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
M2-6:2 FTS	13PF	Ave	51333	44320	48059	47985	50904	47.5	47.5	47.5	47.5	47.5
	OA		44613	40317	49447	51000		47.5	47.5	47.5	47.5	
13C4 PFOA	13PF	Ave	912865	960721	941854	906891	906715	50.0	50.0	50.0	50.0	50.0
	OA		837016	850451	841484	747975		50.0	50.0	50.0	50.0	
13C5 PFNA	13PF	Ave	1253494	1275899	1244208	1267269	1248058	50.0	50.0	50.0	50.0	50.0
	OA		1189356	1159331	1070115	929723		50.0	50.0	50.0	50.0	
13C4 PFOS	13PF	Ave	203359	206854	199793	214784	213117	47.8	47.8	47.8	47.8	47.8
	OA		196662	202667	195398	175490		47.8	47.8	47.8	47.8	
M2-8:2 FTS	13PF	Ave	192787	180166	175113	186232	183974	47.9	47.9	47.9	47.9	47.9
	OA		181087	139019	166212	173929		47.9	47.9	47.9	47.9	
13C2 PFDA	13PF	Ave	1153151	1119133	1041936	1053759	1078461	50.0	50.0	50.0	50.0	50.0
	OA		1028006	955482	906051	761797		50.0	50.0	50.0	50.0	
d3-NMeFOSAA	13PF	Ave	327072	333044	315320	329223	337437	50.0	50.0	50.0	50.0	50.0
	OA		324984	332752	324405	312094		50.0	50.0	50.0	50.0	
d5-NEtFOSAA	13PF	Ave	305201	299529	275218	298773	301084	50.0	50.0	50.0	50.0	50.0
	OA		261835	260530	240079	201096		50.0	50.0	50.0	50.0	
13C2 PFUnA	13PF	Ave	1071021	1117948	1053493	1092786	1032521	50.0	50.0	50.0	50.0	50.0
	OA		957438	933359	842430	692455		50.0	50.0	50.0	50.0	
13C8 FOSA	13PF	Ave	382038	398254	372690	403589	391181	50.0	50.0	50.0	50.0	50.0
	OA		359409	340820	330689	291046		50.0	50.0	50.0	50.0	
13C2 PFDoA	13PF	Ave	1262688	1317604	1277021	1298670	1268072	50.0	50.0	50.0	50.0	50.0
	OA		1218042	1217917	1205662	1064234		50.0	50.0	50.0	50.0	
13C2 PFTeDA	13PF	Ave	1160485	1139185	1146400	1104427	1154245	50.0	50.0	50.0	50.0	50.0
	OA		1077379	1092270	1085124	1012808		50.0	50.0	50.0	50.0	

Curve Type Legend:

Ave = Average ISTD
AveID = Average isotope dilution

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 23-May-2019 12:19:38 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-002 IC 1
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:31:20 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 12:58:15
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.380	0.0	1.000	218171	45.6		91.2	78.6	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.380	0.0	1.000	7882	1.15		115	29.5	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.830	2.795	0.035	1.000	10076	0.9769		97.7	13.2	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	172220	47.5		94.9	416	
D 5 13C3 PFBS										M
302.0 > 79.8	2.866	2.866	0.0	1.000	77975	49.4		106	194	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.901	2.901	0.0	1.012	3314	0.7863	Target=1.67	88.9	18.4	M
298.9 > 98.9	2.901	2.866	0.035	1.012	3346		0.00(0.83-2.51)	88.9	11.6	M
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.238	3.238	0.0	1.130	1609	0.7243		77.5	12.2	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.270	3.270	0.0	1.000	15896	1.05	Target=14.34	105	127	
312.9 > 118.9	3.270	3.270	0.0	1.000	456		0.00(7.17-21.51)	105	10.2	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.270	0.0	1.000	539864	49.6		99.2	1403	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.302	3.334	-0.032	1.152	3665	0.7693	Target=1.23	82.0	21.9	M
348.9 > 98.9	3.334	3.334	0.0	1.000	3900		0.00(0.62-1.85)	82.0	52.4	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.429	3.429	0.0	1.000	47506	45.9		91.8	281	
44 Perfluoro(2-propoxypropanoic) acid										M
328.9 > 284.7	3.460	3.429	0.031	1.009	1233	1.20		120	8.0	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.833	3.833	0.0	0.991	14519	0.8277	Target=2.84	82.8	63.8	
362.9 > 168.9	3.869	3.833	0.036	1.000	7700		0.00(1.42-4.26)	82.8	69.3	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	747347	48.7		97.4	3863	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.869	0.036	1.000	90244	44.7		94.5	343	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.905	0.0	1.000	4312	1.07	Target=1.34	117	52.9	M
398.9 > 98.9	3.905	3.905	0.0	1.000	4458		0.00(0.67-2.01)	117	39.7	M
49 DONA										M
376.9 > 250.7	3.946	3.925	0.021	0.735	17459	0.9544	Target=2.33	101	110	M
376.9 > 85.0	3.925	3.925	0.0	1.000	6314		0.00(1.16-3.49)	101	29.7	M
13 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.568	4.506	0.062	1.009	1174	1.15		121	10.3	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.506	0.020	1.000	51333	47.1		99.1	412	M
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.547	0.021		978254	50.0			5224	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.547	0.021	1.000	912865	48.1		96.1	2439	
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.568	4.568	0.0	1.000	21618	1.17	Target=2.43	117	133	
412.9 > 168.9	4.568	4.568	0.0	1.000	8397		0.00(1.22-3.64)	117	58.2	M
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.568	4.589	-0.021	0.851	2531	0.6834	Target=1.30	71.8	14.4	M
448.9 > 98.9	4.589	4.589	0.0	1.000	4341		0.00(0.65-1.95)	71.8	36.9	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.347	0.0	1.000	1253494	49.2		98.4	3631	
19 Perfluorononanoic acid										
462.9 > 418.7	5.368	5.347	0.021	1.004	23065	1.04	Target=5.00	104	100.0	
462.9 > 168.9	5.347	5.347	0.0	1.000	4898		0.00(2.50-7.50)	104	33.7	
D 22 13C4 PFOS										
502.9 > 80.0	5.368	5.347	0.021	1.000	203359	44.7		93.5	975	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.368	5.347	0.021	1.000	4063	0.9889	Target=1.41	107	21.5	M
498.9 > 98.9	5.368	5.347	0.021	1.000	3981		0.00(0.71-2.12)	107	21.0	M
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.812	5.778	0.034	1.083	17027	0.9103		97.7	109	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	192787	48.6		102	810	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.131	6.131	0.0	1.000	3466	1.17		122	36.2	M
45 Perfluorononanesulfonic acid										M
548.9 > 80.0	6.165	6.165	0.0	1.148	2920	0.7078	Target=1.39	73.7	20.0	M
548.9 > 98.9	6.165	6.165	0.0	1.000	2537		0.00(0.69-2.08)	73.7	11.1	M
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.165	0.0	1.000	1153151	53.0		106	6083	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										M
512.9 > 468.5	6.165	6.165	0.0	1.000	18365	0.8698	Target=7.23	87.0	144	
512.9 > 168.9	6.165	6.165	0.0	1.000	2209		0.00(3.61-10.84)	87.0	15.3	M
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.501	6.501	0.0	0.996	4220	0.7813		78.1	55.1	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.525	6.501	0.024	1.000	327072	46.2		92.3	1804	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.897	6.873	0.024	1.000	305201	52.2		104	871	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.897	6.897	0.0	1.285	4570	1.03	Target=1.25	107	36.8	
598.9 > 98.9	6.897	6.897	0.0	1.000	5832		0.00(0.63-1.88)	107	38.2	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.897	6.897	0.0	1.000	4881	0.99		99.3	33.6	
32 Perfluoroundecanoic acid										M
562.9 > 518.5	6.921	6.921	0.0	1.000	19602	1.10	Target=7.06	110	113	M
562.9 > 168.9	6.921	6.921	0.0	1.000	3691		0.00(3.53-10.58)	110	26.1	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.921	0.0	1.000	1071021	51.0		102	4050	
D 34 13C8 FOSA										
505.9 > 78.0	6.921	6.921	0.0	1.000	382038	48.8		97.5	2358	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	6.921	6.921	0.0	1.000	12100	1.11		111	89.2	M
43 11-Chloroeicosafluoro-3-oxaundecan										Ma
631.0 > 450.6	7.274	7.254	0.020	1.355	22580	0.9462		100	128	M
36 Perfluorododecanoic acid										
612.9 > 568.5	7.616	7.616	0.0	1.000	28323	1.18	Target=5.37	118	213	
612.9 > 168.9	7.636	7.616	0.020	1.003	5554		0.00(2.68-8.06)	118	46.4	
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.616	0.0	1.000	1262688	47.2		94.4	1741	
38 Perfluorotridecanoic acid										M
662.9 > 618.5	8.246	8.224	0.022	1.083	22522	0.9514	Target=4.67	95.1	211	
662.9 > 168.9	8.257	8.224	0.033	1.084	3932		0.00(2.34-7.01)	95.1	29.7	M
D 40 13C2 PFTeDA										
714.9 > 669.5	8.808	8.775	0.033	1.000	1160485	48.3		96.7	1354	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.797	8.786	0.011	0.999	17959	0.9117	Target=4.86	91.2	118	
712.9 > 168.9	8.797	8.786	0.011	0.999	3456		0.00(2.43-7.30)	91.2	19.4	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27-L1_00005 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:31:21 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d

Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410

Lims ID: IC

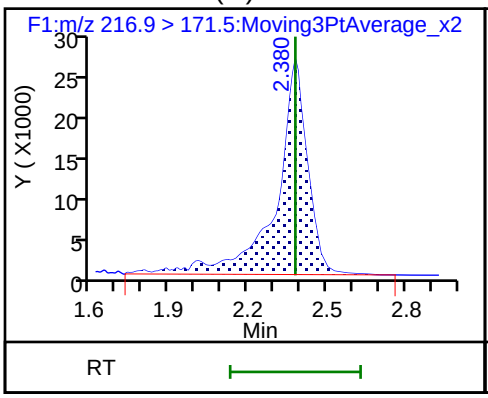
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2

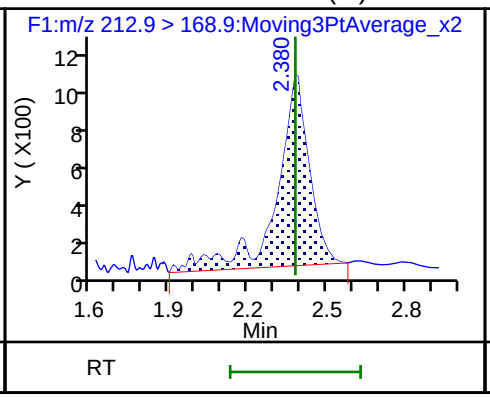
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

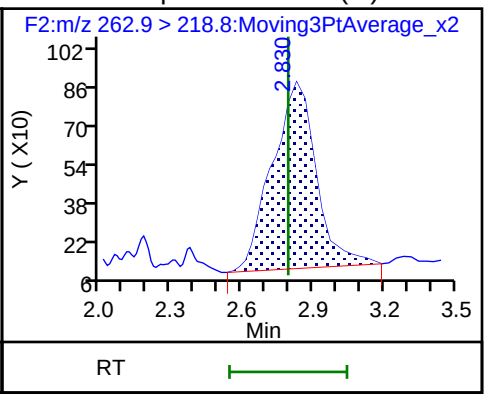
D 1 13C4 PFBA (M)



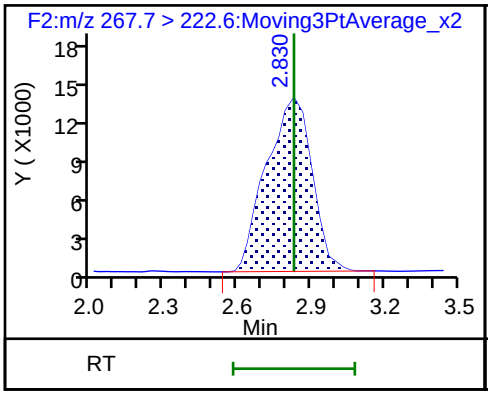
2 Perfluorobutanoic acid (M)



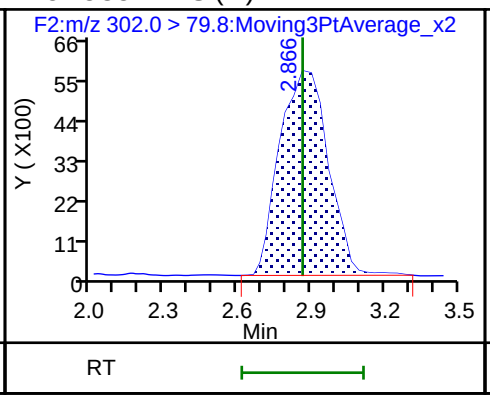
3 Perfluoropentanoic acid (M)



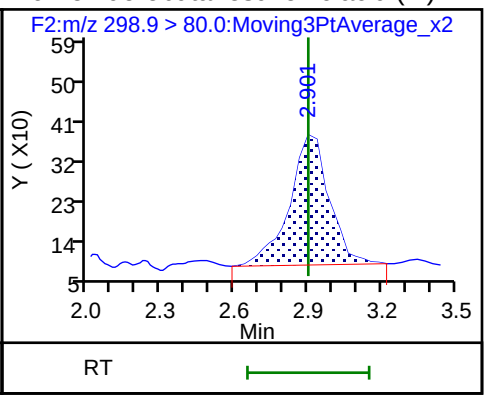
D 4 13C5 PFPeA



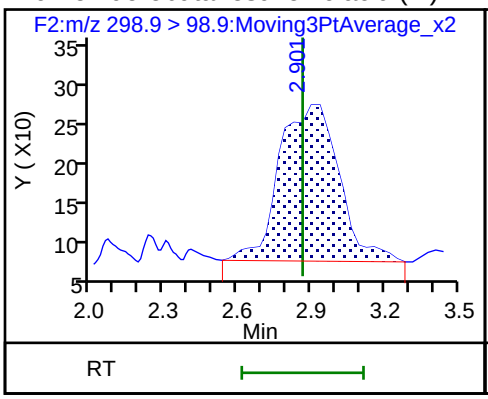
D 5 13C3 PFBS (M)



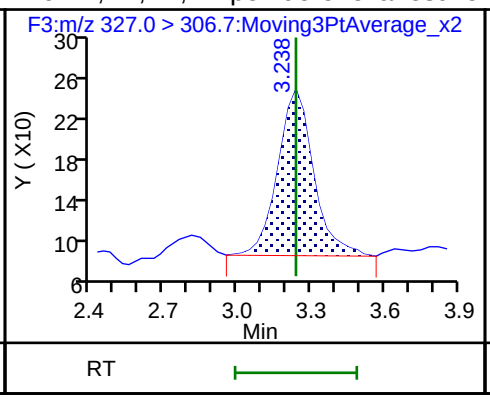
6 Perfluorobutanesulfonic acid (M)



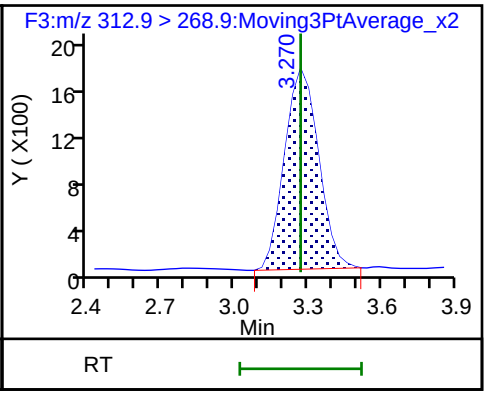
6 Perfluorobutanesulfonic acid (M)



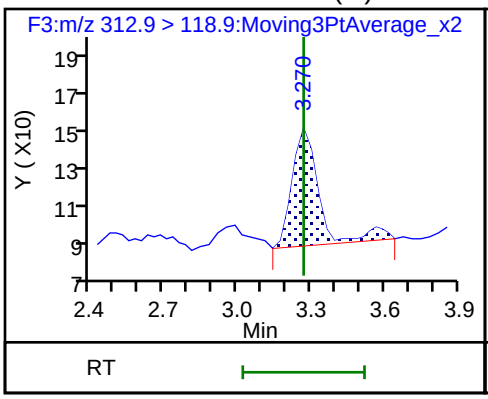
46 1H,1H,2H,2H-perfluorohexanesulfoni



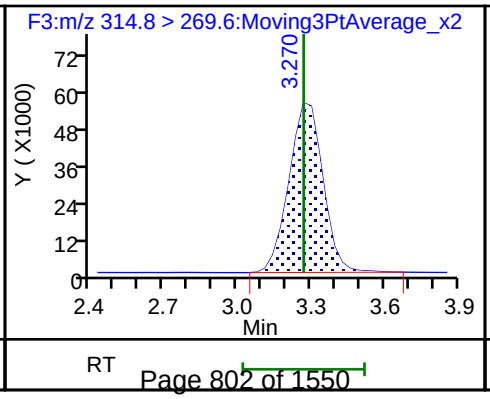
7 Perfluorohexanoic acid



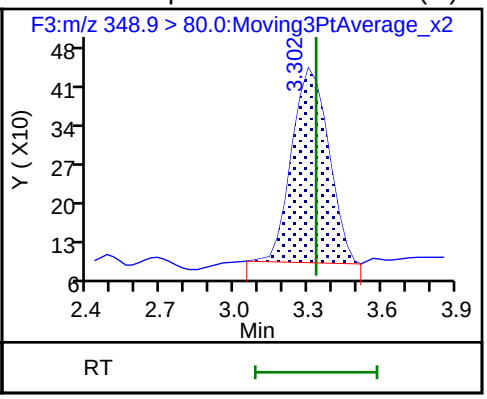
7 Perfluorohexanoic acid (M)



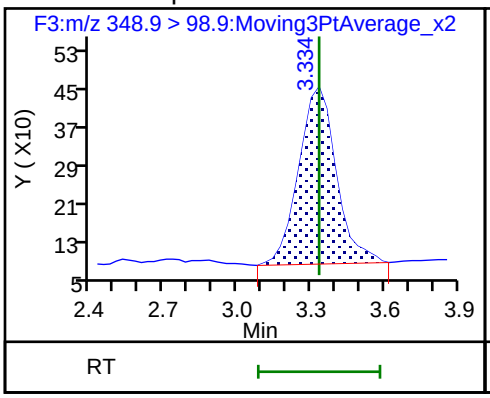
D 8 13C2 PFHxA



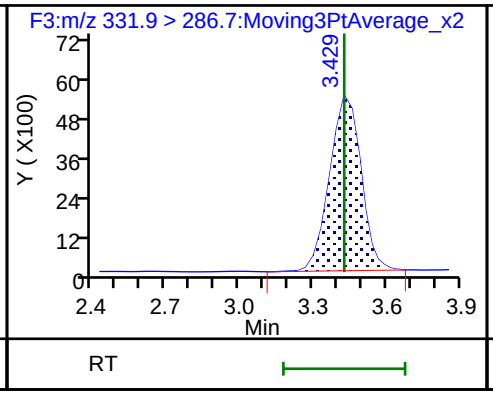
48 Perfluoropentanesulfonic acid (M)



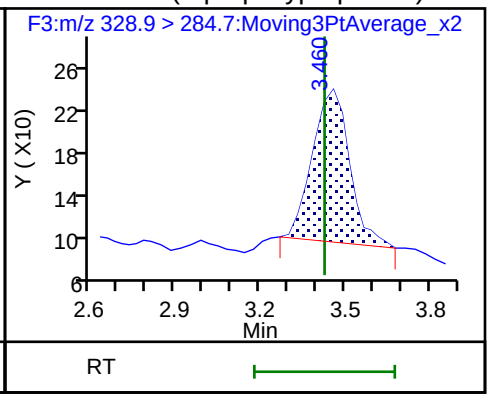
48 Perfluoropentanesulfonic acid



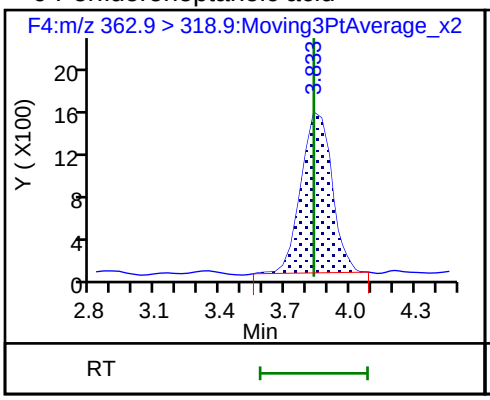
D 42 13C3 HFPO-DA



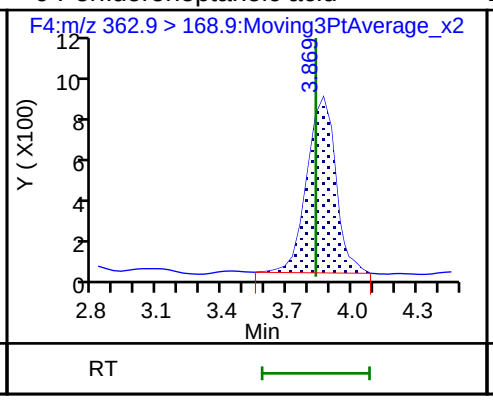
44 Perfluoro(2-propoxypropanoic) acid (M)



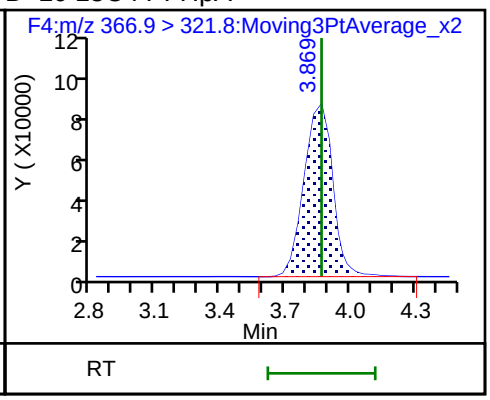
9 Perfluoroheptanoic acid



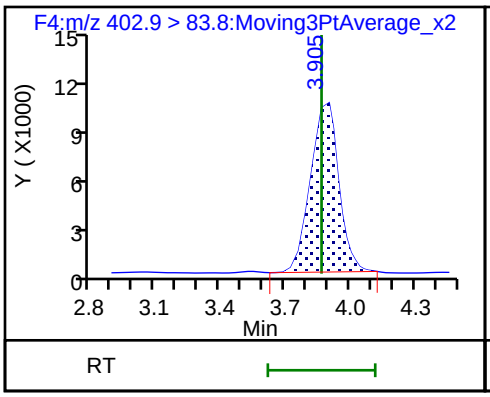
9 Perfluoroheptanoic acid



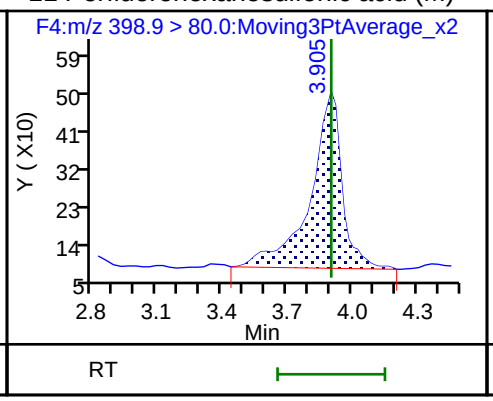
D 10 13C4 PFHpA



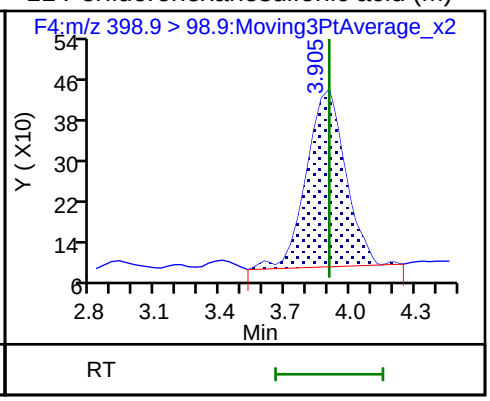
D 12 18O2 PFHxS



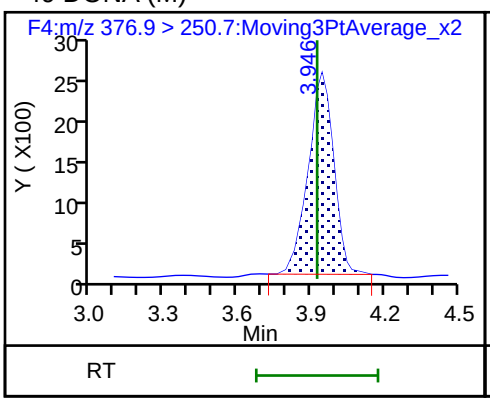
11 Perfluorohexanesulfonic acid (M)



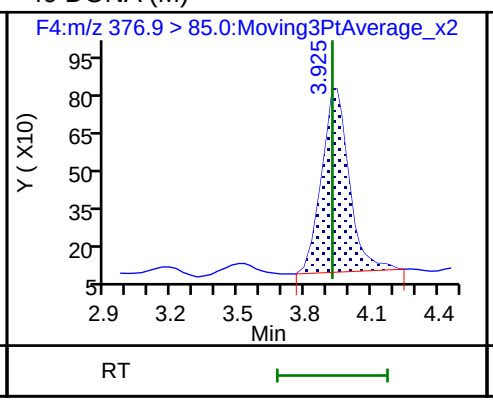
11 Perfluorohexanesulfonic acid (M)



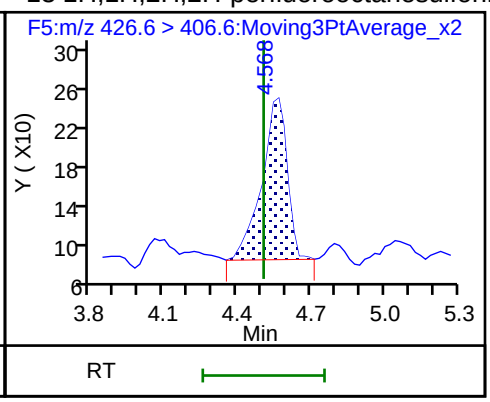
49 DONA (M)



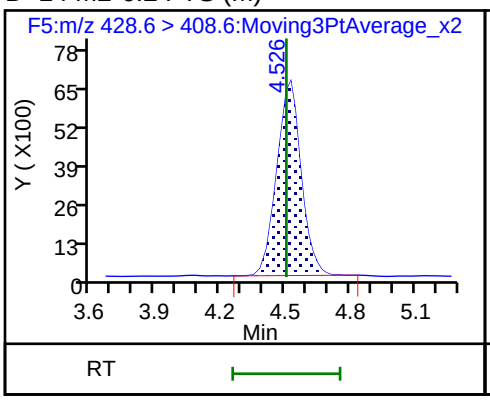
49 DONA (M)



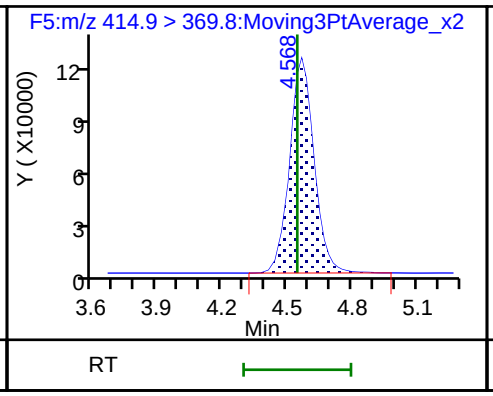
13 1H,1H,2H,2H-perfluorooctanesulfoni (M)



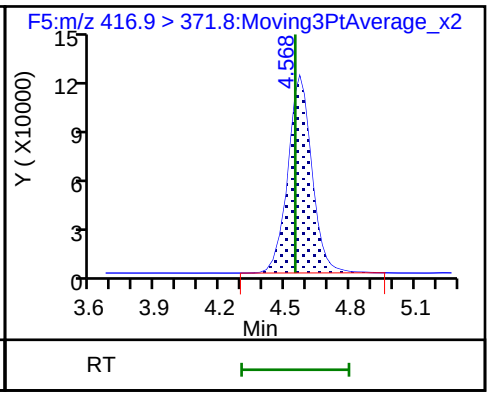
D 14 M2-6:2 FTS (M)



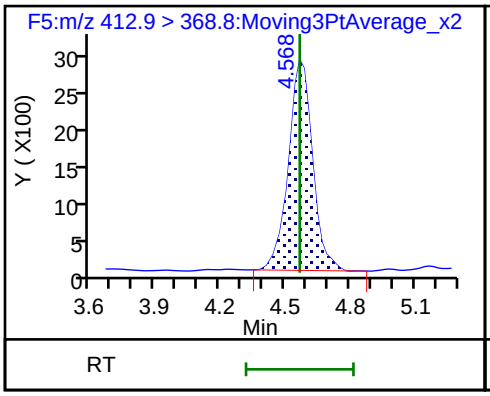
* 16 13C2 PFOA



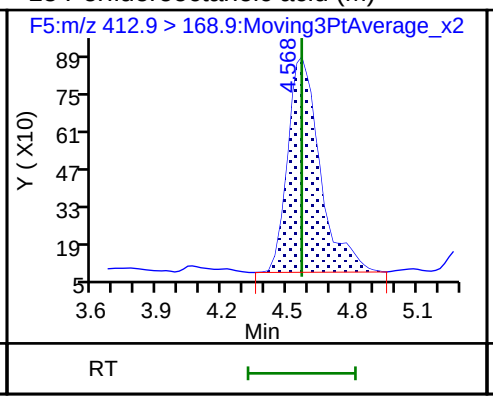
D 17 13C4 PFOA



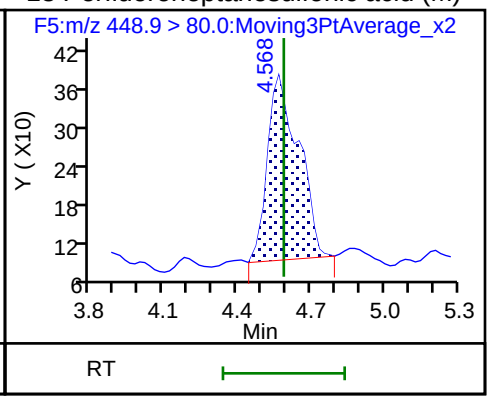
15 Perfluorooctanoic acid



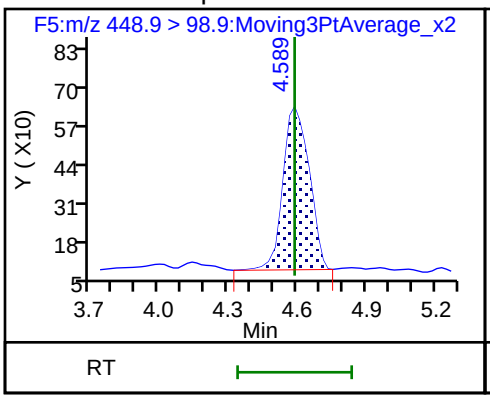
15 Perfluorooctanoic acid (M)



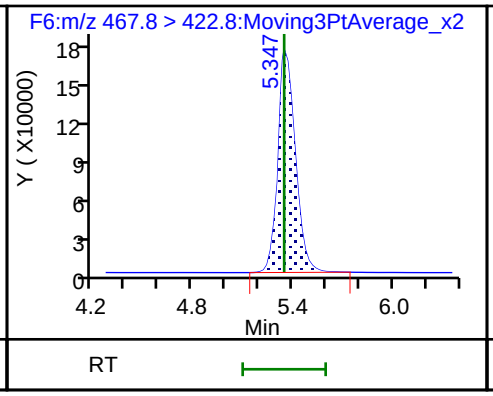
18 Perfluoroheptanesulfonic acid (M)



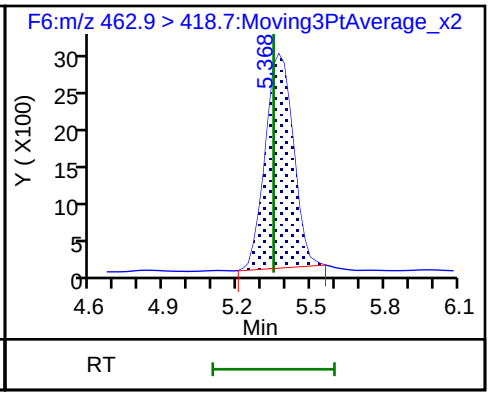
18 Perfluoroheptanesulfonic acid



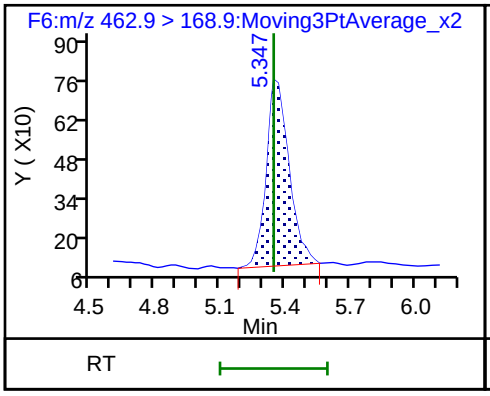
D 20 13C5 PFNA



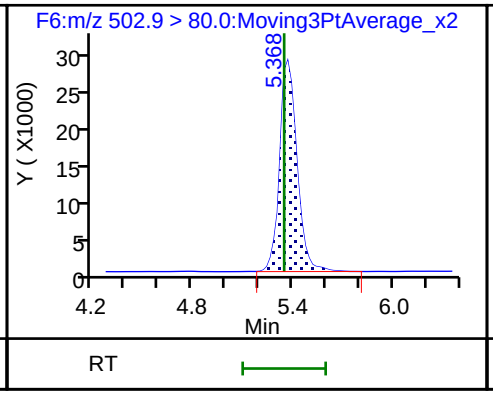
19 Perfluorononanoic acid



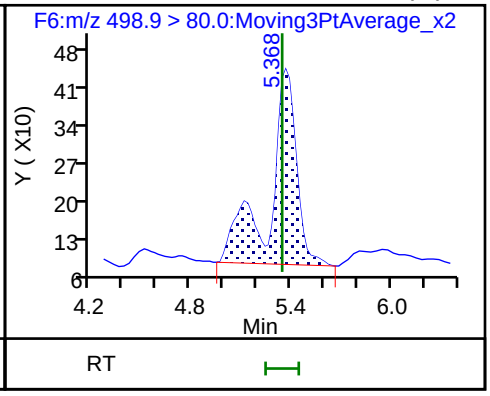
19 Perfluorononanoic acid



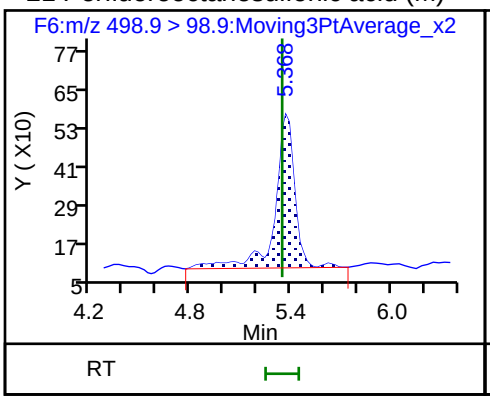
D 22 13C4 PFOS



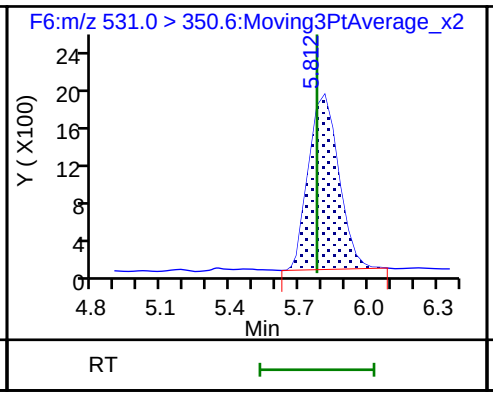
21 Perfluorooctanesulfonic acid (M)



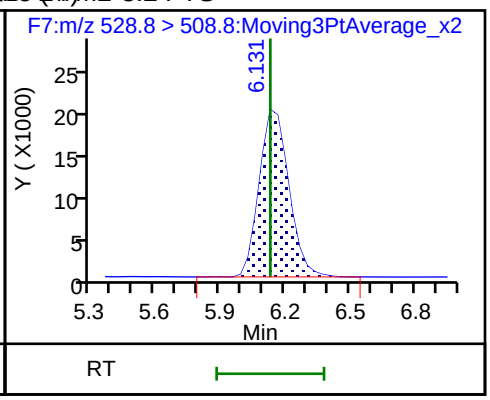
21 Perfluorooctanesulfonic acid (M)



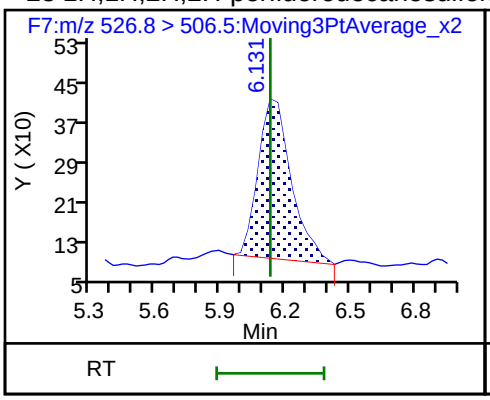
47 9-Chlorohexadecafluoro-3-oxanonane-1-



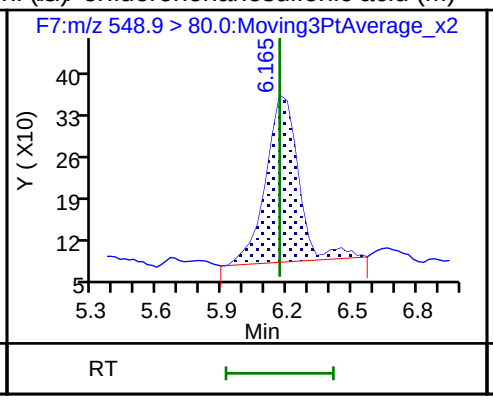
D 24 M2-8:2 FTS



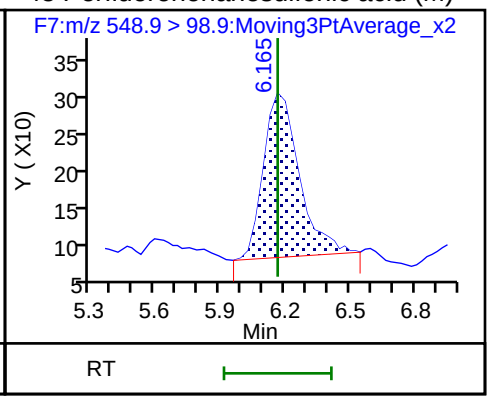
23 1H,1H,2H,2H-perfluorodecanesulfoni



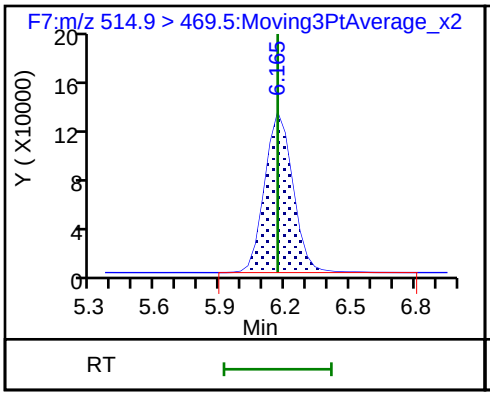
45 Perfluorononanesulfonic acid (M)



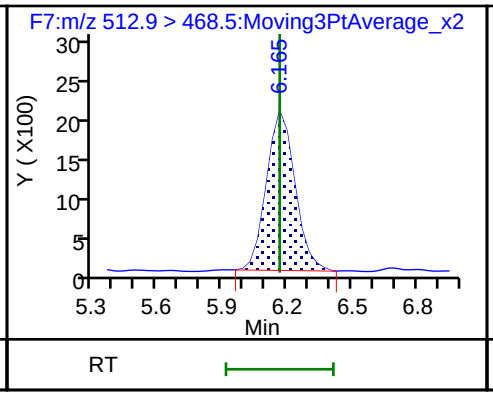
45 Perfluorononanesulfonic acid (M)



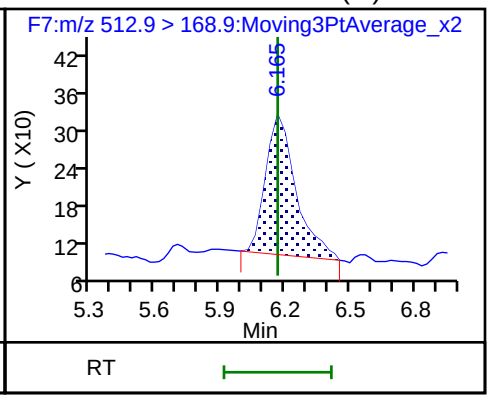
D 25 13C2 PFDA



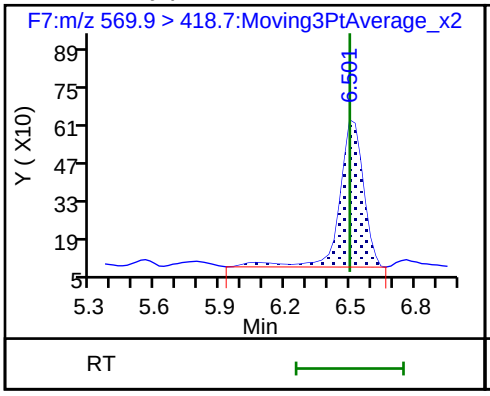
26 Perfluorodecanoic acid



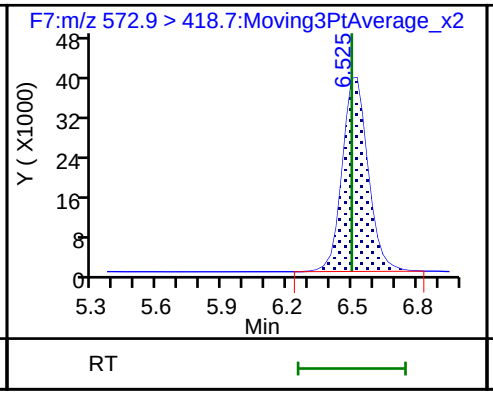
26 Perfluorodecanoic acid (M)



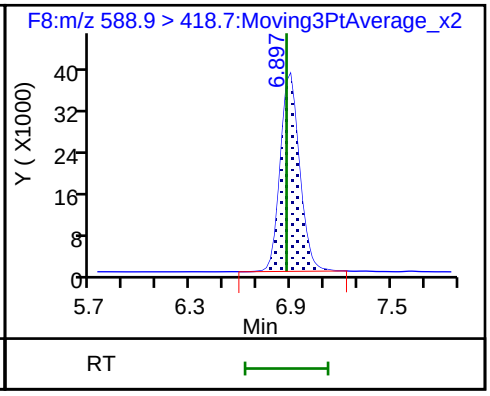
28 N-methylperfluorooctanesulfonamidD



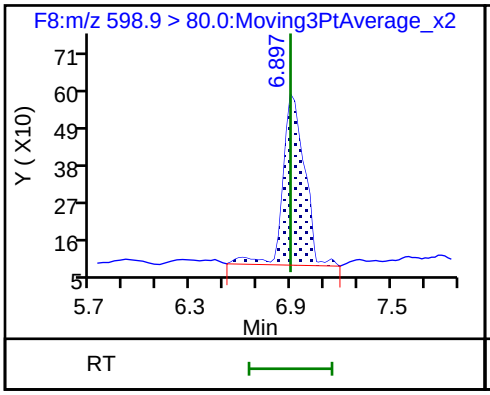
D 27 d3-NMeFOSAA



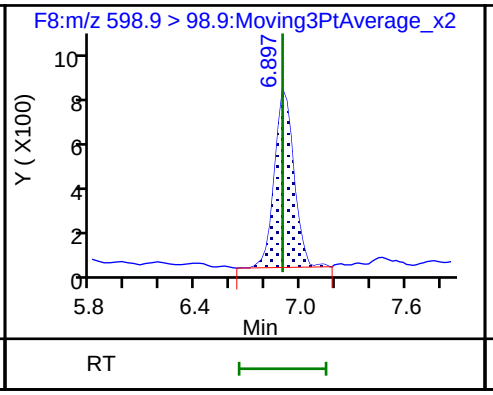
D 29 d5-NEtFOSAA



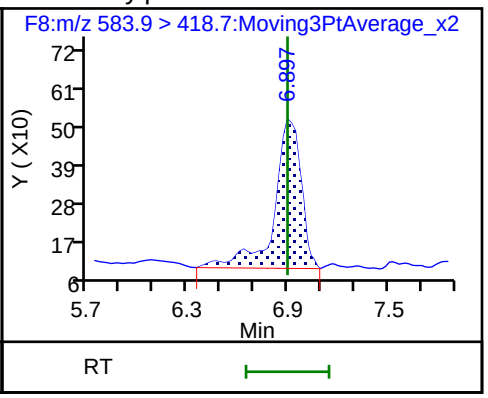
31 Perfluorodecanesulfonic acid



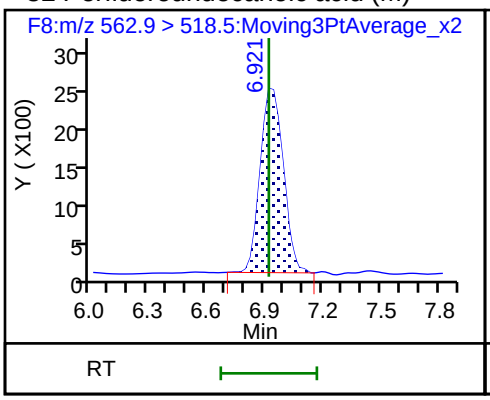
31 Perfluorodecanesulfonic acid



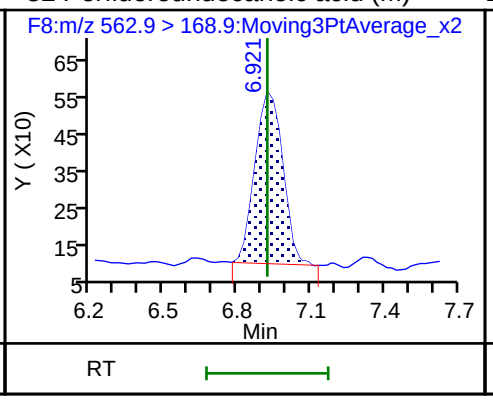
30 N-ethylperfluorooctanesulfonamidoa



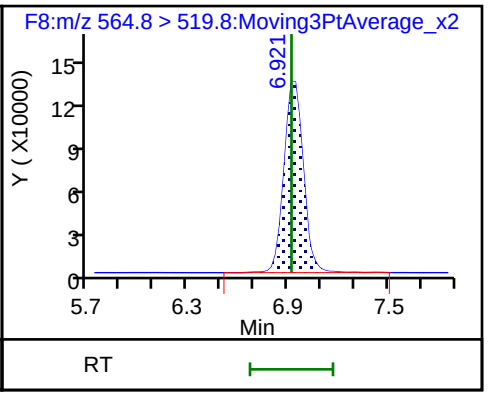
32 Perfluoroundecanoic acid (M)



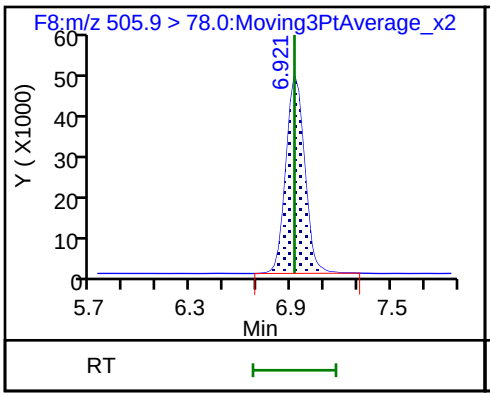
32 Perfluoroundecanoic acid (M)



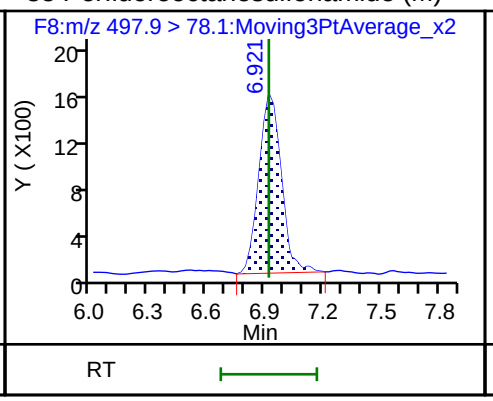
D 33 13C2 PFUnA



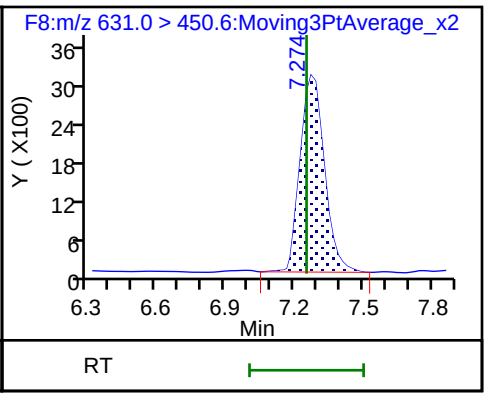
D 34 13C8 FOSA



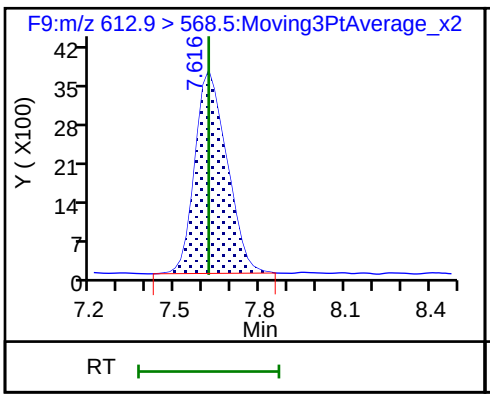
35 Perfluorooctanesulfonamide (M)



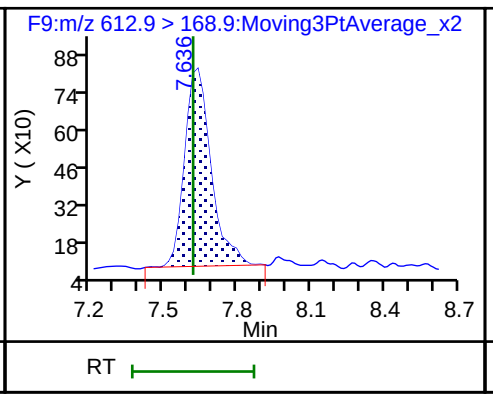
43 11-Chloroeicosafluoro-3-oxaundecan (M)



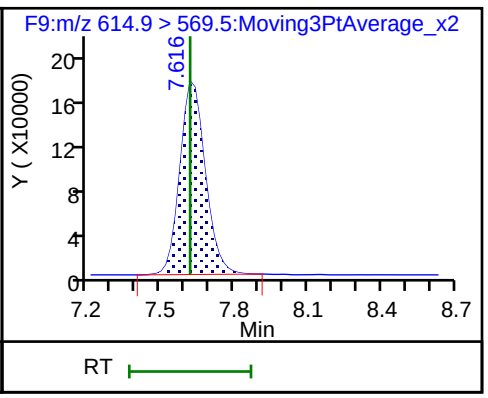
36 Perfluorododecanoic acid



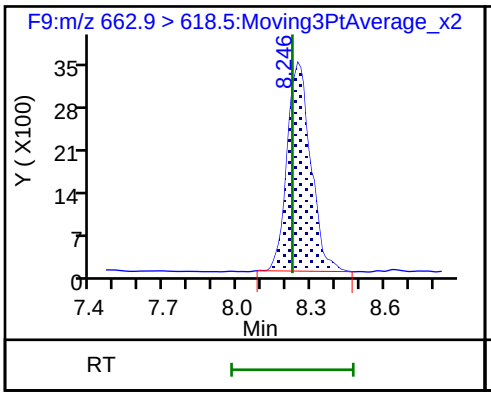
36 Perfluorododecanoic acid



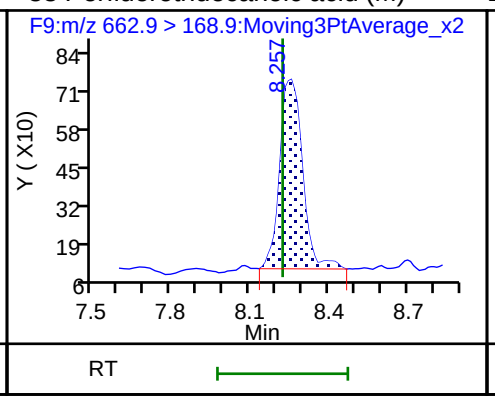
D 37 13C2 PFDoA



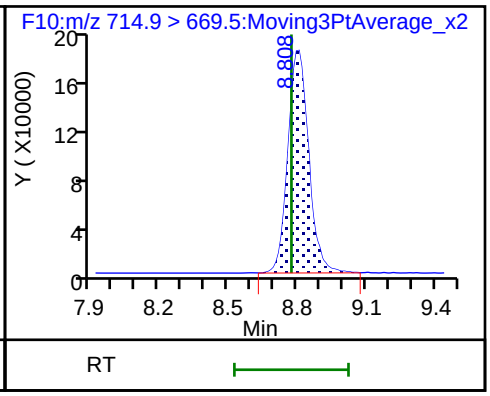
38 Perfluorotridecanoic acid



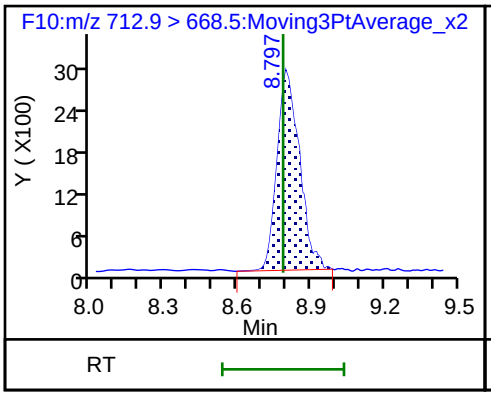
38 Perfluorotridecanoic acid (M)



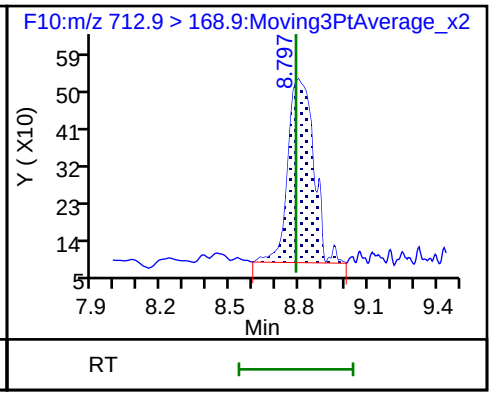
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Eurofins TestAmerica, Burlington

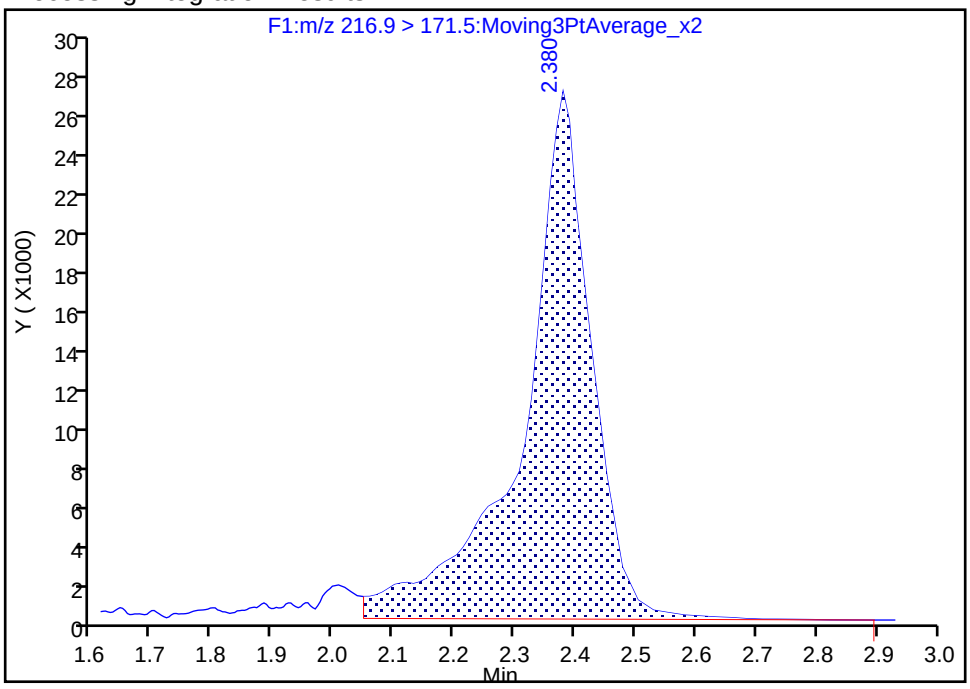
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

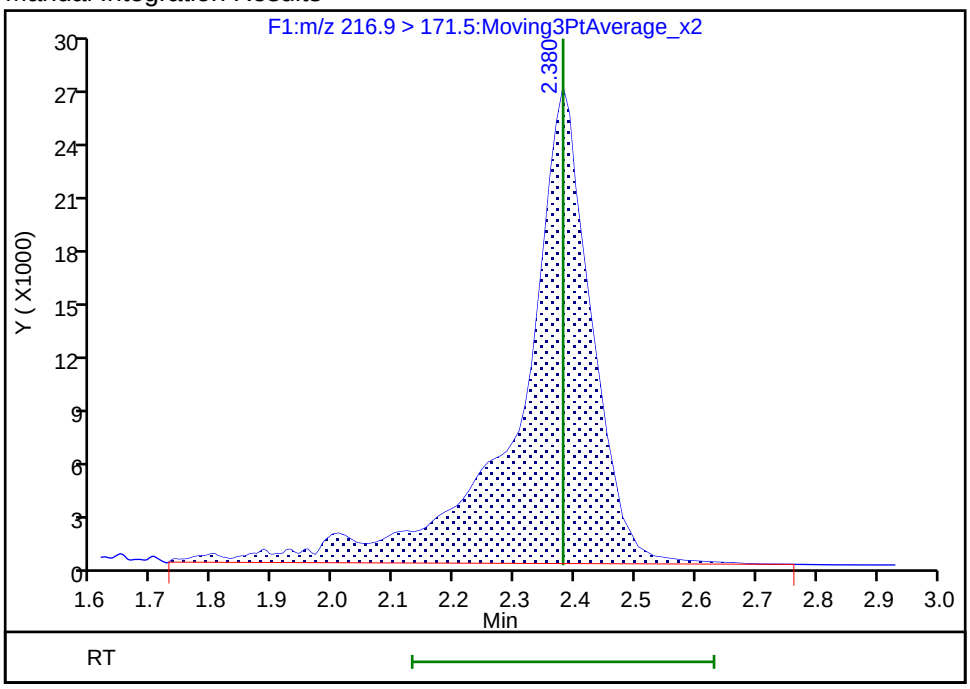
Processing Integration Results

RT: 2.38
Area: 207378
Amount: 44.649471
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 218171
Amount: 45.601296
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:32:17
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

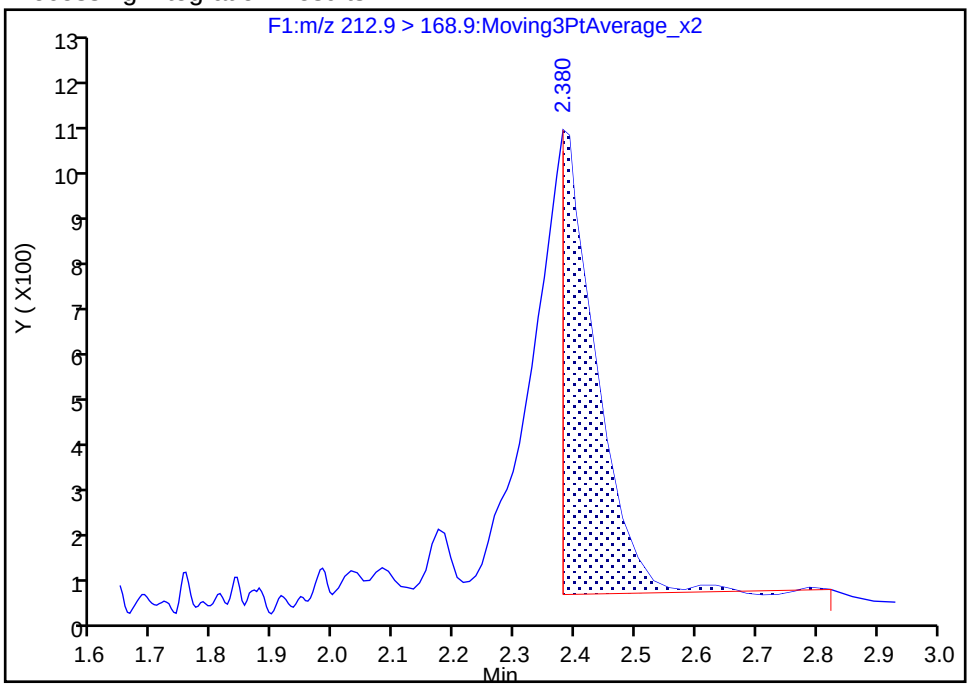
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

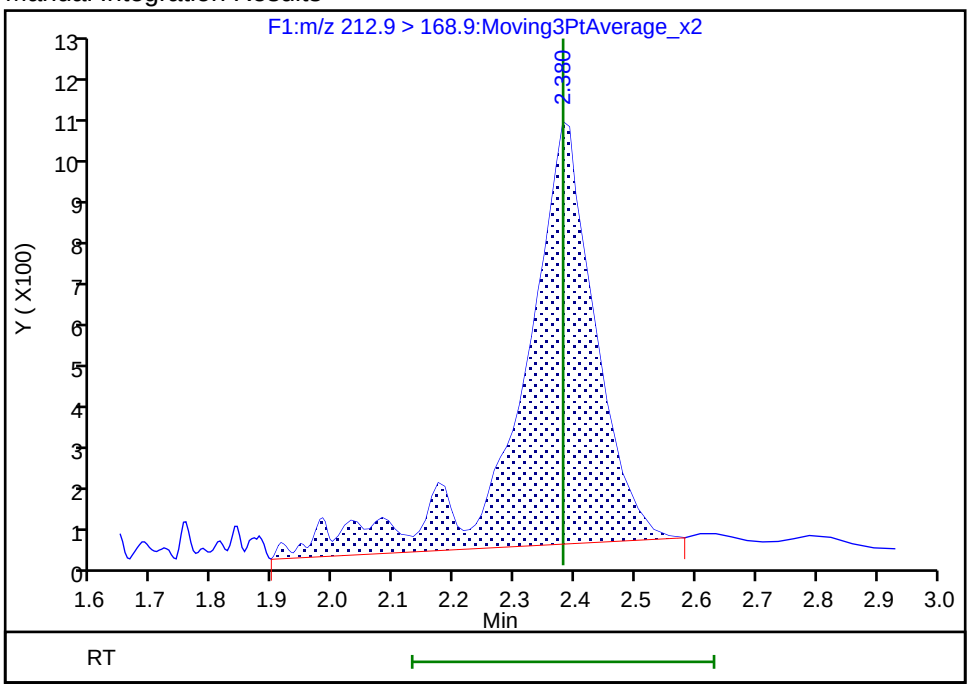
Processing Integration Results

RT: 2.38
Area: 3388
Amount: 0.564614
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 7882
Amount: 1.150569
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:18:06
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

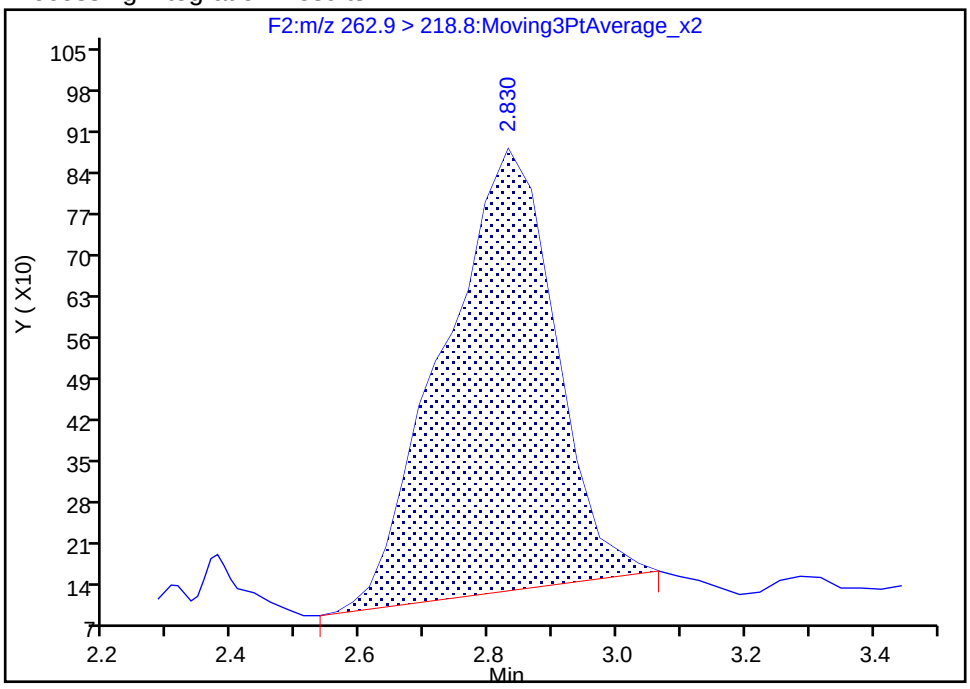
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

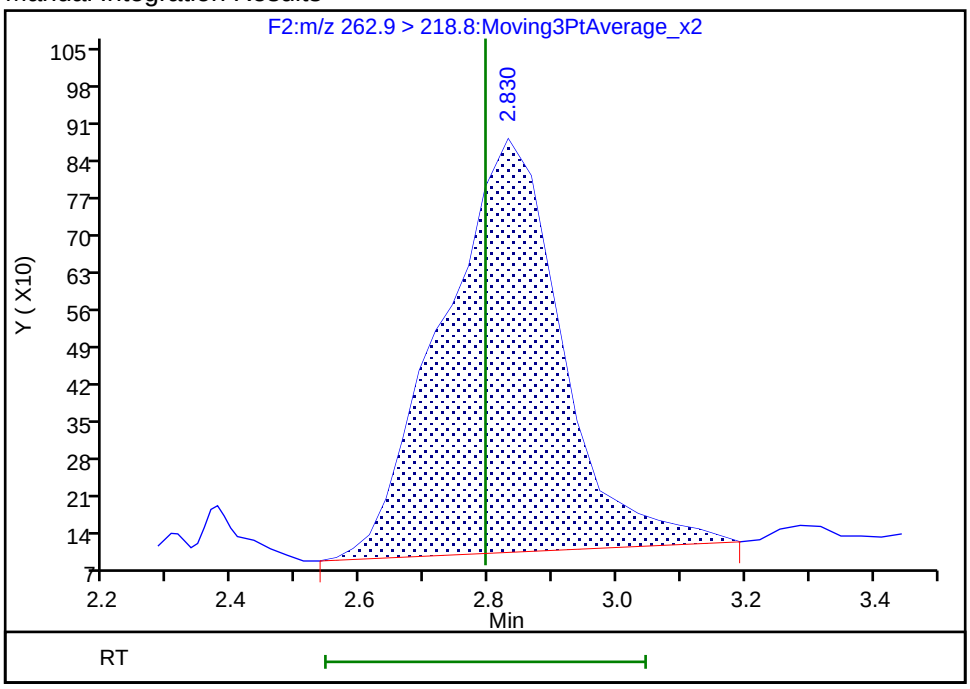
Processing Integration Results

RT: 2.83
Area: 9141
Amount: 0.894946
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 10076
Amount: 0.976897
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:32:26
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

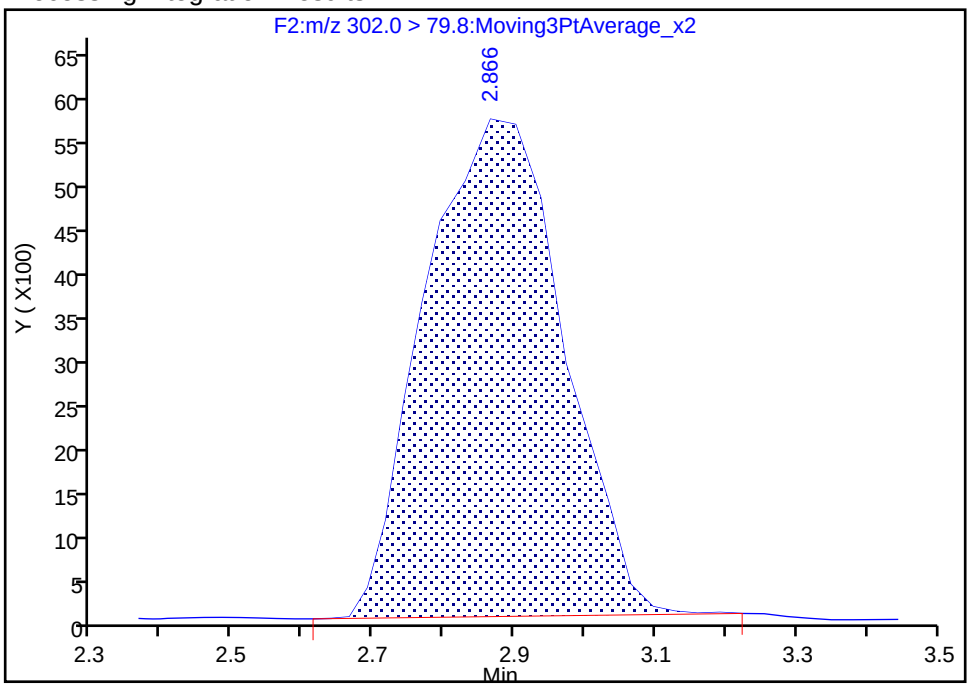
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

D 5 13C3 PFBS, CAS: STL02337

Signal: 1

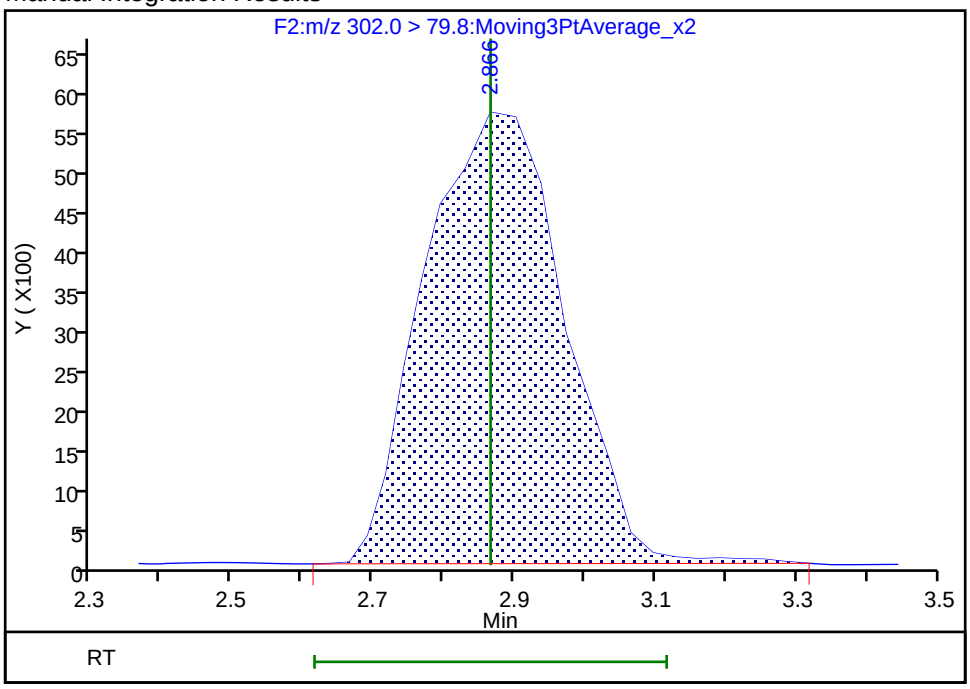
Processing Integration Results

RT: 2.87
Area: 76782
Amount: 48.834537
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 77975
Amount: 49.395290
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:32:34
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

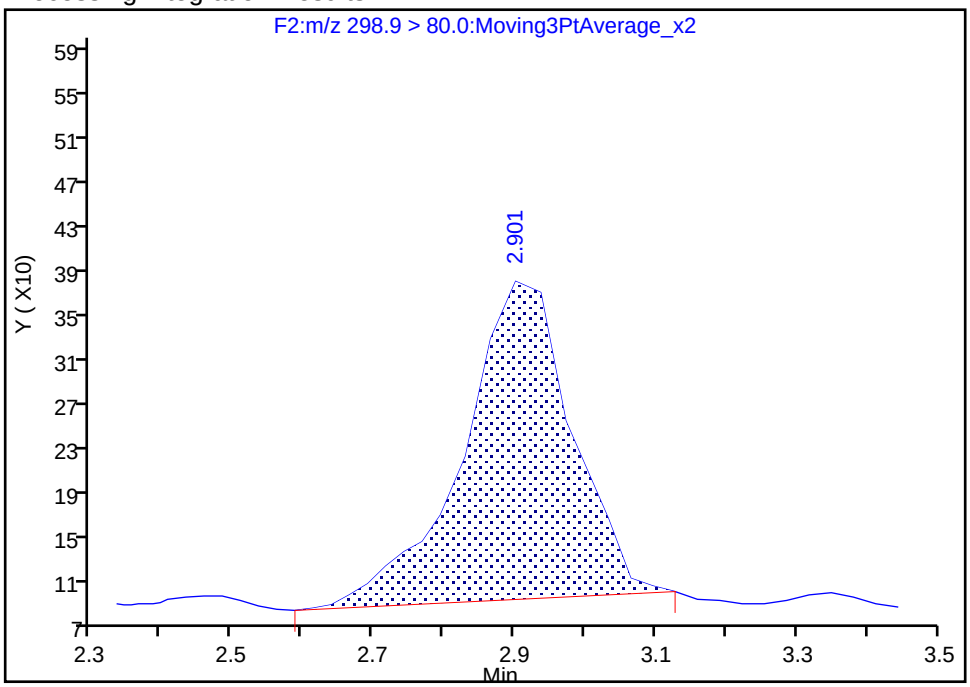
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

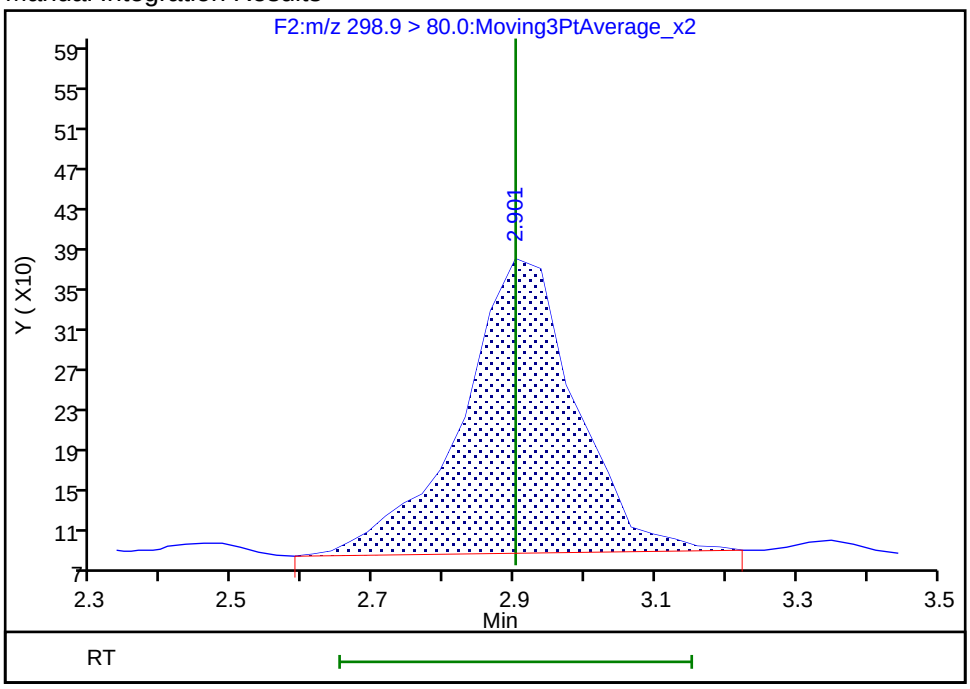
Processing Integration Results

RT: 2.90
Area: 3095
Amount: 0.737732
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 3314
Amount: 0.786283
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:32:38
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

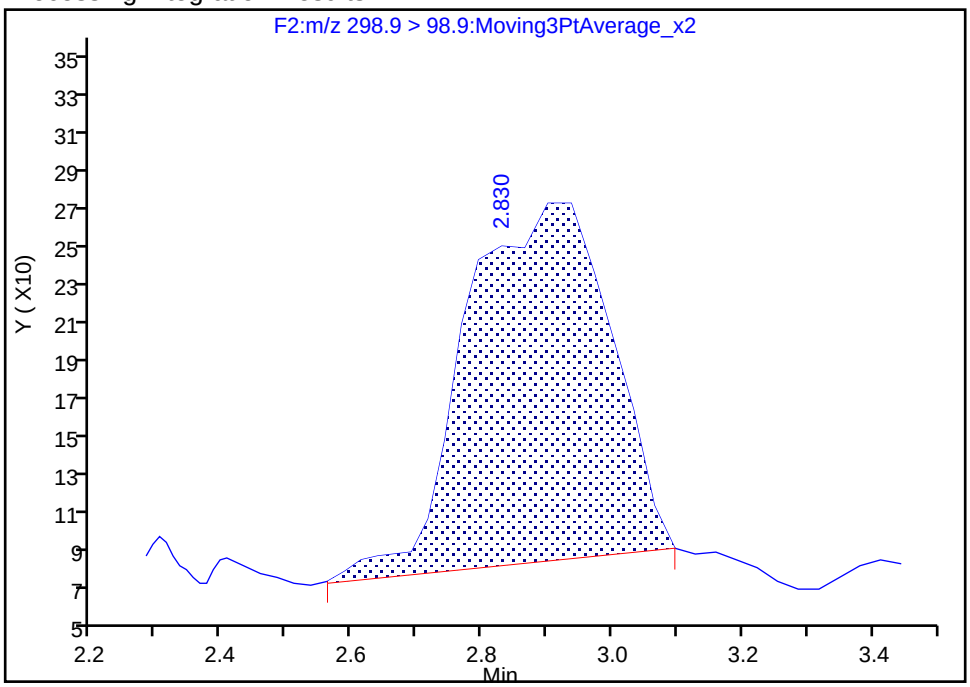
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

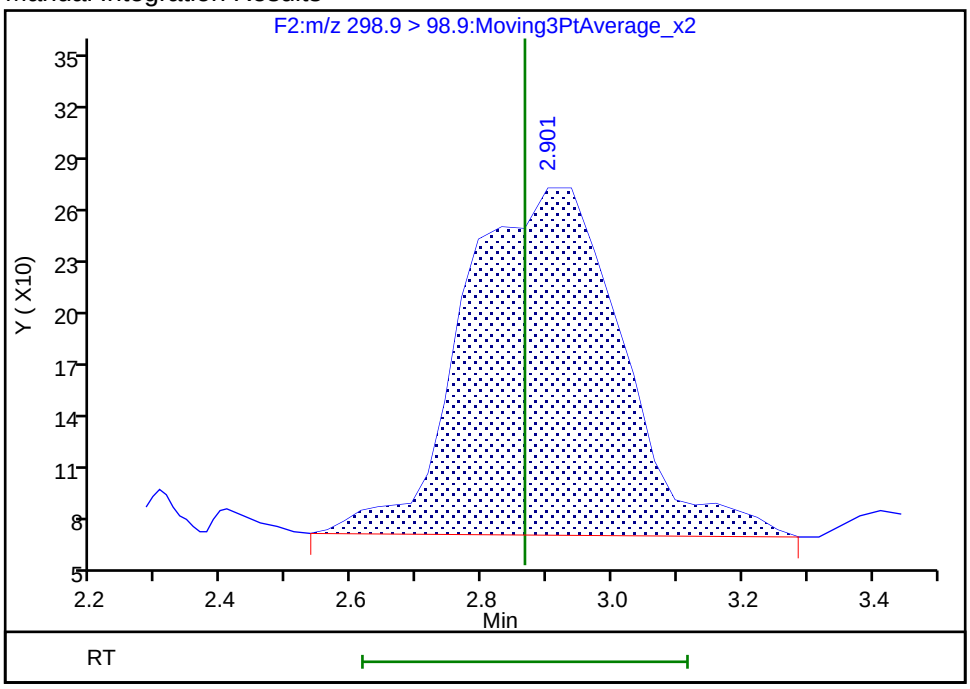
Processing Integration Results

RT: 2.83
Area: 2854
Amount: 0.737732
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 3346
Amount: 0.786283
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:32:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

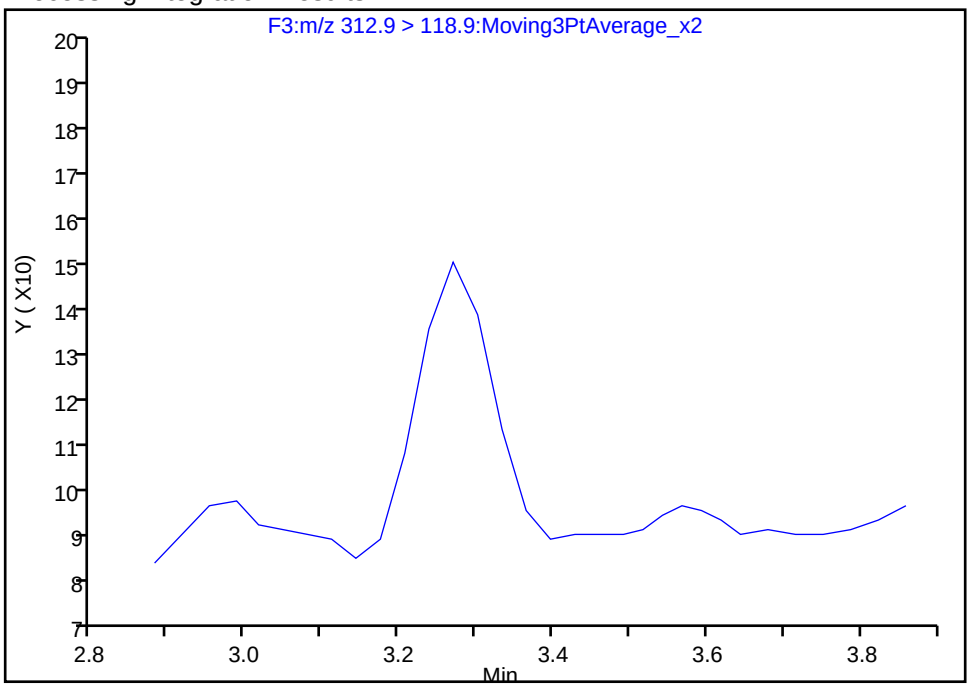
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

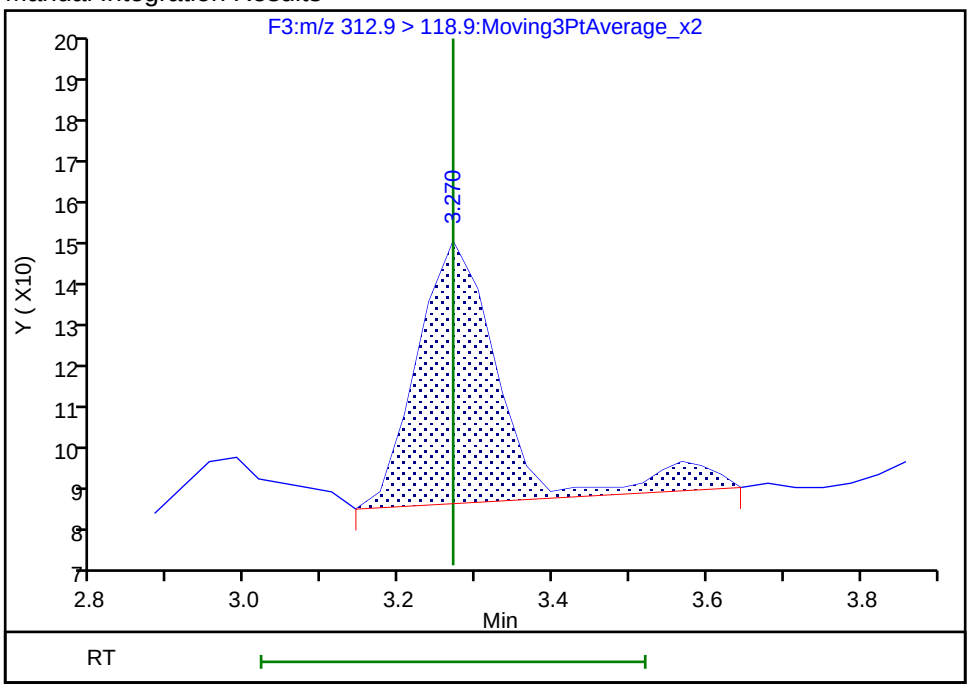
Not Detected
Expected RT: 3.27

Processing Integration Results



Manual Integration Results

RT: 3.27
Area: 456
Amount: 1.053106
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:32:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

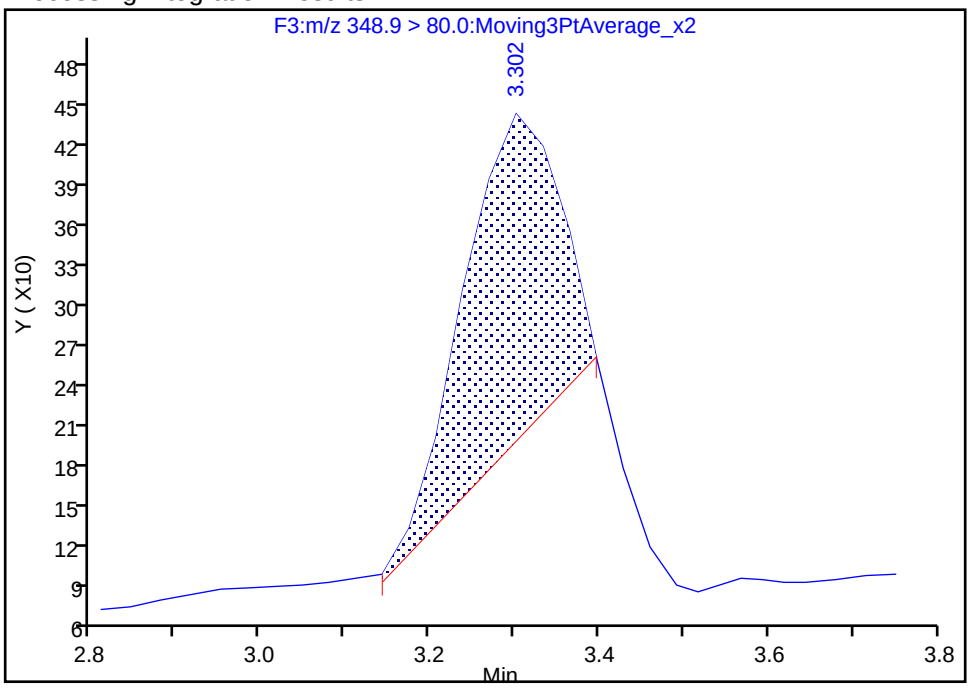
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 1

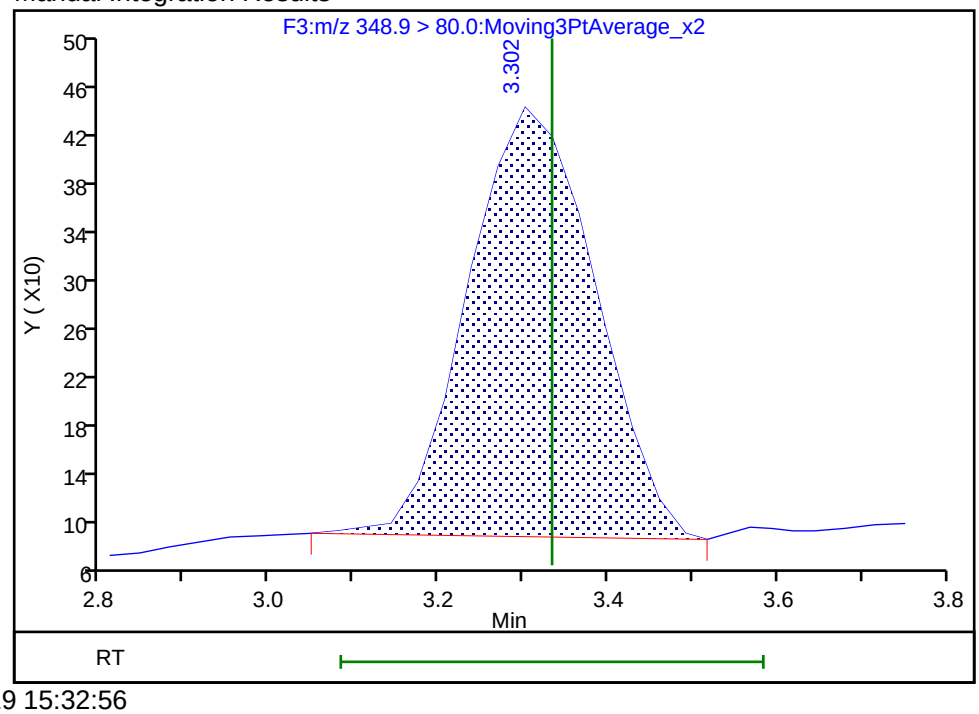
Processing Integration Results

RT: 3.30
Area: 1908
Amount: 0.421589
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 3665
Amount: 0.769286
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:32:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

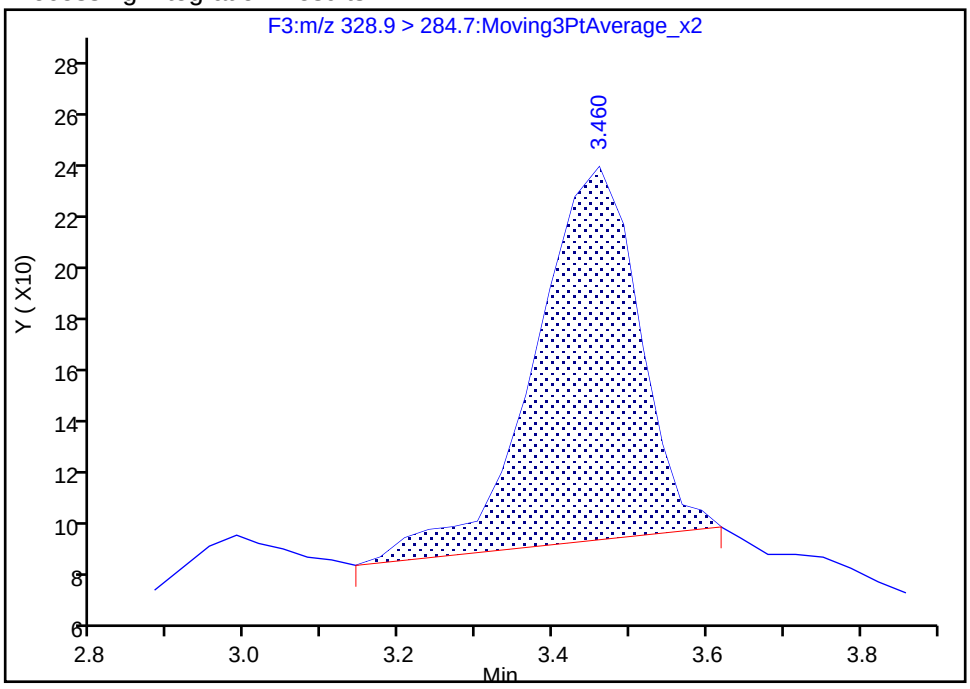
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

44 Perfluoro(2-propoxypropanoic) acid, CAS: 13252-13-6

Signal: 1

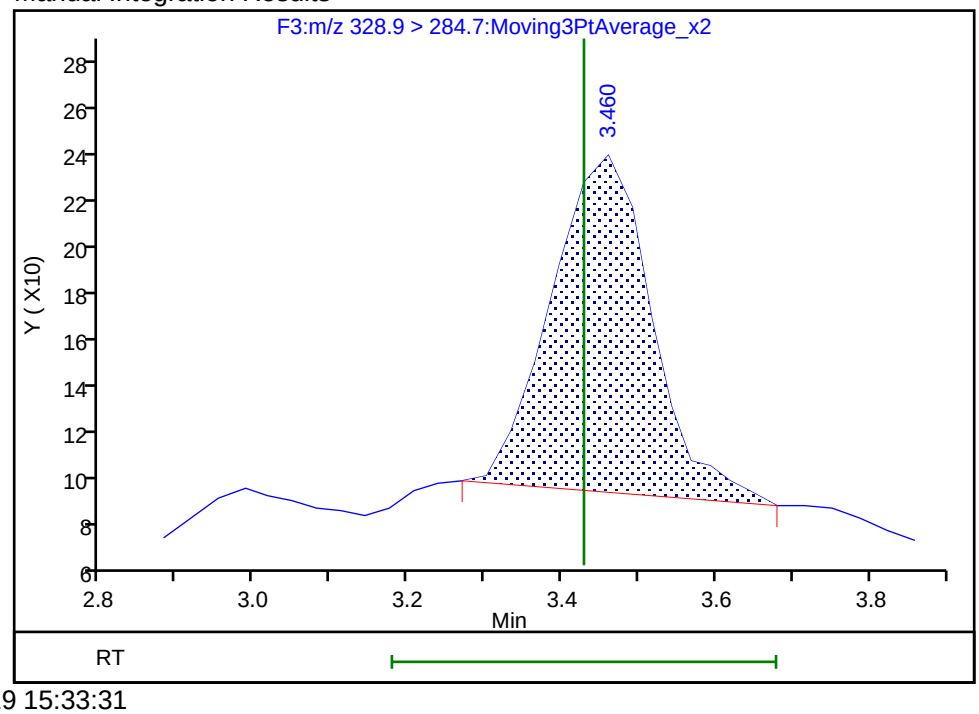
Processing Integration Results

RT: 3.46
Area: 1284
Amount: 1.255880
Amount Units: ng/ml



Manual Integration Results

RT: 3.46
Area: 1233
Amount: 1.204121
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:33:31
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

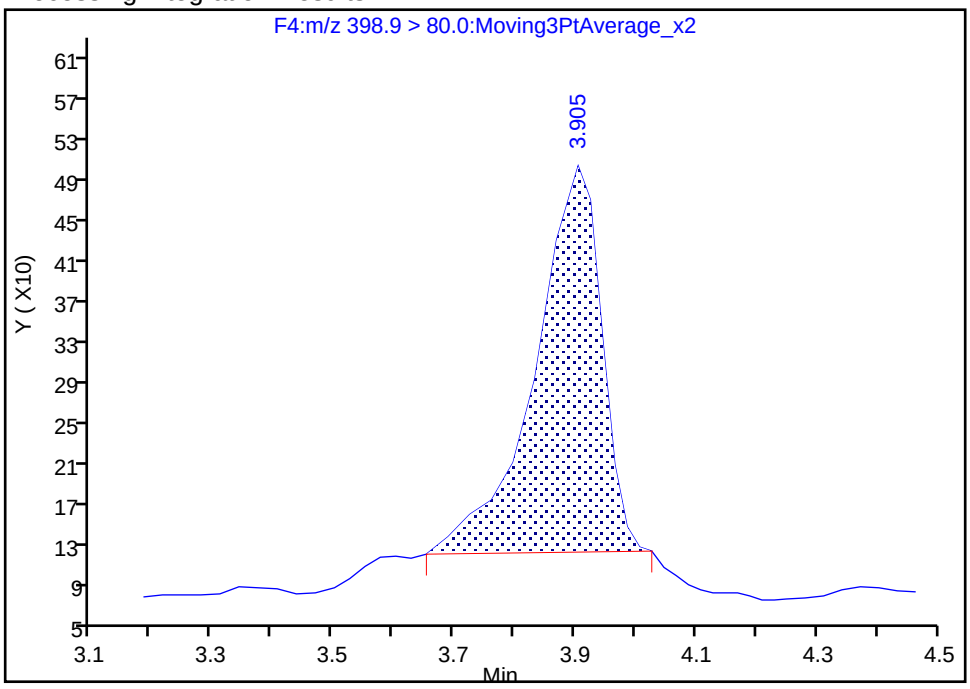
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

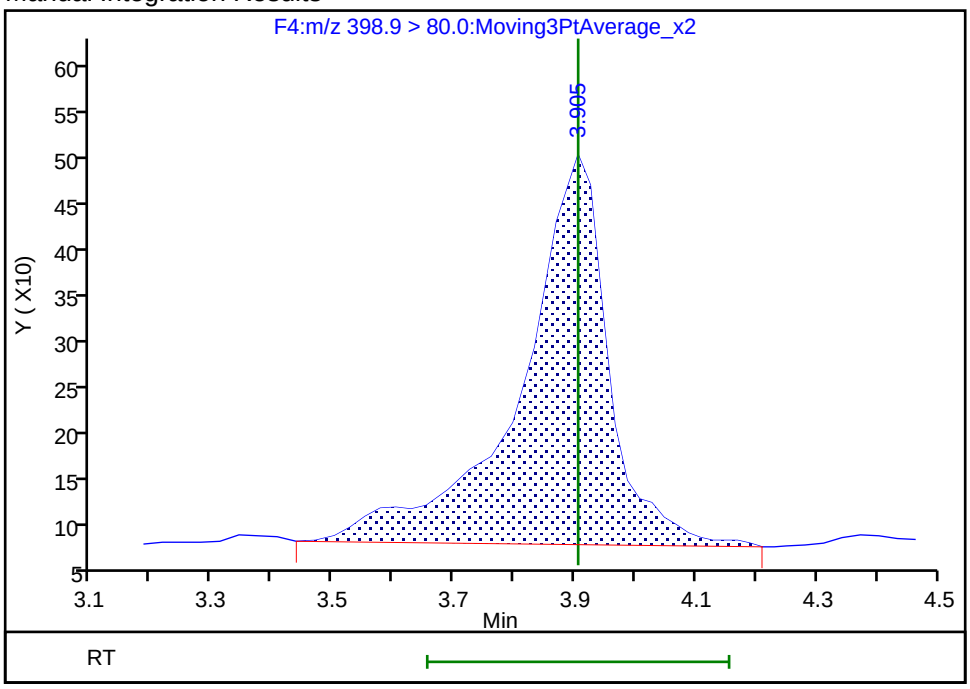
Processing Integration Results

RT: 3.91
Area: 2903
Amount: 0.756244
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 4312
Amount: 1.067982
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:25:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

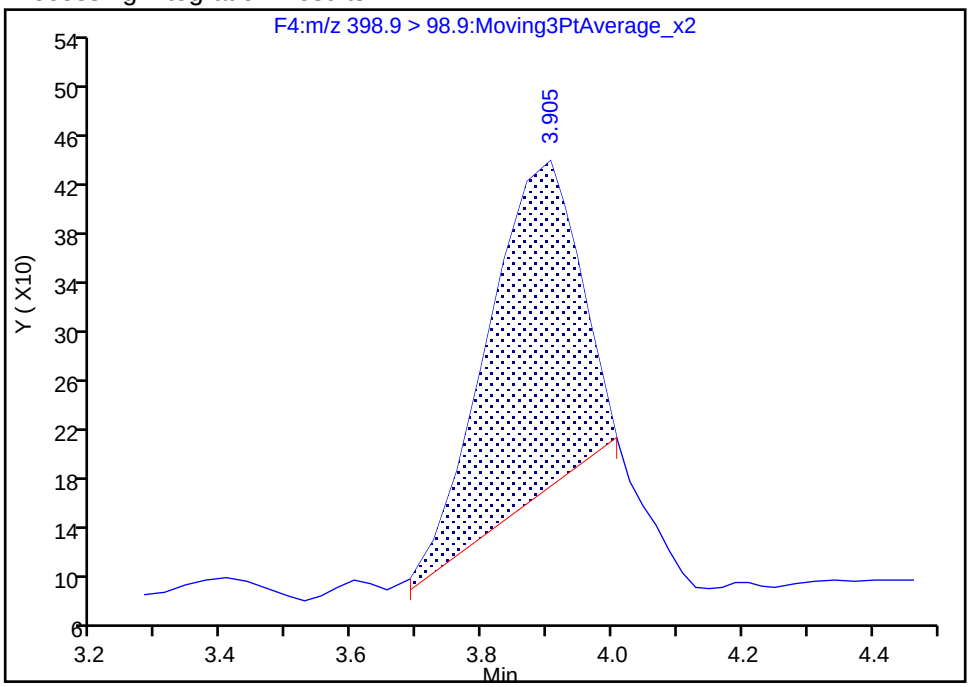
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

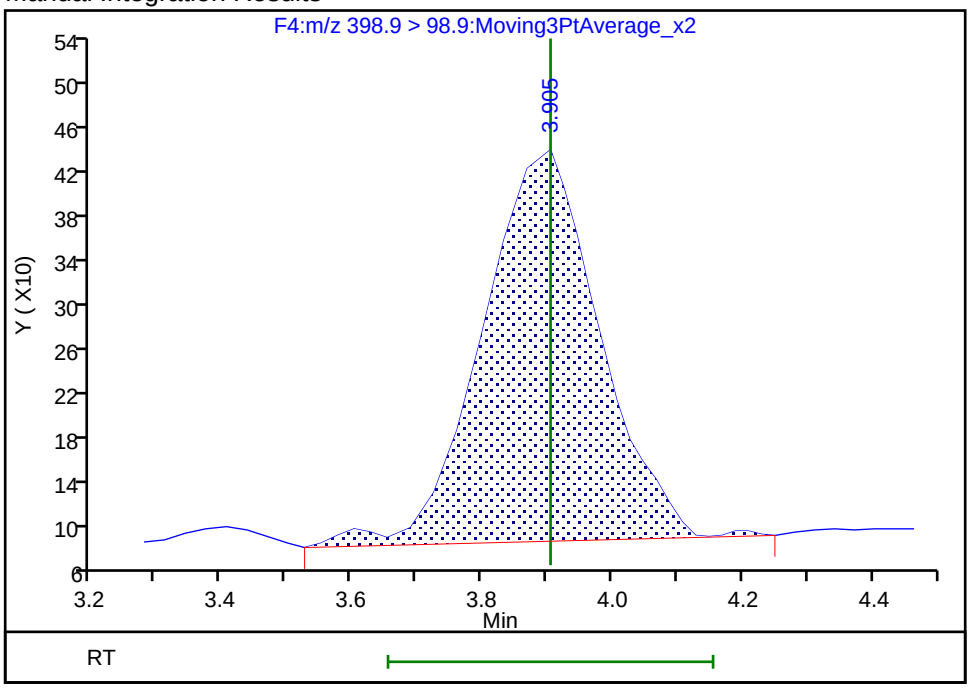
Processing Integration Results

RT: 3.91
Area: 2685
Amount: 0.756244
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 4458
Amount: 1.067982
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:25:59
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

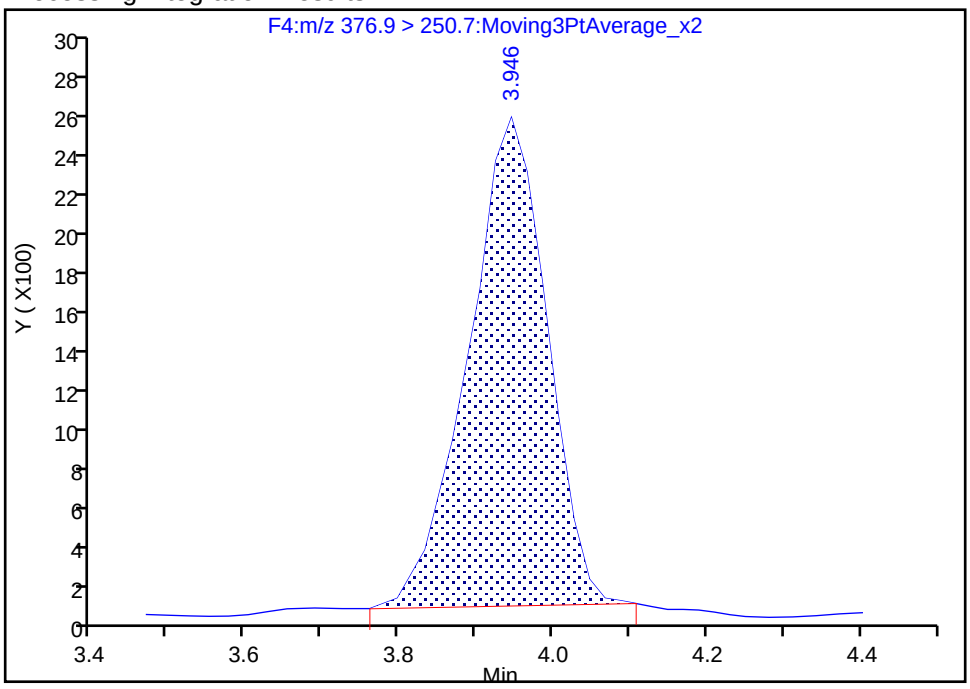
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

49 DONA, CAS: 919005-14-4

Signal: 1

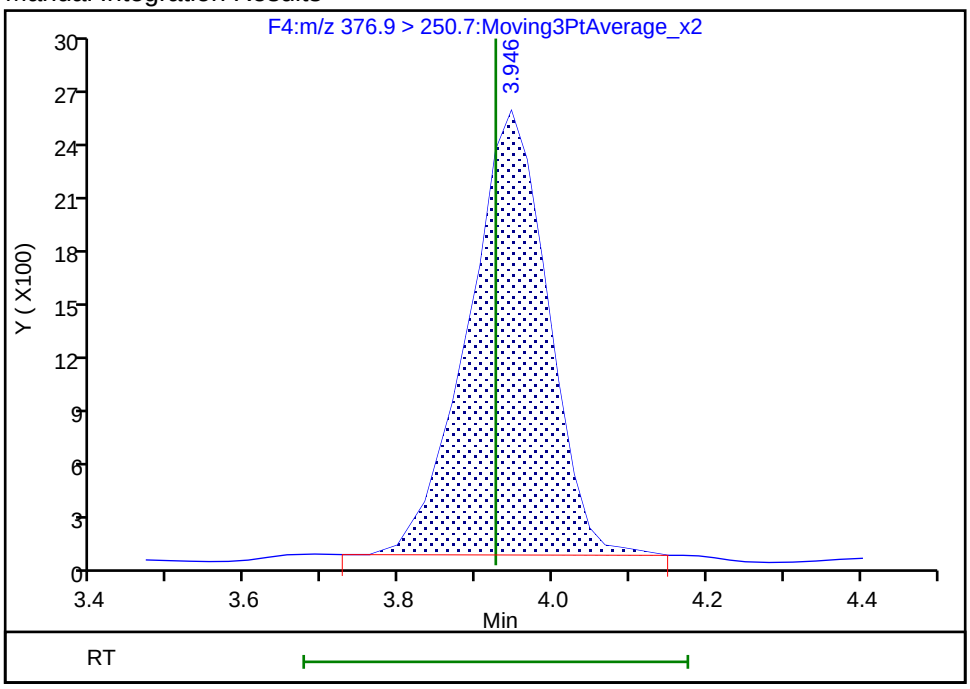
Processing Integration Results

RT: 3.95
Area: 17134
Amount: 0.942580
Amount Units: ng/ml



Manual Integration Results

RT: 3.95
Area: 17459
Amount: 0.954397
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:33:50
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

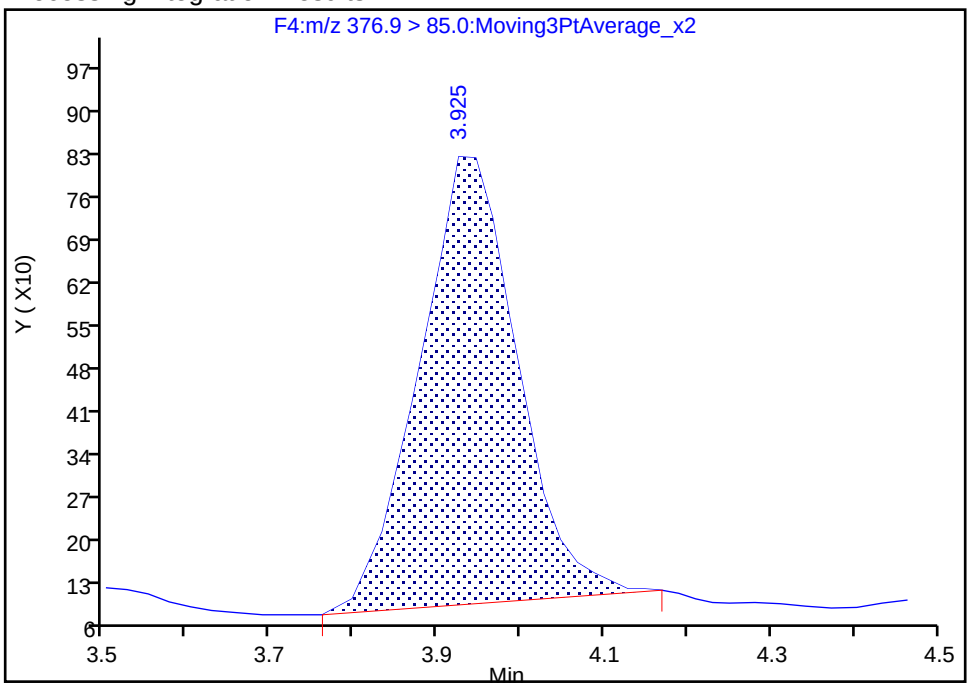
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

49 DONA, CAS: 919005-14-4

Signal: 2

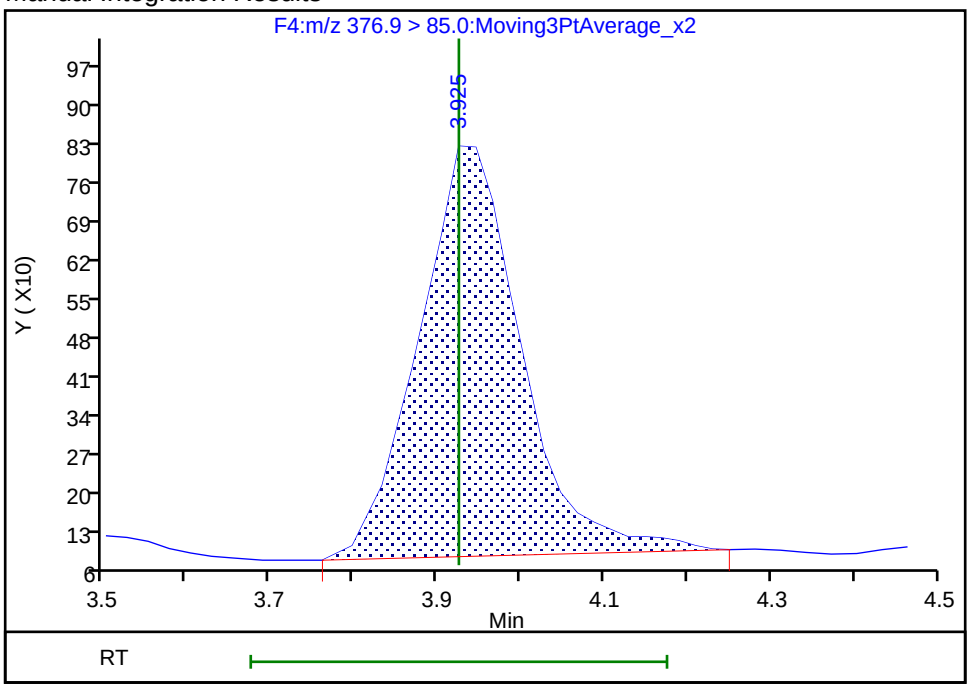
Processing Integration Results

RT: 3.93
Area: 5969
Amount: 0.942580
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 6314
Amount: 0.954397
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:34:18
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

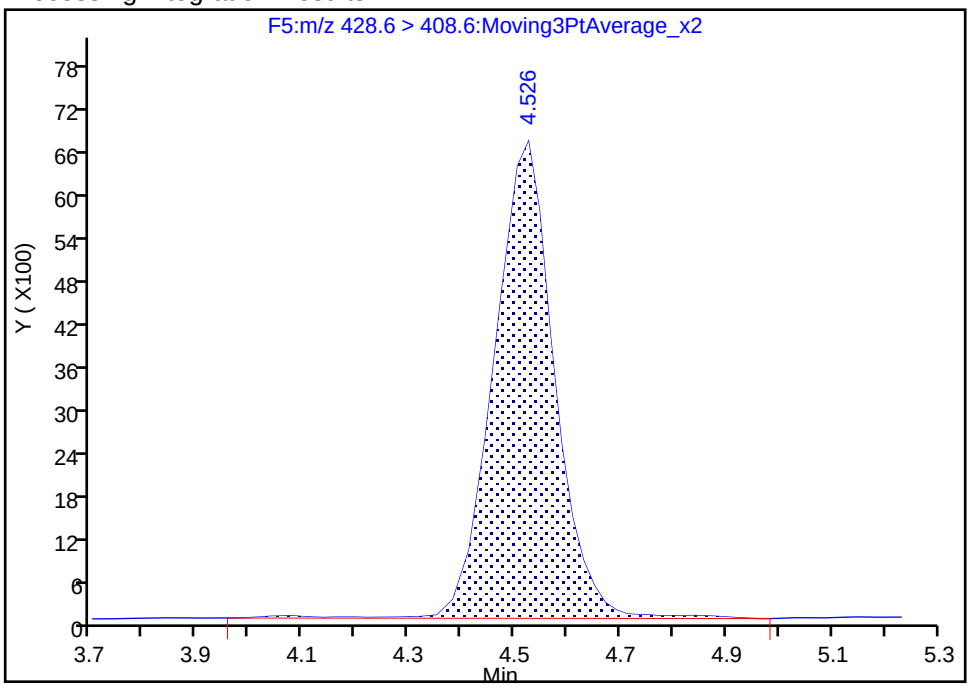
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

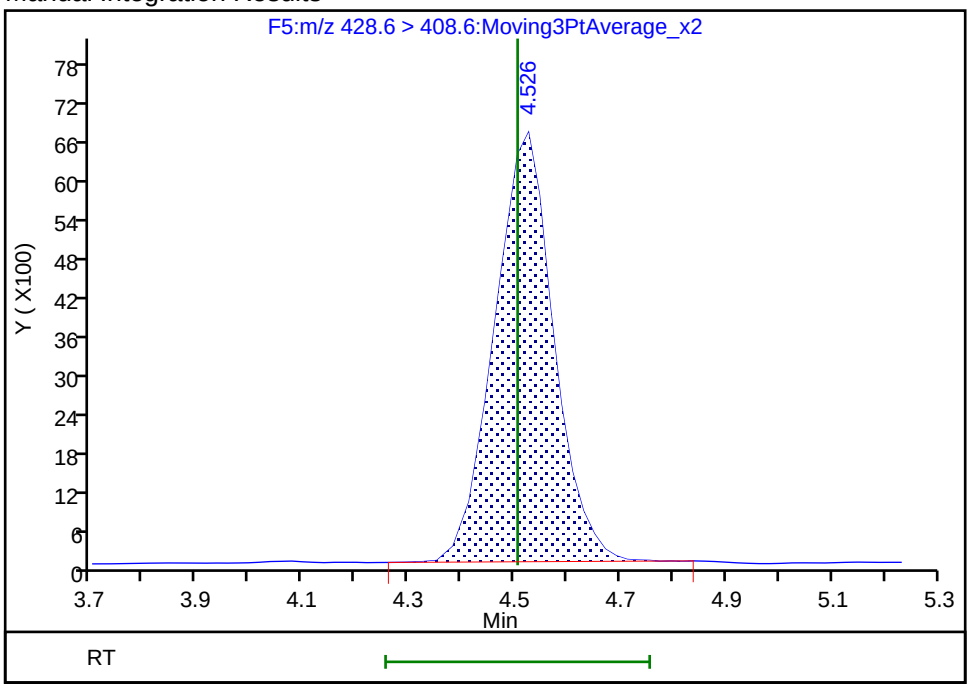
Processing Integration Results

RT: 4.53
Area: 52675
Amount: 48.182234
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 51333
Amount: 47.089912
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:34:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

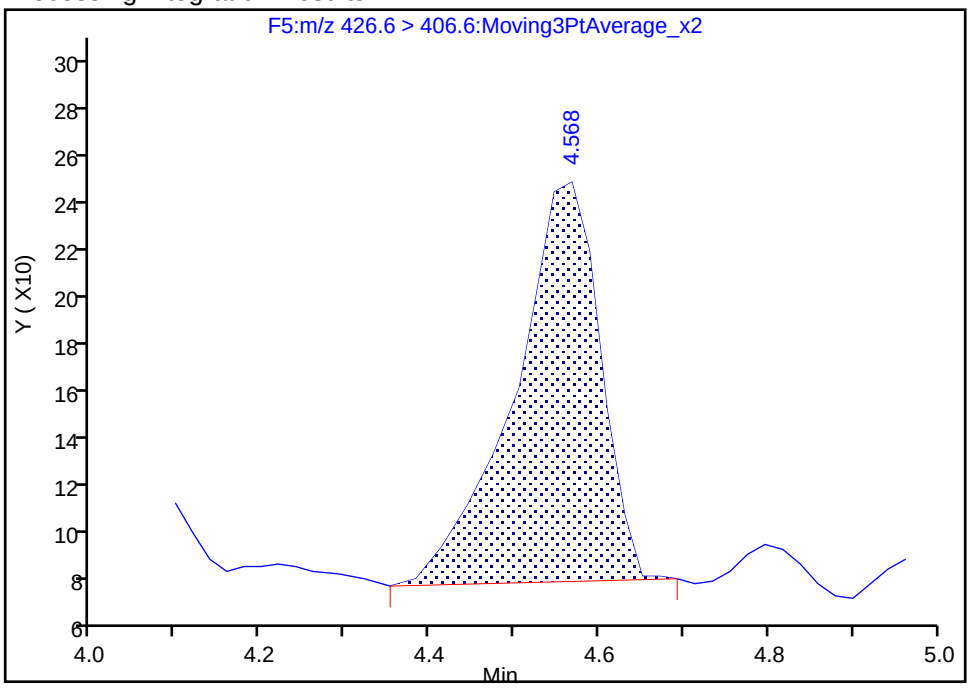
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

13 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

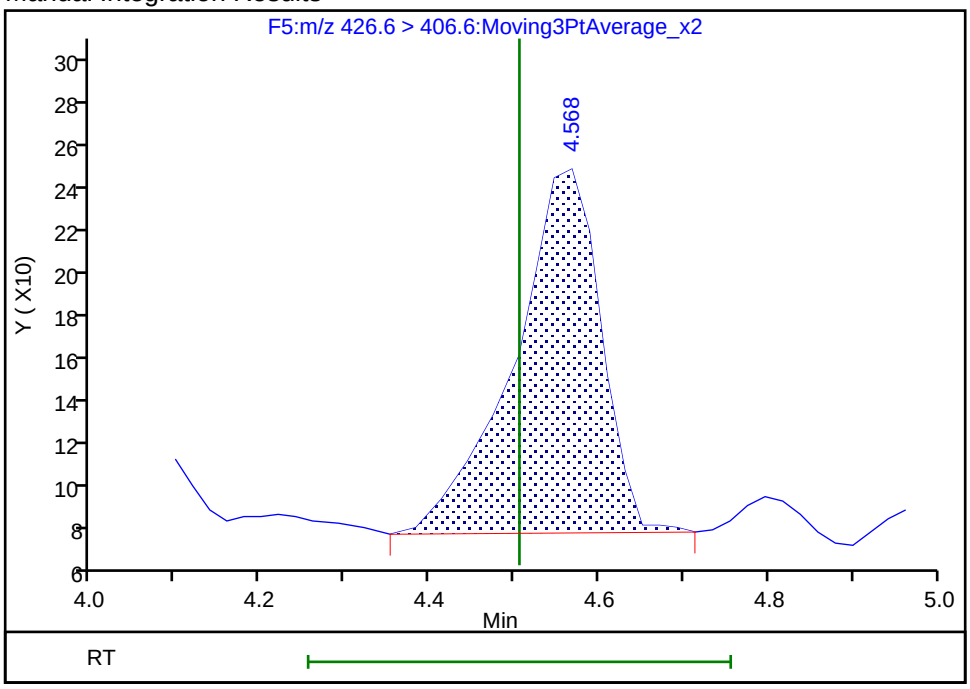
Processing Integration Results

RT: 4.57
Area: 1152
Amount: 1.129676
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 1174
Amount: 1.149421
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:34:31
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

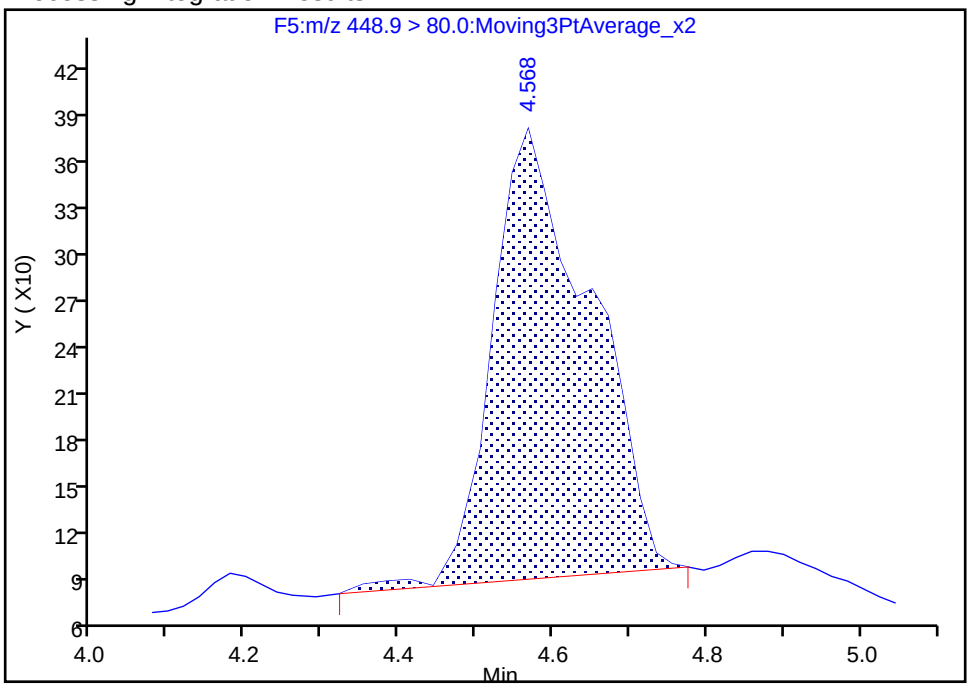
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

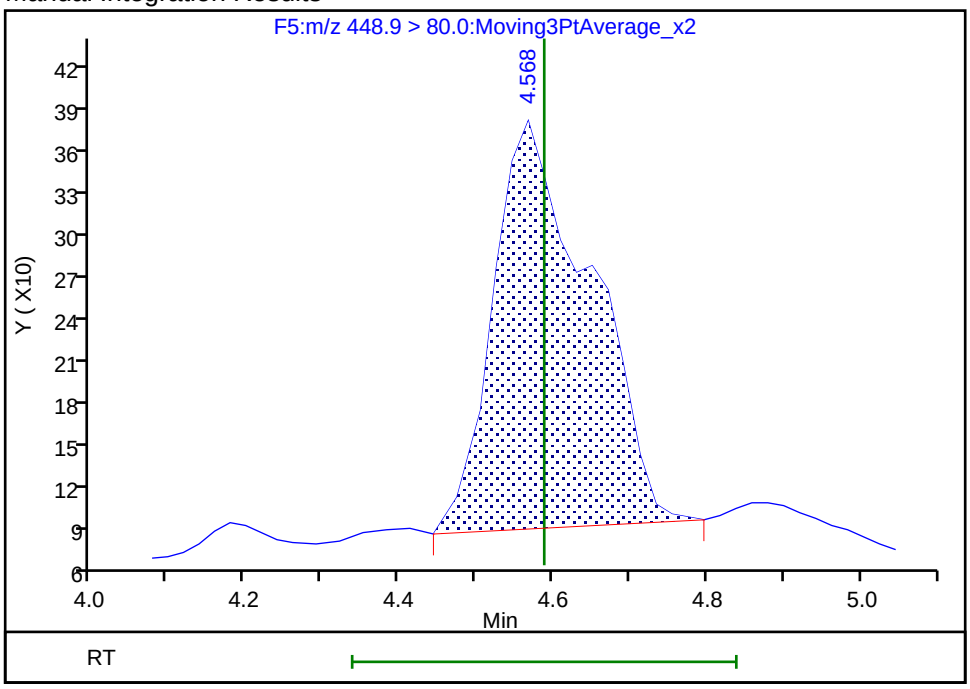
Processing Integration Results

RT: 4.57
Area: 2538
Amount: 0.689184
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 2531
Amount: 0.683358
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:35:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

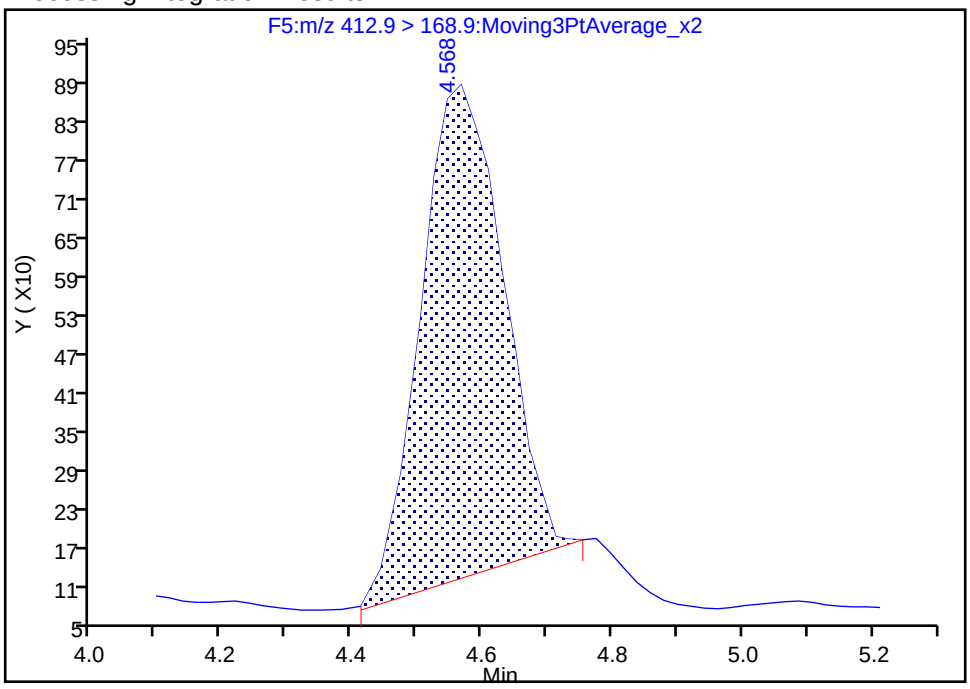
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

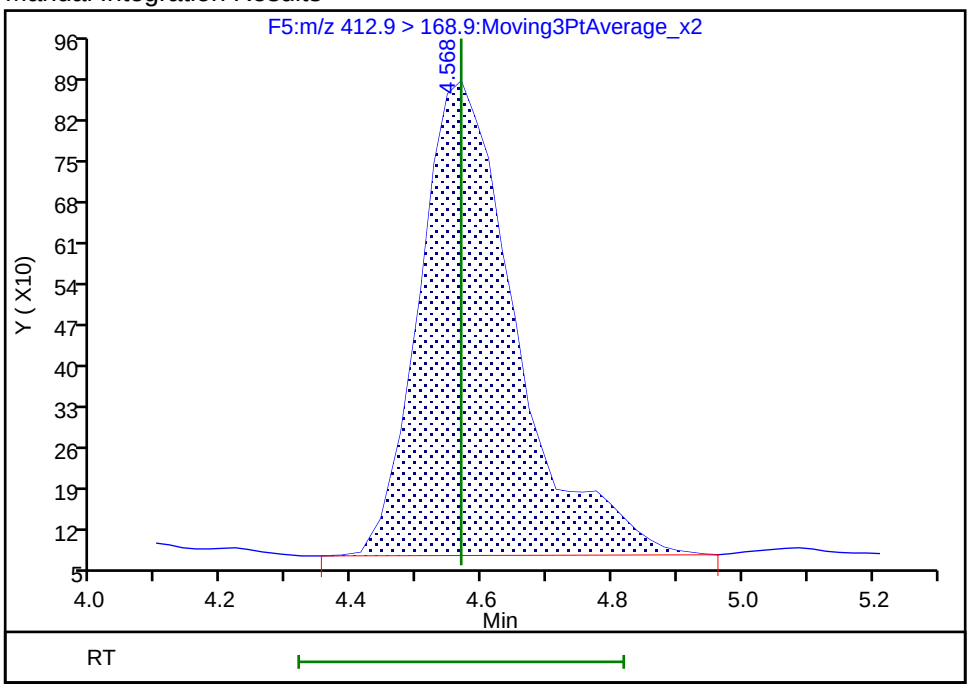
Processing Integration Results

RT: 4.57
Area: 6780
Amount: 1.170134
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 8397
Amount: 1.170134
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:34:49
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

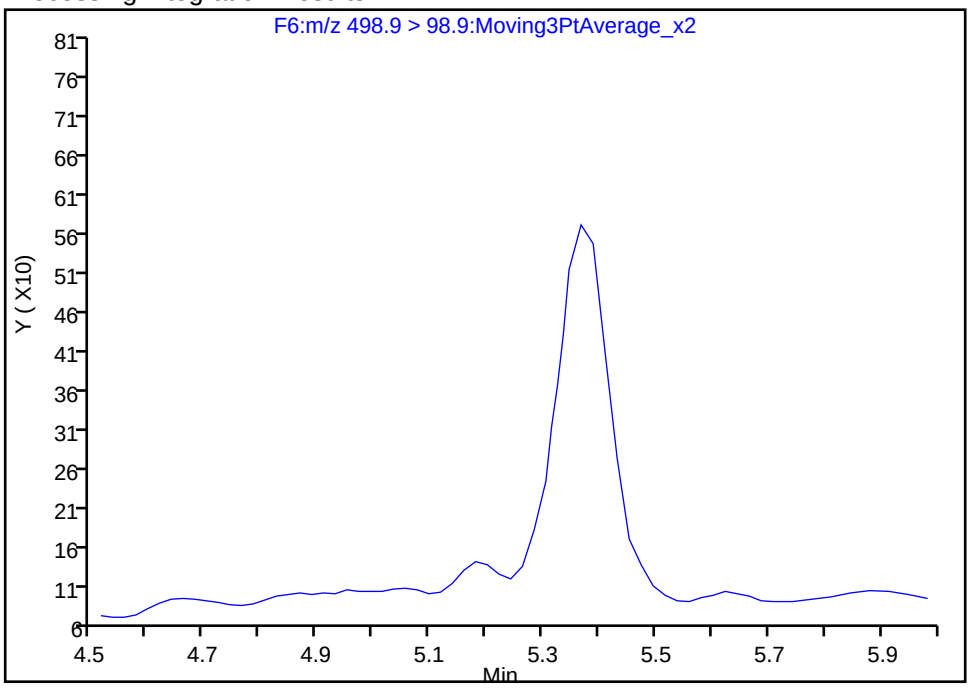
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

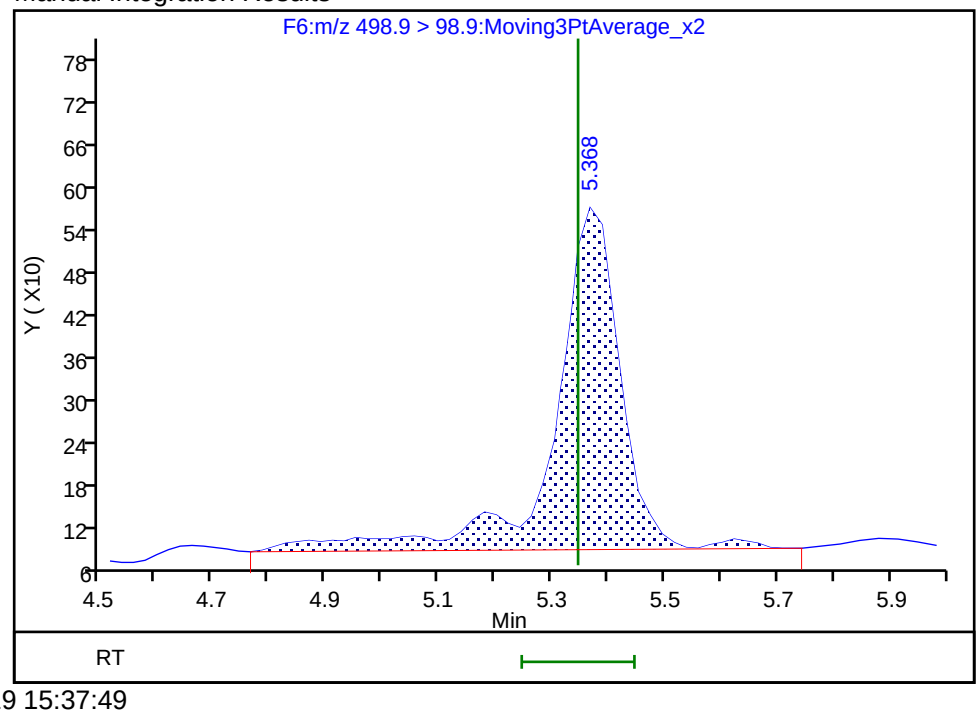
Not Detected
Expected RT: 5.35

Processing Integration Results



Manual Integration Results

RT: 5.37
Area: 3981
Amount: 0.988922
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:37:49
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

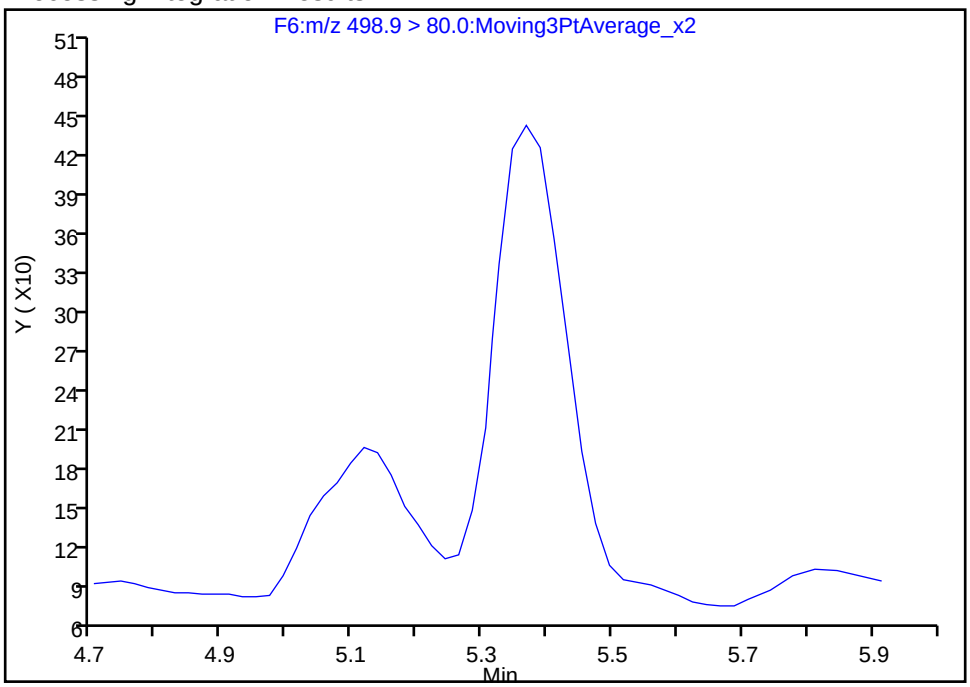
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

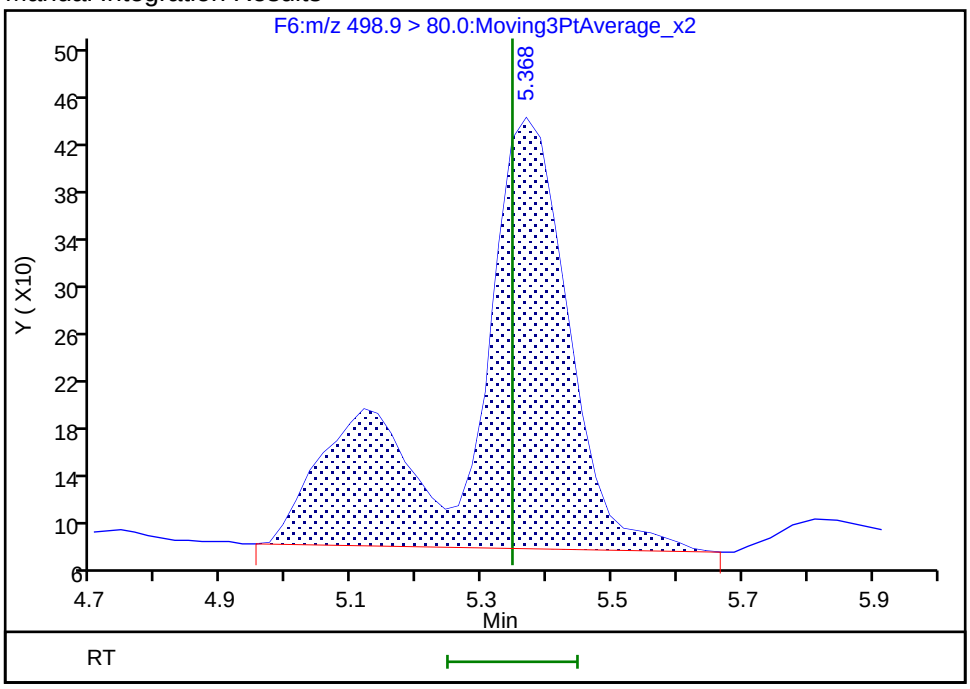
Processing Integration Results

Not Detected
Expected RT: 5.35



Manual Integration Results

RT: 5.37
Area: 4063
Amount: 0.988922
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:37:52
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

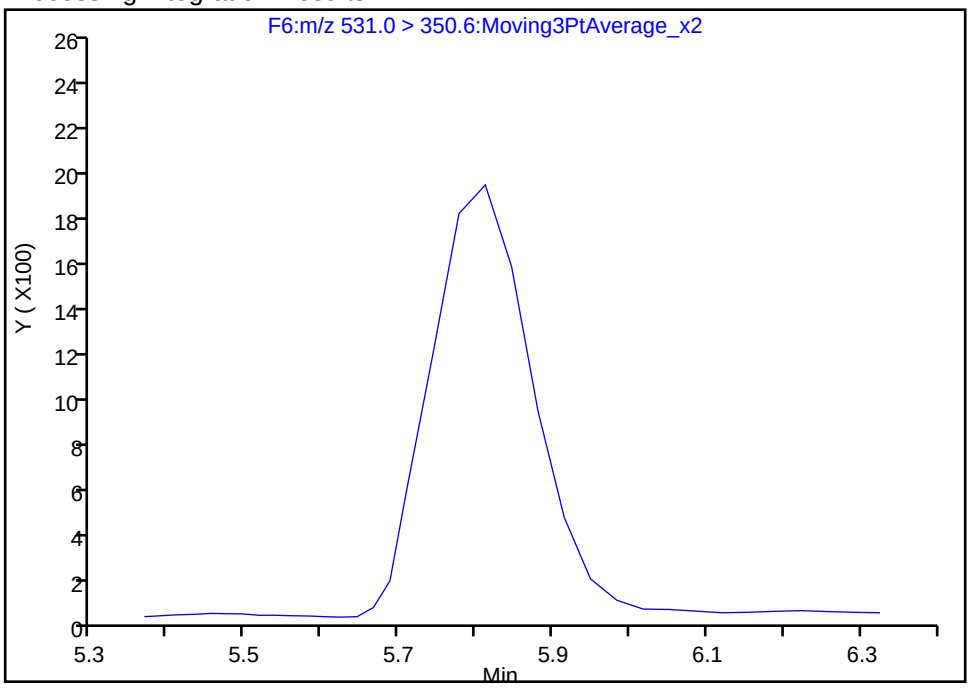
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

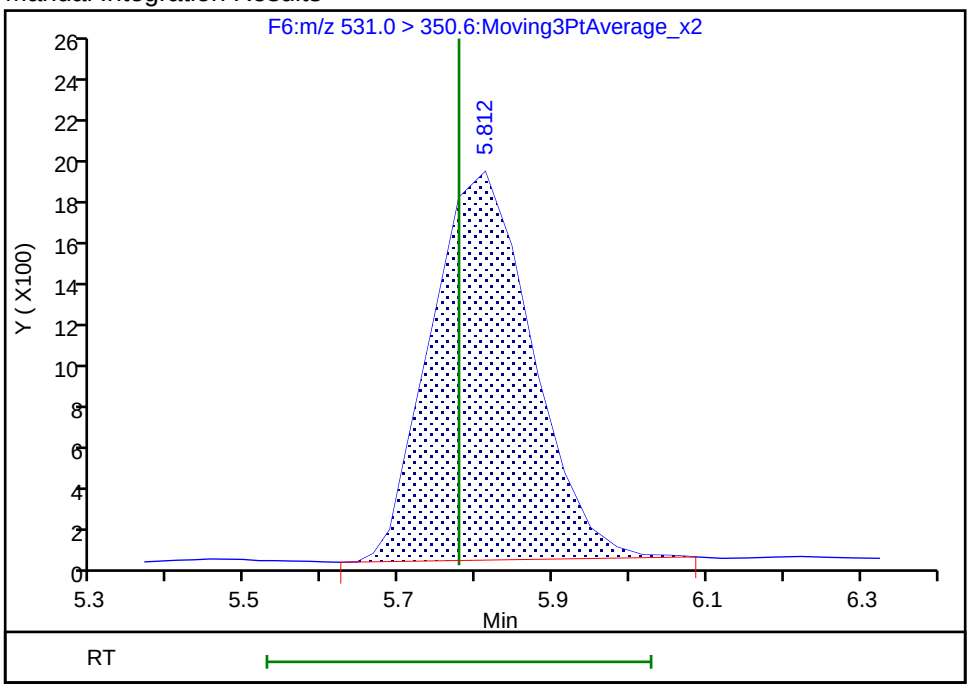
Not Detected
Expected RT: 5.78

Processing Integration Results



Manual Integration Results

RT: 5.81
Area: 17027
Amount: 0.910308
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 12:45:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

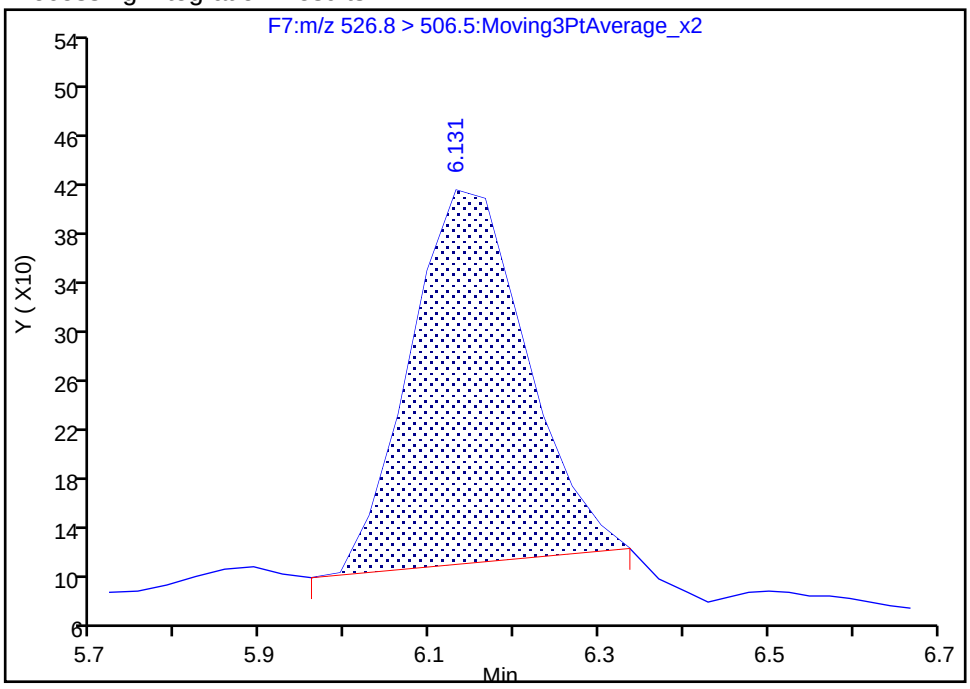
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

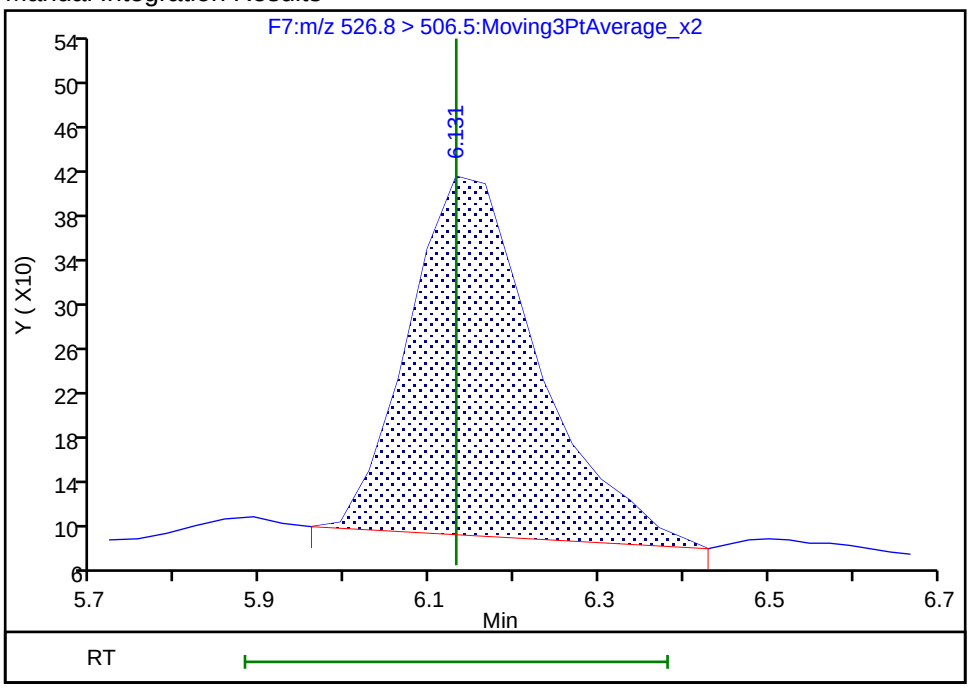
Processing Integration Results

RT: 6.13
Area: 2926
Amount: 1.019438
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 3466
Amount: 1.167580
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:38:03
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

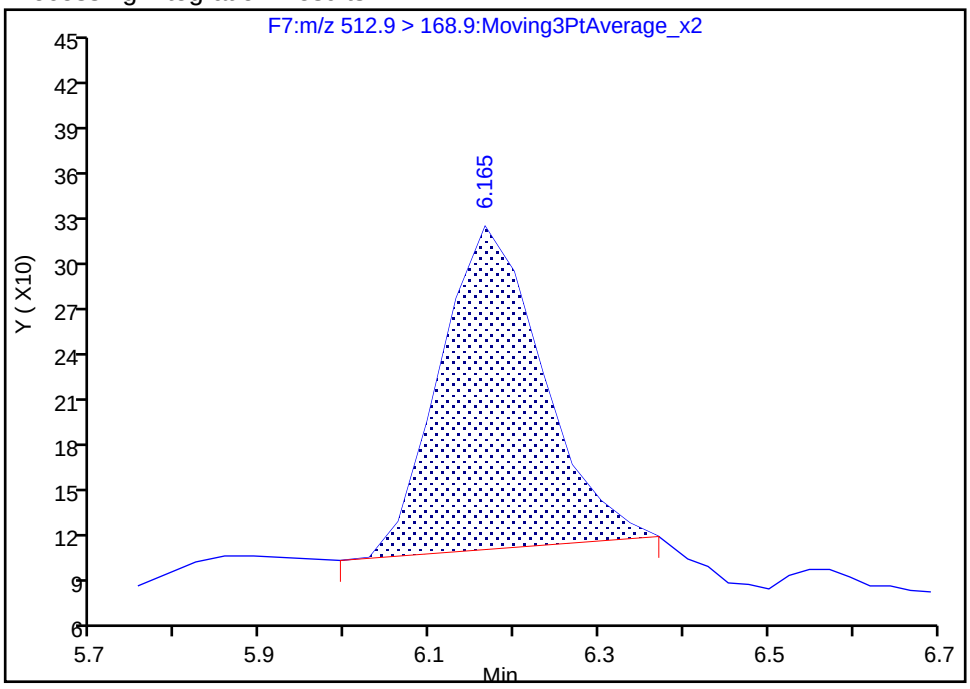
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

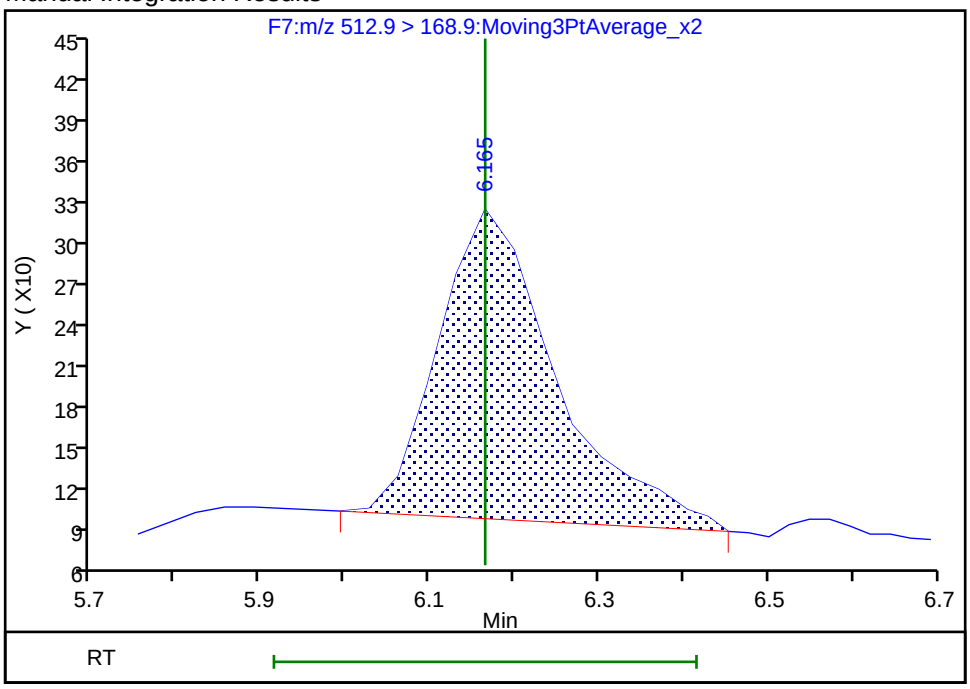
Processing Integration Results

RT: 6.17
Area: 1820
Amount: 0.869797
Amount Units: ng/ml



Manual Integration Results

RT: 6.17
Area: 2209
Amount: 0.869797
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:38:22
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

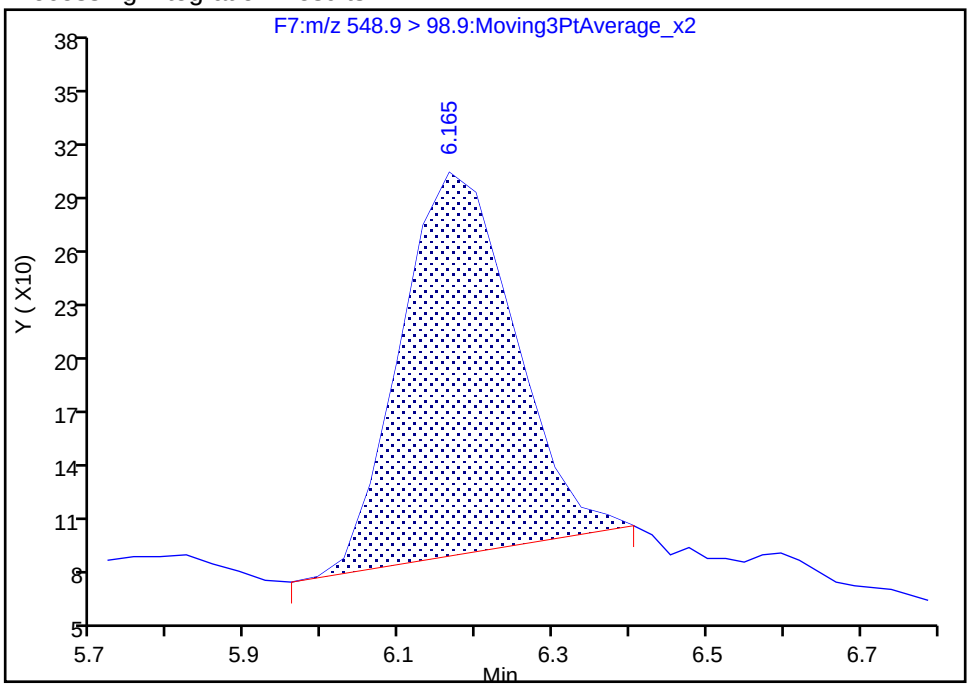
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

45 Perfluorononanesulfonic acid, CAS: 68259-12-1

Signal: 2

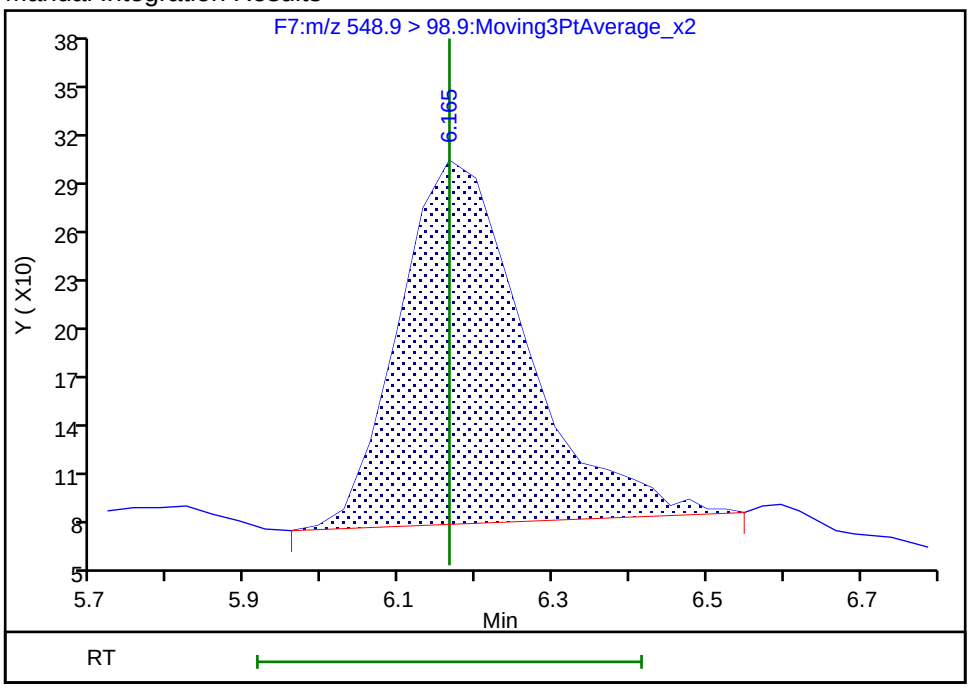
Processing Integration Results

RT: 6.17
Area: 2163
Amount: 0.692878
Amount Units: ng/ml



Manual Integration Results

RT: 6.17
Area: 2537
Amount: 0.707816
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:38:12
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

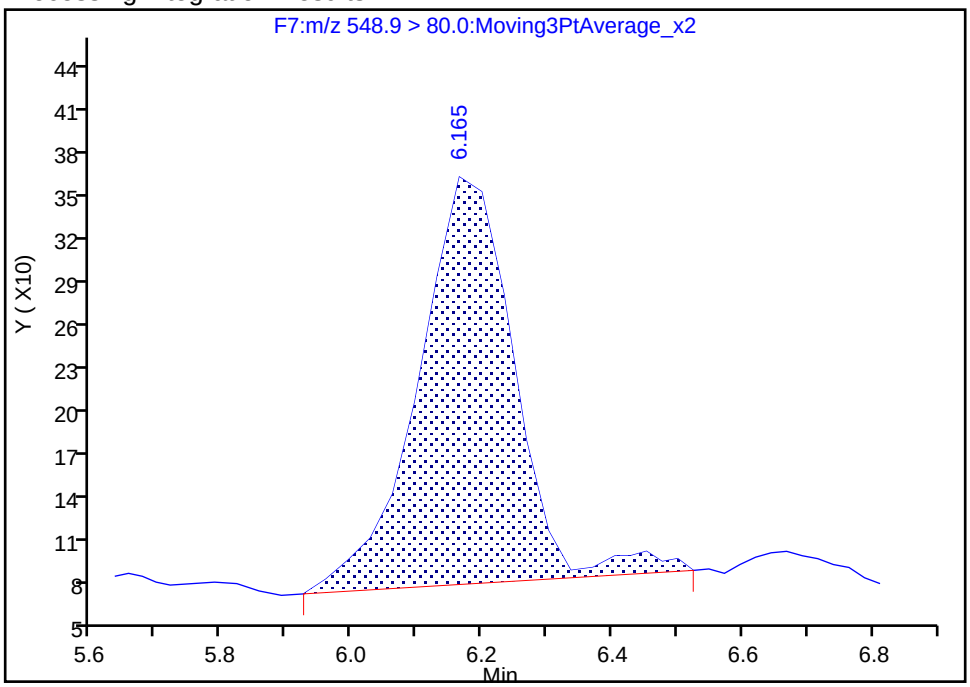
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

45 Perfluorononanesulfonic acid, CAS: 68259-12-1

Signal: 1

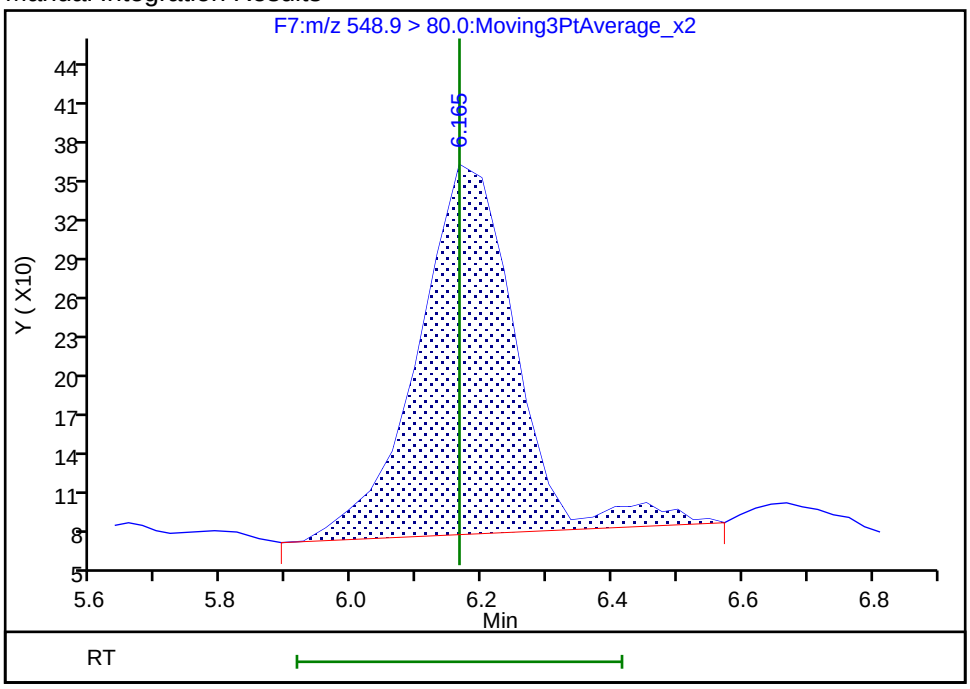
Processing Integration Results

RT: 6.17
Area: 2853
Amount: 0.692878
Amount Units: ng/ml



Manual Integration Results

RT: 6.17
Area: 2920
Amount: 0.707816
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:38:15
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

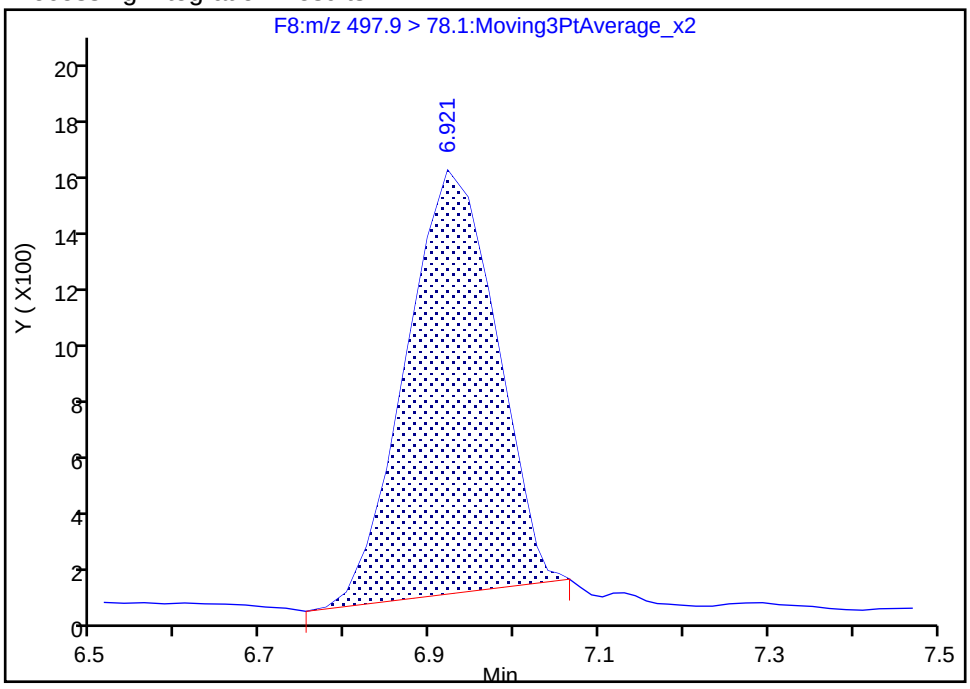
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

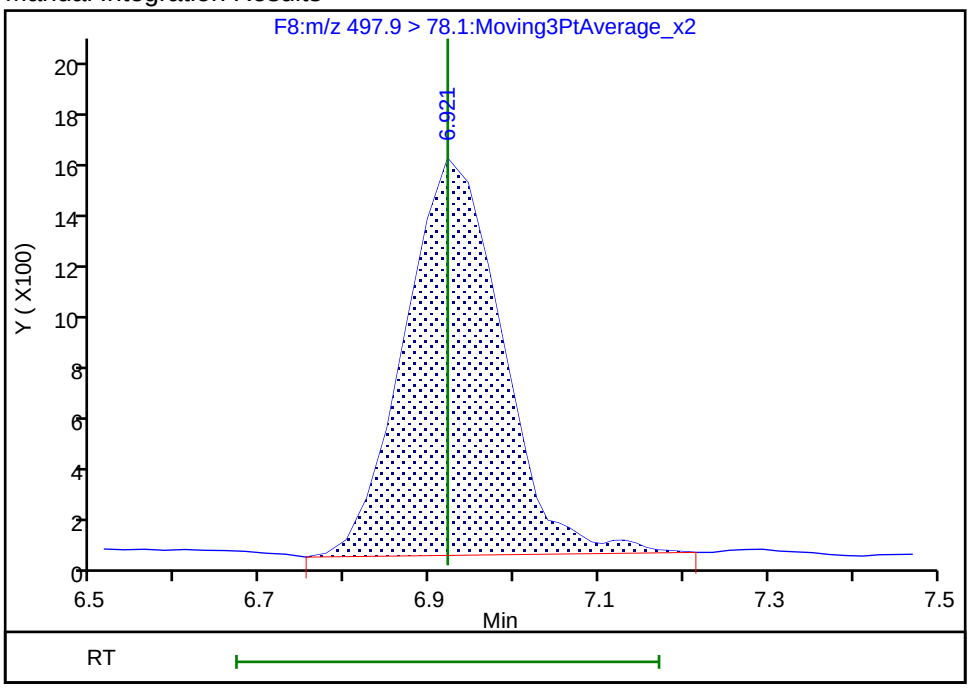
Processing Integration Results

RT: 6.92
Area: 10879
Amount: 1.020301
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 12100
Amount: 1.112028
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:38:42
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

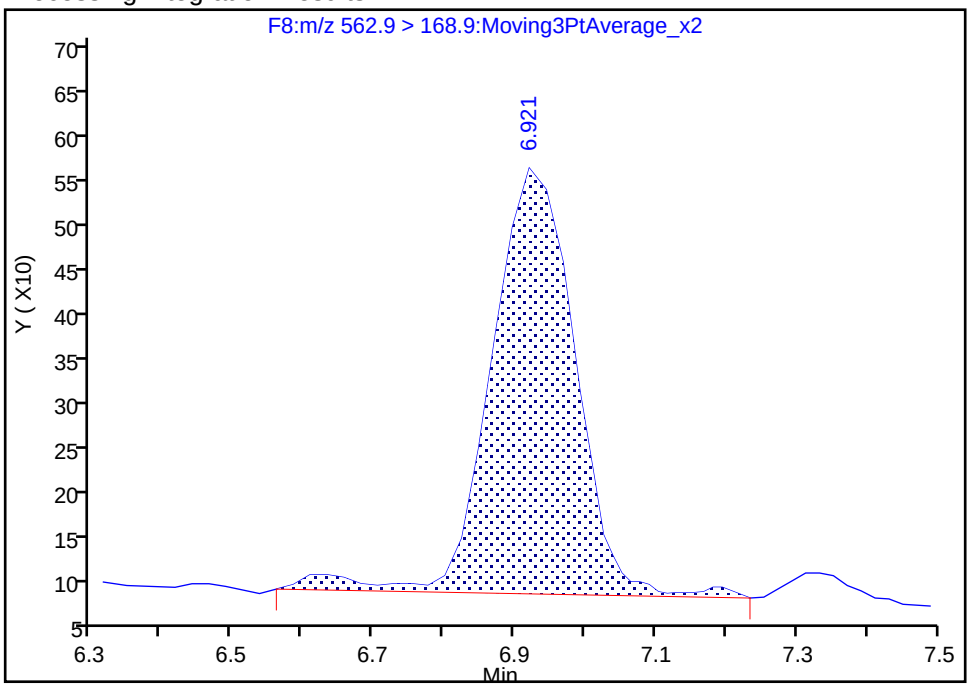
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

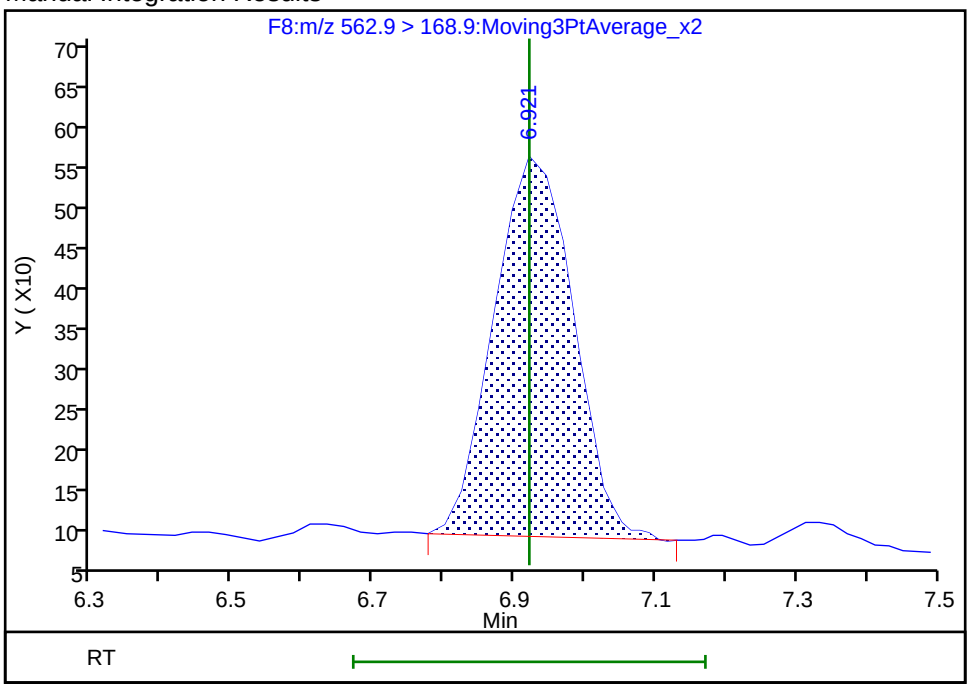
Processing Integration Results

RT: 6.92
Area: 3982
Amount: 1.121554
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 3691
Amount: 1.099219
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:38:33
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

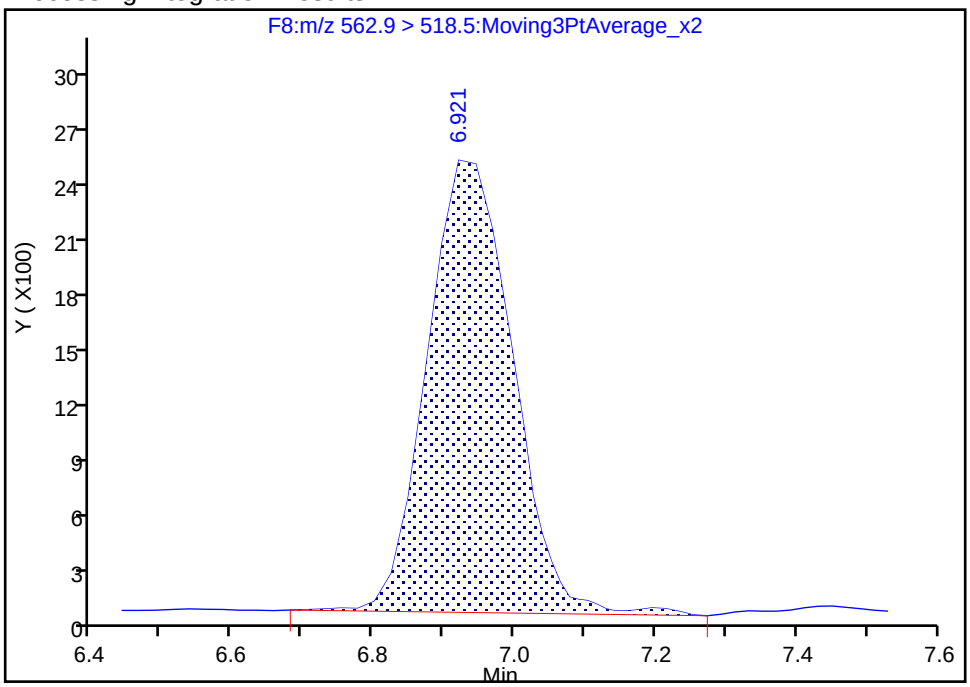
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

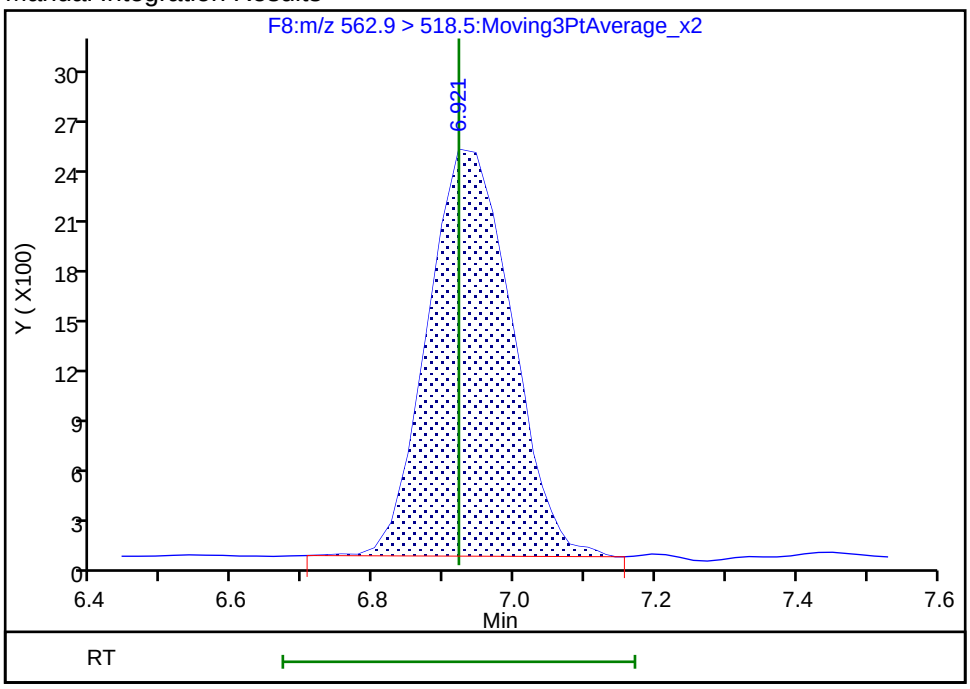
Processing Integration Results

RT: 6.92
Area: 20057
Amount: 1.121554
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 19602
Amount: 1.099219
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:38:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

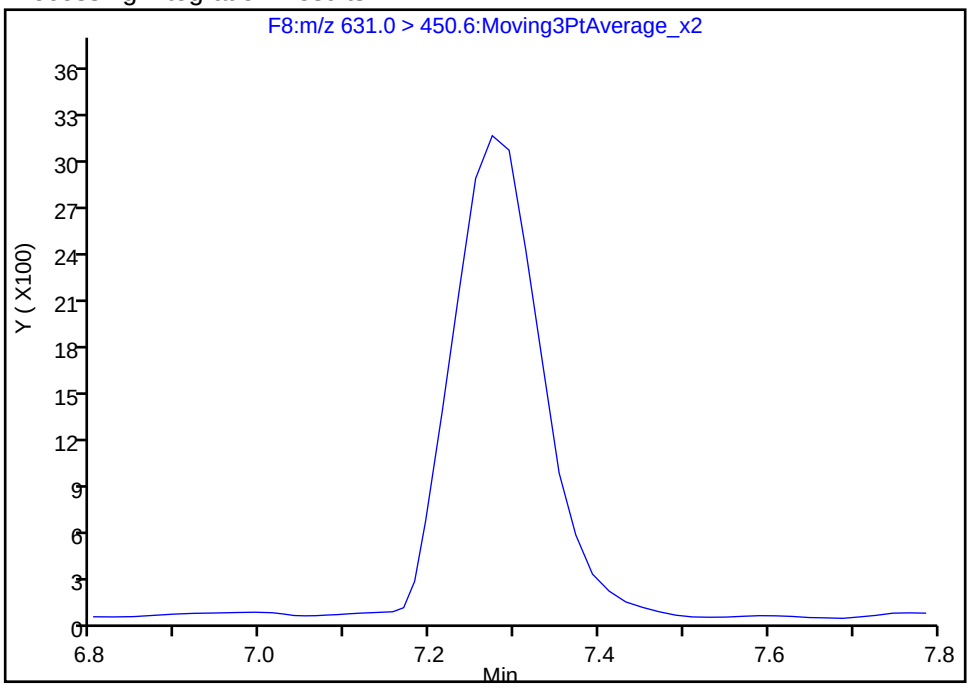
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

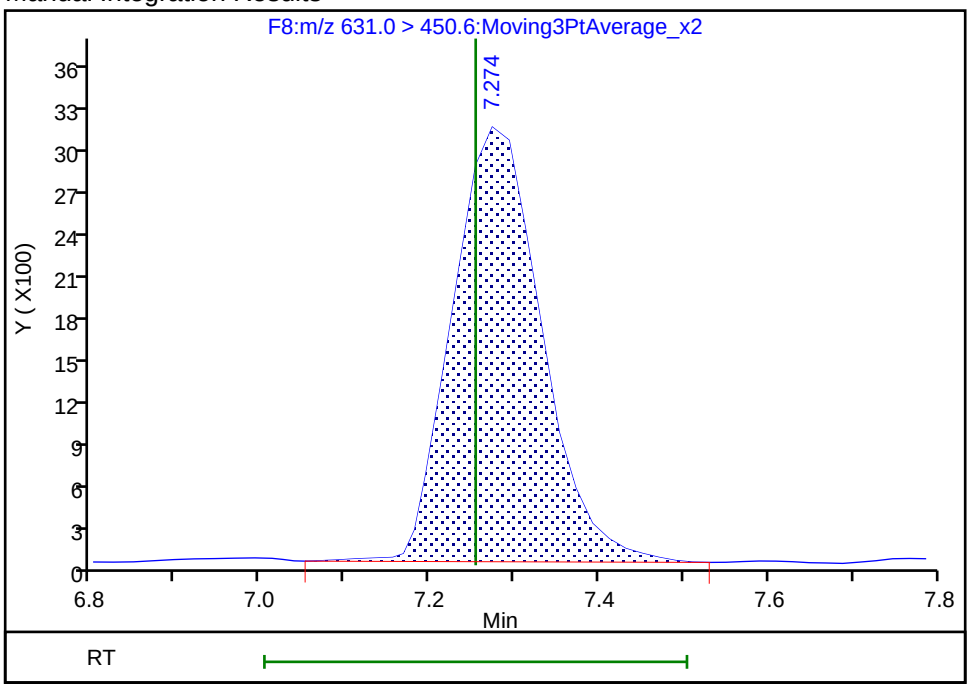
Processing Integration Results

Not Detected
Expected RT: 7.25



Manual Integration Results

RT: 7.27
Area: 22580
Amount: 0.946176
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 12:45:24
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

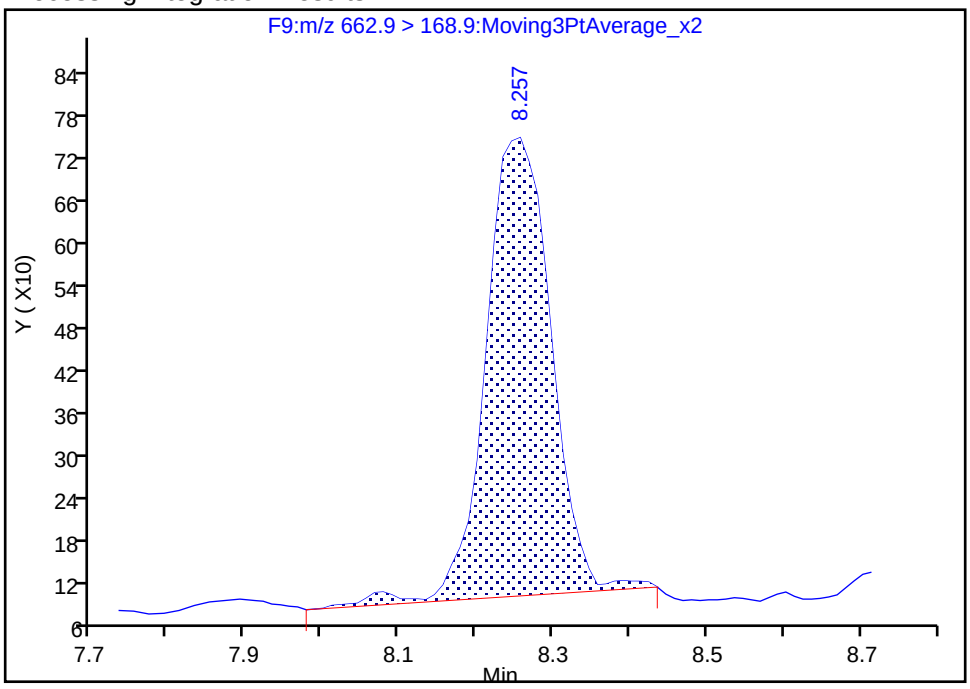
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B02.d
Injection Date: 23-May-2019 12:19:38 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F9:MRM

38 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 2

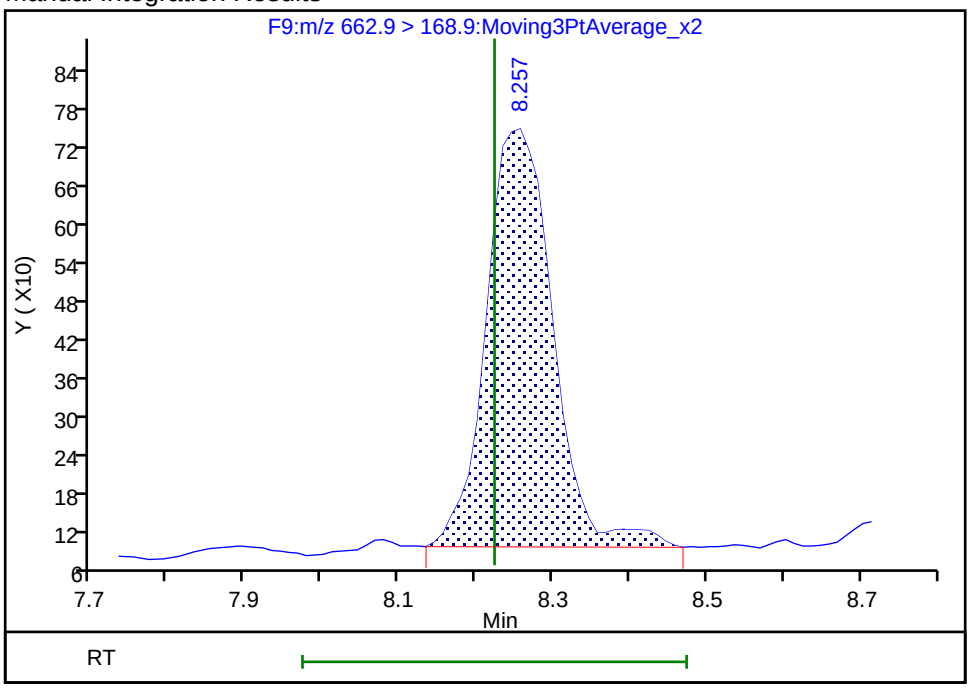
Processing Integration Results

RT: 8.26
Area: 3838
Amount: 0.951444
Amount Units: ng/ml



Manual Integration Results

RT: 8.26
Area: 3932
Amount: 0.951444
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:38:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 23-May-2019 12:35:29 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-003 IC 2
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:31:29 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 13:44:06
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.380	0.0	1.000	214469	45.4		90.7	76.0	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.380	0.0	1.000	12546	1.86		93.2	42.3	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.830	2.795	0.035	1.000	17782	1.82		90.8	33.8	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	163530	45.6		91.2	326	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.866	0.035	1.000	65045	41.7		89.7	198	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.901	2.901	0.0	1.000	6494	1.85	Target=1.67	104	30.2	M
298.9 > 98.9	2.901	2.866	0.035	1.000	4059		0.00(0.83-2.51)	104	13.4	M
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.207	3.238	-0.031	1.105	3838	2.07		111	38.2	M
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.270	3.270	0.0	1.000	26905	1.83	Target=14.34	91.3	289	
312.9 > 118.9	3.302	3.270	0.032	1.010	2268		0.00(7.17-21.51)	91.3	23.7	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.270	0.0	1.000	526754	49.0		98.0	615	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.334	3.334	0.0	1.149	7937	2.00	Target=1.23	106	85.9	
348.9 > 98.9	3.334	3.334	0.0	1.000	7571		0.00(0.62-1.85)	106	65.7	M
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.429	3.429	0.0	1.000	49873	48.8		97.5	506	
44 Perfluoro(2-propoxypropanoic) acid										M
328.9 > 284.7	3.429	3.429	0.0	1.000	2026	1.88		94.2	14.5	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.833	0.036	1.000	33969	1.84	Target=2.84	92.2	230	
362.9 > 168.9	3.869	3.833	0.036	1.000	11435		0.00(1.42-4.26)	92.2	74.9	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	784957	51.8		104	1879	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.869	0.036	1.000	83117	41.7		88.1	362	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.905	0.0	1.000	8768	2.36	Target=1.34	130	115	M
398.9 > 98.9	3.905	3.905	0.0	1.000	7707		0.00(0.67-2.01)	130	48.4	M
49 DONA										M
376.9 > 250.7	3.925	3.925	0.0	0.734	33942	1.82	Target=2.33	96.8	231	M
376.9 > 85.0	3.925	3.925	0.0	1.000	12867		0.00(1.16-3.49)	96.8	86.4	
13 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.547	4.506	0.041	1.005	1419	1.61		84.9	5.8	M
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.506	0.020	1.000	44320	41.2		86.6	570	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.547	0.021		966496	50.0			1796	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.547	0.021	1.000	960721	51.2		102	2236	
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.568	4.568	0.0	1.000	38131	1.96	Target=2.43	98.1	178	
412.9 > 168.9	4.568	4.568	0.0	1.000	13898		0.00(1.22-3.64)	98.1	90.8	M
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.589	4.589	0.0	0.858	7679	2.04	Target=1.30	107	49.7	M
448.9 > 98.9	4.589	4.589	0.0	1.000	6891		0.00(0.65-1.95)	107	33.5	M
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.347	0.0	1.000	1275899	50.7		101	2272	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.347	0.0	1.000	39699	1.76	Target=5.00	88.1	225	
462.9 > 168.9	5.347	5.347	0.0	1.000	9429		0.00(2.50-7.50)	88.1	67.4	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.347	0.0	1.000	206854	46.0		96.3	738	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.347	0.0	1.000	6541	1.57	Target=1.41	84.3	51.6	M
498.9 > 98.9	5.368	5.347	0.021	1.004	7804		0.00(0.71-2.12)	84.3	76.9	M
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.812	5.778	0.034	1.087	34173	1.80		96.4	138	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	180166	46.0		96.0	1841	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.131	6.131	0.0	1.000	6238	2.25		117	31.8	M
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.165	6.165	0.0	1.153	7593	1.81	Target=1.39	94.2	35.2	
548.9 > 98.9	6.165	6.165	0.0	1.000	9520		0.00(0.69-2.08)	94.2	78.9	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.165	0.0	1.000	1119133	52.1		104	2852	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										M
512.9 > 468.5	6.165	6.165	0.0	1.000	41726	2.04	Target=7.23	102	165	
512.9 > 168.9	6.165	6.165	0.0	1.000	5716		0.00(3.61-10.84)	102	50.4	M
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.501	6.501	0.0	1.000	11178	2.03		102	62.7	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.501	0.0	1.000	333044	47.6		95.2	1485	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.873	0.0	1.000	299529	51.9		104	1452	
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.897	6.897	0.0	1.290	10668	2.37	Target=1.25	123	85.5	M
598.9 > 98.9	6.897	6.897	0.0	1.000	11510		0.00(0.63-1.88)	123	45.6	M
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.897	6.897	0.0	1.003	7077	1.47		73.3	58.6	M
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.000	33821	1.82	Target=7.06	90.8	248	
562.9 > 168.9	6.921	6.921	0.0	1.000	3543		0.00(3.53-10.58)	90.8	31.6	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.921	0.0	1.000	1117948	53.9		108	5213	
D 34 13C8 FOSA										
505.9 > 78.0	6.921	6.921	0.0	1.000	398254	51.5		103	2117	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	6.921	6.921	0.0	1.000	21692	1.91		95.6	106	M
43 11-Chloroeicosafluoro-3-oxaundecan										Ma
631.0 > 450.6	7.274	7.254	0.020	1.360	40685	1.68		89.0	241	M
36 Perfluorododecanoic acid										M
612.9 > 568.5	7.616	7.616	0.0	1.000	52721	2.11	Target=5.37	105	331	
612.9 > 168.9	7.616	7.616	0.0	1.000	7239		0.00(2.68-8.06)	105	46.4	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.616	0.0	1.000	1317604	49.8		99.7	1991	
38 Perfluorotridecanoic acid										M
662.9 > 618.5	8.235	8.224	0.011	1.081	47671	1.93	Target=4.67	96.5	330	
662.9 > 168.9	8.246	8.224	0.022	1.083	8120		0.00(2.34-7.01)	96.5	74.8	M
D 40 13C2 PFTeDA										
714.9 > 669.5	8.786	8.775	0.011	1.000	1139185	48.0		96.0	1103	
39 Perfluorotetradecanoic acid										M
712.9 > 668.5	8.797	8.786	0.011	1.001	40015	2.07	Target=4.86	103	331	
712.9 > 168.9	8.786	8.786	0.0	1.000	8000		0.00(2.43-7.30)	103	56.1	M

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27-L2_00004 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:31:29 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d

Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410

Lims ID: IC

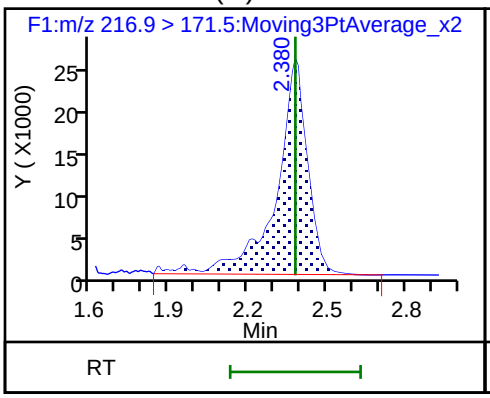
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3

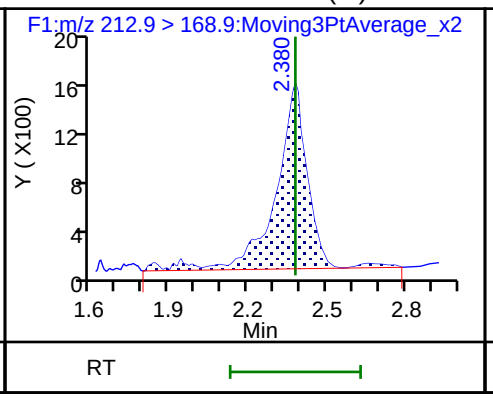
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

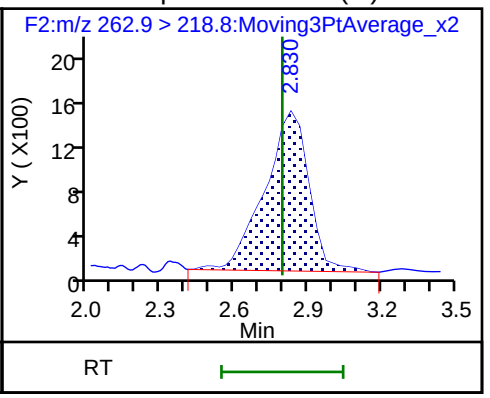
D 1 13C4 PFBA (M)



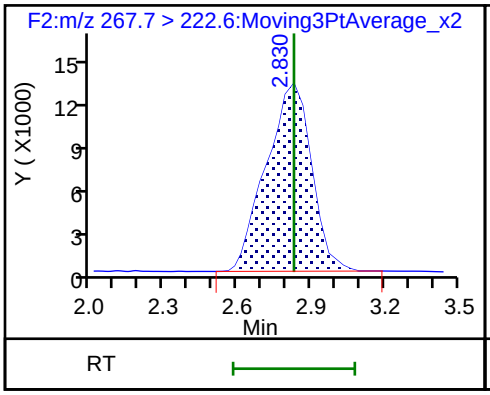
2 Perfluorobutanoic acid (M)



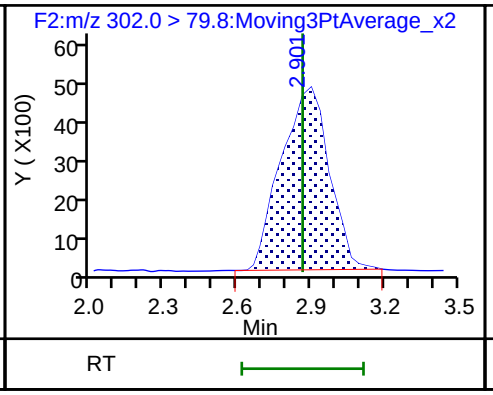
3 Perfluoropentanoic acid (M)



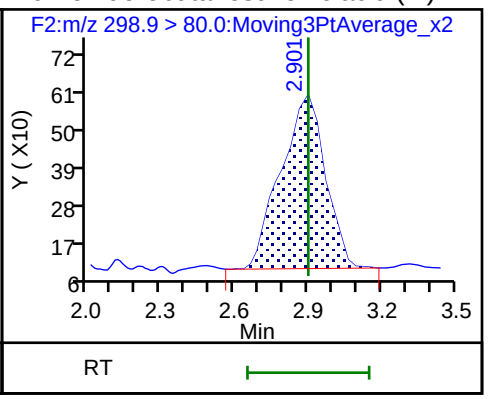
D 4 13C5 PFPeA



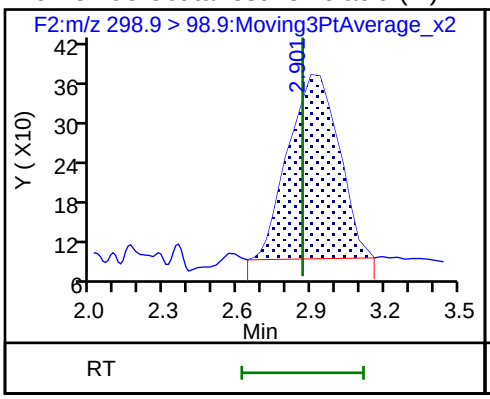
D 5 13C3 PFBS



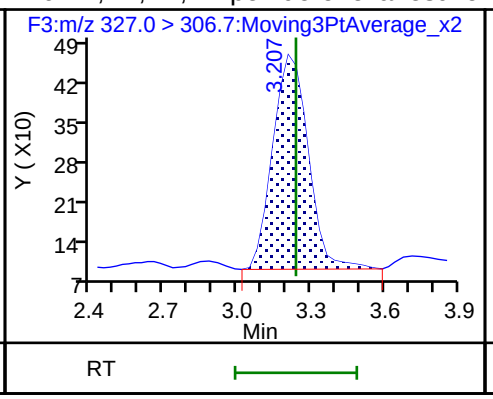
6 Perfluorobutanesulfonic acid (M)



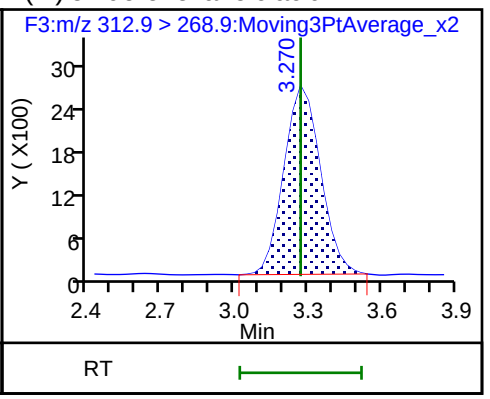
6 Perfluorobutanesulfonic acid (M)



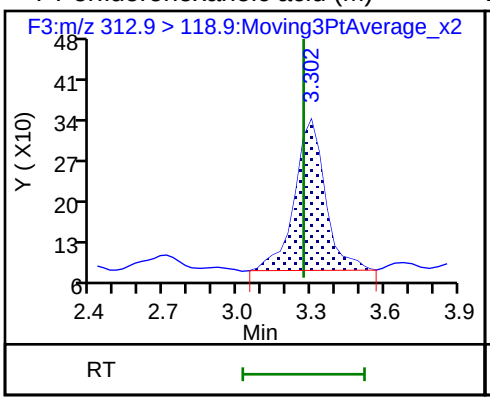
46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



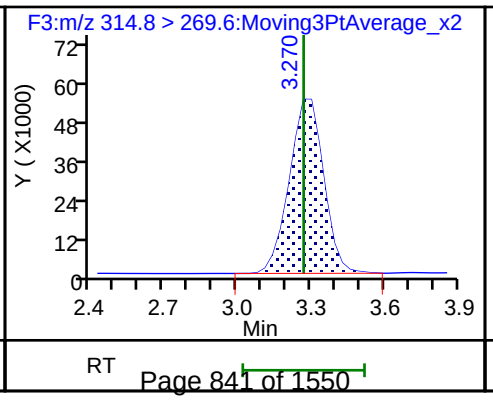
7 Perfluorohexanoic acid



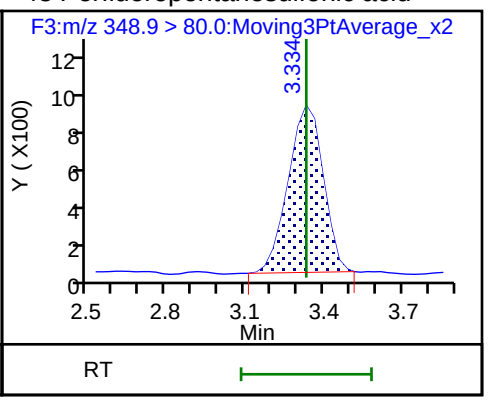
7 Perfluorohexanoic acid (M)



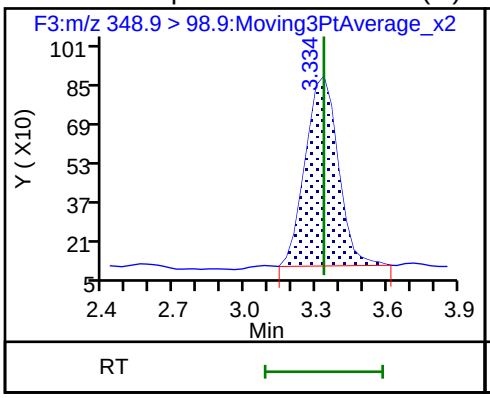
D 8 13C2 PFHxA



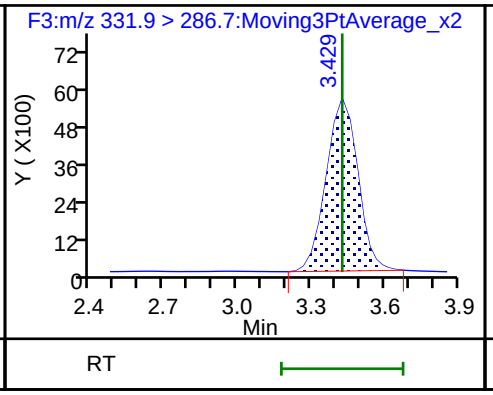
48 Perfluoropentanesulfonic acid



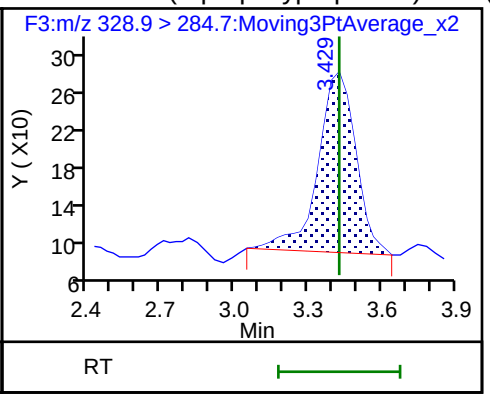
48 Perfluoropentanesulfonic acid (M)



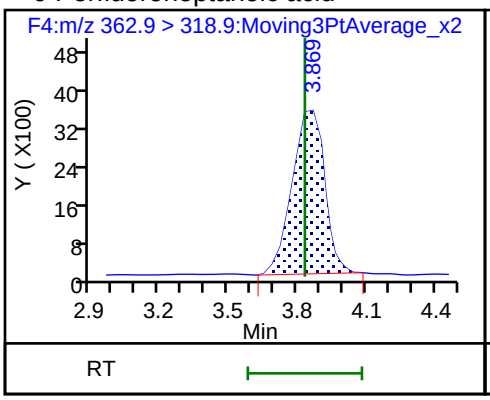
D 42 13C3 HFPO-DA



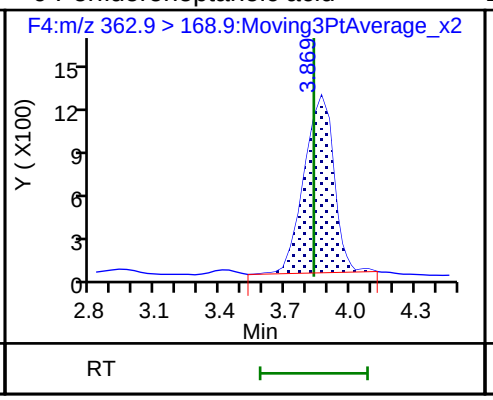
44 Perfluoro(2-propoxypropanoic) acid (M)



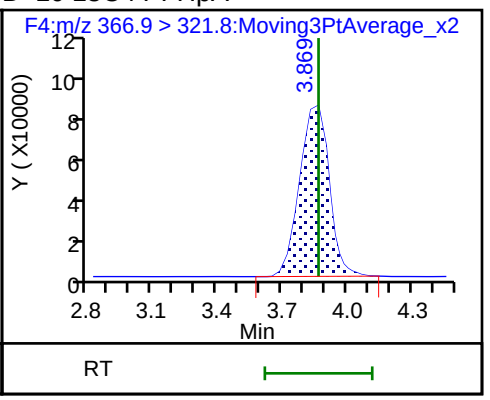
9 Perfluoroheptanoic acid



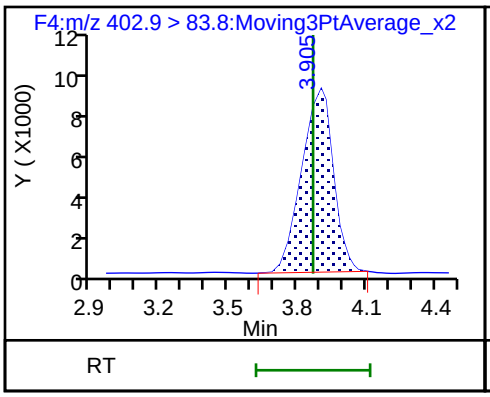
9 Perfluoroheptanoic acid



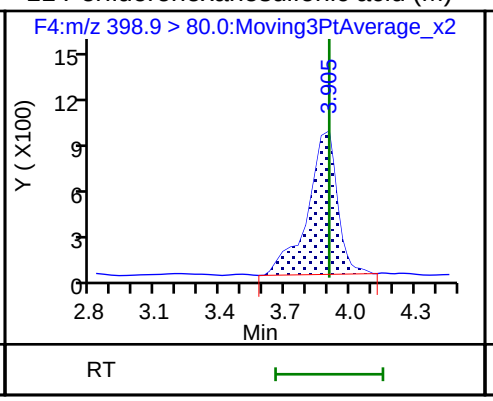
D 10 13C4 PFHpA



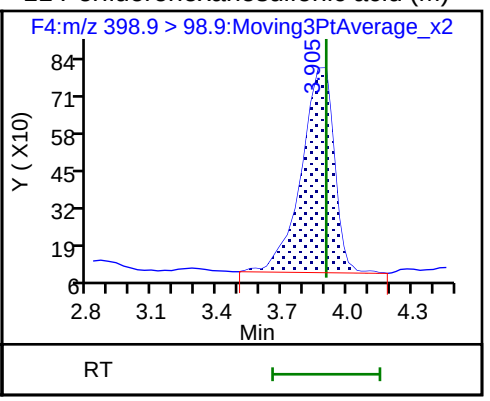
D 12 18O2 PFHxS



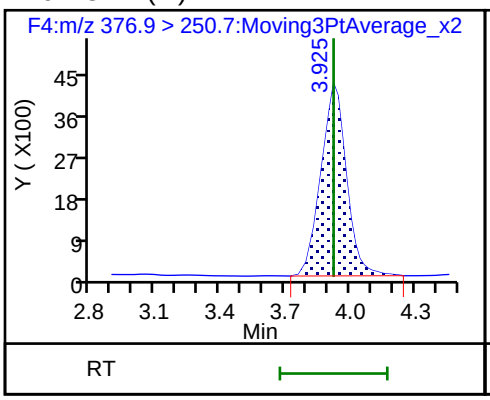
11 Perfluorohexanesulfonic acid (M)



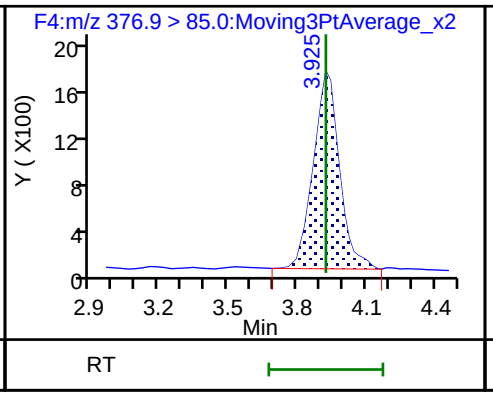
11 Perfluorohexanesulfonic acid (M)



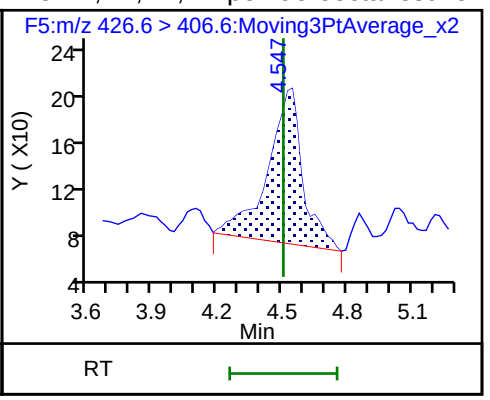
49 DONA (M)



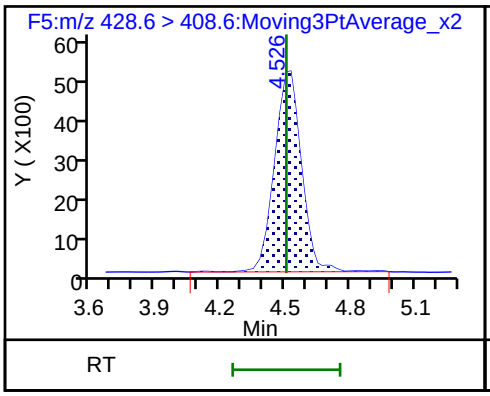
49 DONA



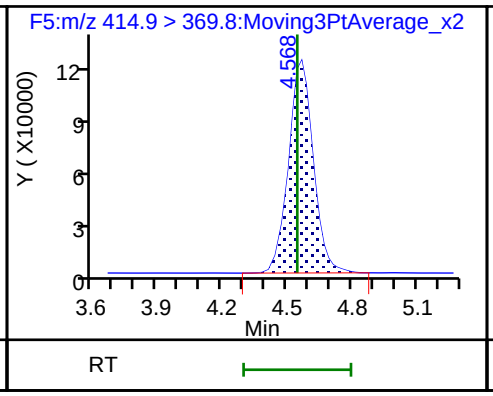
13 1H,1H,2H,2H-perfluorooctanesulfoni (M)



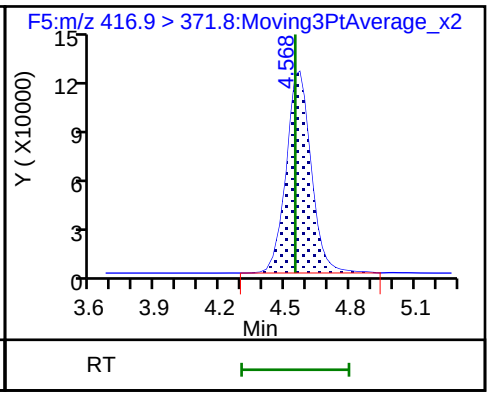
D 14 M2-6:2 FTS



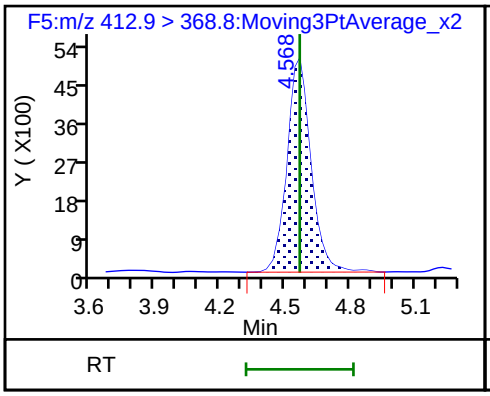
* 16 13C2 PFOA



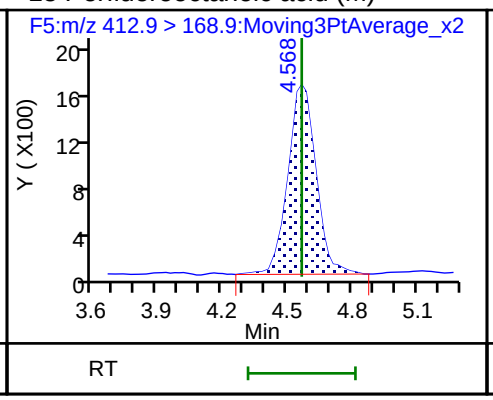
D 17 13C4 PFOA



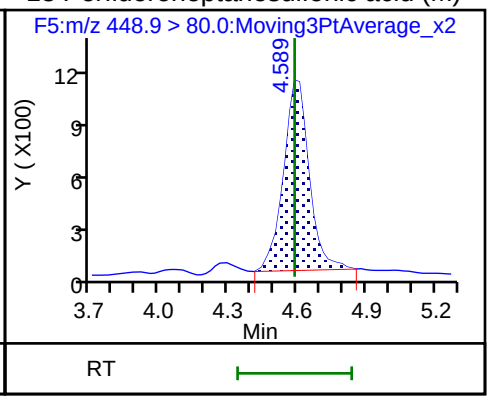
15 Perfluorooctanoic acid



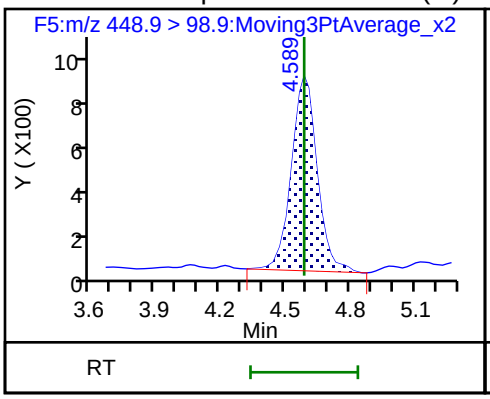
15 Perfluorooctanoic acid (M)



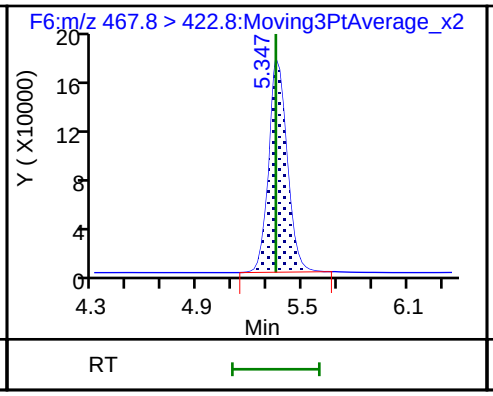
18 Perfluoroheptanesulfonic acid (M)



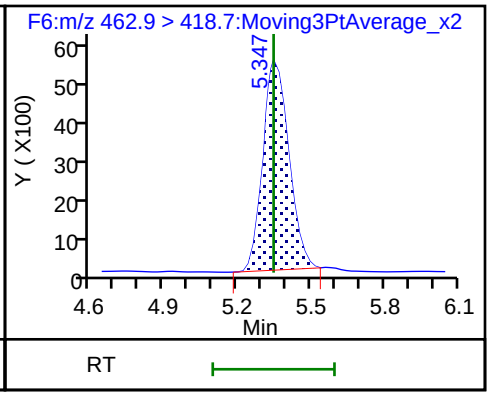
18 Perfluoroheptanesulfonic acid (M)



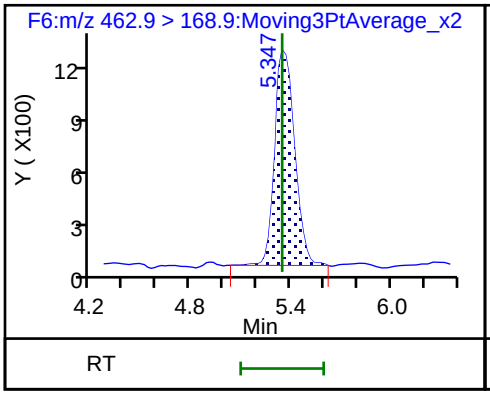
D 20 13C5 PFNA



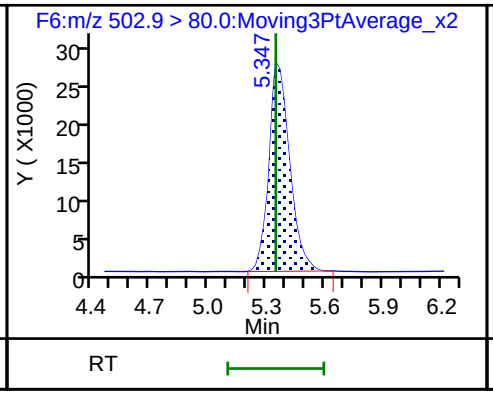
19 Perfluorononanoic acid



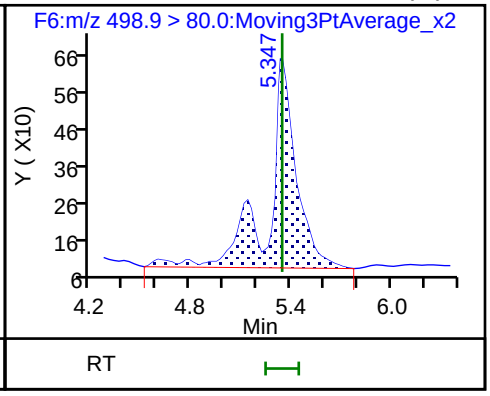
19 Perfluorononanoic acid



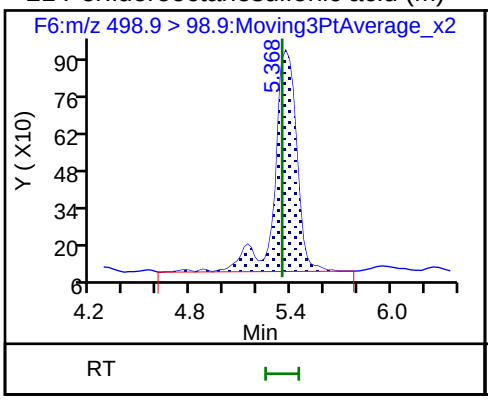
D 22 13C4 PFOS



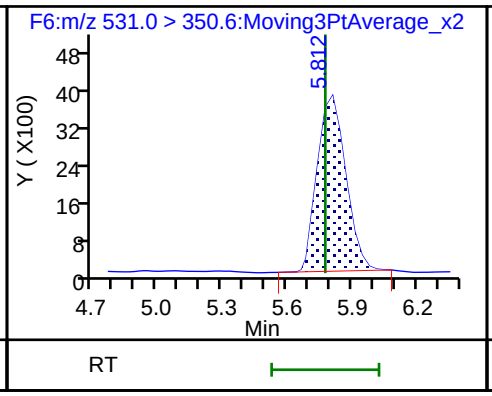
21 Perfluorooctanesulfonic acid (M)



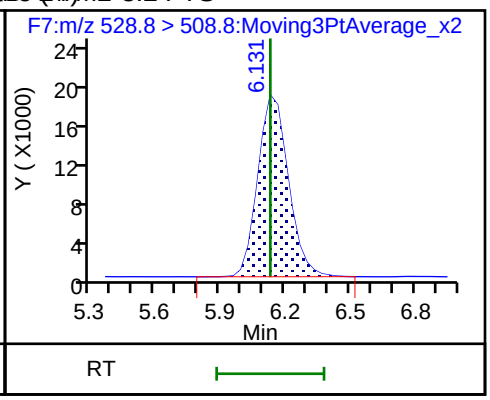
21 Perfluorooctanesulfonic acid (M)



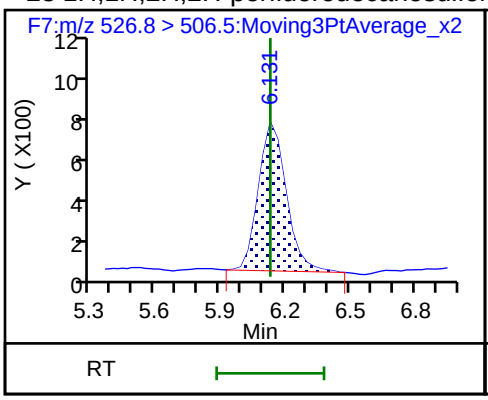
47 9-Chlorohexadecafluoro-3-oxanonane-1-



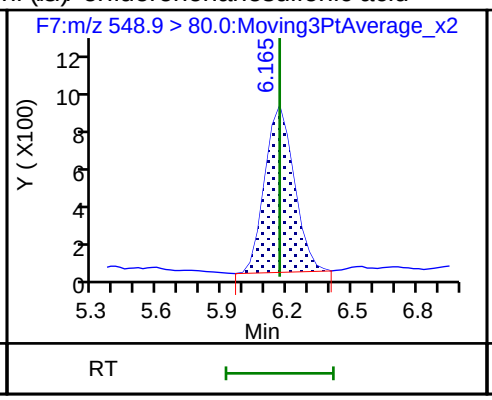
D 24 M2-8:2 FTS



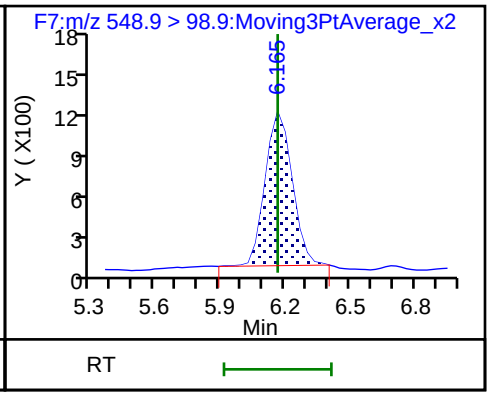
23 1H,1H,2H,2H-perfluorodecanesulfoni (M)



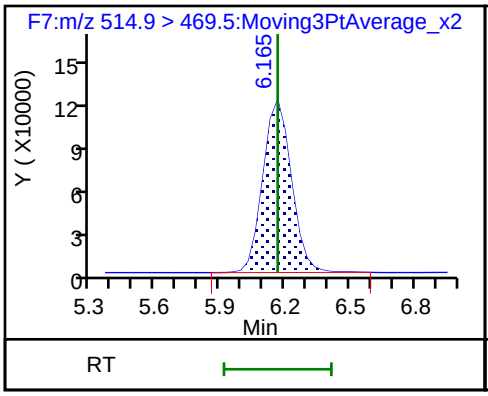
45 Perfluorononanesulfonic acid



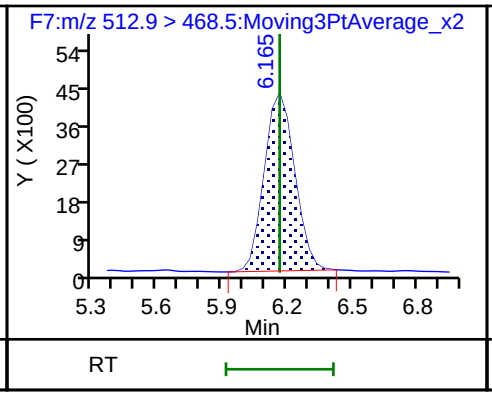
45 Perfluorononanesulfonic acid



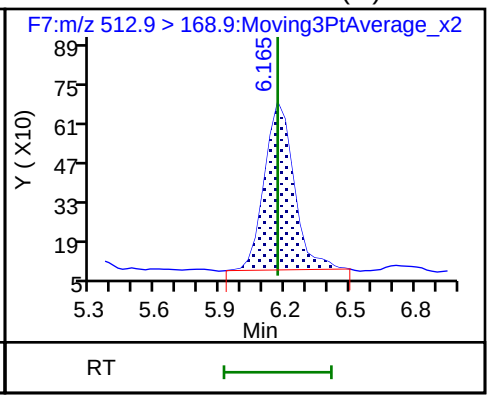
D 25 13C2 PFDA



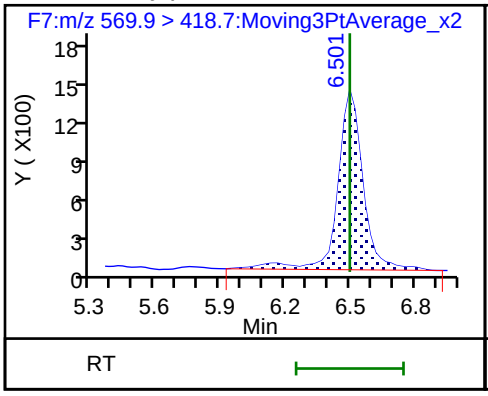
26 Perfluorodecanoic acid



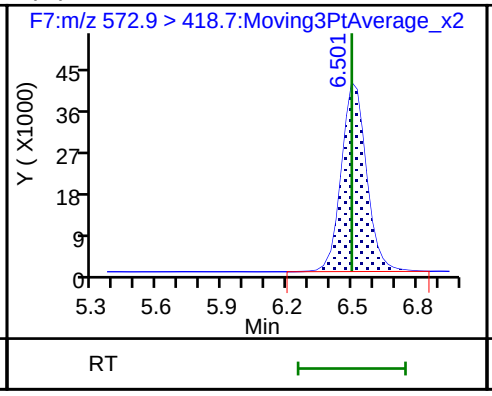
26 Perfluorodecanoic acid (M)



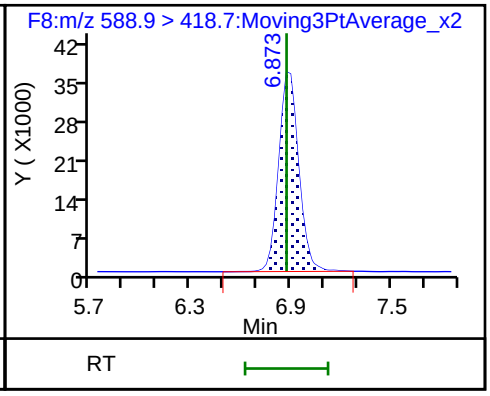
28 N-methylperfluorooctanesulfonamido



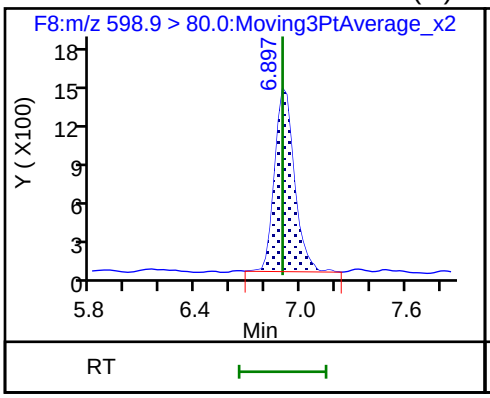
D 27 d3-NMeFOSAA



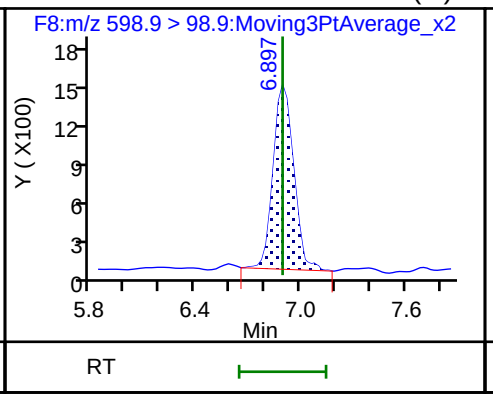
D 29 d5-NEtFOSAA



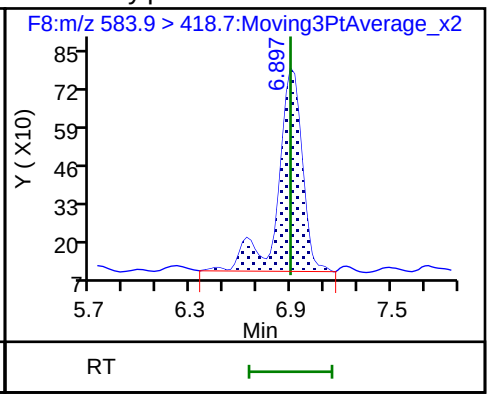
31 Perfluorodecanesulfonic acid (M)



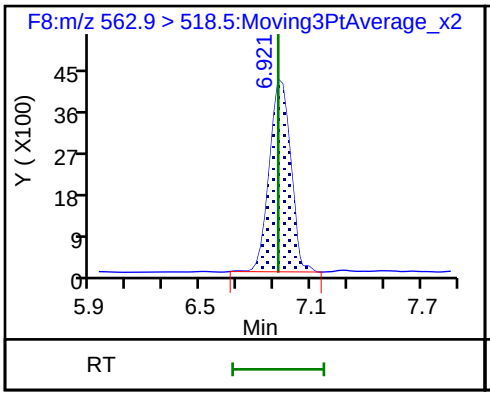
31 Perfluorodecanesulfonic acid (M)



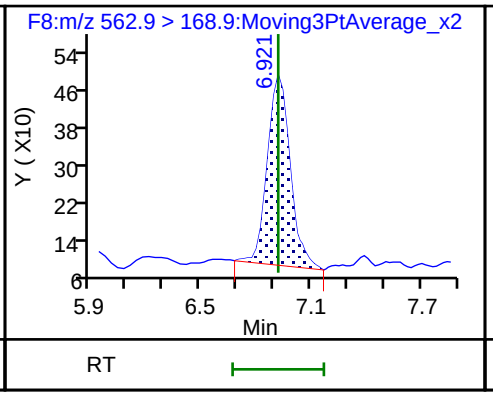
30 N-ethylperfluorooctanesulfonamidoa (M)



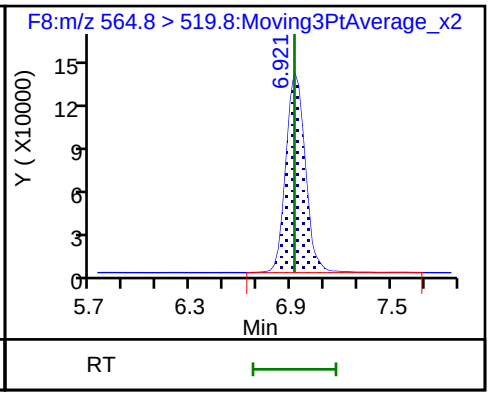
32 Perfluoroundecanoic acid



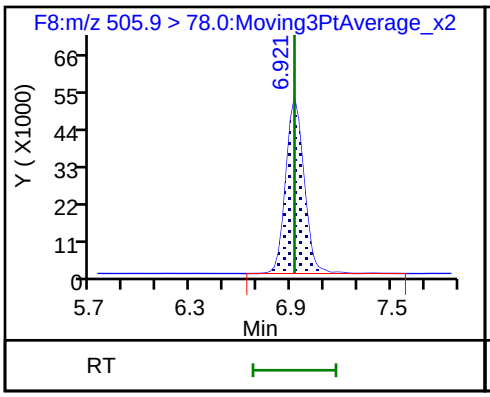
32 Perfluoroundecanoic acid



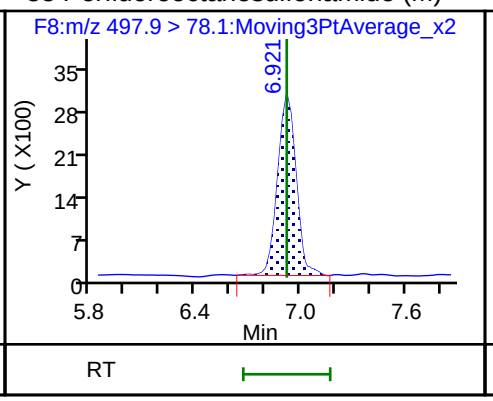
D 33 13C2 PFUnA



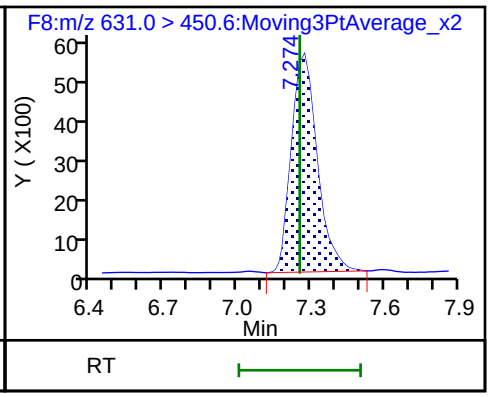
D 34 13C8 FOSA



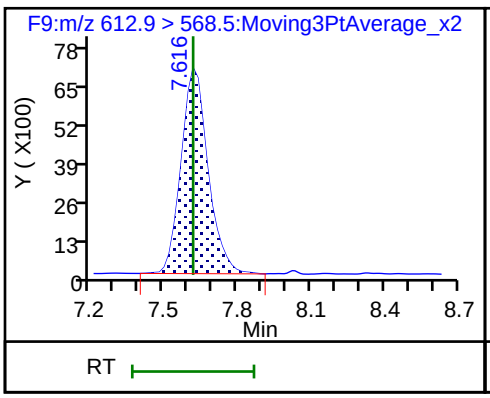
35 Perfluorooctanesulfonamide (M)



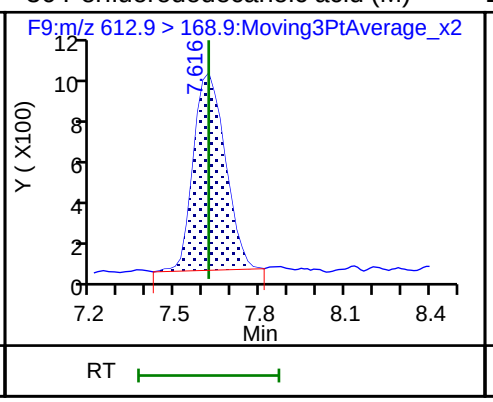
43 11-Chloroeicosafluoro-3-oxaundecan (M)



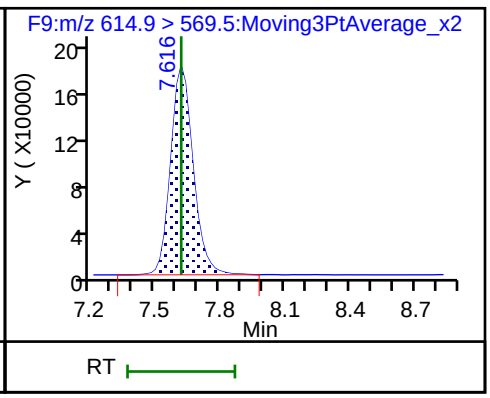
36 Perfluorododecanoic acid



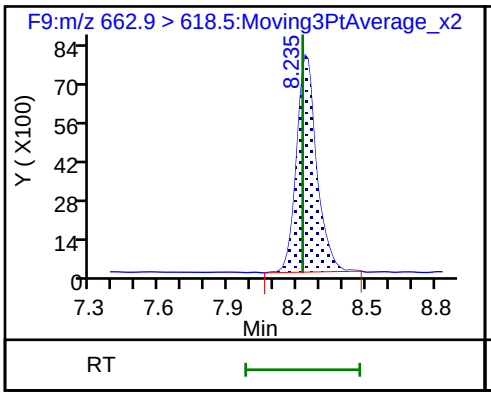
36 Perfluorododecanoic acid (M)



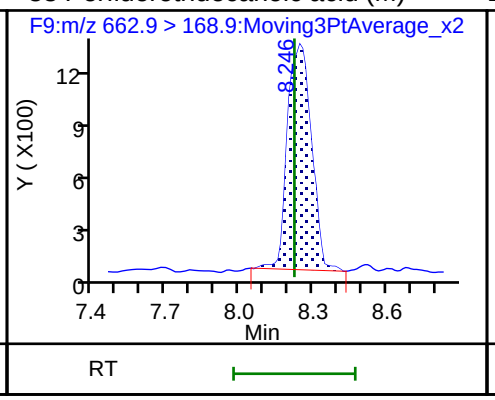
D 37 13C2 PFDoA



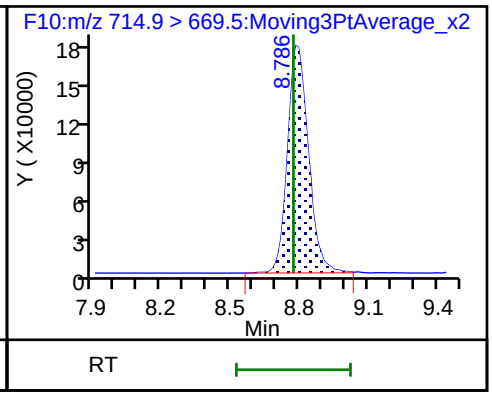
38 Perfluorotridecanoic acid



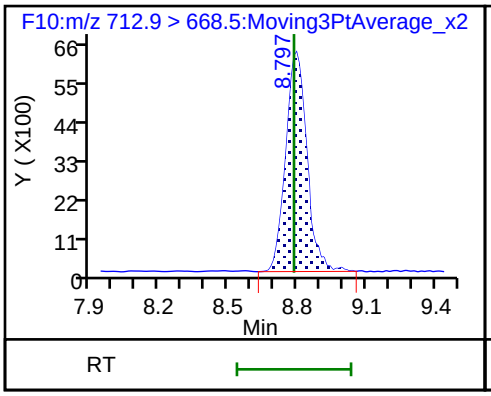
38 Perfluorotridecanoic acid (M)



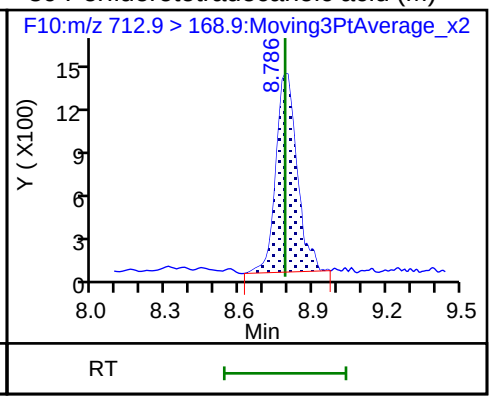
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid (M)



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

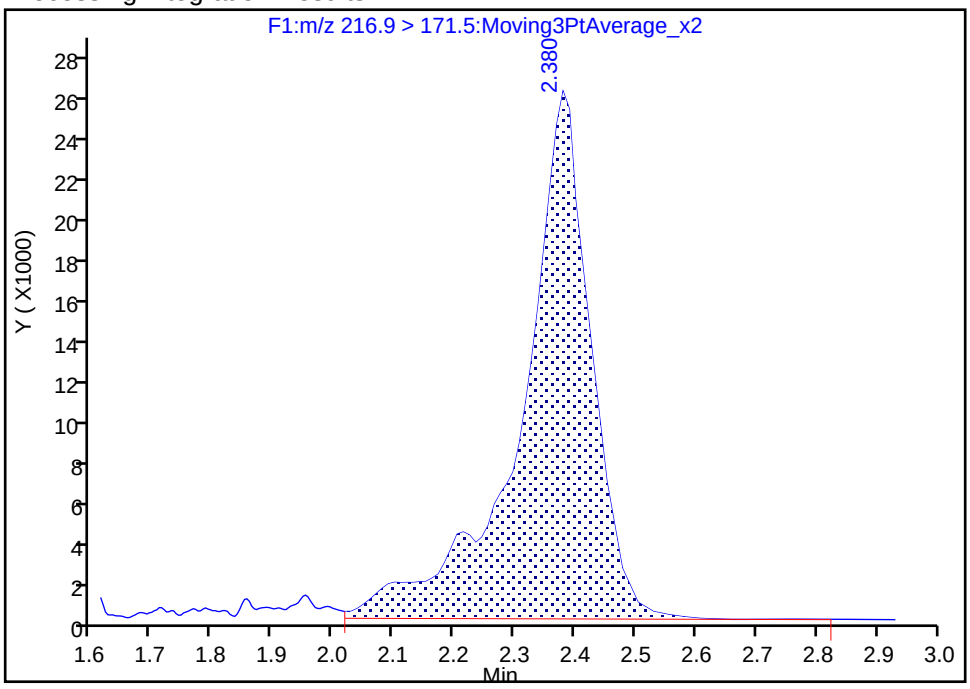
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

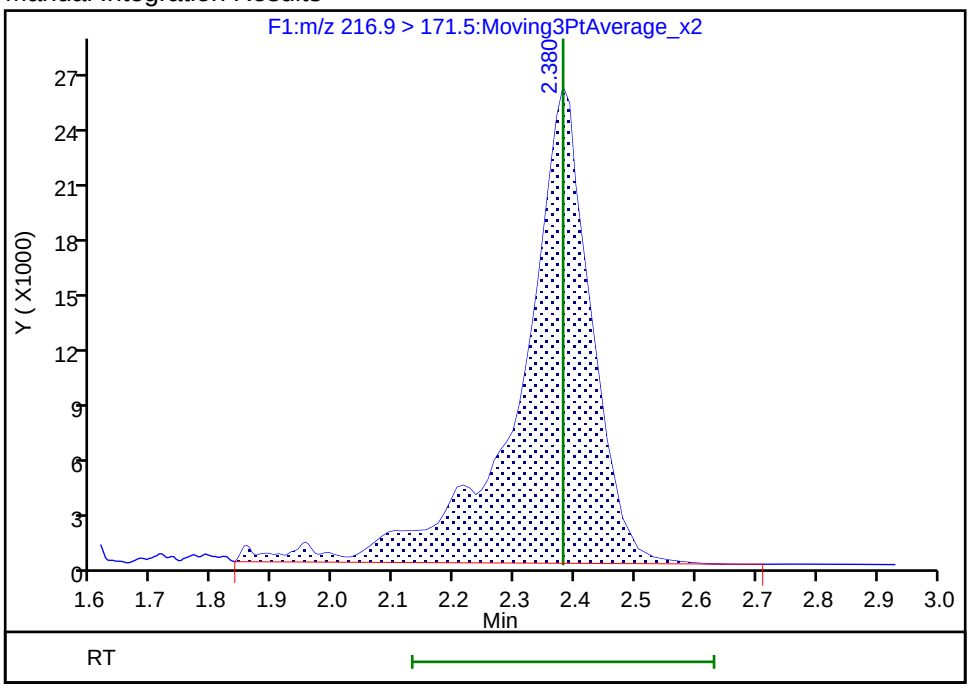
Processing Integration Results

RT: 2.38
Area: 210489
Amount: 45.634963
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 214469
Amount: 45.372872
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:39:30
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

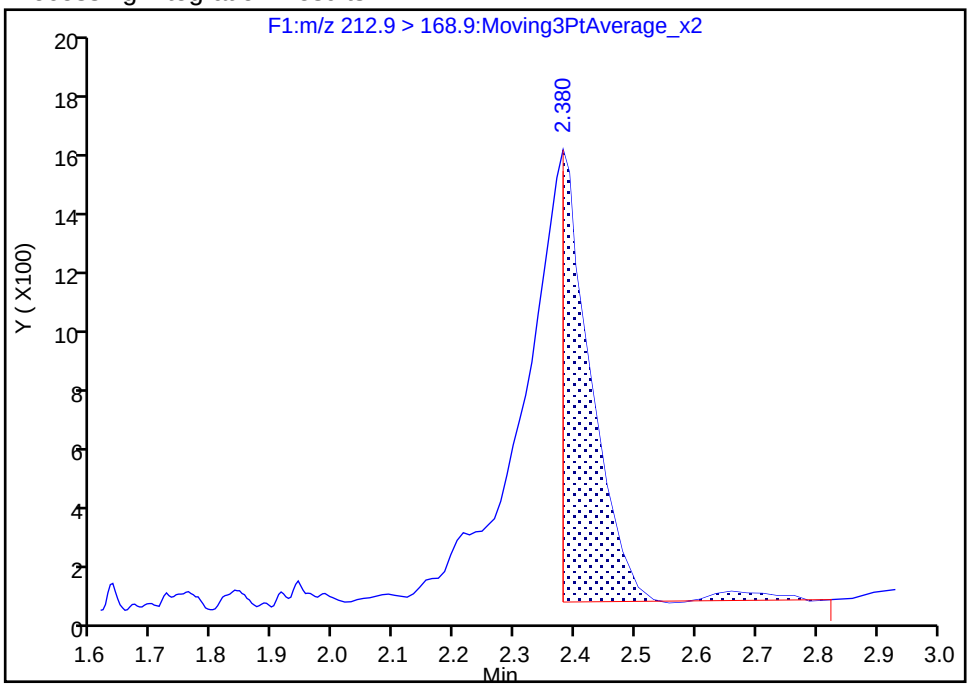
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

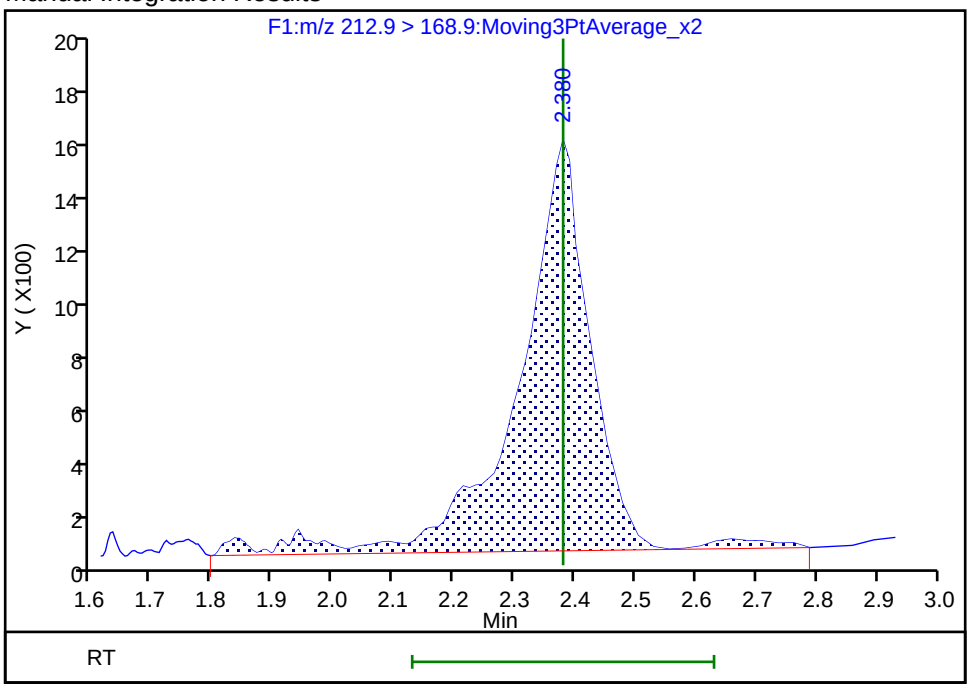
Processing Integration Results

RT: 2.38
Area: 4759
Amount: 0.740107
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 12546
Amount: 1.863005
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:39:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

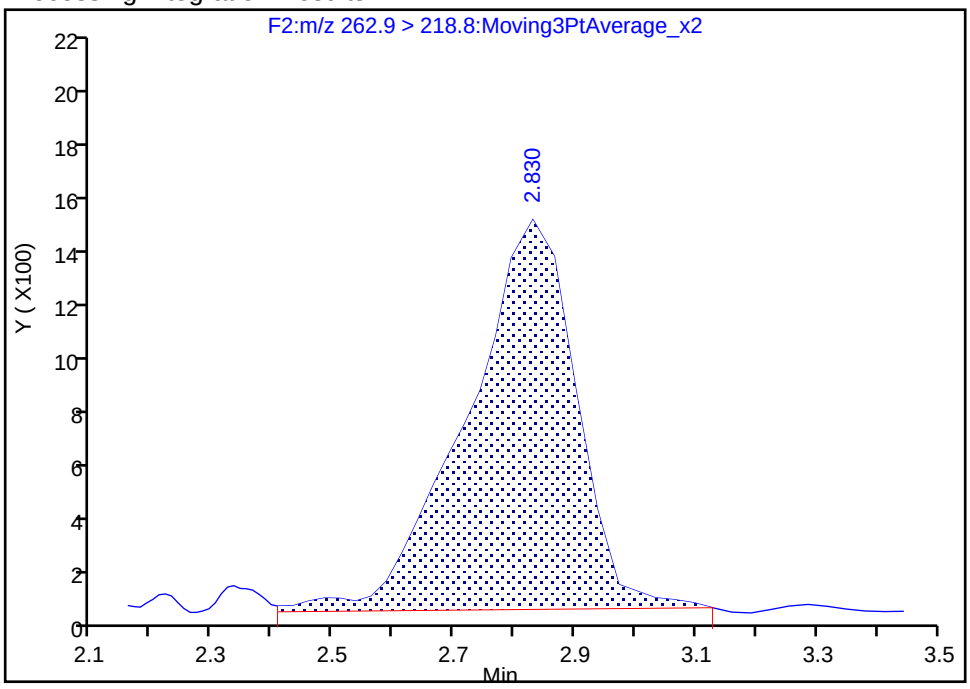
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

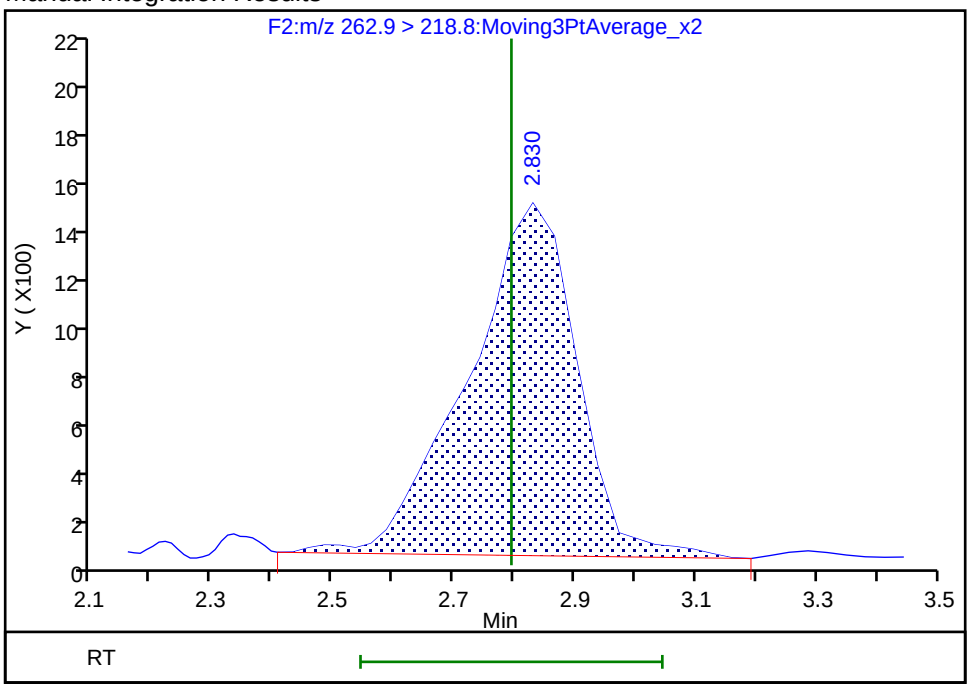
Processing Integration Results

RT: 2.83
Area: 17844
Amount: 1.821320
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 17782
Amount: 1.815630
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:40:05
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

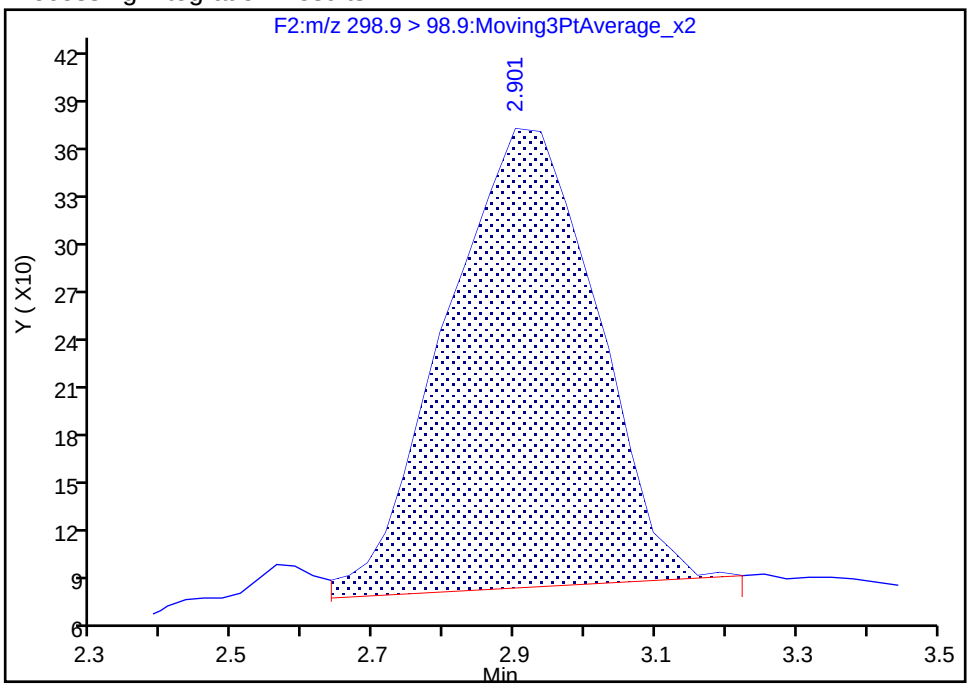
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

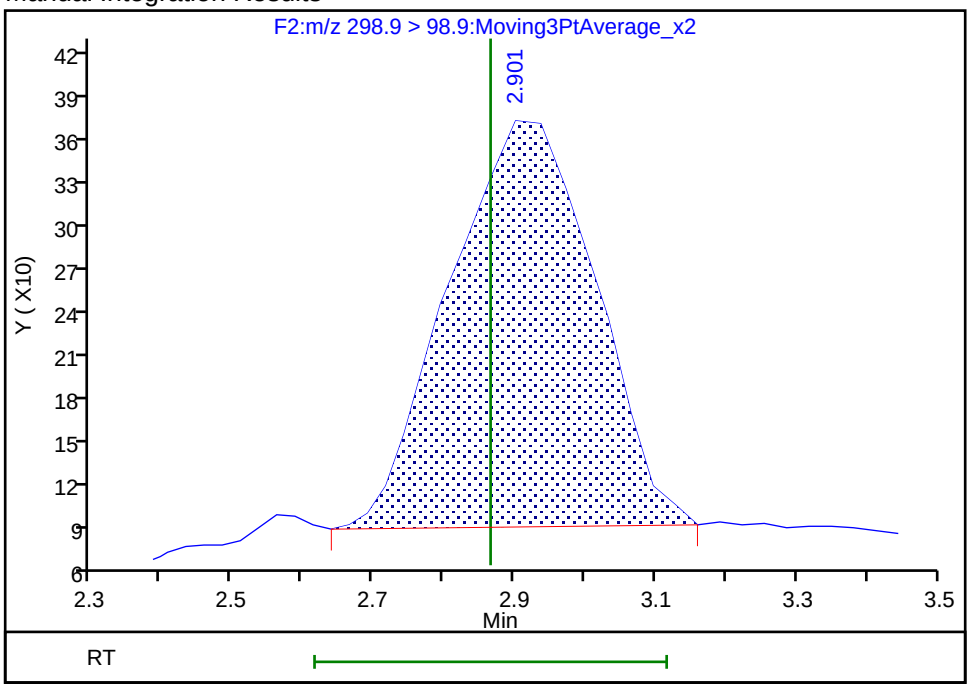
Processing Integration Results

RT: 2.90
Area: 4261
Amount: 1.821677
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 4059
Amount: 1.847057
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:40:14
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

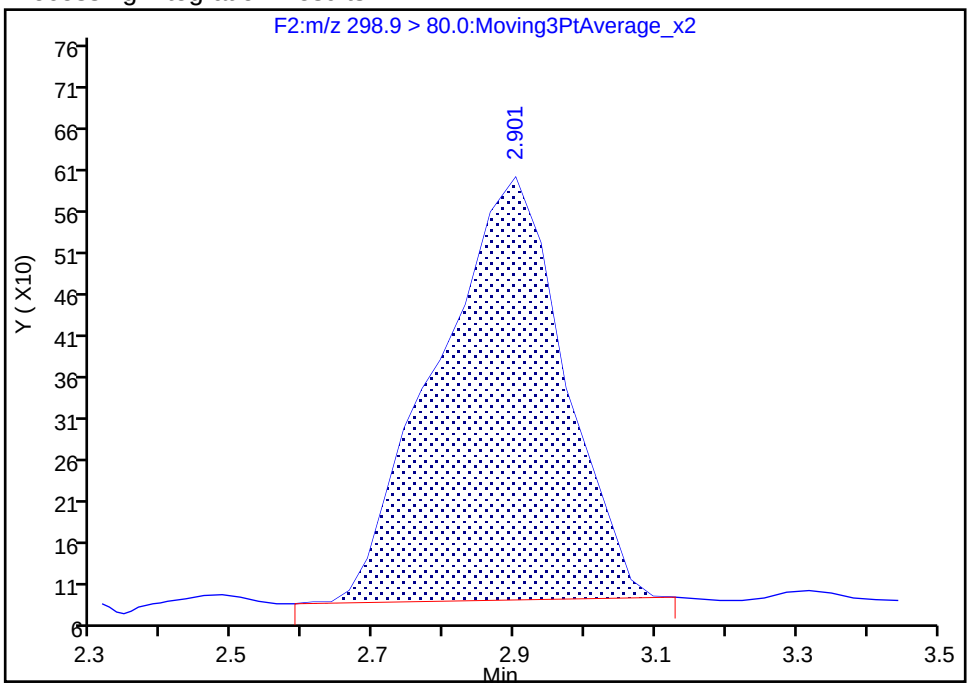
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

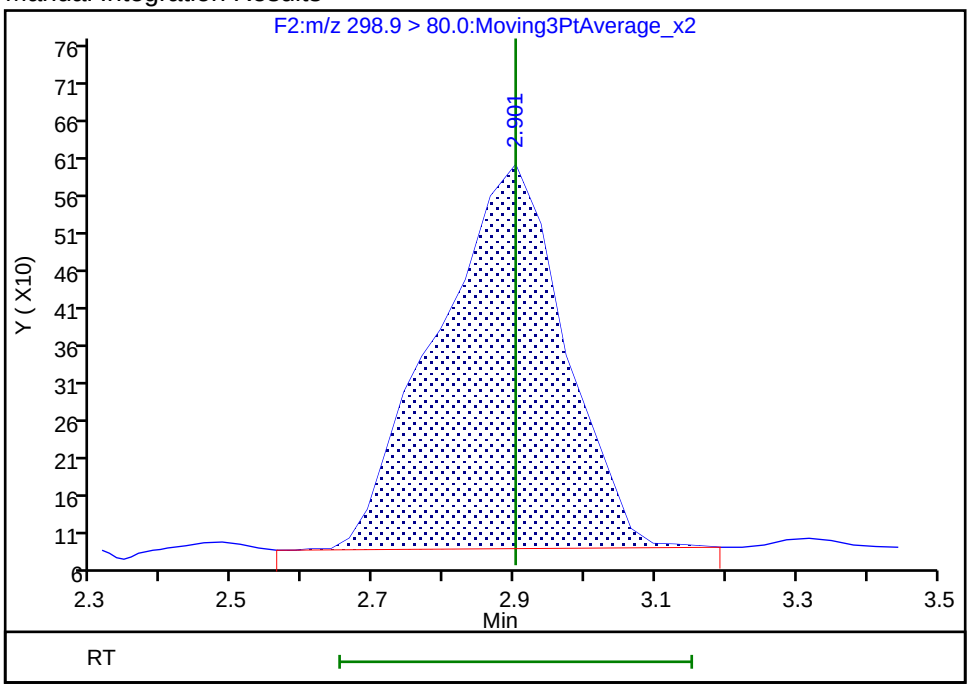
Processing Integration Results

RT: 2.90
Area: 6417
Amount: 1.821677
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 6494
Amount: 1.847057
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:40:18
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

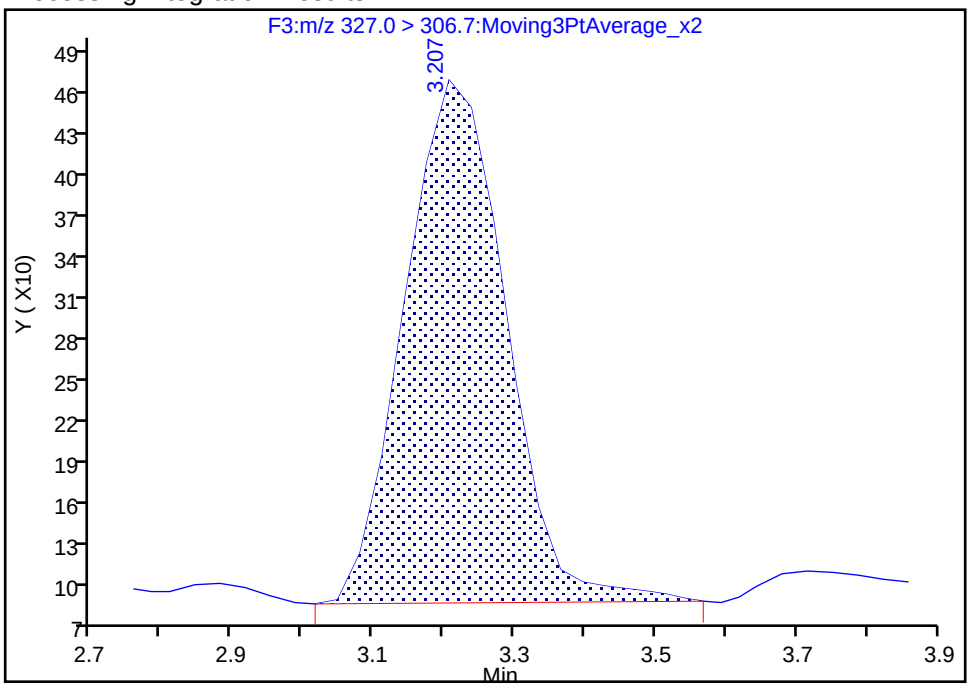
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

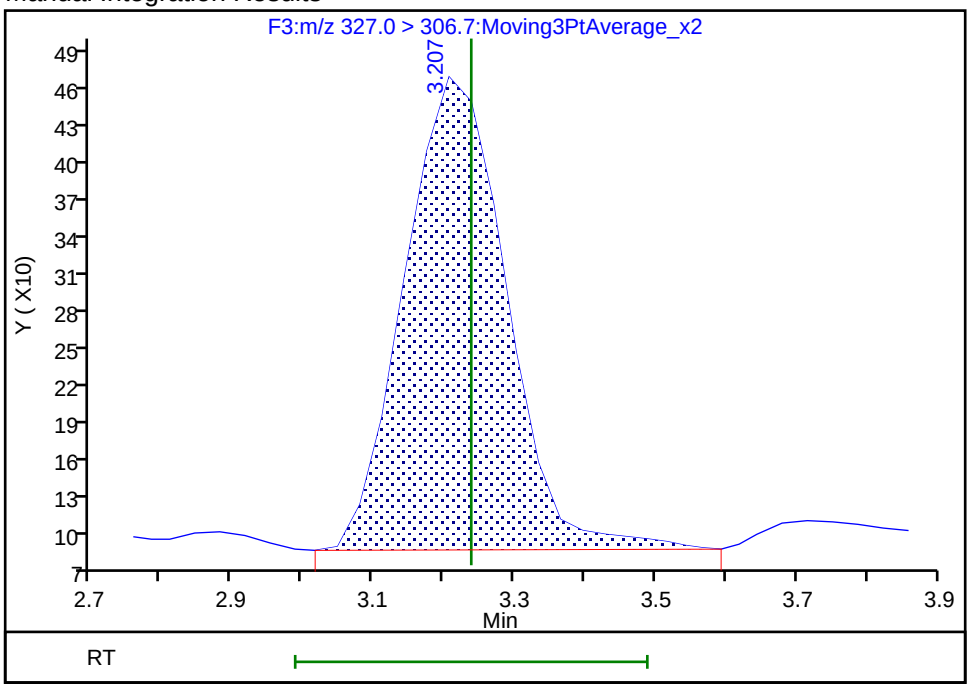
Processing Integration Results

RT: 3.21
Area: 3820
Amount: 2.164607
Amount Units: ng/ml



Manual Integration Results

RT: 3.21
Area: 3838
Amount: 2.071133
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:40:24
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

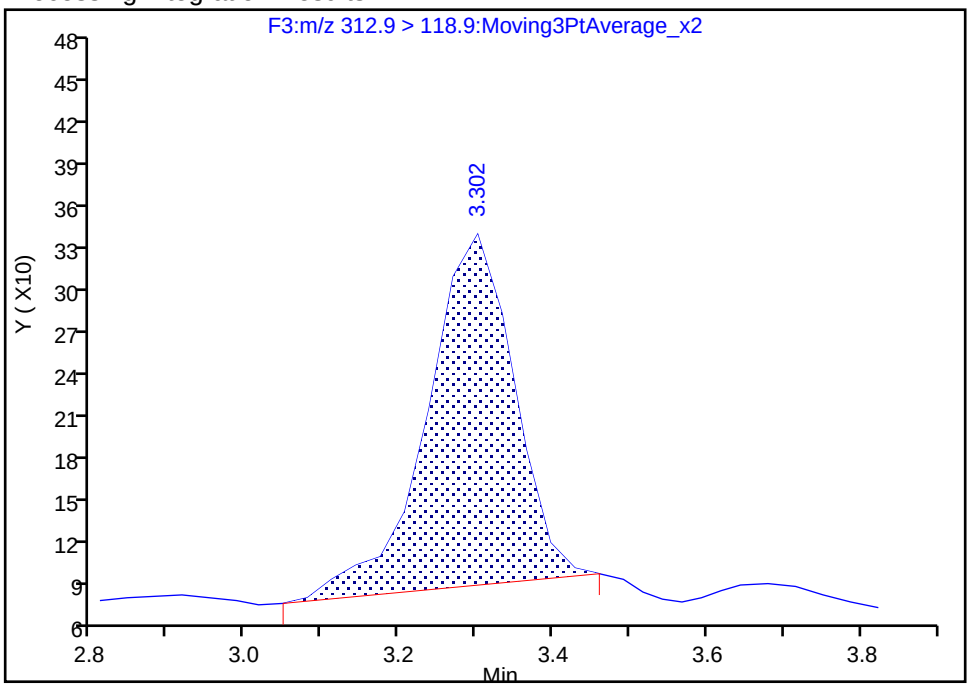
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

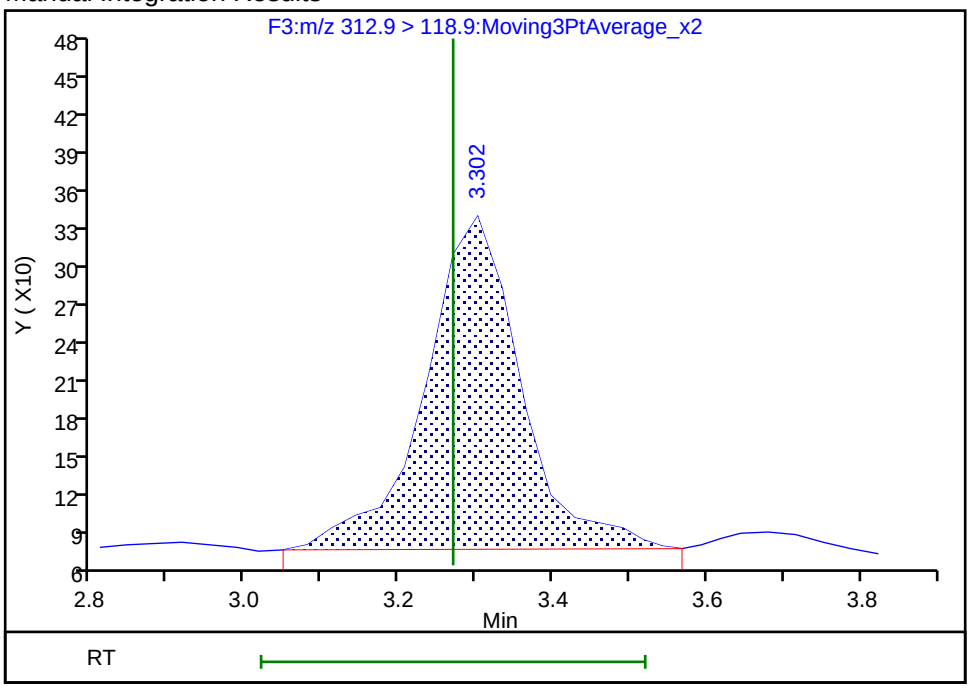
Processing Integration Results

RT: 3.30
Area: 1958
Amount: 1.826811
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 2268
Amount: 1.826811
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:40:29
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

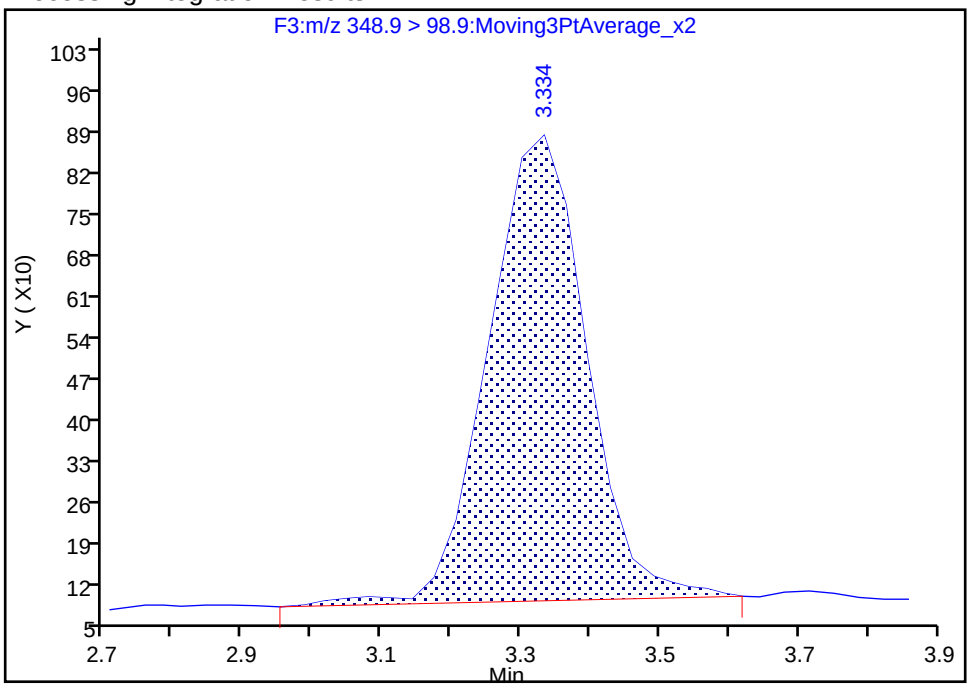
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 2

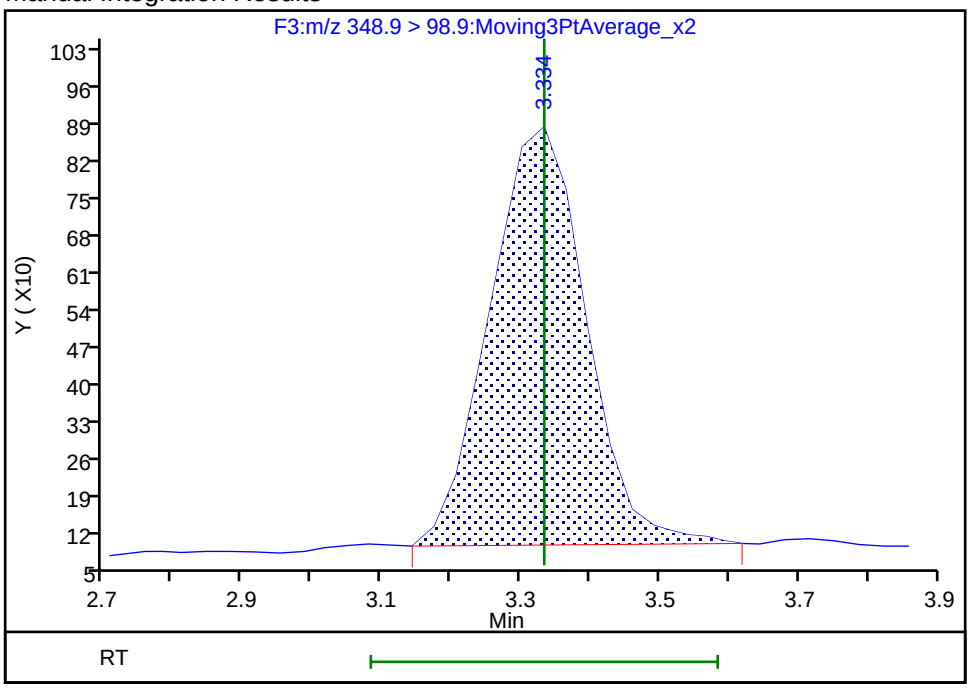
Processing Integration Results

RT: 3.33
Area: 7777
Amount: 2.009937
Amount Units: ng/ml



Manual Integration Results

RT: 3.33
Area: 7571
Amount: 1.997154
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:40:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

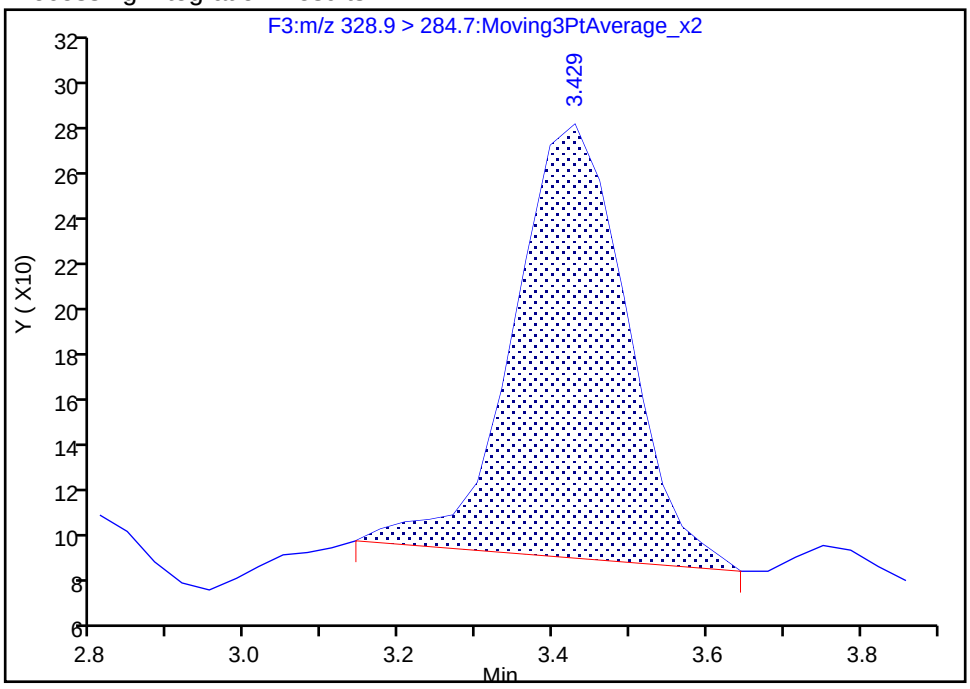
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

44 Perfluoro(2-propoxypropanoic) acid, CAS: 13252-13-6

Signal: 1

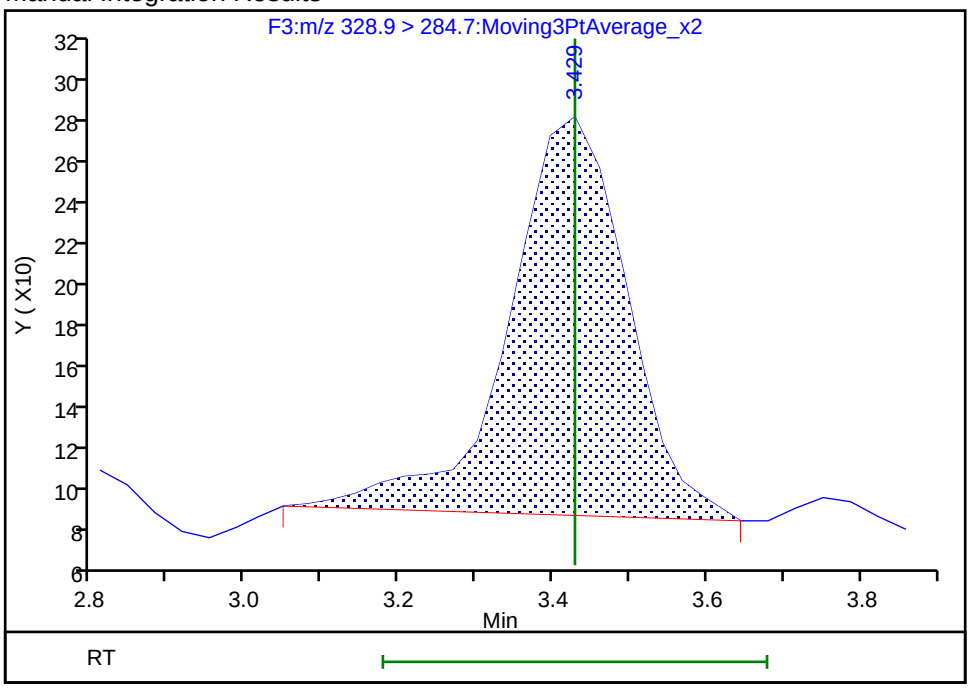
Processing Integration Results

RT: 3.43
Area: 1902
Amount: 1.781930
Amount Units: ng/ml



Manual Integration Results

RT: 3.43
Area: 2026
Amount: 1.884645
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:40:42
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

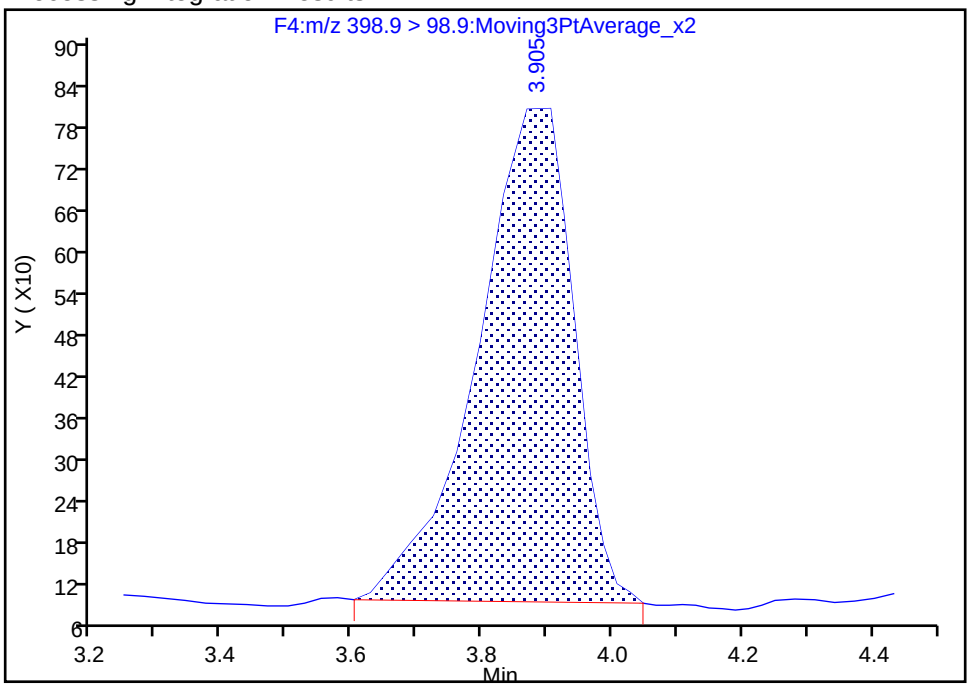
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

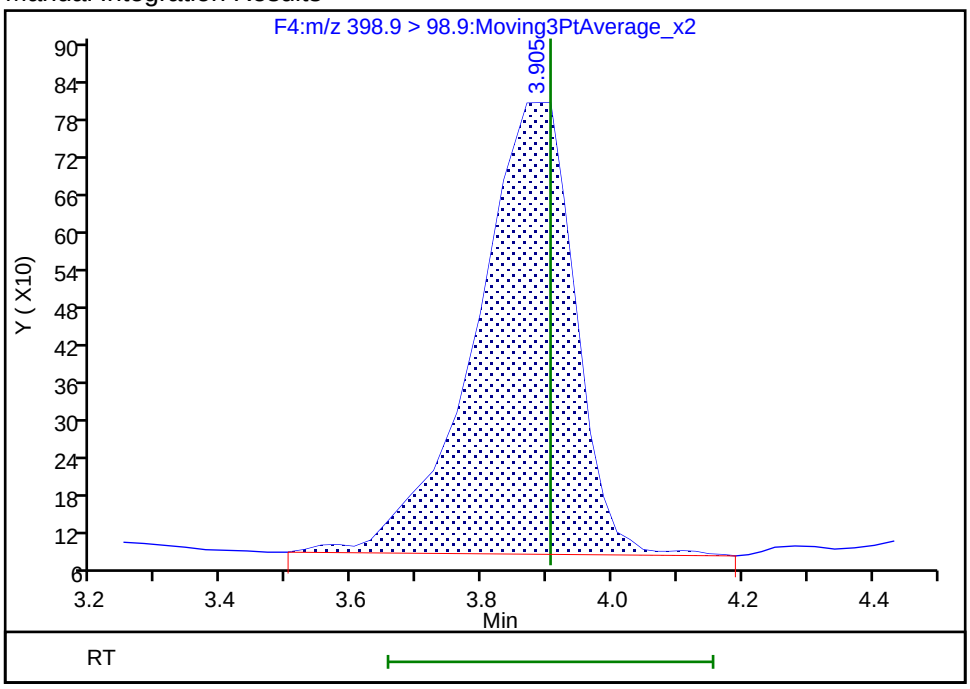
Processing Integration Results

RT: 3.91
Area: 7366
Amount: 2.247286
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 7707
Amount: 2.357840
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:40:54
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

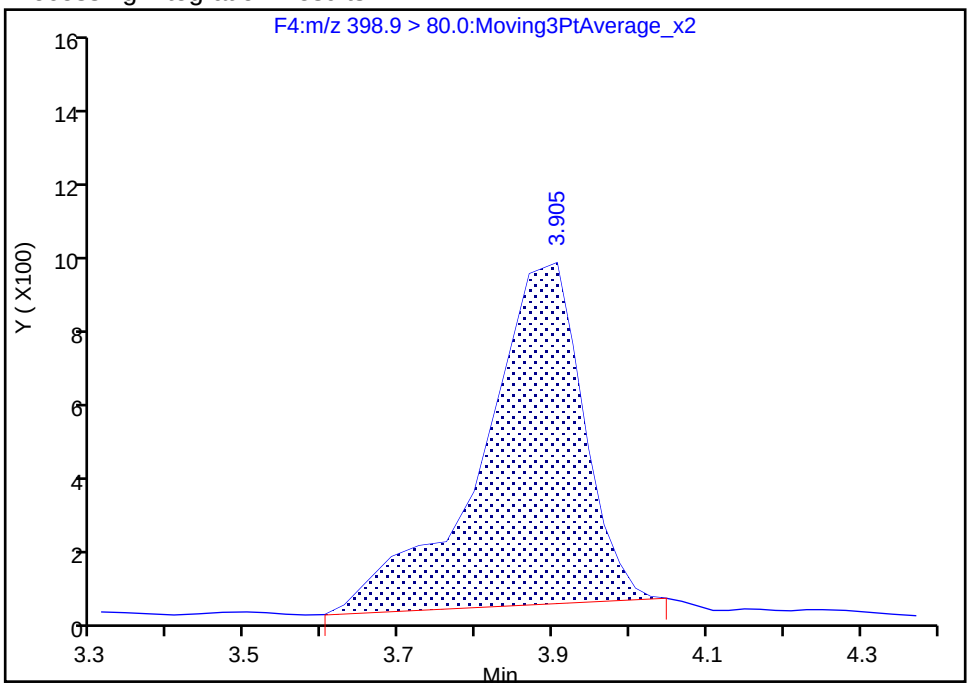
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

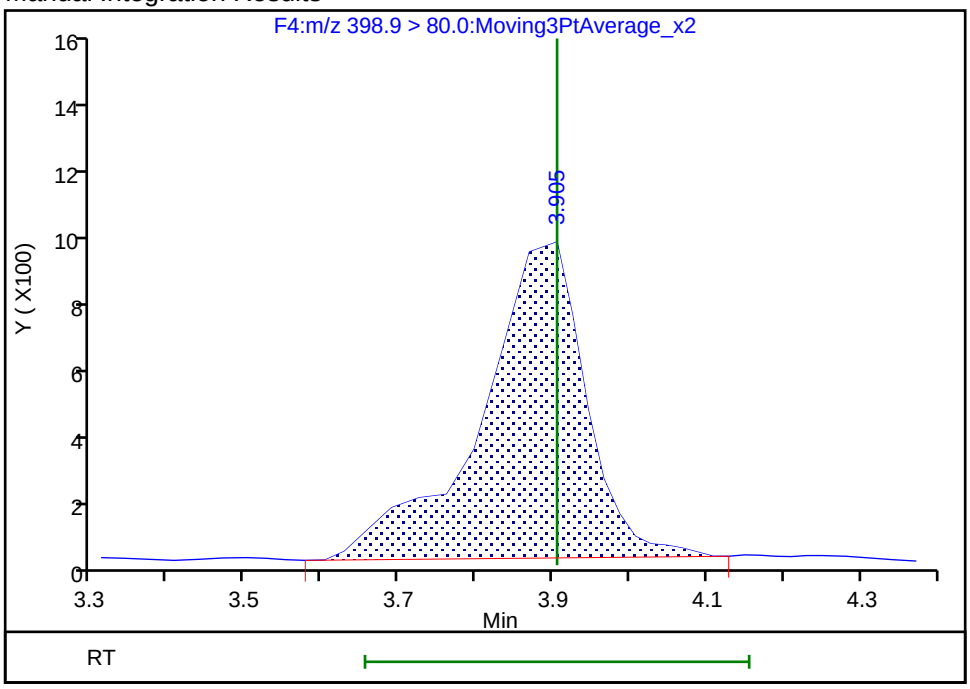
Processing Integration Results

RT: 3.91
Area: 8257
Amount: 2.247286
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 8768
Amount: 2.357840
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:40:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

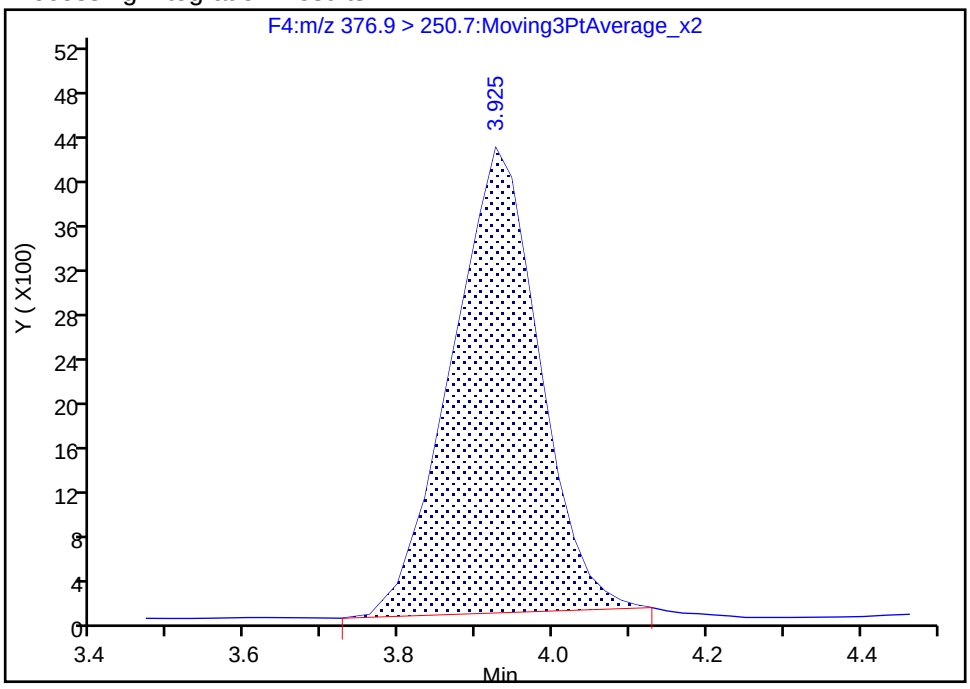
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

49 DONA, CAS: 919005-14-4

Signal: 1

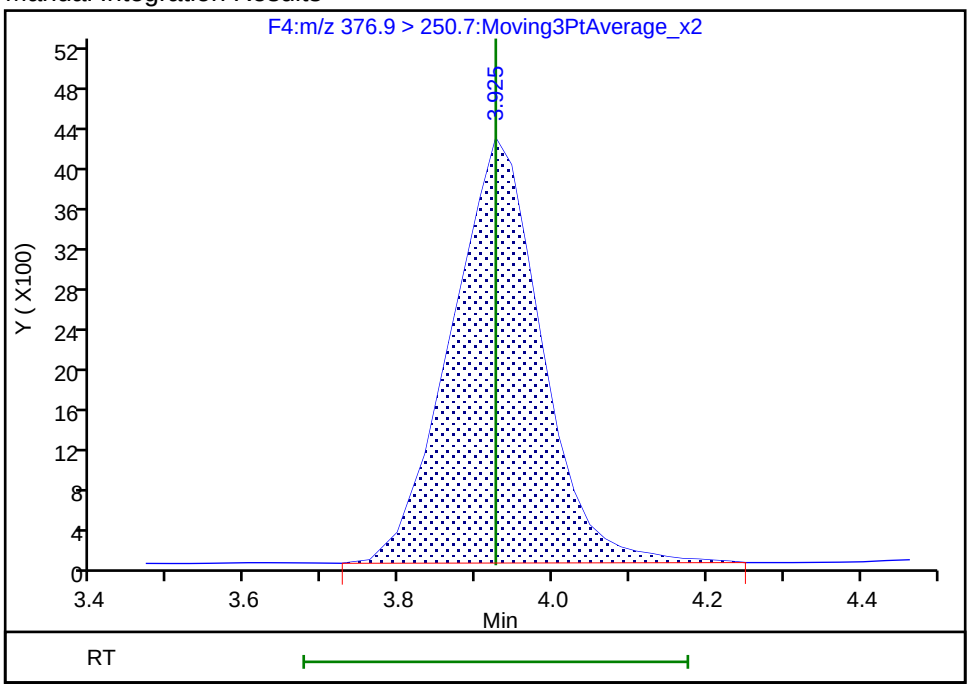
Processing Integration Results

RT: 3.93
Area: 32612
Amount: 1.760035
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 33942
Amount: 1.824092
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:41:01
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

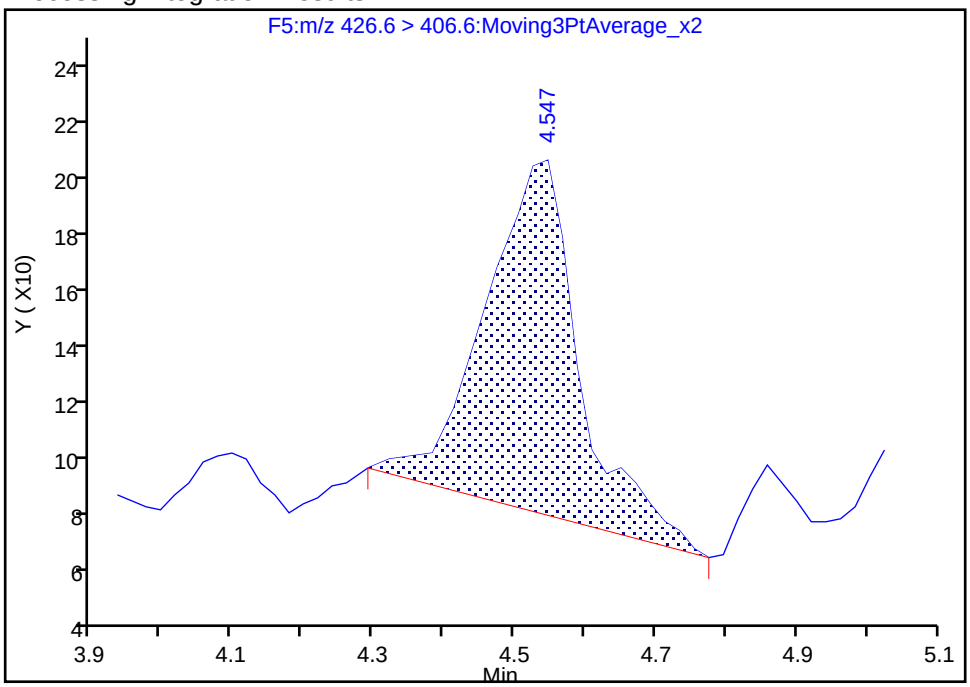
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

13 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

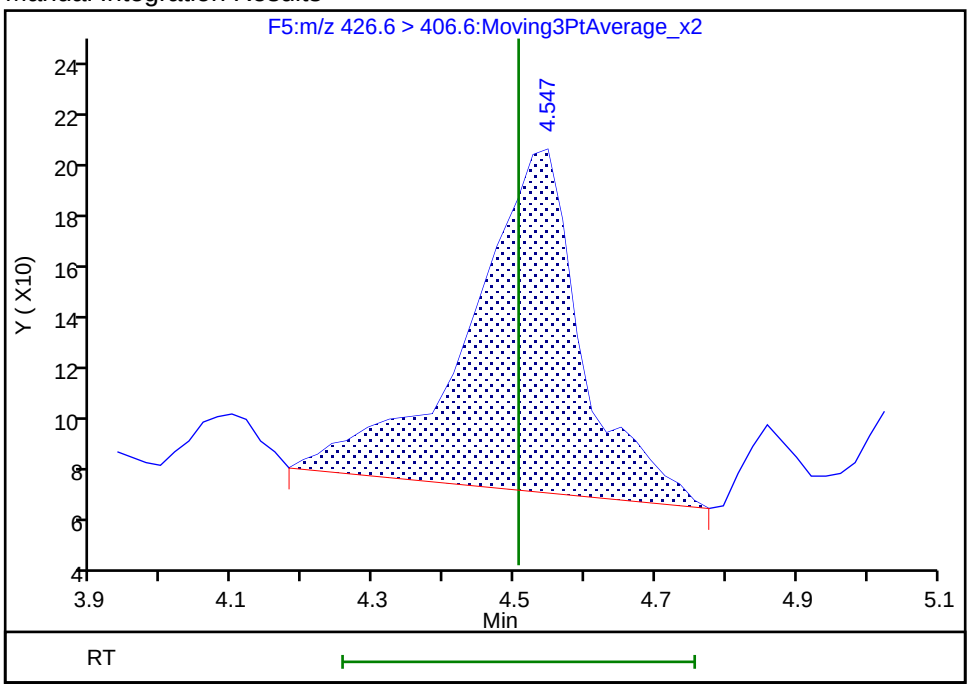
Processing Integration Results

RT: 4.55
Area: 1101
Amount: 1.275473
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 1419
Amount: 1.609127
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:41:09
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

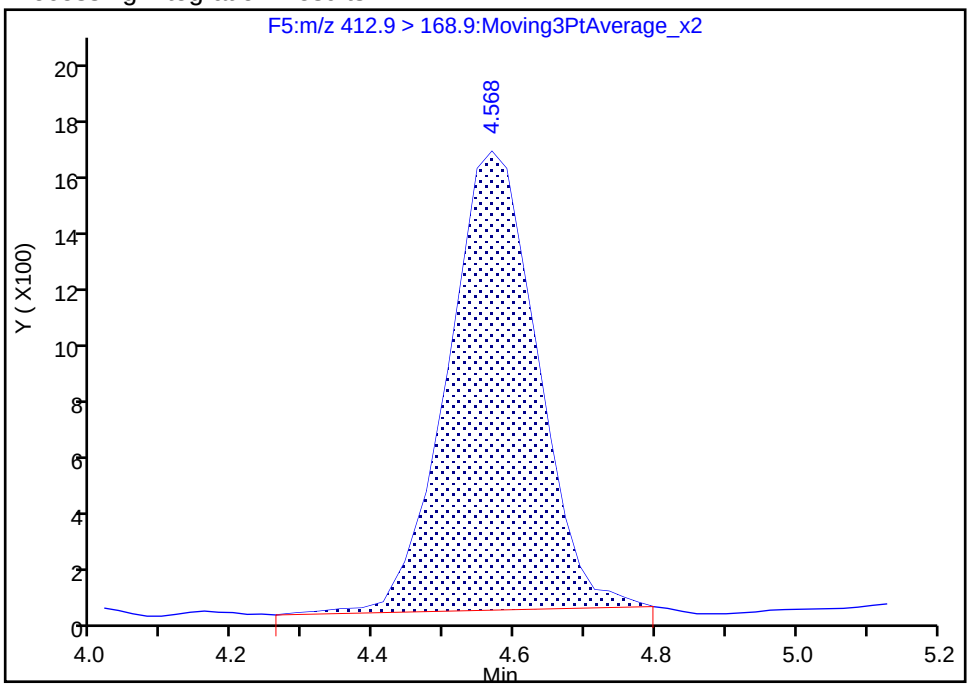
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

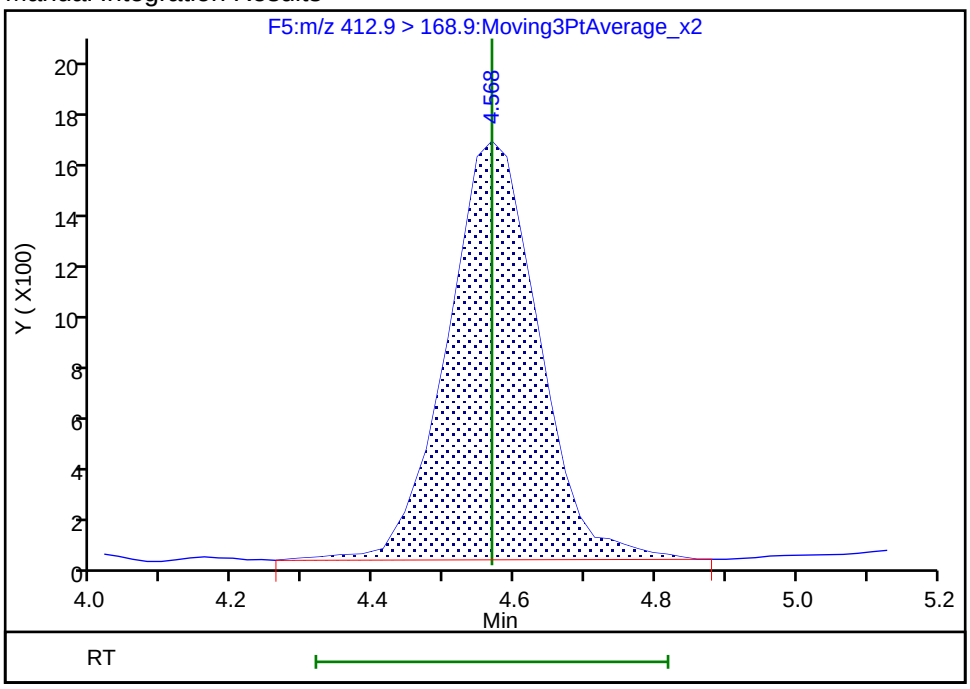
Processing Integration Results

RT: 4.57
Area: 13455
Amount: 1.961135
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 13898
Amount: 1.961135
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:41:17
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

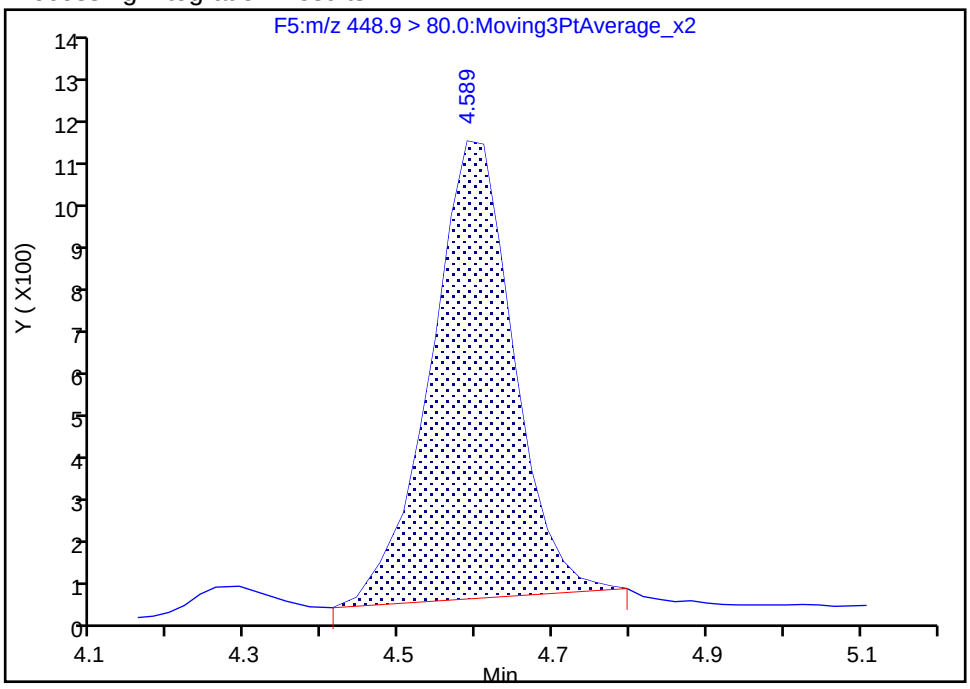
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

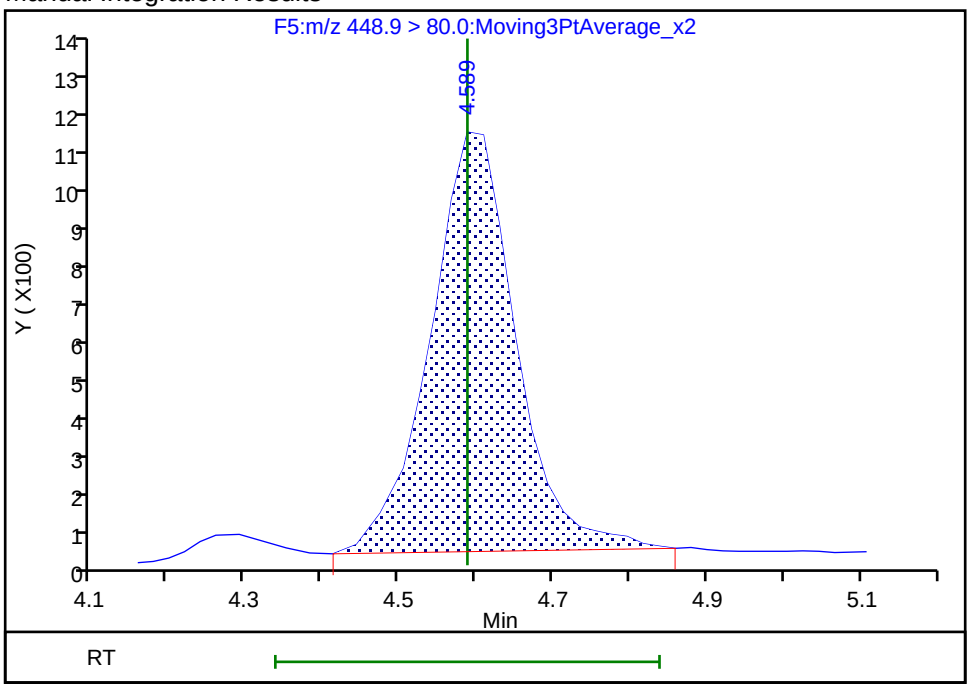
Processing Integration Results

RT: 4.59
Area: 7296
Amount: 1.948159
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 7679
Amount: 2.038262
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:41:23
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

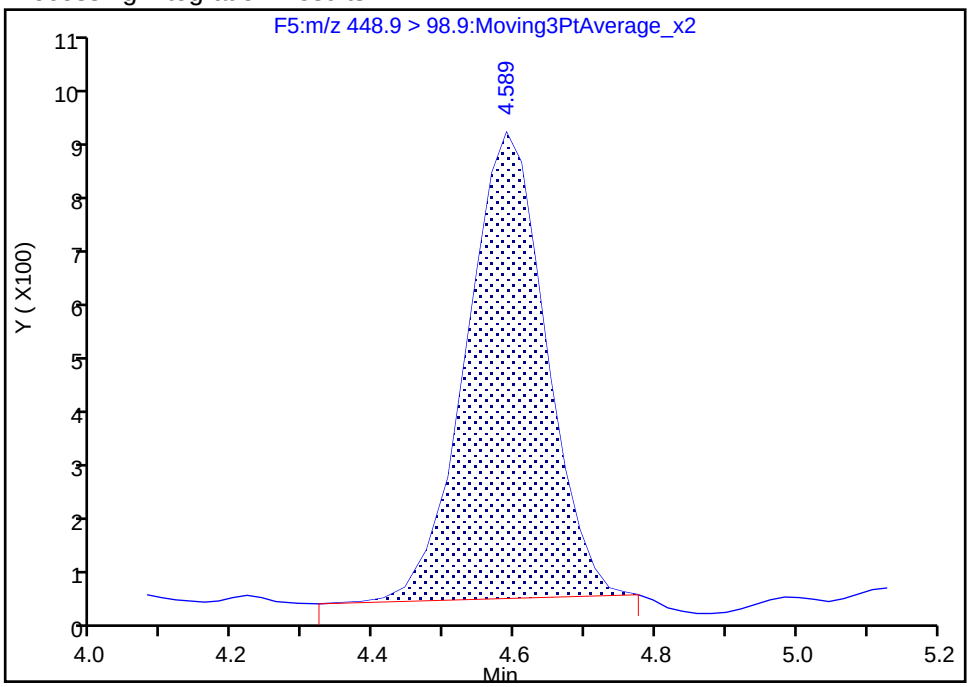
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 2

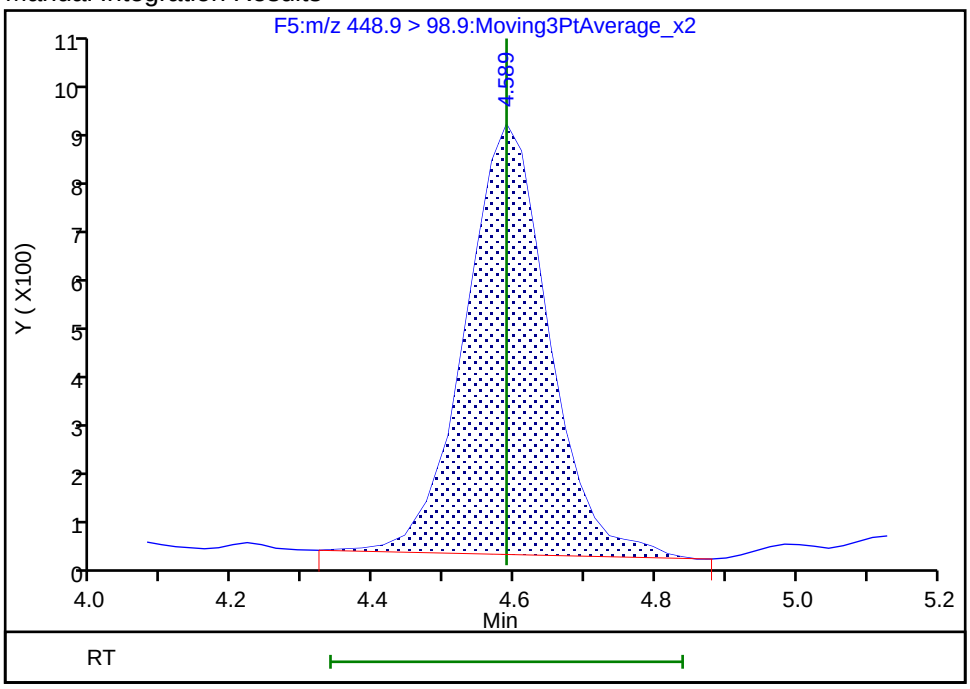
Processing Integration Results

RT: 4.59
Area: 6427
Amount: 1.948159
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 6891
Amount: 2.038262
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:41:26
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

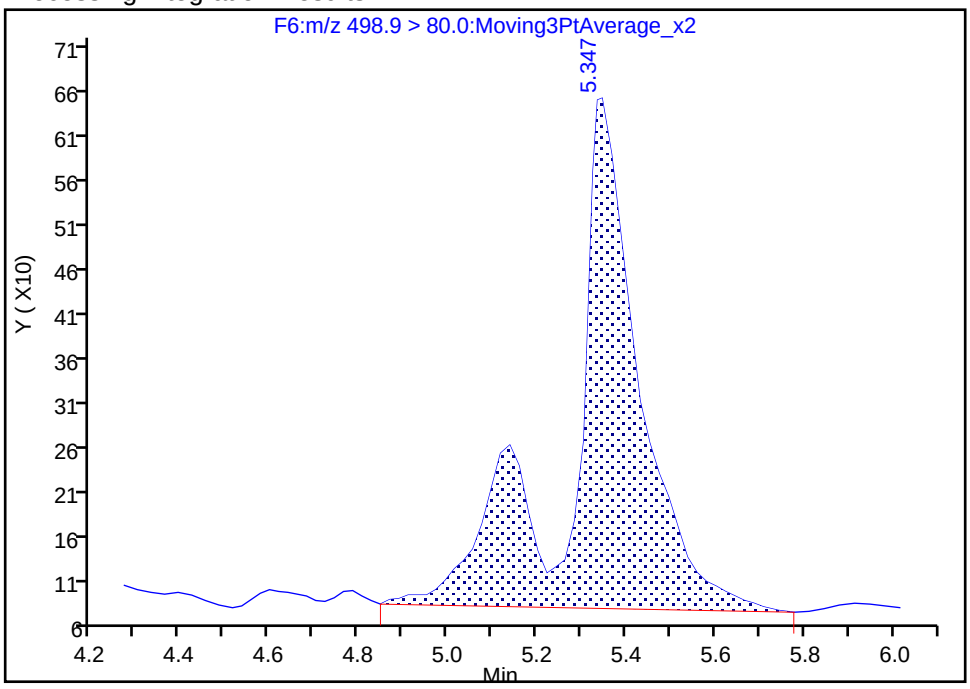
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

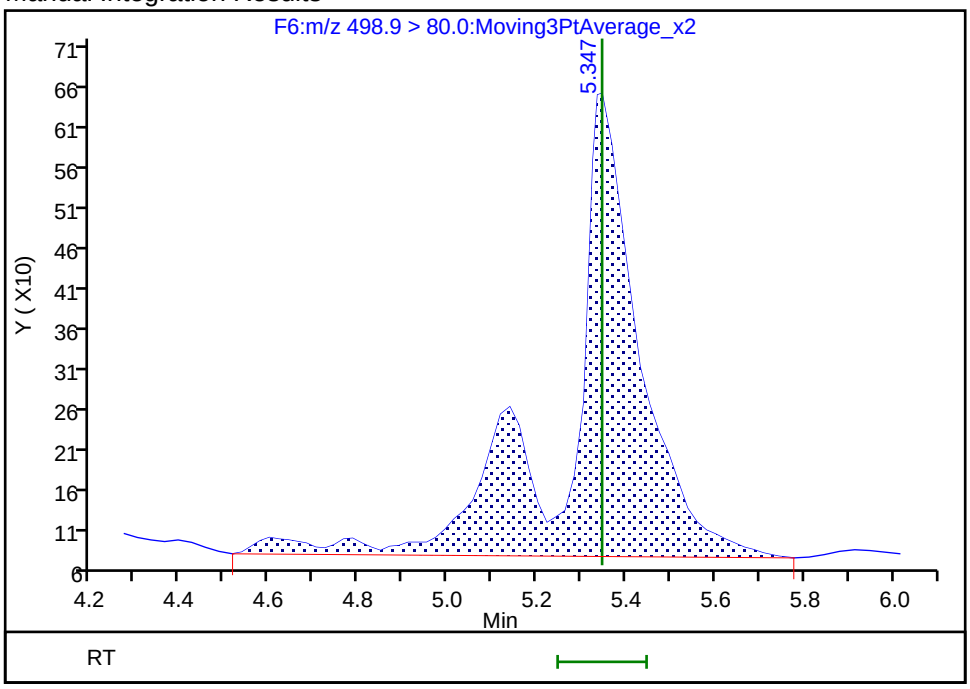
Processing Integration Results

RT: 5.35
Area: 6136
Amount: 1.598165
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 6541
Amount: 1.565160
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:41:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

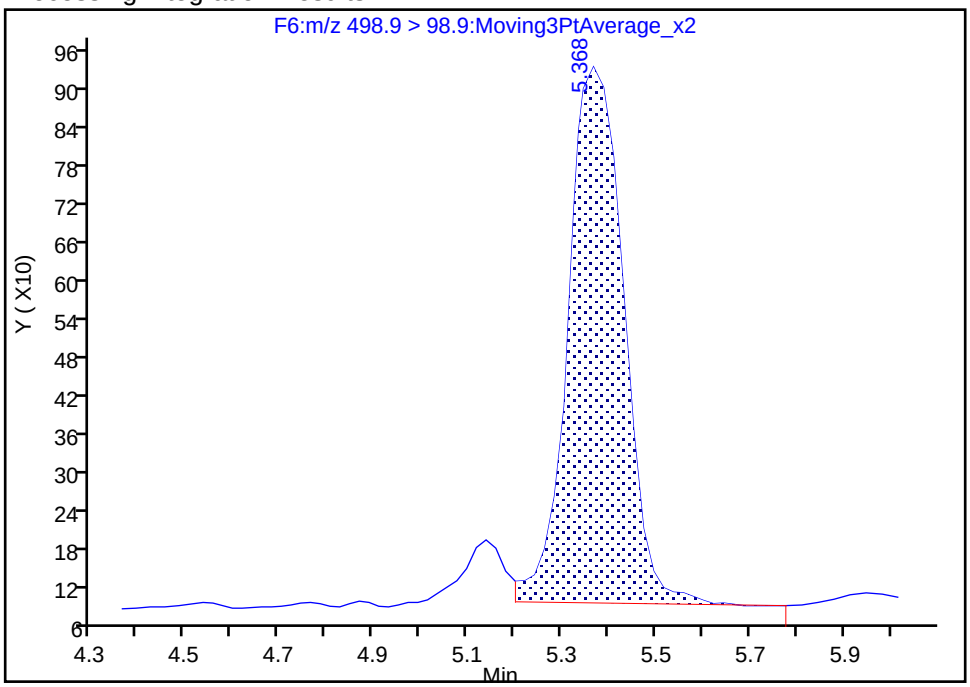
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

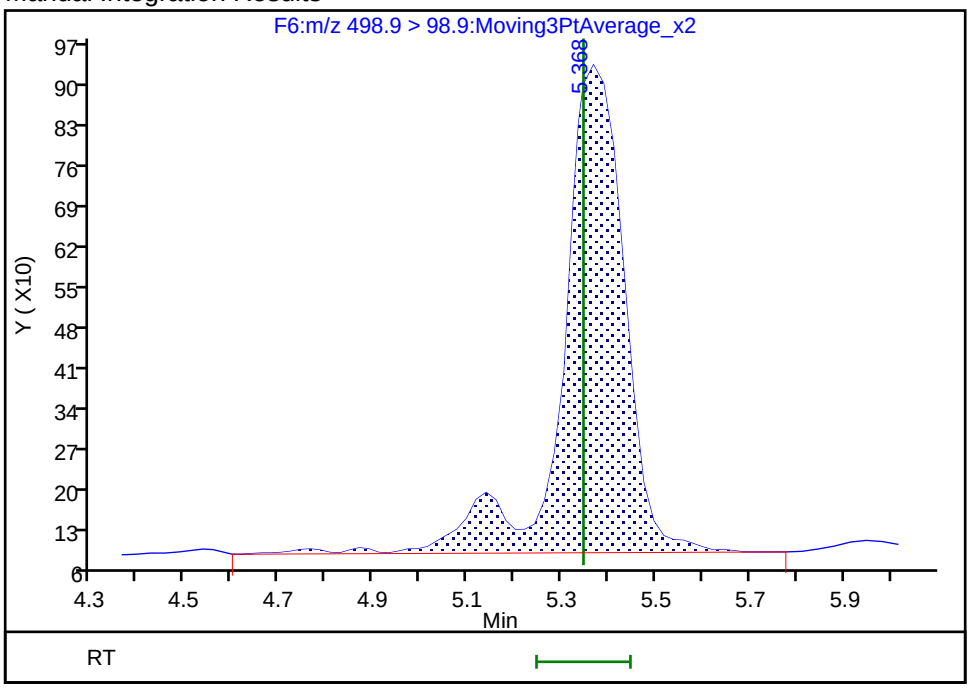
Processing Integration Results

RT: 5.37
Area: 6898
Amount: 1.598165
Amount Units: ng/ml



Manual Integration Results

RT: 5.37
Area: 7804
Amount: 1.565160
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:41:40
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

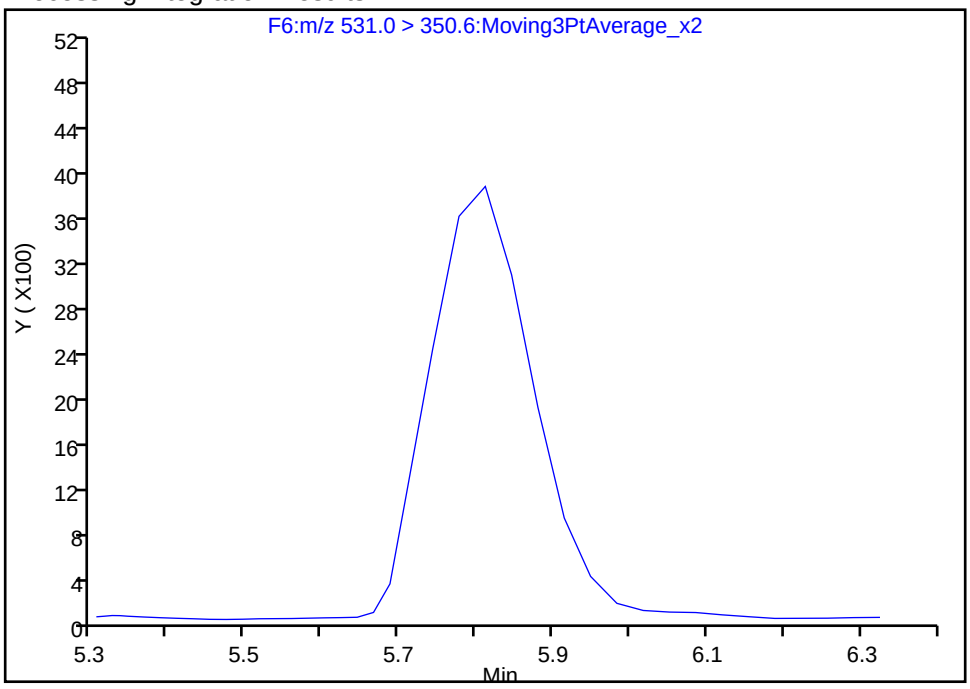
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

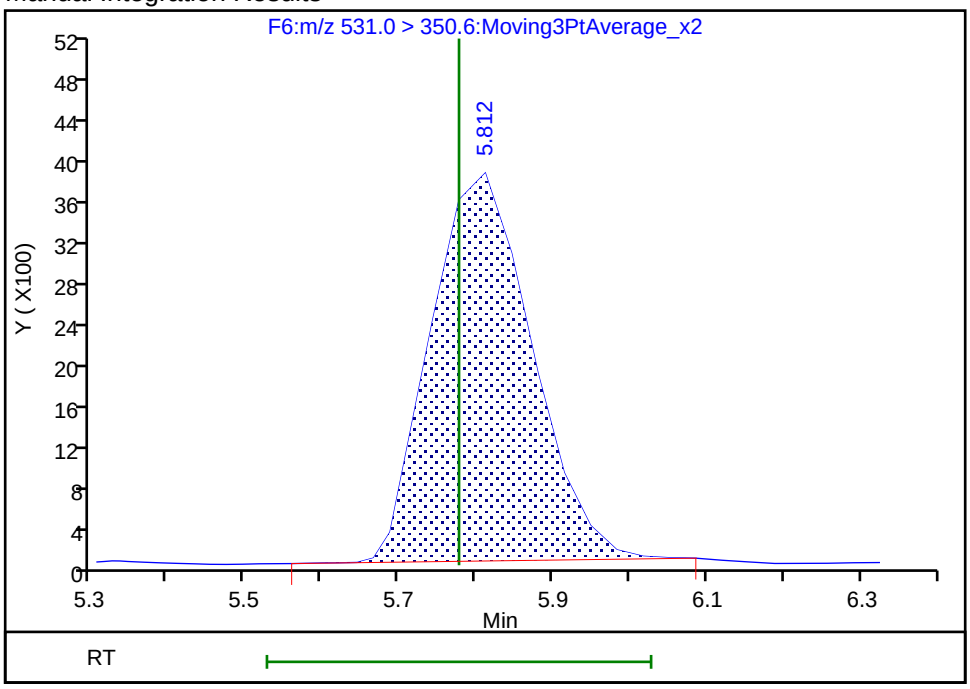
Not Detected
Expected RT: 5.78

Processing Integration Results



Manual Integration Results

RT: 5.81
Area: 34173
Amount: 1.796109
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 12:45:42
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

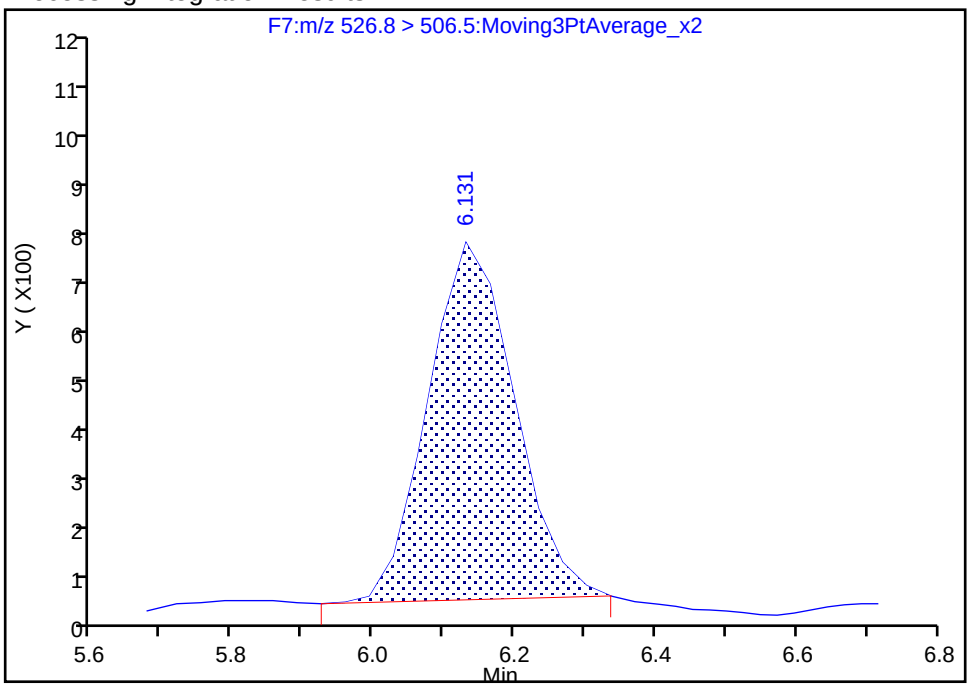
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

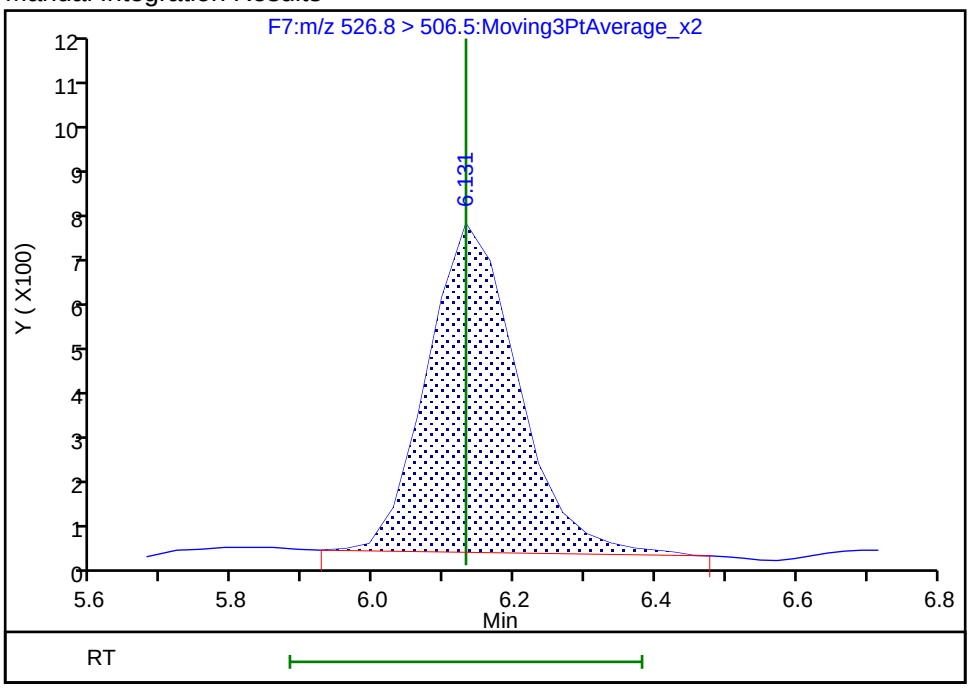
Processing Integration Results

RT: 6.13
Area: 5864
Amount: 2.139493
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 6238
Amount: 2.248580
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 15:41:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

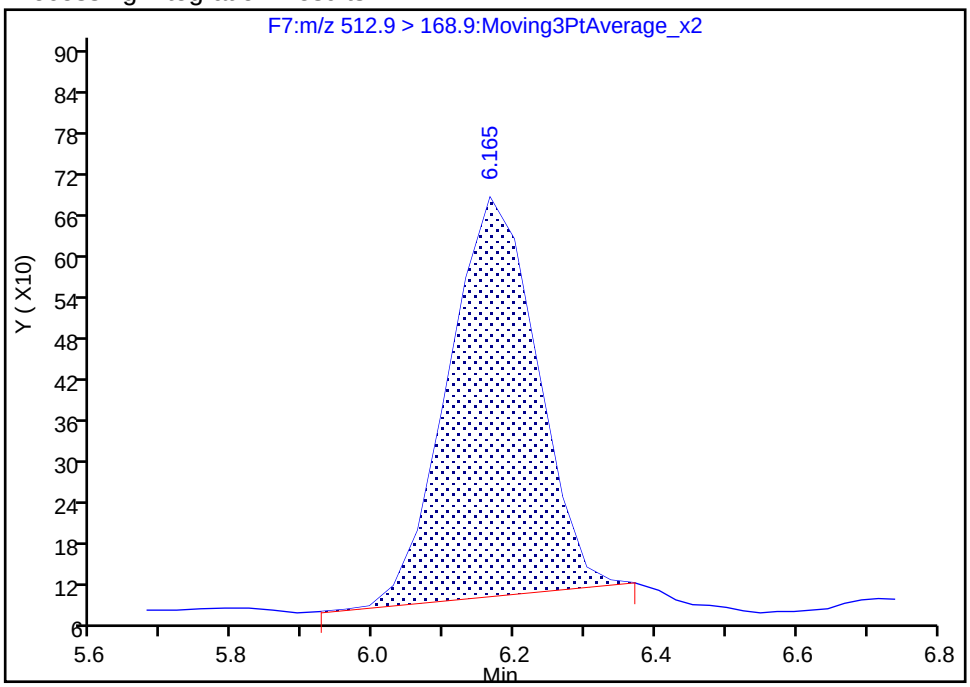
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

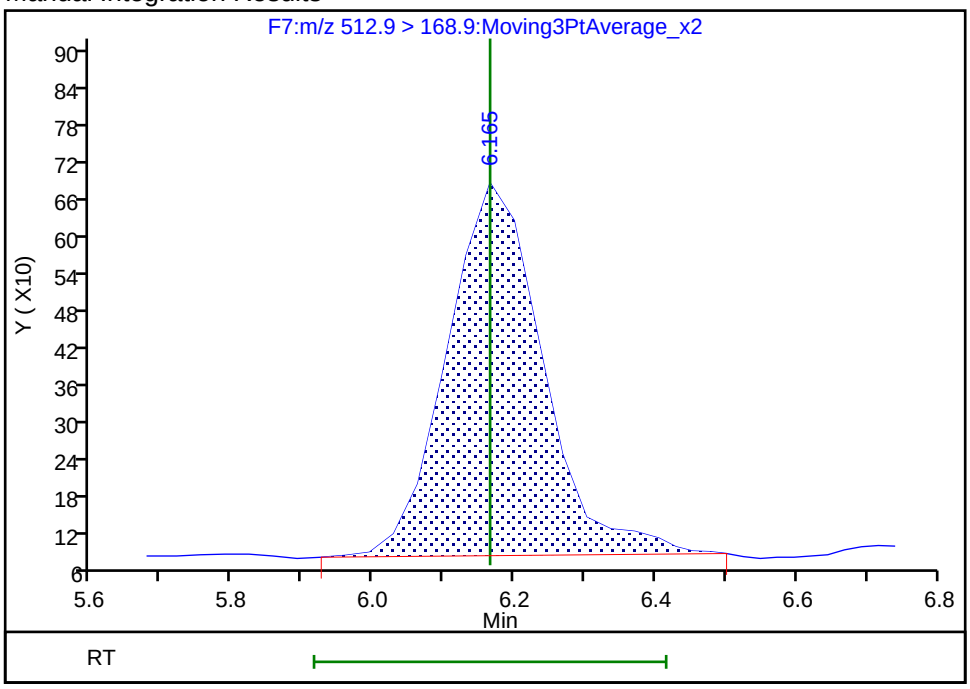
Processing Integration Results

RT: 6.17
Area: 5131
Amount: 2.036283
Amount Units: ng/ml



Manual Integration Results

RT: 6.17
Area: 5716
Amount: 2.036283
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:03:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

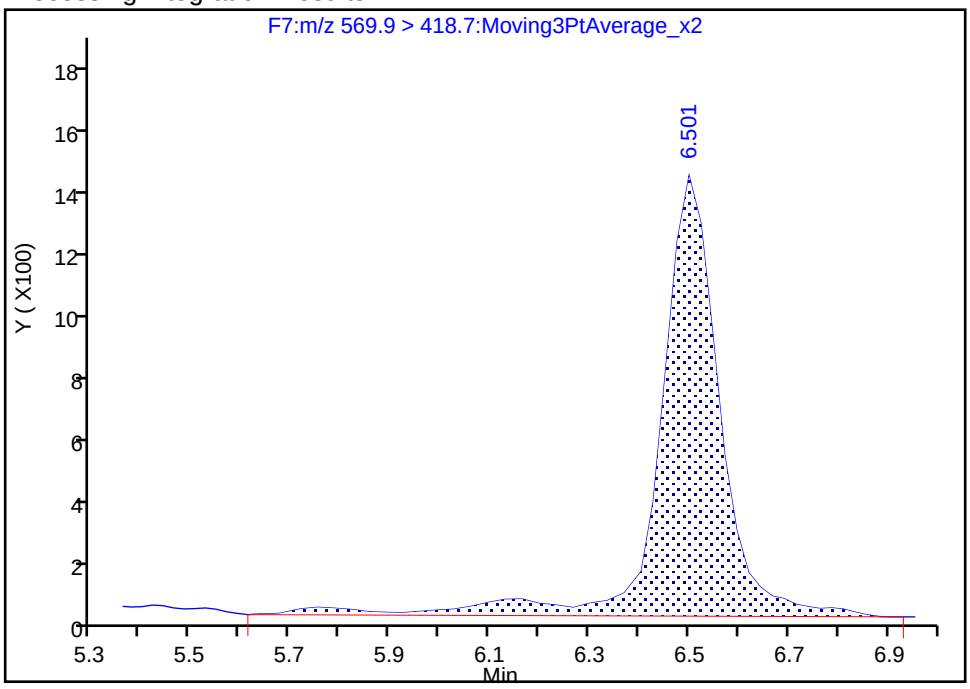
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

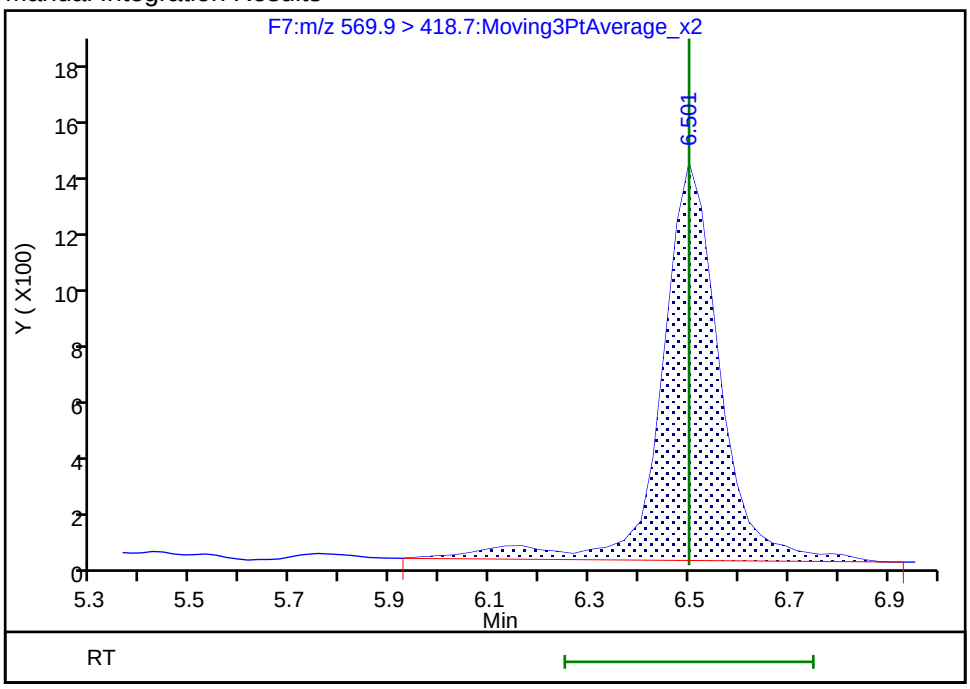
Processing Integration Results

RT: 6.50
Area: 11639
Amount: 2.211626
Amount Units: ng/ml



Manual Integration Results

RT: 6.50
Area: 11178
Amount: 2.032375
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:03:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

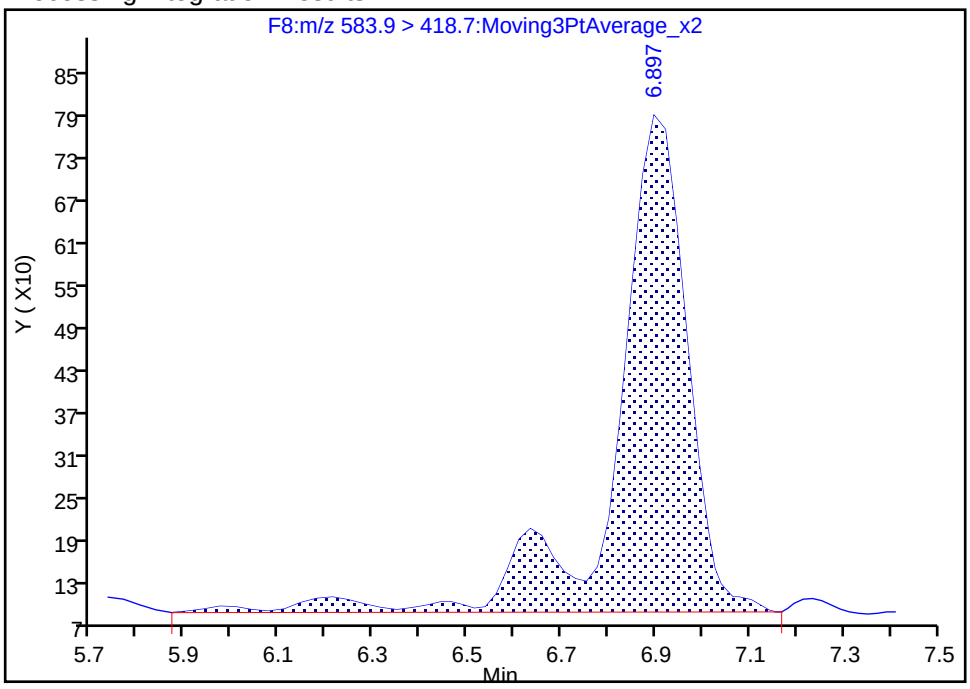
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

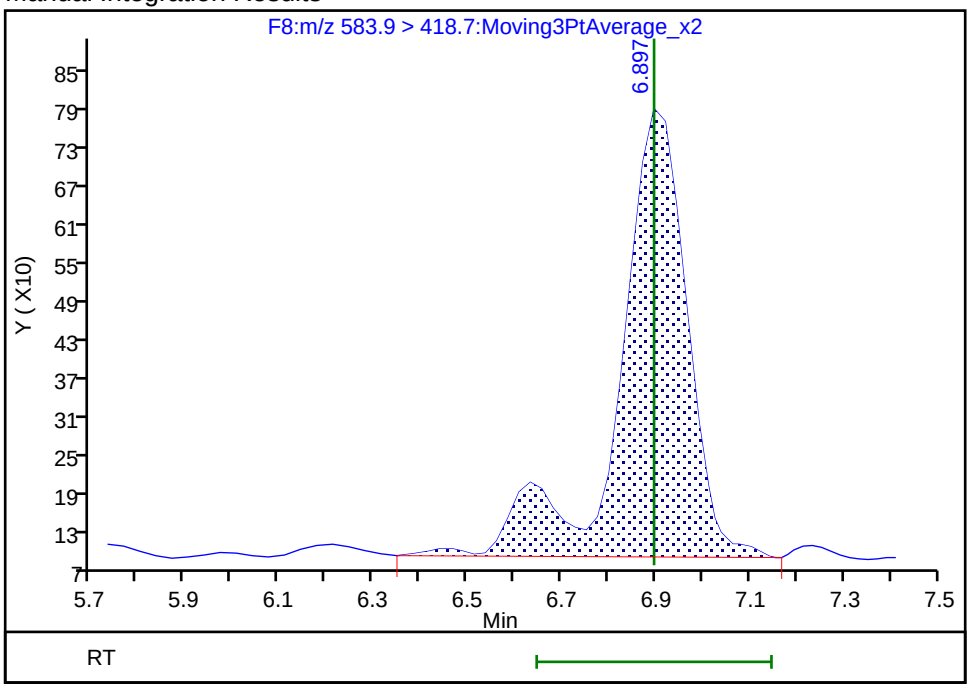
Processing Integration Results

RT: 6.90
Area: 7428
Amount: 1.561499
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 7077
Amount: 1.466989
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:04:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

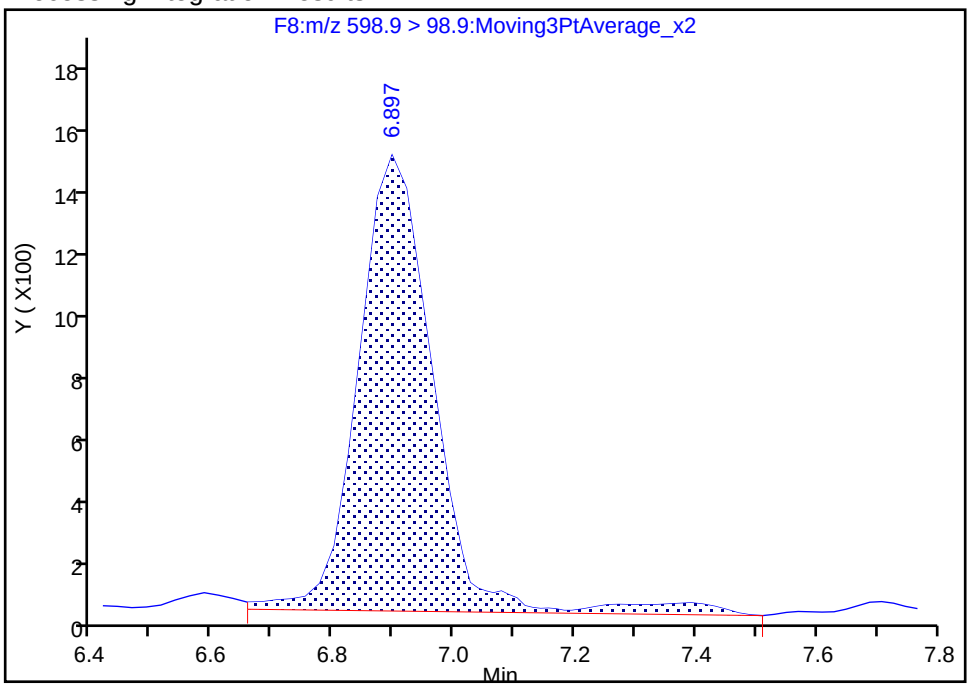
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 2

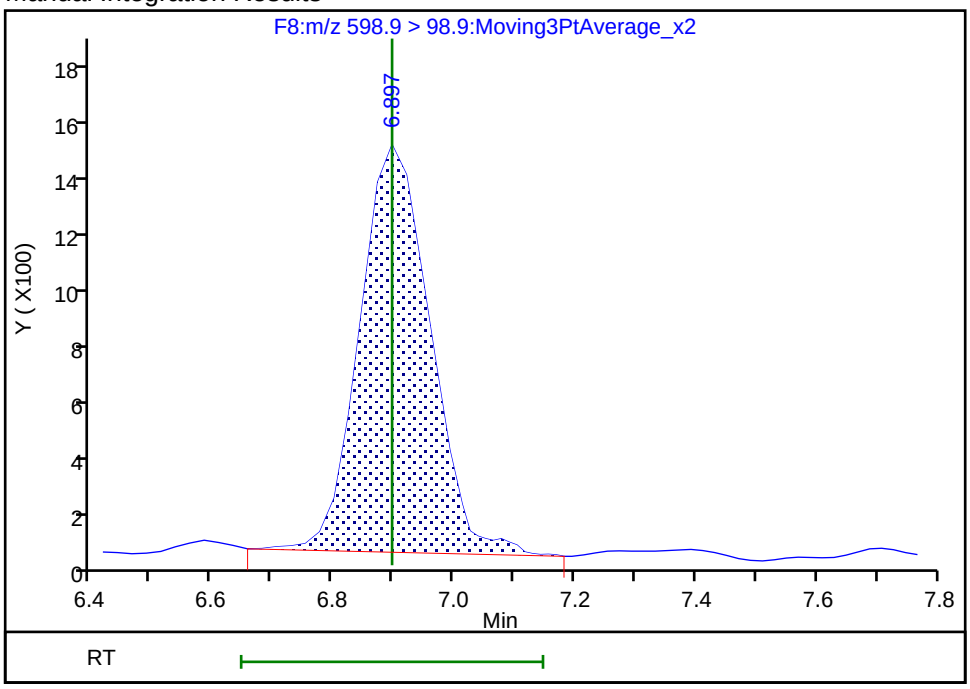
Processing Integration Results

RT: 6.90
Area: 12439
Amount: 2.385484
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 11510
Amount: 2.374662
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:04:04
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

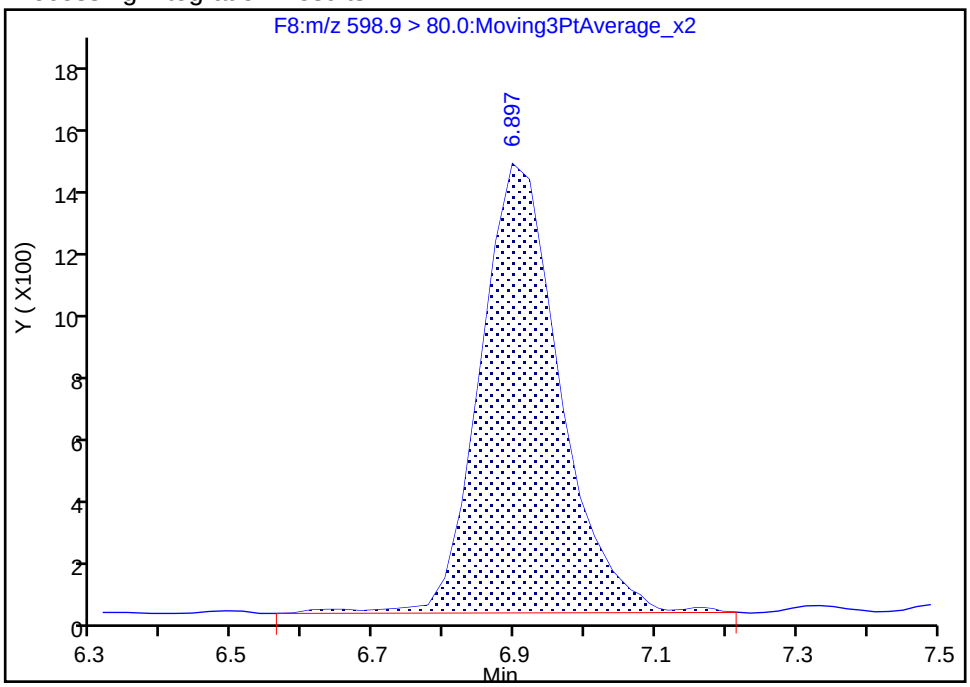
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

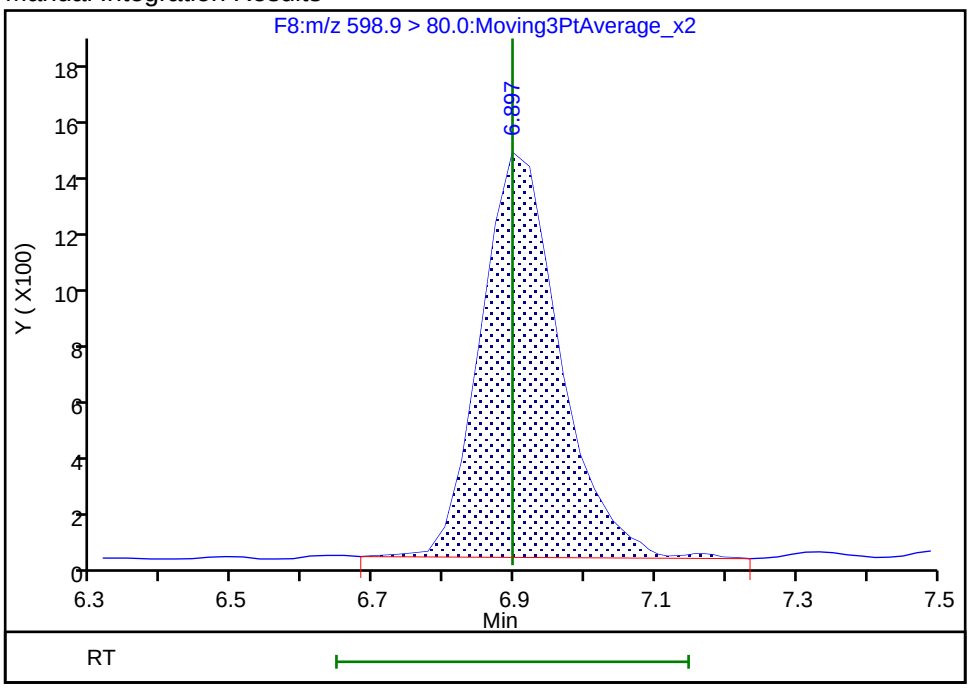
Processing Integration Results

RT: 6.90
Area: 10811
Amount: 2.385484
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 10668
Amount: 2.374662
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:04:06
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

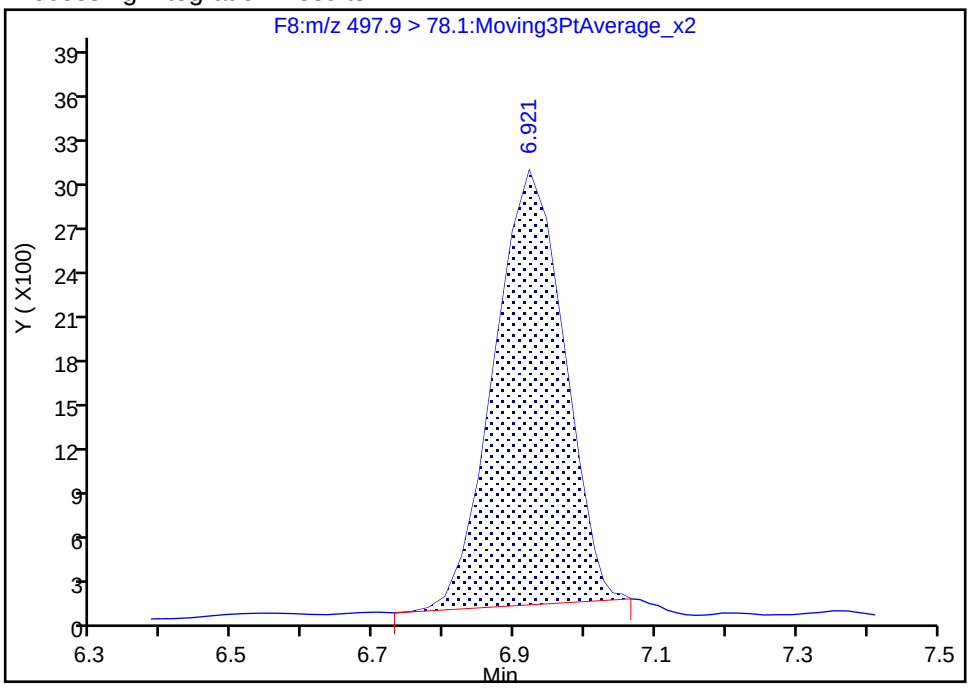
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

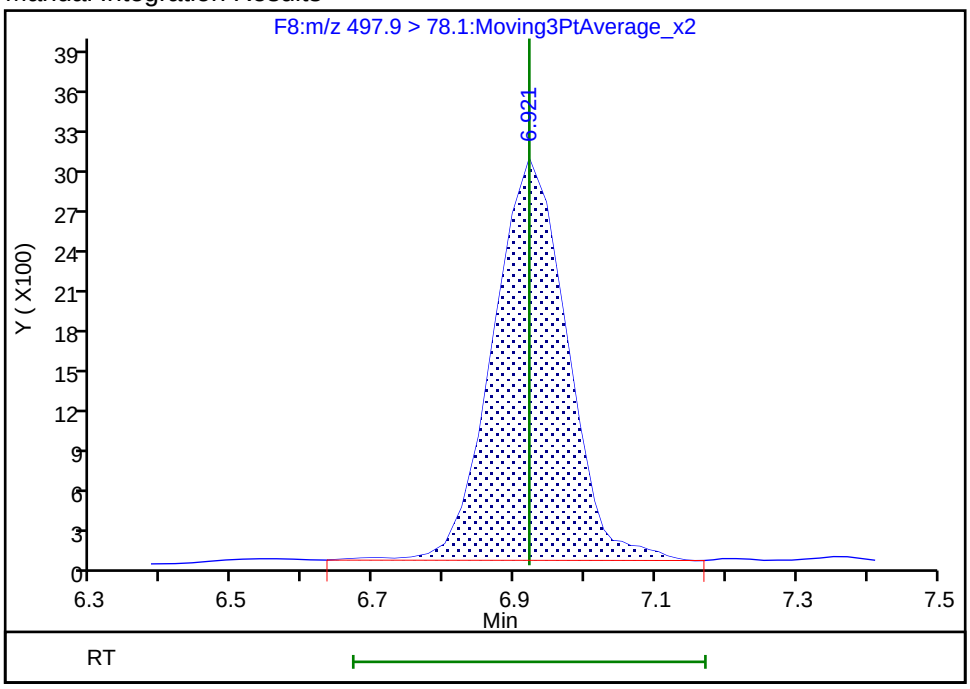
Processing Integration Results

RT: 6.92
Area: 20138
Amount: 1.789003
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 21692
Amount: 1.912389
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:04:14
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

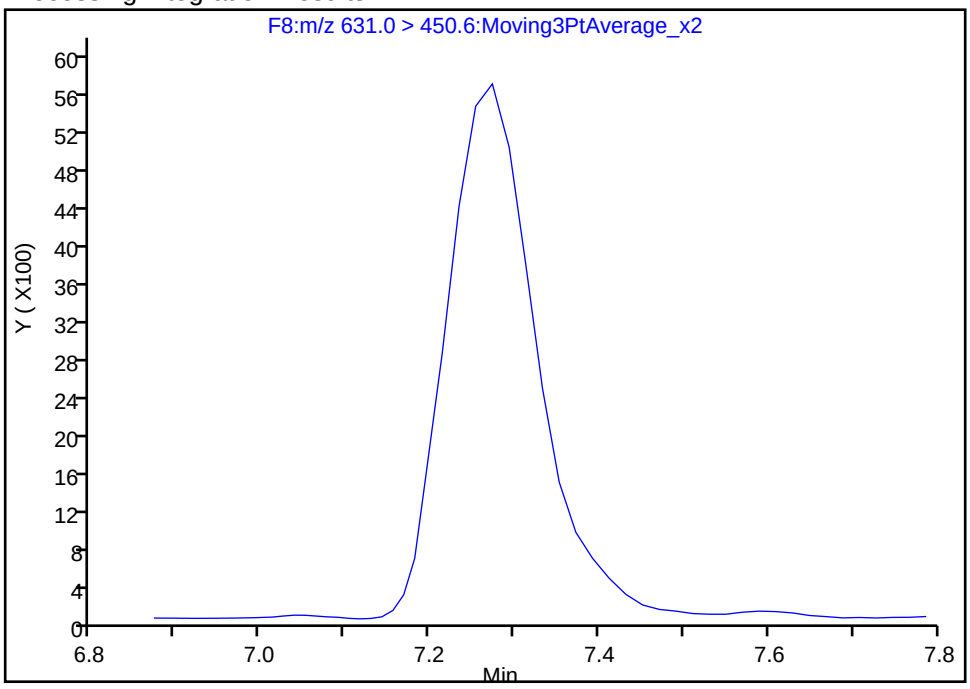
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

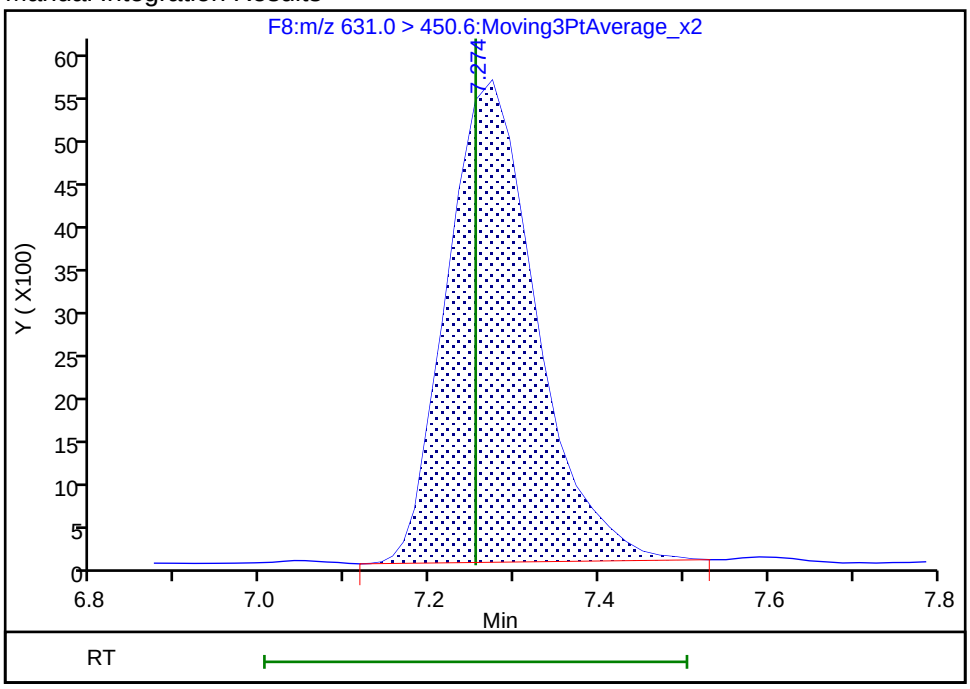
Not Detected
Expected RT: 7.25

Processing Integration Results



Manual Integration Results

RT: 7.27
Area: 40685
Amount: 1.676030
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 12:45:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

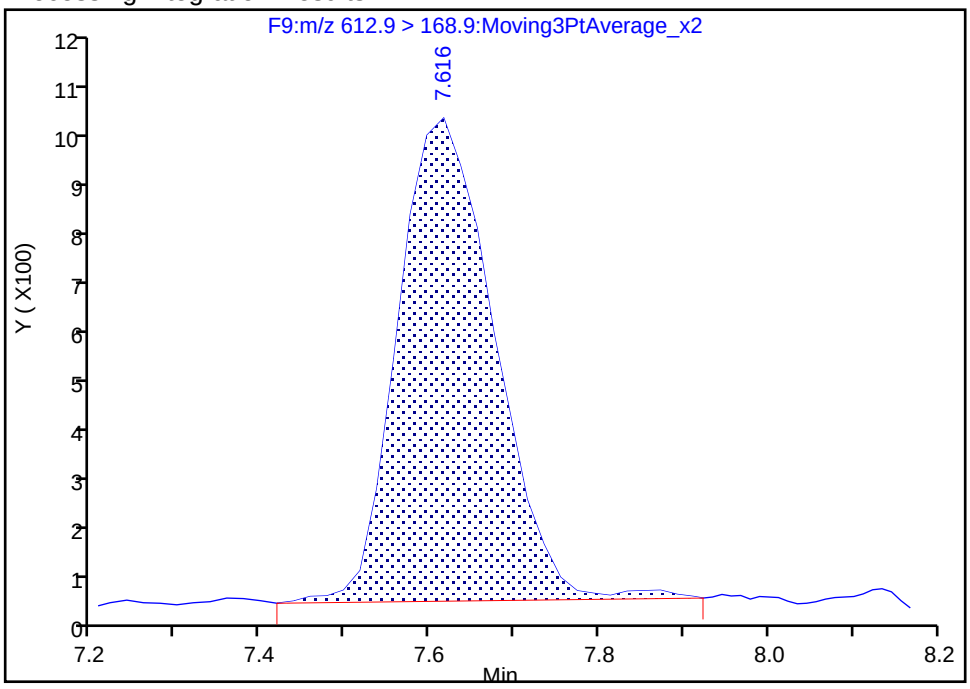
Data File:	\\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d				
Injection Date:	23-May-2019 12:35:29	Instrument ID:	LC410		
Lims ID:	IC				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F9:MRM		

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

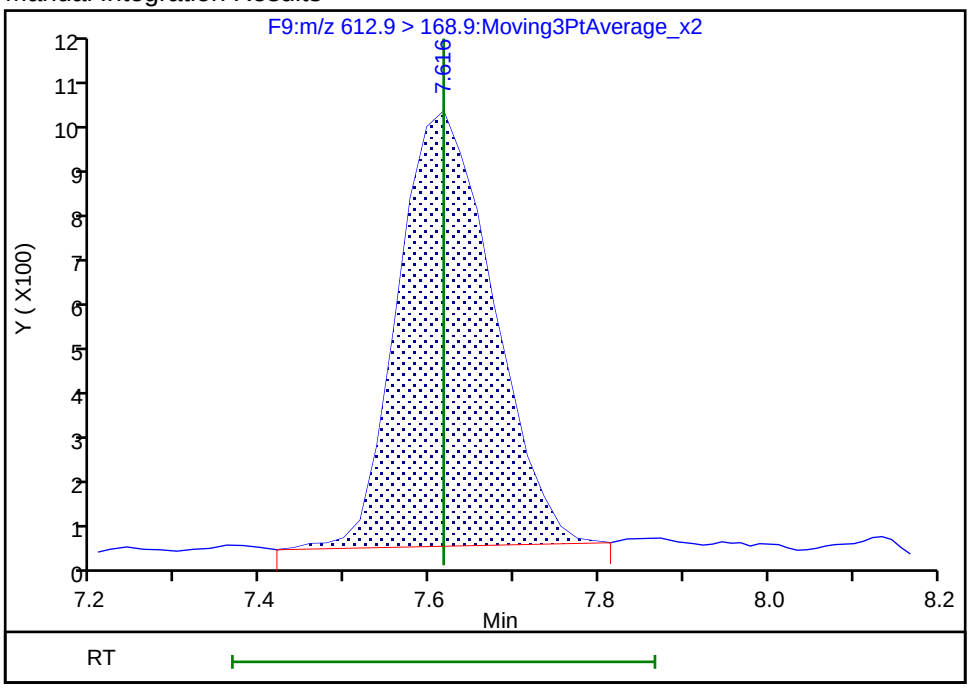
Processing Integration Results

RT: 7.62
Area: 7395
Amount: 2.108580
Amount Units: ng/ml



Manual Integration Results

RT: 7.62
Area: 7239
Amount: 2.108580
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:04:19
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

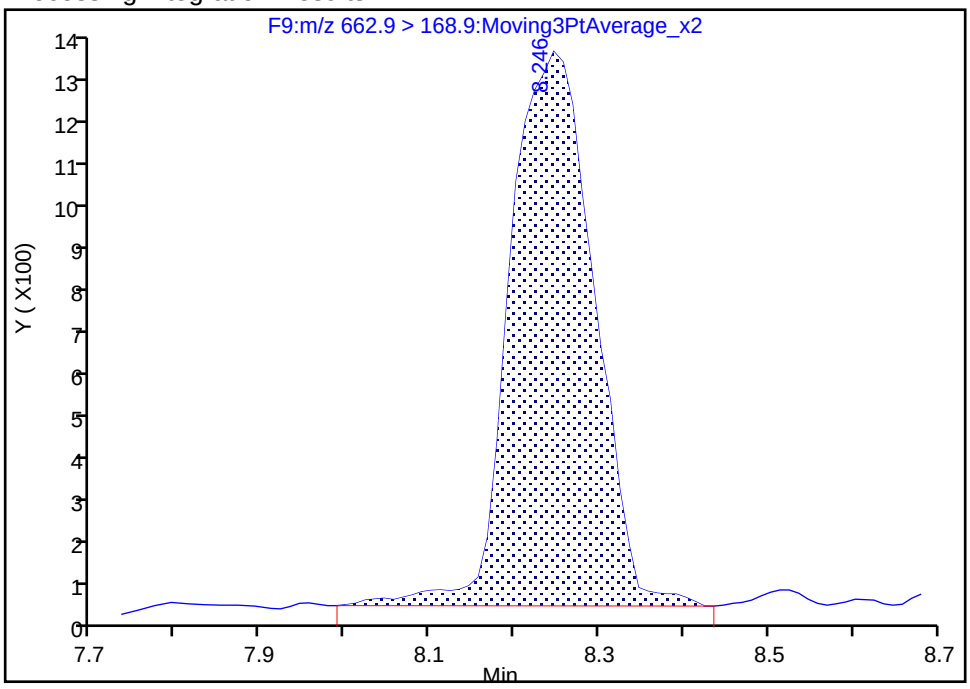
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F9:MRM

38 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 2

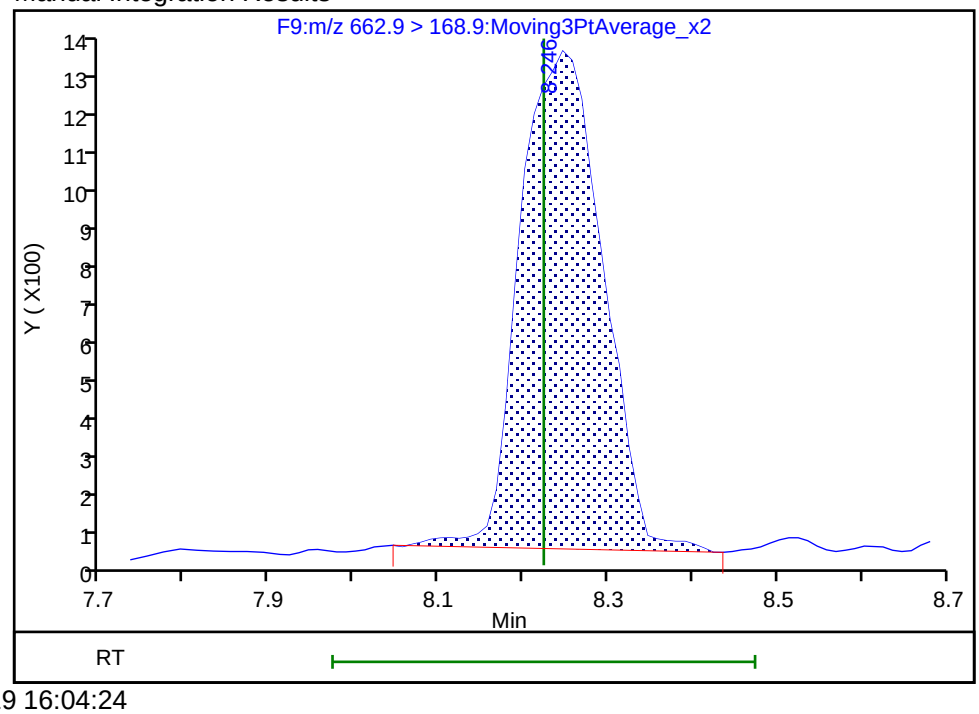
Processing Integration Results

RT: 8.25
Area: 8337
Amount: 1.929931
Amount Units: ng/ml



Manual Integration Results

RT: 8.25
Area: 8120
Amount: 1.929931
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:04:24
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

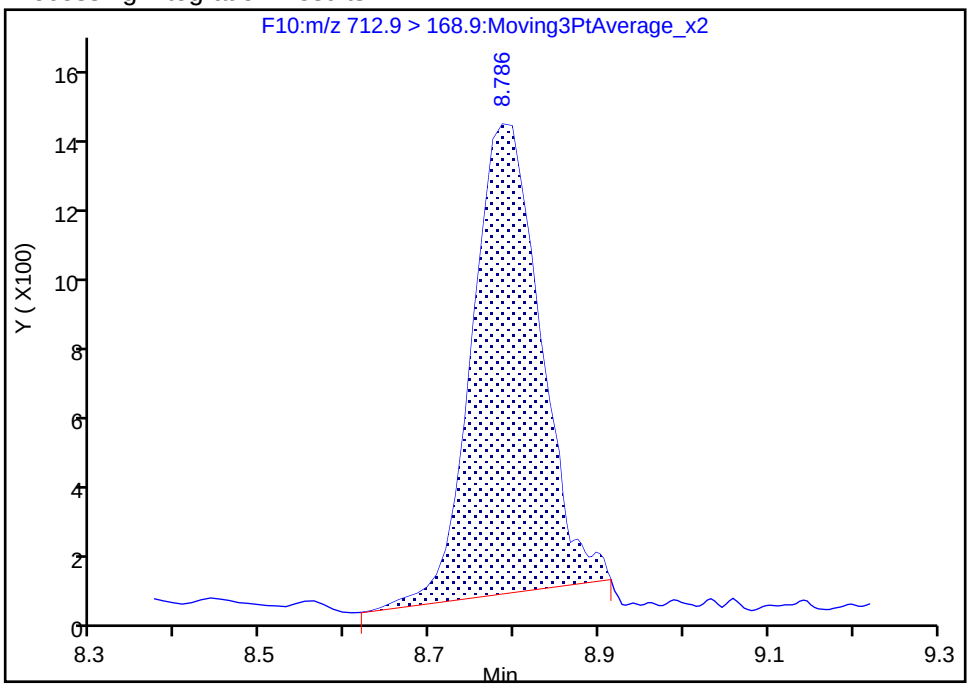
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B03.d
Injection Date: 23-May-2019 12:35:29 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F10:MRM

39 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

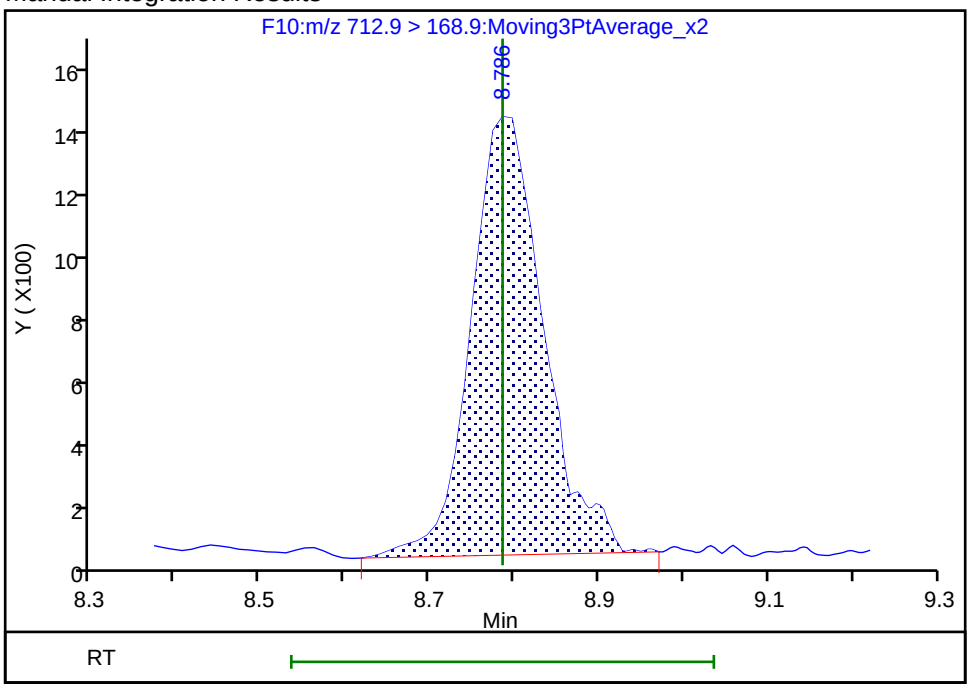
Processing Integration Results

RT: 8.79
Area: 7301
Amount: 2.069280
Amount Units: ng/ml



Manual Integration Results

RT: 8.79
Area: 8000
Amount: 2.069280
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:04:29
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 23-May-2019 12:51:28 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-004 IC 3
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:31:41 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 16:06:55
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.380	0.0	1.000	212696	45.3		90.5	94.5	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.391	2.380	0.011	1.004	37026	5.54		111	65.2	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.795	0.035	1.000	58539	5.77		115	108	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	169424	47.5		95.1	459	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.866	0.035	1.000	57908	37.4		80.3	182	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	15311	4.89	Target=1.67	111	59.2	
298.9 > 98.9	2.901	2.866	0.035	1.000	15933		0.00(0.83-2.51)	111	90.8	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.238	3.238	0.0	1.116	8905	5.40		116	121	M
7 Perfluorohexanoic acid										
312.9 > 268.9	3.270	3.270	0.0	0.990	66198	4.36	Target=14.34	87.2	609	
312.9 > 118.9	3.270	3.270	0.0	0.990	4603		0.00(7.17-21.51)	87.2	42.4	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.270	0.032	1.000	543203	50.8		102	2023	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.334	3.334	0.0	1.149	19497	5.51	Target=1.23	117	140	M
348.9 > 98.9	3.334	3.334	0.0	1.000	23113		0.00(0.62-1.85)	117	158	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.429	3.429	0.0	1.000	46694	45.9		91.9	361	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.429	3.429	0.0	1.000	5612	5.58		112	56.0	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.833	0.036	1.000	90780	5.26	Target=2.84	105	351	
362.9 > 168.9	3.869	3.833	0.036	1.000	22587		0.00(1.42-4.26)	105	148	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	735220	48.8		97.6	2335	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.869	0.036	1.000	99708	50.3		106	530	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.905	0.0	1.000	16873	3.78	Target=1.34	83.1	112	M
398.9 > 98.9	3.905	3.905	0.0	1.000	14827		0.00(0.67-2.01)	83.1	65.3	M
49 DONA										
376.9 > 250.7	3.946	3.925	0.021	0.735	89426	4.98	Target=2.33	106	724	
376.9 > 85.0	3.946	3.925	0.021	1.000	33128		0.00(1.16-3.49)	106	448	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.526	4.506	0.020	1.000	4852	5.07		107	41.9	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.506	0.020	1.000	48059	44.9		94.5	386	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.547	0.021		960758	50.0			2780	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.547	0.021	1.000	941854	50.5		101	3031	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.568	0.0	1.000	91957	4.82	Target=2.43	96.5	840	
412.9 > 168.9	4.568	4.568	0.0	1.000	39052		0.00(1.22-3.64)	96.5	233	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.589	0.0	0.855	17745	4.88	Target=1.30	102	128	
448.9 > 98.9	4.589	4.589	0.0	1.000	22215		0.00(0.65-1.95)	102	188	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.347	0.0	1.000	1244208	49.7		99.5	4553	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.347	0.0	1.000	104119	4.74	Target=5.00	94.8	640	
462.9 > 168.9	5.368	5.347	0.021	1.004	25022		0.00(2.50-7.50)	94.8	147	
D 22 13C4 PFOS										
502.9 > 80.0	5.368	5.347	0.021	1.000	199793	44.7		93.5	1128	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.347	0.0	0.996	18683	4.63	Target=1.41	99.8	142	
498.9 > 98.9	5.368	5.347	0.021	1.000	19878		0.00(0.71-2.12)	99.8	98.5	M
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.812	5.778	0.034	1.083	86184	4.69		101	736	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	175113	45.0		93.9	701	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.131	6.131	0.0	1.000	10509	3.90		81.4	75.1	M
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.165	6.165	0.0	1.149	18858	4.65	Target=1.39	96.9	116	
548.9 > 98.9	6.165	6.165	0.0	1.000	19254		0.00(0.69-2.08)	96.9	181	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.165	0.0	1.000	1041936	48.8		97.6	8592	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										
512.9 > 468.5	6.165	6.165	0.0	1.000	107915	5.66	Target=7.23	113	776	
512.9 > 168.9	6.165	6.165	0.0	1.000	14654		0.00(3.61-10.84)	113	74.7	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.525	6.501	0.024	1.004	28201	5.42		108	253	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.501	0.0	1.000	315320	45.3		90.6	1035	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.873	0.0	1.000	275218	48.0		95.9	1072	
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.897	6.897	0.0	1.285	22338	5.15	Target=1.25	107	163	M
598.9 > 98.9	6.897	6.897	0.0	1.000	25993		0.00(0.63-1.88)	107	179	M
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.897	6.897	0.0	1.003	24189	5.46		109	190	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.000	85757	4.89	Target=7.06	97.8	1033	
562.9 > 168.9	6.921	6.921	0.0	1.000	9875		0.00(3.53-10.58)	97.8	55.7	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.921	0.0	1.000	1053493	51.1		102	2497	
D 34 13C8 FOSA										
505.9 > 78.0	6.921	6.921	0.0	1.000	372690	48.4		96.9	1552	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.921	6.921	0.0	1.000	51322	4.83		96.7	349	
43 11-Chloroeicosafluoro-3-oxaundecan										Ma
631.0 > 450.6	7.274	7.254	0.020	1.355	113033	4.82		102	854	M
36 Perfluorododecanoic acid										
612.9 > 568.5	7.616	7.616	0.0	1.000	129116	5.33	Target=5.37	107	731	
612.9 > 168.9	7.616	7.616	0.0	1.000	21343		0.00(2.68-8.06)	107	178	
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.616	0.0	1.000	1277021	48.6		97.2	3381	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.246	8.224	0.022	1.083	119876	5.01	Target=4.67	100	1008	
662.9 > 168.9	8.246	8.224	0.022	1.083	21613		0.00(2.34-7.01)	100	127	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.797	8.775	0.022	1.000	1146400	48.6		97.2	1046	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.797	8.786	0.011	1.000	97672	5.02	Target=4.86	100	605	
712.9 > 168.9	8.808	8.786	0.022	1.001	20738		0.00(2.43-7.30)	100	219	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27-L3_00004 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:31:42 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d

Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410

Lims ID: IC

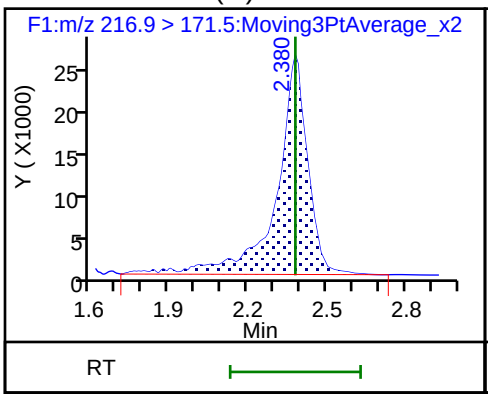
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4

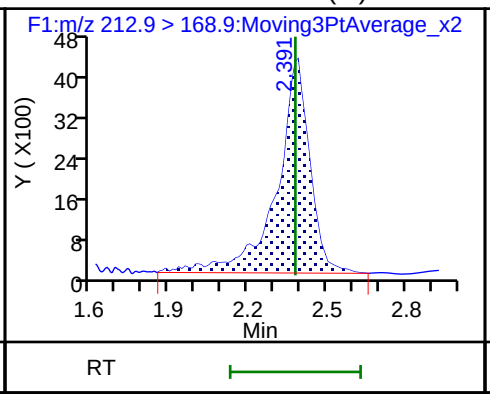
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

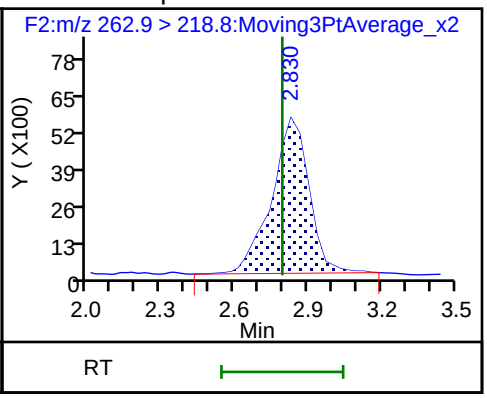
D 1 13C4 PFBA (M)



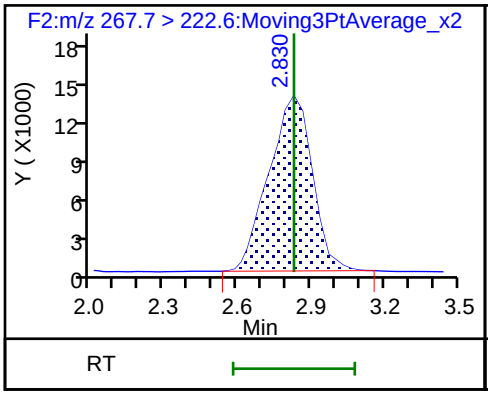
2 Perfluorobutanoic acid (M)



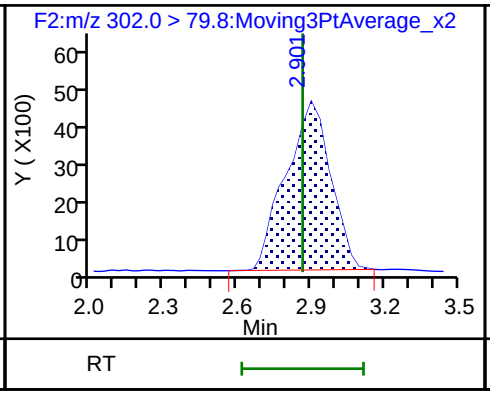
3 Perfluoropentanoic acid



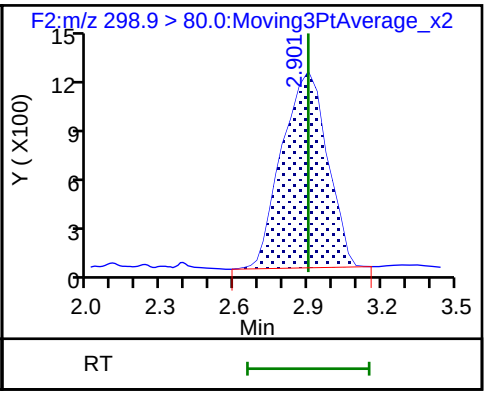
D 4 13C5 PFPeA



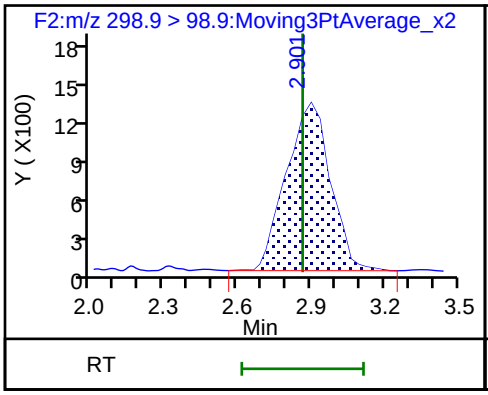
D 5 13C3 PFBS



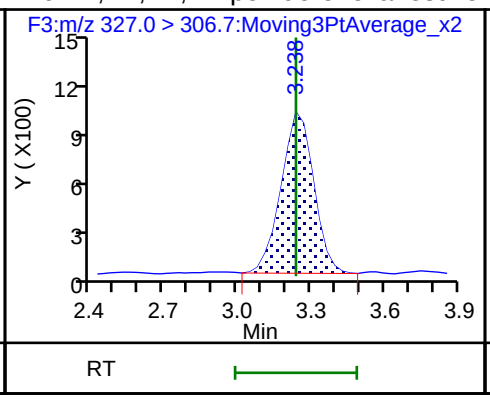
6 Perfluorobutanesulfonic acid



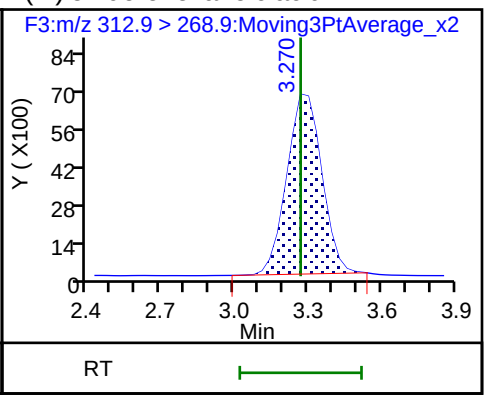
6 Perfluorobutanesulfonic acid



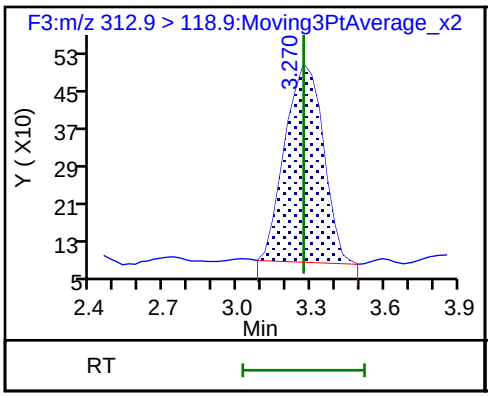
46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



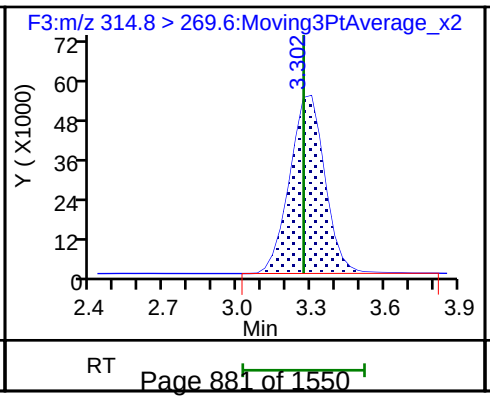
7 Perfluorohexanoic acid



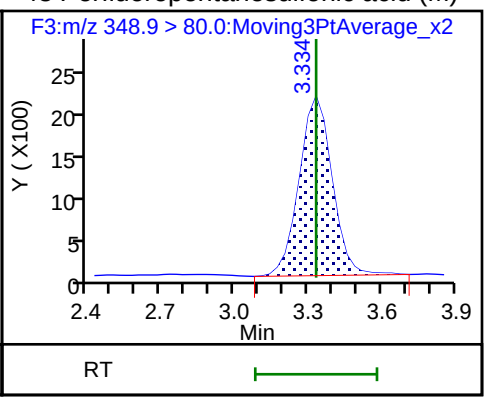
7 Perfluorohexanoic acid



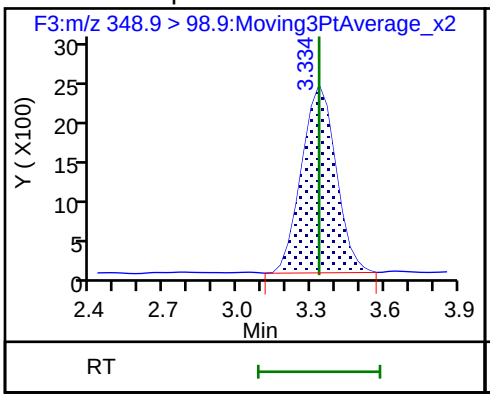
D 8 13C2 PFHxA



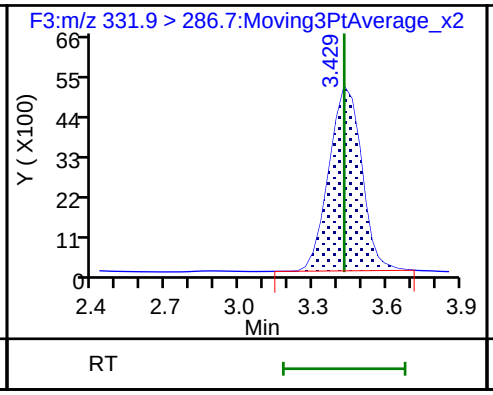
48 Perfluoropentanesulfonic acid (M)



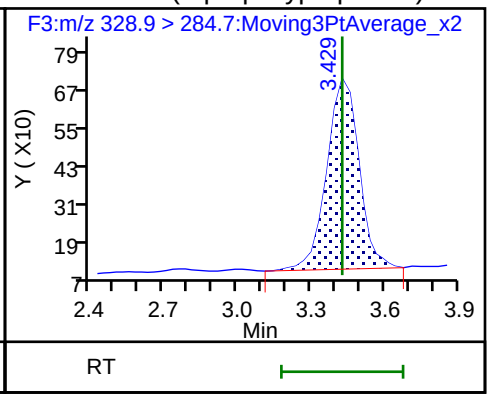
48 Perfluoropentanesulfonic acid



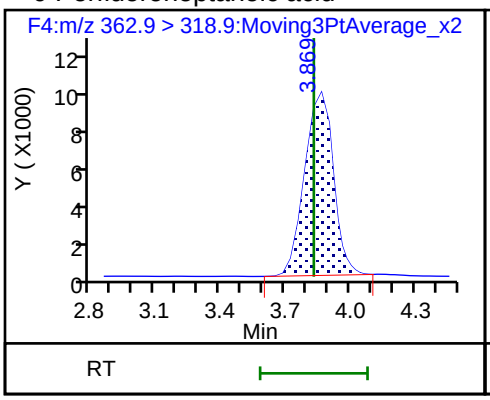
D 42 13C3 HFPO-DA



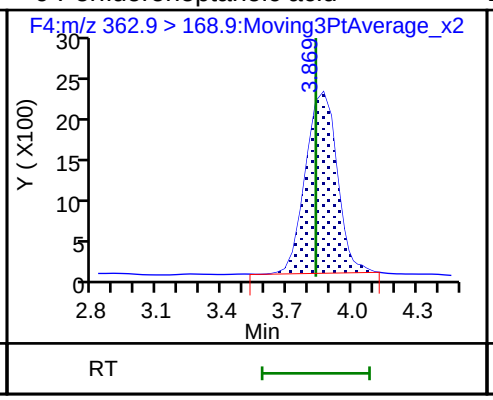
44 Perfluoro(2-propoxypropanoic) acid



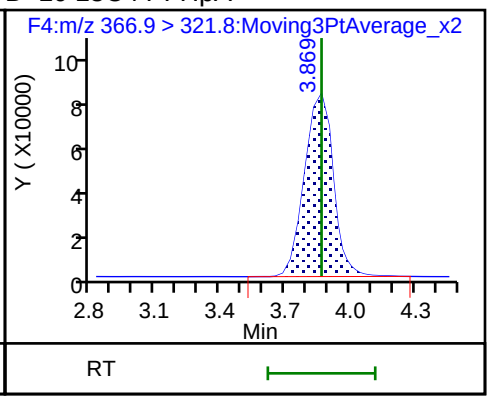
9 Perfluoroheptanoic acid



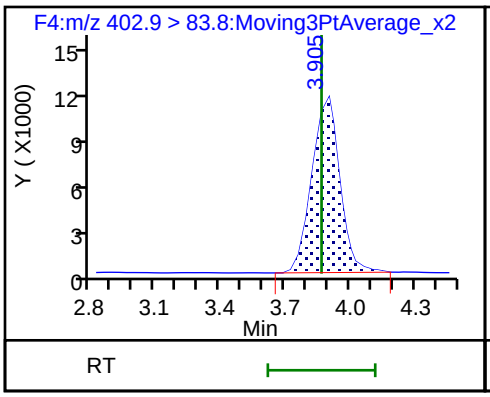
9 Perfluoroheptanoic acid



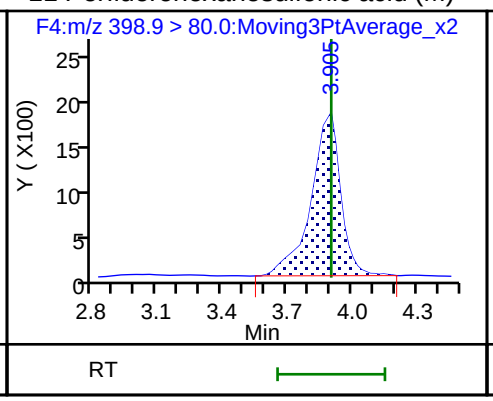
D 10 13C4 PFHpA



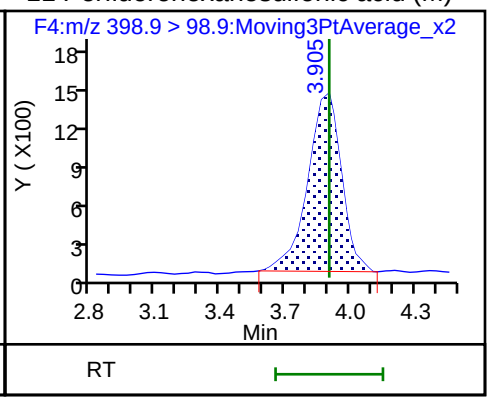
D 12 18O2 PFHxS



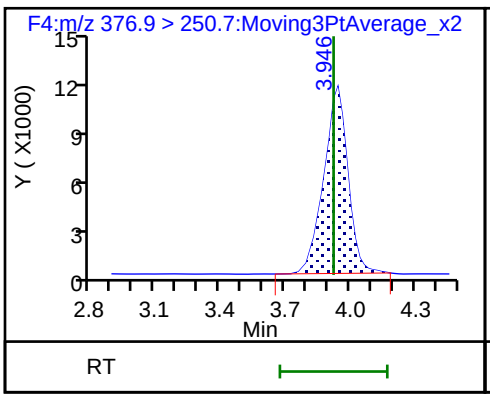
11 Perfluorohexanesulfonic acid (M)



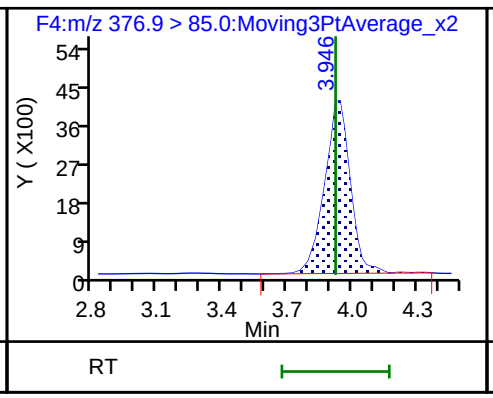
11 Perfluorohexanesulfonic acid (M)



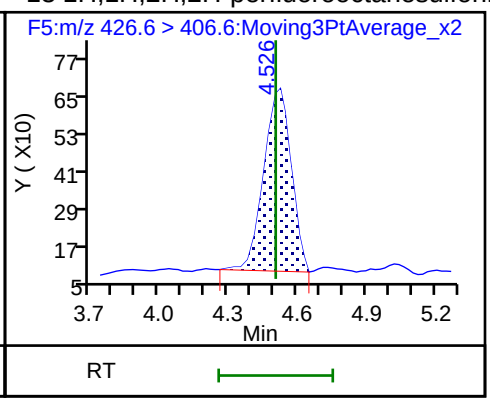
49 DONA



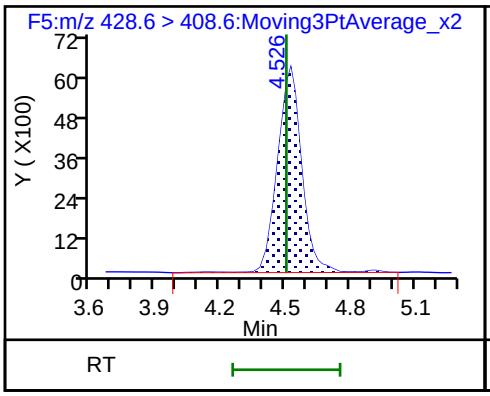
49 DONA



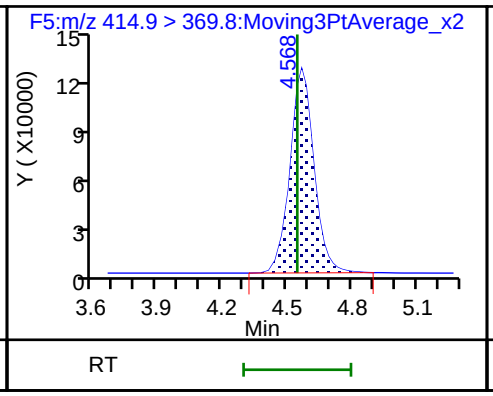
13 1H,1H,2H,2H-perfluorooctanesulfoni



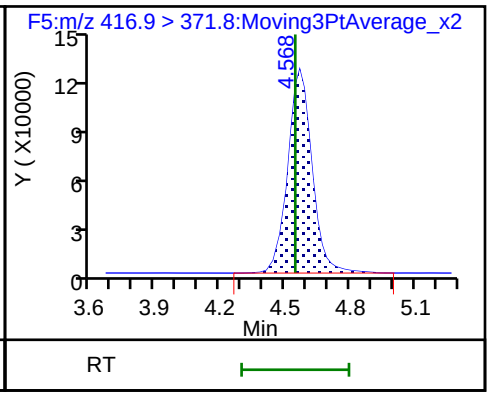
D 14 M2-6:2 FTS



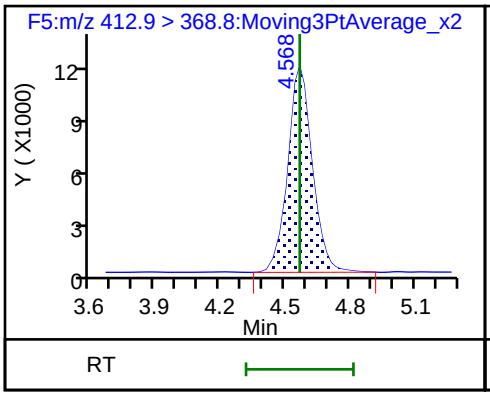
* 16 13C2 PFOA



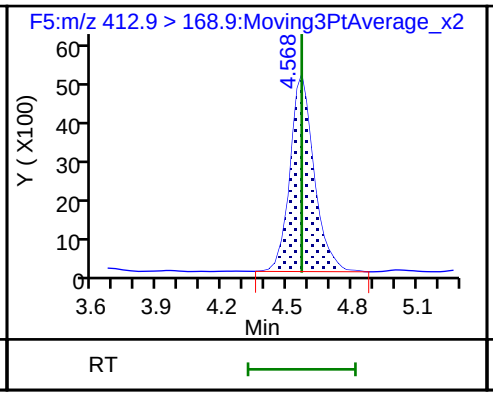
D 17 13C4 PFOA



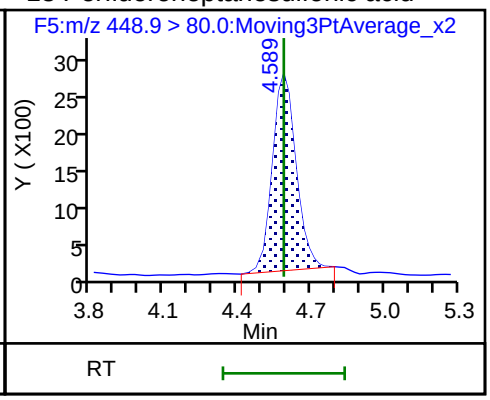
15 Perfluorooctanoic acid



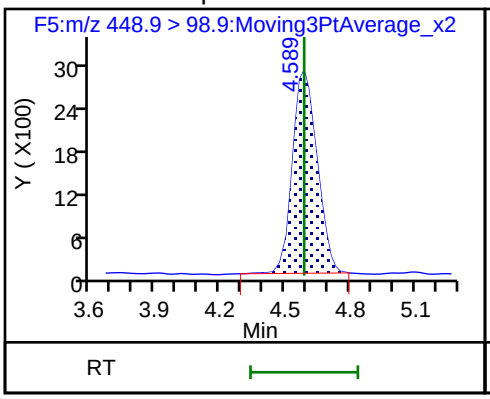
15 Perfluorooctanoic acid



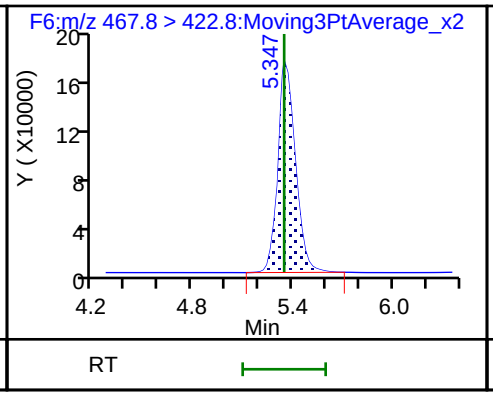
18 Perfluoroheptanesulfonic acid



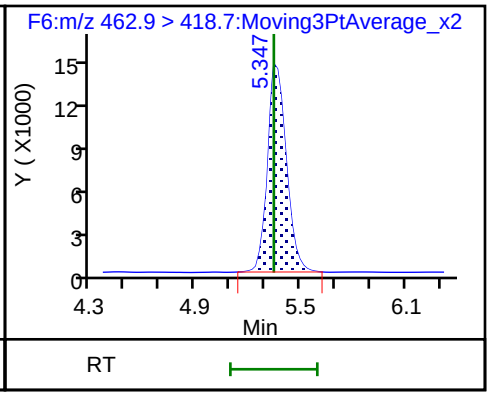
18 Perfluoroheptanesulfonic acid



D 20 13C5 PFNA



19 Perfluorononanoic acid



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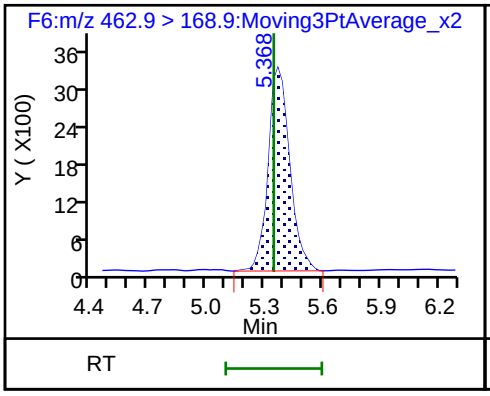
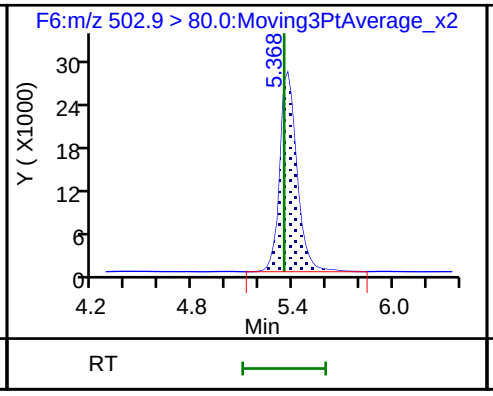
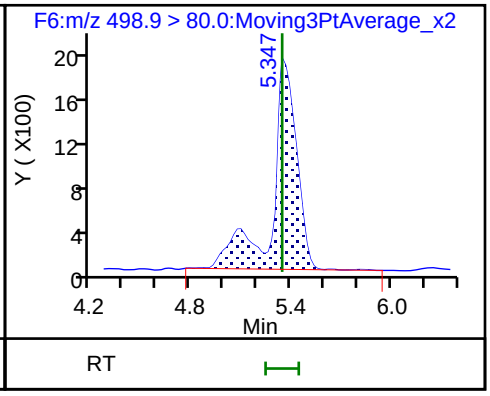


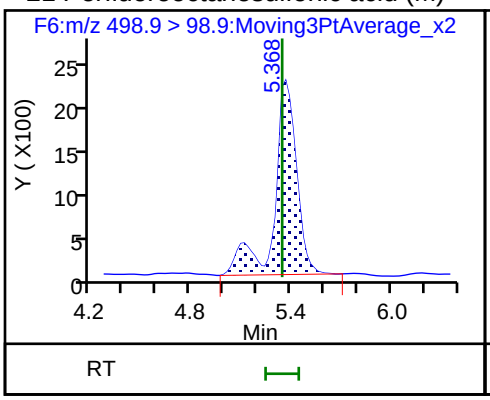
D 22 13C4 PFOS



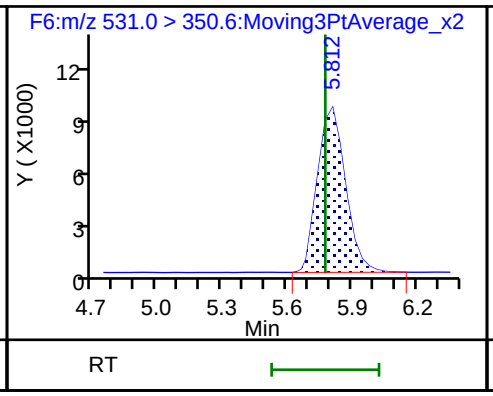
21 Perfluorooctanesulfonic acid



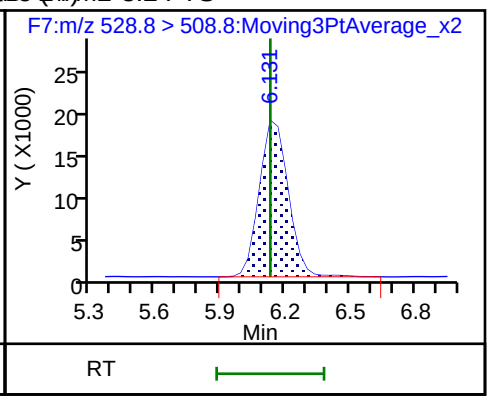
21 Perfluorooctanesulfonic acid (M)



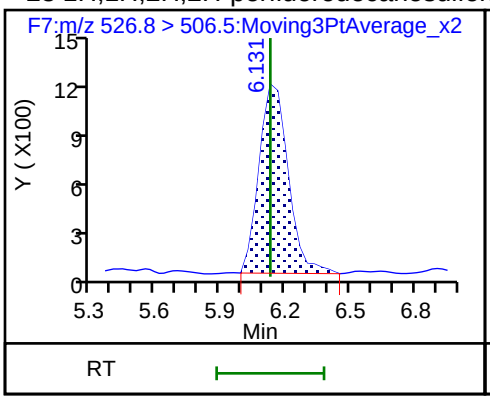
47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid



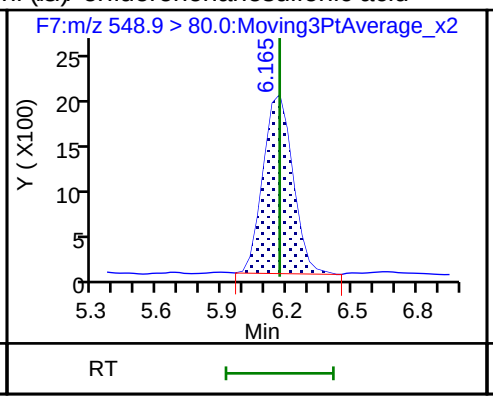
D 24 M2-8:2 FTS



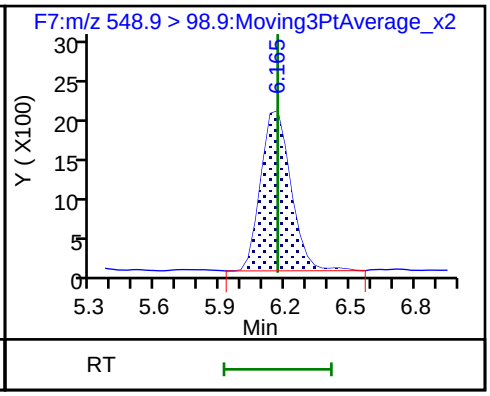
23 1H,1H,2H,2H-perfluorodecanesulfoni (M)



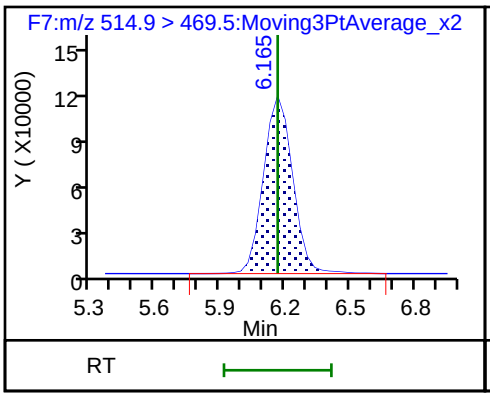
48 Perfluorononanesulfonic acid



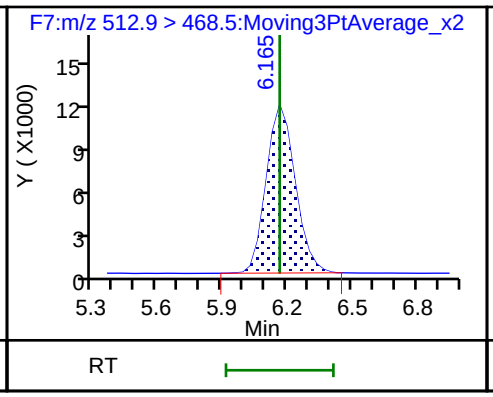
45 Perfluorononanesulfonic acid



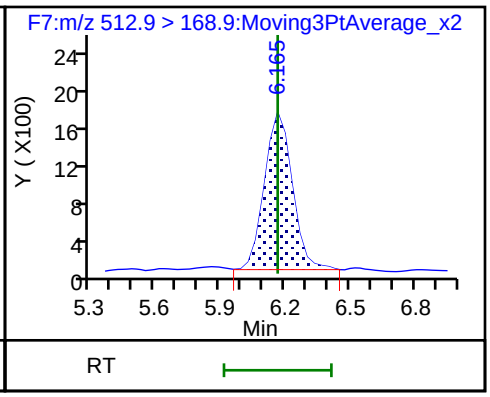
D 25 13C2 PFDA



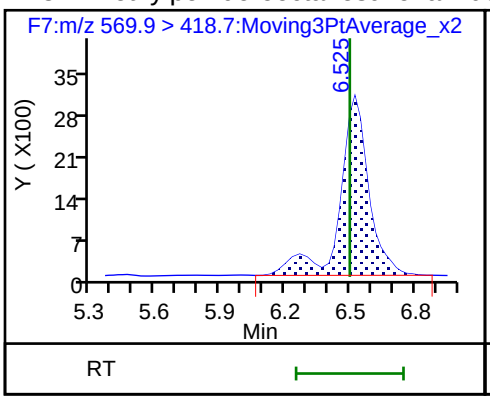
26 Perfluorodecanoic acid



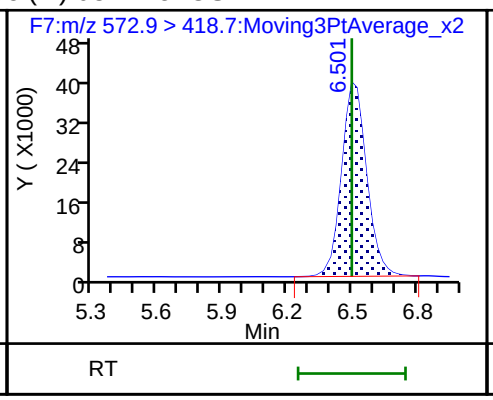
26 Perfluorodecanoic acid



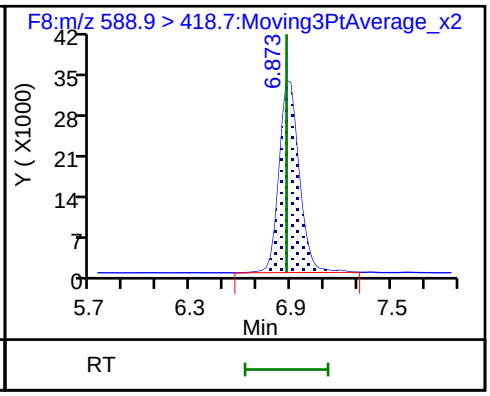
28 N-methylperfluorooctanesulfonamido (M)



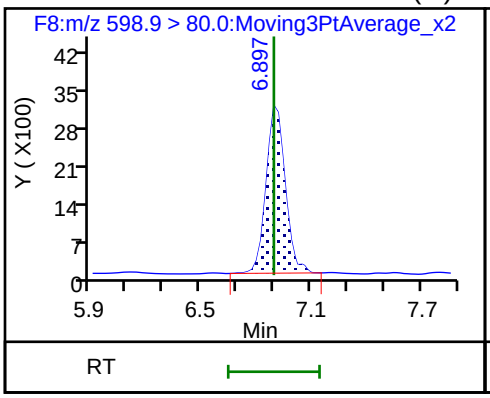
D 27 d3-NMeFOSAA



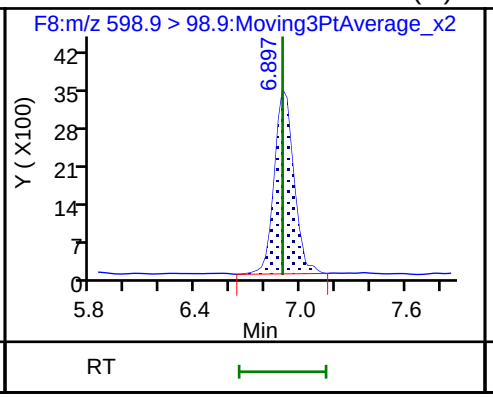
D 29 d5-NEtFOSAA



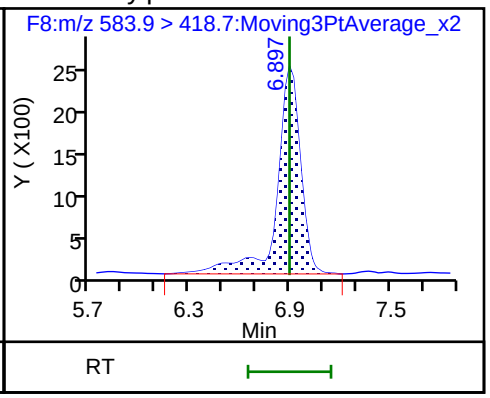
31 Perfluorodecanesulfonic acid (M)



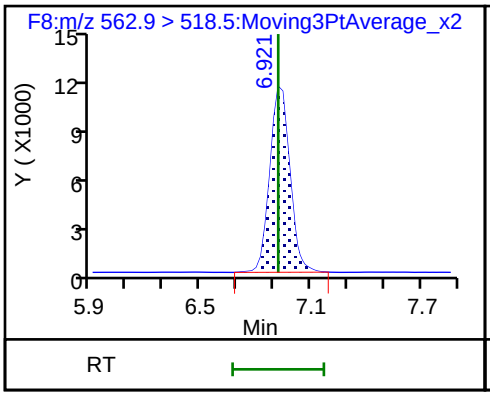
31 Perfluorodecanesulfonic acid (M)



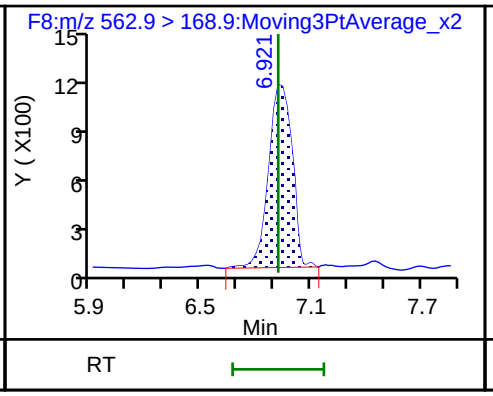
30 N-ethylperfluorooctanesulfonamidoa



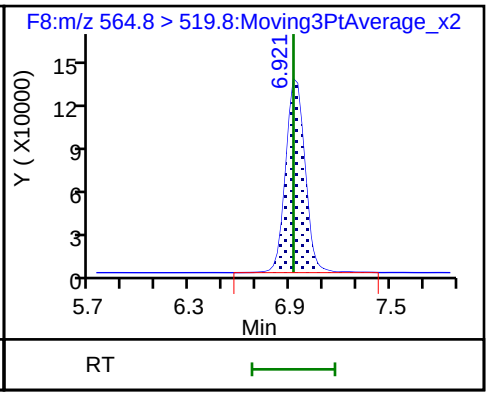
32 Perfluoroundecanoic acid



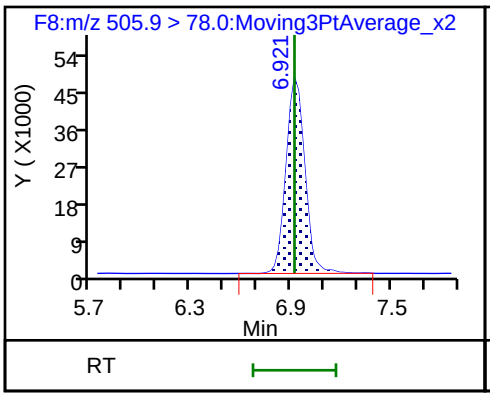
32 Perfluoroundecanoic acid



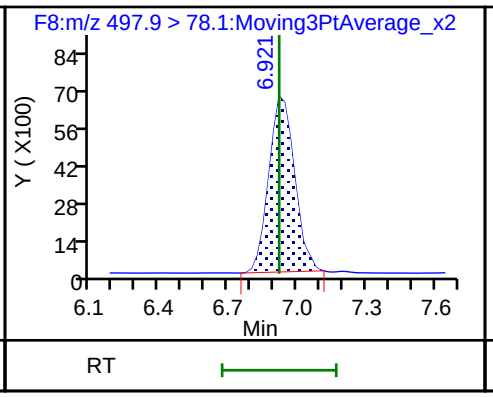
D 33 13C2 PFUnA



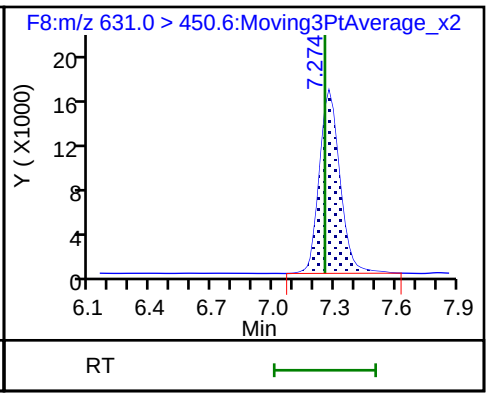
D 34 13C8 FOSA



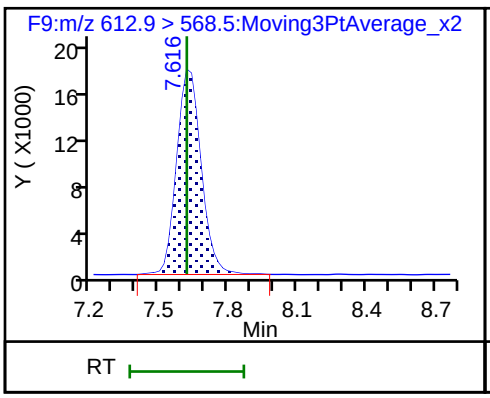
35 Perfluorooctanesulfonamide



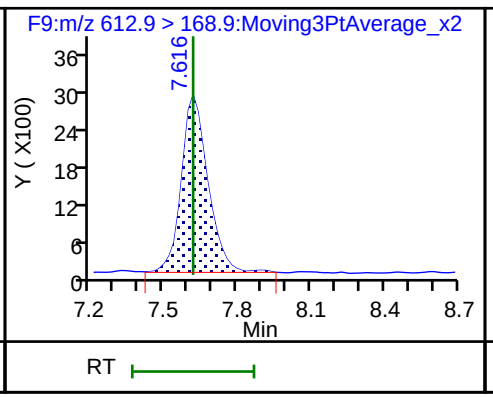
43 11-Chloroeicosafluoro-3-oxaundecan (M)



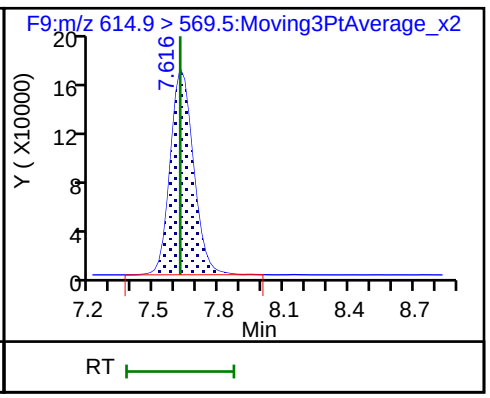
36 Perfluorododecanoic acid



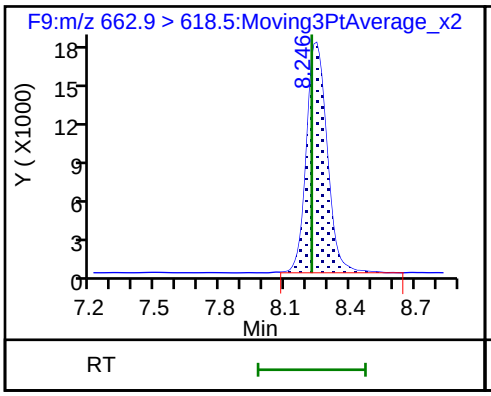
36 Perfluorododecanoic acid



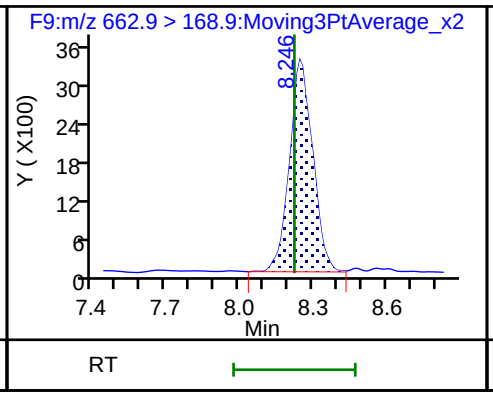
D 37 13C2 PFDoA



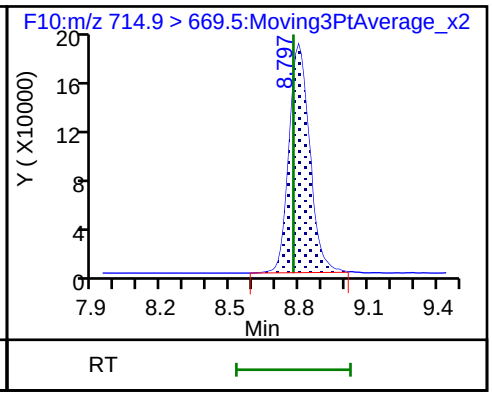
38 Perfluorotridecanoic acid



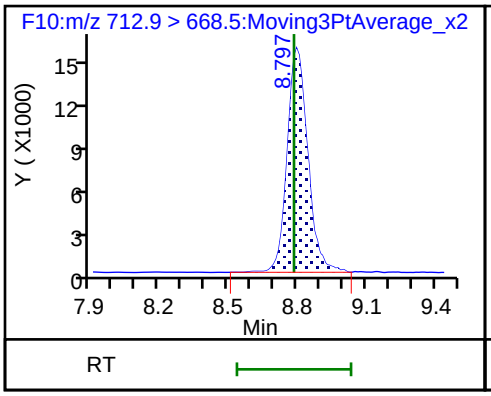
38 Perfluorotridecanoic acid



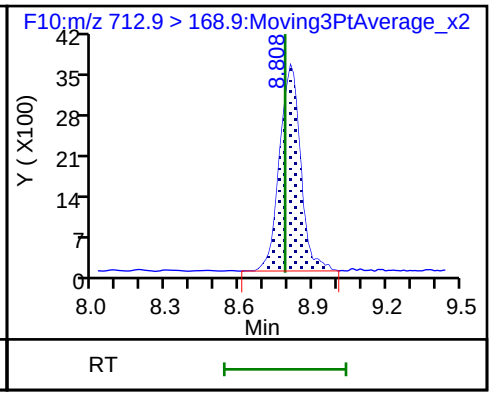
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

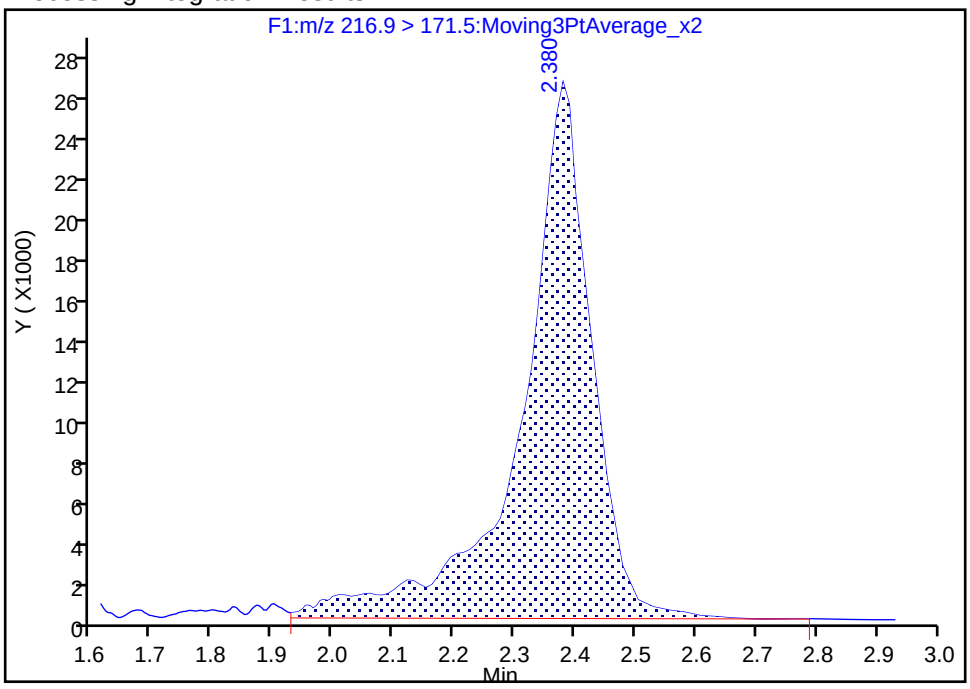
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

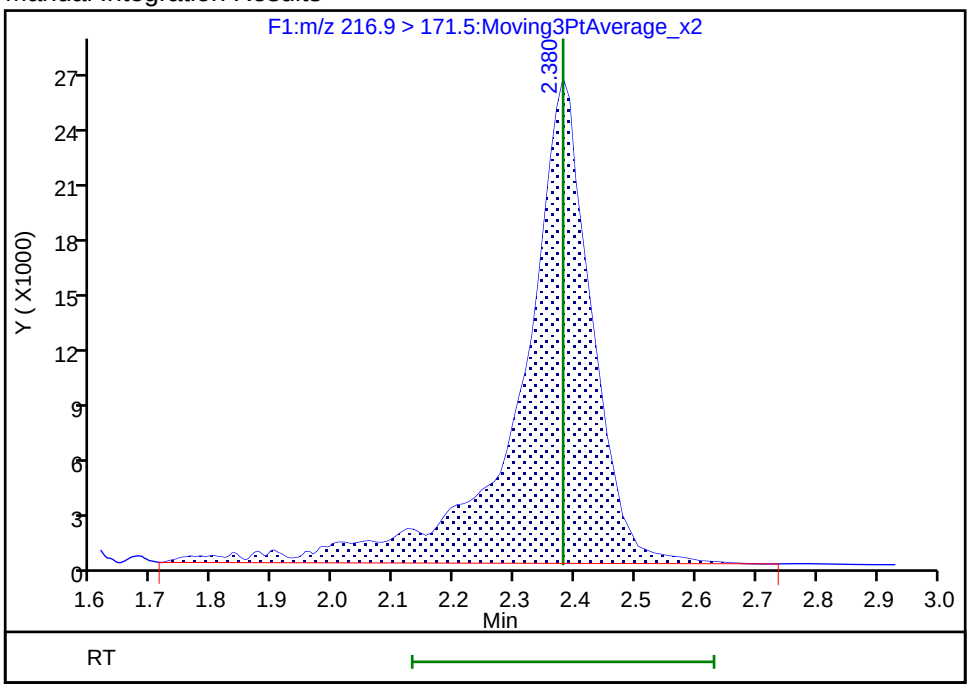
Processing Integration Results

RT: 2.38
Area: 209009
Amount: 45.497482
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 212696
Amount: 45.266521
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:05:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

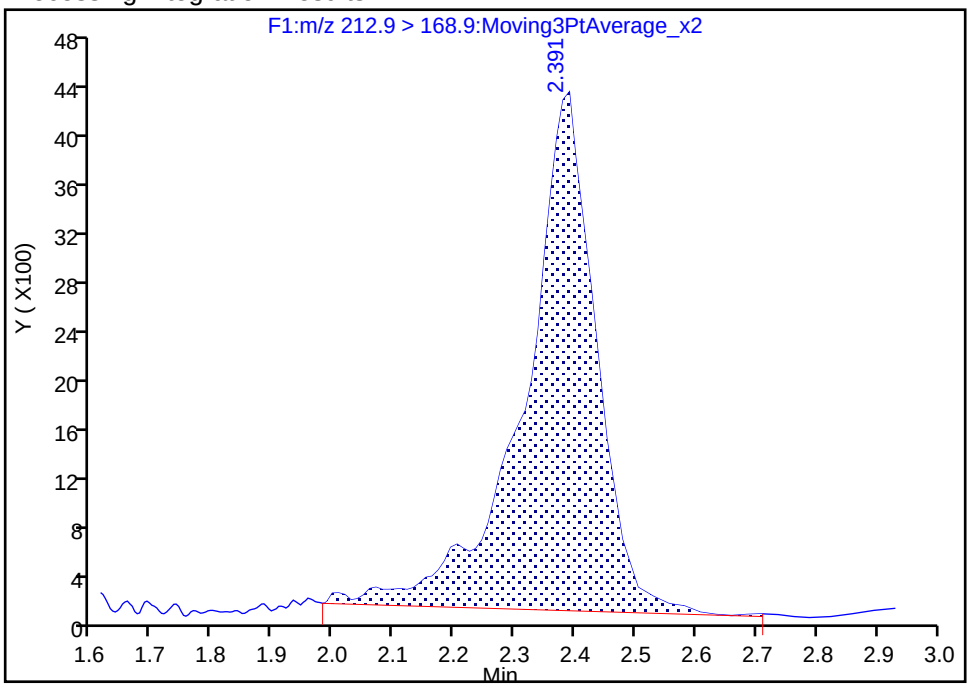
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

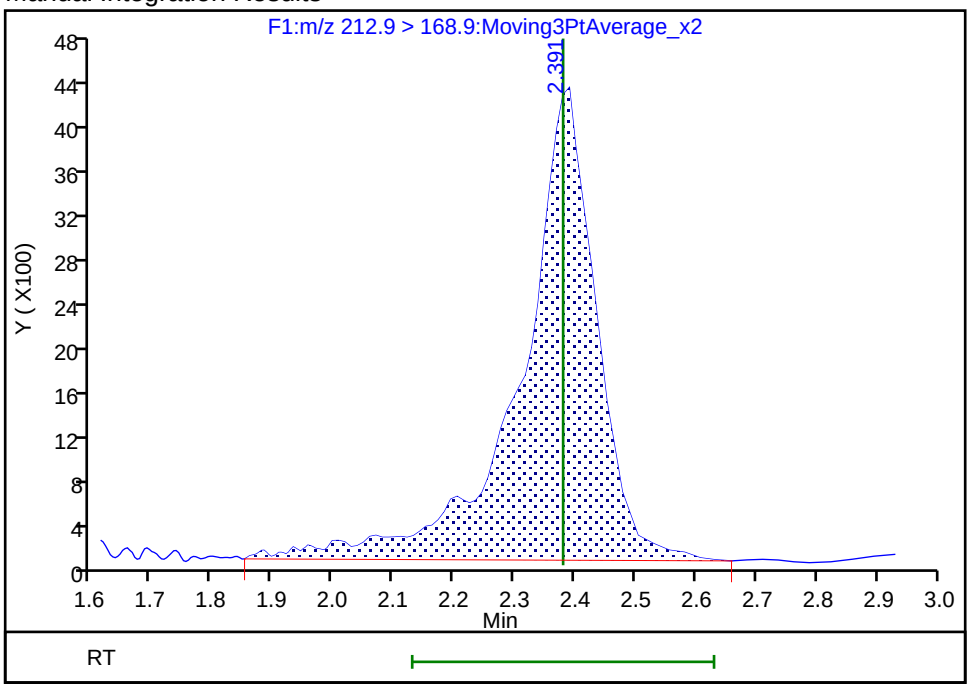
Processing Integration Results

RT: 2.39
Area: 34849
Amount: 5.130613
Amount Units: ng/ml



Manual Integration Results

RT: 2.39
Area: 37026
Amount: 5.543969
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:05:15
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

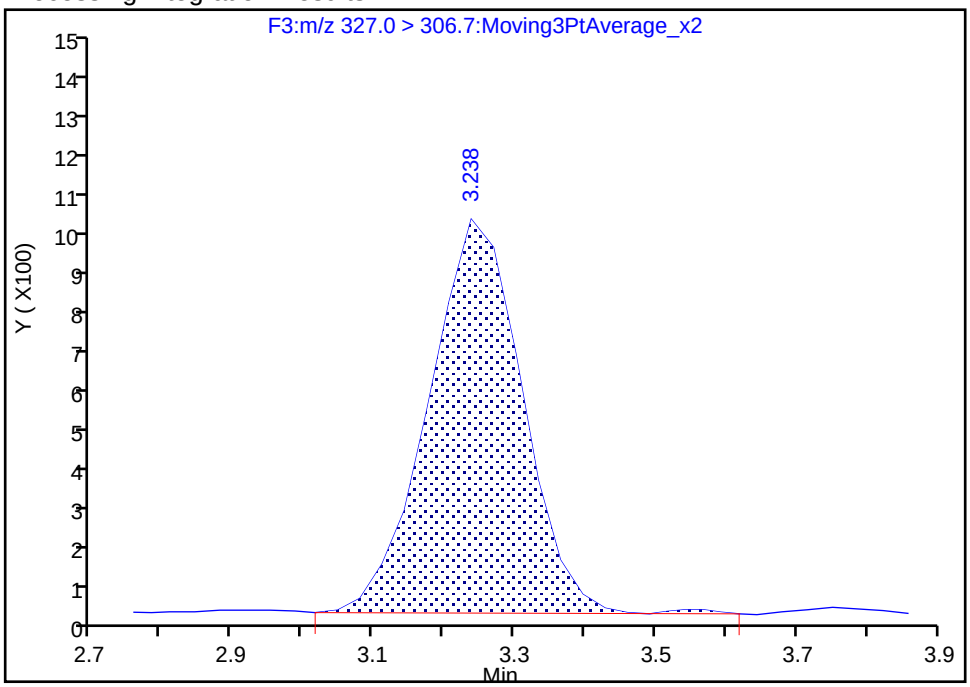
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

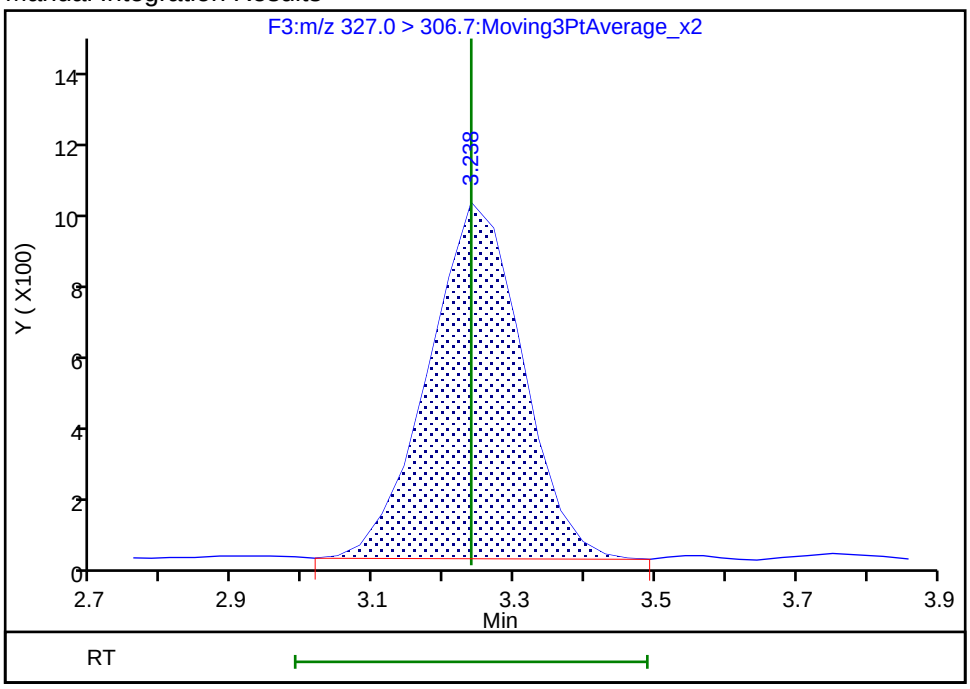
Processing Integration Results

RT: 3.24
Area: 8939
Amount: 5.686127
Amount Units: ng/ml



Manual Integration Results

RT: 3.24
Area: 8905
Amount: 5.397744
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:05:34
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

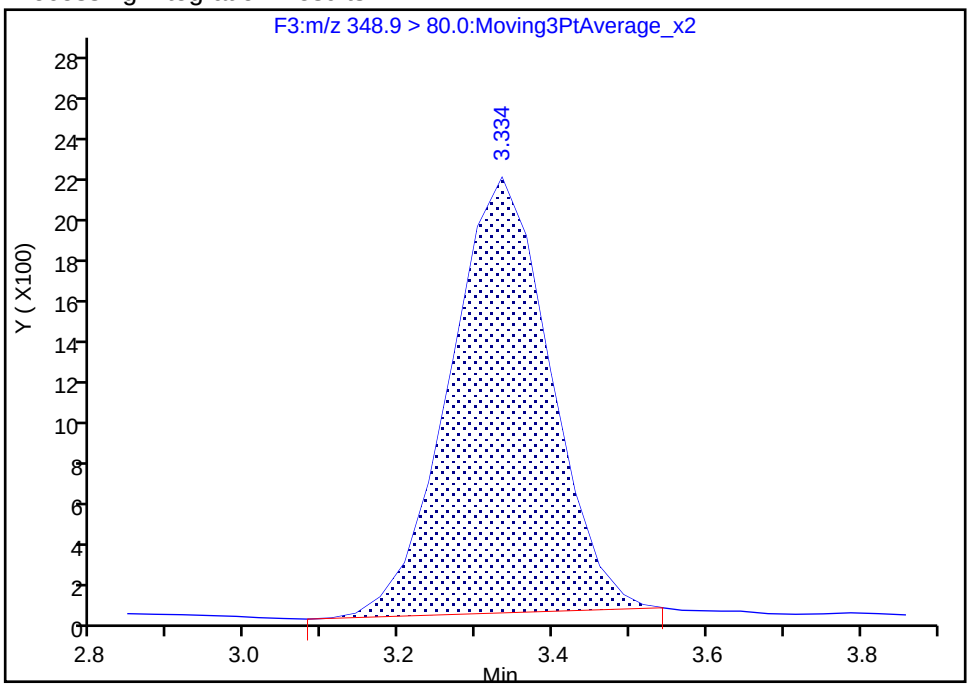
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 1

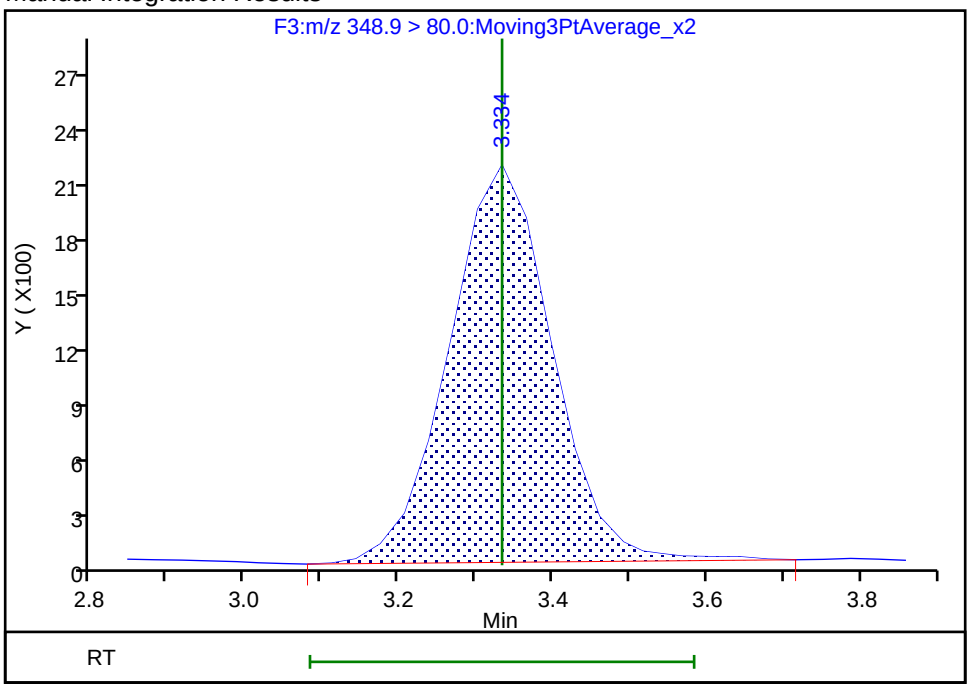
Processing Integration Results

RT: 3.33
Area: 18812
Amount: 5.351019
Amount Units: ng/ml



Manual Integration Results

RT: 3.33
Area: 19497
Amount: 5.510592
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:05:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

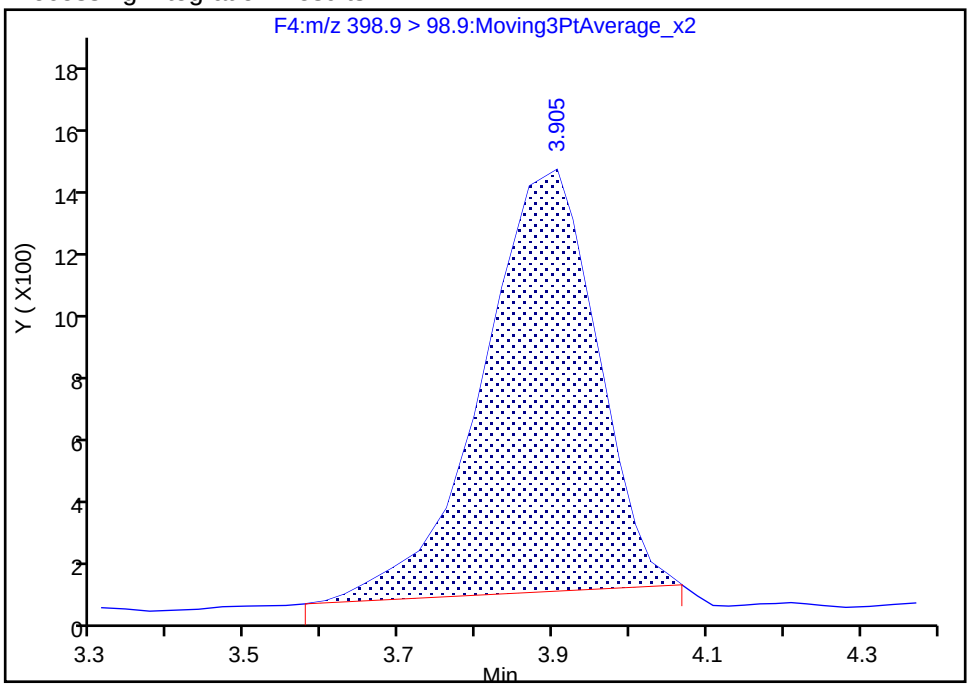
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

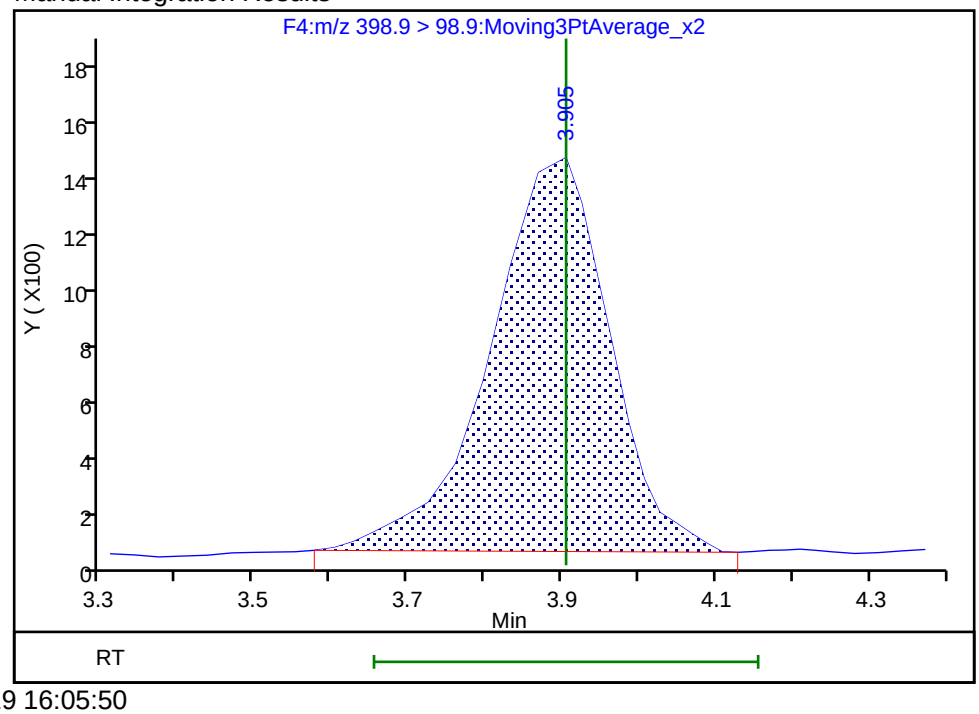
Processing Integration Results

RT: 3.91
Area: 13772
Amount: 3.618188
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 14827
Amount: 3.782387
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:05:50
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

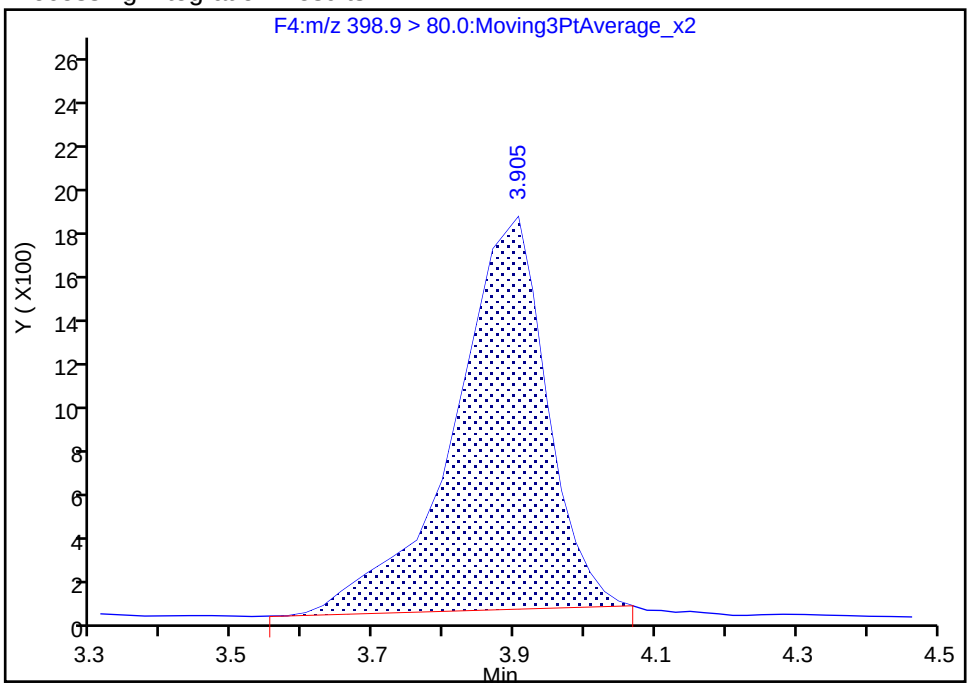
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

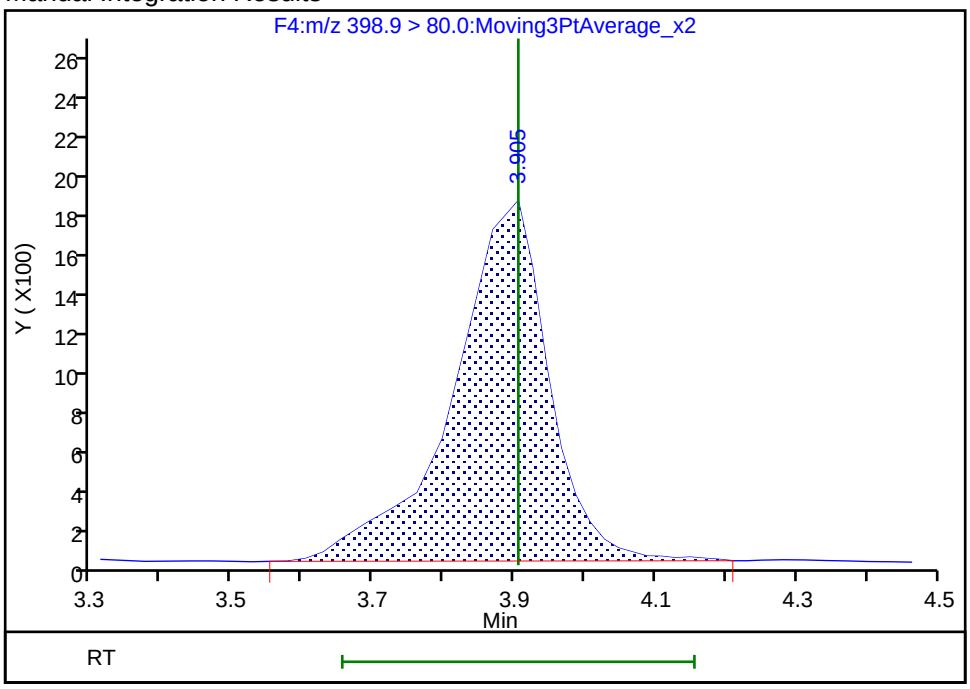
Processing Integration Results

RT: 3.91
Area: 16083
Amount: 3.618188
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 16873
Amount: 3.782387
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:05:53
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

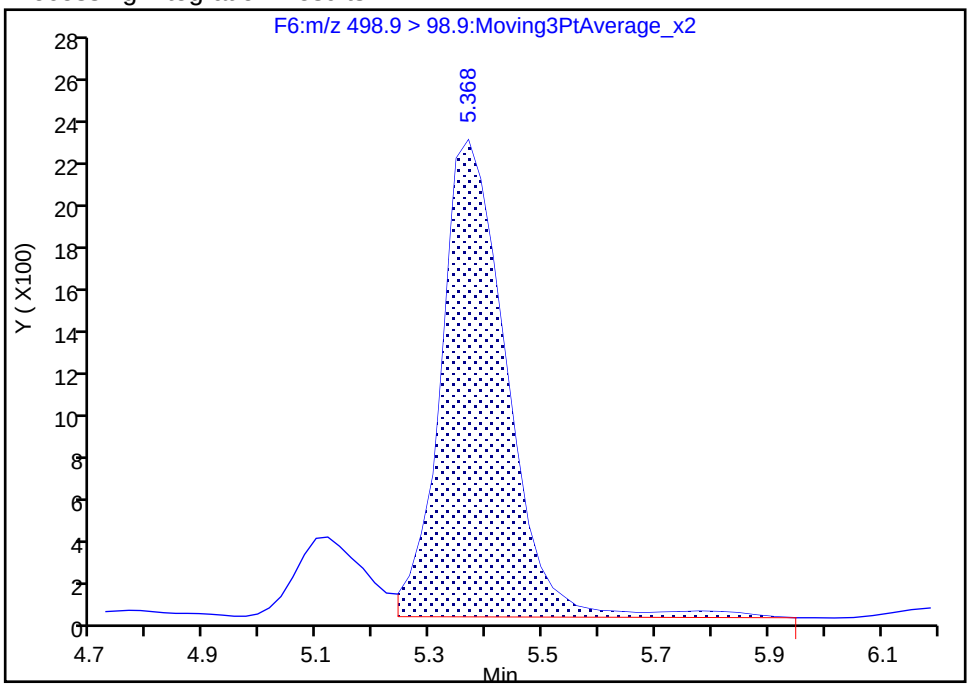
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

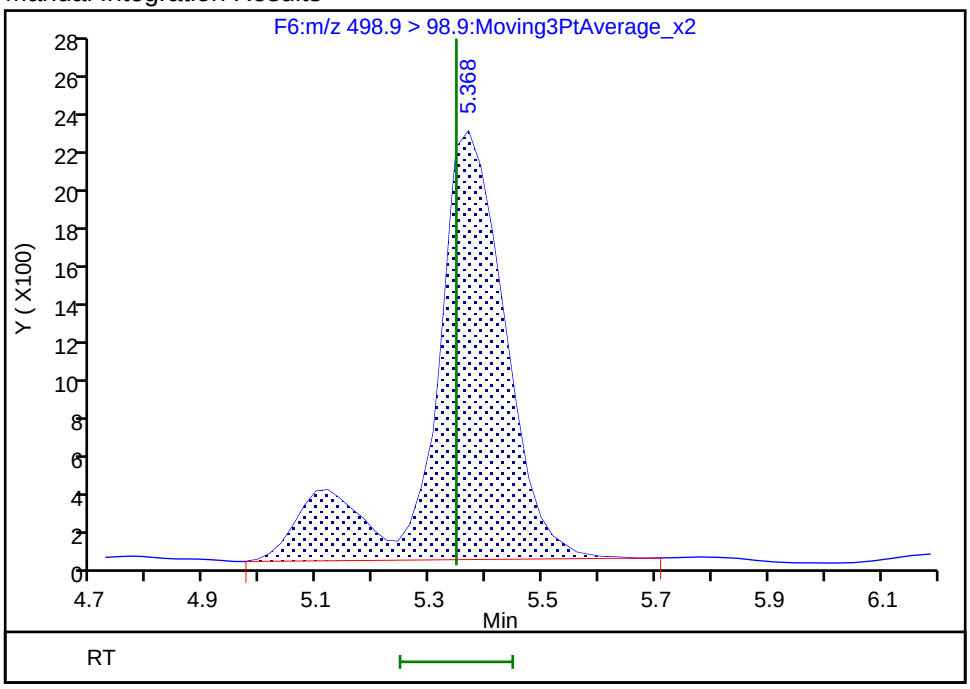
Processing Integration Results

RT: 5.37
Area: 17614
Amount: 5.002556
Amount Units: ng/ml



Manual Integration Results

RT: 5.37
Area: 19878
Amount: 4.628549
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:06:13
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

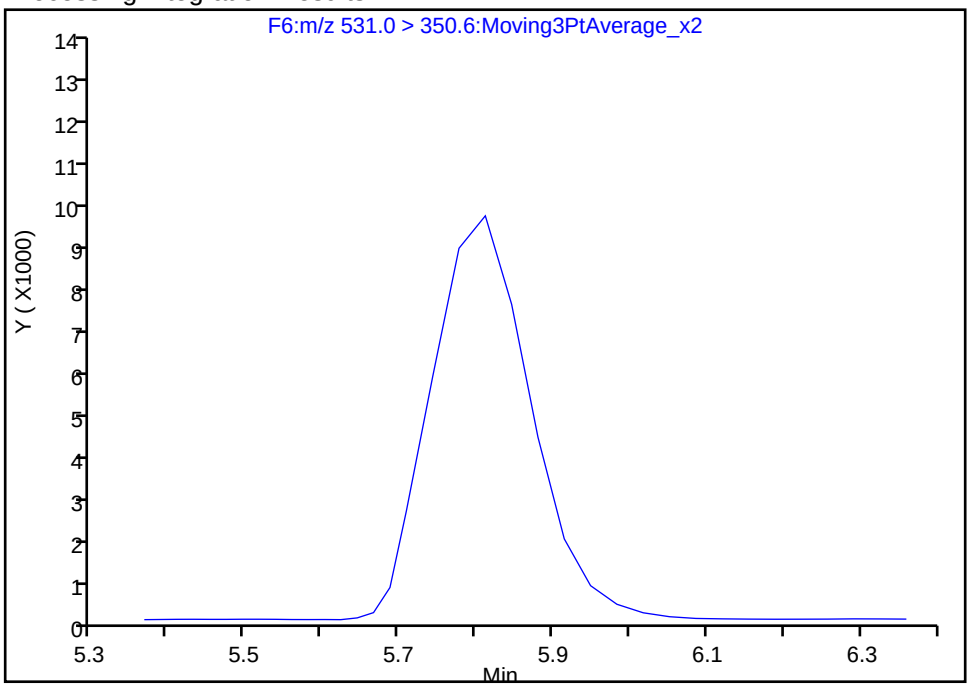
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

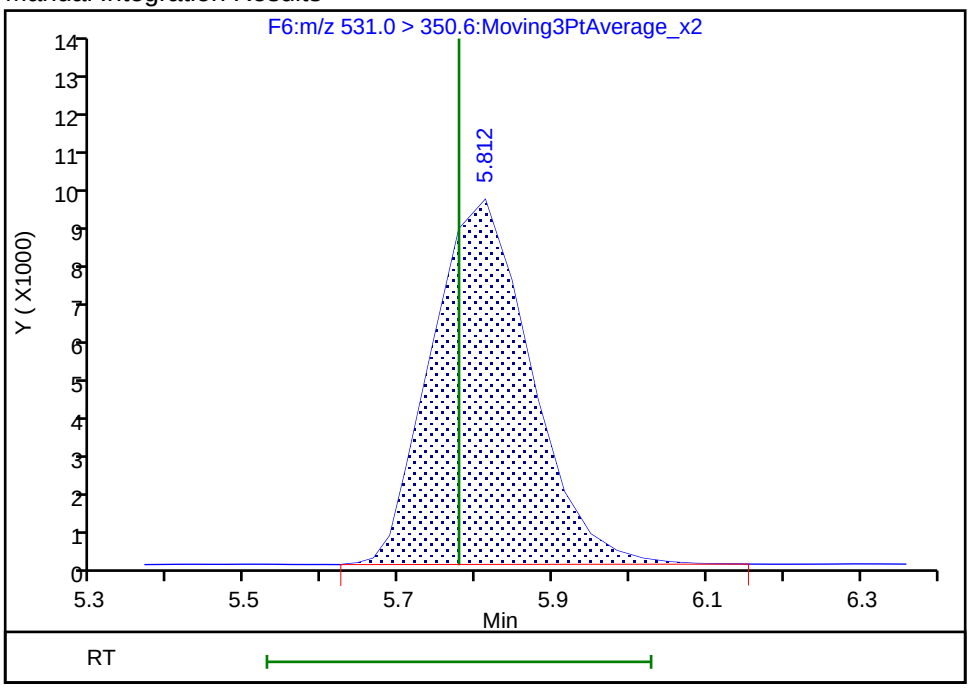
Not Detected
Expected RT: 5.78

Processing Integration Results



Manual Integration Results

RT: 5.81
Area: 86184
Amount: 4.689860
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:27:10
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

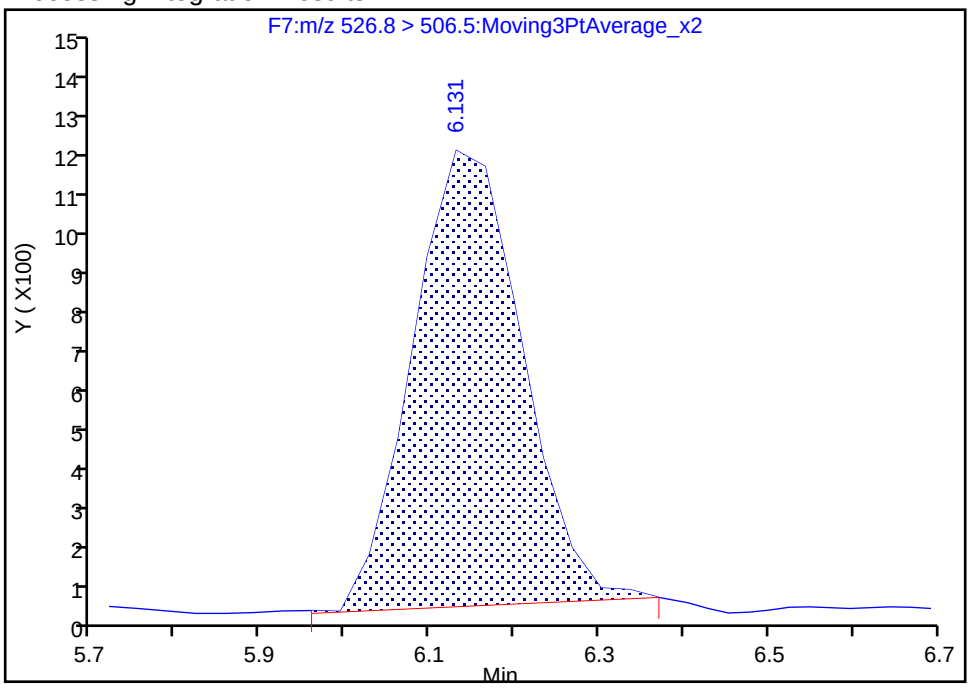
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

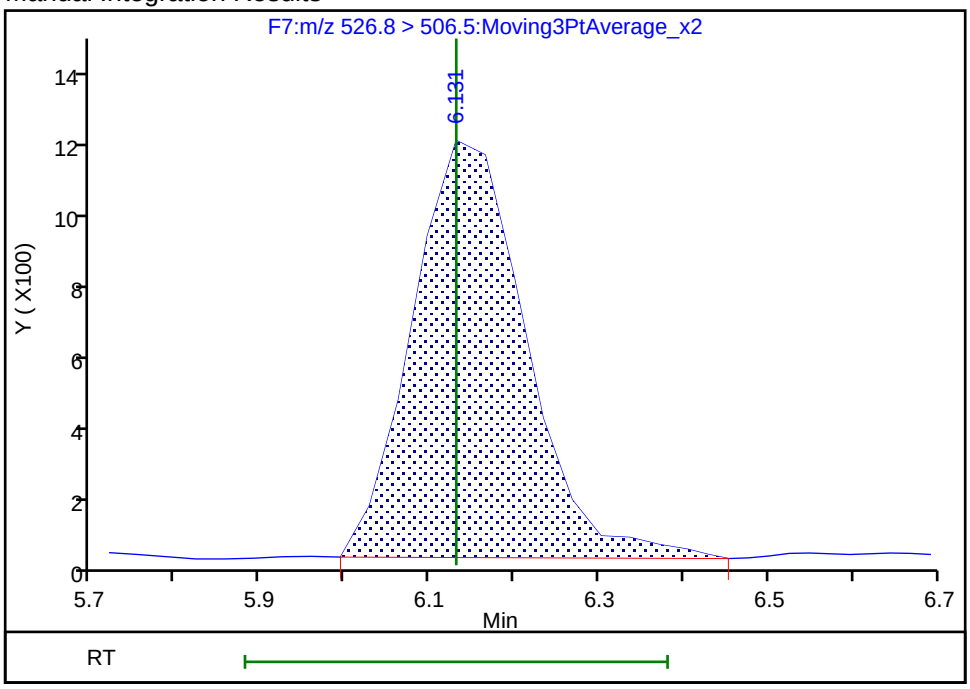
Processing Integration Results

RT: 6.13
Area: 10020
Amount: 3.731779
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 10509
Amount: 3.897434
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:06:22
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

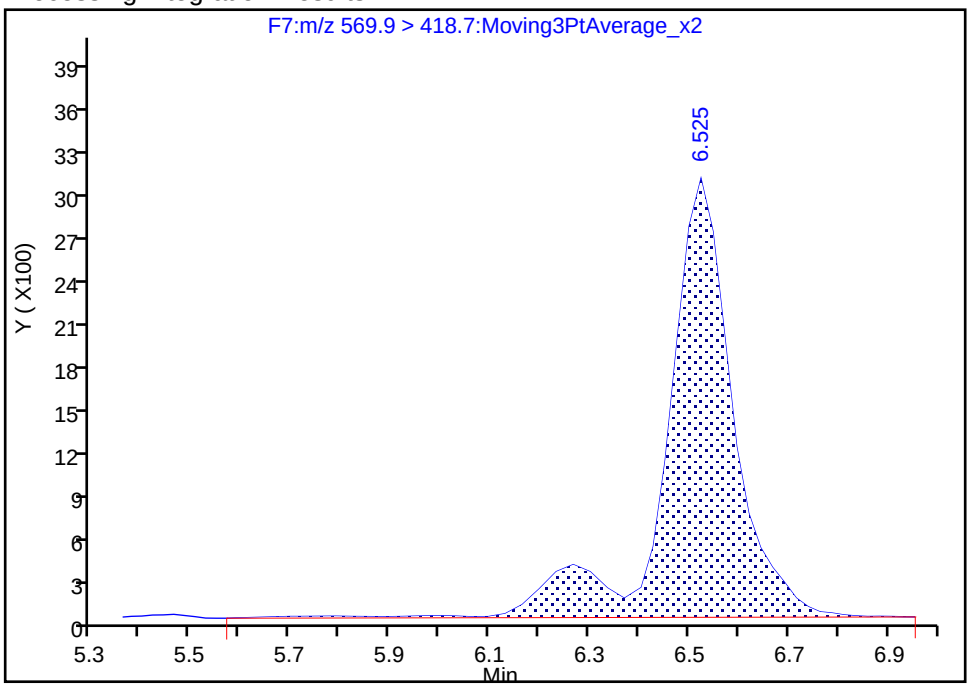
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

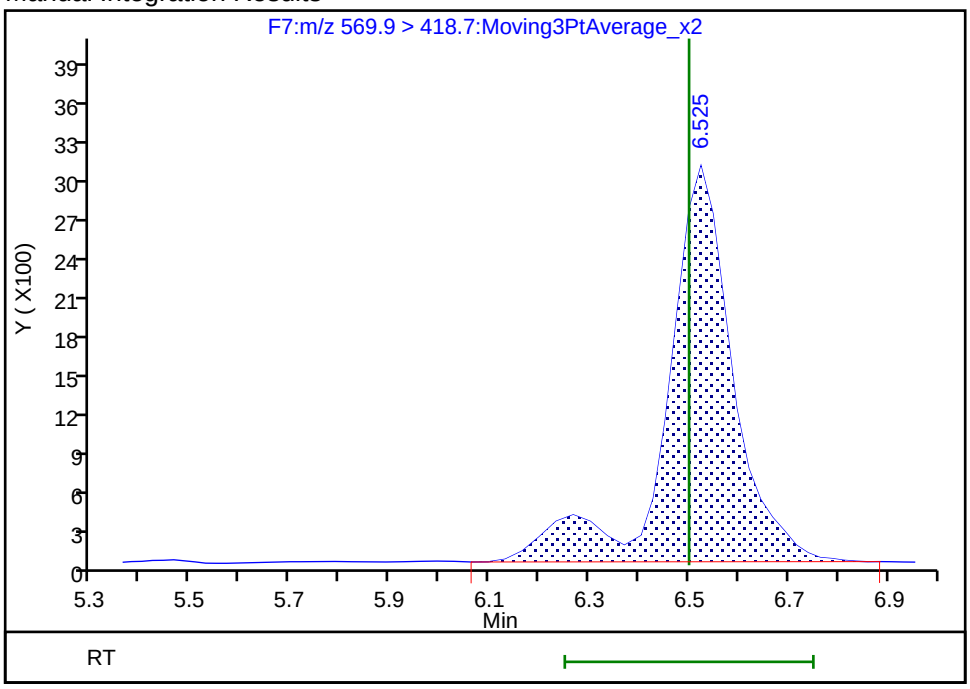
Processing Integration Results

RT: 6.52
Area: 28770
Amount: 5.802360
Amount Units: ng/ml



Manual Integration Results

RT: 6.52
Area: 28201
Amount: 5.415698
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:06:29
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

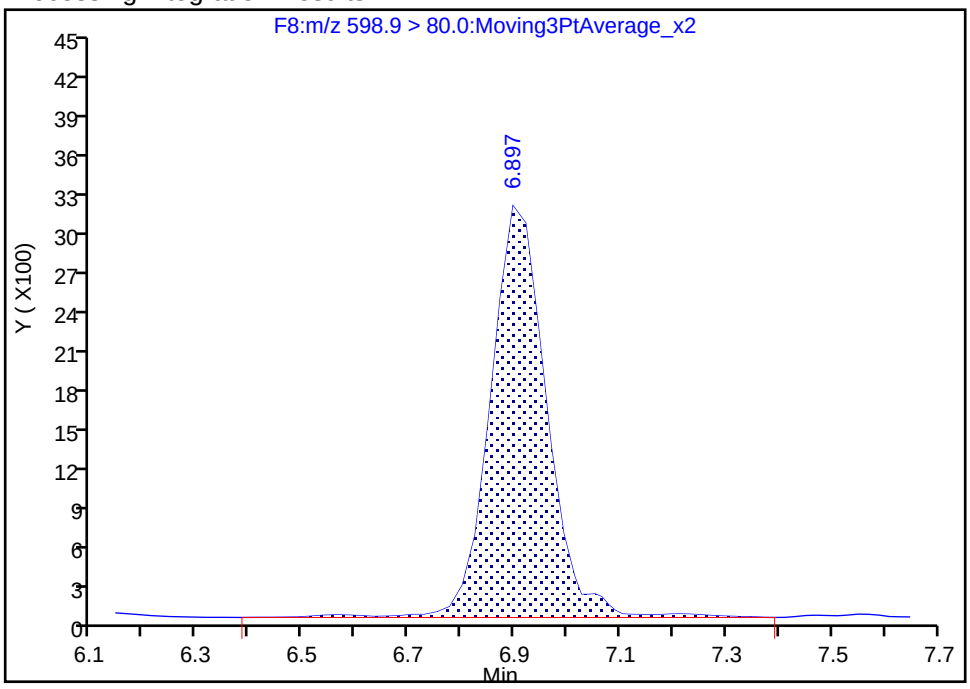
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

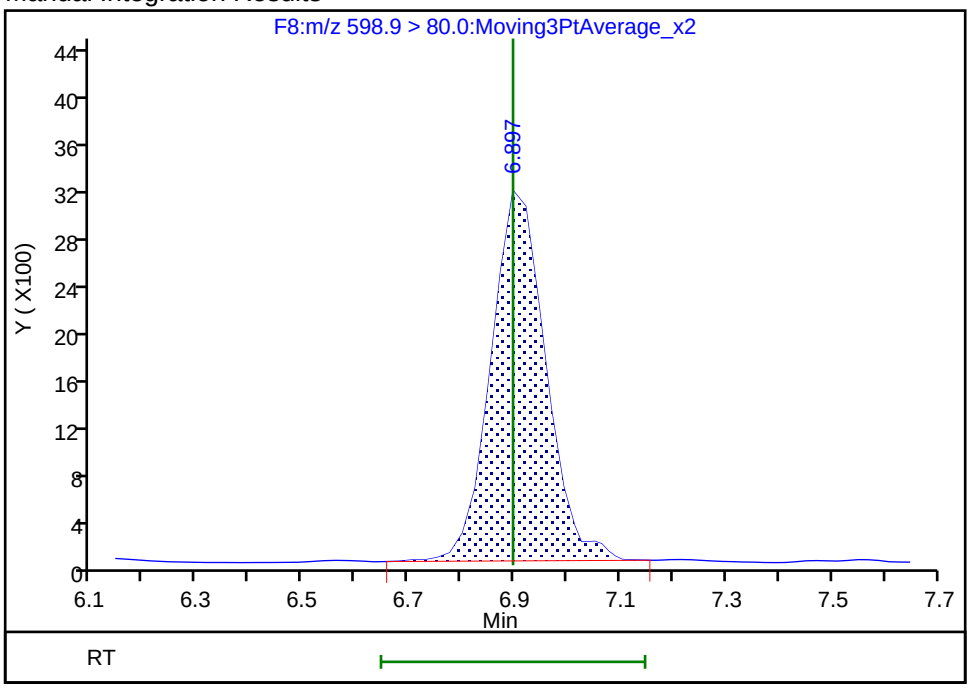
Processing Integration Results

RT: 6.90
Area: 23101
Amount: 5.287076
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 22338
Amount: 5.148096
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:06:38
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

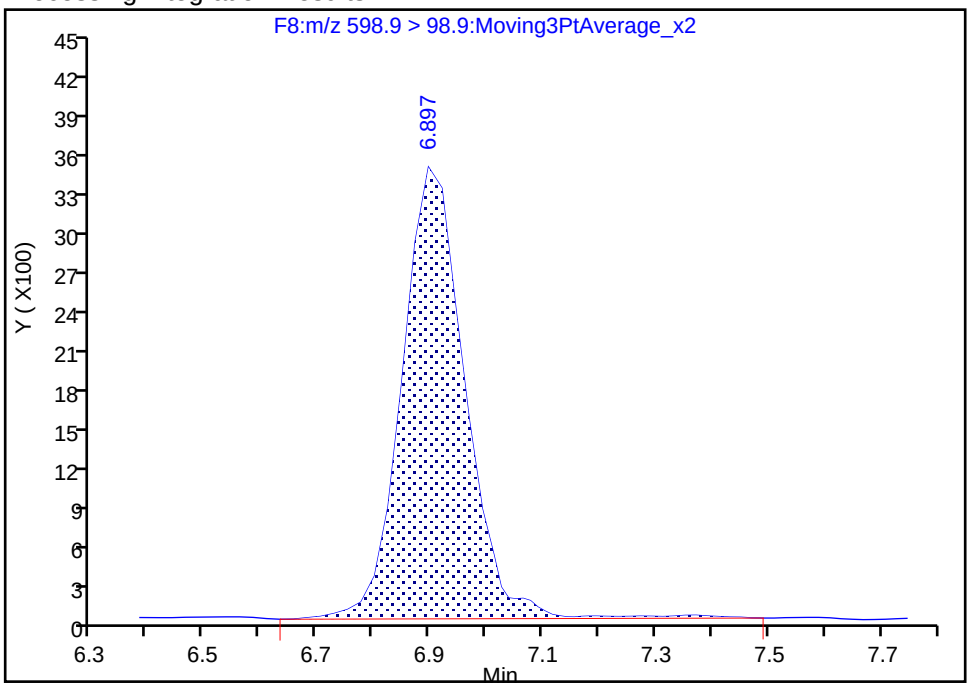
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 2

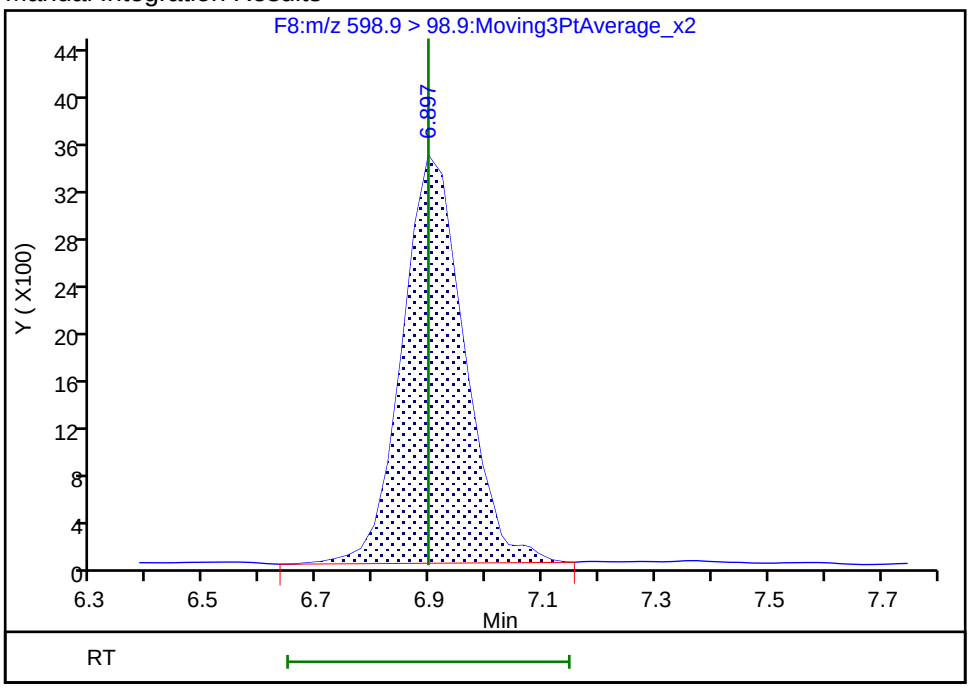
Processing Integration Results

RT: 6.90
Area: 26429
Amount: 5.287076
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 25993
Amount: 5.148096
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:06:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

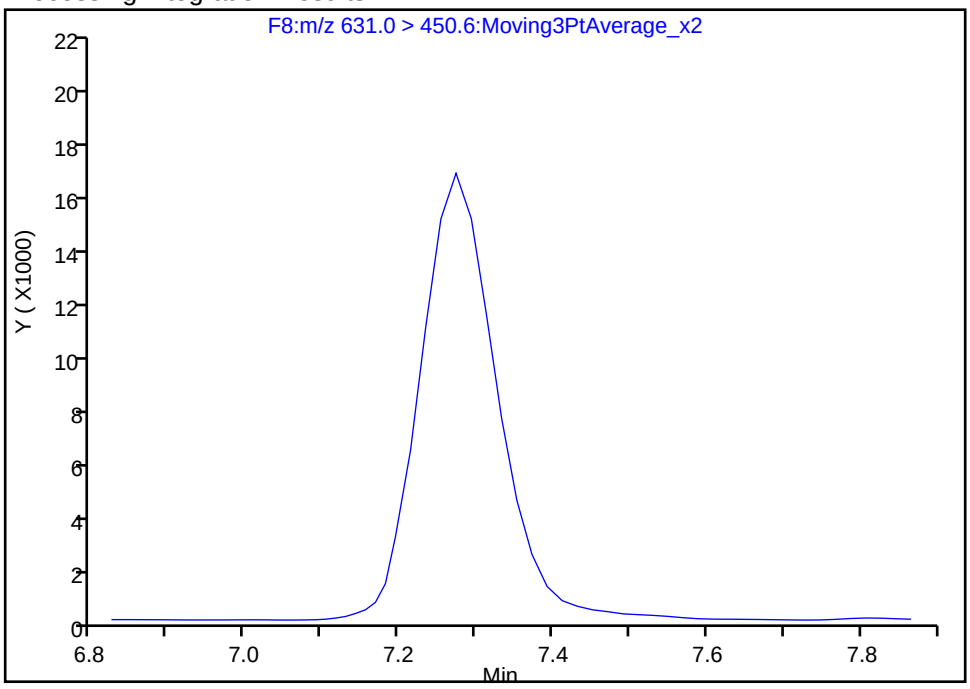
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B04.d
Injection Date: 23-May-2019 12:51:28 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

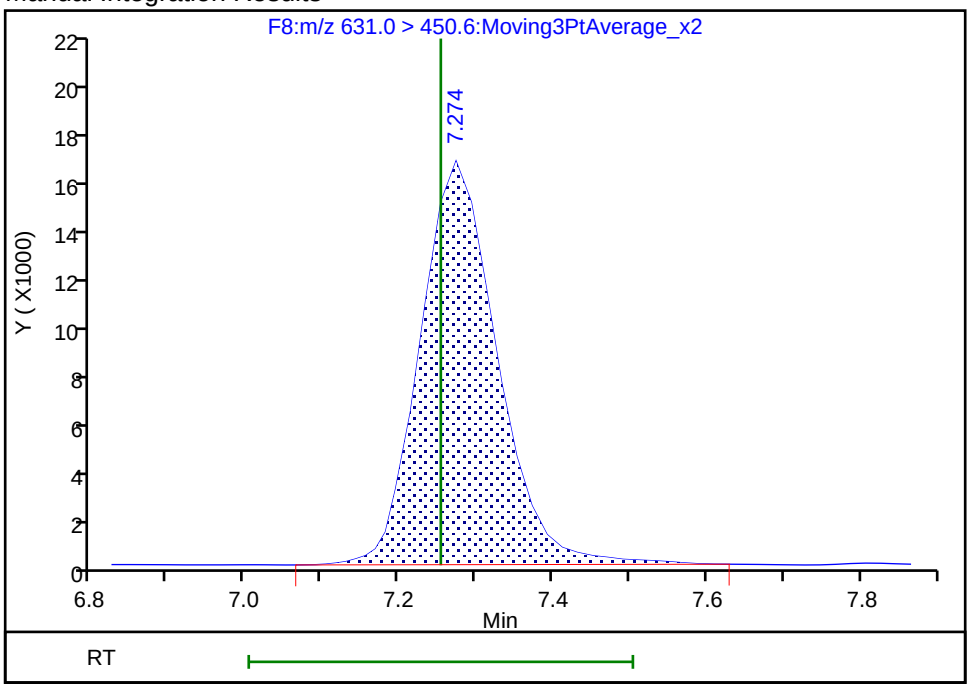
Not Detected
Expected RT: 7.25

Processing Integration Results



Manual Integration Results

RT: 7.27
Area: 113033
Amount: 4.820991
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:27:19
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 23-May-2019 13:07:19 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-005 IC 4
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:31:50 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 16:09:02
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.380	0.0	1.000	224135	49.5		99.1	66.6	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.380	0.0	1.000	75076	10.7		107	106	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.795	0.035	1.000	97677	9.32		93.2	147	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	175044	51.0		102	517	
D 5 13C3 PFBS										M
302.0 > 79.8	2.901	2.866	0.035	1.000	68348	45.8		98.5	246	M
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	29709	8.04	Target=1.67	91.0	138	
298.9 > 98.9	2.866	2.866	0.0	0.988	25191		0.00(0.83-2.51)	91.0	157	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.238	3.238	0.0	1.116	17067	8.76		93.8	191	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.270	3.270	0.0	1.000	136954	9.37	Target=14.34	93.7	924	
312.9 > 118.9	3.302	3.270	0.032	1.010	10001		0.00(7.17-21.51)	93.7	145	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.270	0.0	1.000	522957	50.8		102	2153	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.334	3.334	0.0	1.149	35561	8.52	Target=1.23	90.8	312	M
348.9 > 98.9	3.334	3.334	0.0	1.000	41509		0.00(0.62-1.85)	90.8	180	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.428	3.429	-0.001	1.000	48658	49.7		99.4	413	
44 Perfluoro(2-propoxypropanoic) acid										M
328.9 > 284.7	3.428	3.429	-0.001	1.000	10102	9.63		96.3	209	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.833	0.036	1.000	176034	10.0	Target=2.84	100	939	
362.9 > 168.9	3.869	3.833	0.036	1.000	55713		0.00(1.42-4.26)	100	277	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	746772	51.5		103	2516	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.869	0.036	1.000	94643	49.6		105	721	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.905	0.0	1.000	32785	7.74	Target=1.34	85.1	314	M
398.9 > 98.9	3.905	3.905	0.0	1.000	39613		0.00(0.67-2.01)	85.1	264	M
49 DONA										
376.9 > 250.7	3.925	3.925	0.0	0.734	184154	9.53	Target=2.33	101	1162	
376.9 > 85.0	3.925	3.925	0.0	1.000	70700		0.00(1.16-3.49)	101	742	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.526	4.506	0.020	1.000	10457	11.0		116	66.6	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.506	0.020	1.000	47985	46.6		98.0	672	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.547	0.021		924916	50.0			3746	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.547	0.021	1.000	906891	50.5		101	1121	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.568	0.0	1.000	174968	9.53	Target=2.43	95.3	862	
412.9 > 168.9	4.568	4.568	0.0	1.000	63162		0.00(1.22-3.64)	95.3	432	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.588	4.589	-0.001	0.858	33502	8.56	Target=1.30	90.0	305	
448.9 > 98.9	4.588	4.589	-0.001	1.000	43123		0.00(0.65-1.95)	90.0	215	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.347	0.0	1.000	1267269	52.6		105	3779	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.347	0.0	1.000	218097	9.75	Target=5.00	97.5	1384	
462.9 > 168.9	5.347	5.347	0.0	1.000	51349		0.00(2.50-7.50)	97.5	261	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.347	0.0	1.000	214784	49.9		104	805	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.347	0.0	1.000	35846	8.26	Target=1.41	89.0	237	M
498.9 > 98.9	5.368	5.347	0.021	1.004	40384		0.00(0.71-2.12)	89.0	447	M
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.812	5.778	0.034	1.087	173388	8.78		94.2	1044	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	186232	49.7		104	945	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	22256	7.76		81.0	364	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.165	6.165	0.0	1.153	44368	10.2	Target=1.39	106	445	
548.9 > 98.9	6.165	6.165	0.0	1.000	47599		0.00(0.69-2.08)	106	234	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.165	0.0	1.000	1053759	51.3		103	3434	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										
512.9 > 468.5	6.165	6.165	0.0	1.000	197986	10.3	Target=7.23	103	1538	
512.9 > 168.9	6.165	6.165	0.0	1.000	24352		0.00(3.61-10.84)	103	185	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.525	6.501	0.024	1.004	56179	10.3		103	710	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.501	0.0	1.000	329223	49.2		98.3	1258	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.873	0.0	1.000	298773	54.1		108	1367	
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.897	6.897	0.0	1.290	41570	8.91	Target=1.25	92.4	347	M
598.9 > 98.9	6.897	6.897	0.0	1.000	48288		0.00(0.63-1.88)	92.4	379	M
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.897	6.897	0.0	1.003	47525	9.88		98.8	383	M
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.000	177118	9.73	Target=7.06	97.3	728	
562.9 > 168.9	6.921	6.921	0.0	1.000	24065		0.00(3.53-10.58)	97.3	187	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.921	0.0	1.000	1092786	55.1		110	6348	
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.921	0.024	1.000	403589	54.5		109	1375	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.921	6.921	0.0	0.997	108952	9.48		94.8	413	
43 11-Chloroeicosafluoro-3-oxaundecan										Ma
631.0 > 450.6	7.254	7.254	0.0	1.357	223070	8.85		94.0	2189	M
36 Perfluorododecanoic acid										
612.9 > 568.5	7.616	7.616	0.0	1.000	237036	9.62	Target=5.37	96.2	1000	
612.9 > 168.9	7.616	7.616	0.0	1.000	41715		0.00(2.68-8.06)	96.2	240	
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.616	0.0	1.000	1298670	51.3		103	2409	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.235	8.224	0.011	1.081	236839	9.73	Target=4.67	97.3	1362	
662.9 > 168.9	8.246	8.224	0.022	1.083	45814		0.00(2.34-7.01)	97.3	346	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.786	8.775	0.011	1.000	1104427	48.6		97.3	479	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.786	8.786	0.0	1.000	191853	10.2	Target=4.86	102	719	
712.9 > 168.9	8.786	8.786	0.0	1.000	38440		0.00(2.43-7.30)	102	285	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27-L4_00004 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:31:50 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d

Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410

Lims ID: IC

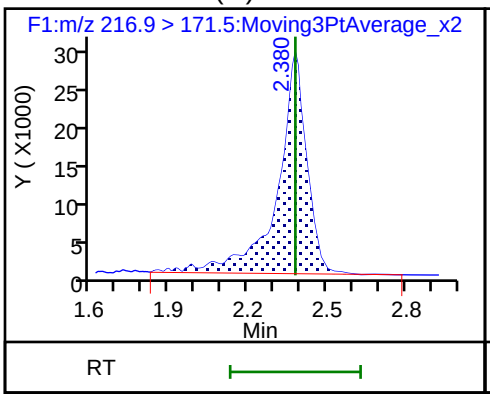
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5

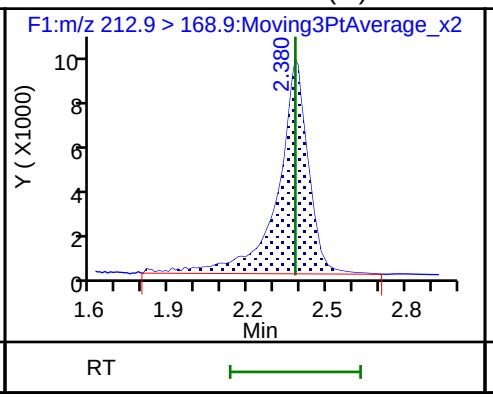
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

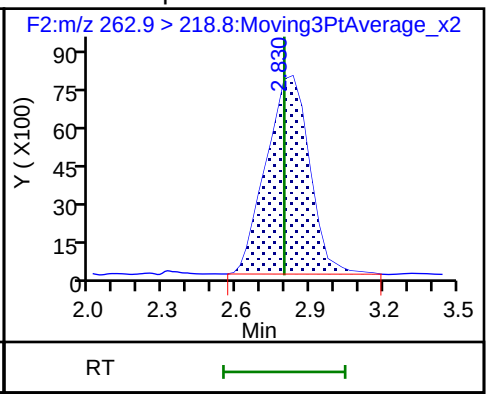
D 1 13C4 PFBA (M)



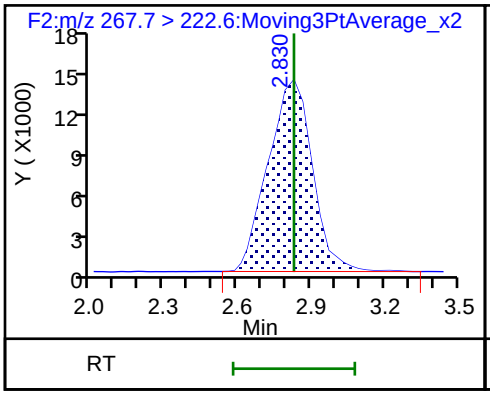
2 Perfluorobutanoic acid (M)



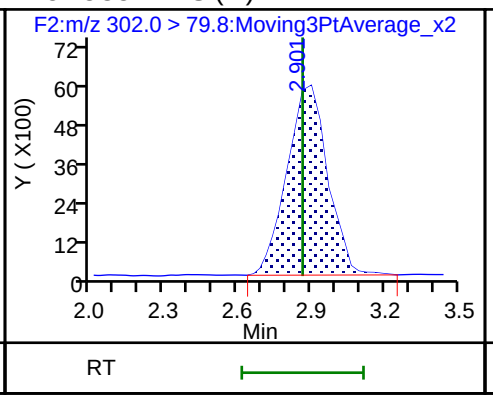
3 Perfluoropentanoic acid



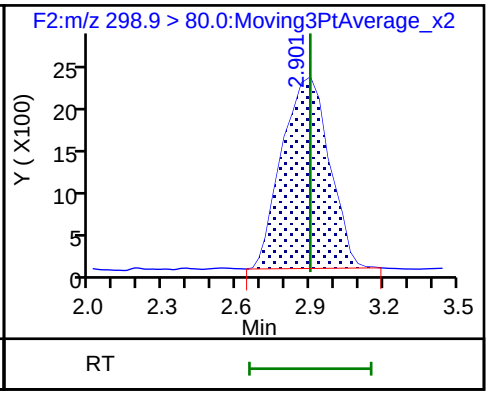
D 4 13C5 PFPeA



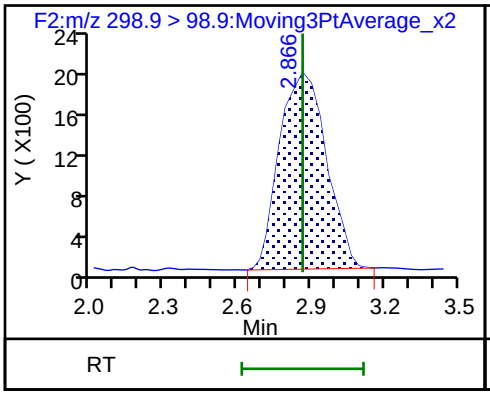
D 5 13C3 PFBS (M)



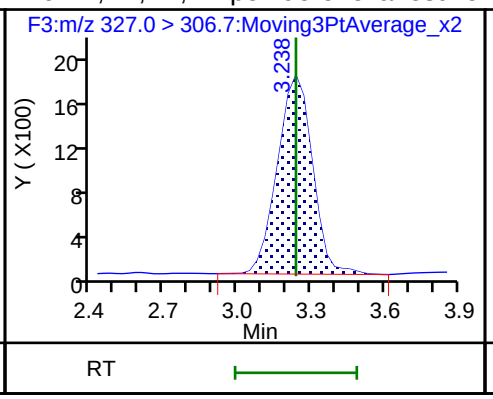
6 Perfluorobutanesulfonic acid



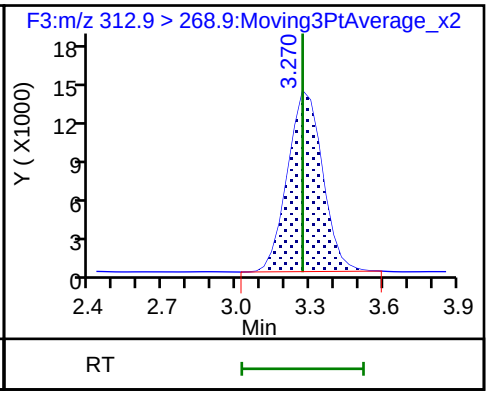
6 Perfluorobutanesulfonic acid



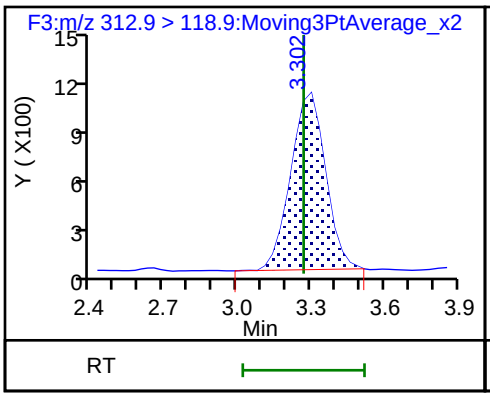
46 1H,1H,2H,2H-perfluorohexanesulfoni



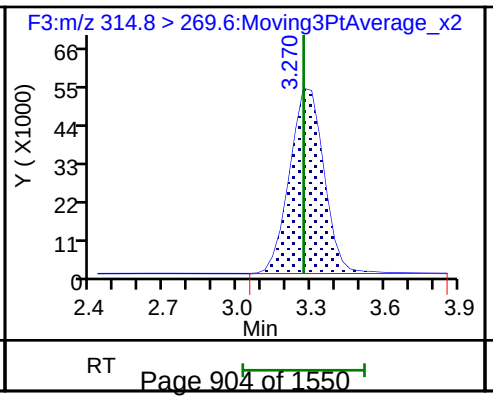
7 Perfluorohexanoic acid



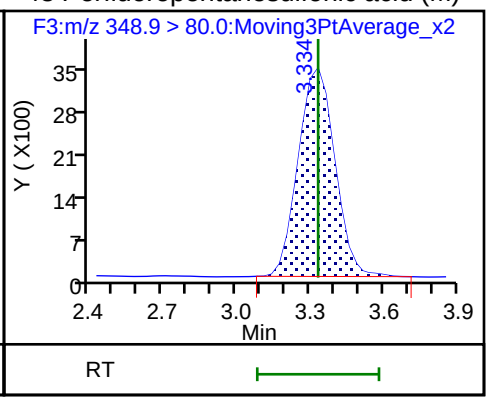
7 Perfluorohexanoic acid



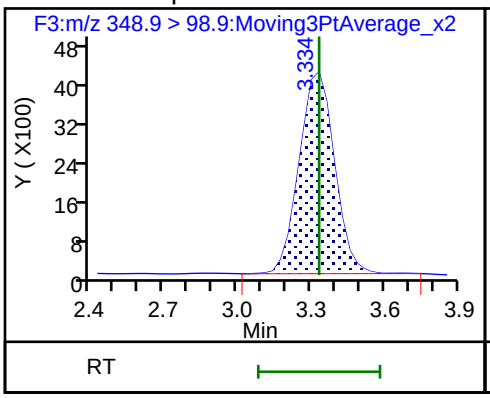
D 8 13C2 PFHxA



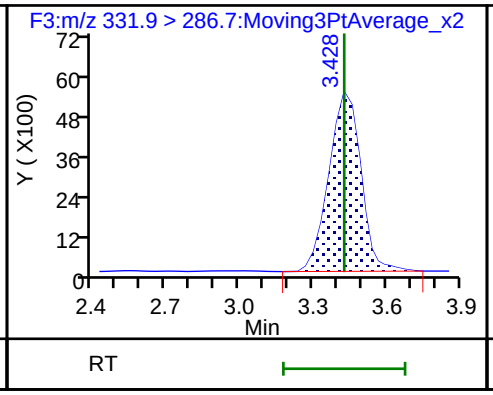
48 Perfluoropentanesulfonic acid (M)



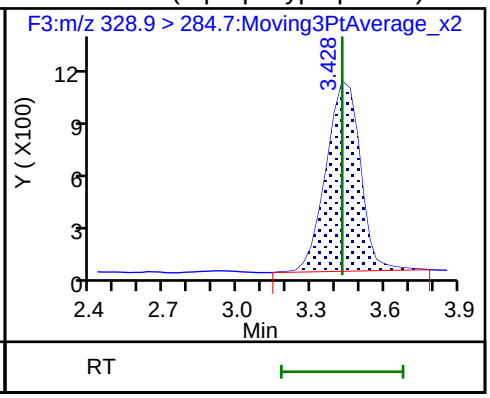
48 Perfluoropentanesulfonic acid



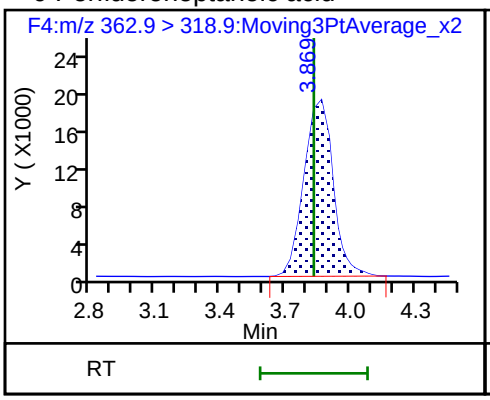
D 42 13C3 HFPO-DA



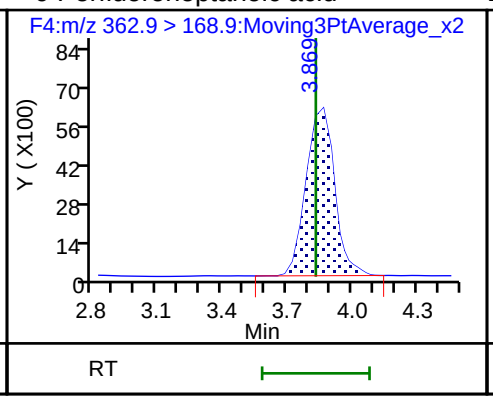
44 Perfluoro(2-propoxypropanoic) acid (M)



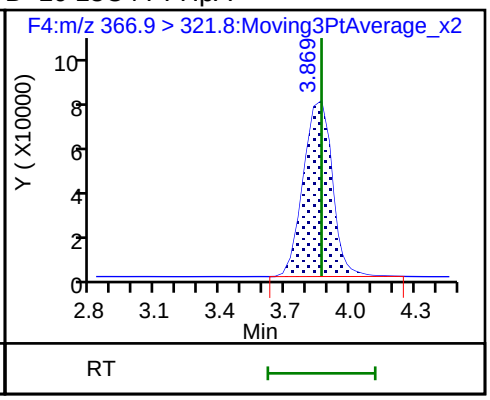
9 Perfluoroheptanoic acid



9 Perfluoroheptanoic acid



D 10 13C4 PFHpA



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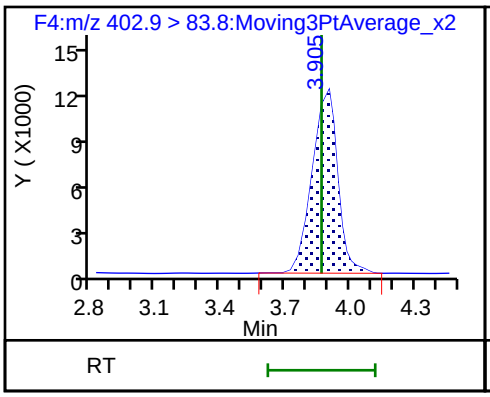
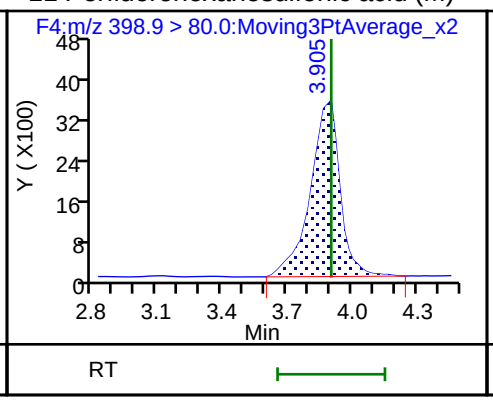
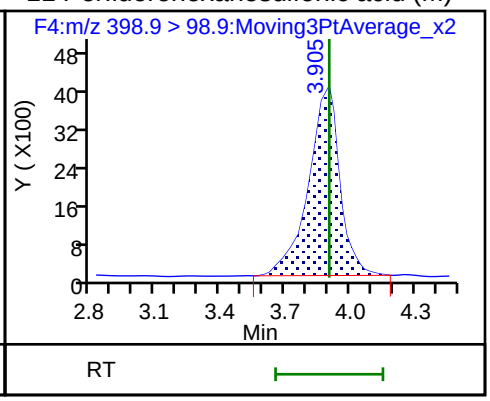


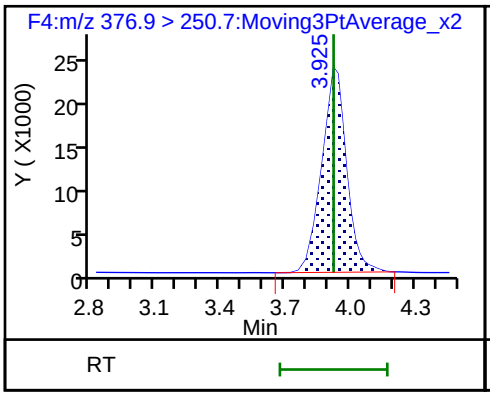
11 Perfluorohexanesulfonic acid (M)



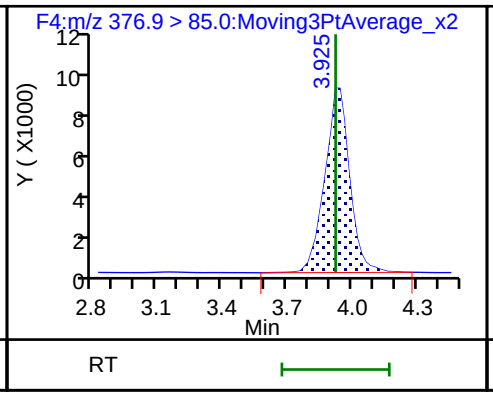
11 Perfluorohexanesulfonic acid (M)



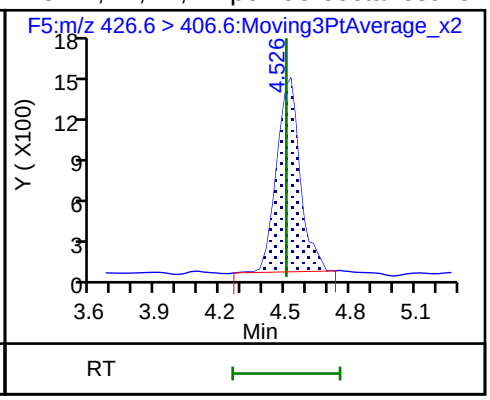
49 DONA



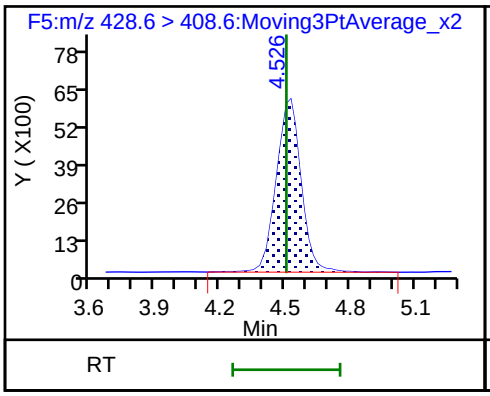
49 DONA



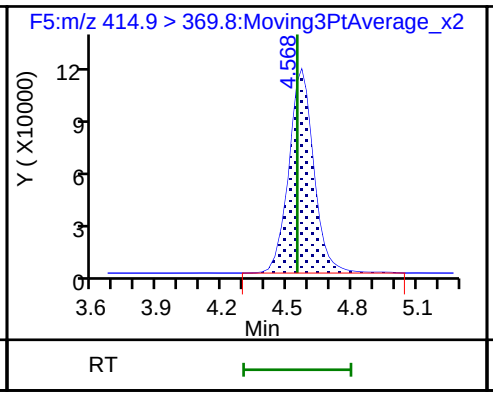
13 1H,1H,2H,2H-perfluorooctanesulfoni



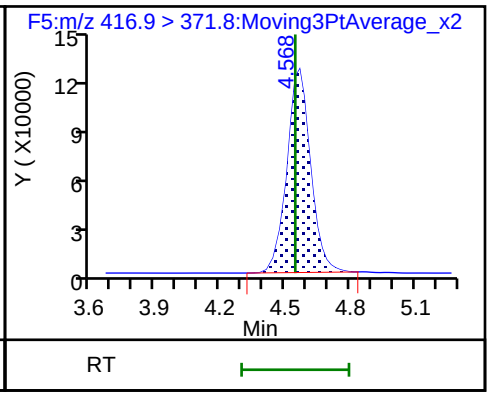
D 14 M2-6:2 FTS



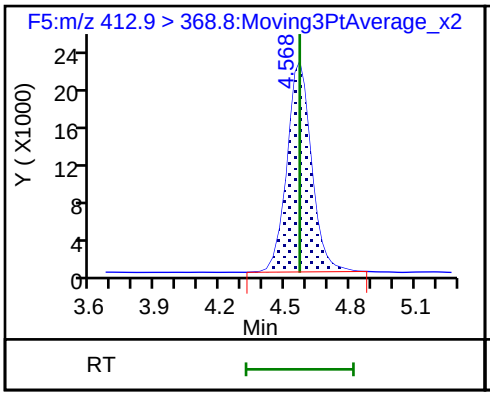
* 16 13C2 PFOA



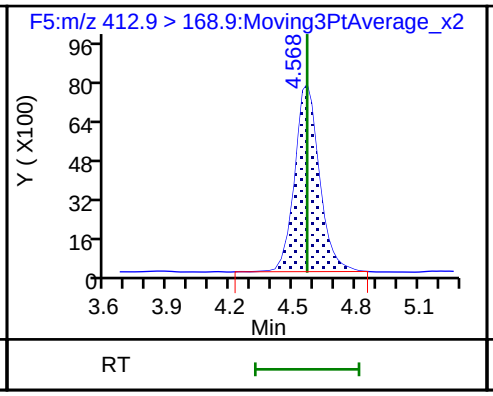
D 17 13C4 PFOA



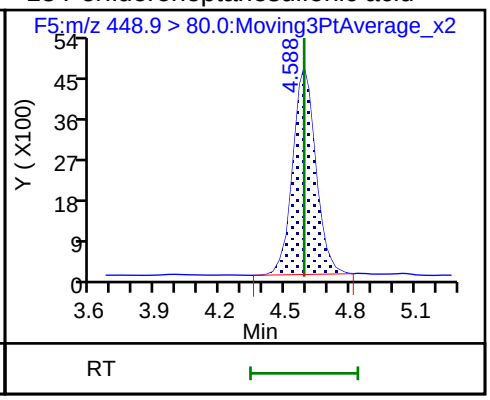
15 Perfluorooctanoic acid



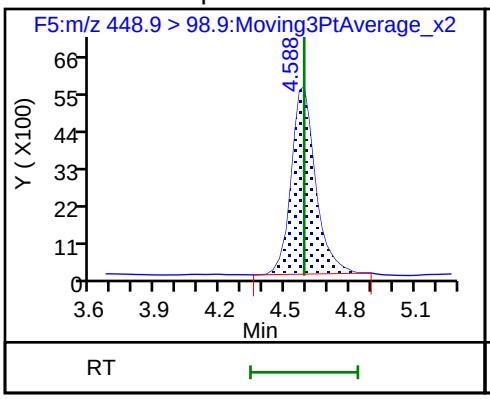
15 Perfluorooctanoic acid



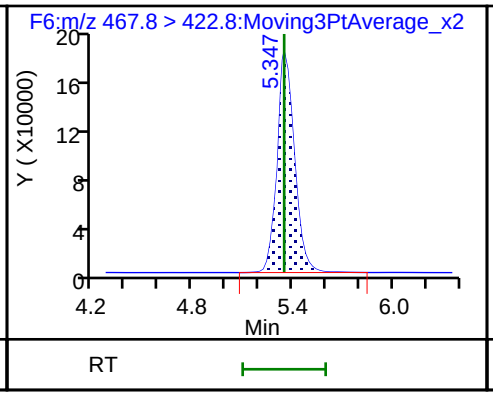
18 Perfluoroheptanesulfonic acid



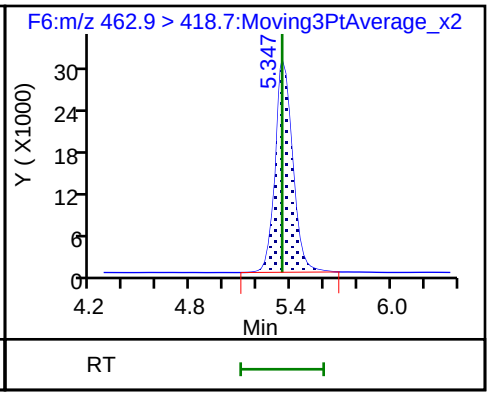
18 Perfluoroheptanesulfonic acid



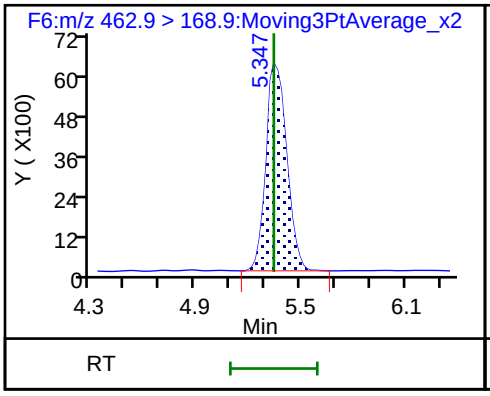
D 20 13C5 PFNA



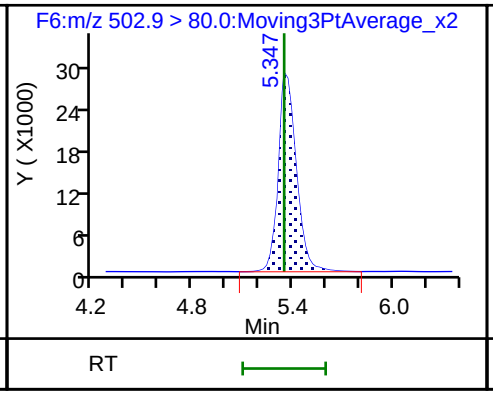
19 Perfluorononanoic acid



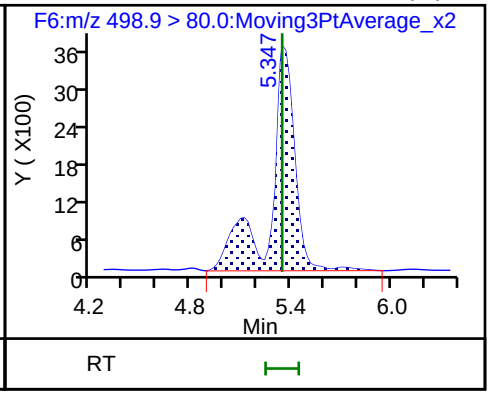
19 Perfluorononanoic acid



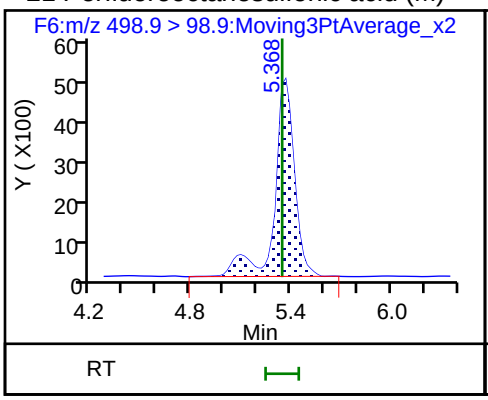
D 22 13C4 PFOS



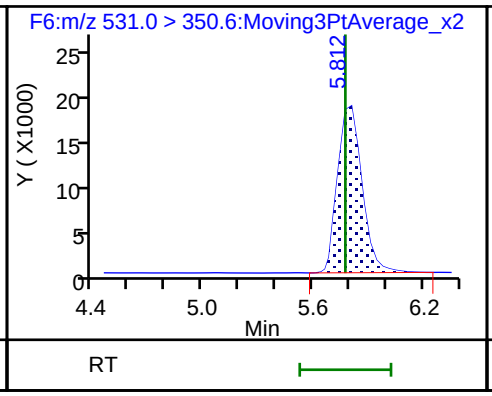
21 Perfluorooctanesulfonic acid (M)



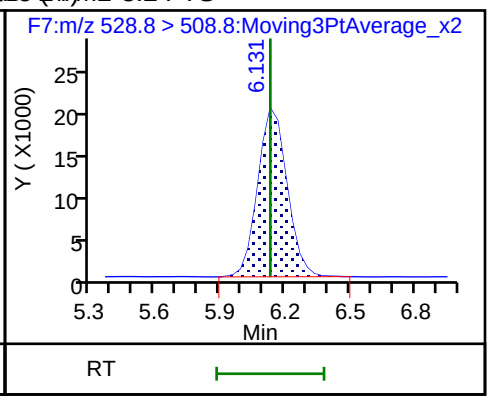
21 Perfluorooctanesulfonic acid (M)



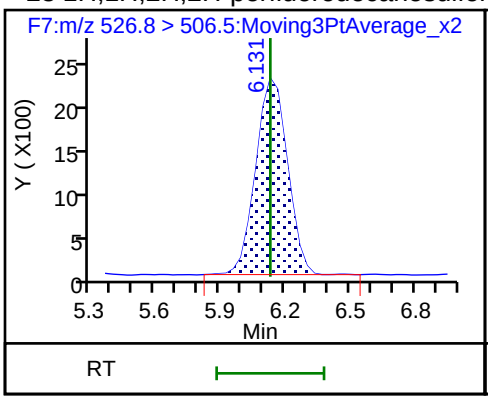
47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid



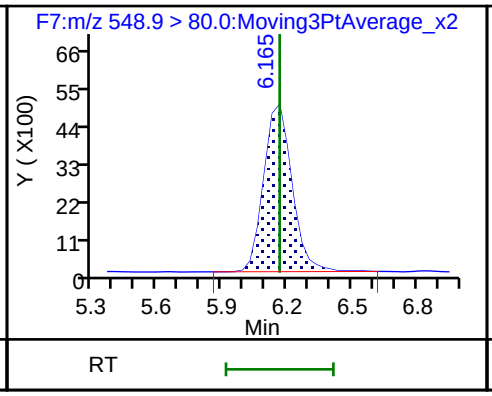
D 24 M2-8:2 FTS



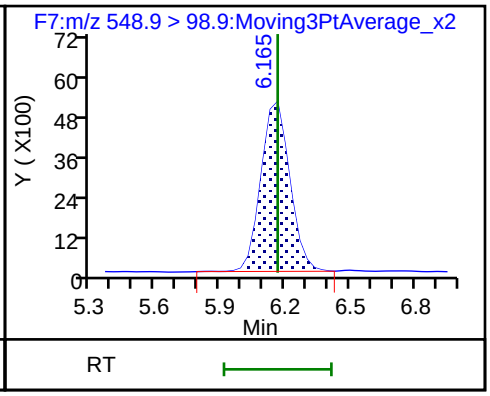
23 1H,1H,2H-perfluorodecanesulfoni



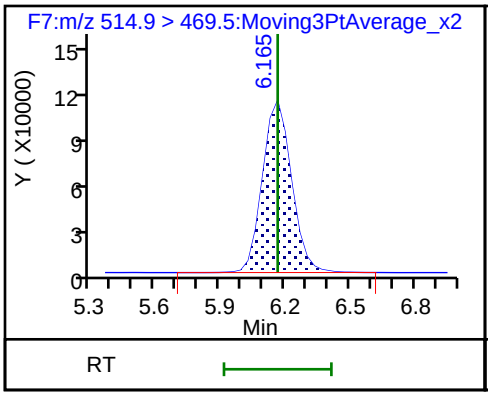
45 Perfluorononanesulfonic acid



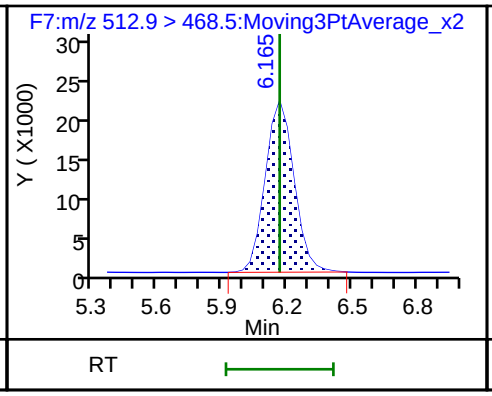
45 Perfluorononanesulfonic acid



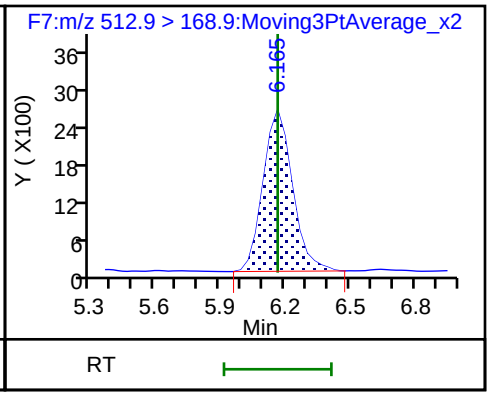
D 25 13C2 PFDA



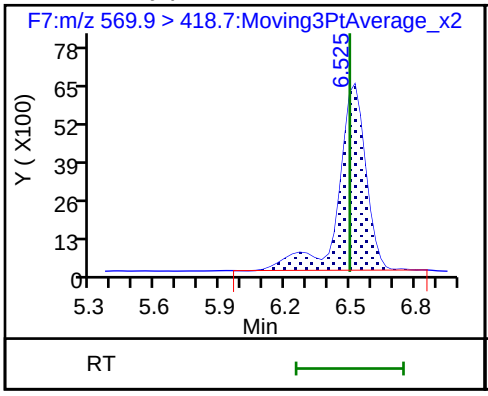
26 Perfluorodecanoic acid



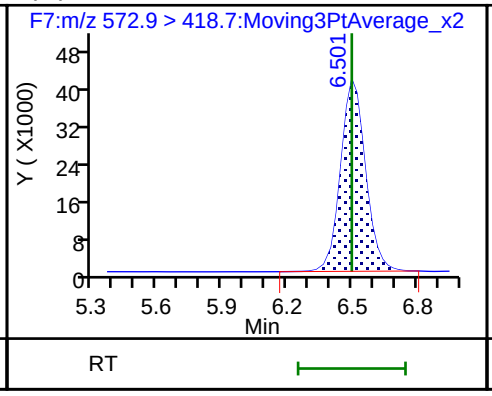
26 Perfluorodecanoic acid



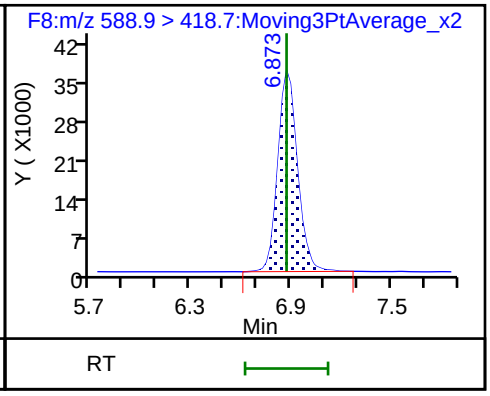
28 N-methylperfluorooctanesulfonamidoacetic acid (M)



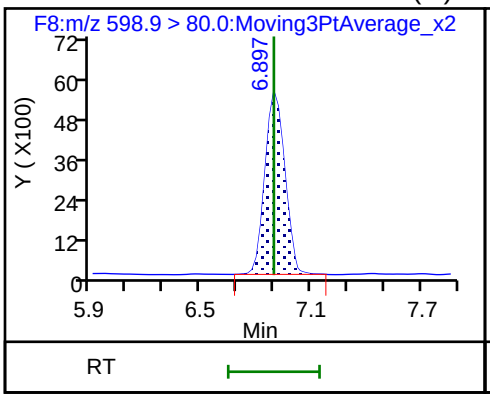
D 27 d3-NMeFOSAA



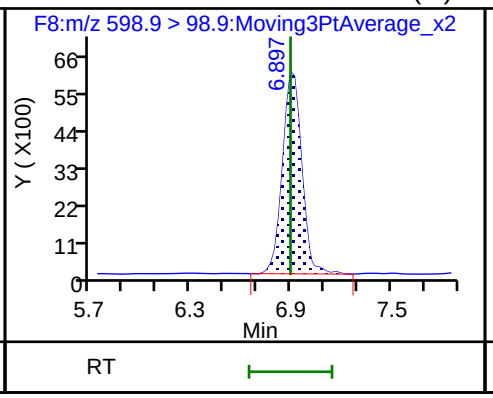
D 29 d5-NEtFOSAA



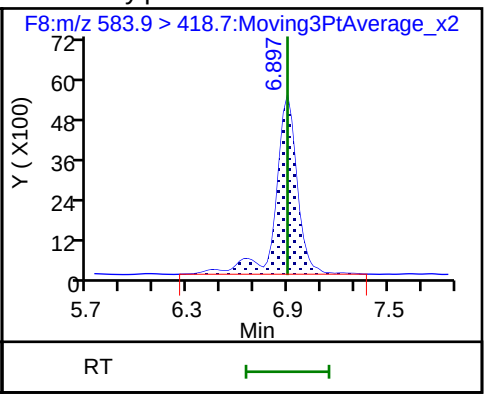
31 Perfluorodecanesulfonic acid (M)



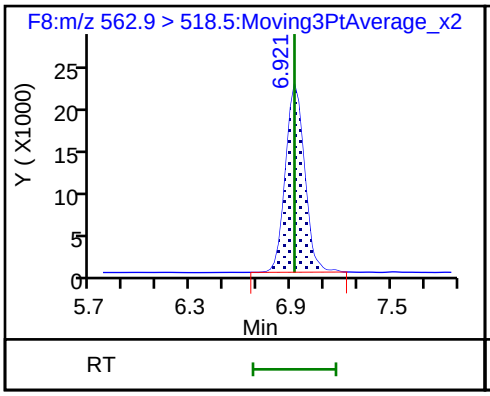
31 Perfluorodecanesulfonic acid (M)



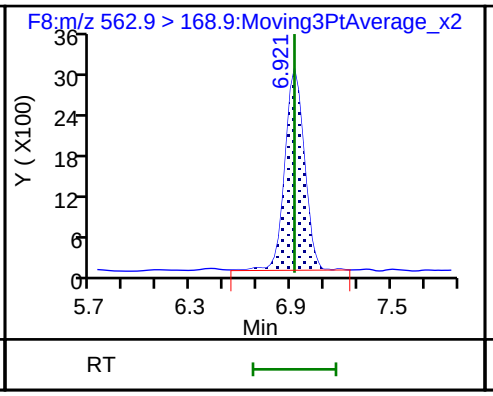
30 N-ethylperfluorooctanesulfonamidoa (M)



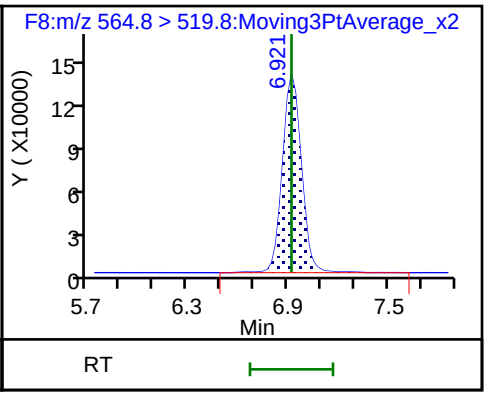
32 Perfluoroundecanoic acid



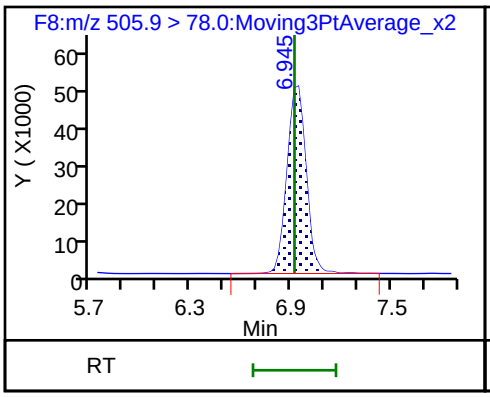
32 Perfluoroundecanoic acid



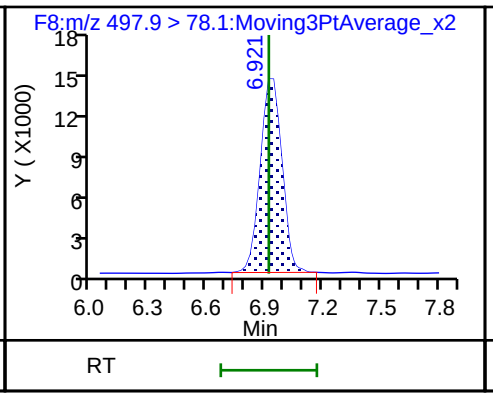
D 33 13C2 PFUnA



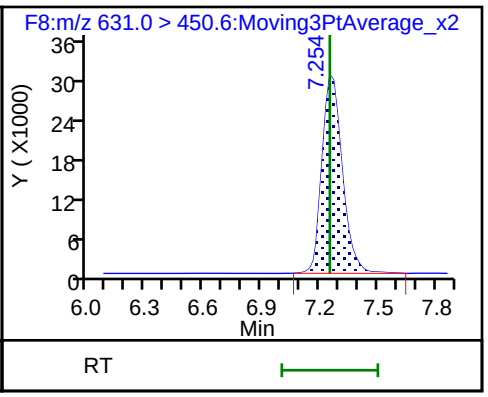
D 34 13C8 FOSA



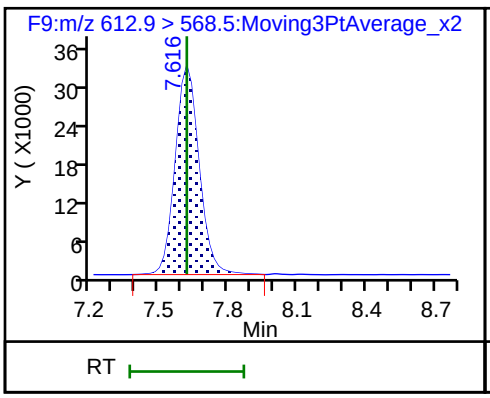
35 Perfluorooctanesulfonamide



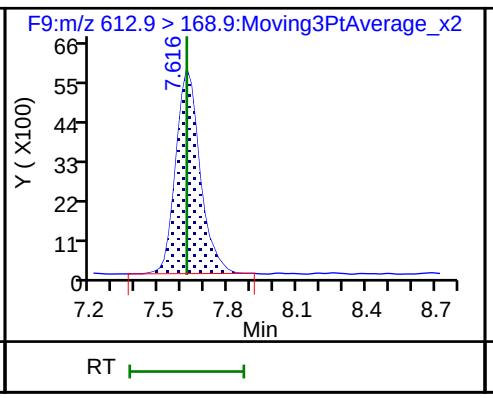
43 11-Chloroeicosafluoro-3-oxaundecan (M)



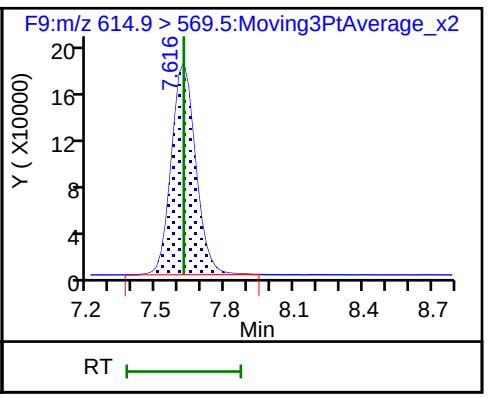
36 Perfluorododecanoic acid



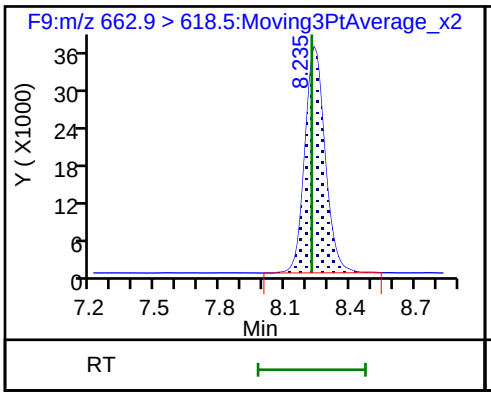
36 Perfluorododecanoic acid



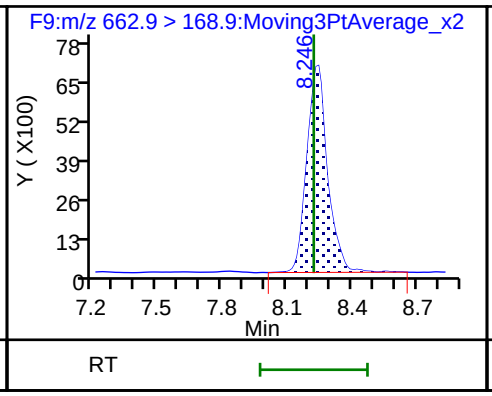
D 37 13C2 PFDoA



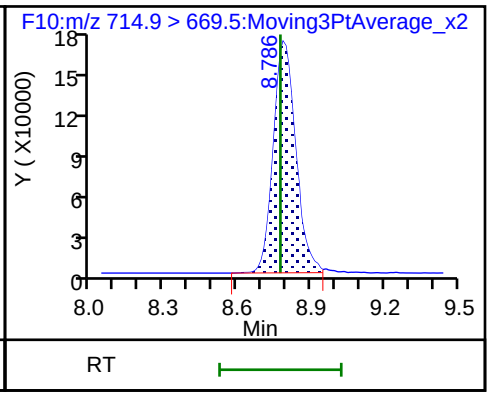
38 Perfluorotridecanoic acid



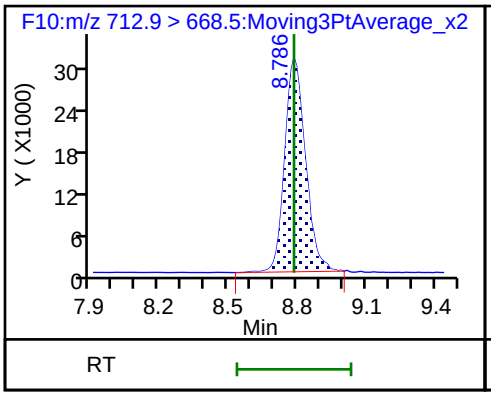
38 Perfluorotridecanoic acid



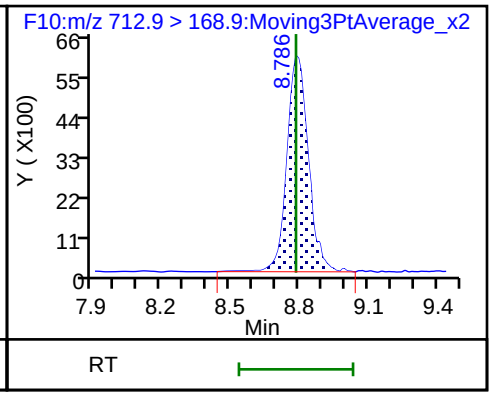
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

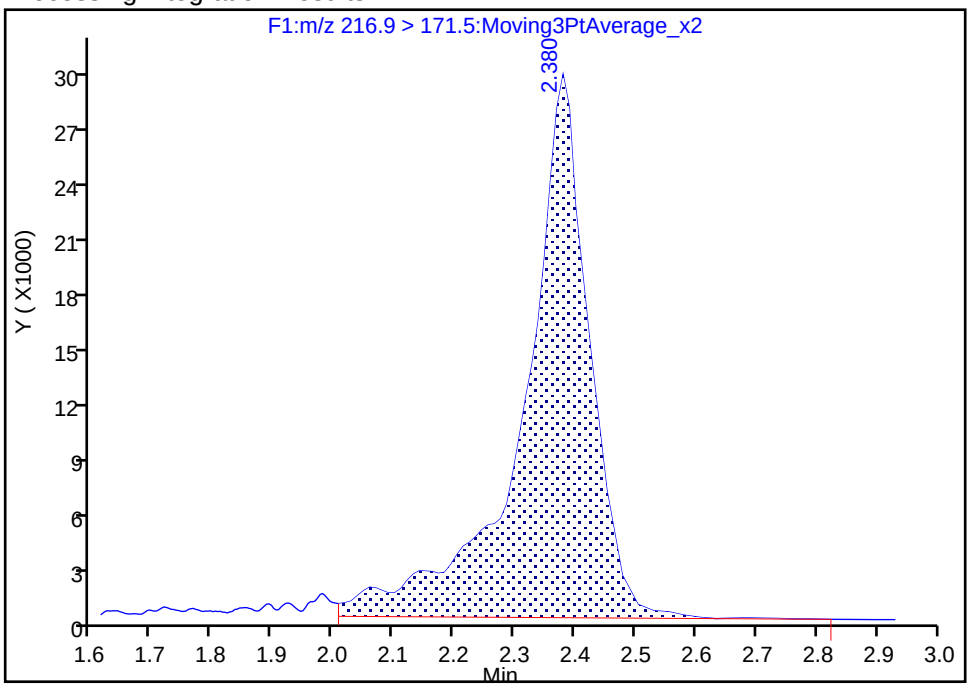
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

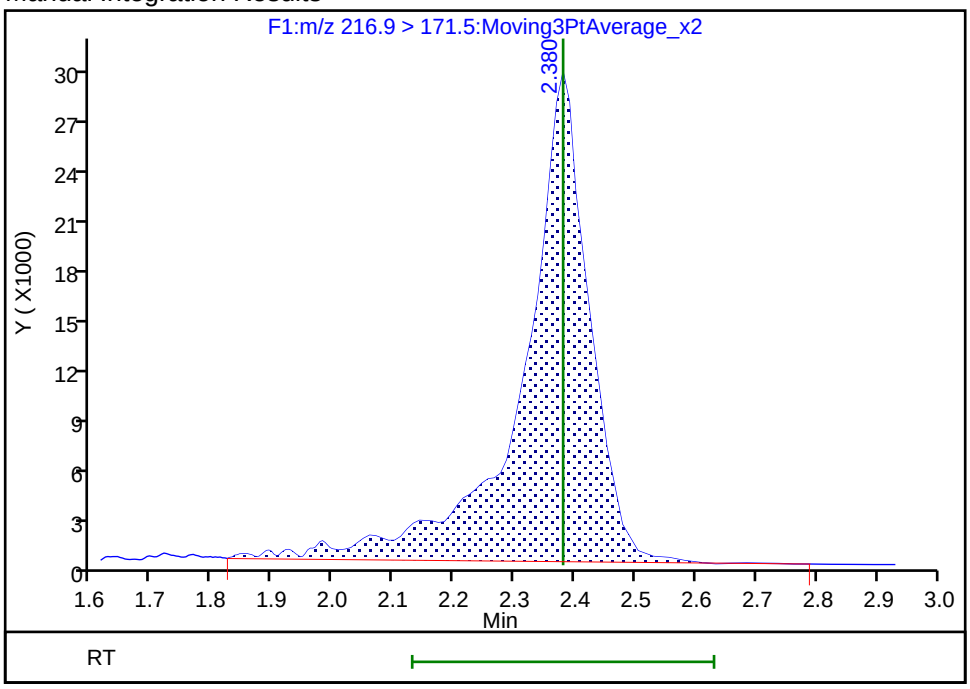
Processing Integration Results

RT: 2.38
Area: 222543
Amount: 50.231268
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 224135
Amount: 49.549490
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:07:22
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

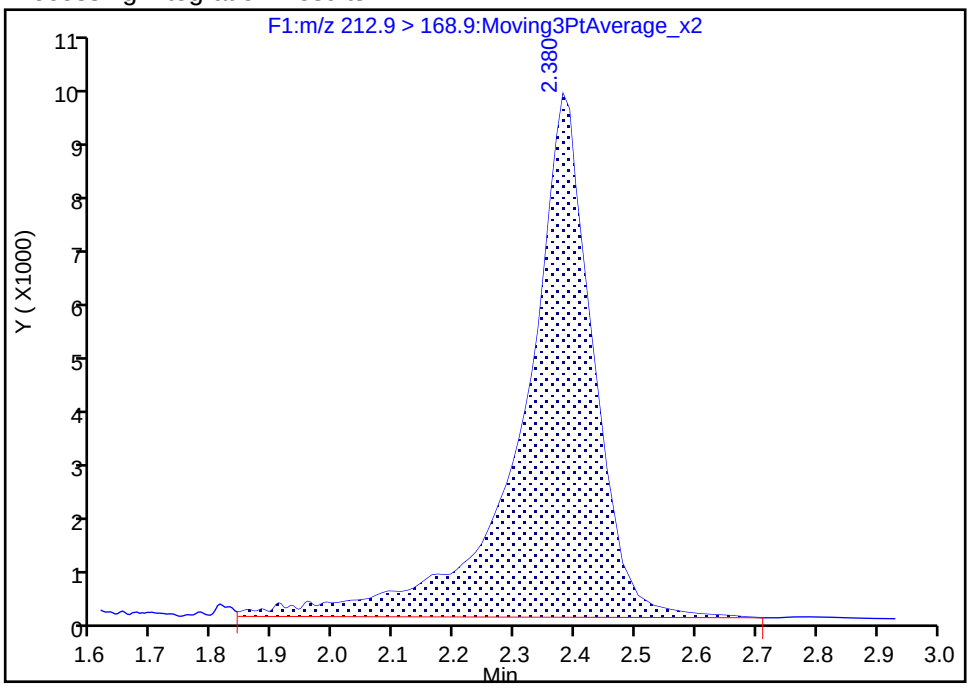
Data File:	\\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d				
Injection Date:	23-May-2019 13:07:19	Instrument ID:	LC410		
Lims ID:	IC				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

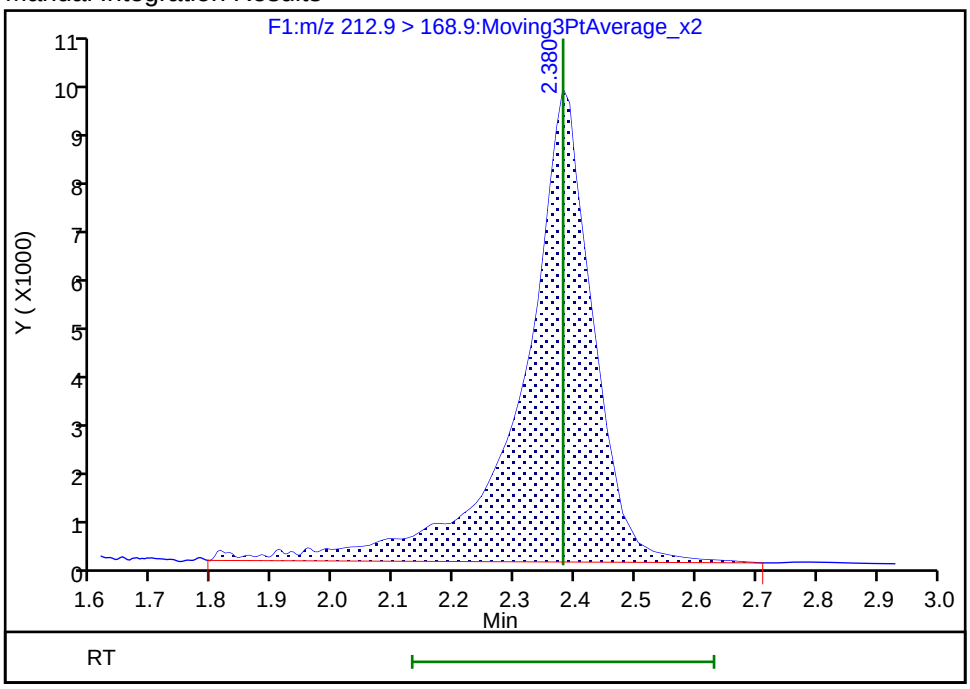
Processing Integration Results

RT: 2.38
Area: 75319
Amount: 10.457112
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 75076
Amount: 10.667553
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:07:27

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

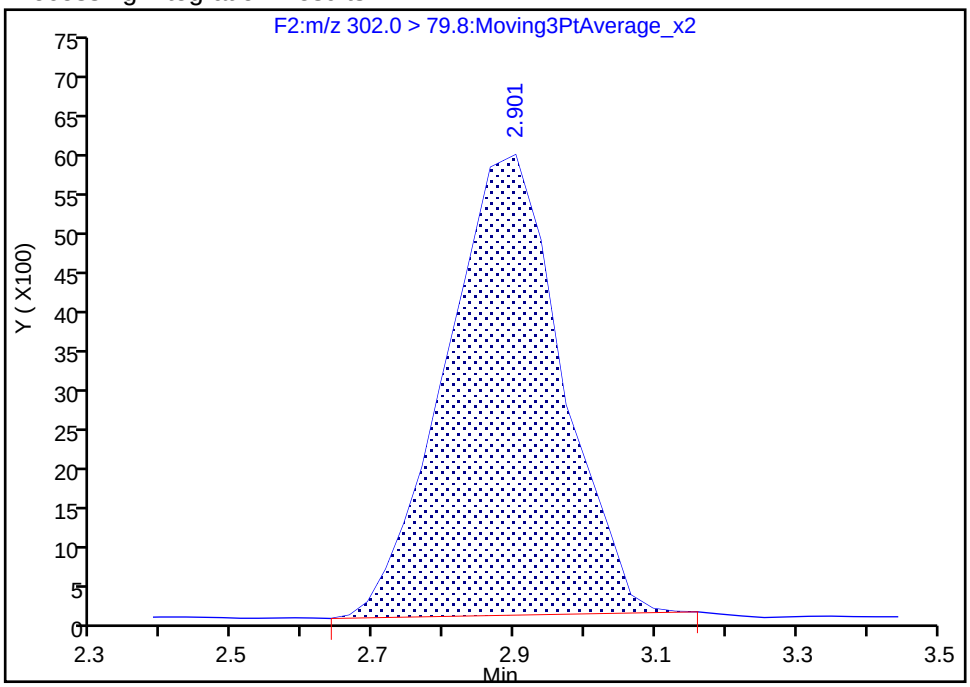
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

D 5 13C3 PFBS, CAS: STL02337

Signal: 1

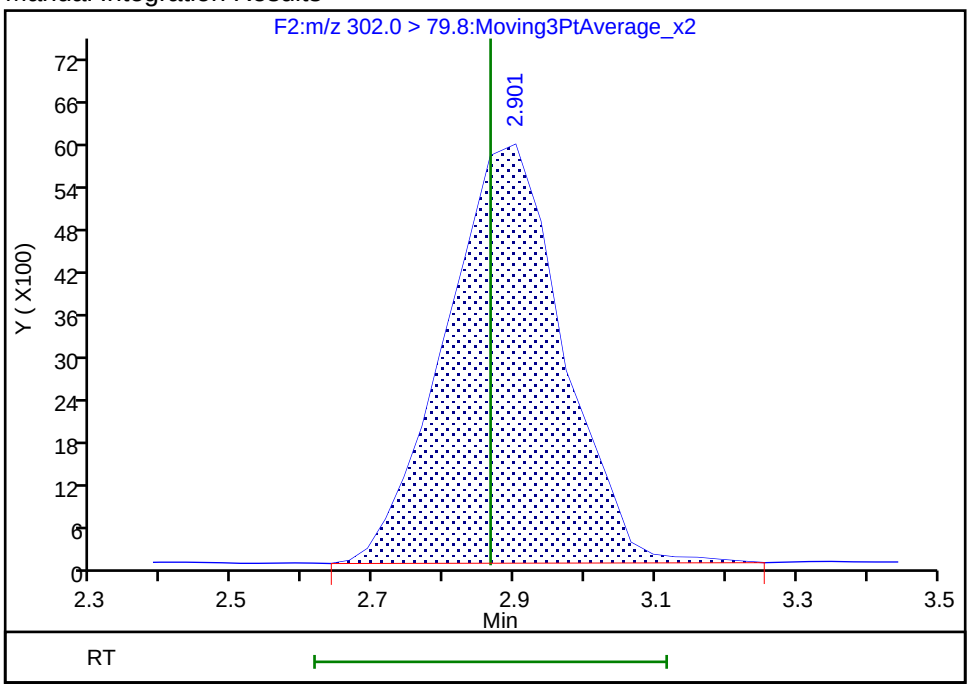
Processing Integration Results

RT: 2.90
Area: 66982
Amount: 44.976786
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 68348
Amount: 45.793655
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:07:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

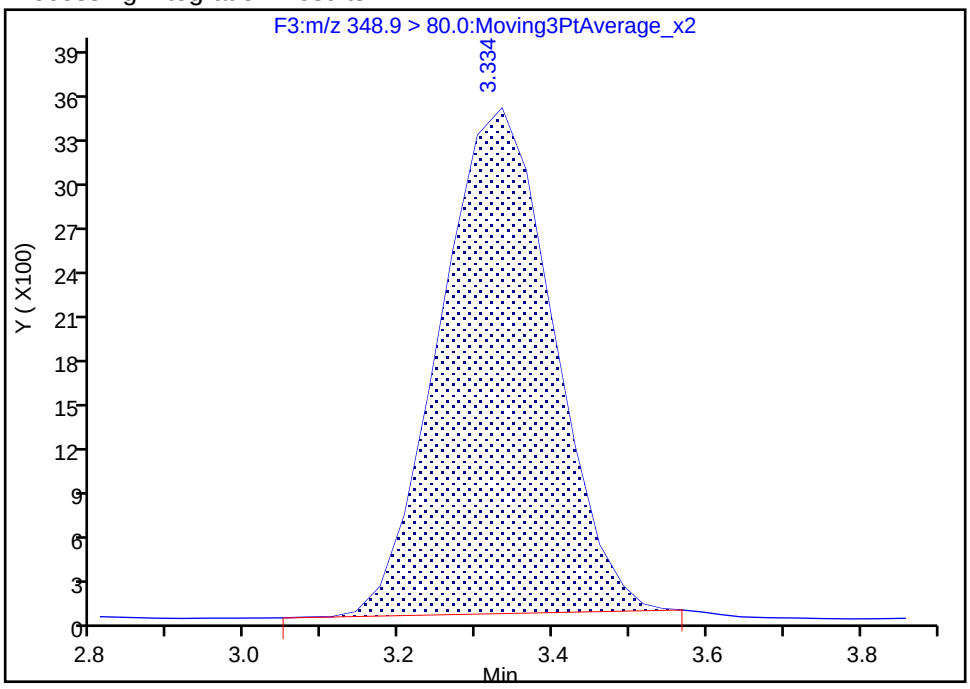
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 1

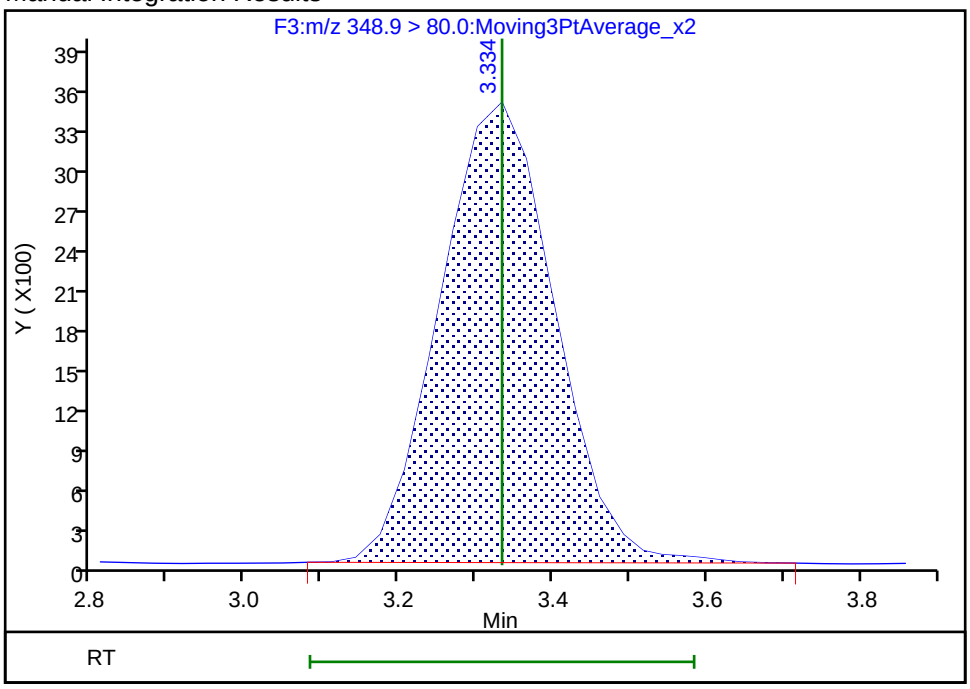
Processing Integration Results

RT: 3.33
Area: 34683
Amount: 8.336899
Amount Units: ng/ml



Manual Integration Results

RT: 3.33
Area: 35561
Amount: 8.515638
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:07:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

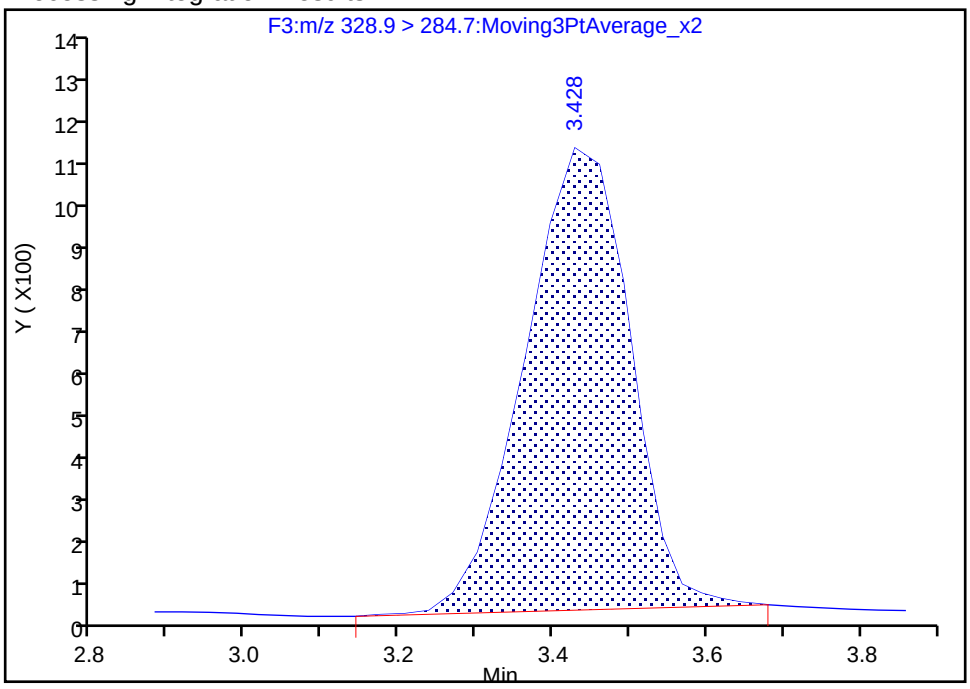
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

44 Perfluoro(2-propoxypropanoic) acid, CAS: 13252-13-6

Signal: 1

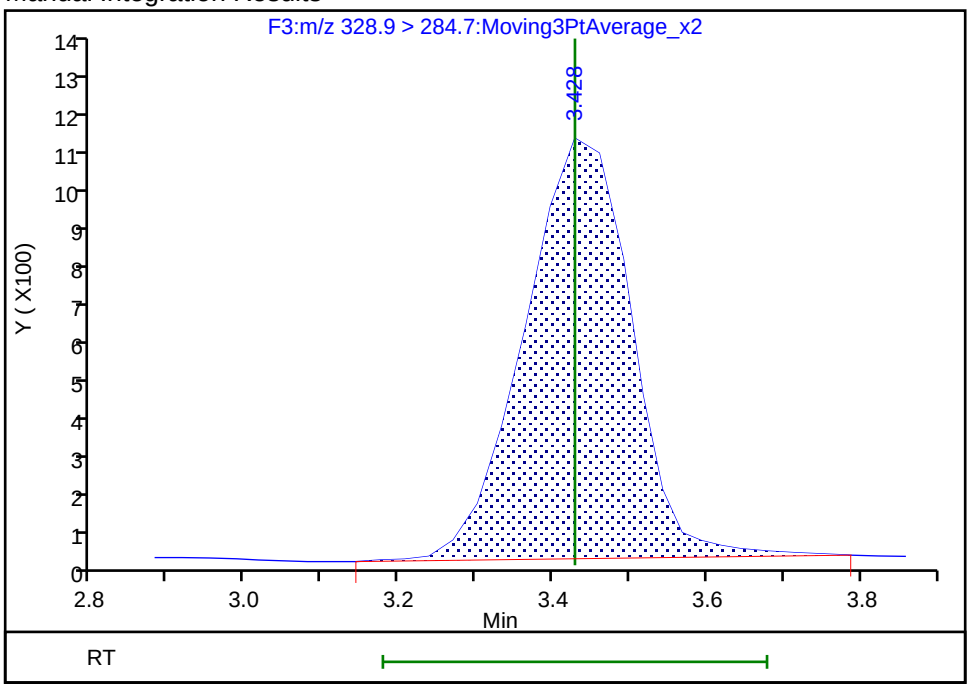
Processing Integration Results

RT: 3.43
Area: 9859
Amount: 9.406547
Amount Units: ng/ml



Manual Integration Results

RT: 3.43
Area: 10102
Amount: 9.631826
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:07:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

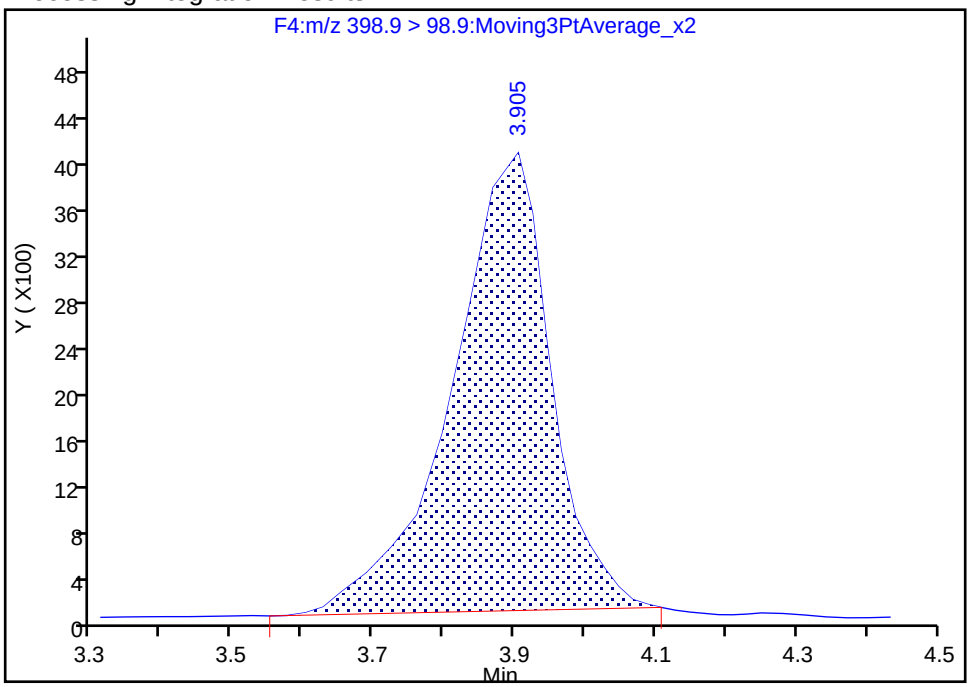
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

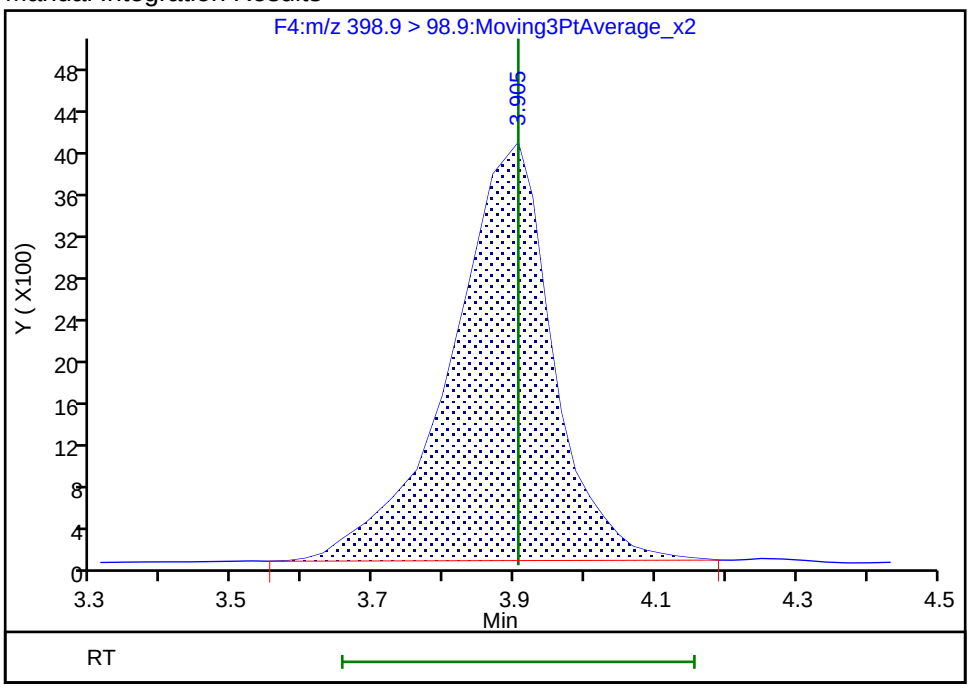
Processing Integration Results

RT: 3.91
Area: 38427
Amount: 7.519669
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 39613
Amount: 7.742663
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:07:54
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

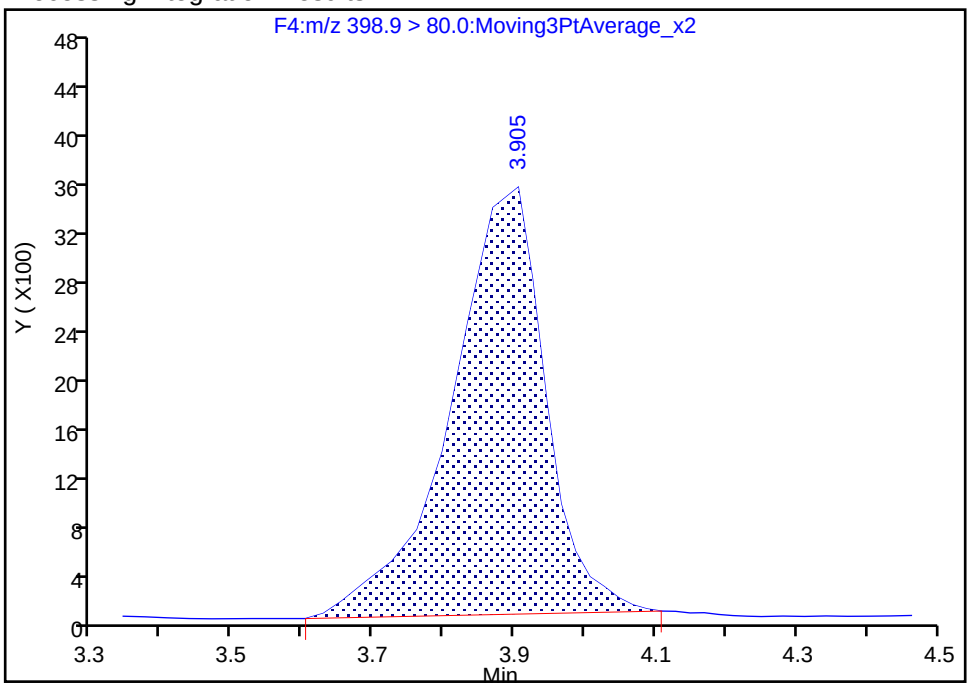
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

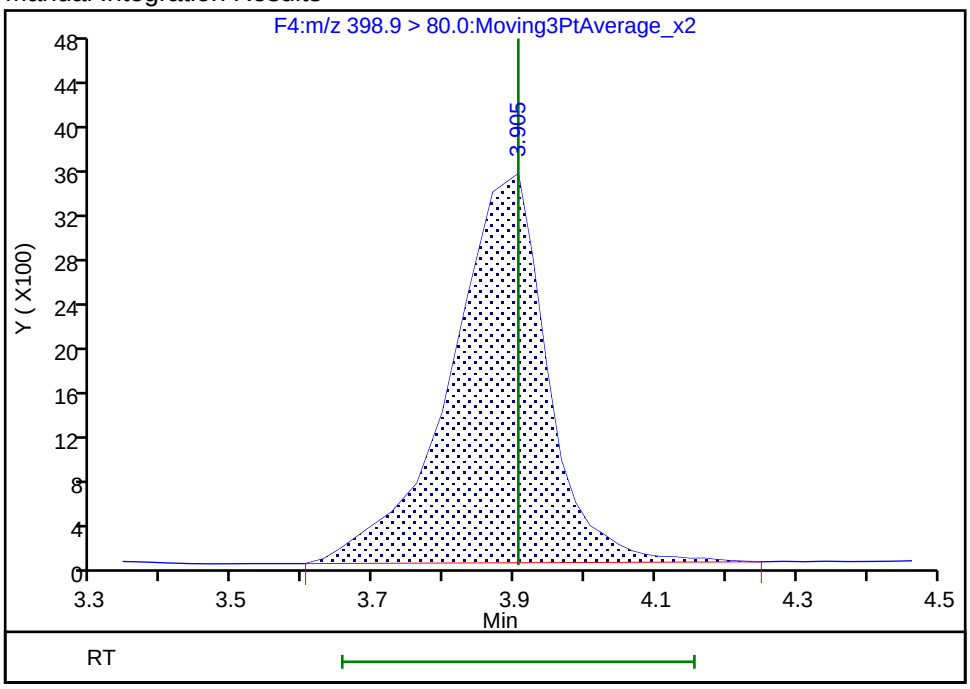
Processing Integration Results

RT: 3.91
Area: 31865
Amount: 7.519669
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 32785
Amount: 7.742663
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:26:29
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

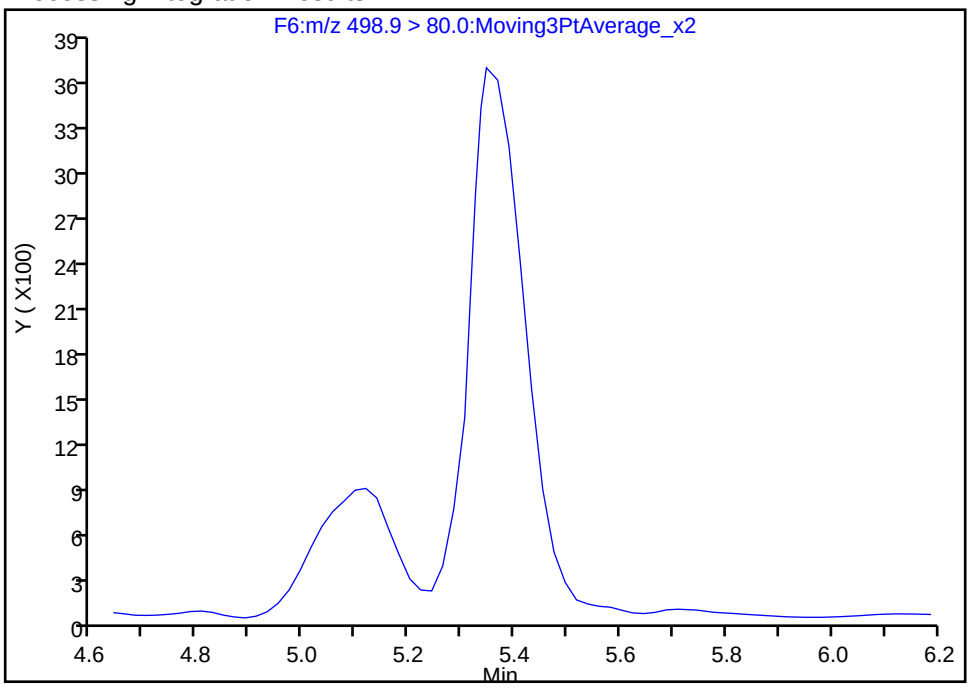
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

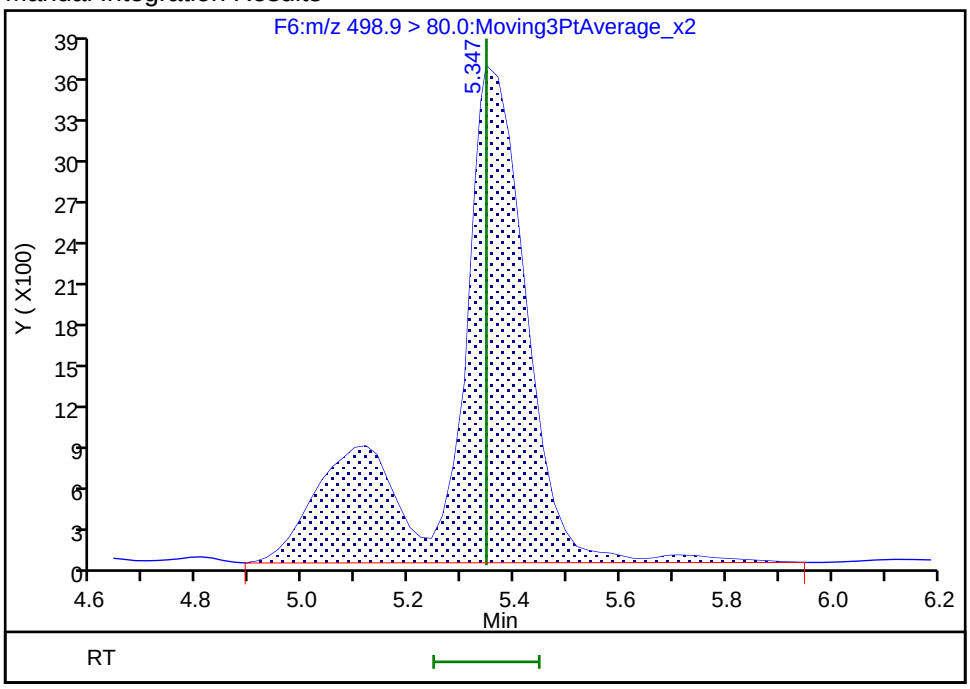
Not Detected
Expected RT: 5.35

Processing Integration Results



Manual Integration Results

RT: 5.35
Area: 35846
Amount: 8.260709
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:08:08
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

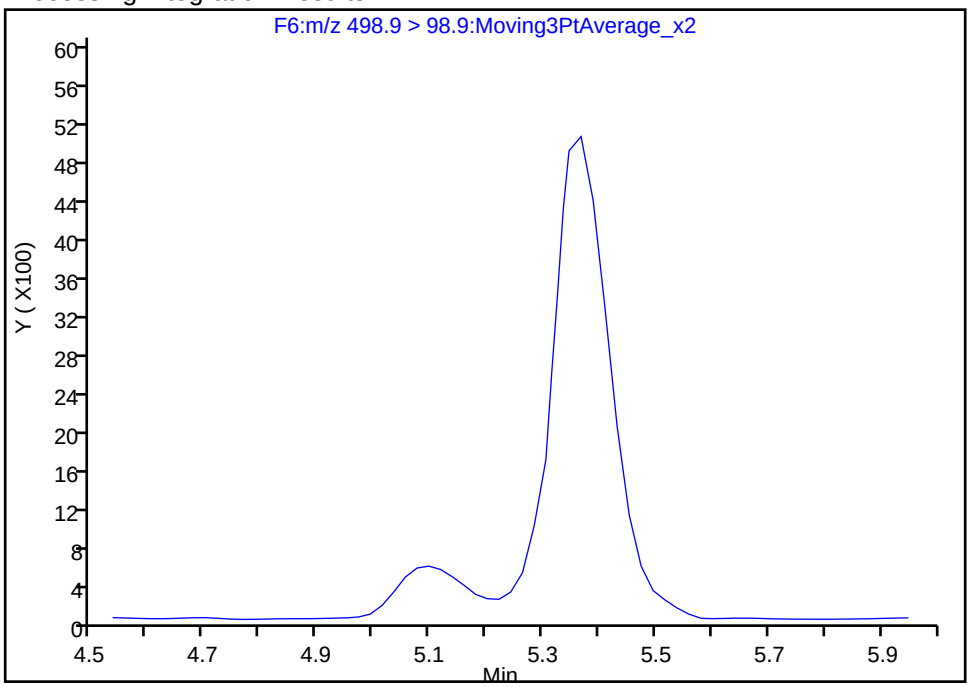
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

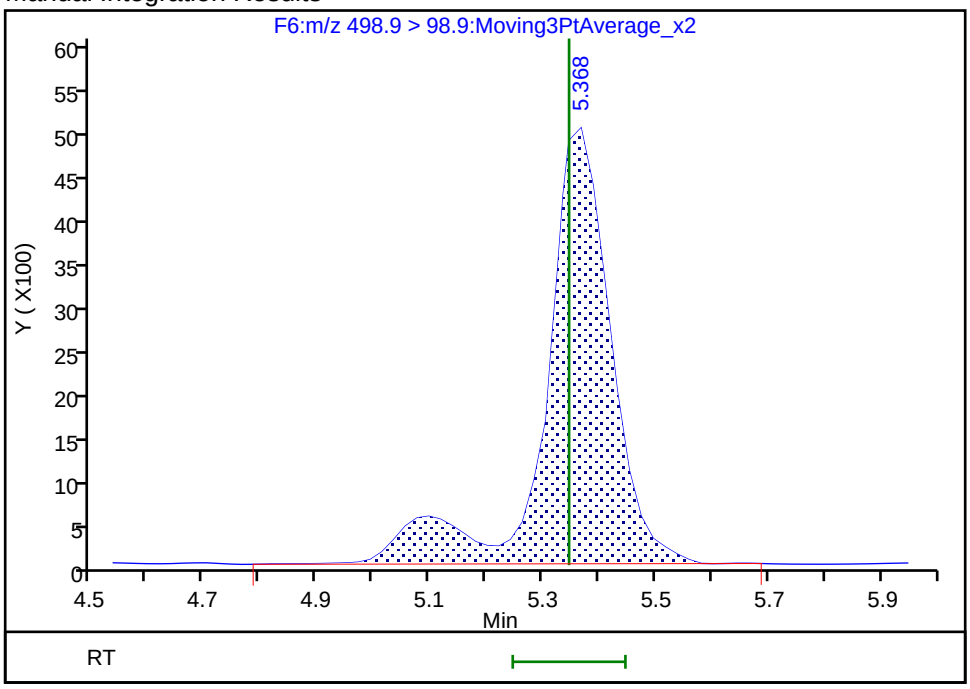
Not Detected
Expected RT: 5.35

Processing Integration Results



Manual Integration Results

RT: 5.37
Area: 40384
Amount: 8.260709
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:08:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

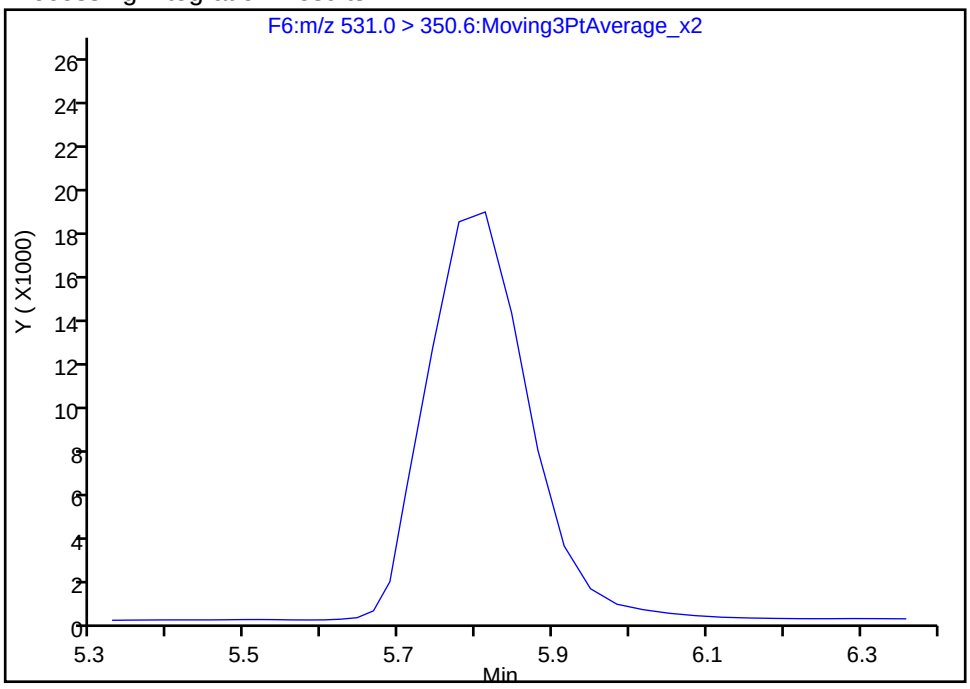
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

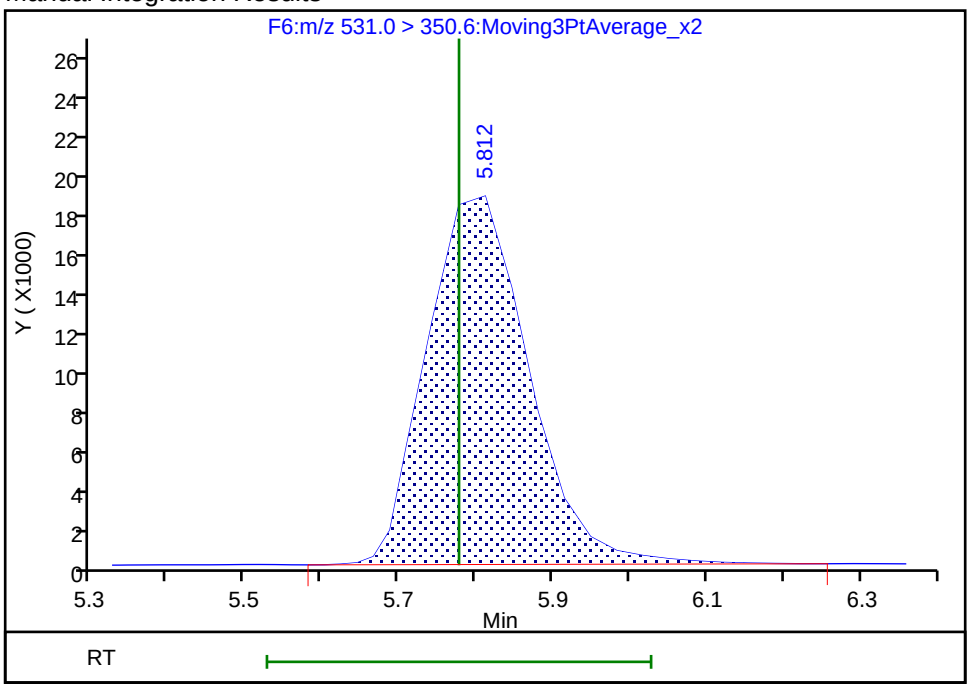
Not Detected
Expected RT: 5.78

Processing Integration Results



Manual Integration Results

RT: 5.81
Area: 173388
Amount: 8.776688
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:27:29
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

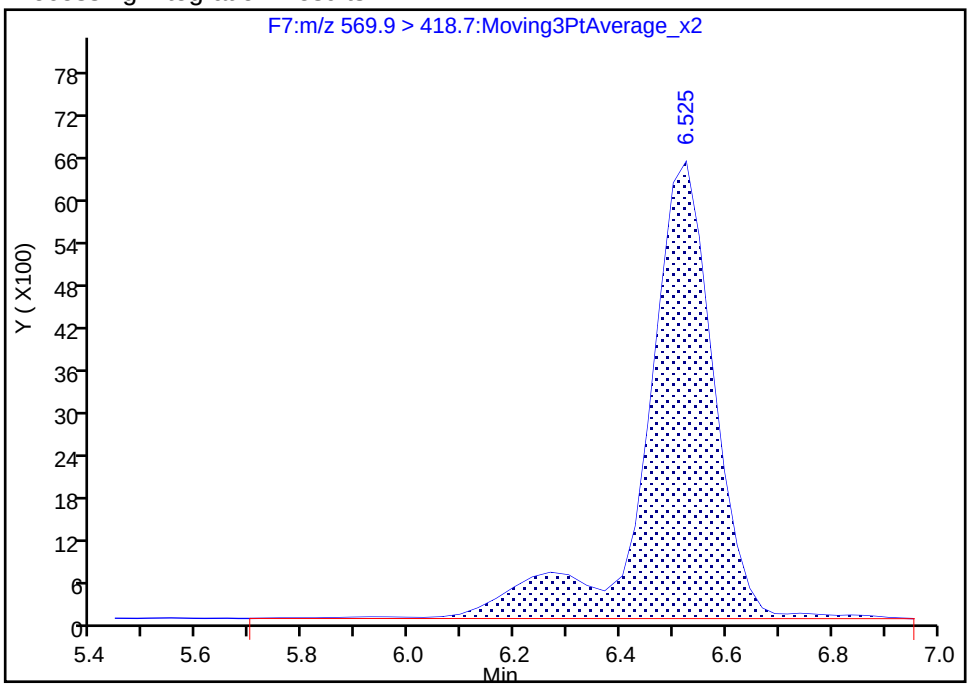
Data File:	\\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d				
Injection Date:	23-May-2019 13:07:19	Instrument ID:	LC410		
Lims ID:	IC				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

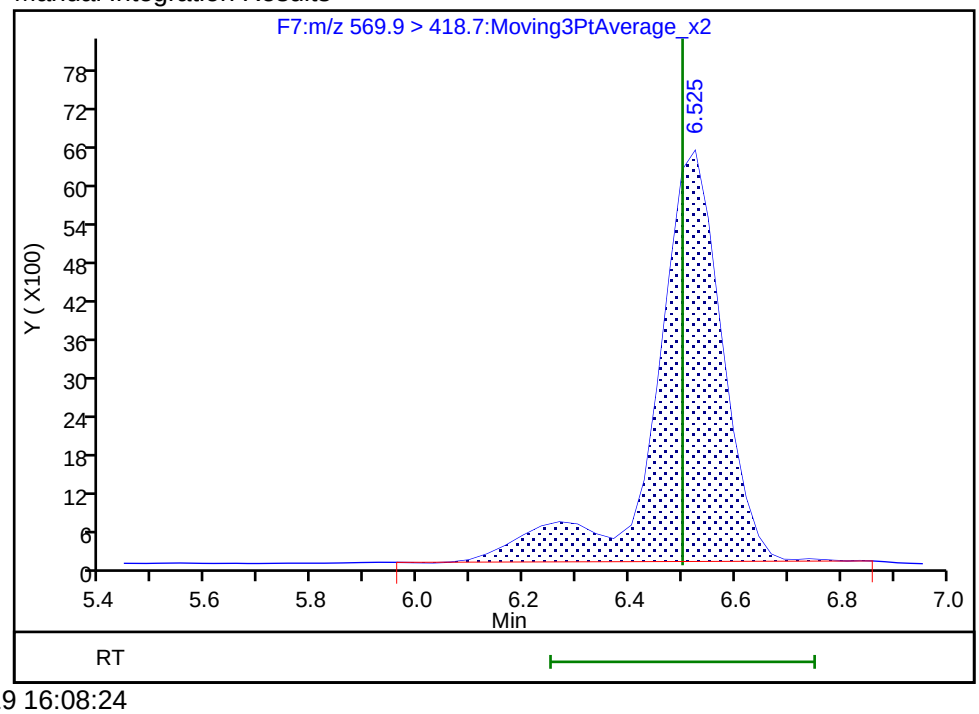
Processing Integration Results

RT: 6.52
Area: 58087
Amount: 11.249004
Amount Units: ng/ml



Manual Integration Results

RT: 6.52
Area: 56179
Amount: 10.332972
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:08:24

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

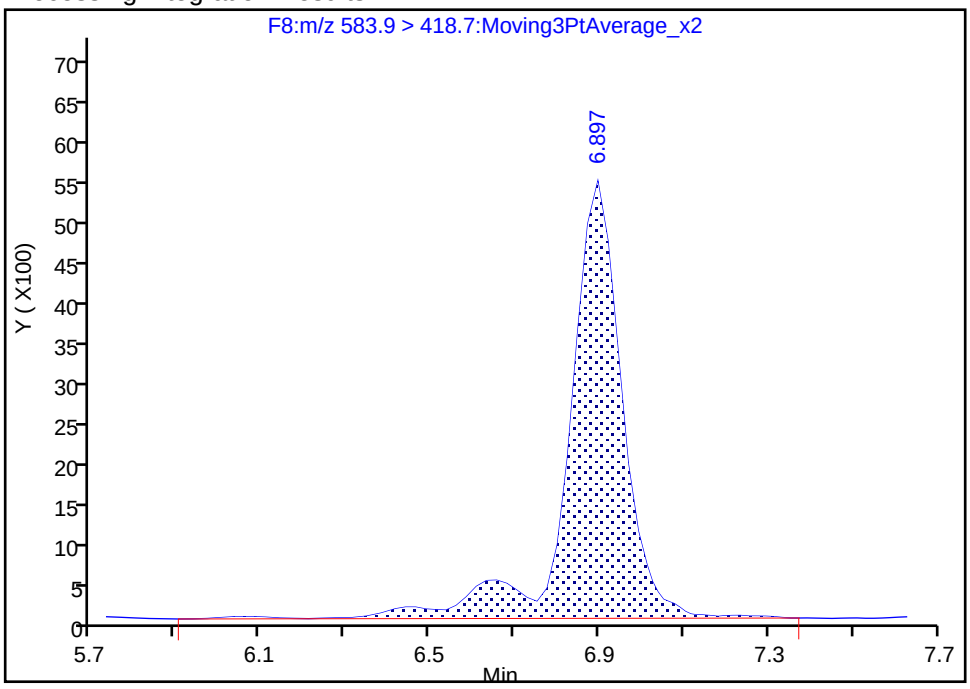
Data File:	\\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d				
Injection Date:	23-May-2019 13:07:19	Instrument ID:	LC410		
Lims ID:	IC				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

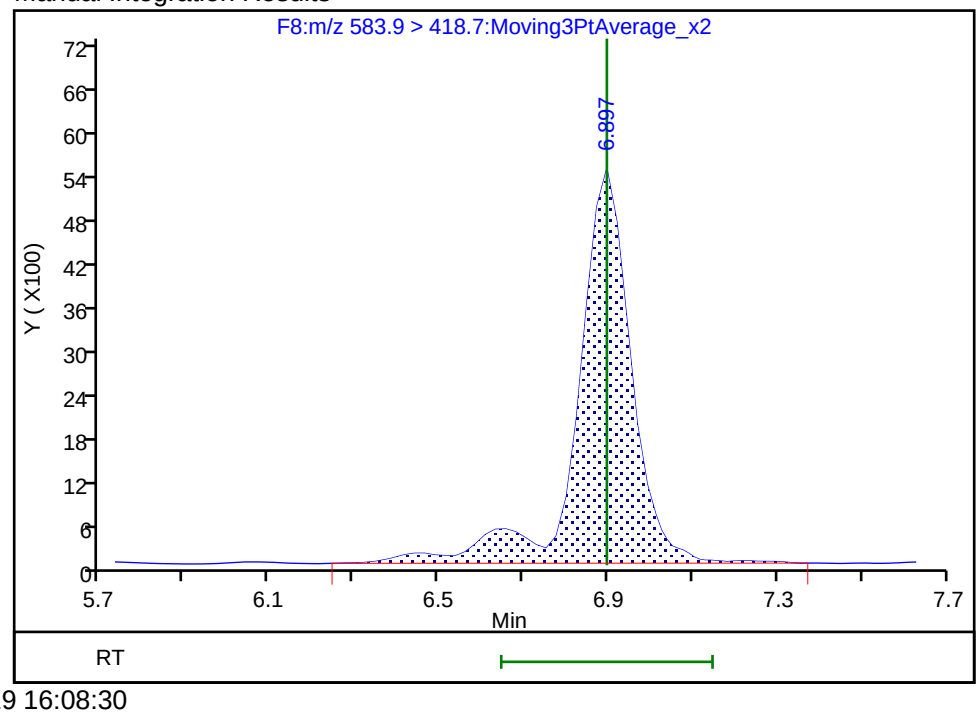
Processing Integration Results

RT: 6.90
Area: 47969
Amount: 10.172006
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 47525
Amount: 9.876372
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:08:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

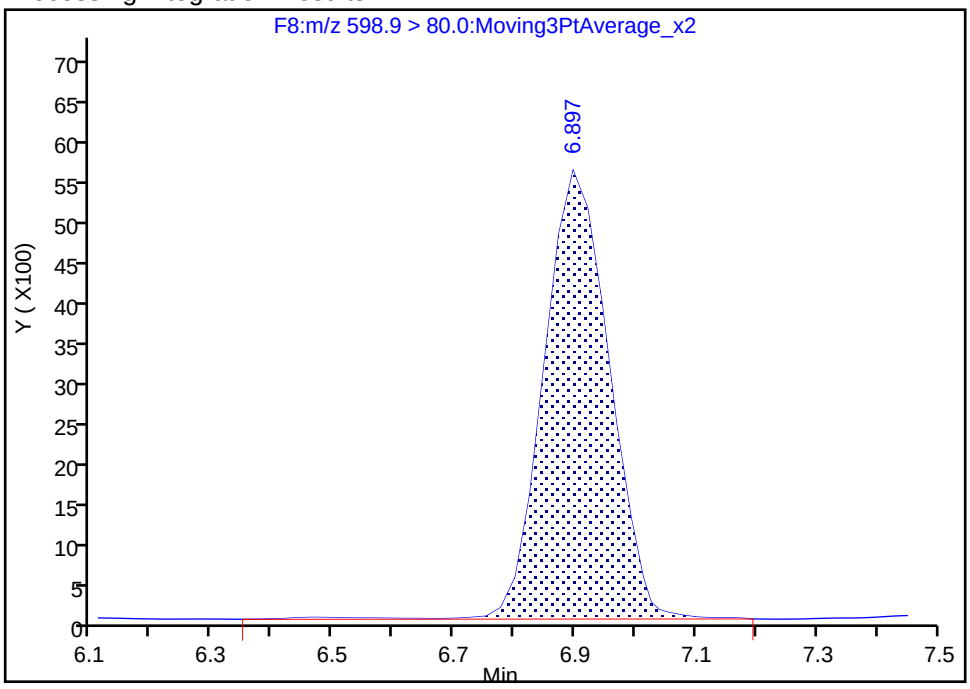
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

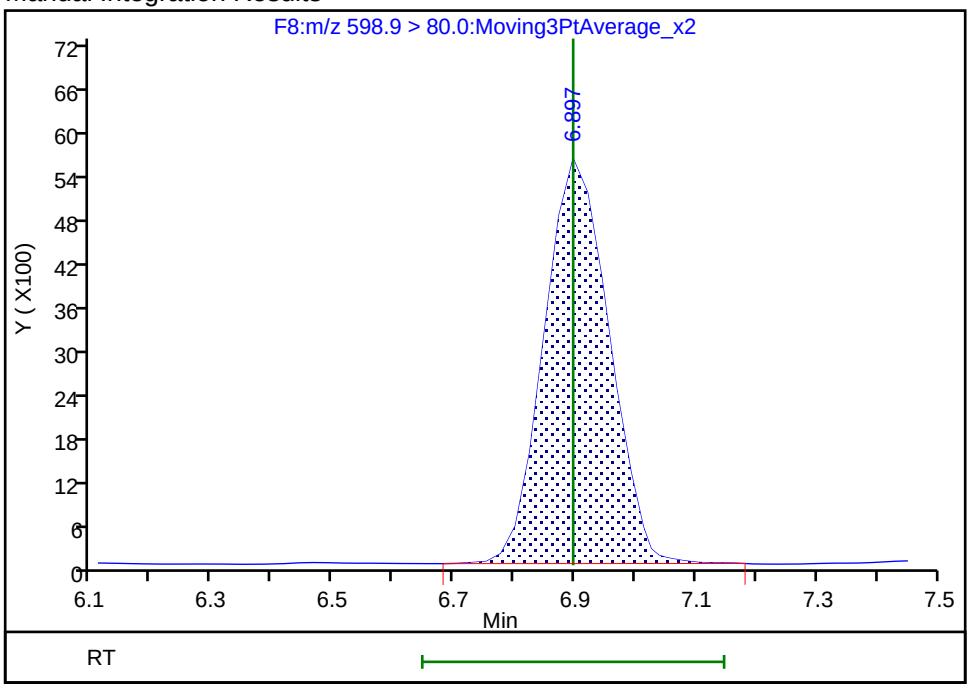
Processing Integration Results

RT: 6.90
Area: 42001
Amount: 8.977895
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 41570
Amount: 8.911704
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:08:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

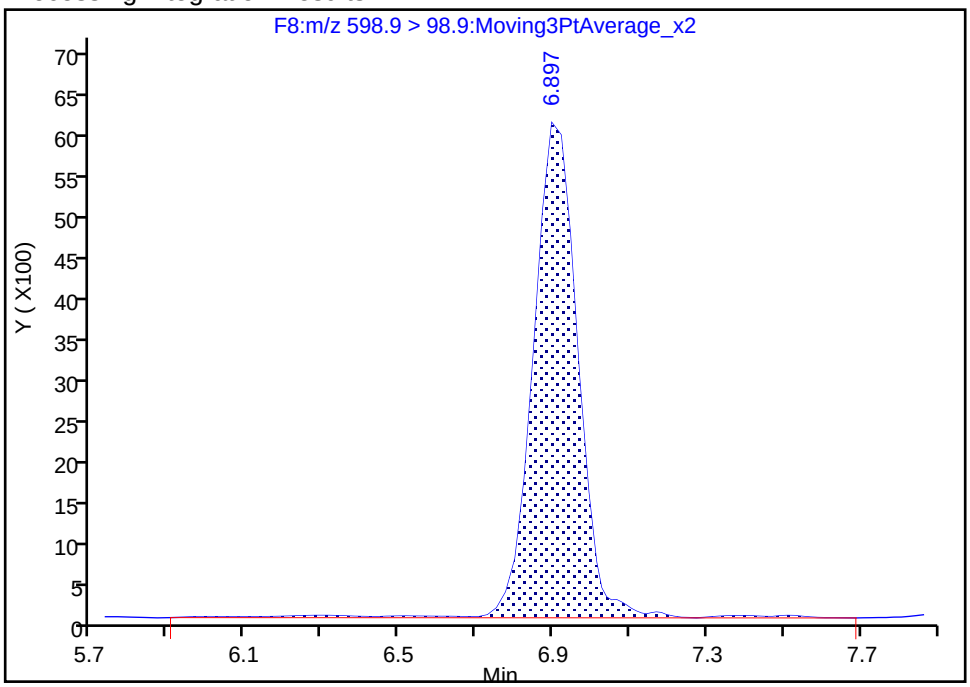
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 2

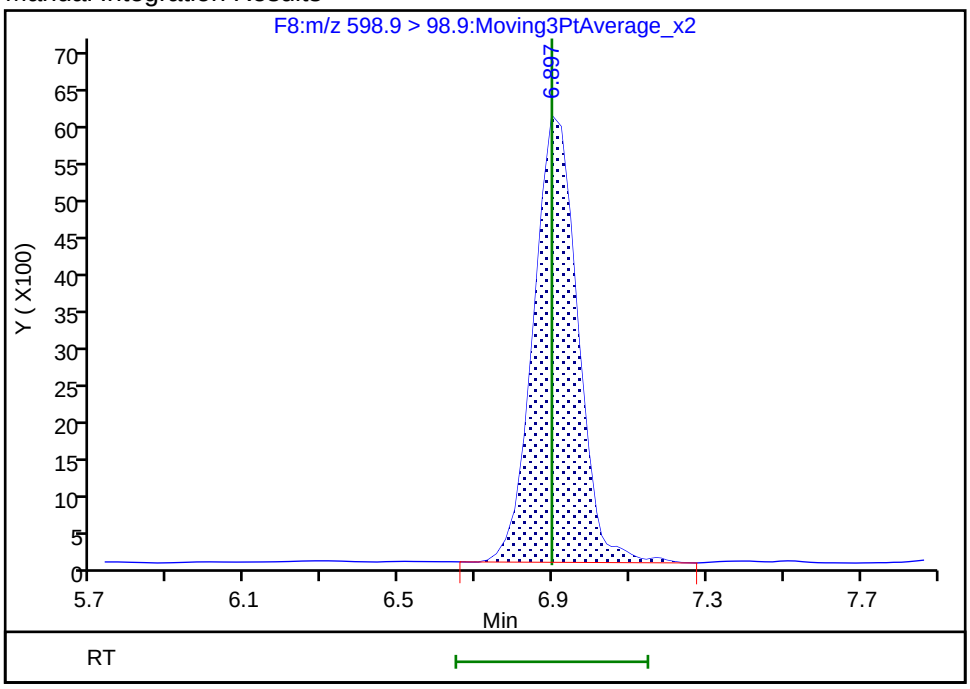
Processing Integration Results

RT: 6.90
Area: 49610
Amount: 8.977895
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 48288
Amount: 8.911704
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:08:37
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

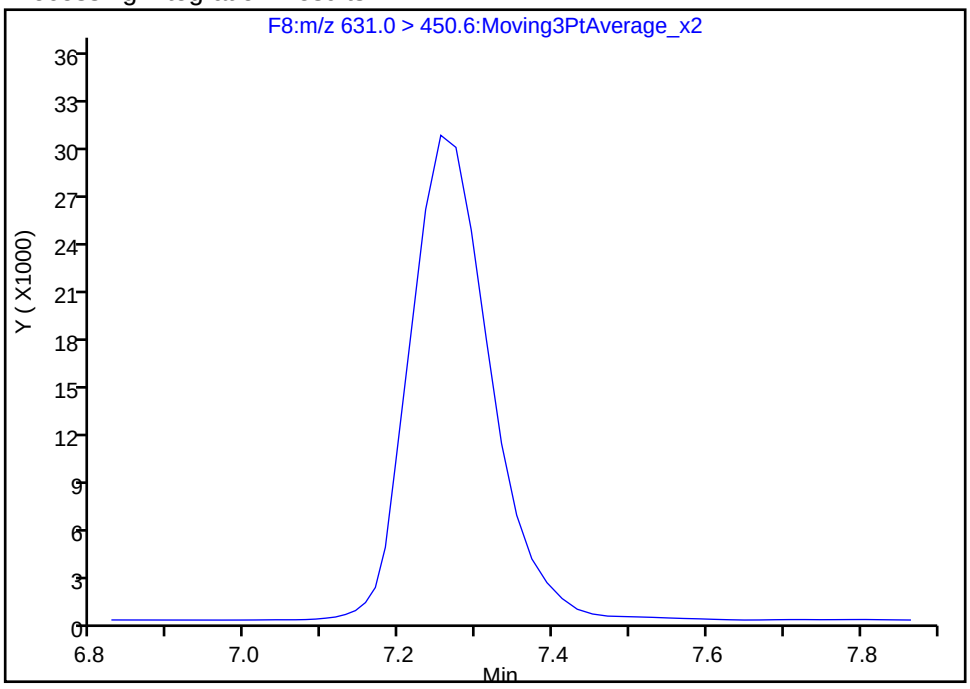
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B05.d
Injection Date: 23-May-2019 13:07:19 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

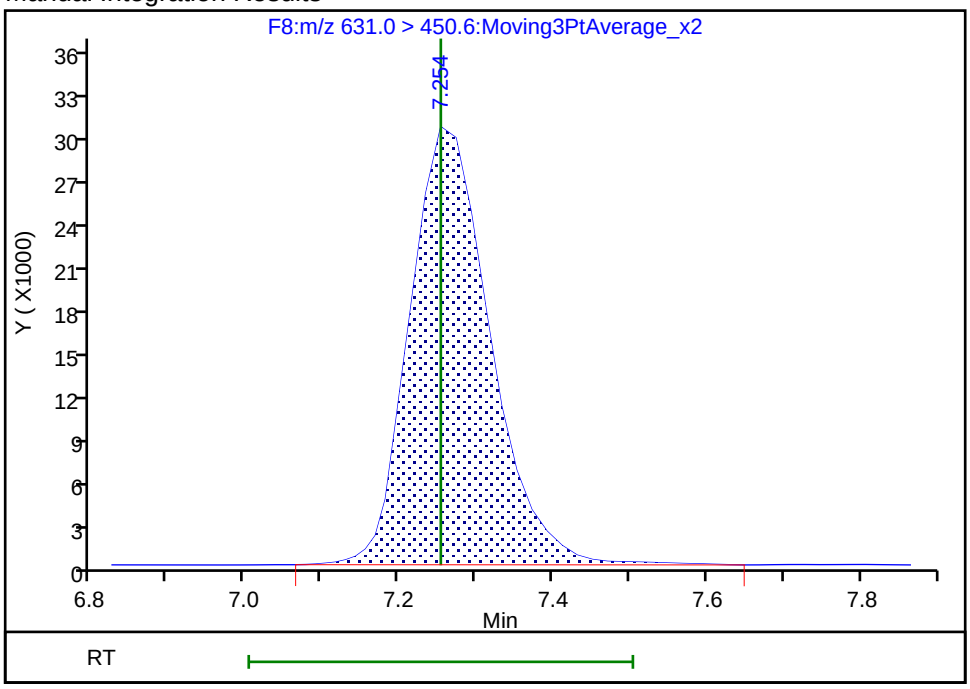
Not Detected
Expected RT: 7.25

Processing Integration Results



Manual Integration Results

RT: 7.25
Area: 223070
Amount: 8.850148
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:27:37
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 23-May-2019 13:23:10 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-006 ICIS
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:31:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 14:21:23
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.380	0.0	1.000	258550	57.7		115	91.4	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.380	0.0	1.000	141951	17.5		87.4	100	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.795	2.795	0.0	0.987	209107	18.1		90.4	359	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	193192	56.8		114	528	
D 5 13C3 PFBS										M
302.0 > 79.8	2.866	2.866	0.0	1.000	66027	44.6		96.0	237	M
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.012	75026	21.0	Target=1.67	119	441	
298.9 > 98.9	2.866	2.866	0.0	1.000	59599		0.00(0.83-2.51)	119	179	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.238	3.238	0.0	1.130	36598	19.5		104	277	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.270	3.270	0.0	1.000	299220	19.9	Target=14.34	99.4	1961	
312.9 > 118.9	3.302	3.270	0.032	1.010	21946		0.00(7.17-21.51)	99.4	237	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.270	0.0	1.000	538461	52.8		106	2041	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.334	3.334	0.0	1.163	82174	20.4	Target=1.23	109	706	
348.9 > 98.9	3.302	3.334	-0.032	1.000	89946		0.00(0.62-1.85)	109	572	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.429	3.429	0.0	1.000	50825	52.4		105	703	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.429	3.429	0.0	1.000	21610	19.7		98.6	148	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.833	3.833	0.0	0.991	354411	21.5	Target=2.84	107	1051	
362.9 > 168.9	3.869	3.833	0.036	1.000	118503		0.00(1.42-4.26)	107	547	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	703580	49.0		97.9	1193	
D 12 18O2 PFHxS										
402.9 > 83.8	3.869	3.869	0.0	1.000	95938	50.7		107	507	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.905	0.0	1.009	74742	17.4	Target=1.34	95.7	258	
398.9 > 98.9	3.869	3.905	-0.036	1.000	79182		0.00(0.67-2.01)	95.7	300	M
49 DONA										
376.9 > 250.7	3.925	3.925	0.0	0.734	360270	18.8	Target=2.33	99.7	3437	
376.9 > 85.0	3.925	3.925	0.0	1.000	149806		0.00(1.16-3.49)	99.7	1102	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.506	4.506	0.0	1.000	18105	17.9		94.3	105	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.506	4.506	0.0	1.000	50904	49.8		105	238	
* 16 13C2 PFOA										
414.9 > 369.8	4.547	4.547	0.0		916536	50.0			1370	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.547	0.0	1.000	906715	51.0		102	3201	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.568	0.0	1.005	373325	20.3	Target=2.43	102	1768	
412.9 > 168.9	4.568	4.568	0.0	1.005	142997		0.00(1.22-3.64)	102	981	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.589	0.0	0.858	80881	20.8	Target=1.30	109	1087	
448.9 > 98.9	4.589	4.589	0.0	1.000	88703		0.00(0.65-1.95)	109	833	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.347	0.0	1.000	1248058	52.3		105	2946	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.347	0.0	1.000	466574	21.2	Target=5.00	106	2375	
462.9 > 168.9	5.347	5.347	0.0	1.000	104166		0.00(2.50-7.50)	106	691	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.347	0.0	1.000	213117	50.0		105	1263	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.347	0.0	1.000	83846	19.5	Target=1.41	105	864	M
498.9 > 98.9	5.347	5.347	0.0	1.000	85189		0.00(0.71-2.12)	105	542	M
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.778	5.778	0.0	1.081	349774	17.8		95.7	1841	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	183974	49.5		103	873	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	52216	18.4		96.2	251	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.165	6.165	0.0	1.153	88158	20.4	Target=1.39	106	387	
548.9 > 98.9	6.131	6.165	-0.034	1.000	97082		0.00(0.69-2.08)	106	743	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.165	0.0	1.000	1078461	52.9		106	2288	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										
512.9 > 468.5	6.165	6.165	0.0	1.000	384454	19.5	Target=7.23	97.3	1703	
512.9 > 168.9	6.165	6.165	0.0	1.000	53444		0.00(3.61-10.84)	97.3	440	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.501	6.501	0.0	1.000	113594	20.4		102	711	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.501	0.0	1.000	337437	50.8		102	2087	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.873	0.0	1.000	301084	55.0		110	1151	
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.897	6.897	0.0	1.290	82775	17.9	Target=1.25	92.8	485	M
598.9 > 98.9	6.897	6.897	0.0	1.000	100462		0.00(0.63-1.88)	92.8	622	M
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.897	6.897	0.0	1.003	97057	20.0		100	915	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.000	341516	19.9	Target=7.06	99.3	1936	
562.9 > 168.9	6.921	6.921	0.0	1.000	50100		0.00(3.53-10.58)	99.3	534	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.921	0.0	1.000	1032521	52.5		105	1527	
D 34 13C8 FOSA										
505.9 > 78.0	6.921	6.921	0.0	1.000	391181	53.3		107	2189	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.921	6.921	0.0	1.000	223229	20.0		100	1077	
43 11-Chloroeicosafluoro-3-oxaundecan										a
631.0 > 450.6	7.254	7.254	0.0	1.357	451089	18.0		95.7	1819	a
36 Perfluorododecanoic acid										
612.9 > 568.5	7.616	7.616	0.0	1.000	463779	19.3	Target=5.37	96.4	1326	
612.9 > 168.9	7.616	7.616	0.0	1.000	82098		0.00(2.68-8.06)	96.4	391	
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.616	0.0	1.000	1268072	50.6		101	1810	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.224	8.224	0.0	1.080	498093	21.0	Target=4.67	105	2555	
662.9 > 168.9	8.235	8.224	0.011	1.081	94055		0.00(2.34-7.01)	105	733	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.775	8.775	0.0	1.000	1154245	51.3		103	822	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.786	8.786	0.0	1.001	402608	20.5	Target=4.86	103	1105	
712.9 > 168.9	8.786	8.786	0.0	1.001	72307		0.00(2.43-7.30)	103	426	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27-L5_00007 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:31:58 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d

Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410

Lims ID: ICIS

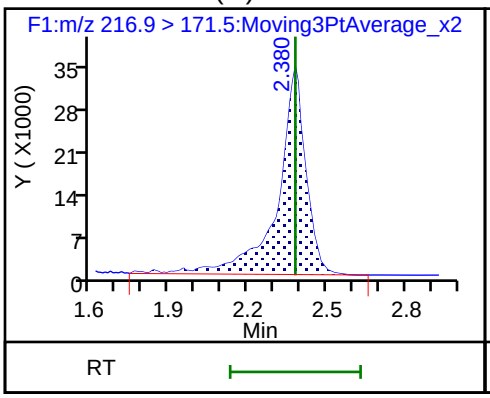
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6

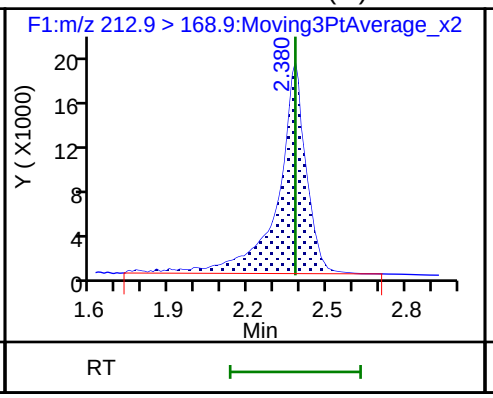
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

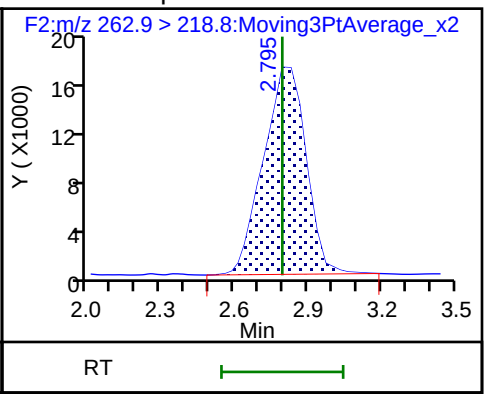
D 1 13C4 PFBA (M)



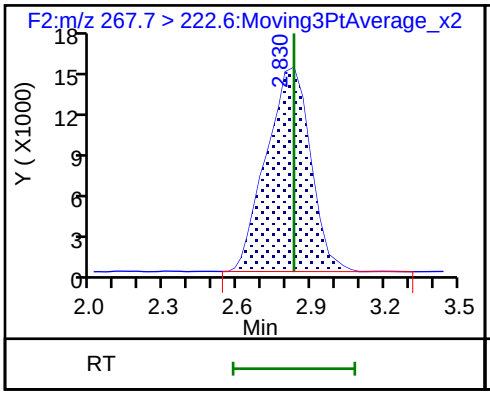
2 Perfluorobutanoic acid (M)



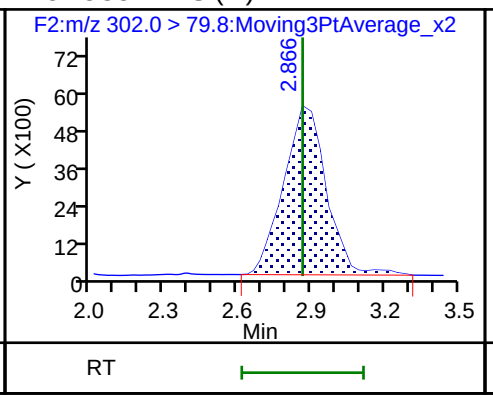
3 Perfluoropentanoic acid



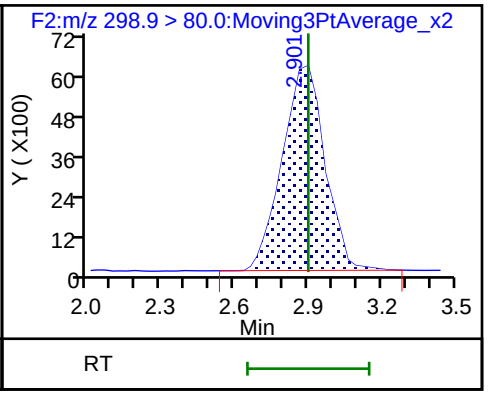
D 4 13C5 PFPeA



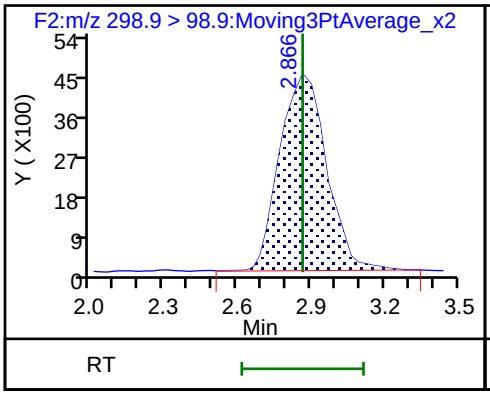
D 5 13C3 PFBS (M)



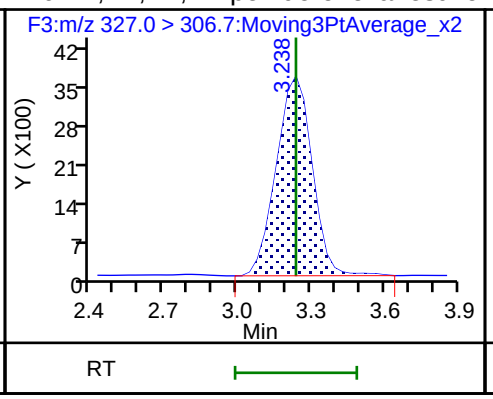
6 Perfluorobutanesulfonic acid



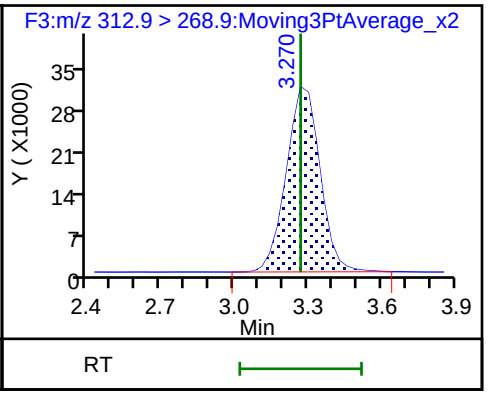
6 Perfluorobutanesulfonic acid



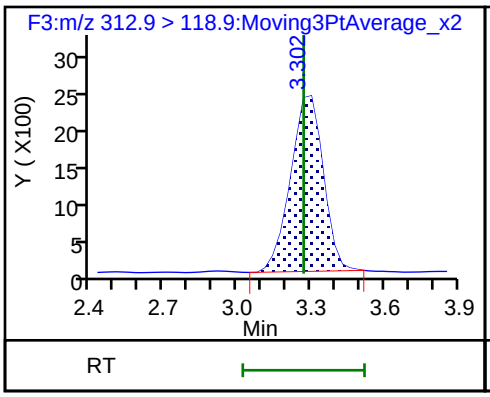
46 1H,1H,2H,2H-perfluorohexanesulfoni



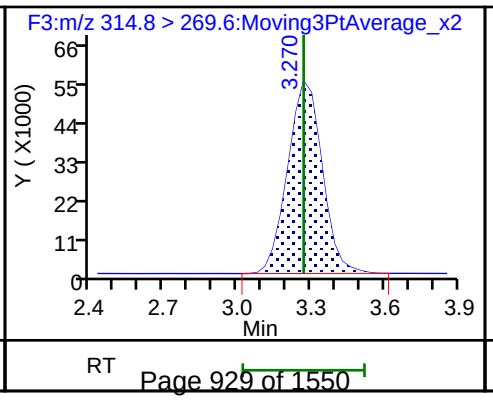
7 Perfluorohexanoic acid



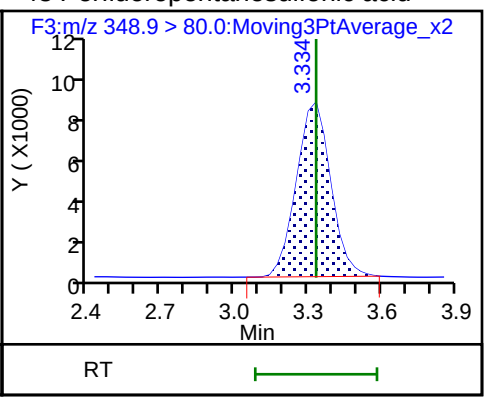
7 Perfluorohexanoic acid



D 8 13C2 PFHxA



48 Perfluoropentanesulfonic acid



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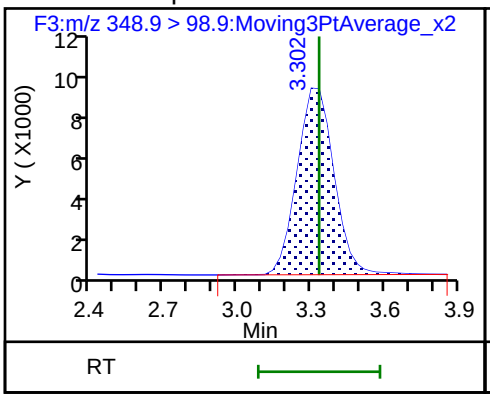
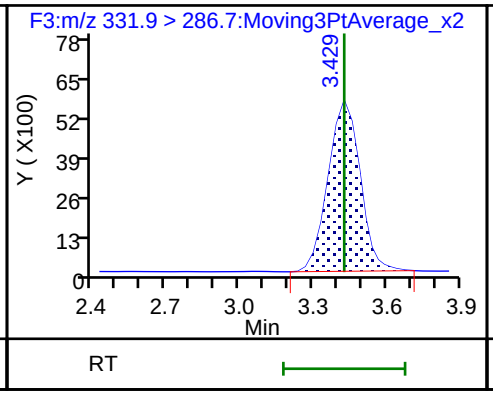
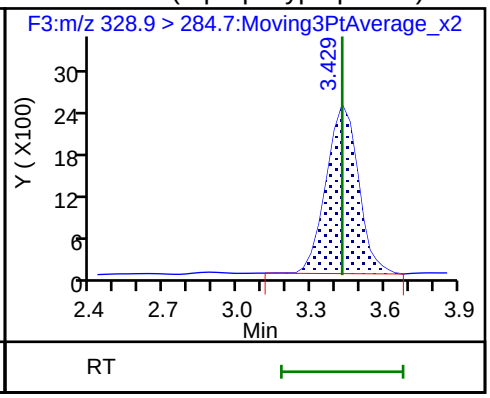


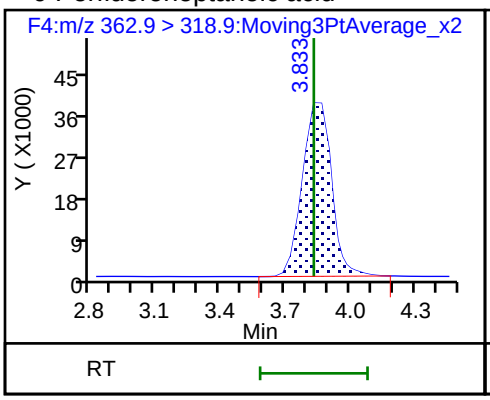
D 42 13C3 HFPO-DA



44 Perfluoro(2-propoxypropanoic) acid



9 Perfluoroheptanoic acid



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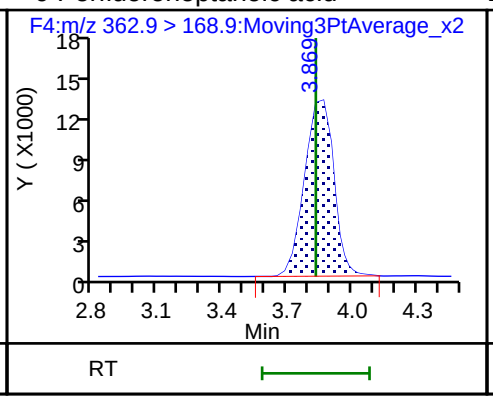
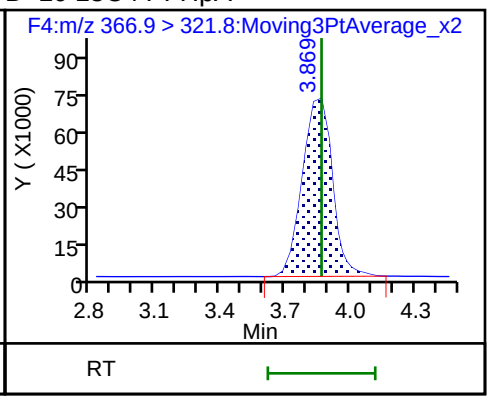
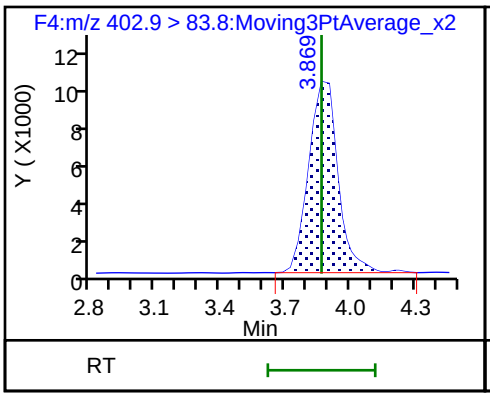


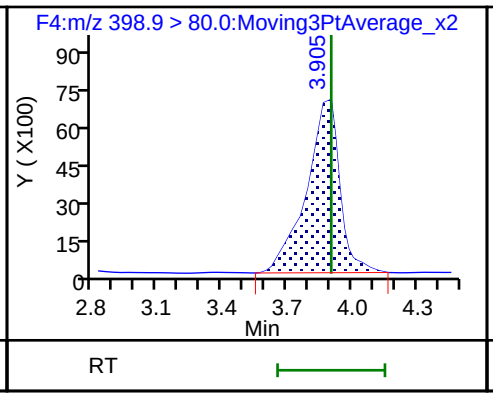
D 10 13C4 PFHpA



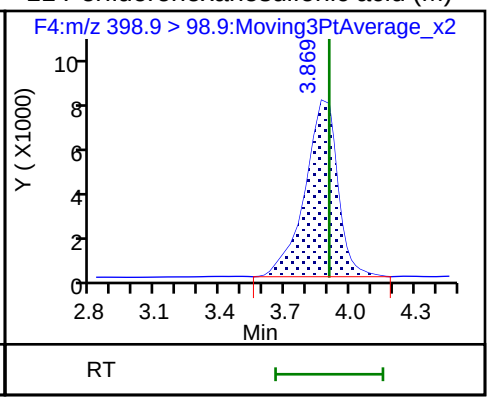
D 12 18O2 PFHxS



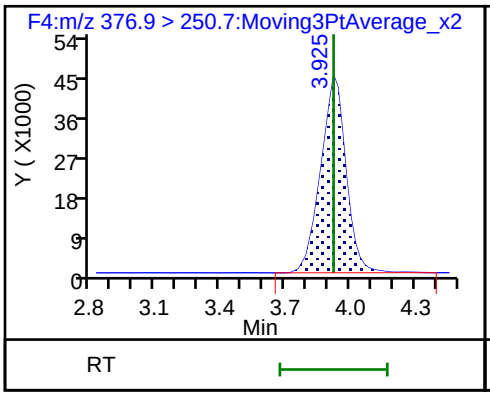
11 Perfluorohexanesulfonic acid



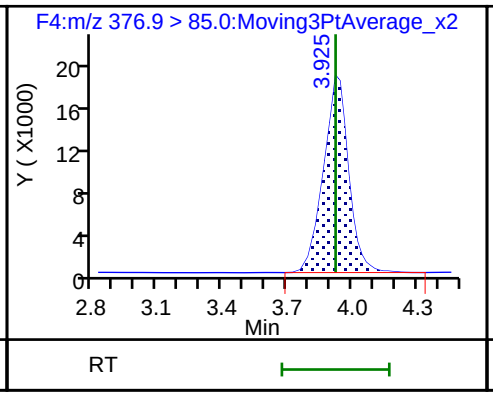
11 Perfluorohexanesulfonic acid (M)



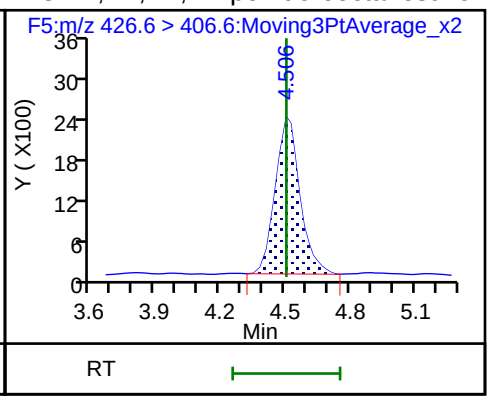
49 DONA



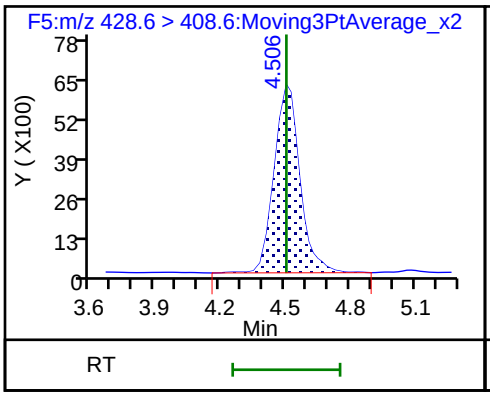
49 DONA



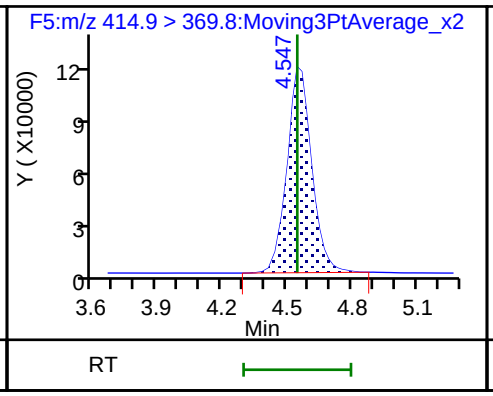
13 1H,1H,2H,2H-perfluorooctanesulfoni



D 14 M2-6:2 FTS



* 16 13C2 PFOA



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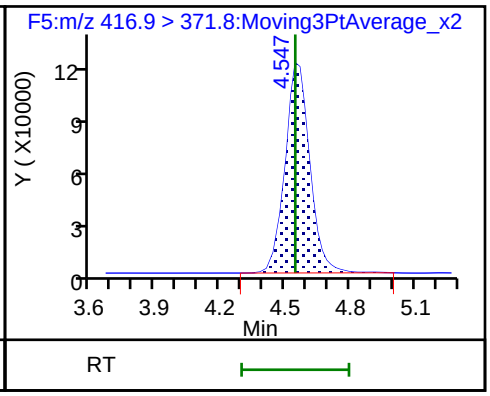
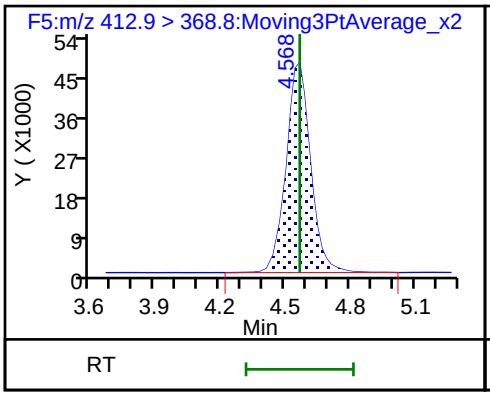
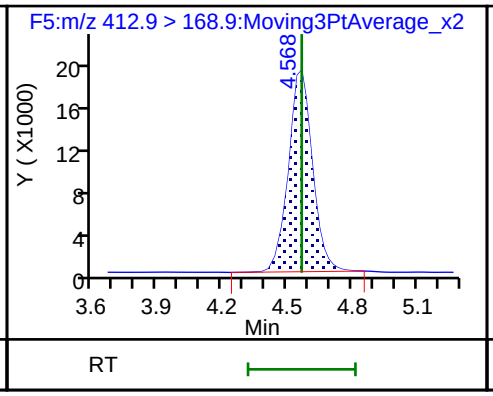


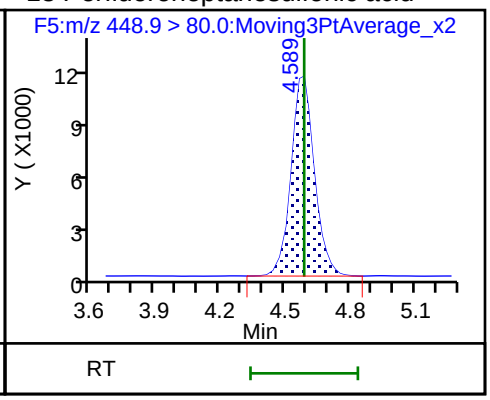
15 Perfluorooctanoic acid



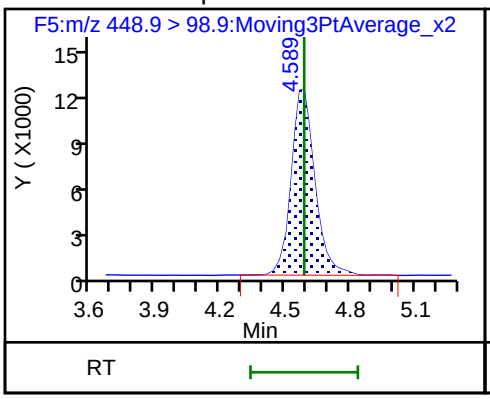
15 Perfluorooctanoic acid



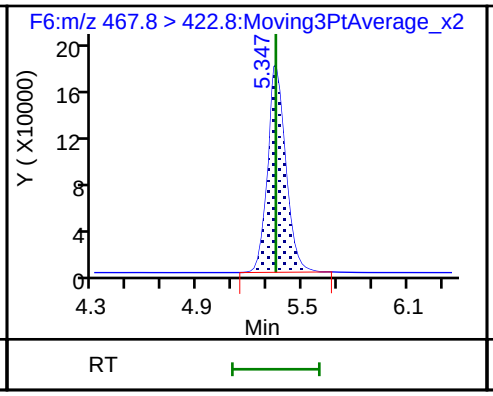
18 Perfluoroheptanesulfonic acid



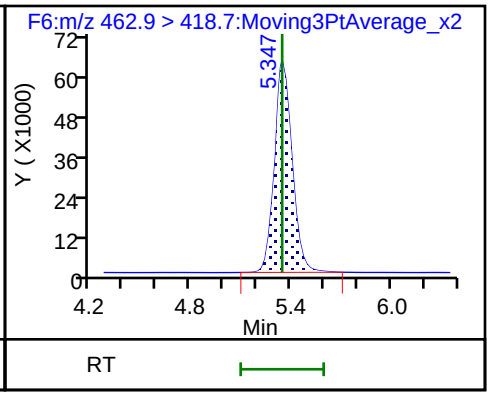
18 Perfluoroheptanesulfonic acid



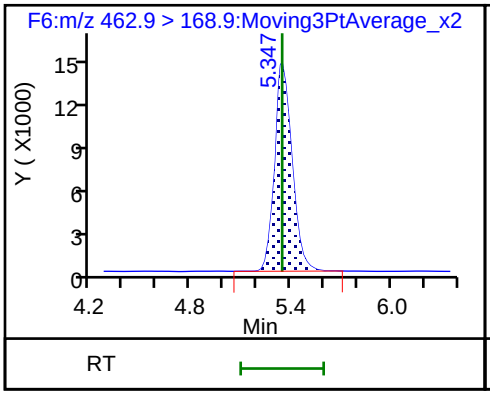
D 20 13C5 PFNA



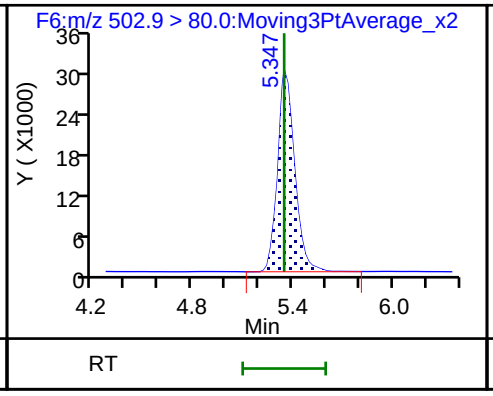
19 Perfluorononanoic acid



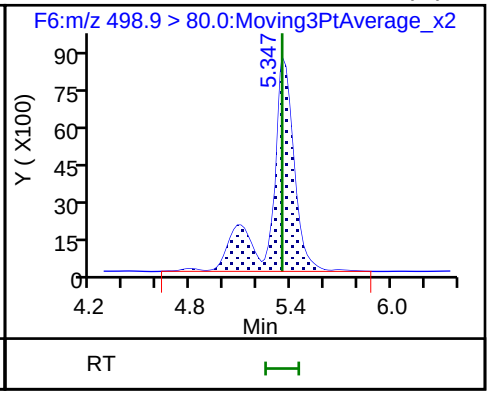
19 Perfluorononanoic acid



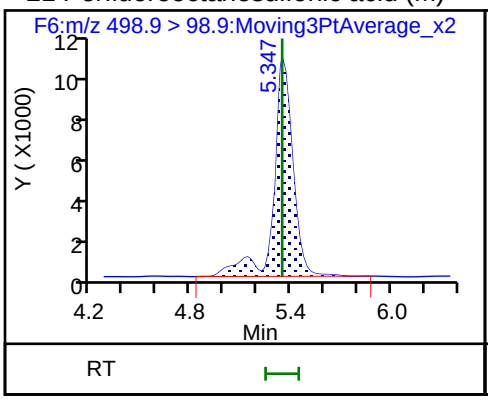
D 22 13C4 PFOS



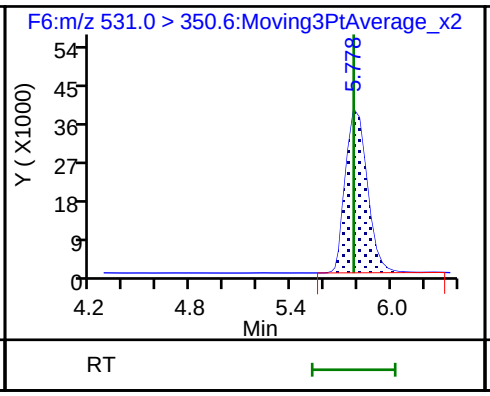
21 Perfluorooctanesulfonic acid (M)



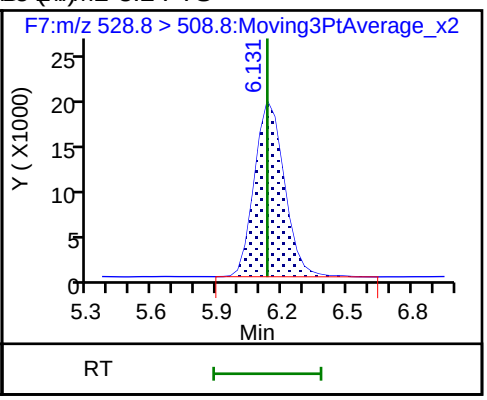
21 Perfluorooctanesulfonic acid (M)



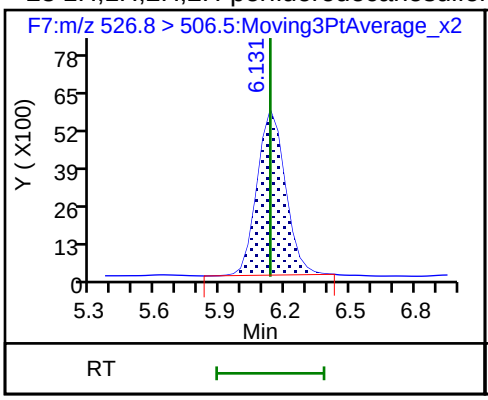
47 9-Chlorohexadecafluoro-3-oxanonane-1-



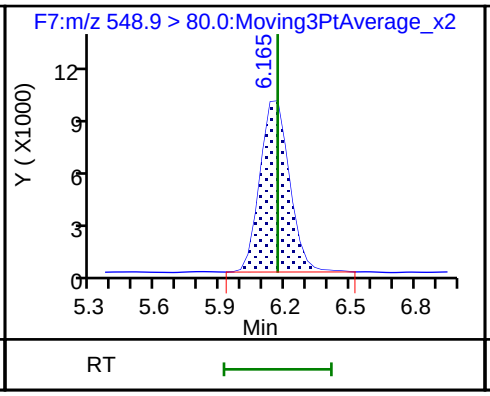
D 24 M2-8:2 FTS



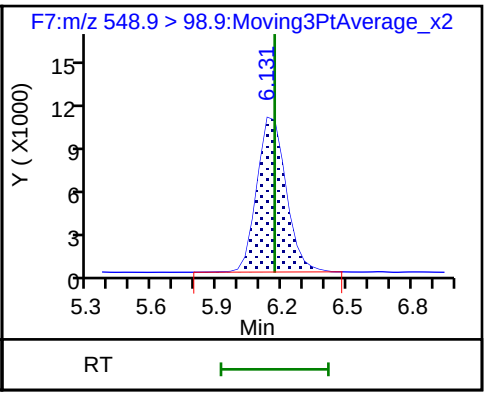
23 1H,1H,2H-perfluorodecanesulfoni



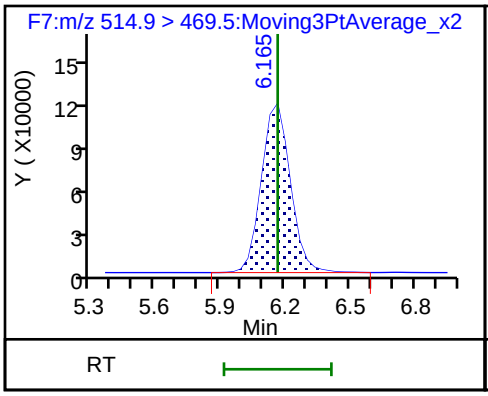
45 Perfluorononanesulfonic acid



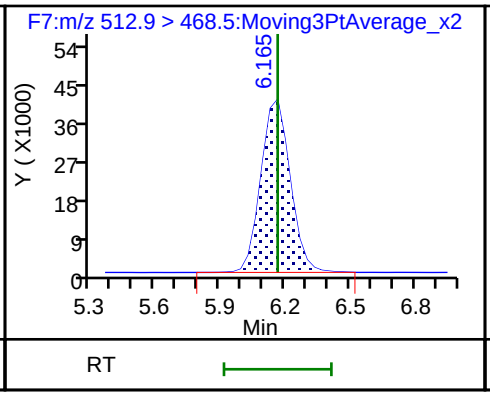
45 Perfluorononanesulfonic acid



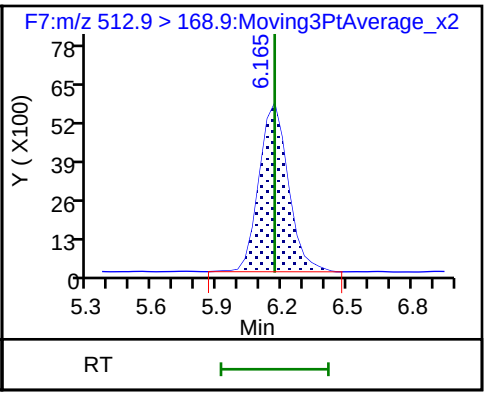
D 25 13C2 PFDA



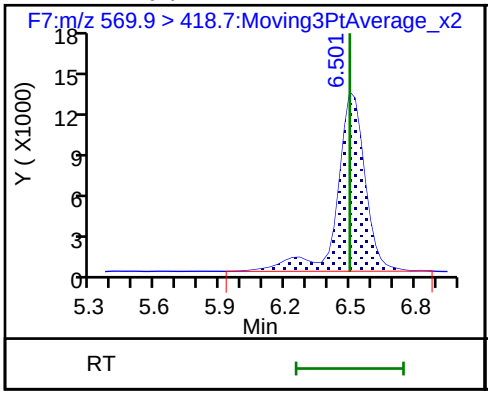
26 Perfluorodecanoic acid

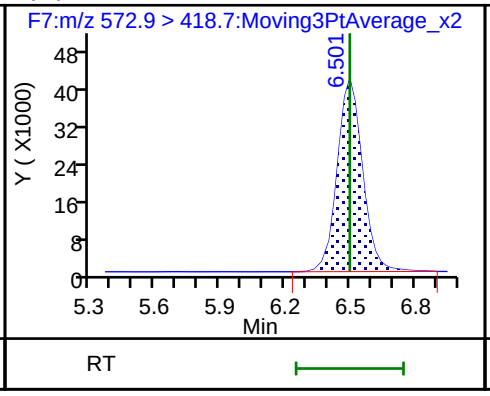


26 Perfluorodecanoic acid

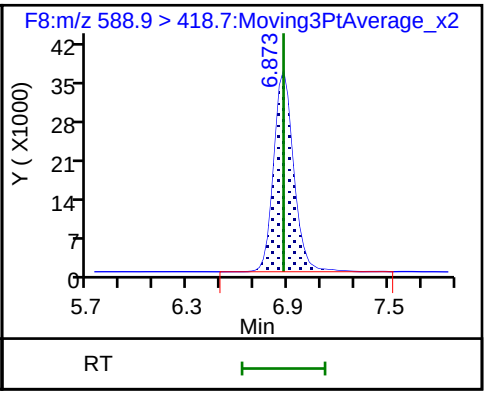


28 N-methylperfluorooctanesulfonamidoD 27 d3-NMeFOSAA

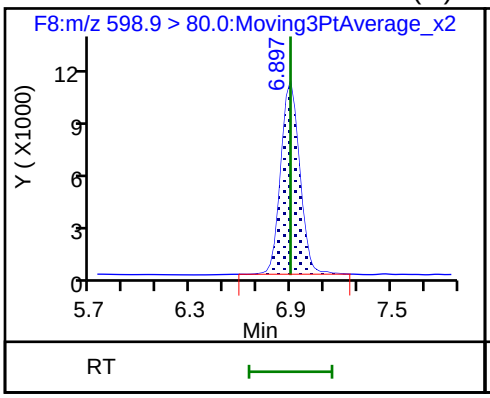




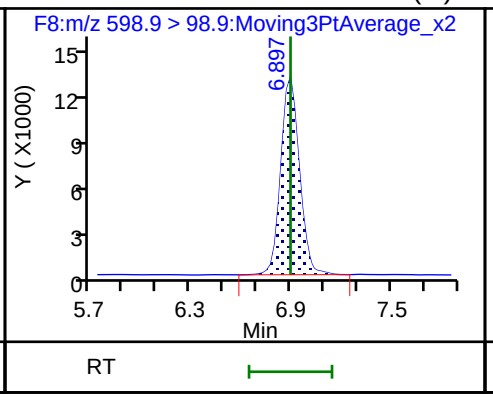
D 29 d5-NEtFOSAA



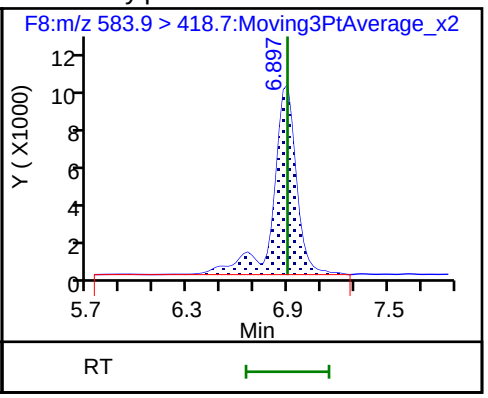
31 Perfluorodecanesulfonic acid (M)



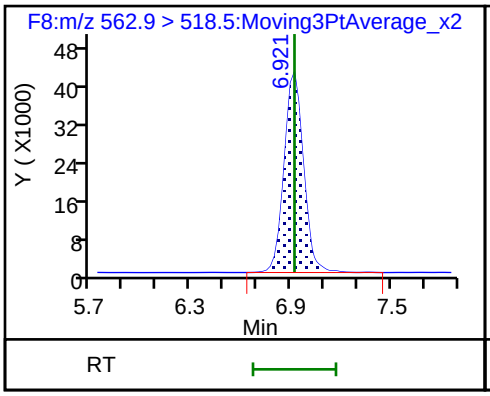
31 Perfluorodecanesulfonic acid (M)



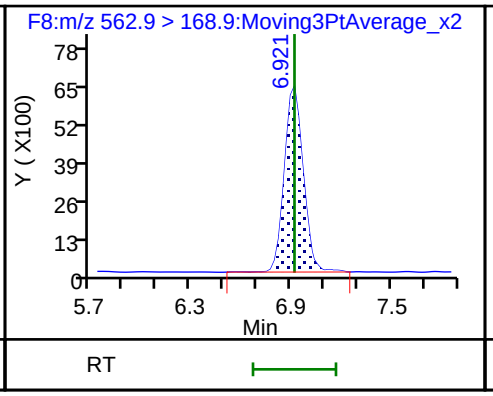
30 N-ethylperfluorooctanesulfonamidoa



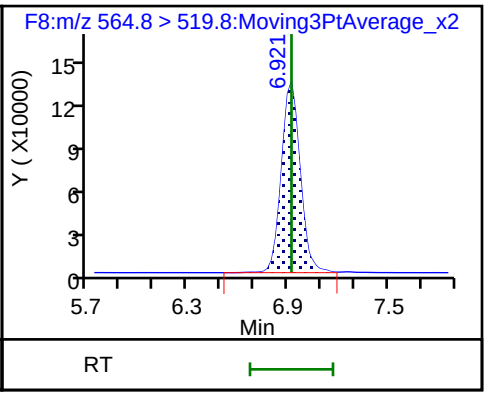
32 Perfluoroundecanoic acid



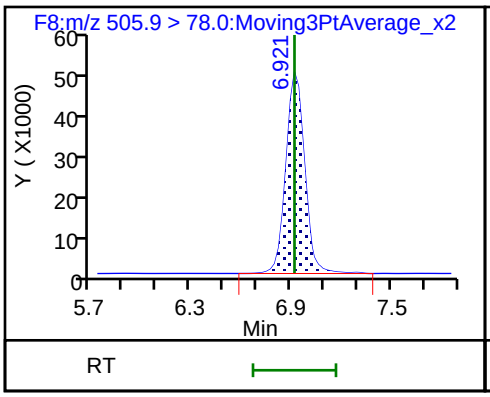
32 Perfluoroundecanoic acid



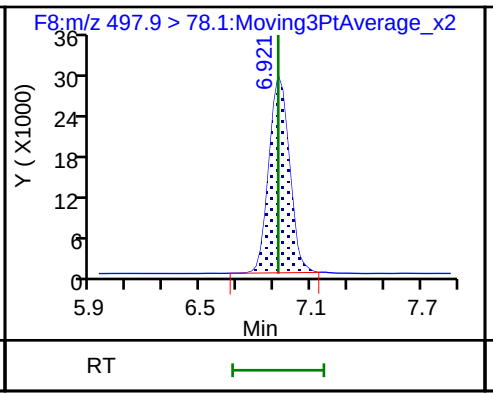
D 33 13C2 PFUnA



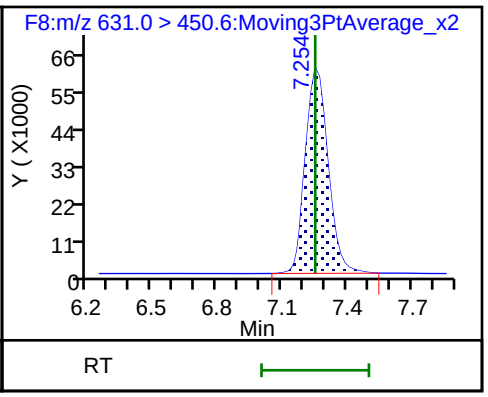
D 34 13C8 FOSA



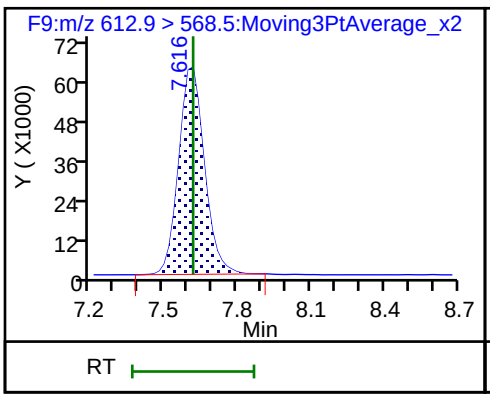
35 Perfluorooctanesulfonamide



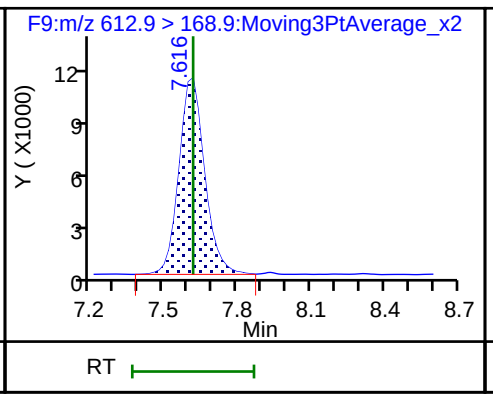
43 11-Chloroeicosafluoro-3-oxaundecan (M)



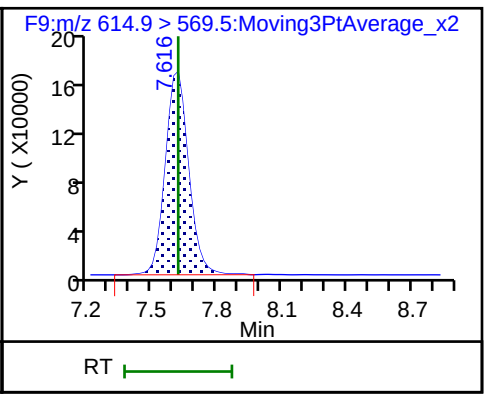
36 Perfluorododecanoic acid



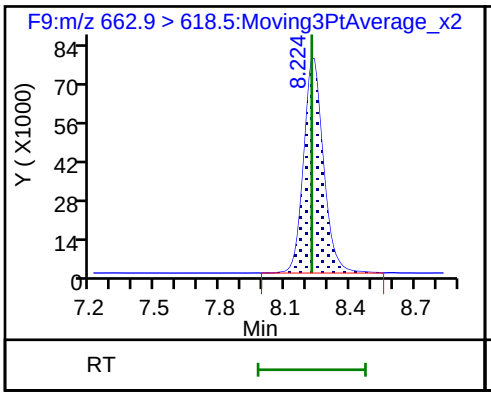
36 Perfluorododecanoic acid



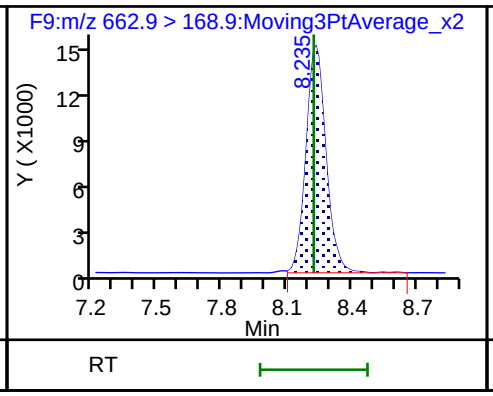
D 37 13C2 PFDoA



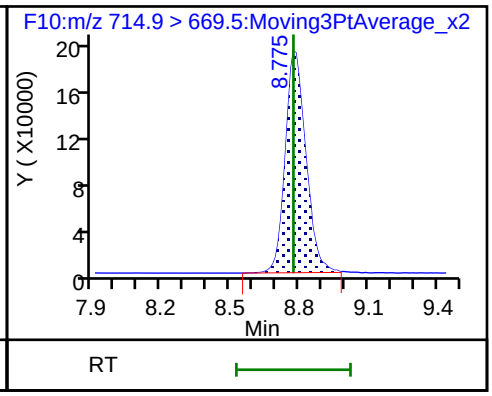
38 Perfluorotridecanoic acid



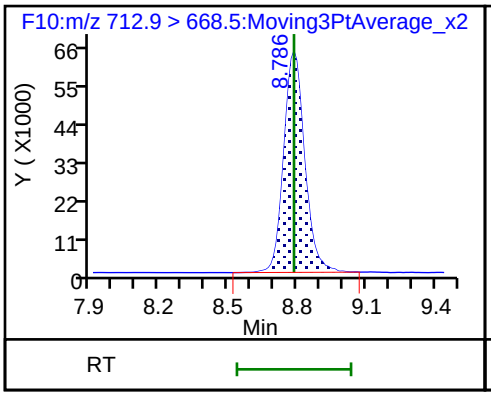
38 Perfluorotridecanoic acid



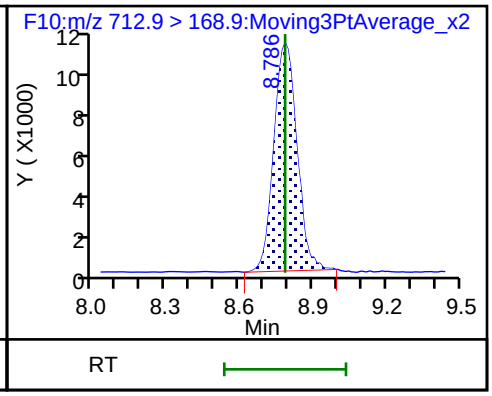
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

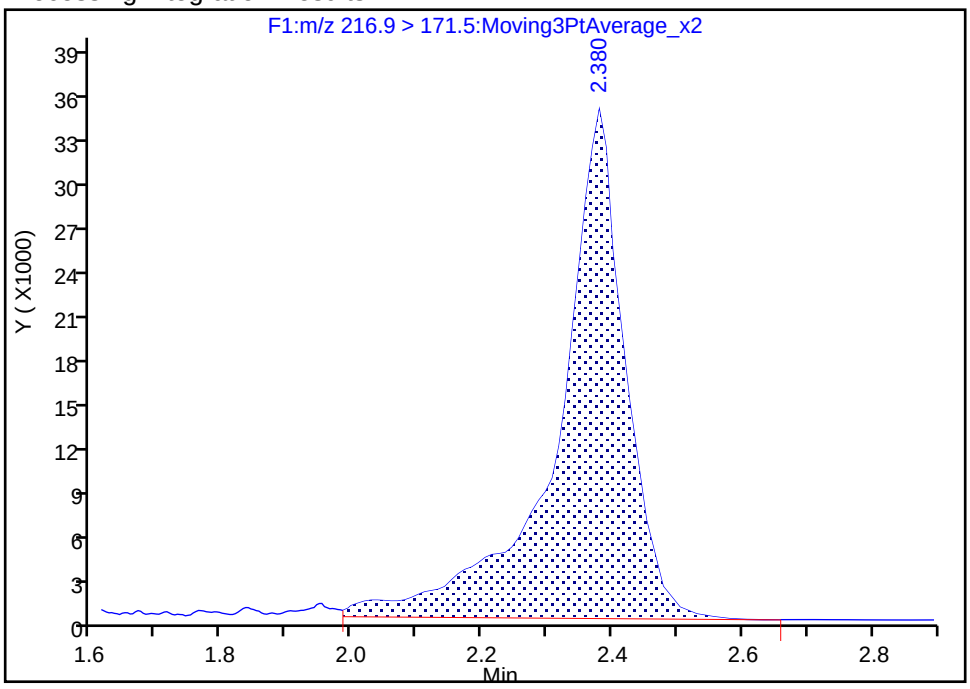
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

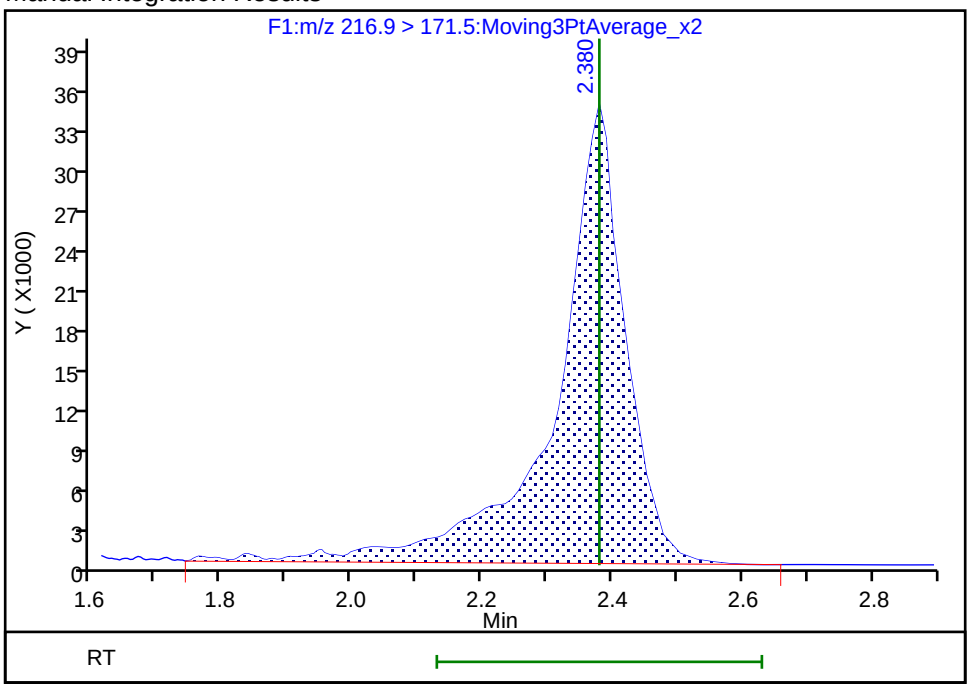
Processing Integration Results

RT: 2.38
Area: 253388
Amount: 56.673645
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 258550
Amount: 57.680208
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:38:52
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

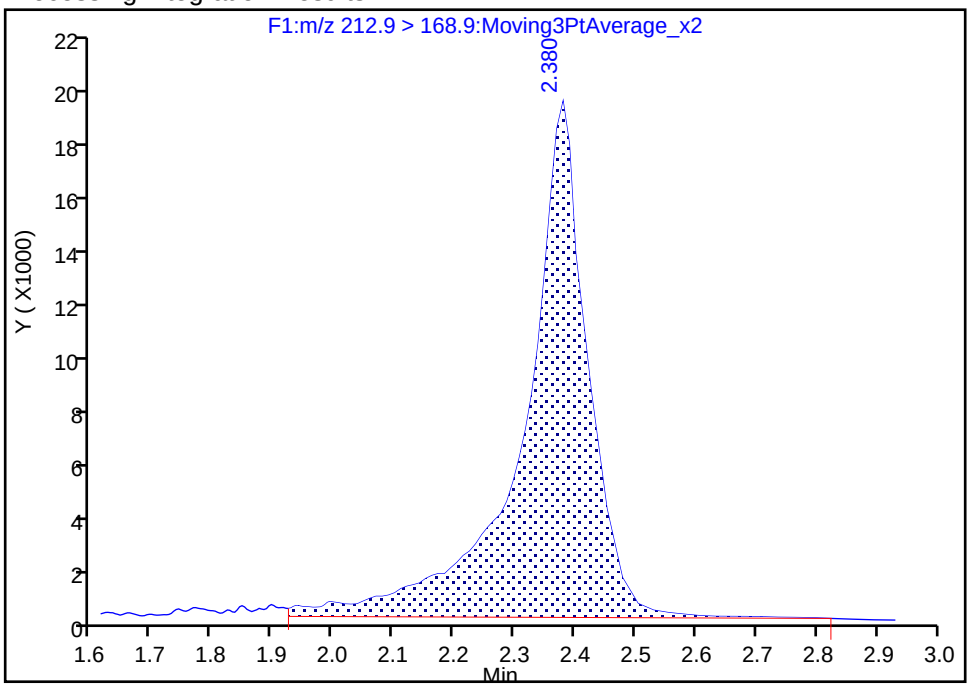
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

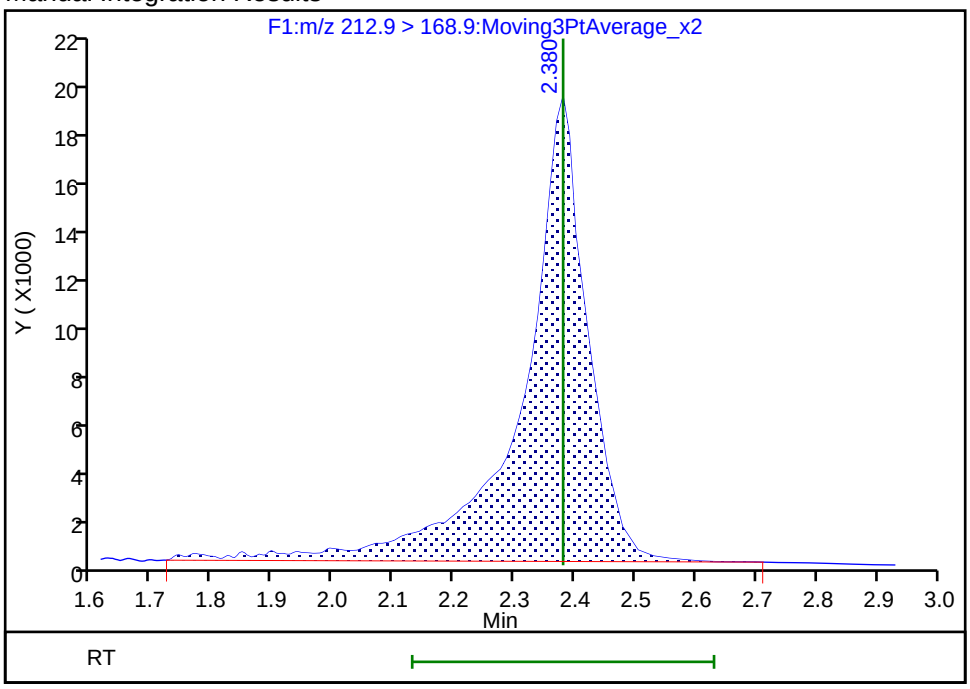
Processing Integration Results

RT: 2.38
Area: 141825
Amount: 17.471052
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 141951
Amount: 17.485066
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:38:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

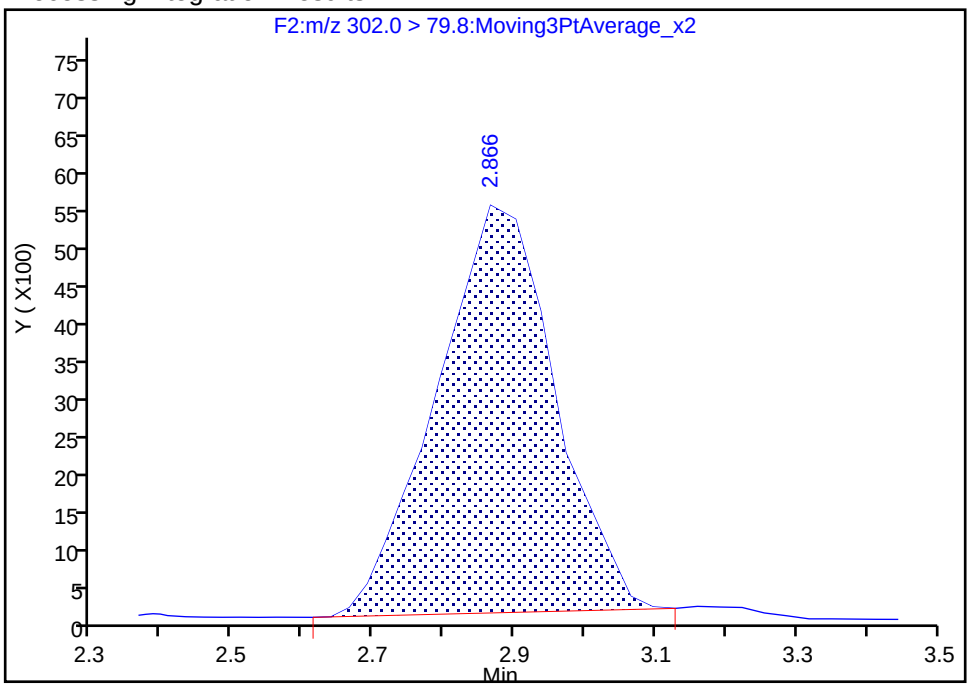
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

D 5 13C3 PFBS, CAS: STL02337

Signal: 1

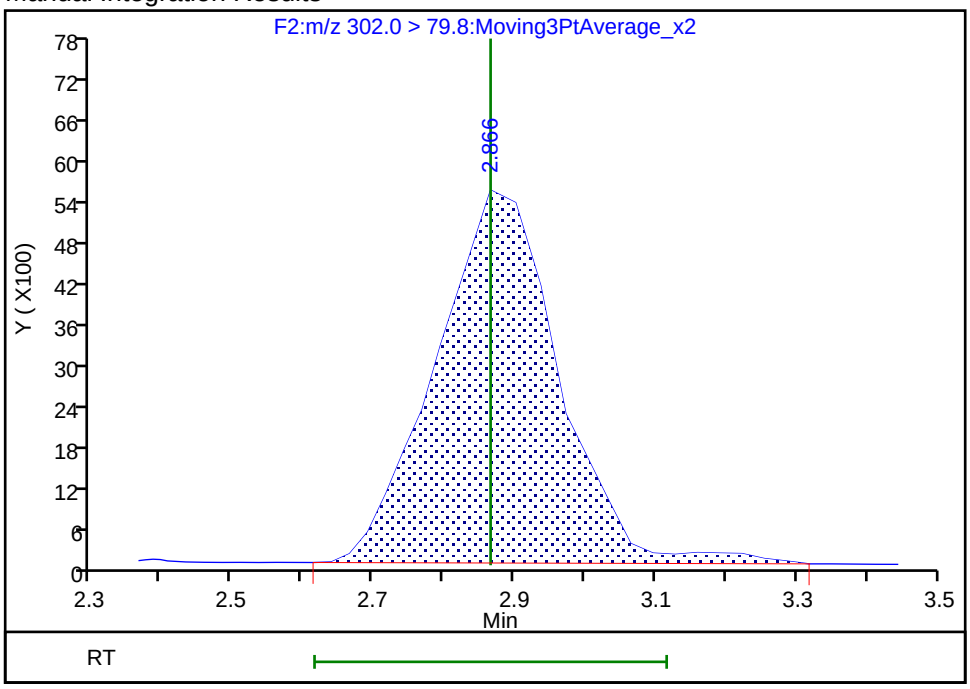
Processing Integration Results

RT: 2.87
Area: 62760
Amount: 42.659284
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 66027
Amount: 44.643047
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:39:06
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

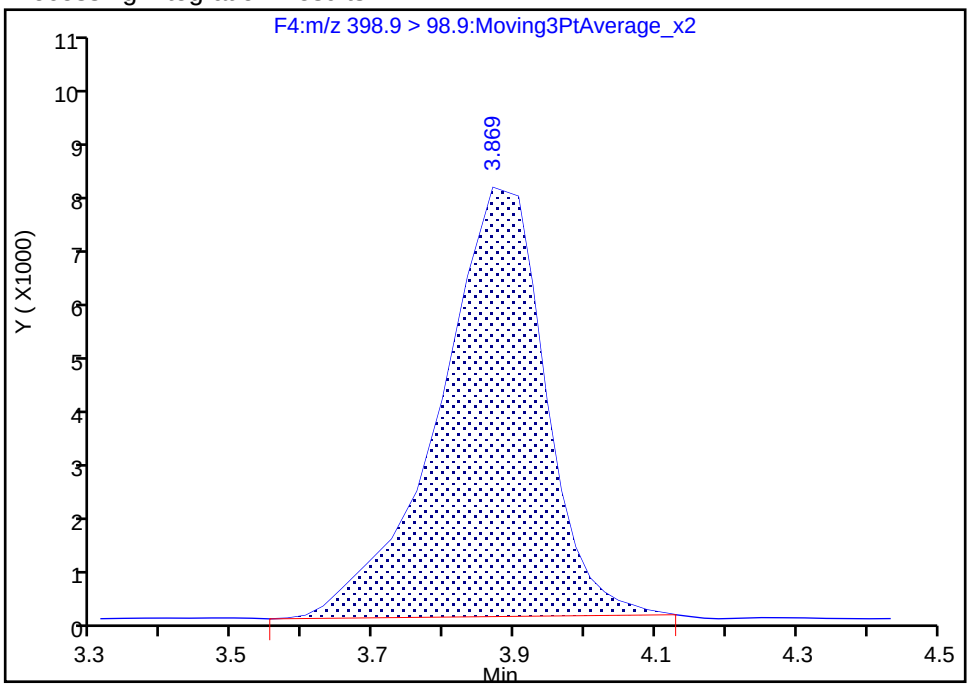
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

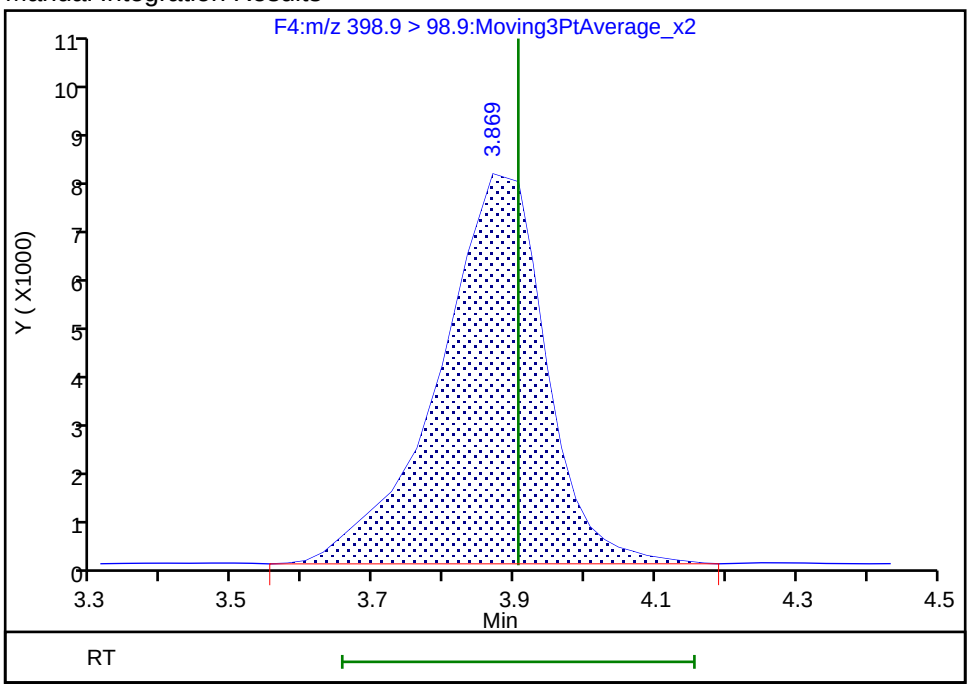
Processing Integration Results

RT: 3.87
Area: 77865
Amount: 17.413166
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 79182
Amount: 17.413166
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:39:18
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

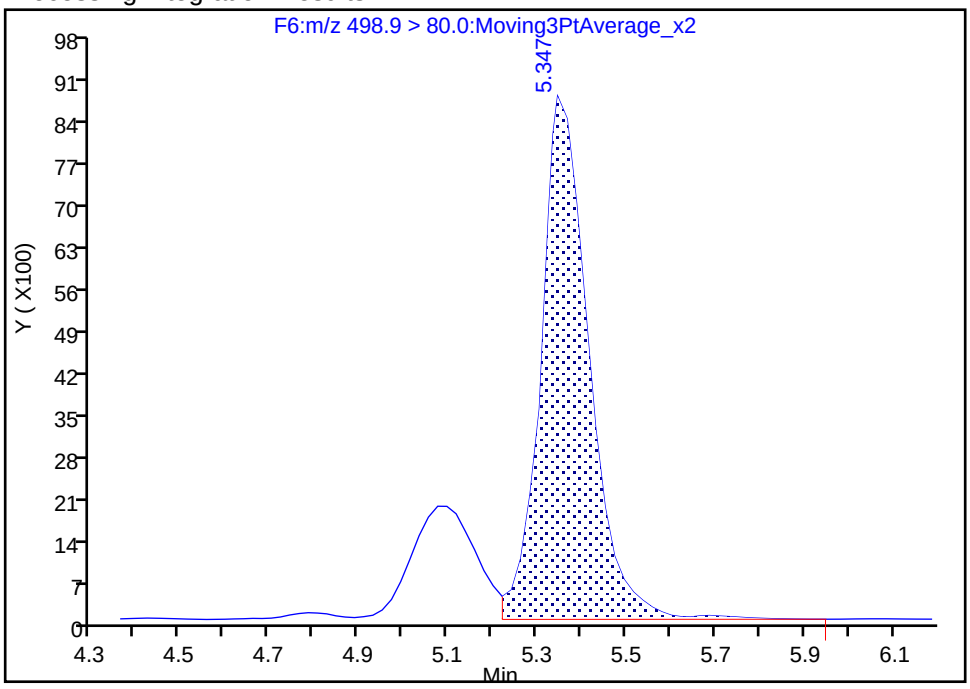
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

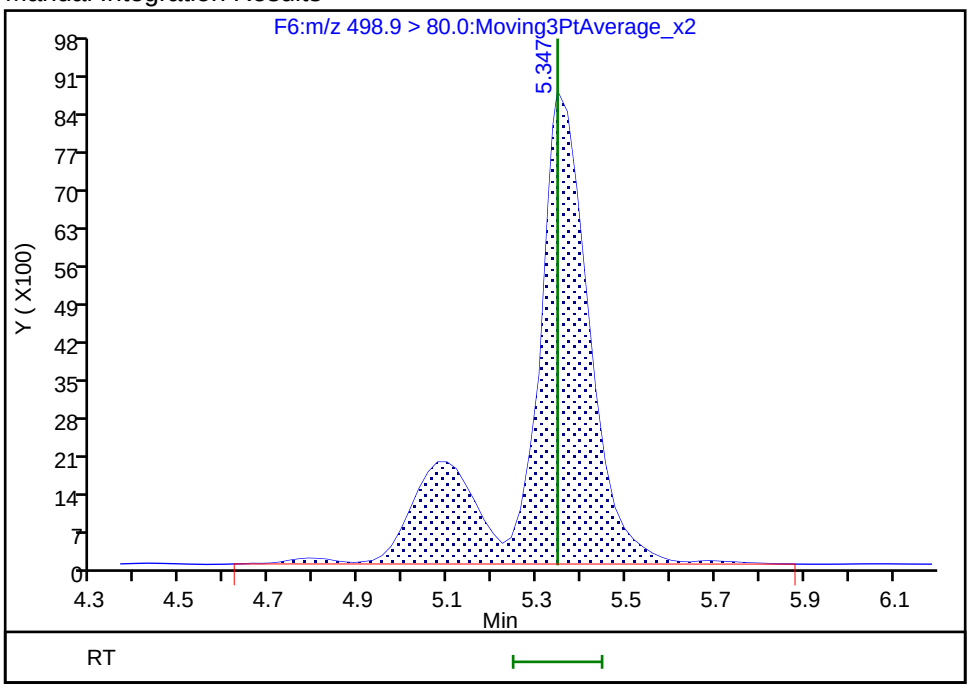
Processing Integration Results

RT: 5.35
Area: 64769
Amount: 15.452641
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 83846
Amount: 19.473446
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:39:28
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

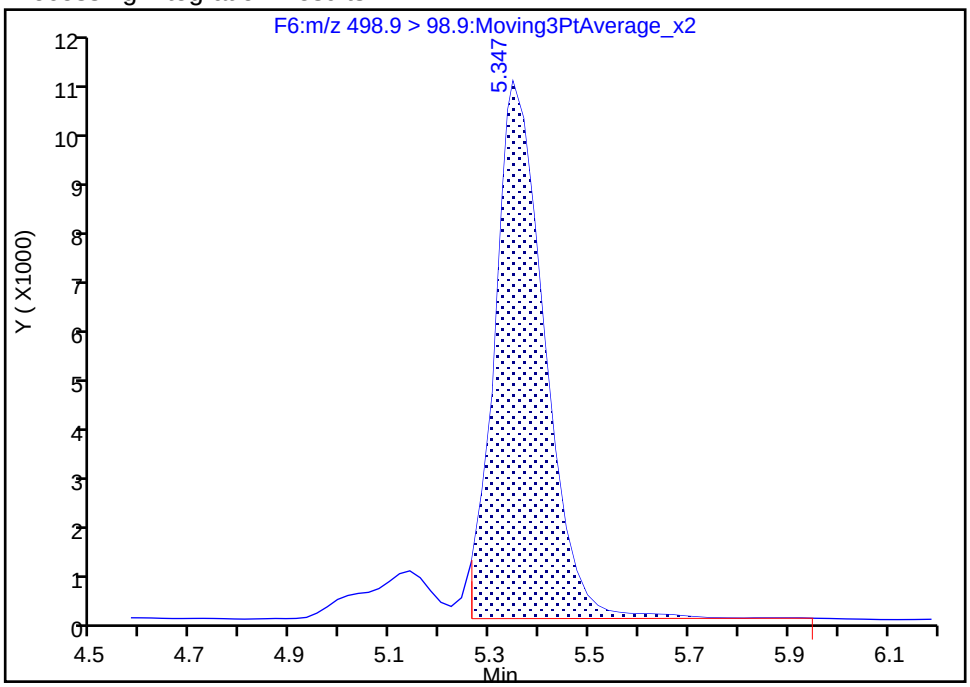
Data File:	\\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d				
Injection Date:	23-May-2019 13:23:10	Instrument ID:	LC410		
Lims ID:	ICIS				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

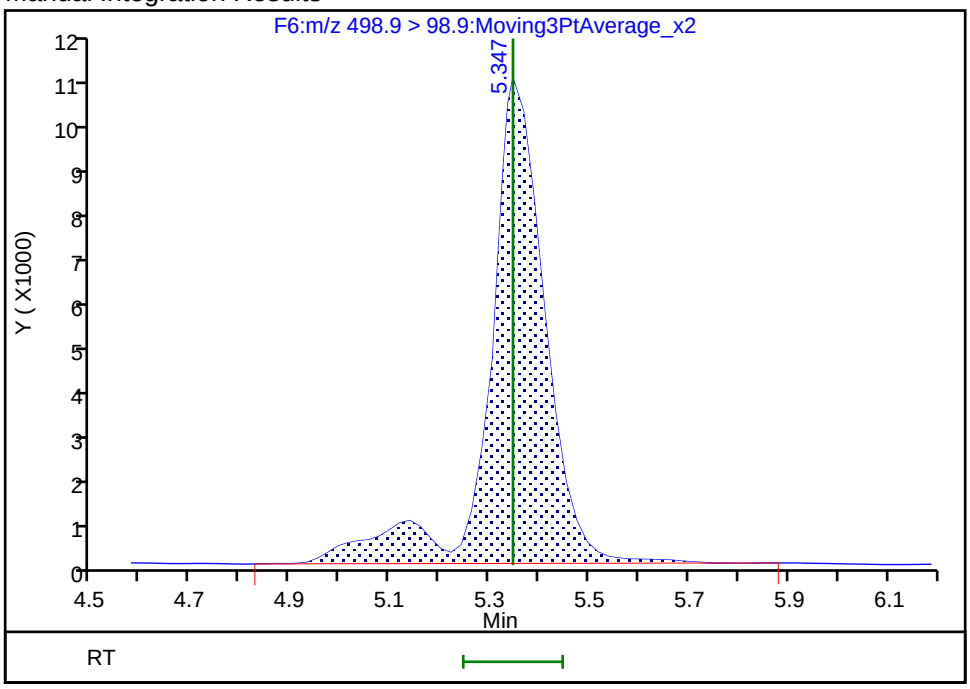
Processing Integration Results

RT: 5.35
Area: 74877
Amount: 15.452641
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 85189
Amount: 19.473446
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:39:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

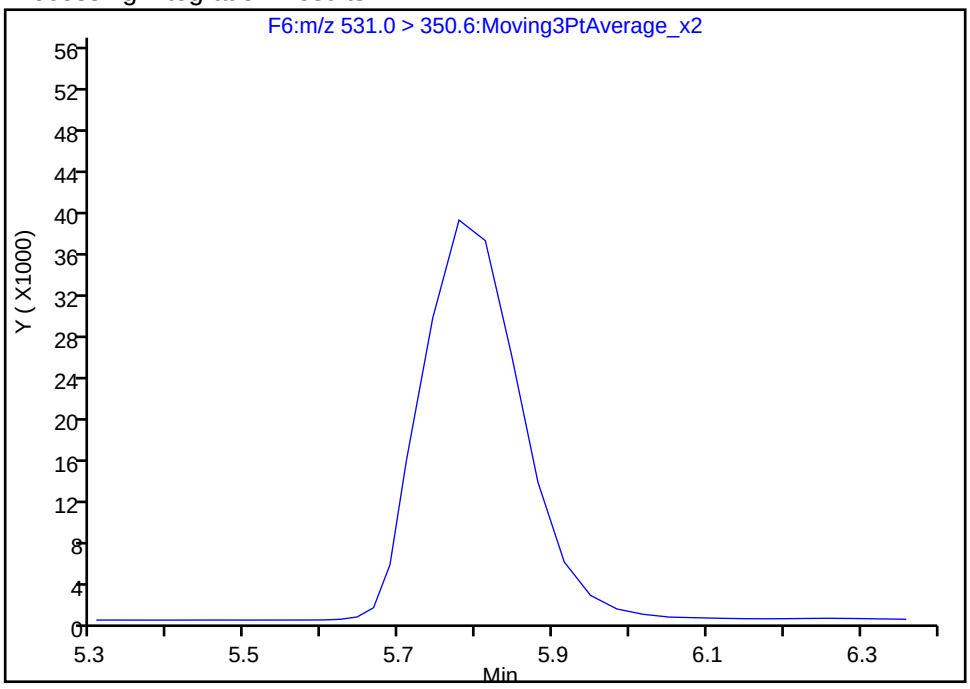
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

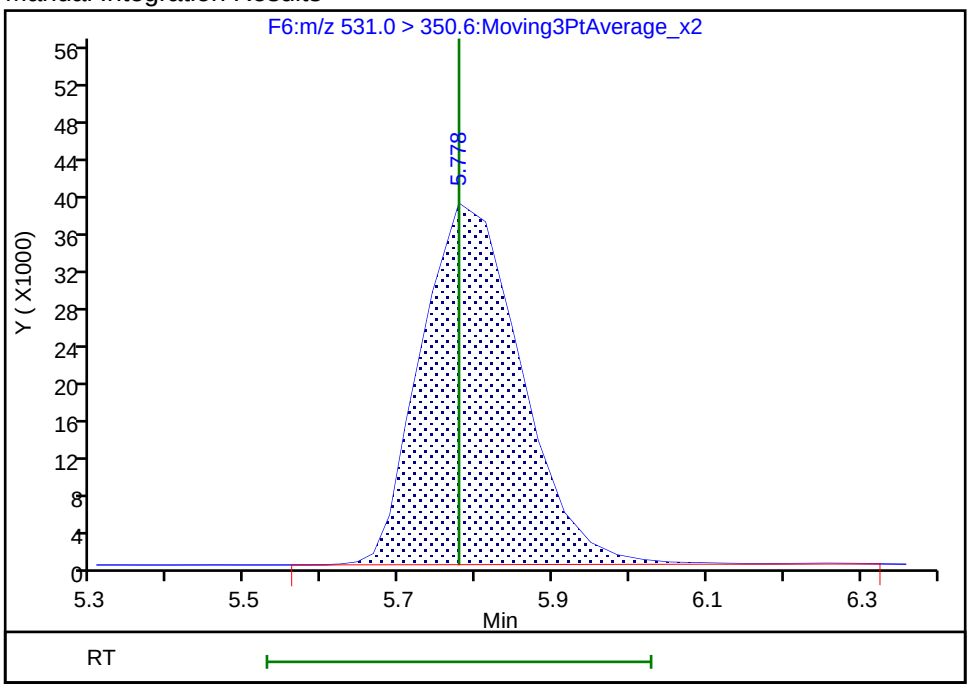
Not Detected
Expected RT: 5.78

Processing Integration Results



Manual Integration Results

RT: 5.78
Area: 349774
Amount: 17.843620
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:27:46
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

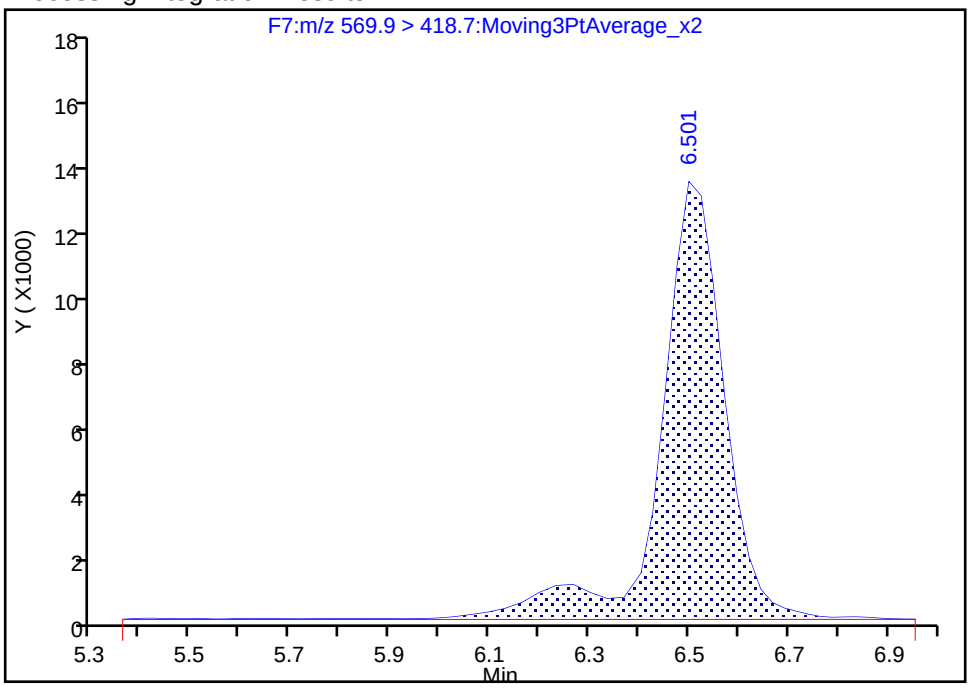
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

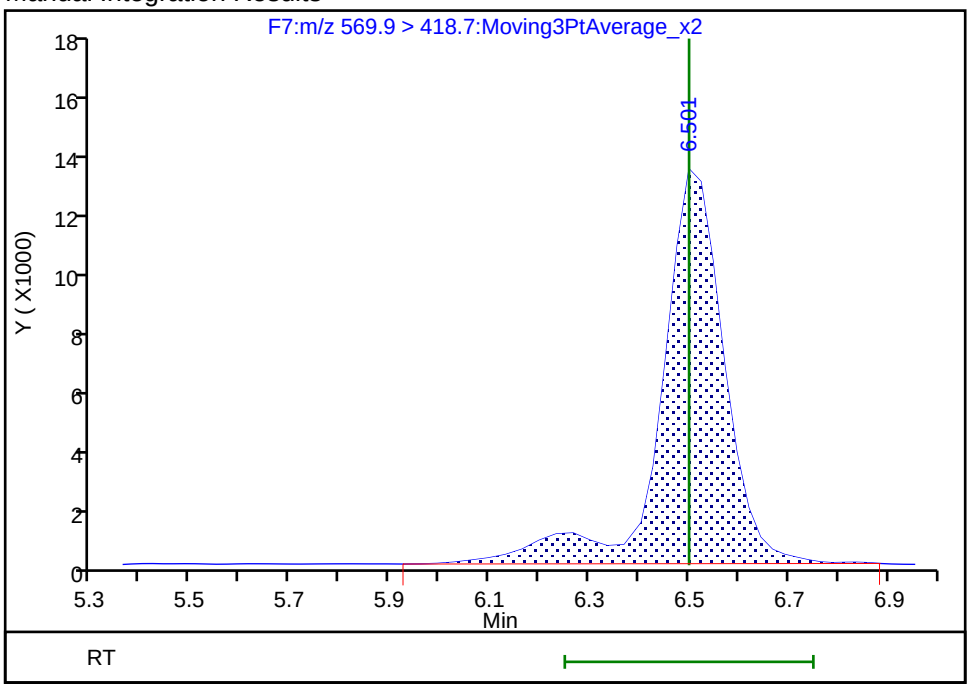
Processing Integration Results

RT: 6.50
Area: 115464
Amount: 20.681709
Amount Units: ng/ml



Manual Integration Results

RT: 6.50
Area: 113594
Amount: 20.384690
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:39:38
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

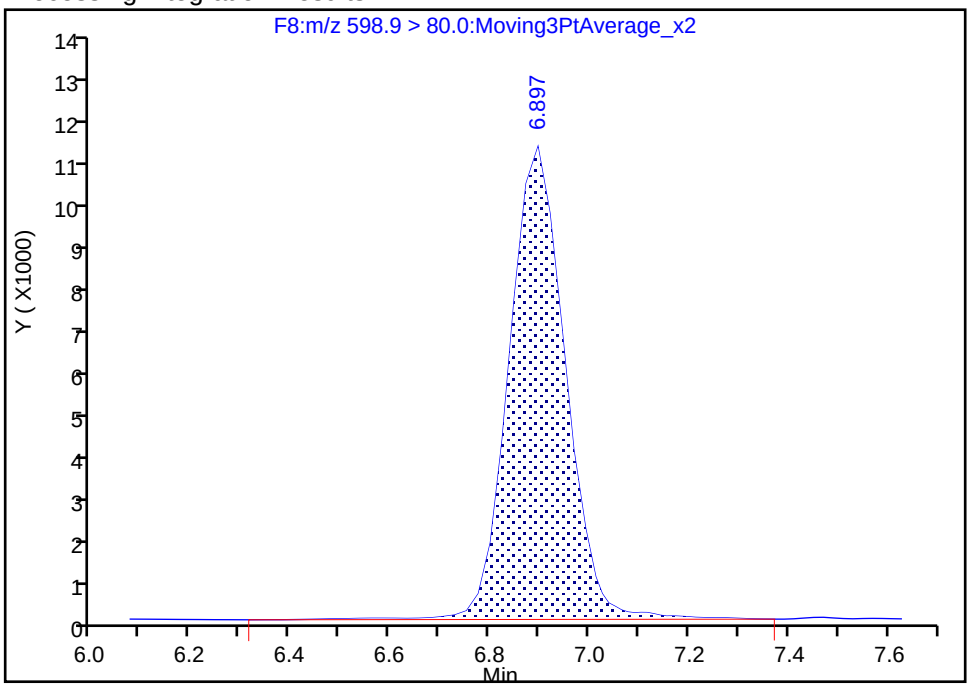
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

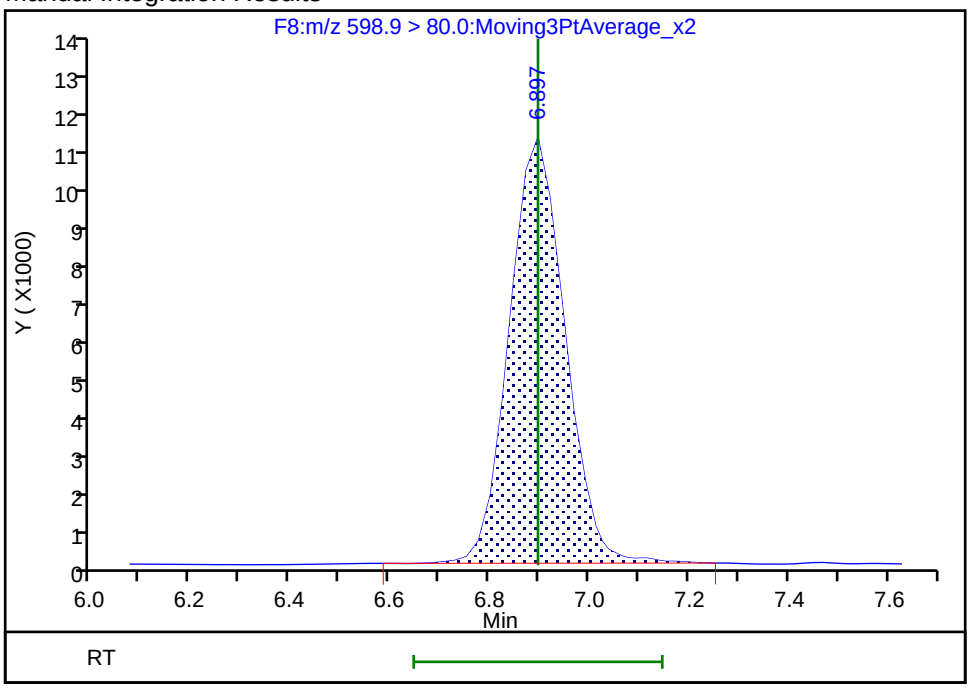
Processing Integration Results

RT: 6.90
Area: 84264
Amount: 18.171977
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 82775
Amount: 17.883962
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:39:46
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

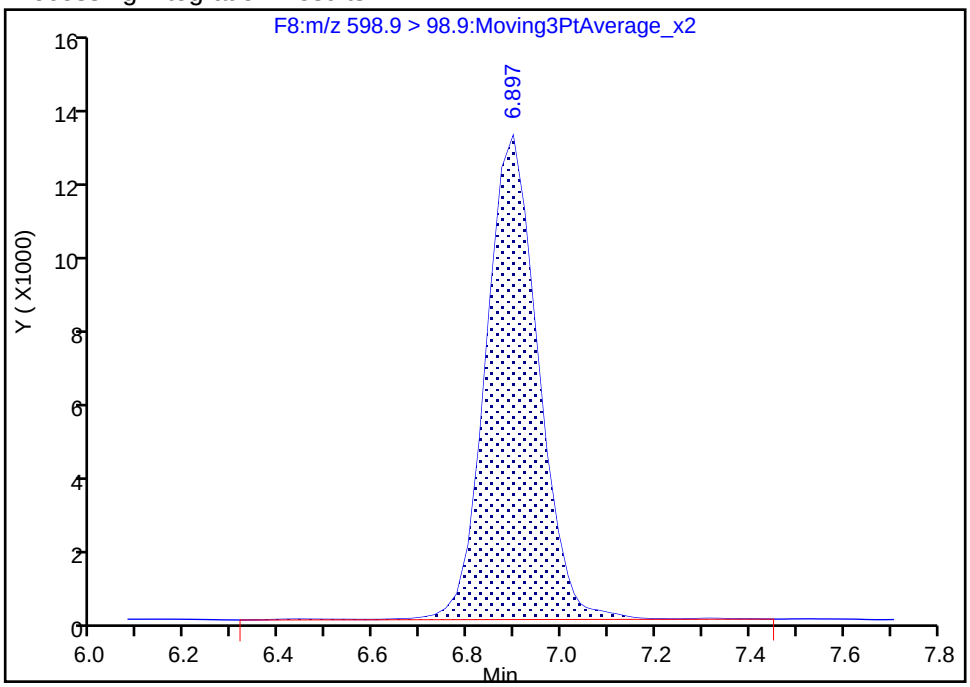
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 2

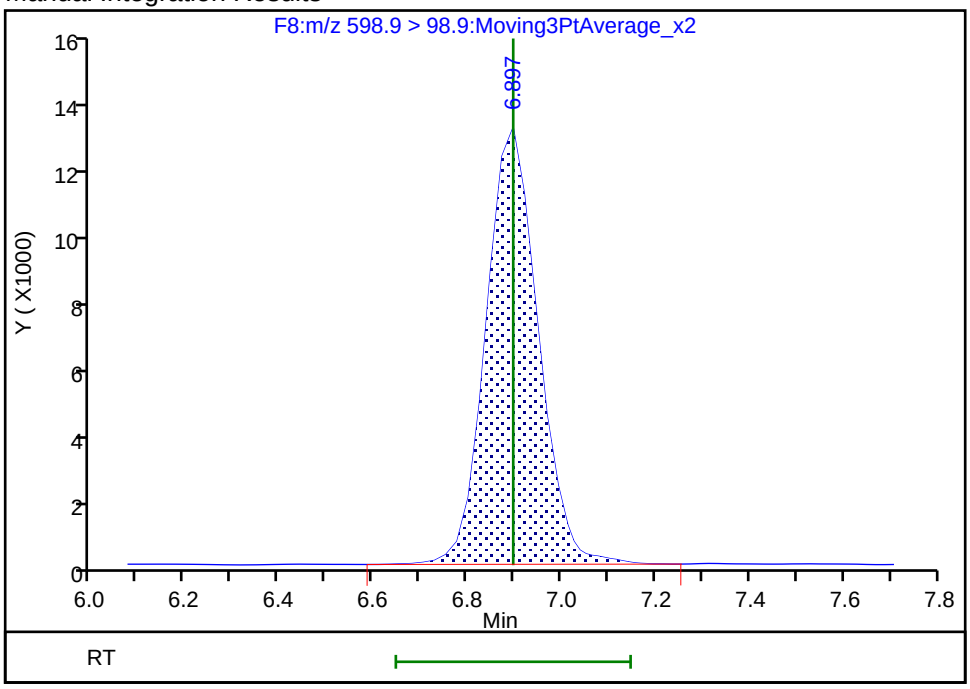
Processing Integration Results

RT: 6.90
Area: 101024
Amount: 18.171977
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 100462
Amount: 17.883962
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:39:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

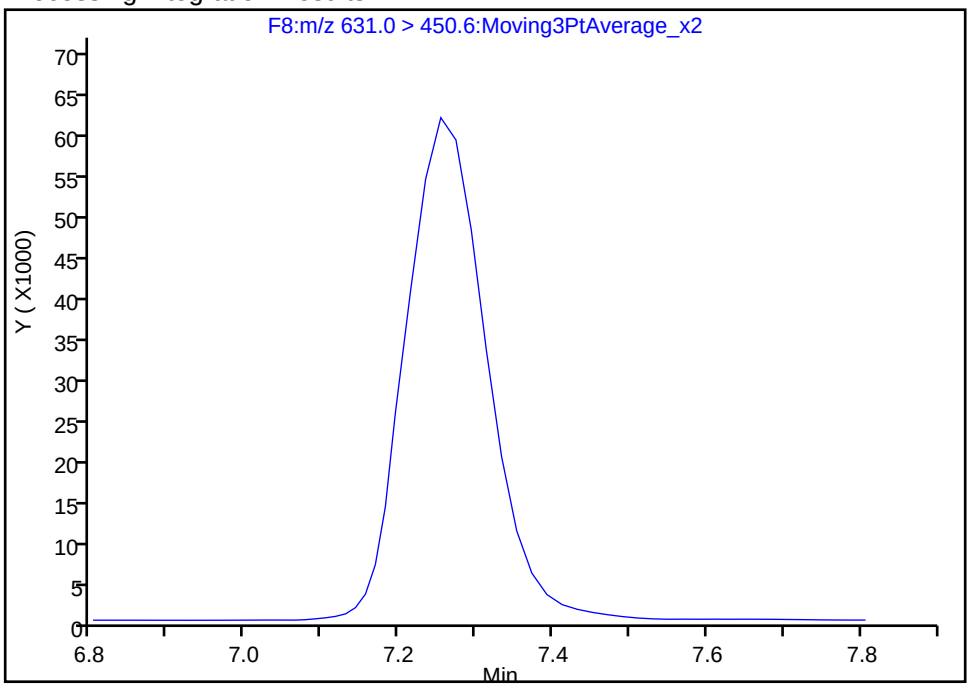
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B06.d
Injection Date: 23-May-2019 13:23:10 Instrument ID: LC410
Lims ID: ICIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

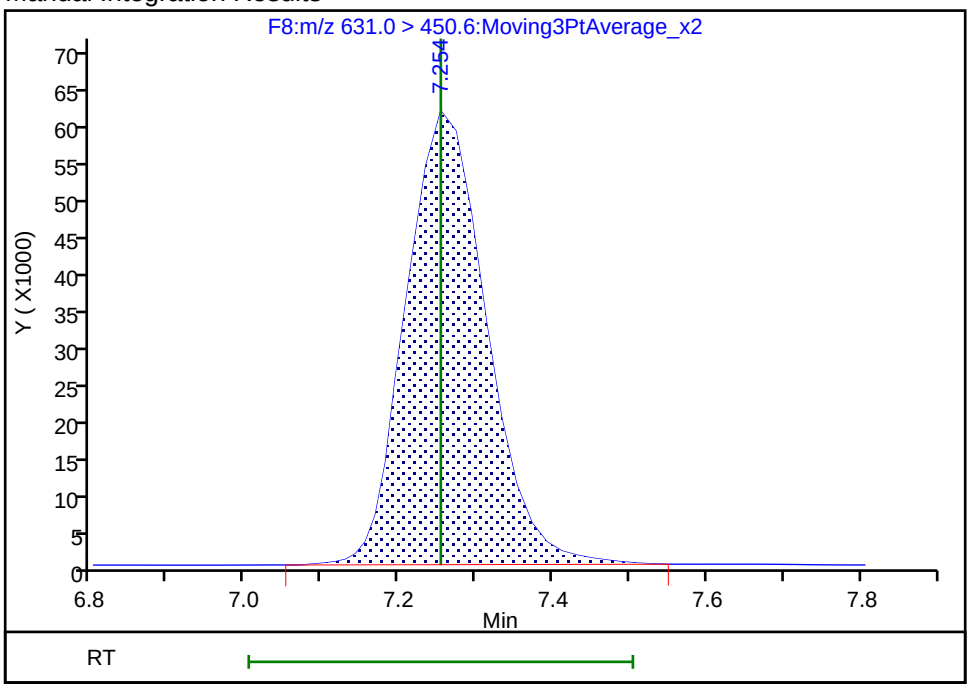
Not Detected
Expected RT: 7.25

Processing Integration Results



Manual Integration Results

RT: 7.25
Area: 451089
Amount: 18.036632
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:27:48
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 23-May-2019 13:39:09 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-007 IC 6
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:32:05 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 17:59:13
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.380	0.0	1.000	228759	45.5		91.0	83.5	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.380	0.0	1.000	202685	28.2		94.1	120	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.795	0.035	1.000	291695	30.3		101	499	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	160928	42.2		84.4	591	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.866	0.035	1.000	73034	44.0		94.7	167	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.866	2.901	-0.035	0.988	94046	23.8	Target=1.67	89.8	280	M
298.9 > 98.9	2.866	2.866	0.0	0.988	82153		0.00(0.83-2.51)	89.8	484	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.238	3.238	0.0	1.116	45247	21.7		77.6	399	M
7 Perfluorohexanoic acid										
312.9 > 268.9	3.270	3.270	0.0	1.000	423758	29.0	Target=14.34	96.6	1093	
312.9 > 118.9	3.270	3.270	0.0	1.000	29548		0.00(7.17-21.51)	96.6	264	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.270	0.0	1.000	522959	45.7		91.5	1554	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.334	3.334	0.0	1.149	117554	26.3	Target=1.23	93.6	741	M
348.9 > 98.9	3.334	3.334	0.0	1.000	121386		0.00(0.62-1.85)	93.6	774	
D 42 13C3 HFPO-DA										M
331.9 > 286.7	3.429	3.429	0.0	1.000	38995	35.9		71.7	298	M
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.429	3.429	0.0	1.000	28650	34.1		114	352	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.833	3.833	0.0	1.000	516131	31.4	Target=2.84	105	2160	
362.9 > 168.9	3.833	3.833	0.0	1.000	168471		0.00(1.42-4.26)	105	973	
D 10 13C4 PFHpA										
366.9 > 321.8	3.833	3.869	-0.036	1.000	699954	43.4		86.9	1127	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.869	0.036	1.000	81122	38.3		80.9	251	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.869	3.905	-0.036	0.991	100930	27.8	Target=1.34	102	605	
398.9 > 98.9	3.869	3.905	-0.036	0.991	109500		0.00(0.67-2.01)	102	440	M
49 DONA										
376.9 > 250.7	3.925	3.925	0.0	0.734	508514	28.7	Target=2.33	102	1894	
376.9 > 85.0	3.925	3.925	0.0	1.000	189937		0.00(1.16-3.49)	102	833	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.506	4.506	0.0	0.995	23778	26.8		94.2	133	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.506	0.020	1.000	44613	38.9		82.0	300	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.547	0.021		1027905	50.0			3725	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.547	0.0	1.000	837016	41.9		83.9	3506	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.547	4.568	-0.021	1.000	514272	30.4	Target=2.43	101	1487	
412.9 > 168.9	4.568	4.568	0.0	1.005	204615		0.00(1.22-3.64)	101	949	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.589	0.0	0.858	106149	29.6	Target=1.30	104	656	
448.9 > 98.9	4.589	4.589	0.0	1.000	120334		0.00(0.65-1.95)	104	638	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.347	0.0	1.000	1189356	44.4		88.9	3669	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.347	0.0	1.000	644174	30.7	Target=5.00	102	4354	
462.9 > 168.9	5.336	5.347	-0.011	0.998	147577		0.00(2.50-7.50)	102	972	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.347	0.0	1.000	196662	41.1		86.0	922	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.347	0.0	1.000	113186	28.5	Target=1.41	102	1319	M
498.9 > 98.9	5.347	5.347	0.0	1.000	120740		0.00(0.71-2.12)	102	1230	M
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.778	5.778	0.0	1.081	514163	28.4		102	2451	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	181087	43.5		90.8	937	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	73018	26.2		91.1	681	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.165	6.165	0.0	1.153	122395	30.7	Target=1.39	107	1160	
548.9 > 98.9	6.131	6.165	-0.034	1.000	134506		0.00(0.69-2.08)	107	1188	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.165	0.0	1.000	1028006	45.0		90.0	4014	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										
512.9 > 468.5	6.165	6.165	0.0	1.000	544994	29.0	Target=7.23	96.5	1037	
512.9 > 168.9	6.165	6.165	0.0	1.000	68304		0.00(3.61-10.84)	96.5	350	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.501	6.501	0.0	1.000	160790	30.0		99.9	1244	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.501	0.0	1.000	324984	43.7		87.3	2797	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.873	0.0	1.000	261835	42.7		85.3	1464	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.897	6.897	0.0	1.290	121530	28.5	Target=1.25	98.4	978	
598.9 > 98.9	6.897	6.897	0.0	1.000	133611		0.00(0.63-1.88)	98.4	1143	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.897	6.897	0.0	1.003	131534	31.2		104	558	M
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.000	469506	29.5	Target=7.06	98.2	2119	
562.9 > 168.9	6.921	6.921	0.0	1.000	63410		0.00(3.53-10.58)	98.2	611	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.921	0.0	1.000	957438	43.4		86.8	5727	
D 34 13C8 FOSA										
505.9 > 78.0	6.921	6.921	0.0	1.000	359409	43.7		87.3	1139	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.921	6.921	0.0	1.000	300414	29.3		97.8	1429	
43 11-Chloroeicosafluoro-3-oxaundecan										a
631.0 > 450.6	7.254	7.254	0.0	1.357	659315	28.6		101	1941	a
36 Perfluorododecanoic acid										
612.9 > 568.5	7.616	7.616	0.0	1.003	644669	27.9	Target=5.37	93.0	2012	
612.9 > 168.9	7.616	7.616	0.0	1.003	114426		0.00(2.68-8.06)	93.0	1083	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.616	-0.020	1.000	1218042	43.3		86.7	3297	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.224	8.224	0.0	1.083	706275	30.9	Target=4.67	103	2031	
662.9 > 168.9	8.235	8.224	0.011	1.084	133170		0.00(2.34-7.01)	103	846	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.786	8.775	0.011	1.000	1077379	42.7		85.4	807	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.775	8.786	-0.011	0.999	558564	30.5	Target=4.86	102	1518	
712.9 > 168.9	8.775	8.786	-0.011	0.999	104976		0.00(2.43-7.30)	102	563	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27-L6_00004 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:32:06 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d

Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410

Lims ID: IC

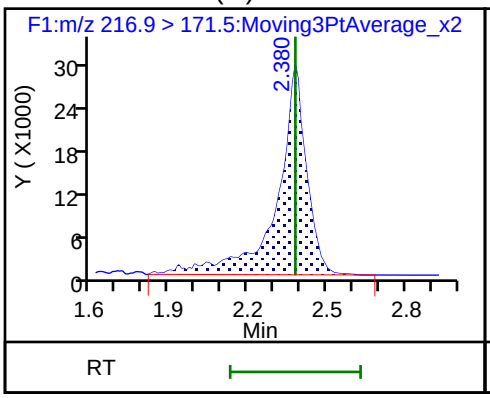
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7

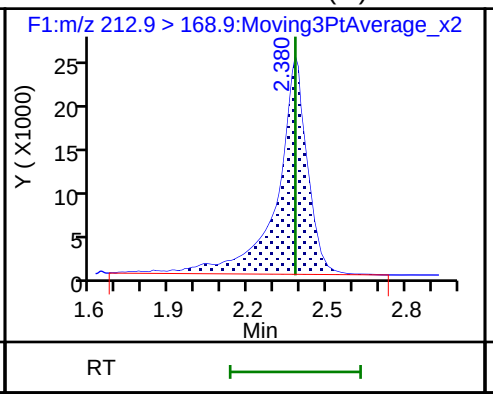
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

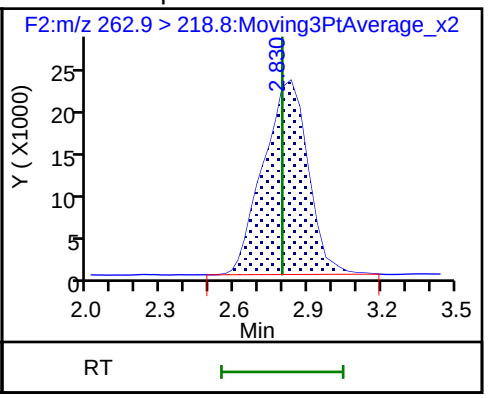
D 1 13C4 PFBA (M)



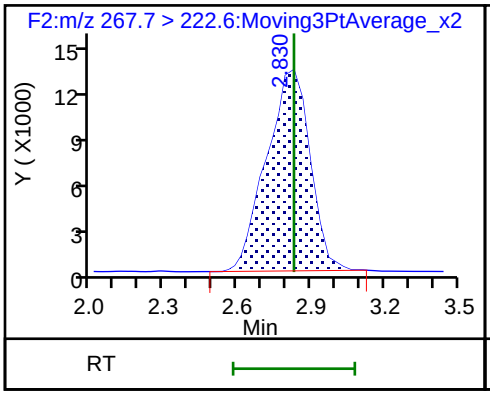
2 Perfluorobutanoic acid (M)



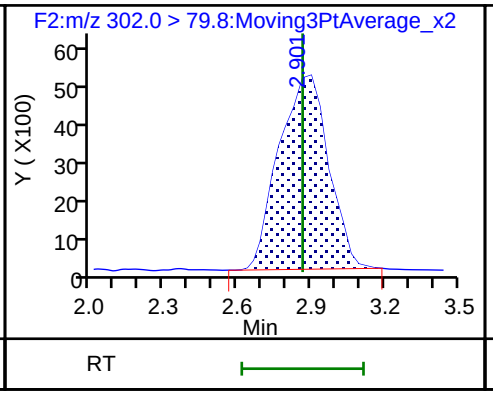
3 Perfluoropentanoic acid



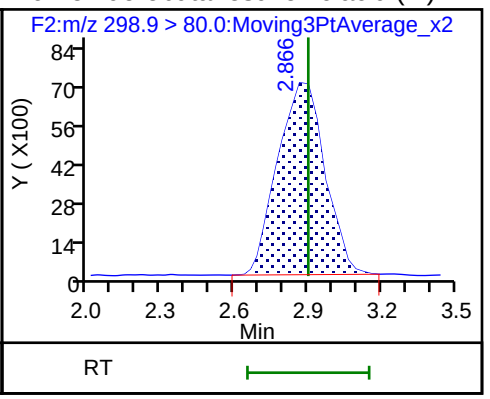
D 4 13C5 PFPeA



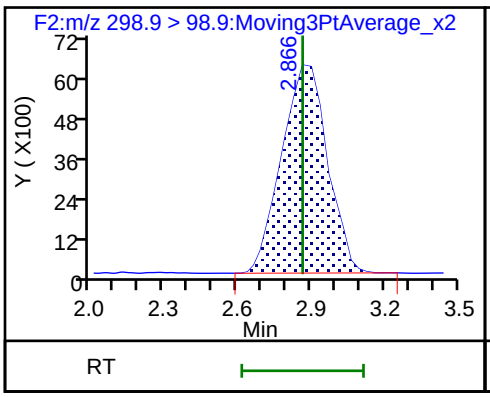
D 5 13C3 PFBS



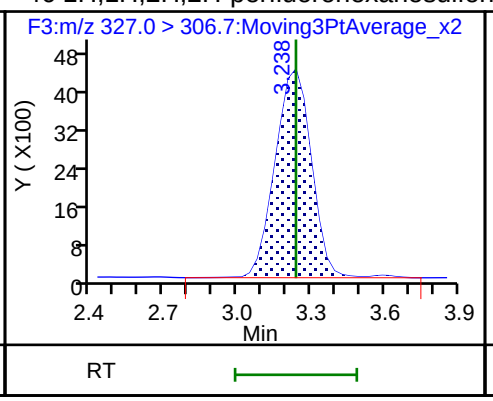
6 Perfluorobutanesulfonic acid (M)



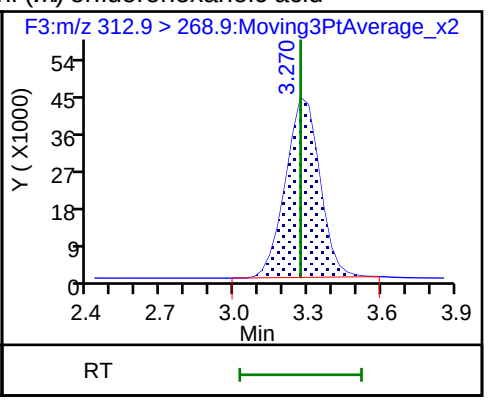
6 Perfluorobutanesulfonic acid



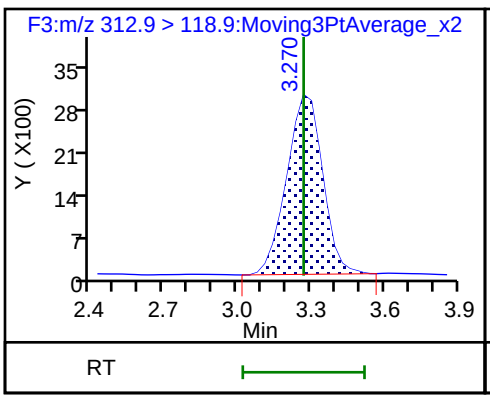
46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



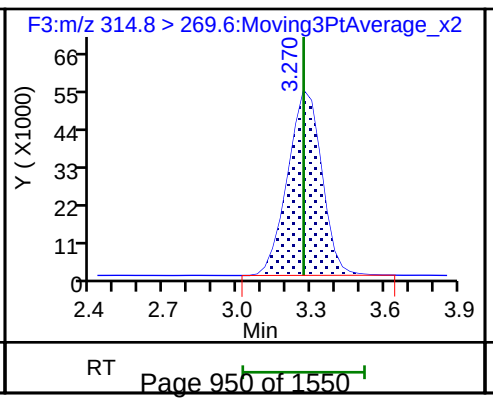
7 Perfluorohexanoic acid



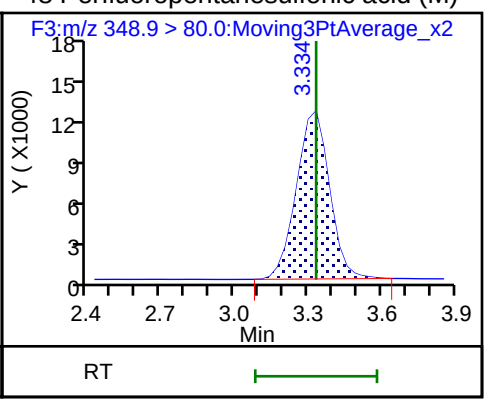
7 Perfluorohexanoic acid



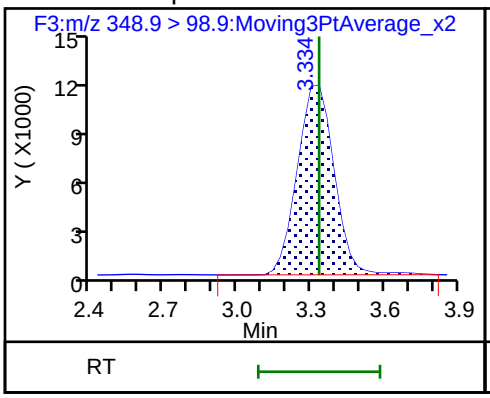
D 8 13C2 PFHxA



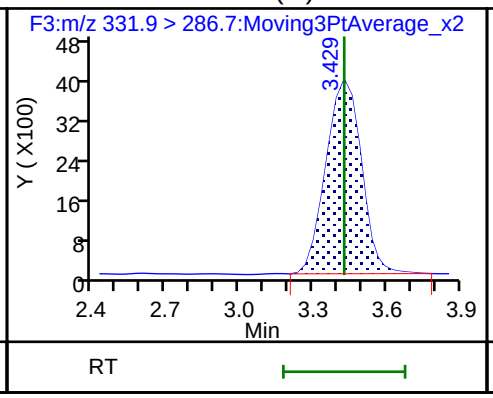
48 Perfluoropentanesulfonic acid (M)



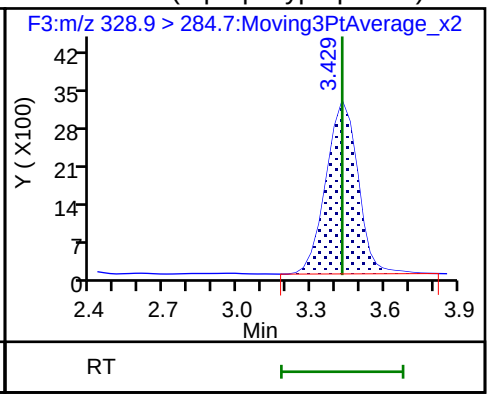
48 Perfluoropentanesulfonic acid



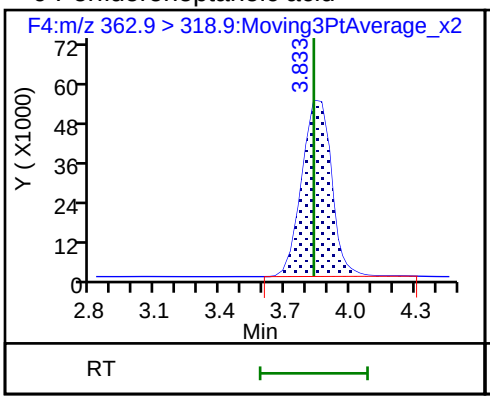
D 42 13C3 HFPO-DA (M)



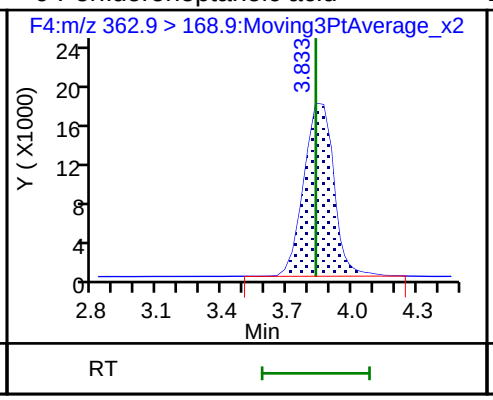
44 Perfluoro(2-propoxypropanoic) acid



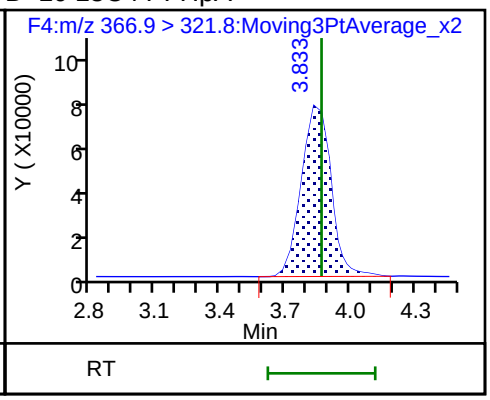
9 Perfluoroheptanoic acid



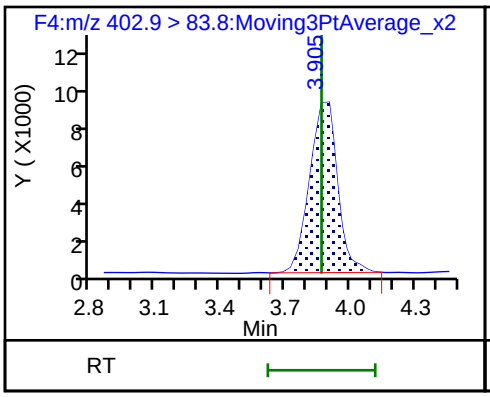
9 Perfluoroheptanoic acid



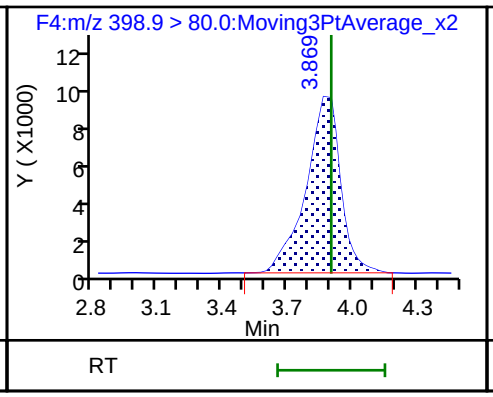
D 10 13C4 PFHpA



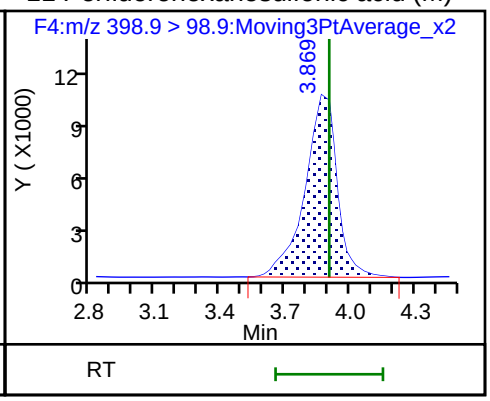
D 12 18O2 PFHxS



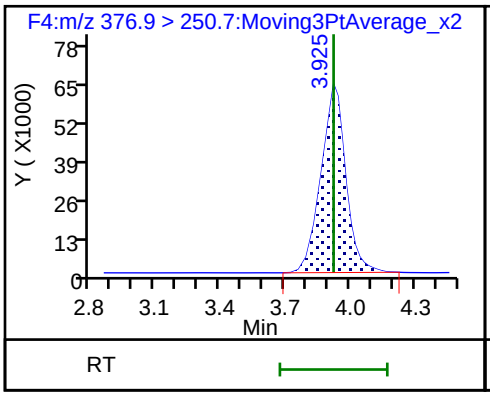
11 Perfluorohexanesulfonic acid



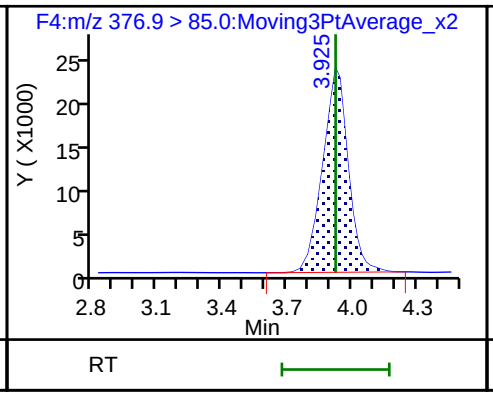
11 Perfluorohexanesulfonic acid (M)



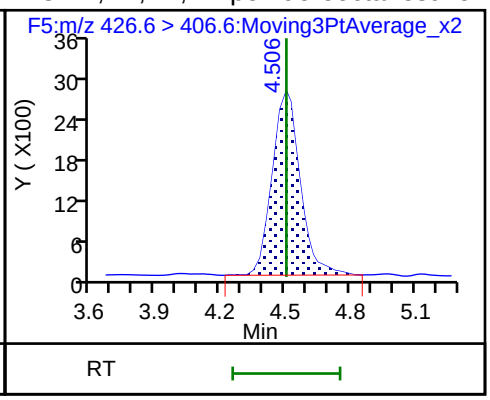
49 DONA



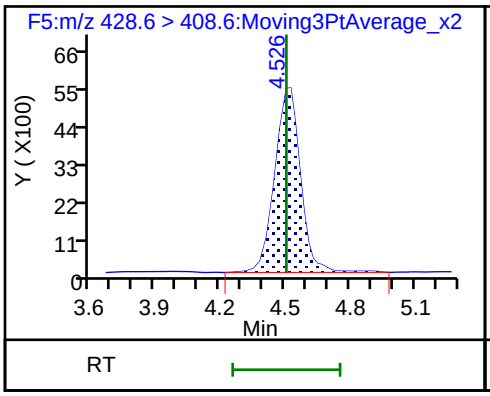
49 DONA



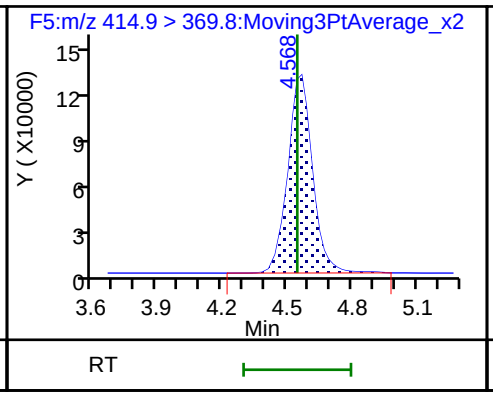
13 1H,1H,2H,2H-perfluorooctanesulfoni



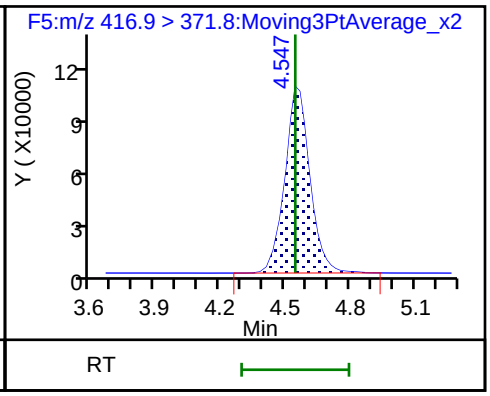
D 14 M2-6:2 FTS



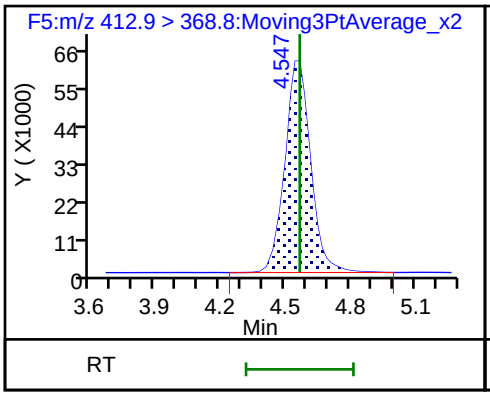
* 16 13C2 PFOA



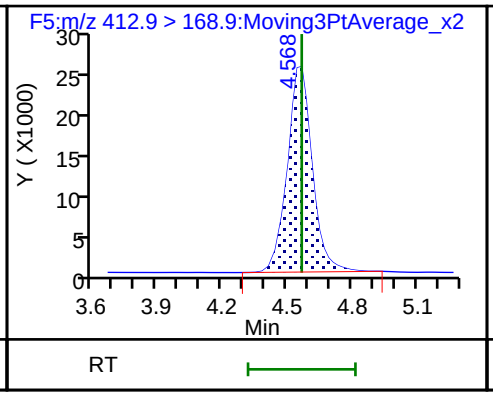
D 17 13C4 PFOA



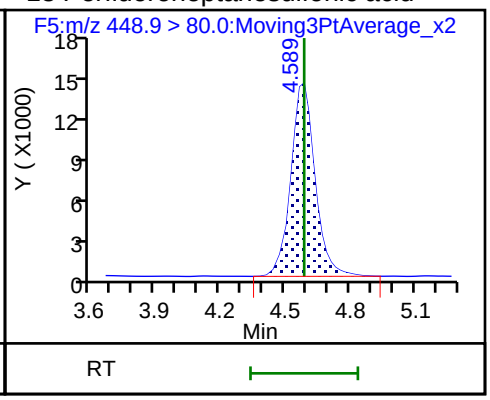
15 Perfluorooctanoic acid



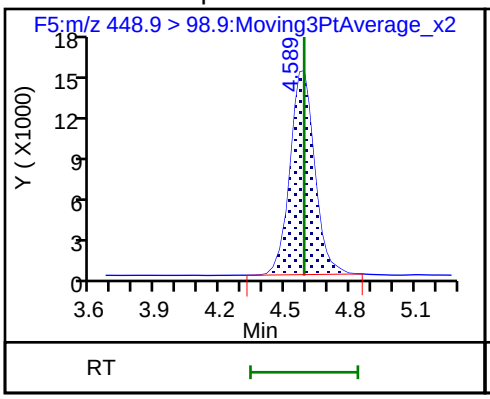
15 Perfluorooctanoic acid



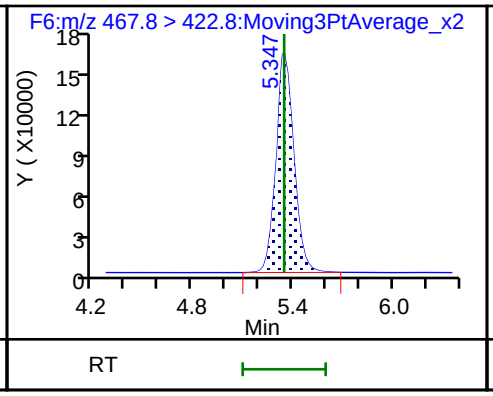
18 Perfluoroheptanesulfonic acid



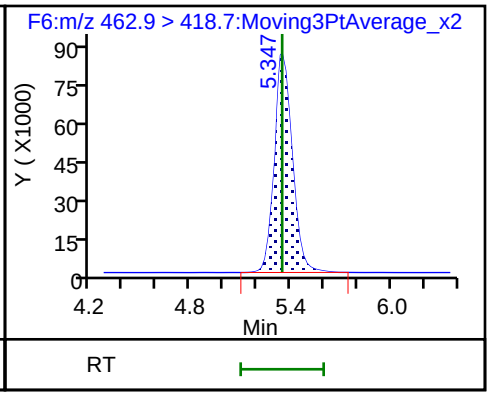
18 Perfluoroheptanesulfonic acid



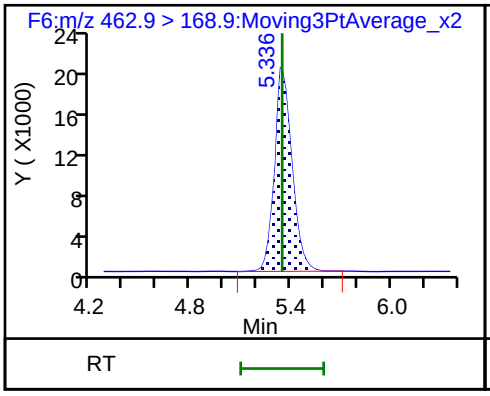
D 20 13C5 PFNA



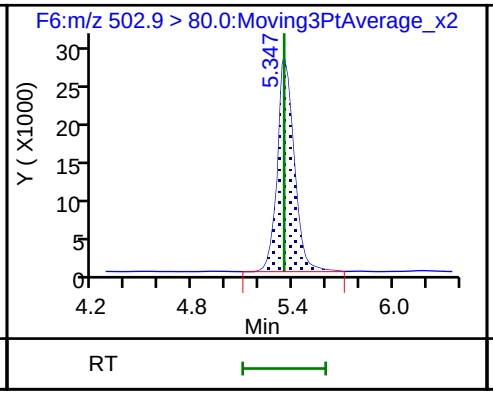
19 Perfluorononanoic acid



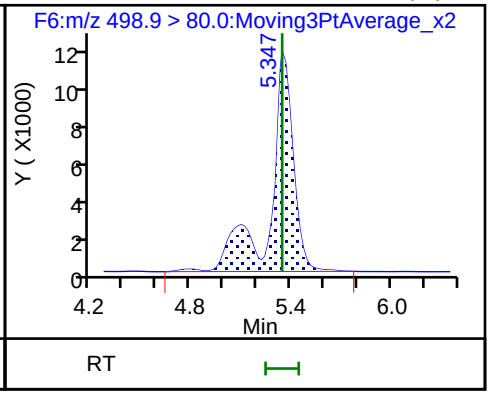
19 Perfluorononanoic acid



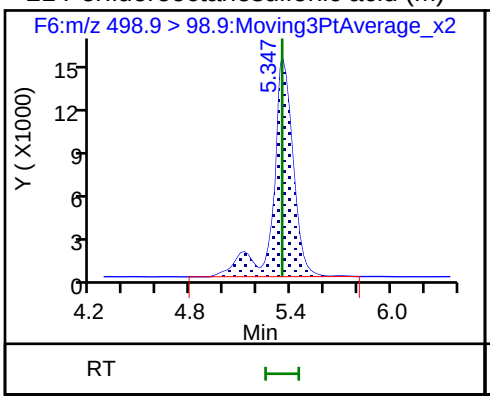
D 22 13C4 PFOS



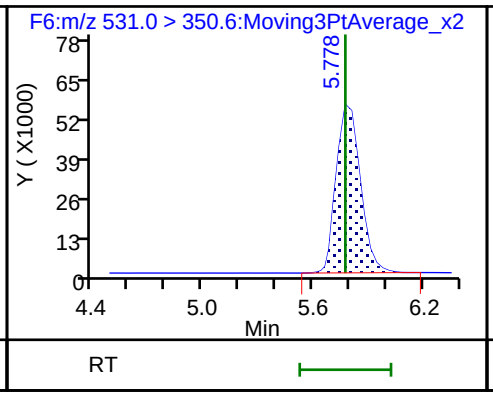
21 Perfluorooctanesulfonic acid (M)



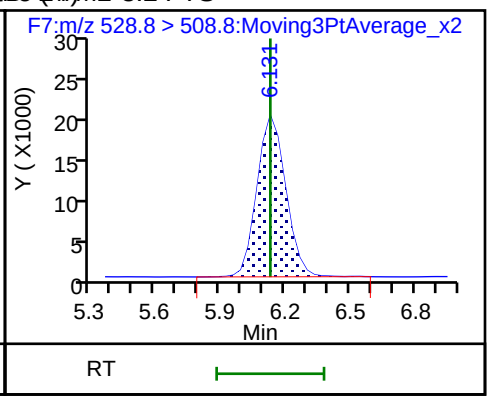
21 Perfluorooctanesulfonic acid (M)



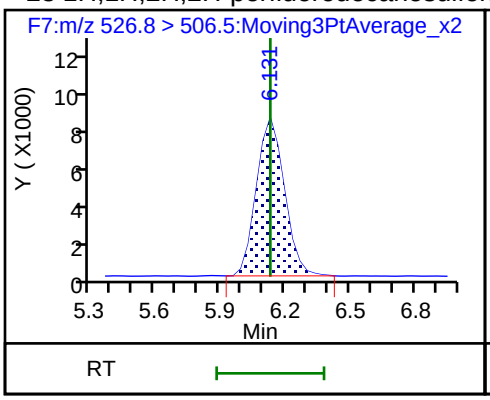
47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (M)



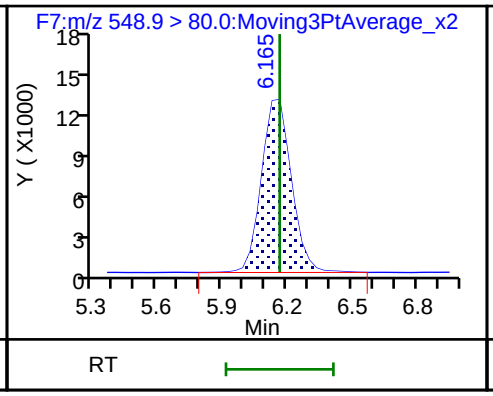
D 24 M2-8:2 FTS



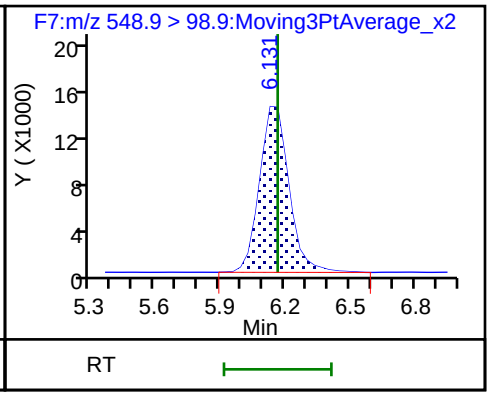
23 1H,1H,2H,2H-perfluorodecanesulfoni



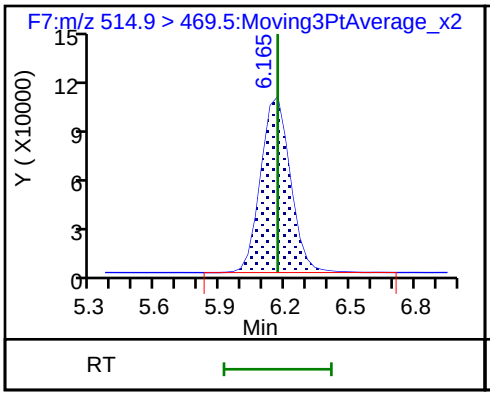
45 Perfluorononanesulfonic acid



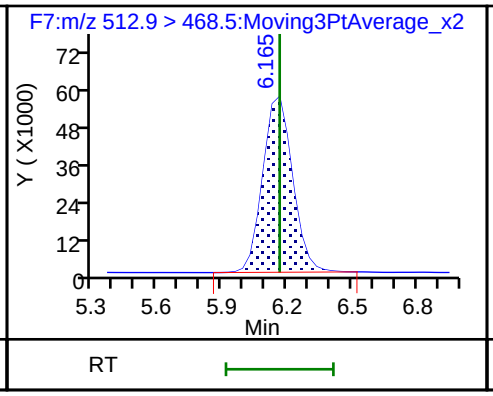
45 Perfluorononanesulfonic acid



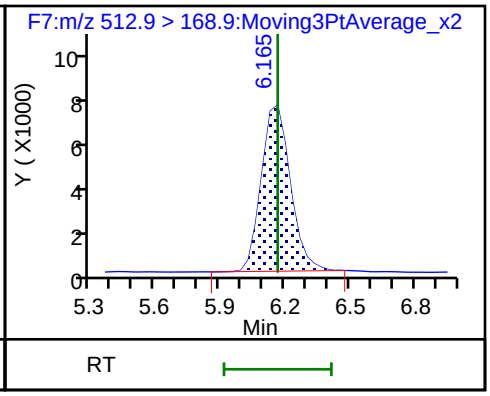
D 25 13C2 PFDA



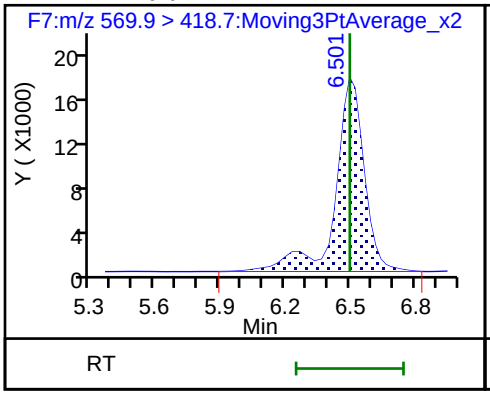
26 Perfluorodecanoic acid



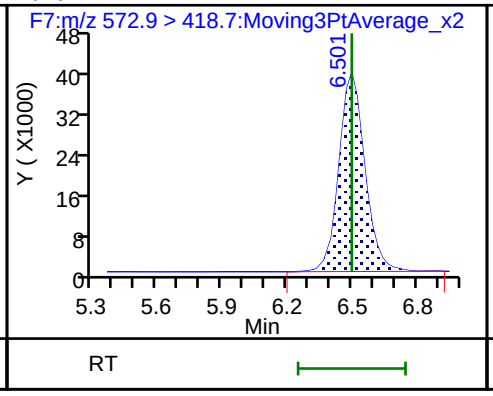
26 Perfluorodecanoic acid



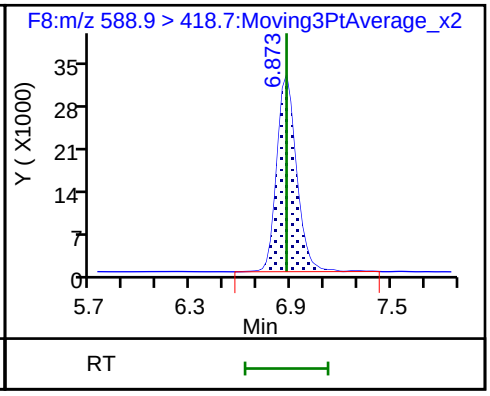
28 N-methylperfluorooctanesulfonamidoacetic acid (M)



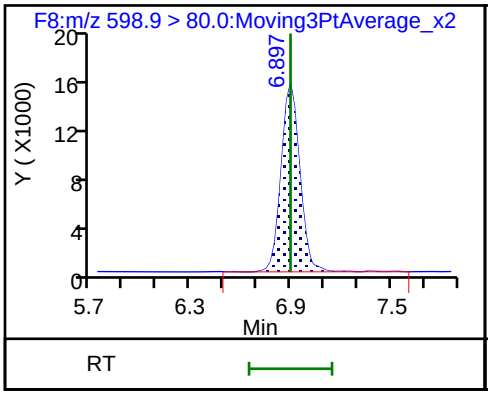
D 27 d3-NMeFOSAA



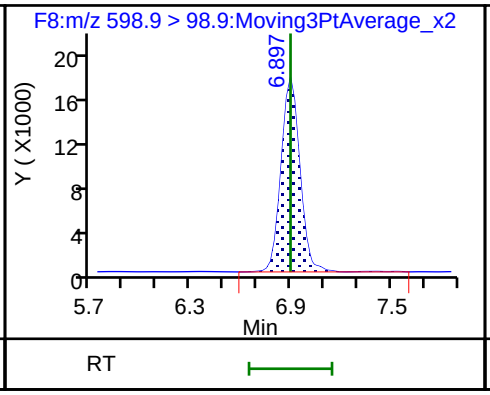
D 29 d5-NEtFOSAA



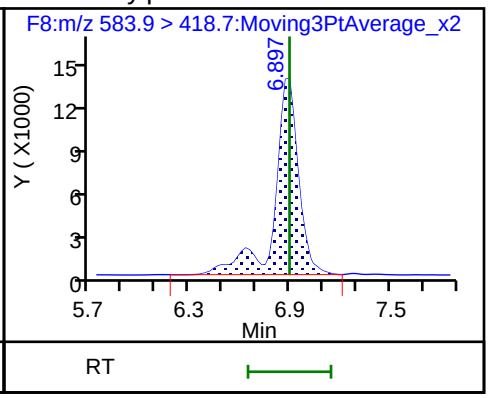
31 Perfluorodecanesulfonic acid



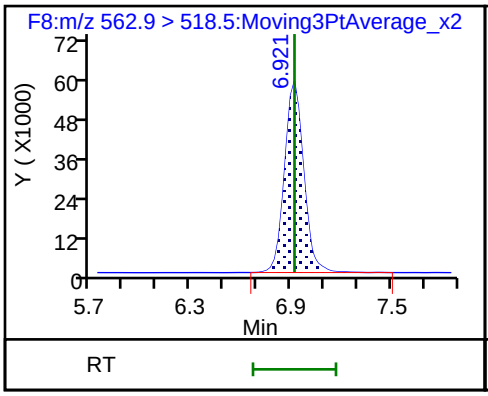
31 Perfluorodecanesulfonic acid



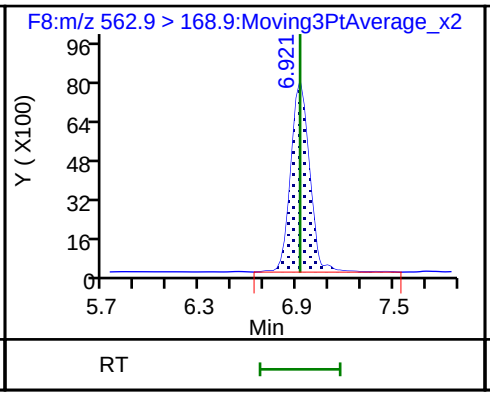
30 N-ethylperfluorooctanesulfonamidoa (M)



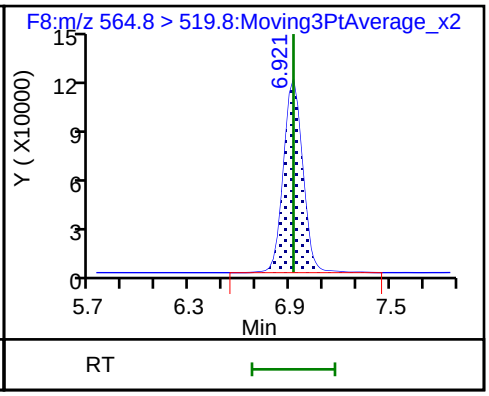
32 Perfluoroundecanoic acid



32 Perfluoroundecanoic acid



D 33 13C2 PFUnA



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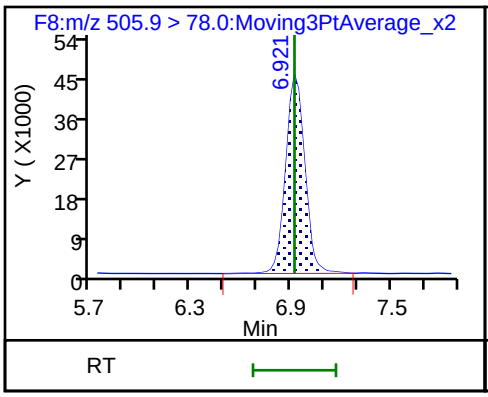
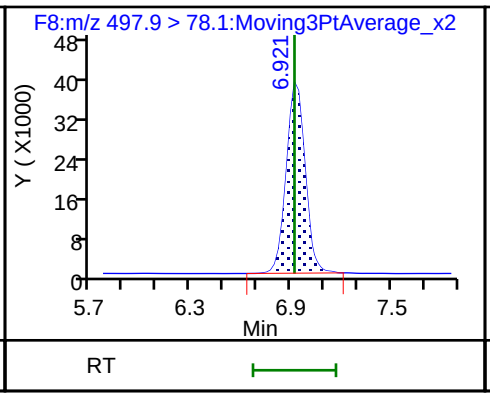
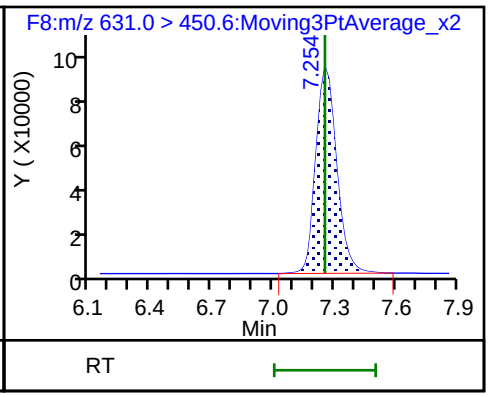


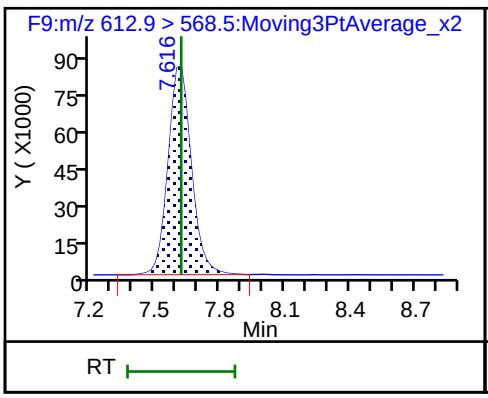
35 Perfluorooctanesulfonamide



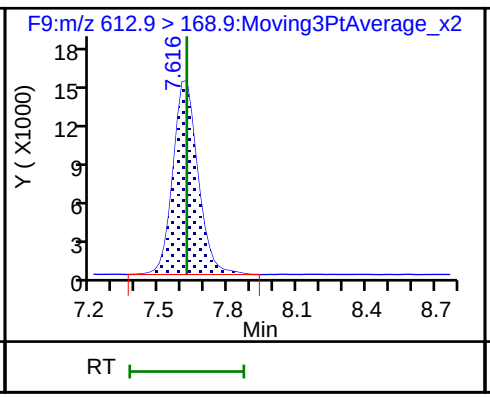
43 11-Chloroeicosafluoro-3-oxaundecan (M)



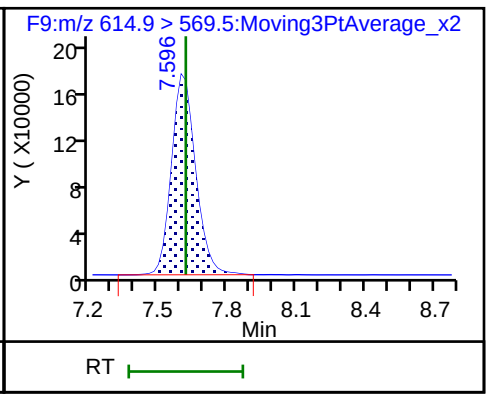
36 Perfluorododecanoic acid



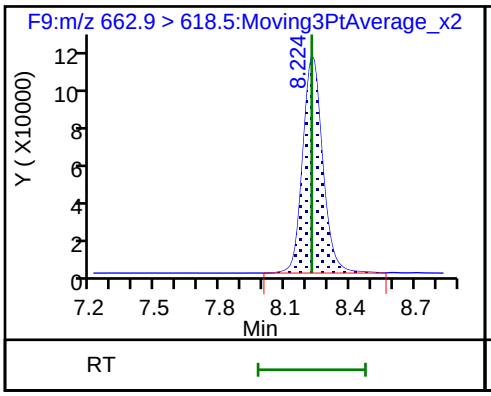
36 Perfluorododecanoic acid



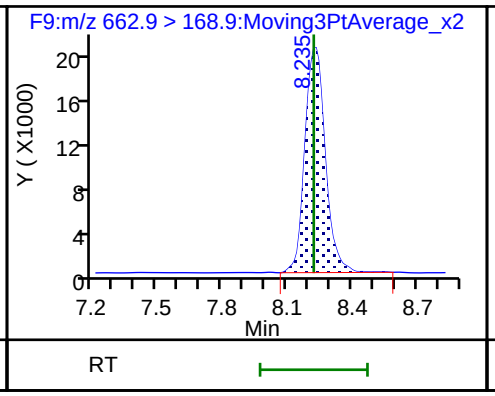
D 37 13C2 PFDoA



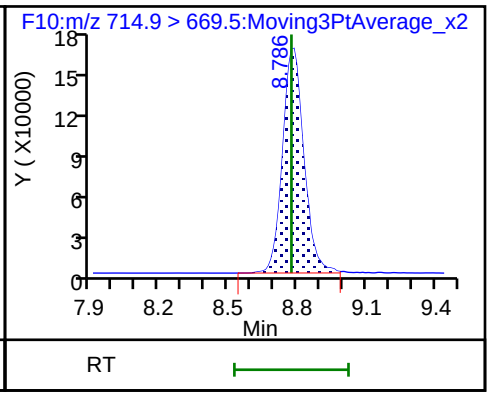
38 Perfluorotridecanoic acid



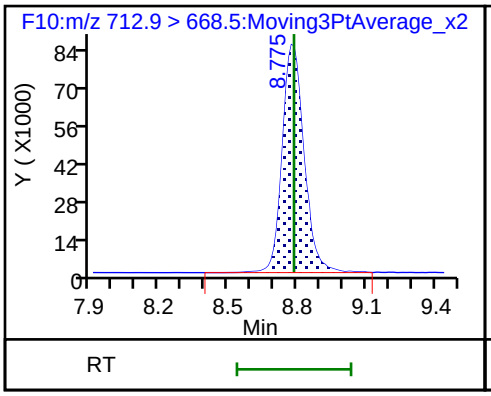
38 Perfluorotridecanoic acid



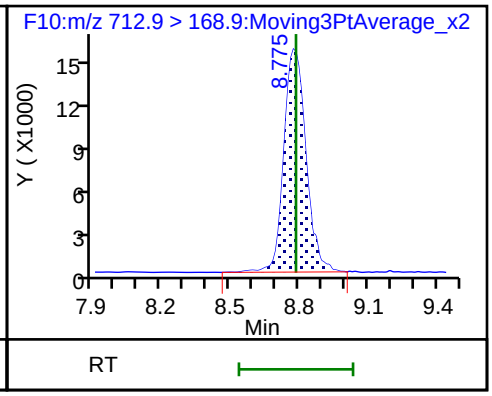
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Eurofins TestAmerica, Burlington

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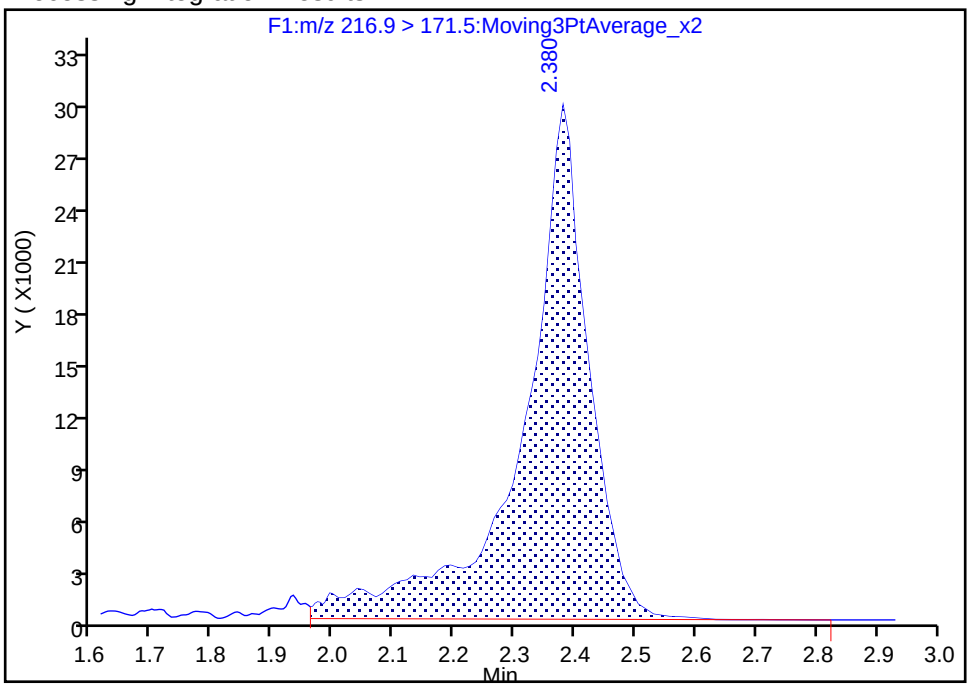
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

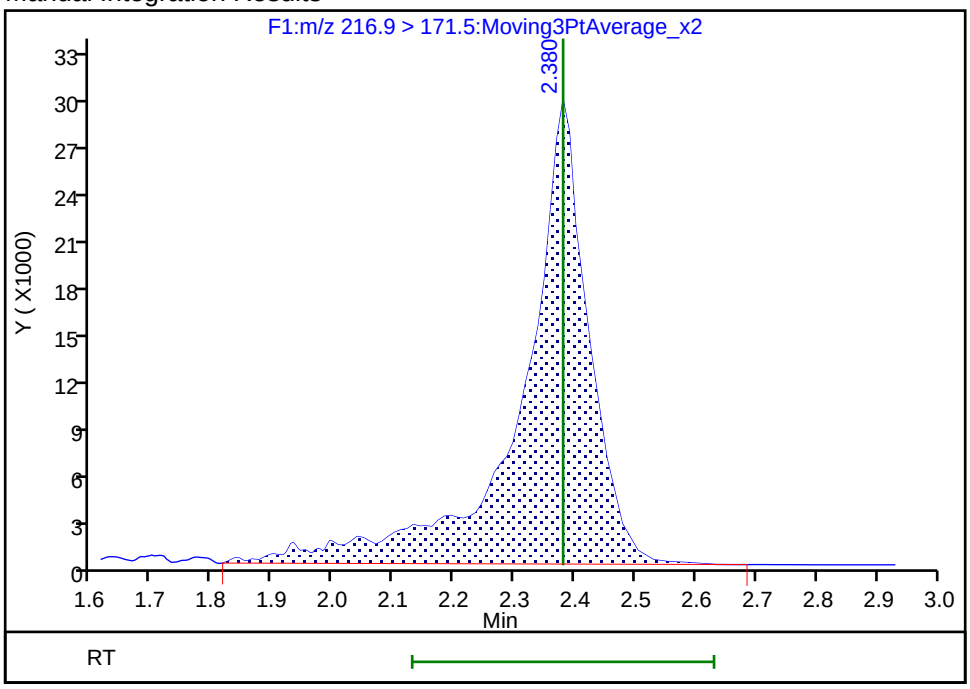
Processing Integration Results

RT: 2.38
Area: 224910
Amount: 45.642731
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 228759
Amount: 45.504779
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:13:12
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

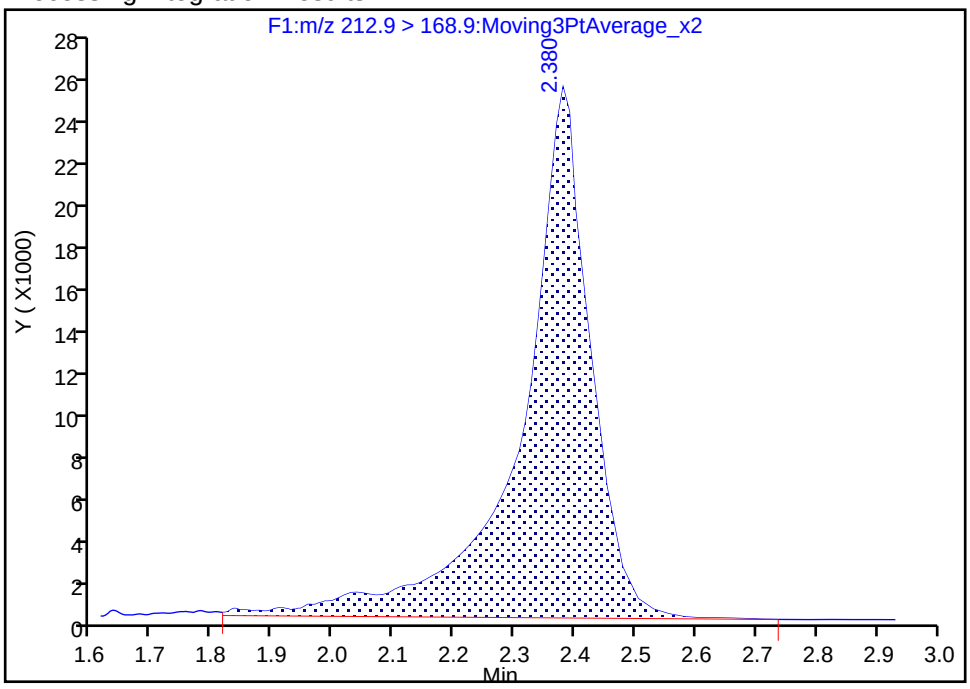
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

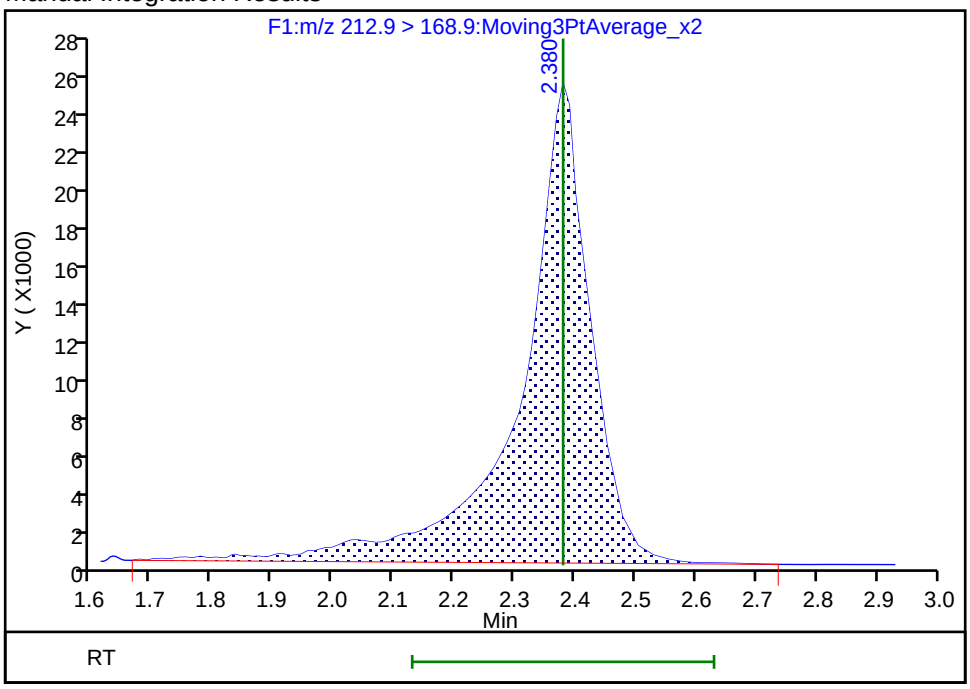
Processing Integration Results

RT: 2.38
Area: 201579
Amount: 27.479104
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 202685
Amount: 28.217385
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:13:28
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

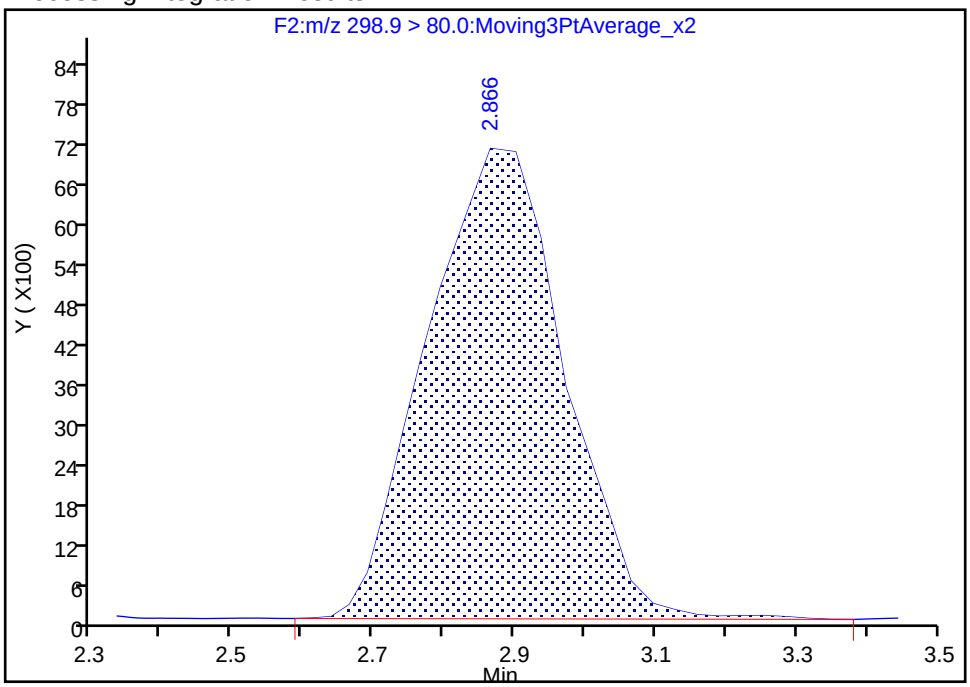
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

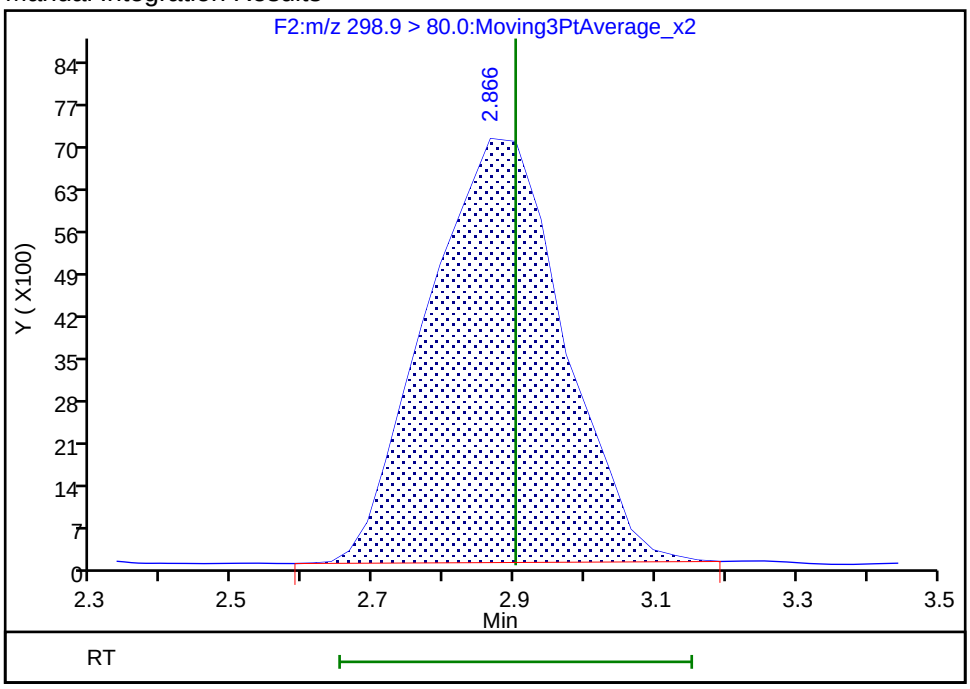
Processing Integration Results

RT: 2.87
Area: 95200
Amount: 24.085864
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 94046
Amount: 23.823040
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:13:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

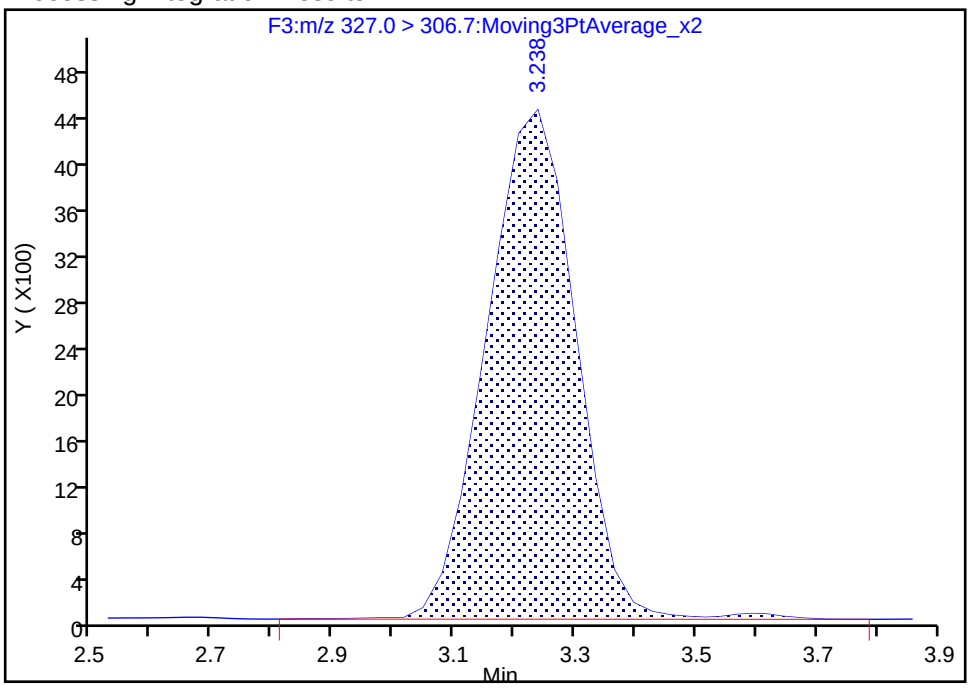
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

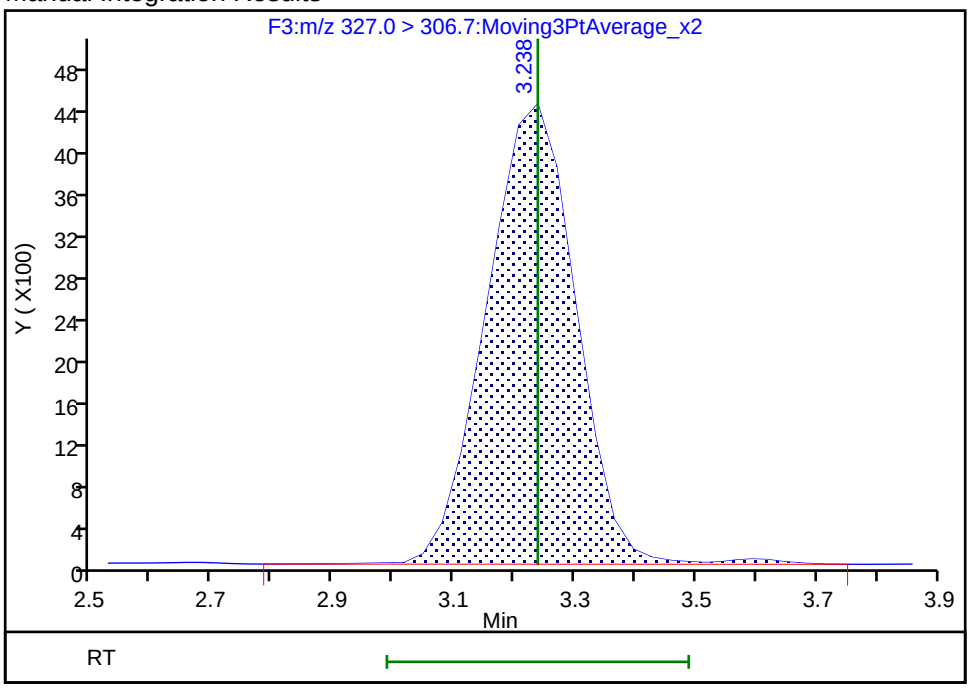
Processing Integration Results

RT: 3.24
Area: 45243
Amount: 22.881621
Amount Units: ng/ml



Manual Integration Results

RT: 3.24
Area: 45247
Amount: 21.746114
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:22:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

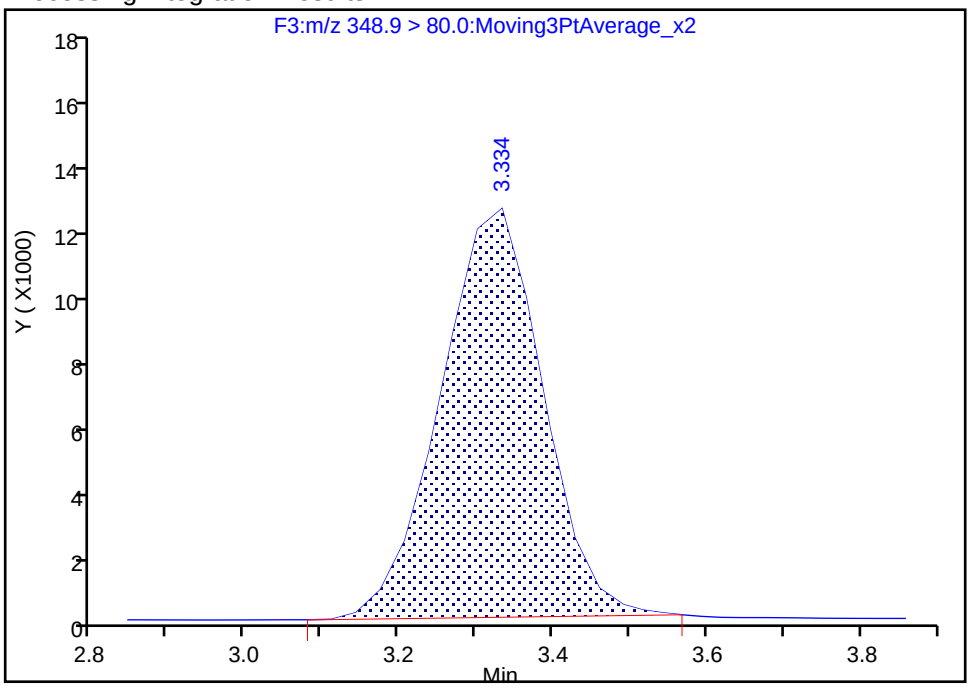
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 1

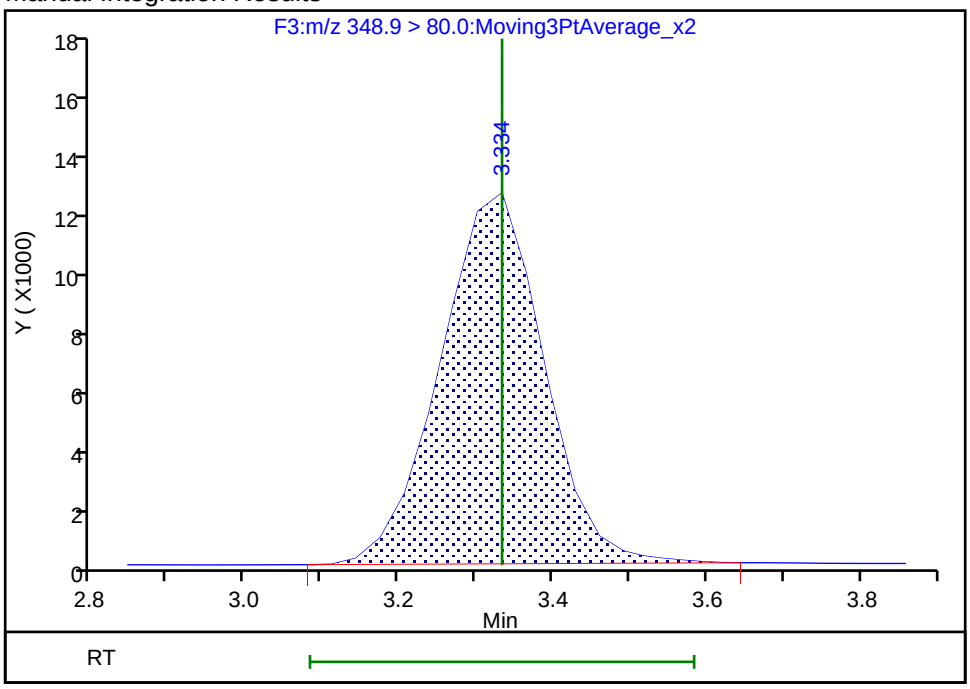
Processing Integration Results

RT: 3.33
Area: 116097
Amount: 26.051050
Amount Units: ng/ml



Manual Integration Results

RT: 3.33
Area: 117554
Amount: 26.343979
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:13:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

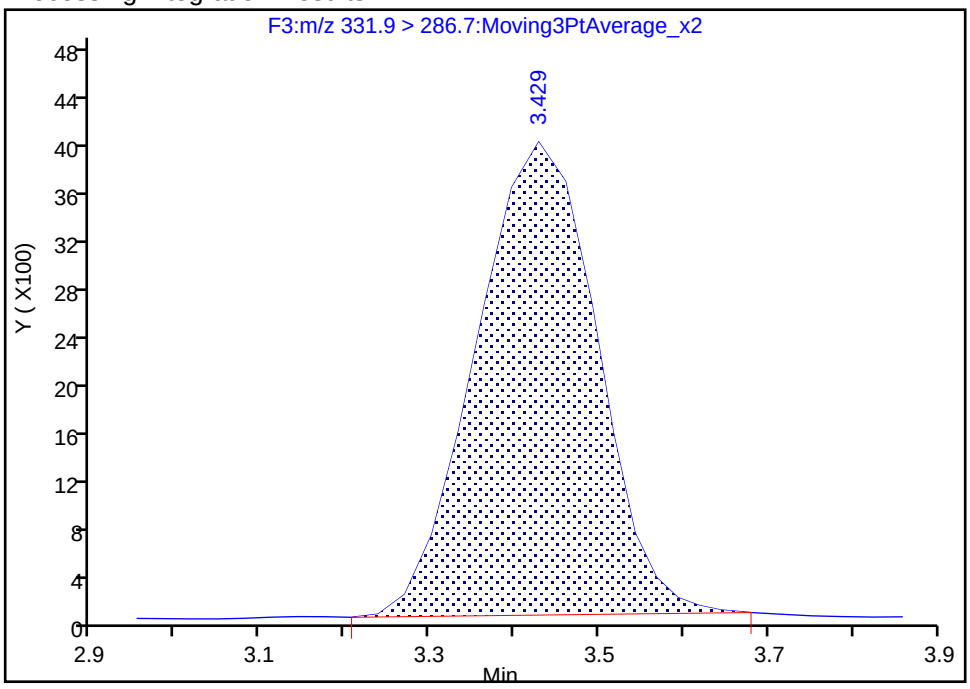
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

D 42 13C3 HFPO-DA, CAS: STL02255

Signal: 1

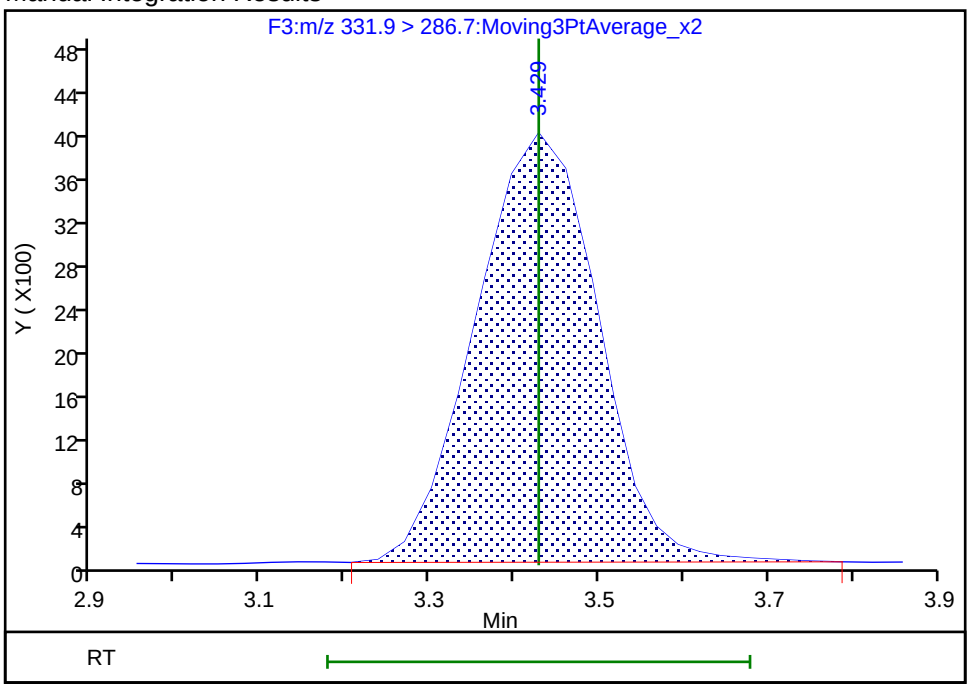
Processing Integration Results

RT: 3.43
Area: 38419
Amount: 35.365626
Amount Units: ng/ml



Manual Integration Results

RT: 3.43
Area: 38995
Amount: 35.853603
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:14:01
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

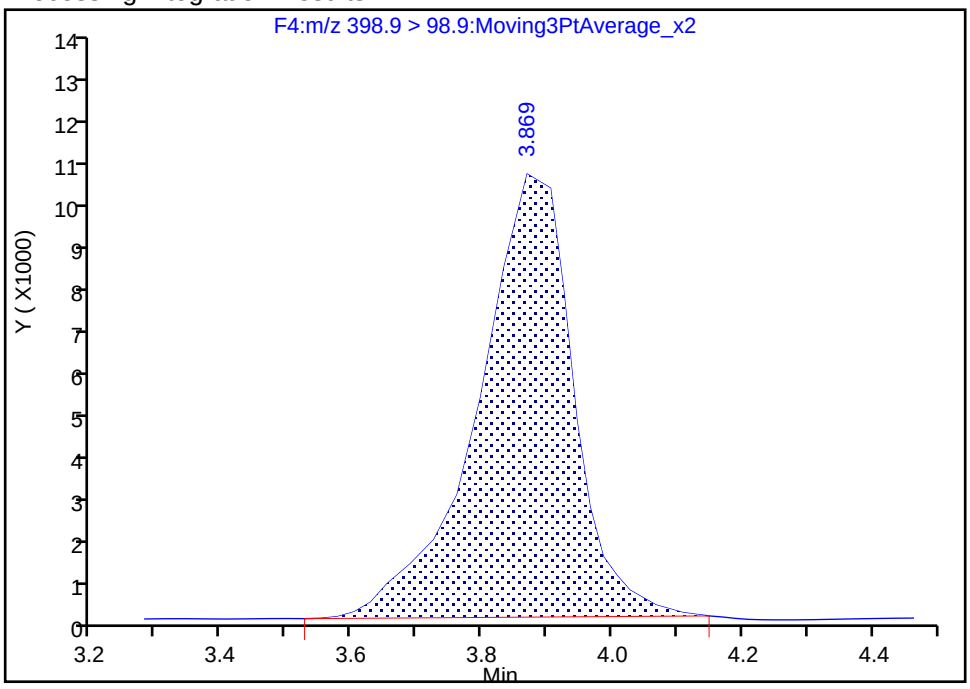
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

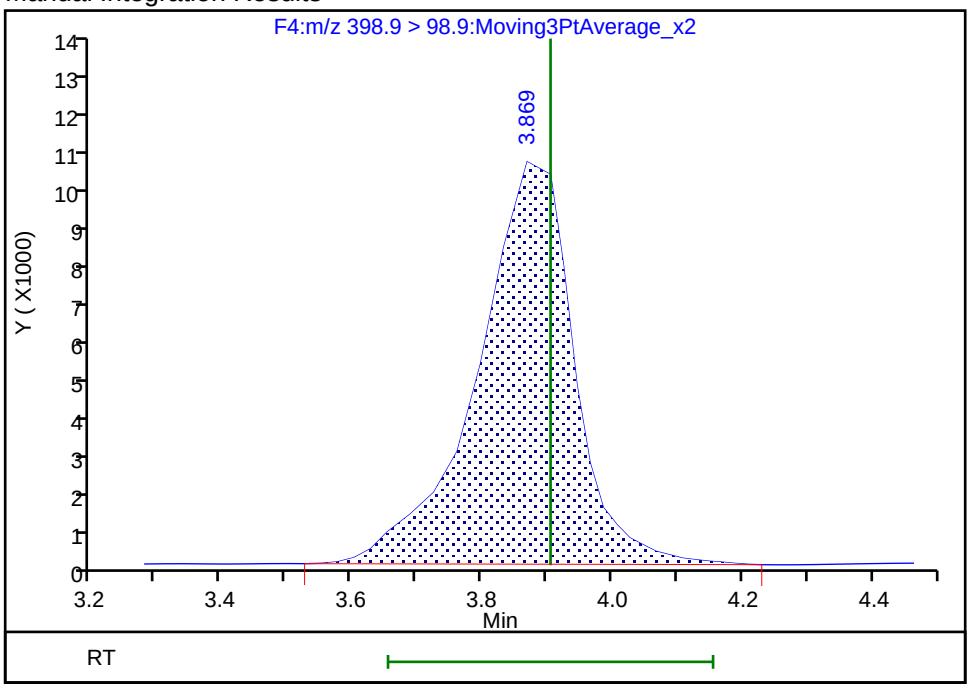
Processing Integration Results

RT: 3.87
Area: 107678
Amount: 27.787849
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 109500
Amount: 27.808995
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 16:14:09
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

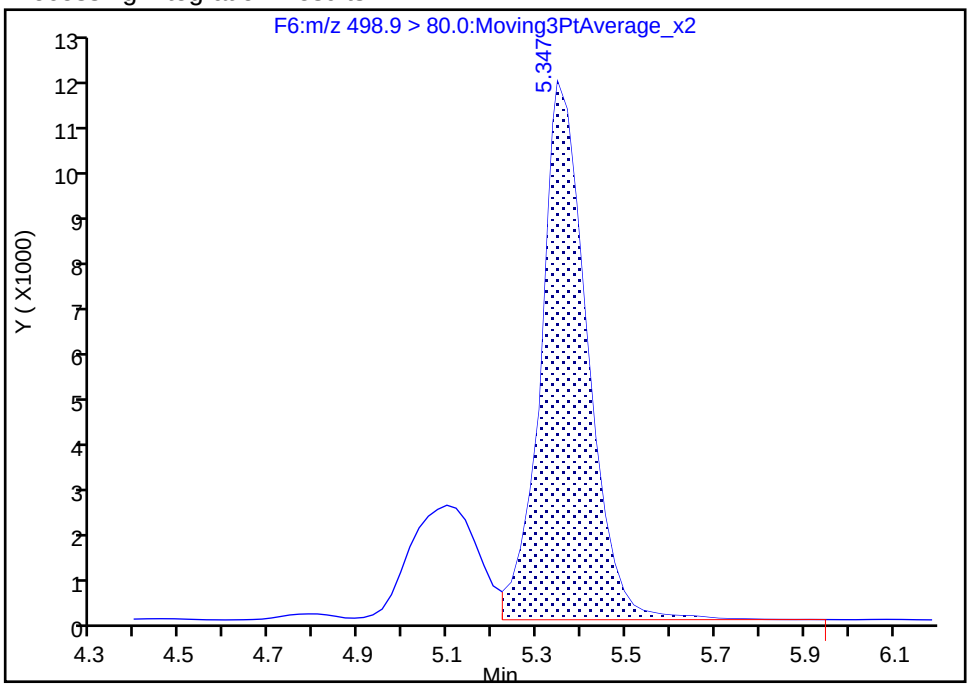
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

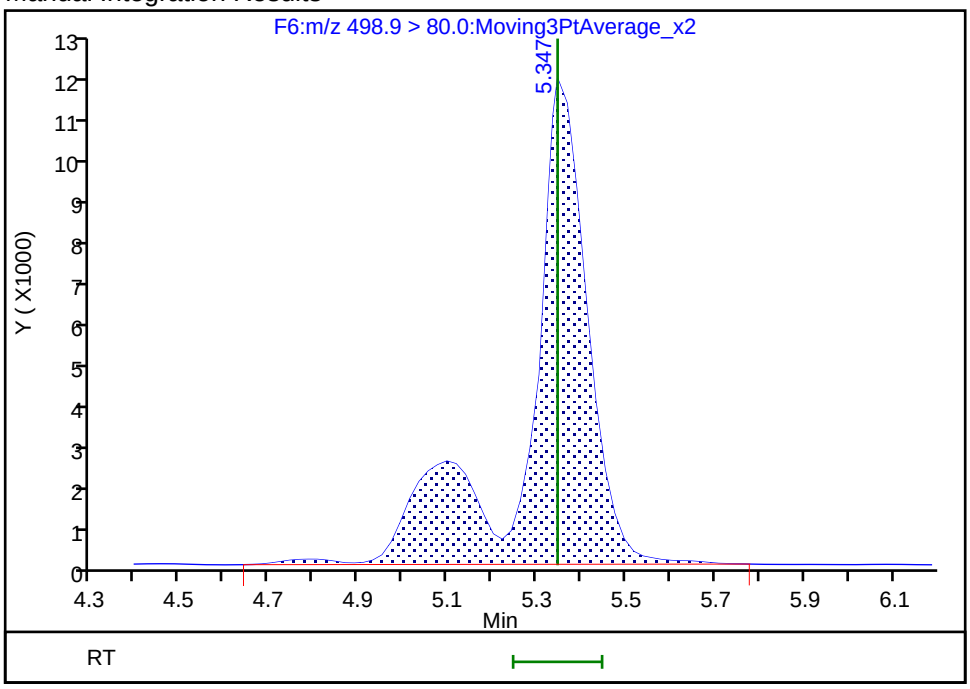
Processing Integration Results

RT: 5.35
Area: 85758
Amount: 23.426797
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 113186
Amount: 28.487269
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 17:58:47
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

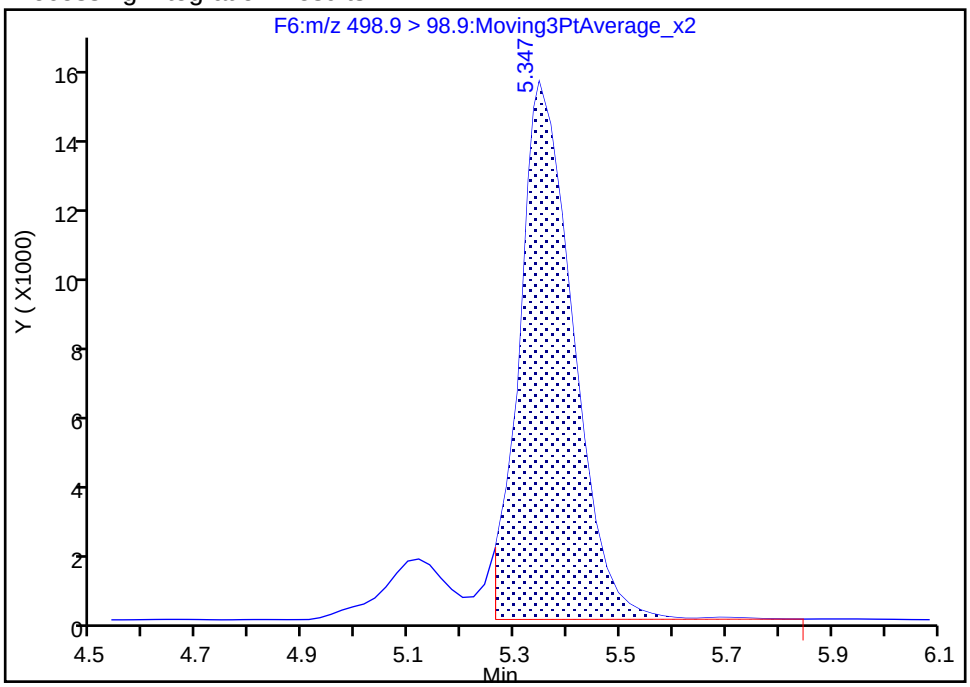
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

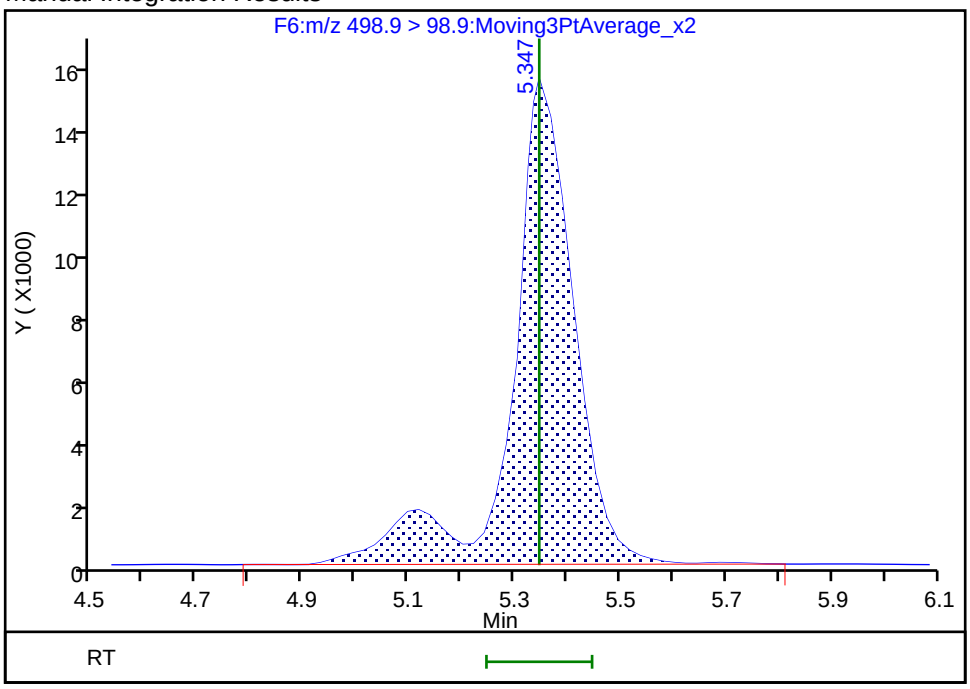
Processing Integration Results

RT: 5.35
Area: 103492
Amount: 23.426797
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 120740
Amount: 28.487269
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 17:58:49
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

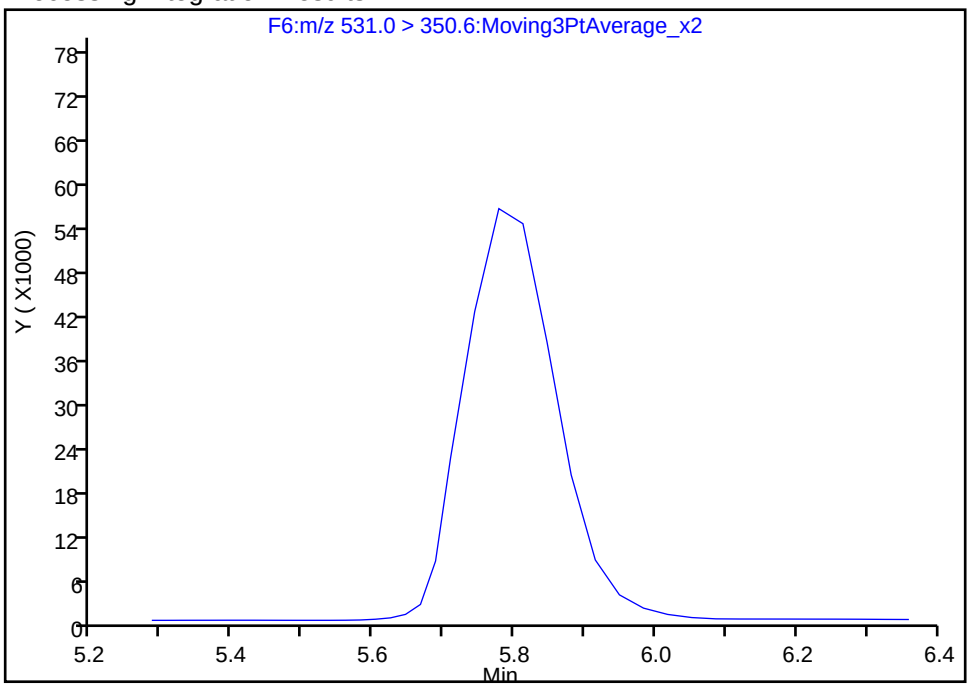
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

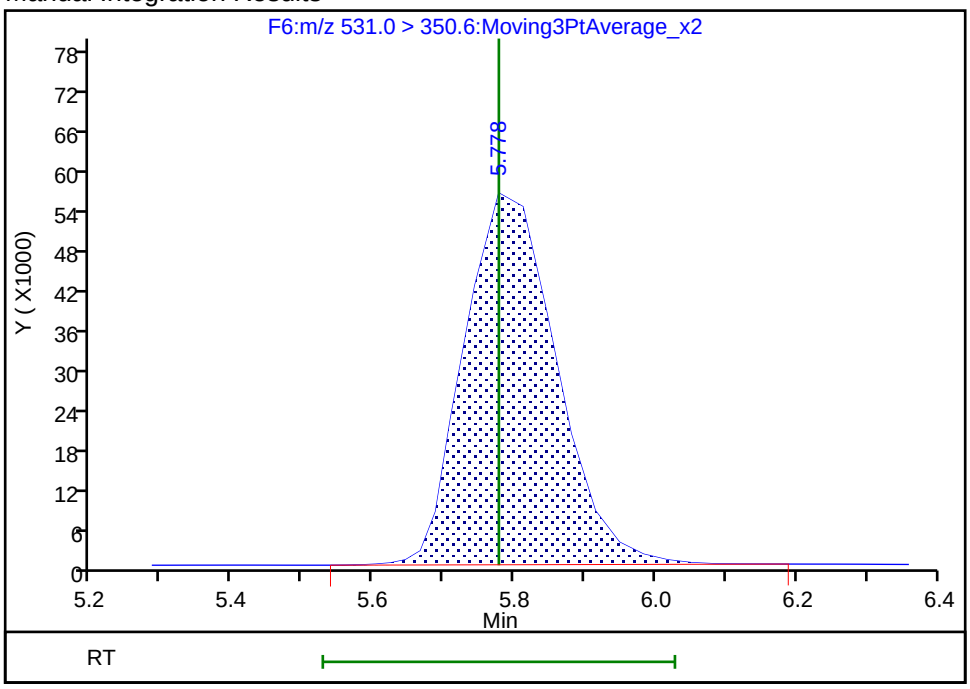
Not Detected
Expected RT: 5.78

Processing Integration Results



Manual Integration Results

RT: 5.78
Area: 514163
Amount: 28.424570
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:27:58
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

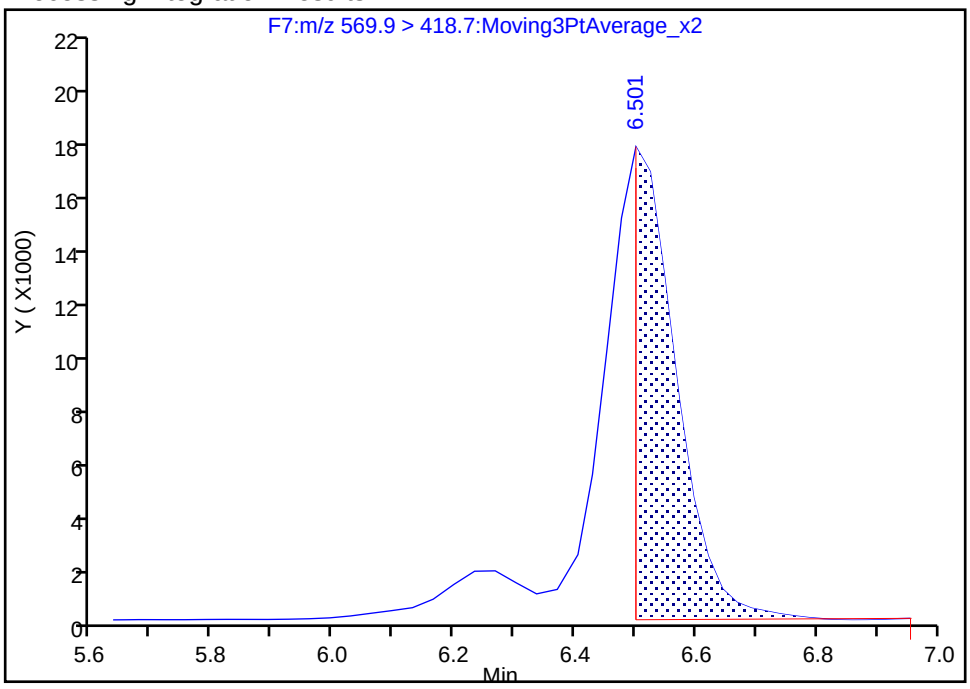
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

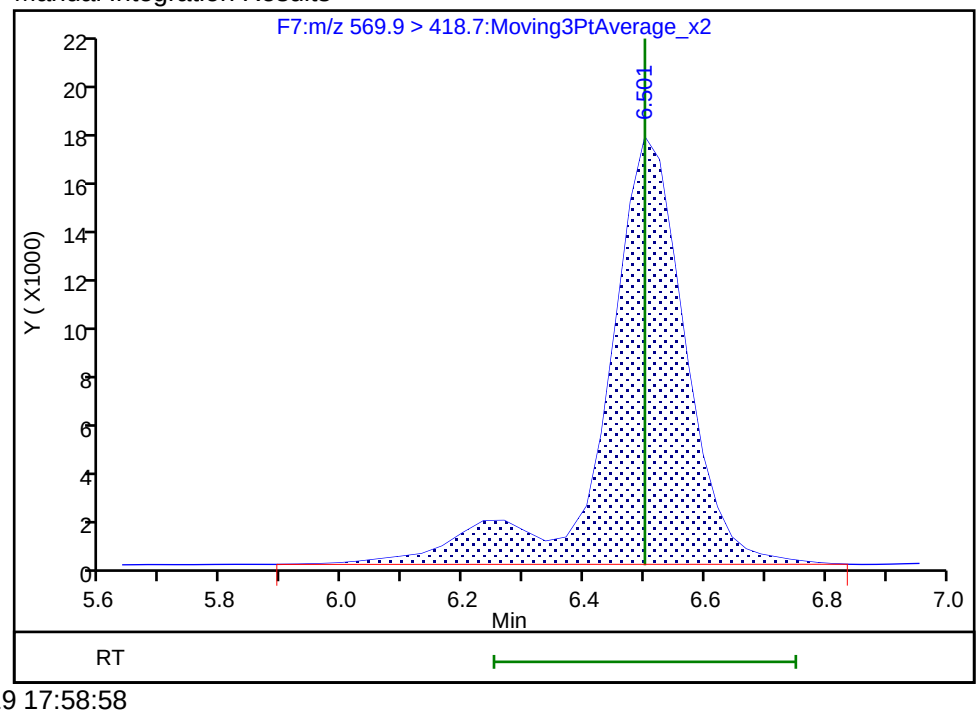
Processing Integration Results

RT: 6.50
Area: 79645
Amount: 15.689478
Amount Units: ng/ml



Manual Integration Results

RT: 6.50
Area: 160790
Amount: 29.959770
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 17:58:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

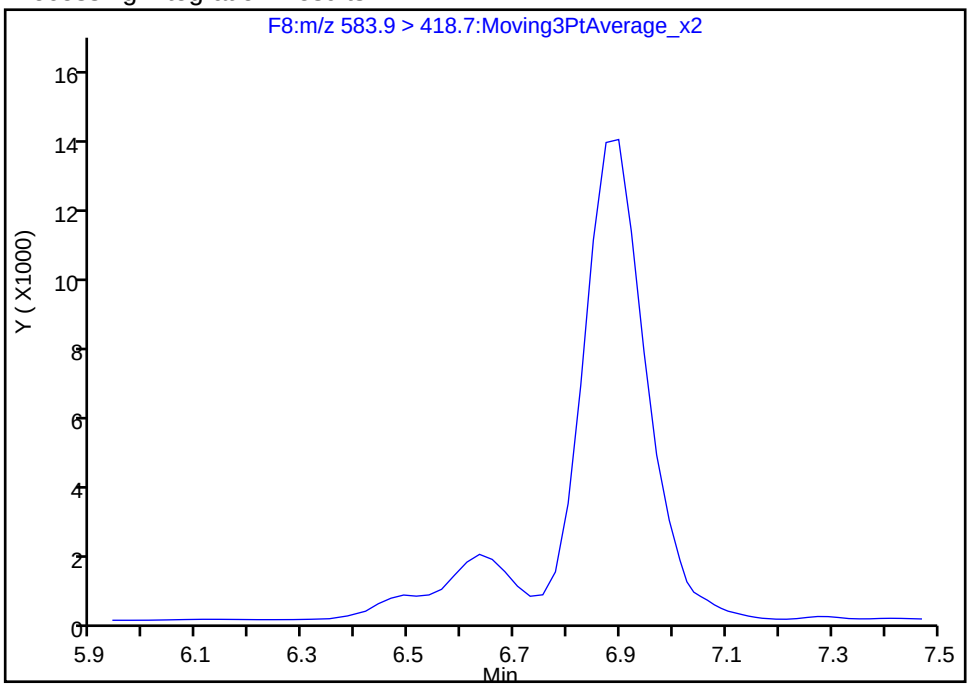
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

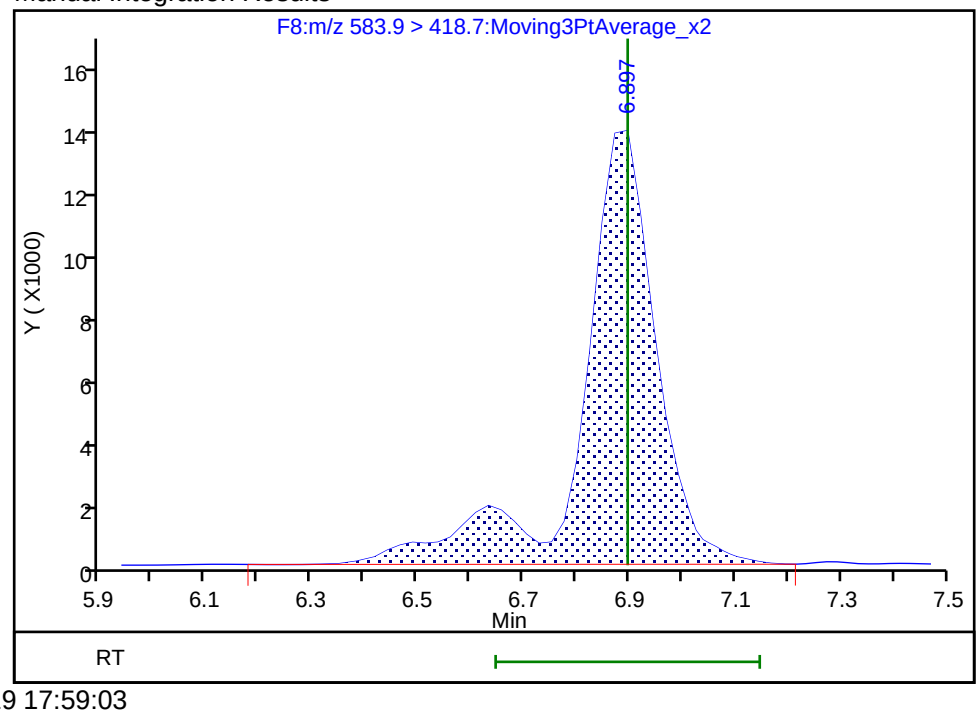
Not Detected
Expected RT: 6.90

Processing Integration Results



Manual Integration Results

RT: 6.90
Area: 131534
Amount: 31.190835
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 17:59:03
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

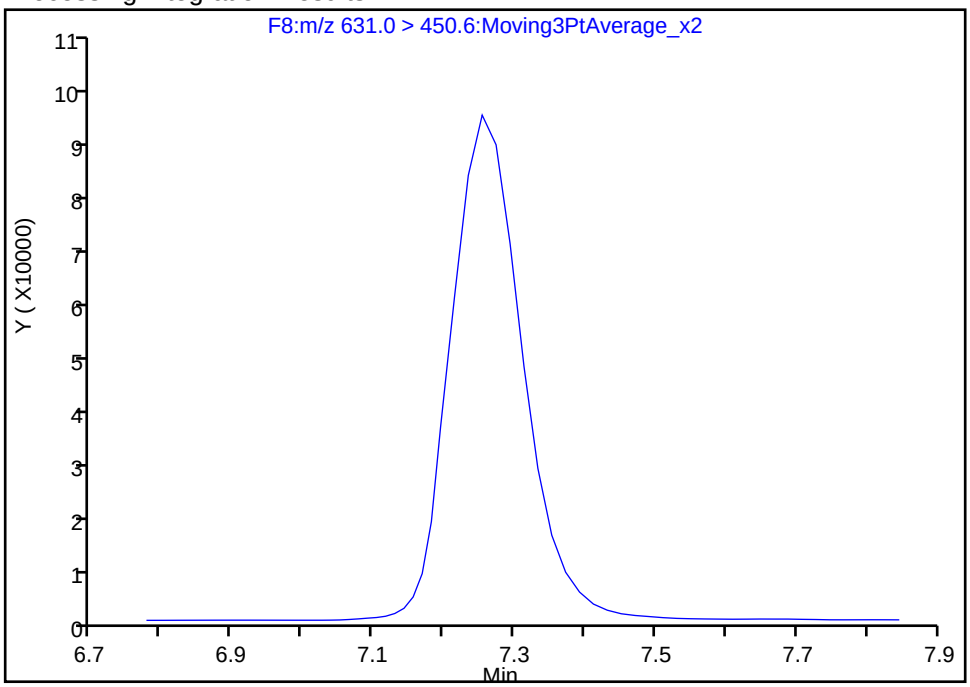
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B07.d
Injection Date: 23-May-2019 13:39:09 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

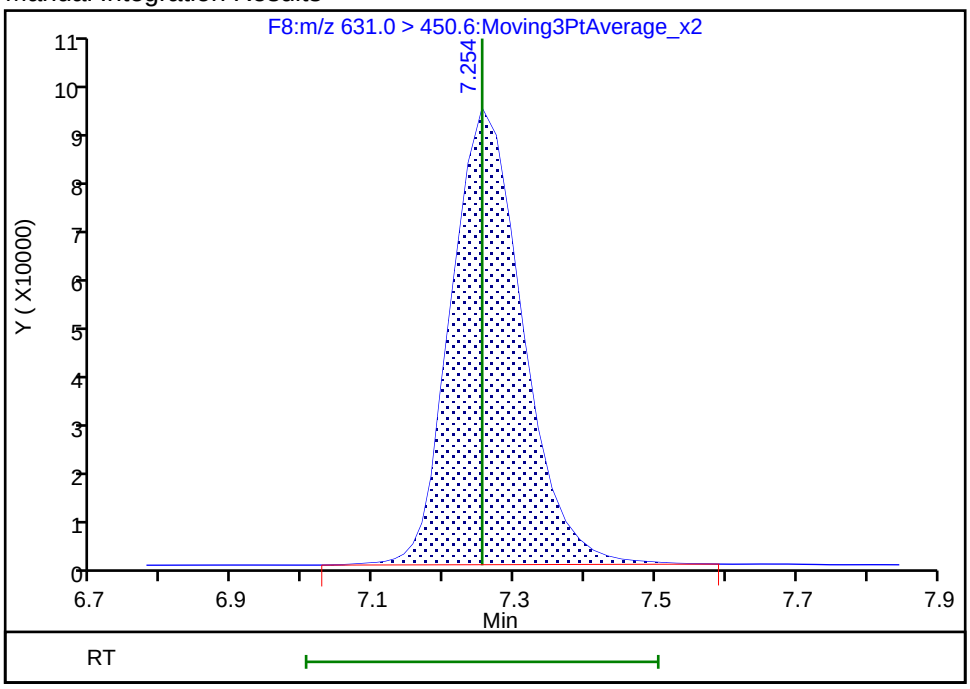
Not Detected
Expected RT: 7.25

Processing Integration Results



Manual Integration Results

RT: 7.25
Area: 659315
Amount: 28.568261
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:28:00
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 23-May-2019 13:55:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-008 IC 7
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:32:13 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 18:00:09
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.380	0.0	1.000	210351	49.9		99.7	83.1	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.380	0.0	1.000	337173	51.0		102	76.0	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.795	0.035	1.000	493315	50.3		101	1217	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	163792	51.2		102	708	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.866	0.035	1.000	64645	46.4		99.9	187	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	163864	46.9	Target=1.67	106	884	
298.9 > 98.9	2.901	2.866	0.035	1.000	137583		0.00(0.83-2.51)	106	820	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.238	3.238	0.0	1.116	80096	43.5		93.1	1107	M
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.270	0.032	1.010	718246	59.1	Target=14.34	118	1595	
312.9 > 118.9	3.270	3.270	0.0	1.000	50414		0.00(7.17-21.51)	118	634	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.270	0.0	1.000	434897	45.3		90.6	1297	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.334	3.334	0.0	1.149	196699	49.8	Target=1.23	106	674	
348.9 > 98.9	3.334	3.334	0.0	1.000	235843		0.00(0.62-1.85)	106	3136	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.429	3.429	0.0	1.000	49138	53.8		108	490	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.429	3.429	0.0	1.000	51384	48.5		97.0	480	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.833	0.036	1.000	830642	53.1	Target=2.84	106	2664	
362.9 > 168.9	3.869	3.833	0.036	1.000	261097		0.00(1.42-4.26)	106	1341	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	667058	49.3		98.6	2034	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.869	0.036	1.000	92177	51.8		109	212	M
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.905	3.905	0.0	1.000	171581	41.6	Target=1.34	91.4	682	
398.9 > 98.9	3.905	3.905	0.0	1.000	180867		0.00(0.67-2.01)	91.4	478	
49 DONA										
376.9 > 250.7	3.946	3.925	0.021	0.738	832317	45.7	Target=2.33	96.9	4862	
376.9 > 85.0	3.946	3.925	0.021	1.000	321784		0.00(1.16-3.49)	96.9	2127	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.526	4.506	0.020	1.000	42610	53.1		112	316	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.506	0.020	1.000	40317	41.9		88.3	307	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.547	0.021		862722	50.0			2860	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.547	0.021	1.000	850451	50.8		102	2234	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.568	0.0	1.000	853152	49.6	Target=2.43	99.1	2395	
412.9 > 168.9	4.568	4.568	0.0	1.000	331768		0.00(1.22-3.64)	99.1	1694	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.589	0.0	0.858	181912	49.3	Target=1.30	104	2173	
448.9 > 98.9	4.589	4.589	0.0	1.000	204017		0.00(0.65-1.95)	104	988	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.347	0.0	1.000	1159331	51.6		103	3881	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.347	0.0	1.000	1039261	50.8	Target=5.00	102	3796	
462.9 > 168.9	5.347	5.347	0.0	1.000	239399		0.00(2.50-7.50)	102	1315	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.347	0.0	1.000	202667	50.5		106	623	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.347	0.0	1.000	193752	47.3	Target=1.41	102	1519	M
498.9 > 98.9	5.347	5.347	0.0	1.000	198612		0.00(0.71-2.12)	102	1587	M
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.812	5.778	0.034	1.087	887590	47.6		102	3727	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	139019	39.8		83.0	598	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	132763	62.0		129	908	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.165	6.165	0.0	1.153	204669	49.8	Target=1.39	104	831	
548.9 > 98.9	6.165	6.165	0.0	1.000	232436		0.00(0.69-2.08)	104	726	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.165	0.0	1.000	955482	49.8		99.7	4390	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										
512.9 > 468.5	6.165	6.165	0.0	1.000	877332	50.1	Target=7.23	100	1513	
512.9 > 168.9	6.165	6.165	0.0	1.000	123337		0.00(3.61-10.84)	100	727	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.501	6.501	0.0	1.000	287583	52.3		105	1845	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.501	0.0	1.000	332752	53.3		107	1785	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.873	0.0	1.000	260530	50.6		101	1436	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.897	6.897	0.0	1.290	200389	45.5	Target=1.25	94.5	1741	
598.9 > 98.9	6.897	6.897	0.0	1.000	235311		0.00(0.63-1.88)	94.5	1521	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.897	6.897	0.0	1.003	223345	53.2		106	898	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.000	781416	50.3	Target=7.06	101	2449	
562.9 > 168.9	6.921	6.921	0.0	1.000	111345		0.00(3.53-10.58)	101	841	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.921	0.0	1.000	933359	50.4		101	2583	
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.921	0.024	1.000	340820	49.3		98.7	1314	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.945	6.921	0.024	1.000	507286	52.3		105	1853	
43 11-Chloroeicosafluoro-3-oxaundecan										a
631.0 > 450.6	7.274	7.254	0.020	1.360	1144202	48.1		102	4720	a
36 Perfluorododecanoic acid										
612.9 > 568.5	7.616	7.616	0.0	1.000	1091572	47.2	Target=5.37	94.5	2288	
612.9 > 168.9	7.616	7.616	0.0	1.000	199132		0.00(2.68-8.06)	94.5	1037	
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.616	0.0	1.000	1217917	51.6		103	2402	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.235	8.224	0.011	1.081	1167270	51.1	Target=4.67	102	2464	
662.9 > 168.9	8.235	8.224	0.011	1.081	223185		0.00(2.34-7.01)	102	1294	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.786	8.775	0.011	1.000	1092270	51.6		103	919	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.786	8.786	0.0	1.000	947055	51.1	Target=4.86	102	1393	
712.9 > 168.9	8.786	8.786	0.0	1.000	180368		0.00(2.43-7.30)	102	639	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27-L7_00004 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:32:13 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d

Injection Date: 23-May-2019 13:55:00 Instrument ID: LC410

Lims ID: IC

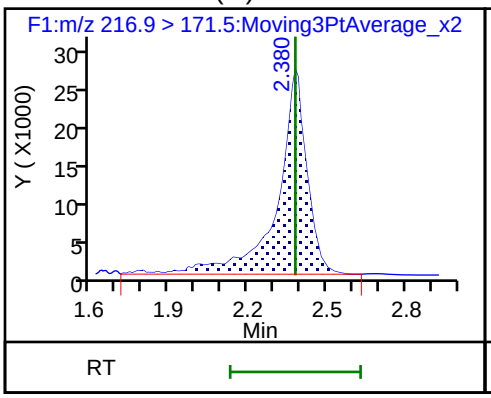
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8

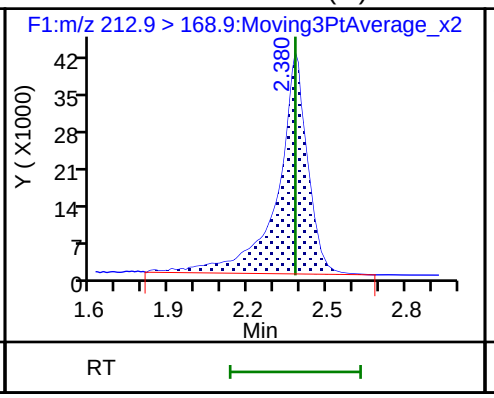
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

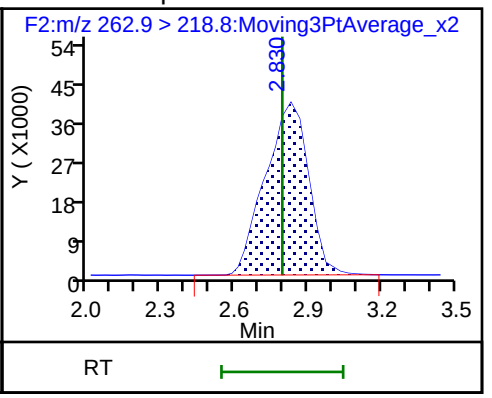
D 1 13C4 PFBA (M)



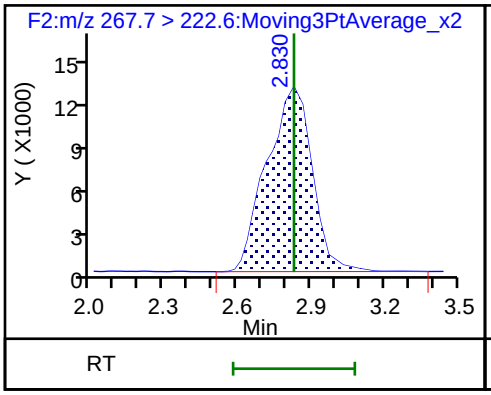
2 Perfluorobutanoic acid (M)



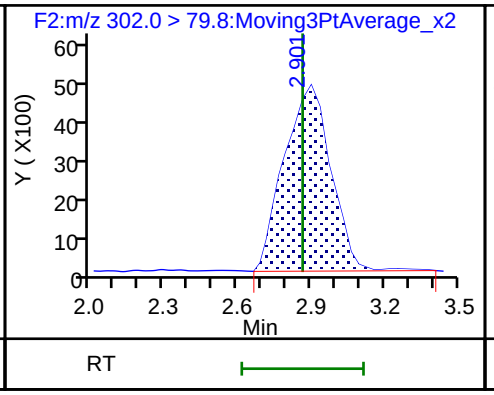
3 Perfluoropentanoic acid



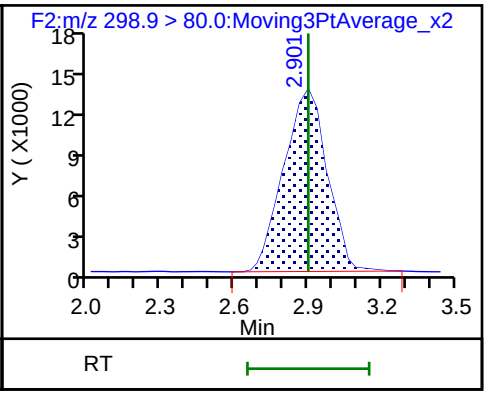
D 4 13C5 PFPeA



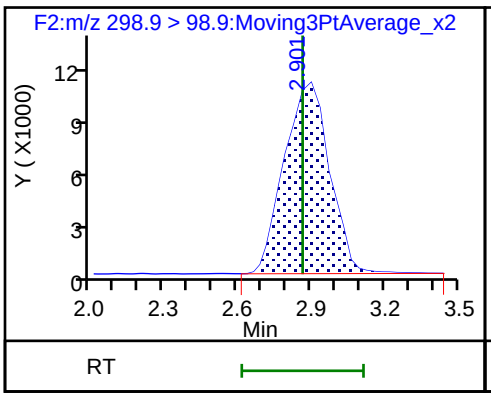
D 5 13C3 PFBS



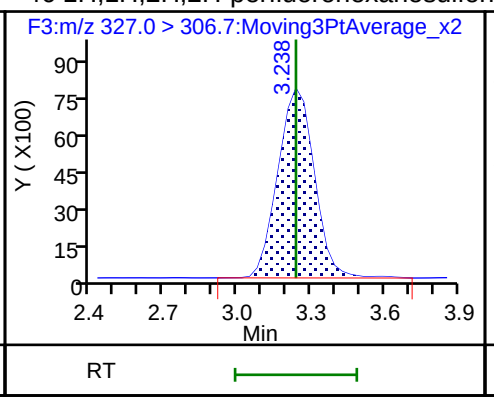
6 Perfluorobutanesulfonic acid



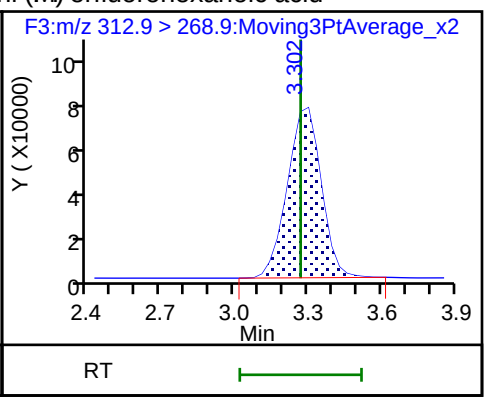
6 Perfluorobutanesulfonic acid



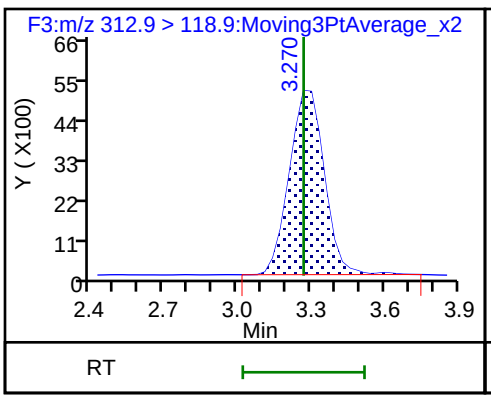
46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



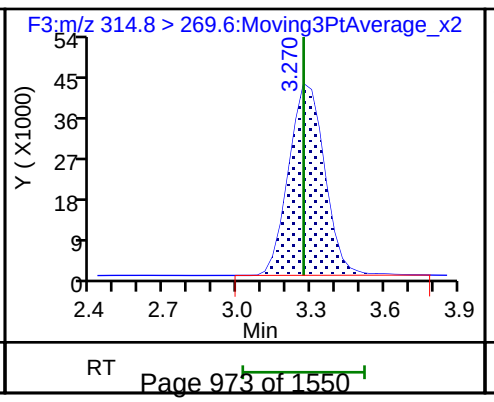
7 Perfluorohexanoic acid



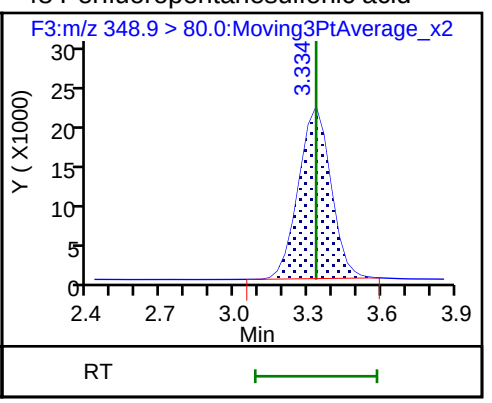
7 Perfluorohexanoic acid



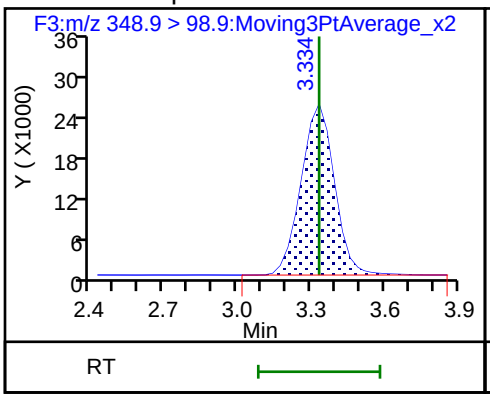
D 8 13C2 PFHxA



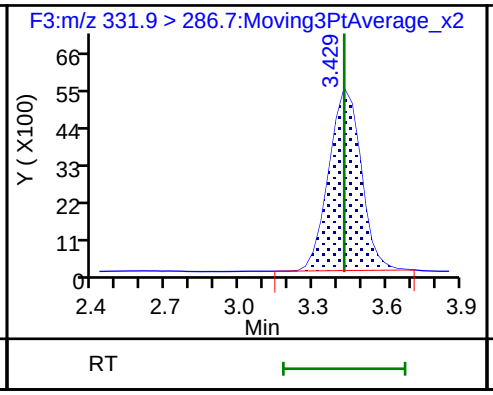
48 Perfluoropentanesulfonic acid



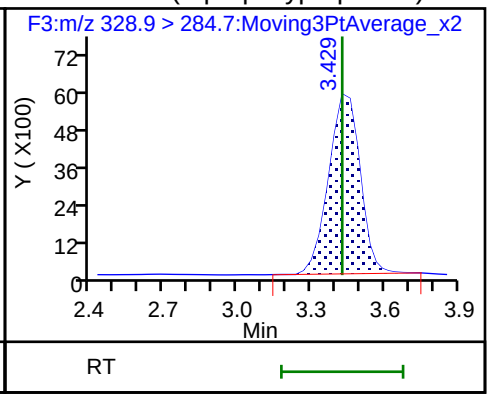
48 Perfluoropentanesulfonic acid



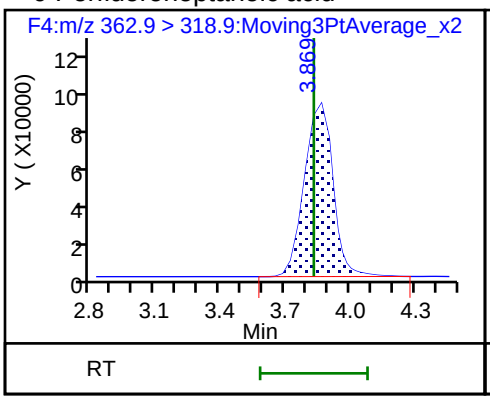
D 42 13C3 HFPO-DA



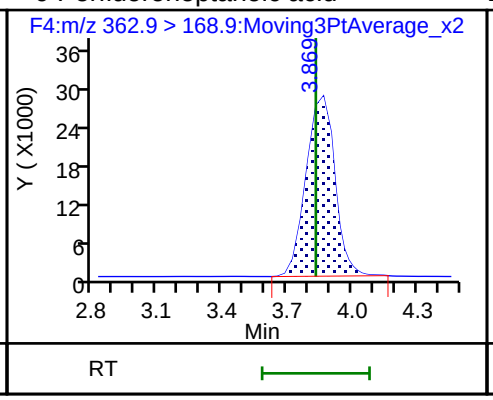
44 Perfluoro(2-propoxypropanoic) acid



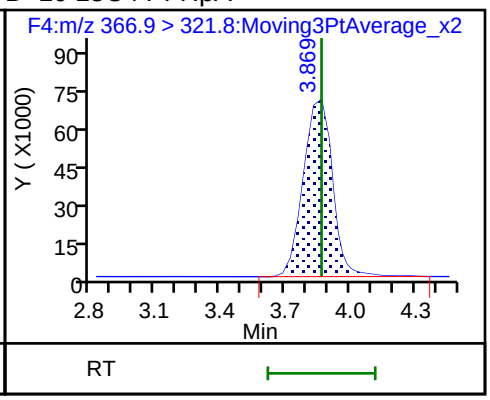
9 Perfluoroheptanoic acid



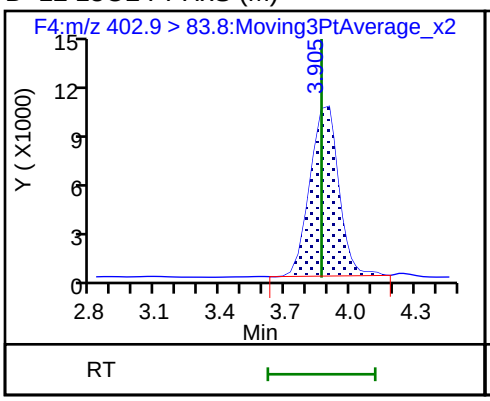
9 Perfluoroheptanoic acid



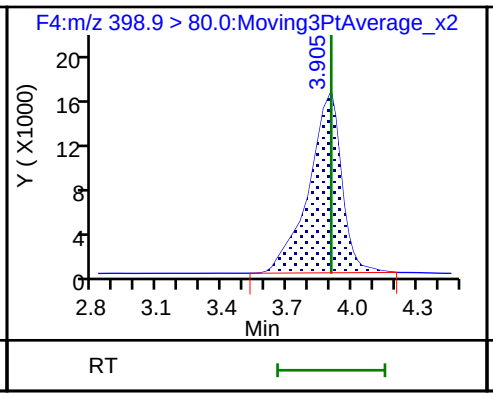
D 10 13C4 PFHpA



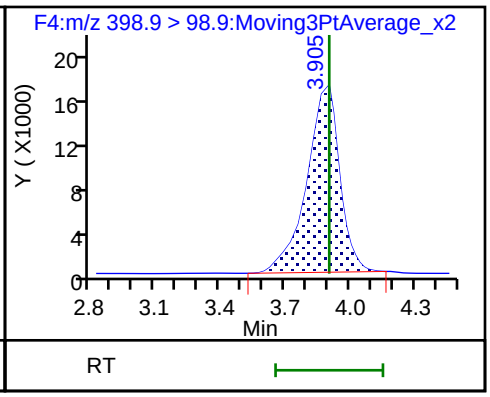
D 12 18O2 PFHxS (M)



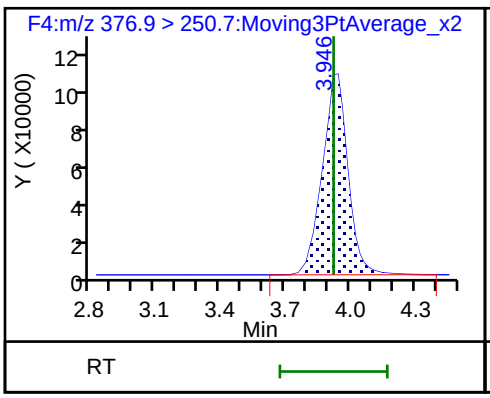
11 Perfluorohexanesulfonic acid



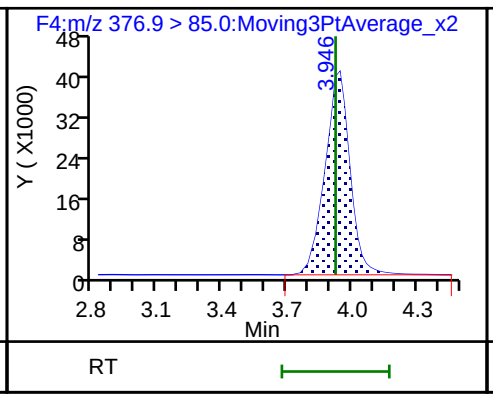
11 Perfluorohexanesulfonic acid



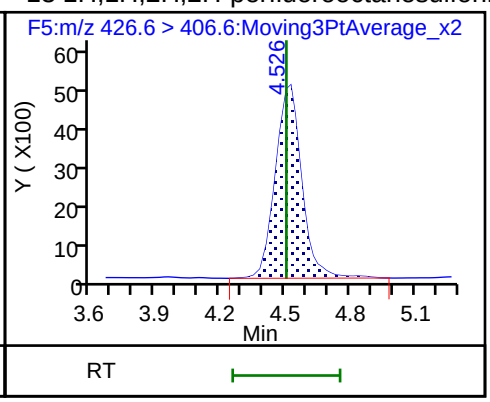
49 DONA



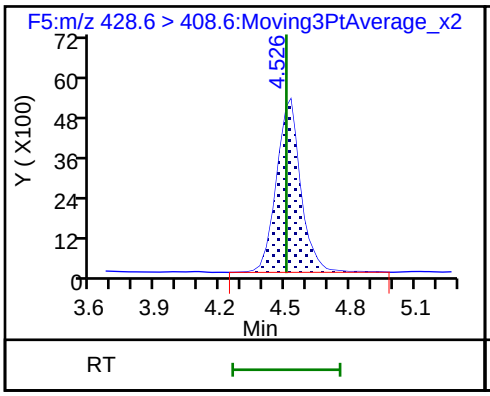
49 DONA



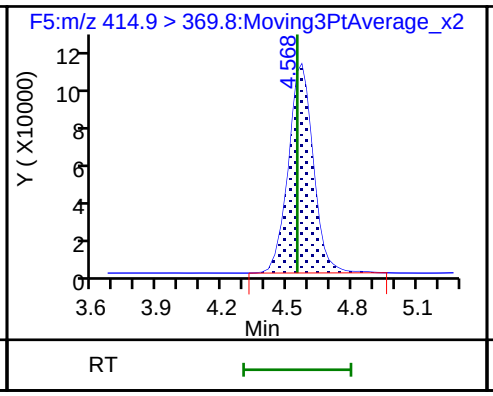
13 1H,1H,2H,2H-perfluorooctanesulfoni



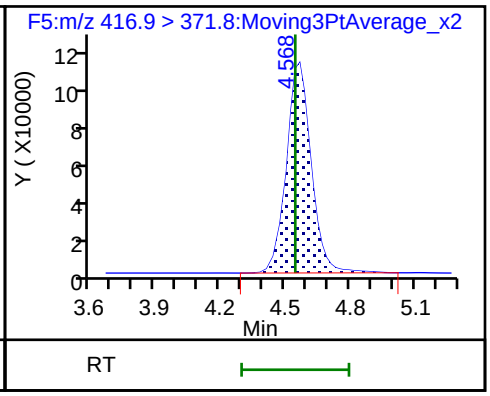
D 14 M2-6:2 FTS



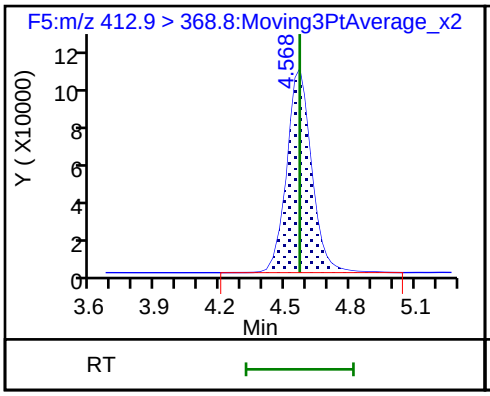
* 16 13C2 PFOA



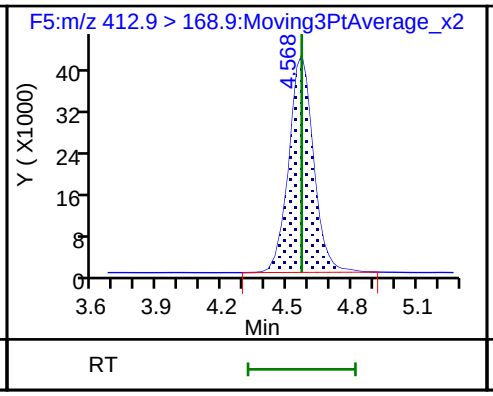
D 17 13C4 PFOA



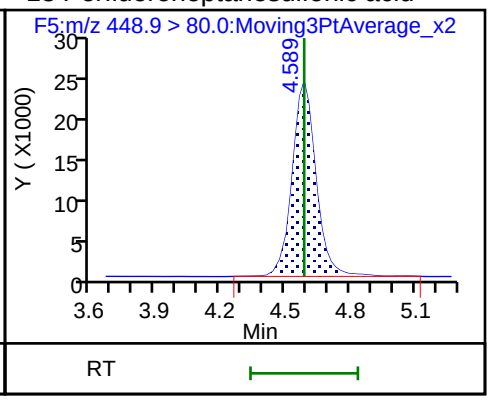
15 Perfluorooctanoic acid



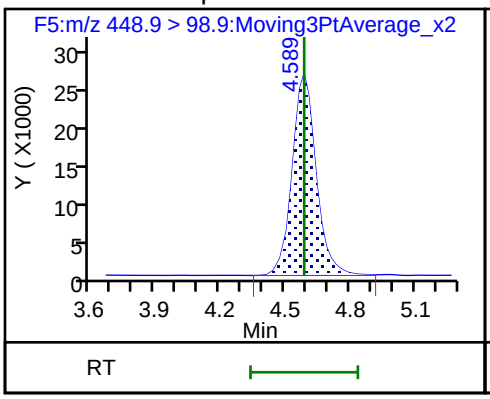
15 Perfluorooctanoic acid



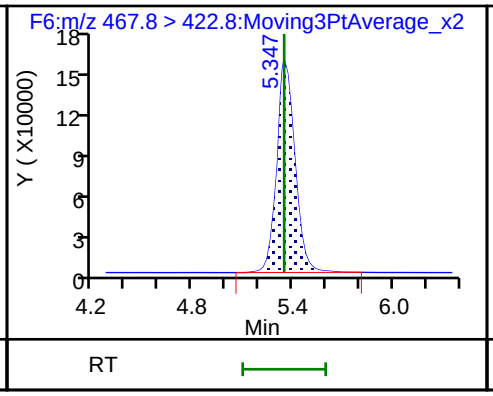
18 Perfluoroheptanesulfonic acid



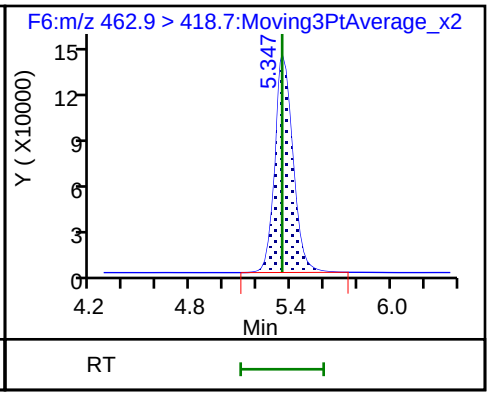
18 Perfluoroheptanesulfonic acid



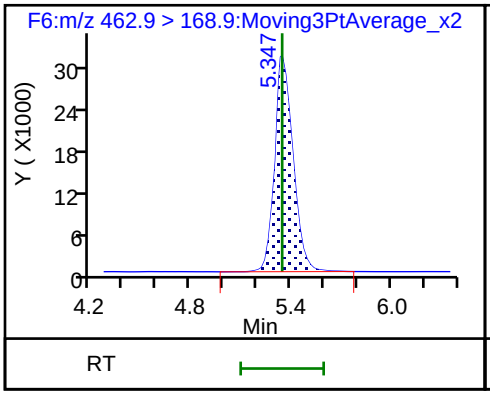
D 20 13C5 PFNA



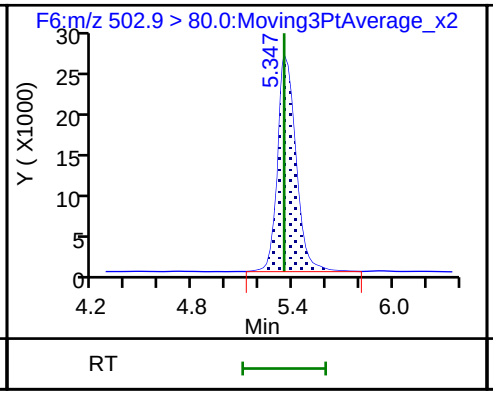
19 Perfluorononanoic acid



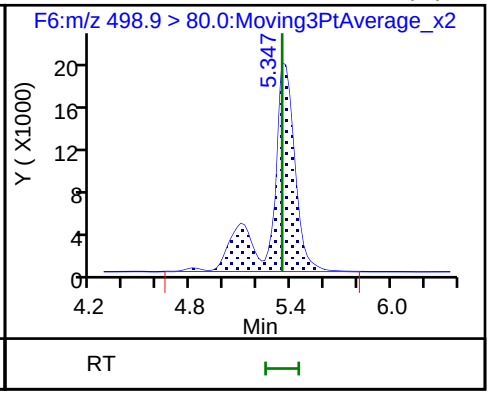
19 Perfluorononanoic acid



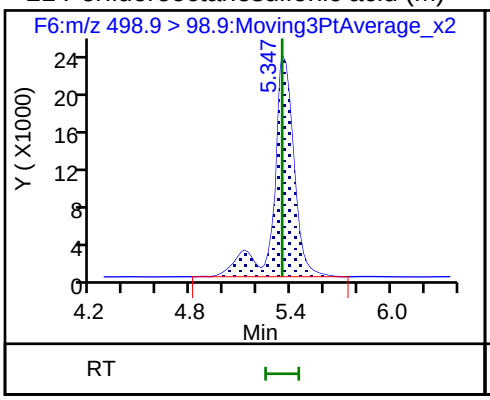
D 22 13C4 PFOS



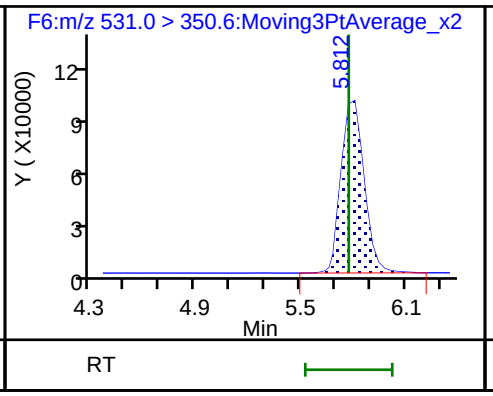
21 Perfluorooctanesulfonic acid (M)



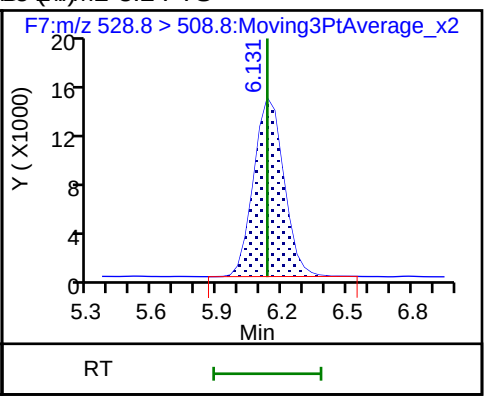
21 Perfluorooctanesulfonic acid (M)



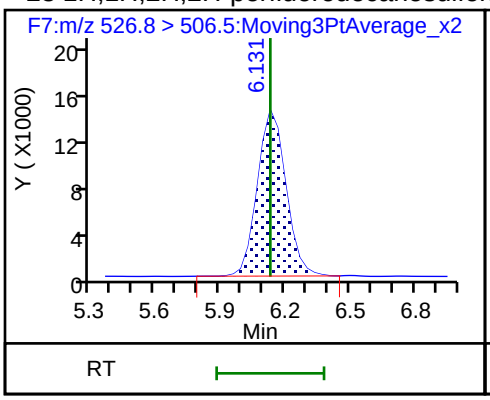
47 9-Chlorohexadecafluoro-3-oxanonane-1-



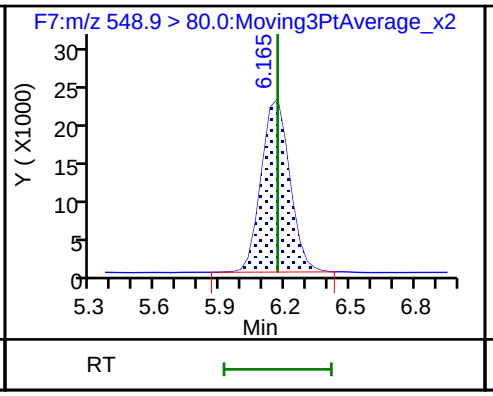
D 24 M2-8:2 FTS



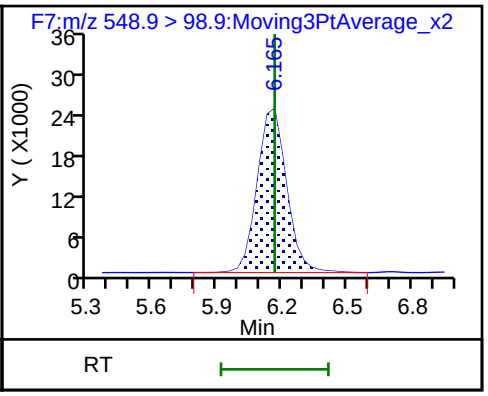
23 1H,1H,2H-perfluorodecanesulfoni



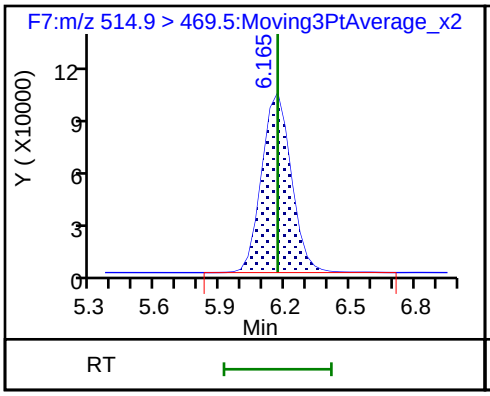
45 Perfluorononanesulfonic acid



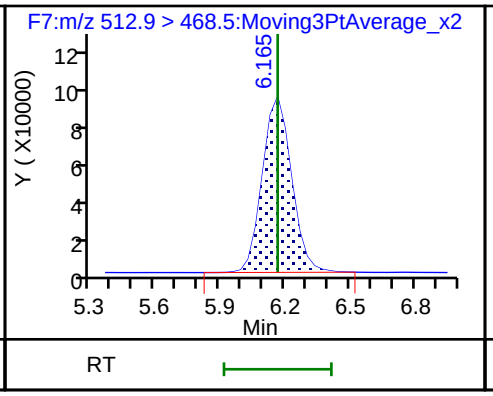
45 Perfluorononanesulfonic acid



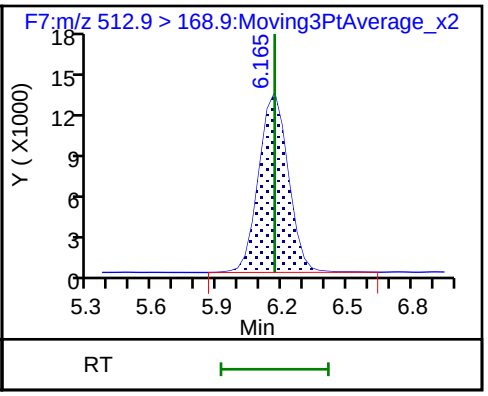
D 25 13C2 PFDA



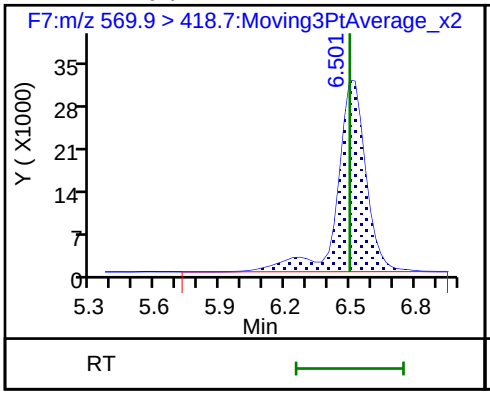
26 Perfluorodecanoic acid



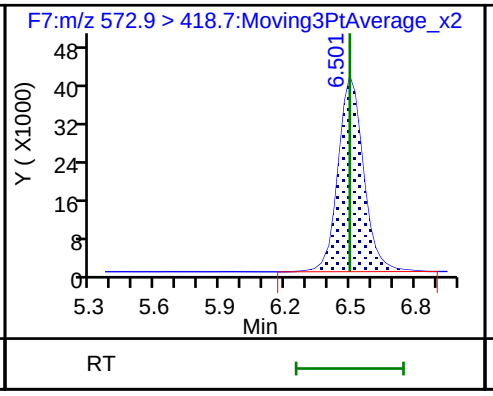
26 Perfluorodecanoic acid



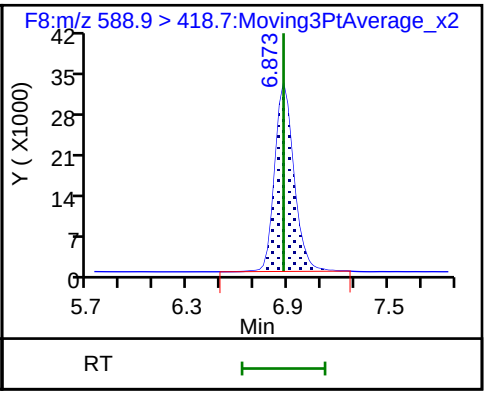
28 N-methylperfluorooctanesulfonamidD



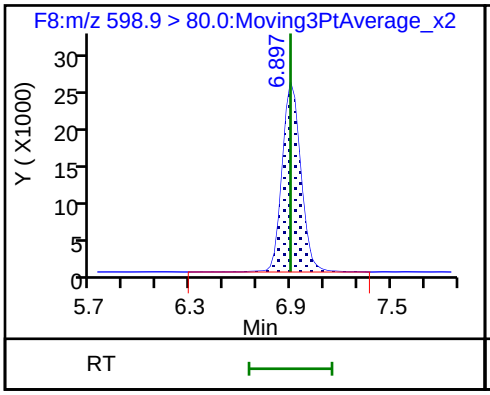
D 27 d3-NMeFOSAA



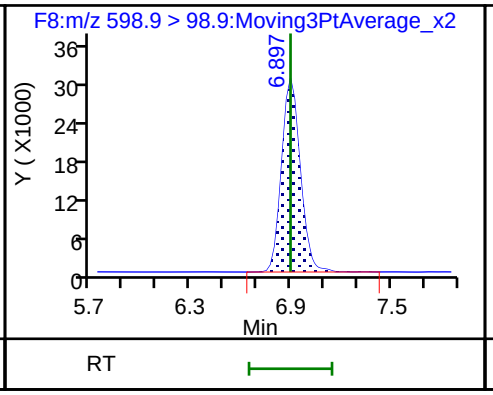
D 29 d5-NEtFOSAA



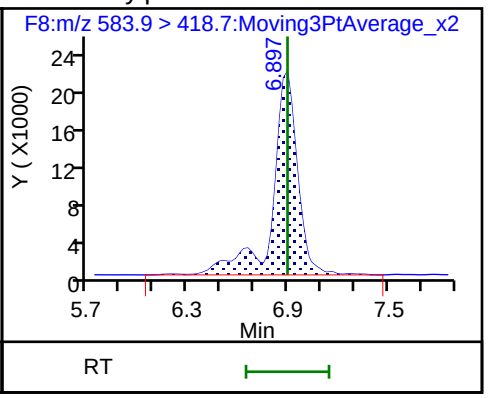
31 Perfluorodecanesulfonic acid



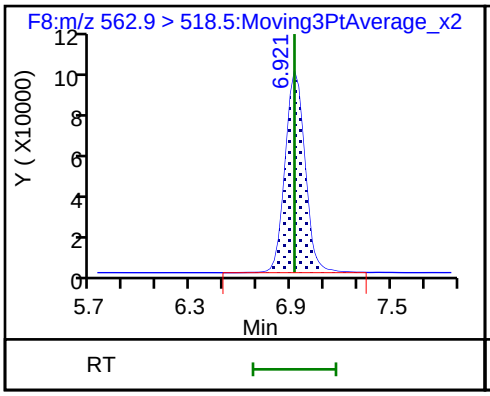
31 Perfluorodecanesulfonic acid



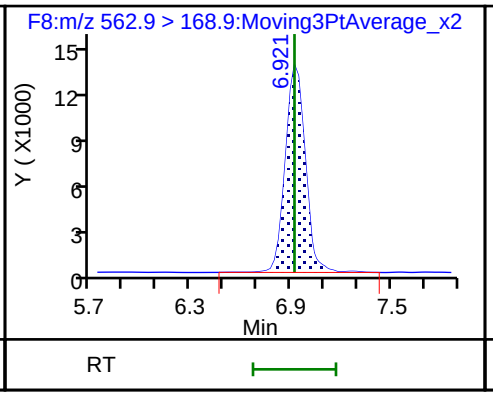
30 N-ethylperfluorooctanesulfonamidoa



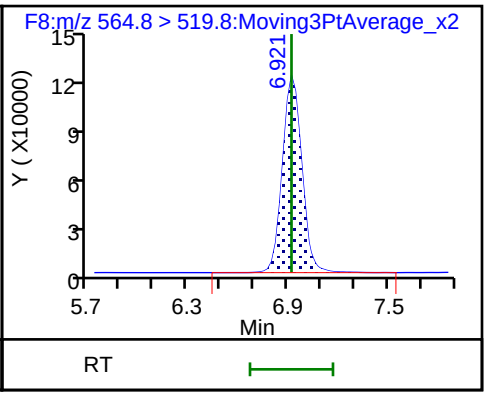
32 Perfluoroundecanoic acid



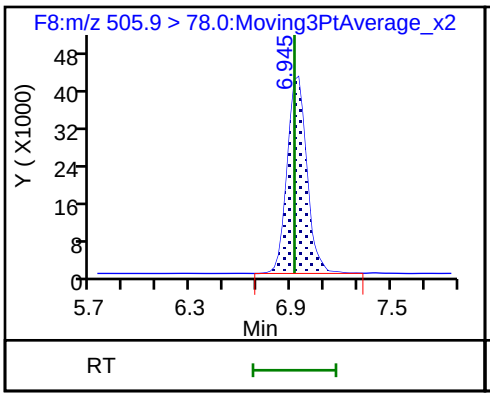
32 Perfluoroundecanoic acid



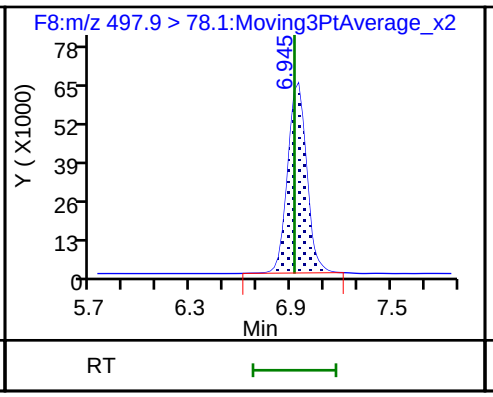
D 33 13C2 PFUnA



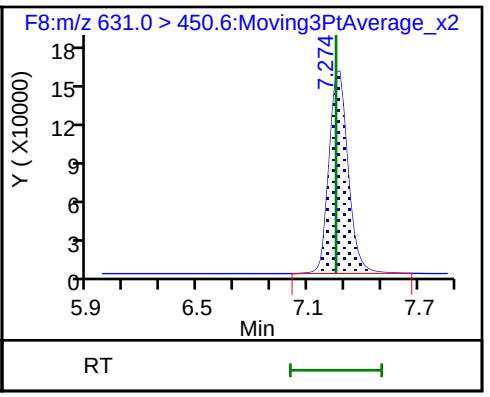
D 34 13C8 FOSA



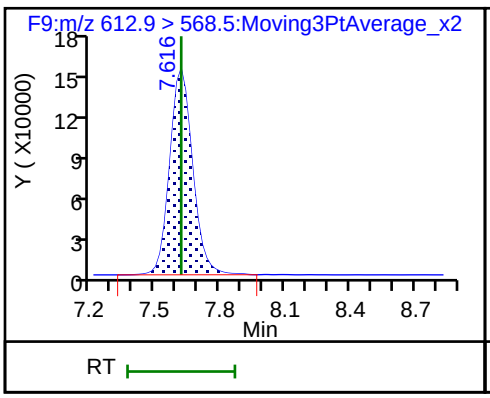
35 Perfluorooctanesulfonamide



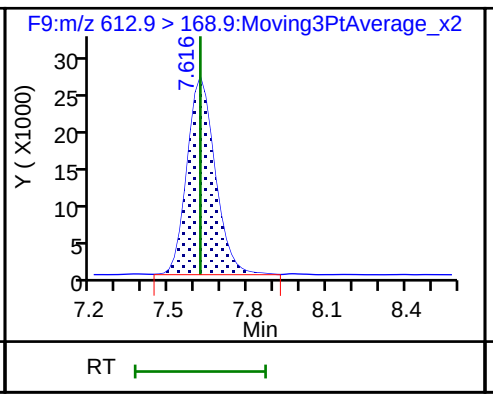
43 11-Chloroeicosafluoro-3-oxaundecan (M)



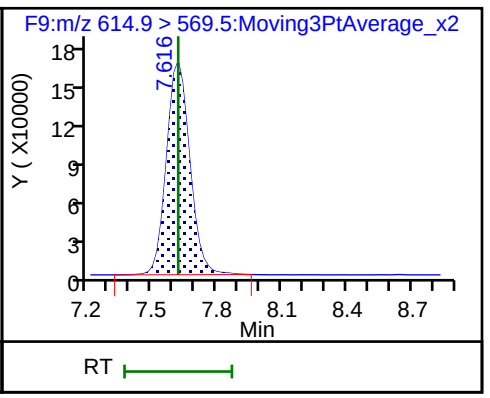
36 Perfluorododecanoic acid



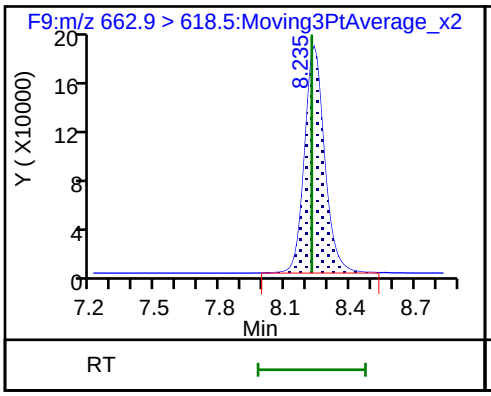
36 Perfluorododecanoic acid



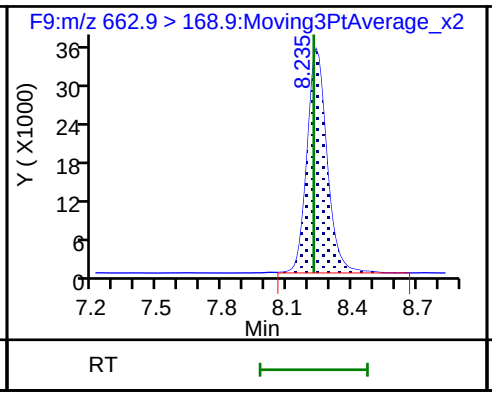
D 37 13C2 PFDoA



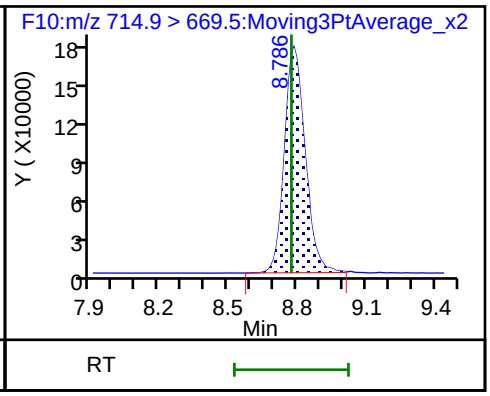
38 Perfluorotridecanoic acid



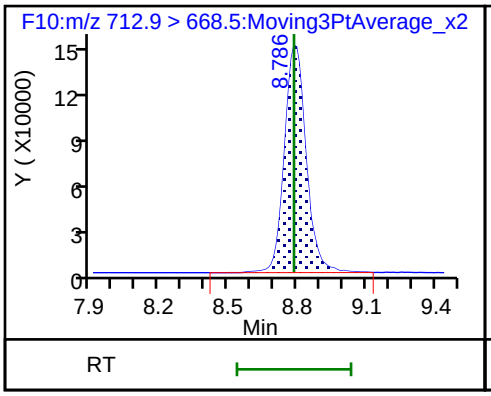
38 Perfluorotridecanoic acid



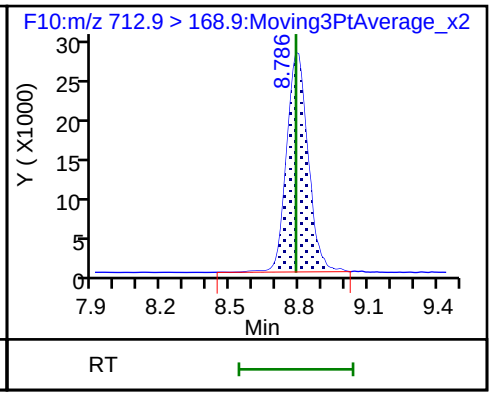
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

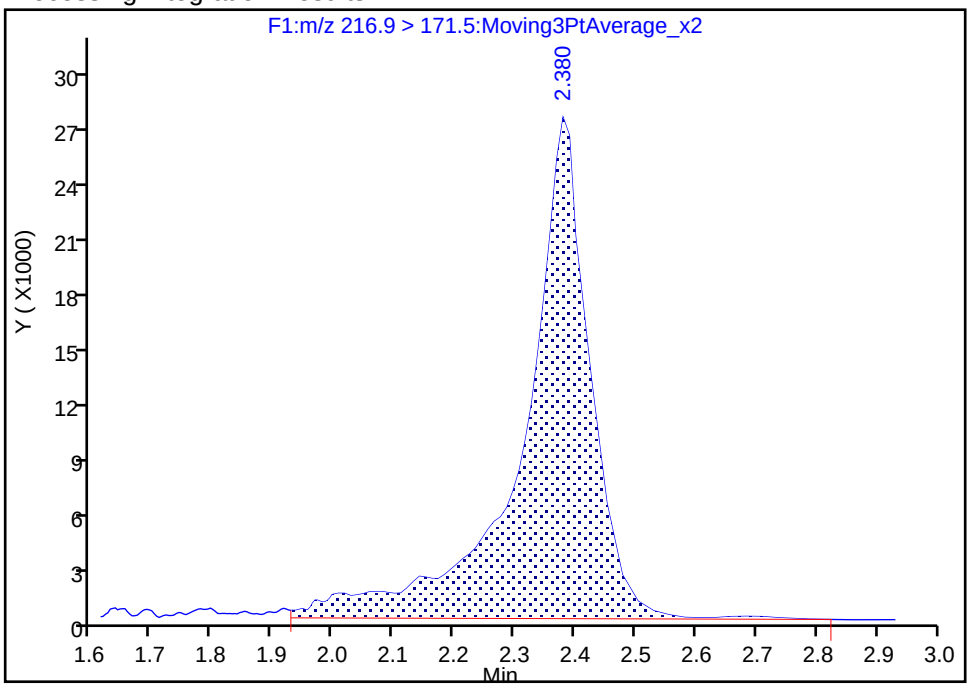
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d
Injection Date: 23-May-2019 13:55:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

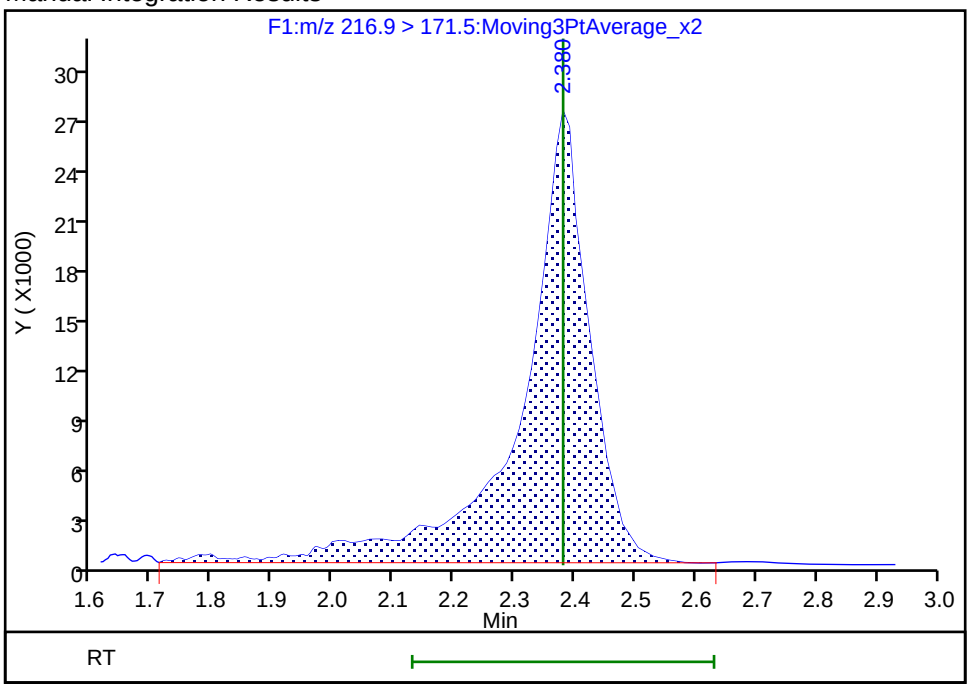
Processing Integration Results

RT: 2.38
Area: 209730
Amount: 50.623519
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 210351
Amount: 49.854631
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 17:59:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

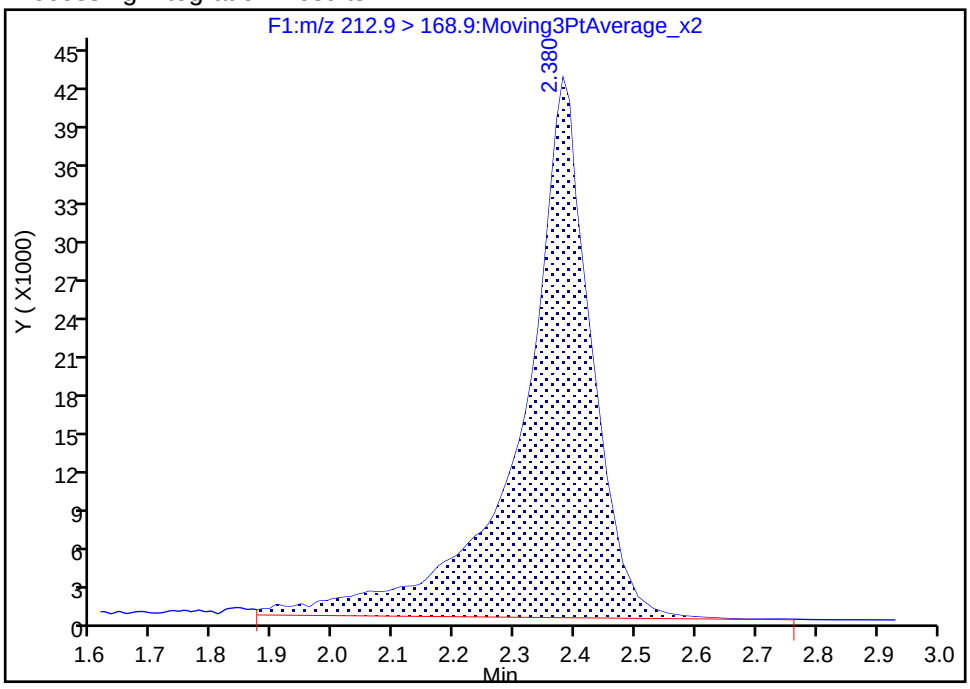
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d
Injection Date: 23-May-2019 13:55:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

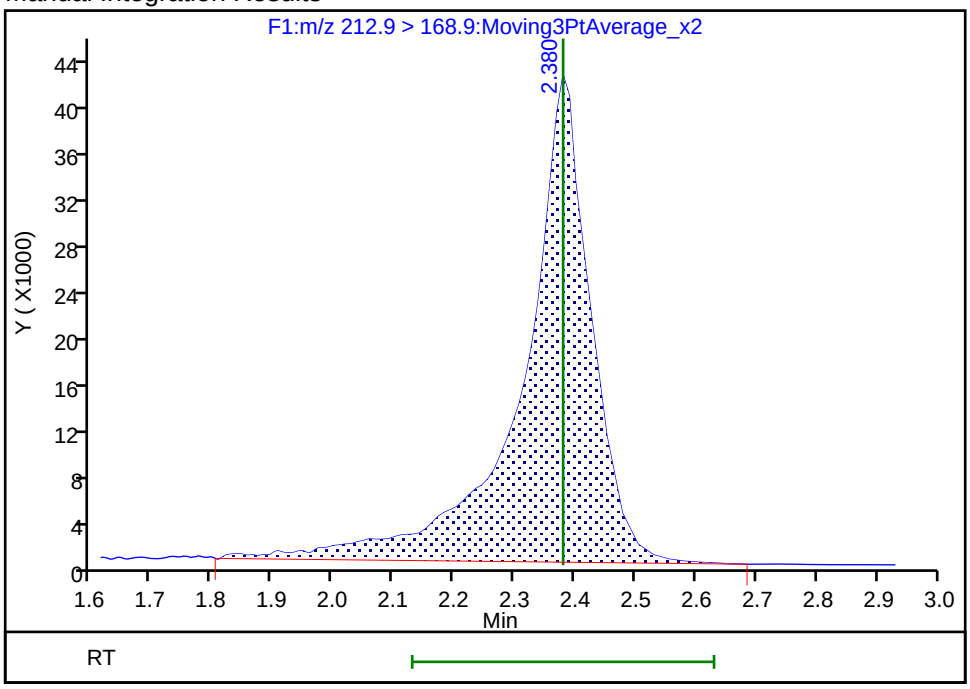
Processing Integration Results

RT: 2.38
Area: 339479
Amount: 50.315885
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 337173
Amount: 51.048332
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 17:59:32
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

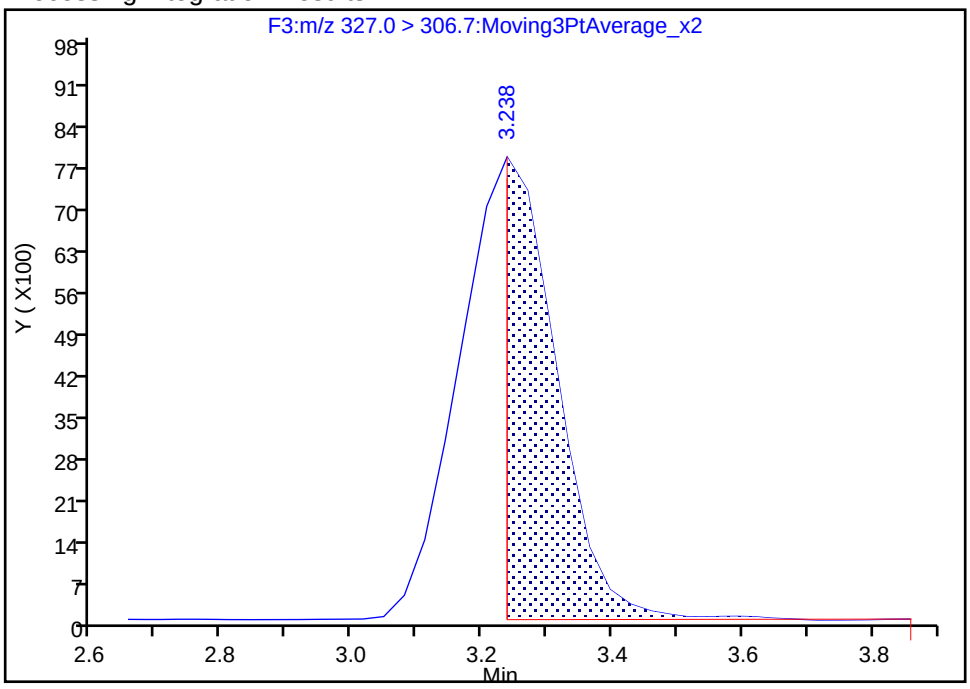
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d
Injection Date: 23-May-2019 13:55:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

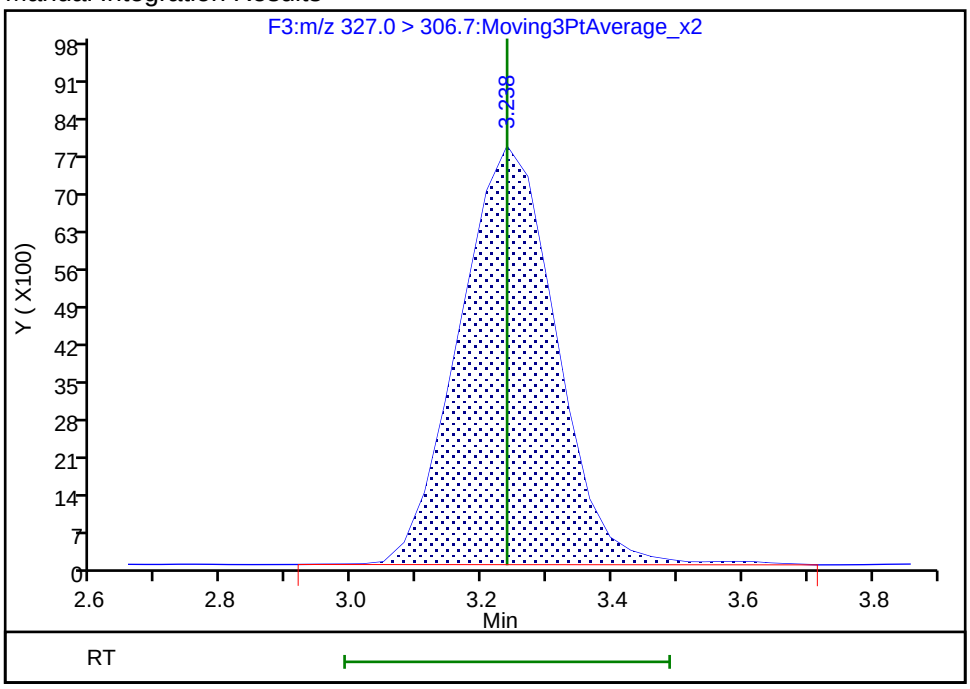
Processing Integration Results

RT: 3.24
Area: 40673
Amount: 23.245406
Amount Units: ng/ml



Manual Integration Results

RT: 3.24
Area: 80096
Amount: 43.490344
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:22:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

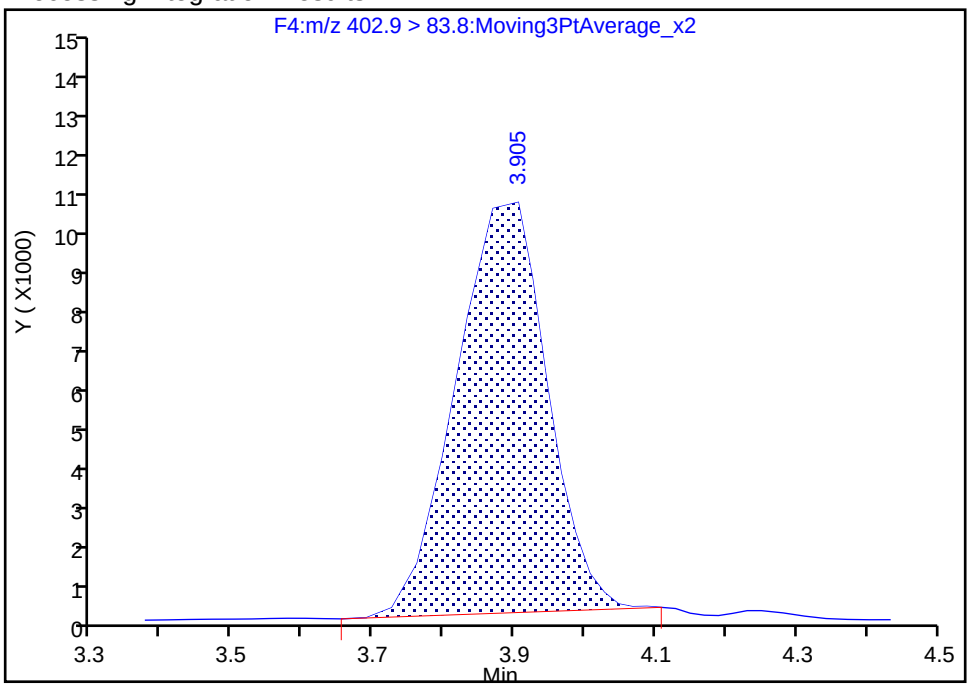
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d
Injection Date: 23-May-2019 13:55:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

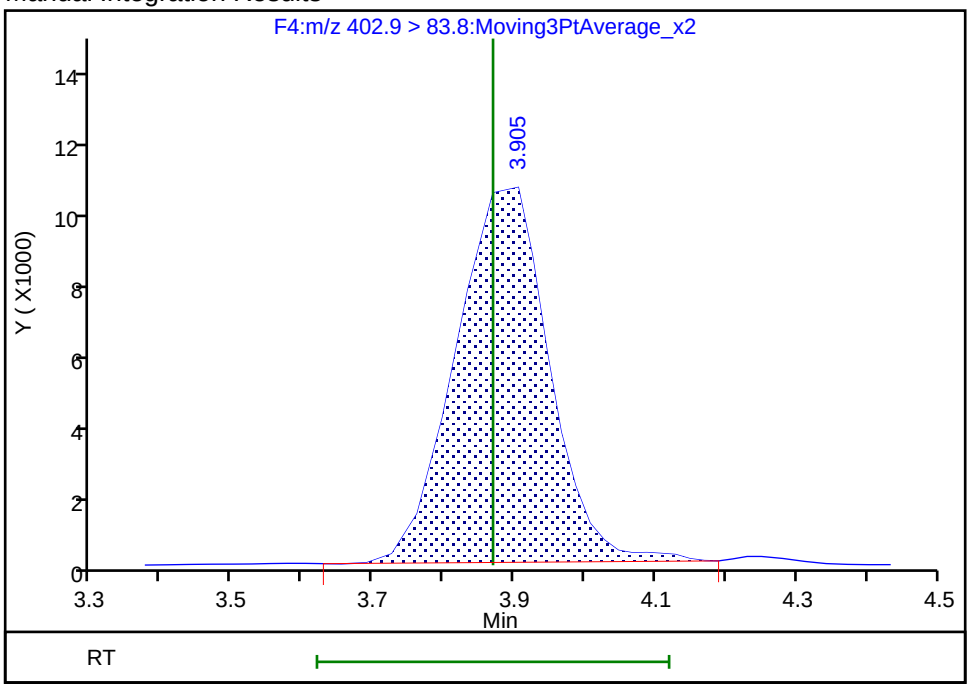
Processing Integration Results

RT: 3.91
Area: 89045
Amount: 50.521443
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 92177
Amount: 51.790919
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:27:07
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

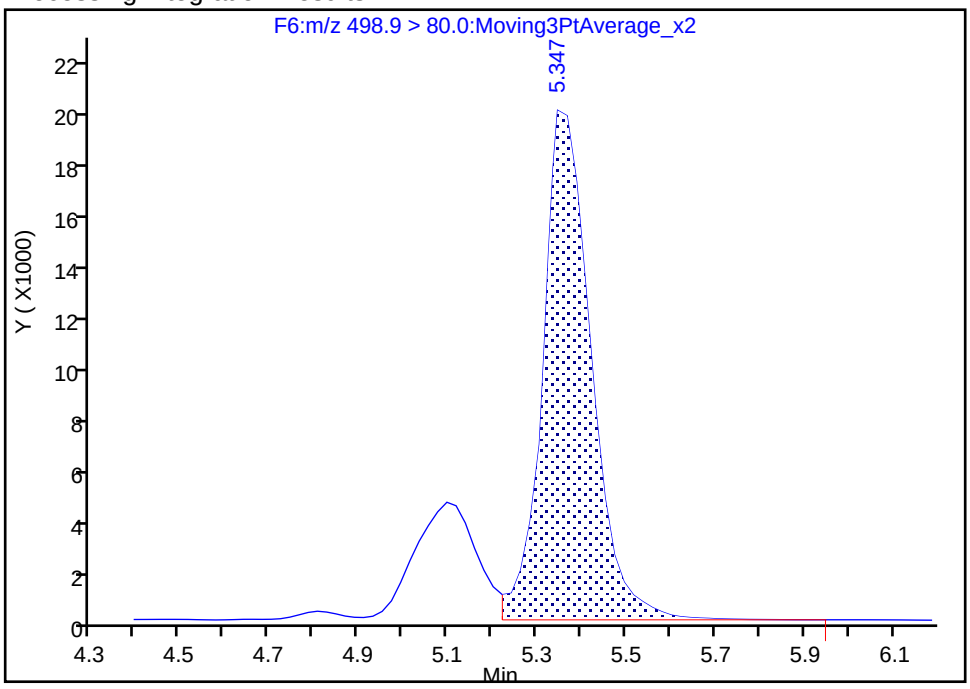
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d
Injection Date: 23-May-2019 13:55:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

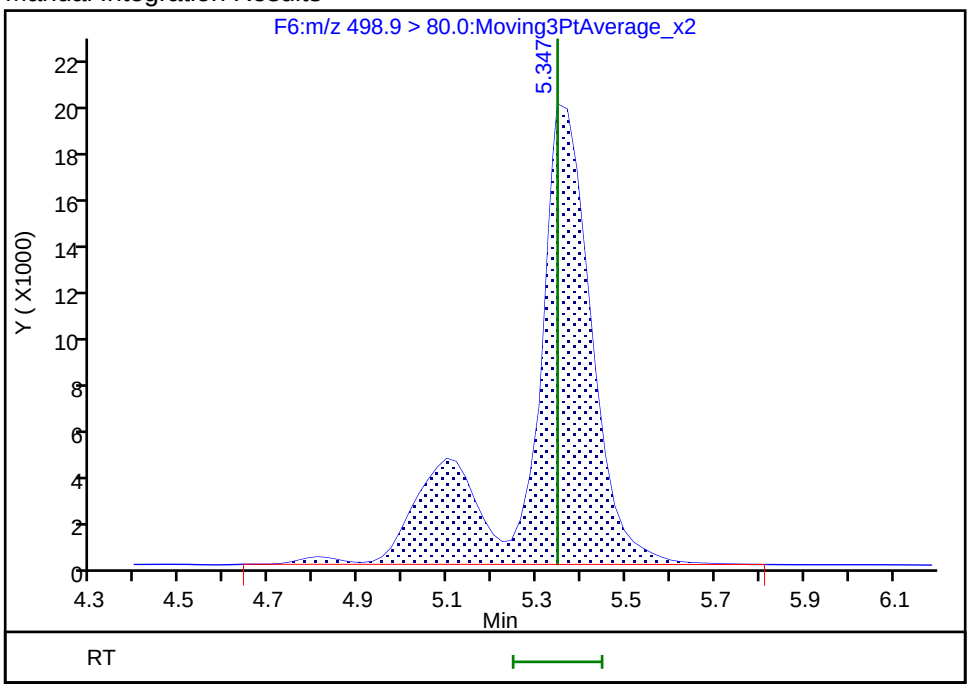
Processing Integration Results

RT: 5.35
Area: 148816
Amount: 38.302650
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 193752
Amount: 47.319671
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 17:59:54
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

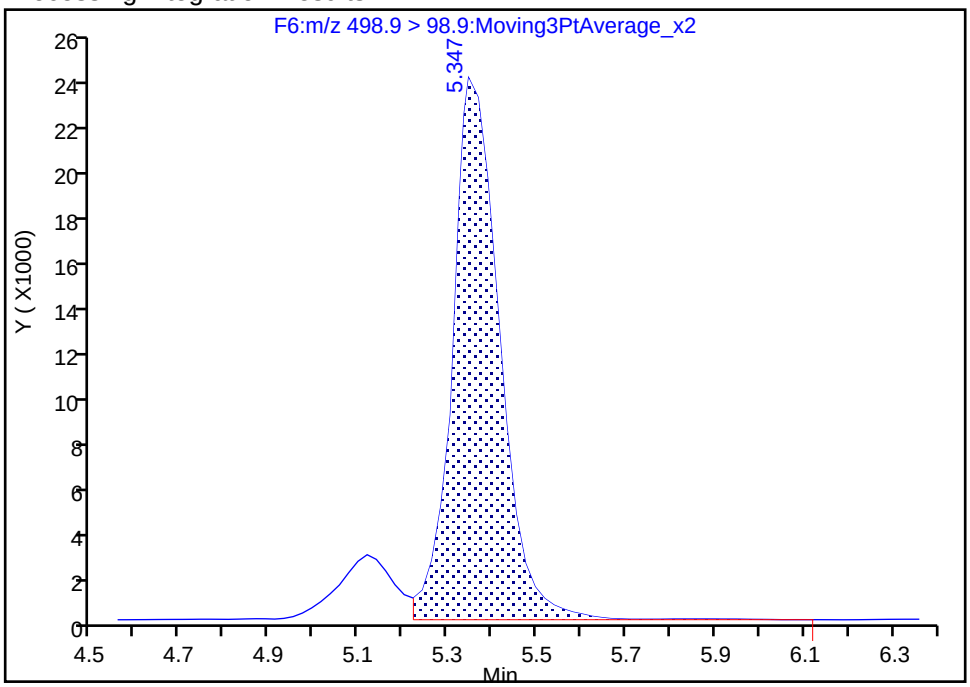
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d
Injection Date: 23-May-2019 13:55:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

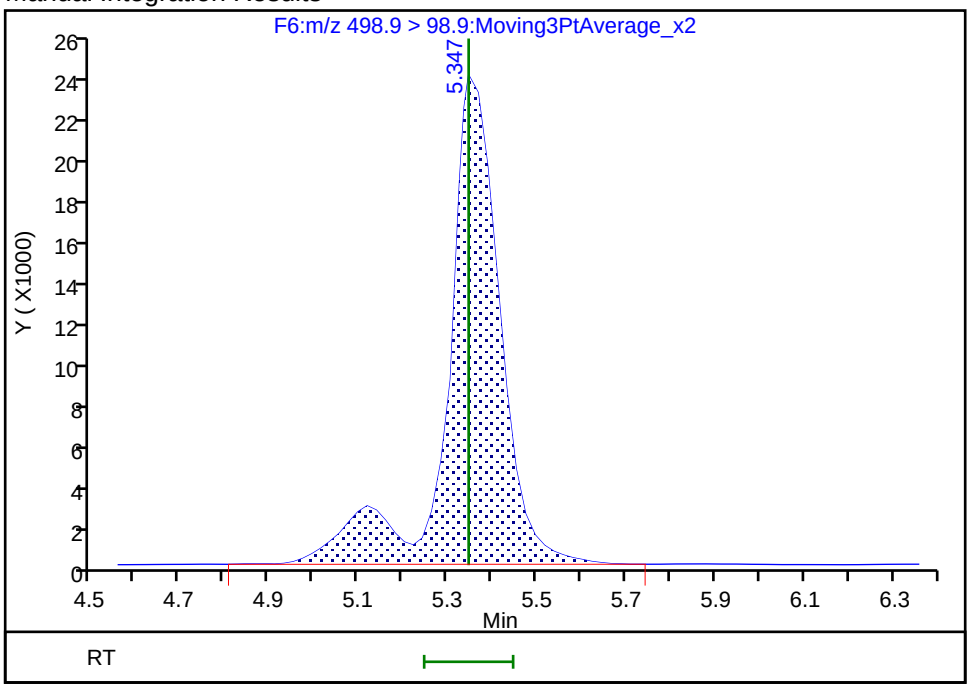
Processing Integration Results

RT: 5.35
Area: 175046
Amount: 38.302650
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 198612
Amount: 47.319671
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 17:59:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

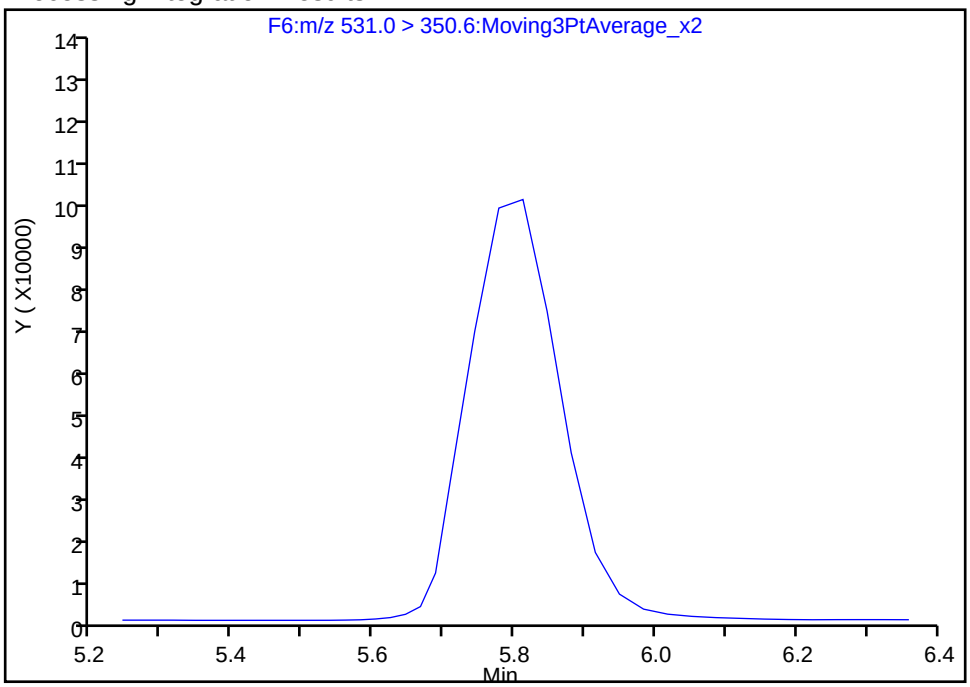
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d
Injection Date: 23-May-2019 13:55:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

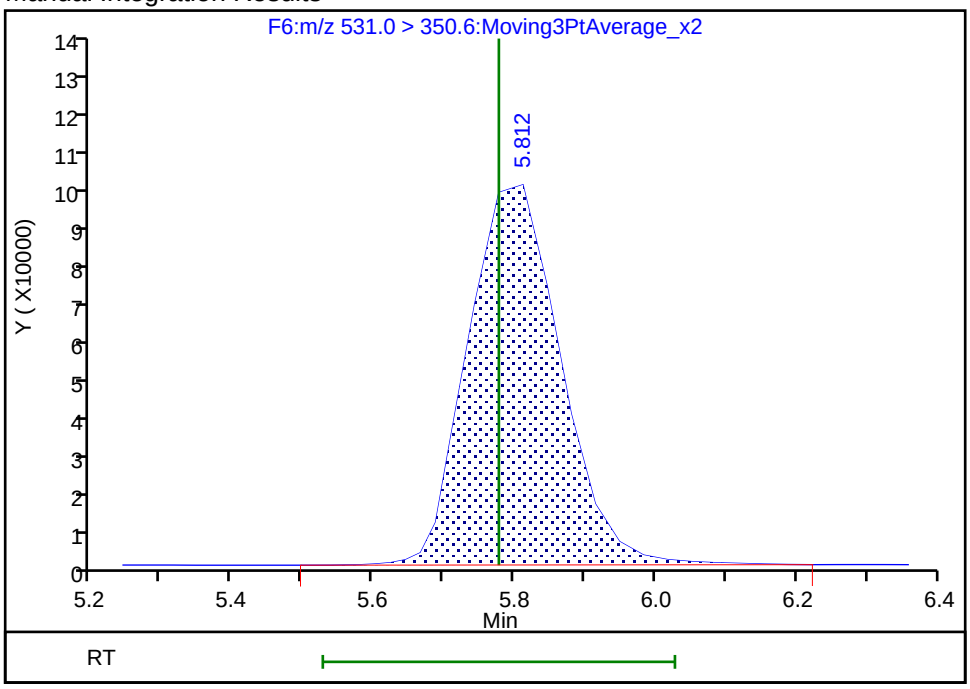
Not Detected
Expected RT: 5.78

Processing Integration Results



Manual Integration Results

RT: 5.81
Area: 887590
Amount: 47.614902
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:28:11
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

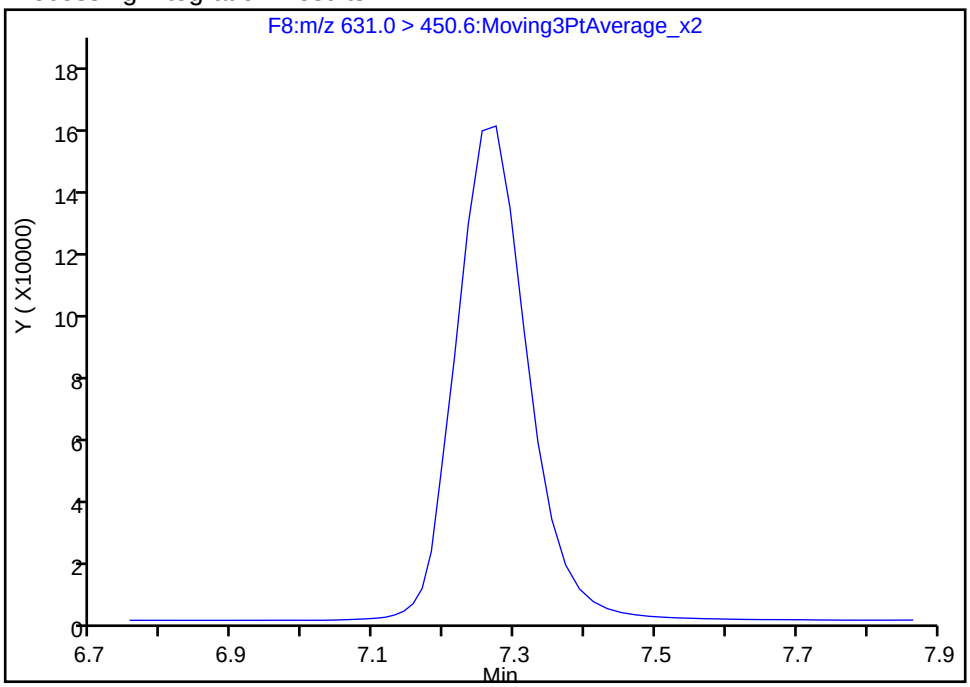
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B08.d
Injection Date: 23-May-2019 13:55:00 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

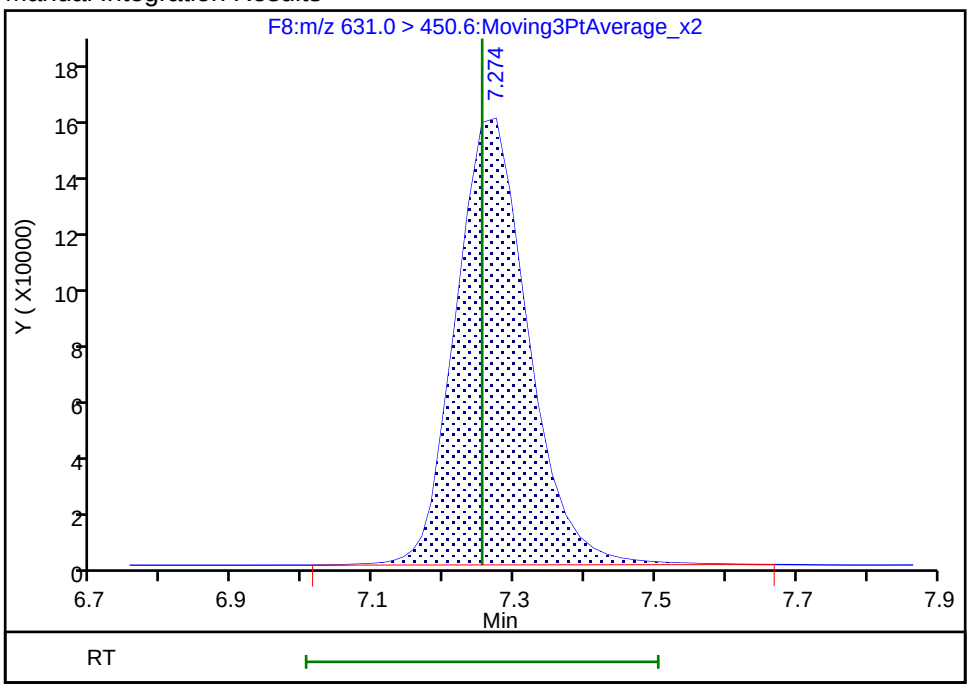
Not Detected
Expected RT: 7.25

Processing Integration Results



Manual Integration Results

RT: 7.27
Area: 1144202
Amount: 48.109513
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:28:14
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 23-May-2019 14:10:51 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-009 IC 8
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:32:20 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 18:01:11
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.380	0.0	1.000	228200	58.1		116	63.5	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.380	0.0	1.000	650268	90.8		90.8	81.8	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.795	0.035	1.000	1080848	107.0		107	1708	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	168647	56.6		113	500	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.866	0.035	1.000	59877	46.2		99.4	204	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	306879	94.8	Target=1.67	107	1110	
298.9 > 98.9	2.901	2.866	0.035	1.000	297571		1.03(0.83-2.51)	107	1431	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.238	3.238	0.0	1.116	227535	133.4		143	1485	M
7 Perfluorohexanoic acid										
312.9 > 268.9	3.270	3.270	0.0	1.000	1497063	102.8	Target=14.34	103	9123	
312.9 > 118.9	3.270	3.270	0.0	1.000	97527		15.35(7.17-21.51)	103	545	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.270	0.0	1.000	520666	58.3		117	537	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.334	3.334	0.0	1.149	399292	109.1	Target=1.23	116	2673	
348.9 > 98.9	3.334	3.334	0.0	1.000	433469		0.92(0.62-1.85)	116	1969	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.429	3.429	0.0	1.000	51877	61.1		122	634	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.429	3.429	0.0	1.000	104411	93.4		93.4	710	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.833	0.036	1.000	1580515	94.8	Target=2.84	94.8	4214	
362.9 > 168.9	3.869	3.833	0.036	1.000	503374		3.14(1.42-4.26)	94.8	2057	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	710110	56.4		113	2385	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.869	0.036	1.000	87301	52.7		111	420	M
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.905	3.905	0.0	1.000	334426	85.6	Target=1.34	94.1	691	
398.9 > 98.9	3.905	3.905	0.0	1.000	364306		0.92(0.67-2.01)	94.1	880	
49 DONA										
376.9 > 250.7	3.946	3.925	0.021	0.738	1638494	93.2	Target=2.33	99.0	16680	
376.9 > 85.0	3.946	3.925	0.021	1.000	635817		2.58(1.16-3.49)	99.0	4299	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.526	4.506	0.020	1.000	84871	86.3		91.0	922	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.506	0.020	1.000	49447	55.3		116	360	
* 16 13C2 PFOA										
414.9 > 369.8	4.547	4.547	0.0		802712	50.0			1857	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.547	0.021	1.000	841484	54.0		108	2409	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.568	0.0	1.000	1613040	94.7	Target=2.43	94.7	6649	
412.9 > 168.9	4.568	4.568	0.0	1.000	614243		2.63(1.22-3.64)	94.7	3261	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.589	0.0	0.858	361338	101.5	Target=1.30	107	3568	
448.9 > 98.9	4.589	4.589	0.0	1.000	404113		0.89(0.65-1.95)	107	2282	
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.347	-0.011	1.000	1070115	51.2		102	5171	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.347	0.0	1.002	1884866	99.7	Target=5.00	99.7	6338	
462.9 > 168.9	5.347	5.347	0.0	1.002	432460		4.36(2.50-7.50)	99.7	3744	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.347	0.0	1.000	195398	52.3		109	1050	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.347	0.0	1.000	373561	94.6	Target=1.41	102	1939	M
498.9 > 98.9	5.347	5.347	0.0	1.000	387643		0.00(0.71-2.12)	102	3573	M
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.812	5.778	0.034	1.087	1704207	94.8		102	15355	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	166212	51.1		107	508	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	233624	91.3		95.3	892	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.165	6.165	0.0	1.153	407353	102.8	Target=1.39	107	3305	
548.9 > 98.9	6.165	6.165	0.0	1.000	438792		0.93(0.69-2.08)	107	1411	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.165	0.0	1.000	906051	50.8		102	3133	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										
512.9 > 468.5	6.165	6.165	0.0	1.000	1619850	97.6	Target=7.23	97.6	2730	
512.9 > 168.9	6.165	6.165	0.0	1.000	213130		7.60(3.61-10.84)	97.6	1349	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.501	6.501	0.0	1.000	542896	101.3		101	2841	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.501	0.0	1.000	324405	55.8		112	1612	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.873	0.0	1.000	240079	50.1		100	848	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.897	6.897	0.0	1.290	383701	90.4	Target=1.25	93.8	2057	
598.9 > 98.9	6.897	6.897	0.0	1.000	432692		0.89(0.63-1.88)	93.8	4593	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.873	6.897	-0.024	1.000	397745	102.9		103	788	M
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.000	1402571	100.0	Target=7.06	100	2367	
562.9 > 168.9	6.921	6.921	0.0	1.000	201929		6.95(3.53-10.58)	100	1127	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.921	0.0	1.000	842430	48.9		97.8	2161	
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.921	0.024	1.000	330689	51.4		103	1556	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.945	6.921	0.024	1.000	956789	101.6		102	1876	
43 11-Chloroeicosafluoro-3-oxaundecan										a
631.0 > 450.6	7.254	7.254	0.0	1.357	2271189	99.0		105	5246	a
36 Perfluorododecanoic acid										
612.9 > 568.5	7.616	7.616	0.0	1.000	2107708	92.1	Target=5.37	92.1	3384	
612.9 > 168.9	7.616	7.616	0.0	1.000	376354		5.60(2.68-8.06)	92.1	2763	
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.616	0.0	1.000	1205662	54.9		110	2495	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.224	8.224	0.0	1.080	2203866	97.5	Target=4.67	97.5	2364	
662.9 > 168.9	8.235	8.224	0.011	1.081	422450		5.22(2.34-7.01)	97.5	1329	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.786	8.775	0.011	1.000	1085124	55.1		110	1250	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.786	8.786	0.0	1.000	1771483	96.2	Target=4.86	96.2	2811	
712.9 > 168.9	8.786	8.786	0.0	1.000	346073		5.12(2.43-7.30)	96.2	1706	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27-L8_00004 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:32:20 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d

Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410

Lims ID: IC

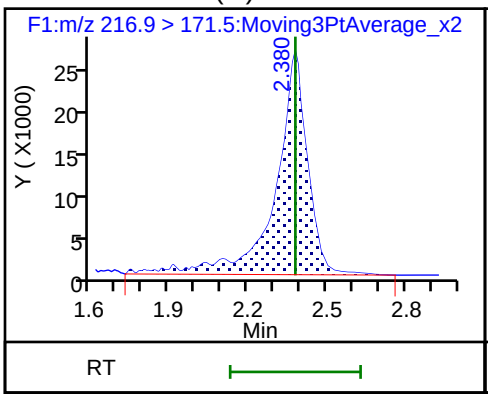
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9

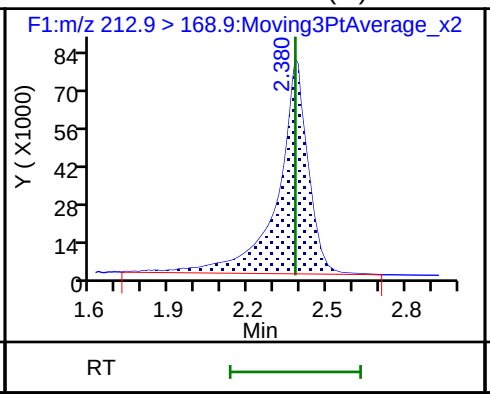
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

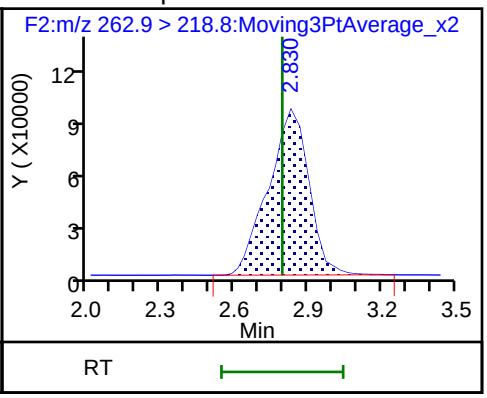
D 1 13C4 PFBA (M)



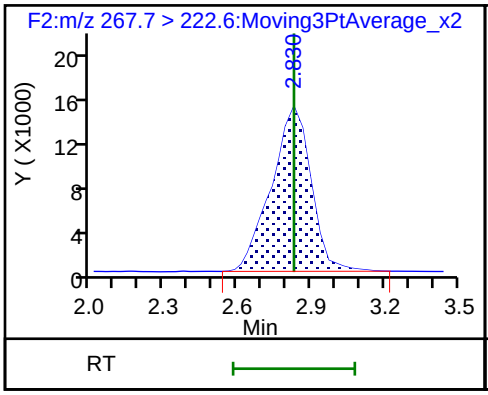
2 Perfluorobutanoic acid (M)



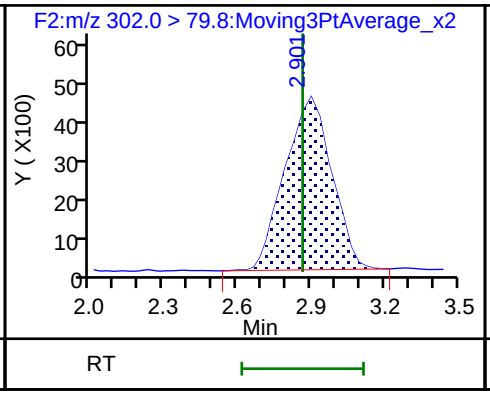
3 Perfluoropentanoic acid



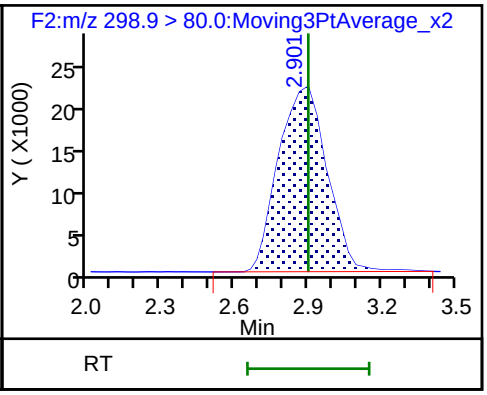
D 4 13C5 PFPeA



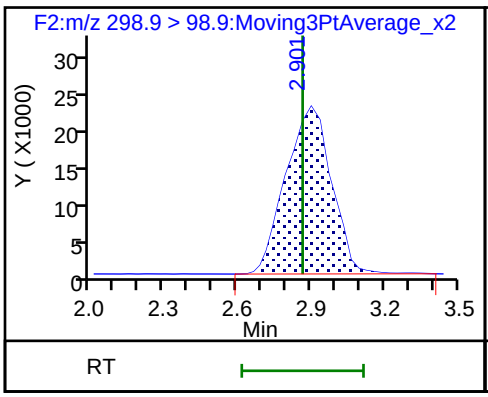
D 5 13C3 PFBS



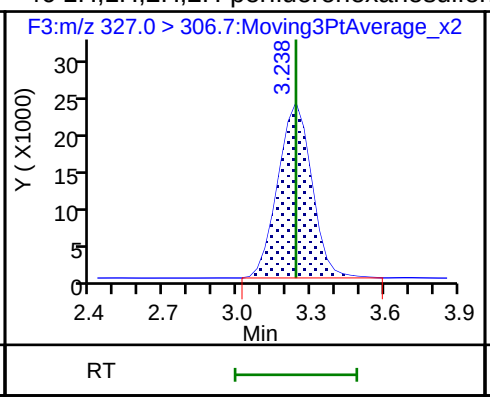
6 Perfluorobutanesulfonic acid



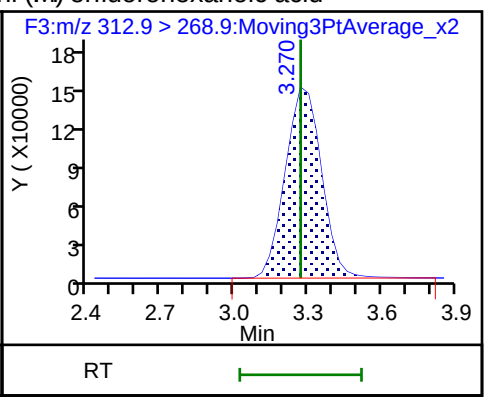
6 Perfluorobutanesulfonic acid



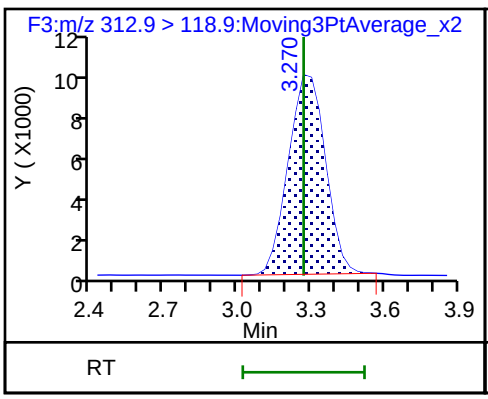
46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



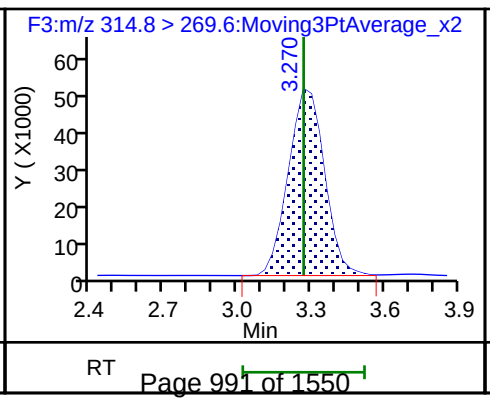
7 Perfluorohexanoic acid



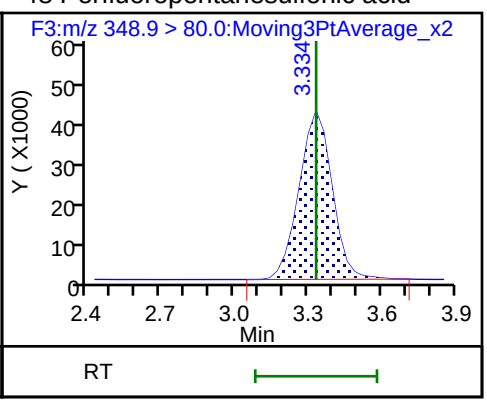
7 Perfluorohexanoic acid



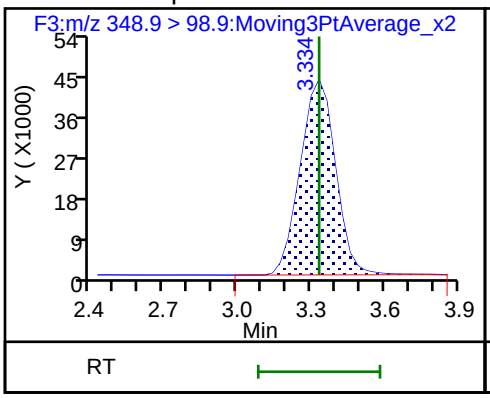
D 8 13C2 PFHxA



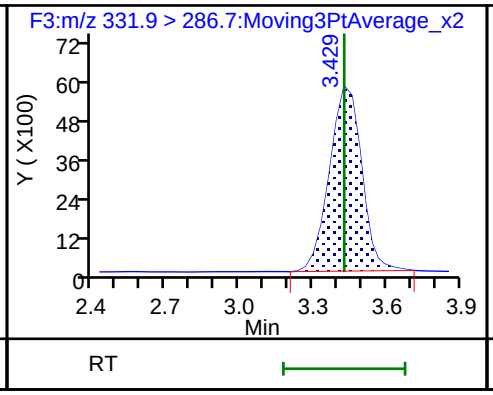
48 Perfluoropentanesulfonic acid



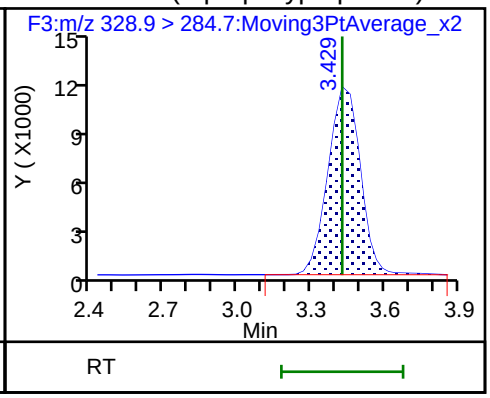
48 Perfluoropentanesulfonic acid



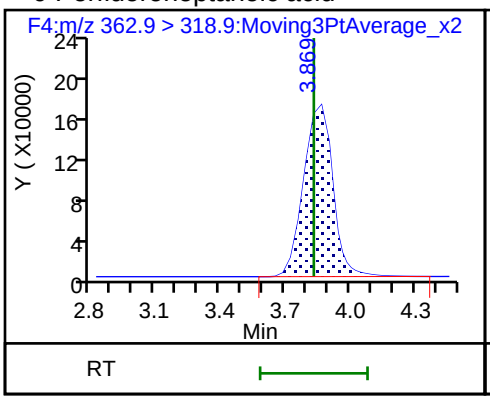
D 42 13C3 HFPO-DA



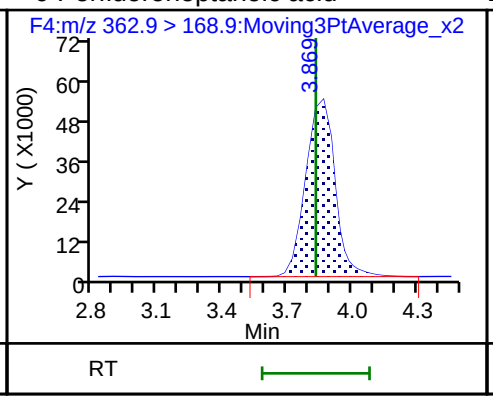
44 Perfluoro(2-propoxypropanoic) acid



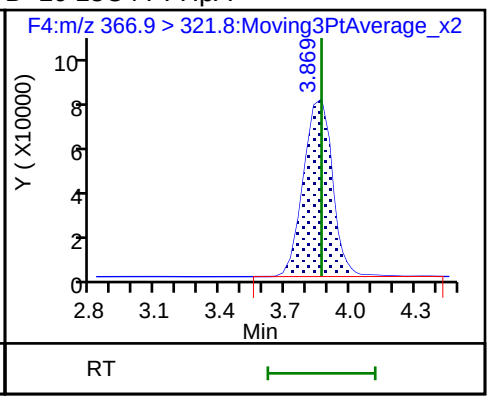
9 Perfluoroheptanoic acid



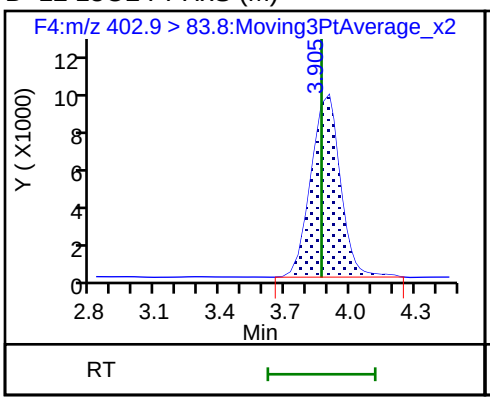
9 Perfluoroheptanoic acid



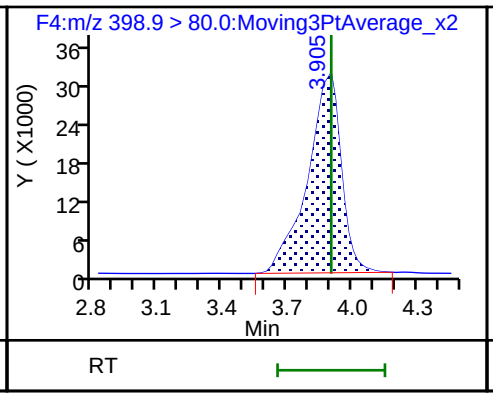
D 10 13C4 PFHpA



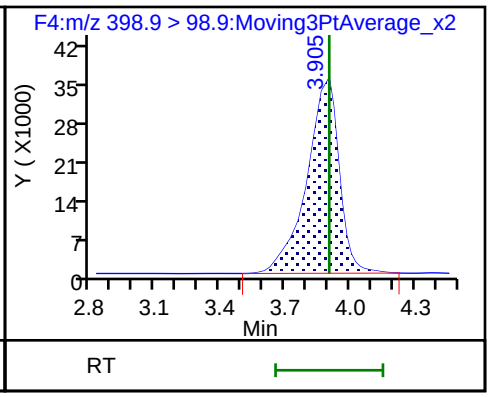
D 12 18O2 PFHxS (M)



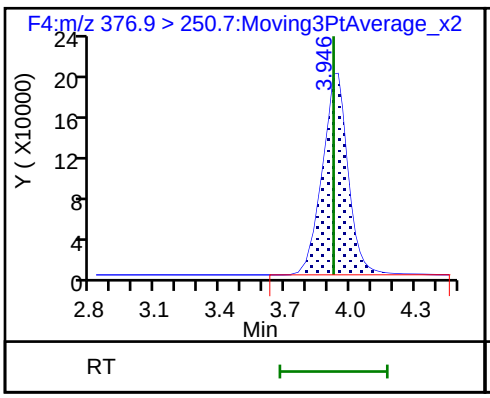
11 Perfluorohexanesulfonic acid



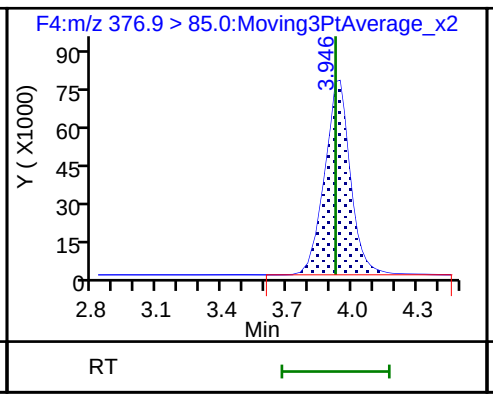
11 Perfluorohexanesulfonic acid



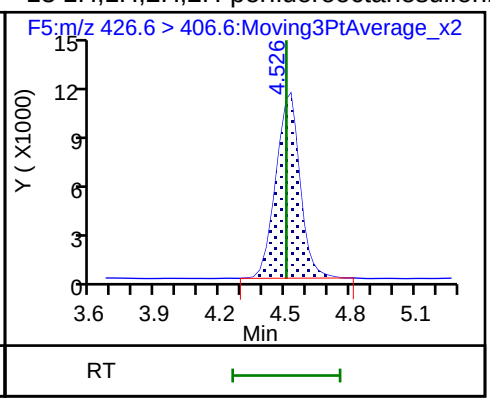
49 DONA



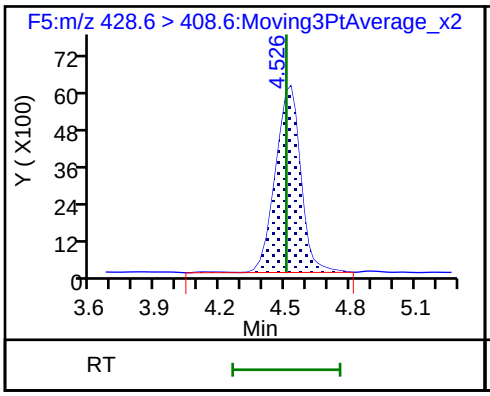
49 DONA



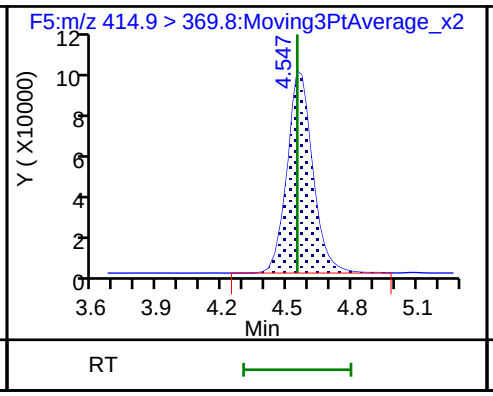
13 1H,1H,2H,2H-perfluorooctanesulfoni



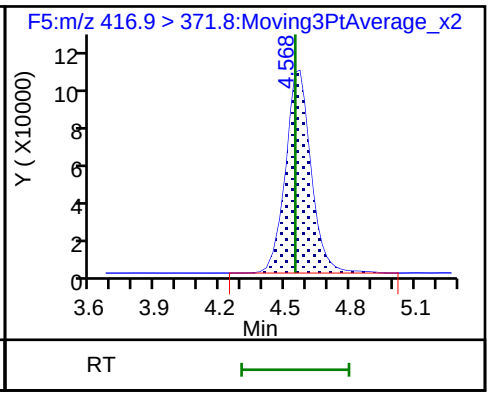
D 14 M2-6:2 FTS



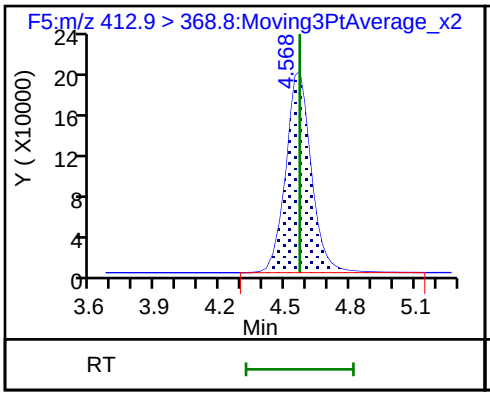
* 16 13C2 PFOA



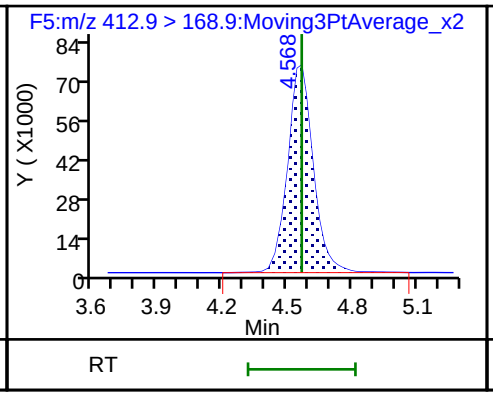
D 17 13C4 PFOA



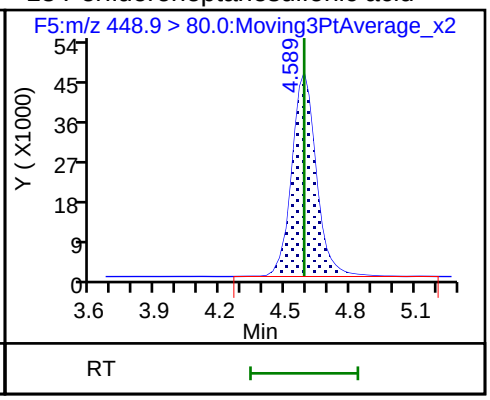
15 Perfluorooctanoic acid



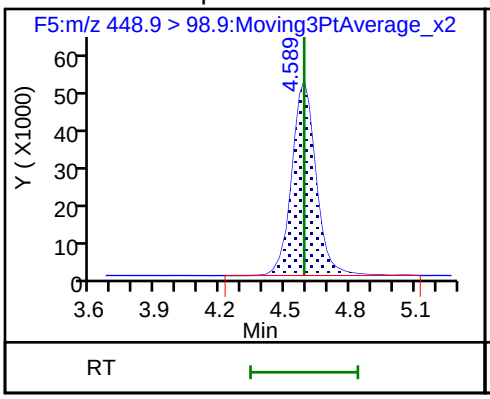
15 Perfluorooctanoic acid



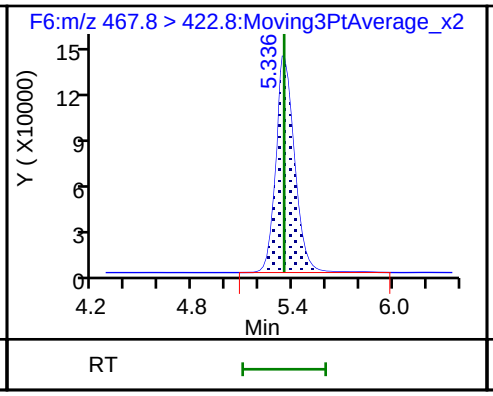
18 Perfluoroheptanesulfonic acid



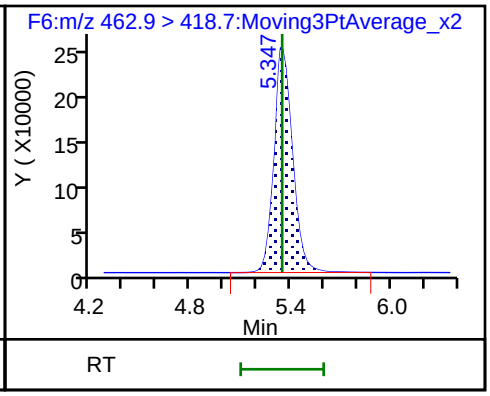
18 Perfluoroheptanesulfonic acid



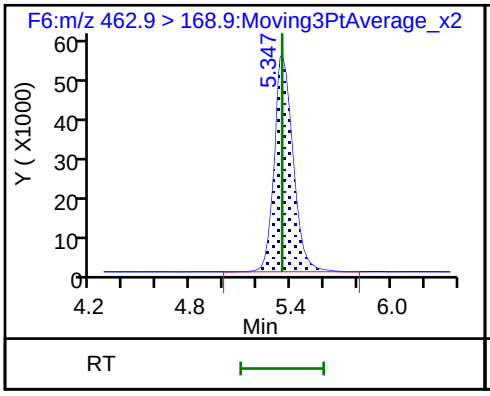
D 20 13C5 PFNA



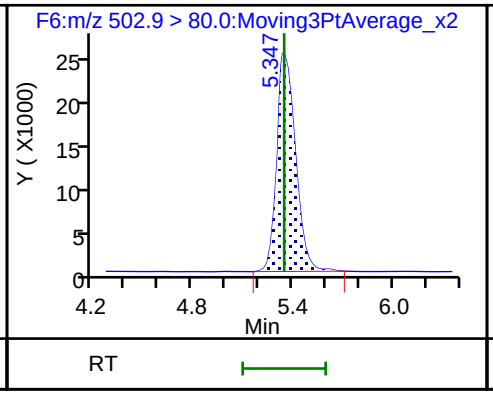
19 Perfluorononanoic acid



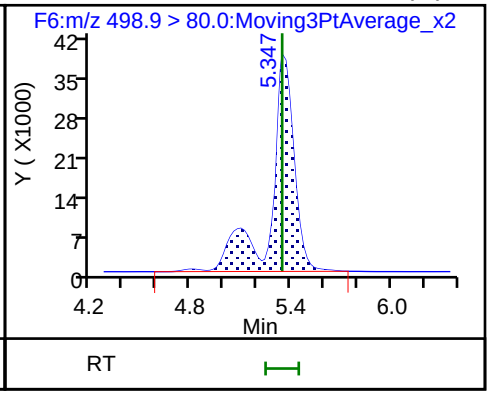
19 Perfluorononanoic acid



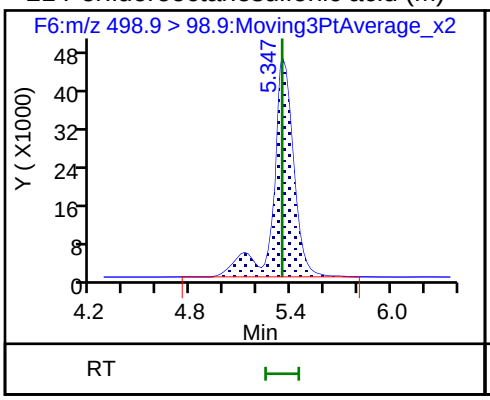
D 22 13C4 PFOS



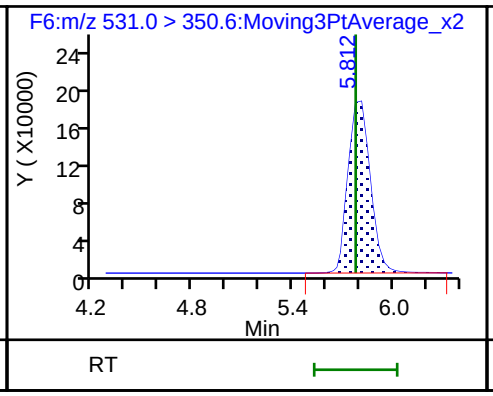
21 Perfluorooctanesulfonic acid (M)



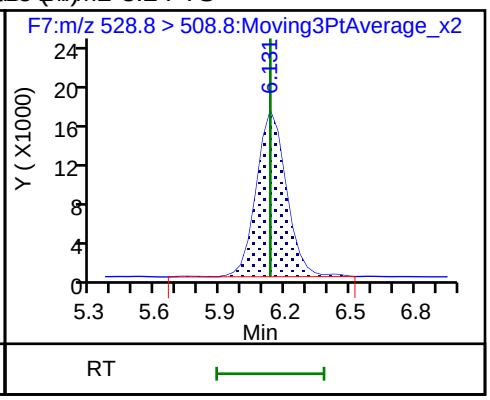
21 Perfluorooctanesulfonic acid (M)



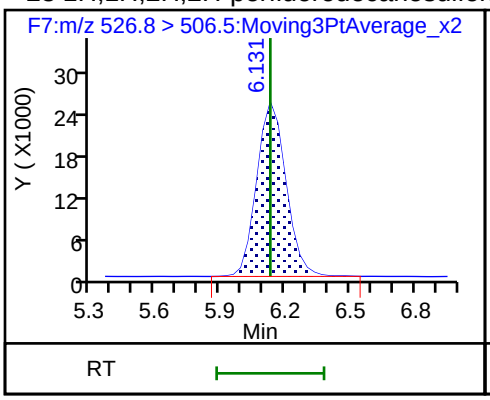
47 9-Chlorohexadecafluoro-3-oxanonane-1-



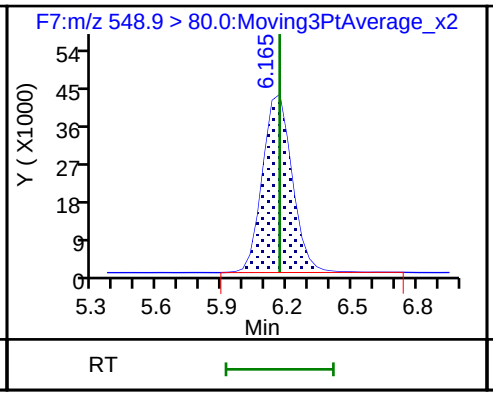
D 24 M2-8:2 FTS



23 1H,1H,2H-perfluorodecanesulfoni



45 Perfluorononanesulfonic acid



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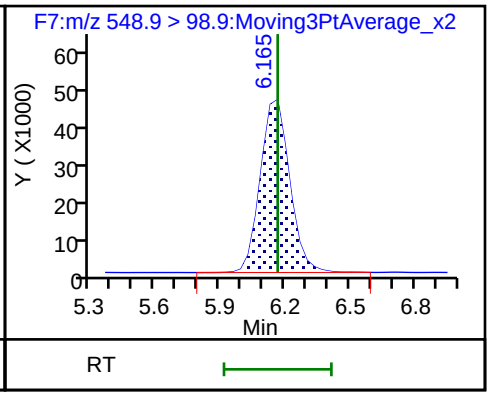
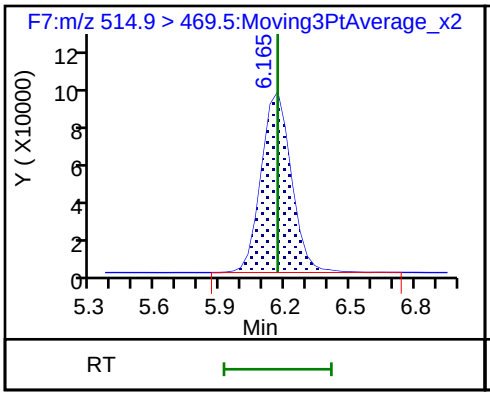
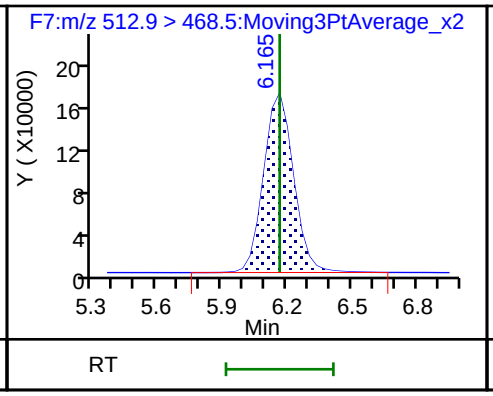


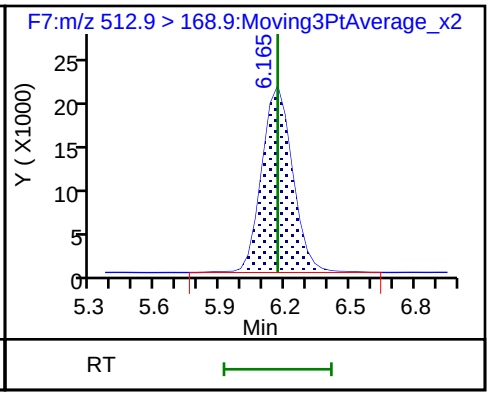
D 25 13C2 PFDA



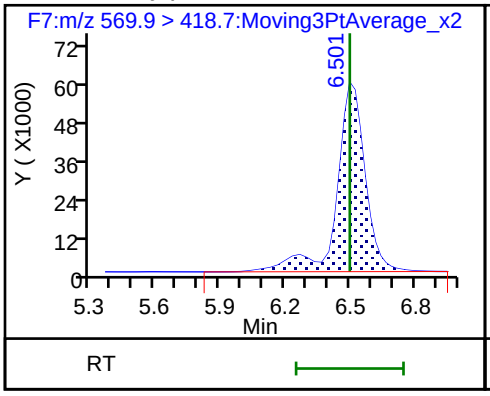
26 Perfluorodecanoic acid

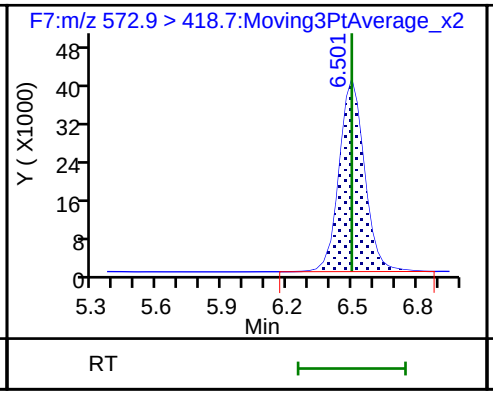


26 Perfluorodecanoic acid

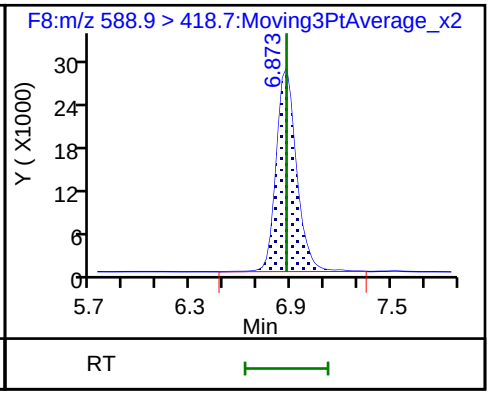


28 N-methylperfluorooctanesulfonamidD 27 d3-NMeFOSAA

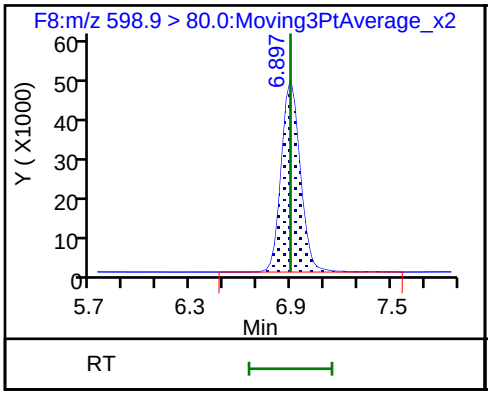




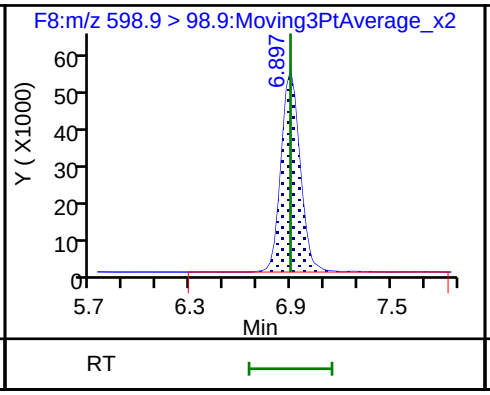
D 29 d5-NEtFOSAA



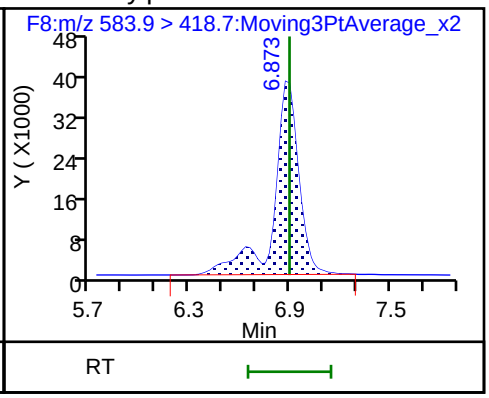
31 Perfluorodecanesulfonic acid



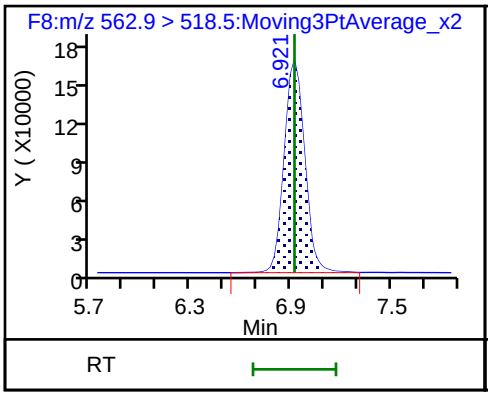
31 Perfluorodecanesulfonic acid



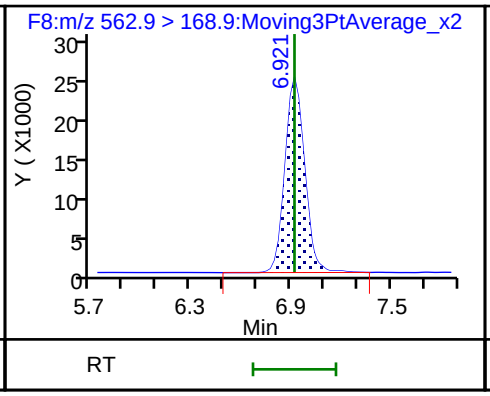
30 N-ethylperfluorooctanesulfonamidoa (M)



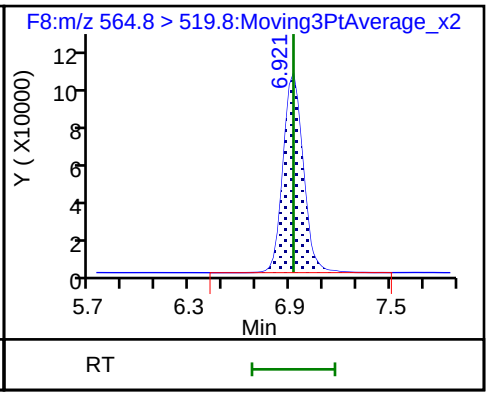
32 Perfluoroundecanoic acid



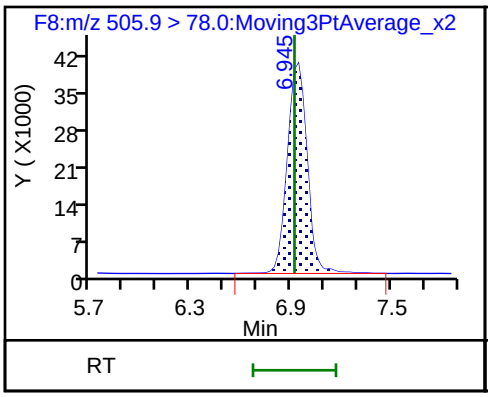
32 Perfluoroundecanoic acid



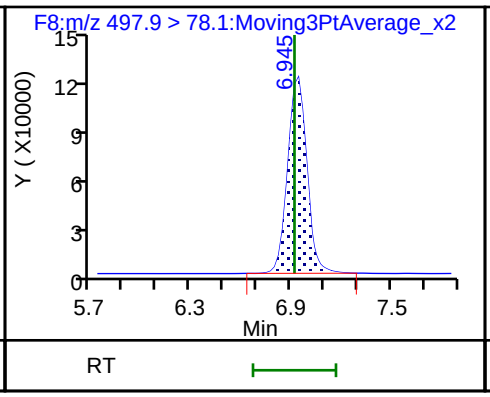
D 33 13C2 PFUnA



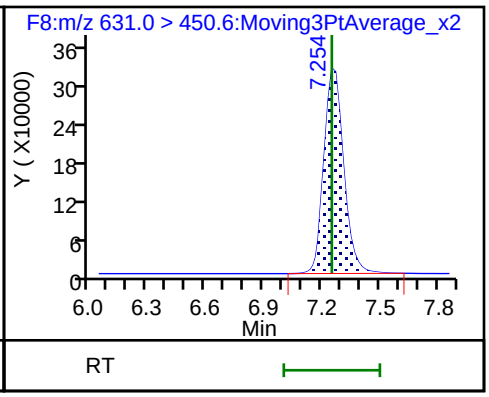
D 34 13C8 FOSA



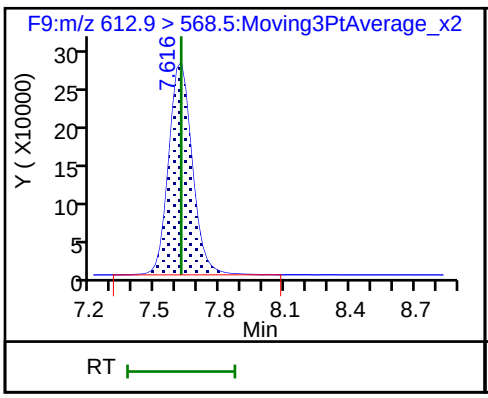
35 Perfluorooctanesulfonamide



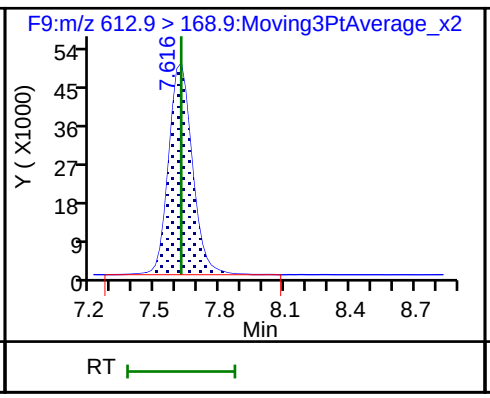
43 11-Chloroeicosafluoro-3-oxaundecan (M)



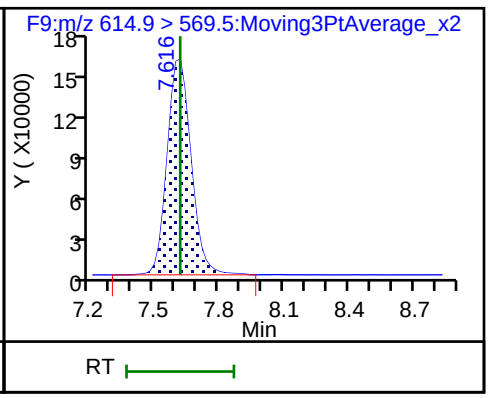
36 Perfluorododecanoic acid



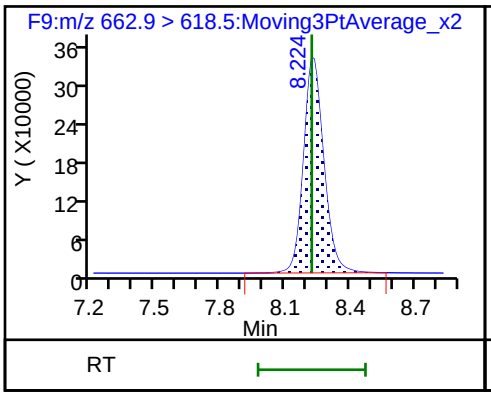
36 Perfluorododecanoic acid



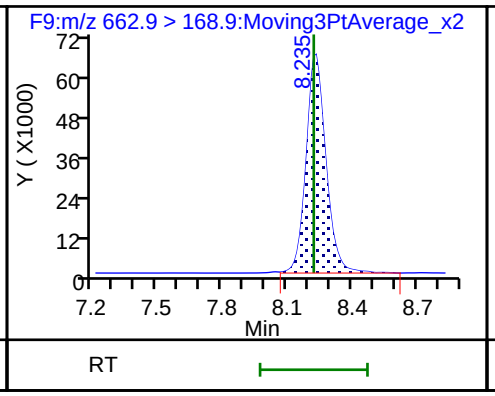
D 37 13C2 PFDoA



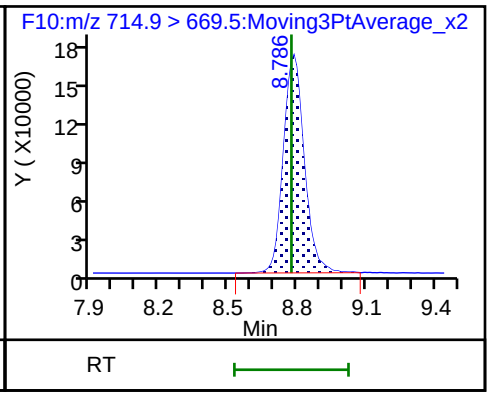
38 Perfluorotridecanoic acid



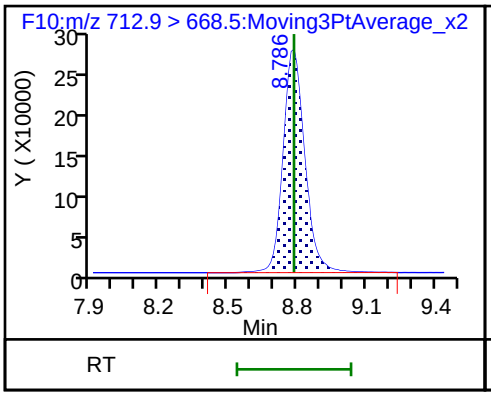
38 Perfluorotridecanoic acid



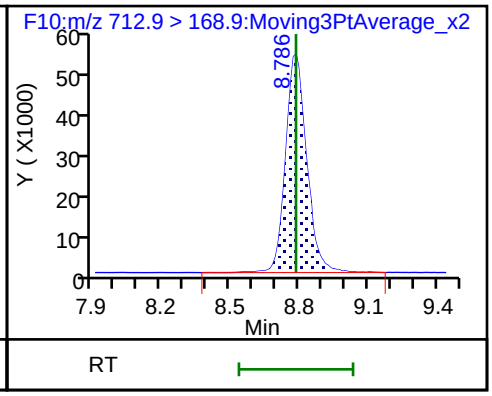
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Eurofins TestAmerica, Burlington

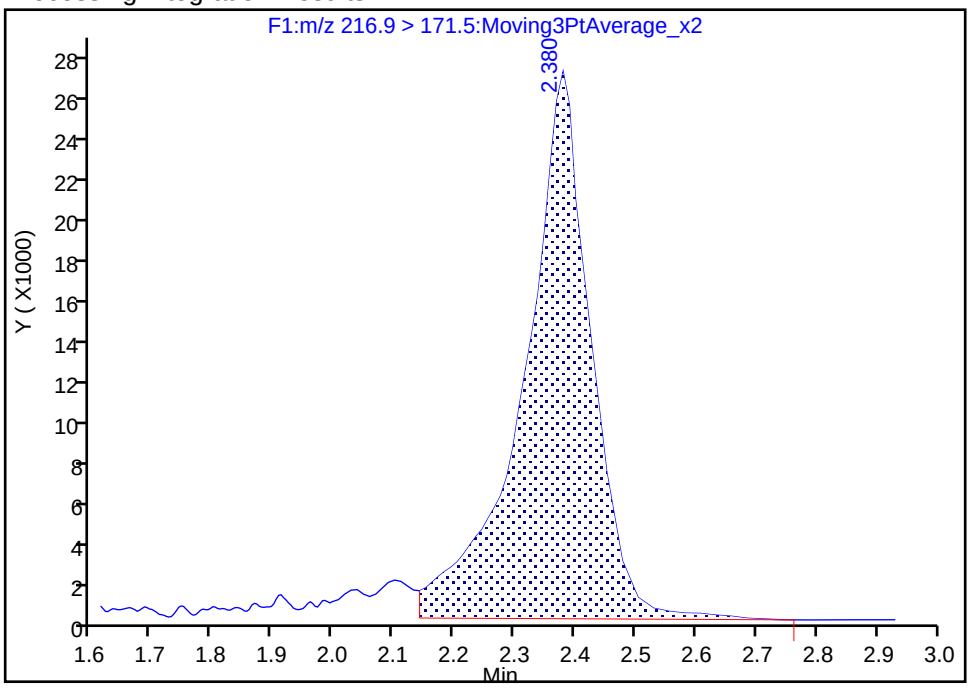
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

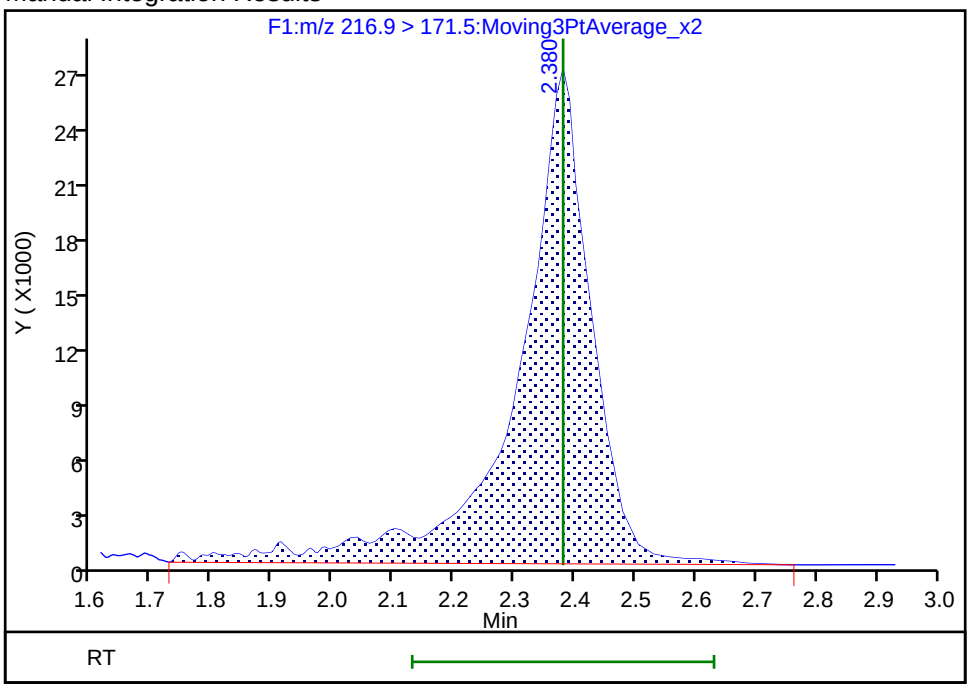
Processing Integration Results

RT: 2.38
Area: 207882
Amount: 53.910721
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 228200
Amount: 58.128308
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:00:33
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

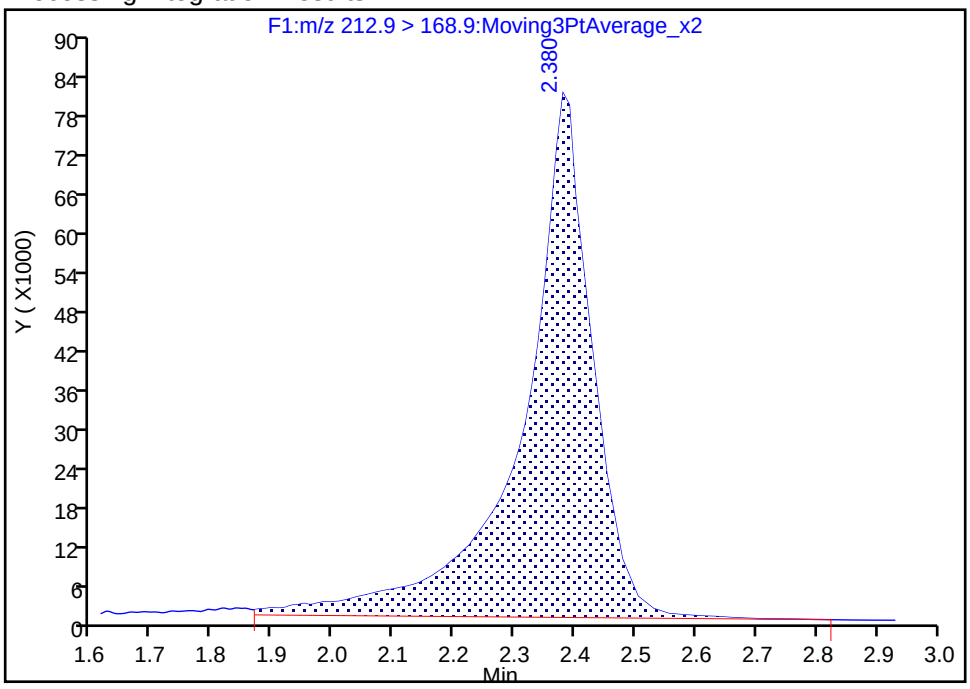
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

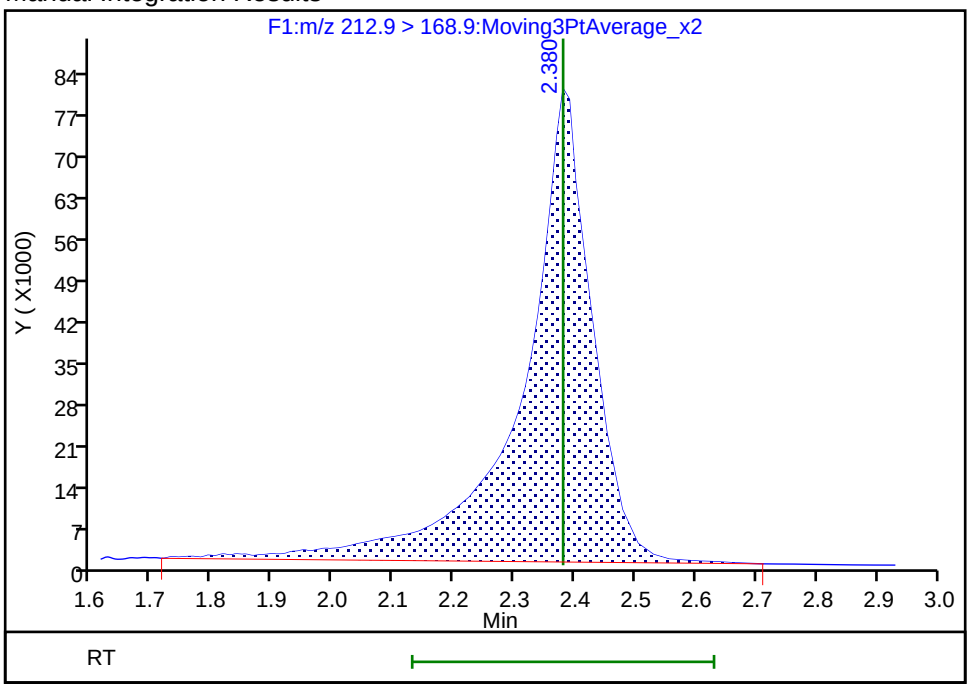
Processing Integration Results

RT: 2.38
Area: 651872
Amount: 89.998964
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 650268
Amount: 90.750723
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:00:37
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

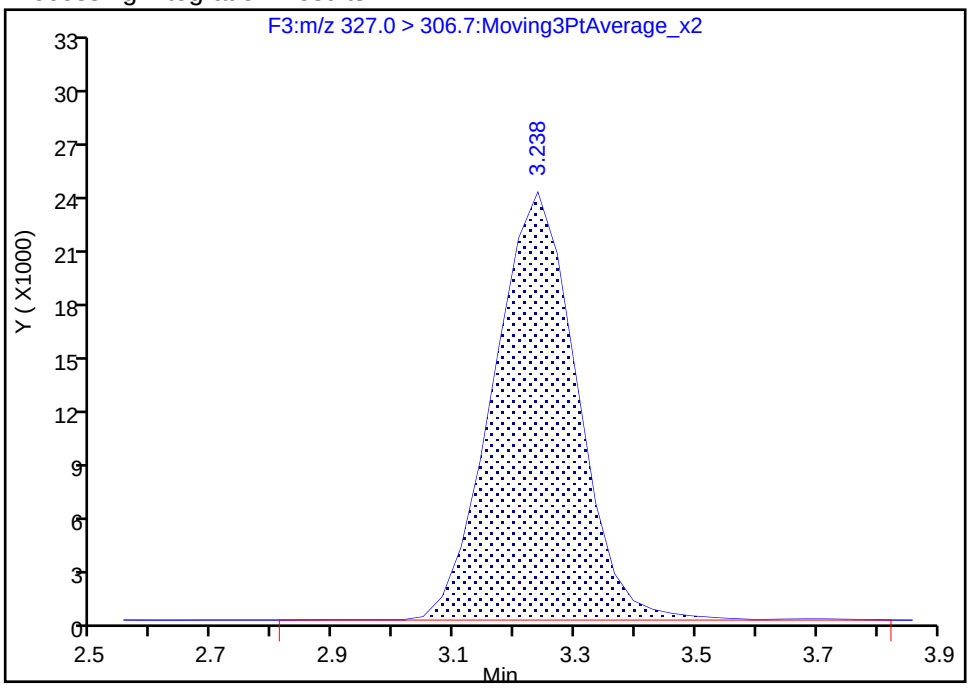
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

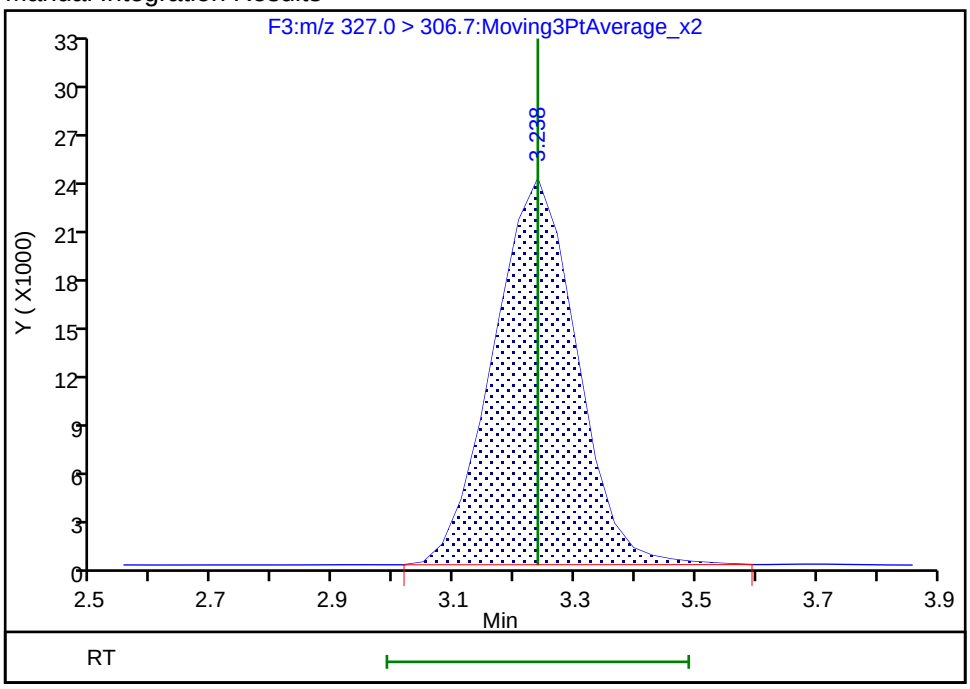
Processing Integration Results

RT: 3.24
Area: 228704
Amount: 134.6691
Amount Units: ng/ml



Manual Integration Results

RT: 3.24
Area: 227535
Amount: 133.3844
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:22:05
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

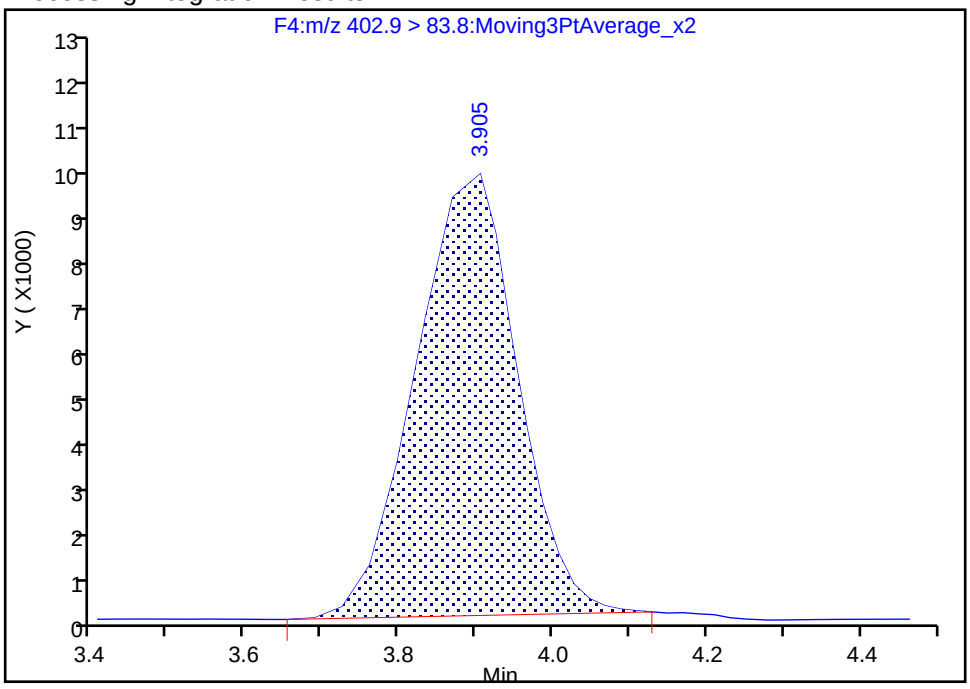
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

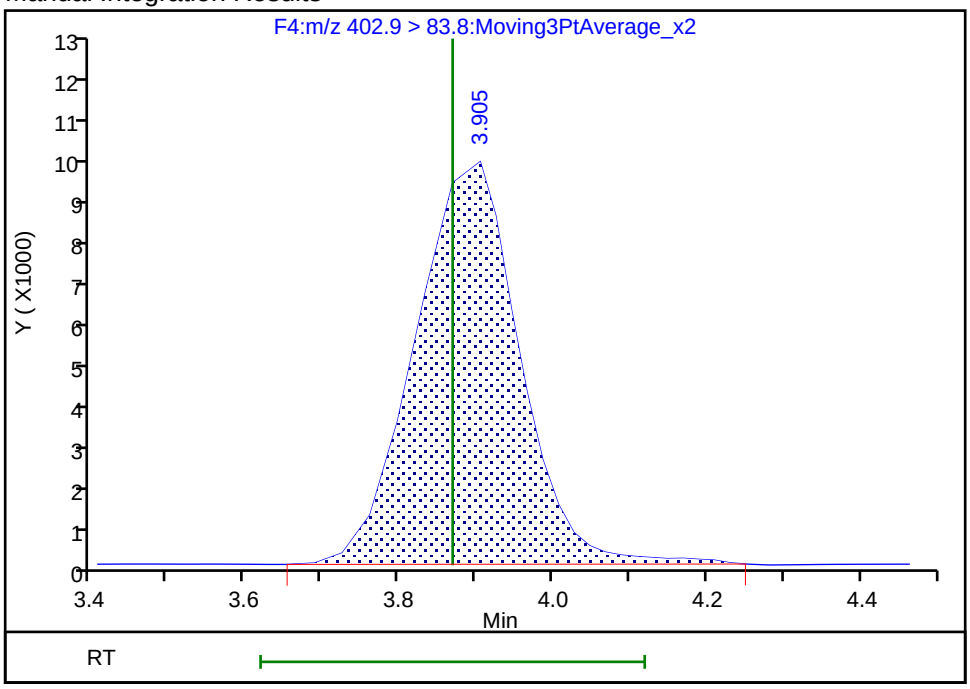
Processing Integration Results

RT: 3.91
Area: 84484
Amount: 51.302992
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 87301
Amount: 52.718298
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:27:39
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

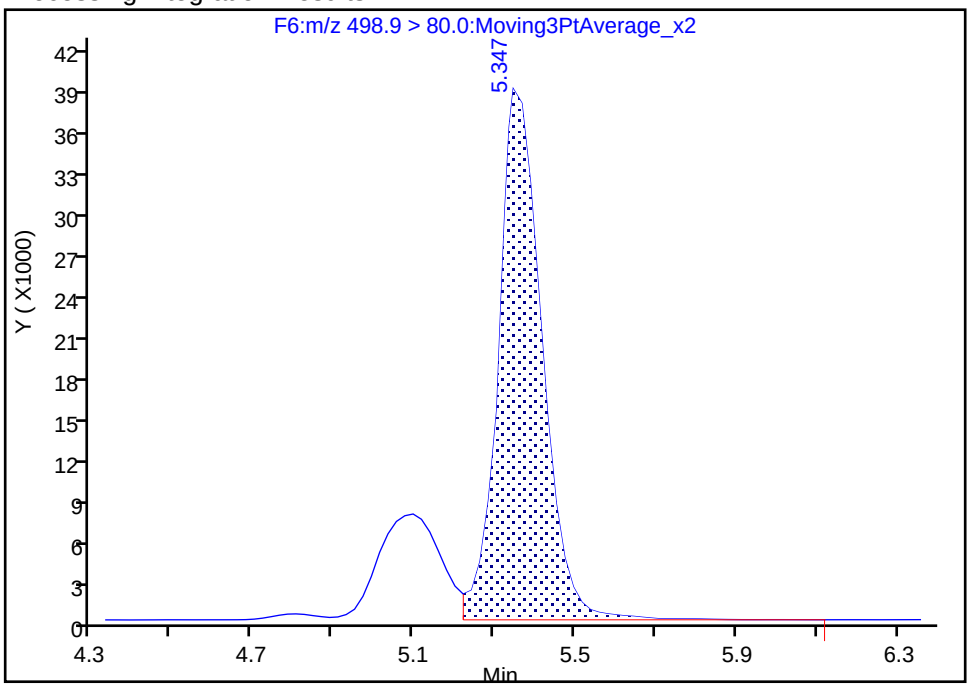
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

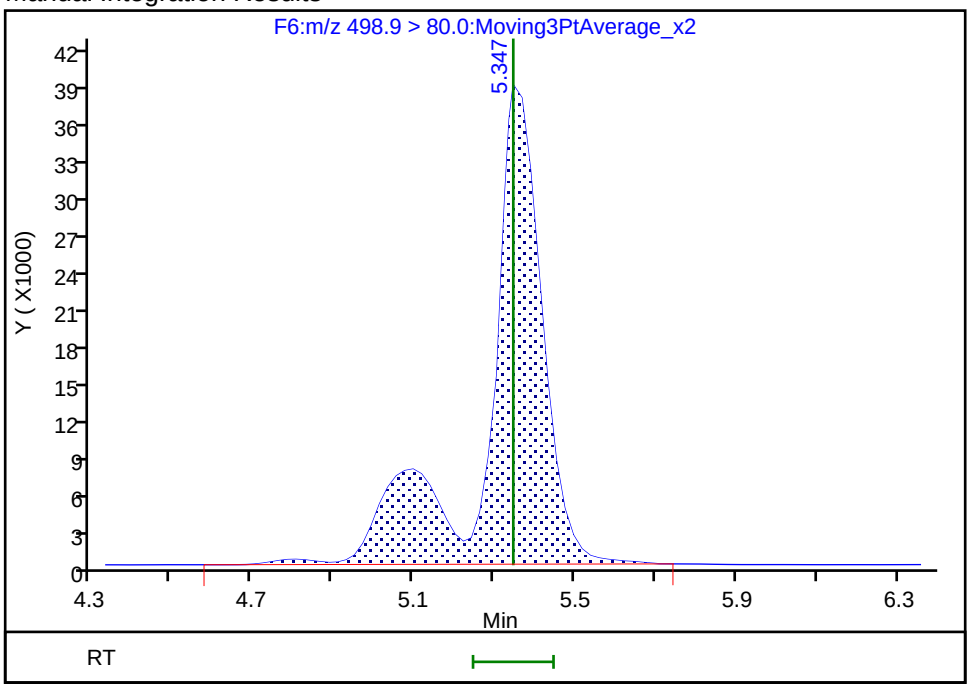
Processing Integration Results

RT: 5.35
Area: 290982
Amount: 75.586404
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 373561
Amount: 94.628068
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:00:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

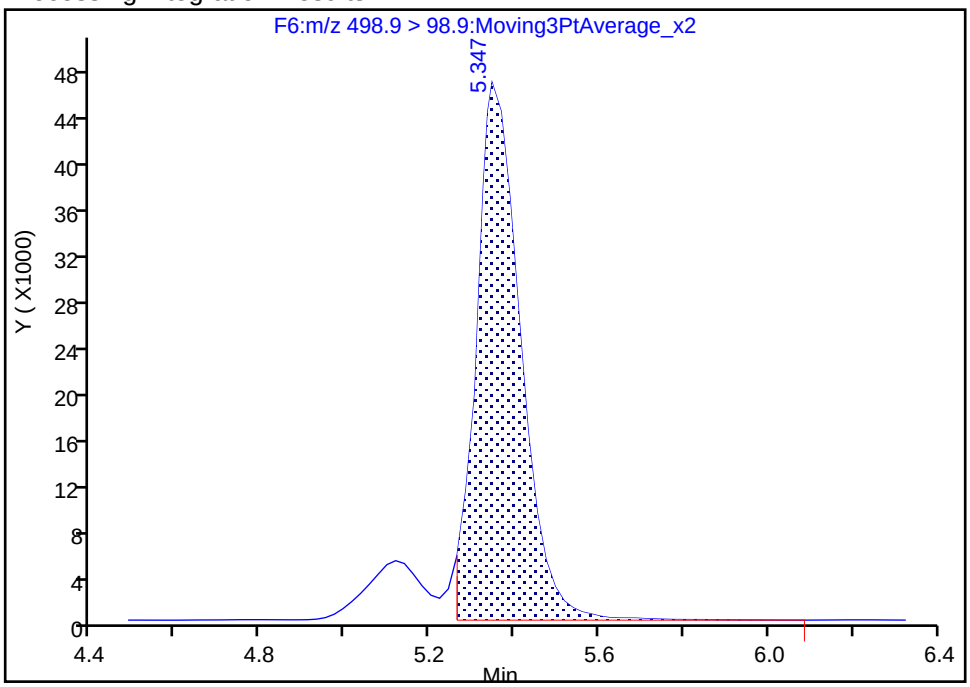
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

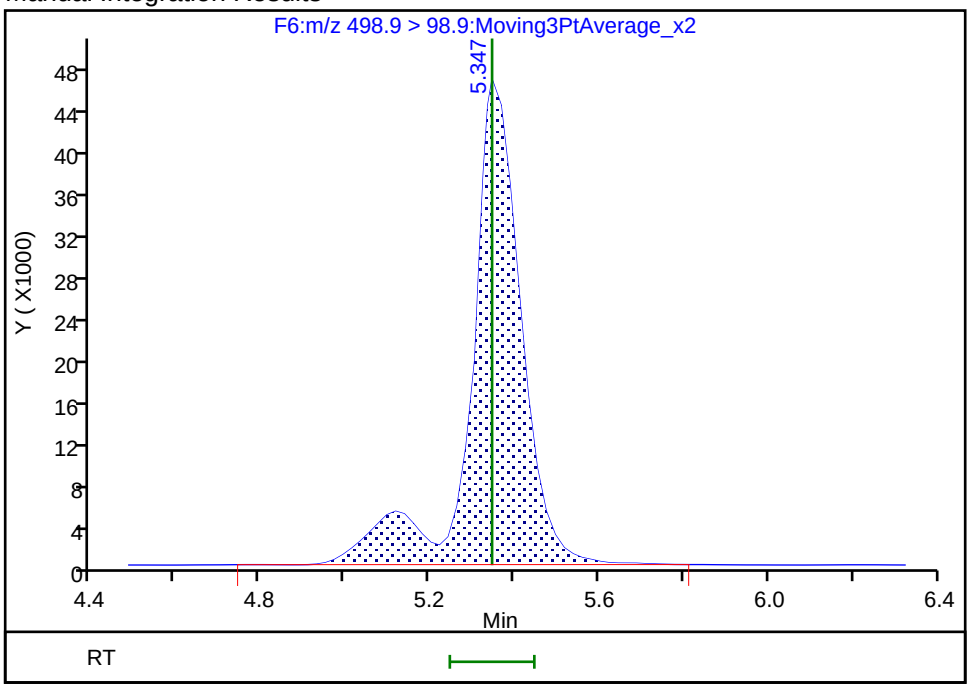
Processing Integration Results

RT: 5.35
Area: 335156
Amount: 75.586404
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 387643
Amount: 94.628068
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:00:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

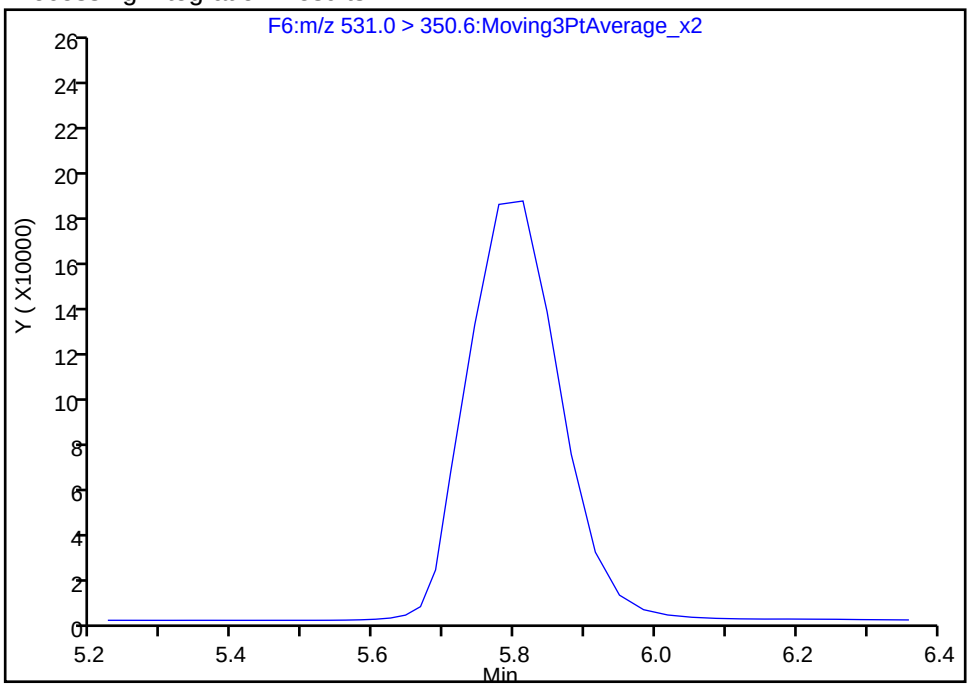
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

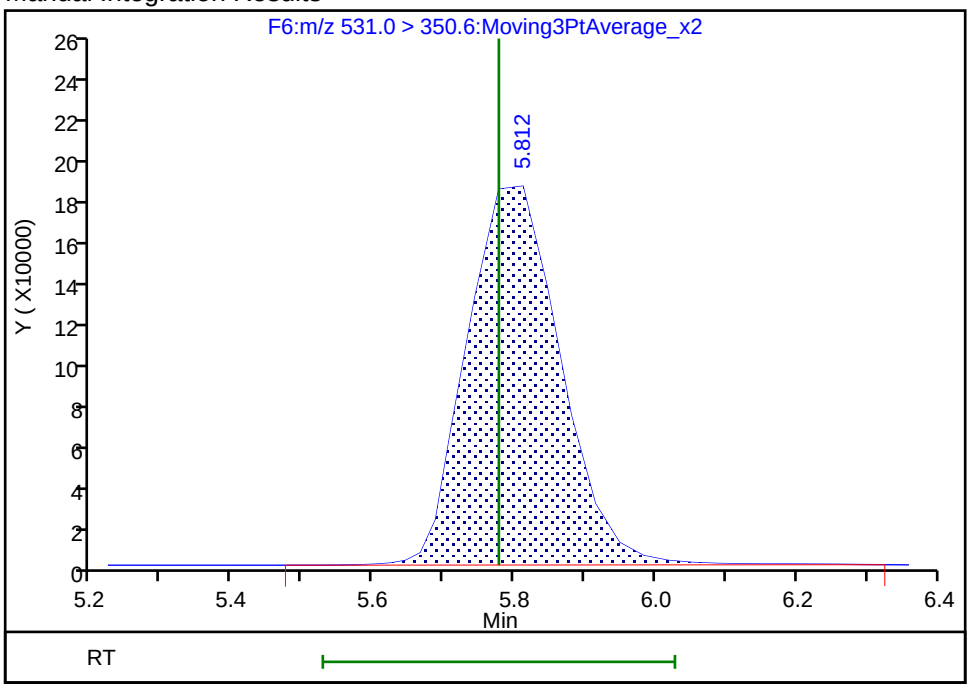
Processing Integration Results

Not Detected
Expected RT: 5.78



Manual Integration Results

RT: 5.81
Area: 1704207
Amount: 94.823453
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:28:22
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Burlington

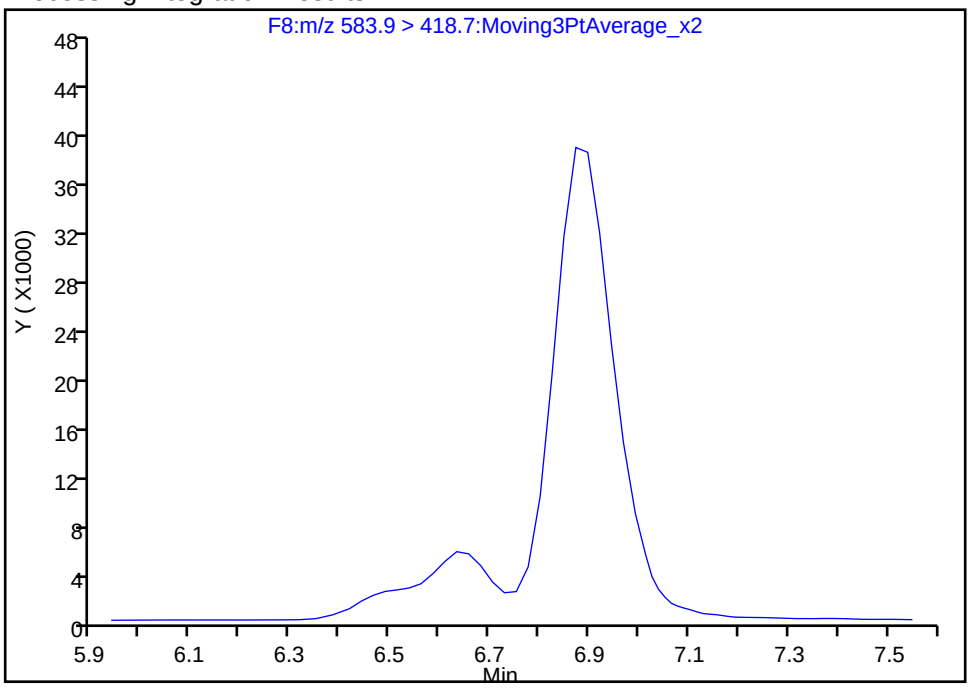
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

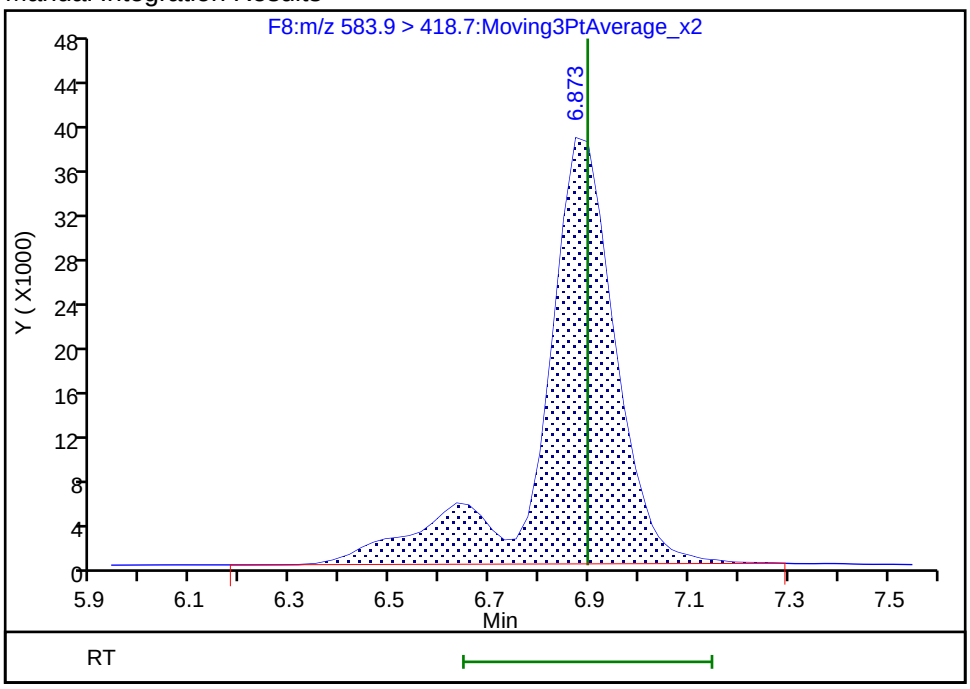
Not Detected
Expected RT: 6.90

Processing Integration Results



Manual Integration Results

RT: 6.87
Area: 397745
Amount: 102.8649
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:01:05
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

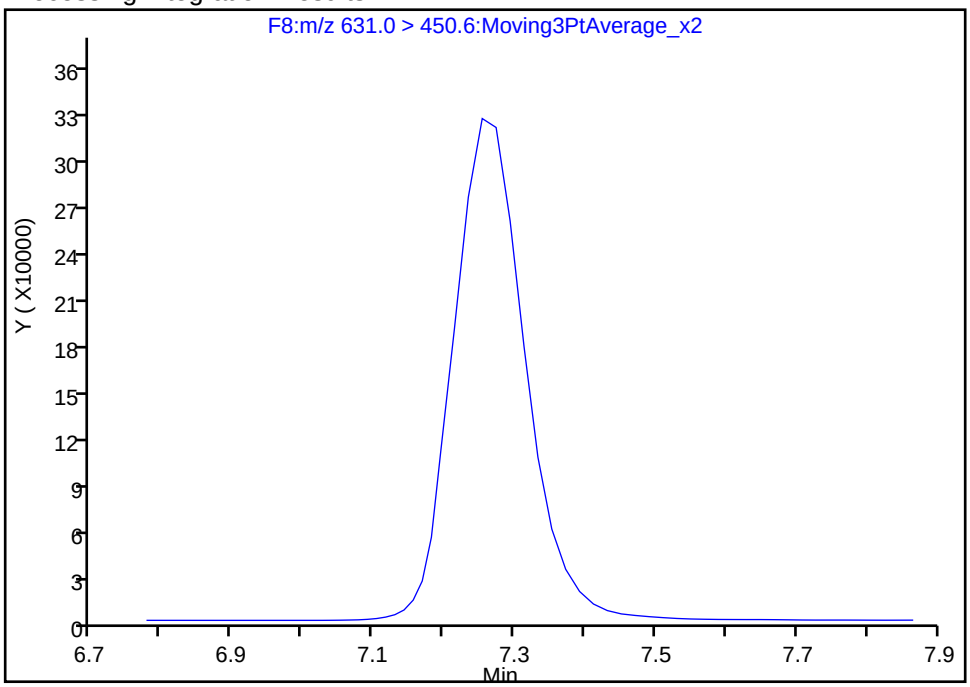
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B09.d
Injection Date: 23-May-2019 14:10:51 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

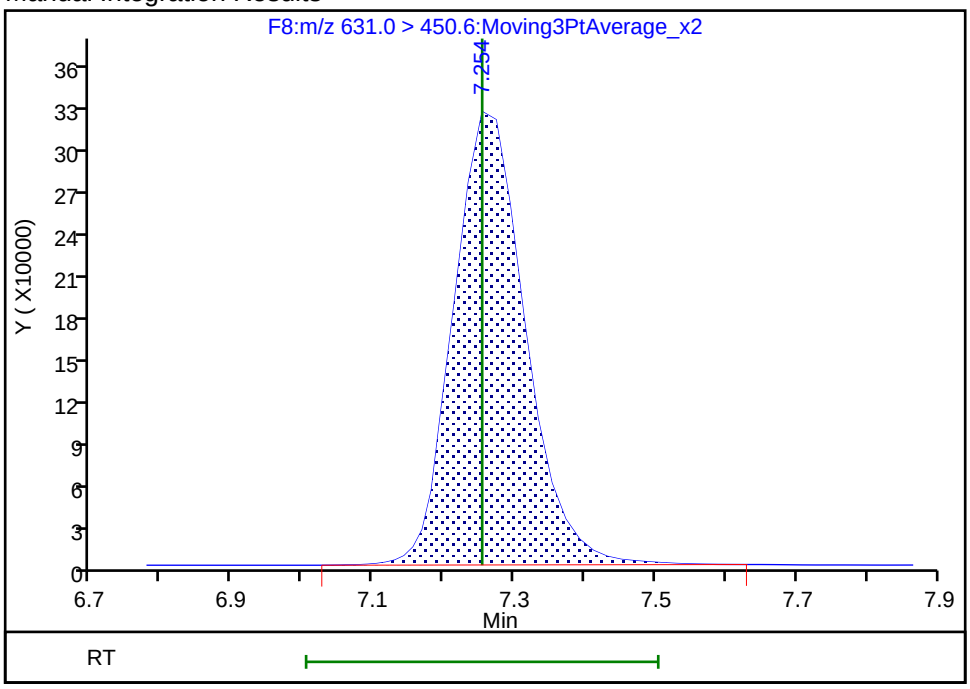
Processing Integration Results

Not Detected
Expected RT: 7.25



Manual Integration Results

RT: 7.25
Area: 2271189
Amount: 99.047715
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:28:24
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 23-May-2019 14:26:50 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-010 IC 9
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:32:28 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 18:02:14
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.370	2.380	-0.010	1.000	192091	53.0		106	77.9	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.380	0.0	1.004	1205204	199.8		99.9	72.4	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.795	2.795	0.0	1.000	1767969	208.3		104	1741	
D 4 13C5 PFPeA										
267.7 > 222.6	2.795	2.830	-0.035	1.000	141740	51.6		103	472	
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.866	0.0	1.000	75184	62.9		135	251	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.866	2.901	-0.035	1.000	595307	146.5	Target=1.67	82.9	3072	
298.9 > 98.9	2.866	2.866	0.0	1.000	498509		1.19(0.83-2.51)	82.9	1606	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.207	3.238	-0.031	1.119	337902	157.8		84.5	2867	M
7 Perfluorohexanoic acid										
312.9 > 268.9	3.270	3.270	0.0	1.000	2317549	211.1	Target=14.34	106	43698	
312.9 > 118.9	3.270	3.270	0.0	1.000	160966		14.40(7.17-21.51)	106	1109	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.270	0.0	1.000	392623	47.7		95.3	2259	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.302	3.334	-0.032	1.152	676540	147.3	Target=1.23	78.5	3386	
348.9 > 98.9	3.302	3.334	-0.032	1.000	790920		0.86(0.62-1.85)	78.5	26422	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.429	3.429	0.0	1.000	44277	56.5		113	930	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.429	3.429	0.0	1.000	142911	149.7		74.9	764	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.833	3.833	0.0	1.000	2964261	212.9	Target=2.84	106	6488	
362.9 > 168.9	3.833	3.833	0.0	1.000	945866		3.13(1.42-4.26)	106	9005	
D 10 13C4 PFHpA										
366.9 > 321.8	3.833	3.869	-0.036	1.000	593210	51.1		102	1278	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.869	3.869	0.0	1.000	70099	45.9		97.0	248	M
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.869	3.905	-0.036	1.000	581082	185.3	Target=1.34	102	1412	
398.9 > 98.9	3.869	3.905	-0.036	1.000	644427		0.90(0.67-2.01)	102	1125	
49 DONA										
376.9 > 250.7	3.925	3.925	0.0	0.736	2905461	184.1	Target=2.33	97.7	27877	
376.9 > 85.0	3.925	3.925	0.0	1.000	1063079		2.73(1.16-3.49)	97.7	5276	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.506	4.506	0.0	1.007	153500	151.3		79.8	977	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.475	4.506	-0.031	1.000	51000	61.8		130	403	
* 16 13C2 PFOA										
414.9 > 369.8	4.526	4.547	-0.021		740491	50.0			1411	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.547	0.0	1.000	747975	52.0		104	2228	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.547	4.568	-0.021	1.000	2916864	192.7	Target=2.43	96.3	3096	
412.9 > 168.9	4.547	4.568	-0.021	1.000	1130335		2.58(1.22-3.64)	96.3	2333	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.568	4.589	-0.021	0.856	641177	200.6	Target=1.30	105	2283	
448.9 > 98.9	4.568	4.589	-0.021	1.000	712915		0.90(0.65-1.95)	105	2098	
D 20 13C5 PFNA										
467.8 > 422.8	5.326	5.347	-0.021	1.000	929723	48.2		96.4	6744	
19 Perfluorononanoic acid										
462.9 > 418.7	5.326	5.347	-0.021	1.000	3485263	212.3	Target=5.00	106	11385	
462.9 > 168.9	5.326	5.347	-0.021	1.000	791542		4.40(2.50-7.50)	106	7193	
D 22 13C4 PFOS										
502.9 > 80.0	5.336	5.347	-0.011	1.000	175490	50.9		107	1123	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.336	5.347	-0.011	1.000	718167	202.6	Target=1.41	109	2949	M
498.9 > 98.9	5.336	5.347	-0.011	1.000	735330		0.98(0.71-2.12)	109	6153	
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.778	5.778	0.0	1.083	3305087	204.8		110	26198	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.131	-0.034	1.000	173929	58.0		121	596	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.097	6.131	-0.034	1.000	442842	165.4		86.3	1431	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.131	6.165	-0.034	1.149	721326	202.6	Target=1.39	106	7584	
548.9 > 98.9	6.131	6.165	-0.034	1.000	755507		0.95(0.69-2.08)	106	3959	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.165	-0.034	1.000	761797	46.3		92.6	3029	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.165	-0.034	1.000	2891861	207.3	Target=7.23	104	3413	
512.9 > 168.9	6.131	6.165	-0.034	1.000	383149		7.55(3.61-10.84)	104	1582	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.477	6.501	-0.024	1.000	1039189	201.6		101	7379	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.501	-0.024	1.000	312094	58.2		116	1719	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.873	-0.024	1.000	201096	45.5		91.0	808	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.873	6.897	-0.024	1.288	667528	175.1	Target=1.25	90.8	5541	
598.9 > 98.9	6.873	6.897	-0.024	1.000	757163		0.88(0.63-1.88)	90.8	3893	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.849	6.897	-0.048	1.000	687173	212.2		106	939	M
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.897	6.921	-0.024	1.000	2445366	212.1	Target=7.06	106	3930	
562.9 > 168.9	6.897	6.921	-0.024	1.000	348850		7.01(3.53-10.58)	106	2005	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.921	-0.024	1.000	692455	43.6		87.2	2690	
D 34 13C8 FOSA										
505.9 > 78.0	6.921	6.921	0.0	1.000	291046	49.1		98.2	1137	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.921	6.921	0.0	1.000	1617872	195.2		97.6	1761	
43 11-Chloroeicosafluoro-3-oxaundecan										a
631.0 > 450.6	7.234	7.254	-0.020	1.356	4274585	207.6		110	10787	a
36 Perfluorododecanoic acid										
612.9 > 568.5	7.577	7.616	-0.039	1.000	3945923	195.4	Target=5.37	97.7	2748	
612.9 > 168.9	7.596	7.616	-0.020	1.003	697251		5.66(2.68-8.06)	97.7	1787	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.616	-0.039	1.000	1064234	52.6		105	2143	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.202	8.224	-0.022	1.082	4122384	206.6	Target=4.67	103	2946	
662.9 > 168.9	8.202	8.224	-0.022	1.082	797142		5.17(2.34-7.01)	103	3336	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.775	-0.023	1.000	1012808	55.7		111	1315	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.752	8.786	-0.034	1.000	3430839	199.6	Target=4.86	99.8	2573	
712.9 > 168.9	8.752	8.786	-0.034	1.000	650473		5.27(2.43-7.30)	99.8	1894	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27-L9_00004 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:32:28 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Injection Date: 23-May-2019 14:26:50 Instrument ID: LC410

Lims ID: IC

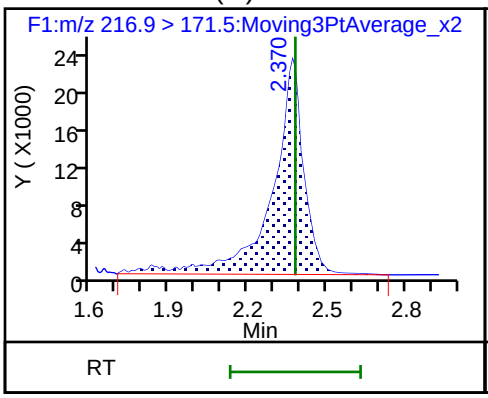
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10

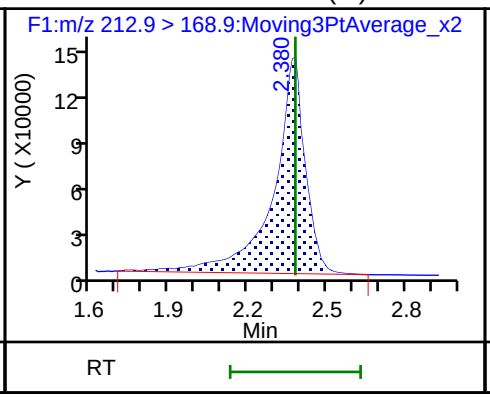
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

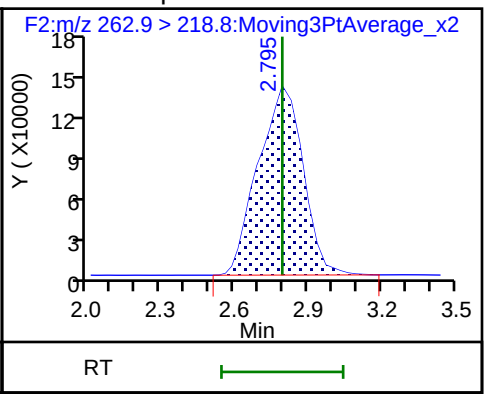
D 1 13C4 PFBA (M)



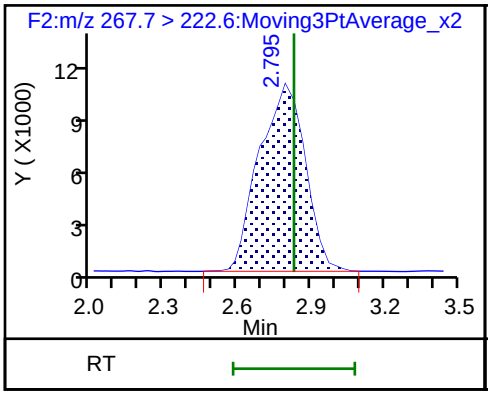
2 Perfluorobutanoic acid (M)



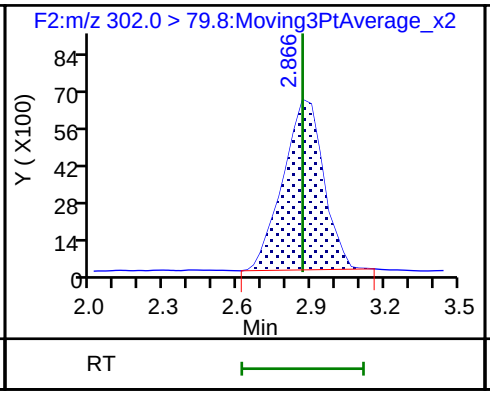
3 Perfluoropentanoic acid



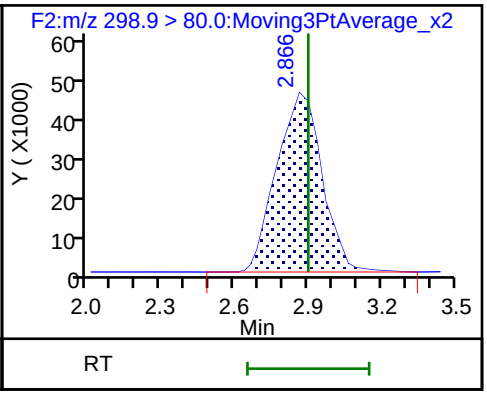
D 4 13C5 PFPeA



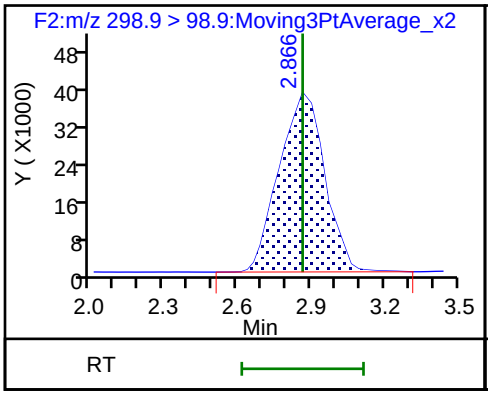
D 5 13C3 PFBS



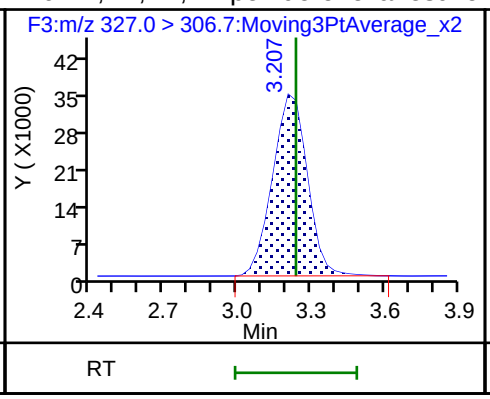
6 Perfluorobutanesulfonic acid



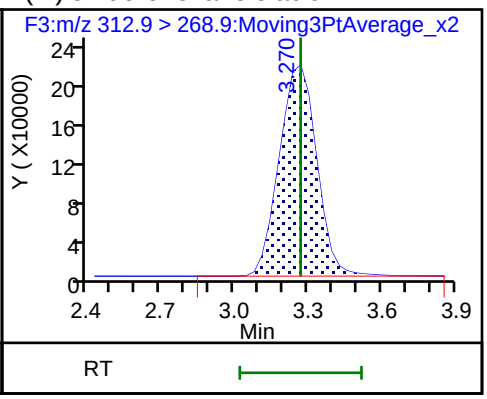
6 Perfluorobutanesulfonic acid



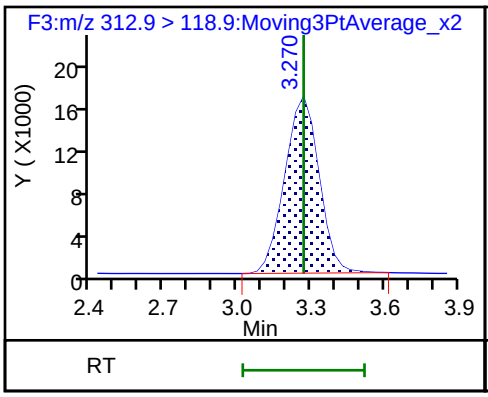
46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



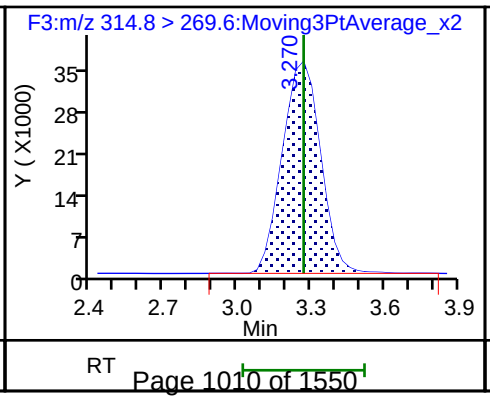
7 Perfluorohexanoic acid



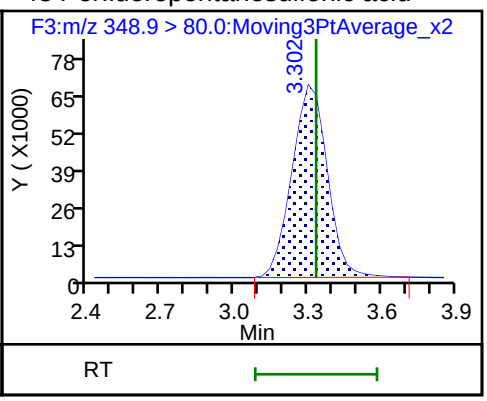
7 Perfluorohexanoic acid



D 8 13C2 PFHxA



48 Perfluoropentanesulfonic acid



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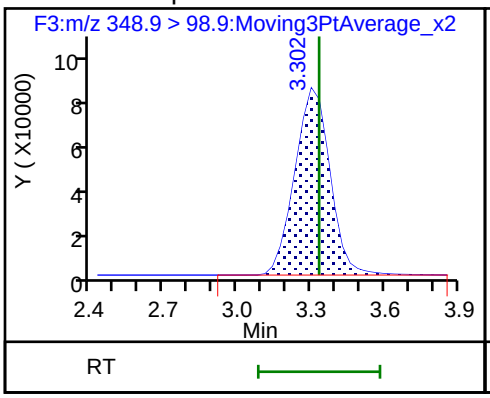
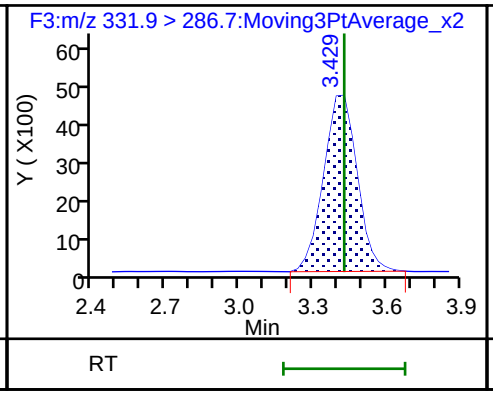
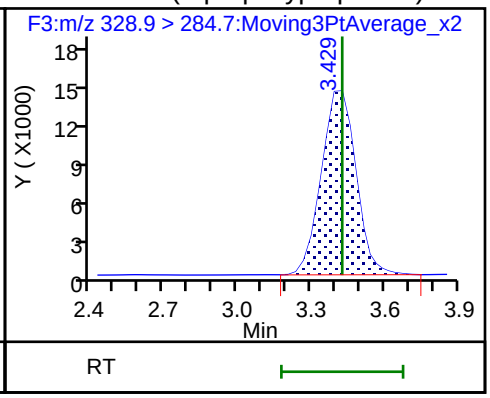


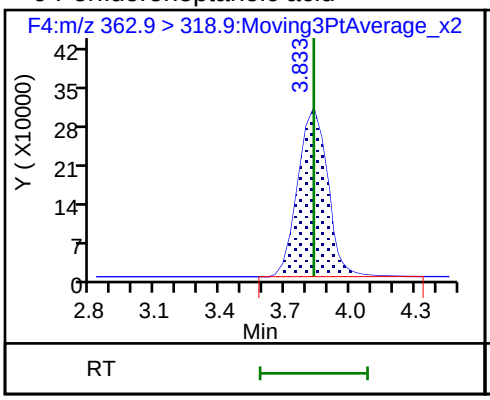
D 42 13C3 HFPO-DA



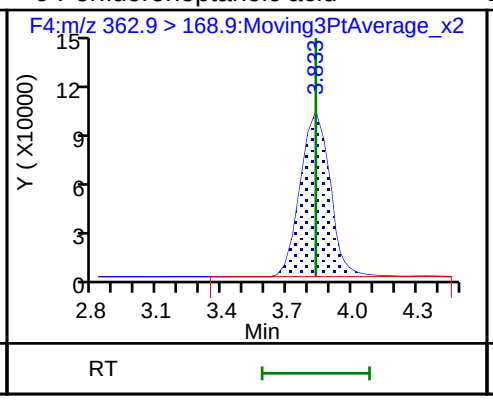
44 Perfluoro(2-propoxypropanoic) acid



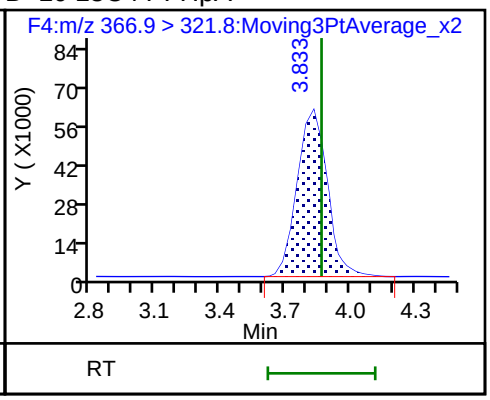
9 Perfluoroheptanoic acid



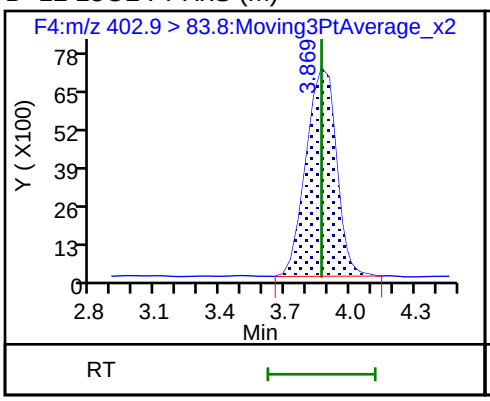
9 Perfluoroheptanoic acid



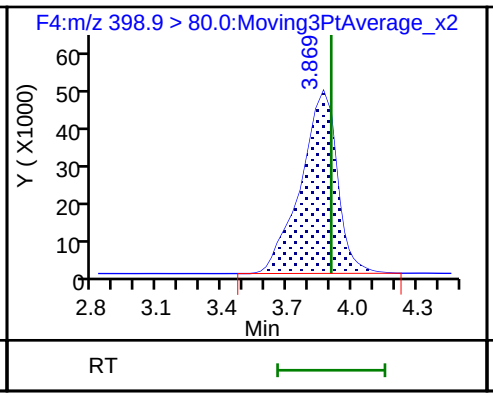
D 10 13C4 PFHpA



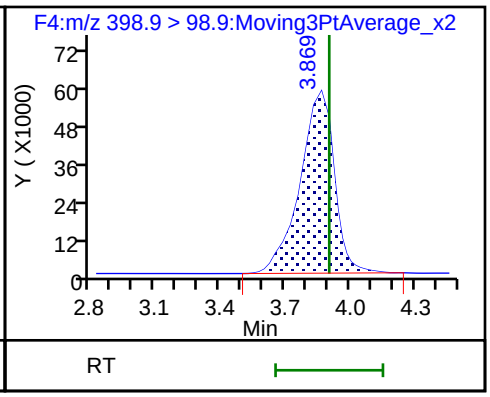
D 12 18O2 PFHxS (M)



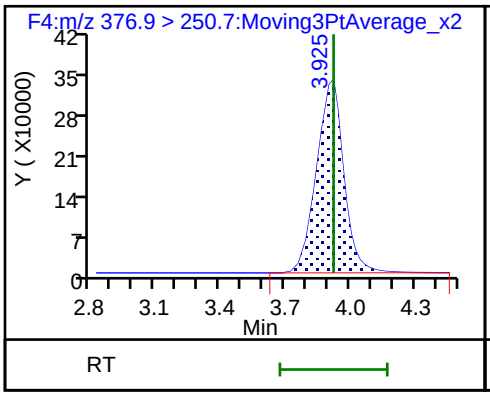
11 Perfluorohexanesulfonic acid



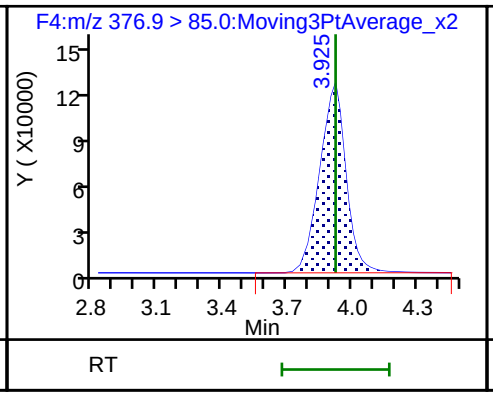
11 Perfluorohexanesulfonic acid



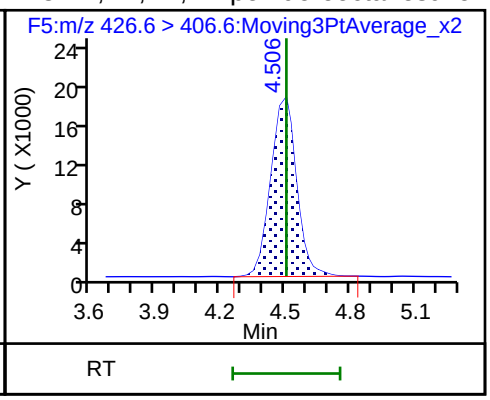
49 DONA



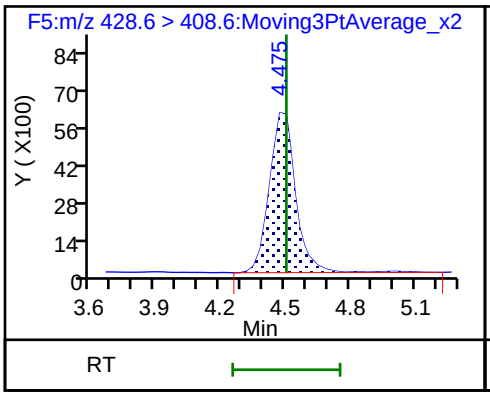
49 DONA



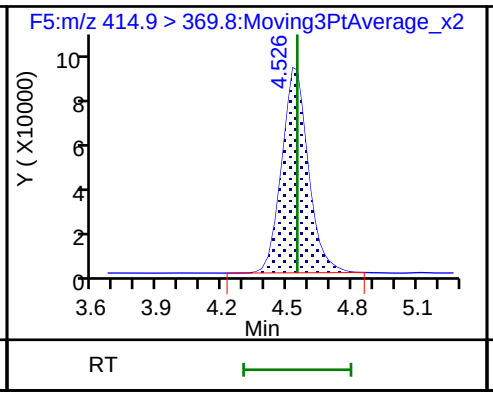
13 1H,1H,2H,2H-perfluorooctanesulfoni



D 14 M2-6:2 FTS



* 16 13C2 PFOA



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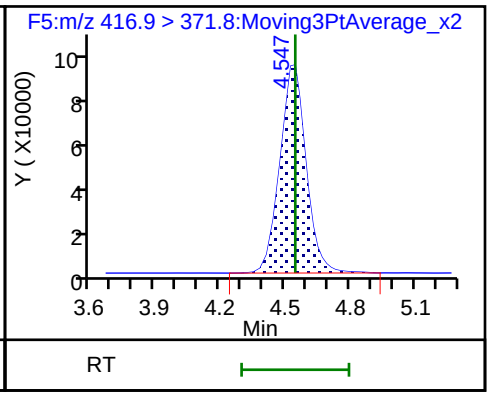
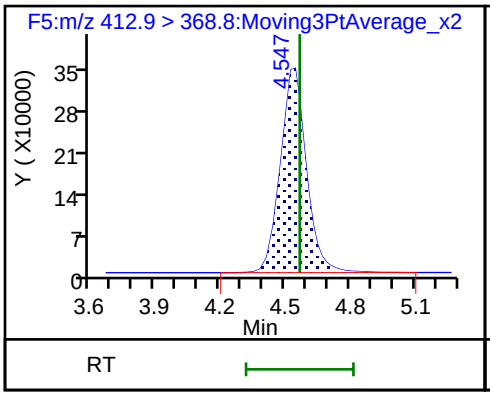
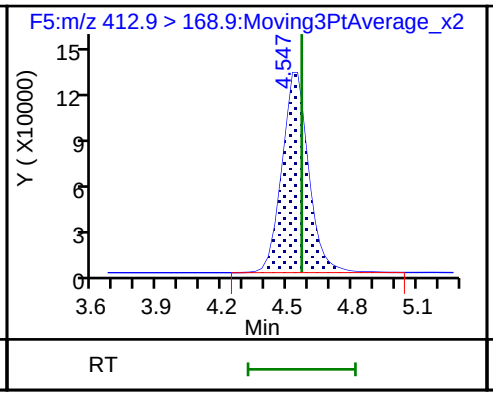


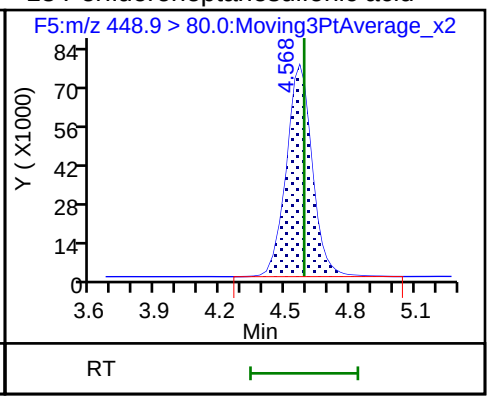
15 Perfluorooctanoic acid



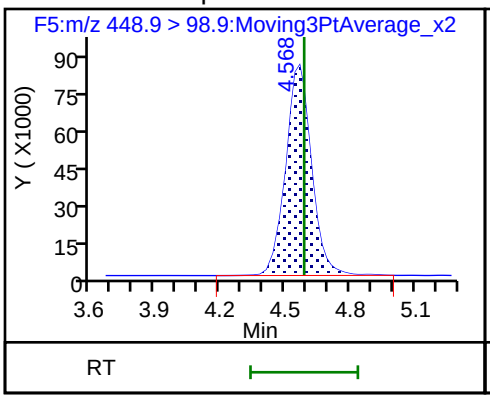
15 Perfluorooctanoic acid



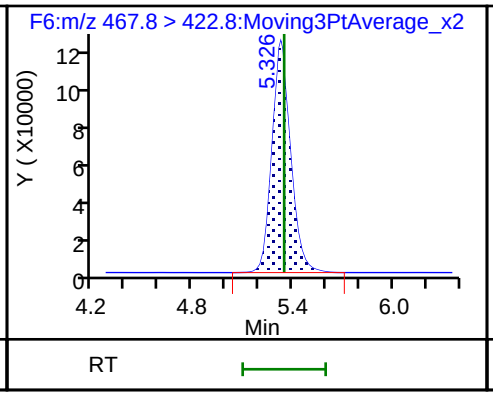
18 Perfluoroheptanesulfonic acid



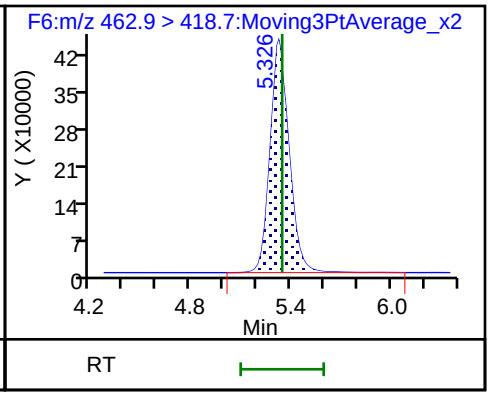
18 Perfluoroheptanesulfonic acid



D 20 13C5 PFNA



19 Perfluorononanoic acid



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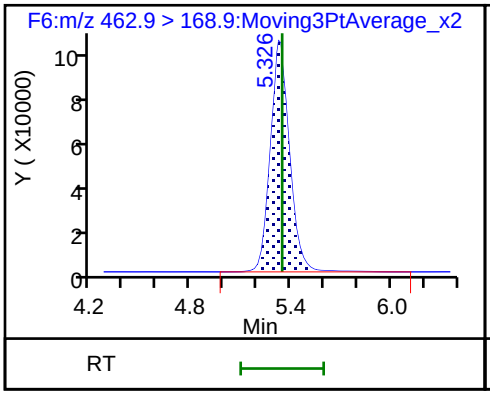
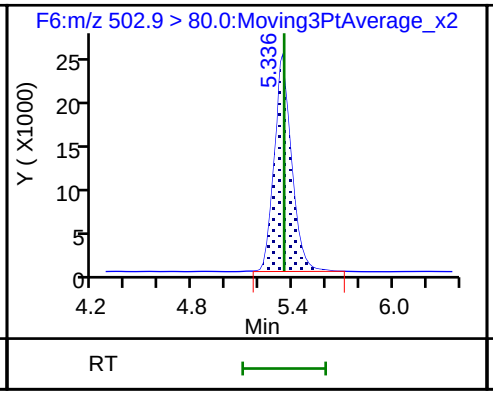
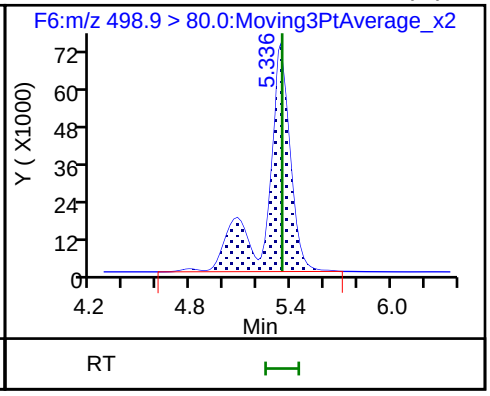


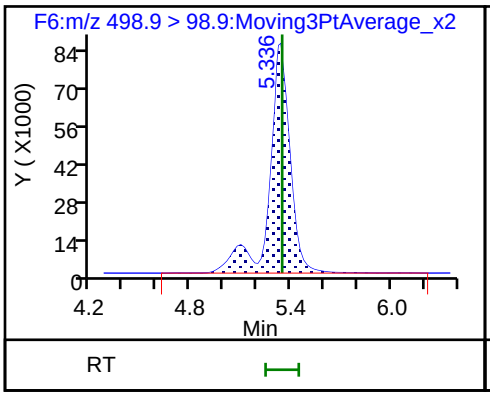
D 22 13C4 PFOS



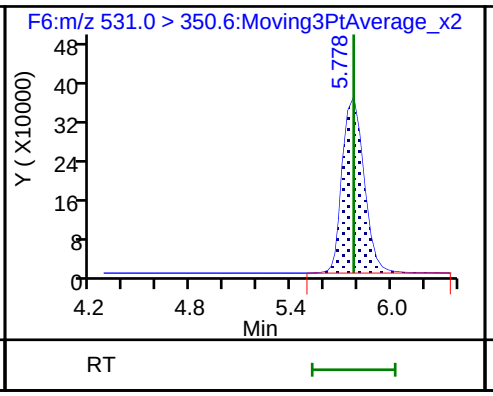
21 Perfluorooctanesulfonic acid (M)



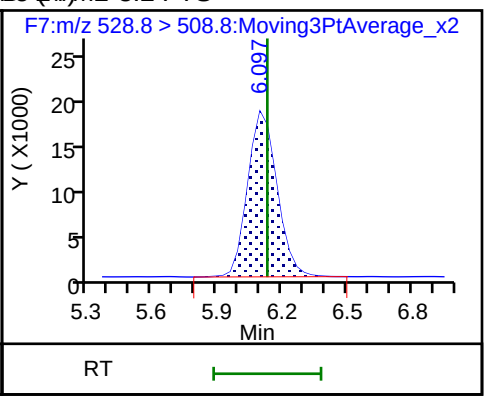
21 Perfluorooctanesulfonic acid



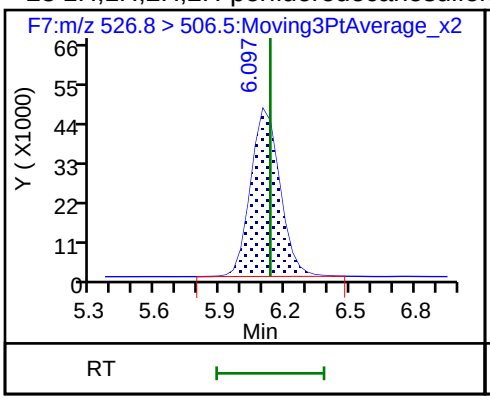
47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid



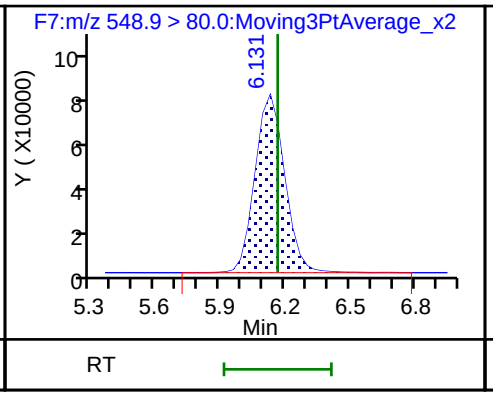
D 24 M2-8:2 FTS



23 1H,1H,2H-perfluorodecanesulfoni



45 Perfluorononanesulfonic acid



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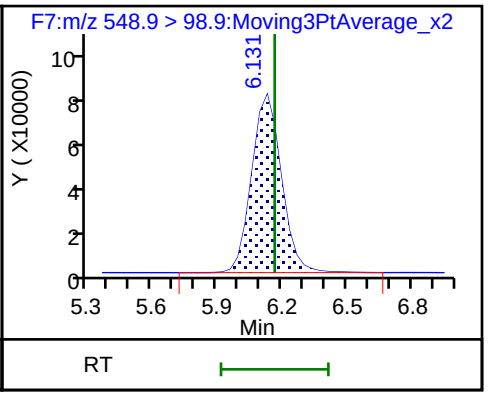
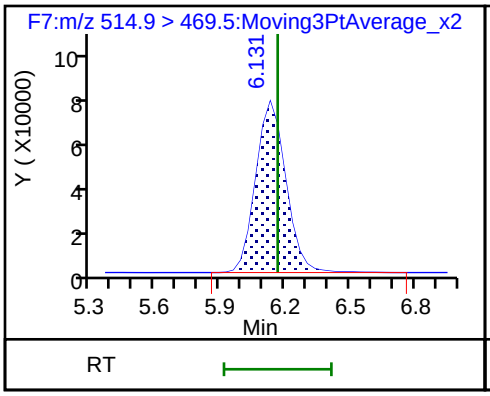
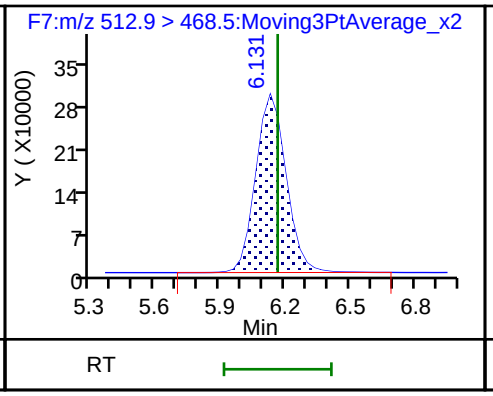


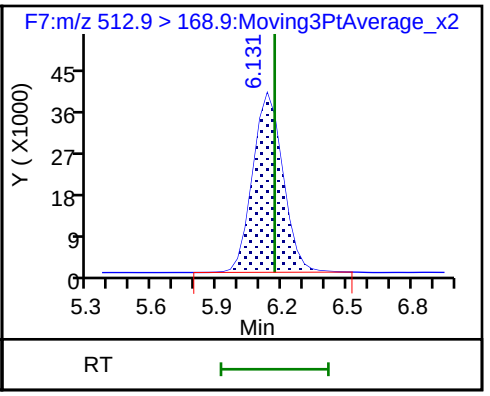
D 25 13C2 PFDA



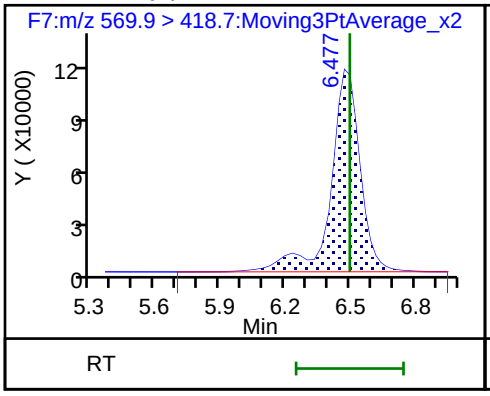
26 Perfluorodecanoic acid



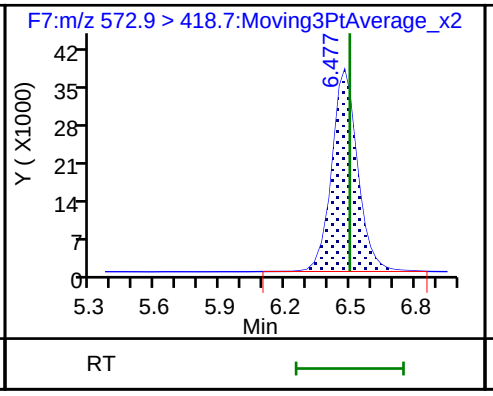
26 Perfluorodecanoic acid



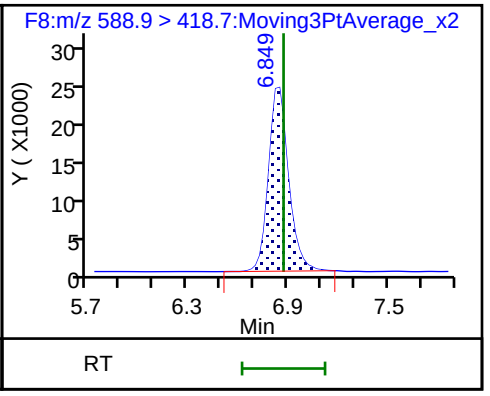
28 N-methylperfluorooctanesulfonamidD



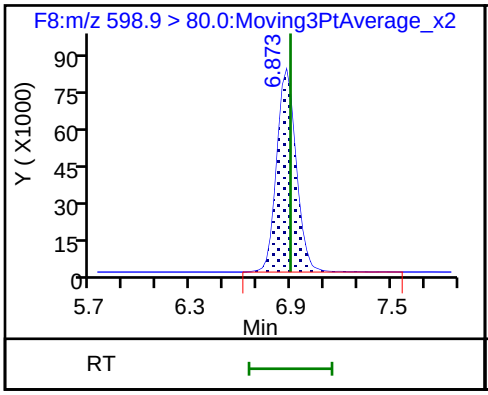
D 27 d3-NMeFOSAA



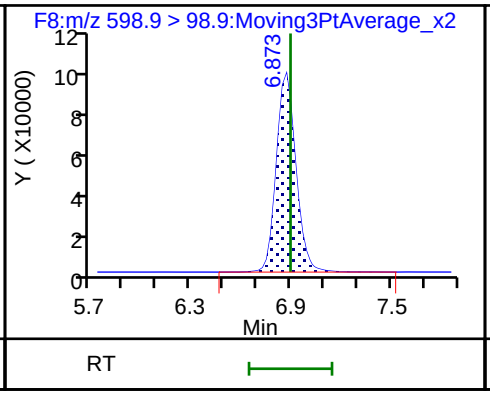
D 29 d5-NEtFOSAA



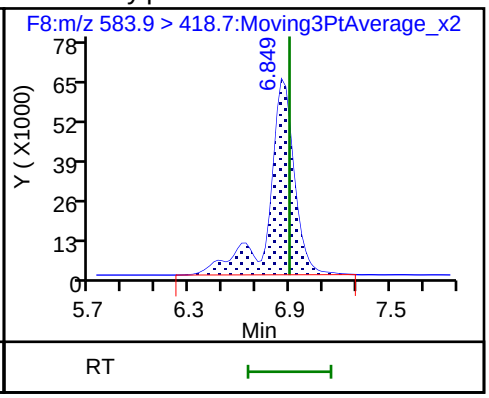
31 Perfluorodecanesulfonic acid



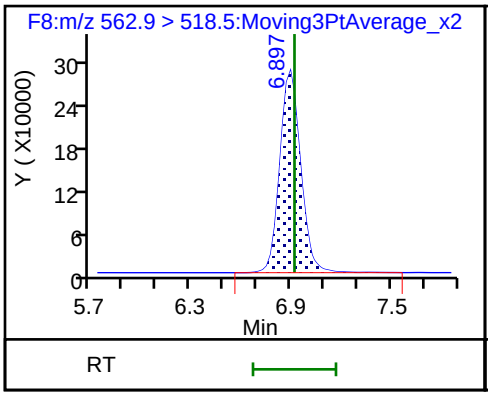
31 Perfluorodecanesulfonic acid



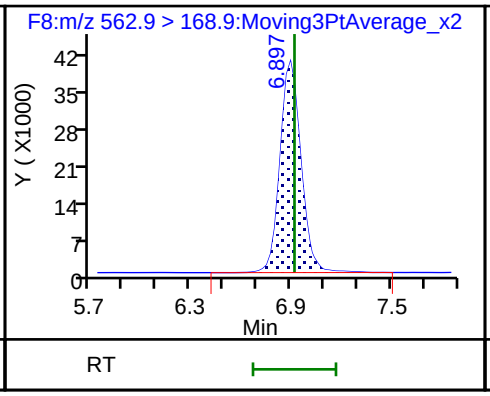
30 N-ethylperfluorooctanesulfonamidoa (M)



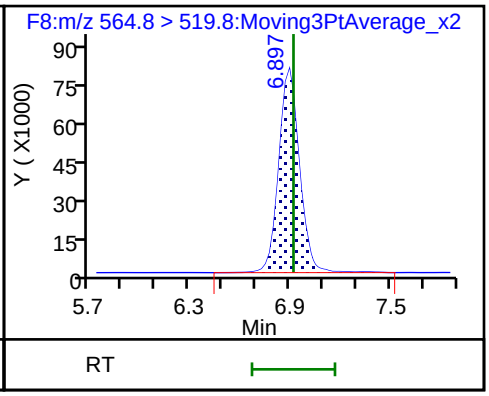
32 Perfluoroundecanoic acid



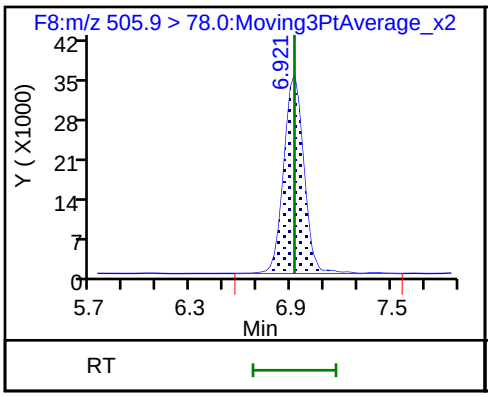
32 Perfluoroundecanoic acid



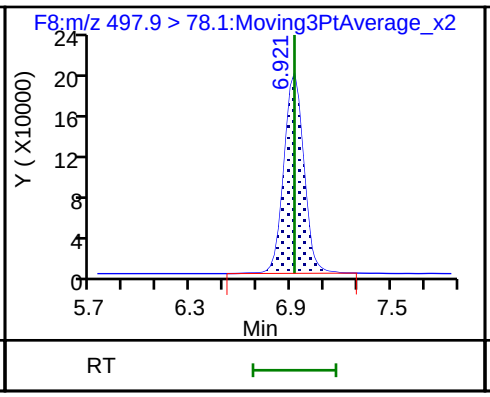
D 33 13C2 PFUnA



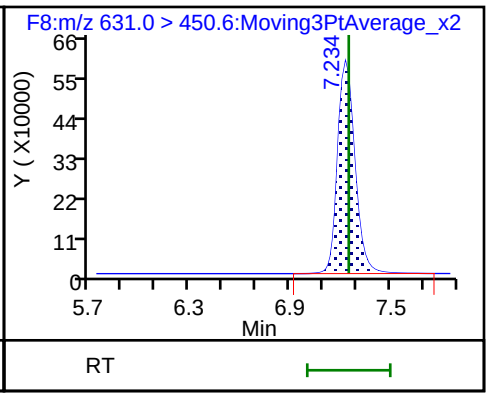
D 34 13C8 FOSA



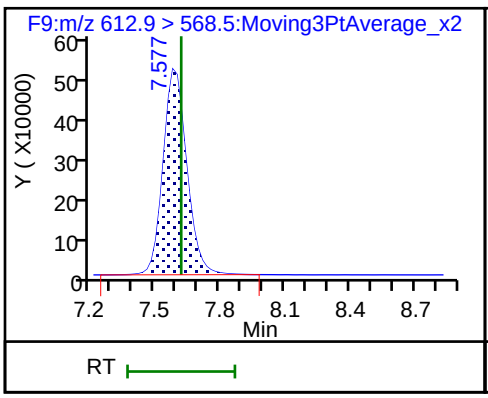
35 Perfluorooctanesulfonamide



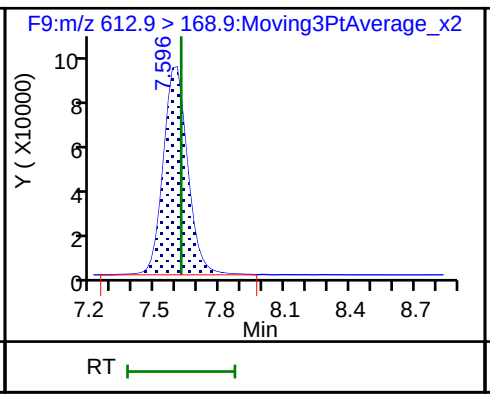
43 11-Chloroeicosafluoro-3-oxaundecan (M)



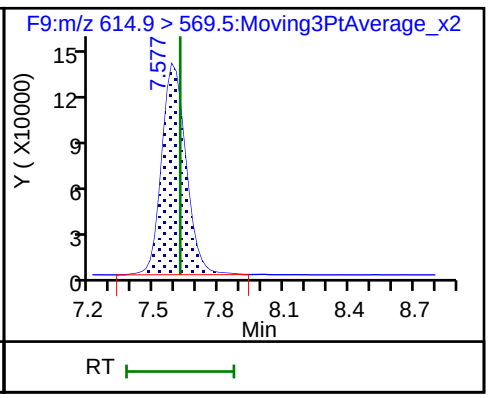
36 Perfluorododecanoic acid



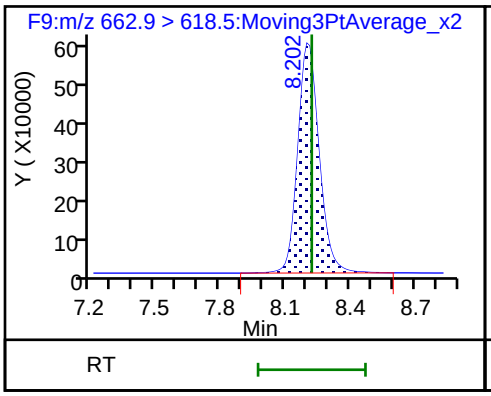
36 Perfluorododecanoic acid



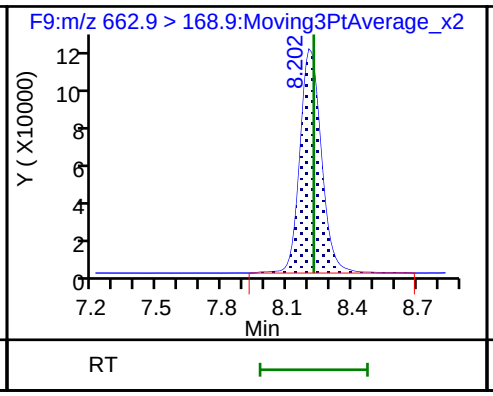
D 37 13C2 PFDoA



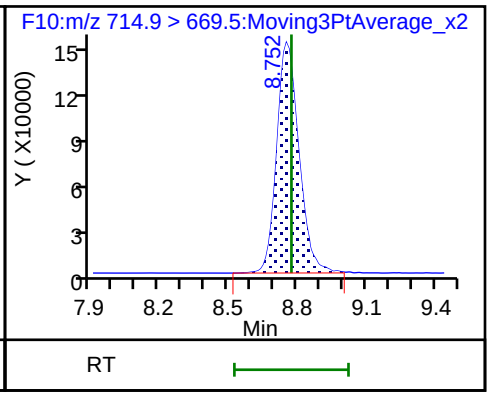
38 Perfluorotridecanoic acid



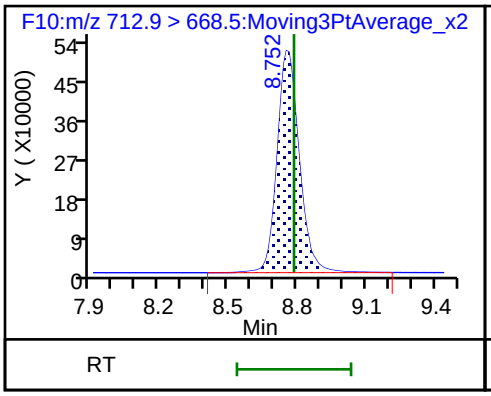
38 Perfluorotridecanoic acid



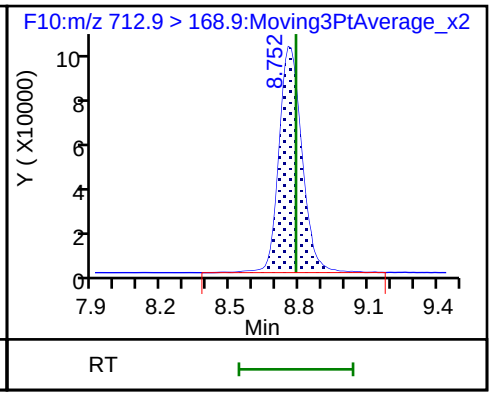
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

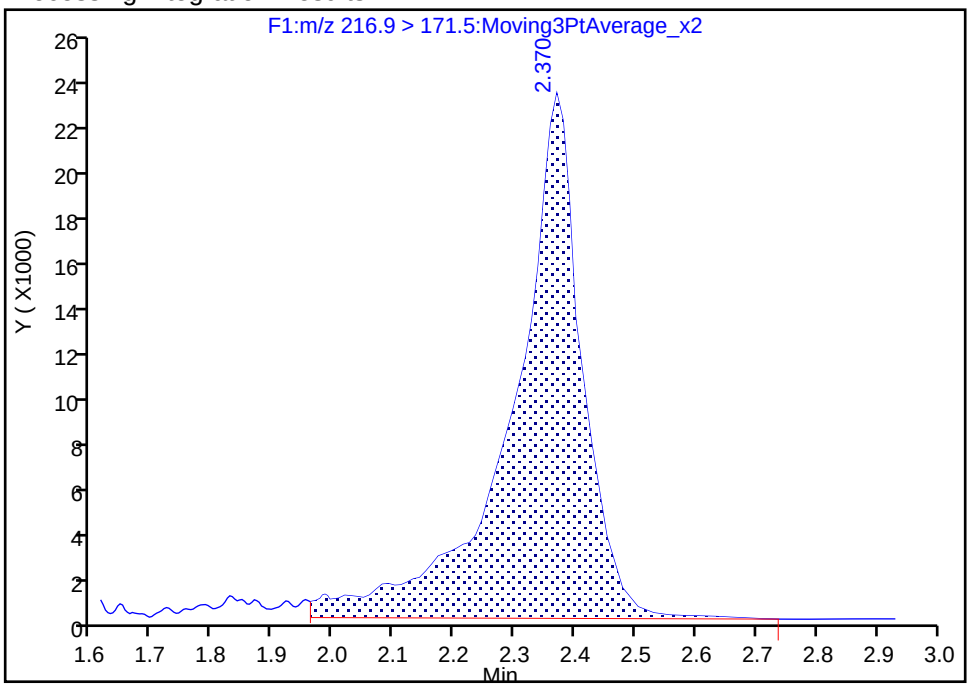
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d
Injection Date: 23-May-2019 14:26:50 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

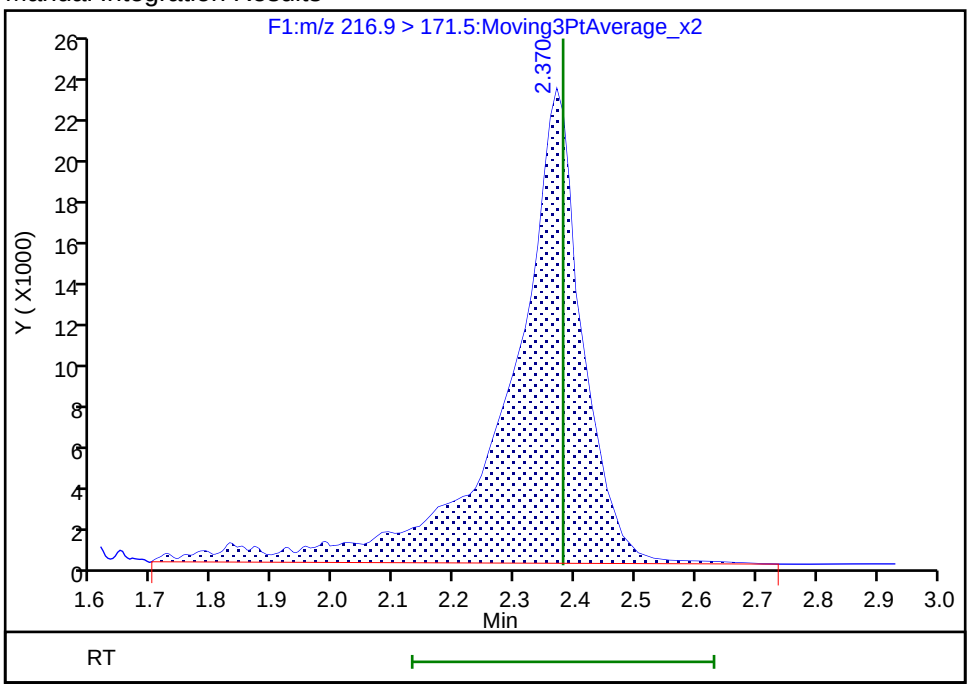
Processing Integration Results

RT: 2.37
Area: 184855
Amount: 51.365762
Amount Units: ng/ml



Manual Integration Results

RT: 2.37
Area: 192091
Amount: 53.041895
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:01:30
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

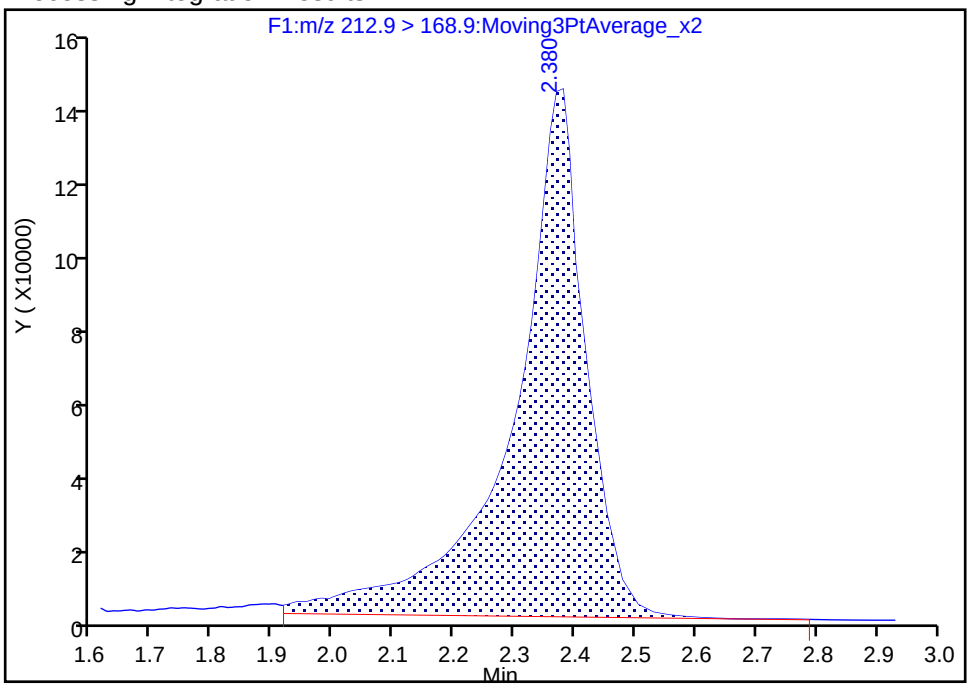
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d
Injection Date: 23-May-2019 14:26:50 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

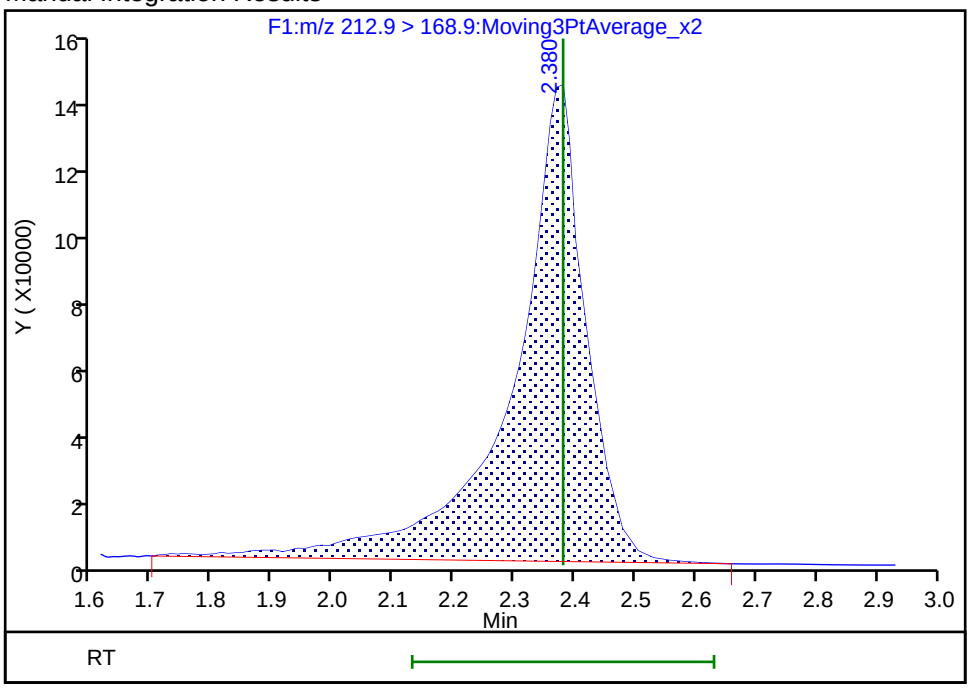
Processing Integration Results

RT: 2.38
Area: 1200527
Amount: 197.8002
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 1205204
Amount: 199.8145
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:01:37
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

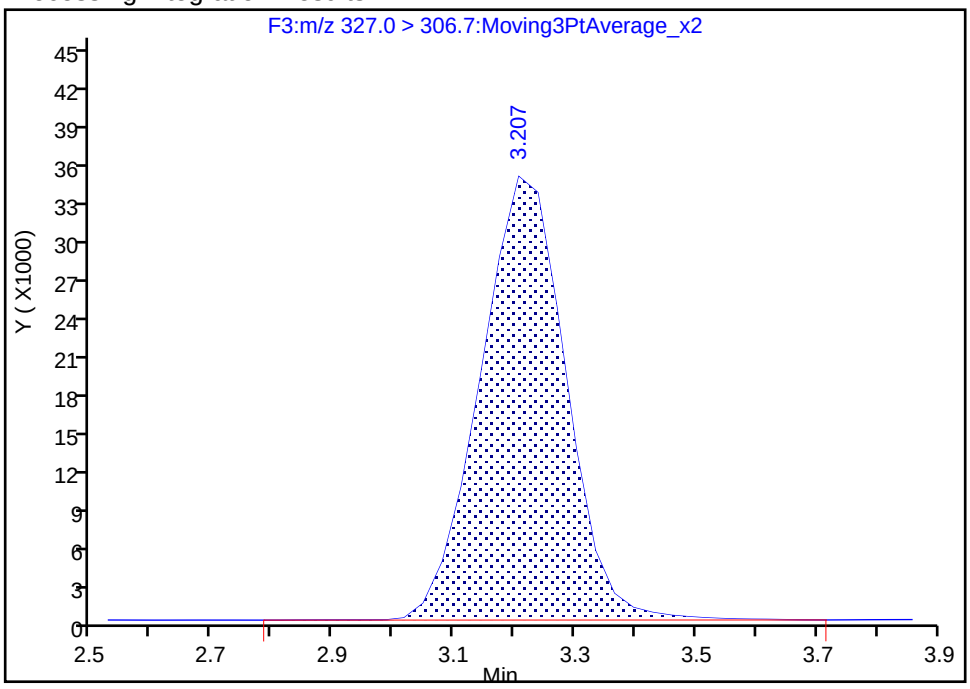
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d
Injection Date: 23-May-2019 14:26:50 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

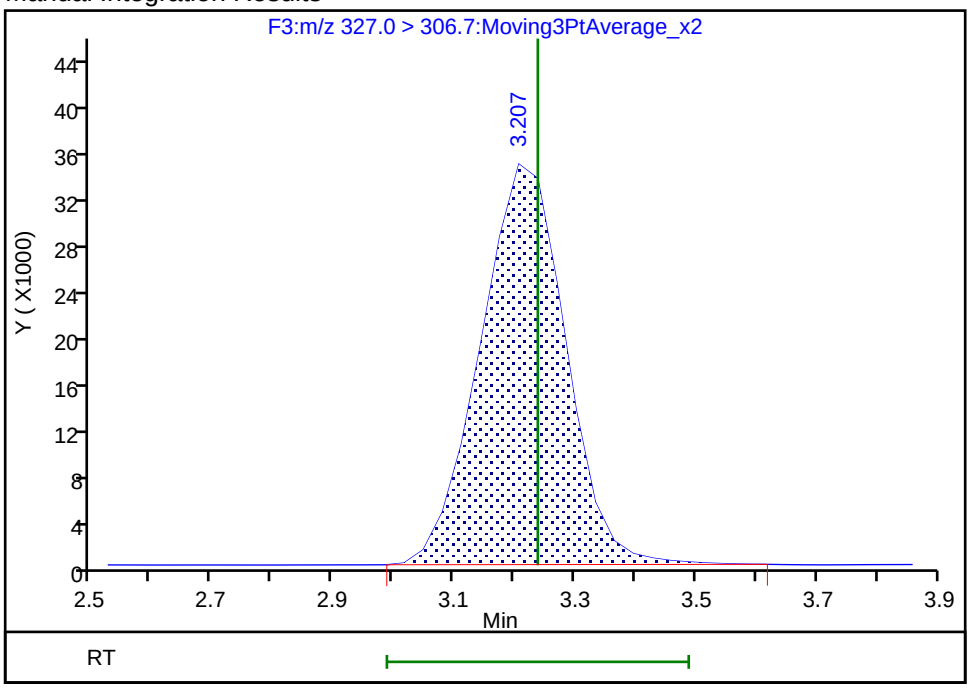
Processing Integration Results

RT: 3.21
Area: 339389
Amount: 159.3650
Amount Units: ng/ml



Manual Integration Results

RT: 3.21
Area: 337902
Amount: 157.7547
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:21:47
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

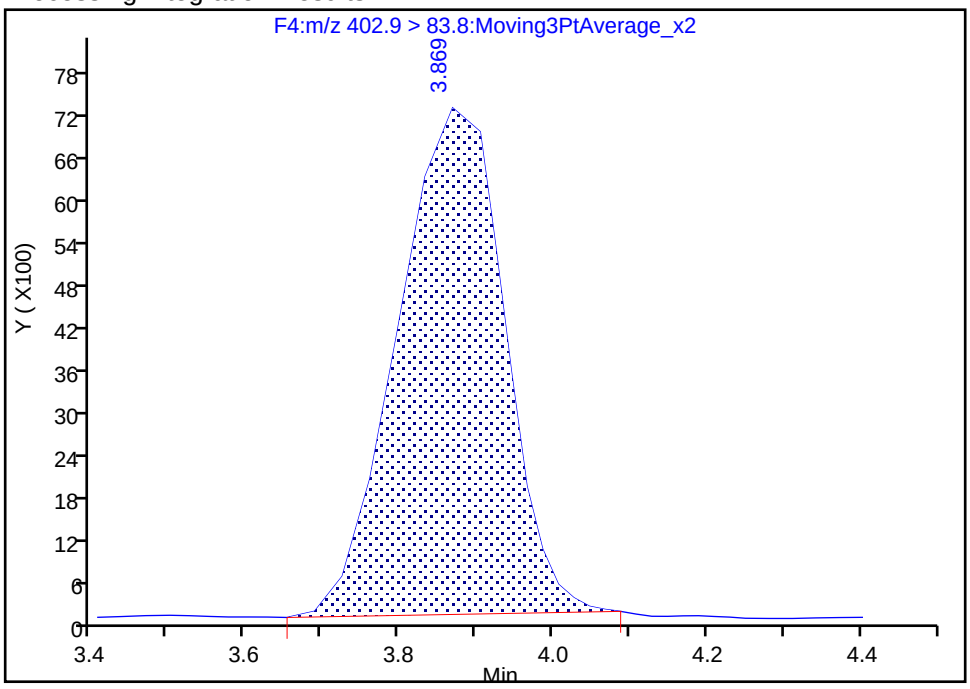
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d
Injection Date: 23-May-2019 14:26:50 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

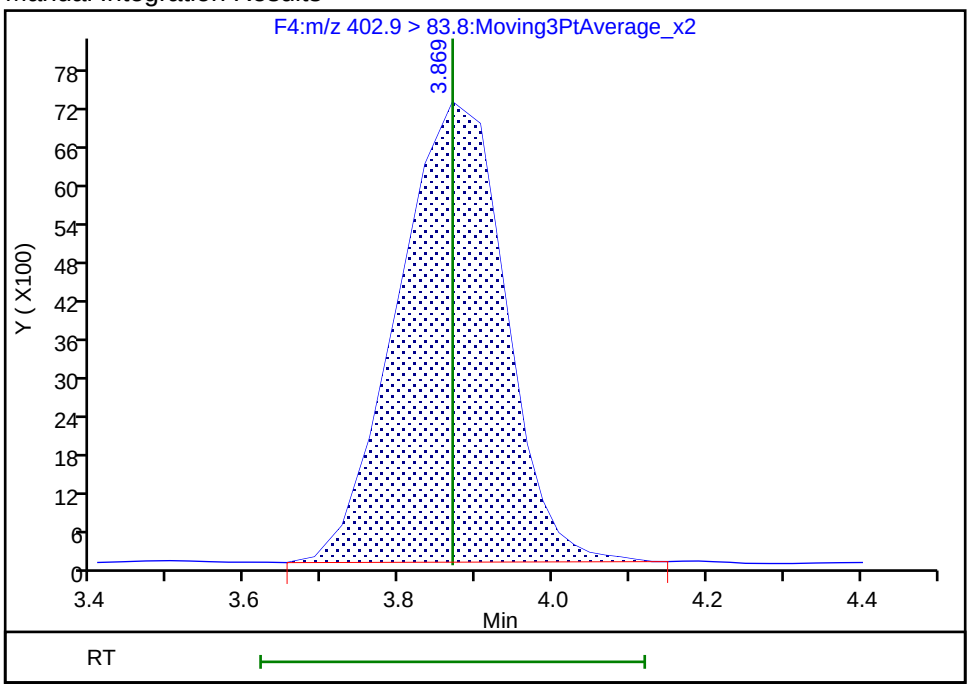
Processing Integration Results

RT: 3.87
Area: 69075
Amount: 45.288446
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 70099
Amount: 45.887454
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 09:27:53
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

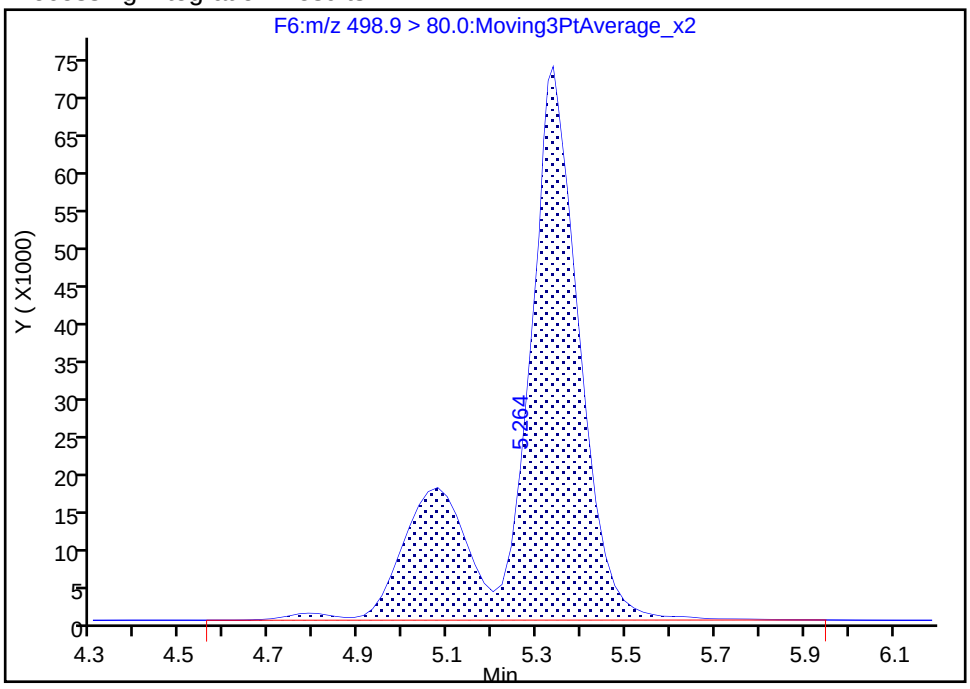
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d
Injection Date: 23-May-2019 14:26:50 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

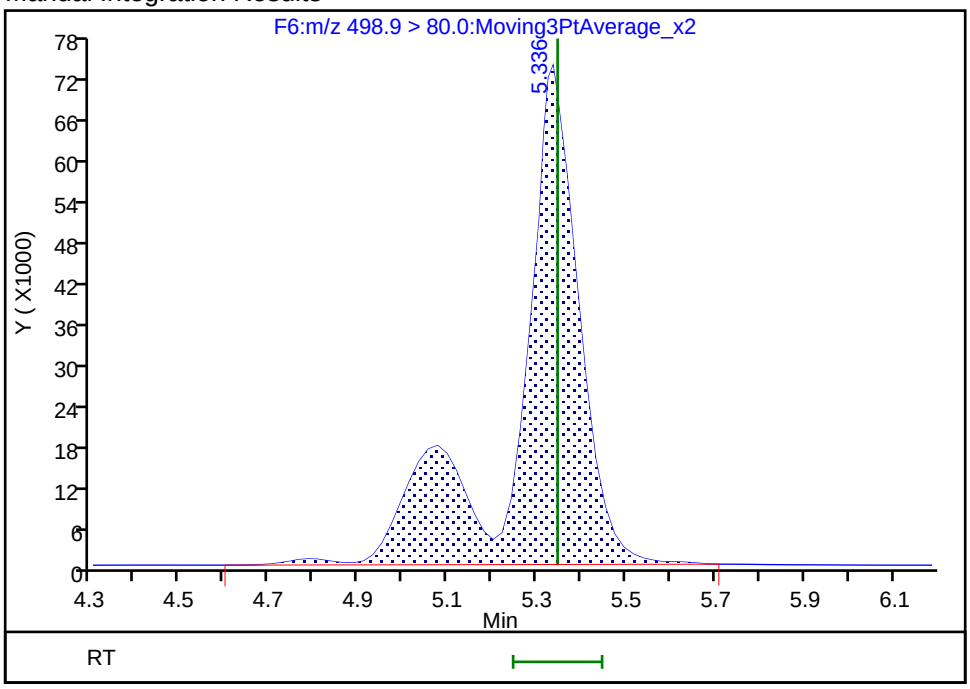
Processing Integration Results

RT: 5.26
Area: 722780
Amount: 203.8159
Amount Units: ng/ml



Manual Integration Results

RT: 5.34
Area: 718167
Amount: 202.5590
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:01:55
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

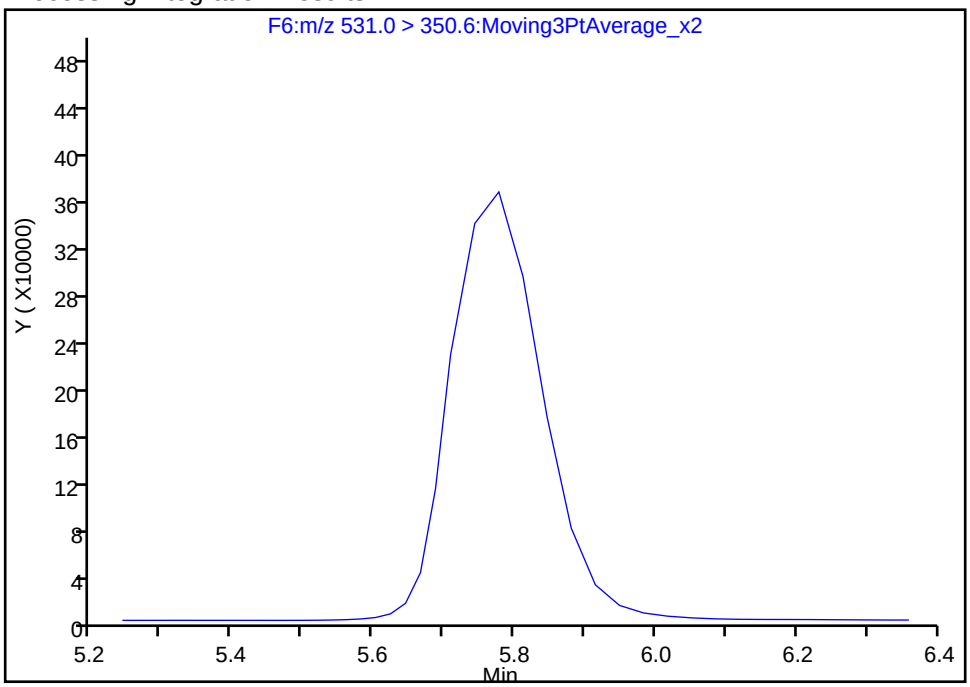
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d
Injection Date: 23-May-2019 14:26:50 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

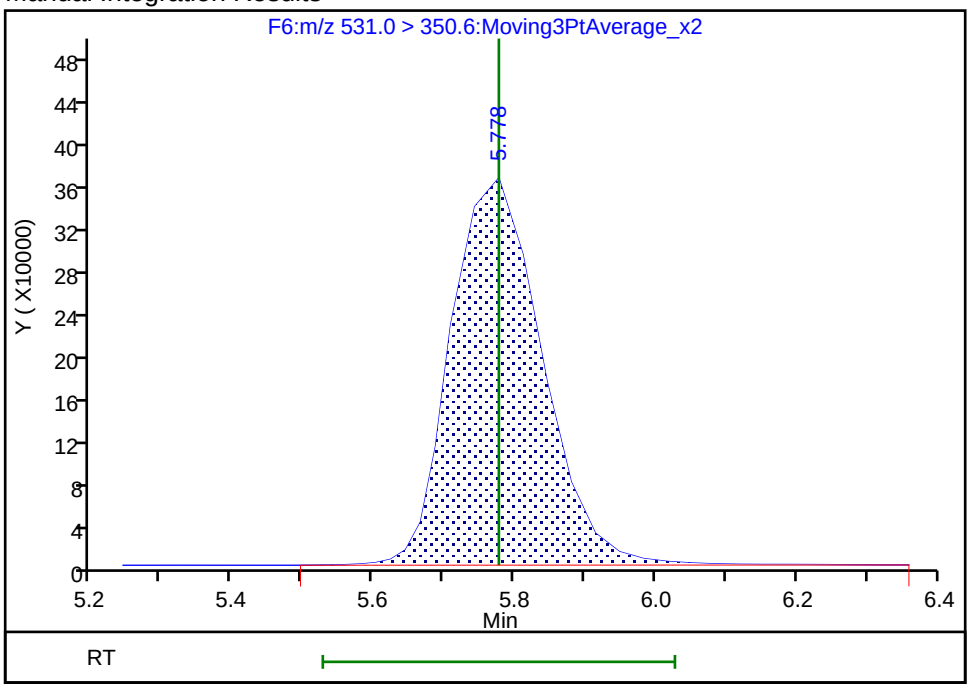
Not Detected
Expected RT: 5.78

Processing Integration Results



Manual Integration Results

RT: 5.78
Area: 3305087
Amount: 204.7595
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:28:32
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

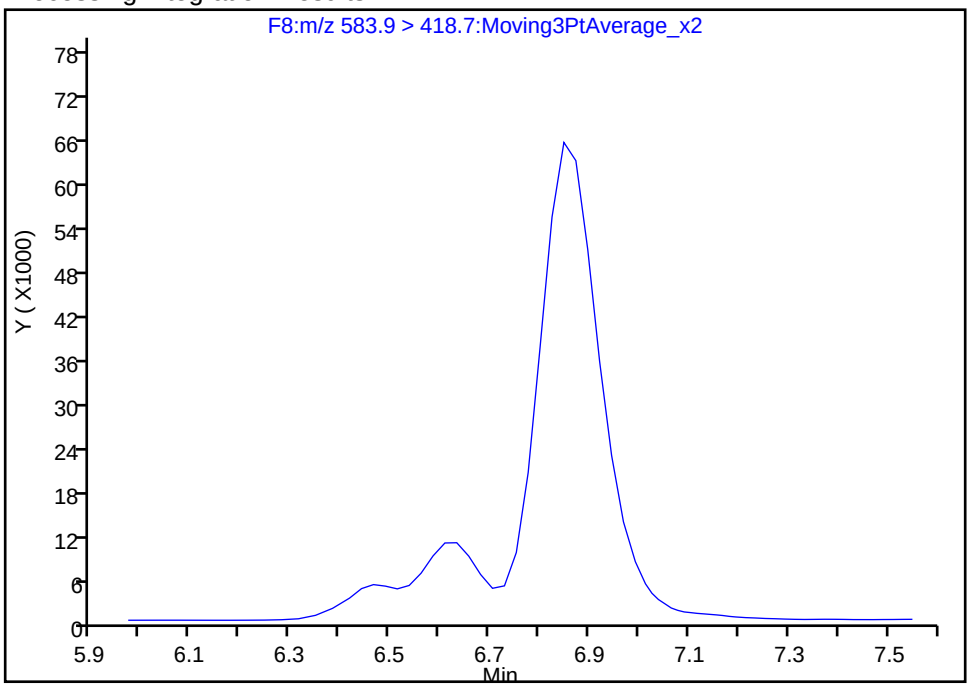
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d
Injection Date: 23-May-2019 14:26:50 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

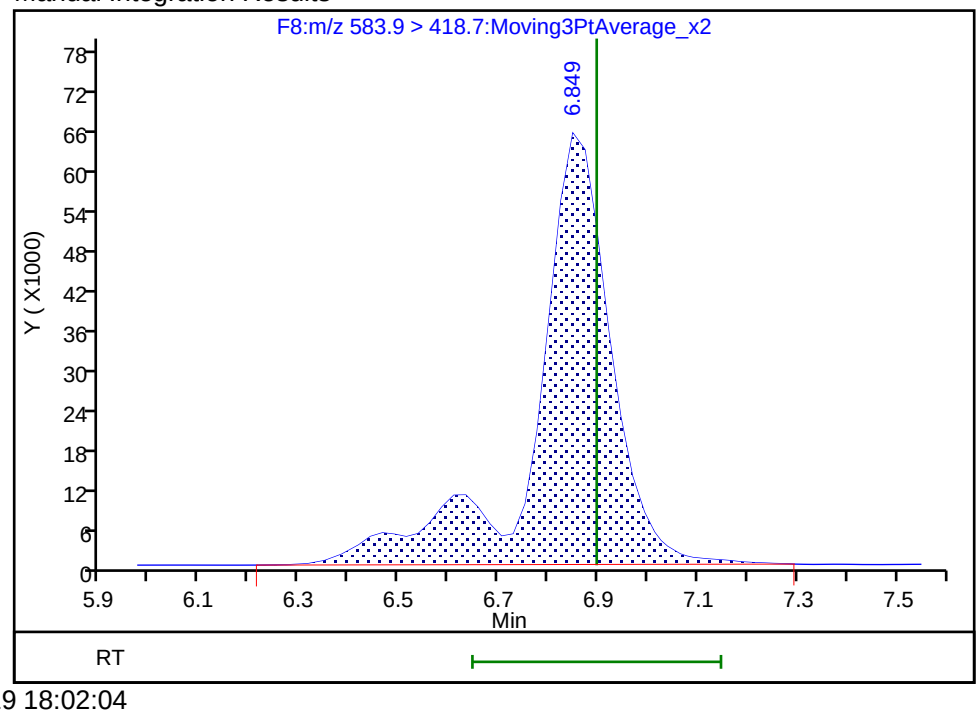
Processing Integration Results

Not Detected
Expected RT: 6.90



Manual Integration Results

RT: 6.85
Area: 687173
Amount: 212.1677
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:02:04
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

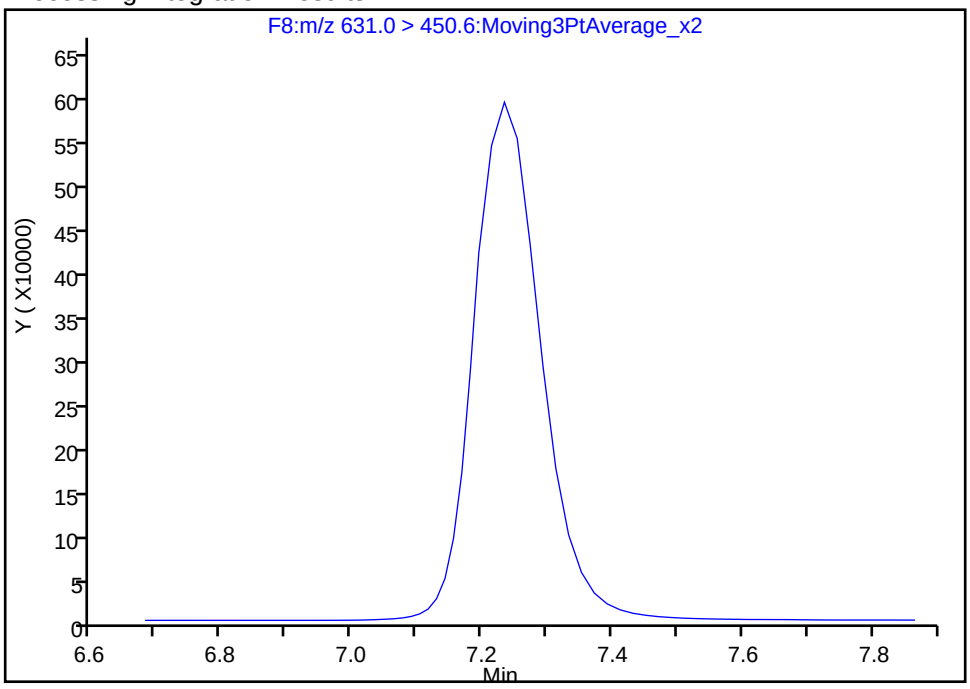
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d
Injection Date: 23-May-2019 14:26:50 Instrument ID: LC410
Lims ID: IC
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

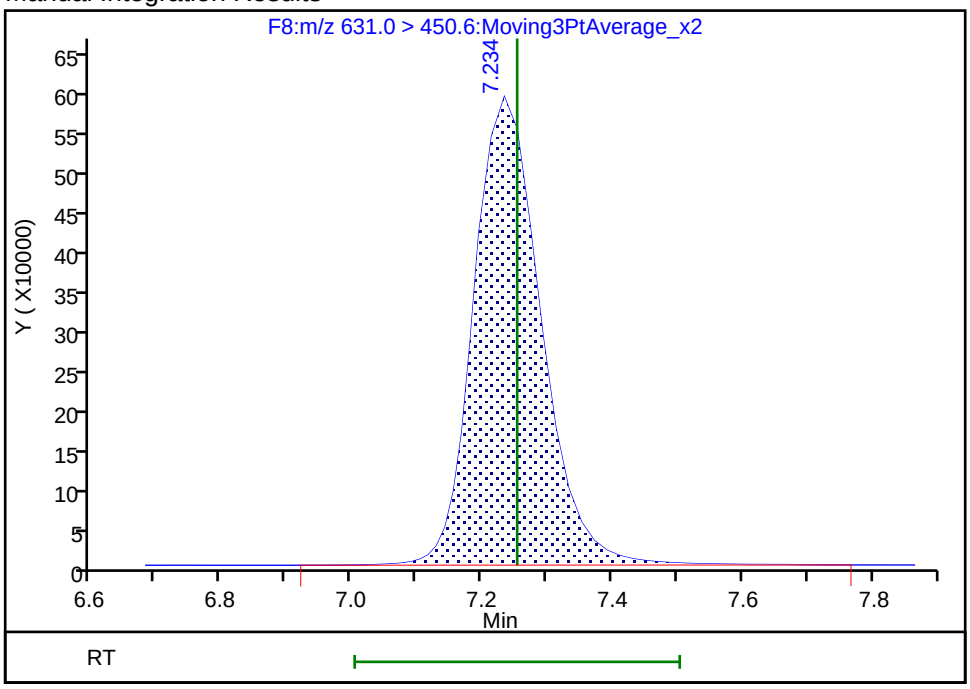
Processing Integration Results

Not Detected
Expected RT: 7.25



Manual Integration Results

RT: 7.23
Area: 4274585
Amount: 207.5644
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:28:35
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: ICV 200-143347/12 Calibration Date: 05/23/2019 14:58

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF052319B12.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	1.748		22300	20000	11.4	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	3.280		21900	20000	9.5	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	2.688		18900	17700	6.9	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.193		16800	18700	-10.0	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.462		20900	20000	4.6	40.0
Perfluoropentanesulfonic acid	AveID	2.841	2.547		16900	18800	-10.4	50.0
HFPO-DA	AveID	1.078	1.044		19400	20000	-3.1	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.249		21300	20000	6.5	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	2.511		21600	18200	18.7	40.0
DONA	AveID	4.300	4.011		17600	18800	-6.7	50.0
6:2 FTS	AveID	0.9451	1.286		25900	19000	36.1	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	1.032		20400	20000	2.0	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.8982		19600	19000	3.2	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9133		20700	20000	3.4	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	0.9136		17500	18500	-5.4	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	3.941		16700	18600	-10.4	50.0
8:2 FTS	AveID	0.7376	0.7940		20700	19200	7.7	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.9518		20800	20000	4.0	40.0
Perfluorononanesulfonic acid	AveID	0.9697	1.017		20100	19200	4.9	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	1.086		26300	20000	31.5	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.9409		23400	20000	16.8	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	0.9270		17200	19300	-10.7	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8666		20800	20000	4.1	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.263		17700	20000	-11.3	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	5.008		16800	18800	-10.7	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9532		20100	20000	0.5	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	1.030		22000	20000	9.9	540.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.9038		21300	20000	6.5	40.0
13C4 PFBA	Ave	0.2445	0.2087		42700	50000	-14.6	50.0
13C5 PFPeA	Ave	0.1855	0.1620		43700	50000	-12.7	50.0
13C3 PFBS	Ave	0.0807	0.0775		44700	46500	-3.9	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: ICV 200-143347/12 Calibration Date: 05/23/2019 14:58

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF052319B12.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5541		49800	50000	-0.4	50.0
13C3 HFPO-DA	Ave	0.0529	0.0528		49900	50000	-0.2	50.0
13C4 PFHpA	Ave	0.7840	0.7781		49600	50000	-0.8	50.0
18O2 PFHxS	Ave	0.1031	0.0813		37300	47300	-21.2	50.0
M2-6:2 FTS	Ave	0.0557	0.0409		34800	47500	-26.6	50.0
13C4 PFOA	Ave	0.9706	0.9789		50400	50000	0.9	50.0
13C4 PFOS	Ave	0.2326	0.2441		50200	47800	4.9	50.0
13C5 PFNA	Ave	1.302	1.325		50900	50000	1.8	50.0
13C2 PFDA	Ave	1.111	1.119		50300	50000	0.7	50.0
M2-8:2 FTS	Ave	0.2026	0.2089		49400	47900	3.1	50.0
d3-NMeFOSAA	Ave	0.3621	0.3453		47700	50000	-4.6	50.0
d5-NEtFOSAA	Ave	0.2986	0.3025		50700	50000	1.3	50.0
13C2 PFUnA	Ave	1.073	1.049		48900	50000	-2.2	50.0
13C8 FOSA	Ave	0.4004	0.4283		53500	50000	7.0	50.0
13C2 PFDoA	Ave	1.367	1.384		50600	50000	1.2	50.0
13C2 PFTeDA	Ave	1.227	1.190		48500	50000	-3.0	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B12.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 23-May-2019 14:58:40 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036057-012 ICV
Misc. Info.: PFAS27 052319B ICAL
Operator ID: JWM Instrument ID: LC410
Sublist:

Method: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 24-May-2019 13:47:20 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0310

First Level Reviewer: murrayjw Date: 23-May-2019 18:03:09
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.380	0.0	1.000	197774	42.7		85.4	72.8	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.380	0.0	1.000	138306	22.3			58.7	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.795	0.035	1.000	201402	21.9			396	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	153519	43.7		87.3	397	
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.866	0.0	1.000	68318	44.7		96.1	171	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.866	2.901	-0.035	1.000	69895	18.9	Target=1.67		405	
298.9 > 98.9	2.901	2.866	0.035	1.012	60079		1.16(0.83-2.51)		431	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.238	3.238	0.0	1.130	32767	16.8			334	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.270	3.270	0.0	1.000	307072	20.9	Target=14.34		1614	
312.9 > 118.9	3.270	3.270	0.0	1.000	20772		14.78(7.17-21.51)		120	
D 8 13C2 PFHxA										
314.8 > 269.6	3.270	3.270	0.0	1.000	524985	49.8		99.6	2506	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.302	3.334	-0.032	1.152	70345	16.9	Target=1.23		316	
348.9 > 98.9	3.334	3.334	0.0	1.000	102000		0.69(0.62-1.85)		679	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.428	3.429	-0.001	1.000	50007	49.9		99.8	482	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.428	3.429	-0.001	1.000	20884	19.4			175	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.833	3.833	0.0	1.000	368436	21.3	Target=2.84		1122	
362.9 > 168.9	3.833	3.833	0.0	1.000	120193		3.07(1.42-4.26)		519	
D 10 13C4 PFHpA										
366.9 > 321.8	3.833	3.869	-0.036	1.000	737284	49.6		99.2	2317	
D 12 18O2 PFHxS										
402.9 > 83.8	3.869	3.869	0.0	1.000	72885	37.3		78.8	257	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.869	3.905	-0.036	1.000	70576	21.6	Target=1.34		340	M
398.9 > 98.9	3.869	3.905	-0.036	1.000	74829		0.94(0.67-2.01)		372	
49 DONA										
376.9 > 250.7	3.925	3.925	0.0	0.736	349551	17.6	Target=2.33		1826	
376.9 > 85.0	3.925	3.925	0.0	1.000	133920		2.61(1.16-3.49)		1055	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.506	4.506	0.0	1.000	18927	25.9			116	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.506	4.506	0.0	1.000	36791	34.8		73.4	189	
* 16 13C2 PFOA										
414.9 > 369.8	4.547	4.547	0.0		947527	50.0			2808	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.547	0.0	1.000	927559	50.4		101	1616	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.547	4.568	-0.021	1.000	382811	20.4	Target=2.43		1668	
412.9 > 168.9	4.547	4.568	-0.021	1.000	146217		2.62(1.22-3.64)		850	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.568	4.589	-0.021	0.856	78946	19.6	Target=1.30		474	
448.9 > 98.9	4.568	4.589	-0.021	1.000	91604		0.86(0.65-1.95)		721	
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.347	-0.011	1.000	1255677	50.9		102	6583	
19 Perfluorononanoic acid										
462.9 > 418.7	5.336	5.347	-0.011	1.000	458735	20.7	Target=5.00		1605	
462.9 > 168.9	5.336	5.347	-0.011	1.000	106528		4.31(2.50-7.50)		843	
D 22 13C4 PFOS										
502.9 > 80.0	5.336	5.347	-0.011	1.000	221113	50.2		105	698	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.336	5.347	-0.011	1.000	78228	17.5	Target=1.41		909	M
498.9 > 98.9	5.336	5.347	-0.011	1.000	88764		0.88(0.71-2.12)		1225	M
47 9-Chlorohexadecafluoro-3-oxanonane										a
531.0 > 350.6	5.778	5.778	0.0	1.083	339828	16.7			1379	a
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	189613	49.4		103	1009	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	60350	20.7			411	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.131	6.165	-0.034	1.149	90303	20.1	Target=1.39		302	
548.9 > 98.9	6.131	6.165	-0.034	1.000	95347		0.95(0.69-2.08)		731	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.165	-0.034	1.000	1060164	50.3		101	3194	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.165	-0.034	1.000	403615	20.8	Target=7.23		1064	
512.9 > 168.9	6.131	6.165	-0.034	1.000	53375		7.56(3.61-10.84)		262	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.501	6.501	0.0	1.000	142140	26.3			1499	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.501	0.0	1.000	327155	47.7		95.4	1589	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.873	-0.024	1.000	286631	50.7		101	1077	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.873	6.897	-0.024	1.288	82761	17.2	Target=1.25		409	
598.9 > 98.9	6.873	6.897	-0.024	1.000	102106		0.81(0.63-1.88)		906	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.873	6.897	-0.024	1.004	107877	23.4			787	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.897	6.921	-0.024	1.000	344617	20.8	Target=7.06		1704	
562.9 > 168.9	6.897	6.921	-0.024	1.000	47277		7.29(3.53-10.58)		202	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.921	-0.024	1.000	994176	48.9		97.8	1906	
D 34 13C8 FOSA										
505.9 > 78.0	6.921	6.921	0.0	1.000	405856	53.5		107	2142	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.921	6.921	0.0	1.000	205042	17.7			668	
43 11-Chloroeicosafluoro-3-oxaundecan										a
631.0 > 450.6	7.254	7.254	0.0	1.359	436448	16.8			2020	a
36 Perfluorododecanoic acid										
612.9 > 568.5	7.596	7.616	-0.020	1.000	499947	20.1	Target=5.37		2058	
612.9 > 168.9	7.596	7.616	-0.020	1.000	88119		5.67(2.68-8.06)		508	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.616	-0.020	1.000	1311198	50.6		101	2535	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.213	8.224	-0.011	1.081	540074	22.0	Target=4.67		2327	
662.9 > 168.9	8.213	8.224	-0.011	1.081	100966		5.35(2.34-7.01)		976	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.763	8.775	-0.012	1.000	1127564	48.5		97.0	985	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.763	8.786	-0.023	1.000	407626	21.3	Target=4.86		974	
712.9 > 168.9	8.775	8.786	-0.011	1.001	77252		5.28(2.43-7.30)		587	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

LCPFAS27ISICV_00001 Amount Added: 100.00 Units: uL

Report Date: 24-May-2019 13:47:20 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B12.d

Injection Date: 23-May-2019 14:58:40 Instrument ID: LC410

Lims ID: ICV

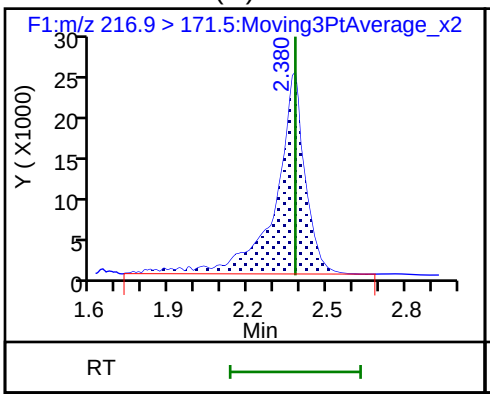
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 12

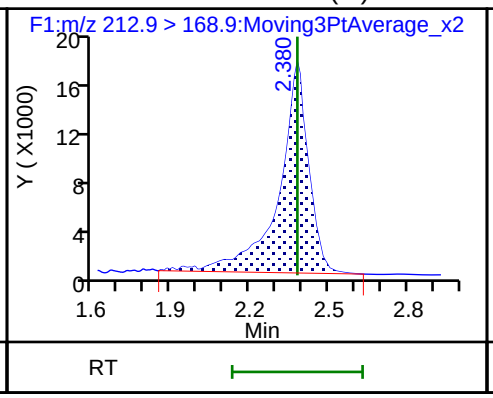
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

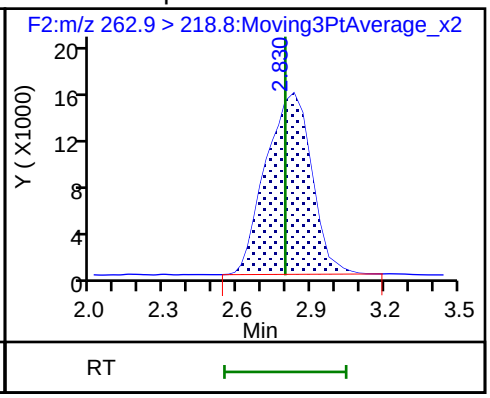
D 1 13C4 PFBA (M)



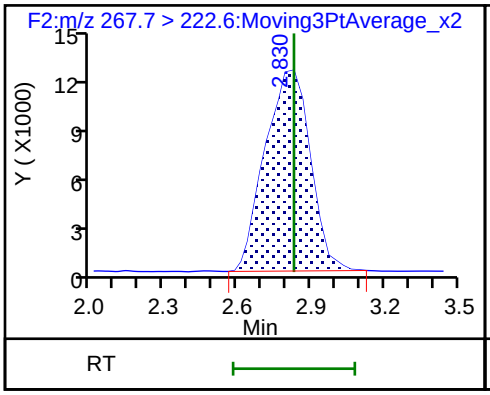
2 Perfluorobutanoic acid (M)



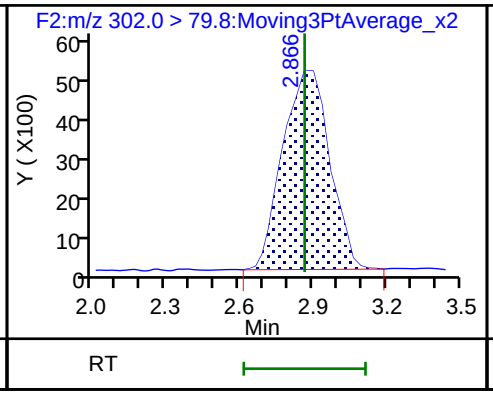
3 Perfluoropentanoic acid



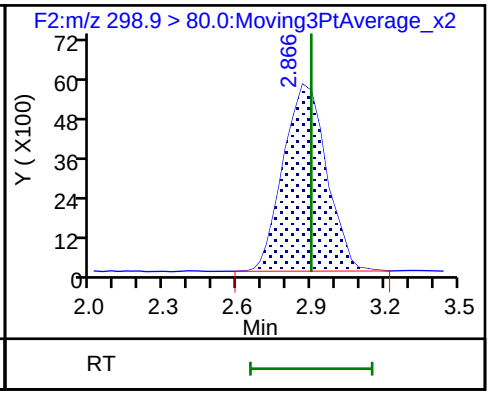
D 4 13C5 PFPeA



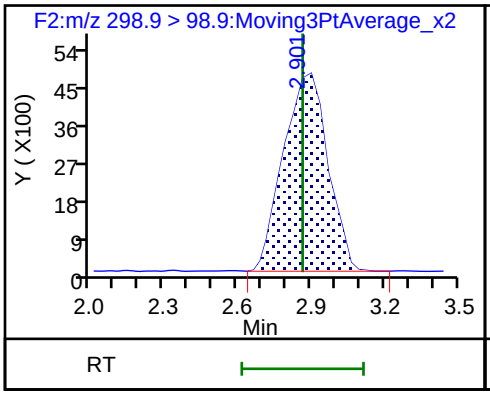
D 5 13C3 PFBS



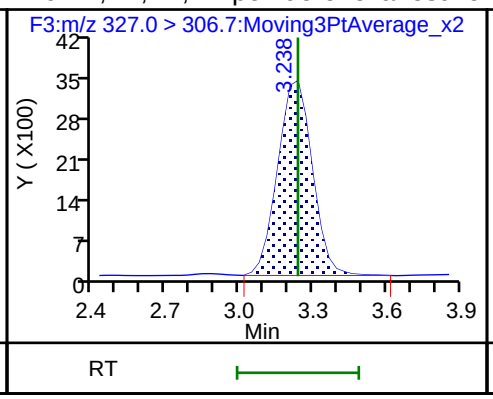
6 Perfluorobutanesulfonic acid



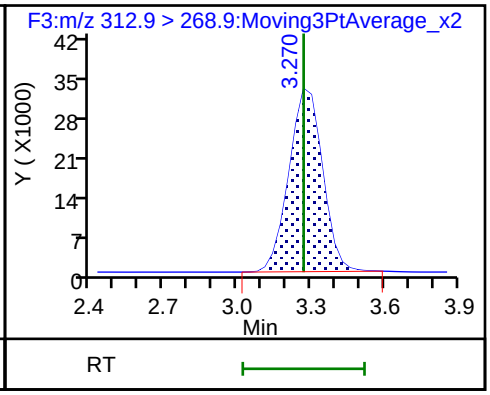
6 Perfluorobutanesulfonic acid



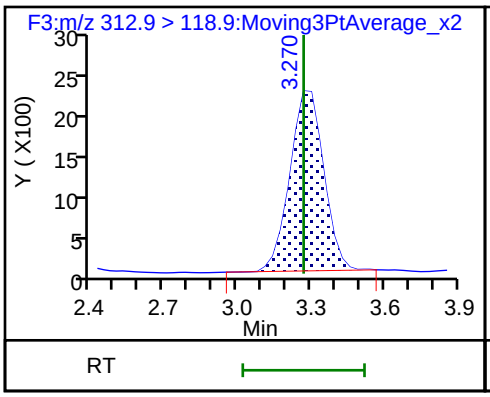
46 1H,1H,2H,2H-perfluorohexanesulfoni



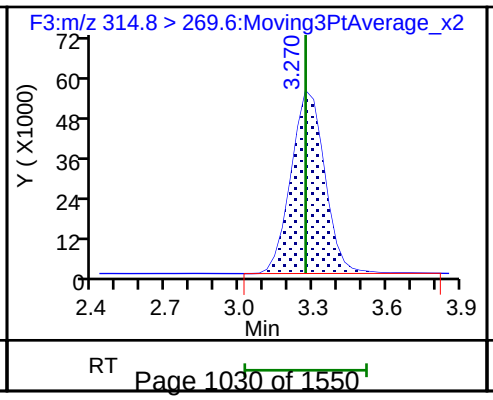
7 Perfluorohexanoic acid



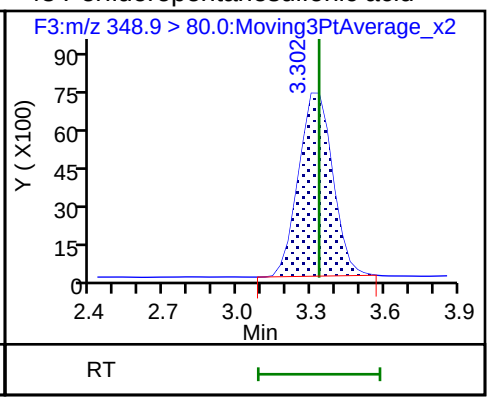
7 Perfluorohexanoic acid



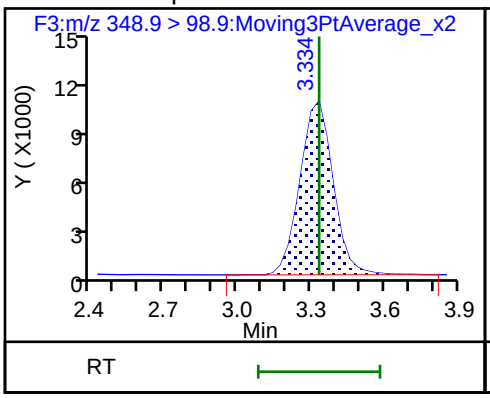
D 8 13C2 PFHxA



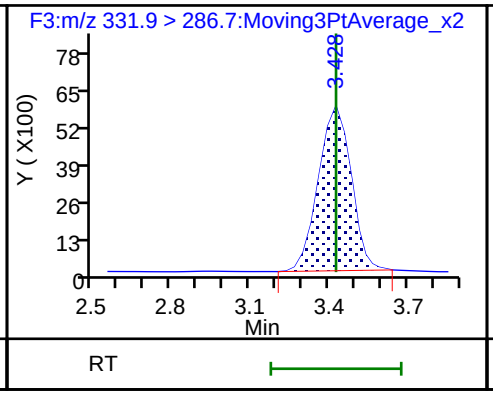
48 Perfluoropentanesulfonic acid



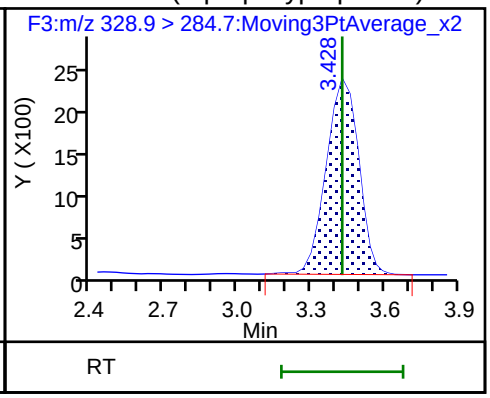
48 Perfluoropentanesulfonic acid



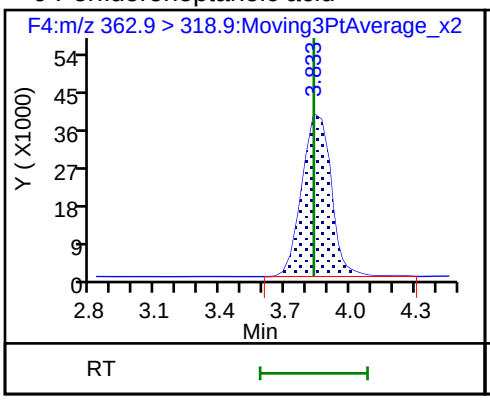
D 42 13C3 HFPO-DA



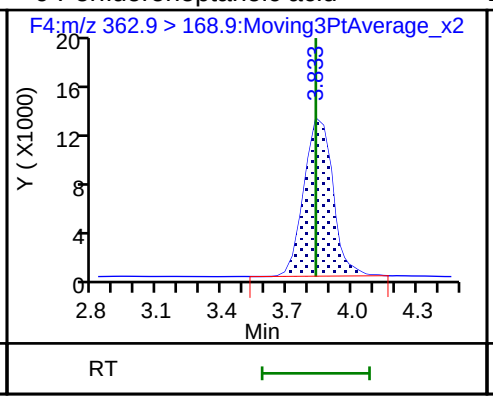
44 Perfluoro(2-propoxypropanoic) acid



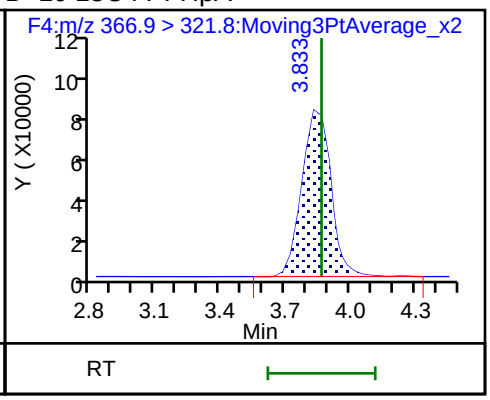
9 Perfluoroheptanoic acid



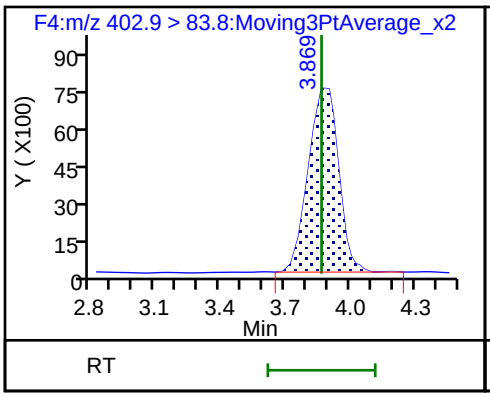
9 Perfluoroheptanoic acid



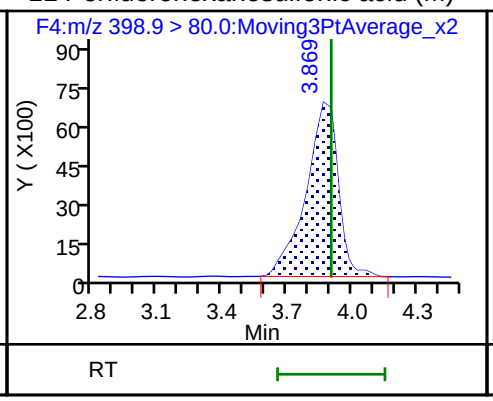
D 10 13C4 PFHpA



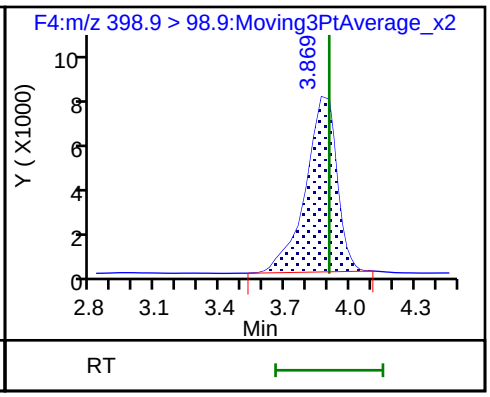
D 12 18O2 PFHxS



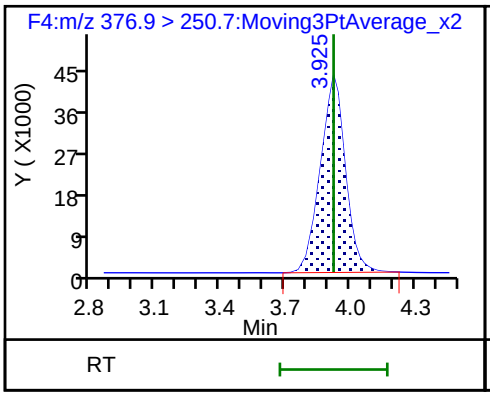
11 Perfluorohexanesulfonic acid (M)



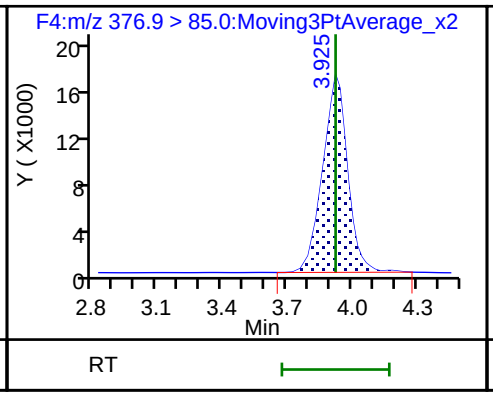
11 Perfluorohexanesulfonic acid



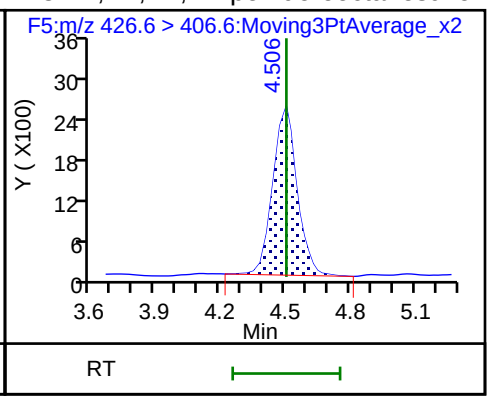
49 DONA



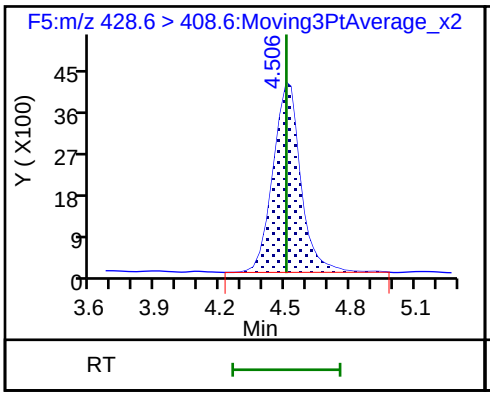
49 DONA



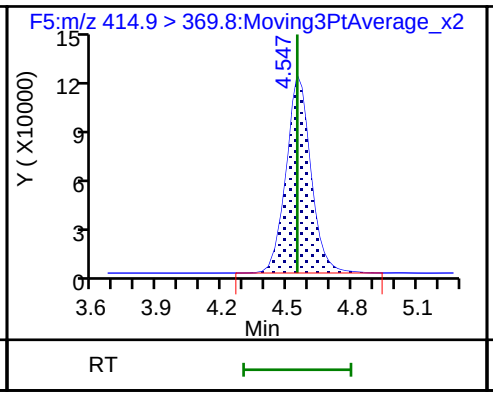
13 1H,1H,2H,2H-perfluorooctanesulfoni



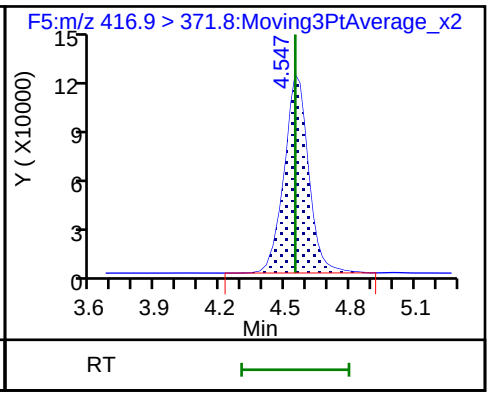
D 14 M2-6:2 FTS



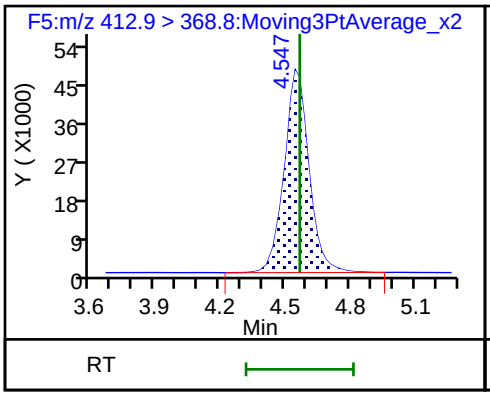
* 16 13C2 PFOA



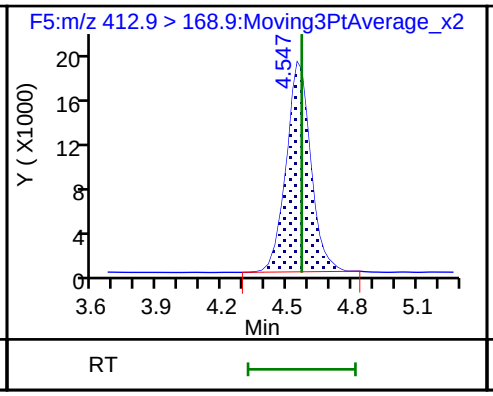
D 17 13C4 PFOA



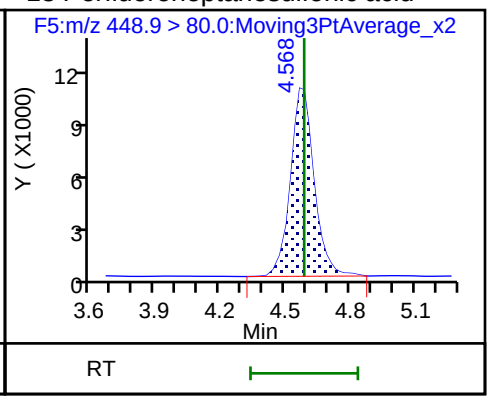
15 Perfluorooctanoic acid



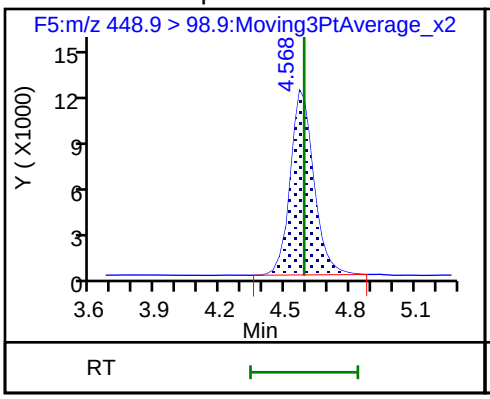
15 Perfluorooctanoic acid



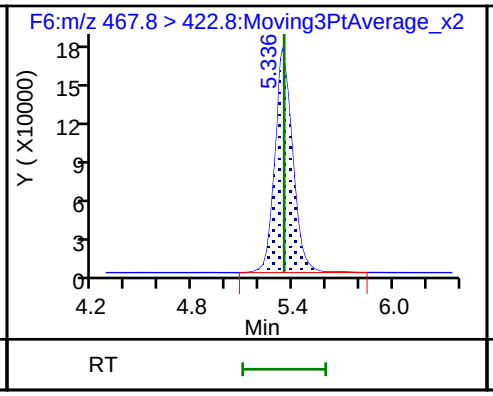
18 Perfluoroheptanesulfonic acid



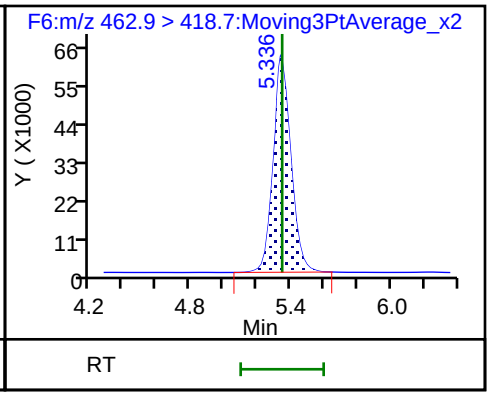
18 Perfluoroheptanesulfonic acid



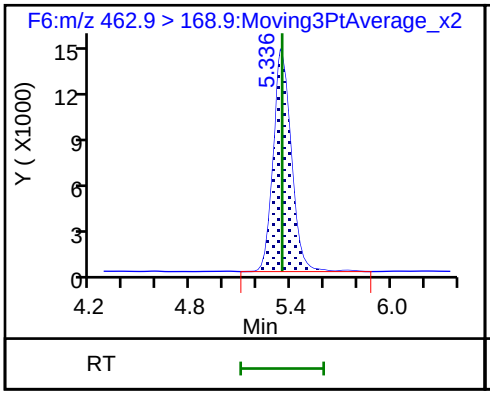
D 20 13C5 PFNA



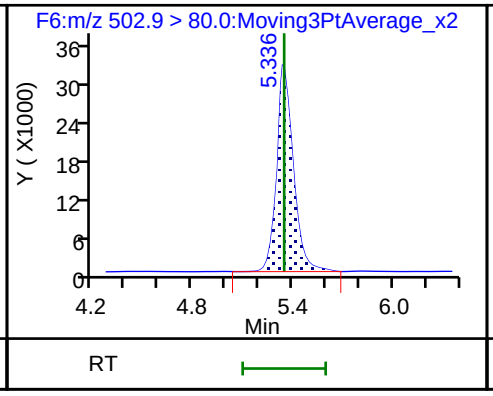
19 Perfluorononanoic acid



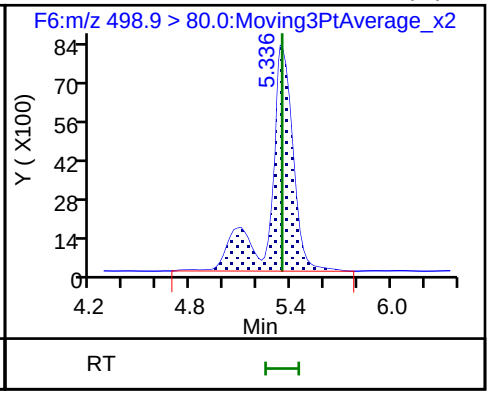
19 Perfluorononanoic acid



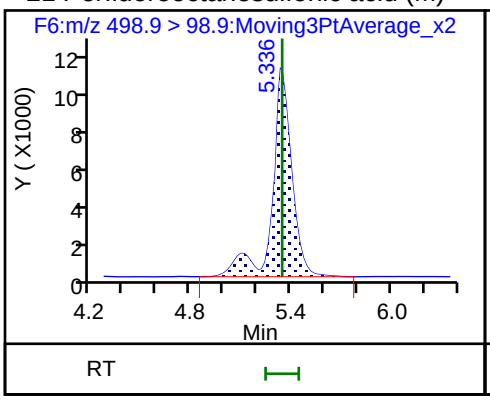
D 22 13C4 PFOS



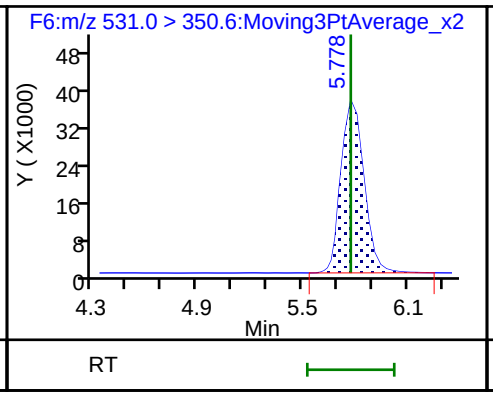
21 Perfluorooctanesulfonic acid (M)



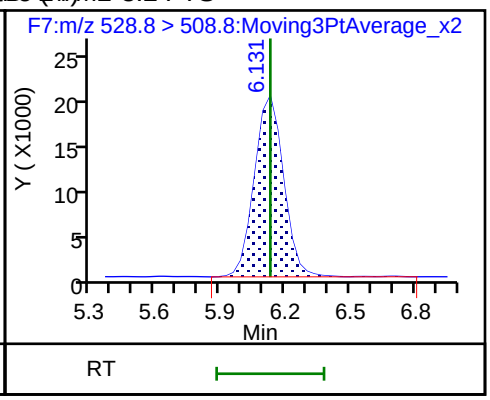
21 Perfluorooctanesulfonic acid (M)



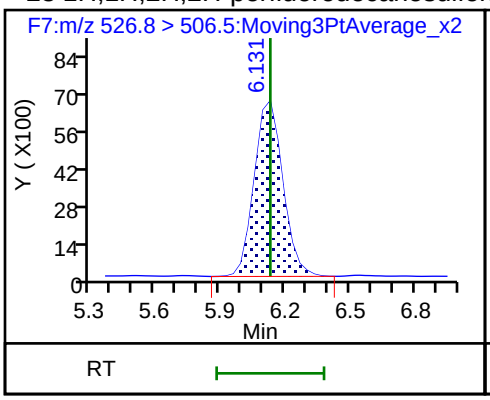
47 9-Chlorohexadecafluoro-3-oxanonane-1-(M)



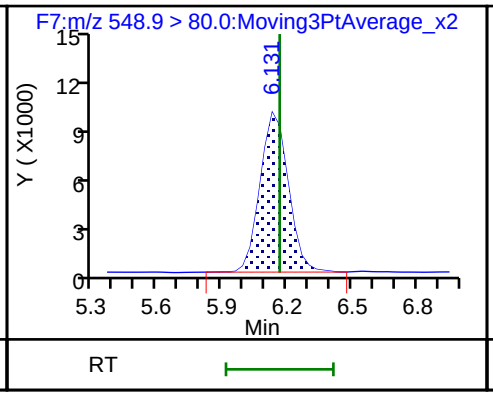
D 24 M2-8:2 FTS



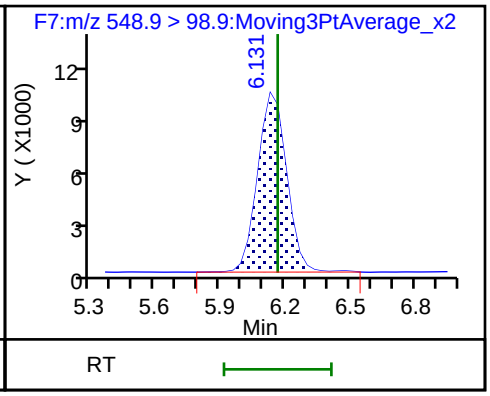
23 1H,1H,2H-perfluorodecanesulfoni



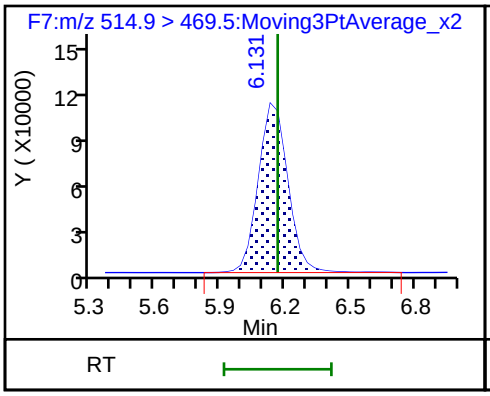
45 Perfluorononanesulfonic acid



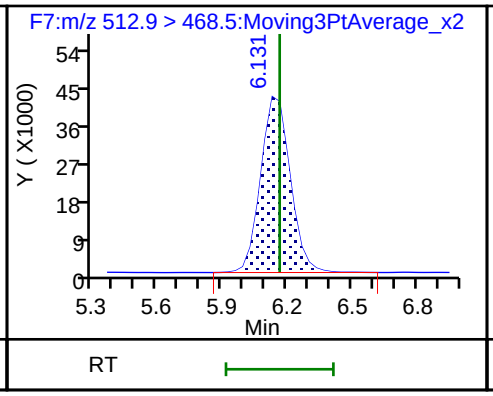
45 Perfluorononanesulfonic acid



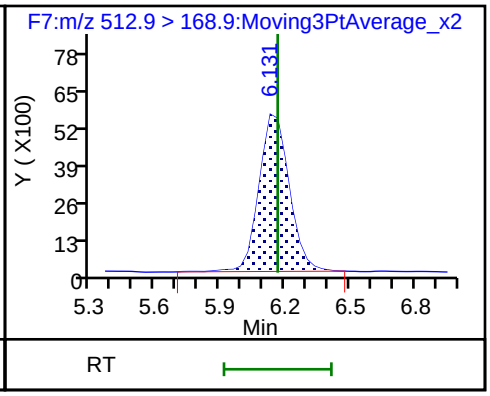
D 25 13C2 PFDA



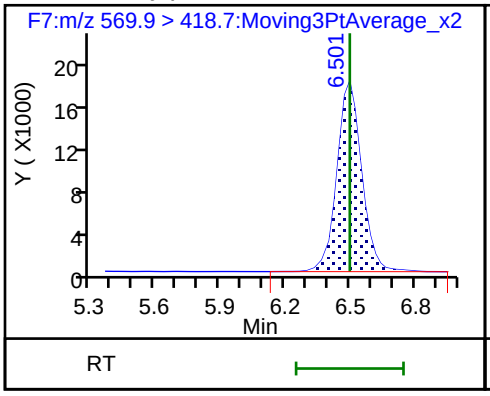
26 Perfluorodecanoic acid



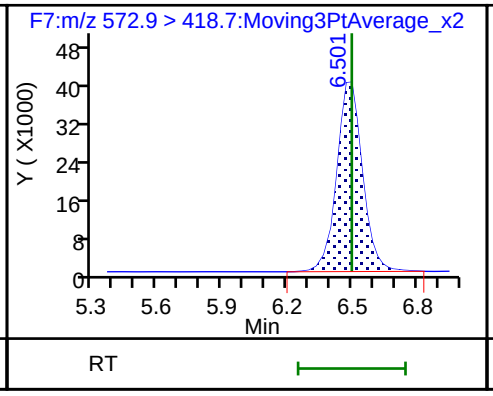
26 Perfluorodecanoic acid



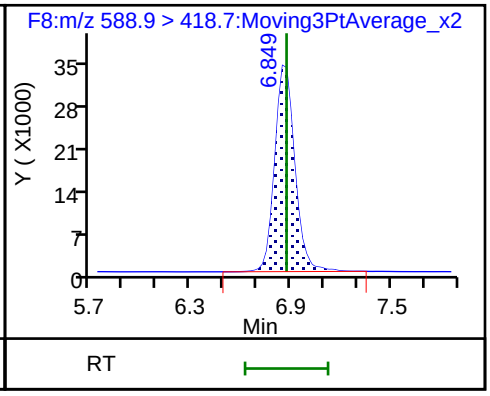
28 N-methylperfluorooctanesulfonamidD



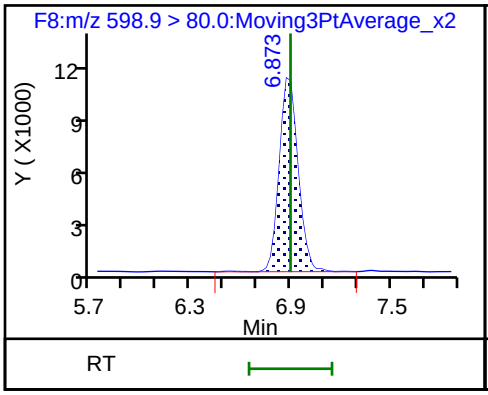
D 27 d3-NMeFOSAA



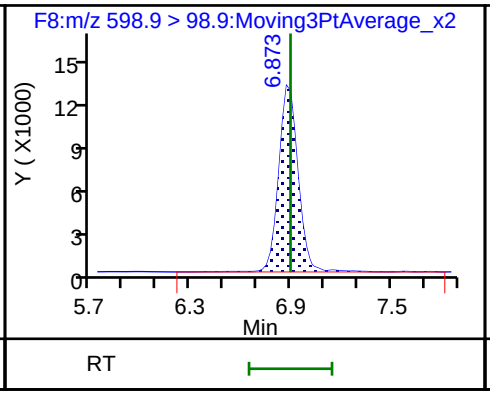
D 29 d5-NEtFOSAA



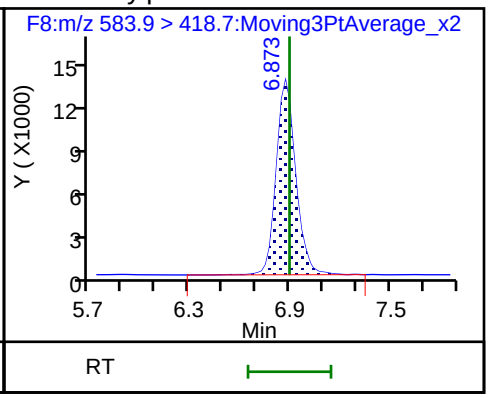
31 Perfluorodecanesulfonic acid



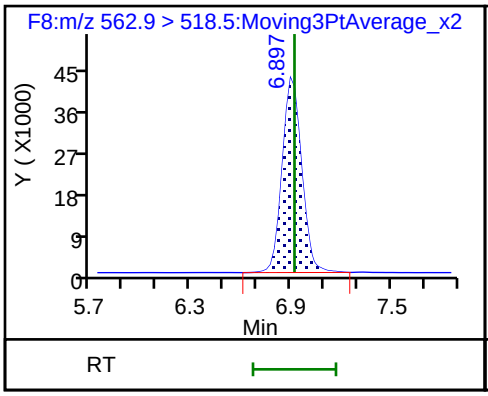
31 Perfluorodecanesulfonic acid



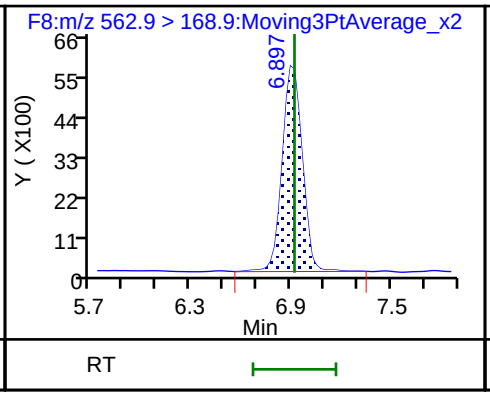
30 N-ethylperfluorooctanesulfonamidoa



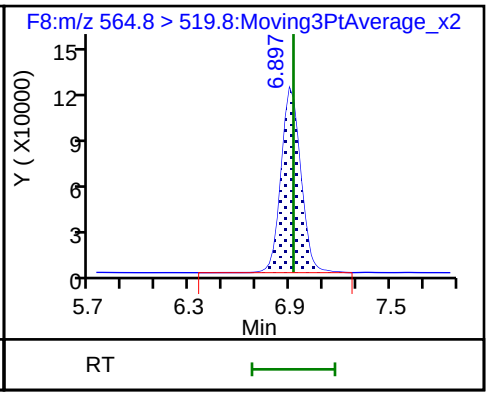
32 Perfluoroundecanoic acid



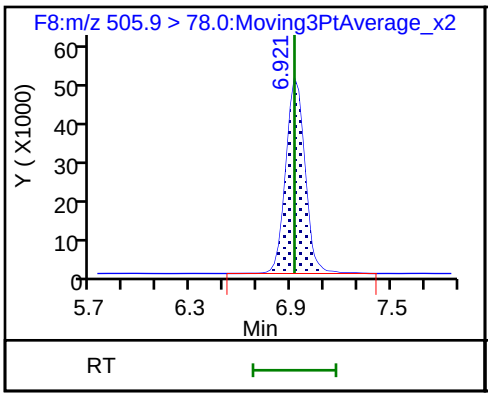
32 Perfluoroundecanoic acid



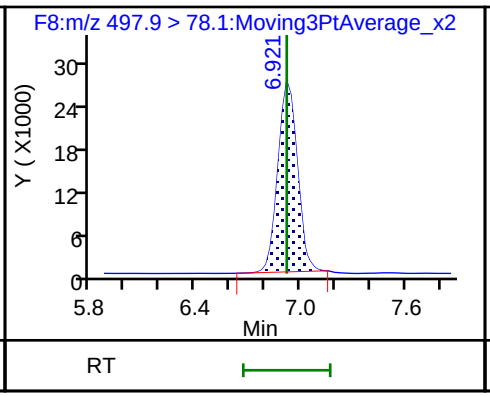
D 33 13C2 PFUnA



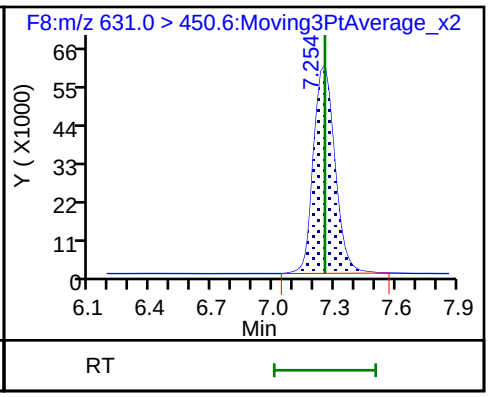
D 34 13C8 FOSA



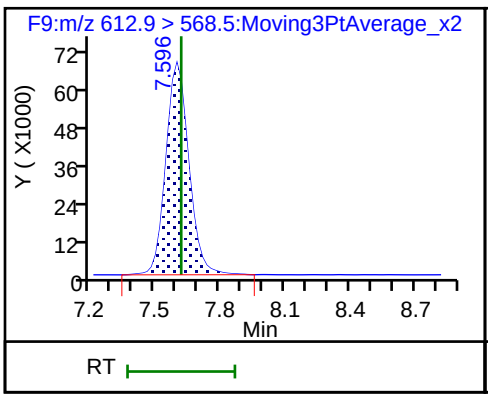
35 Perfluorooctanesulfonamide



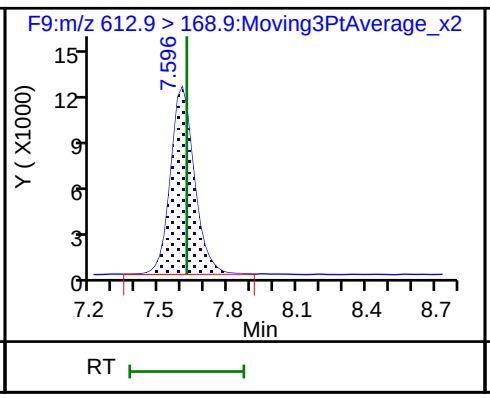
43 11-Chloroeicosafluoro-3-oxaundecan (M)



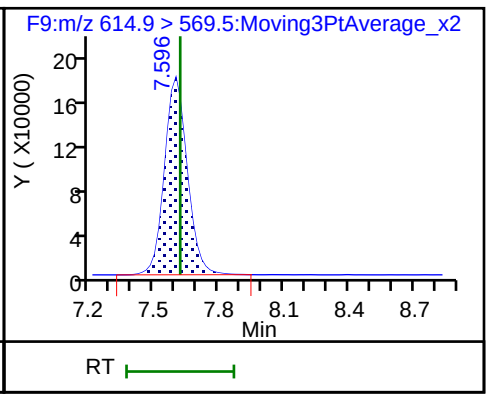
36 Perfluorododecanoic acid



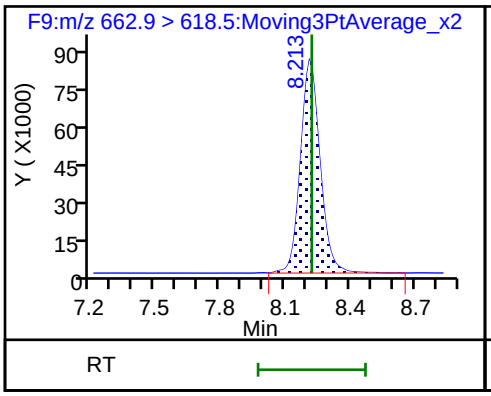
36 Perfluorododecanoic acid



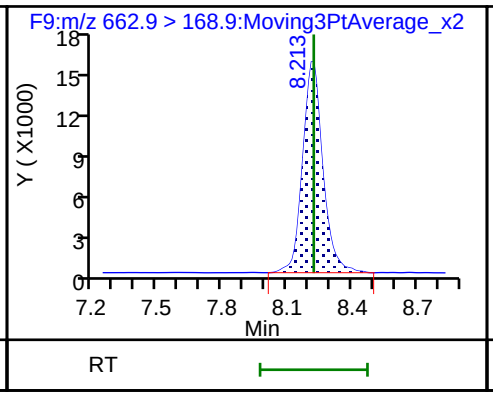
D 37 13C2 PFDoA



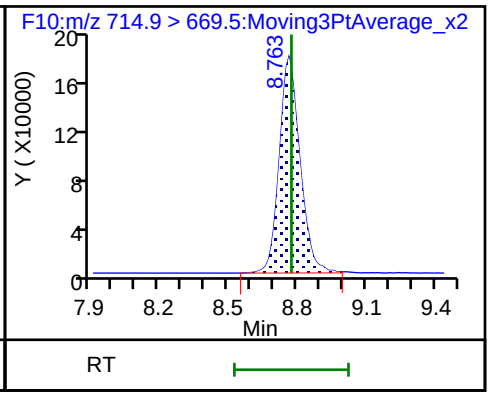
38 Perfluorotridecanoic acid



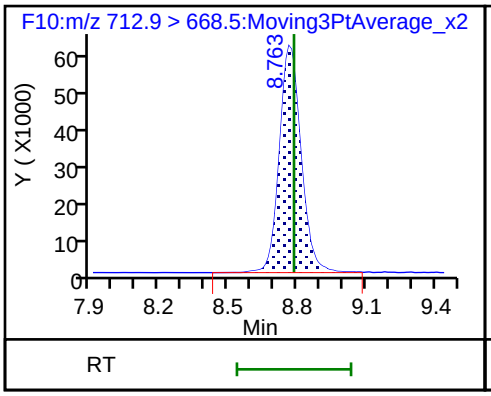
38 Perfluorotridecanoic acid



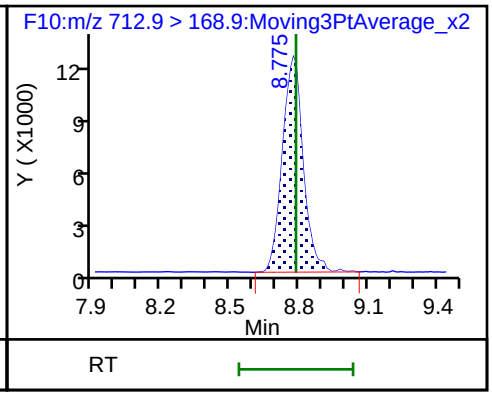
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

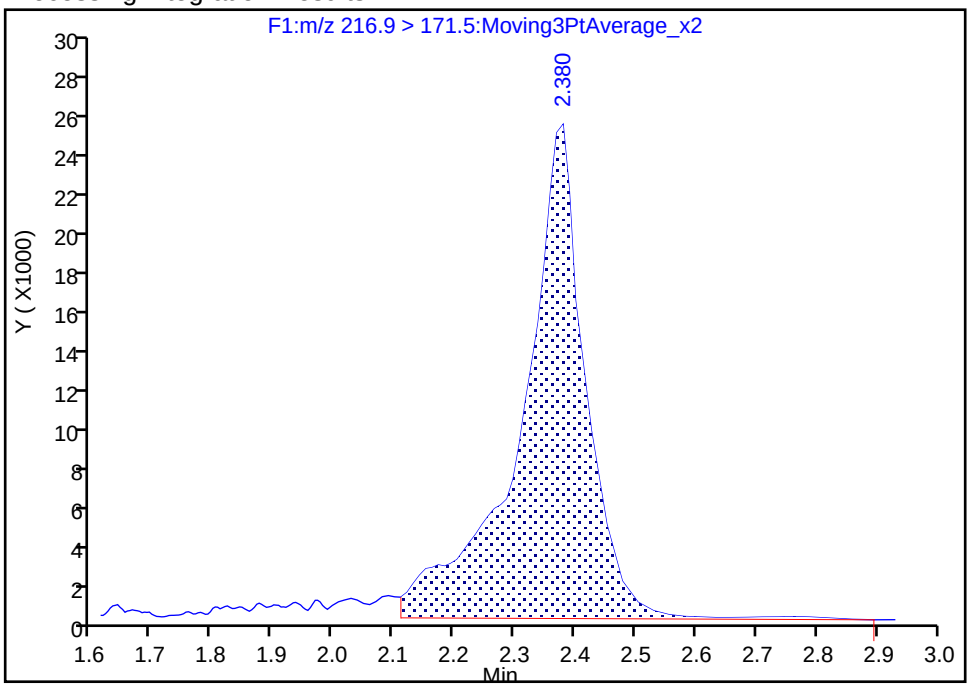
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B12.d
Injection Date: 23-May-2019 14:58:40 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

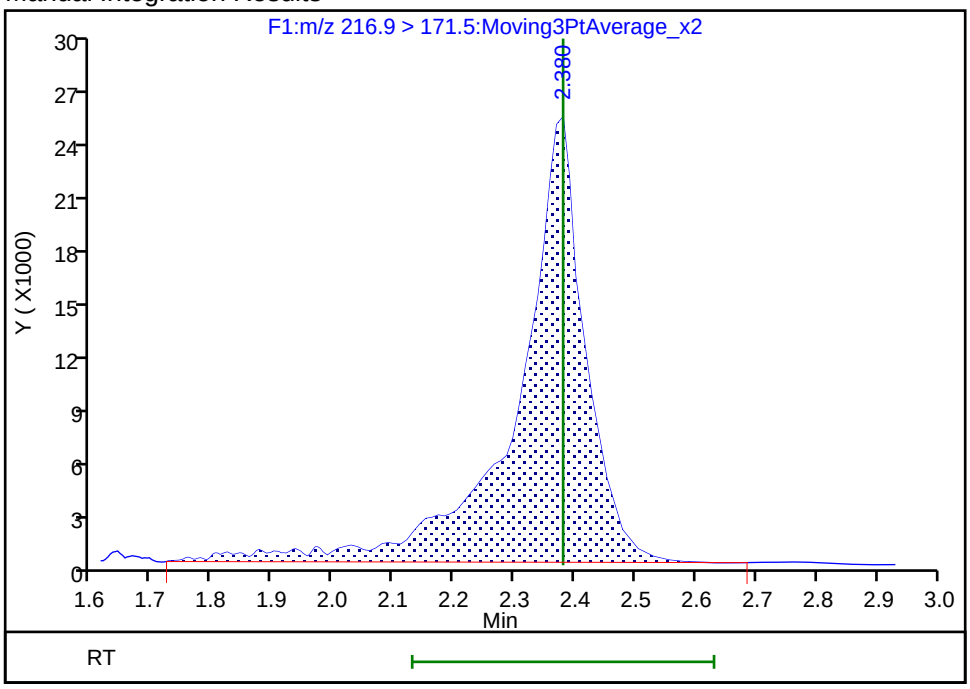
Processing Integration Results

RT: 2.38
Area: 188865
Amount: 40.830625
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 197774
Amount: 42.678525
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:02:34
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

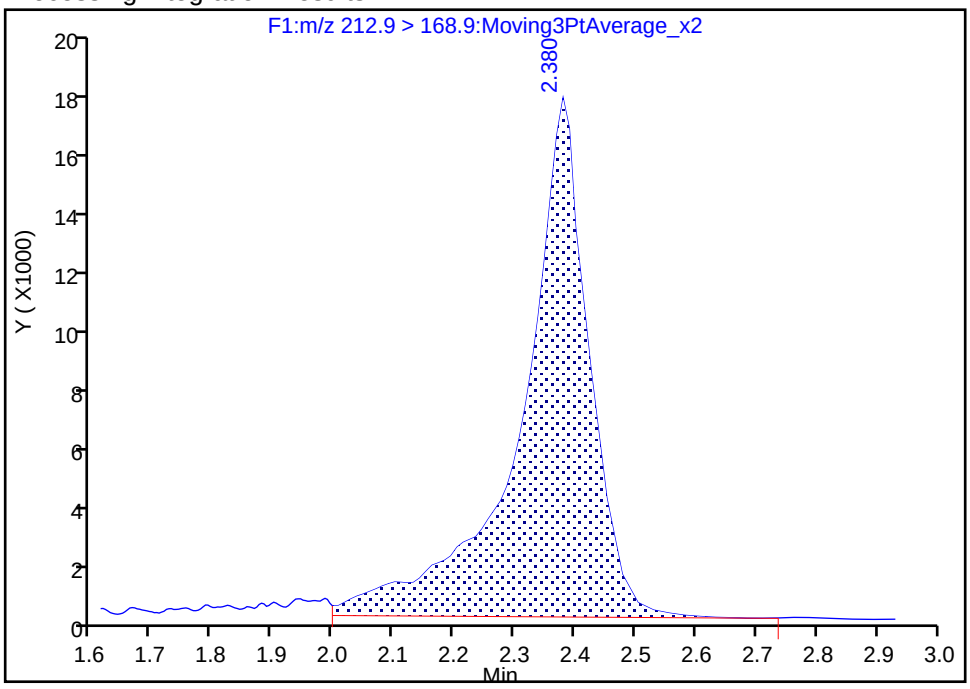
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B12.d
Injection Date: 23-May-2019 14:58:40 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

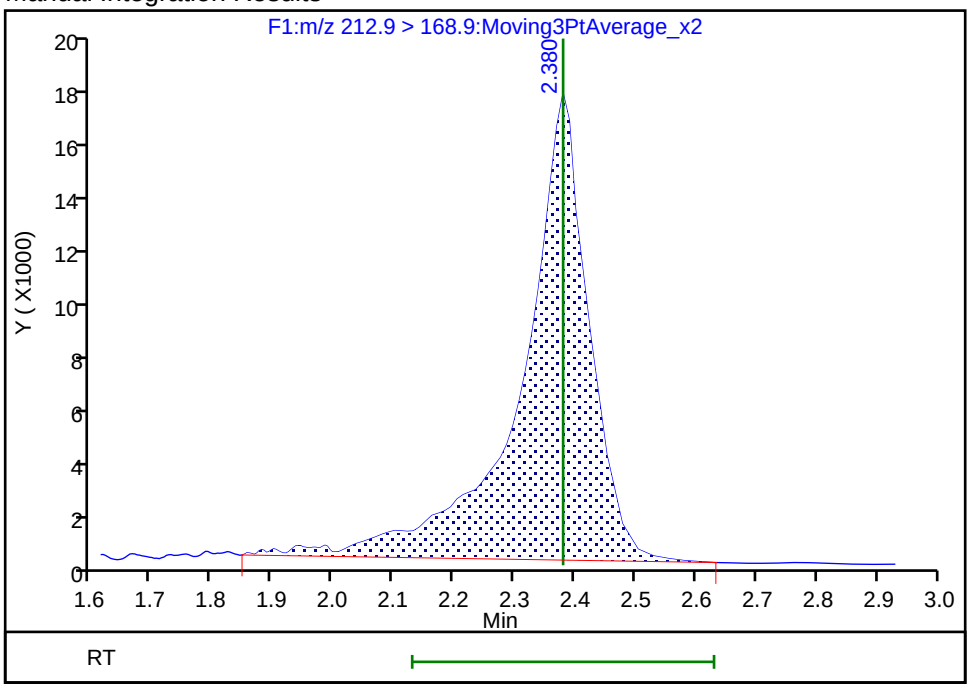
Processing Integration Results

RT: 2.38
Area: 139902
Amount: 22.378484
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 138306
Amount: 22.271280
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:02:37
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

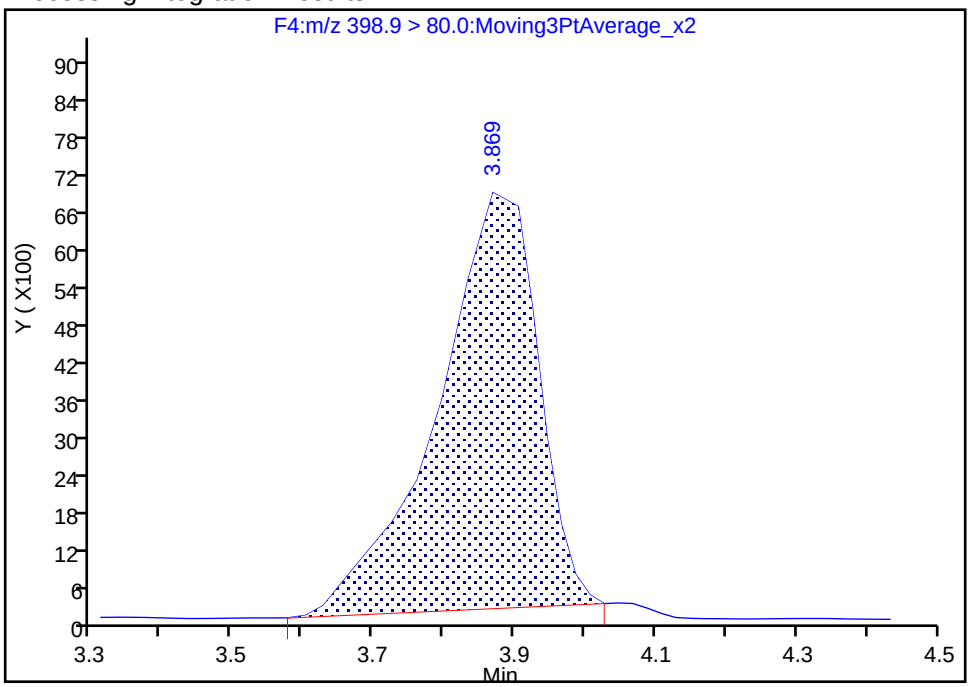
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B12.d
Injection Date: 23-May-2019 14:58:40 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

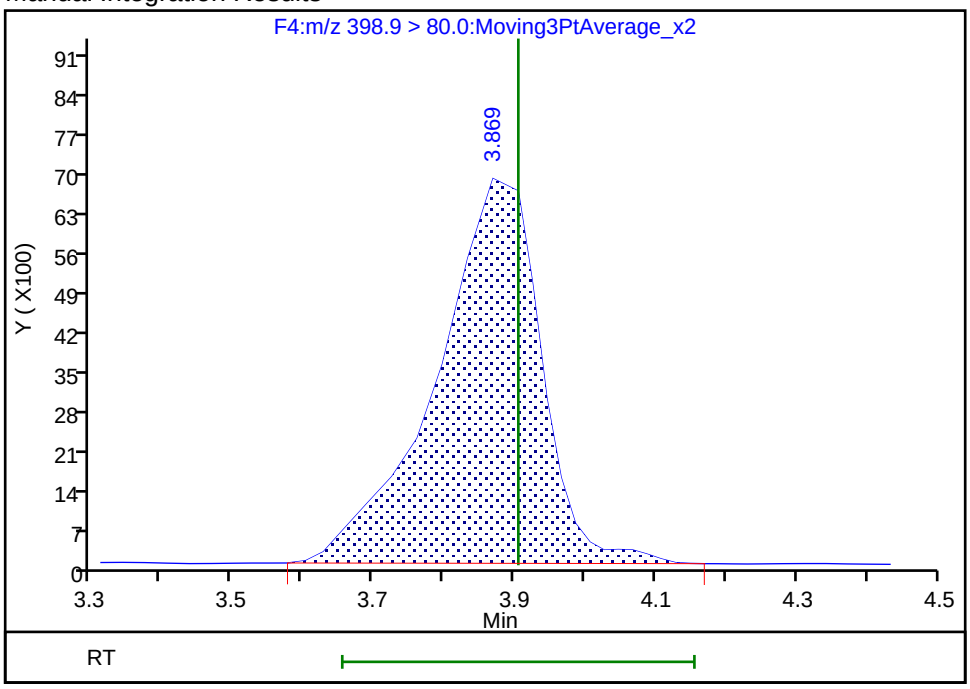
Processing Integration Results

RT: 3.87
Area: 66364
Amount: 20.336102
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 70576
Amount: 21.643254
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:02:49
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

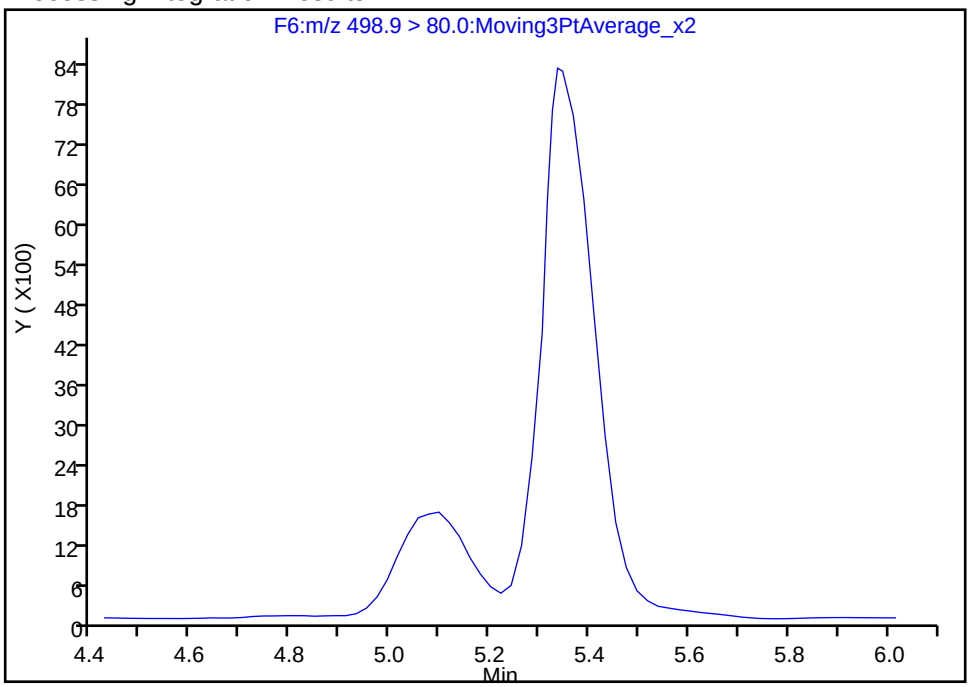
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B12.d
Injection Date: 23-May-2019 14:58:40 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

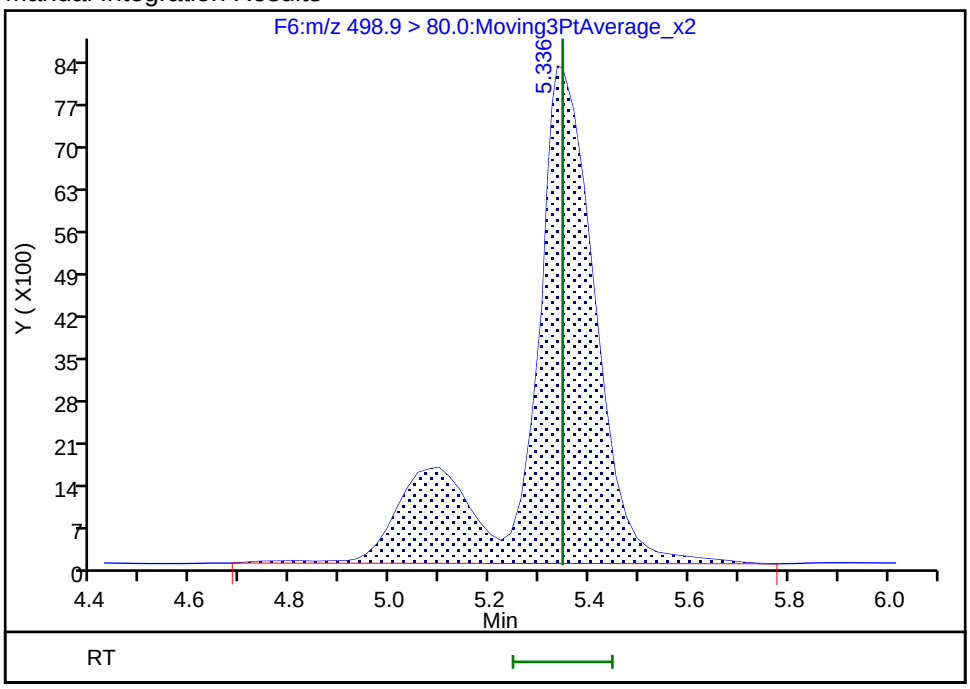
Not Detected
Expected RT: 5.35

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 78228
Amount: 17.511627
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:02:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

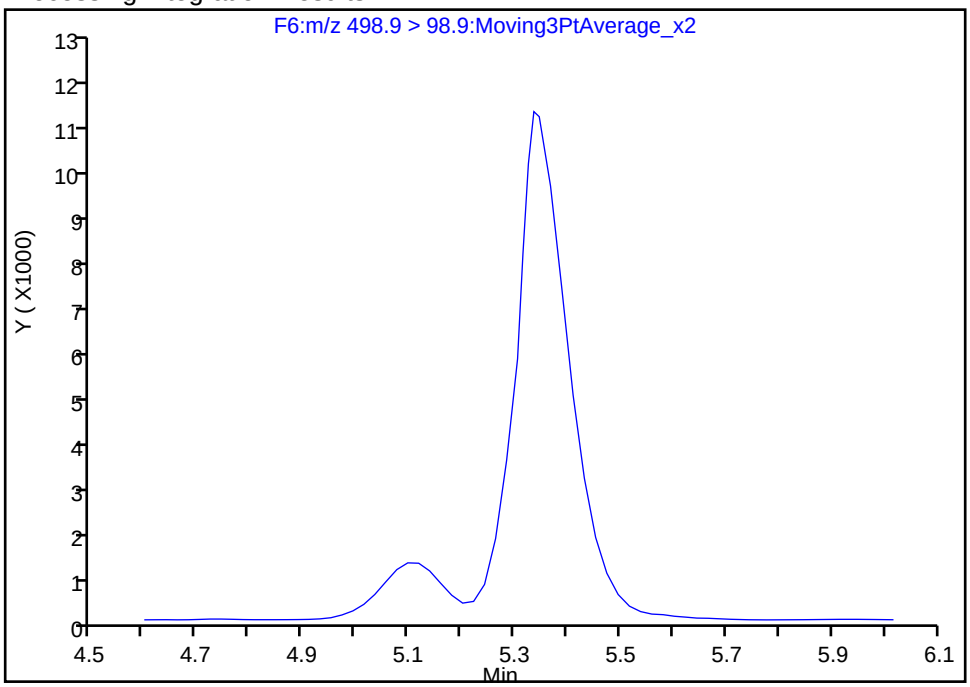
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B12.d
Injection Date: 23-May-2019 14:58:40 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

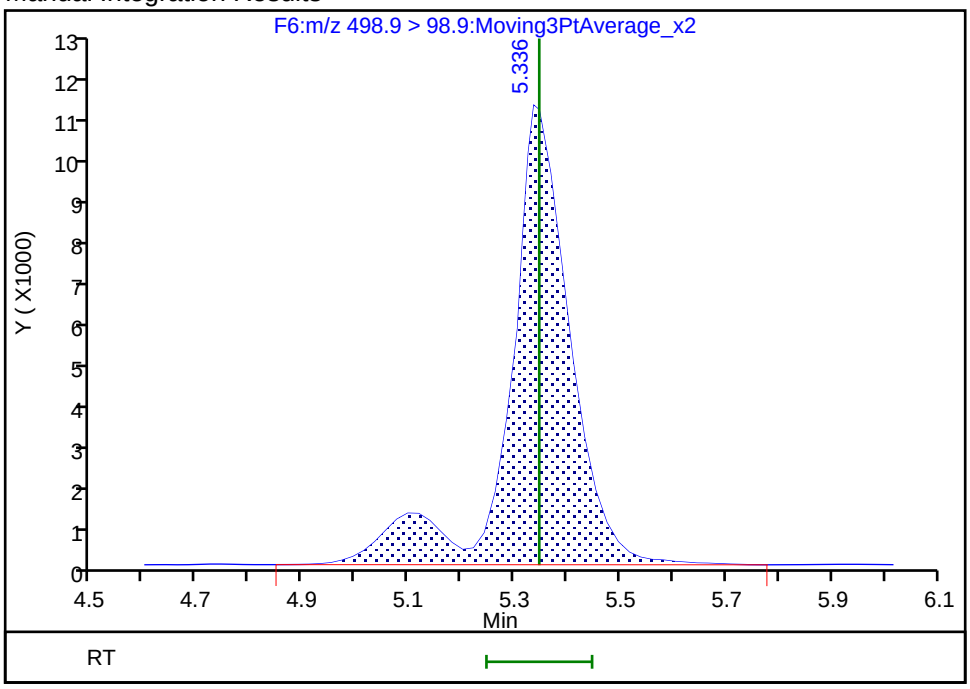
Processing Integration Results

Not Detected
Expected RT: 5.35



Manual Integration Results

RT: 5.34
Area: 88764
Amount: 17.511627
Amount Units: ng/ml



Reviewer: murrayjw, 23-May-2019 18:02:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

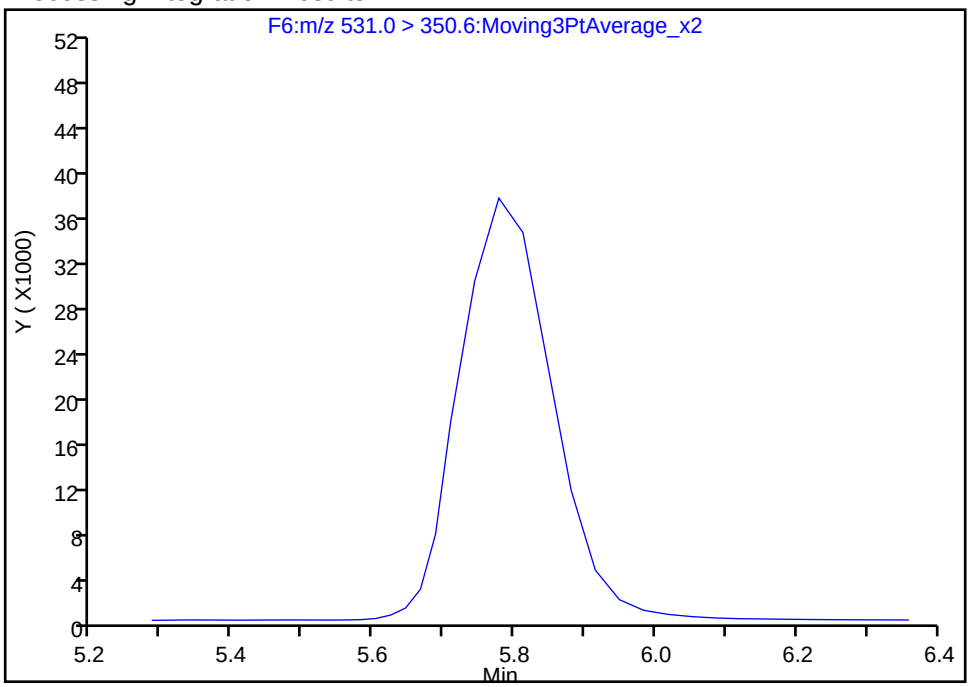
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B12.d
Injection Date: 23-May-2019 14:58:40 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

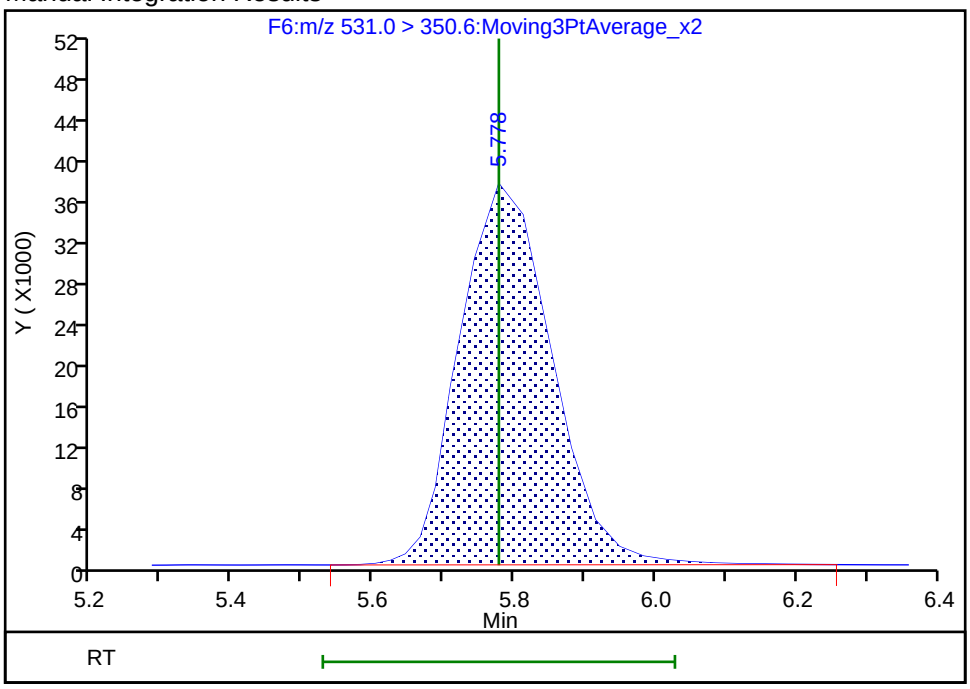
Not Detected
Expected RT: 5.78

Processing Integration Results



Manual Integration Results

RT: 5.78
Area: 339828
Amount: 16.709306
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:29:55
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

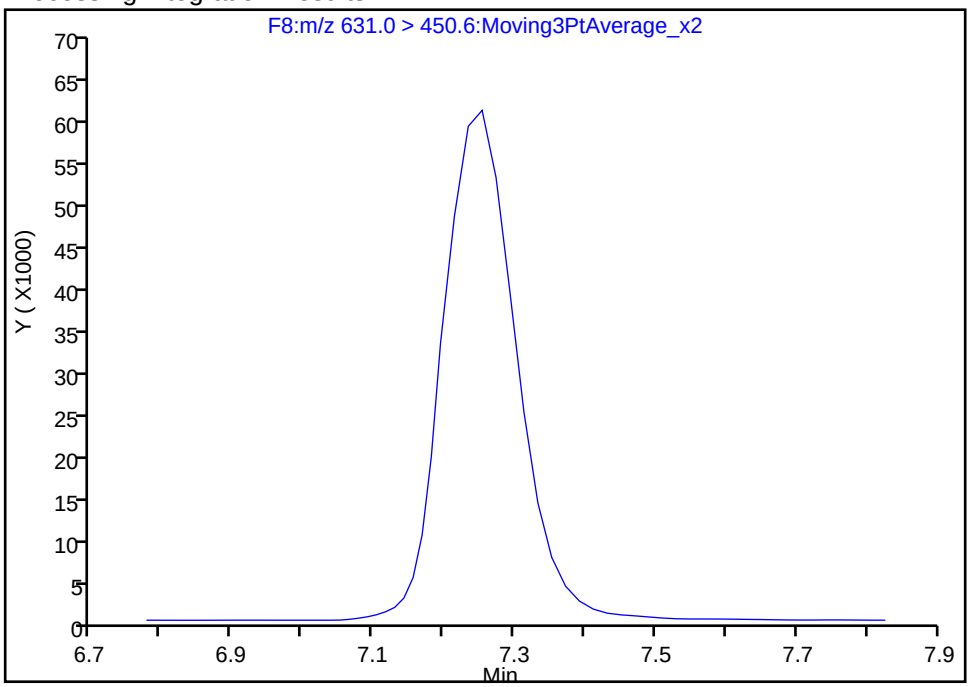
Data File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B12.d
Injection Date: 23-May-2019 14:58:40 Instrument ID: LC410
Lims ID: ICV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

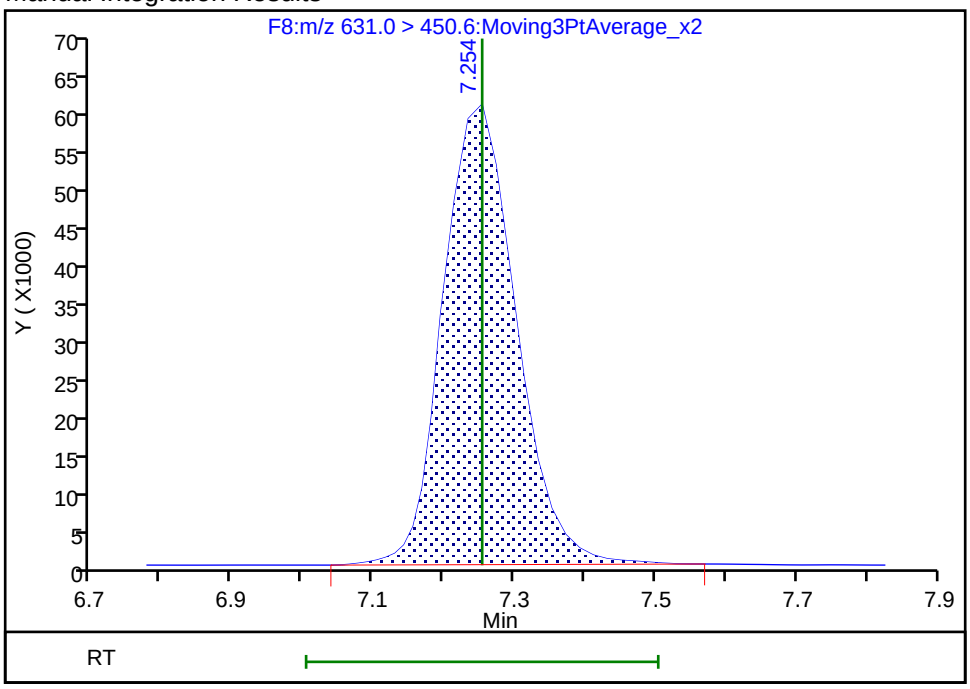
Not Detected
Expected RT: 7.25

Processing Integration Results



Manual Integration Results

RT: 7.25
Area: 436448
Amount: 16.820137
Amount Units: ng/ml



Reviewer: murrayjw, 24-May-2019 13:29:57
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVIS 200-143596/6 Calibration Date: 05/30/2019 14:06

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B06.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	1.018		13000	20000	-35.2	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	2.796		18700	20000	-6.6	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	1.910		13400	17700	-24.0	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.003		14100	18700	-24.3	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.521		21800	20000	8.8	40.0
Perfluoropentanesulfonic acid	AveID	2.841	2.448		16200	18800	-13.8	50.0
HFPO-DA	AveID	1.078	0.9708		18000	20000	-9.9	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.187		20200	20000	1.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	1.828		15700	18200	-13.6	40.0
DONA	AveID	4.300	3.828		16800	18800	-11.0	50.0
6:2 FTS	AveID	0.9451	0.9219		18500	19000	-2.5	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	1.049		20700	20000	3.6	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.9150		20000	19000	5.1	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9191		20800	20000	4.1	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	0.9751		18700	18600	1.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	3.933		16700	18600	-10.6	50.0
8:2 FTS	AveID	0.7376	0.8483		22000	19200	15.0	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.9437		20600	20000	3.1	40.0
Perfluorononanesulfonic acid	AveID	0.9697	1.072		21200	19200	10.6	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.8682		21000	20000	5.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.9032		22400	20000	12.2	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	1.004		18700	19300	-3.2	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8858		21300	20000	6.4	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.442		20200	20000	1.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	4.656		15600	18800	-17.0	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9671		20400	20000	1.9	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.9846		21000	20000	5.0	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8950		21100	20000	5.5	40.0
13C4 PFBA	Ave	0.2445	0.4129		84400	50000	68.9*	50.0
13C5 PFPeA	Ave	0.1855	0.2023		54500	50000	9.1	50.0
13C3 PFBS	Ave	0.0807	0.1227		70700	46500	52.1*	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVIS 200-143596/6 Calibration Date: 05/30/2019 14:06

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B06.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5716		51400	50000	2.7	50.0
13C3 HFPO-DA	Ave	0.0529	0.0613		58000	50000	15.9	50.0
13C4 PFHpA	Ave	0.7840	0.8706		55500	50000	11.0	50.0
18O2 PFHxS	Ave	0.1031	0.1521		69700	47300	47.4	50.0
M2-6:2 FTS	Ave	0.0557	0.0546		46500	47500	-2.1	50.0
13C4 PFOA	Ave	0.9706	0.9345		48100	50000	-3.7	50.0
13C5 PFNA	Ave	1.302	1.191		45700	50000	-8.6	50.0
13C4 PFOS	Ave	0.2326	0.2762		56800	47800	18.7	50.0
13C2 PFDA	Ave	1.111	1.121		50400	50000	0.9	50.0
M2-8:2 FTS	Ave	0.2026	0.2009		47500	47900	-0.9	50.0
d3-NMeFOSAA	Ave	0.3621	0.3561		49200	50000	-1.7	50.0
d5-NEtFOSAA	Ave	0.2986	0.2857		47800	50000	-4.3	50.0
13C2 PFUnA	Ave	1.073	1.036		48300	50000	-3.5	50.0
13C8 FOSA	Ave	0.4004	0.5181		64700	50000	29.4	50.0
13C2 PFDoA	Ave	1.367	1.266		46300	50000	-7.5	50.0
13C2 PFTeDA	Ave	1.227	1.134		46200	50000	-7.6	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 30-May-2019 14:06:13 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036138-006 CCVIS
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 31-May-2019 11:39:15 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0307

First Level Reviewer: murrayjw Date: 30-May-2019 14:40:36
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.391	2.391	0.0	1.000	388611	84.4		169	117	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.391	2.391	0.0	1.000	158208	13.0		64.8	133	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	190391	54.5		109	569	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.866	2.866	0.0	1.013	212903	18.7		93.4	357	
D 5 13C3 PFBS										M
302.0 > 79.8	2.901	2.901	0.0	1.000	107391	70.7		152	392	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.937	2.937	0.0	1.012	77983	13.4	Target=1.67	76.0	265	M
298.9 > 98.9	2.901	2.901	0.0	1.000	68364		1.14(0.83-2.51)		261	M
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.302	3.302	0.0	1.138	43282	14.1		75.7	402	
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	537926	51.4		103	1331	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.334	3.334	0.0	1.000	327199	21.8	Target=14.34	109	1389	
312.9 > 118.9	3.334	3.334	0.0	1.000	22802		14.35(7.17-21.51)		116	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.397	3.397	0.0	1.171	106072	16.2	Target=1.23	86.2	754	
348.9 > 98.9	3.397	3.397	0.0	1.000	110855		0.96(0.62-1.85)		839	
44 Perfluoro(2-propoxypropanoic) acid										M
328.9 > 284.7	3.492	3.492	0.0	1.000	22409	18.0		90.1	132	M
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.492	3.492	0.0	1.000	57710	58.0		116	805	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.925	3.925	0.0	1.000	388916	20.2	Target=2.84	101	2144	
362.9 > 168.9	3.925	3.925	0.0	1.000	123039		3.16(1.42-4.26)		666	
D 10 13C4 PFHpA										
366.9 > 321.8	3.925	3.925	0.0	1.000	819370	55.5		111	2707	
D 12 18O2 PFHxS										
402.9 > 83.8	3.946	3.946	0.0	1.000	135398	69.7		147	526	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.946	3.946	0.0	1.000	95228	15.7	Target=1.34	86.4	473	M
398.9 > 98.9	3.946	3.946	0.0	1.000	89458		1.06(0.67-2.01)		904	M
49 DONA										
376.9 > 250.7	3.986	3.986	0.0	0.731	374887	16.8	Target=2.33	89.0	1705	
376.9 > 85.0	3.986	3.986	0.0	1.000	166499		2.25(1.16-3.49)		1313	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.589	4.589	0.0	1.000	48768	46.5		97.9	474	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.609	4.609	0.0	1.005	17946	18.5		97.5	119	
D 17 13C4 PFOA										
416.9 > 371.8	4.630	4.630	0.0	1.000	879530	48.1		96.3	1955	
* 16 13C2 PFOA										
414.9 > 369.8	4.630	4.630	0.0		941132	50.0			4479	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.630	4.630	0.0	1.000	368967	20.7	Target=2.43	104	1073	
412.9 > 168.9	4.630	4.630	0.0	1.000	143682		2.57(1.22-3.64)		599	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.672	4.672	0.0	0.857	90561	20.0	Target=1.30	105	643	
448.9 > 98.9	4.672	4.672	0.0	1.000	98517		0.92(0.65-1.95)		501	
19 Perfluorononanoic acid										
462.9 > 418.7	5.432	5.432	0.0	1.000	411942	20.8	Target=5.00	104	1785	
462.9 > 168.9	5.432	5.432	0.0	1.000	92021		4.48(2.50-7.50)		589	
D 20 13C5 PFNA										
467.8 > 422.8	5.432	5.432	0.0	1.000	1120542	45.7		91.4	5623	
D 22 13C4 PFOS										
502.9 > 80.0	5.453	5.453	0.0	1.000	248478	56.8		119	1687	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.453	5.453	0.0	1.000	94082	18.7	Target=1.41	101	533	M
498.9 > 98.9	5.453	5.453	0.0	1.000	86360		1.09(0.71-2.12)		769	M
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.880	5.880	0.0	1.078	381049	16.7		89.4	3000	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.234	6.234	0.0	1.000	181135	47.5		99.1	883	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.234	6.234	0.0	1.000	61464	22.0		115	619	
D 25 13C2 PFDA										
514.9 > 469.5	6.234	6.234	0.0	1.000	1055293	50.4		101	874	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.234	6.234	0.0	1.143	107032	21.2	Target=1.39	111	908	
548.9 > 98.9	6.234	6.234	0.0	1.000	93874		1.14(0.69-2.08)		553	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.234	6.234	0.0	1.000	398338	20.6	Target=7.23	103	1533	
512.9 > 168.9	6.234	6.234	0.0	1.000	49592		8.03(3.61-10.84)		447	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.597	6.597	0.0	1.000	335110	49.2		98.3	4727	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.597	6.597	0.0	1.000	116374	21.0		105	808	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.969	6.969	0.0	1.000	268839	47.8		95.7	647	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.969	6.969	0.0	1.000	97127	22.4		112	609	M
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.993	6.993	0.0	1.282	100670	18.7	Target=1.25	96.8	698	M
598.9 > 98.9	6.993	6.993	0.0	1.000	103532		0.97(0.63-1.88)		652	
D 33 13C2 PFUnA										
564.8 > 519.8	7.013	7.013	0.0	1.000	974658	48.3		96.5	3145	
32 Perfluoroundecanoic acid										
562.9 > 518.5	7.013	7.013	0.0	1.000	345325	21.3	Target=7.06	106	2213	
562.9 > 168.9	7.013	7.013	0.0	1.000	44970		7.68(3.53-10.58)		389	
D 34 13C8 FOSA										
505.9 > 78.0	7.039	7.039	0.0	1.000	487587	64.7		129	2701	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.039	7.039	0.0	1.000	281149	20.2		101	1541	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.353	7.353	0.0	1.348	455957	15.6		83.0	2053	
D 37 13C2 PFDoA										
614.9 > 569.5	7.695	7.695	0.0	1.000	1191032	46.3		92.5	1788	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.695	7.695	0.0	1.000	460759	20.4	Target=5.37	102	1257	
612.9 > 168.9	7.695	7.695	0.0	1.000	82712		5.57(2.68-8.06)		482	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.313	8.313	0.0	1.080	469085	21.0	Target=4.67	105	1587	
662.9 > 168.9	8.313	8.313	0.0	1.080	94089		4.99(2.34-7.01)		783	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.866	8.866	0.0	0.999	382215	21.1	Target=4.86	105	1482	
712.9 > 168.9	8.879	8.866	0.013	1.001	73009		5.24(2.43-7.30)		528	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.870	8.870	0.0	1.000	1067626	46.2		92.4	805	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L5_00008 Amount Added: 100.00 Units: uL

Report Date: 31-May-2019 11:39:16 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d

Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410

Lims ID: CCVIS

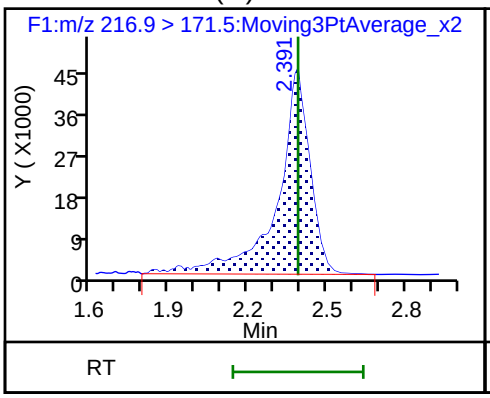
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6

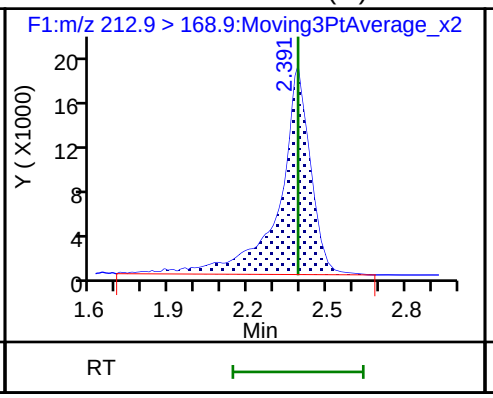
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

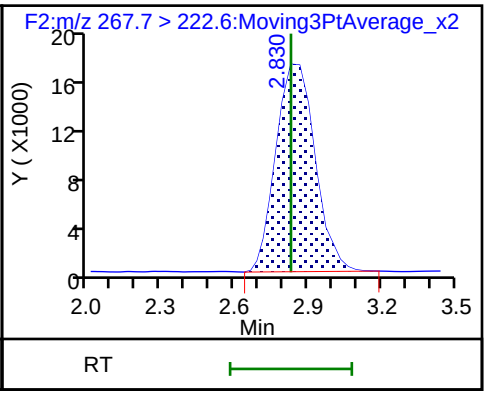
D 1 13C4 PFBA (M)



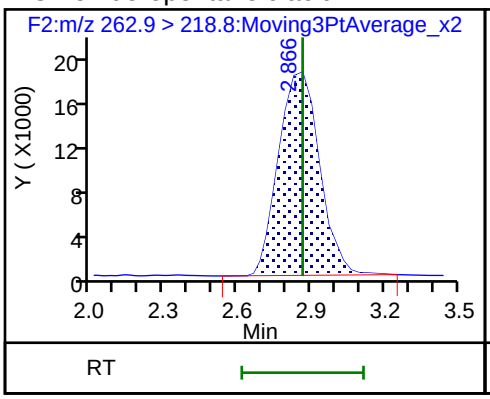
2 Perfluorobutanoic acid (M)



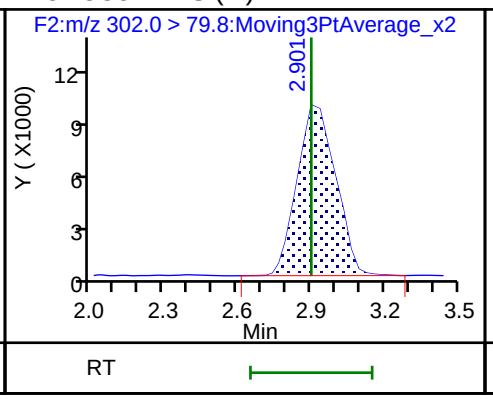
D 4 13C5 PFPeA



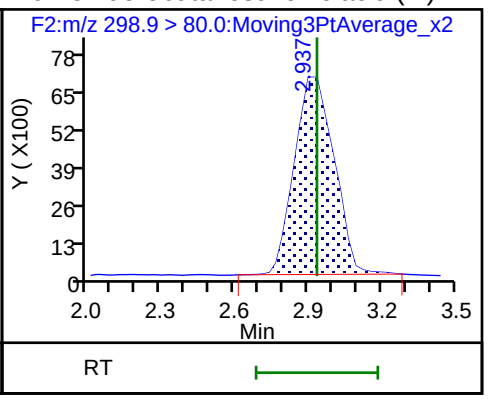
3 Perfluoropentanoic acid



D 5 13C3 PFBS (M)



6 Perfluorobutanesulfonic acid (M)



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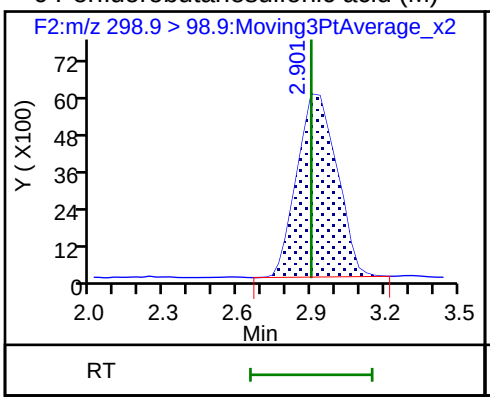
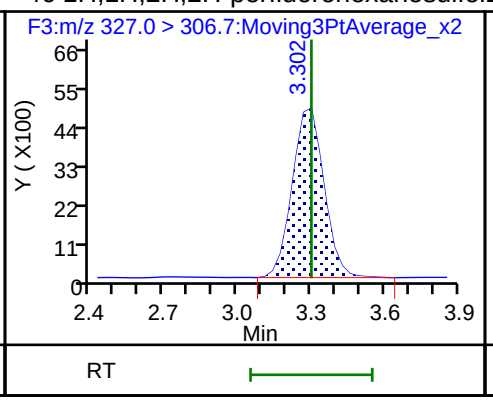
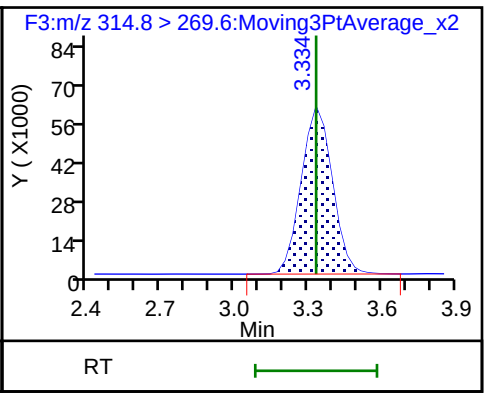


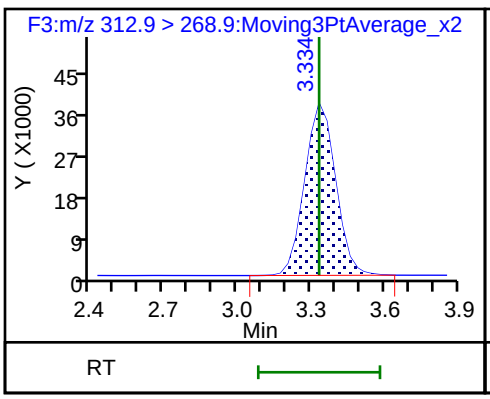
46 1H,1H,2H,2H-perfluorohexanesulfon



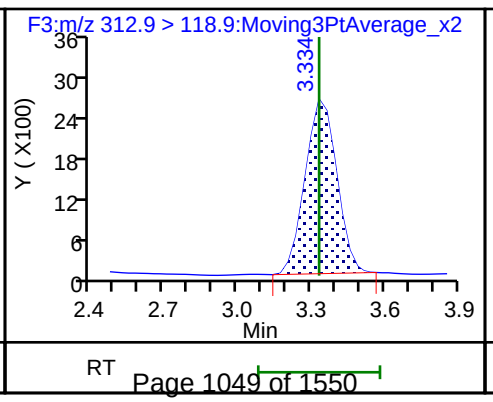
D 8 13C2 PFHxA



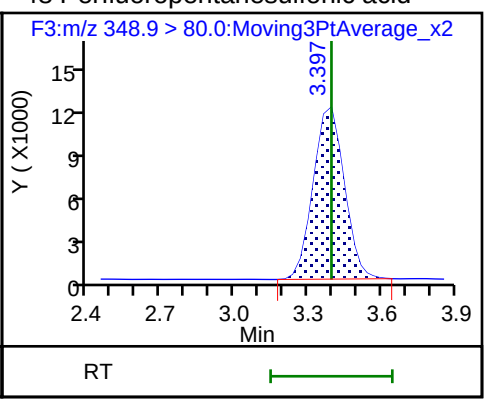
7 Perfluorohexanoic acid



7 Perfluorohexanoic acid



48 Perfluoropentanesulfonic acid



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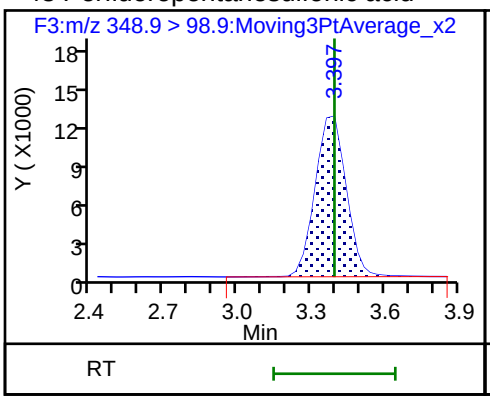
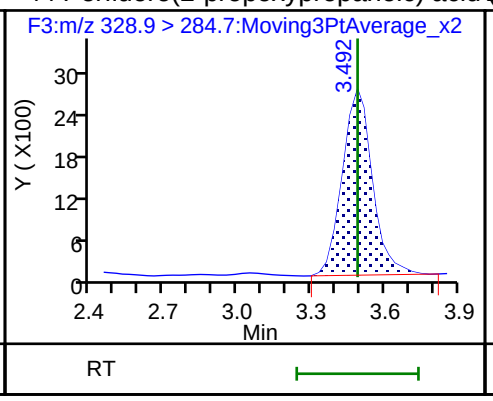
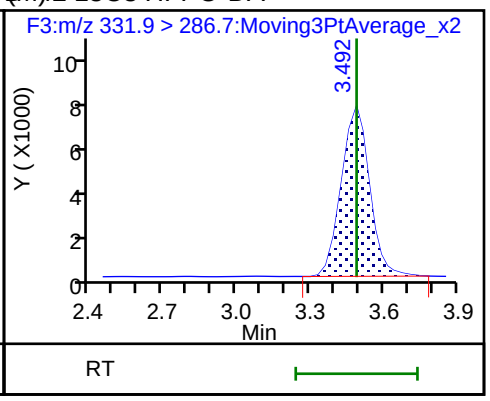


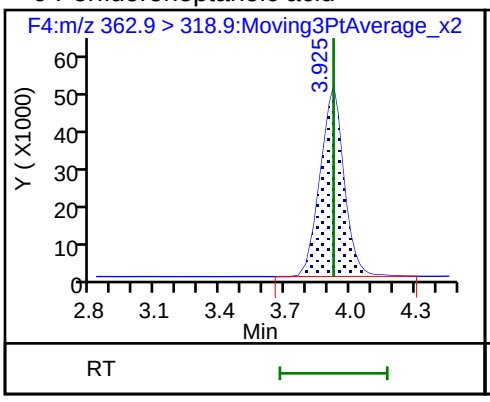
44 Perfluoro(2-propoxypropanoic) acid (M)



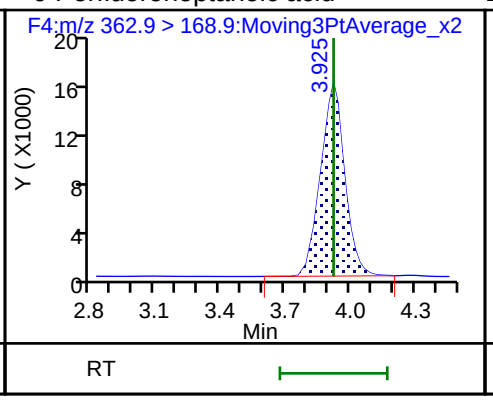
D 12 13C3 HFPO-DA



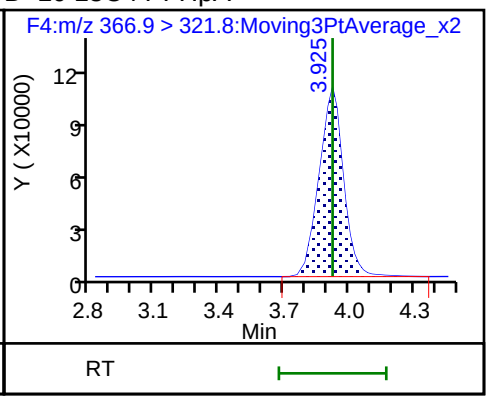
9 Perfluoroheptanoic acid



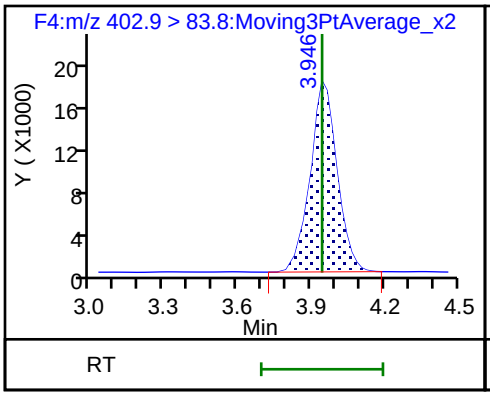
9 Perfluoroheptanoic acid



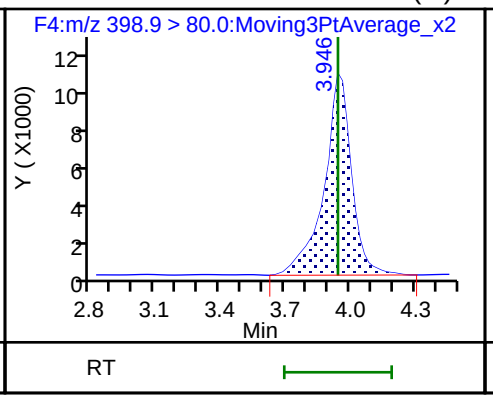
D 10 13C4 PFHpA



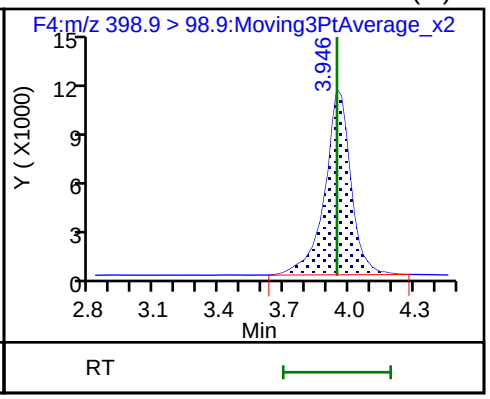
D 12 18O2 PFHxS



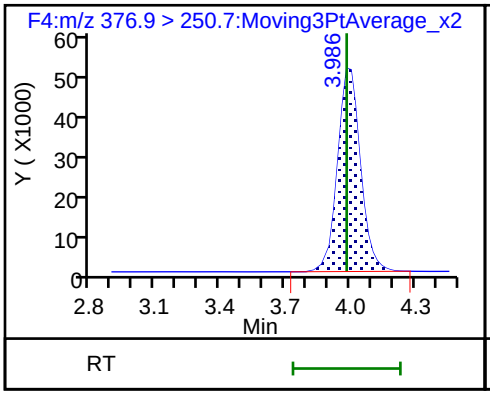
11 Perfluorohexanesulfonic acid (M)



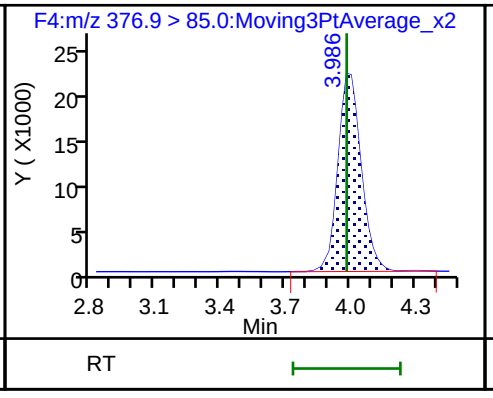
11 Perfluorohexanesulfonic acid (M)



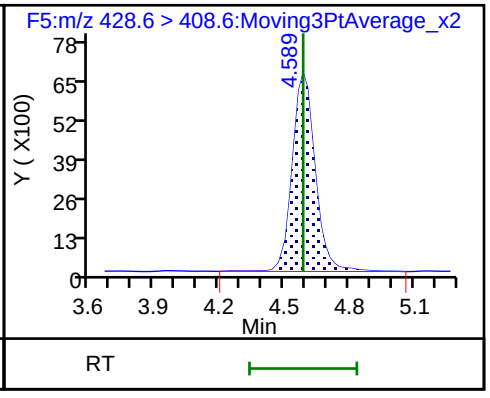
49 DONA



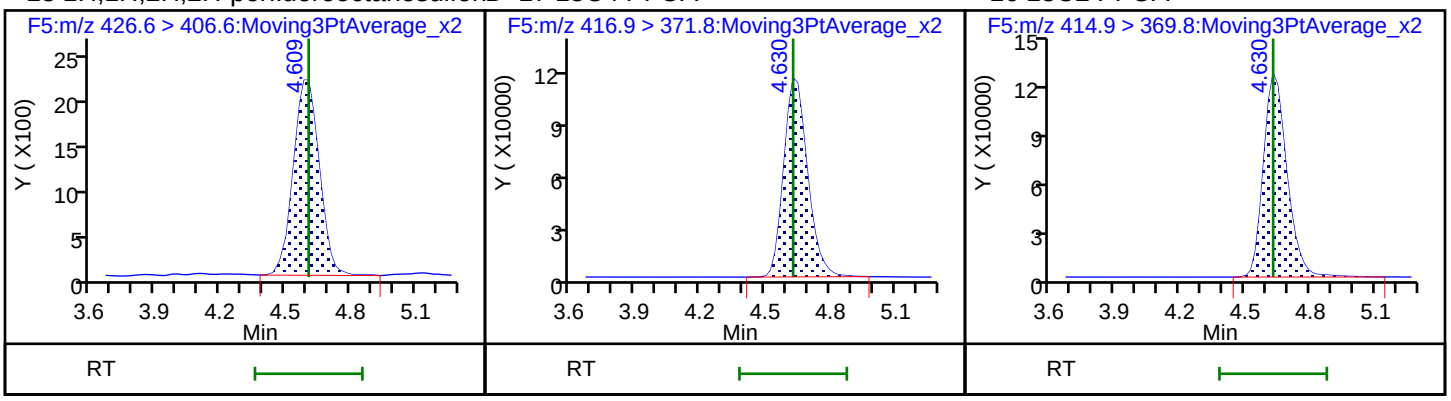
49 DONA



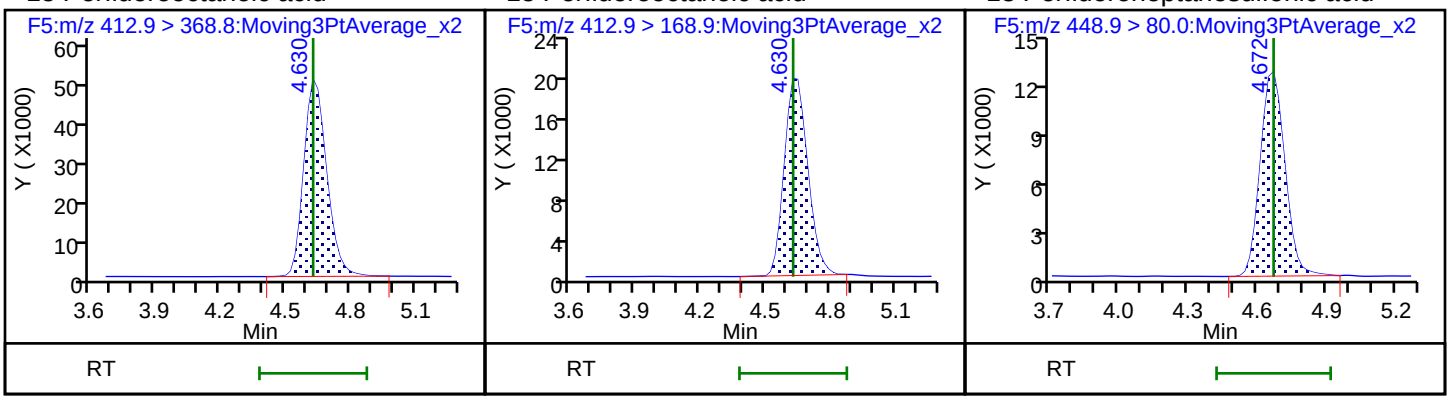
D 14 M2-6:2 FTS



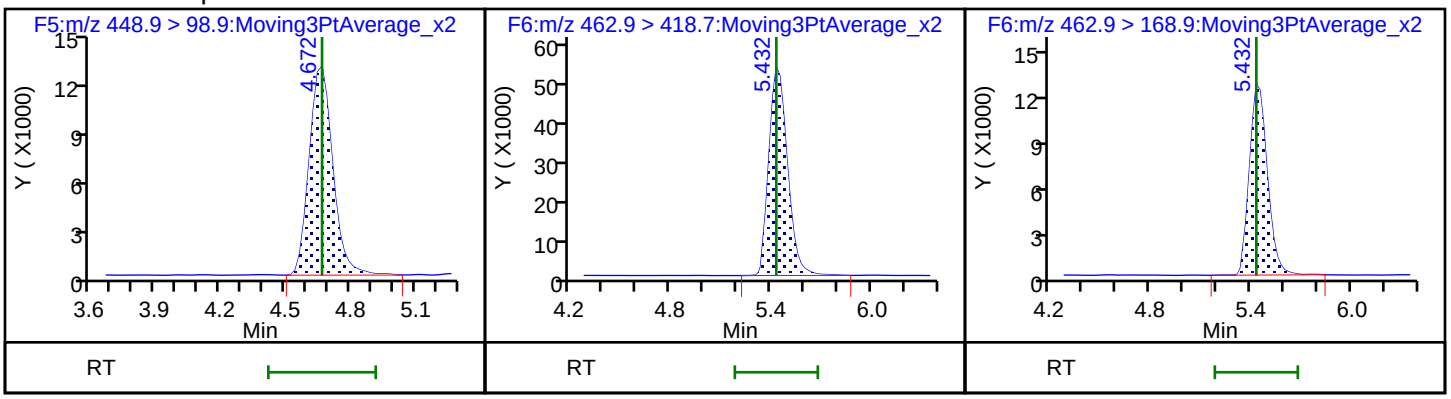
13 1H,1H,2H,2H-perfluorooctanesulfonD 17 13C4 PFOA * 16 13C2 PFOA



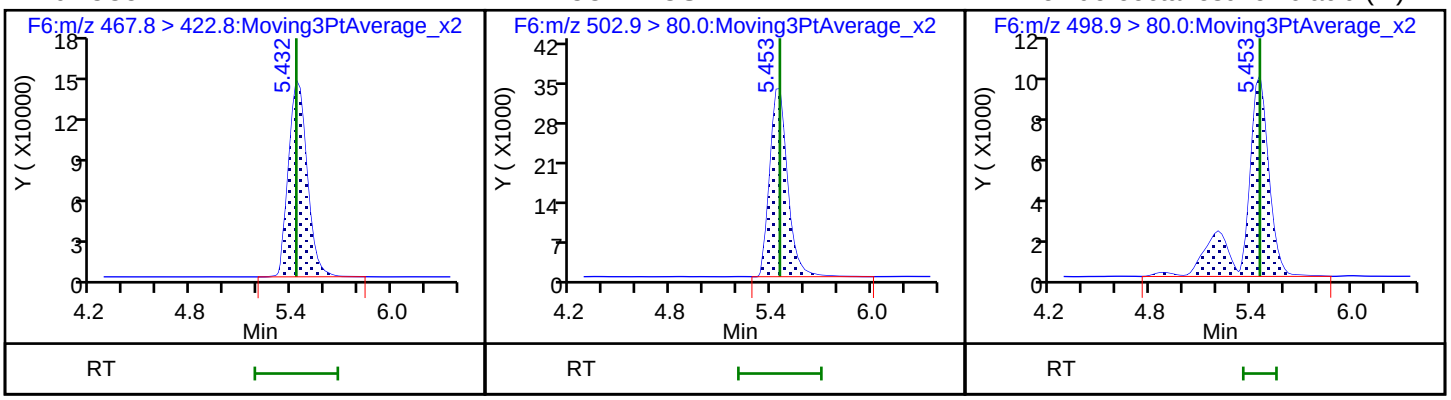
15 Perfluorooctanoic acid 15 Perfluorooctanoic acid 18 Perfluoroheptanesulfonic acid



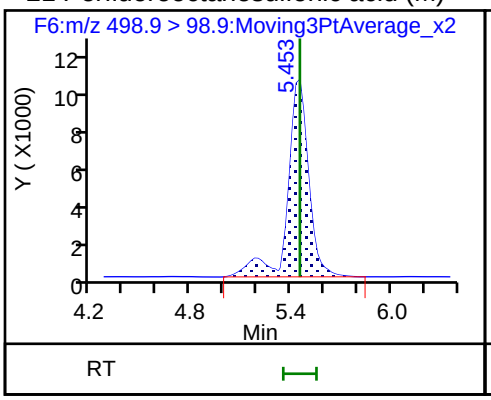
18 Perfluoroheptanesulfonic acid 19 Perfluorononanoic acid 19 Perfluorononanoic acid



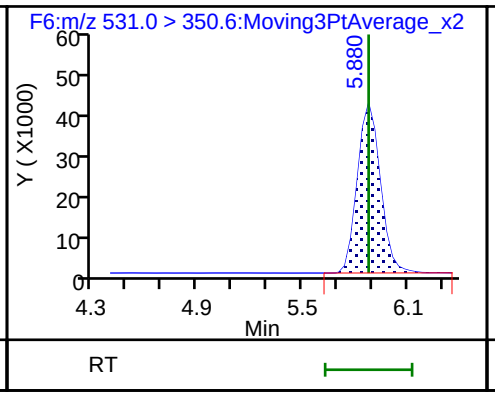
D 20 13C5 PFNA D 22 13C4 PFOS 21 Perfluorooctanesulfonic acid (M)



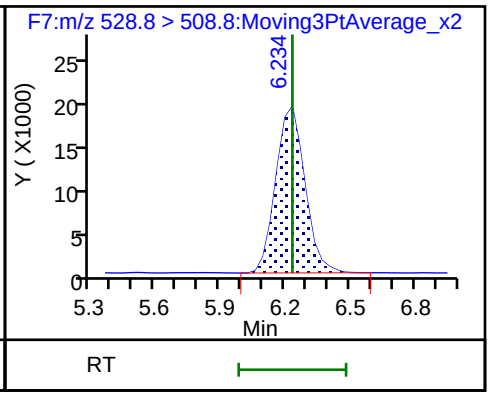
21 Perfluorooctanesulfonic acid (M)



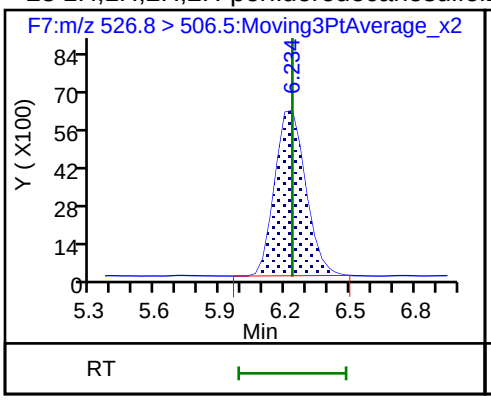
47 9-Chlorohexadecafluoro-3-oxanonane



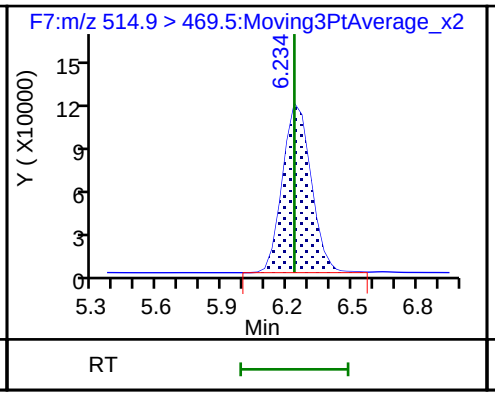
D 24 M2-8:2 FTS



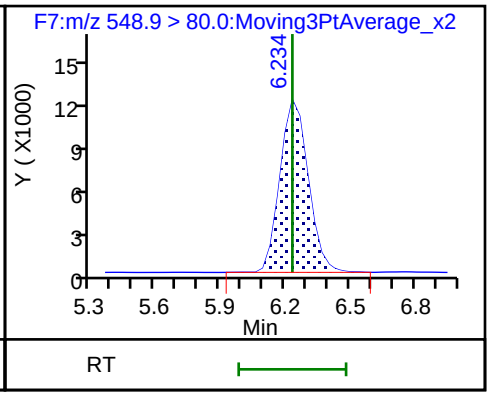
23 1H,1H,2H,2H-perfluorodecanesulfonic



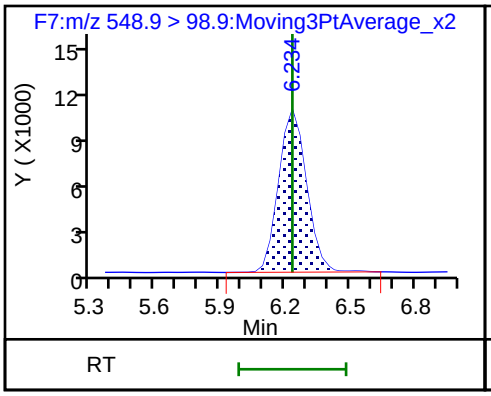
D 25 13C2 PFDA



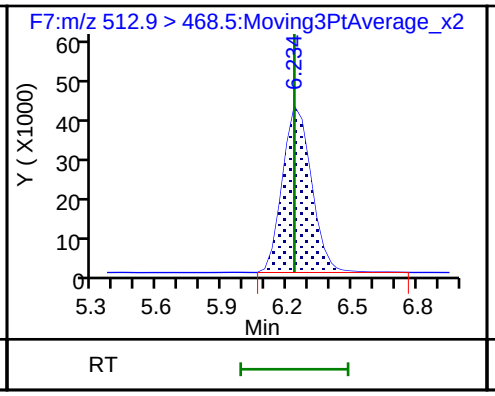
45 Perfluorononanesulfonic acid



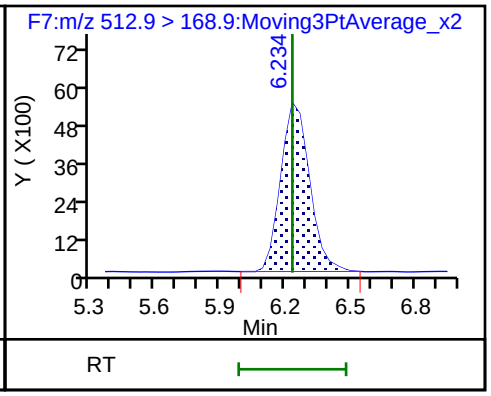
45 Perfluorononanesulfonic acid



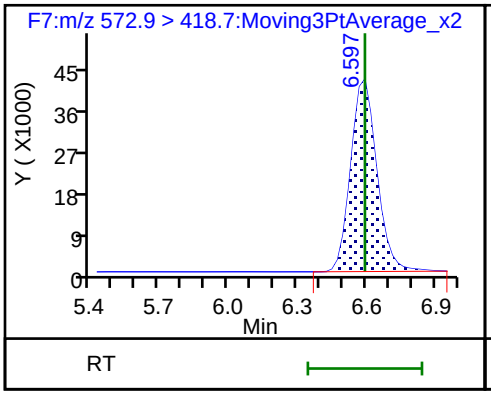
26 Perfluorodecanoic acid



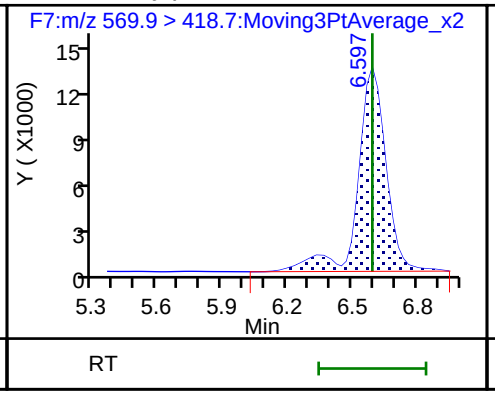
26 Perfluorodecanoic acid



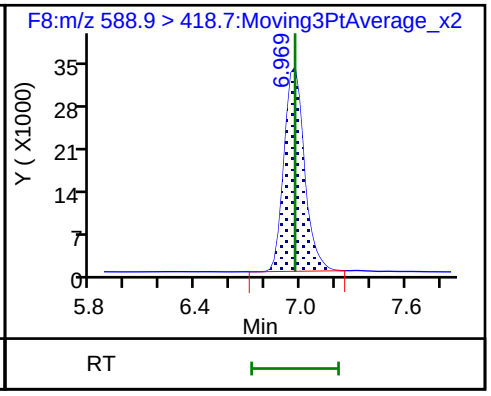
D 27 d3-NMeFOSAA



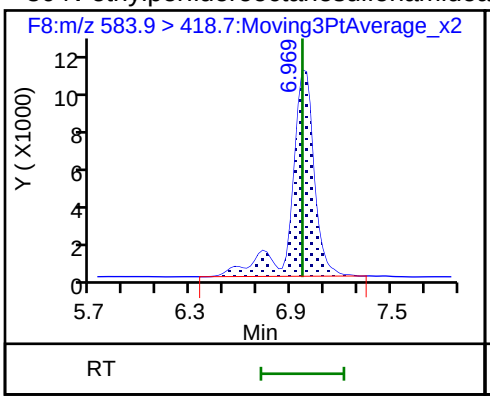
28 N-methylperfluorooctanesulfonamido



D 29 d5-NEtFOSAA



30 N-ethylperfluorooctanesulfonamidoa (M)



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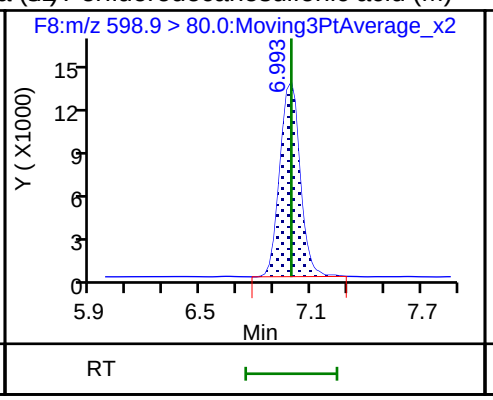
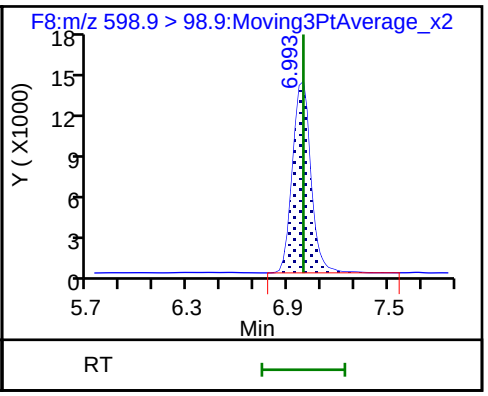
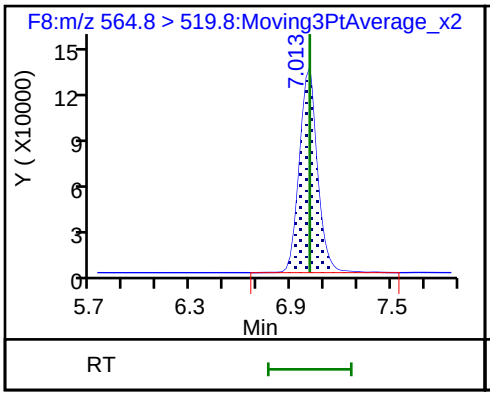


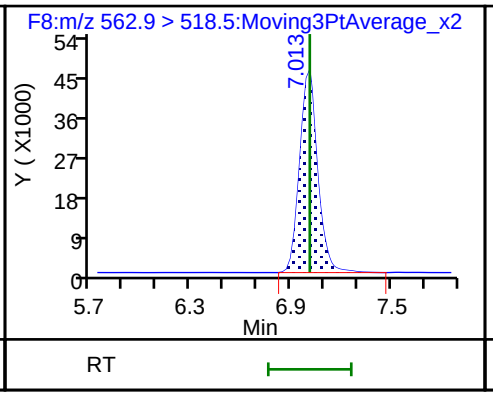
31 Perfluorodecanesulfonic acid



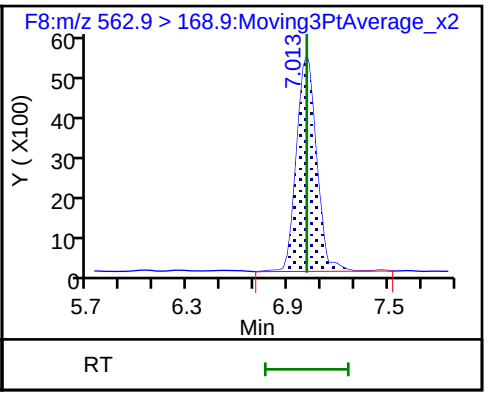
D 33 13C2 PFUnA



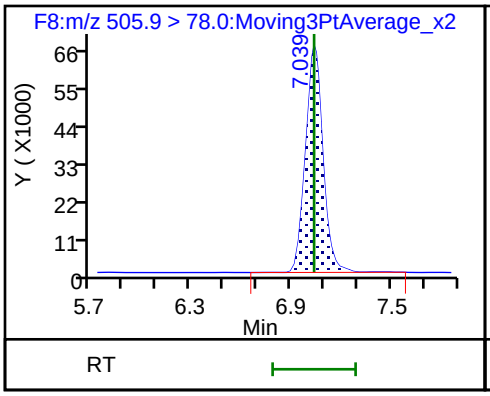
32 Perfluoroundecanoic acid



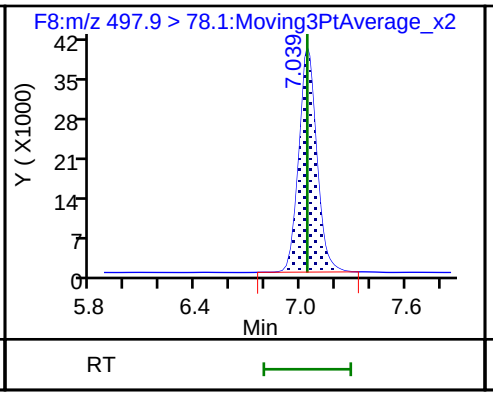
32 Perfluoroundecanoic acid



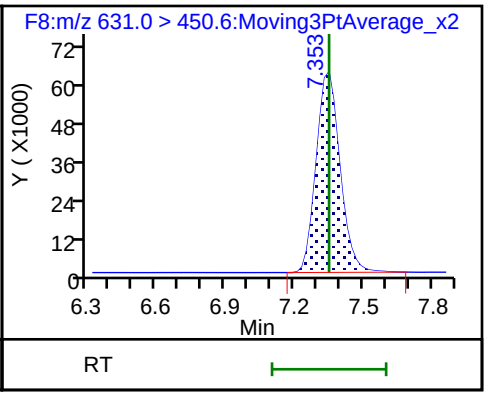
D 34 13C8 FOSA



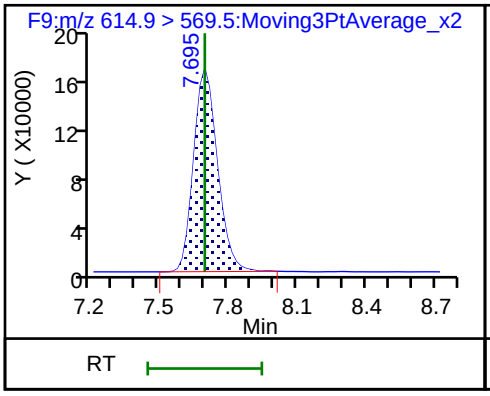
35 Perfluorooctanesulfonamide



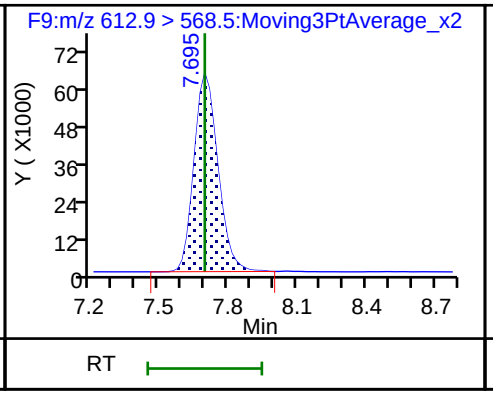
43 11-Chloroeicosafluoro-3-oxaundecan



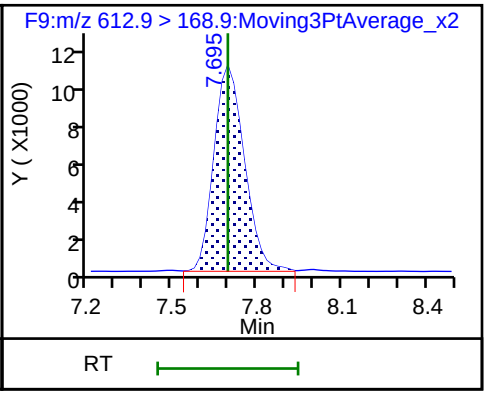
D 37 13C2 PFDoA



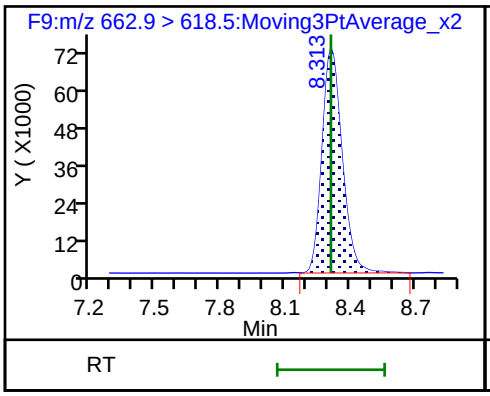
36 Perfluorododecanoic acid



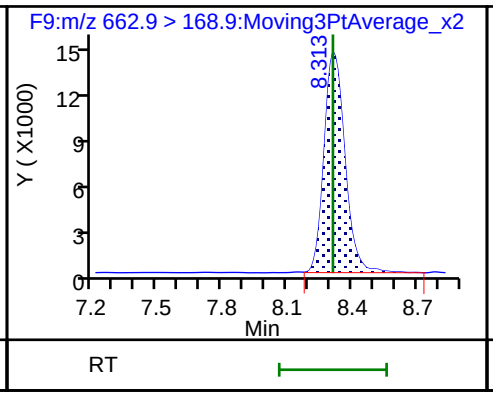
36 Perfluorododecanoic acid



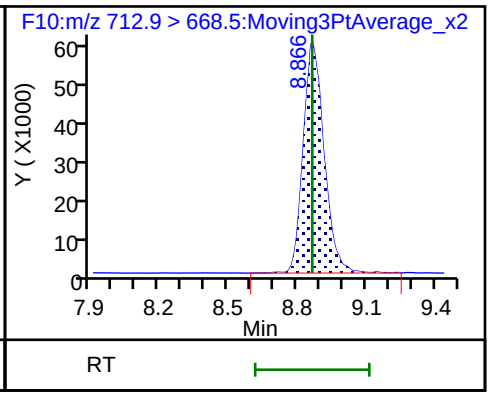
38 Perfluorotridecanoic acid



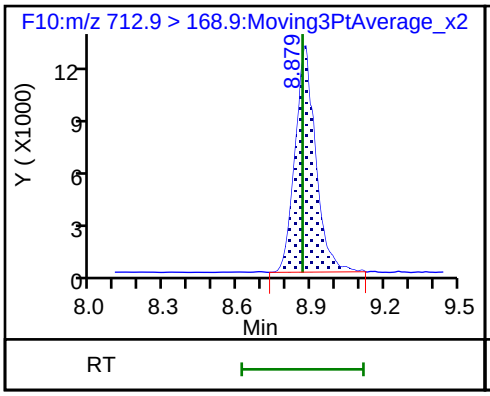
38 Perfluorotridecanoic acid



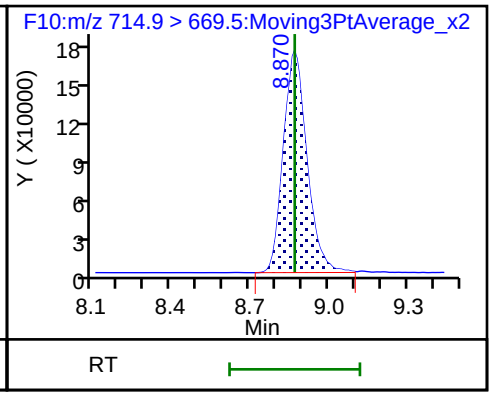
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

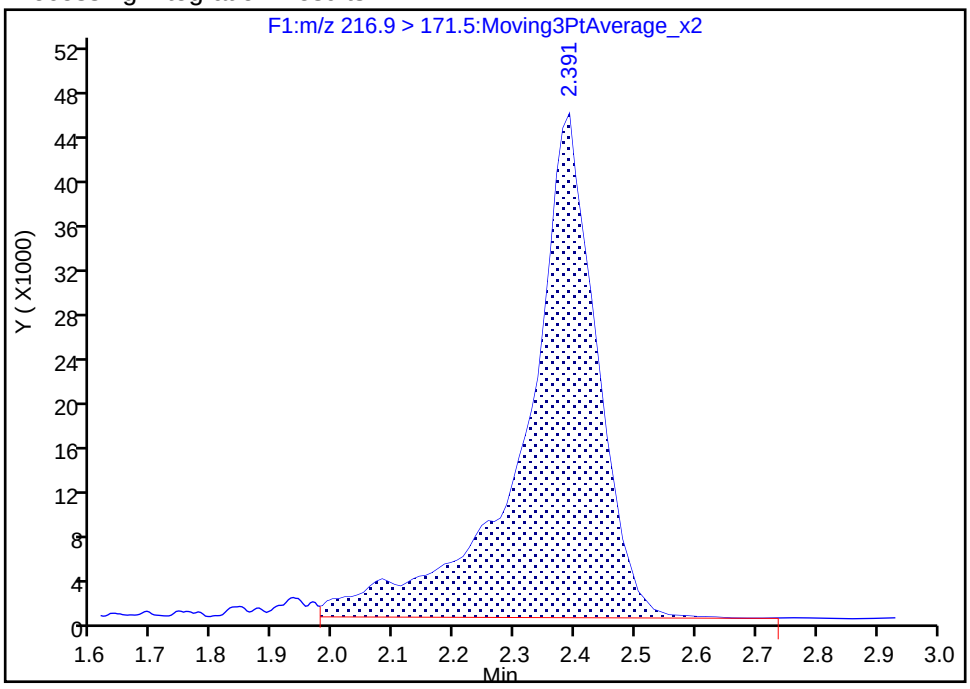
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

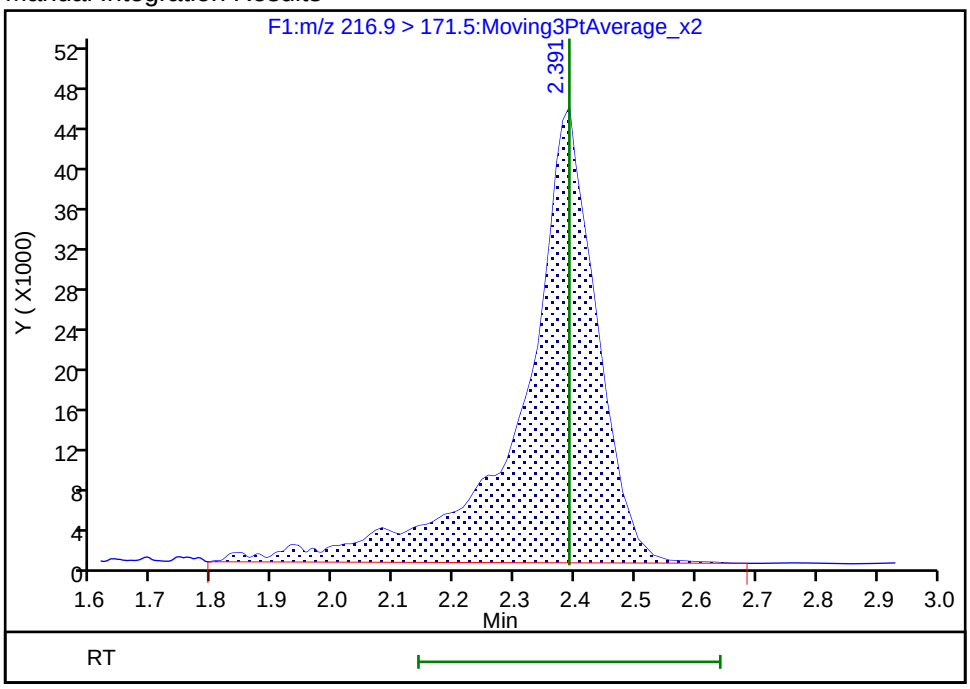
Processing Integration Results

RT: 2.39
Area: 379493
Amount: 82.448931
Amount Units: ng/ml



Manual Integration Results

RT: 2.39
Area: 388611
Amount: 84.429914
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:37:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

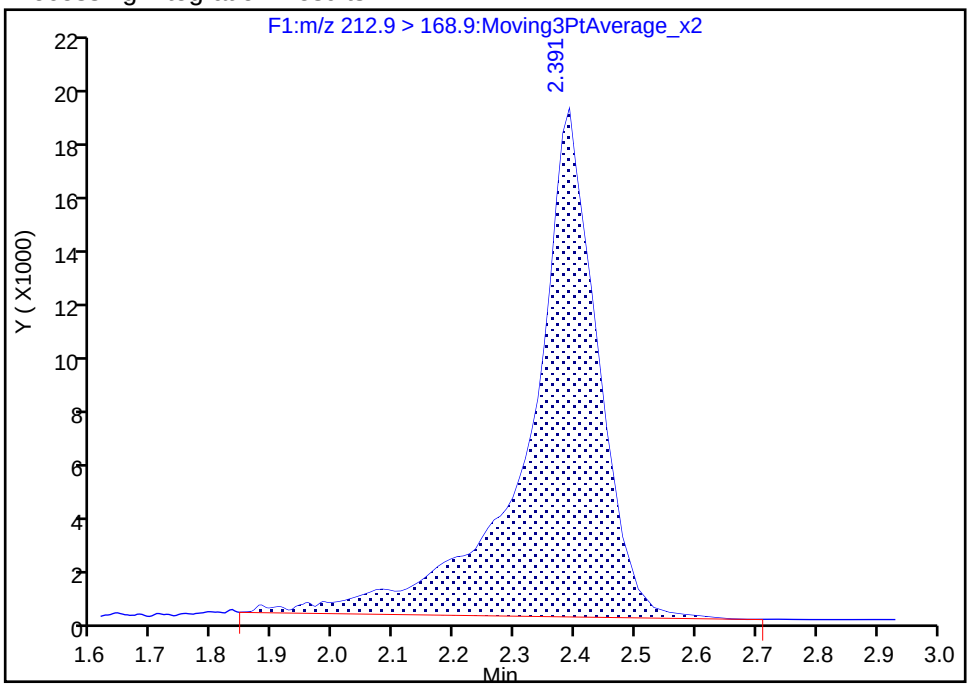
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

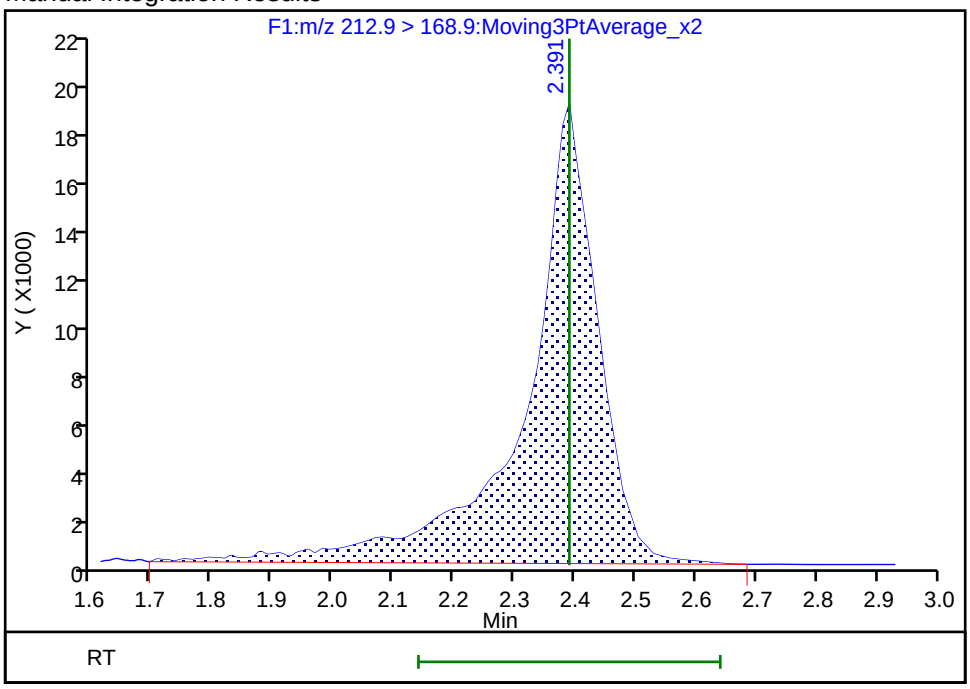
Processing Integration Results

RT: 2.39
Area: 152835
Amount: 12.739158
Amount Units: ng/ml



Manual Integration Results

RT: 2.39
Area: 158208
Amount: 12.965423
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:38:26
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

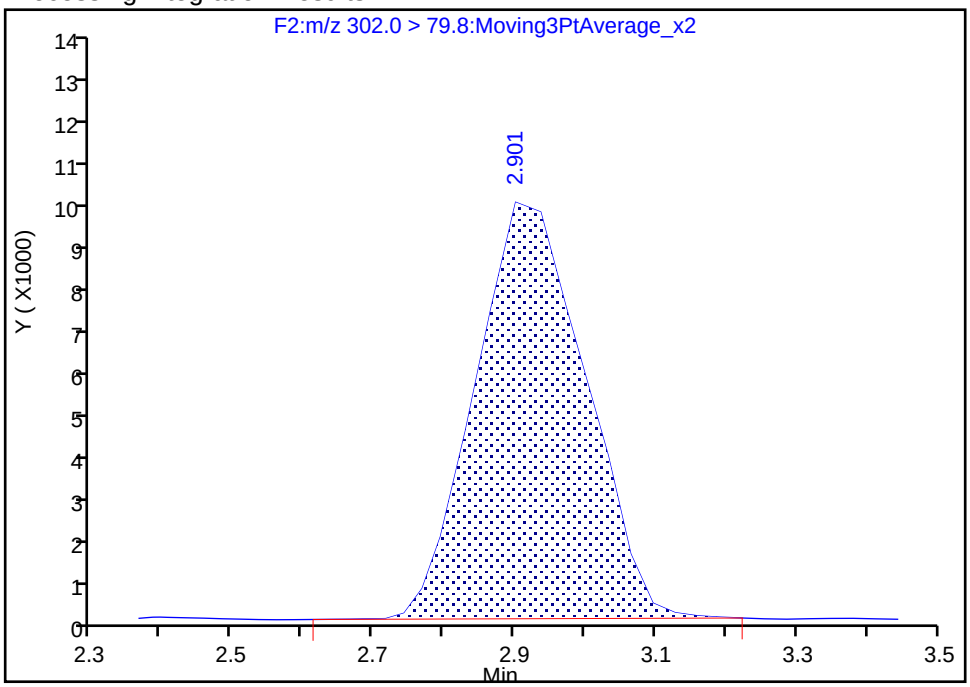
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

D 5 13C3 PFBS, CAS: STL02337

Signal: 1

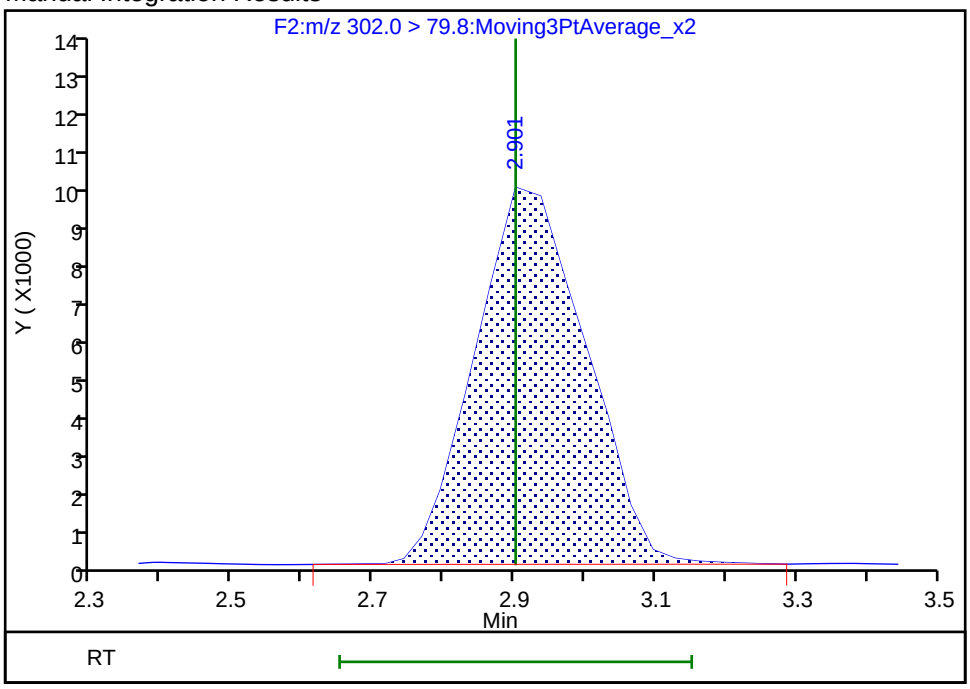
Processing Integration Results

RT: 2.90
Area: 106823
Amount: 70.338972
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 107391
Amount: 70.712979
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:28:47
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

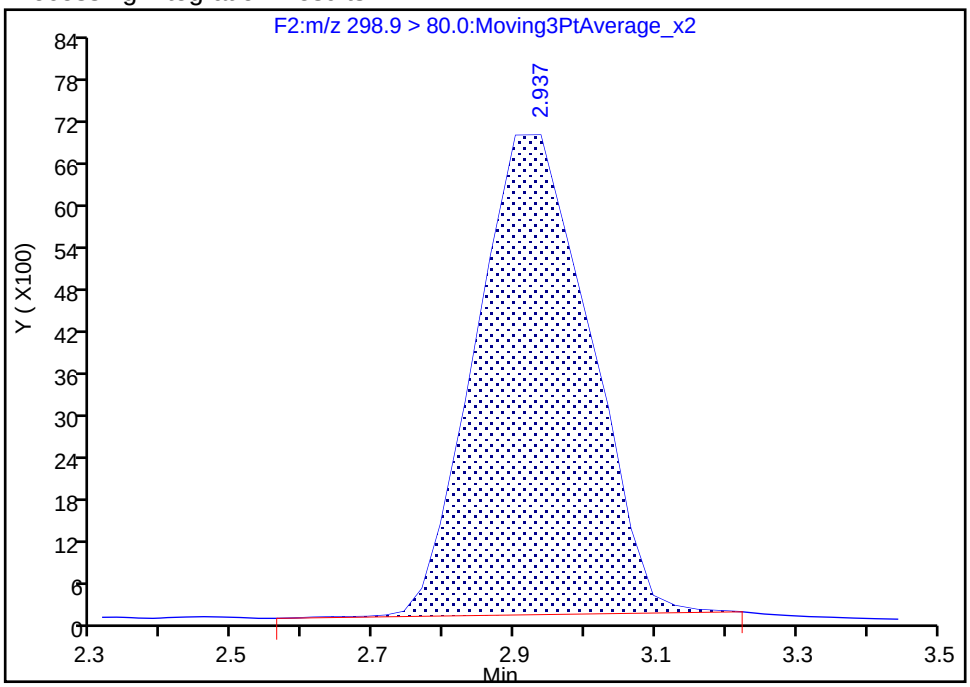
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

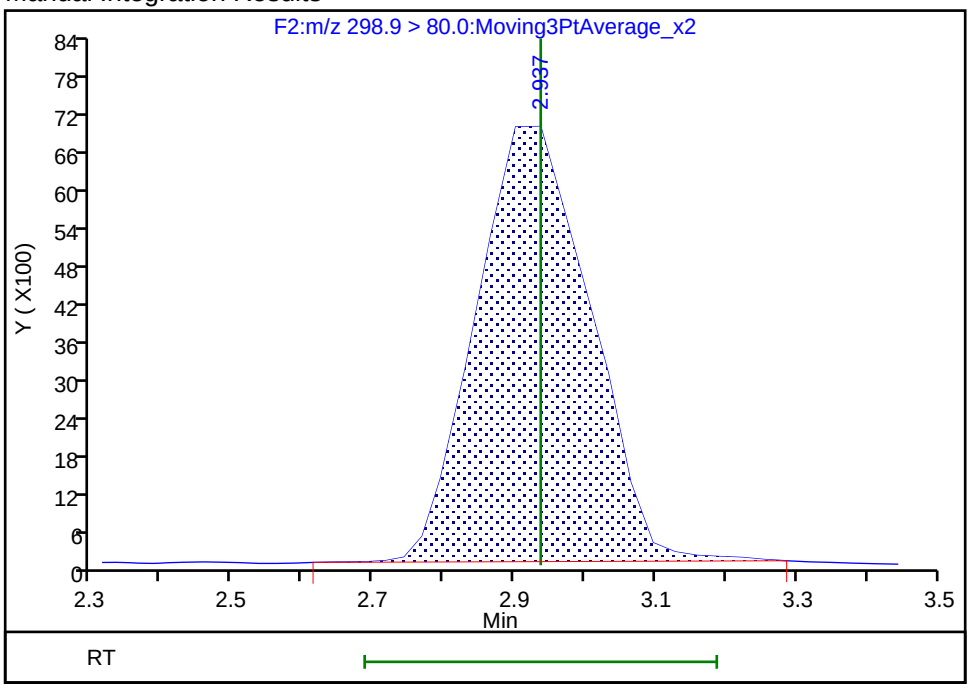
Processing Integration Results

RT: 2.94
Area: 77064
Amount: 13.346541
Amount Units: ng/ml



Manual Integration Results

RT: 2.94
Area: 77983
Amount: 13.434267
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:28:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

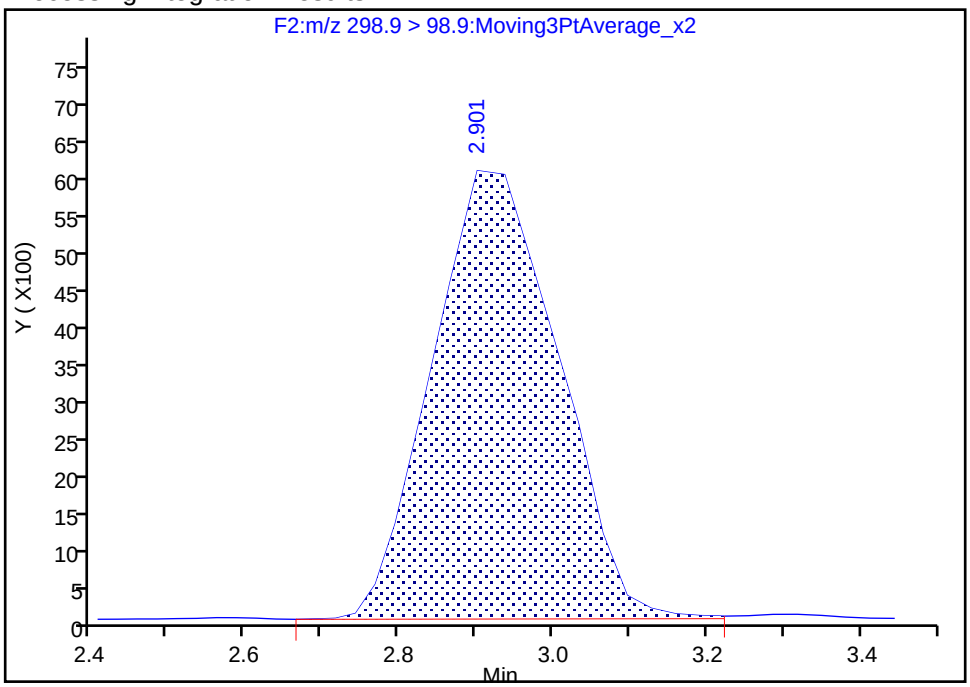
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

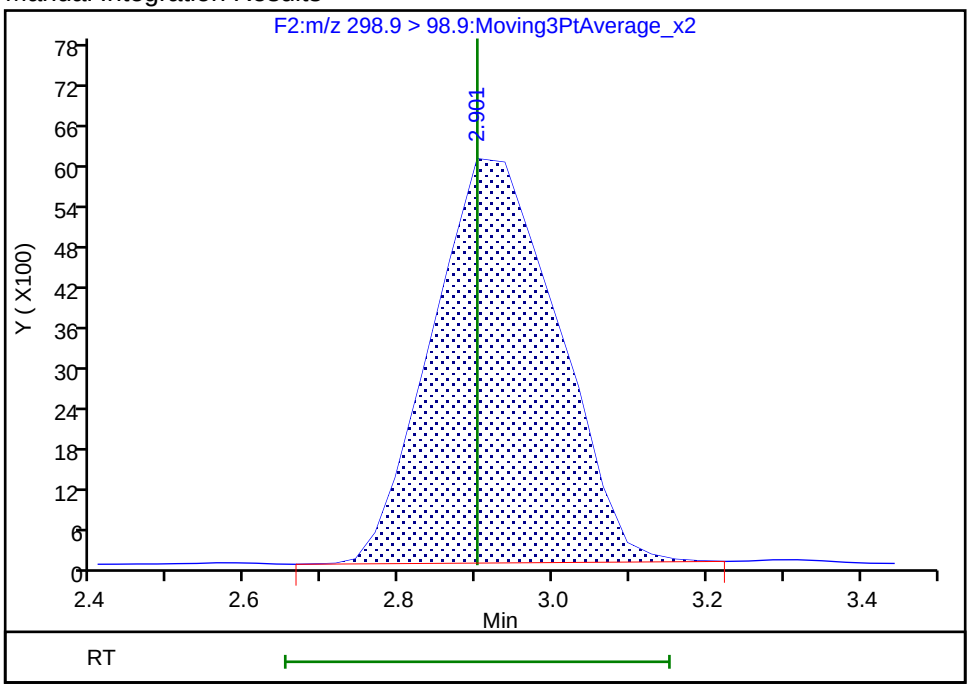
Processing Integration Results

RT: 2.90
Area: 68933
Amount: 13.346541
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 68364
Amount: 13.434267
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:28:32
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

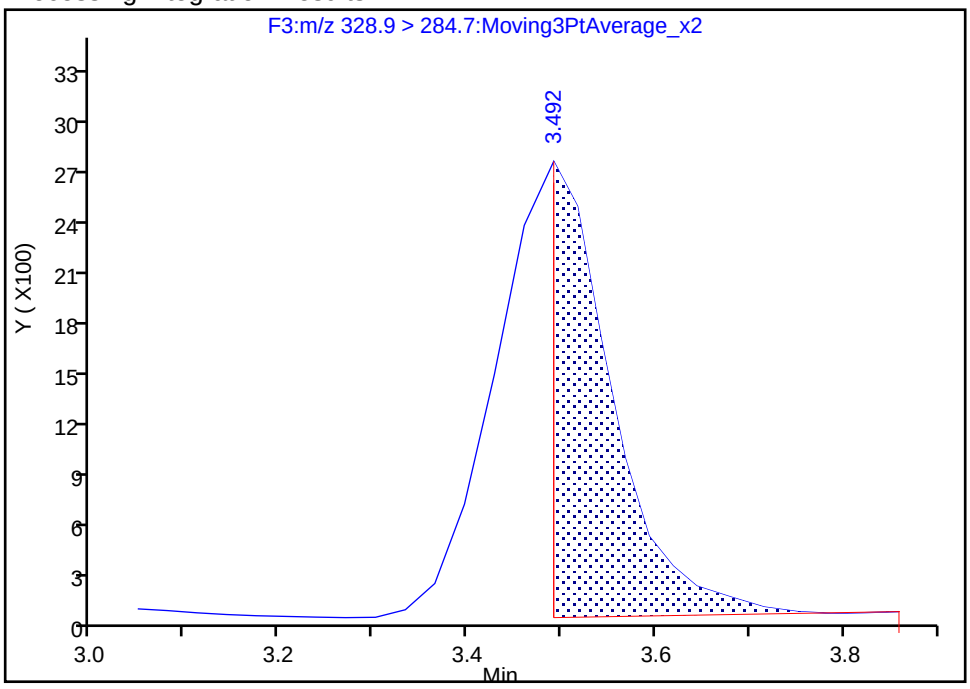
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

44 Perfluoro(2-propoxypropanoic) acid, CAS: 13252-13-6

Signal: 1

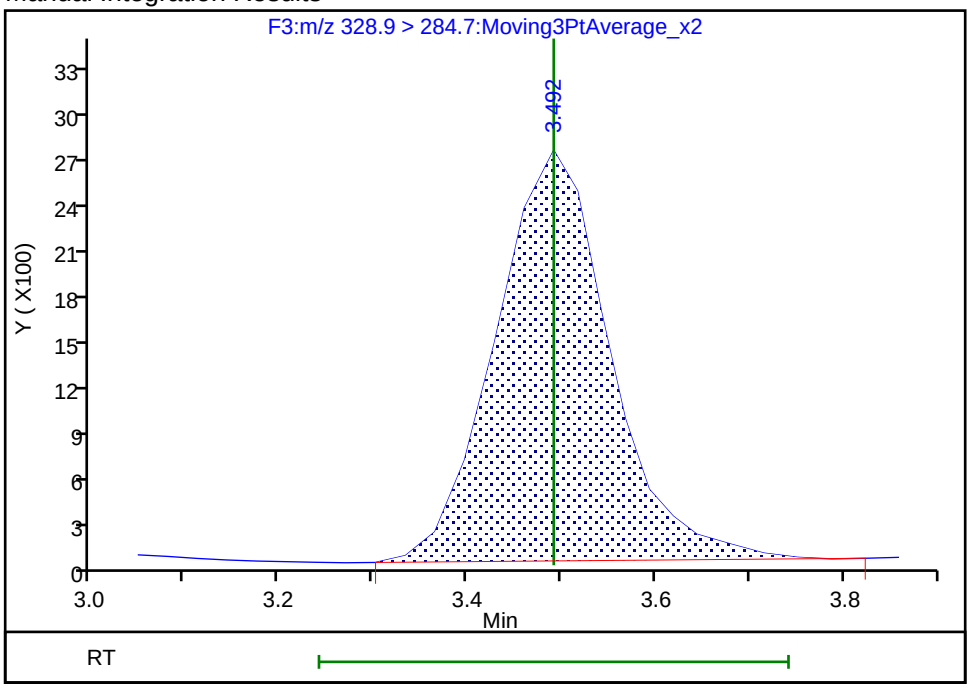
Processing Integration Results

RT: 3.49
Area: 11552
Amount: 9.286704
Amount Units: ng/ml



Manual Integration Results

RT: 3.49
Area: 22409
Amount: 18.014694
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:26:50
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

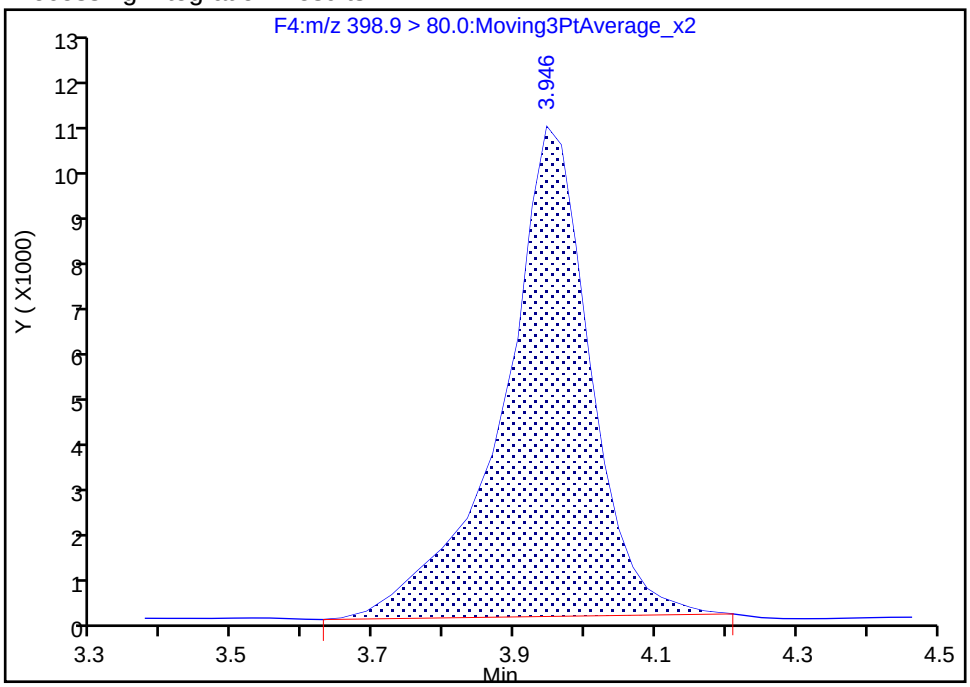
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d				
Injection Date:	30-May-2019 14:06:13	Instrument ID:	LC410		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

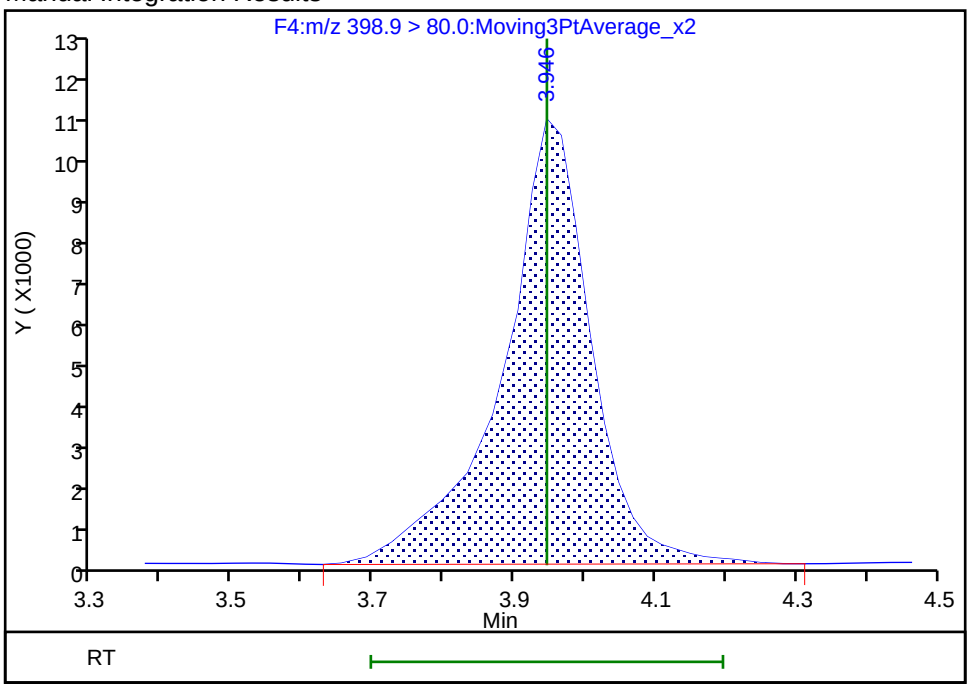
Processing Integration Results

RT: 3.95
Area: 93137
Amount: 15.374949
Amount Units: ng/ml



Manual Integration Results

RT: 3.95
Area: 95228
Amount: 15.720128
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:39:36

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

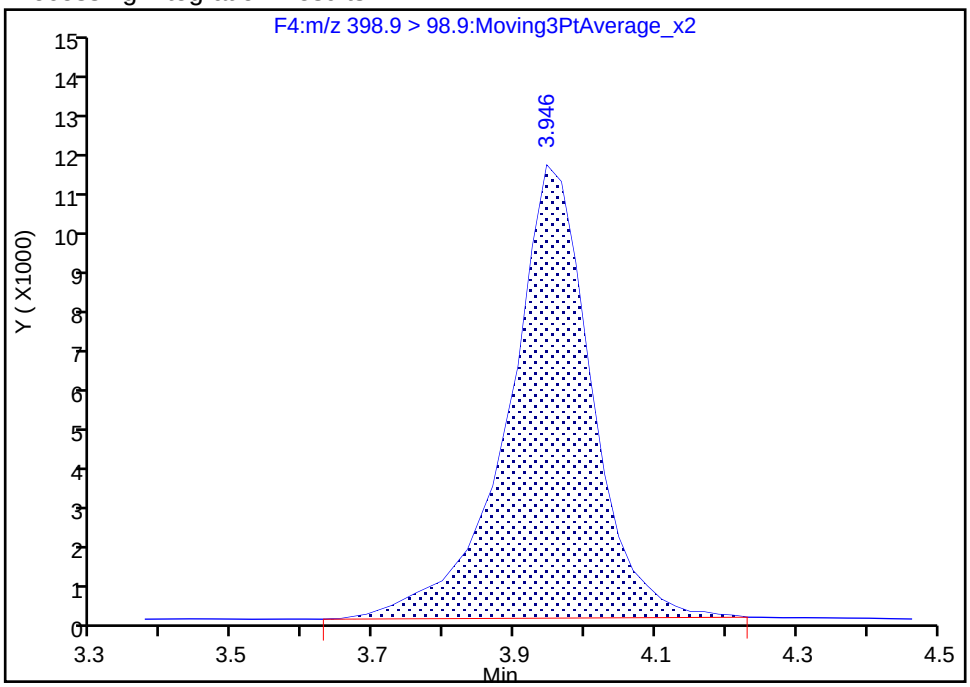
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d				
Injection Date:	30-May-2019 14:06:13	Instrument ID:	LC410		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

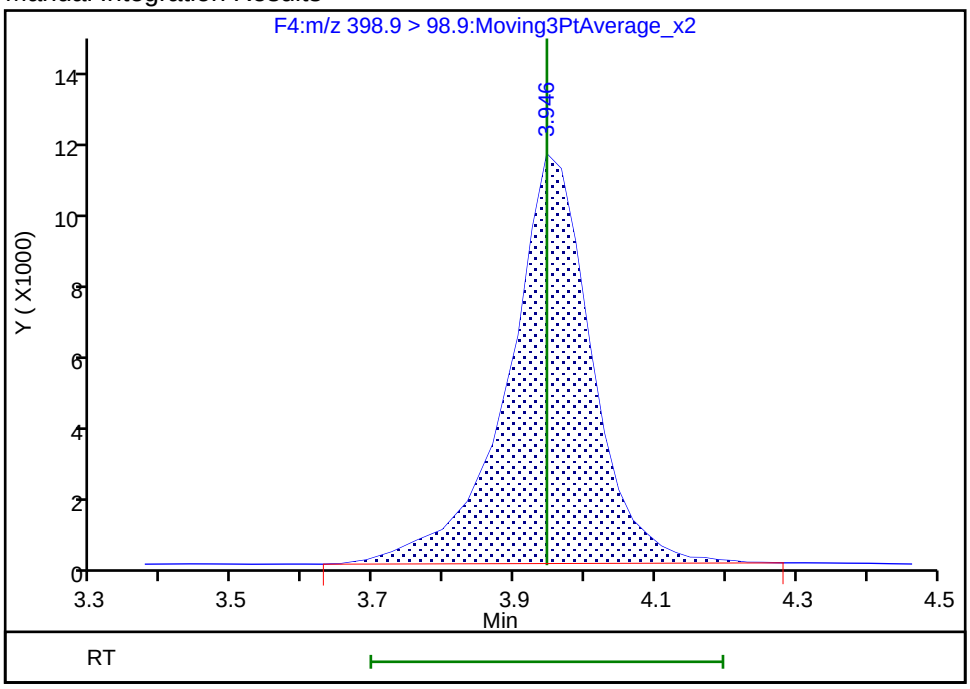
Processing Integration Results

RT: 3.95
Area: 89163
Amount: 15.374949
Amount Units: ng/ml



Manual Integration Results

RT: 3.95
Area: 89458
Amount: 15.720128
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:39:54
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

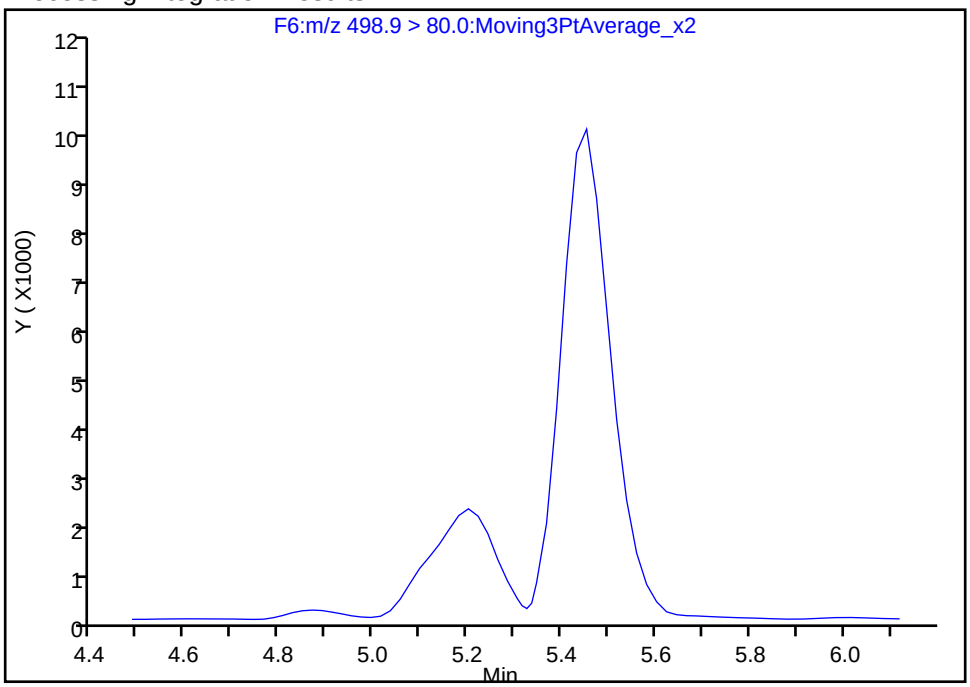
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

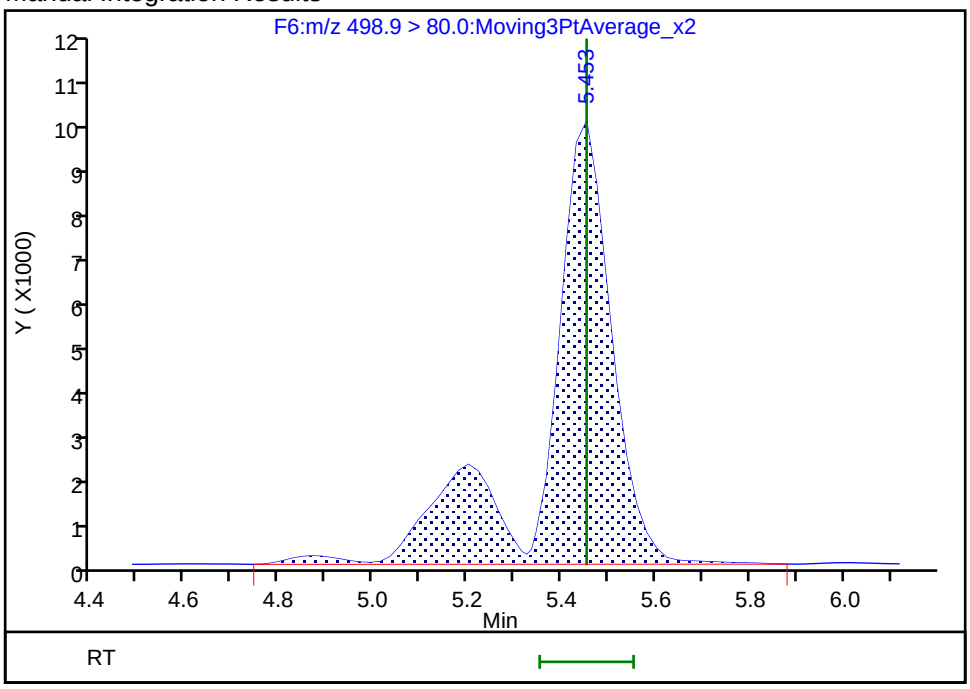
Not Detected
Expected RT: 5.45

Processing Integration Results



Manual Integration Results

RT: 5.45
Area: 94082
Amount: 18.741190
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:27:12
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

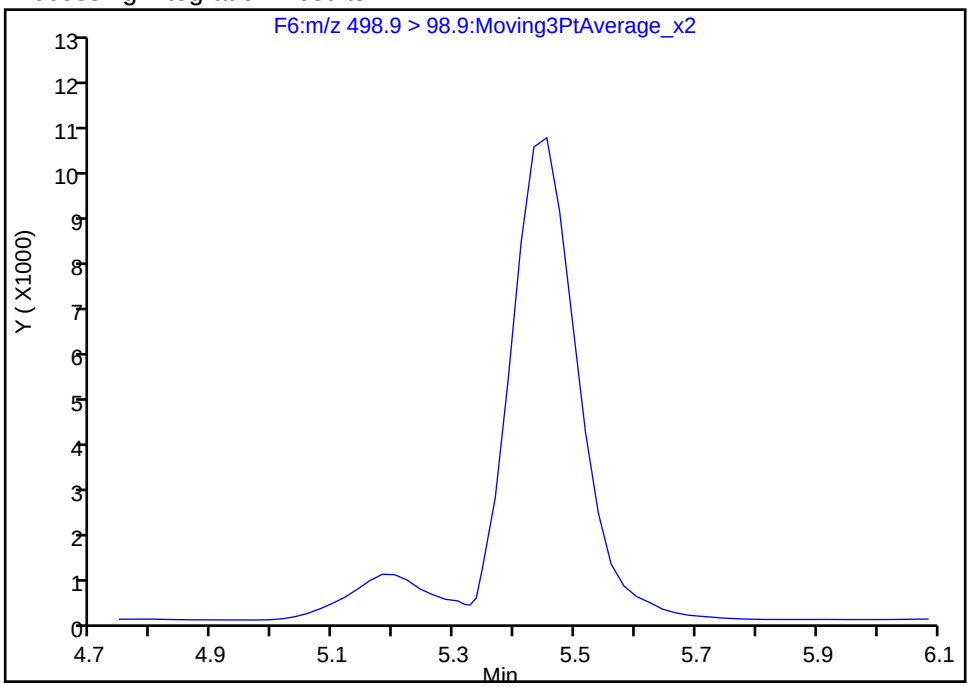
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

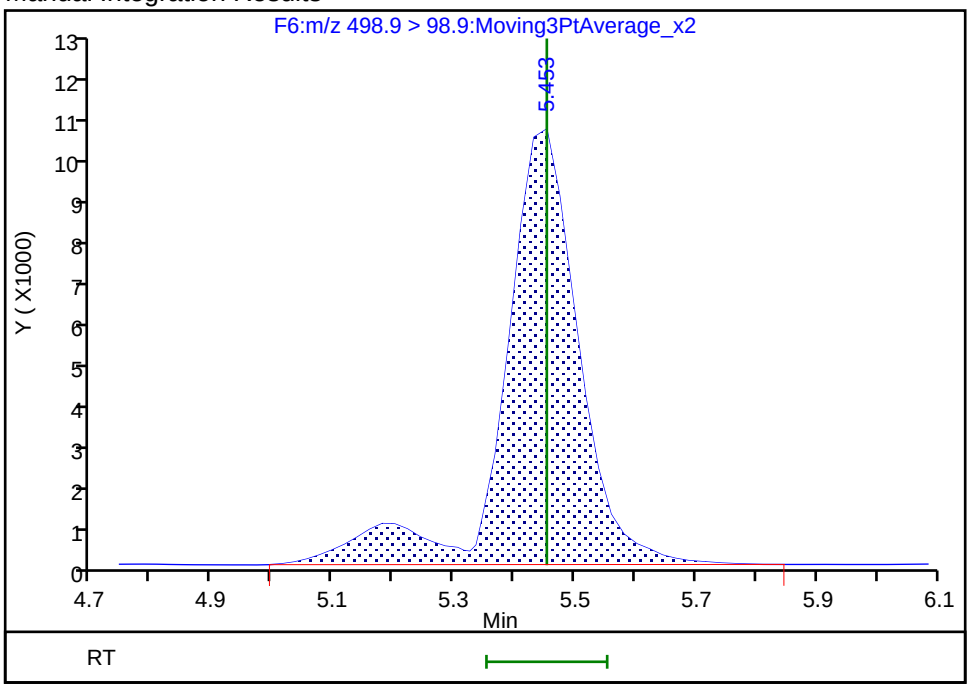
Not Detected
Expected RT: 5.45

Processing Integration Results



Manual Integration Results

RT: 5.45
Area: 86360
Amount: 18.741190
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:27:15
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

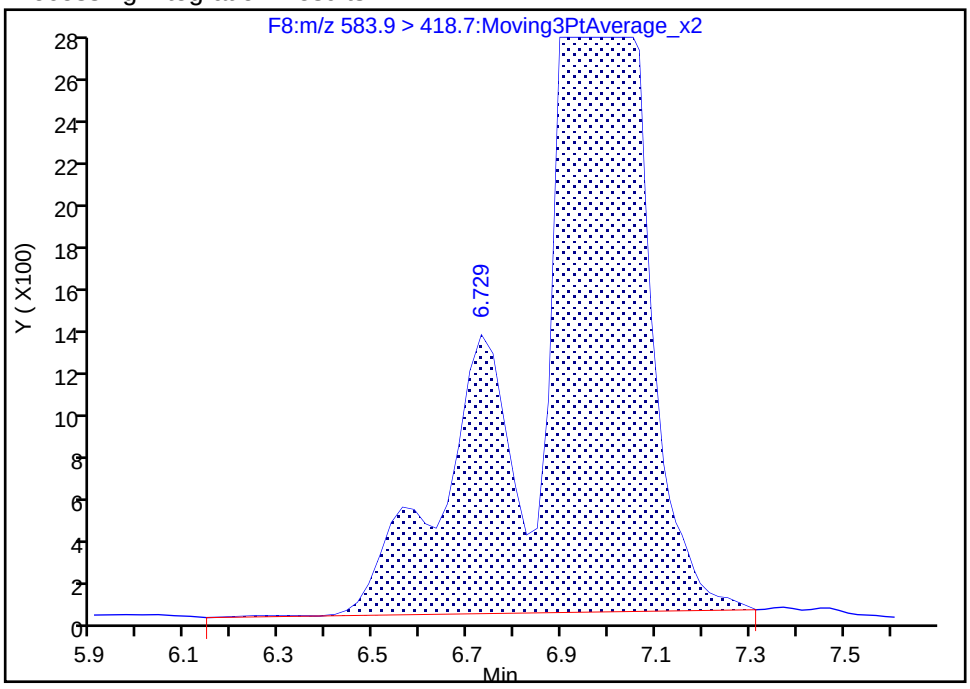
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

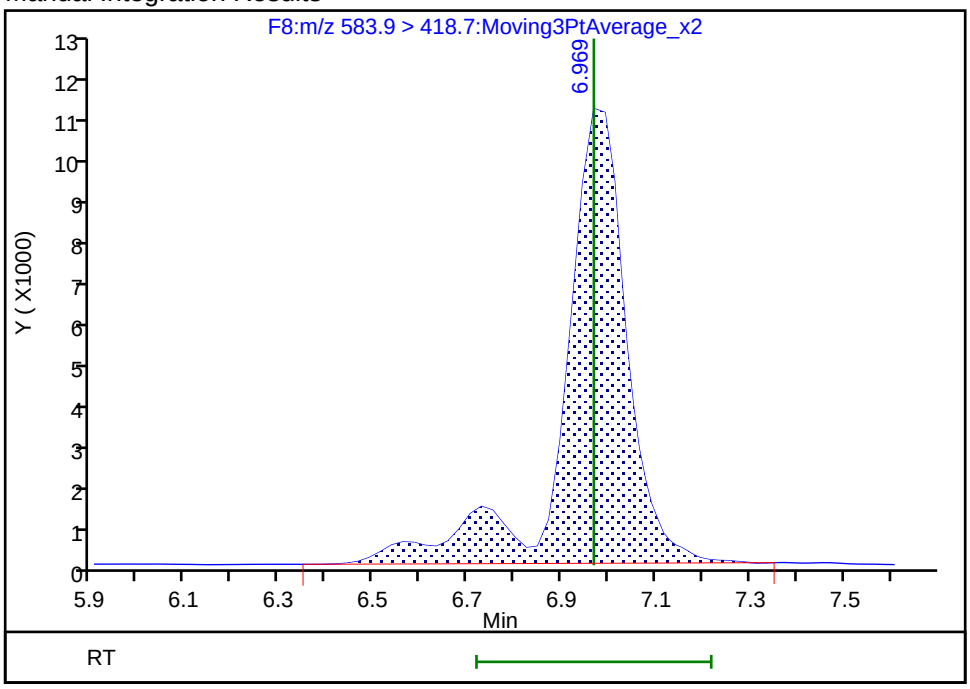
Processing Integration Results

RT: 6.73
Area: 97435
Amount: 22.502947
Amount Units: ng/ml



Manual Integration Results

RT: 6.97
Area: 97127
Amount: 22.431813
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:27:33
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

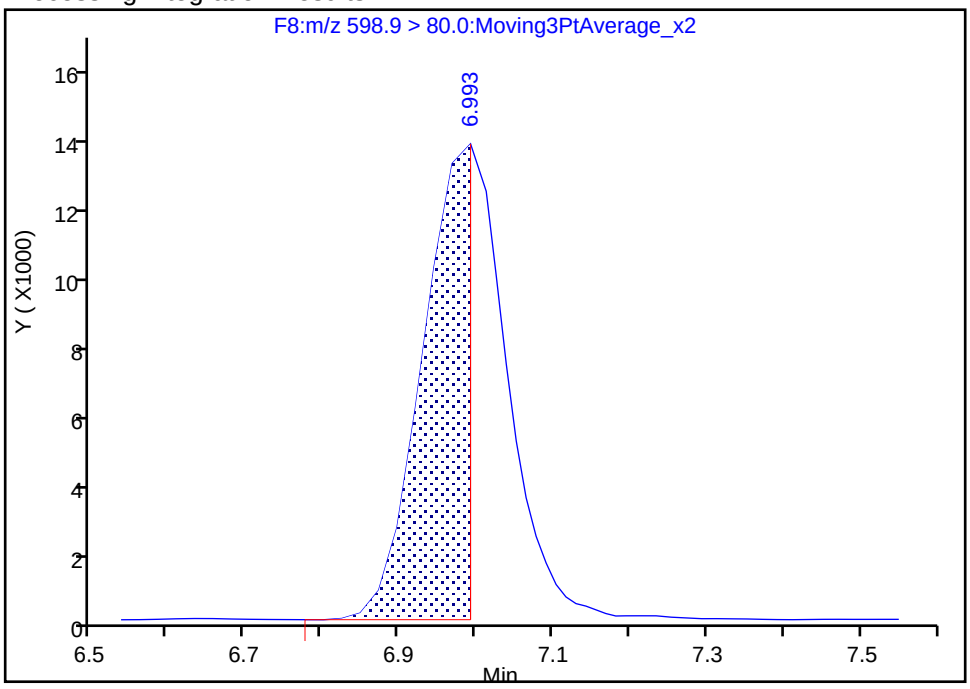
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B06.d
Injection Date: 30-May-2019 14:06:13 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

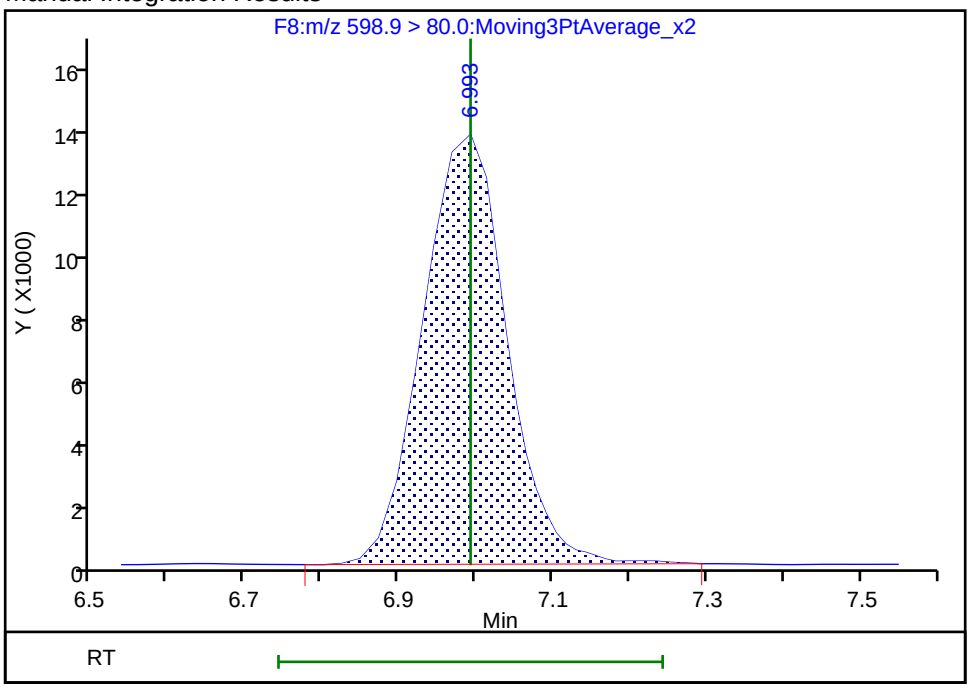
Processing Integration Results

RT: 6.99
Area: 54840
Amount: 10.162303
Amount Units: ng/ml



Manual Integration Results

RT: 6.99
Area: 100670
Amount: 18.654979
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:27:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVL 200-143596/7 Calibration Date: 05/30/2019 14:22

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B07.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	1.246		794	1000	-20.6	50.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	3.166		1060	1000	5.7	50.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	2.280		802	884	-9.3	50.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	0.6360		448	934	-52.0*	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.491		1070	1000	6.7	50.0
Perfluoropentanesulfonic acid	AveID	2.841	2.316		765	938	-18.5	50.0
HFPO-DA	AveID	1.078	1.719		1600	1000	59.5*	50.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.169		996	1000	-0.4	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	2.141		921	910	1.2	50.0
DONA	AveID	4.300	3.927		860	942	-8.7	50.0
6:2 FTS	AveID	0.9451	0.9295		932	948	-1.7	50.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	1.169		1160	1000	15.5	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.8886		972	952	2.1	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	1.081		1220	1000	22.4	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	1.258		1210	928	30.3	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	3.609		765	932	-17.9	50.0
8:2 FTS	AveID	0.7376	0.8995		1170	958	22.0	50.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.8242		900	1000	-10.0	50.0
Perfluorononanesulfonic acid	AveID	0.9697	1.250		1240	960	28.9	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	1.057		1280	1000	28.0	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.8322		1030	1000	3.3	50.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	0.9100		845	964	-12.3	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8318		999	1000	-0.0	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.669		1170	1000	17.2	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	4.612		775	942	-17.8	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.8443		890	1000	-11.0	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	1.027		1100	1000	9.5	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8501		1000	1000	0.2	50.0
13C4 PFBA	Ave	0.2445	0.3702		75700	50000	51.4*	50.0
13C5 PFPeA	Ave	0.1855	0.2060		55500	50000	11.1	50.0
13C3 PFBS	Ave	0.0807	0.1278		73700	46500	58.4*	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVL 200-143596/7 Calibration Date: 05/30/2019 14:22

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B07.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5865		52700	50000	5.4	50.0
13C3 HFPO-DA	Ave	0.0529	0.0658		62200	50000	24.4	50.0
13C4 PFHpA	Ave	0.7840	0.9695		61800	50000	23.7	50.0
18O2 PFHxS	Ave	0.1031	0.1458		66800	47300	41.3	50.0
M2-6:2 FTS	Ave	0.0557	0.0552		47000	47500	-1.0	50.0
13C4 PFOA	Ave	0.9706	1.004		51700	50000	3.4	50.0
13C5 PFNA	Ave	1.302	1.252		48100	50000	-3.9	50.0
13C4 PFOS	Ave	0.2326	0.2923		60100	47800	25.7	50.0
13C2 PFDA	Ave	1.111	1.161		52200	50000	4.5	50.0
M2-8:2 FTS	Ave	0.2026	0.2068		48900	47900	2.1	50.0
d3-NMeFOSAA	Ave	0.3621	0.3617		49900	50000	-0.1	50.0
d5-NEtFOSAA	Ave	0.2986	0.3242		54300	50000	8.6	50.0
13C2 PFUnA	Ave	1.073	1.155		53800	50000	7.7	50.0
13C8 FOSA	Ave	0.4004	0.5149		64300	50000	28.6	50.0
13C2 PFDoA	Ave	1.367	1.325		48400	50000	-3.1	50.0
13C2 PFTeDA	Ave	1.227	1.201		48900	50000	-2.2	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 30-May-2019 14:22:13 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036138-007 CCVL
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 31-May-2019 11:39:19 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0307

First Level Reviewer: murrayjw Date: 30-May-2019 14:46:46
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.391	2.391	0.0	1.000	343975	75.7		151	71.3	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.391	-0.011	0.996	8574	0.7938		79.4	31.0	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.866	2.830	0.036	1.000	191429	55.5		111	482	
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.830	2.866	-0.036	0.988	12122	1.06		106	23.3	M
D 5 13C3 PFBS										M
302.0 > 79.8	2.937	2.901	0.036	1.000	110462	73.7		158	526	M
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.902	2.937	-0.035	0.988	4788	0.8019	Target=1.67	90.7	20.7	M
298.9 > 98.9	2.866	2.901	-0.035	0.976	2388		2.01(0.83-2.51)		9.2	M
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.238	3.302	-0.064	1.103	1411	0.4484		48.0	6.2	M
D 8 13C2 PFHxA										M
314.8 > 269.6	3.334	3.334	0.0	1.000	544891	52.7		105	2839	M
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.334	3.334	0.0	1.000	16253	1.07	Target=14.34	107	168	
312.9 > 118.9	3.334	3.334	0.0	1.000	1278		12.72(7.17-21.51)		12.5	M
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.365	3.397	-0.032	1.146	5161	0.7647	Target=1.23	81.5	34.9	M
348.9 > 98.9	3.365	3.397	-0.032	1.000	4068		1.27(0.62-1.85)		46.2	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.492	3.492	0.0	1.000	2102	1.60		160	19.3	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.492	3.492	0.0	1.000	61128	62.2		124	722	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.926	3.925	0.001	1.000	21059	1.00	Target=2.84	99.6	197	M
362.9 > 168.9	3.946	3.925	0.021	1.005	5337		3.95(1.42-4.26)		55.1	M
D 10 13C4 PFHpA										
366.9 > 321.8	3.926	3.925	0.001	1.000	900780	61.8		124	6060	
D 12 18O2 PFHxS										
402.9 > 83.8	3.966	3.946	0.020	1.000	128130	66.8		141	705	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.946	3.946	0.0	0.995	5278	0.9207	Target=1.34	101	37.0	M
398.9 > 98.9	3.946	3.946	0.0	0.995	4319		1.22(0.67-2.01)		28.9	M
49 DONA										M
376.9 > 250.7	3.987	3.986	0.001	0.731	20092	0.8602	Target=2.33	91.3	143	M
376.9 > 85.0	3.987	3.986	0.001	1.000	9320		2.16(1.16-3.49)		47.1	M
D 14 M2-6:2 FTS										
428.6 > 408.6	4.589	4.589	0.0	1.000	48679	47.0		99.0	408	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.568	4.609	-0.041	0.995	903	0.9323		98.3	9.6	
D 17 13C4 PFOA										
416.9 > 371.8	4.630	4.630	0.0	1.000	932700	51.7		103	1115	
* 16 13C2 PFOA										
414.9 > 369.8	4.630	4.630	0.0		929103	50.0			1484	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.651	4.630	0.021	1.004	21811	1.16	Target=2.43	116	90.0	
412.9 > 168.9	4.651	4.630	0.021	1.004	7029		3.10(1.22-3.64)		39.9	
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.672	4.672	0.0	0.857	4595	0.9717	Target=1.30	102	35.1	M
448.9 > 98.9	4.672	4.672	0.0	1.000	5170		0.89(0.65-1.95)		42.6	M
19 Perfluorononanoic acid										M
462.9 > 418.7	5.432	5.432	0.0	1.000	25133	1.22	Target=5.00	122	212	
462.9 > 168.9	5.432	5.432	0.0	1.000	5573		4.51(2.50-7.50)		44.6	M
D 20 13C5 PFNA										
467.8 > 422.8	5.432	5.432	0.0	1.000	1162820	48.1		96.1	2935	
D 22 13C4 PFOS										
502.9 > 80.0	5.453	5.453	0.0	1.000	259642	60.1		126	1304	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.453	5.453	0.0	1.000	6343	1.21	Target=1.41	130	34.1	M
498.9 > 98.9	5.453	5.453	0.0	1.000	4781		1.33(0.71-2.12)		47.8	M
47 9-Chlorohexadecafluoro-3-oxanonane										M
531.0 > 350.6	5.880	5.880	0.0	1.078	18270	0.7650		82.1	139	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.234	6.234	0.0	1.000	184106	48.9		102	599	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.234	6.234	0.0	1.000	3312	1.17		122	16.2	M
D 25 13C2 PFDA										
514.9 > 469.5	6.234	6.234	0.0	1.000	1078877	52.2		104	1886	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.234	6.234	0.0	1.143	6520	1.24	Target=1.39	129	54.2	
548.9 > 98.9	6.234	6.234	0.0	1.000	3221		2.02(0.69-2.08)		21.4	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.234	6.234	0.0	1.000	17785	0.9003	Target=7.23	90.0	53.2	
512.9 > 168.9	6.234	6.234	0.0	1.000	2424		7.34(3.61-10.84)		16.7	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.597	6.597	0.0	1.000	336029	49.9		99.9	2561	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.597	6.597	0.0	1.000	7104	1.28		128	48.5	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.969	6.969	0.0	1.000	301195	54.3		109	1023	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.993	6.969	0.024	1.003	5013	1.03		103	33.4	
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.993	6.993	0.0	1.282	4765	0.8450	Target=1.25	87.7	26.1	M
598.9 > 98.9	6.993	6.993	0.0	1.000	4908		0.97(0.63-1.88)		37.6	M
D 33 13C2 PFUnA										
564.8 > 519.8	7.013	7.013	0.0	1.000	1073263	53.8		108	7067	
32 Perfluoroundecanoic acid										M
562.9 > 518.5	7.013	7.013	0.0	1.000	17854	1.00	Target=7.06	99.9	115	
562.9 > 168.9	6.993	7.013	-0.020	0.997	3654		4.89(3.53-10.58)		22.9	M
D 34 13C8 FOSA										
505.9 > 78.0	7.039	7.039	0.0	1.000	478396	64.3		129	1914	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	7.052	7.039	0.013	1.002	15968	1.17		117	163	M
43 11-Chloroeicosafluoro-3-oxaundecan										M
631.0 > 450.6	7.353	7.353	0.0	1.348	23600	0.7745		82.2	184	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.695	7.695	0.0	1.000	1230662	48.4		96.9	2259	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.695	7.695	0.0	1.000	20781	0.8899	Target=5.37	89.0	155	
612.9 > 168.9	7.695	7.695	0.0	1.000	5558		3.74(2.68-8.06)		32.8	
38 Perfluorotridecanoic acid										M
662.9 > 618.5	8.313	8.313	0.0	1.080	25273	1.10	Target=4.67	110	242	
662.9 > 168.9	8.313	8.313	0.0	1.080	4180		6.05(2.34-7.01)		39.9	M
39 Perfluorotetradecanoic acid										M
712.9 > 668.5	8.861	8.866	-0.005	1.000	18966	1.00	Target=4.86	100	121	
712.9 > 168.9	8.853	8.866	-0.013	0.999	3916		4.84(2.43-7.30)		29.3	M
D 40 13C2 PFTeDA										
714.9 > 669.5	8.866	8.870	-0.004	1.000	1115534	48.9		97.8	722	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L1_00006 Amount Added: 100.00 Units: uL

Report Date: 31-May-2019 11:39:19 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d

Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410

Lims ID: CCVL

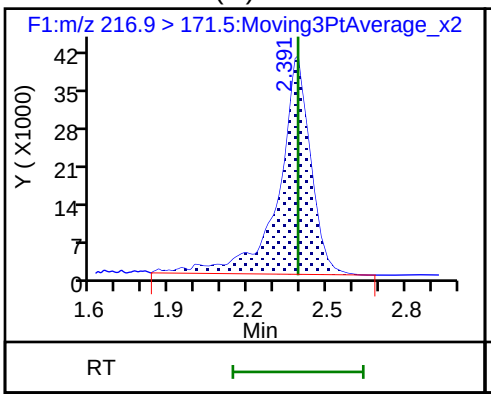
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7

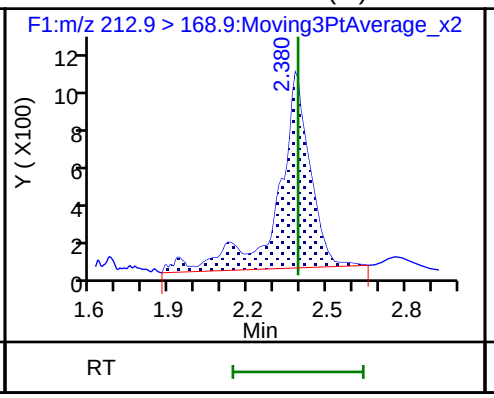
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

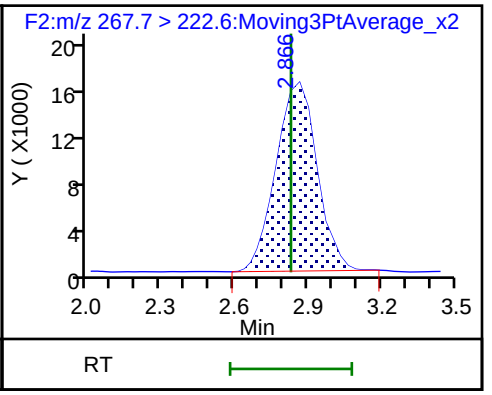
D 1 13C4 PFBA (M)



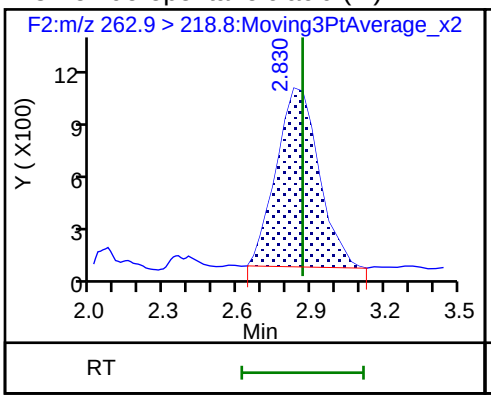
2 Perfluorobutanoic acid (M)



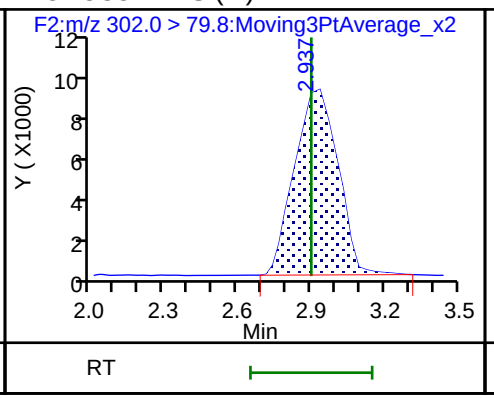
D 4 13C5 PFPeA



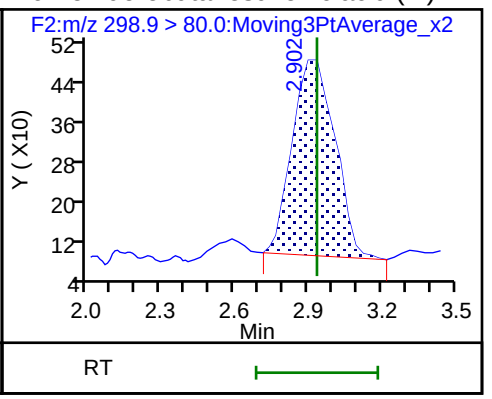
3 Perfluoropentanoic acid (M)



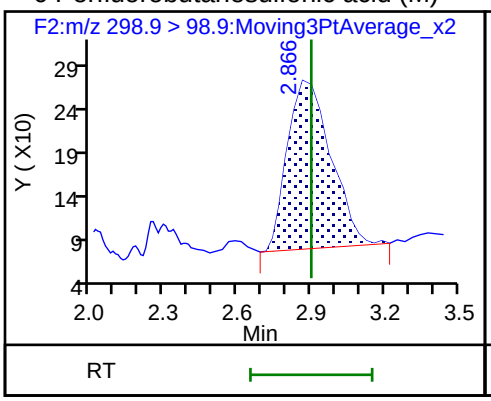
D 5 13C3 PFBS (M)



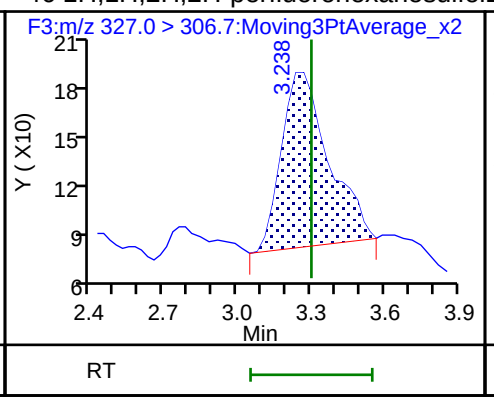
6 Perfluorobutanesulfonic acid (M)



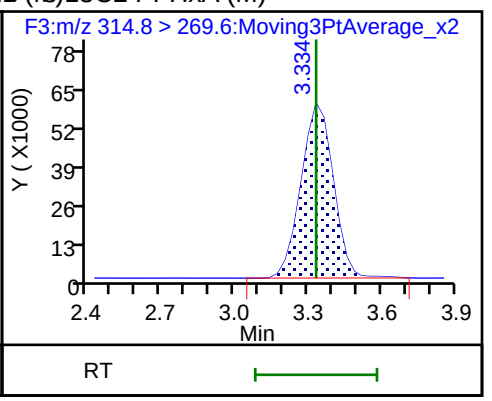
6 Perfluorobutanesulfonic acid (M)



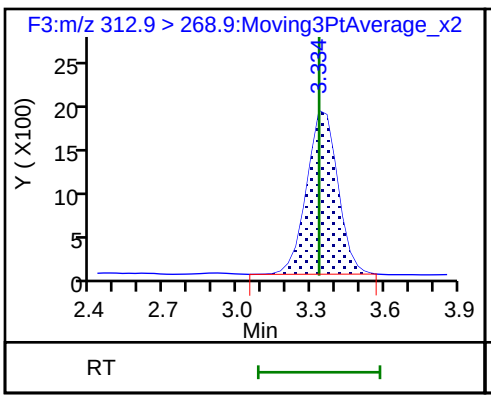
46 1H,1H,2H,2H-perfluorohexanesulfonic (M)



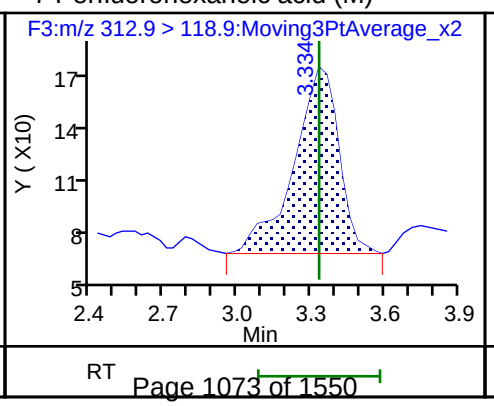
D 8 13C2 PFHxA (M)



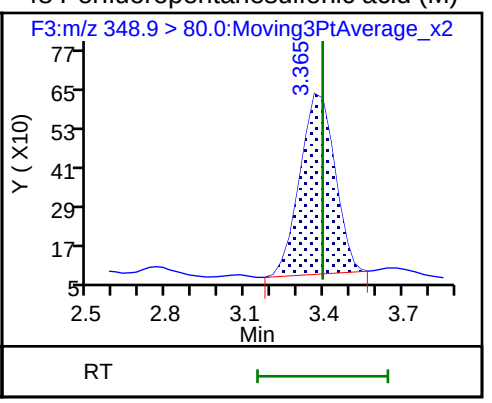
7 Perfluorohexanoic acid



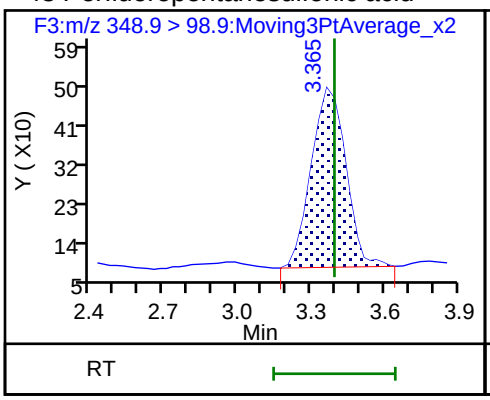
7 Perfluorohexanoic acid (M)



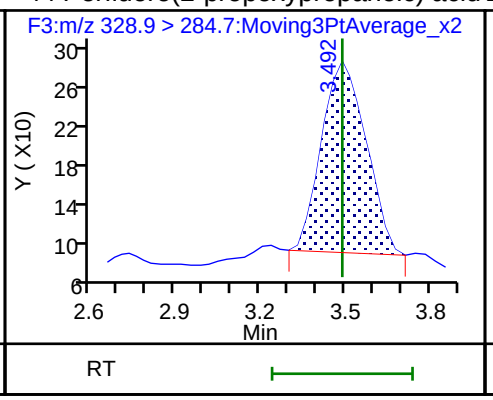
48 Perfluoropentanesulfonic acid (M)



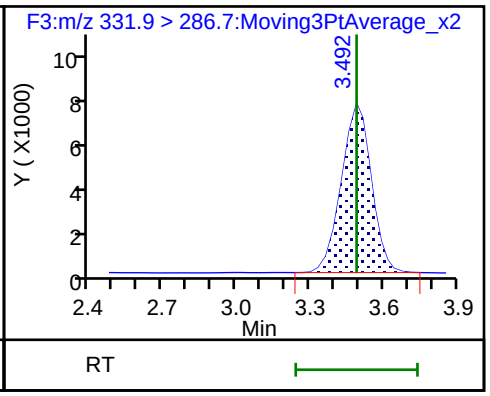
48 Perfluoropentanesulfonic acid



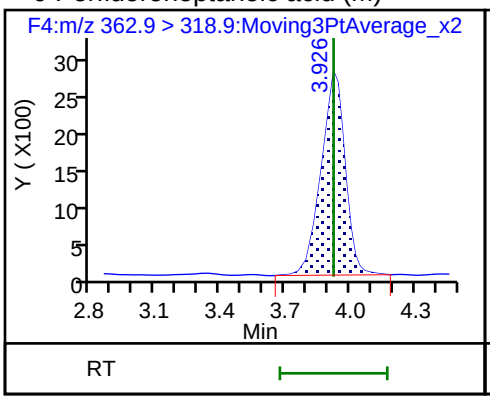
44 Perfluoro(2-propoxypropanoic) acid



D 42 13C3 HFPO-DA



9 Perfluoroheptanoic acid (M)



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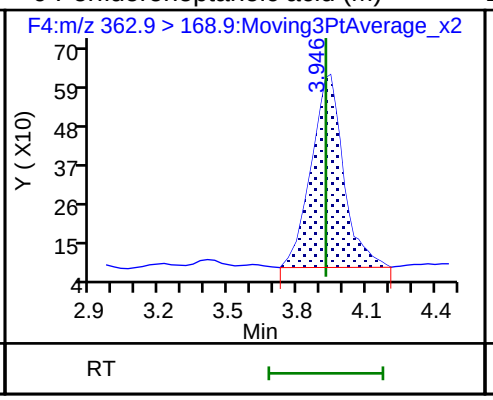
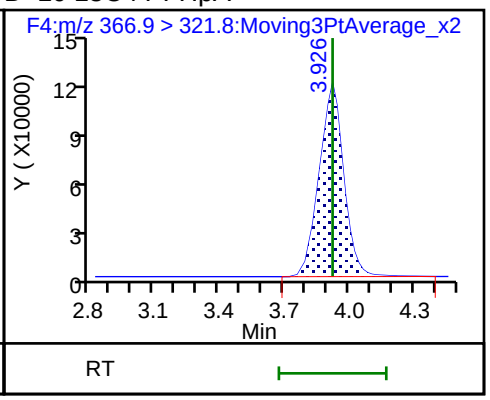
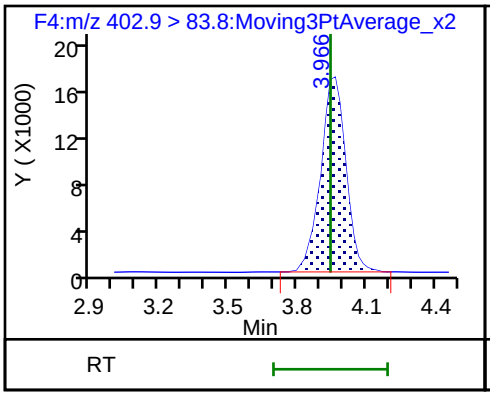


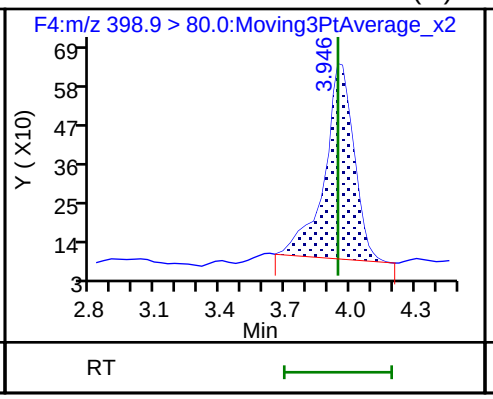
D 10 13C4 PFHpA



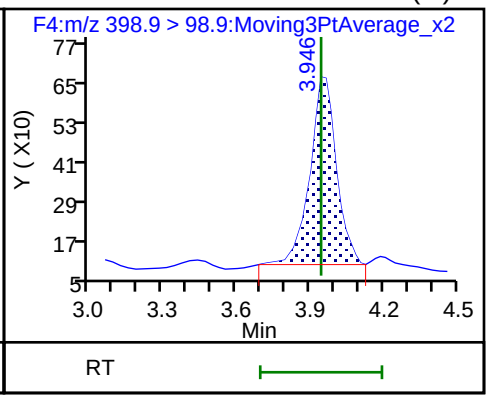
D 12 18O2 PFHxS



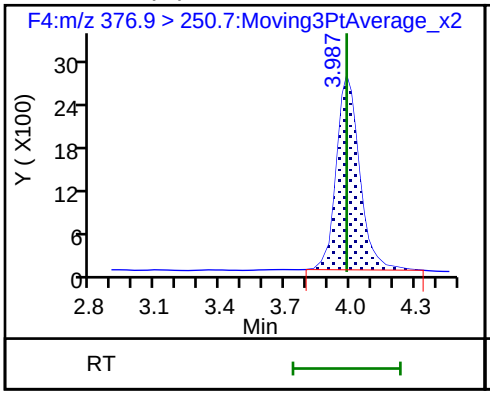
11 Perfluorohexanesulfonic acid (M)



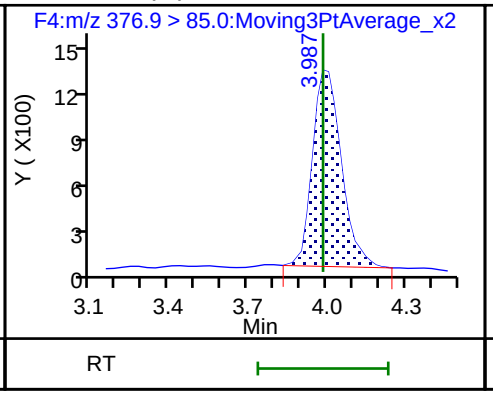
11 Perfluorohexanesulfonic acid (M)



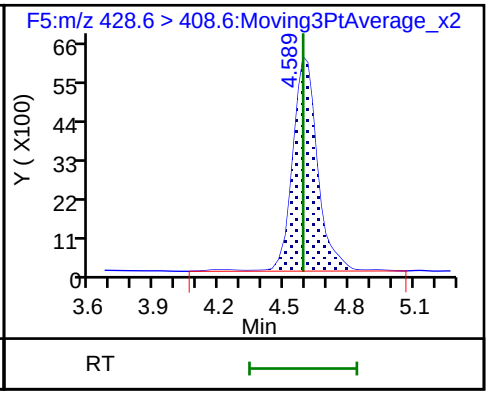
49 DONA (M)



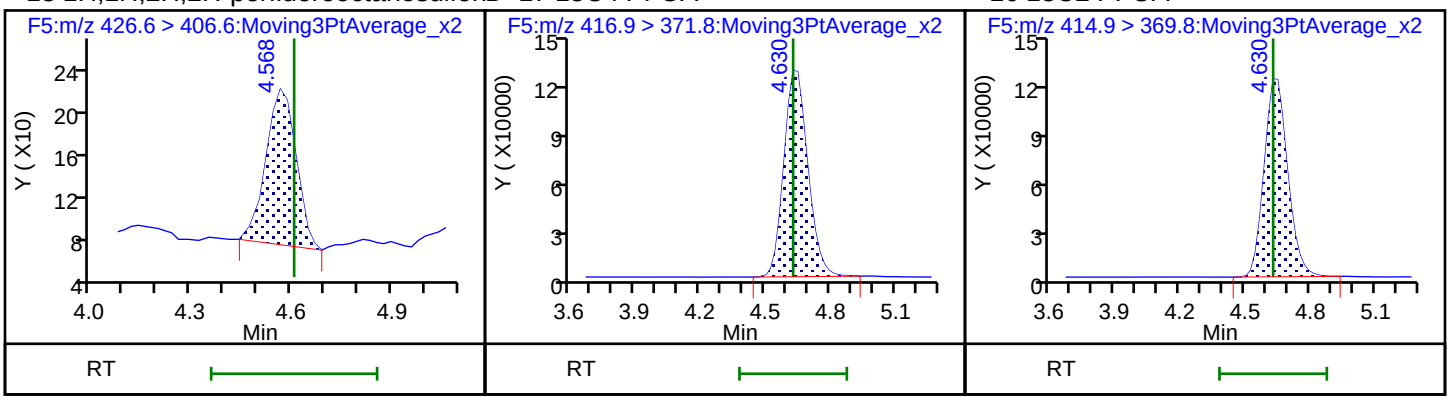
49 DONA (M)



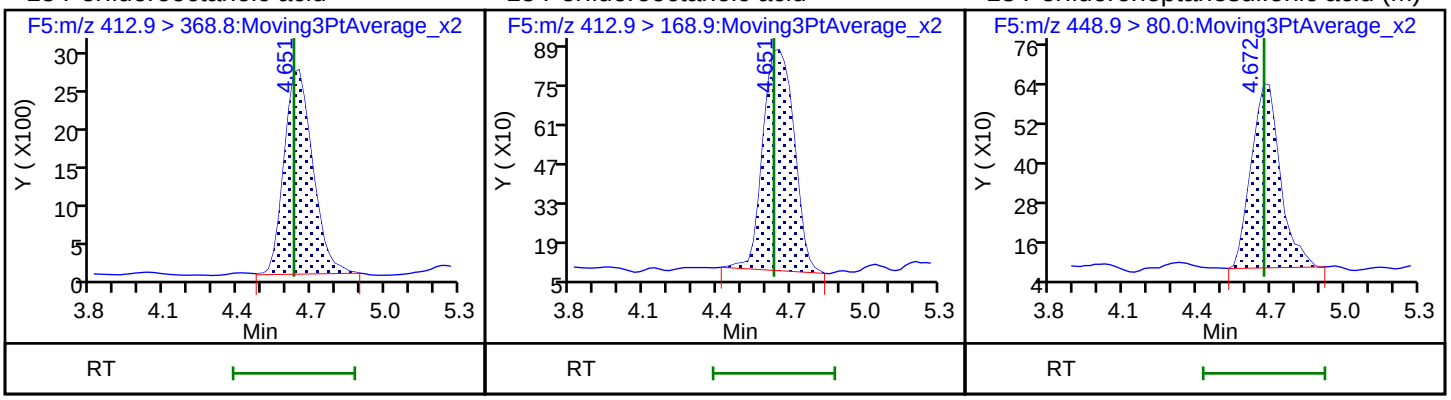
D 14 M2-6:2 FTS



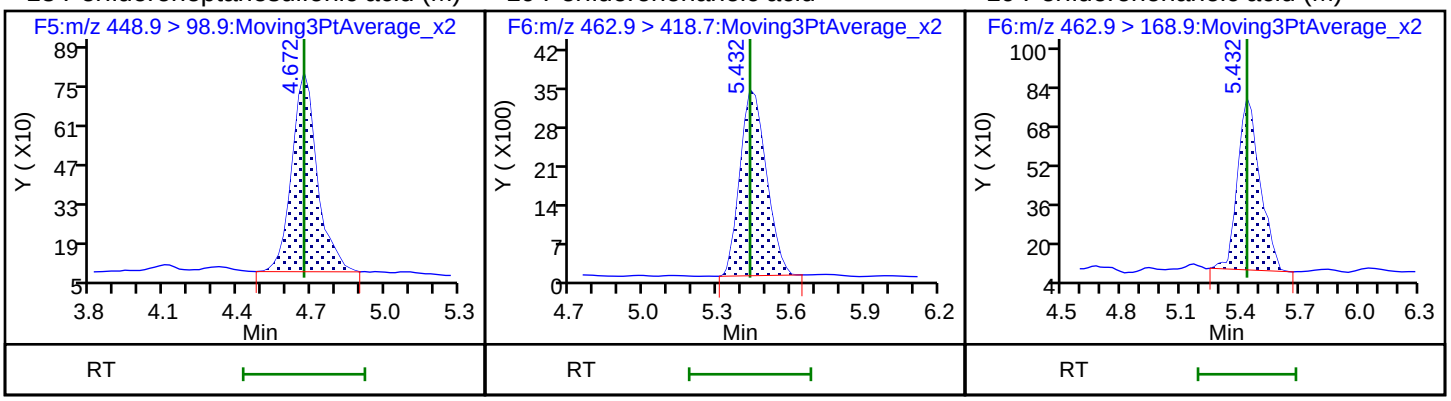
13 1H,1H,2H,2H-perfluorooctanesulfonD 17 13C4 PFOA * 16 13C2 PFOA



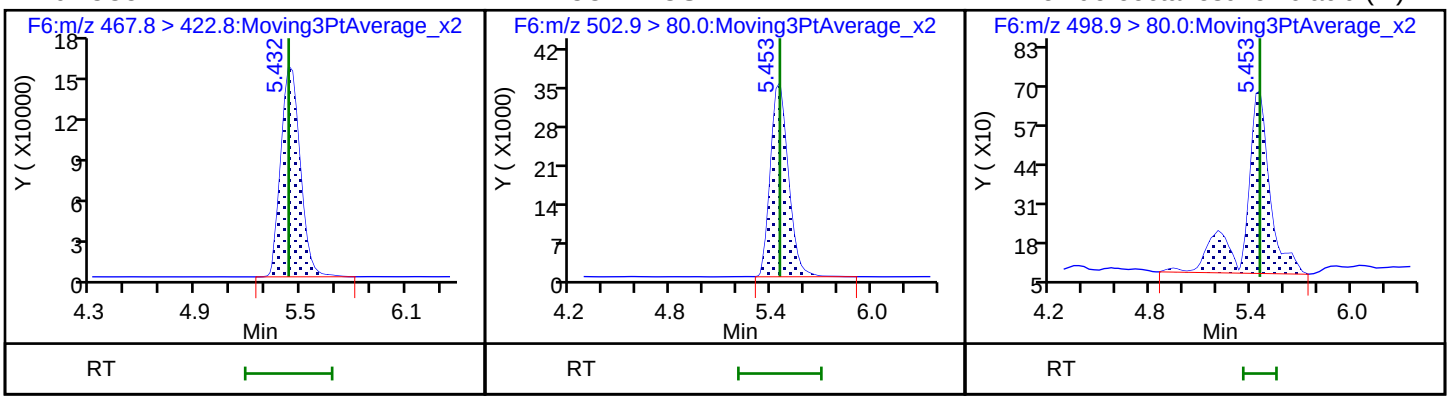
15 Perfluorooctanoic acid 15 Perfluorooctanoic acid 18 Perfluoroheptanesulfonic acid (M)



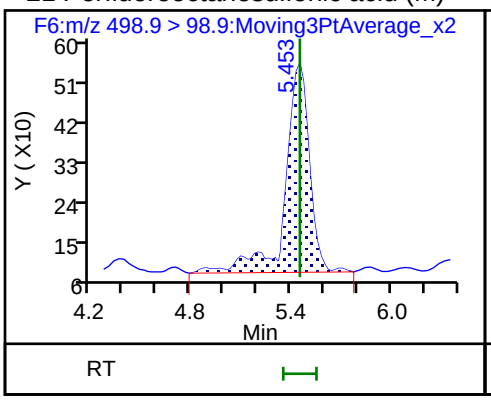
18 Perfluoroheptanesulfonic acid (M) 19 Perfluorononanoic acid 19 Perfluorononanoic acid (M)



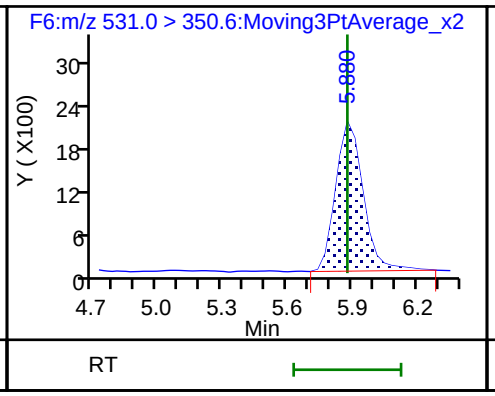
D 20 13C5 PFNA D 22 13C4 PFOS 21 Perfluorooctanesulfonic acid (M)



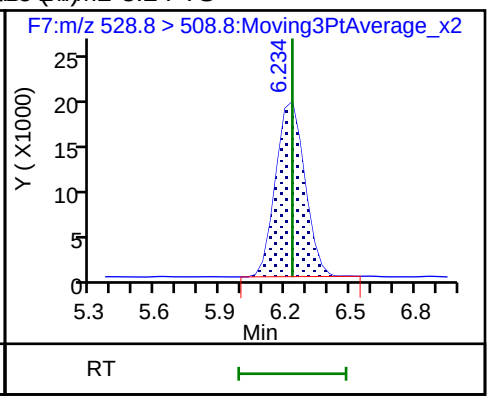
21 Perfluorooctanesulfonic acid (M)



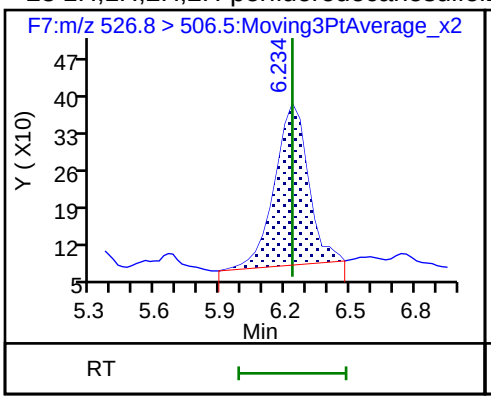
47 9-Chlorohexadecafluoro-3-oxanonane-1-(M)



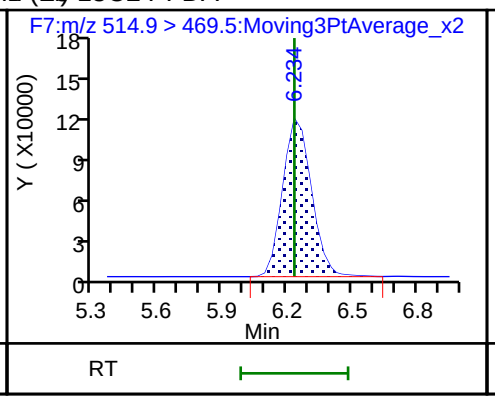
D 24 M2-8:2 FTS



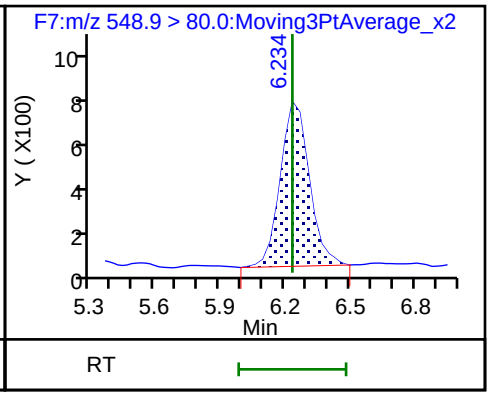
23 1H,1H,2H,2H-perfluorodecanesulfonic (M)



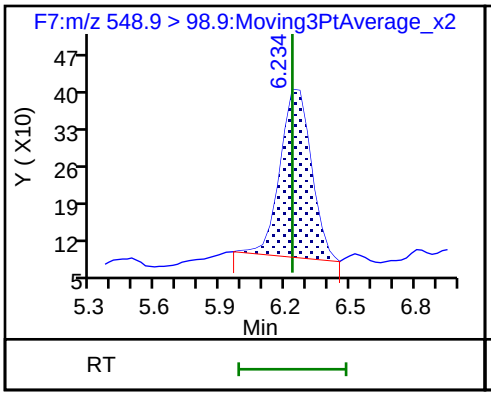
D 25 13C2 PFDA



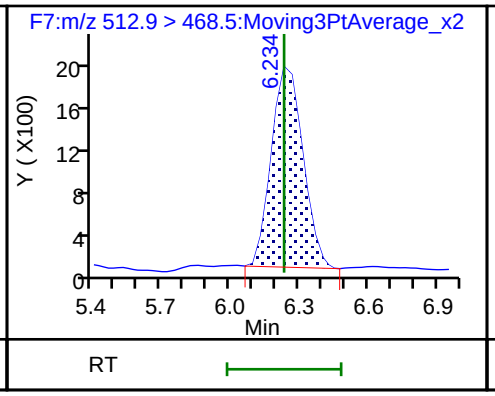
45 Perfluorononanesulfonic acid



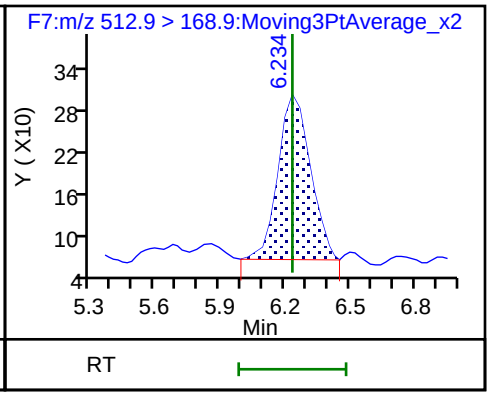
45 Perfluorononanesulfonic acid



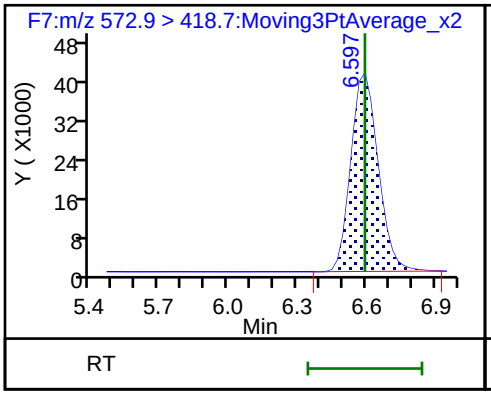
26 Perfluorodecanoic acid



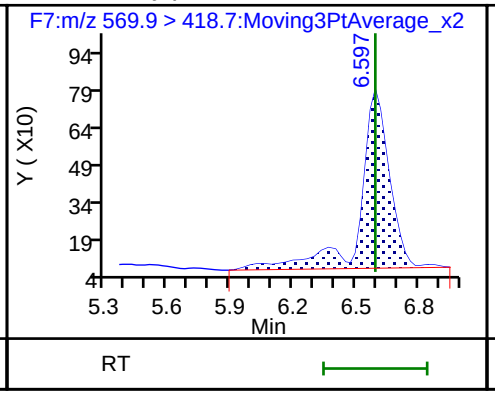
26 Perfluorodecanoic acid



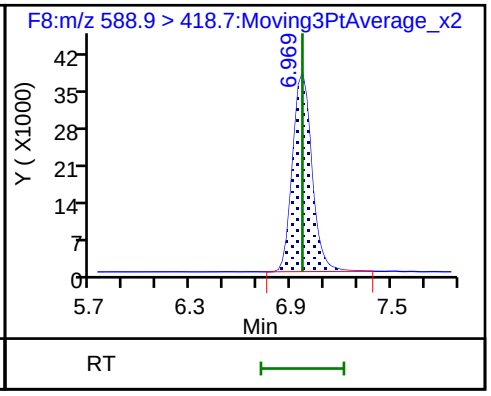
D 27 d3-NMeFOSAA



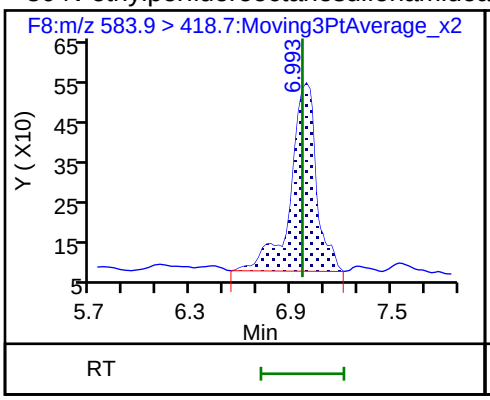
28 N-methylperfluorooctanesulfonamido



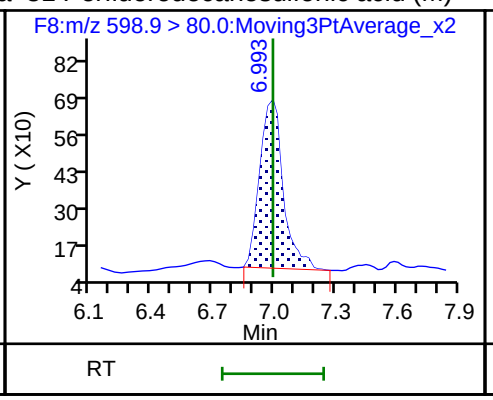
D 29 d5-NEtFOSAA



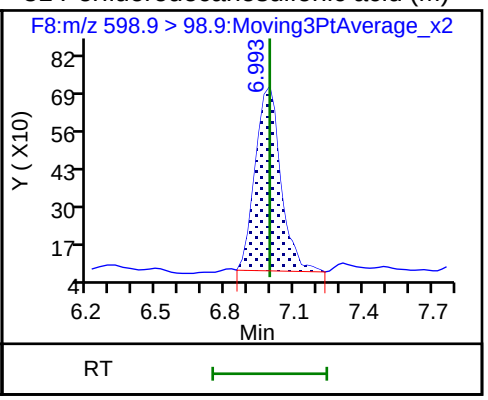
30 N-ethylperfluorooctanesulfonamidoa



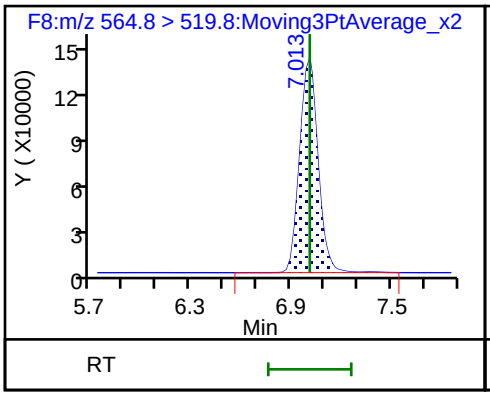
31 Perfluorodecanesulfonic acid (M)



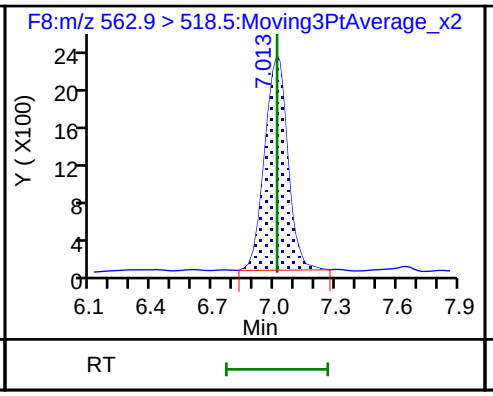
31 Perfluorodecanesulfonic acid (M)



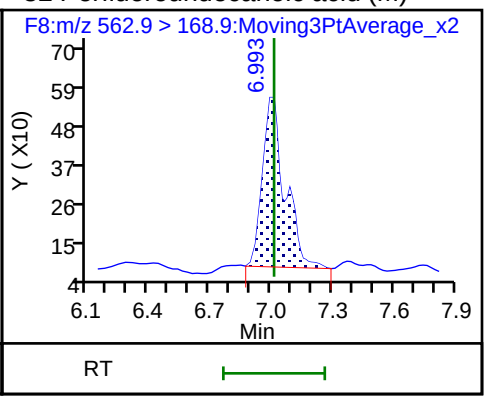
D 33 13C2 PFUnA



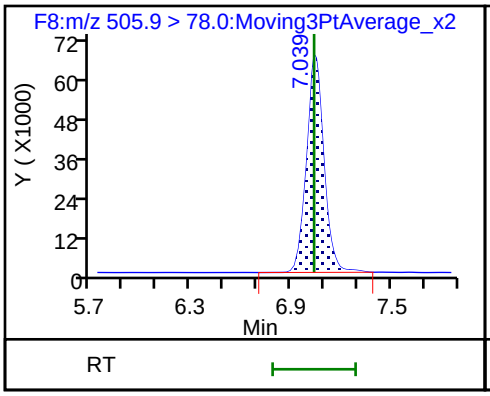
32 Perfluoroundecanoic acid



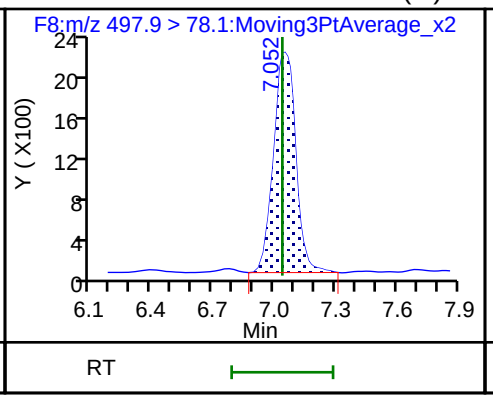
32 Perfluoroundecanoic acid (M)



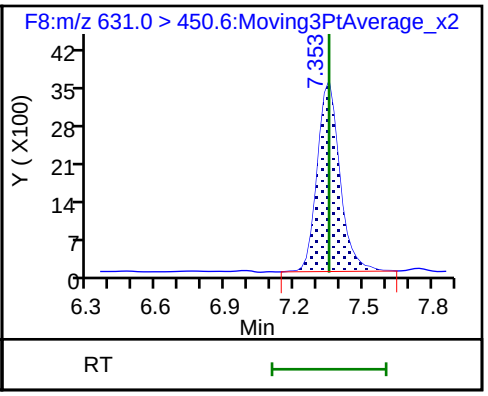
D 34 13C8 FOSA



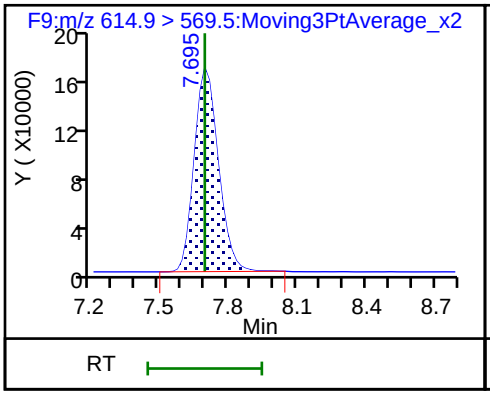
35 Perfluorooctanesulfonamide (M)



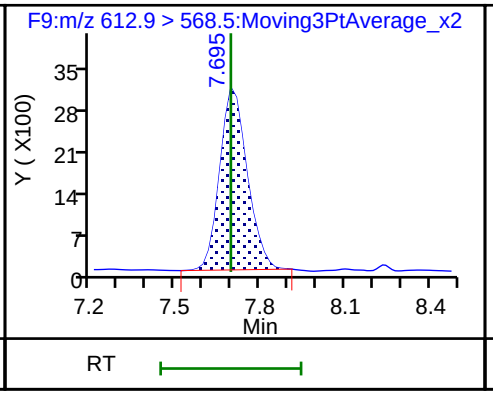
43 11-Chloroeicosafluoro-3-oxaundecan (M)



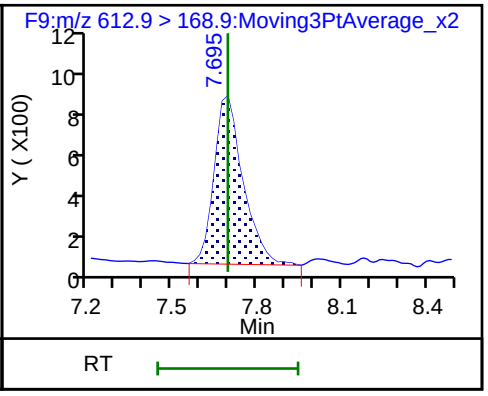
D 37 13C2 PFDoA



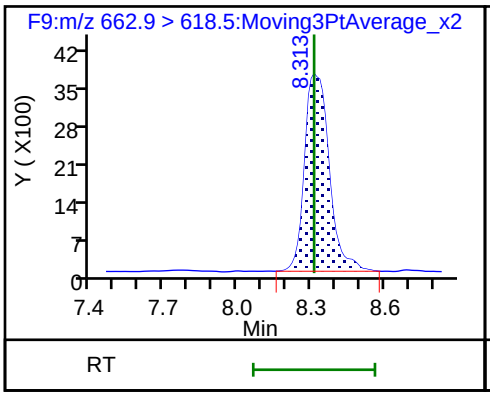
36 Perfluorododecanoic acid



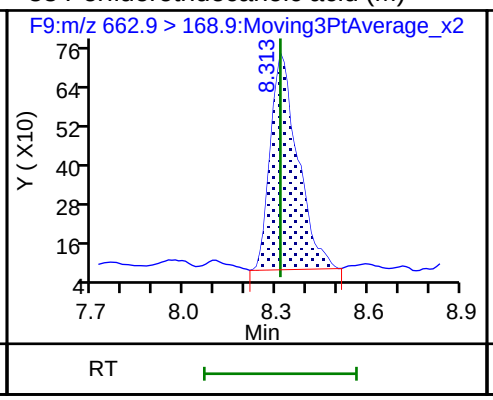
36 Perfluorododecanoic acid



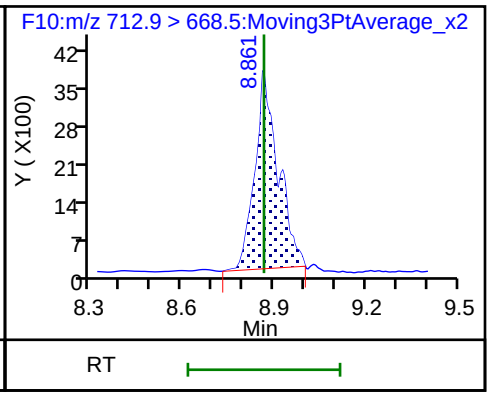
38 Perfluorotridecanoic acid



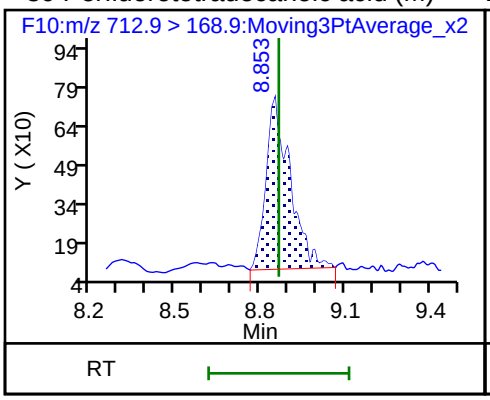
38 Perfluorotridecanoic acid (M)



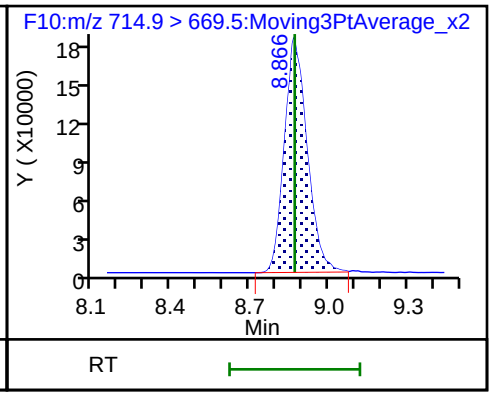
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid (M)



D 40 13C2 PFTeDA



Eurofins TestAmerica, Burlington

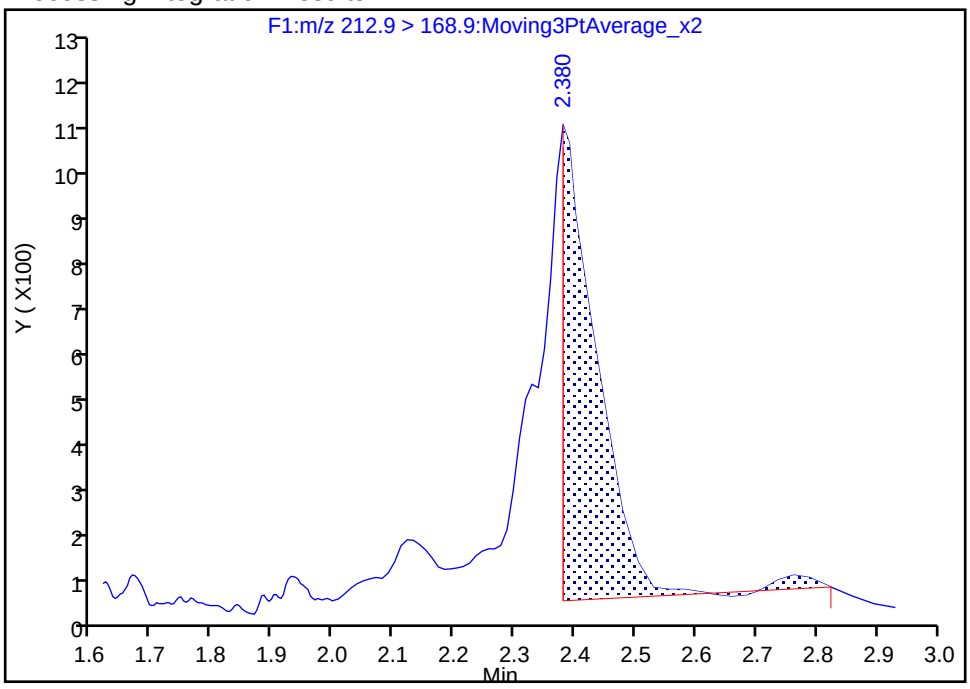
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

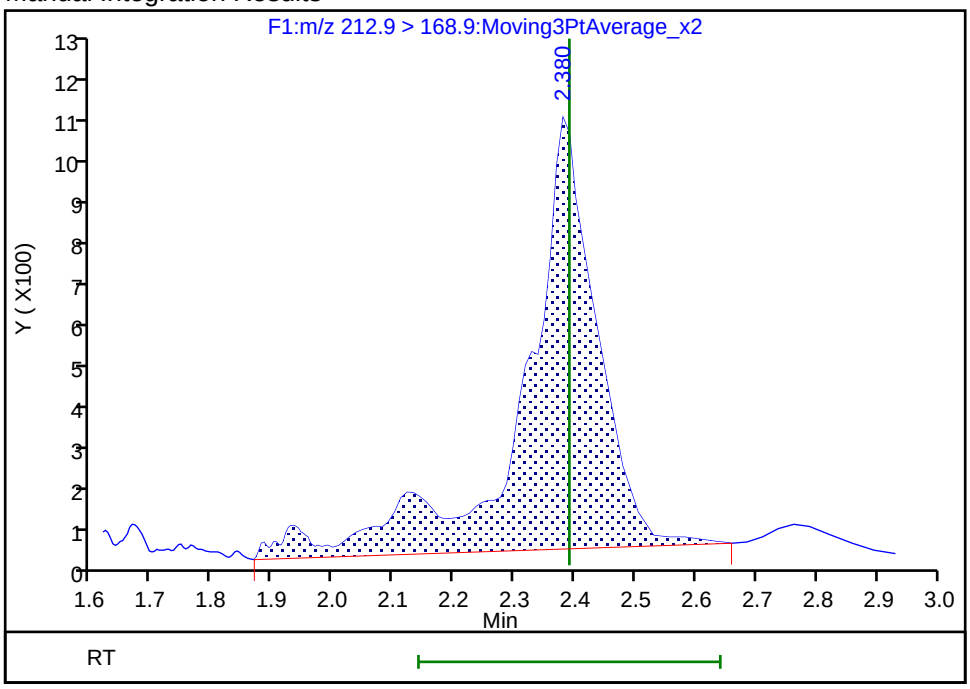
Processing Integration Results

RT: 2.38
Area: 3843
Amount: 0.355809
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 8574
Amount: 0.793834
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:41:28
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

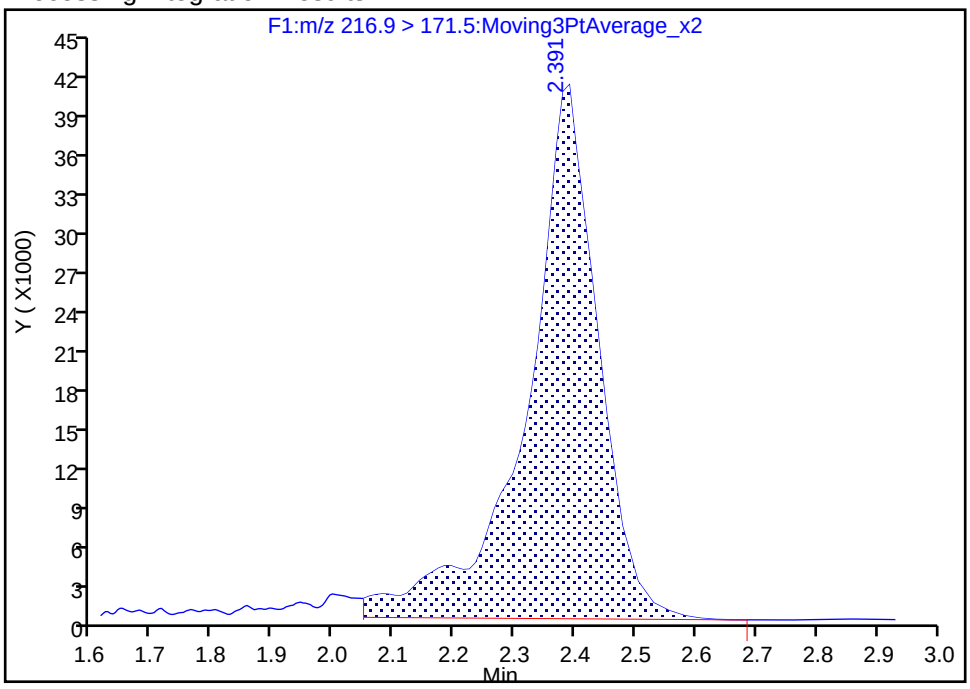
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

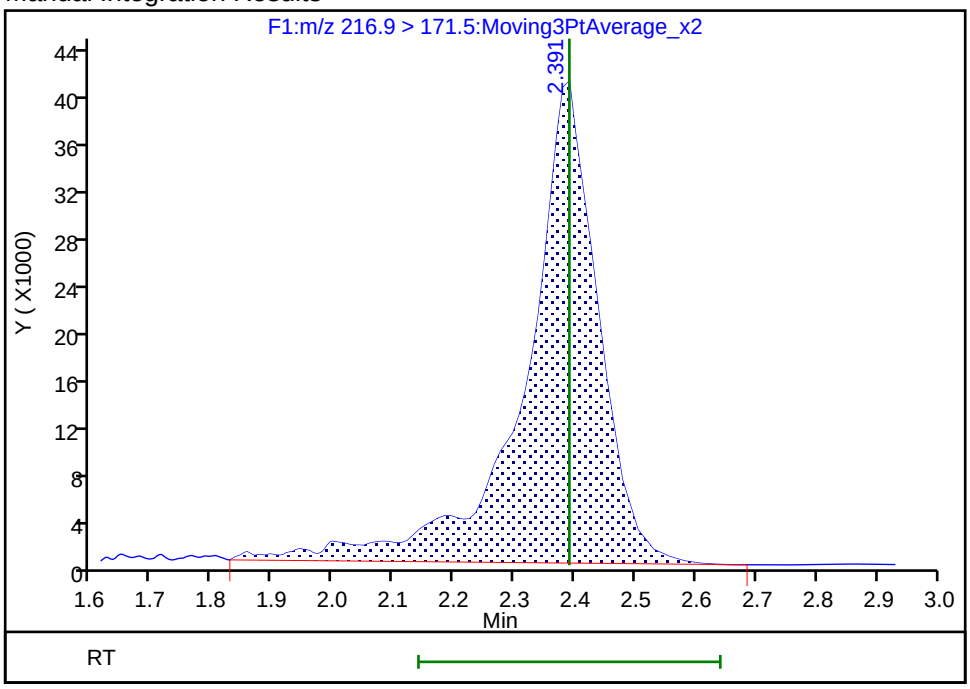
Processing Integration Results

RT: 2.39
Area: 335350
Amount: 73.801680
Amount Units: ng/ml



Manual Integration Results

RT: 2.39
Area: 343975
Amount: 75.699815
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:41:20
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

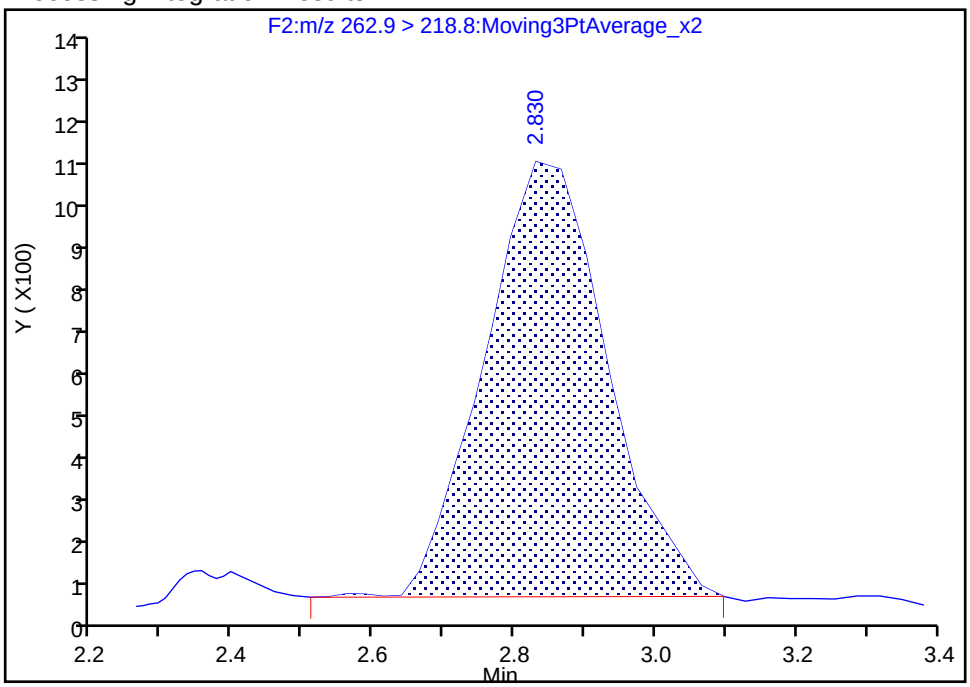
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

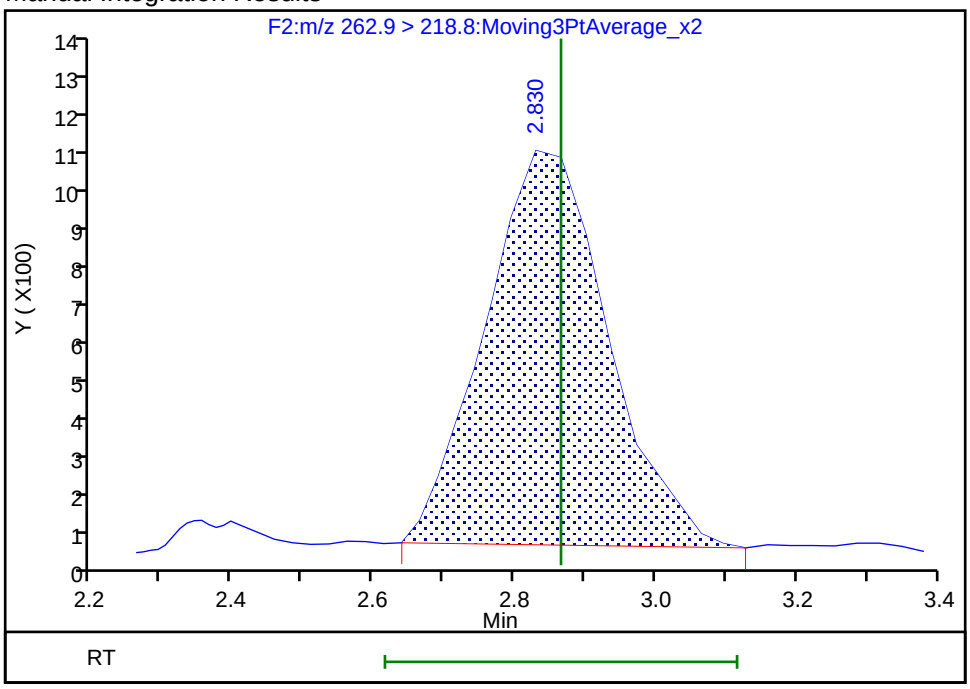
Processing Integration Results

RT: 2.83
Area: 12051
Amount: 1.051138
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 12122
Amount: 1.057331
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:41:52
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

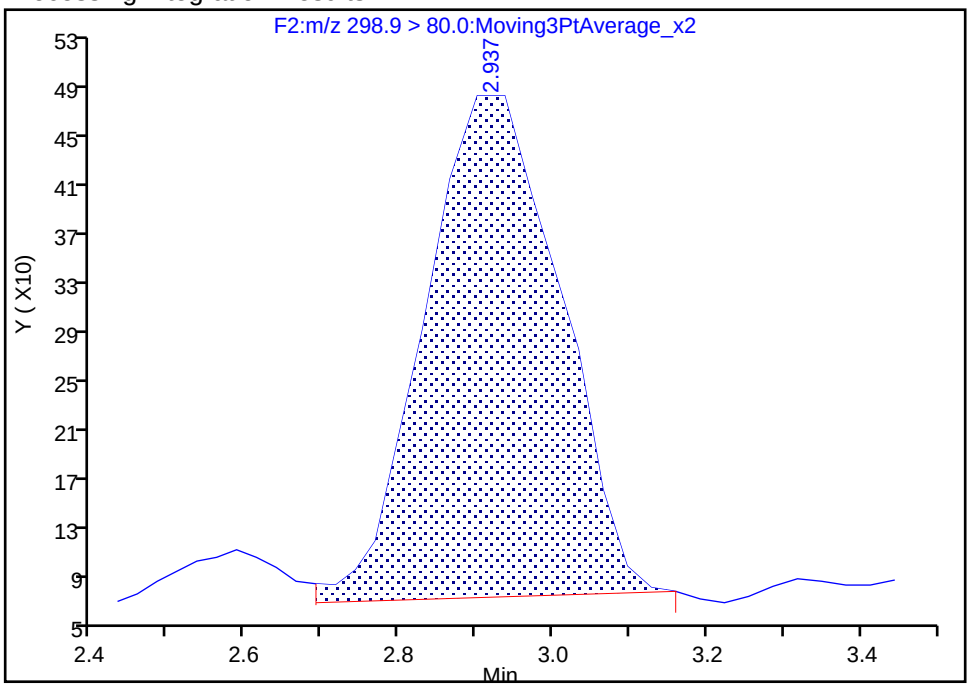
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

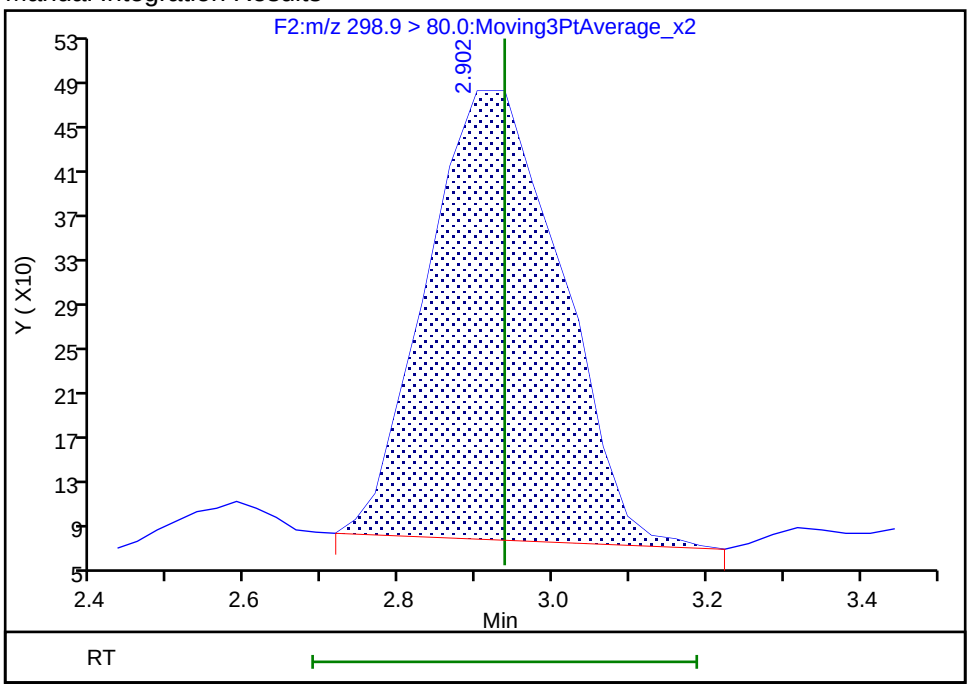
Processing Integration Results

RT: 2.94
Area: 4883
Amount: 0.817816
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 4788
Amount: 0.801905
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:42:17
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

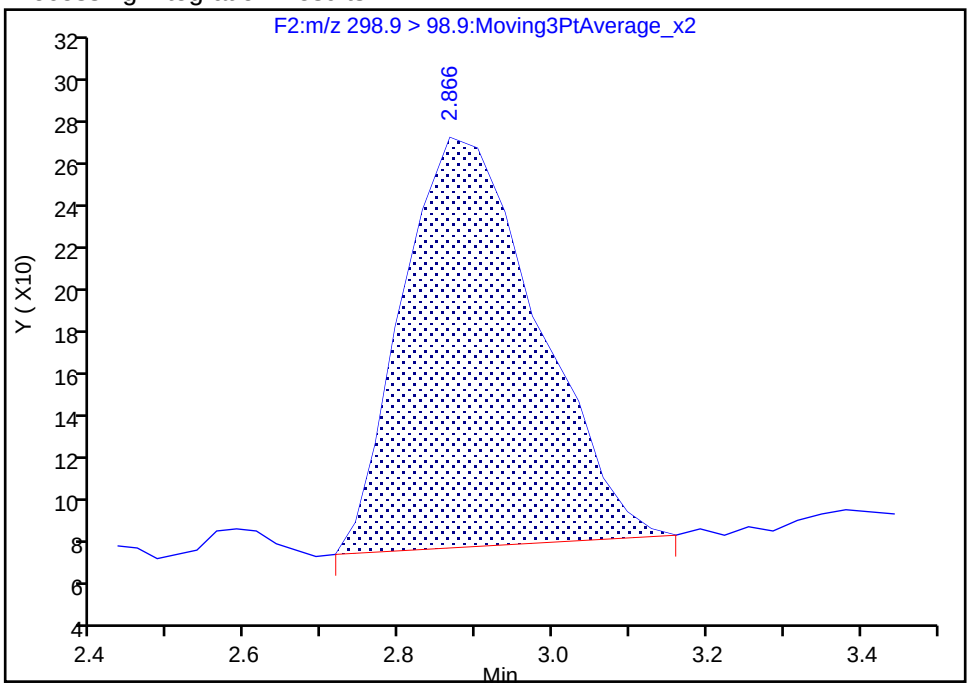
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

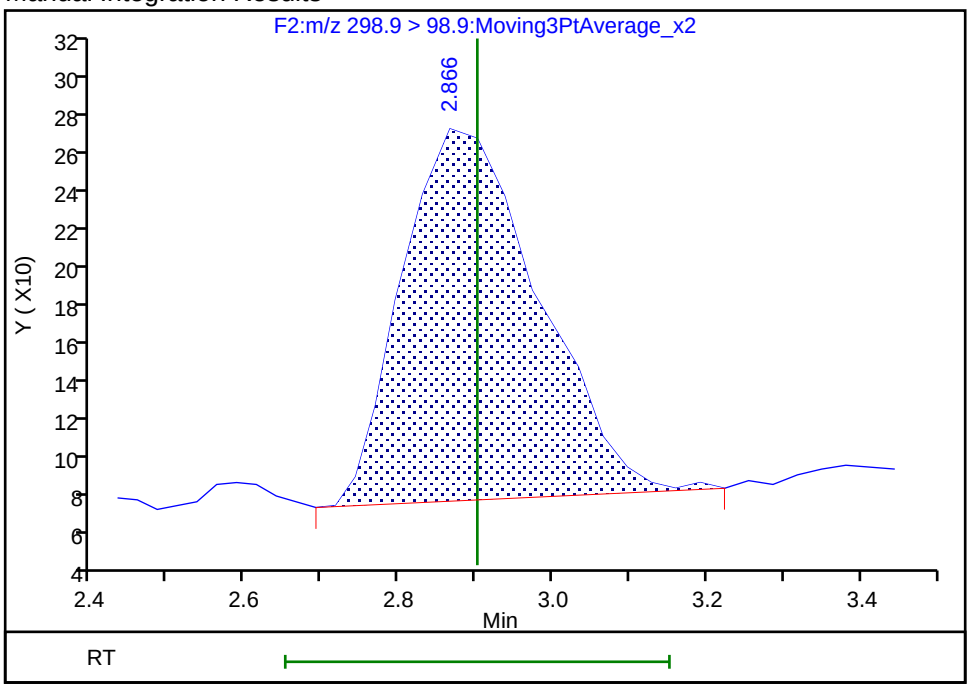
Processing Integration Results

RT: 2.87
Area: 2357
Amount: 0.817816
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 2388
Amount: 0.801905
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:42:25
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

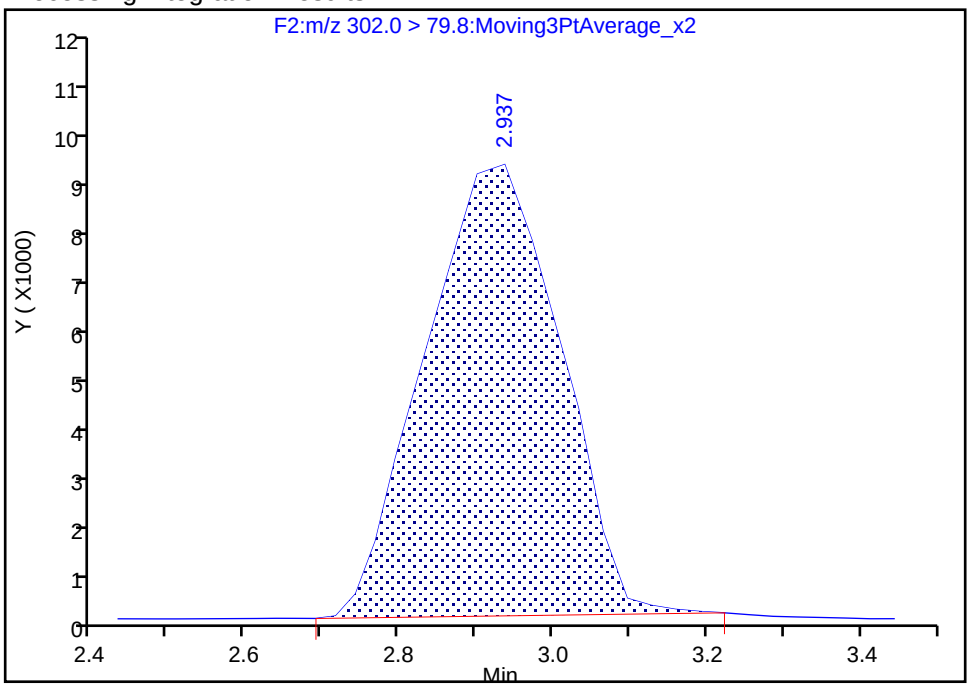
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

D 5 13C3 PFBS, CAS: STL02337

Signal: 1

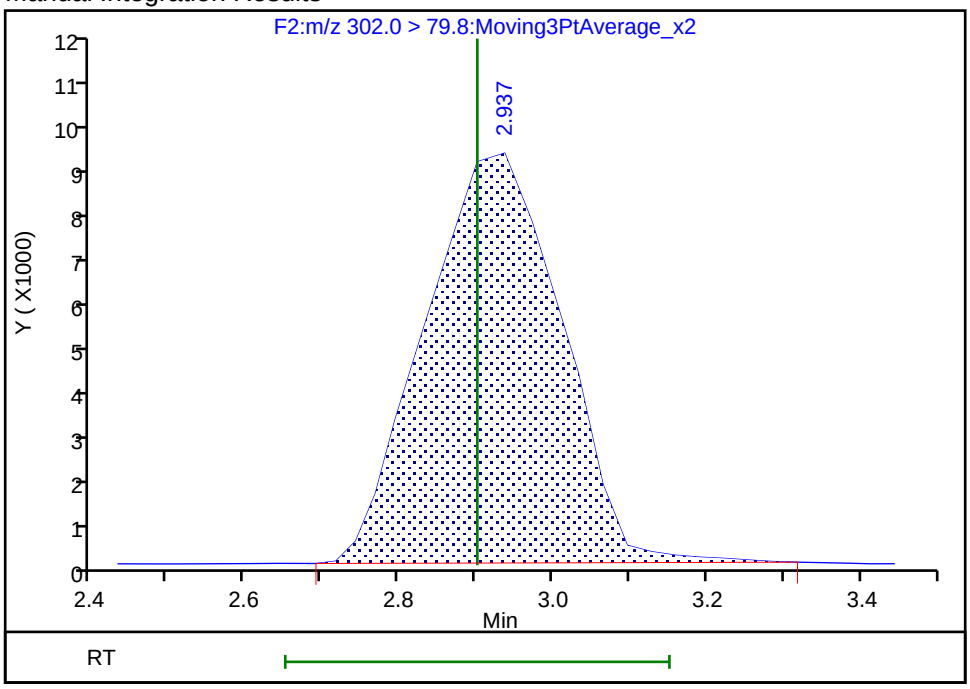
Processing Integration Results

RT: 2.94
Area: 108898
Amount: 72.633643
Amount Units: ng/ml



Manual Integration Results

RT: 2.94
Area: 110462
Amount: 73.676812
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:42:09
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

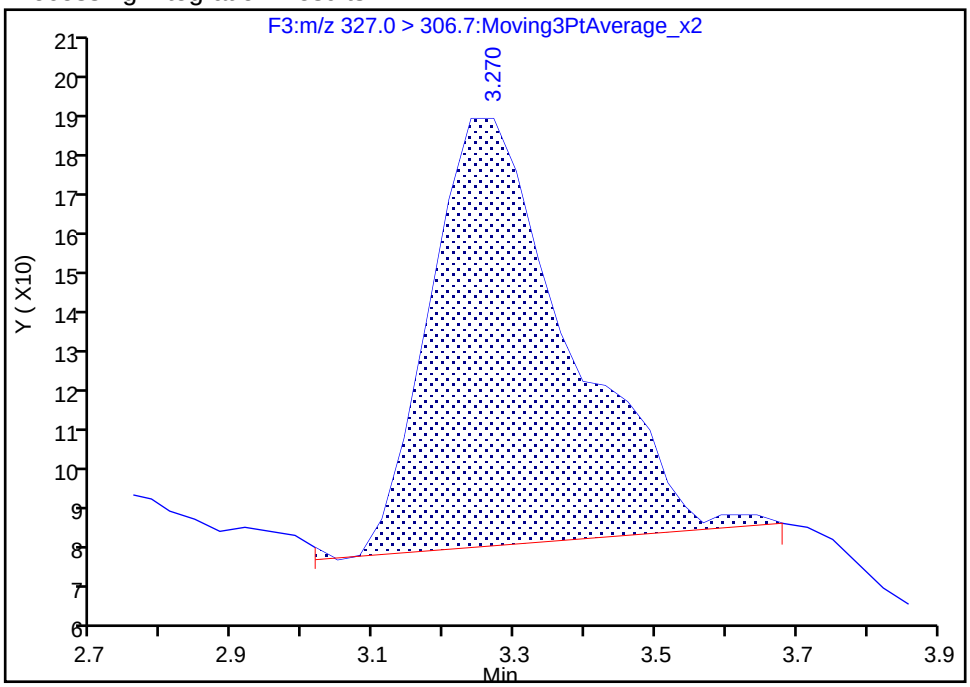
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

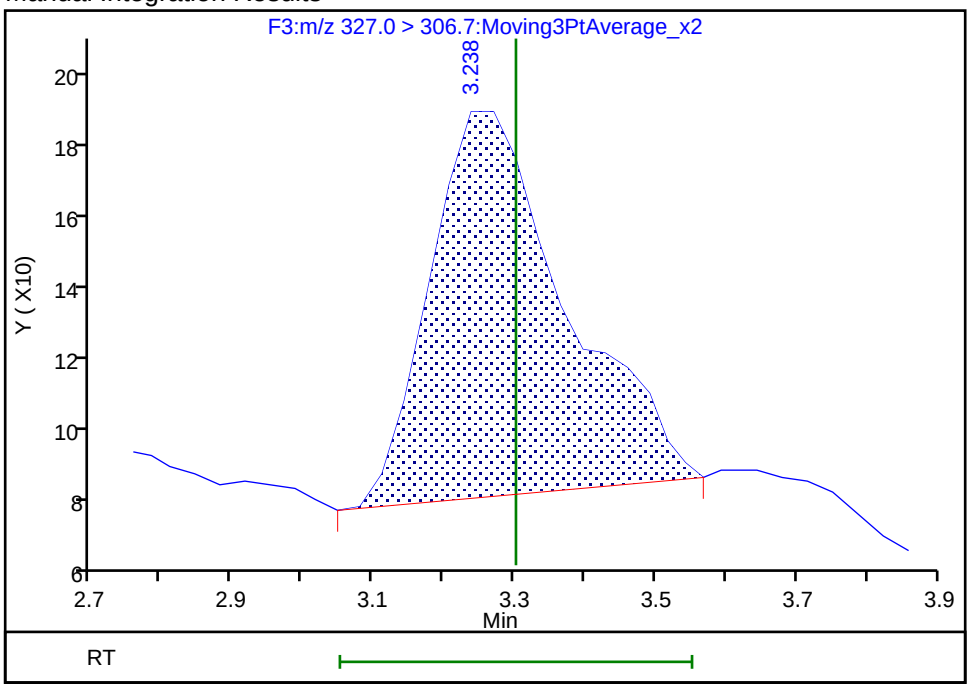
Processing Integration Results

RT: 3.27
Area: 1445
Amount: 0.459168
Amount Units: ng/ml



Manual Integration Results

RT: 3.24
Area: 1411
Amount: 0.448364
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:42:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

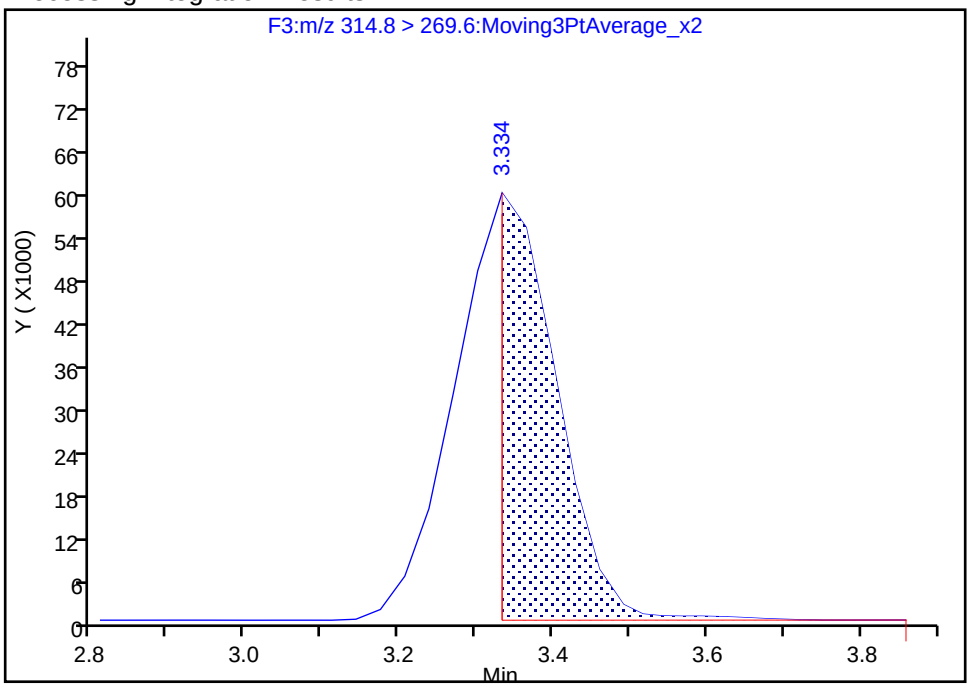
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

D 8 13C2 PFHxA, CAS: STL00993

Signal: 1

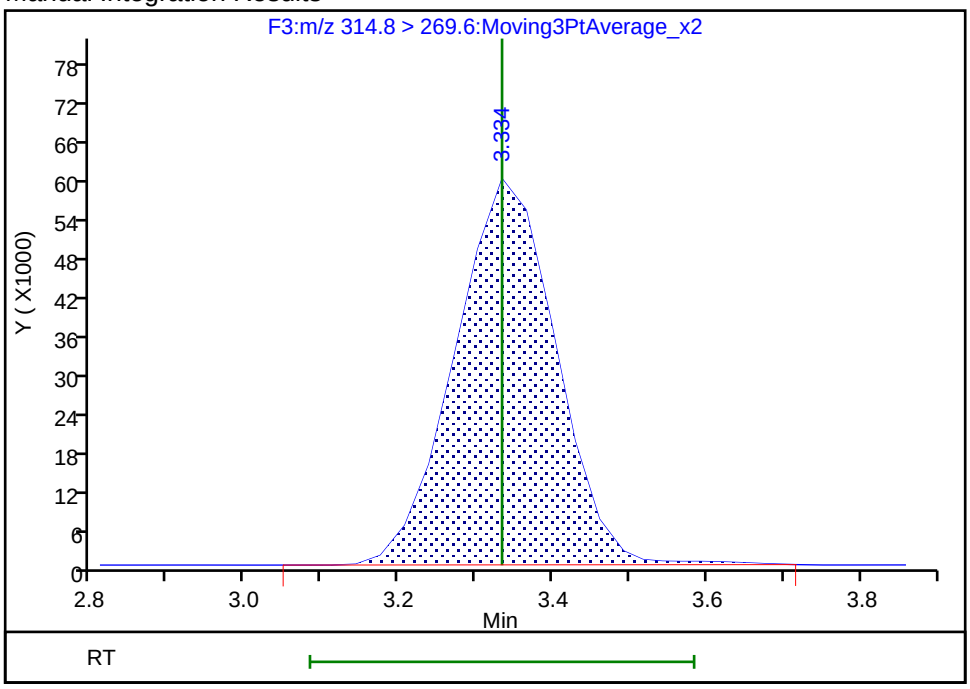
Processing Integration Results

RT: 3.33
Area: 292297
Amount: 28.275158
Amount Units: ng/ml



Manual Integration Results

RT: 3.33
Area: 544891
Amount: 52.709672
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:42:40
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

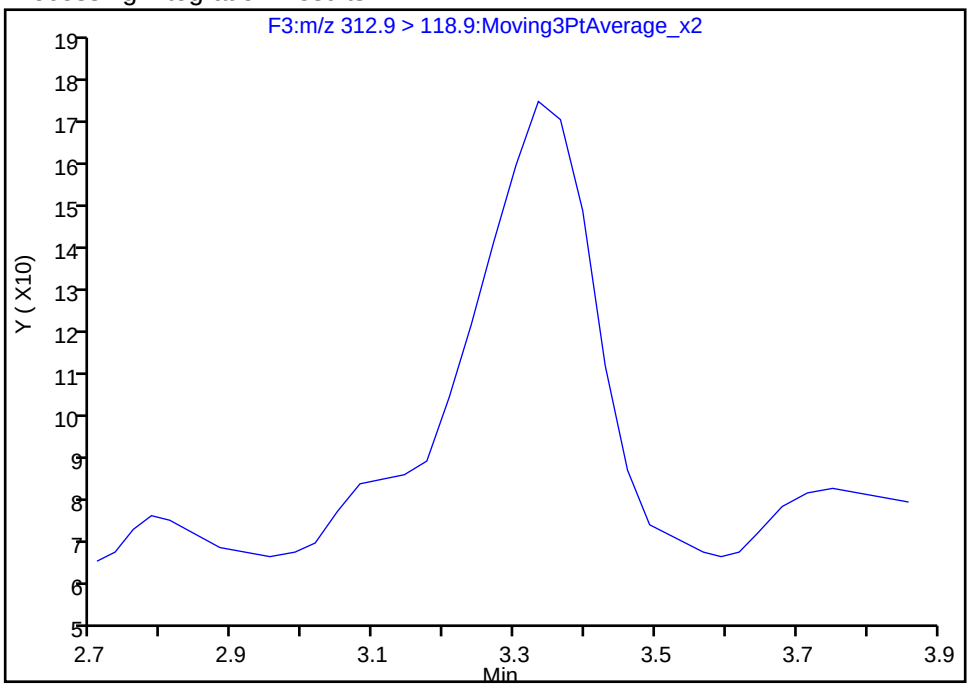
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

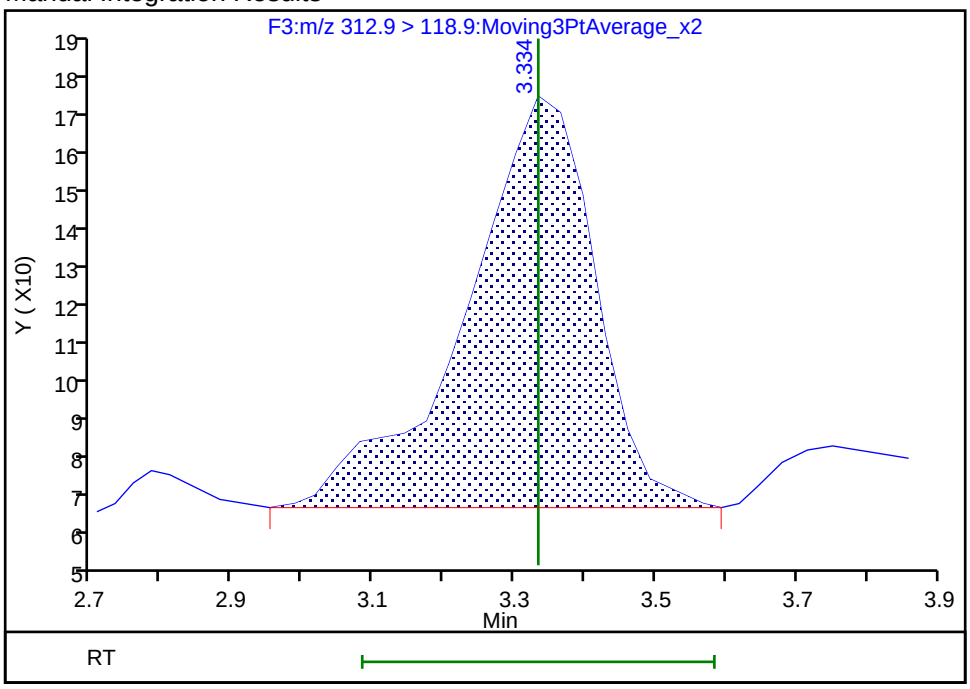
Not Detected
Expected RT: 3.33

Processing Integration Results



Manual Integration Results

RT: 3.33
Area: 1278
Amount: 1.066823
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:42:48
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

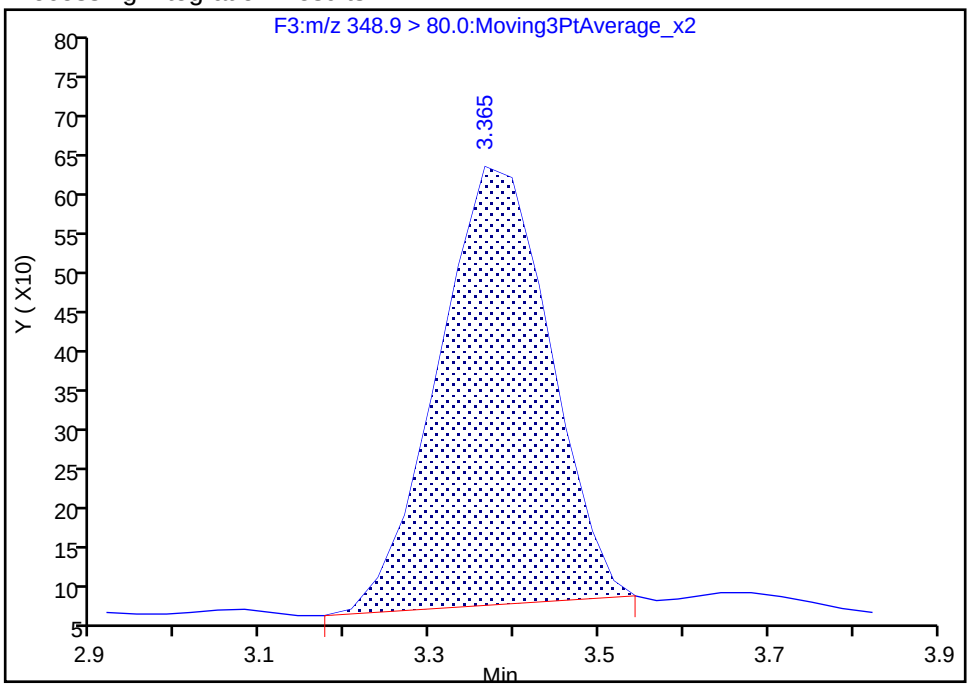
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 1

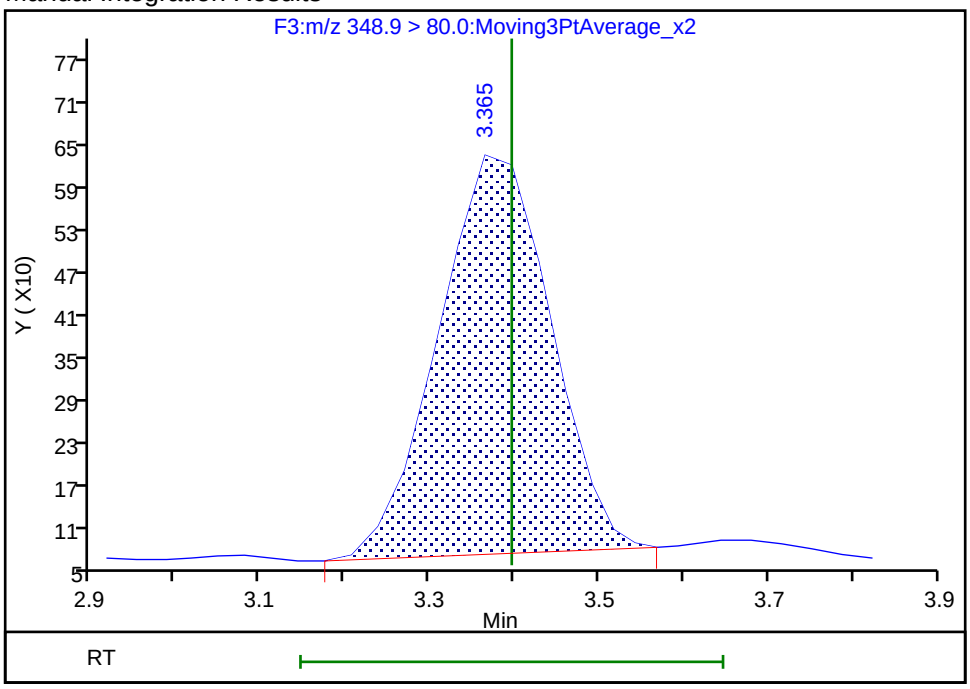
Processing Integration Results

RT: 3.37
Area: 5076
Amount: 0.752104
Amount Units: ng/ml



Manual Integration Results

RT: 3.37
Area: 5161
Amount: 0.764698
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:42:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

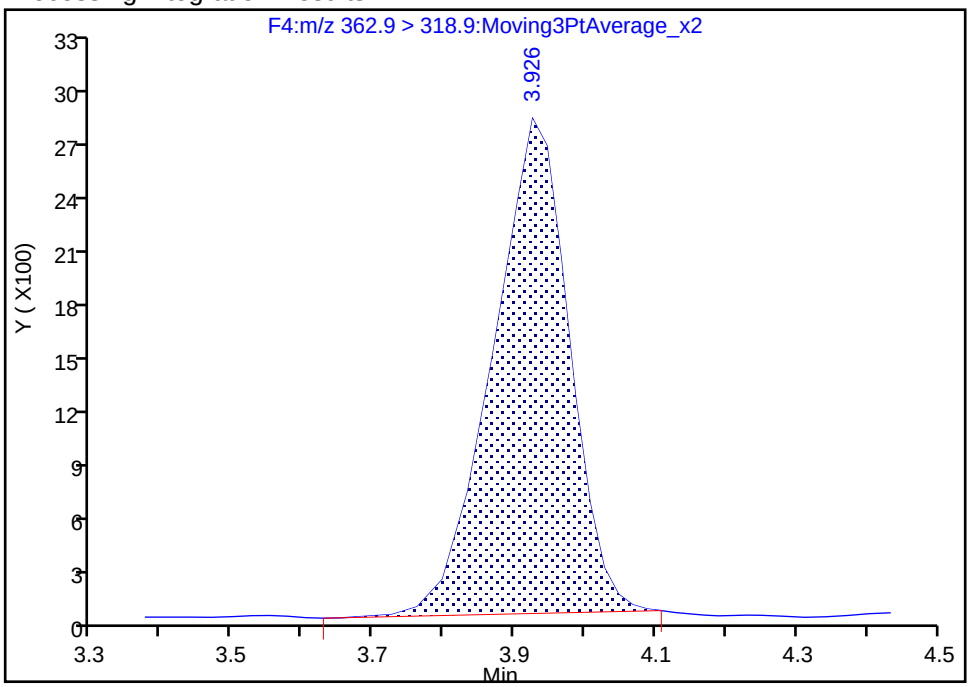
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

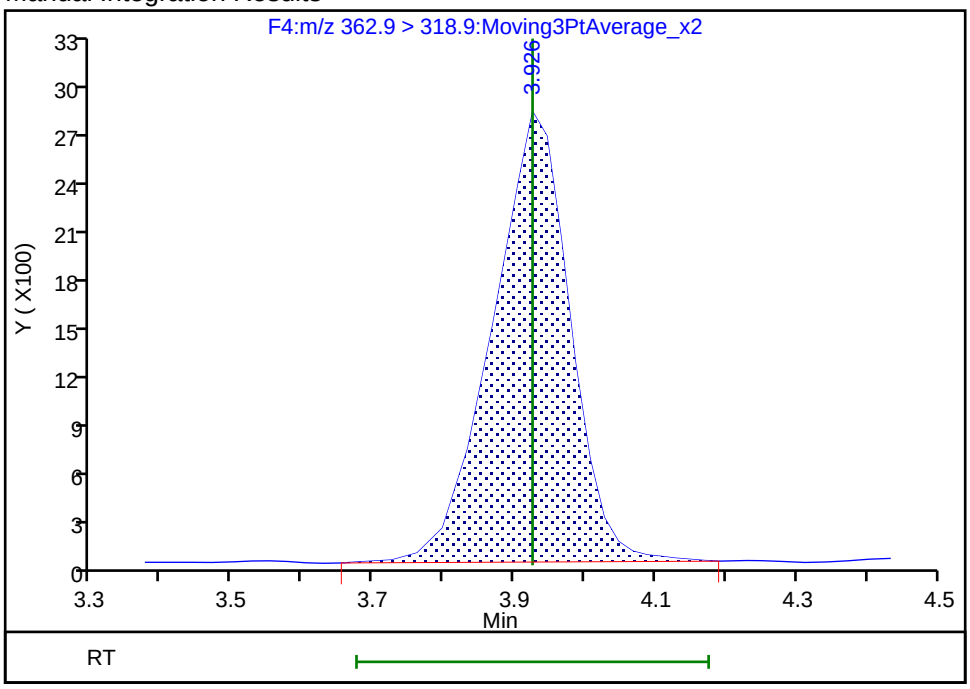
Processing Integration Results

RT: 3.93
Area: 20576
Amount: 0.973193
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 21059
Amount: 0.996038
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:43:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

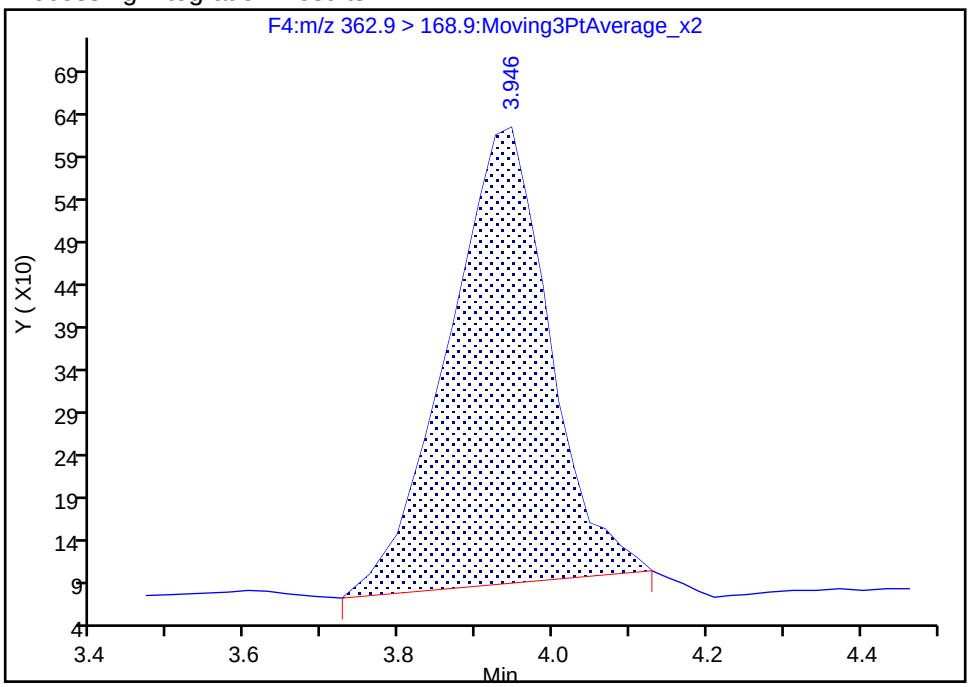
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

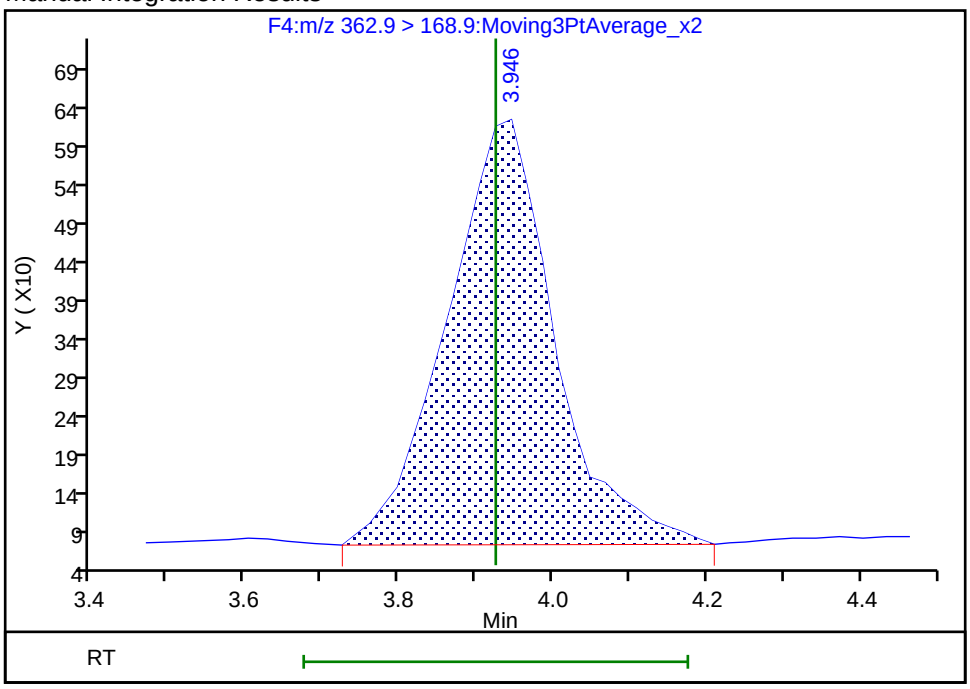
Processing Integration Results

RT: 3.95
Area: 4885
Amount: 0.973193
Amount Units: ng/ml



Manual Integration Results

RT: 3.95
Area: 5337
Amount: 0.996038
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:43:52
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

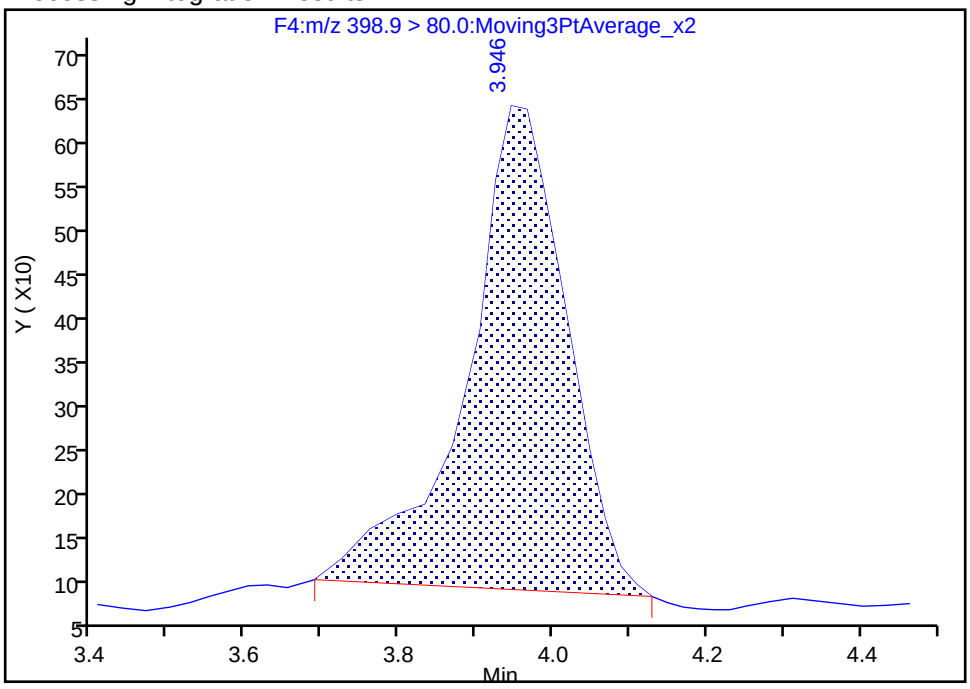
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

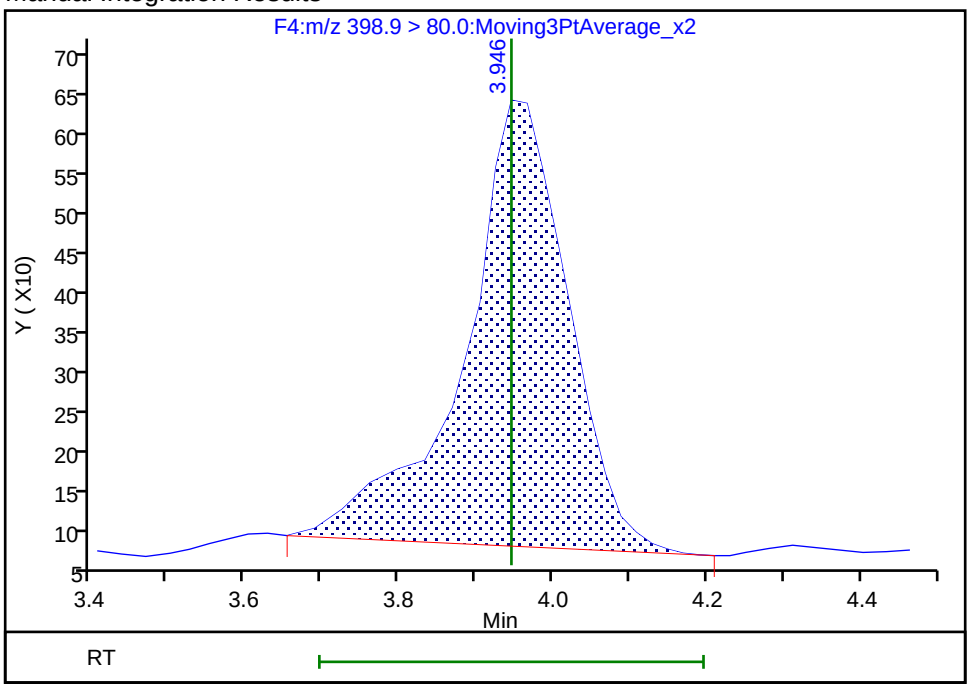
Processing Integration Results

RT: 3.95
Area: 4962
Amount: 0.865585
Amount Units: ng/ml



Manual Integration Results

RT: 3.95
Area: 5278
Amount: 0.920709
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:43:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

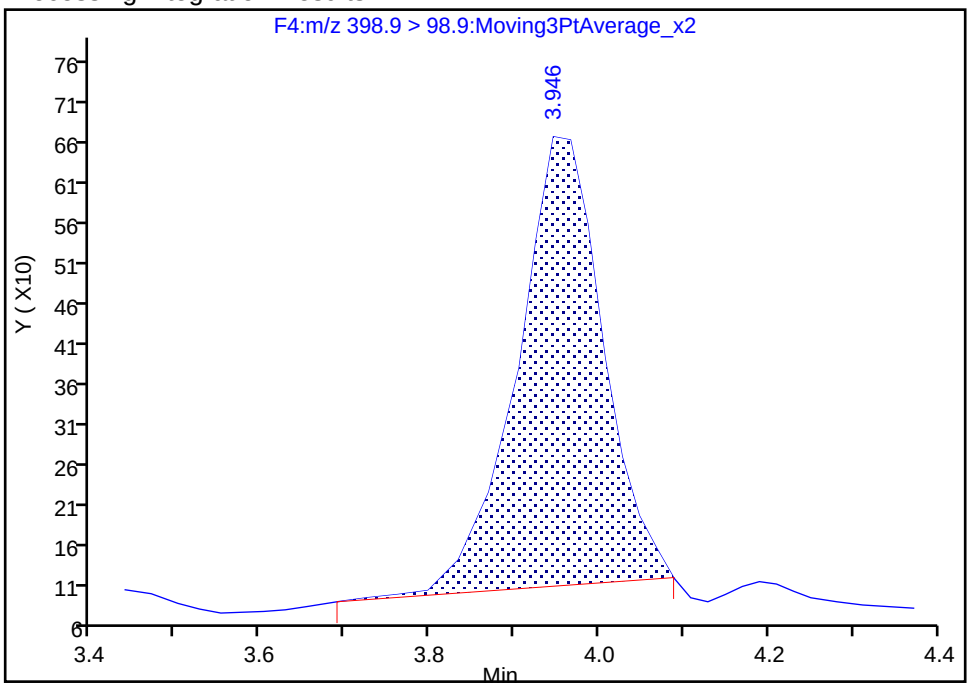
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

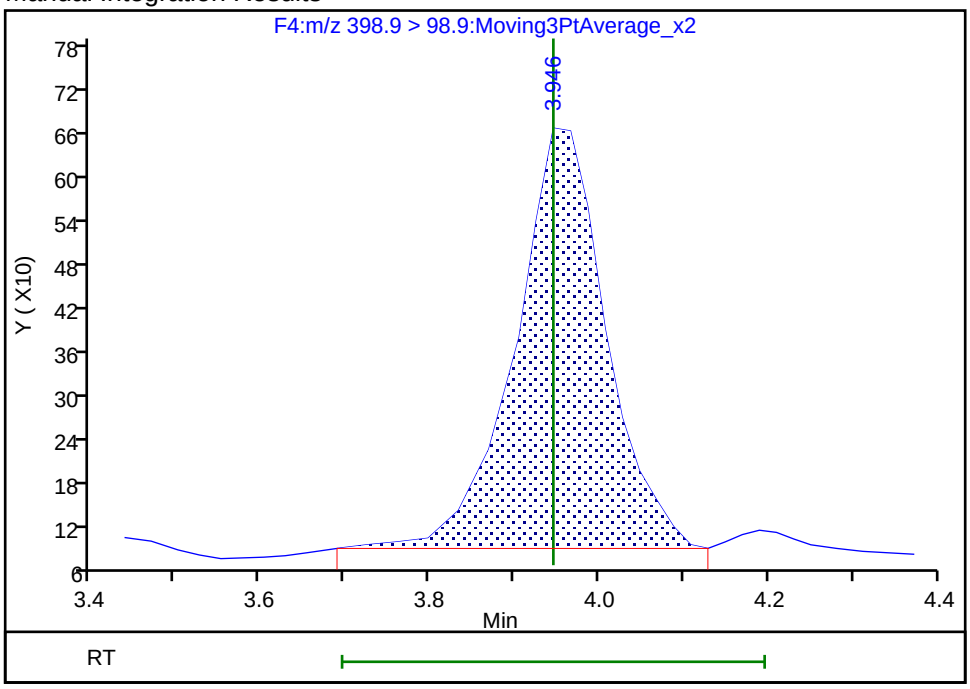
Processing Integration Results

RT: 3.95
Area: 3937
Amount: 0.865585
Amount Units: ng/ml



Manual Integration Results

RT: 3.95
Area: 4319
Amount: 0.920709
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:44:02
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

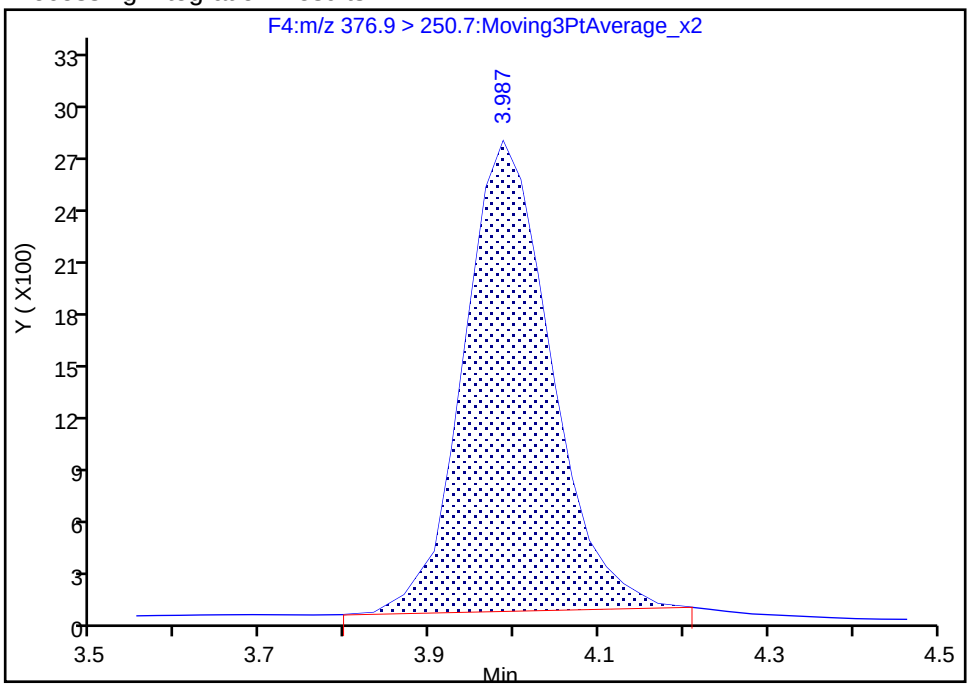
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

49 DONA, CAS: 919005-14-4

Signal: 1

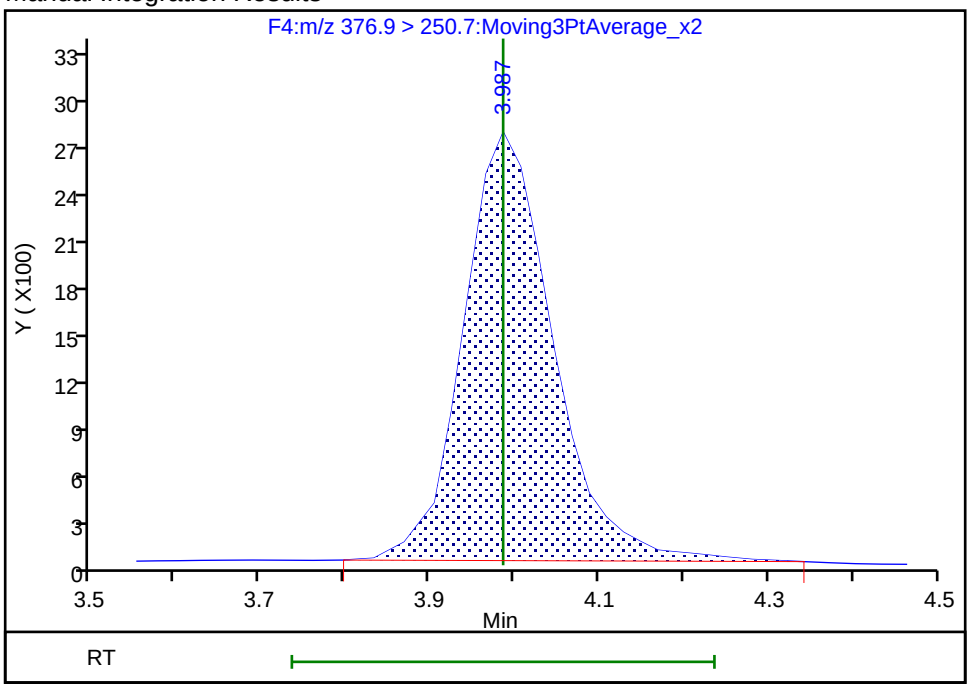
Processing Integration Results

RT: 3.99
Area: 19348
Amount: 0.828389
Amount Units: ng/ml



Manual Integration Results

RT: 3.99
Area: 20092
Amount: 0.860244
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:44:06
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

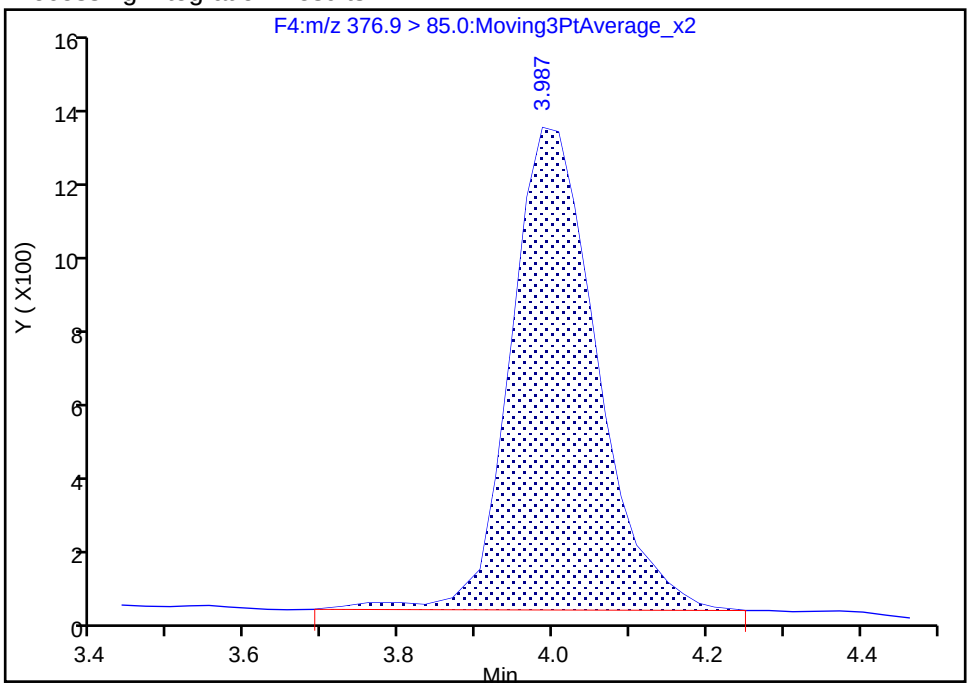
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

49 DONA, CAS: 919005-14-4

Signal: 2

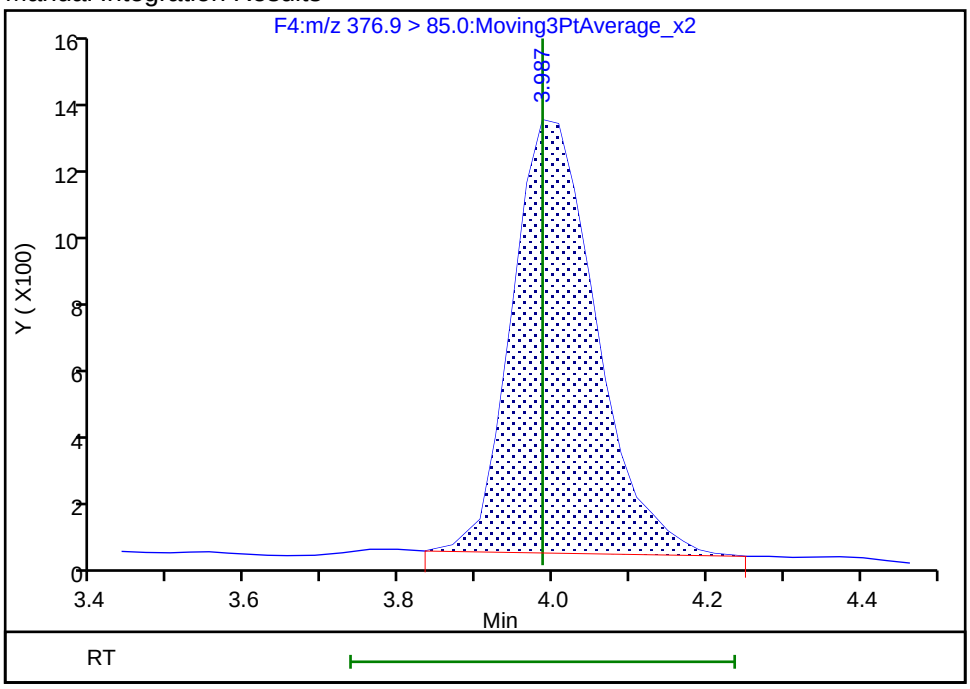
Processing Integration Results

RT: 3.99
Area: 9584
Amount: 0.828389
Amount Units: ng/ml



Manual Integration Results

RT: 3.99
Area: 9320
Amount: 0.860244
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:44:11
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

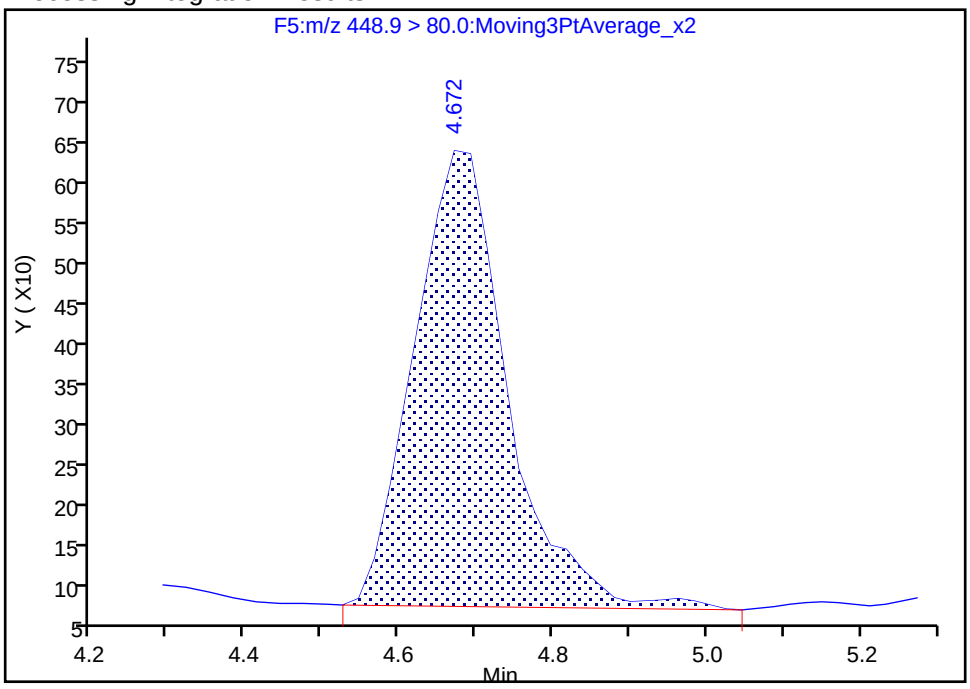
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

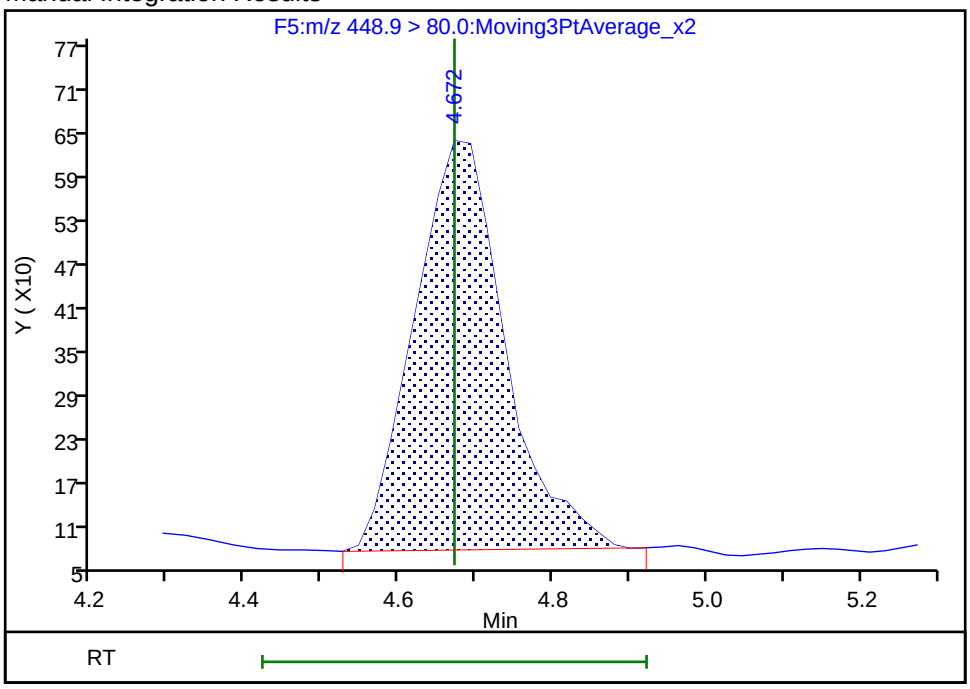
Processing Integration Results

RT: 4.67
Area: 4765
Amount: 1.007644
Amount Units: ng/ml



Manual Integration Results

RT: 4.67
Area: 4595
Amount: 0.971695
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:44:25
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

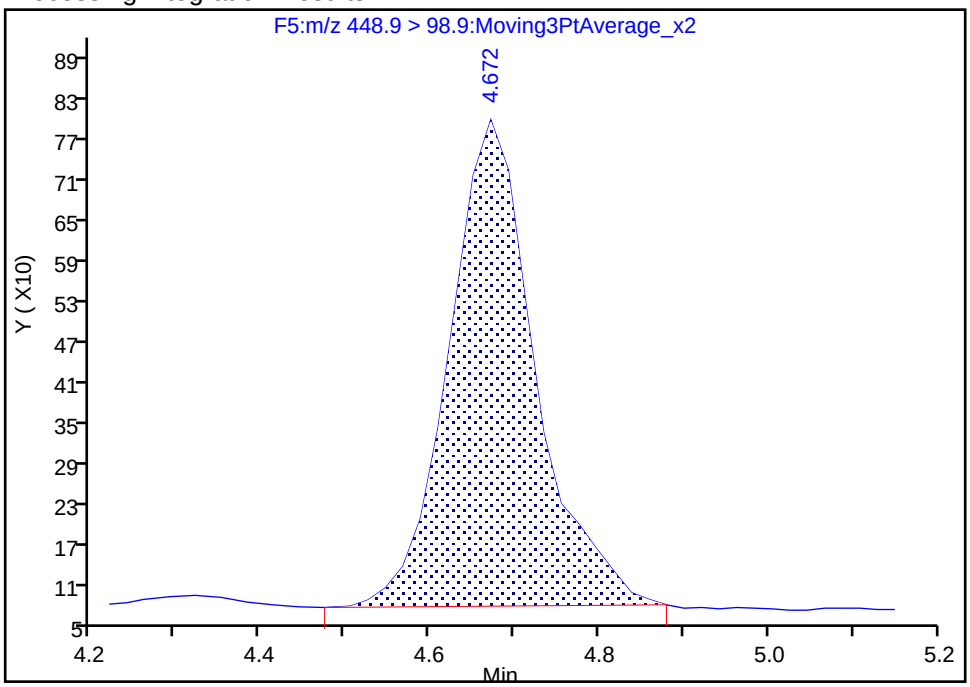
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 2

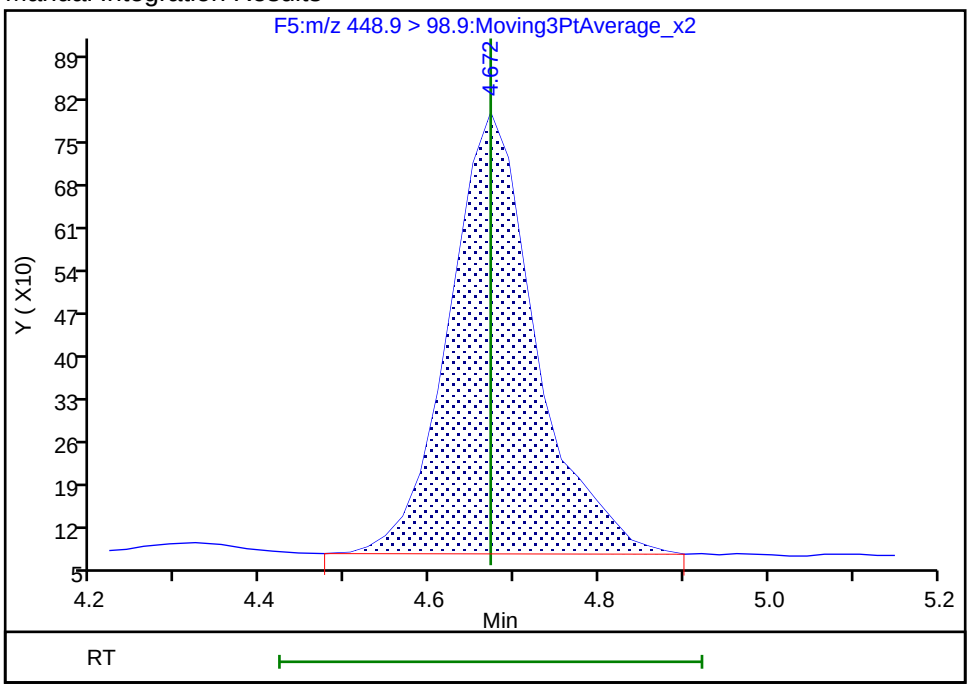
Processing Integration Results

RT: 4.67
Area: 5107
Amount: 1.007644
Amount Units: ng/ml



Manual Integration Results

RT: 4.67
Area: 5170
Amount: 0.971695
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:44:31
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

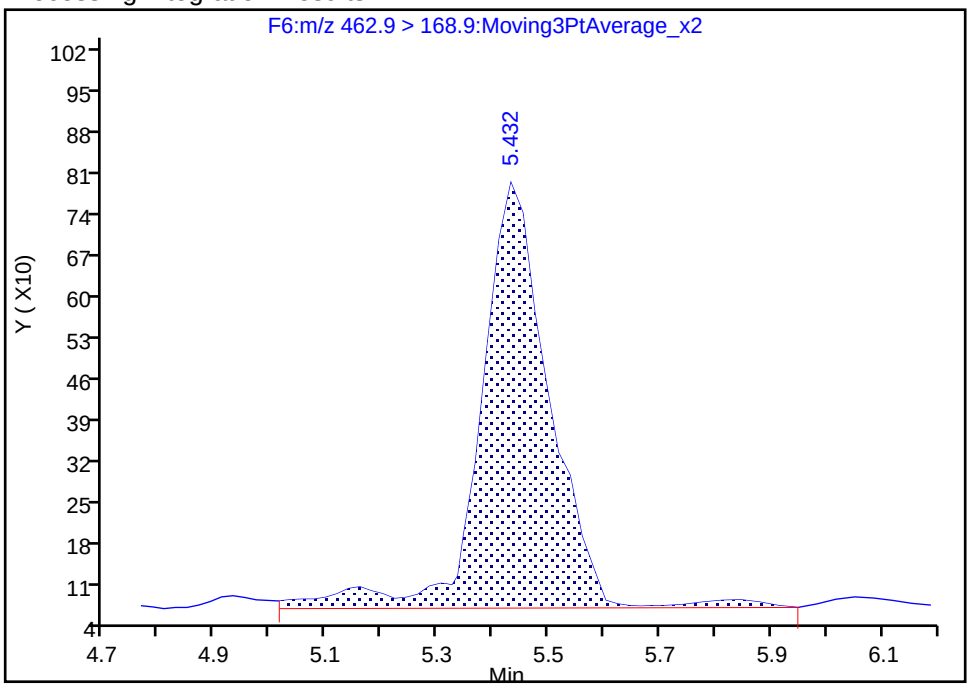
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d				
Injection Date:	30-May-2019 14:22:13	Instrument ID:	LC410		
Lims ID:	CCVL				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

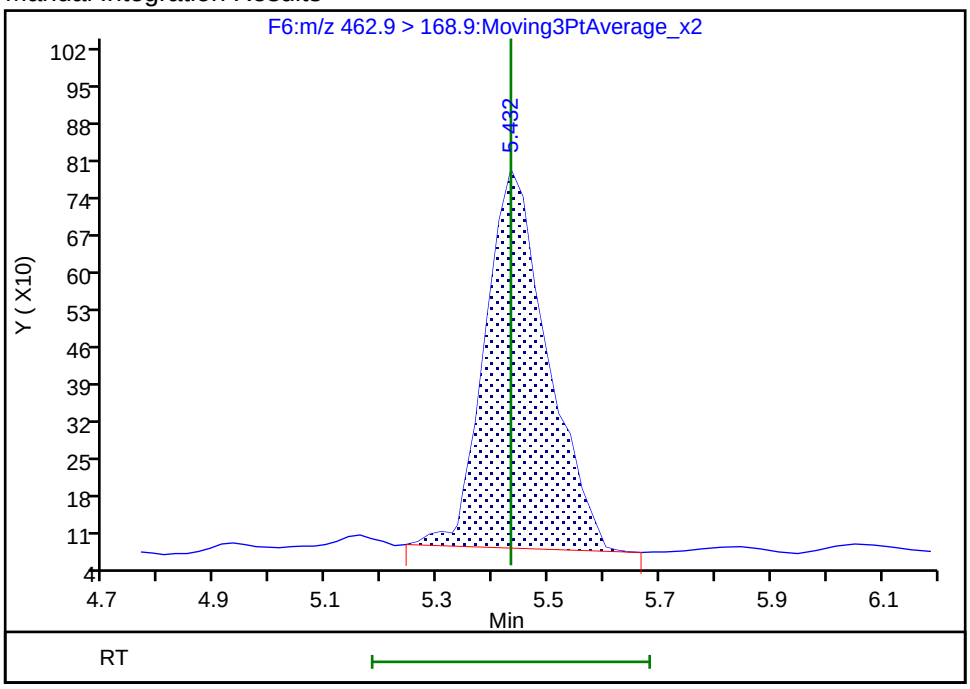
Processing Integration Results

RT: 5.43
Area: 6269
Amount: 1.223916
Amount Units: ng/ml



Manual Integration Results

RT: 5.43
Area: 5573
Amount: 1.223916
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:44:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

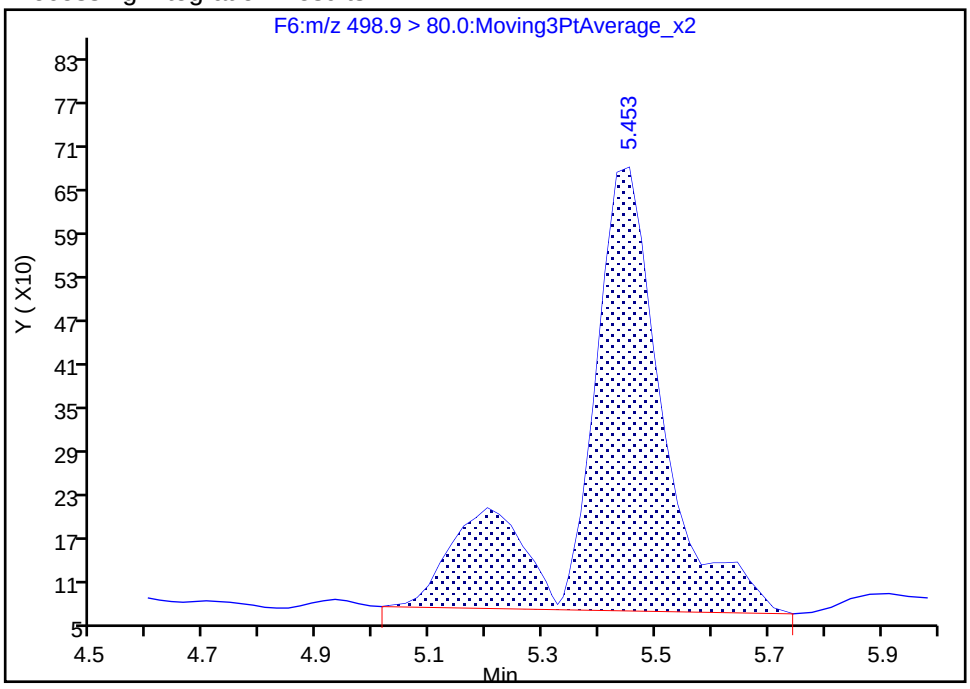
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

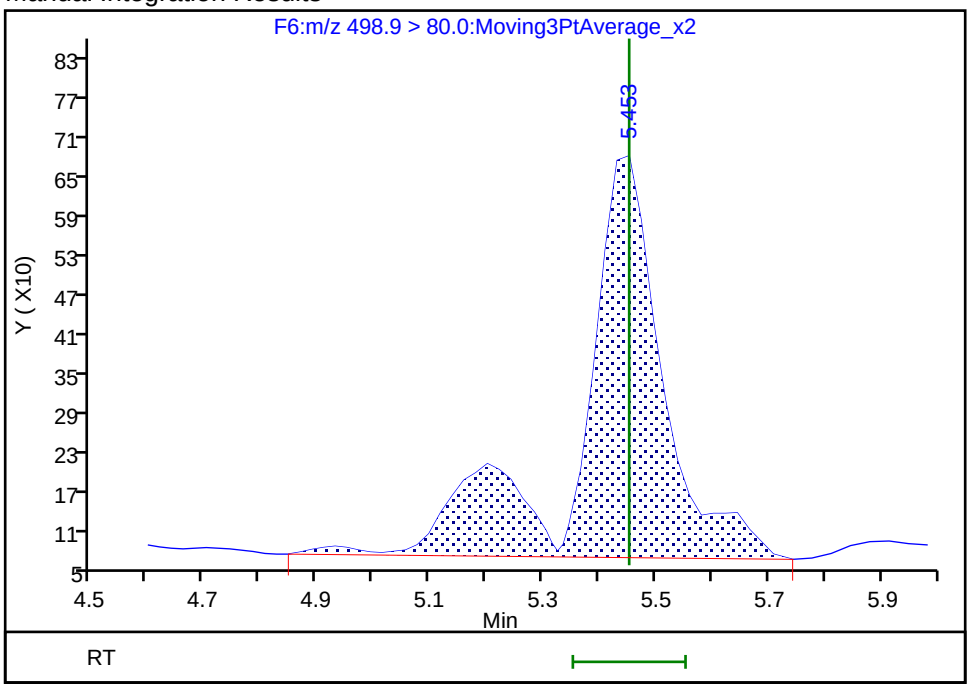
Processing Integration Results

RT: 5.45
Area: 6195
Amount: 1.180986
Amount Units: ng/ml



Manual Integration Results

RT: 5.45
Area: 6343
Amount: 1.209201
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:44:53
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

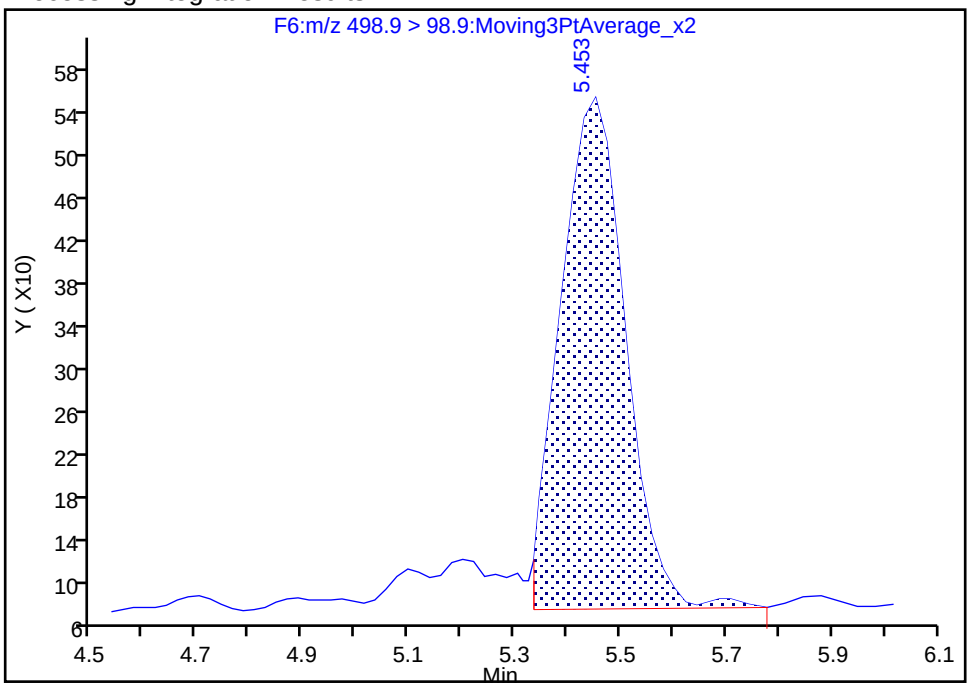
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

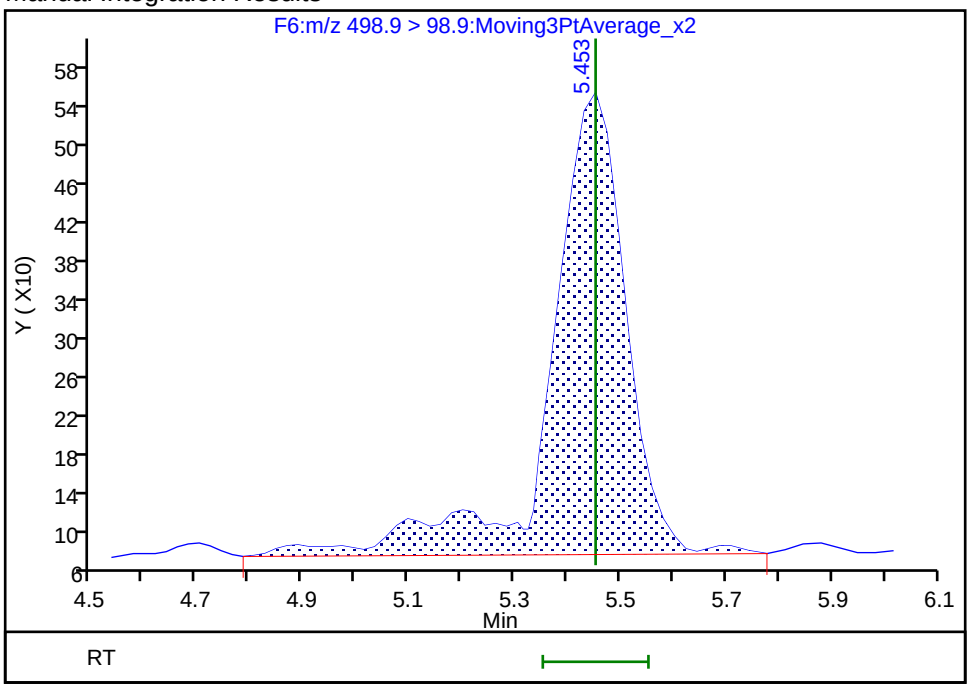
Processing Integration Results

RT: 5.45
Area: 4076
Amount: 1.180986
Amount Units: ng/ml



Manual Integration Results

RT: 5.45
Area: 4781
Amount: 1.209201
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:44:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

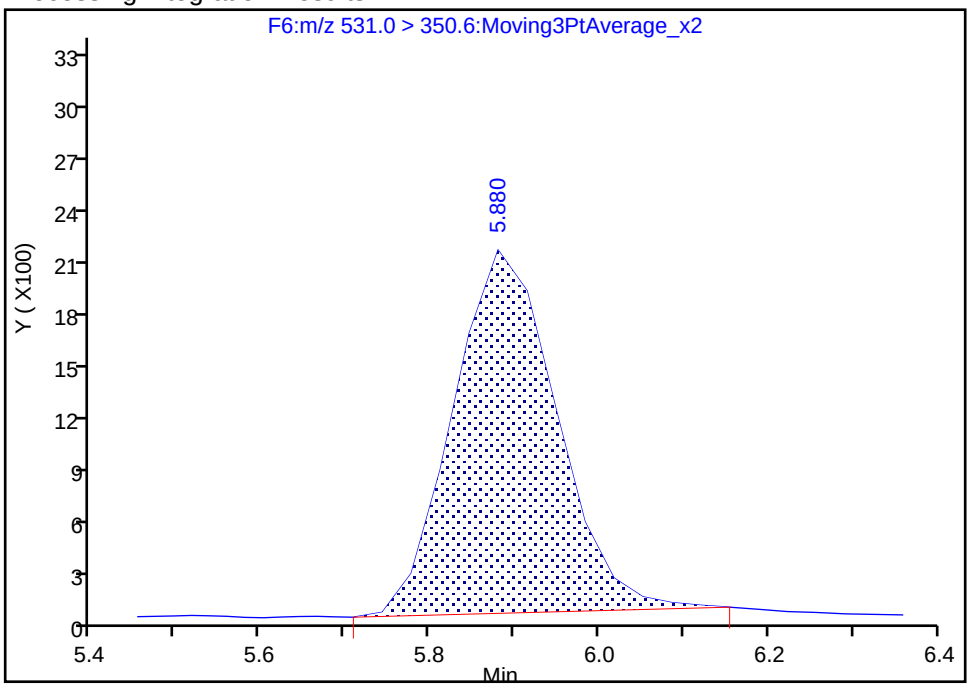
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfoni, CAS: 756426-58-1

Signal: 1

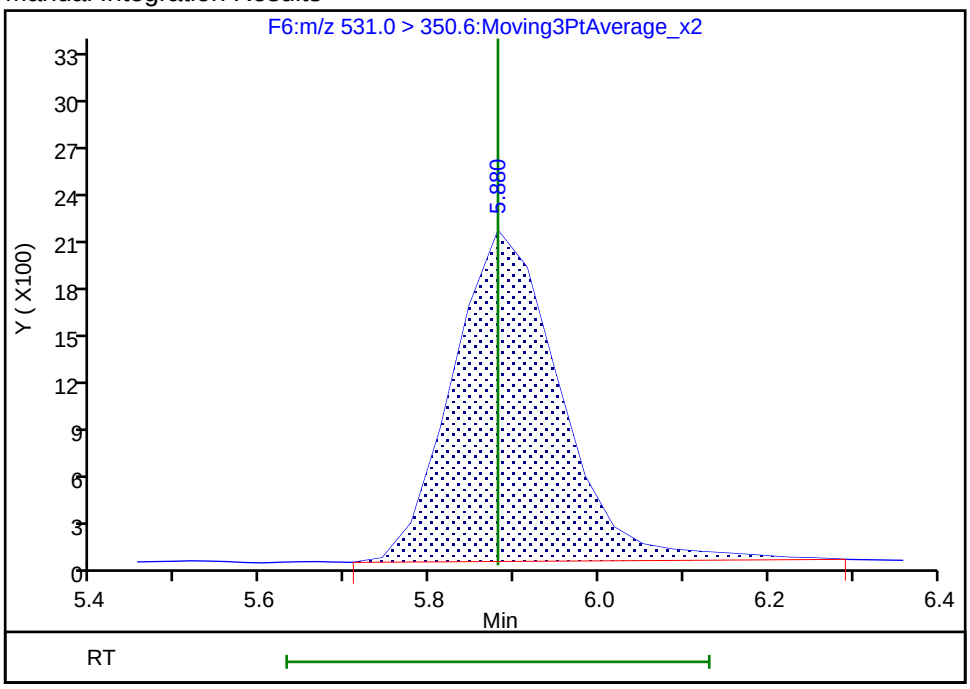
Processing Integration Results

RT: 5.88
Area: 17549
Amount: 0.734837
Amount Units: ng/ml



Manual Integration Results

RT: 5.88
Area: 18270
Amount: 0.765028
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:45:02
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

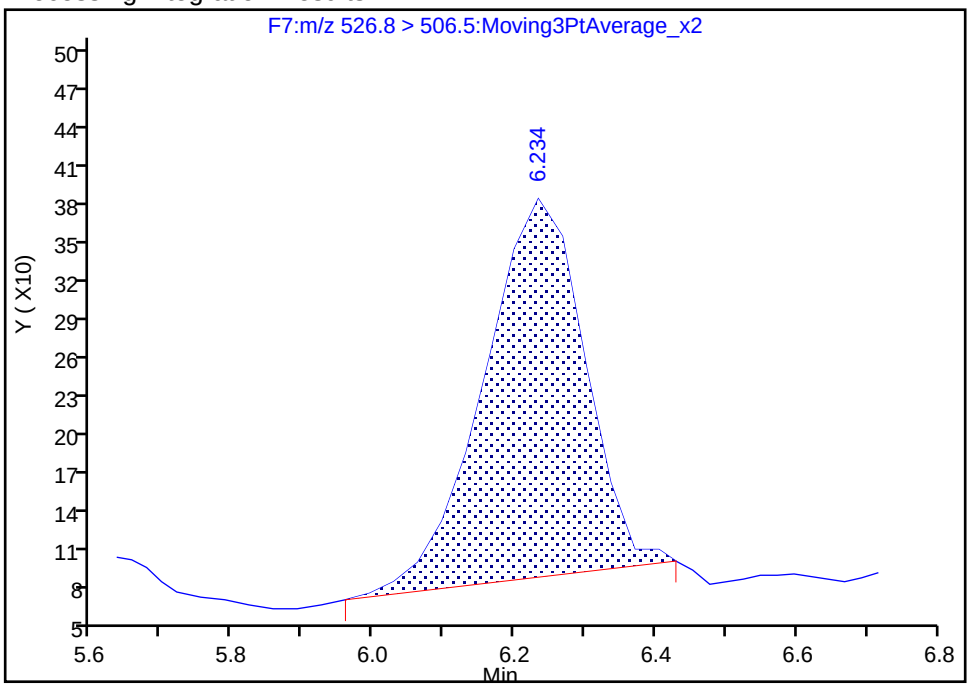
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

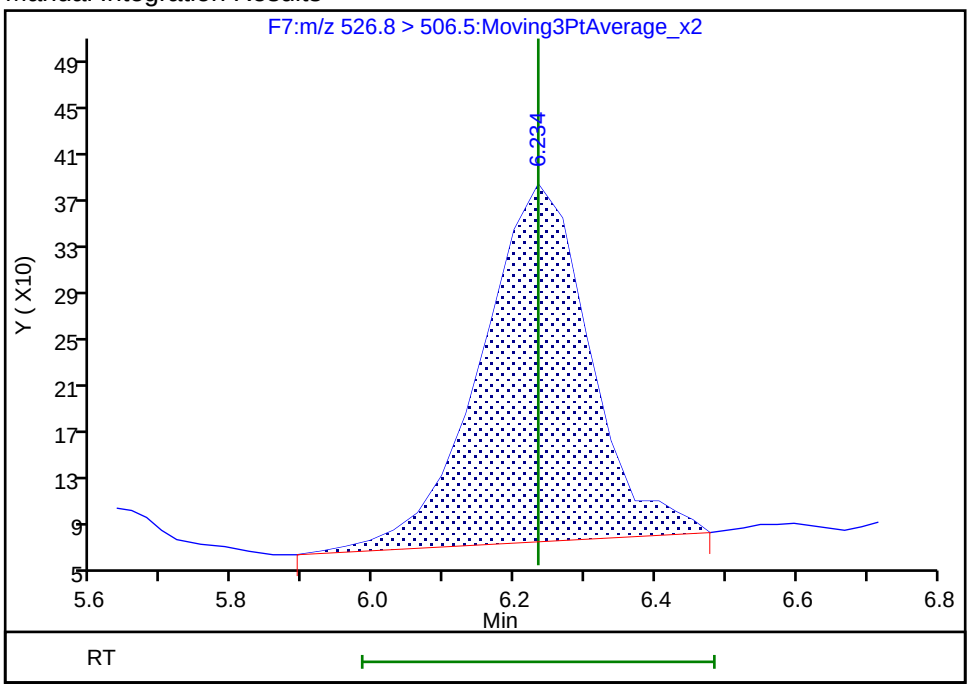
Processing Integration Results

RT: 6.23
Area: 2929
Amount: 1.033207
Amount Units: ng/ml



Manual Integration Results

RT: 6.23
Area: 3312
Amount: 1.168310
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:45:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

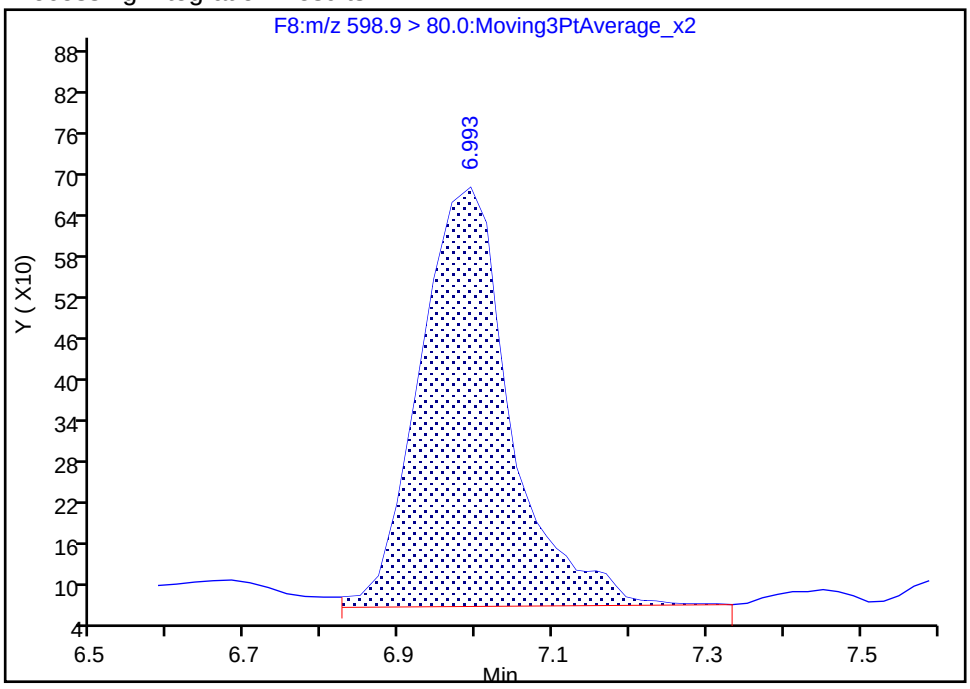
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

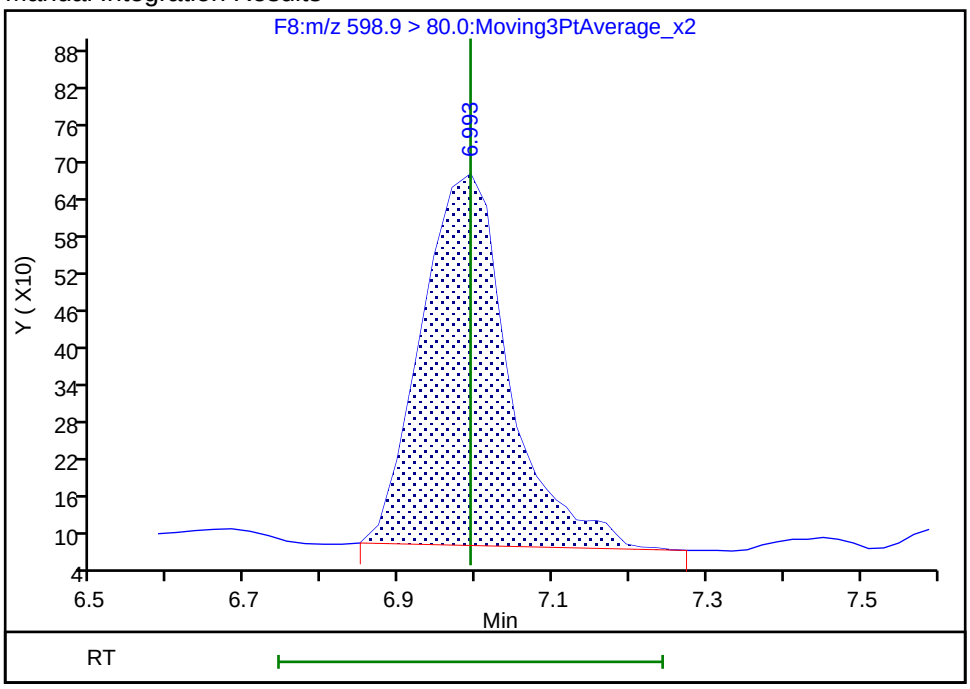
Processing Integration Results

RT: 6.99
Area: 5025
Amount: 0.891136
Amount Units: ng/ml



Manual Integration Results

RT: 6.99
Area: 4765
Amount: 0.845027
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:45:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

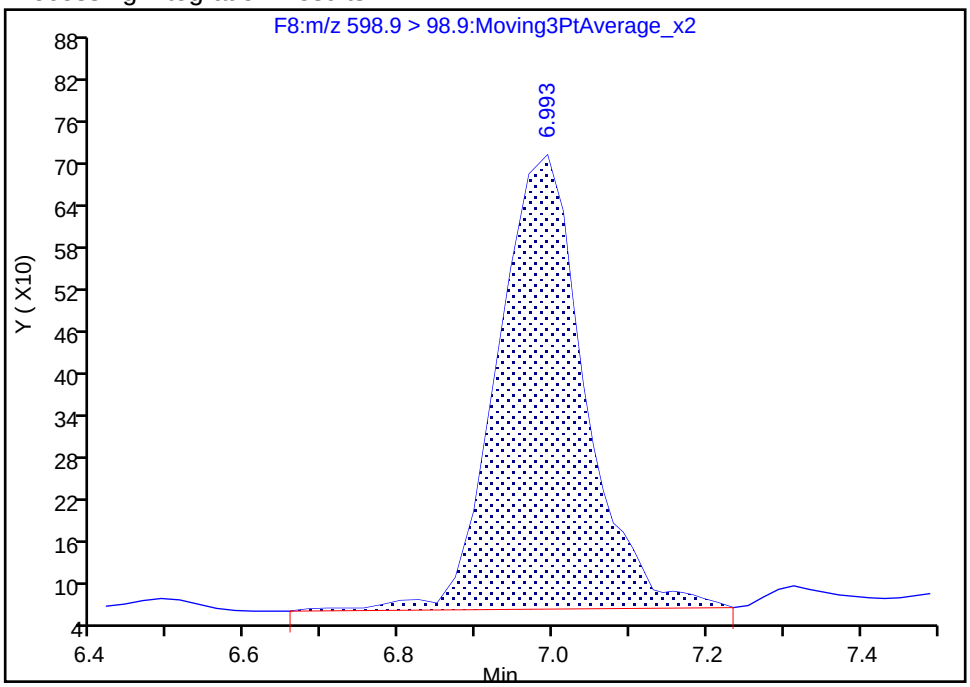
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 2

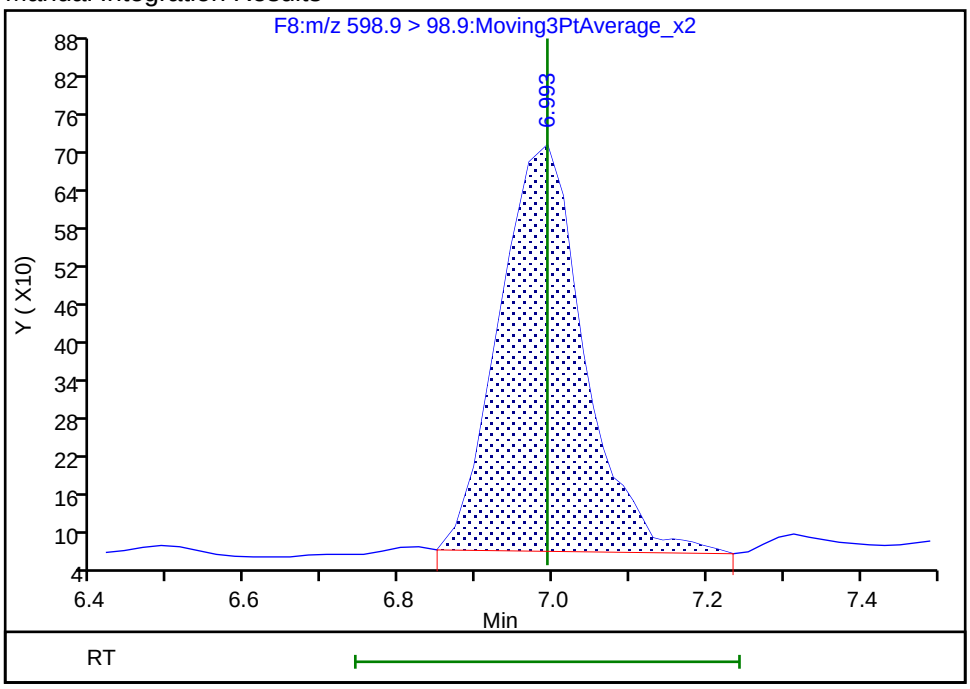
Processing Integration Results

RT: 6.99
Area: 5093
Amount: 0.891136
Amount Units: ng/ml



Manual Integration Results

RT: 6.99
Area: 4908
Amount: 0.845027
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:45:38
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

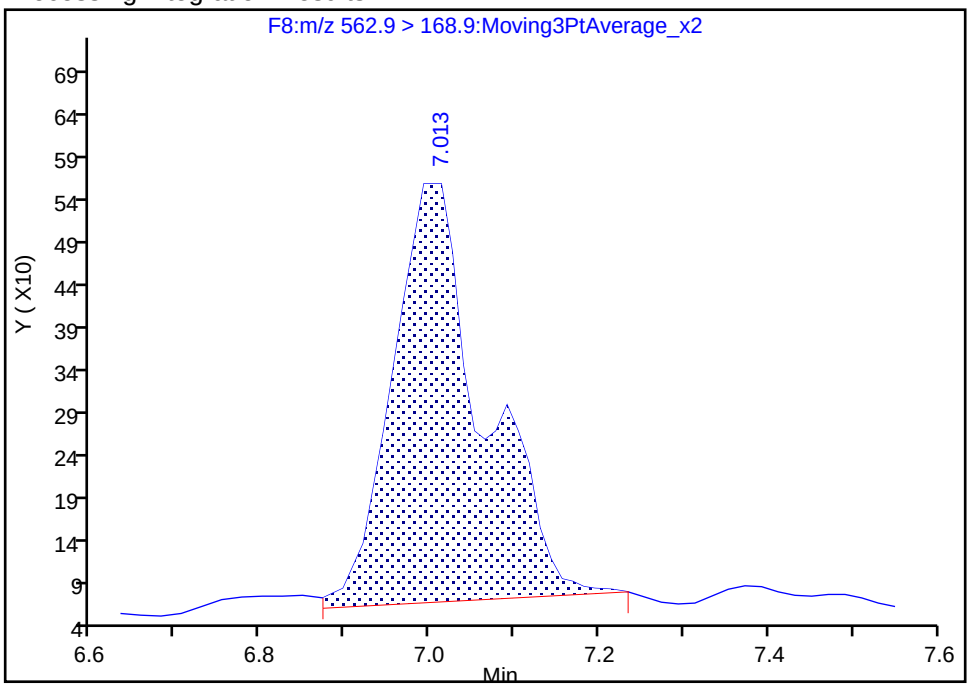
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

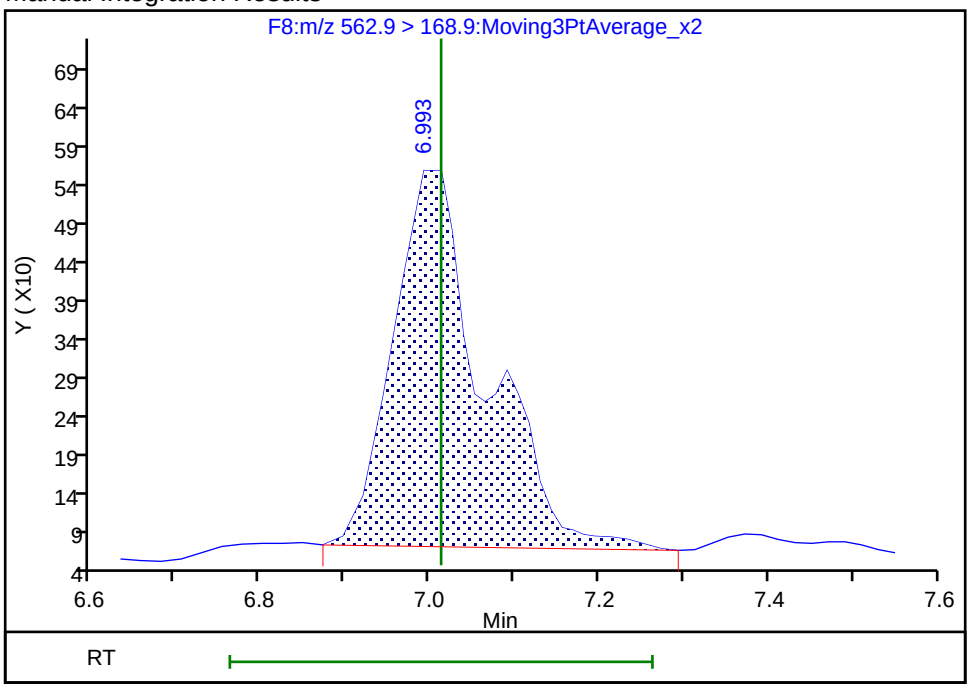
Processing Integration Results

RT: 7.01
Area: 3625
Amount: 0.999105
Amount Units: ng/ml



Manual Integration Results

RT: 6.99
Area: 3654
Amount: 0.999105
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:45:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

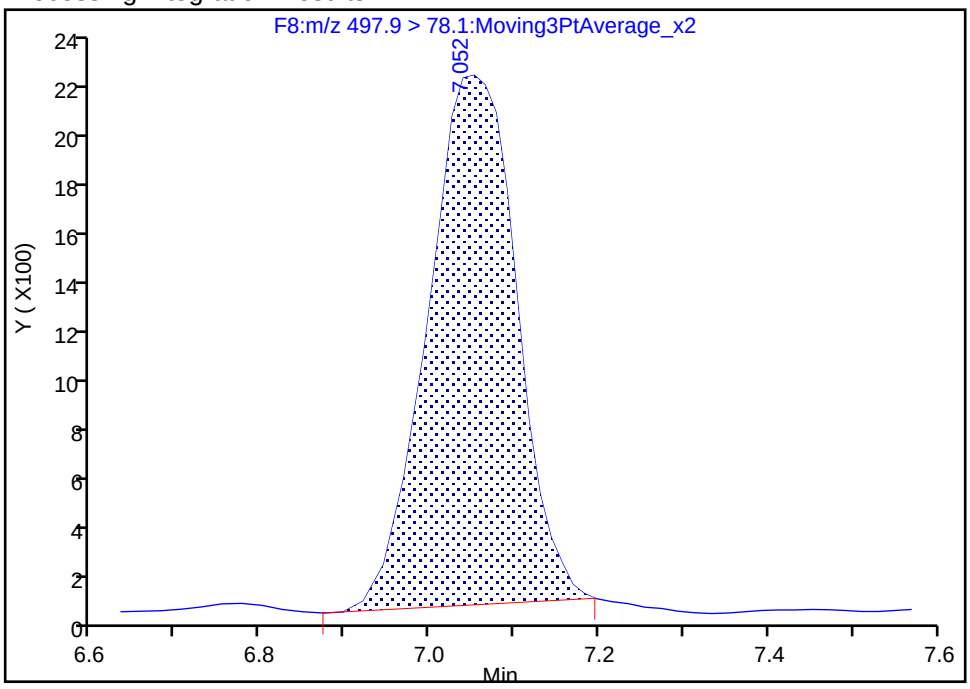
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

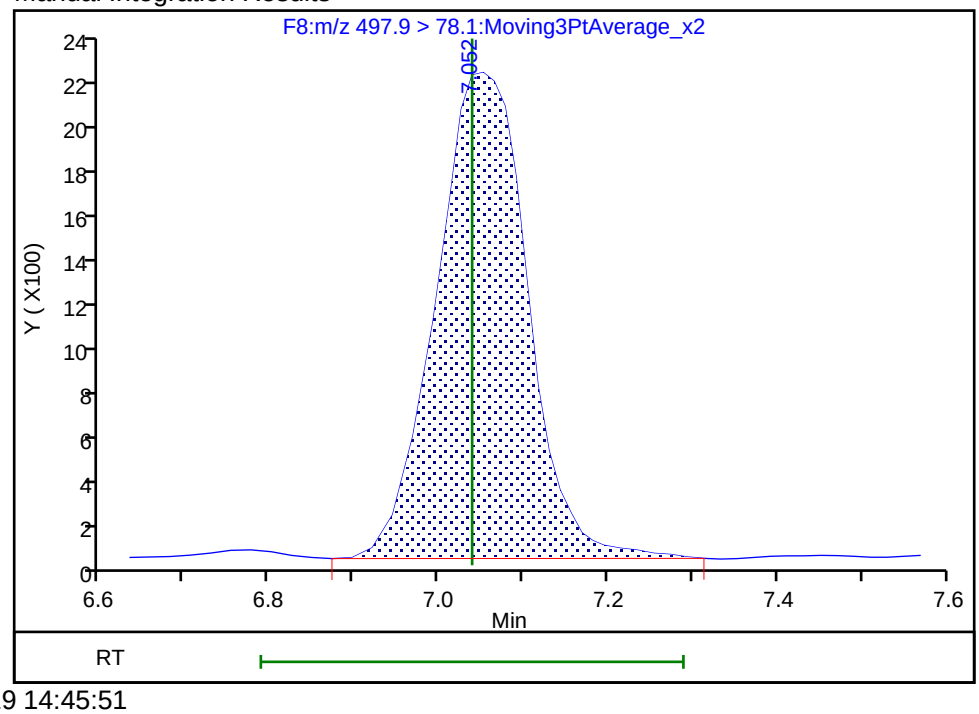
Processing Integration Results

RT: 7.05
Area: 15232
Amount: 1.117908
Amount Units: ng/ml



Manual Integration Results

RT: 7.05
Area: 15968
Amount: 1.171925
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:45:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

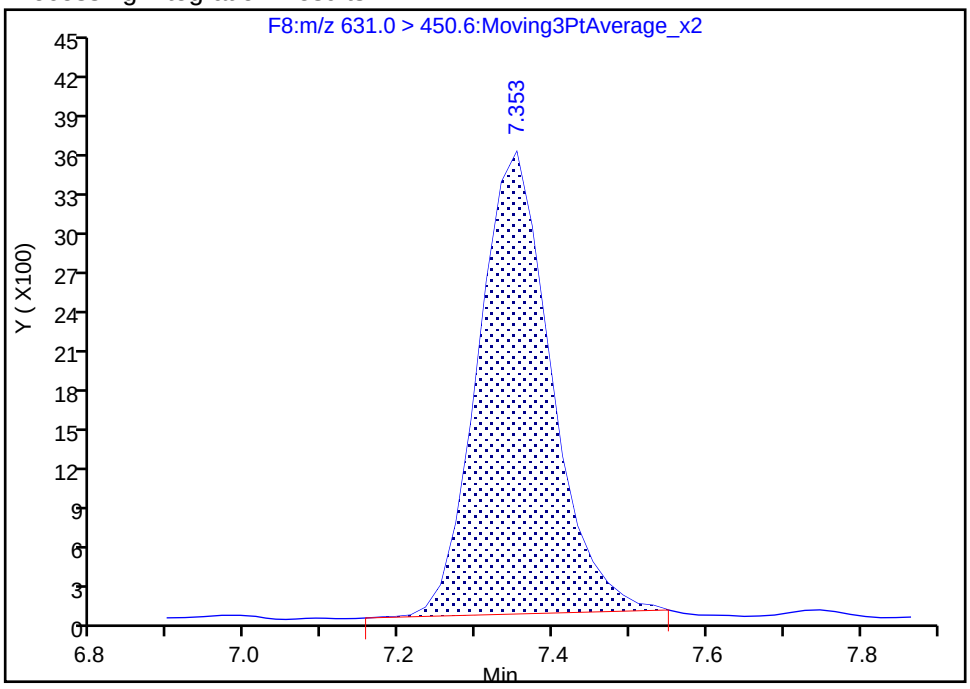
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

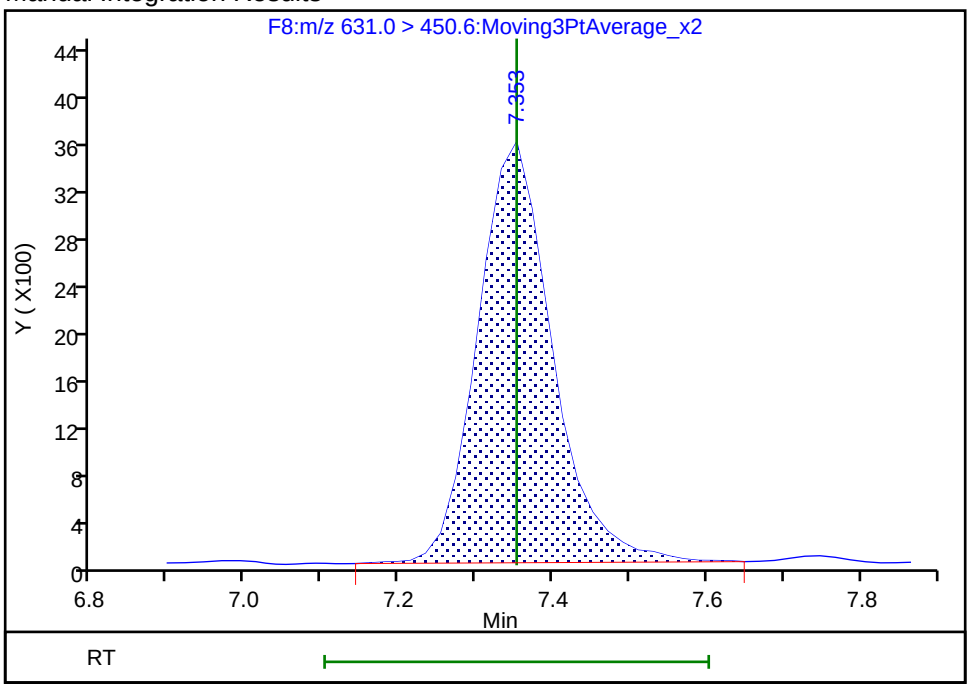
Processing Integration Results

RT: 7.35
Area: 22856
Amount: 0.750130
Amount Units: ng/ml



Manual Integration Results

RT: 7.35
Area: 23600
Amount: 0.774548
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:45:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

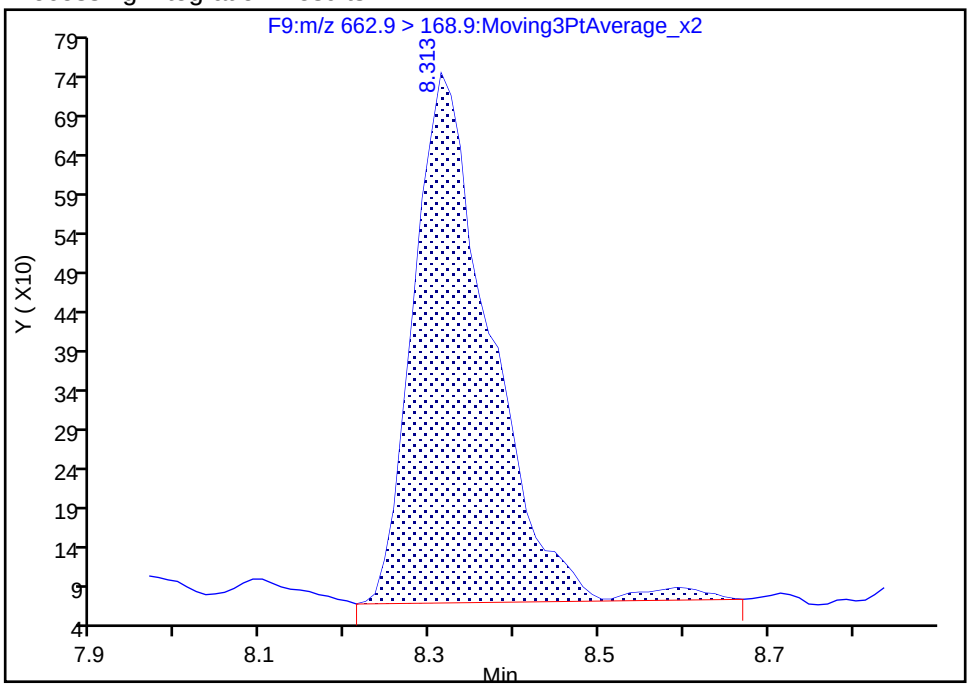
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F9:MRM

38 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 2

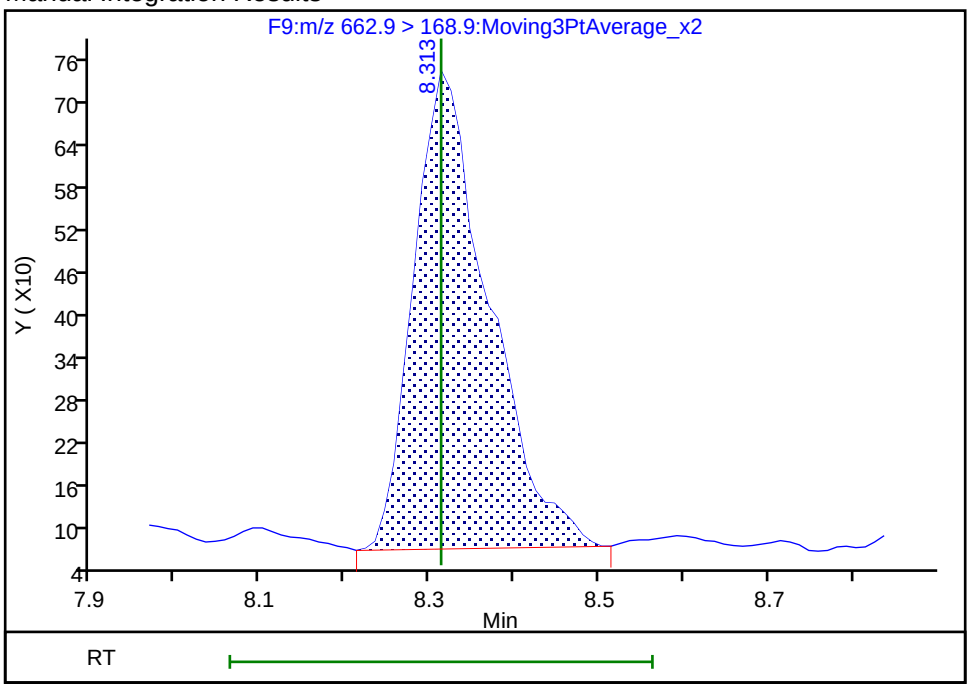
Processing Integration Results

RT: 8.31
Area: 4285
Amount: 1.095445
Amount Units: ng/ml



Manual Integration Results

RT: 8.31
Area: 4180
Amount: 1.095445
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:46:04
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

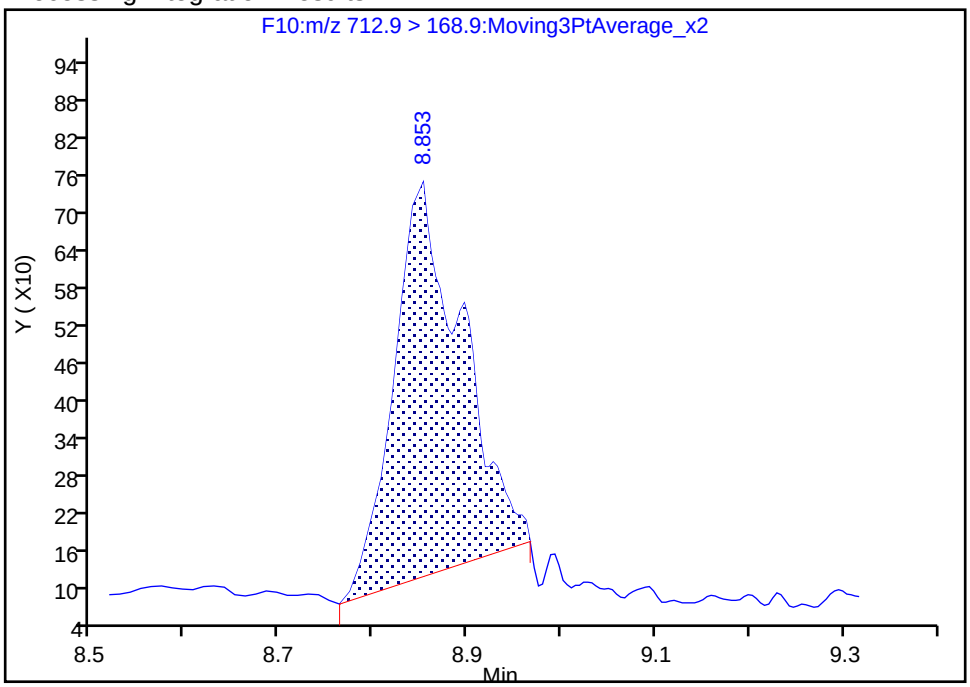
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B07.d
Injection Date: 30-May-2019 14:22:13 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F10:MRM

39 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

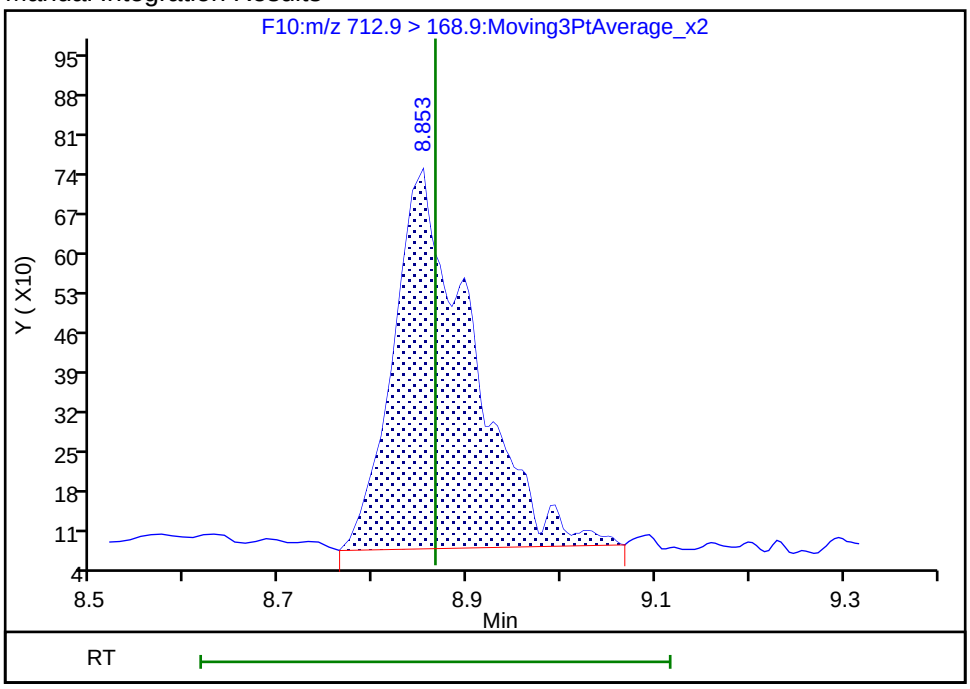
Processing Integration Results

RT: 8.85
Area: 3171
Amount: 1.001575
Amount Units: ng/ml



Manual Integration Results

RT: 8.85
Area: 3916
Amount: 1.001575
Amount Units: ng/ml



Reviewer: murrayjw, 30-May-2019 14:46:09
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143596/38 Calibration Date: 05/30/2019 22:34

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B38.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	2.739		34900	20000	74.4*	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	3.860		25800	20000	28.9	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	3.061		21500	17700	21.8	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.940		27400	18700	46.5	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.399		20000	20000	0.0	40.0
Perfluoropentanesulfonic acid	AveID	2.841	3.566		23500	18800	25.5	50.0
HFPO-DA	AveID	1.078	1.118		20700	20000	3.7	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.301		22200	20000	10.9	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	2.391		20600	18200	13.0	40.0
DONA	AveID	4.300	5.314		23300	18800	23.6	50.0
6:2 FTS	AveID	0.9451	0.9529		19100	19000	0.8	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	0.9735		19200	20000	-3.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.9930		21700	19000	14.1	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9180		20800	20000	4.0	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	1.082		20800	18600	12.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	5.826		24700	18600	32.5	50.0
8:2 FTS	AveID	0.7376	0.8131		21100	19200	10.2	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.8858		19400	20000	-3.2	40.0
Perfluorononanesulfonic acid	AveID	0.9697	1.021		20200	19200	5.3	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.9490		23000	20000	14.9	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.9188		22800	20000	14.1	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	1.007		18700	19300	-3.0	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8768		21100	20000	5.3	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.292		18100	20000	-9.3	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	6.761		22700	18800	20.5	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9288		19600	20000	-2.1	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	1.021		21800	20000	8.9	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8847		20800	20000	4.2	40.0
13C4 PFBA	Ave	0.2445	0.1325		27100	50000	-45.8	50.0
13C5 PFPeA	Ave	0.1855	0.1388		37400	50000	-25.2	50.0
13C3 PFBS	Ave	0.0807	0.0613		35300	46500	-24.1	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143596/38 Calibration Date: 05/30/2019 22:34

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B38.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5205		46800	50000	-6.4	50.0
13C3 HFPO-DA	Ave	0.0529	0.0479		45200	50000	-9.5	50.0
13C4 PFHpA	Ave	0.7840	0.7693		49100	50000	-1.9	50.0
18O2 PFHxS	Ave	0.1031	0.0841		38600	47300	-18.4	50.0
M2-6:2 FTS	Ave	0.0557	0.0386		32900	47500	-30.7	50.0
13C4 PFOA	Ave	0.9706	0.9867		50800	50000	1.6	50.0
13C5 PFNA	Ave	1.302	1.171		45000	50000	-10.0	50.0
13C4 PFOS	Ave	0.2326	0.1933		39700	47800	-16.9	50.0
13C2 PFDA	Ave	1.111	1.197		53800	50000	7.7	50.0
M2-8:2 FTS	Ave	0.2026	0.2088		49400	47900	3.1	50.0
d3-NMeFOSAA	Ave	0.3621	0.3367		46500	50000	-7.0	50.0
d5-NEtFOSAA	Ave	0.2986	0.2896		48500	50000	-3.0	50.0
13C2 PFUnA	Ave	1.073	1.109		51700	50000	3.3	50.0
13C8 FOSA	Ave	0.4004	0.3972		49600	50000	-0.8	50.0
13C2 PFDoA	Ave	1.367	1.355		49600	50000	-0.9	50.0
13C2 PFTeDA	Ave	1.227	1.264		51500	50000	3.0	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d
Lims ID: CCV L5
Client ID:
Sample Type: CCV
Inject. Date: 30-May-2019 22:34:45 ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036138-038 CCV L5
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:25:13 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: chirgwinb Date: 31-May-2019 08:50:20
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.391	-0.011	1.000	124454	27.1		54.2	55.0	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.391	-0.011	1.000	136339	34.9		174	64.0	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.830	2.830	0.0	1.000	130366	37.4		74.8	323	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.866	-0.036	1.000	201306	25.8		129	305	
D 5 13C3 PFBS										
302.0 > 79.8	2.937	2.901	0.036	1.000	53497	35.3		75.9	198	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.937	-0.036	0.988	62261	21.5	Target=1.67	122	268	
298.9 > 98.9	2.937	2.901	0.036	1.000	57540		1.08(0.83-2.51)		219	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.270	3.302	-0.032	1.113	41695	27.4		146	240	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	488829	46.8		93.6	1313	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.334	3.334	0.0	1.000	273597	20.0	Target=14.34	100	712	
312.9 > 118.9	3.334	3.334	0.0	1.000	16948		16.14(7.17-21.51)		64.3	M
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.365	3.397	-0.032	1.146	76974	23.5	Target=1.23	126	348	
348.9 > 98.9	3.365	3.397	-0.032	1.000	88903		0.87(0.62-1.85)		892	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.492	3.492	0.0	1.000	20105	20.7		104	66.7	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.492	3.492	0.0	1.000	44959	45.2		90.5	555	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.905	3.925	-0.020	1.000	376031	22.2	Target=2.84	111	1441	
362.9 > 168.9	3.905	3.925	-0.020	1.000	125143		3.00(1.42-4.26)		862	
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.925	-0.020	1.000	722515	49.1		98.1	1097	
D 12 18O2 PFHxS										
402.9 > 83.8	3.926	3.946	-0.020	1.000	74748	38.6		81.6	428	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.926	3.946	-0.020	1.000	68762	20.6	Target=1.34	113	495	M
398.9 > 98.9	3.926	3.946	-0.020	1.000	77251		0.89(0.67-2.01)		359	M
49 DONA										
376.9 > 250.7	3.986	3.986	0.0	0.737	363493	23.3	Target=2.33	124	2189	
376.9 > 85.0	3.986	3.986	0.0	1.000	134095		2.71(1.16-3.49)		669	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.547	4.589	-0.042	1.000	34450	32.9		69.3	127	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.568	4.609	-0.041	1.005	13103	19.1		101	40.8	
D 17 13C4 PFOA										
416.9 > 371.8	4.609	4.630	-0.021	1.000	926678	50.8		102	6389	
* 16 13C2 PFOA										
414.9 > 369.8	4.609	4.630	-0.021		939220	50.0			1897	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.609	4.630	-0.021	1.000	360846	19.2	Target=2.43	96.2	874	
412.9 > 168.9	4.609	4.630	-0.021	1.000	142543		2.53(1.22-3.64)		677	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.630	4.672	-0.042	0.856	68647	21.7	Target=1.30	114	284	
448.9 > 98.9	4.630	4.672	-0.042	1.000	78464		0.87(0.65-1.95)		496	
19 Perfluorononanoic acid										
462.9 > 418.7	5.389	5.432	-0.043	1.000	403974	20.8	Target=5.00	104	1684	
462.9 > 168.9	5.411	5.432	-0.021	1.004	95429		4.23(2.50-7.50)		533	
D 20 13C5 PFNA										
467.8 > 422.8	5.389	5.432	-0.043	1.000	1100138	45.0		90.0	2217	
D 22 13C4 PFOS										
502.9 > 80.0	5.411	5.453	-0.042	1.000	173554	39.7		83.1	567	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.411	5.453	-0.042	1.000	72909	20.8	Target=1.41	112	616	M
498.9 > 98.9	5.411	5.453	-0.042	1.000	74203		0.98(0.71-2.12)		654	M
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.846	5.880	-0.034	1.080	394305	24.7		133	2295	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.199	6.234	-0.035	1.000	187907	49.4		103	753	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.165	6.234	-0.069	0.994	61115	21.1		110	326	
D 25 13C2 PFDA										
514.9 > 469.5	6.199	6.234	-0.035	1.000	1124061	53.8		108	2659	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.199	6.234	-0.035	1.146	71183	20.2	Target=1.39	105	350	
548.9 > 98.9	6.199	6.234	-0.035	1.000	86231		0.83(0.69-2.08)		327	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.199	6.234	-0.035	1.000	398260	19.4	Target=7.23	96.8	863	
512.9 > 168.9	6.199	6.234	-0.035	1.000	53723		7.41(3.61-10.84)		253	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.549	6.597	-0.048	1.000	316258	46.5		93.0	967	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.549	6.597	-0.048	1.000	120045	23.0		115	690	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.921	6.969	-0.048	1.000	271947	48.5		97.0	1337	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.921	6.969	-0.048	1.000	99942	22.8		114	1330	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.945	6.993	-0.048	1.284	70513	18.7	Target=1.25	97.0	803	
598.9 > 98.9	6.945	6.993	-0.048	1.000	98470		0.72(0.63-1.88)		684	
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	7.013	-0.068	1.000	1041182	51.7		103	4373	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.969	7.013	-0.044	1.003	365153	21.1	Target=7.06	105	1670	
562.9 > 168.9	6.945	7.013	-0.068	1.000	52060		7.01(3.53-10.58)		193	
D 34 13C8 FOSA										
505.9 > 78.0	7.026	7.039	-0.013	1.000	373027	49.6		99.2	1206	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.026	7.039	-0.013	1.000	192806	18.1		90.7	659	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.294	7.353	-0.059	1.348	462505	22.7		121	2400	
D 37 13C2 PFDoA										
614.9 > 569.5	7.656	7.695	-0.039	1.000	1272946	49.6		99.1	1397	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.656	7.695	-0.039	1.000	472938	19.6	Target=5.37	97.9	1803	
612.9 > 168.9	7.656	7.695	-0.039	1.000	80901		5.85(2.68-8.06)		309	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.257	8.313	-0.056	1.079	519790	21.8	Target=4.67	109	1688	
662.9 > 168.9	8.269	8.313	-0.044	1.080	94607		5.49(2.34-7.01)		458	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.808	8.866	-0.058	1.000	420249	20.8	Target=4.86	104	917	
712.9 > 168.9	8.808	8.866	-0.058	1.000	76491		5.49(2.43-7.30)		334	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.808	8.870	-0.062	1.000	1187601	51.5		103	889	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L5_00008 Amount Added: 100.00 Units: uL

Report Date: 05-Jun-2019 17:25:14 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d

Injection Date: 30-May-2019 22:34:45 Instrument ID: LC410

Lims ID: CCV L5

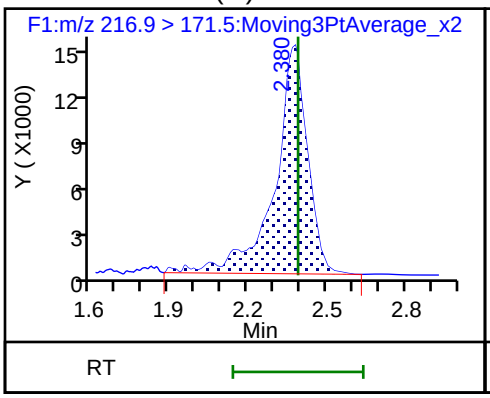
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 38

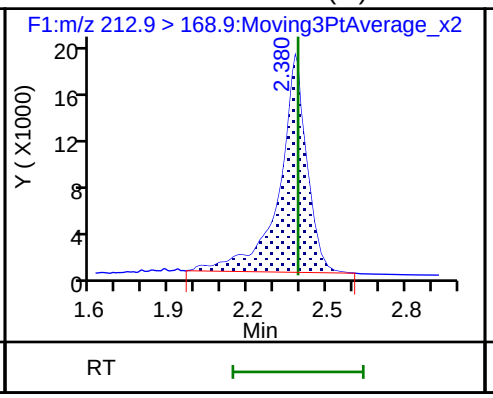
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

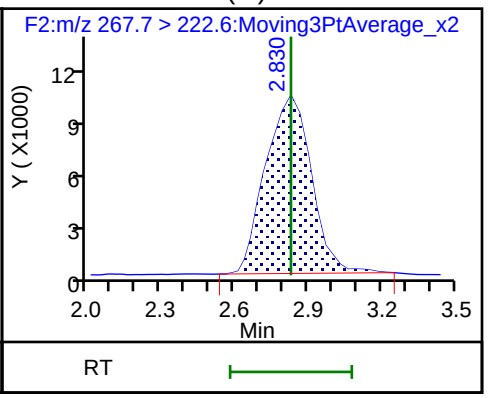
D 1 13C4 PFBA (M)



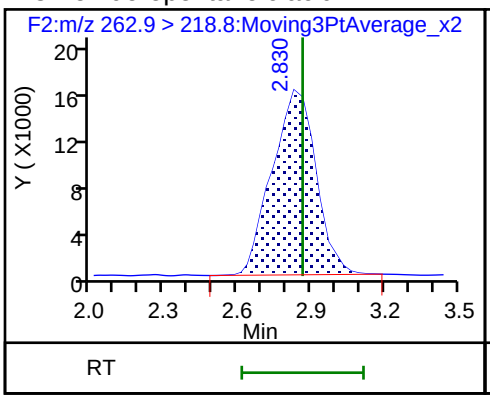
2 Perfluorobutanoic acid (M)



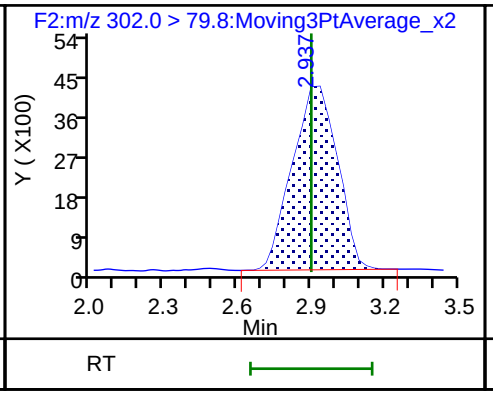
D 4 13C5 PFPeA (M)



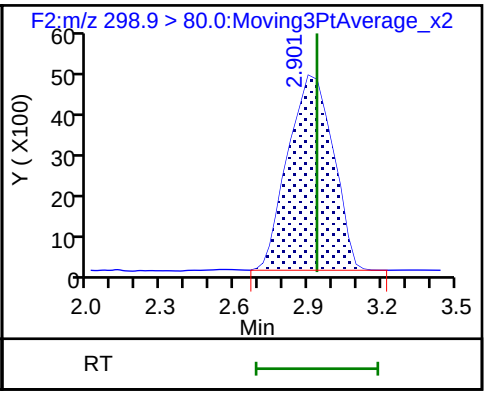
3 Perfluoropentanoic acid



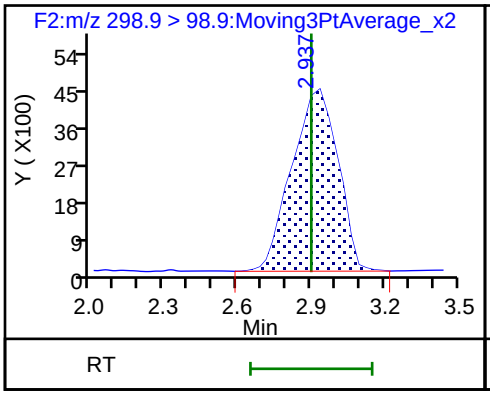
D 5 13C3 PFBS



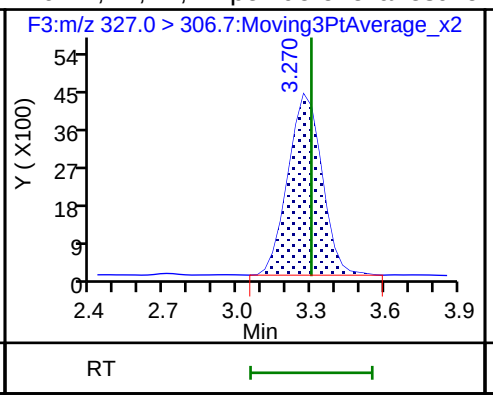
6 Perfluorobutanesulfonic acid



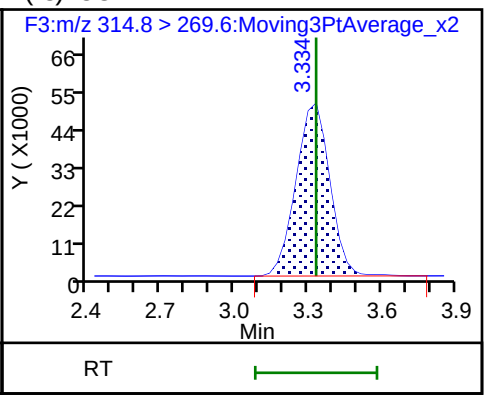
6 Perfluorobutanesulfonic acid



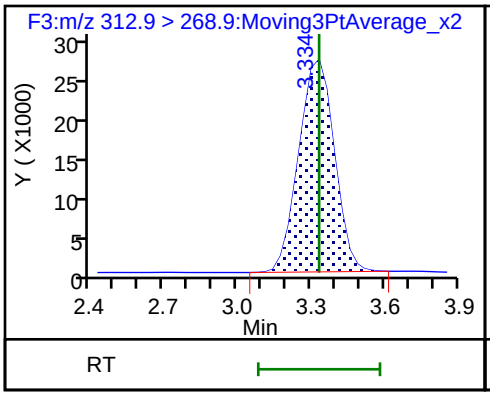
46 1H,1H,2H,2H-perfluorohexanesulfonic (M)



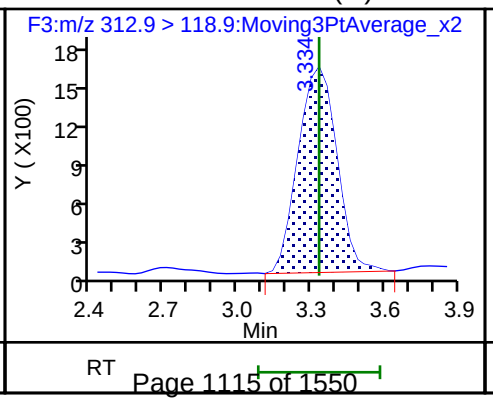
D 3 13C2 PFHxA



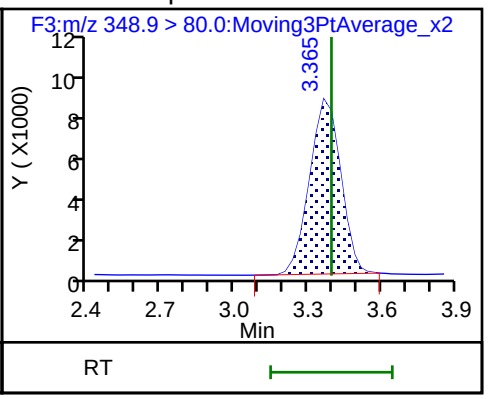
7 Perfluorohexanoic acid



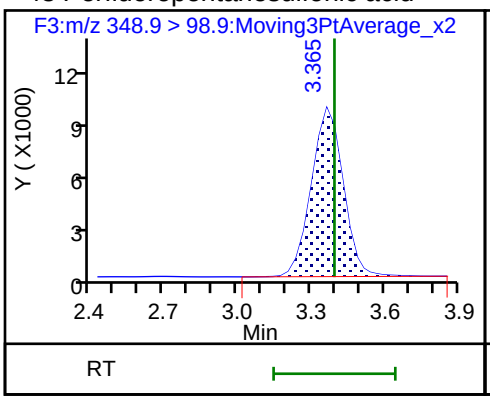
7 Perfluorohexanoic acid (M)



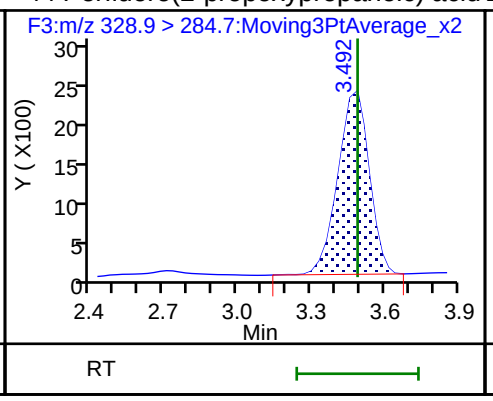
48 Perfluoropentanesulfonic acid



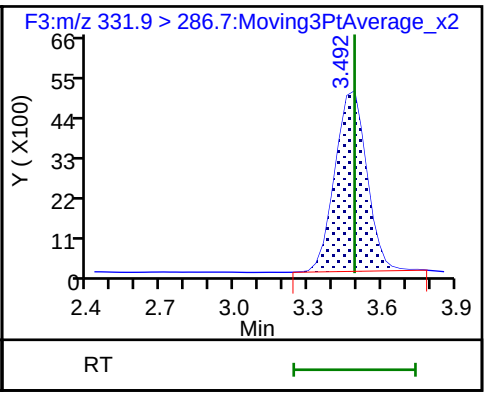
48 Perfluoropentanesulfonic acid



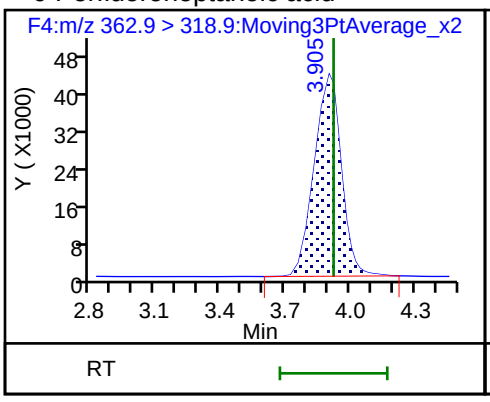
44 Perfluoro(2-propoxypropanoic) acid



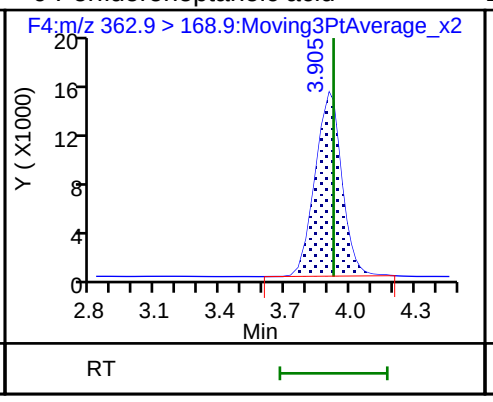
D 42 13C3 HFPO-DA



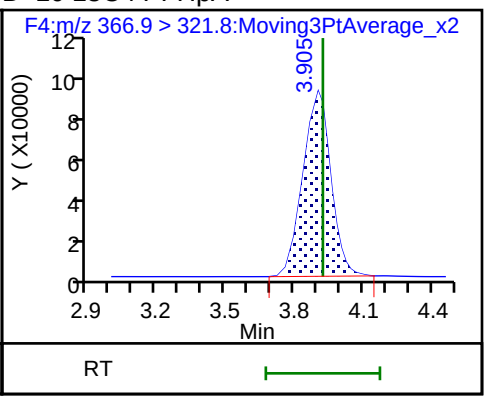
9 Perfluoroheptanoic acid



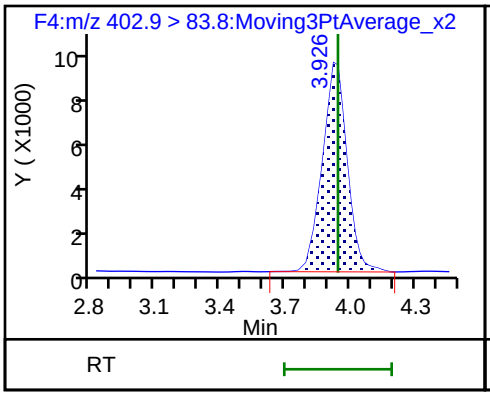
9 Perfluoroheptanoic acid



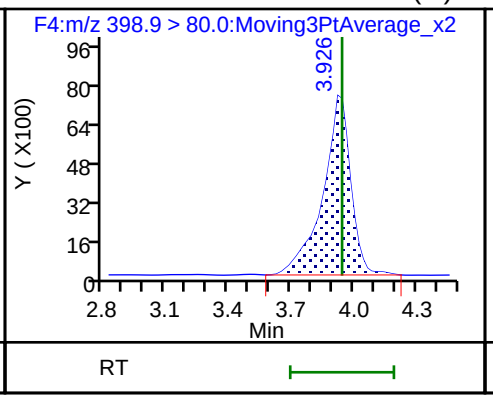
D 10 13C4 PFHpA



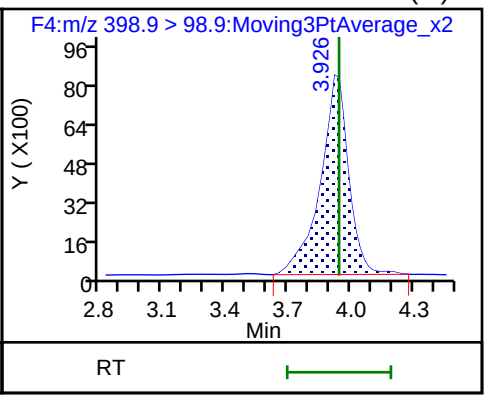
D 12 18O2 PFHxS



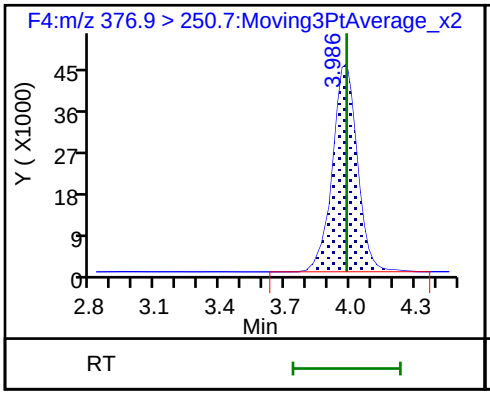
11 Perfluorohexanesulfonic acid (M)



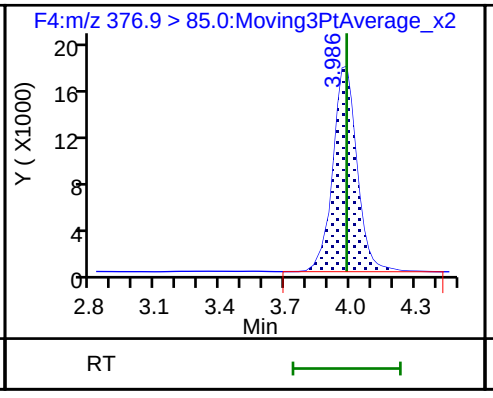
11 Perfluorohexanesulfonic acid (M)



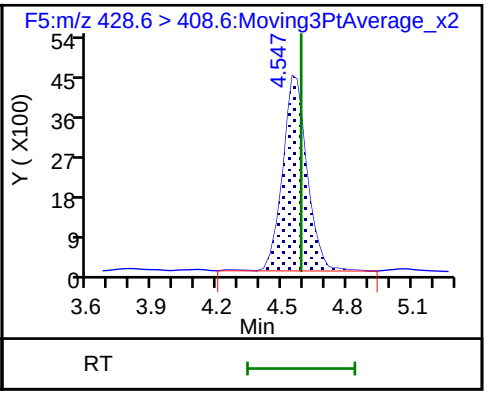
49 DONA



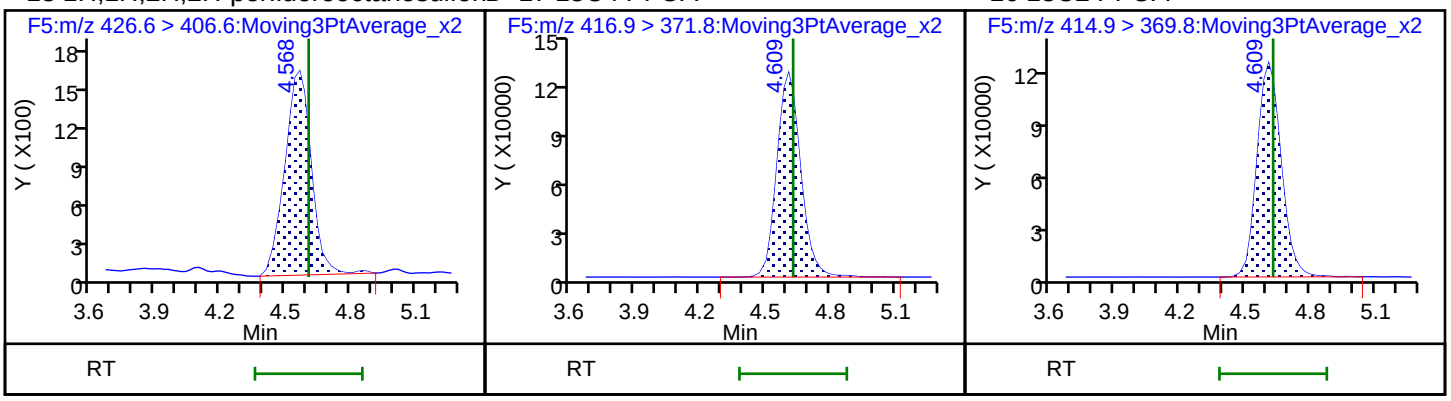
49 DONA



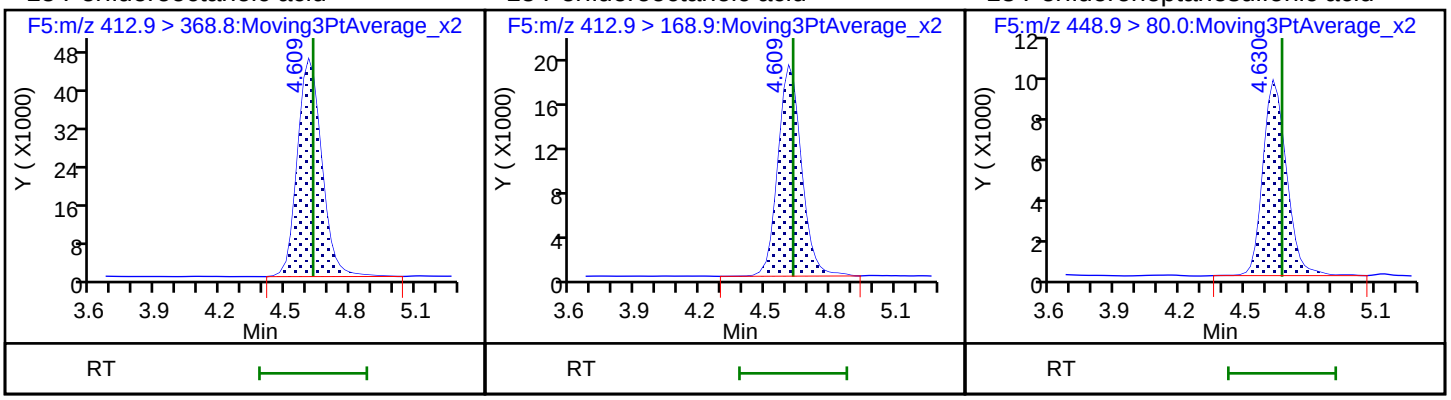
D 14 M2-6:2 FTS



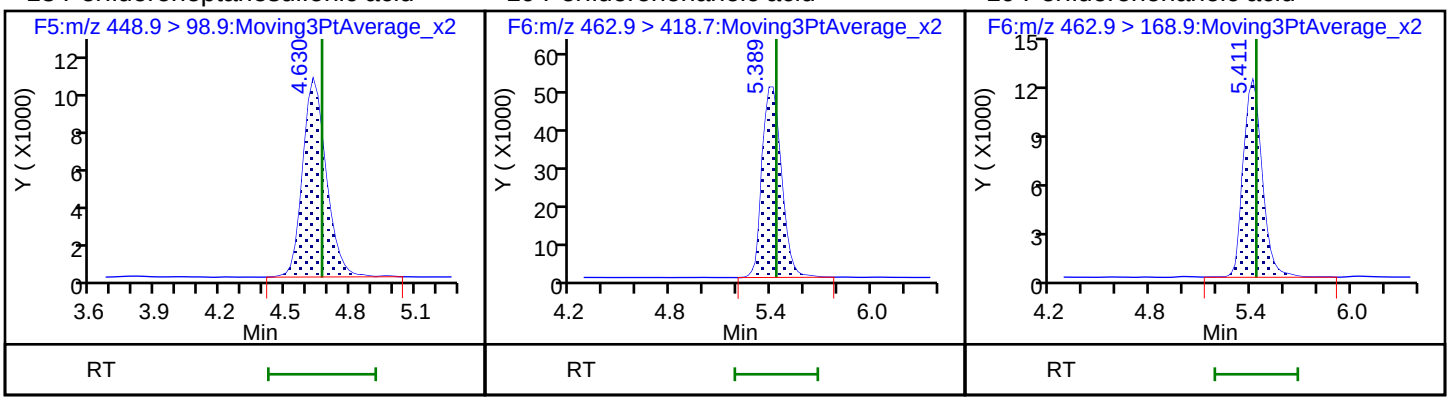
13 1H,1H,2H,2H-perfluorooctanesulfonD 17 13C4 PFOA * 16 13C2 PFOA



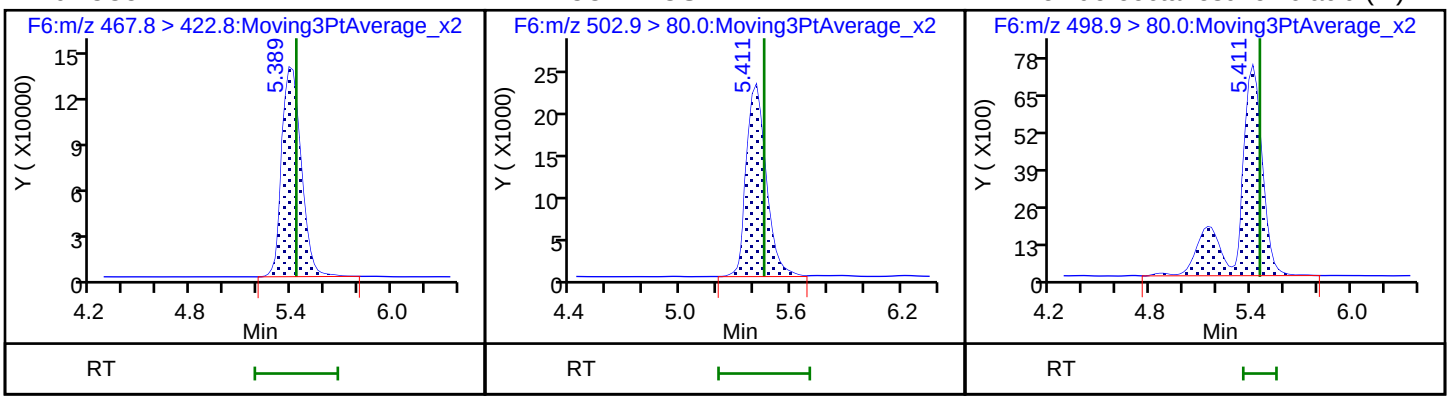
15 Perfluorooctanoic acid 15 Perfluorooctanoic acid 18 Perfluoroheptanesulfonic acid



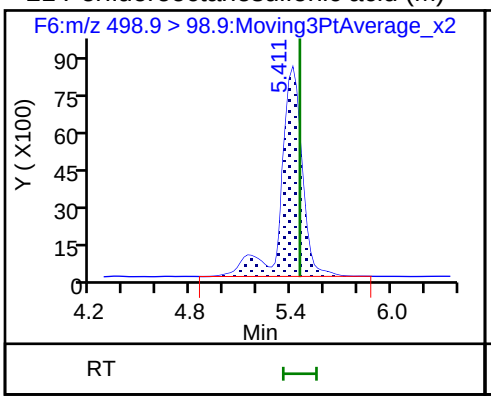
18 Perfluoroheptanesulfonic acid 19 Perfluorononanoic acid 19 Perfluorononanoic acid



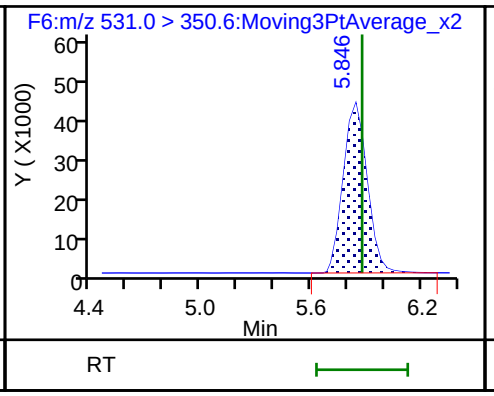
D 20 13C5 PFNA D 22 13C4 PFOS 21 Perfluorooctanesulfonic acid (M)



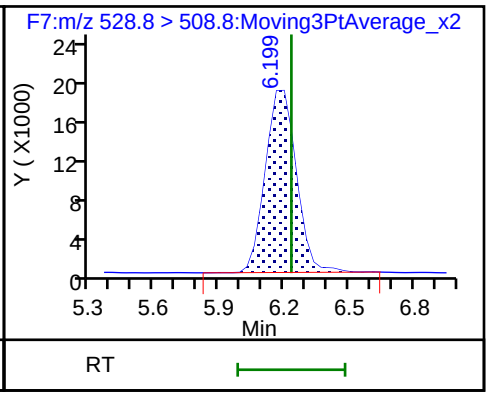
21 Perfluorooctanesulfonic acid (M)



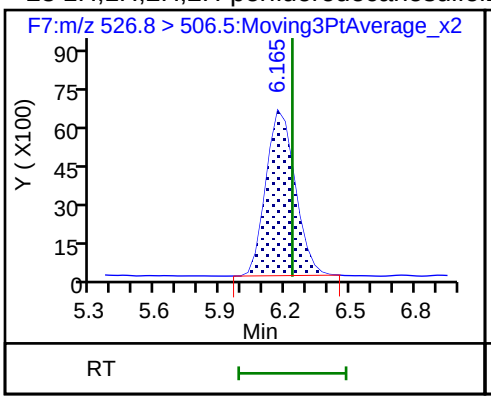
47 9-Chlorohexadecafluoro-3-oxanonane



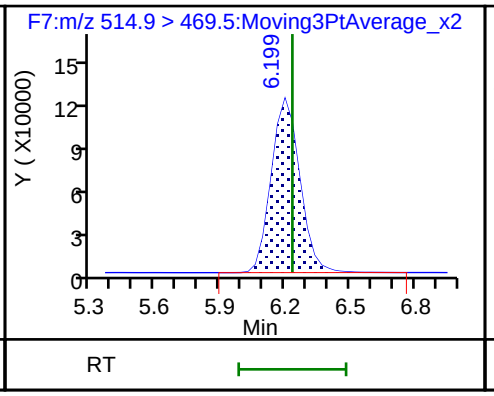
D 24 M2-8:2 FTS



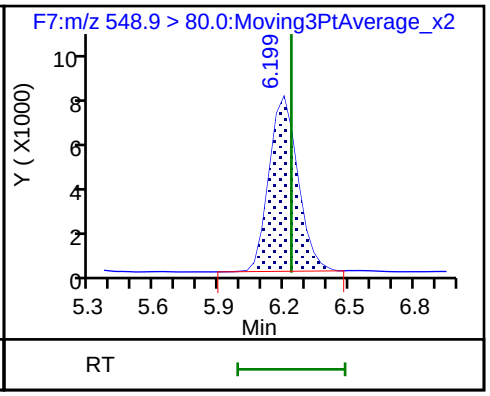
23 1H,1H,2H,2H-perfluorodecanesulfon



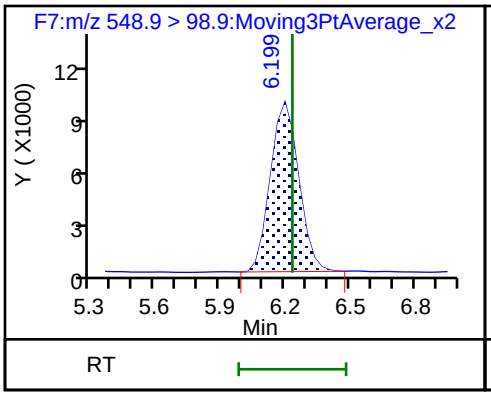
D 25 13C2 PFDA



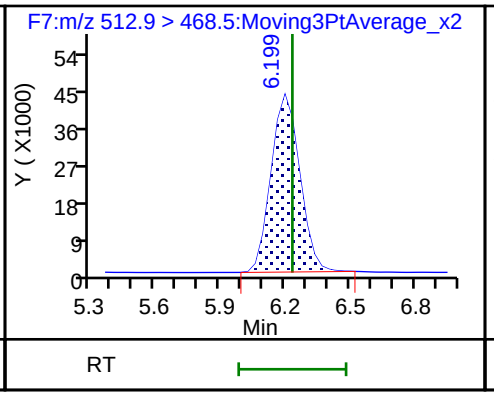
45 Perfluorononanesulfonic acid



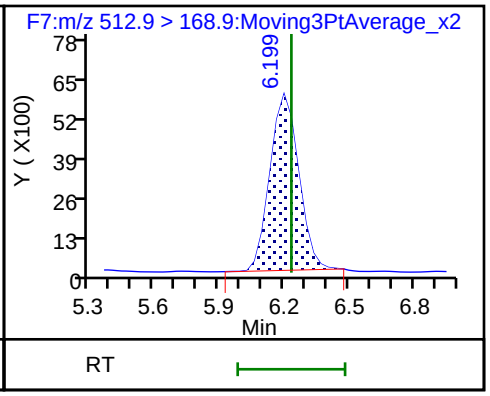
45 Perfluorononanesulfonic acid



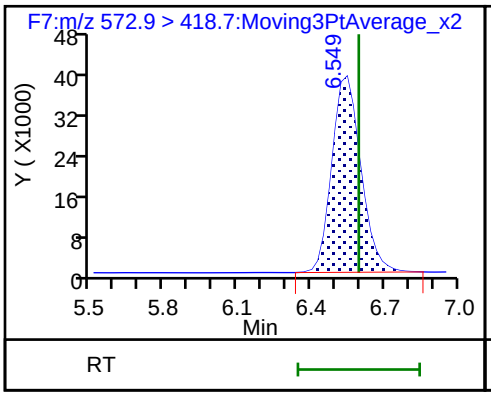
26 Perfluorodecanoic acid



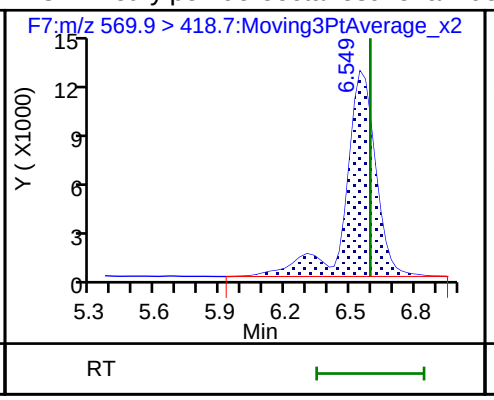
26 Perfluorodecanoic acid



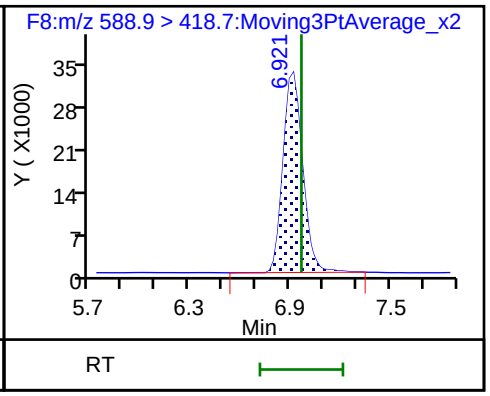
D 27 d3-NMeFOSAA



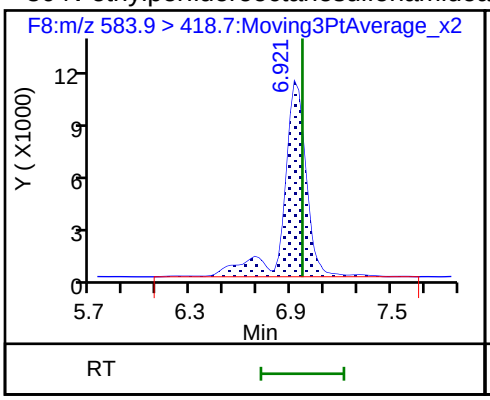
28 N-methylperfluorooctanesulfonamid



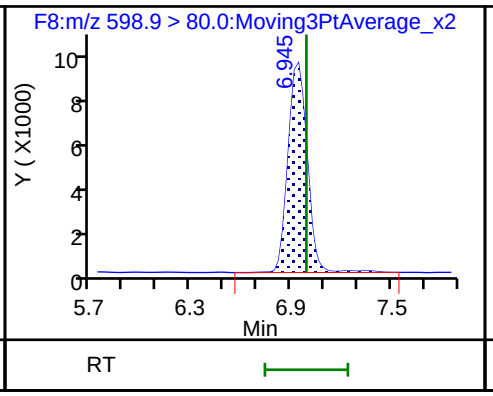
D 29 d5-NEtFOSAA



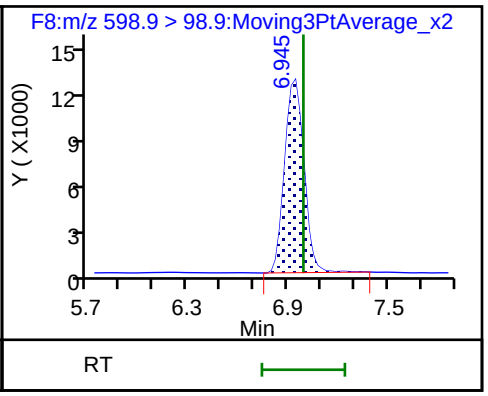
30 N-ethylperfluorooctanesulfonamidoa



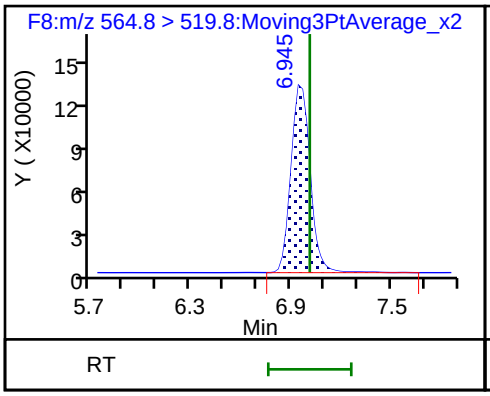
31 Perfluorodecanesulfonic acid



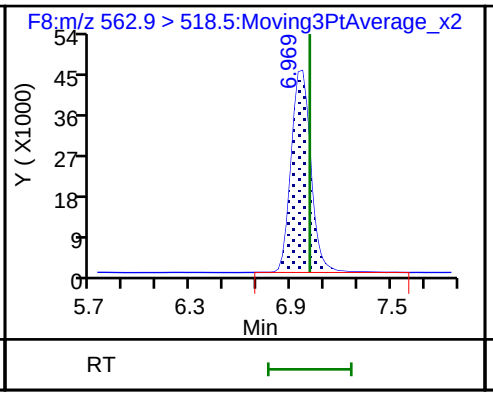
31 Perfluorodecanesulfonic acid



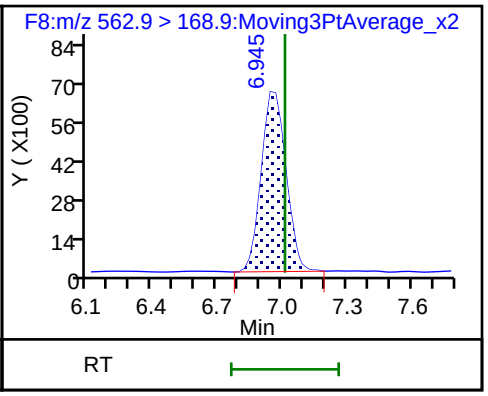
D 33 13C2 PFUnA



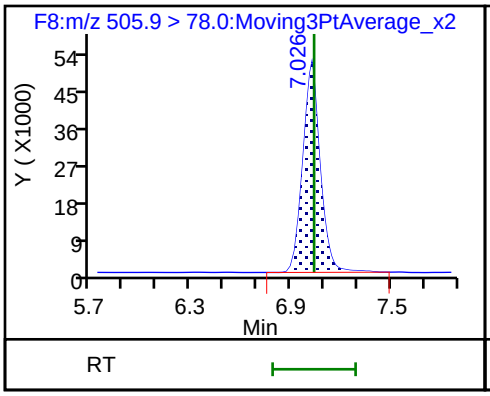
32 Perfluoroundecanoic acid



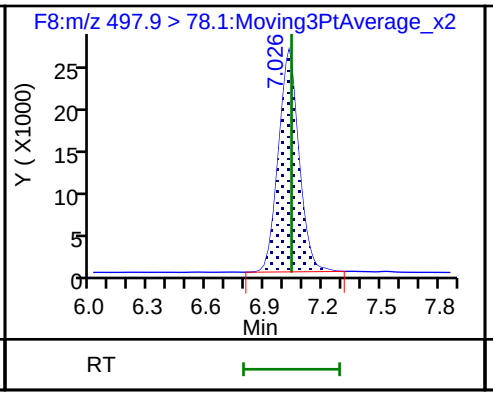
32 Perfluoroundecanoic acid



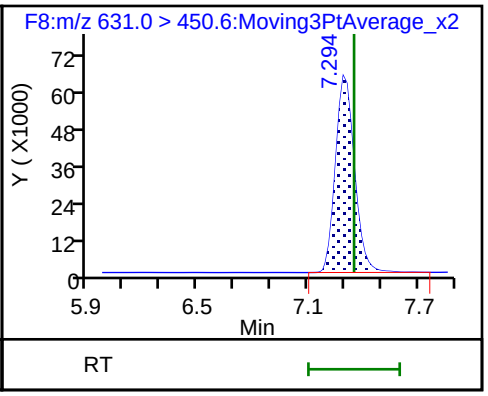
D 34 13C8 FOSA



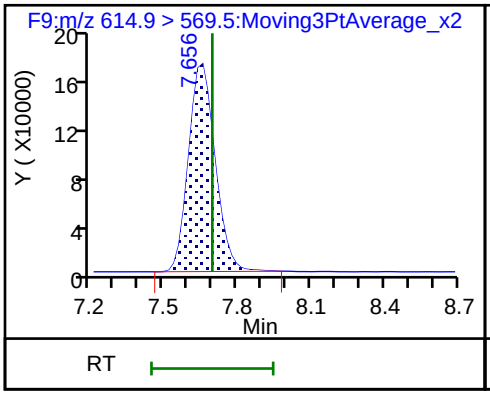
35 Perfluorooctanesulfonamide



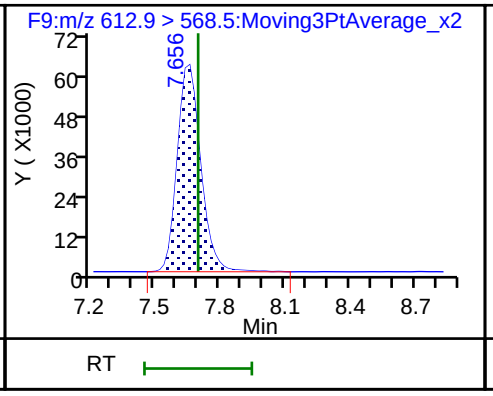
43 11-Chloroeicosafluoro-3-oxaundecan



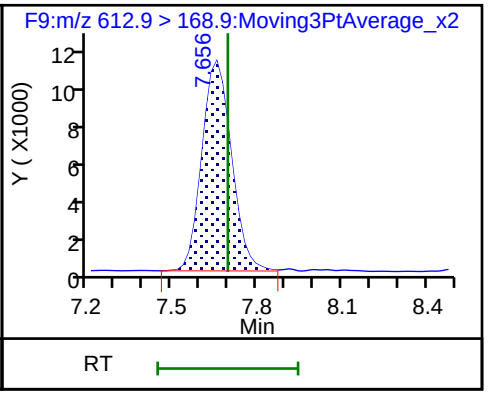
D 37 13C2 PFDoA



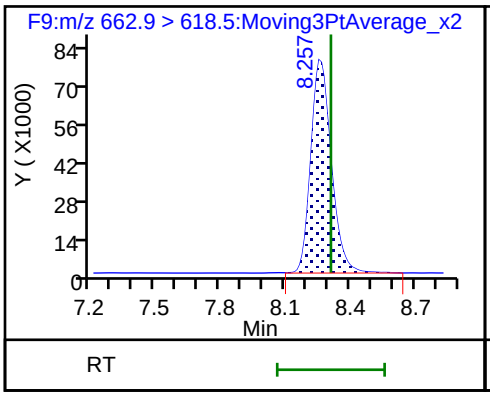
36 Perfluorododecanoic acid



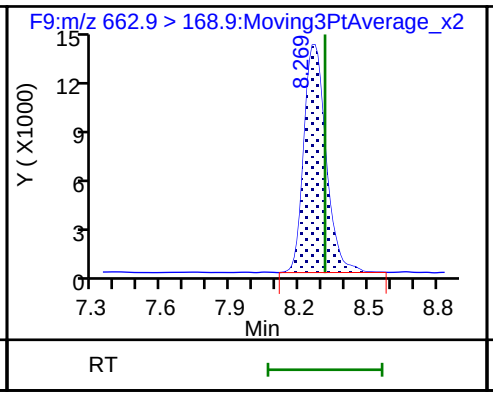
36 Perfluorododecanoic acid



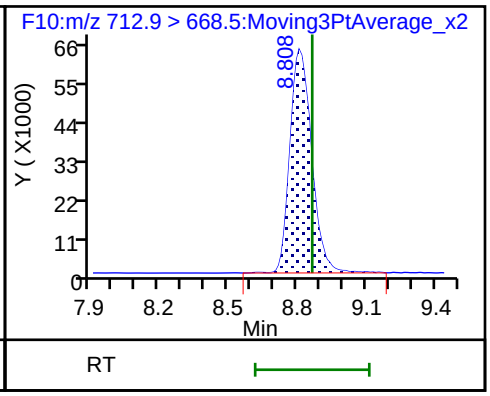
38 Perfluorotridecanoic acid



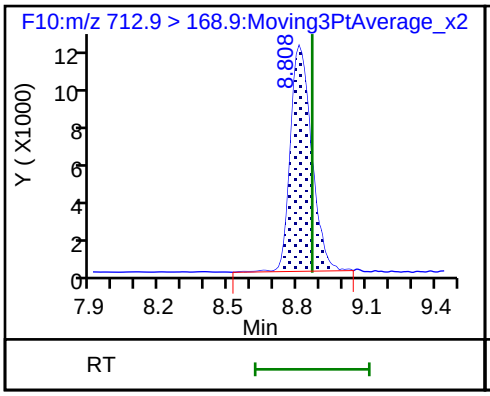
38 Perfluorotridecanoic acid



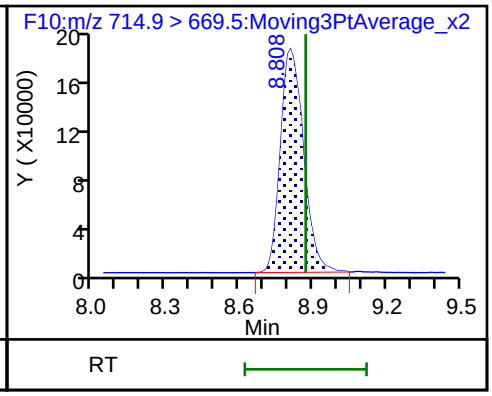
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

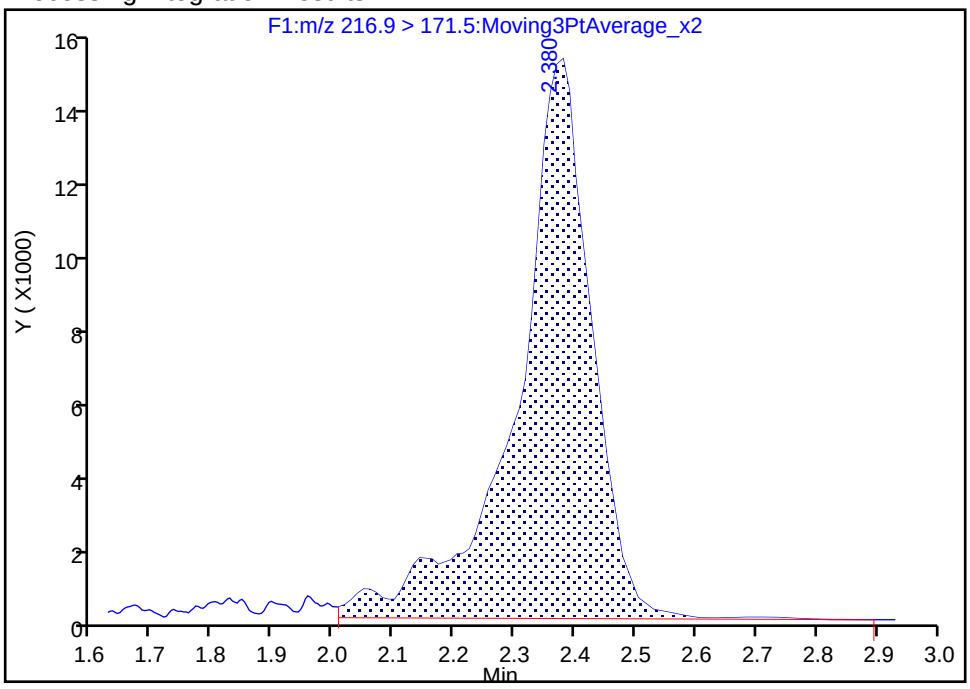
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d
Injection Date: 30-May-2019 22:34:45 Instrument ID: LC410
Lims ID: CCV L5
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

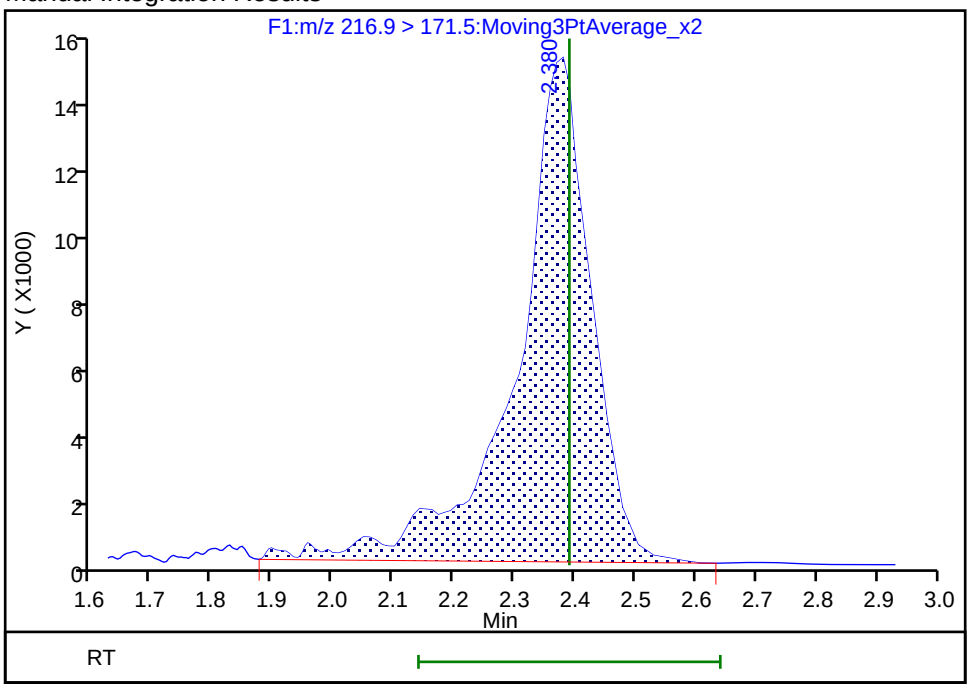
Processing Integration Results

RT: 2.38
Area: 124951
Amount: 27.202211
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 124454
Amount: 27.094013
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:50:15
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

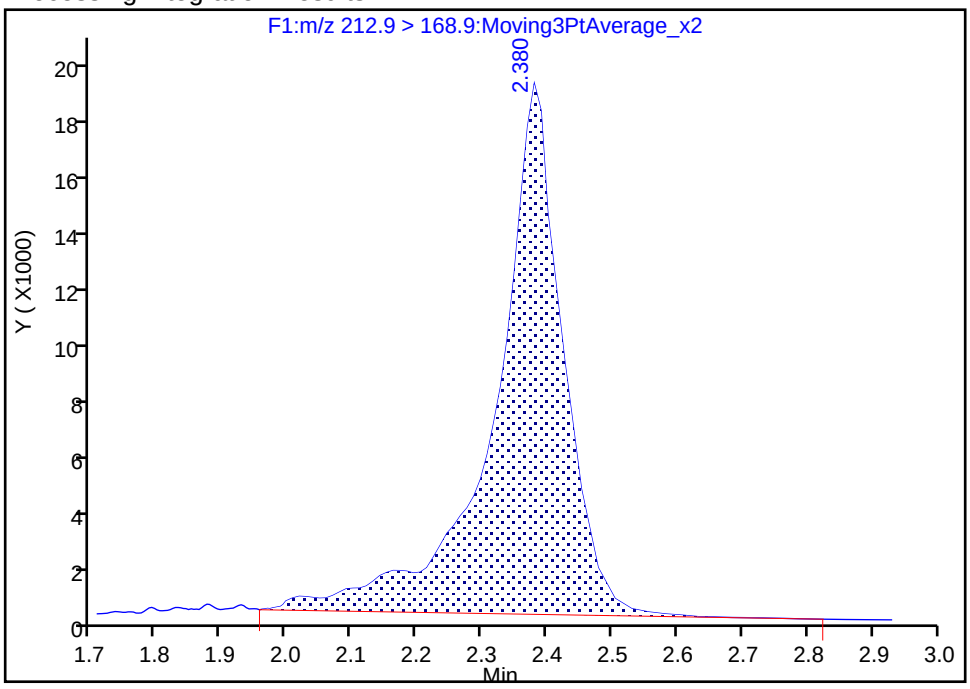
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d				
Injection Date:	30-May-2019 22:34:45	Instrument ID:	LC410		
Lims ID:	CCV L5				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

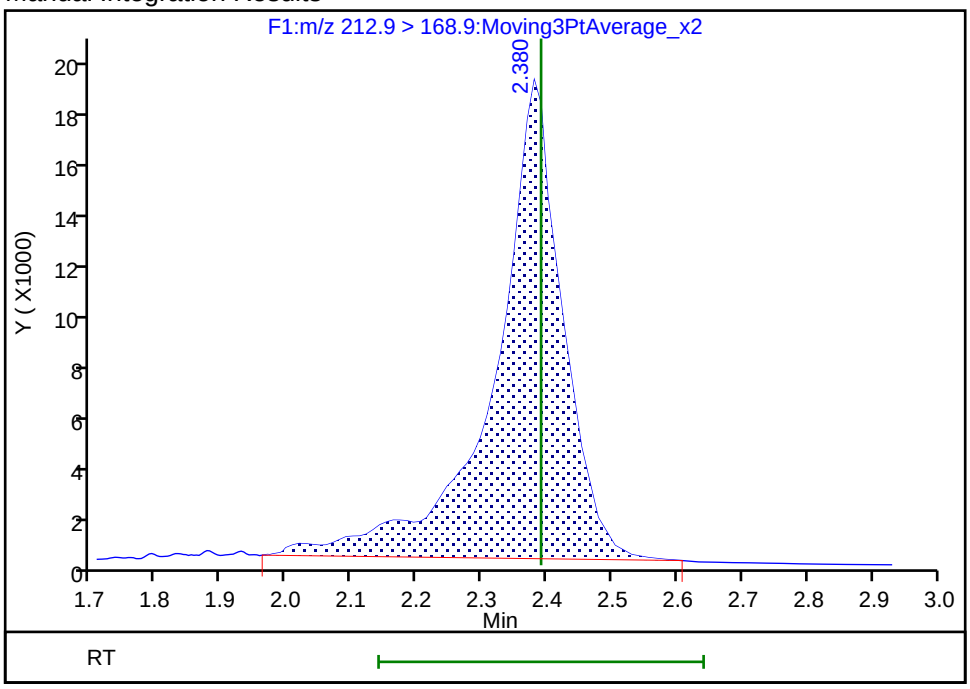
Processing Integration Results

RT: 2.38
Area: 137992
Amount: 34.425688
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 136339
Amount: 34.888685
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:48:33

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

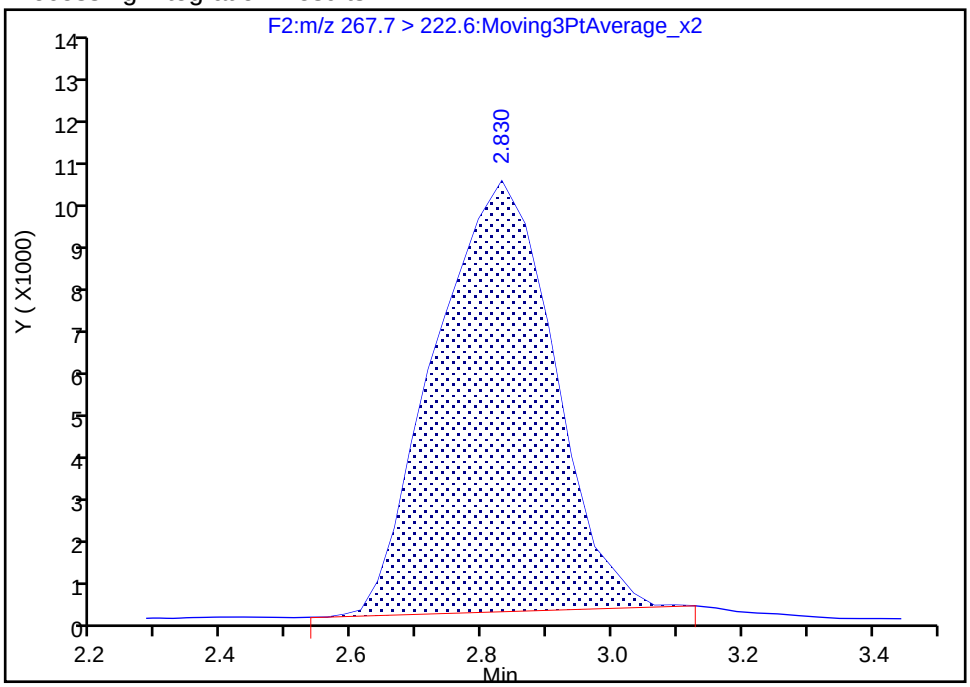
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d
Injection Date: 30-May-2019 22:34:45 Instrument ID: LC410
Lims ID: CCV L5
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

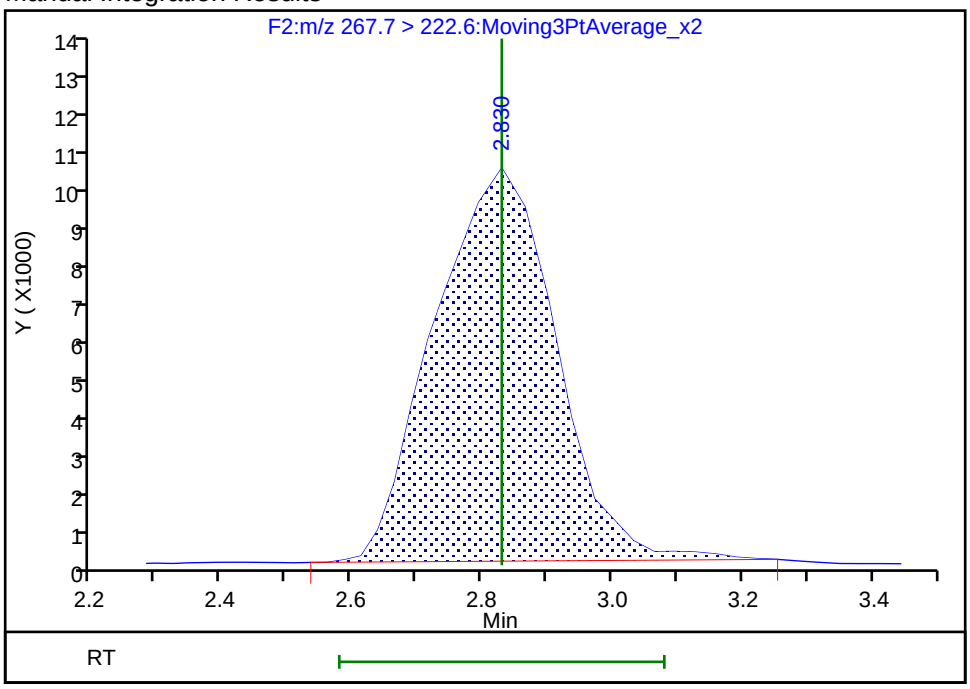
Processing Integration Results

RT: 2.83
Area: 126351
Amount: 36.259625
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 130366
Amount: 37.411831
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:48:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

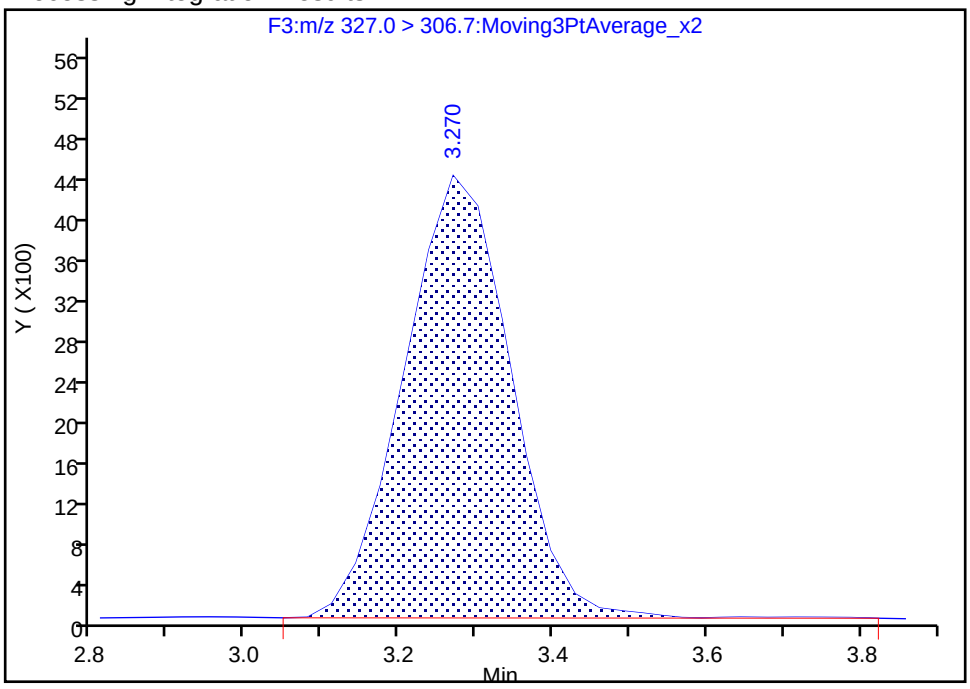
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d
Injection Date: 30-May-2019 22:34:45 Instrument ID: LC410
Lims ID: CCV L5
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

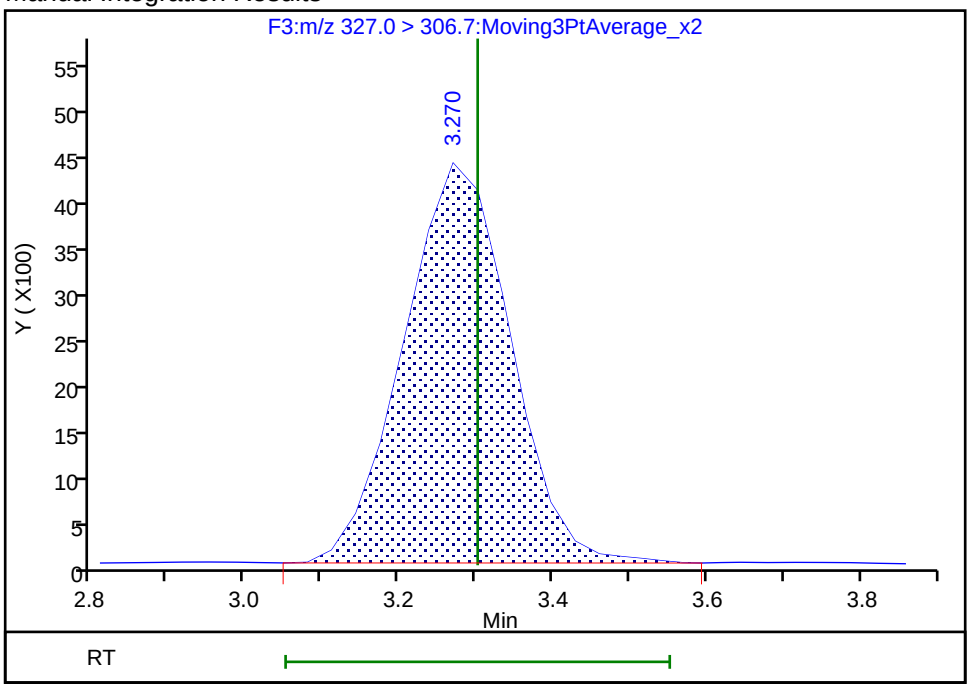
Processing Integration Results

RT: 3.27
Area: 41825
Amount: 27.442488
Amount Units: ng/ml



Manual Integration Results

RT: 3.27
Area: 41695
Amount: 27.357191
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:48:53
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

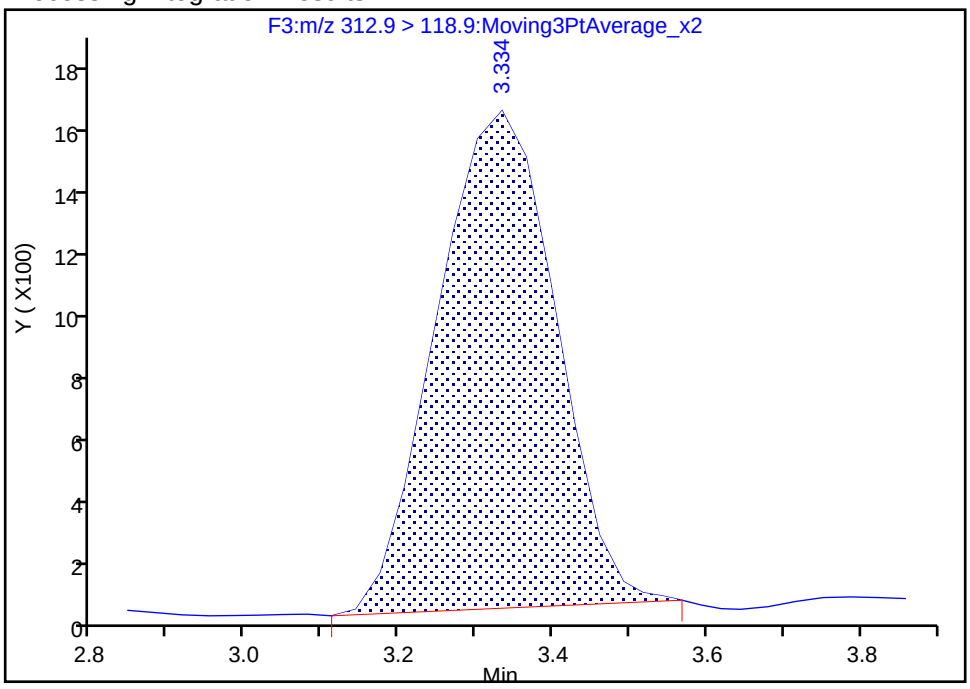
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d
Injection Date: 30-May-2019 22:34:45 Instrument ID: LC410
Lims ID: CCV L5
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

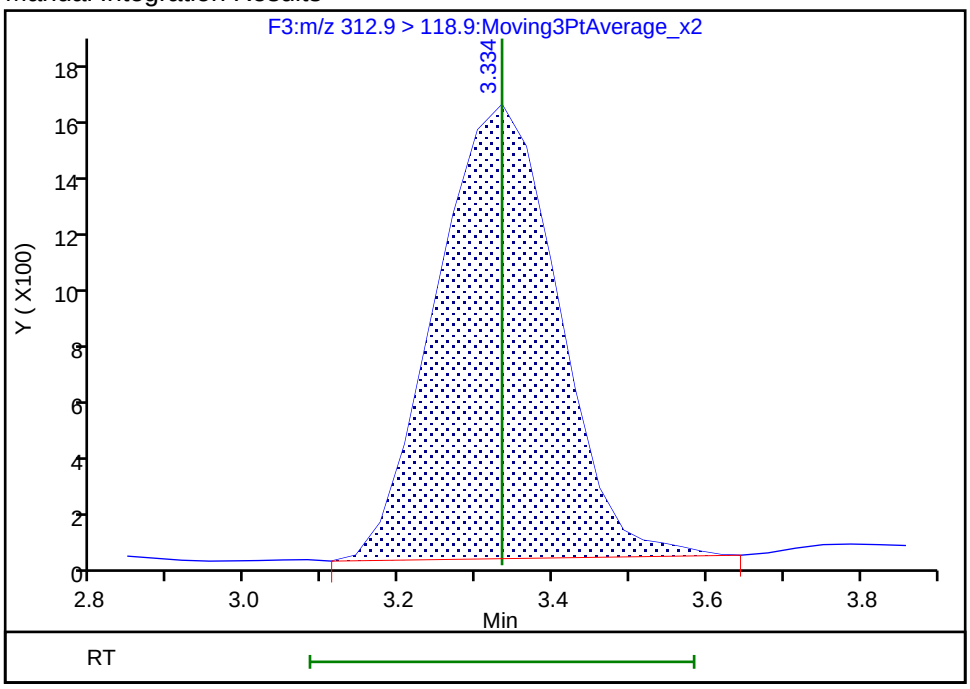
Processing Integration Results

RT: 3.33
Area: 16475
Amount: 20.018102
Amount Units: ng/ml



Manual Integration Results

RT: 3.33
Area: 16948
Amount: 20.018102
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:49:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

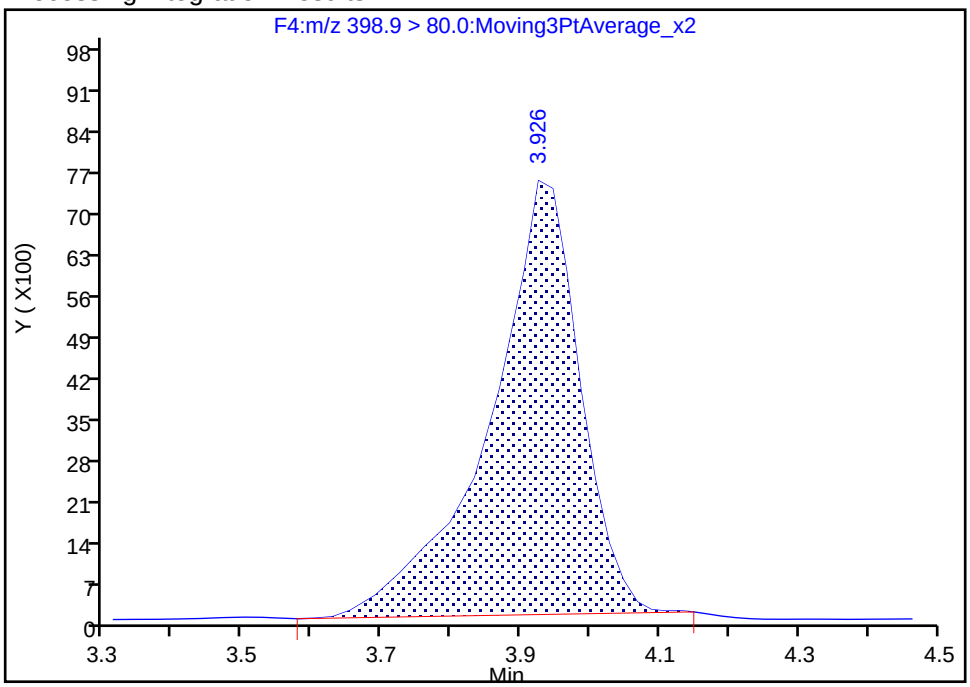
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d				
Injection Date:	30-May-2019 22:34:45	Instrument ID:	LC410		
Lims ID:	CCV L5				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

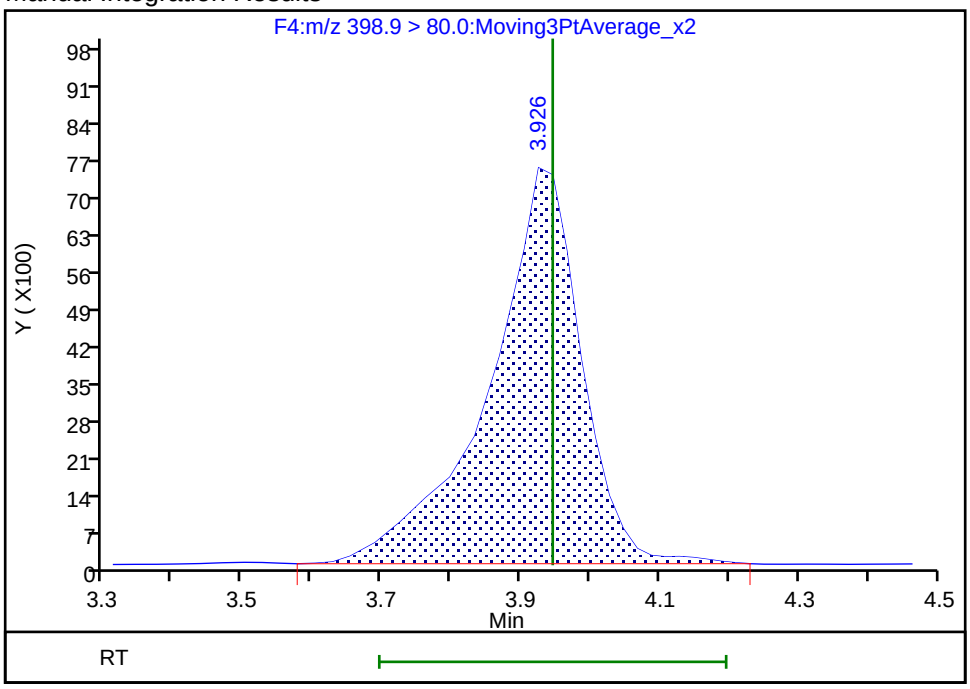
Processing Integration Results

RT: 3.93
Area: 66548
Amount: 19.899360
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 68762
Amount: 20.561396
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:49:16

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

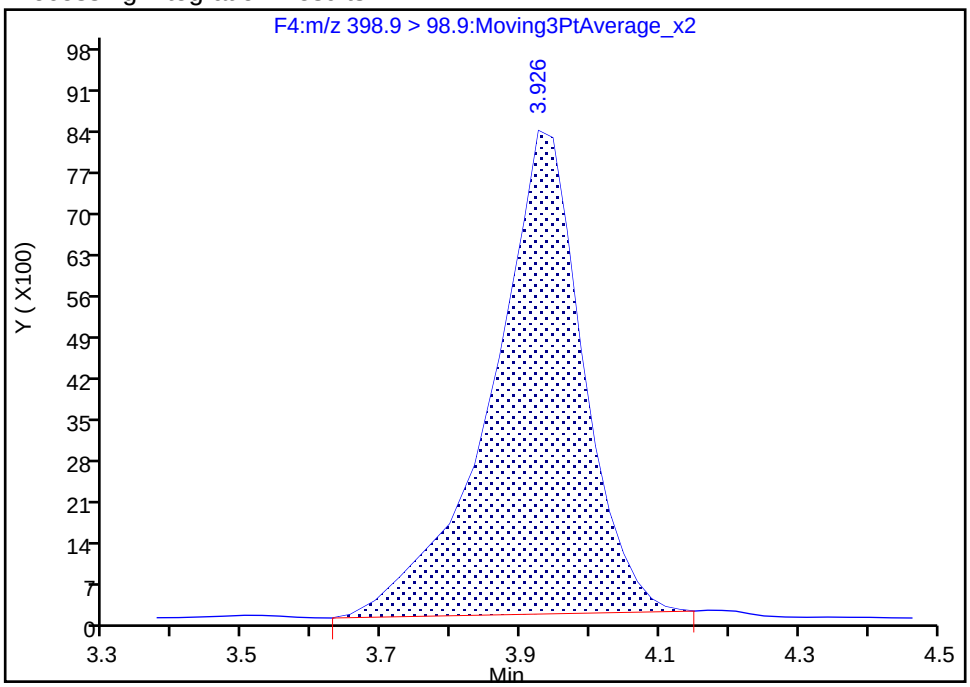
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d
Injection Date: 30-May-2019 22:34:45 Instrument ID: LC410
Lims ID: CCV L5
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

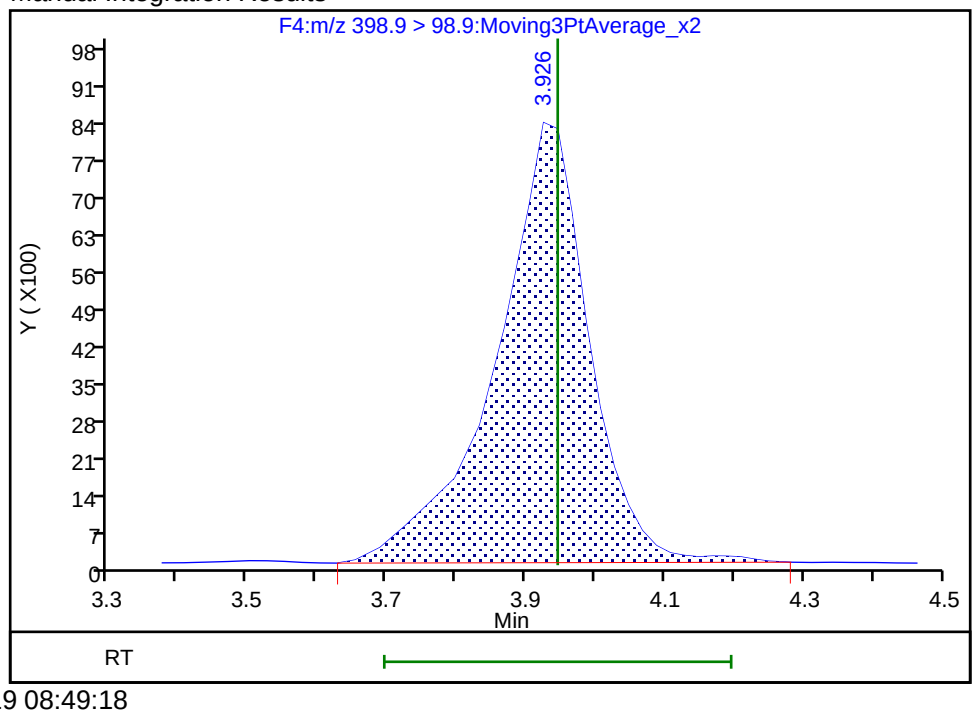
Processing Integration Results

RT: 3.93
Area: 75071
Amount: 19.899360
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 77251
Amount: 20.561396
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:49:18
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

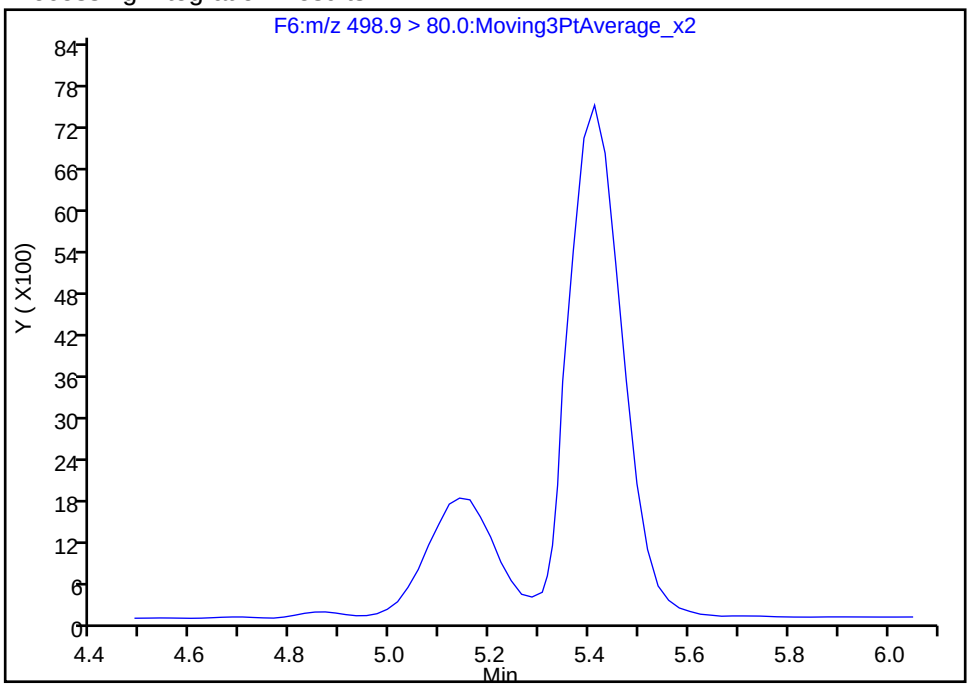
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d
Injection Date: 30-May-2019 22:34:45 Instrument ID: LC410
Lims ID: CCV L5
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

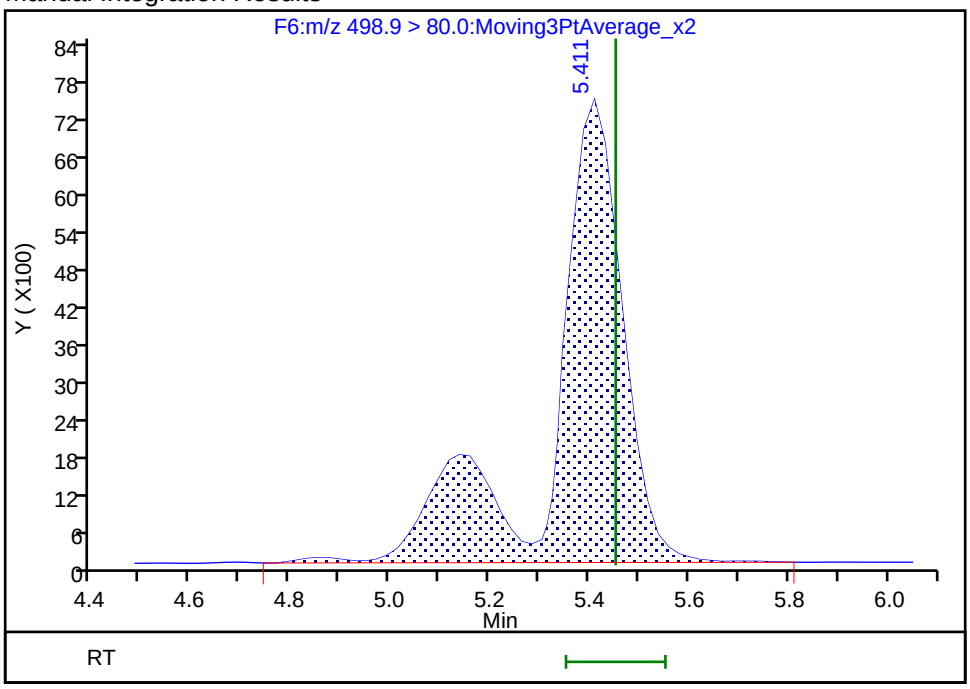
Not Detected
Expected RT: 5.45

Processing Integration Results



Manual Integration Results

RT: 5.41
Area: 72909
Amount: 20.793379
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:47:59
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

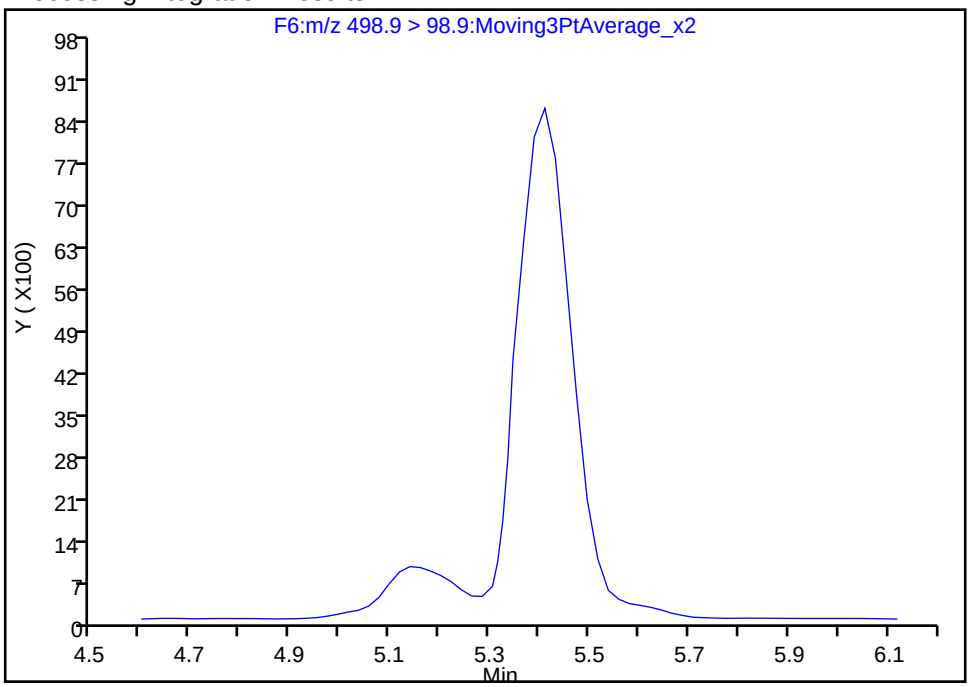
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d
Injection Date: 30-May-2019 22:34:45 Instrument ID: LC410
Lims ID: CCV L5
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

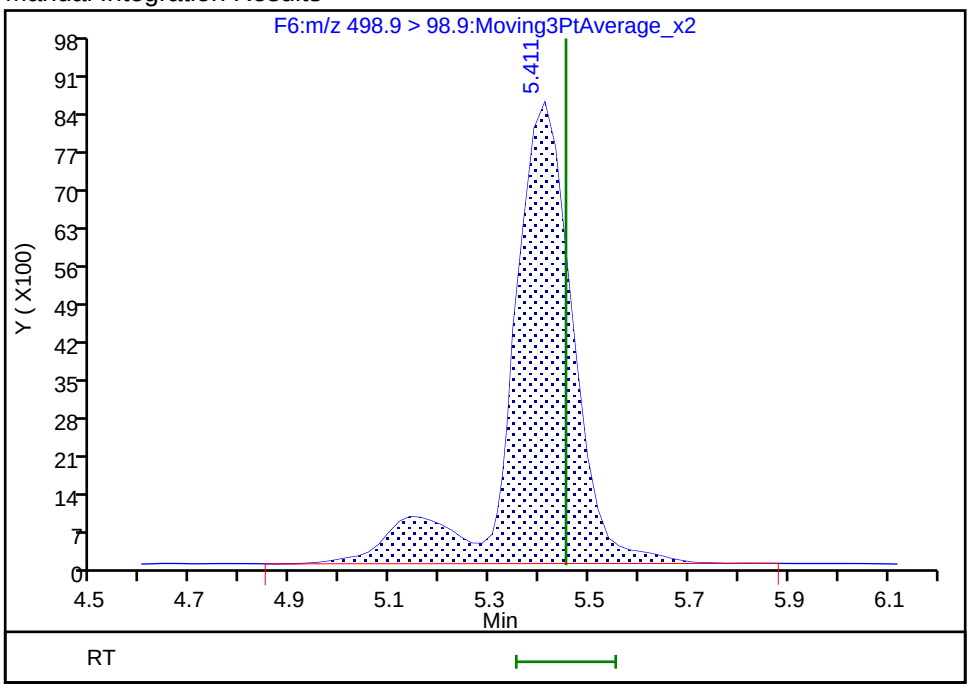
Not Detected
Expected RT: 5.45

Processing Integration Results



Manual Integration Results

RT: 5.41
Area: 74203
Amount: 20.793379
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:48:02
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143596/53 Calibration Date: 05/31/2019 02:33

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B53.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	2.542		81000	50000	61.9*	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	3.878		64800	50000	29.5	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	2.877		50600	44200	14.5	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.929		68000	46700	45.6	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.620		57900	50000	15.9	40.0
Perfluoropentanesulfonic acid	AveID	2.841	3.550		58600	46900	25.0	50.0
HFPO-DA	AveID	1.078	1.064		49400	50000	-1.3	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.288		54900	50000	9.8	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	2.289		49200	45500	8.2	40.0
DONA	AveID	4.300	5.362		58700	47100	24.7	50.0
6:2 FTS	AveID	0.9451	1.041		52200	47400	10.2	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	0.999		49400	50000	-1.3	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	1.000		54700	47600	14.8	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9222		52200	50000	4.4	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	1.059		50900	46400	9.7	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	5.628		59600	46600	28.0	50.0
8:2 FTS	AveID	0.7376	0.7526		48900	47900	2.0	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.9293		50800	50000	1.5	40.0
Perfluorononanesulfonic acid	AveID	0.9697	1.159		57400	48000	19.5	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.8995		54500	50000	8.9	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.8637		53600	50000	7.3	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	1.114		51700	48200	7.3	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.9038		54300	50000	8.6	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.338		47000	50000	-6.0	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	6.770		56800	47100	20.7	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9467		49900	50000	-0.2	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	1.046		55800	50000	11.6	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8940		52700	50000	5.3	40.0
13C4 PFBA	Ave	0.2445	0.1933		39500	50000	-20.9	50.0
13C5 PFPeA	Ave	0.1855	0.1353		36500	50000	-27.1	50.0
13C3 PFBS	Ave	0.0807	0.0640		36900	46500	-20.7	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143596/53 Calibration Date: 05/31/2019 02:33

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B53.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5072		45600	50000	-8.8	50.0
13C3 HFPO-DA	Ave	0.0529	0.0546		51600	50000	3.2	50.0
13C4 PFHpA	Ave	0.7840	0.7905		50400	50000	0.8	50.0
18O2 PFHxS	Ave	0.1031	0.0846		38800	47300	-18.0	50.0
M2-6:2 FTS	Ave	0.0557	0.0400		34100	47500	-28.2	50.0
13C4 PFOA	Ave	0.9706	0.9642		49700	50000	-0.7	50.0
13C4 PFOS	Ave	0.2326	0.1989		40900	47800	-14.5	50.0
13C5 PFNA	Ave	1.302	1.107		42500	50000	-15.0	50.0
M2-8:2 FTS	Ave	0.2026	0.2137		50500	47900	5.5	50.0
13C2 PFDA	Ave	1.111	1.155		52000	50000	4.0	50.0
d3-NMeFOSAA	Ave	0.3621	0.3631		50100	50000	0.3	50.0
d5-NEtFOSAA	Ave	0.2986	0.2823		47300	50000	-5.5	50.0
13C2 PFUnA	Ave	1.073	1.028		47900	50000	-4.1	50.0
13C8 FOSA	Ave	0.4004	0.4147		51800	50000	3.6	50.0
13C2 PFDoA	Ave	1.367	1.309		47800	50000	-4.3	50.0
13C2 PFTeDA	Ave	1.227	1.263		51500	50000	2.9	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d
Lims ID: CCV L7
Client ID:
Sample Type: CCV
Inject. Date: 31-May-2019 02:33:10 ALS Bottle#: 0 Worklist Smp#: 53
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036138-053 CCV L7
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:25:52 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: chirgwinb Date: 31-May-2019 08:52:29
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.391	-0.011	1.000	170718	39.5		79.1	131	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.391	2.391	0.0	1.004	434034	81.0		162	173	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.866	2.830	0.036	1.000	119487	36.5		72.9	507	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.866	2.866	0.0	1.000	463394	64.8		130	1351	
D 5 13C3 PFBS										
302.0 > 79.8	2.937	2.901	0.036	1.000	52576	36.9		79.3	220	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.937	2.937	0.0	1.000	143763	50.6	Target=1.67	114	743	
298.9 > 98.9	2.937	2.901	0.036	1.000	163408		0.88(0.83-2.51)		955	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.302	3.302	0.0	1.124	101830	68.0		146	719	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	447850	45.6		91.2	2066	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.334	3.334	0.0	1.000	725580	57.9	Target=14.34	116	2880	
312.9 > 118.9	3.334	3.334	0.0	1.000	44017		16.48(7.17-21.51)		425	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.397	3.397	0.0	1.156	188275	58.6	Target=1.23	125	605	
348.9 > 98.9	3.397	3.397	0.0	1.000	231632		0.81(0.62-1.85)		2106	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.492	3.492	0.0	1.000	51293	49.4		98.7	332	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.492	3.492	0.0	1.000	48218	51.6		103	700	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.926	3.925	0.001	1.000	899124	54.9	Target=2.84	110	2239	
362.9 > 168.9	3.926	3.925	0.001	1.000	304645		2.95(1.42-4.26)		1322	
D 10 13C4 PFHpA										
366.9 > 321.8	3.926	3.925	0.001	1.000	698069	50.4		101	765	
D 12 18O2 PFHxS										
402.9 > 83.8	3.946	3.946	0.0	1.000	70651	38.8		82.0	326	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.946	3.946	0.0	1.000	155556	49.2	Target=1.34	108	1155	
398.9 > 98.9	3.946	3.946	0.0	1.000	183618		0.85(0.67-2.01)		730	
49 DONA										
376.9 > 250.7	3.986	3.986	0.0	0.737	887020	58.7	Target=2.33	125	3575	
376.9 > 85.0	3.986	3.986	0.0	1.000	312384		2.84(1.16-3.49)		1189	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.568	4.589	-0.021	1.000	33559	34.1		71.8	392	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.568	4.609	-0.041	1.000	34876	52.2		110	361	
D 17 13C4 PFOA										
416.9 > 371.8	4.609	4.630	-0.021	1.000	851414	49.7		99.3	2029	
* 16 13C2 PFOA										
414.9 > 369.8	4.609	4.630	-0.021		883027	50.0			1108	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.609	4.630	-0.021	1.000	850511	49.4	Target=2.43	98.7	1737	
412.9 > 168.9	4.609	4.630	-0.021	1.000	334008		2.55(1.22-3.64)		1839	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.651	4.672	-0.021	0.860	167150	54.7	Target=1.30	115	774	
448.9 > 98.9	4.630	4.672	-0.042	1.000	193116		0.87(0.65-1.95)		967	
19 Perfluorononanoic acid										
462.9 > 418.7	5.411	5.432	-0.021	1.000	901217	52.2	Target=5.00	104	3623	
462.9 > 168.9	5.411	5.432	-0.021	1.000	217061		4.15(2.50-7.50)		1028	
D 20 13C5 PFNA										
467.8 > 422.8	5.411	5.432	-0.021	1.000	977200	42.5		85.0	3246	
D 22 13C4 PFOS										
502.9 > 80.0	5.411	5.453	-0.042	1.000	167888	40.9		85.5	1180	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.411	5.453	-0.042	1.000	172598	50.9	Target=1.41	110	1767	M
498.9 > 98.9	5.411	5.453	-0.042	1.000	187188		0.92(0.71-2.12)		1648	M
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.846	5.880	-0.034	1.080	921113	59.6		128	3321	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.165	6.234	-0.069	1.000	180793	50.5		105	564	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.165	6.234	-0.069	1.000	136055	48.9		102	664	
D 25 13C2 PFDA										
514.9 > 469.5	6.199	6.234	-0.035	1.000	1020252	52.0		104	1936	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.199	6.234	-0.035	1.146	195339	57.4	Target=1.39	119	1189	
548.9 > 98.9	6.199	6.234	-0.035	1.000	211464		0.92(0.69-2.08)		705	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.199	6.234	-0.035	1.000	948127	50.8	Target=7.23	102	1813	
512.9 > 168.9	6.199	6.234	-0.035	1.000	124378		7.62(3.61-10.84)		752	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.549	6.597	-0.048	1.000	320655	50.1		100	1563	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.573	6.597	-0.024	1.004	288440	54.5		109	1112	M
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.921	6.969	-0.048	1.000	249255	47.3		94.5	1404	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.921	6.969	-0.048	1.000	215281	53.6		107	1598	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.945	6.993	-0.048	1.284	188558	51.7	Target=1.25	107	1476	
598.9 > 98.9	6.945	6.993	-0.048	1.000	217614		0.87(0.63-1.88)		1483	
D 33 13C2 PFUnA										
564.8 > 519.8	6.969	7.013	-0.044	1.000	908063	47.9		95.9	2202	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.969	7.013	-0.044	1.000	820720	54.3	Target=7.06	109	3554	
562.9 > 168.9	6.969	7.013	-0.044	1.000	117672		6.97(3.53-10.58)		757	
D 34 13C8 FOSA										
505.9 > 78.0	7.026	7.039	-0.013	1.000	366186	51.8		104	1076	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.026	7.039	-0.013	1.000	490045	47.0		94.0	1273	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.294	7.353	-0.059	1.348	1119948	56.8		121	3165	
D 37 13C2 PFDoA										
614.9 > 569.5	7.636	7.695	-0.059	1.000	1155471	47.8		95.7	1990	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.655	7.695	-0.040	1.003	1093869	49.9	Target=5.37	99.8	1897	
612.9 > 168.9	7.655	7.695	-0.040	1.003	190814		5.73(2.68-8.06)		725	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.257	8.313	-0.056	1.081	1208862	55.8	Target=4.67	112	2082	
662.9 > 168.9	8.269	8.313	-0.044	1.083	227906		5.30(2.34-7.01)		840	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.819	8.866	-0.047	1.001	997074	52.7	Target=4.86	105	1087	
712.9 > 168.9	8.808	8.866	-0.058	1.000	183575		5.43(2.43-7.30)		913	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.808	8.870	-0.062	1.000	1115344	51.5		103	780	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L7_00005 Amount Added: 100.00 Units: uL

Report Date: 05-Jun-2019 17:25:53 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d

Injection Date: 31-May-2019 02:33:10 Instrument ID: LC410

Lims ID: CCV L7

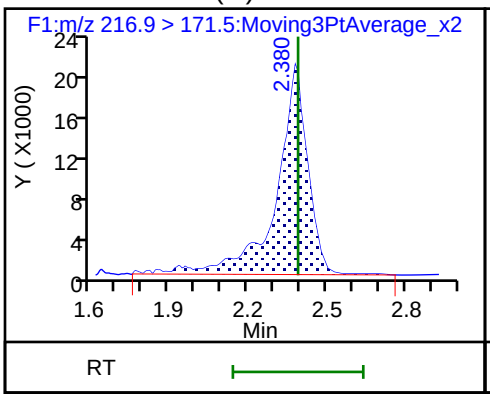
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 53

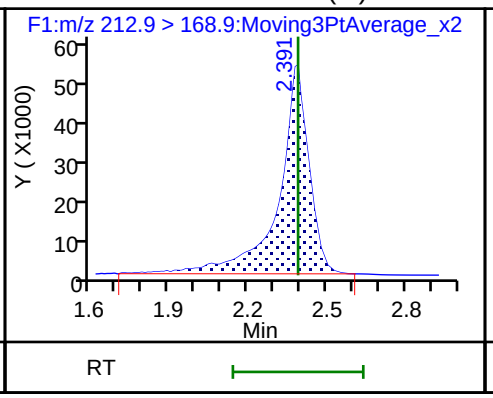
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

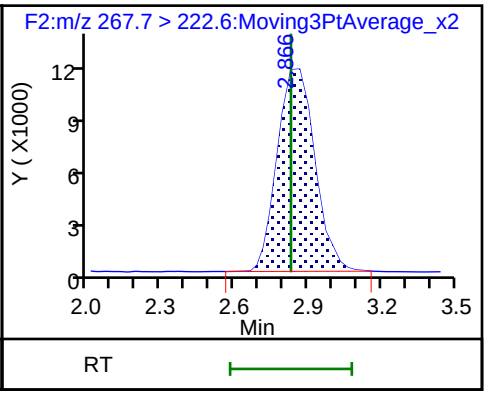
D 1 13C4 PFBA (M)



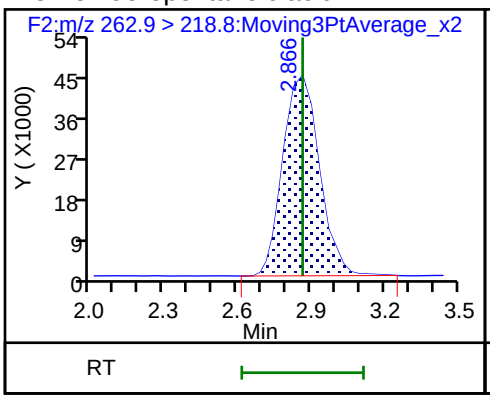
2 Perfluorobutanoic acid (M)



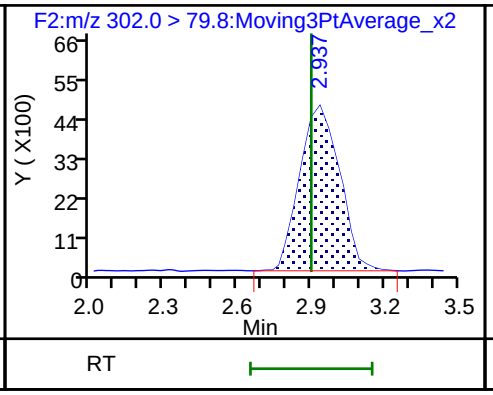
D 4 13C5 PFPeA



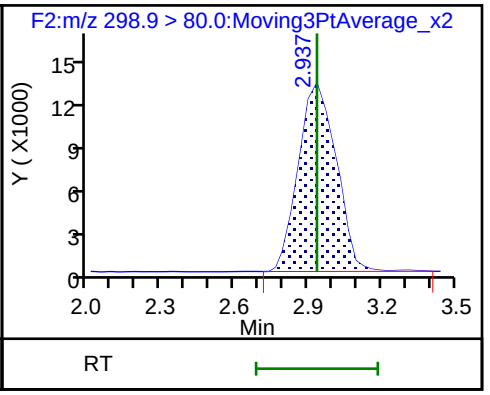
3 Perfluoropentanoic acid



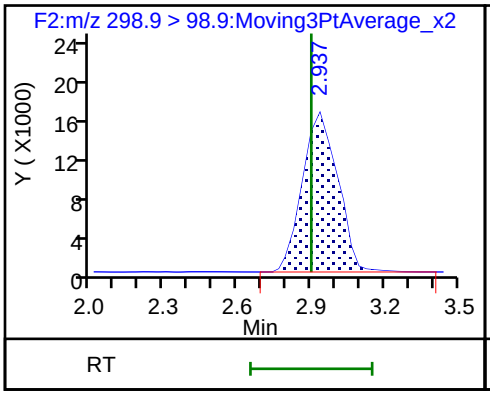
D 5 13C3 PFBS



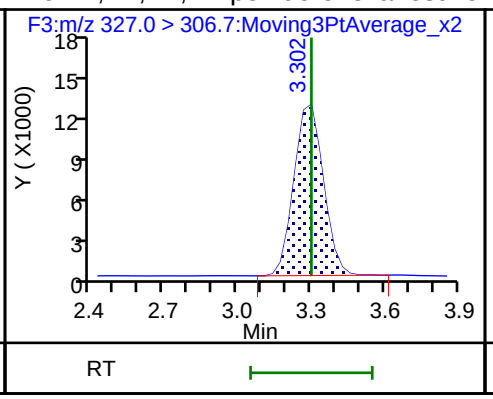
6 Perfluorobutanesulfonic acid



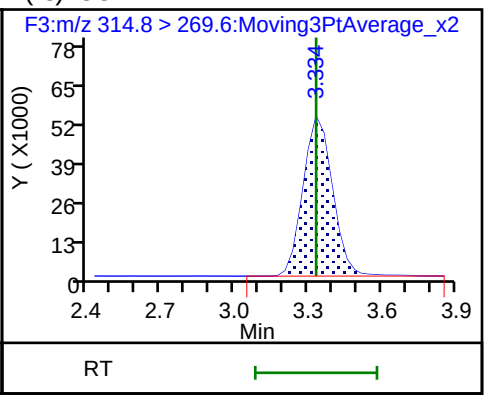
6 Perfluorobutanesulfonic acid



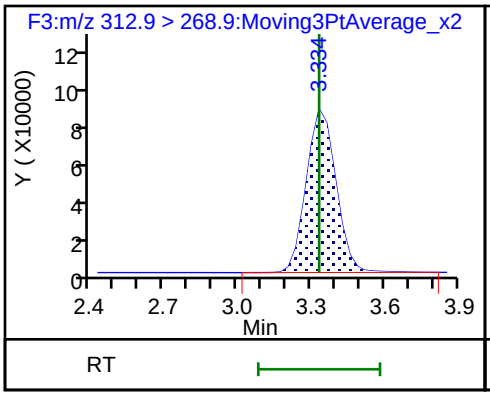
46 1H,1H,2H,2H-perfluorohexanesulfonic (M)



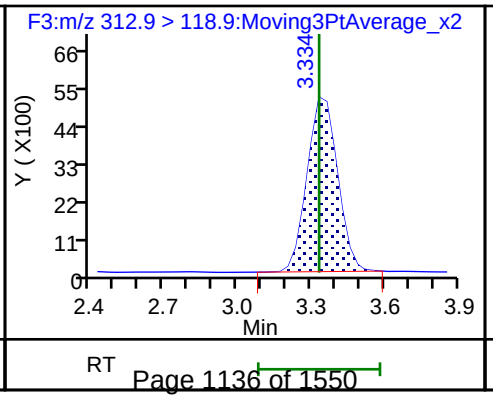
D 8 13C2 PFHxA



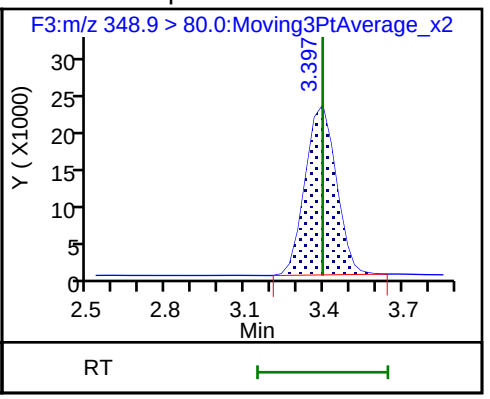
7 Perfluorohexanoic acid



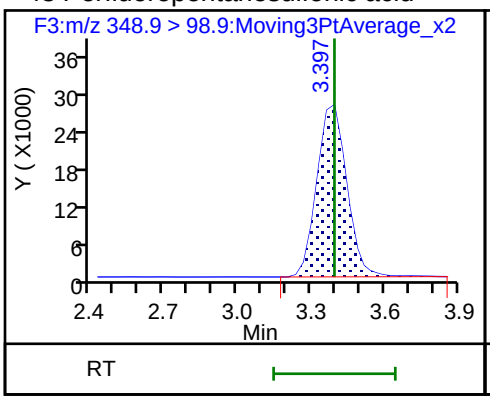
7 Perfluorohexanoic acid



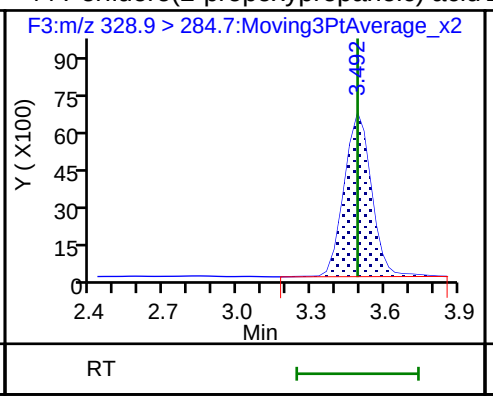
48 Perfluoropentanesulfonic acid



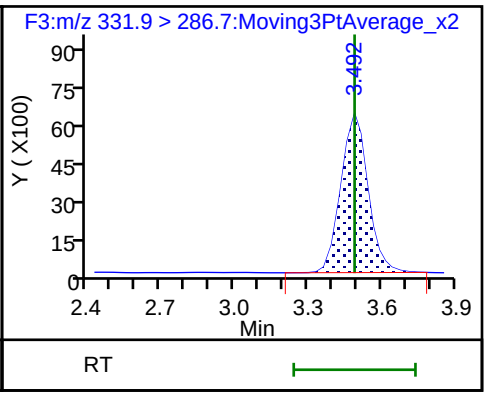
48 Perfluoropentanesulfonic acid



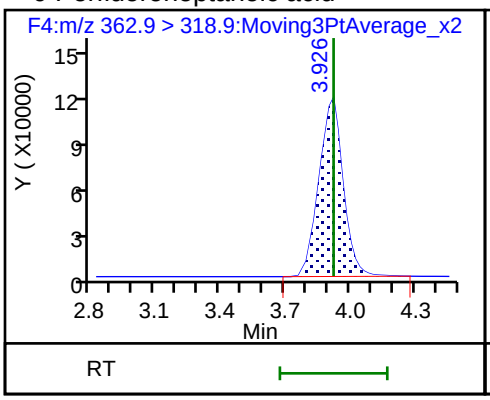
44 Perfluoro(2-propoxypropanoic) acid



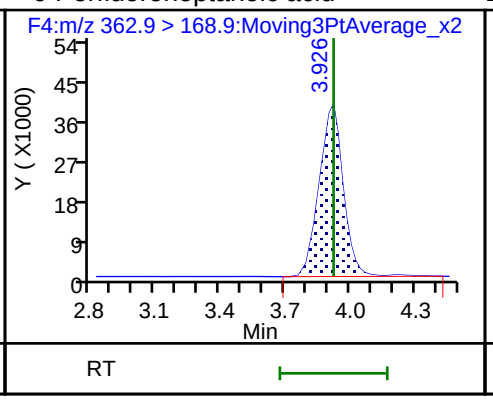
D 42 13C3 HFPO-DA



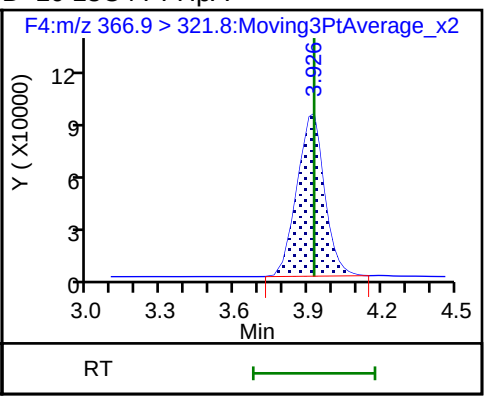
9 Perfluoroheptanoic acid



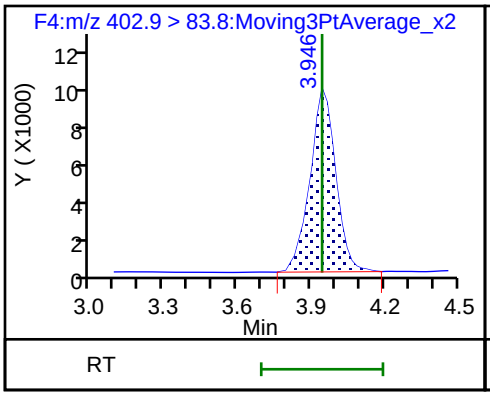
9 Perfluoroheptanoic acid



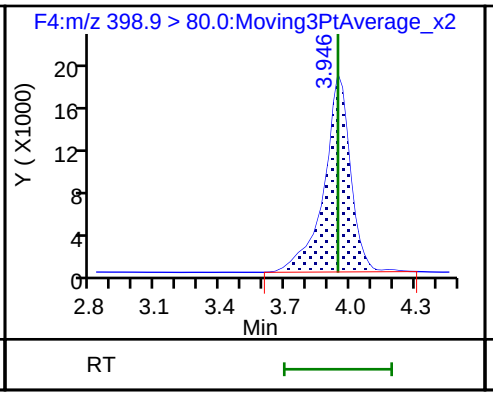
D 10 13C4 PFHpA



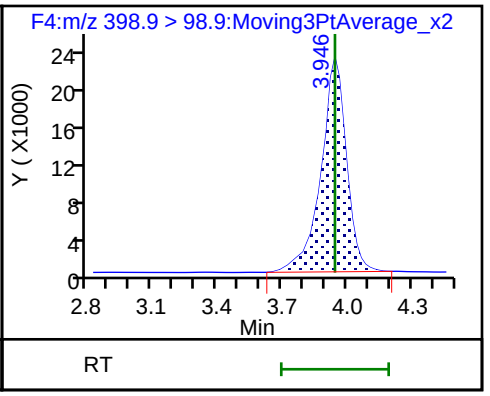
D 12 18O2 PFHxS



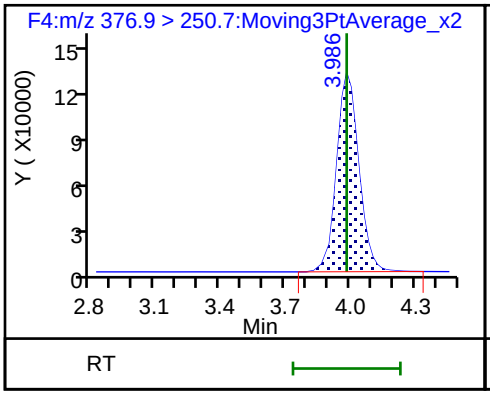
11 Perfluorohexanesulfonic acid



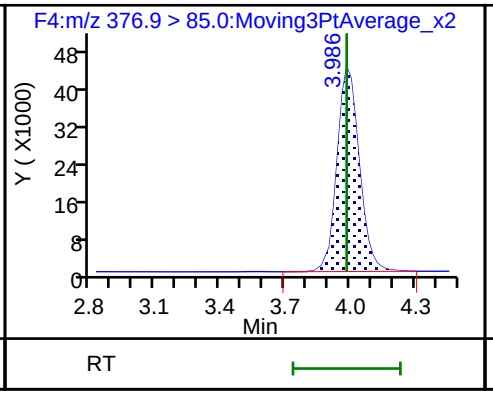
11 Perfluorohexanesulfonic acid



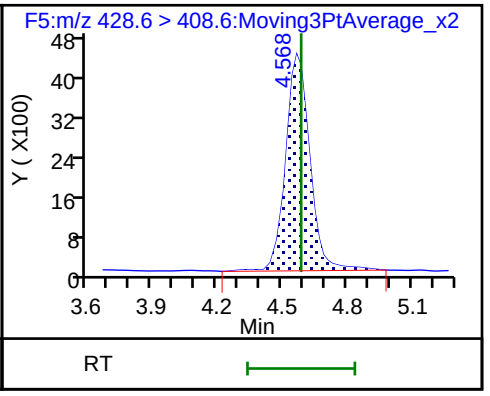
49 DONA



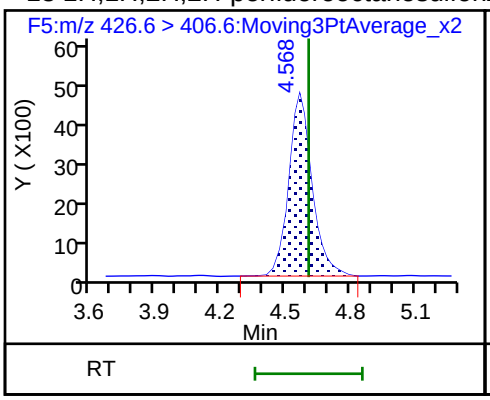
49 DONA



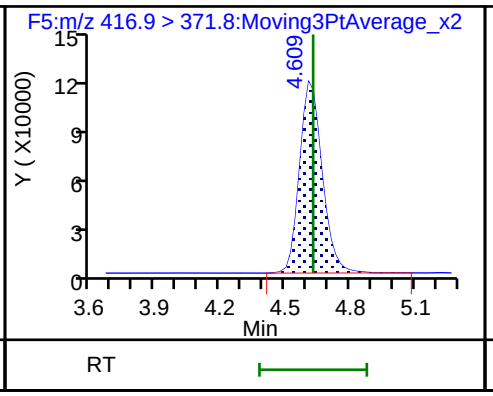
D 14 M2-6:2 FTS



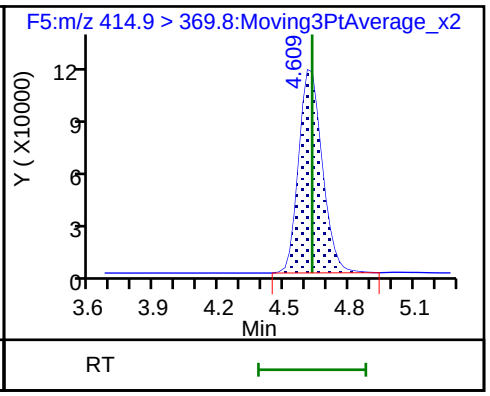
13 1H,1H,2H,2H-perfluorooctanesulfon



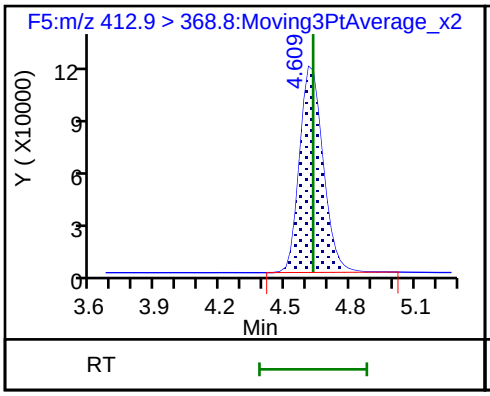
D 17 13C4 PFOA



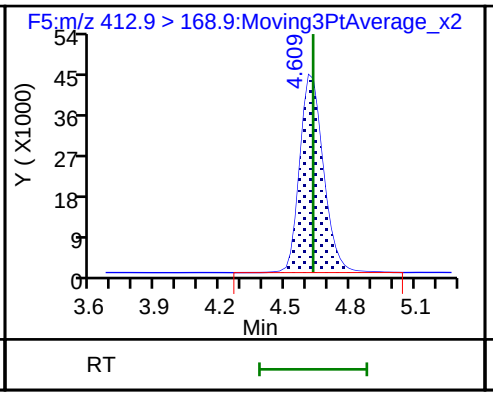
* 16 13C2 PFOA



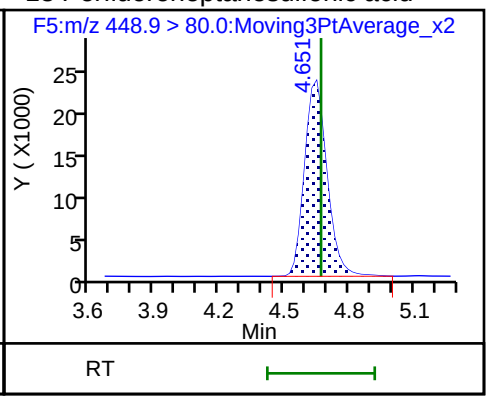
15 Perfluorooctanoic acid



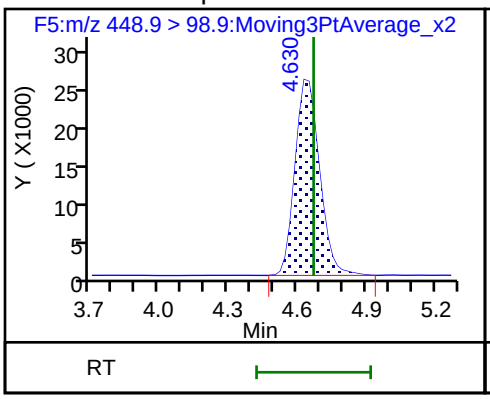
15 Perfluorooctanoic acid



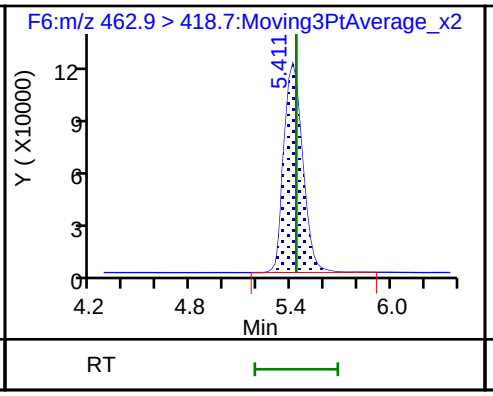
18 Perfluoroheptanesulfonic acid



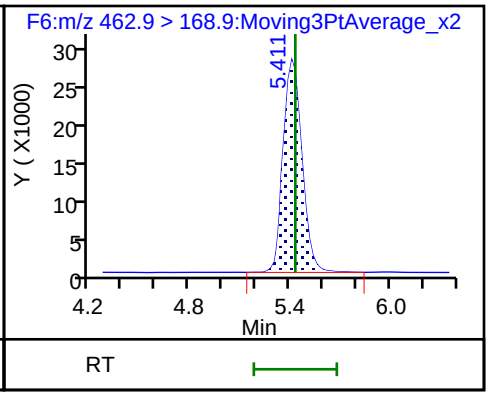
18 Perfluoroheptanesulfonic acid



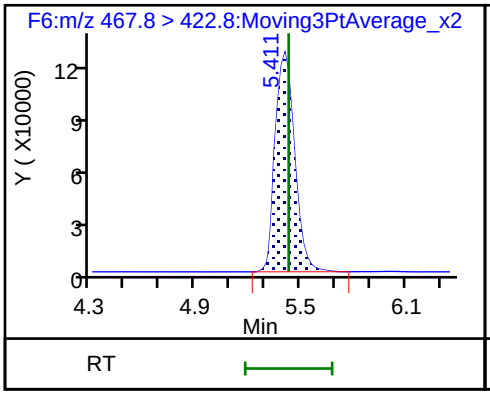
19 Perfluorononanoic acid



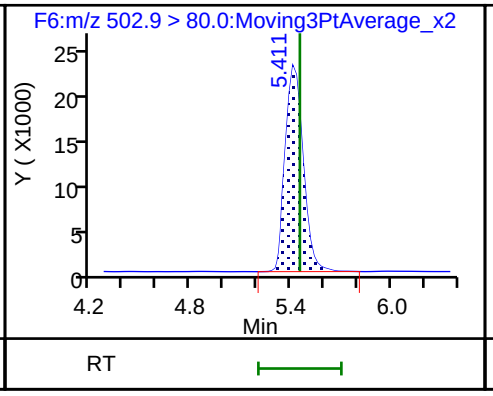
19 Perfluorononanoic acid



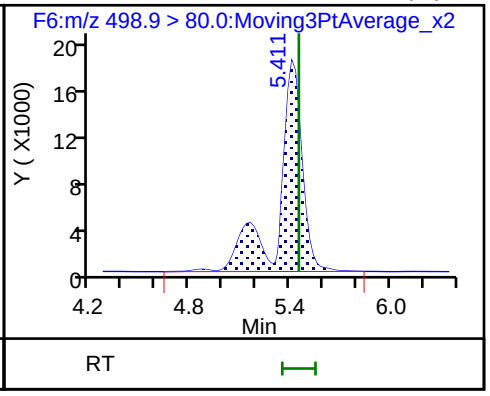
D 20 13C5 PFNA



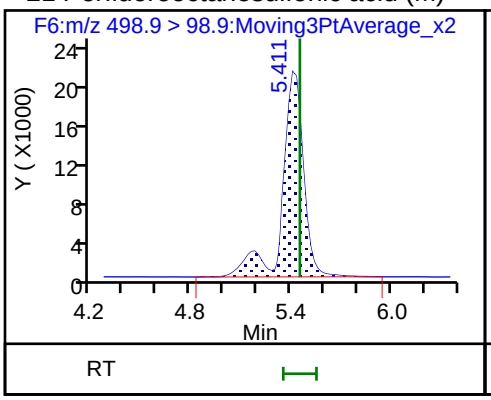
D 22 13C4 PFOS



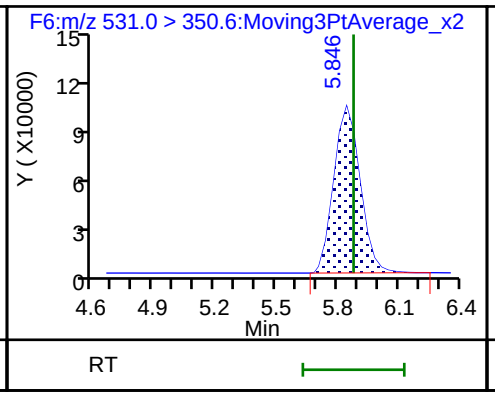
21 Perfluorooctanesulfonic acid (M)



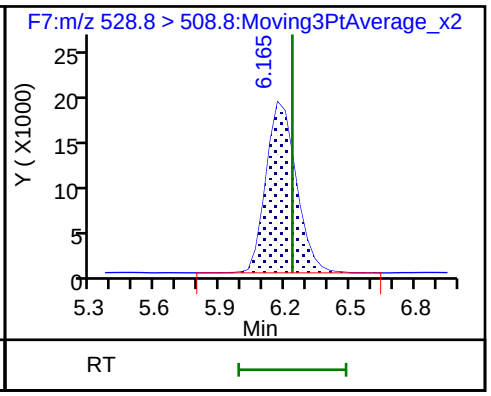
21 Perfluorooctanesulfonic acid (M)



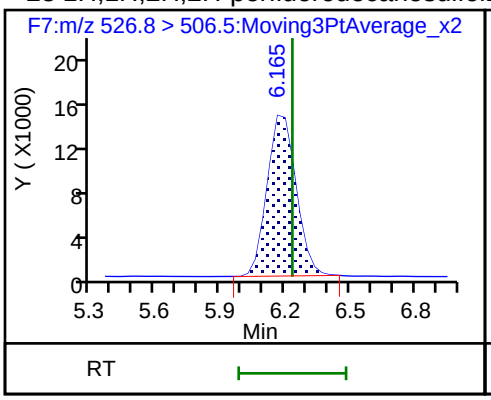
47 9-Chlorohexadecafluoro-3-oxanonane



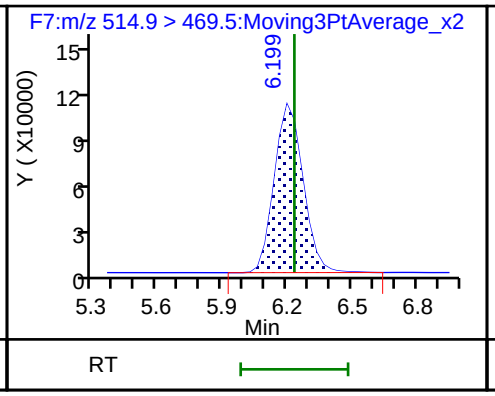
D 24 M2-8:2 FTS



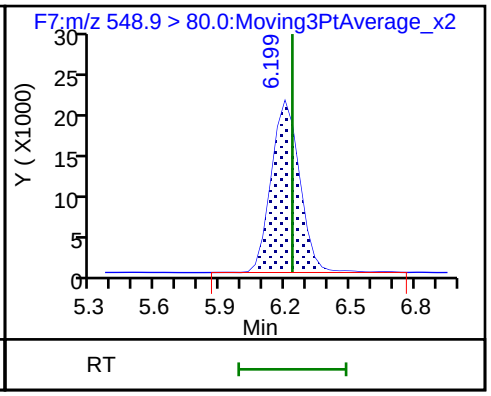
23 1H,1H,2H,2H-perfluorodecanesulfonic



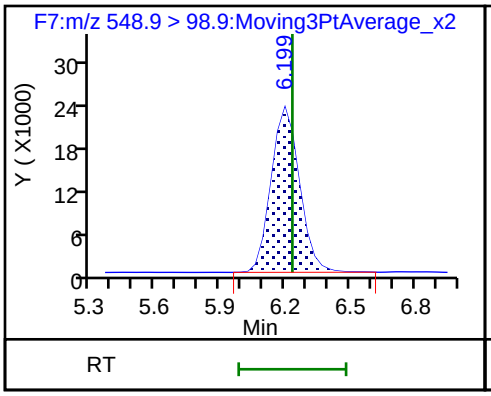
D 25 13C2 PFDA



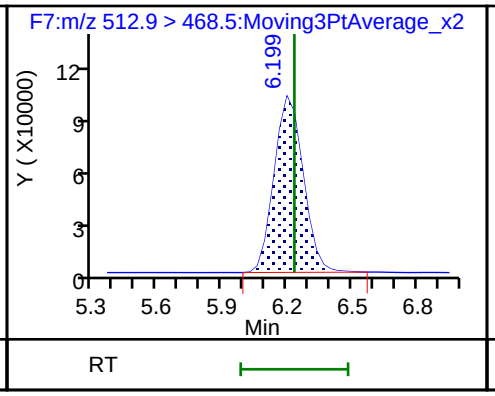
45 Perfluorononanesulfonic acid



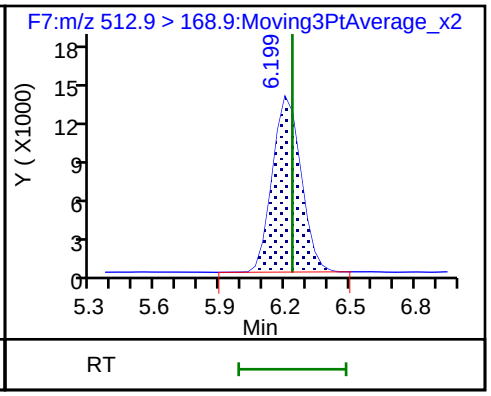
45 Perfluorononanesulfonic acid



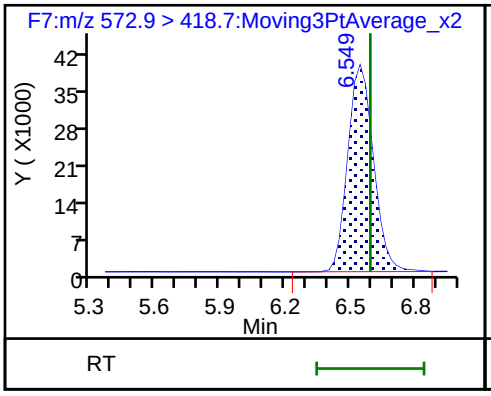
26 Perfluorodecanoic acid



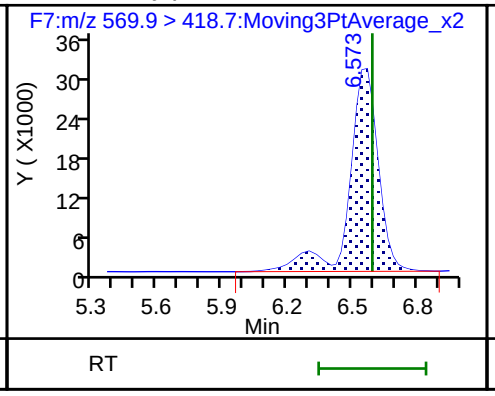
26 Perfluorodecanoic acid



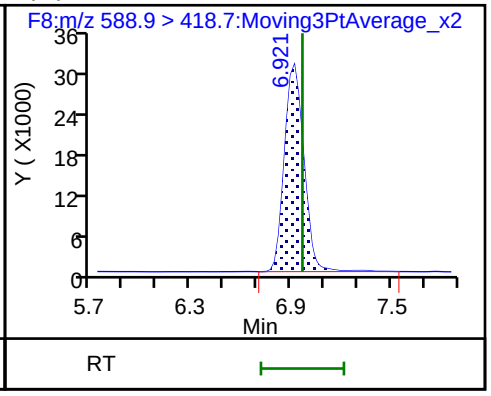
D 27 d3-NMeFOSAA



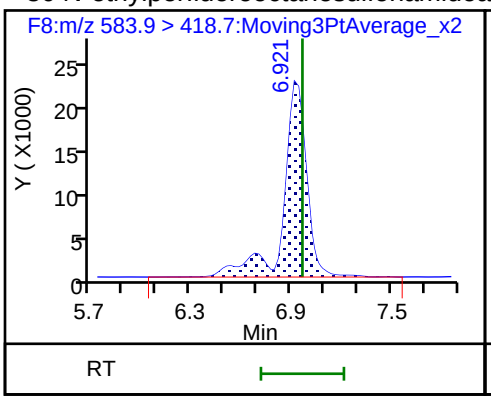
28 N-methylperfluorooctanesulfonamido



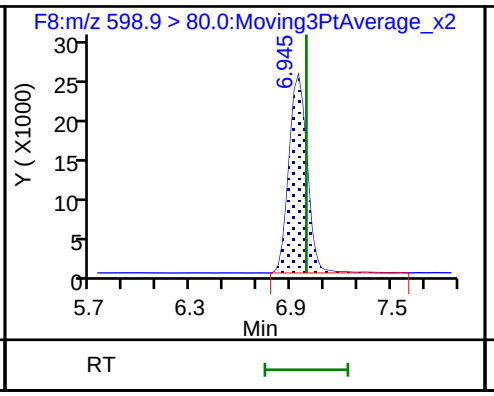
D (29) d5-NEtFOSAA



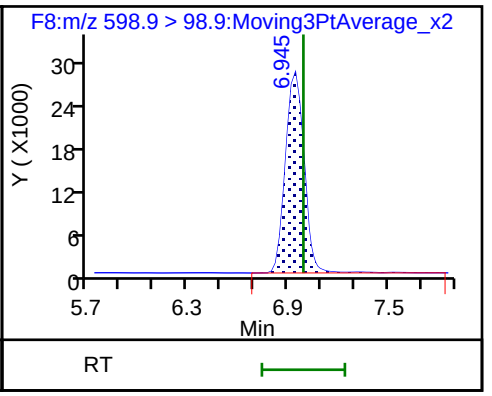
30 N-ethylperfluorooctanesulfonamidoa



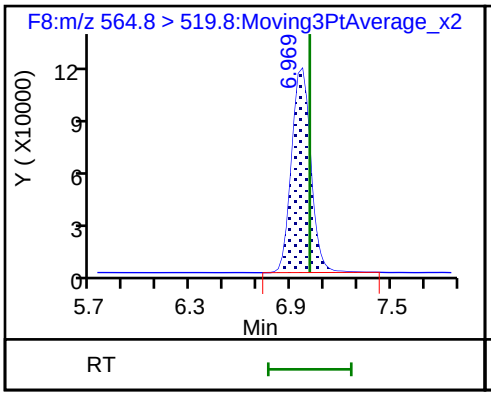
31 Perfluorodecanesulfonic acid



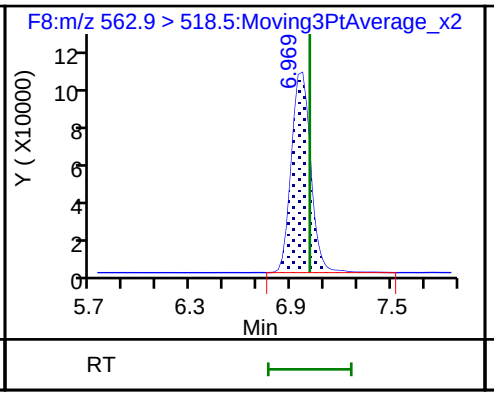
31 Perfluorodecanesulfonic acid



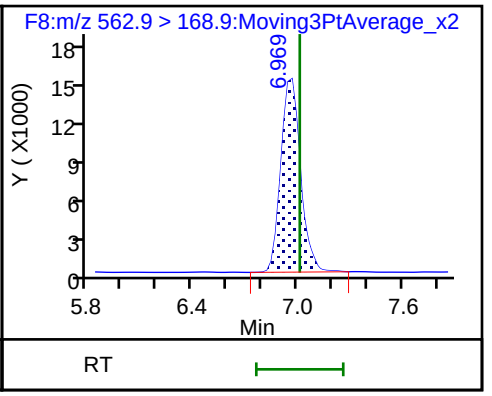
D 33 13C2 PFUnA



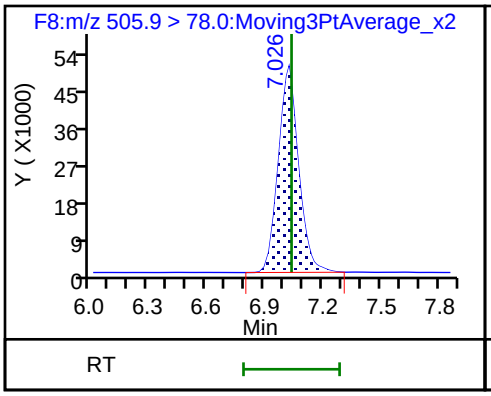
32 Perfluoroundecanoic acid



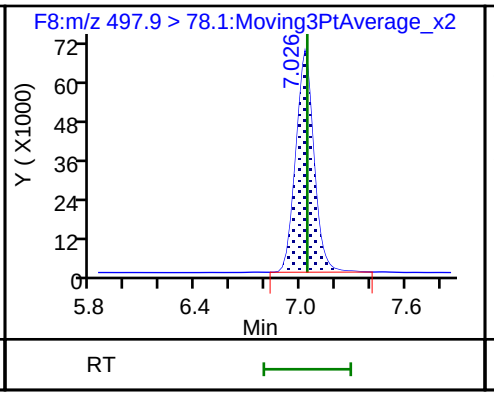
32 Perfluoroundecanoic acid



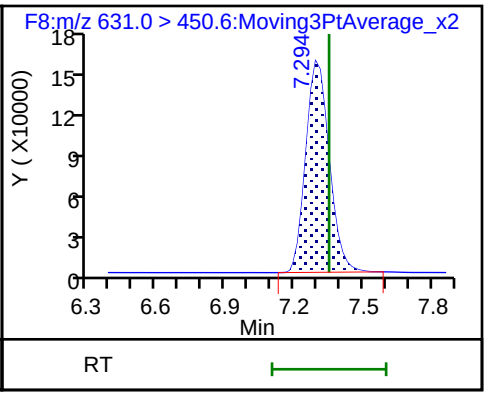
D 34 13C8 FOSA



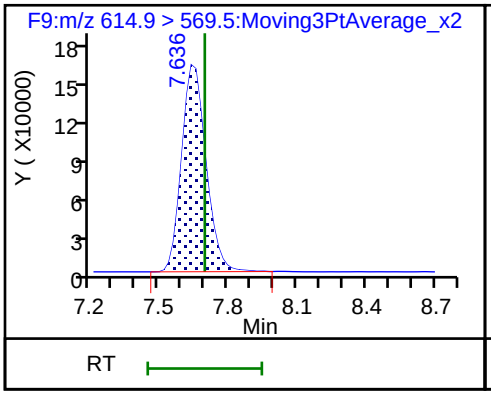
35 Perfluorooctanesulfonamide



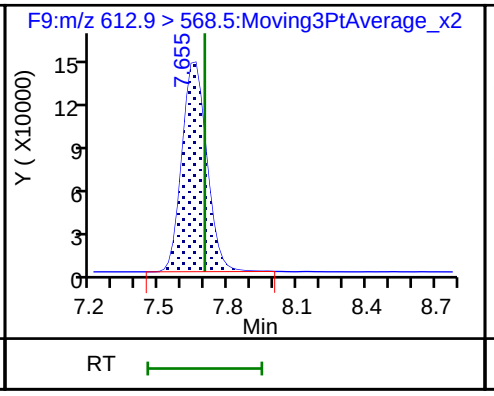
43 11-Chloroeicosafluoro-3-oxaundecan



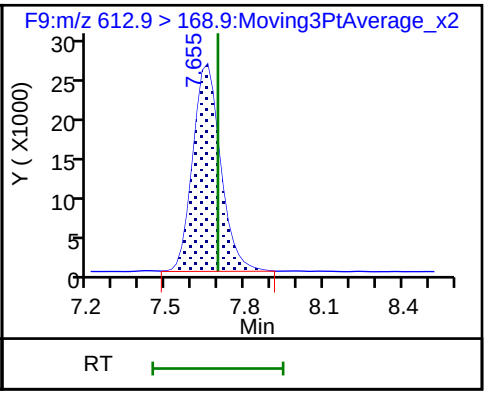
D 37 13C2 PFDoA



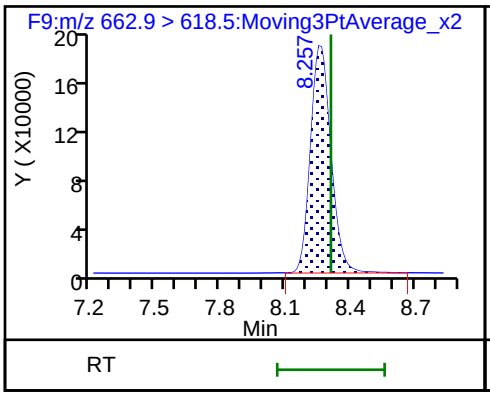
36 Perfluorododecanoic acid



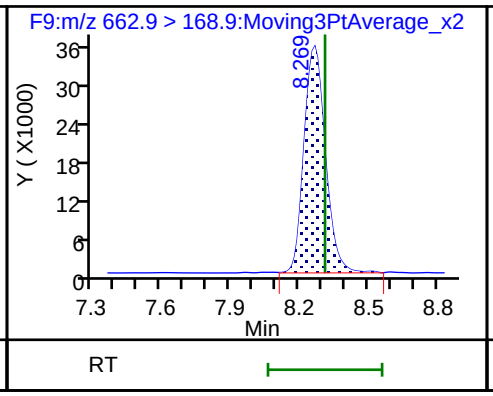
36 Perfluorododecanoic acid



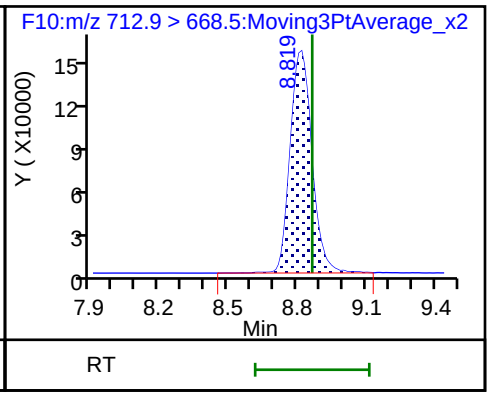
38 Perfluorotridecanoic acid



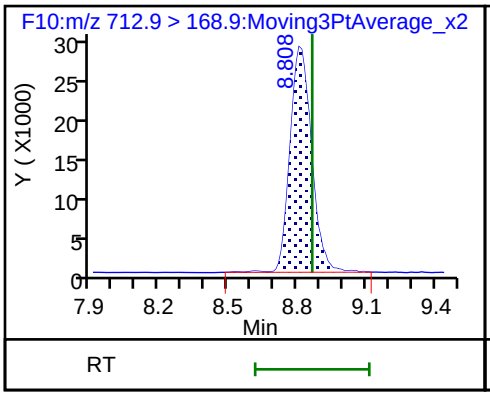
38 Perfluorotridecanoic acid



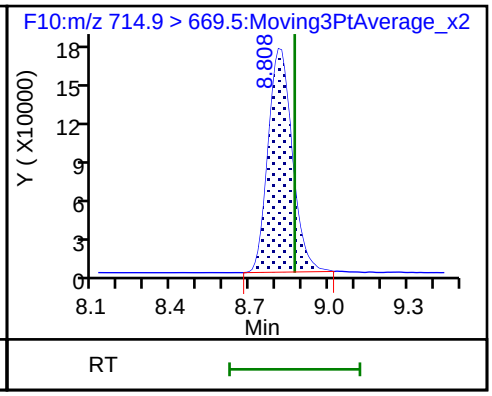
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

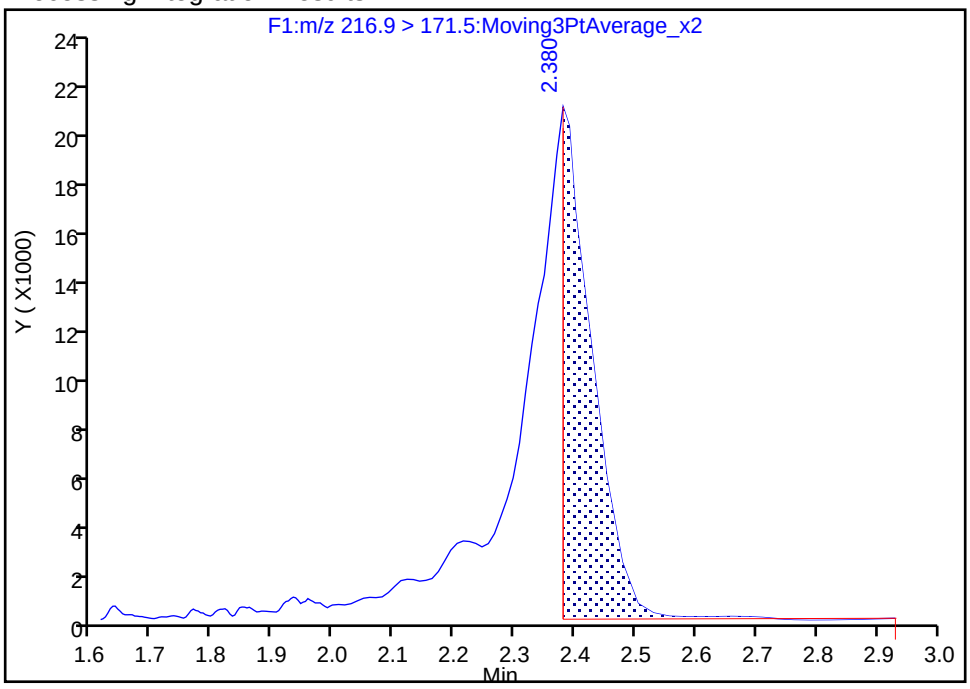
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d
Injection Date: 31-May-2019 02:33:10 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 53
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

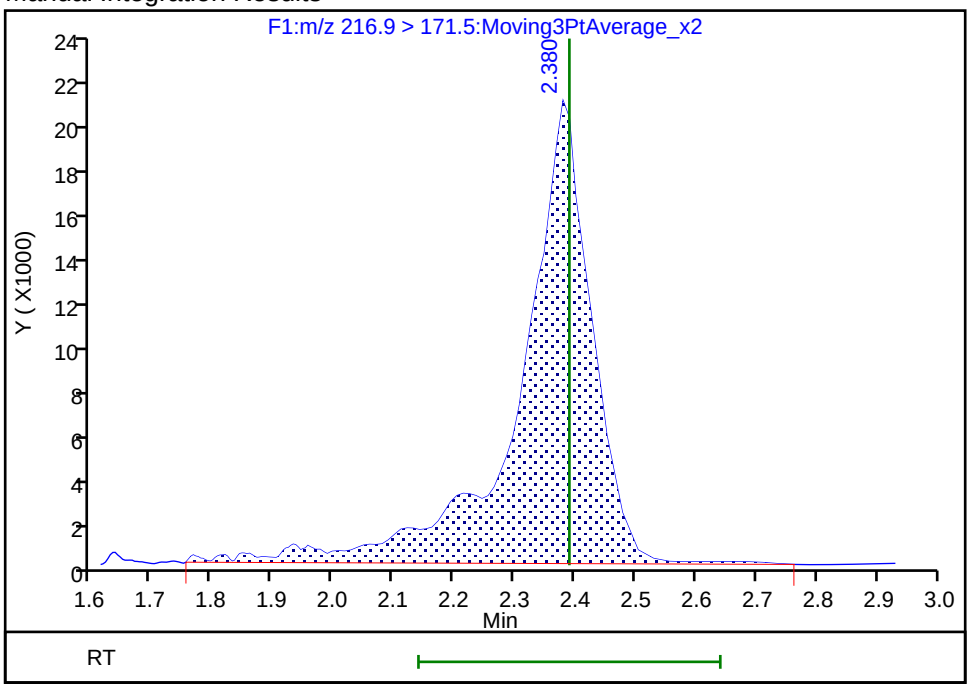
Processing Integration Results

RT: 2.38
Area: 67341
Amount: 15.593276
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 170718
Amount: 39.530939
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:51:25
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

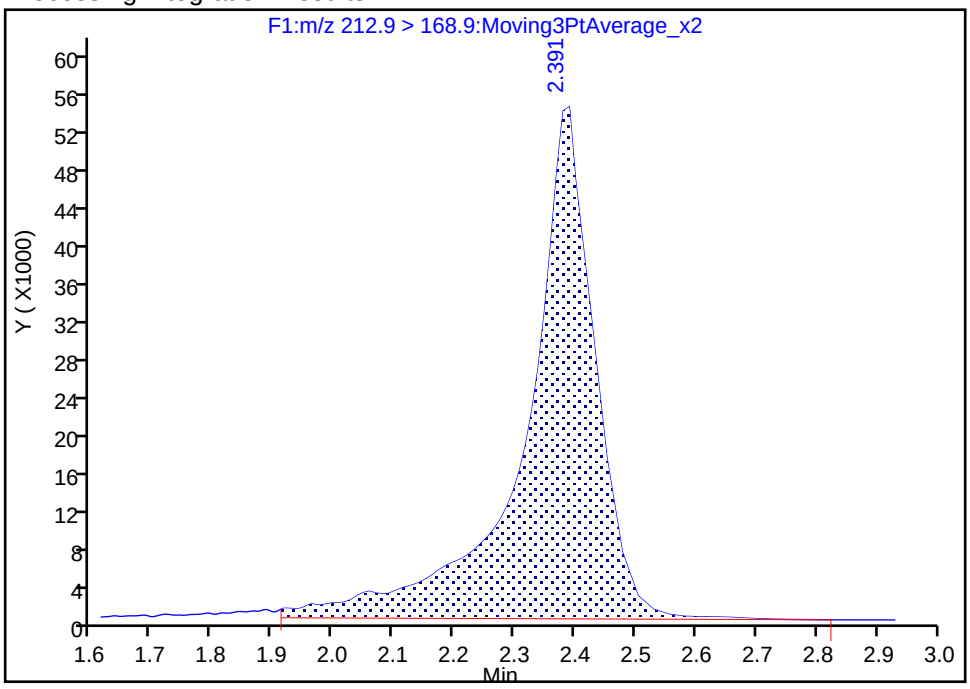
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d
Injection Date: 31-May-2019 02:33:10 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 53
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

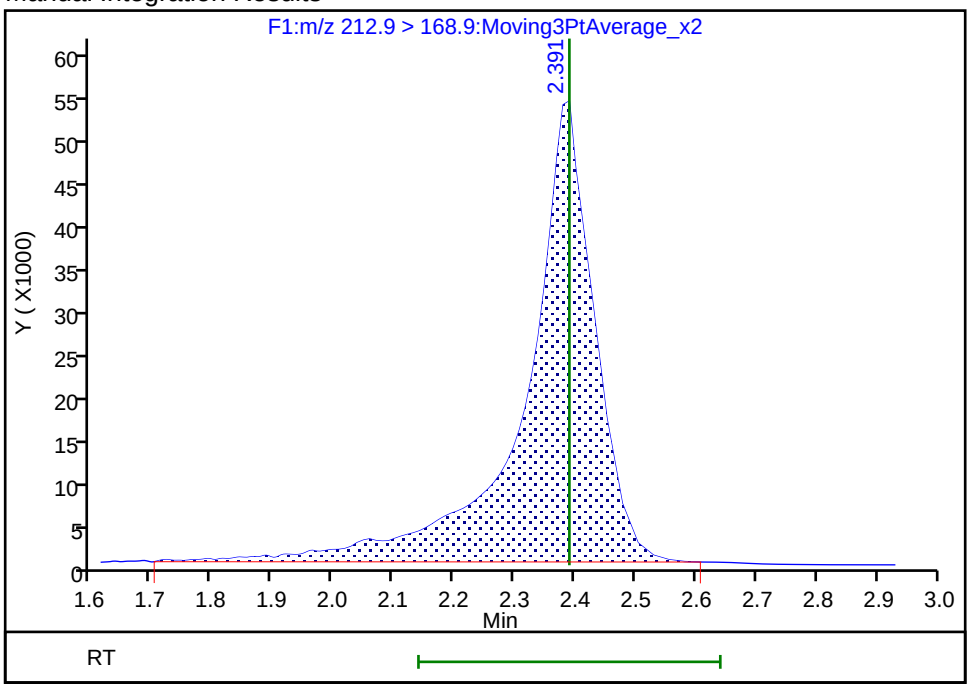
Processing Integration Results

RT: 2.39
Area: 439014
Amount: 81.897832
Amount Units: ng/ml



Manual Integration Results

RT: 2.39
Area: 434034
Amount: 80.968816
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:51:30
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

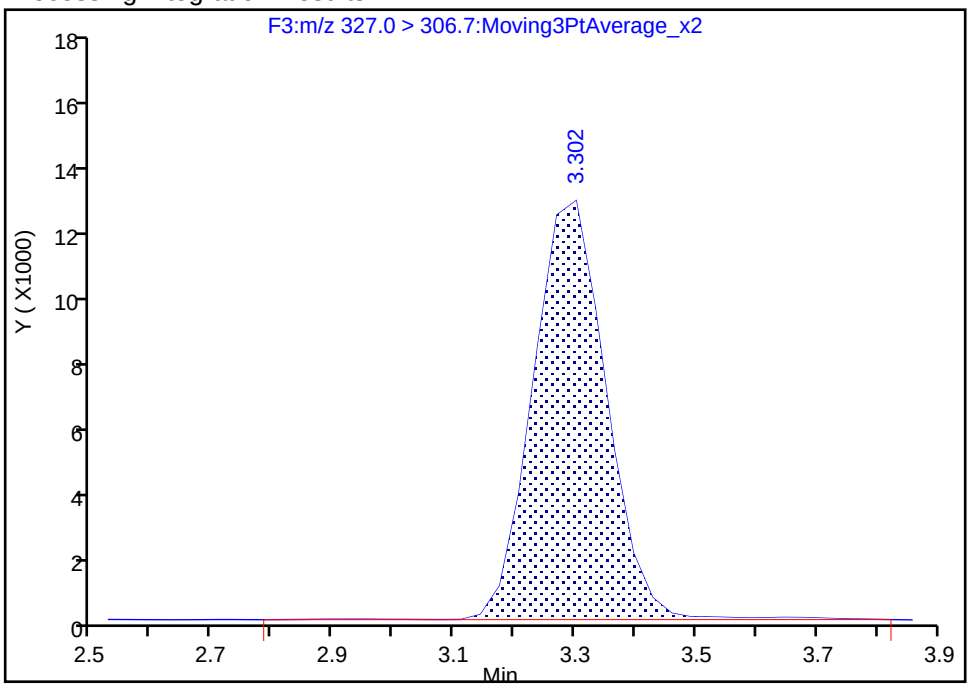
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d
Injection Date: 31-May-2019 02:33:10 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 53
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

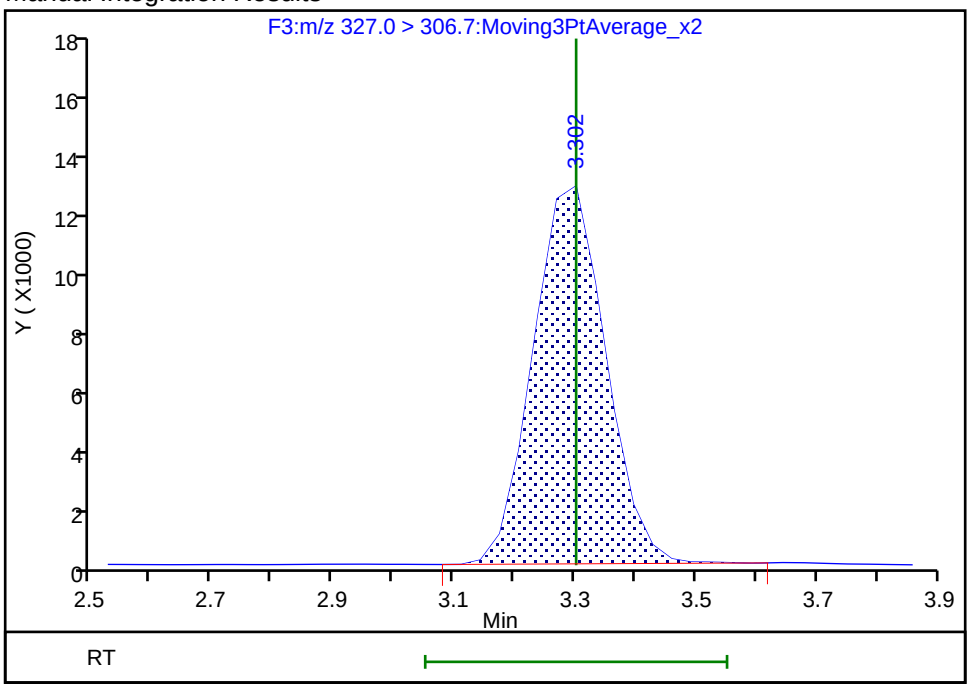
Processing Integration Results

RT: 3.30
Area: 103327
Amount: 68.983184
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 101830
Amount: 67.983756
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:51:44
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

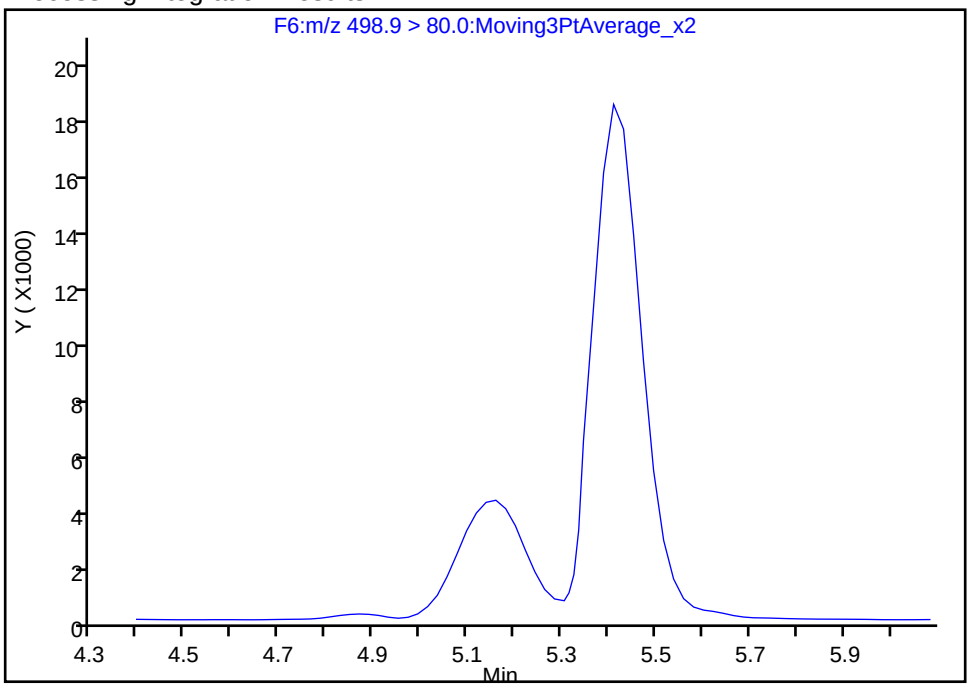
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d
Injection Date: 31-May-2019 02:33:10 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 53
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

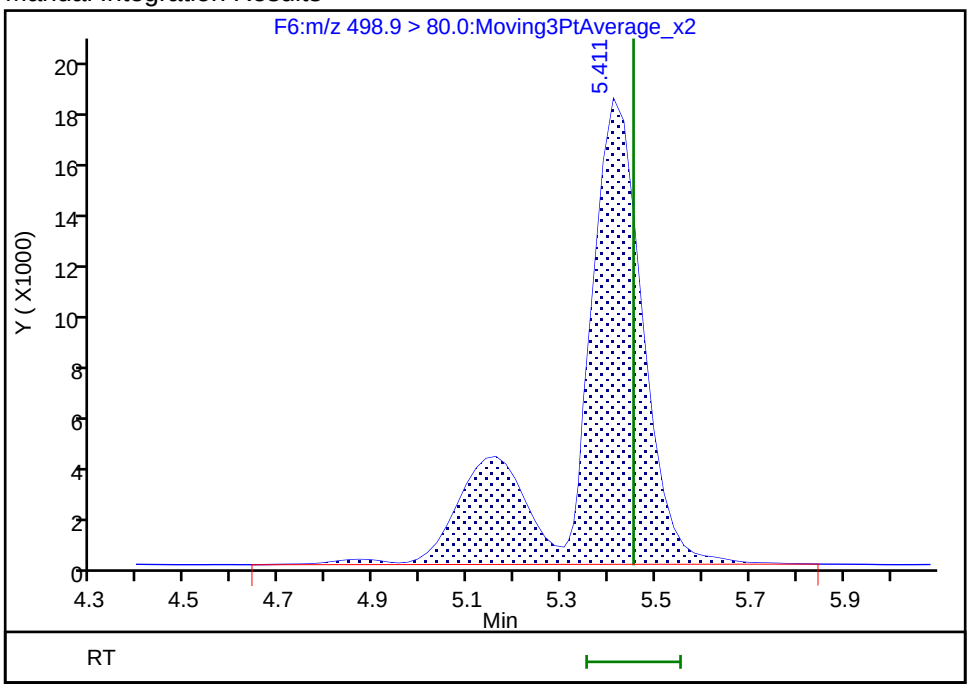
Not Detected
Expected RT: 5.45

Processing Integration Results



Manual Integration Results

RT: 5.41
Area: 172598
Amount: 50.885572
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:50:46
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

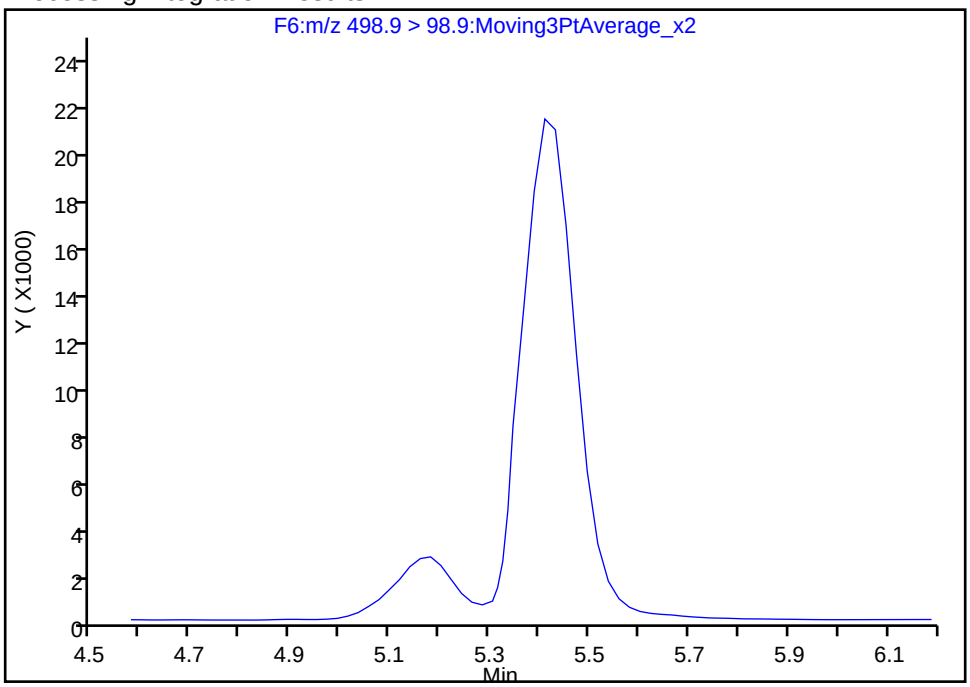
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d
Injection Date: 31-May-2019 02:33:10 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 53
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

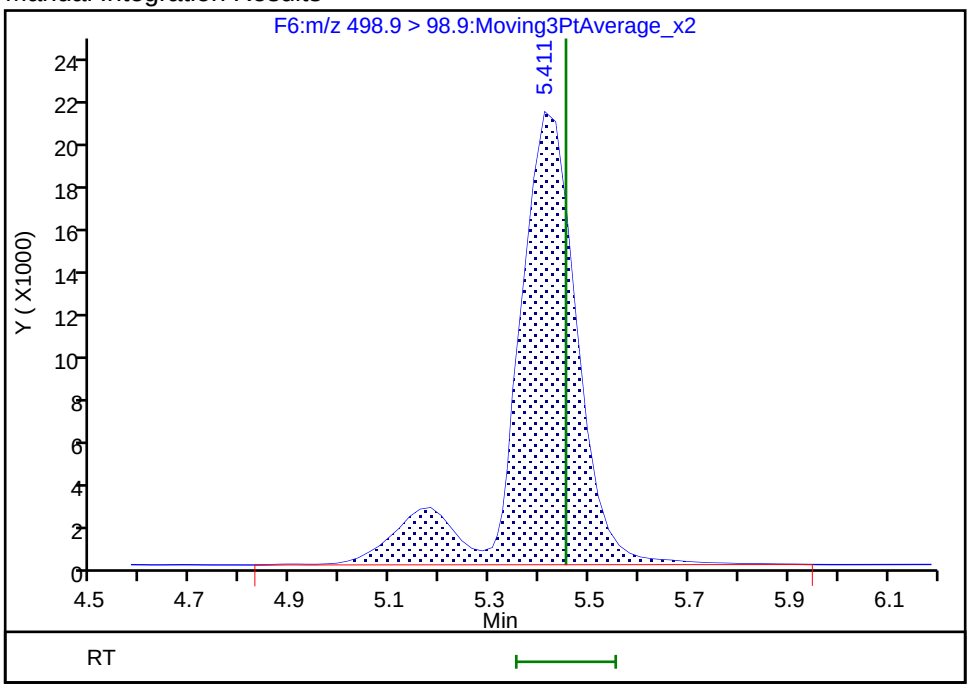
Processing Integration Results

Not Detected
Expected RT: 5.45



Manual Integration Results

RT: 5.41
Area: 187188
Amount: 50.885572
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:50:48
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

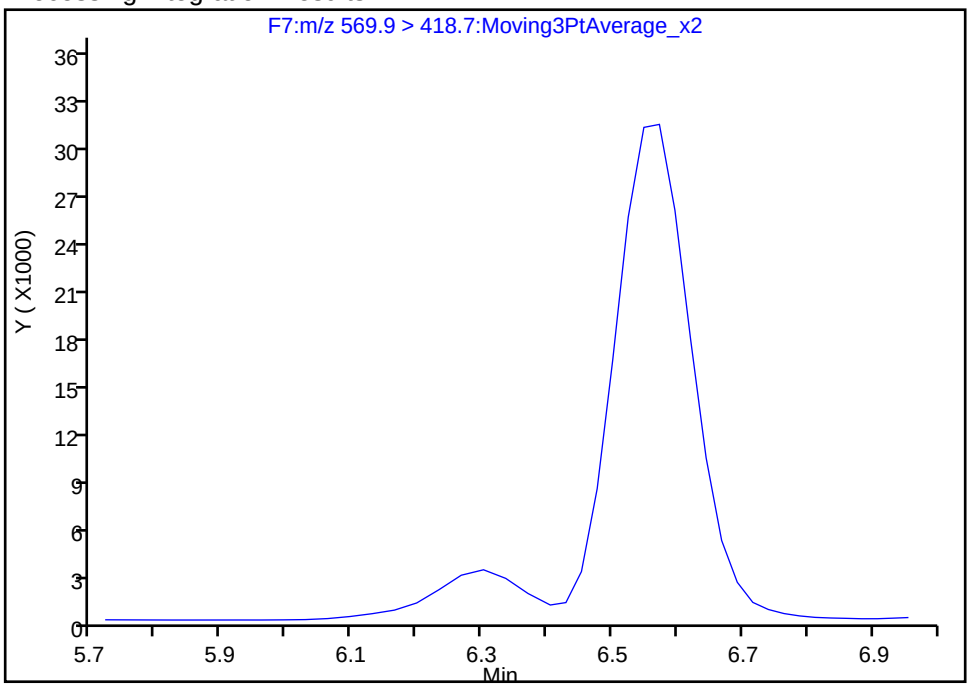
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B53.d
Injection Date: 31-May-2019 02:33:10 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 53
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

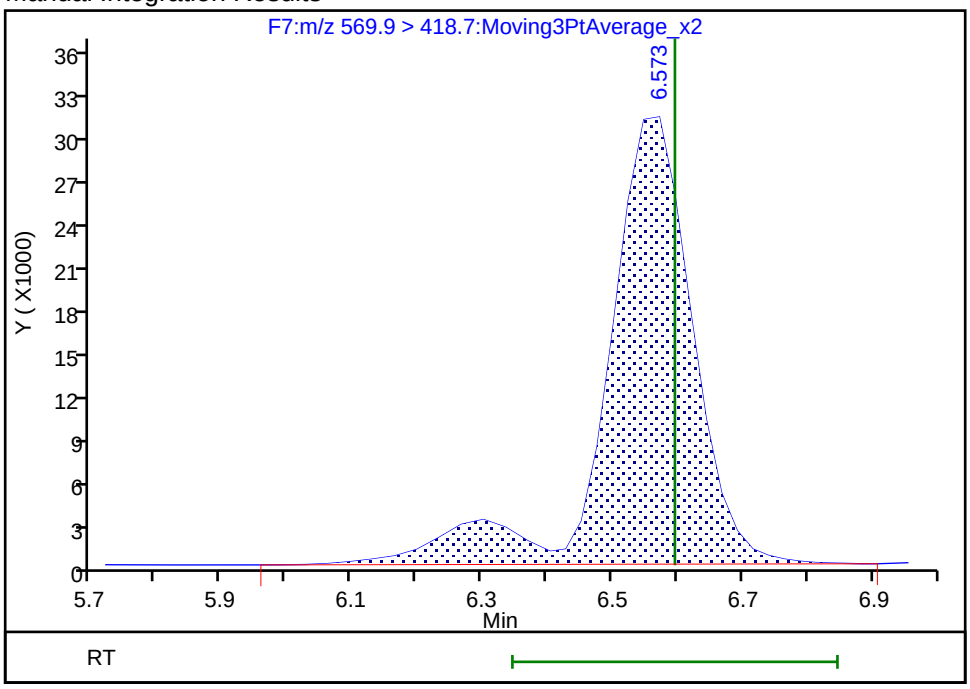
Not Detected
Expected RT: 6.60

Processing Integration Results



Manual Integration Results

RT: 6.57
Area: 288440
Amount: 54.470191
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:50:55
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143596/64 Calibration Date: 05/31/2019 05:27

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B64.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	2.679		8530	5000	70.6*	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	3.197		5340	5000	6.8	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	2.311		4060	4420	-8.0	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.386		4890	4670	4.6	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.417		5070	5000	1.4	40.0
Perfluoropentanesulfonic acid	AveID	2.841	2.660		4390	4690	-6.4	50.0
HFPO-DA	AveID	1.078	1.149		5330	5000	6.6	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.239		5280	5000	5.6	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	2.070		4450	4550	-2.2	40.0
DONA	AveID	4.300	5.162		5650	4710	20.1	50.0
6:2 FTS	AveID	0.9451	1.482		7430	4740	56.8*	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	1.010		4990	5000	-0.1	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	1.012		5530	4760	16.2	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9394		5320	5000	6.4	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	0.9642		4630	4640	-0.2	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	4.969		5270	4660	13.0	50.0
8:2 FTS	AveID	0.7376	0.7606		4940	4790	3.1	40.0
Perfluorononanesulfonic acid	AveID	0.9697	0.9664		4780	4800	-0.3	50.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.8985		4910	5000	-1.9	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.9787		5930	5000	18.5	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.8178		5080	5000	1.6	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	0.9844		4570	4820	-5.2	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8942		5370	5000	7.4	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.396		4900	5000	-2.0	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	5.944		4990	4710	6.0	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9149		4820	5000	-3.6	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.9366		5000	5000	-0.0	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8617		5080	5000	1.5	40.0
13C4 PFBA	Ave	0.2445	0.1370		28000	50000	-44.0	50.0
13C5 PFPeA	Ave	0.1855	0.1532		41300	50000	-17.4	50.0
13C3 PFBS	Ave	0.0807	0.0686		39500	46500	-15.0	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143596/64 Calibration Date: 05/31/2019 05:27

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF053019B64.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5037		45300	50000	-9.5	50.0
13C3 HFPO-DA	Ave	0.0529	0.0505		47700	50000	-4.6	50.0
13C4 PFHpA	Ave	0.7840	0.8004		51000	50000	2.1	50.0
18O2 PFHxS	Ave	0.1031	0.0756		34700	47300	-26.7	50.0
M2-6:2 FTS	Ave	0.0557	0.0415		35400	47500	-25.6	50.0
13C4 PFOA	Ave	0.9706	0.9366		48200	50000	-3.5	50.0
13C4 PFOS	Ave	0.2326	0.1970		40500	47800	-15.3	50.0
13C5 PFNA	Ave	1.302	1.160		44600	50000	-10.9	50.0
M2-8:2 FTS	Ave	0.2026	0.2053		48500	47900	1.3	50.0
13C2 PFDA	Ave	1.111	1.149		51700	50000	3.4	50.0
d3-NMeFOSAA	Ave	0.3621	0.3363		46400	50000	-7.1	50.0
d5-NEtFOSAA	Ave	0.2986	0.2838		47500	50000	-4.9	50.0
13C2 PFUnA	Ave	1.073	1.101		51300	50000	2.7	50.0
13C8 FOSA	Ave	0.4004	0.3843		48000	50000	-4.0	50.0
13C2 PFDoA	Ave	1.367	1.331		48700	50000	-2.6	50.0
13C2 PFTeDA	Ave	1.227	1.152		46900	50000	-6.1	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Lims ID: CCV L3
Client ID:
Sample Type: CCV
Inject. Date: 31-May-2019 05:27:55 ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036138-064 CCV L3
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:26:17 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: chirgwinb Date: 31-May-2019 08:56:00
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.391	-0.011	1.000	137358	28.0		56.0	54.9	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.391	-0.011	1.000	36797	8.53		171	71.8	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	153568	41.3		82.6	509	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.866	-0.036	1.000	49098	5.34		107	96.1	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	63939	39.5		85.0	323	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.901	2.937	-0.036	1.000	14048	4.06	Target=1.67	92.0	95.7	M
298.9 > 98.9	2.901	2.901	0.0	1.000	14373		0.98(0.83-2.51)		73.9	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.270	3.302	-0.032	1.127	8899	4.89		105	83.1	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	505054	45.3		90.5	2371	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.302	3.334	-0.032	1.000	71567	5.07	Target=14.34	101	393	
312.9 > 118.9	3.302	3.334	-0.032	1.000	4001		17.89(7.17-21.51)		53.7	M
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.365	3.397	-0.032	1.160	17156	4.39	Target=1.23	93.6	129	M
348.9 > 98.9	3.365	3.397	-0.032	1.000	21603		0.79(0.62-1.85)		158	M
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.492	3.492	0.0	1.009	5814	5.33		107	50.3	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.460	3.492	-0.032	1.000	50601	47.7		95.4	569	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.905	3.925	-0.020	1.000	99470	5.28	Target=2.84	106	787	
362.9 > 168.9	3.905	3.925	-0.020	1.000	28171		3.53(1.42-4.26)		203	
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.925	-0.020	1.000	802608	51.0		102	3276	
D 12 18O2 PFHxS										
402.9 > 83.8	3.925	3.946	-0.021	1.000	71697	34.7		73.3	254	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.925	3.946	-0.021	1.000	14275	4.45	Target=1.34	97.8	76.9	M
398.9 > 98.9	3.925	3.946	-0.021	1.000	19319		0.74(0.67-2.01)		251	M
49 DONA										
376.9 > 250.7	3.966	3.986	-0.020	0.736	96036	5.65	Target=2.33	120	593	
376.9 > 85.0	3.966	3.986	-0.020	1.000	35124		2.73(1.16-3.49)		305	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.547	4.589	-0.042	1.000	39502	35.4		74.4	291	M
13 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.568	4.609	-0.041	1.005	5843	7.43		157	46.3	M
D 17 13C4 PFOA										
416.9 > 371.8	4.589	4.630	-0.041	1.000	939113	48.2		96.5	5494	
* 16 13C2 PFOA										
414.9 > 369.8	4.589	4.630	-0.041		1002721	50.0			3374	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.609	4.630	-0.021	1.005	94893	4.99	Target=2.43	99.9	496	
412.9 > 168.9	4.589	4.630	-0.041	1.000	38651		2.46(1.22-3.64)		269	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.630	4.672	-0.042	0.859	19017	5.53	Target=1.30	116	134	
448.9 > 98.9	4.609	4.672	-0.063	1.000	21265		0.89(0.65-1.95)		123	
19 Perfluorononanoic acid										
462.9 > 418.7	5.389	5.432	-0.043	1.000	109286	5.32	Target=5.00	106	684	
462.9 > 168.9	5.411	5.432	-0.021	1.004	24752		4.42(2.50-7.50)		306	
D 20 13C5 PFNA										
467.8 > 422.8	5.389	5.432	-0.043	1.000	1163355	44.6		89.1	5074	
D 22 13C4 PFOS										
502.9 > 80.0	5.389	5.453	-0.064	1.000	188795	40.5		84.7	968	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.389	5.453	-0.064	1.000	17670	4.63	Target=1.41	99.8	333	M
498.9 > 98.9	5.411	5.453	-0.042	1.004	20163		0.88(0.71-2.12)		142	M
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.846	5.880	-0.034	1.085	91460	5.27		113	397	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.165	6.234	-0.069	1.000	197240	48.5		101	1109	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.165	6.234	-0.069	1.000	15002	4.94		103	126	
D 25 13C2 PFDA										
514.9 > 469.5	6.199	6.234	-0.035	1.000	1152465	51.7		103	3950	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										M
548.9 > 80.0	6.165	6.234	-0.069	1.144	18322	4.78	Target=1.39	99.7	103	M
548.9 > 98.9	6.199	6.234	-0.035	1.000	21302		0.86(0.69-2.08)		108	M
26 Perfluorodecanoic acid										M
512.9 > 468.5	6.199	6.234	-0.035	1.000	103548	4.91	Target=7.23	98.1	809	
512.9 > 168.9	6.199	6.234	-0.035	1.000	10066		10.29(3.61-10.84)		61.9	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.525	6.597	-0.072	1.000	337210	46.4		92.9	1137	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.549	6.597	-0.048	1.004	33004	5.93		119	114	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.897	6.969	-0.072	1.000	284593	47.5		95.1	1223	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.921	6.969	-0.048	1.003	23275	5.08		102	272	M
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.921	6.993	-0.072	1.284	18741	4.57	Target=1.25	94.8	120	
598.9 > 98.9	6.921	6.993	-0.072	1.000	24329		0.77(0.63-1.88)		235	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	7.013	-0.068	1.000	1104111	51.3		103	5829	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.945	7.013	-0.068	1.000	98734	5.37	Target=7.06	107	601	
562.9 > 168.9	6.945	7.013	-0.068	1.000	14698		6.72(3.53-10.58)		125	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.039	-0.026	1.000	385359	48.0		96.0	2391	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.013	7.039	-0.026	1.000	53793	4.90		98.0	372	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.294	7.353	-0.059	1.353	110569	4.99		106	587	
D 37 13C2 PFDoA										
614.9 > 569.5	7.636	7.695	-0.059	1.000	1335079	48.7		97.4	2150	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.636	7.695	-0.059	1.000	122141	4.82	Target=5.37	96.4	798	
612.9 > 168.9	7.636	7.695	-0.059	1.000	23866		5.12(2.68-8.06)		166	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.246	8.313	-0.067	1.080	125037	5.00	Target=4.67	99.9	681	
662.9 > 168.9	8.235	8.313	-0.078	1.078	25018		5.00(2.34-7.01)		260	
39 Perfluorotetradecanoic acid										M
712.9 > 668.5	8.797	8.866	-0.069	1.000	99531	5.08	Target=4.86	102	446	
712.9 > 168.9	8.786	8.866	-0.080	0.999	18593		5.35(2.43-7.30)		111	M
D 40 13C2 PFTeDA										
714.9 > 669.5	8.797	8.870	-0.073	1.000	1155104	46.9		93.9	948	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L3_00005 Amount Added: 100.00 Units: uL

Report Date: 05-Jun-2019 17:26:17 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d

Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410

Lims ID: CCV L3

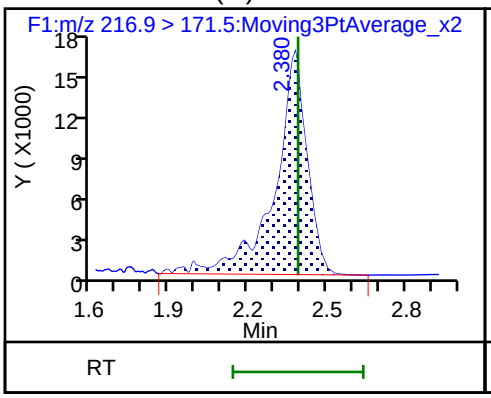
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64

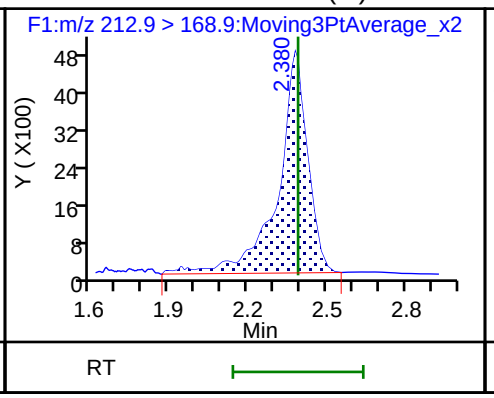
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

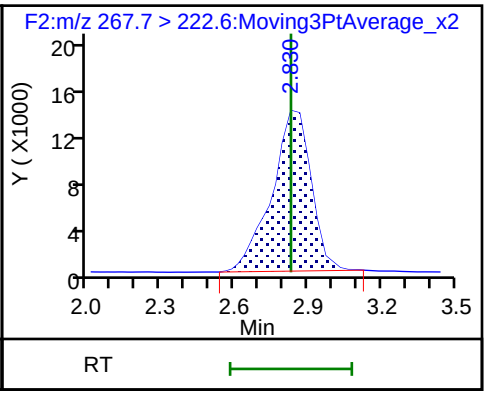
D 1 13C4 PFBA (M)



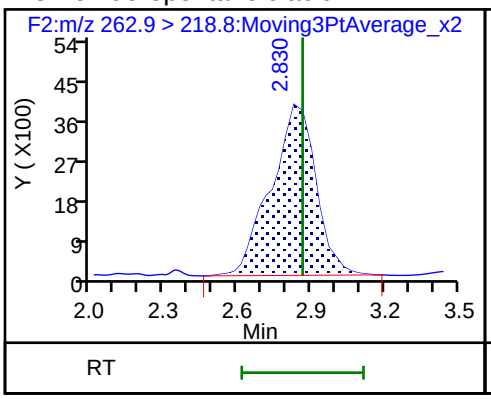
2 Perfluorobutanoic acid (M)



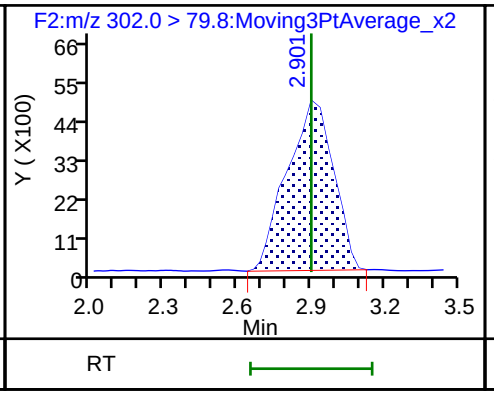
D 4 13C5 PFPeA



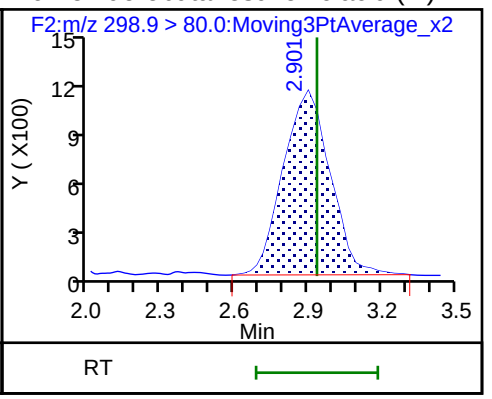
3 Perfluoropentanoic acid



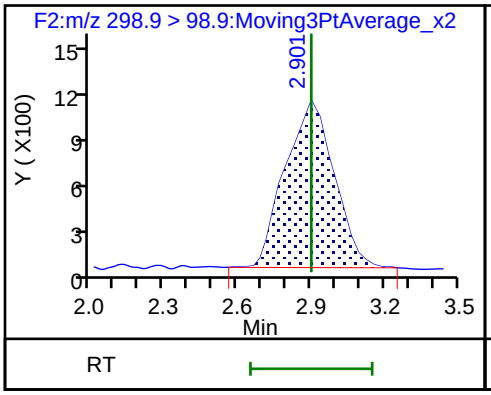
D 5 13C3 PFBS



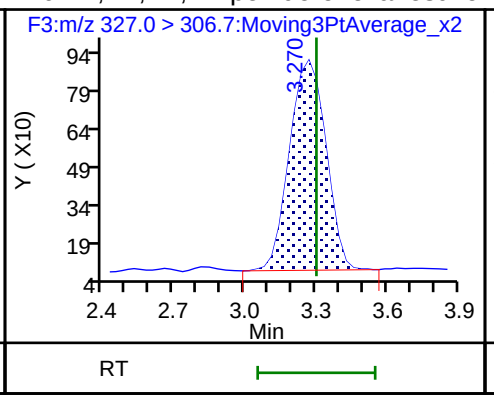
6 Perfluorobutanesulfonic acid (M)



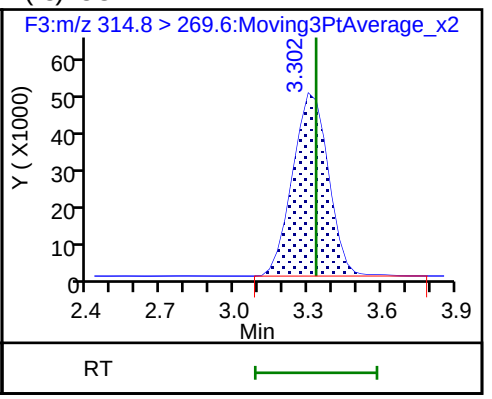
6 Perfluorobutanesulfonic acid



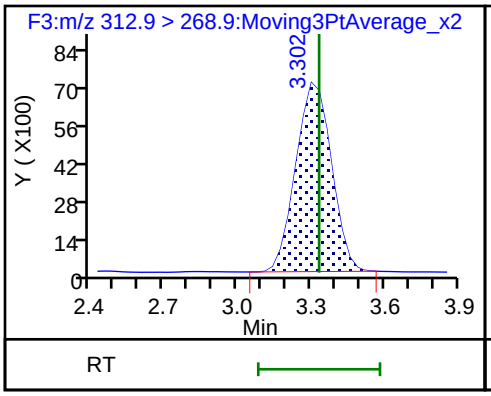
46 1H,1H,2H,2H-perfluorohexanesulfonic (M)



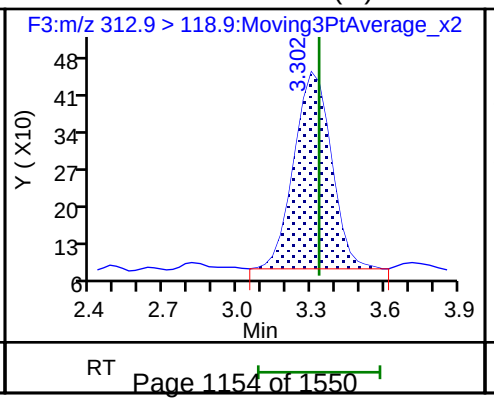
D 8 13C2 PFHxA



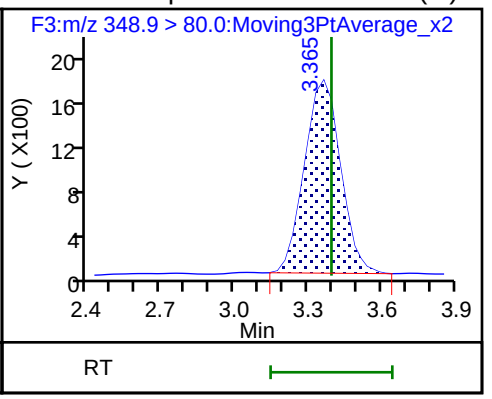
7 Perfluorohexanoic acid



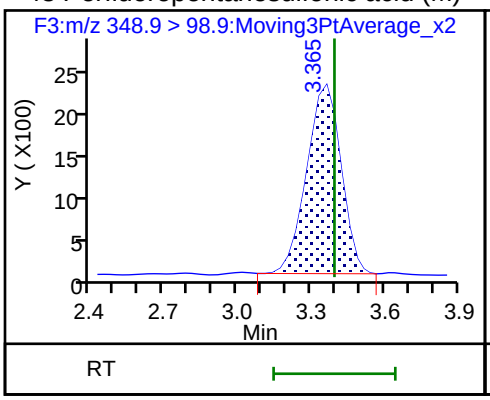
7 Perfluorohexanoic acid (M)



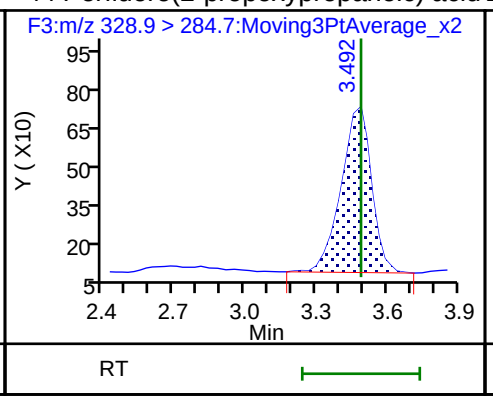
48 Perfluoropentanesulfonic acid (M)



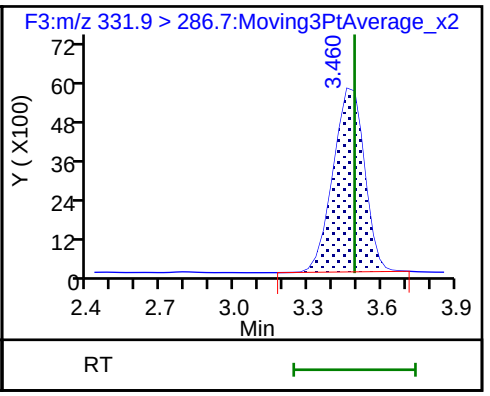
48 Perfluoropentanesulfonic acid (M)



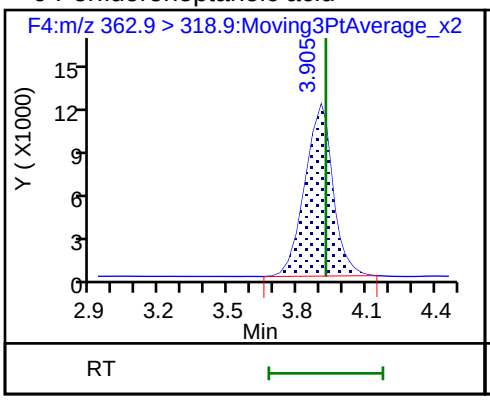
44 Perfluoro(2-propoxypropanoic) acid



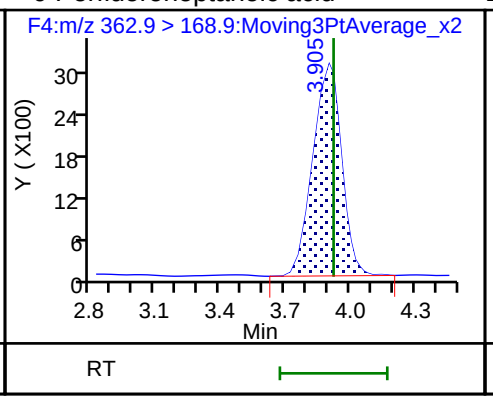
D 42 13C3 HFPO-DA



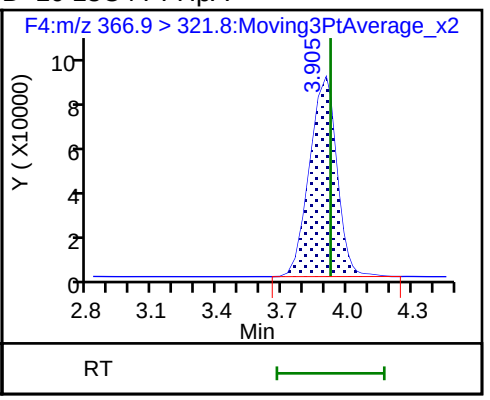
9 Perfluoroheptanoic acid



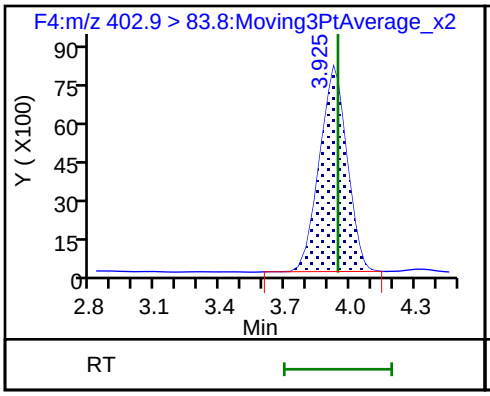
9 Perfluoroheptanoic acid



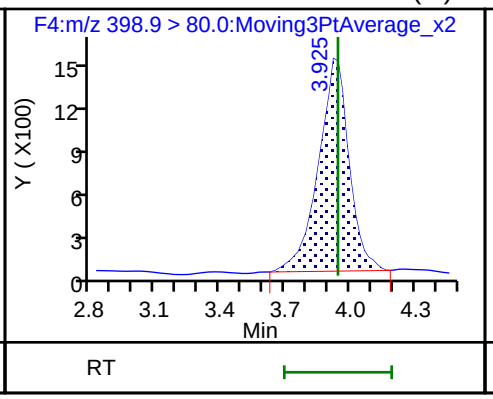
D 10 13C4 PFHpA



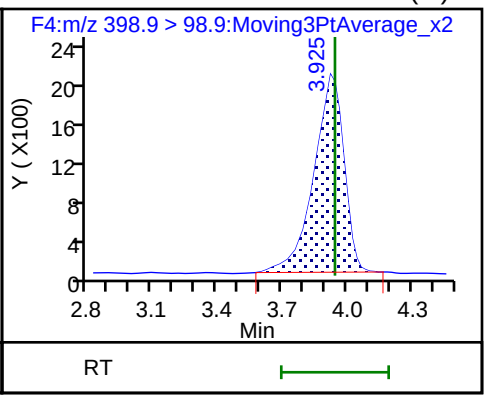
D 12 18O2 PFHxS



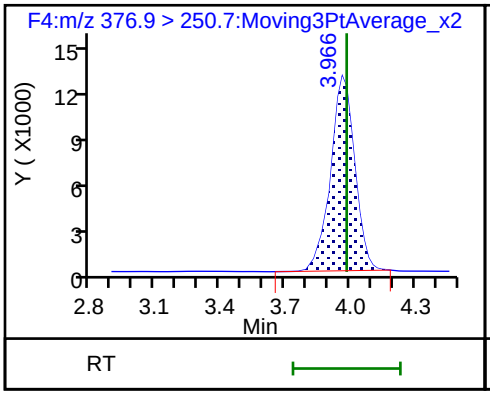
11 Perfluorohexanesulfonic acid (M)



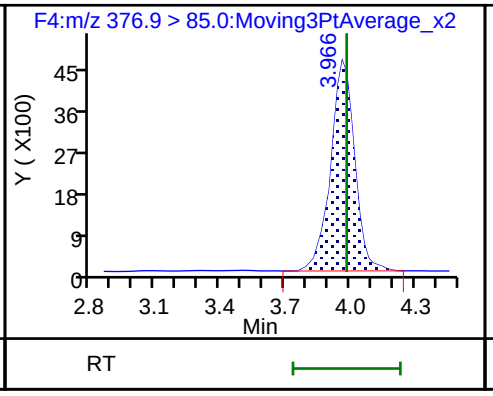
11 Perfluorohexanesulfonic acid (M)



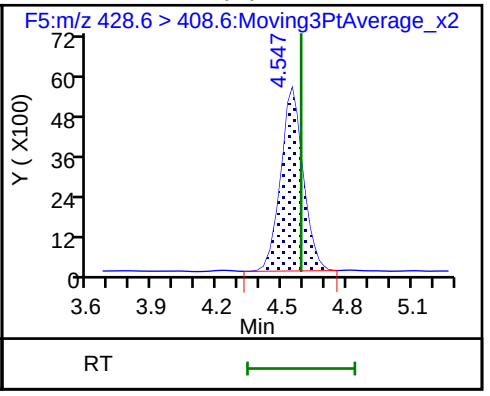
49 DONA



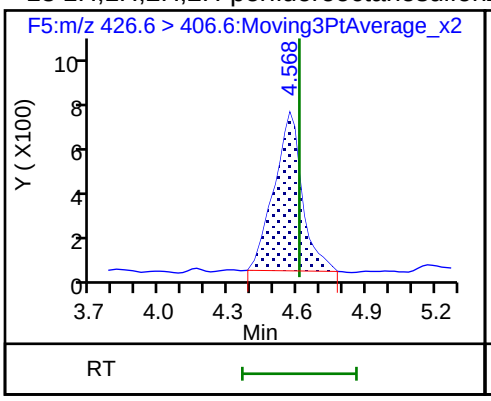
49 DONA



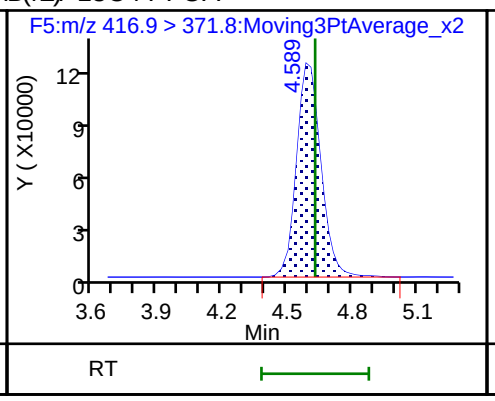
D 14 M2-6:2 FTS (M)



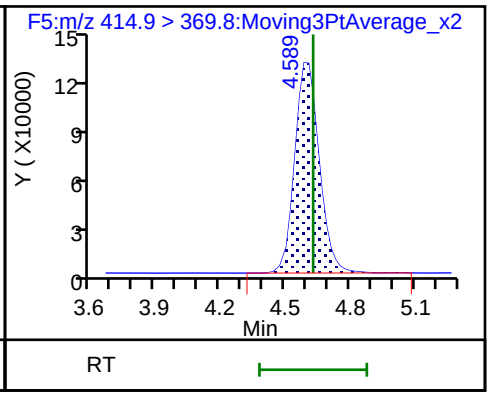
13 1H,1H,2H,2H-perfluorooctanesulfonic (M)



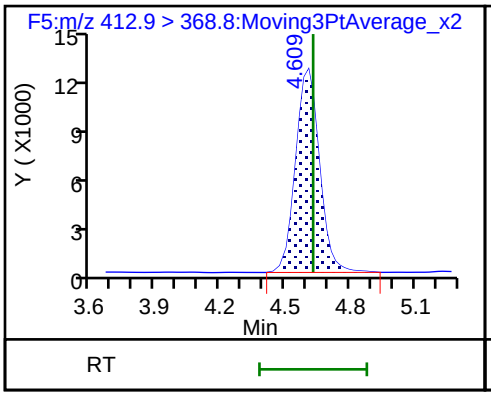
D 17 13C4 PFOA



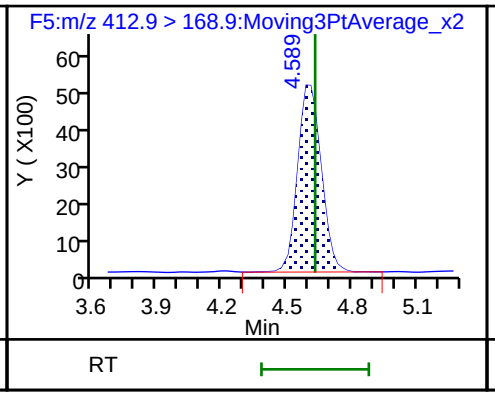
* 16 13C2 PFOA



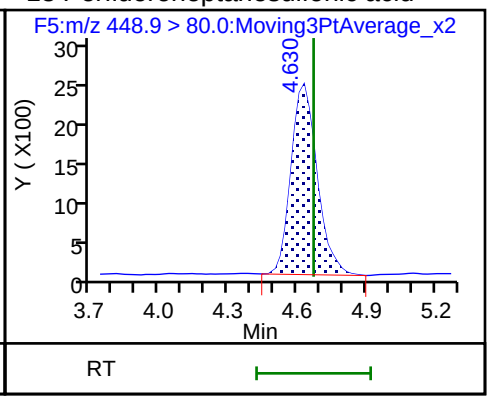
15 Perfluorooctanoic acid



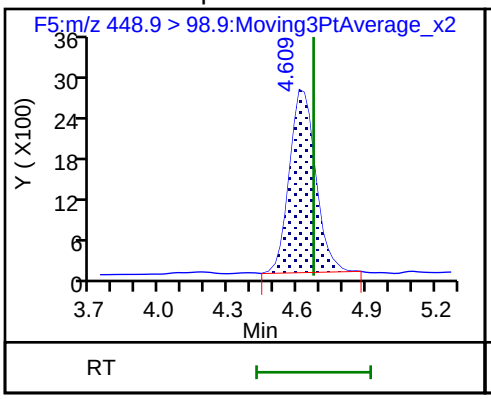
15 Perfluorooctanoic acid



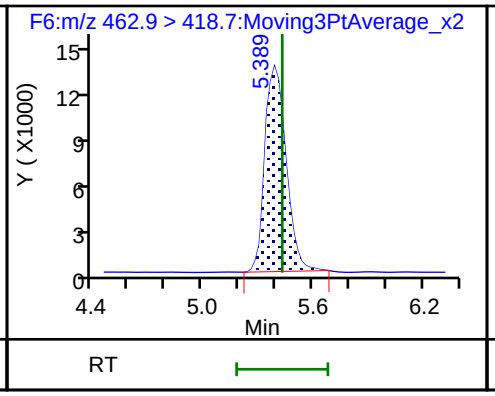
18 Perfluoroheptanesulfonic acid



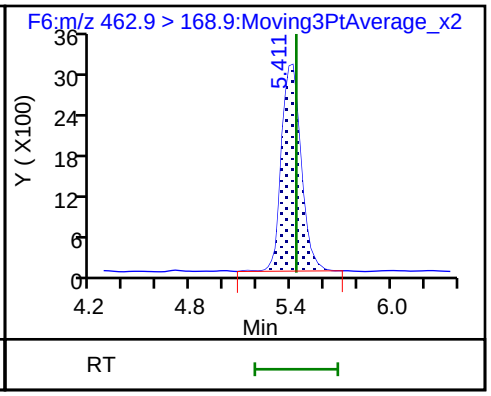
18 Perfluoroheptanesulfonic acid



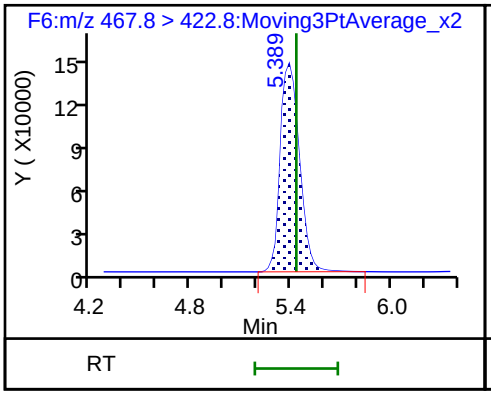
19 Perfluorononanoic acid



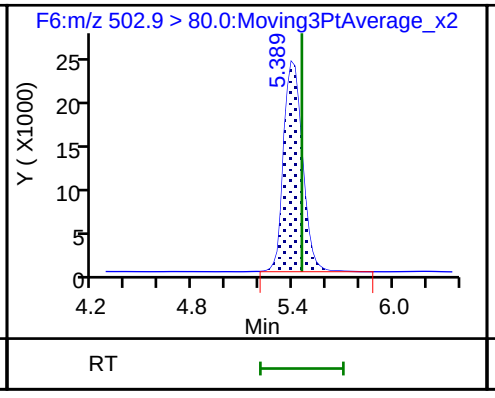
19 Perfluorononanoic acid



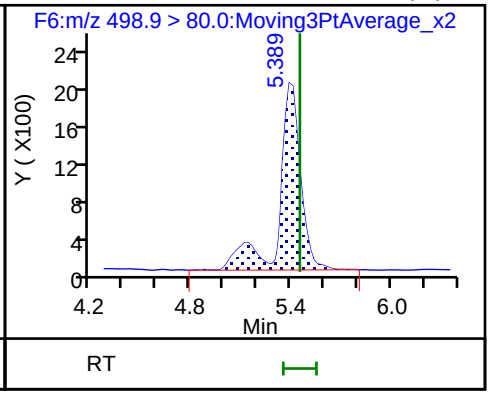
D 20 13C5 PFNA



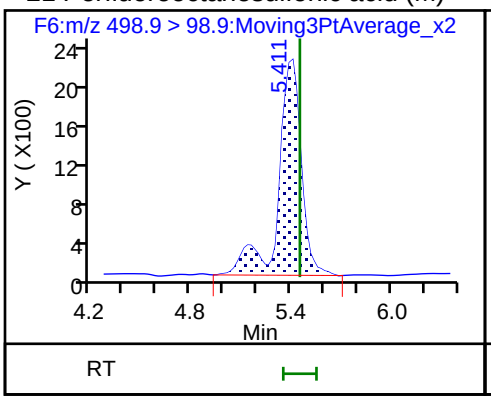
D 22 13C4 PFOS



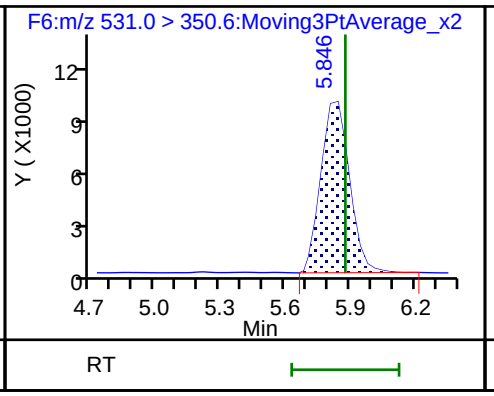
21 Perfluorooctanesulfonic acid (M)



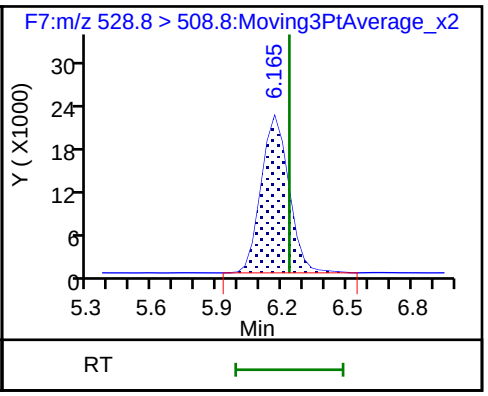
21 Perfluorooctanesulfonic acid (M)



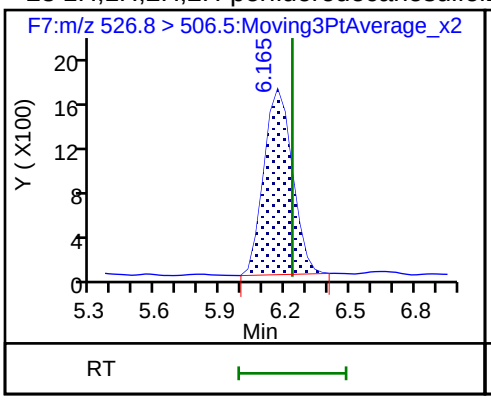
47 9-Chlorohexadecafluoro-3-oxanonane



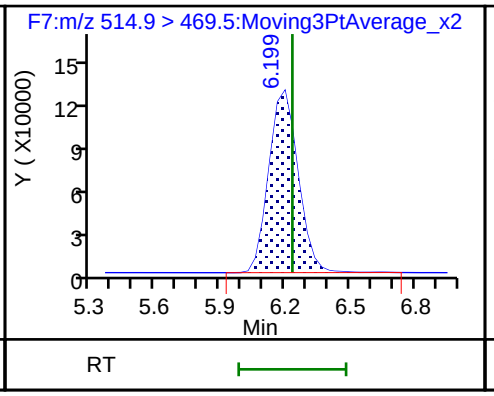
D 24 M2-8:2 FTS



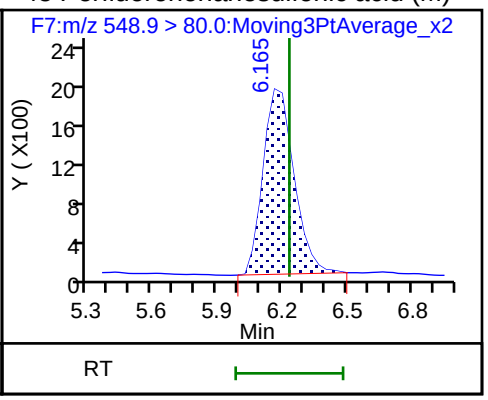
23 1H,1H,2H,2H-perfluorodecanesulfon



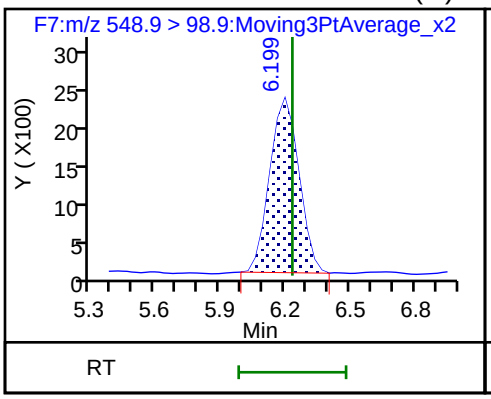
D 25 13C2 PFDA



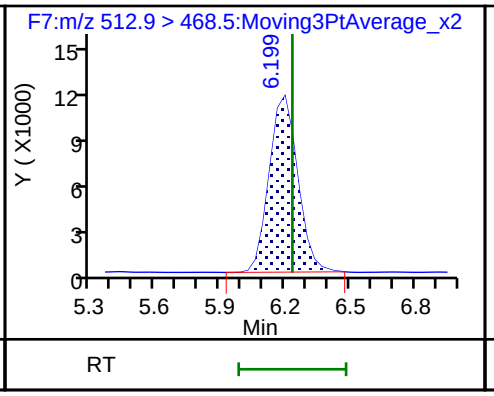
45 Perfluorononanesulfonic acid (M)



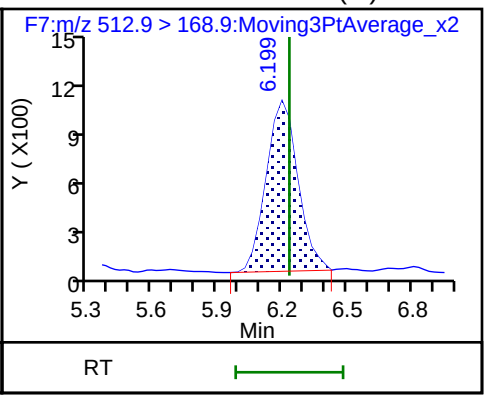
45 Perfluorononanesulfonic acid (M)



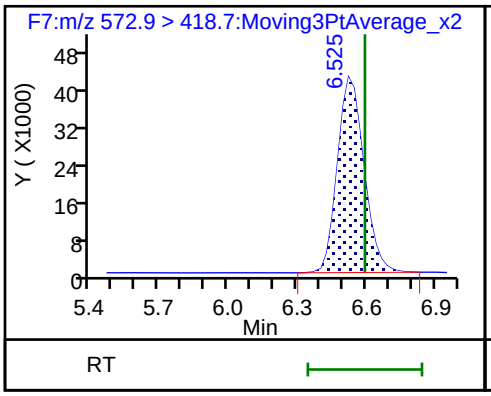
26 Perfluorodecanoic acid



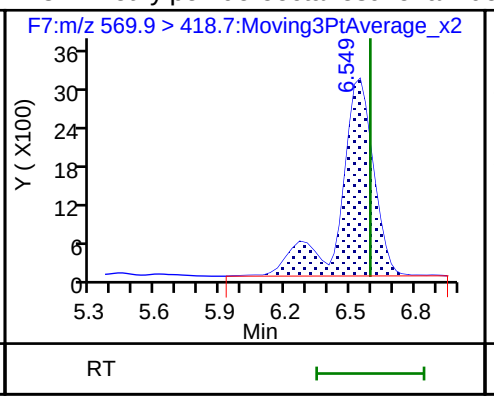
26 Perfluorodecanoic acid (M)



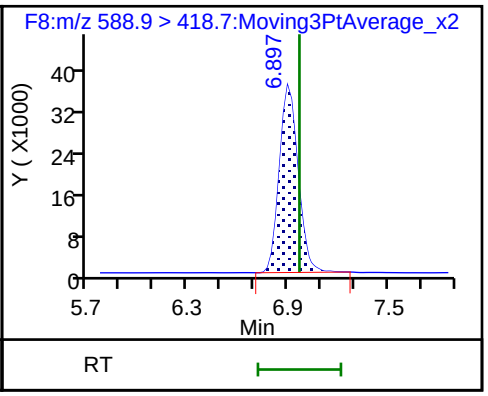
D 27 d3-NMeFOSAA



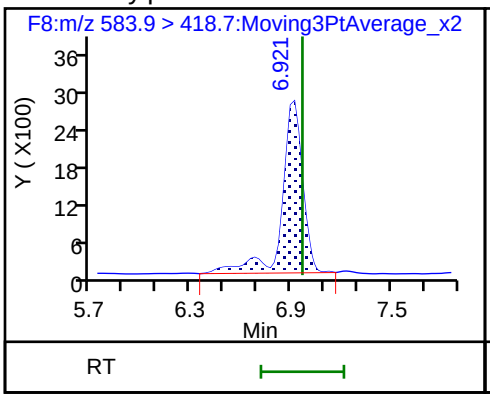
28 N-methylperfluorooctanesulfonamido



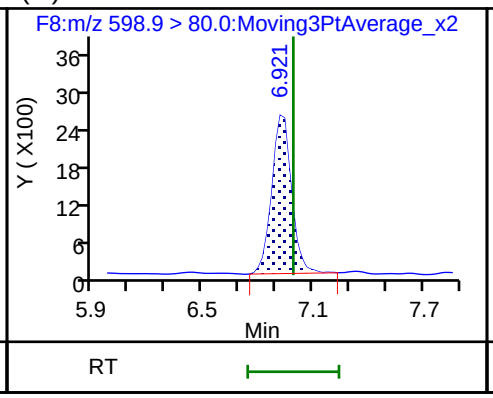
D 29 d5-NEtFOSAA



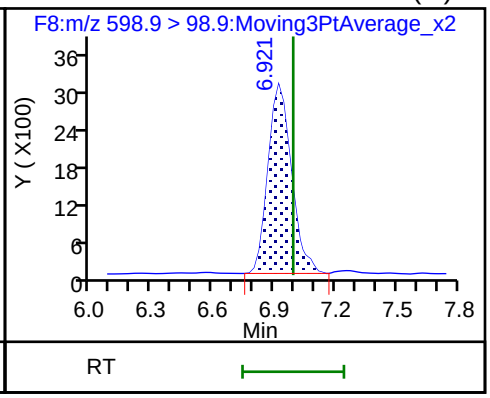
30 N-ethylperfluorooctanesulfonamidoa (M)



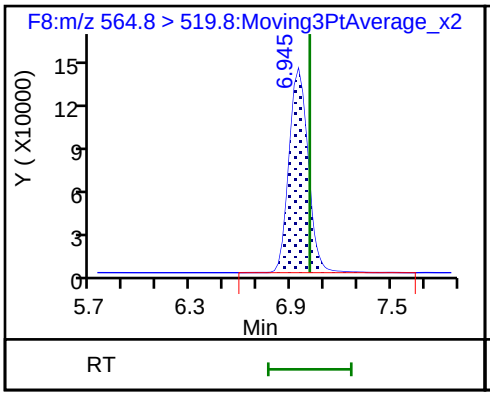
31 Perfluorodecanesulfonic acid



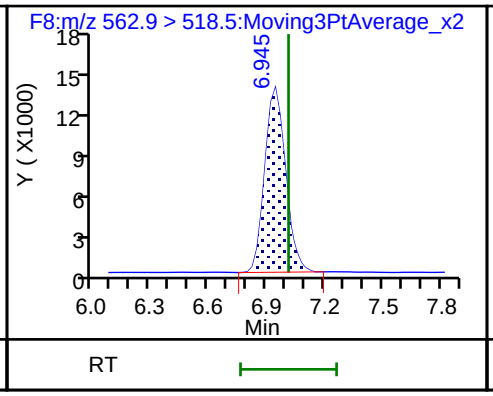
31 Perfluorodecanesulfonic acid (M)



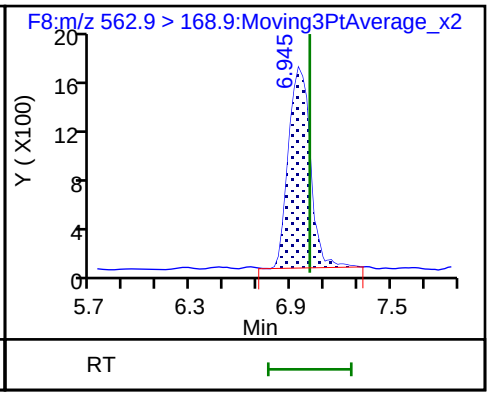
D 33 13C2 PFUnA



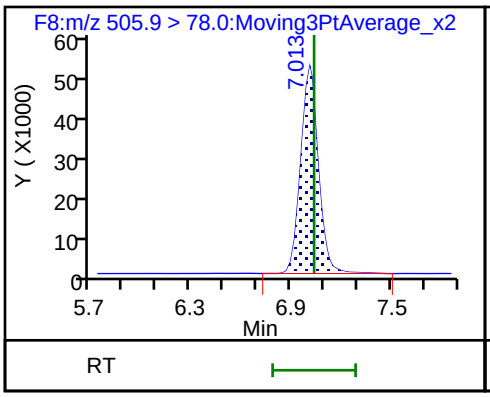
32 Perfluoroundecanoic acid



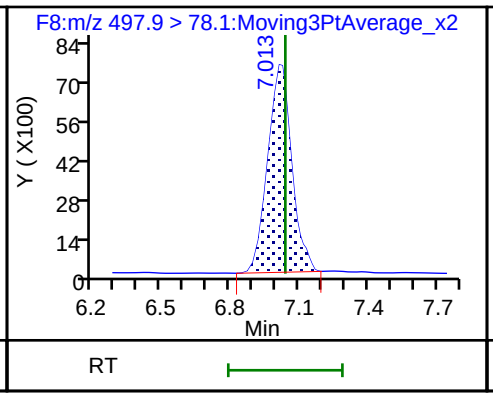
32 Perfluoroundecanoic acid



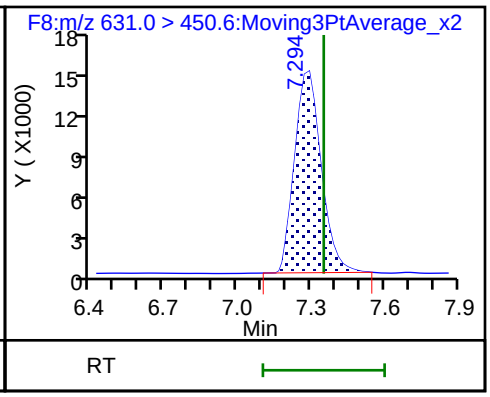
D 34 13C8 FOSA



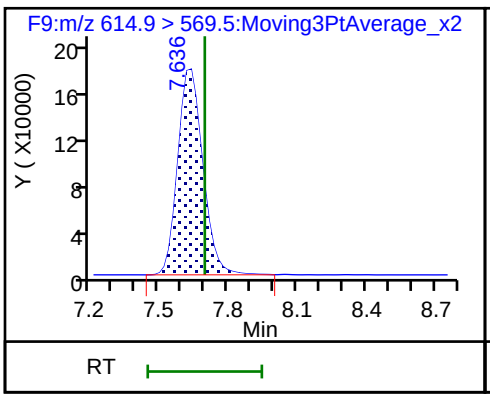
35 Perfluorooctanesulfonamide



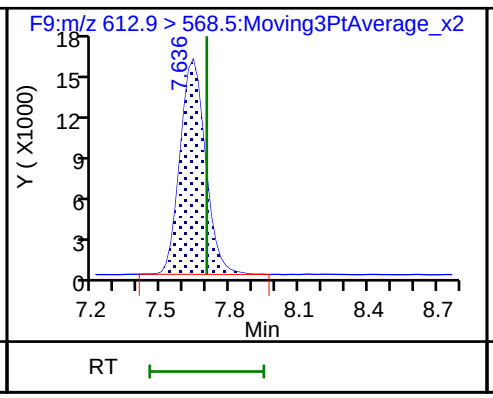
43 11-Chloroeicosafluoro-3-oxaundecan



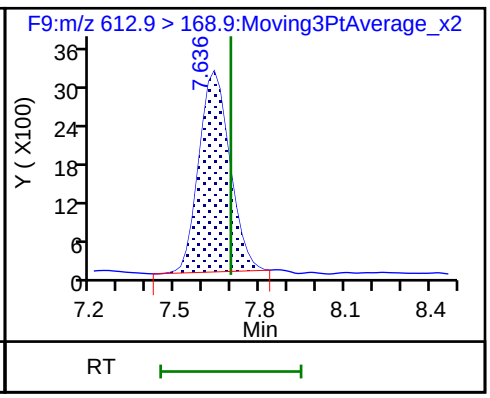
D 37 13C2 PFDoA



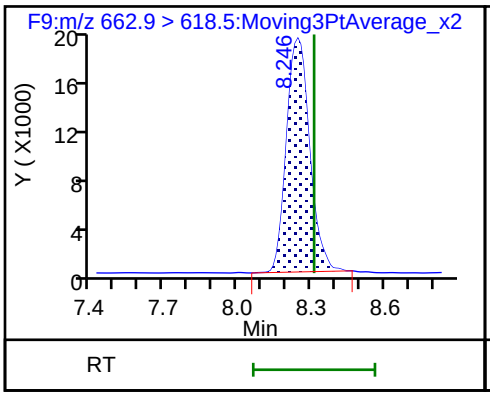
36 Perfluorododecanoic acid



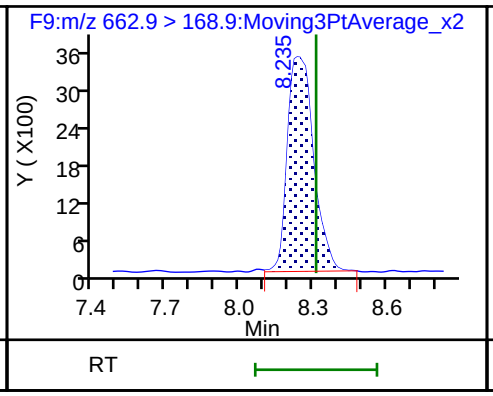
36 Perfluorododecanoic acid



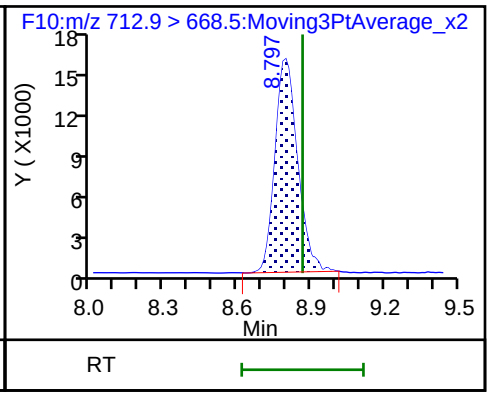
38 Perfluorotridecanoic acid



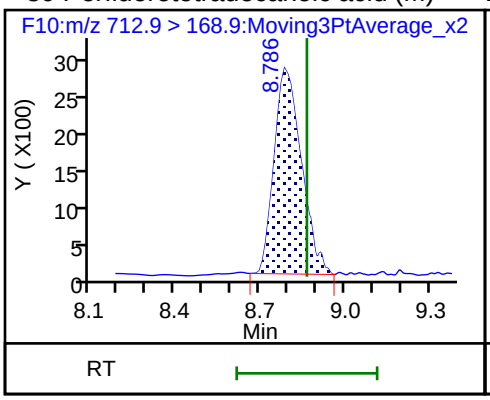
38 Perfluorotridecanoic acid



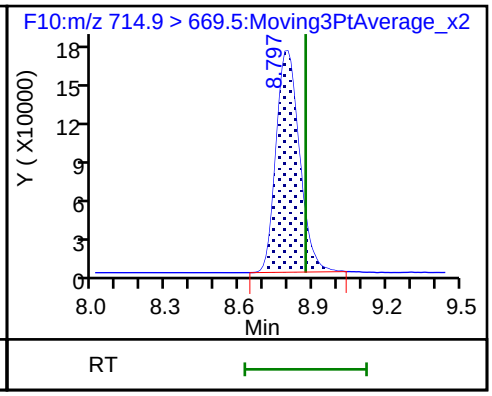
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid (M)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

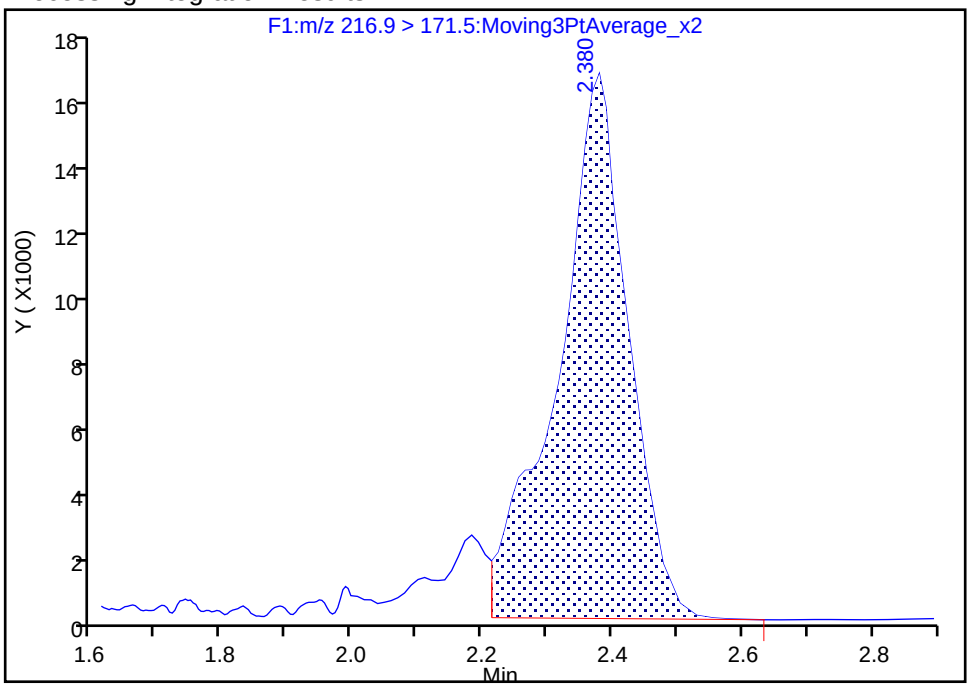
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

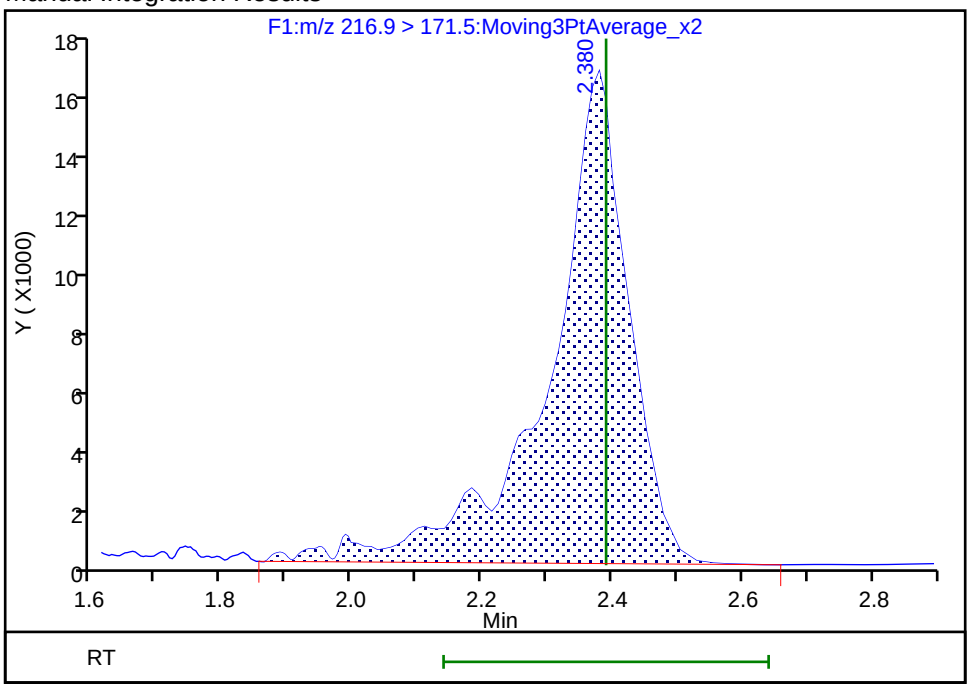
Processing Integration Results

RT: 2.38
Area: 120116
Amount: 24.493596
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 137358
Amount: 28.009519
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:52:59
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

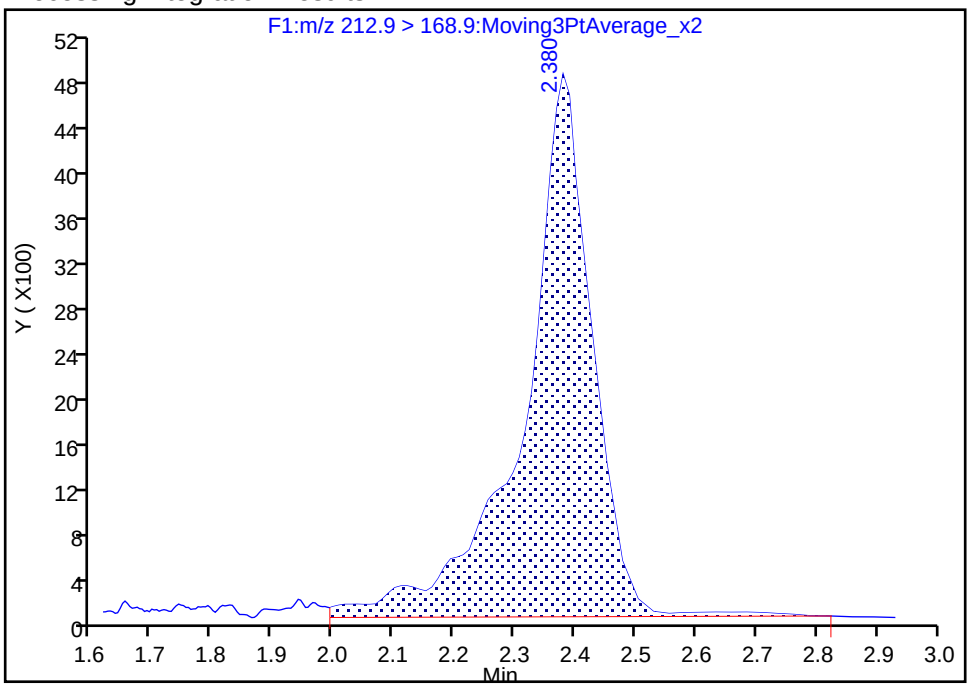
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

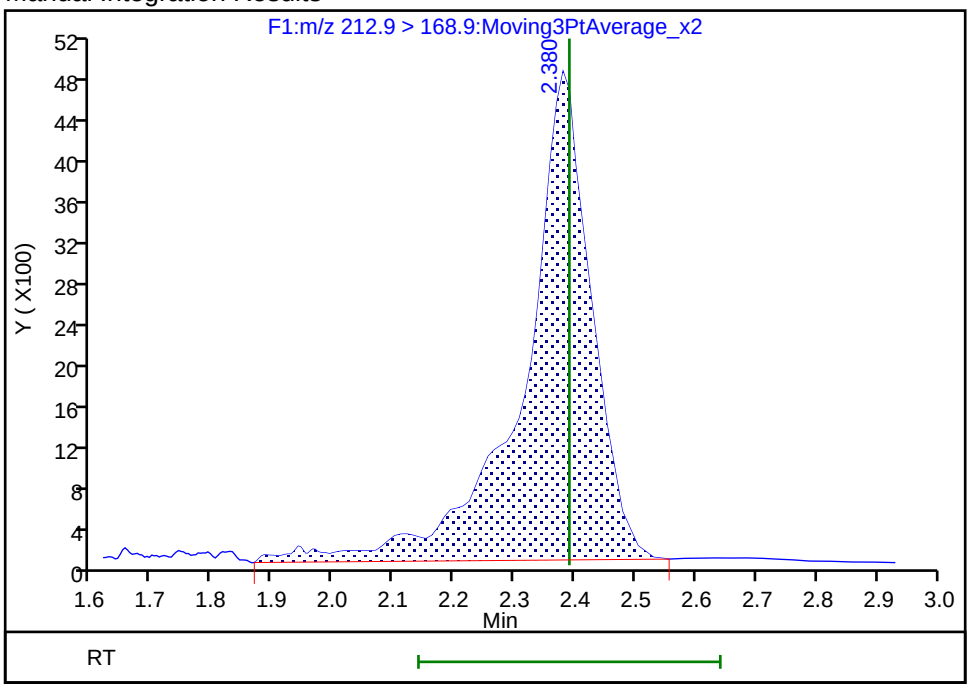
Processing Integration Results

RT: 2.38
Area: 37101
Amount: 8.602110
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 36797
Amount: 8.531626
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:53:06
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

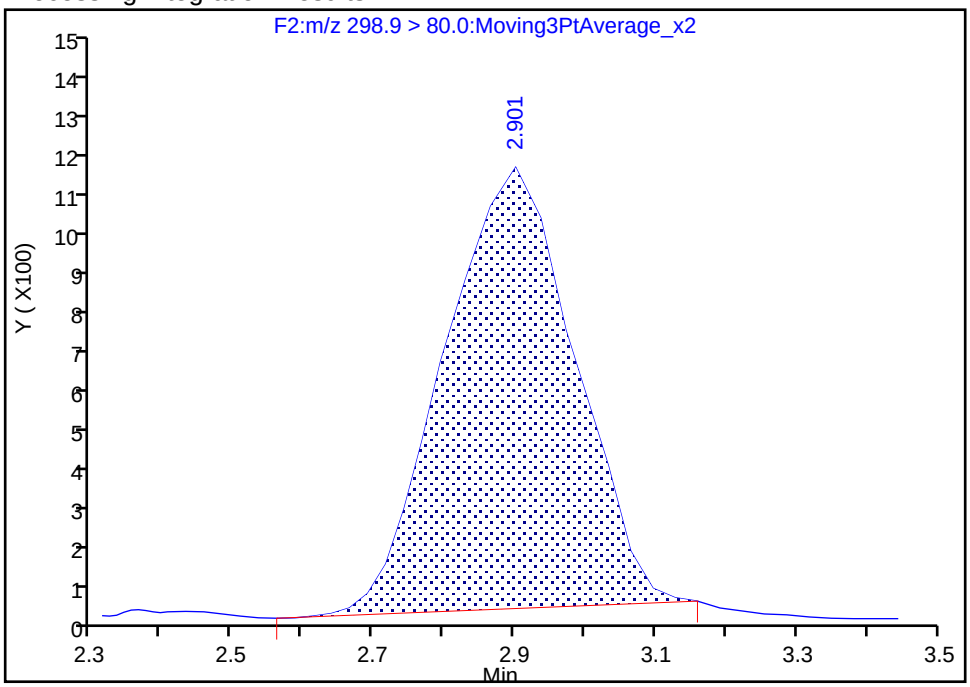
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

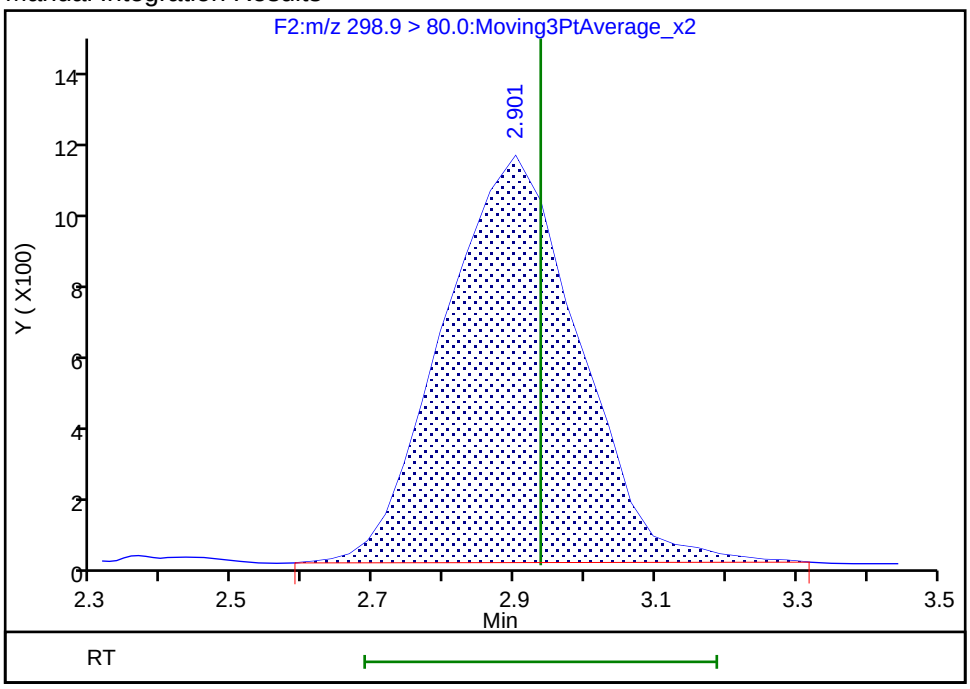
Processing Integration Results

RT: 2.90
Area: 13266
Amount: 3.838452
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 14048
Amount: 4.064720
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:53:18
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

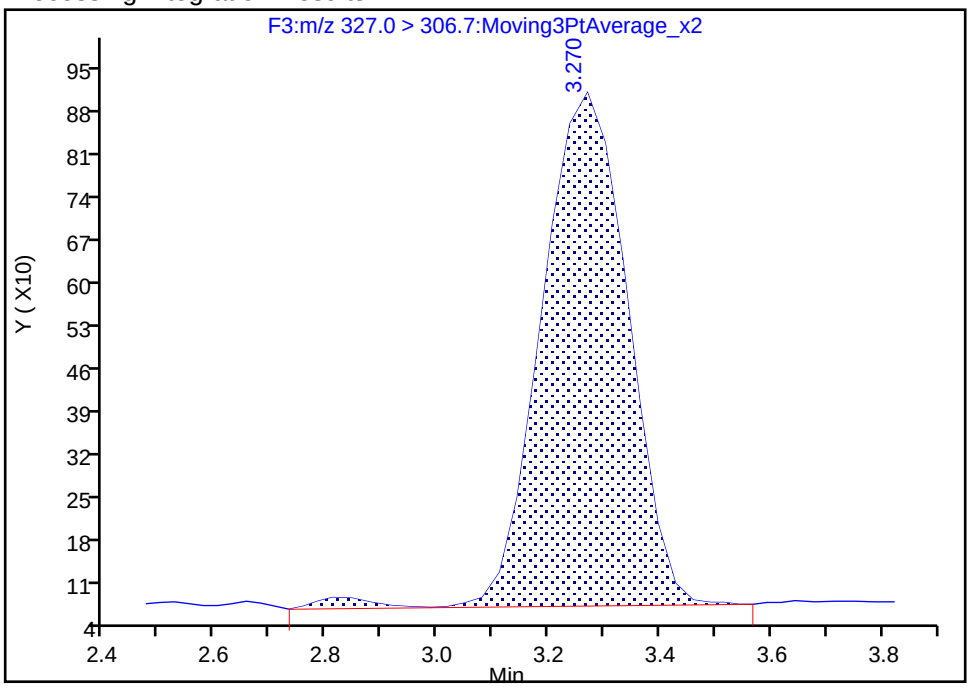
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

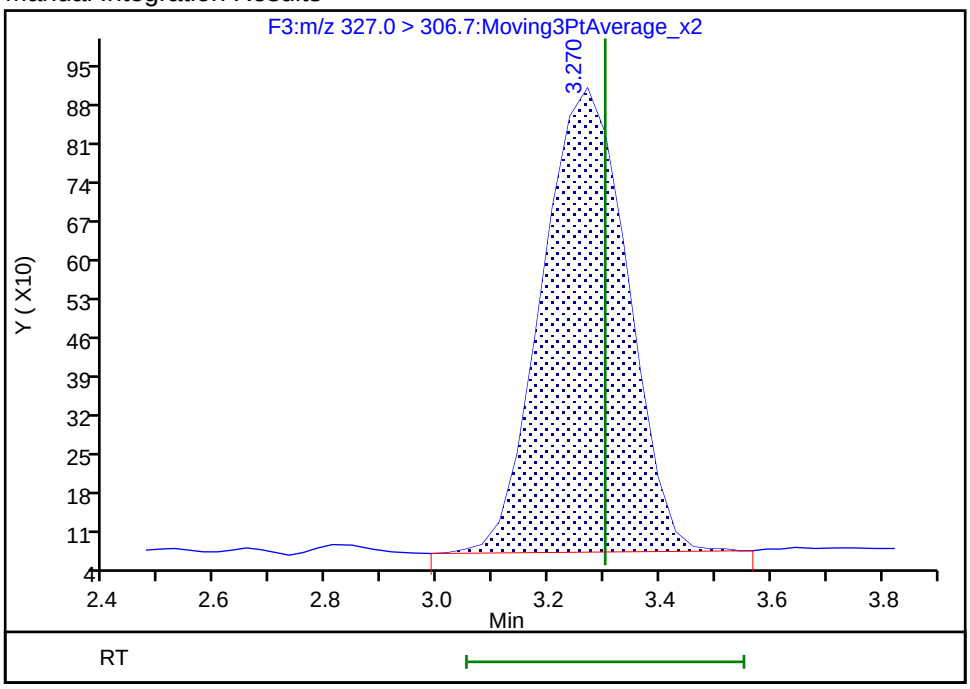
Processing Integration Results

RT: 3.27
Area: 9039
Amount: 4.962168
Amount Units: ng/ml



Manual Integration Results

RT: 3.27
Area: 8899
Amount: 4.885312
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:53:23
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

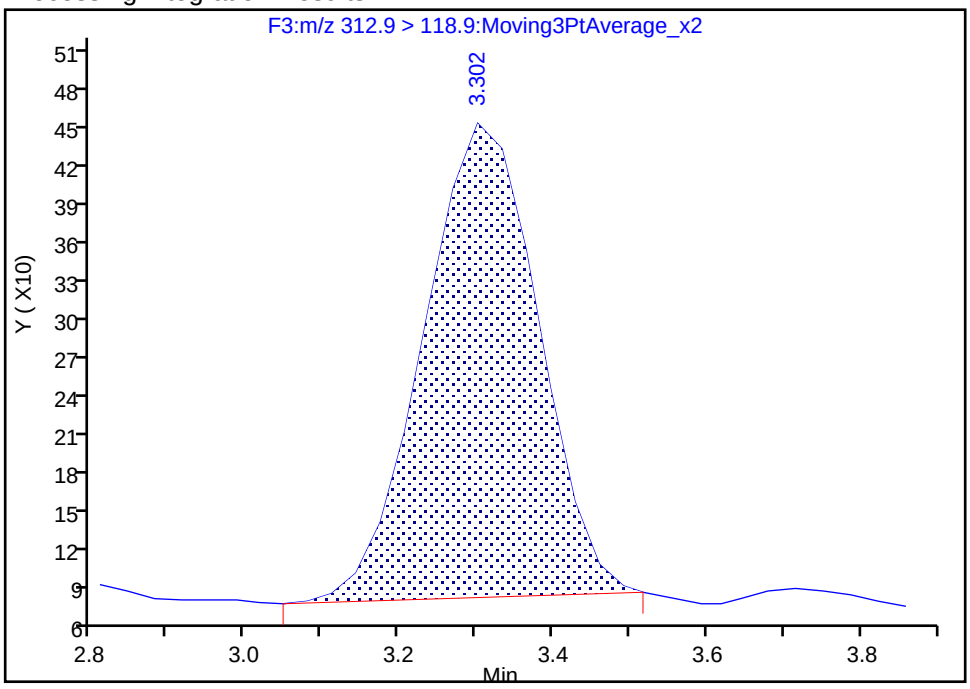
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

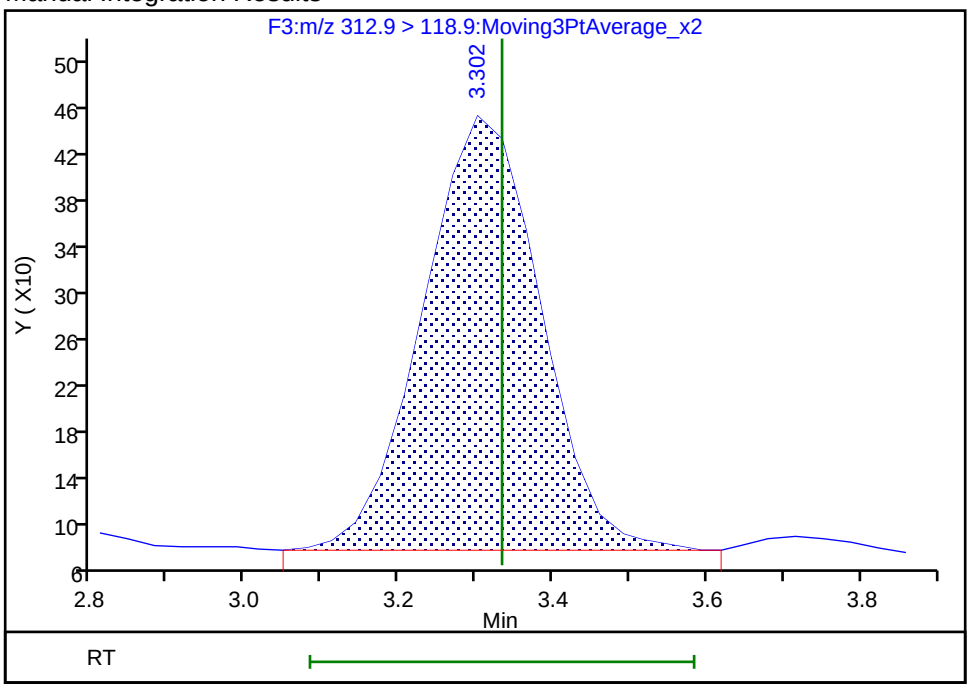
Processing Integration Results

RT: 3.30
Area: 3854
Amount: 5.068081
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 4001
Amount: 5.068081
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:53:29
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

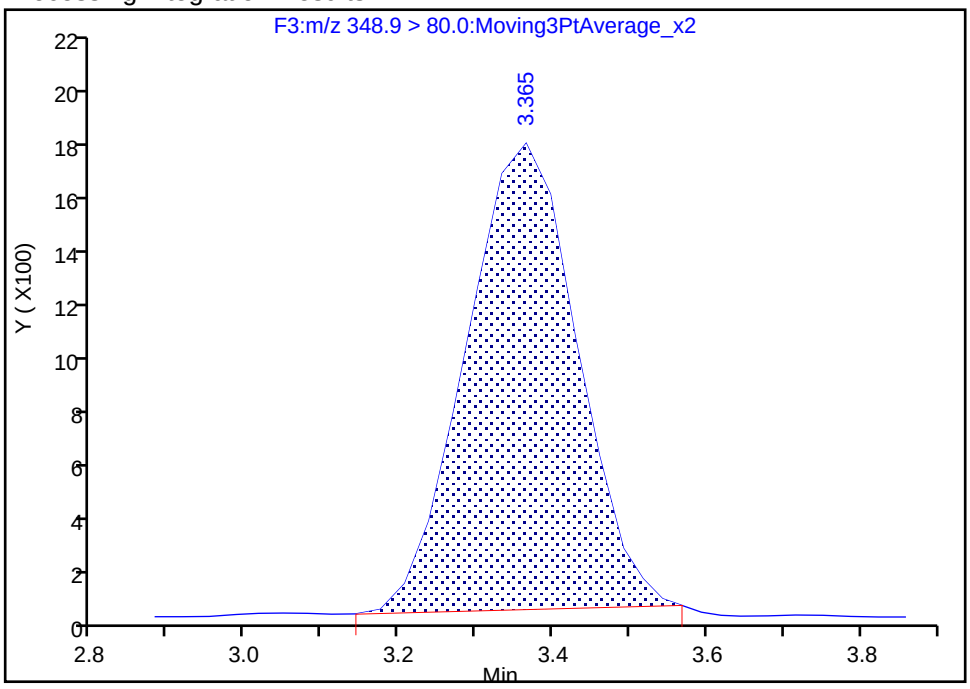
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 1

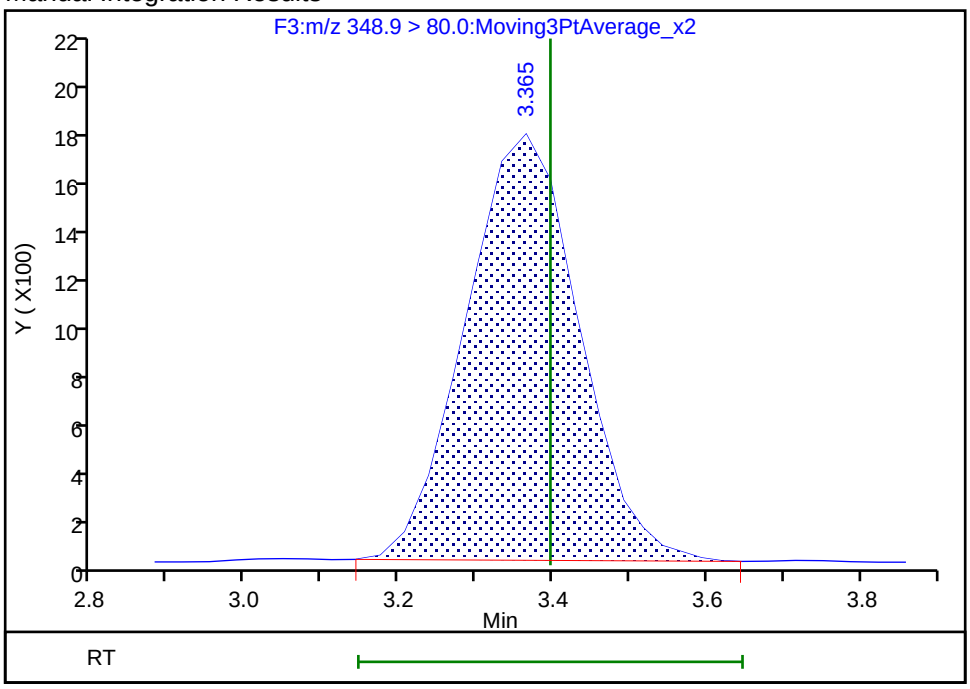
Processing Integration Results

RT: 3.37
Area: 16648
Amount: 4.261527
Amount Units: ng/ml



Manual Integration Results

RT: 3.37
Area: 17156
Amount: 4.391564
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:53:33
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

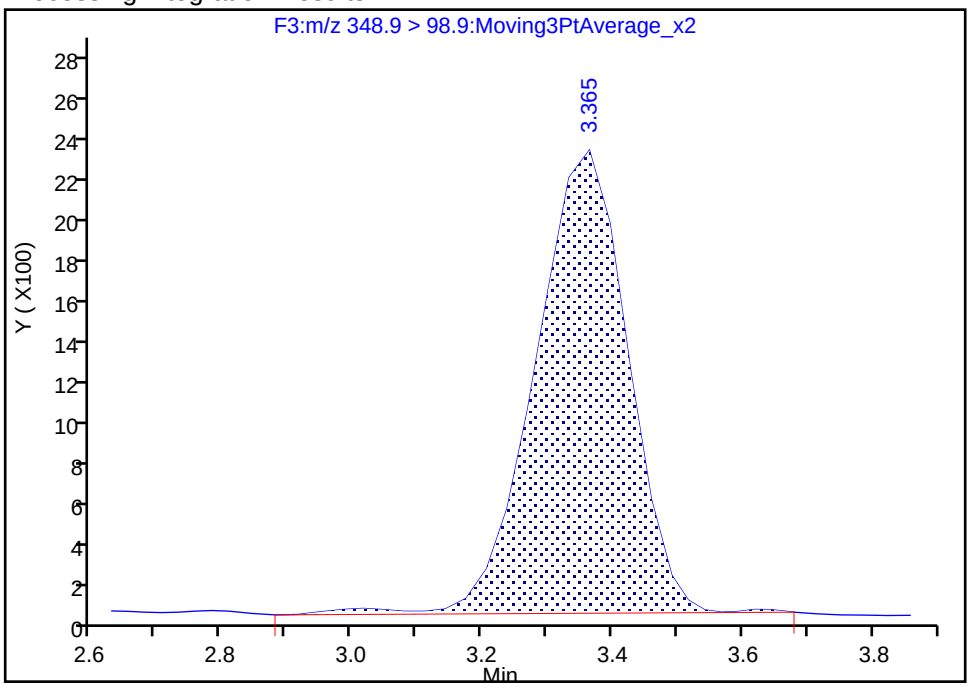
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 2

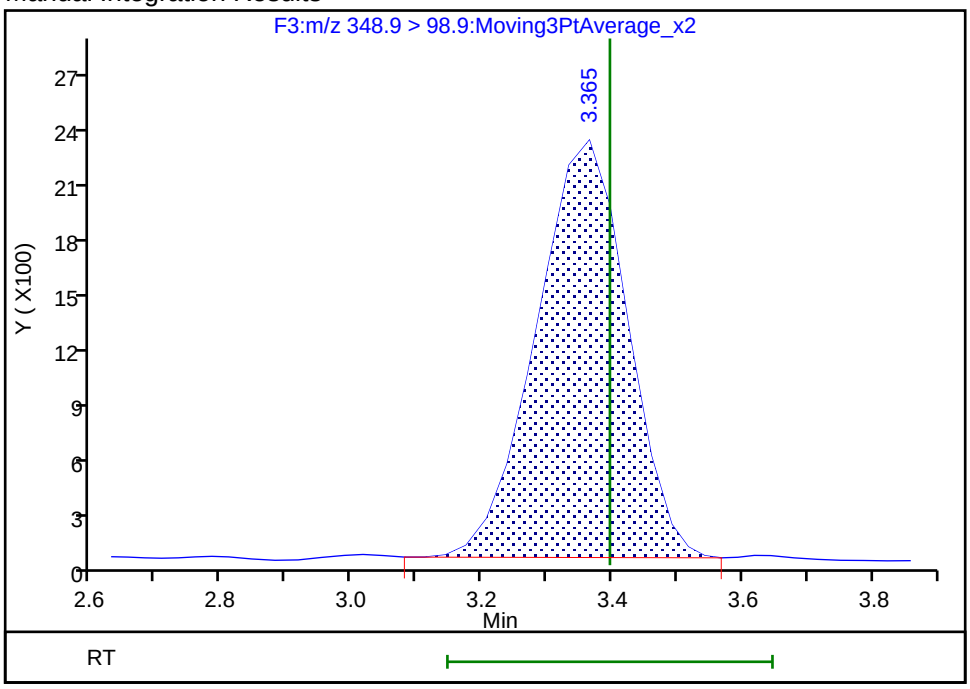
Processing Integration Results

RT: 3.37
Area: 22070
Amount: 4.261527
Amount Units: ng/ml



Manual Integration Results

RT: 3.37
Area: 21603
Amount: 4.391564
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:53:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

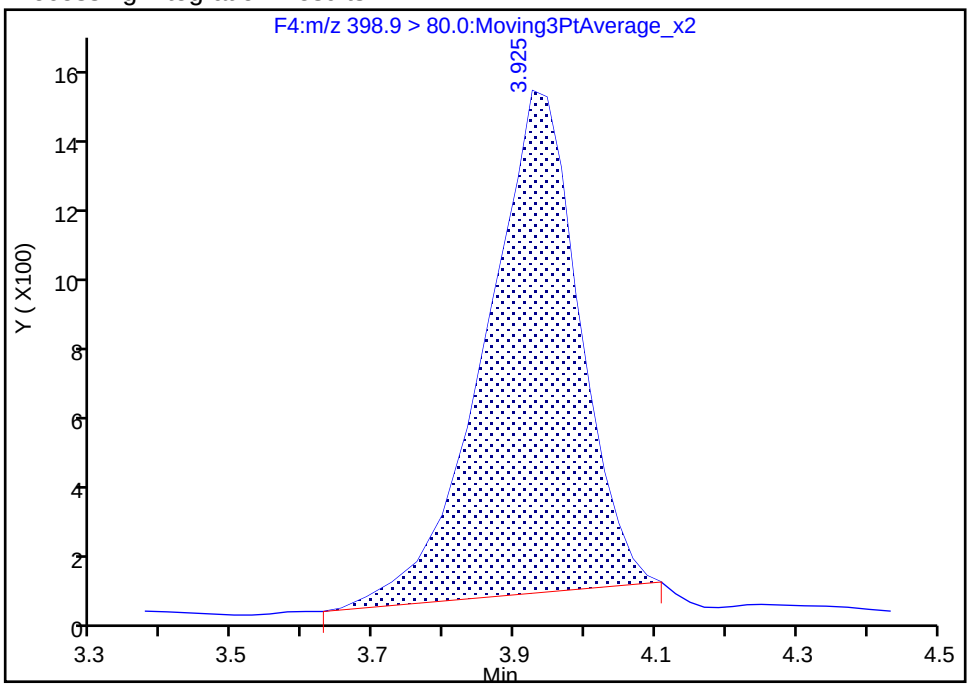
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

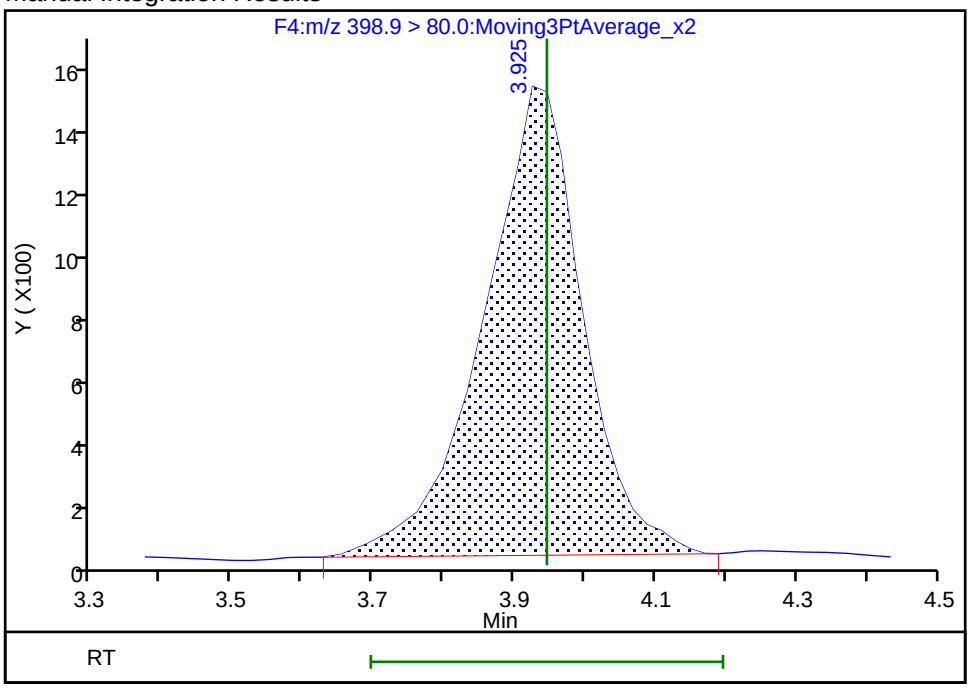
Processing Integration Results

RT: 3.93
Area: 13100
Amount: 4.083890
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 14275
Amount: 4.450193
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:53:47
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

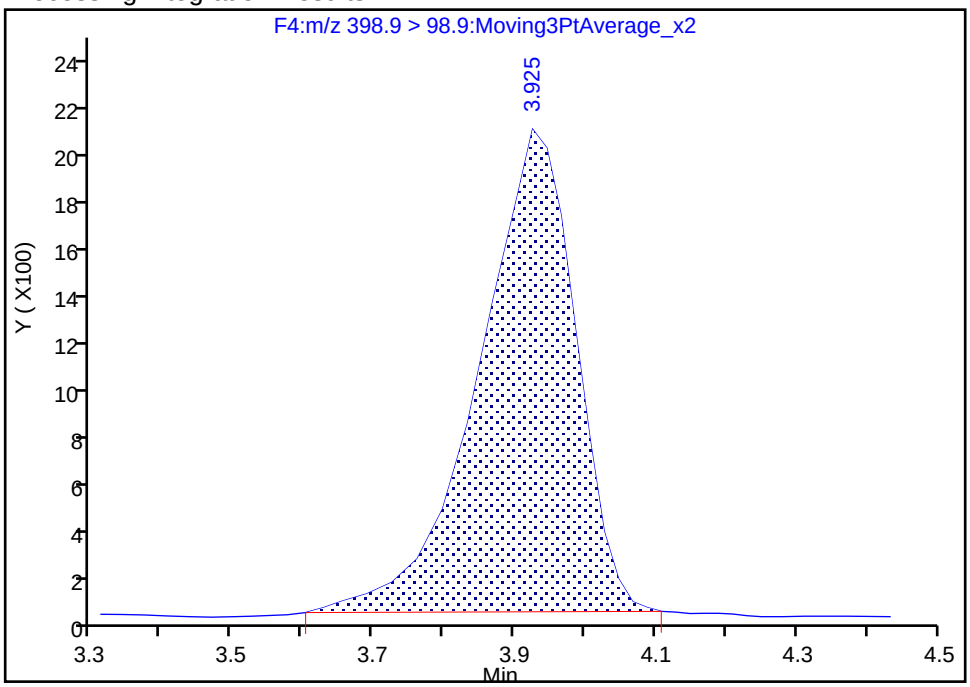
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

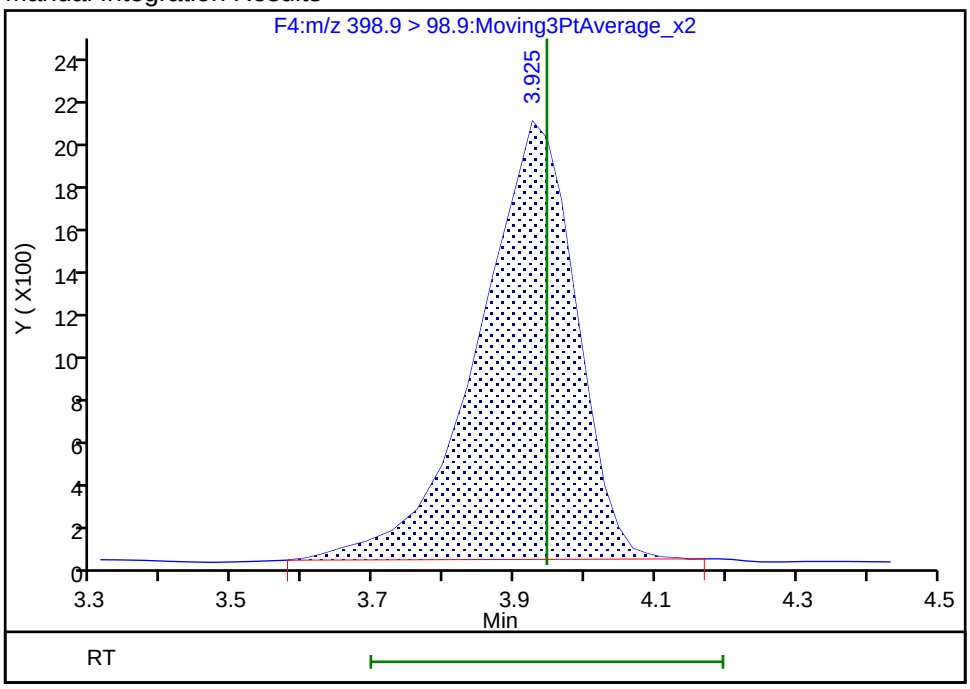
Processing Integration Results

RT: 3.93
Area: 19038
Amount: 4.083890
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 19319
Amount: 4.450193
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:53:50
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

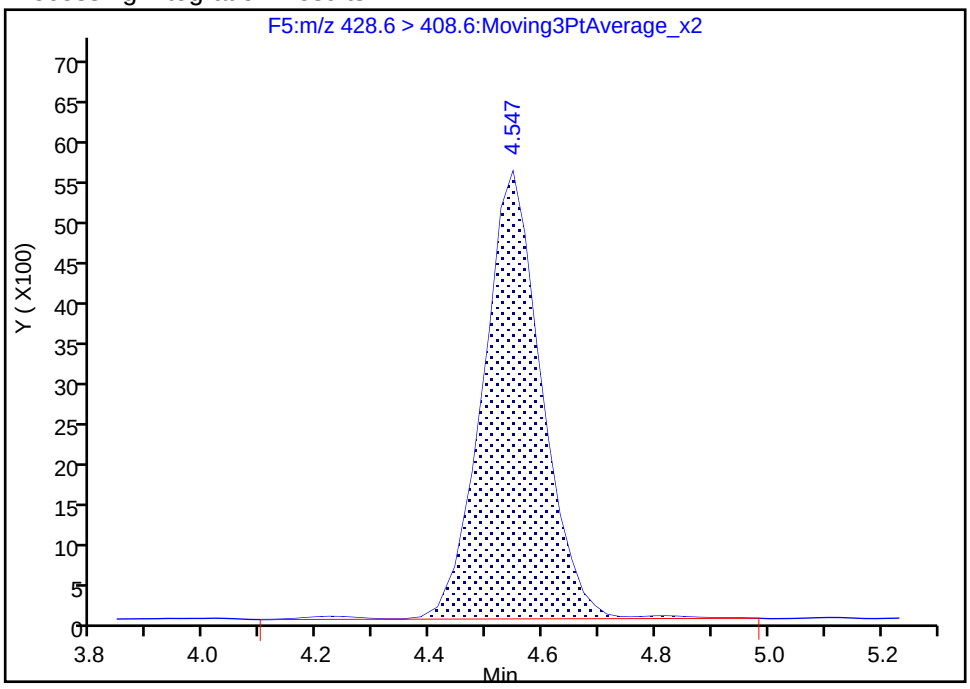
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

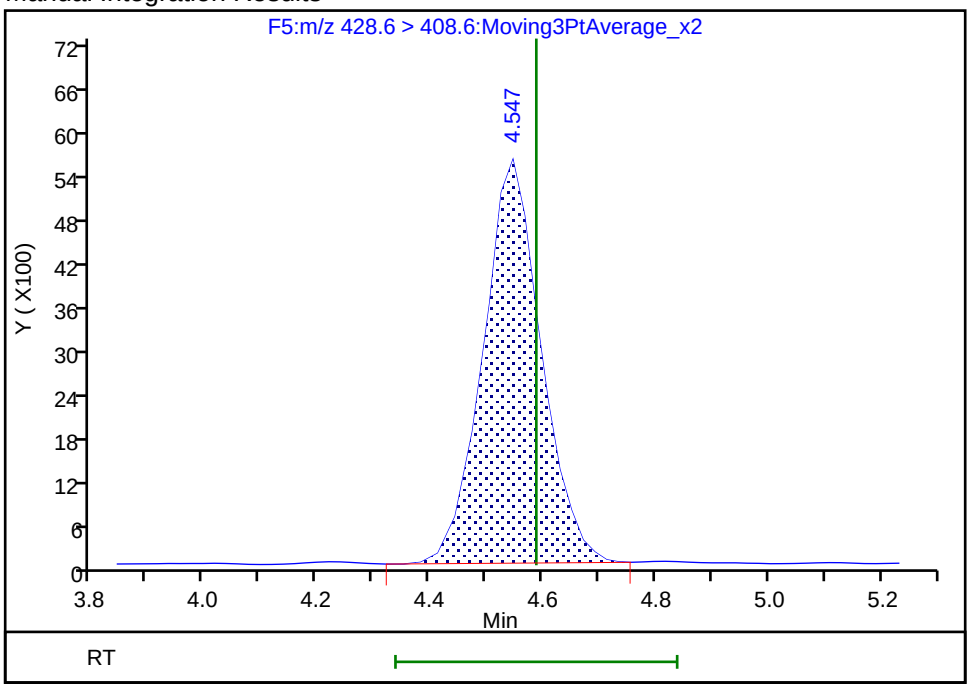
Processing Integration Results

RT: 4.55
Area: 40208
Amount: 35.984479
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 39502
Amount: 35.352639
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:53:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

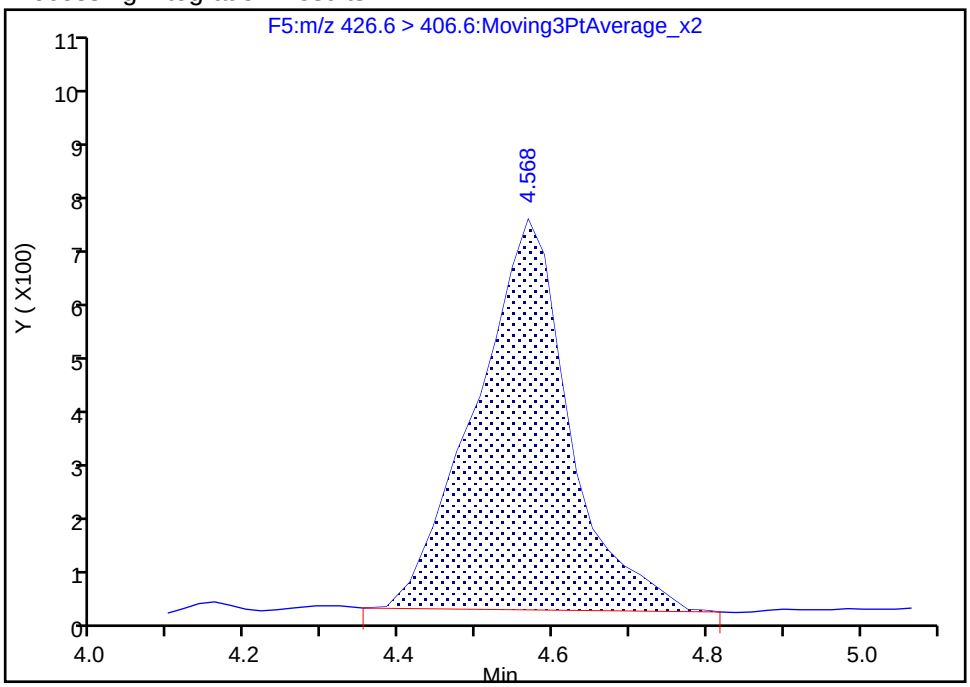
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

13 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

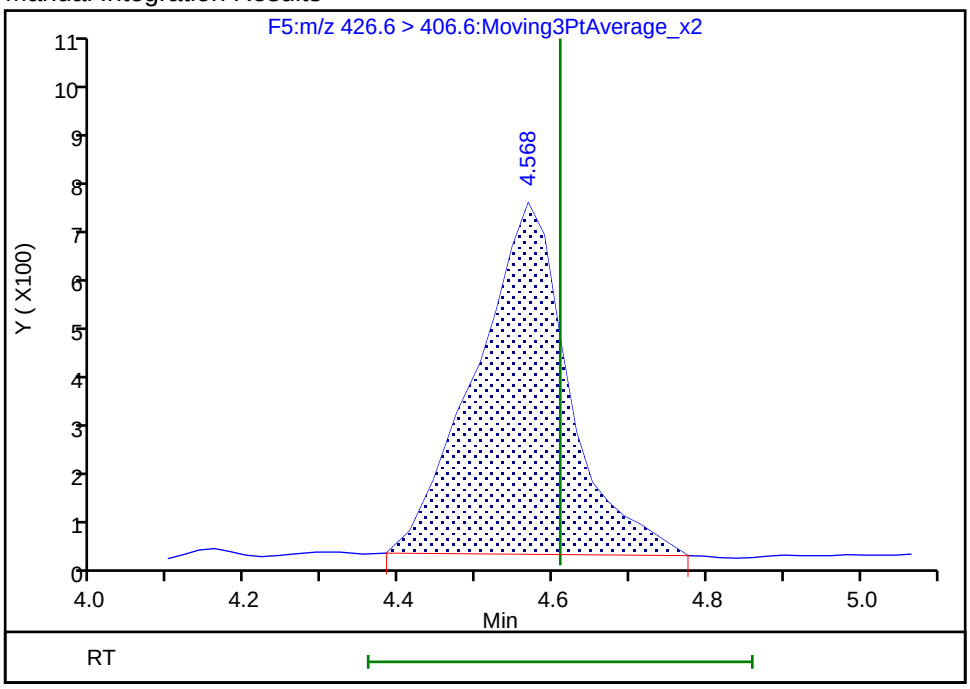
Processing Integration Results

RT: 4.57
Area: 5919
Amount: 7.530727
Amount Units: ng/ml



Manual Integration Results

RT: 4.57
Area: 5843
Amount: 7.434032
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:55:55
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

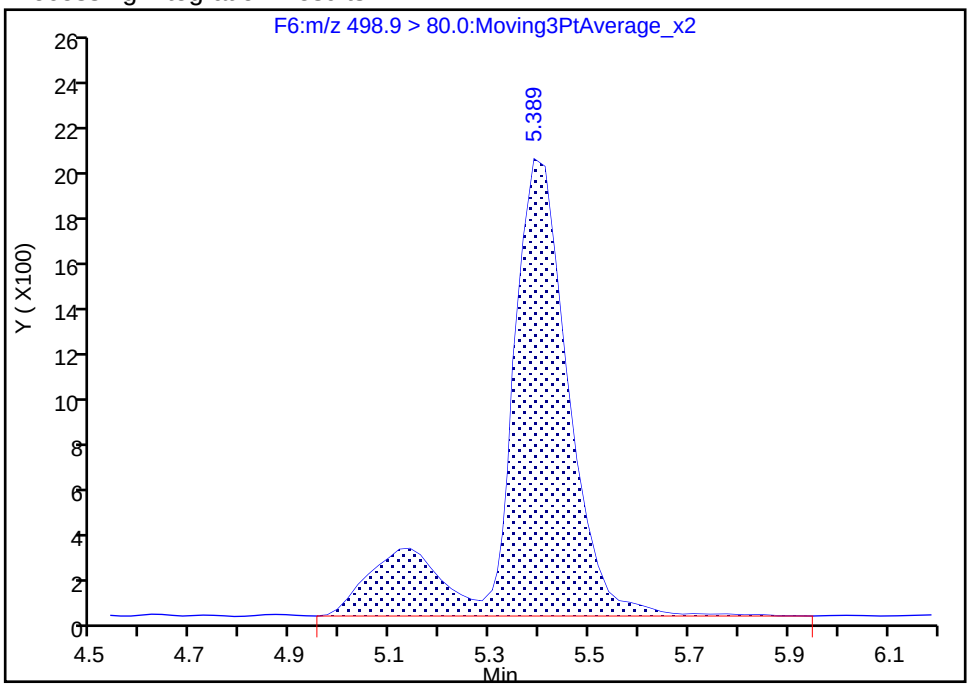
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

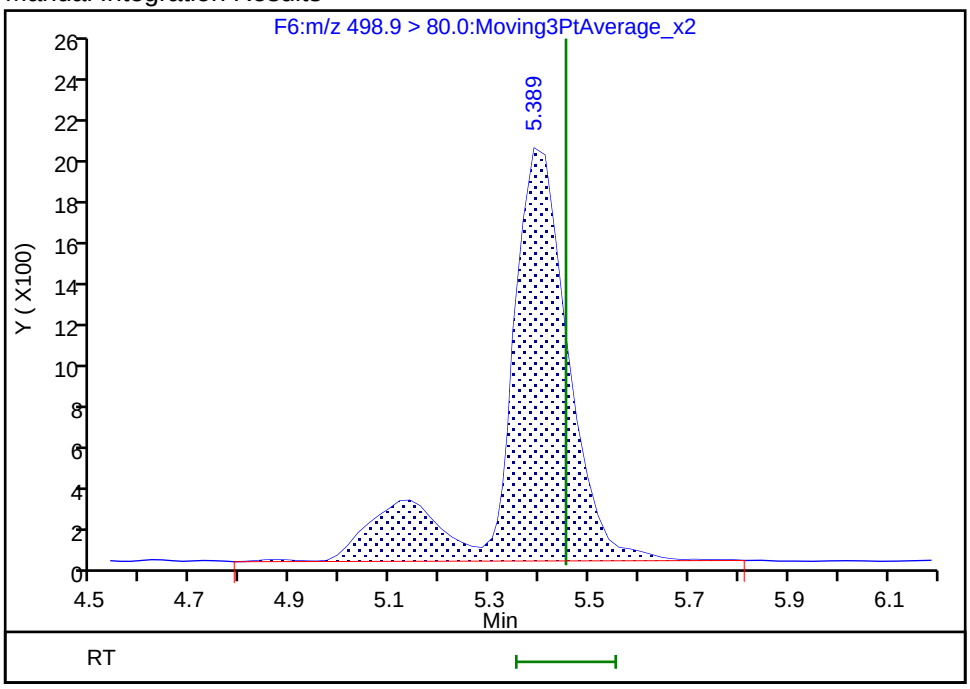
Processing Integration Results

RT: 5.39
Area: 17722
Amount: 4.646231
Amount Units: ng/ml



Manual Integration Results

RT: 5.39
Area: 17670
Amount: 4.632598
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:54:15
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

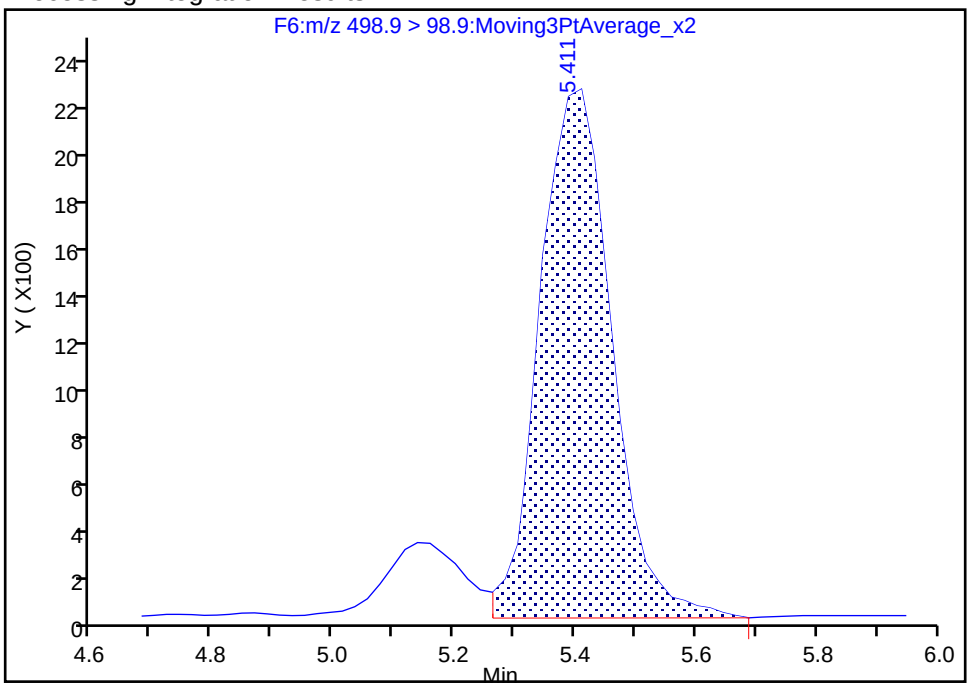
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

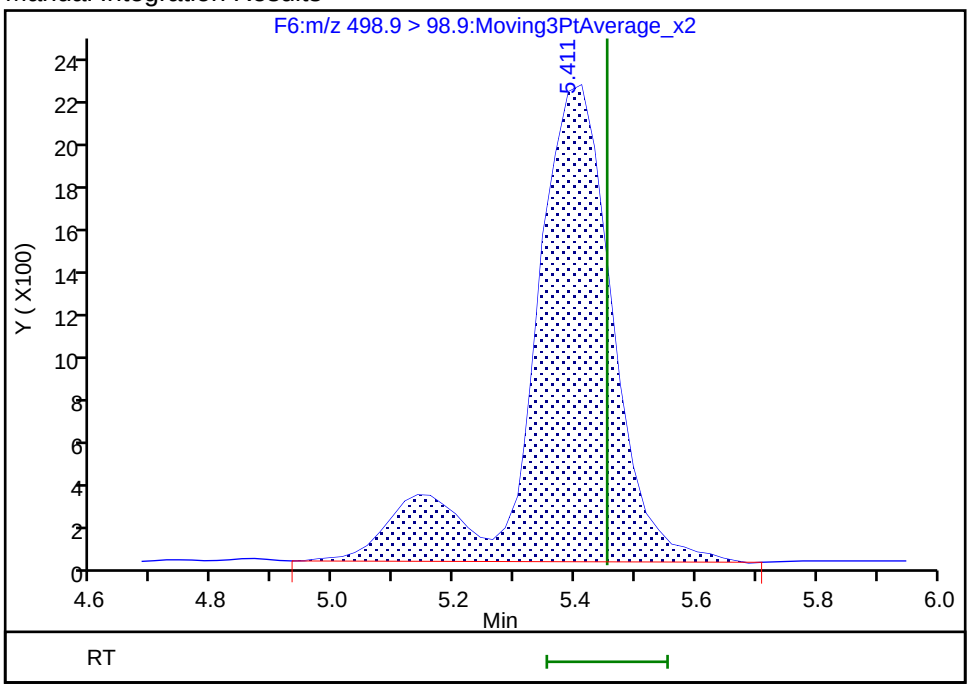
Processing Integration Results

RT: 5.41
Area: 17676
Amount: 4.646231
Amount Units: ng/ml



Manual Integration Results

RT: 5.41
Area: 20163
Amount: 4.632598
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:54:20
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

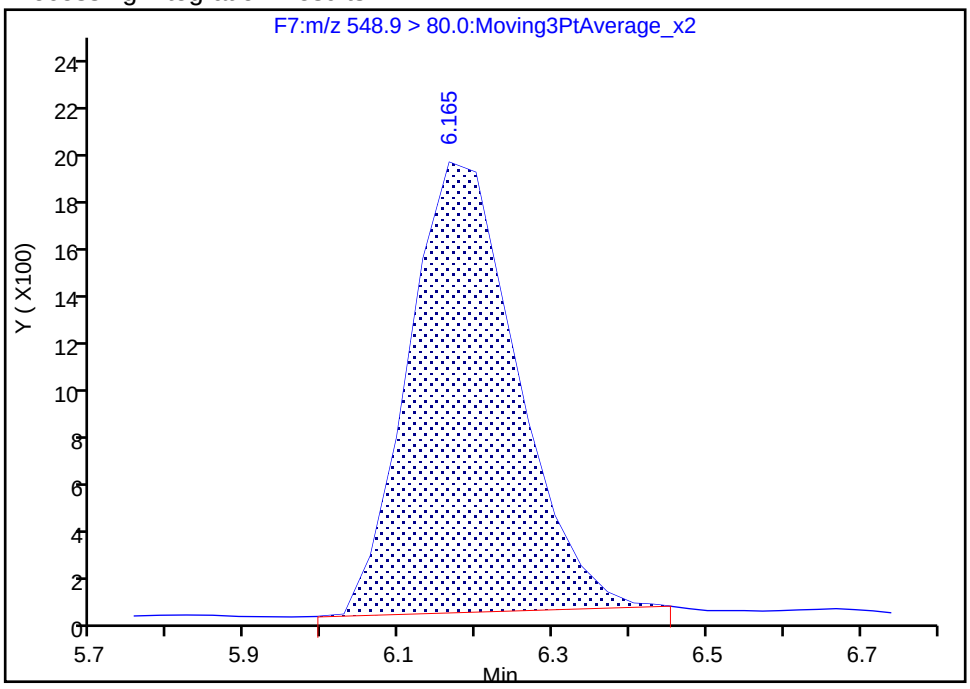
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d				
Injection Date:	31-May-2019 05:27:55	Instrument ID:	LC410		
Lims ID:	CCV L3				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	64
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

45 Perfluorononanesulfonic acid, CAS: 68259-12-1

Signal: 1

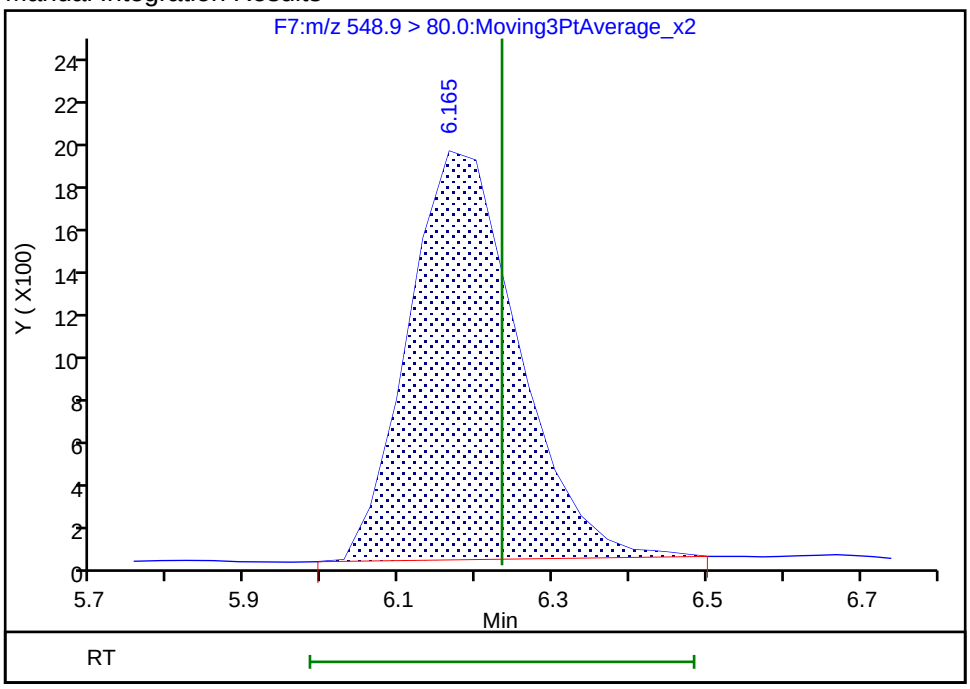
Processing Integration Results

RT: 6.17
Area: 18042
Amount: 4.710807
Amount Units: ng/ml



Manual Integration Results

RT: 6.17
Area: 18322
Amount: 4.783916
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:54:32

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

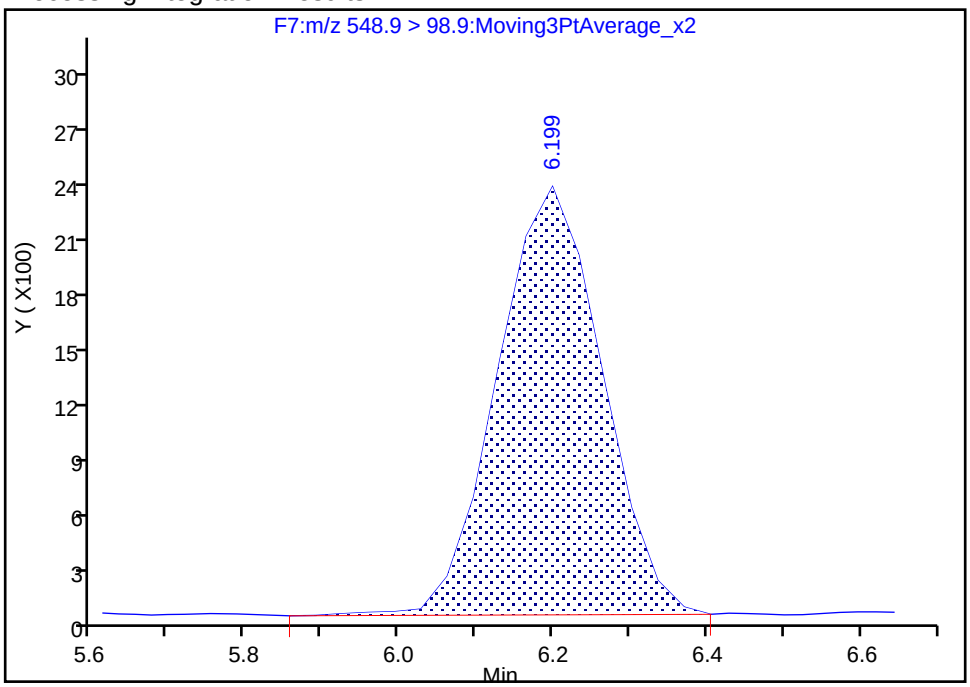
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

45 Perfluorononanesulfonic acid, CAS: 68259-12-1

Signal: 2

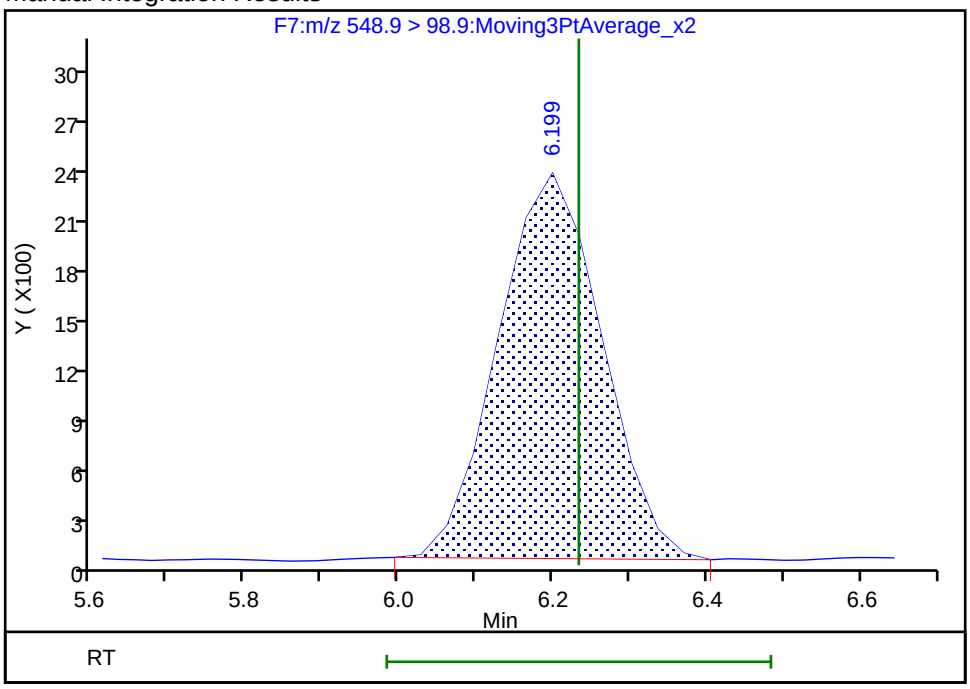
Processing Integration Results

RT: 6.20
Area: 21627
Amount: 4.710807
Amount Units: ng/ml



Manual Integration Results

RT: 6.20
Area: 21302
Amount: 4.783916
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:54:40
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

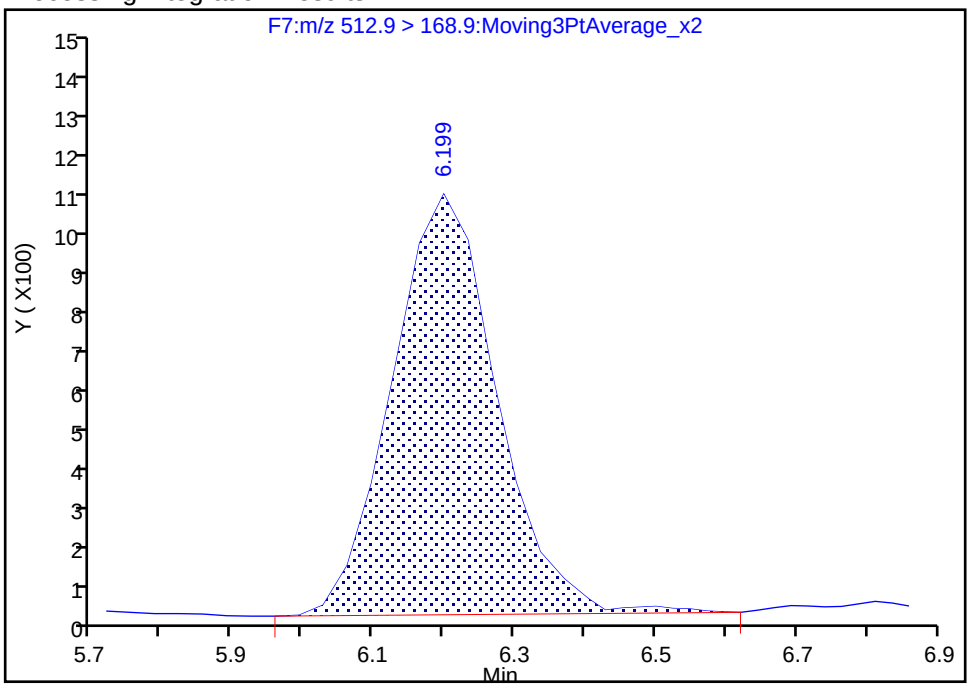
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

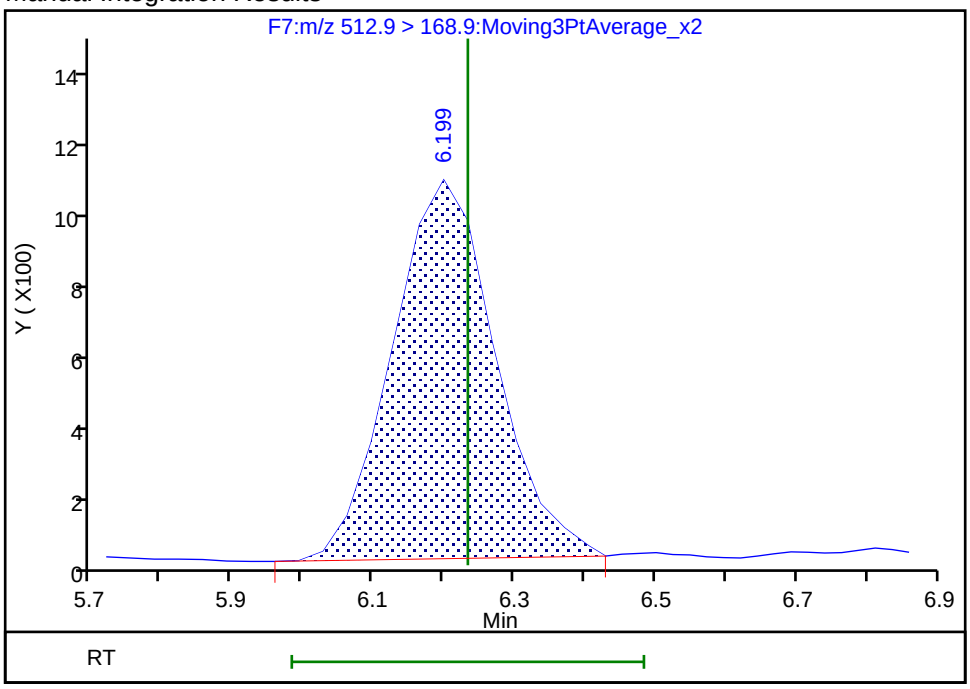
Processing Integration Results

RT: 6.20
Area: 10274
Amount: 4.907123
Amount Units: ng/ml



Manual Integration Results

RT: 6.20
Area: 10066
Amount: 4.907123
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:54:46
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

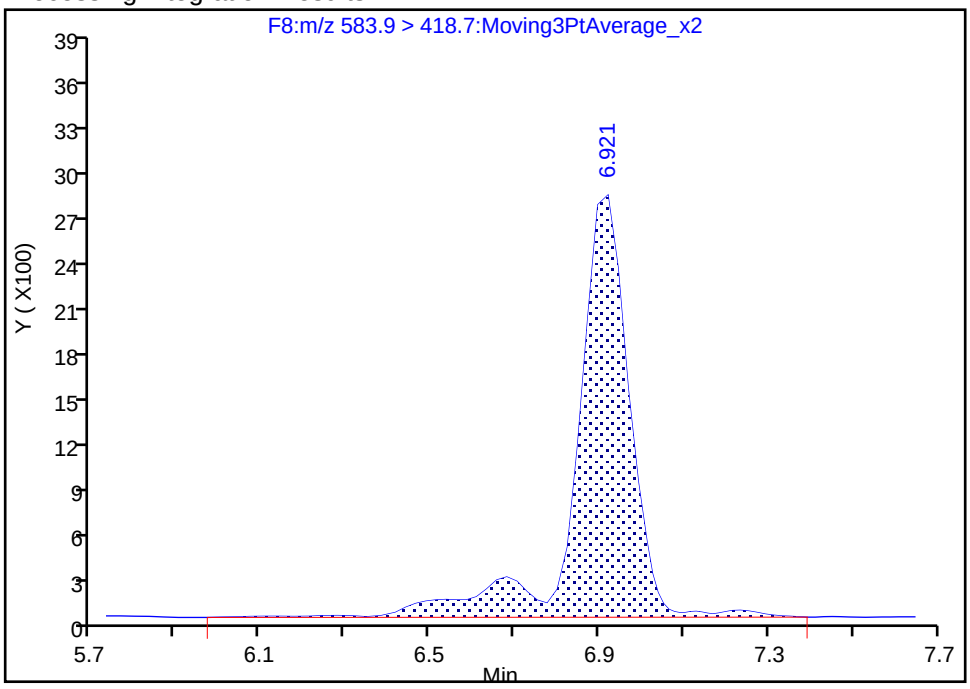
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

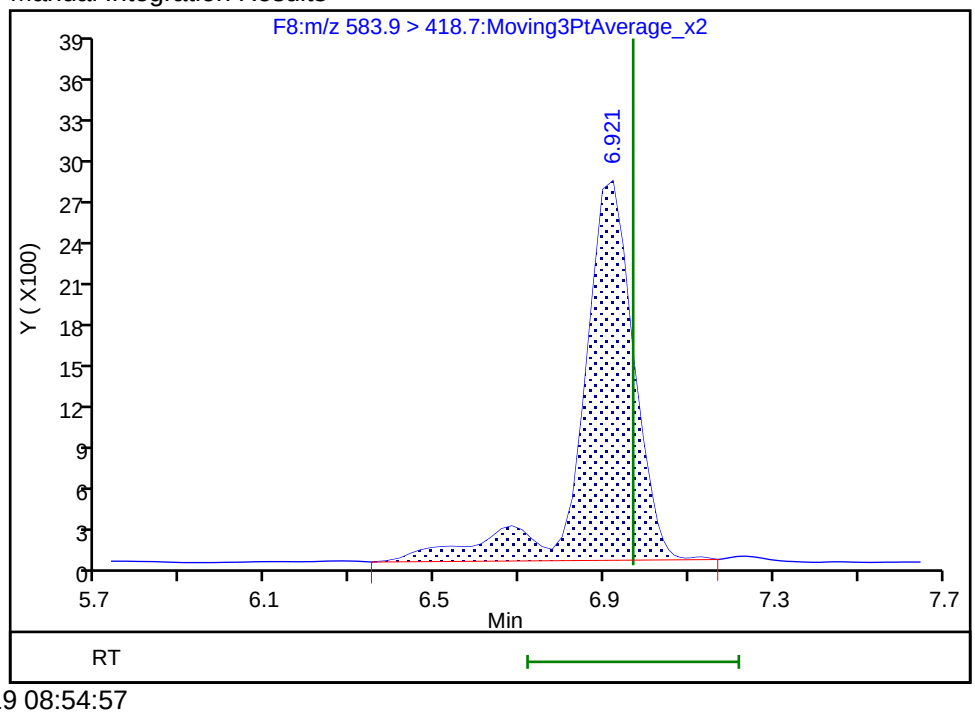
Processing Integration Results

RT: 6.92
Area: 24301
Amount: 5.301718
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 23275
Amount: 5.077877
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:54:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

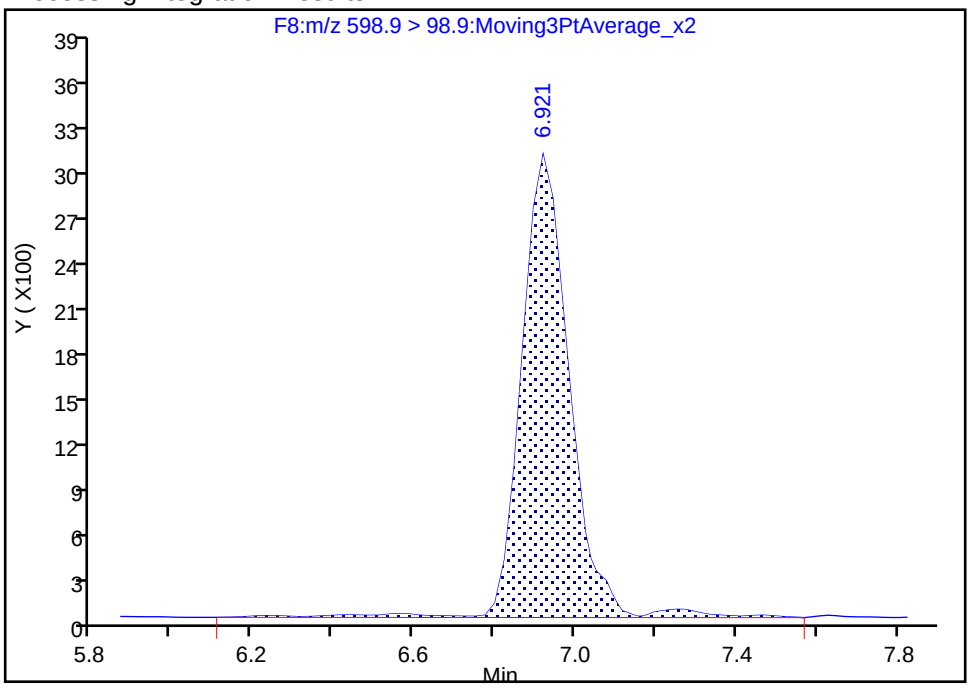
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 2

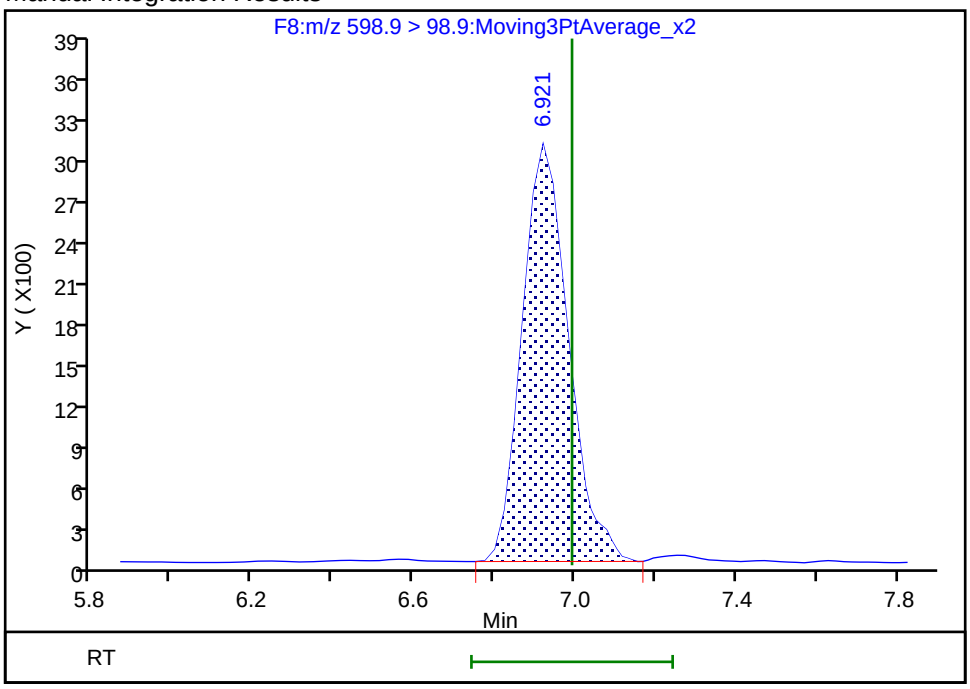
Processing Integration Results

RT: 6.92
Area: 25520
Amount: 4.570723
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 24329
Amount: 4.570723
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:55:04
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

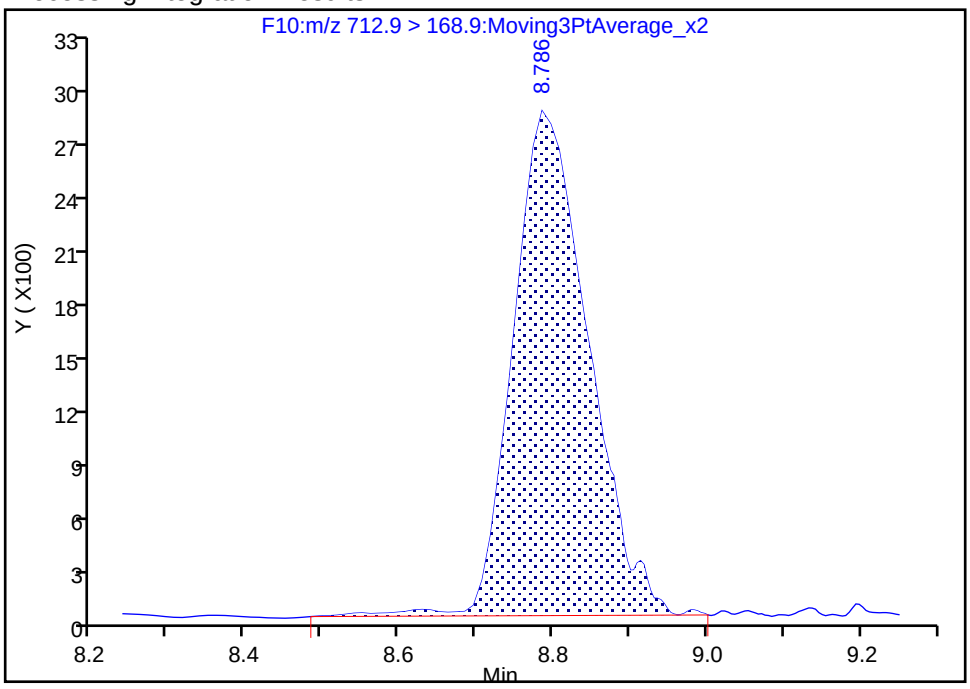
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B64.d
Injection Date: 31-May-2019 05:27:55 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 64
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F10:MRM

39 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

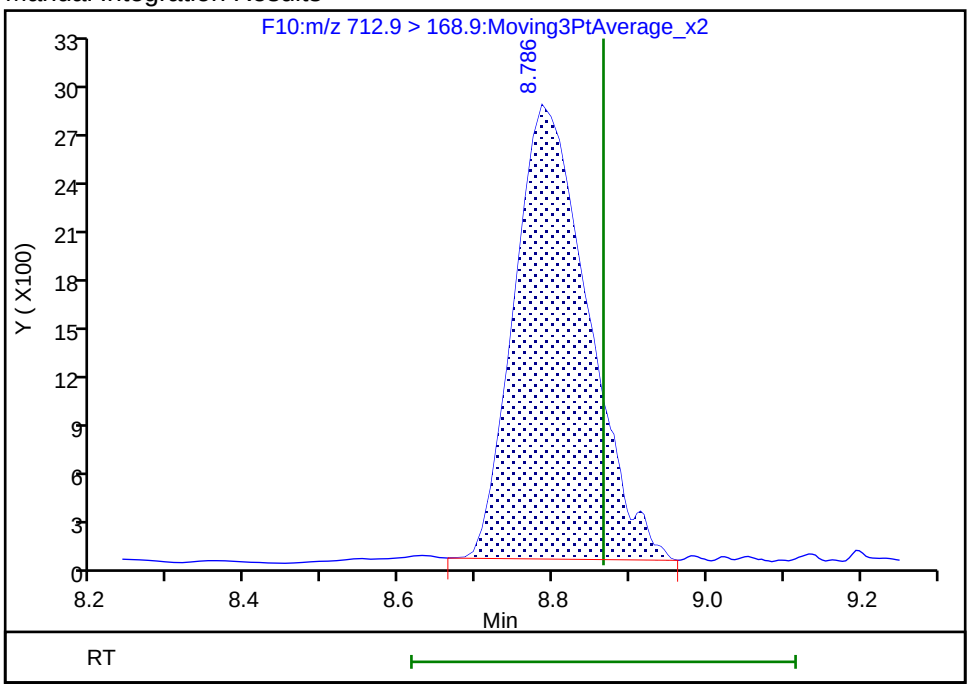
Processing Integration Results

RT: 8.79
Area: 19006
Amount: 5.076075
Amount Units: ng/ml



Manual Integration Results

RT: 8.79
Area: 18593
Amount: 5.076075
Amount Units: ng/ml



Reviewer: chirgwinb, 31-May-2019 08:55:24
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVIS 200-143753/2 Calibration Date: 06/05/2019 01:35

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B02.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	1.962		25000	20000	24.9	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	3.461		23100	20000	15.6	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	2.507		17600	17700	-0.3	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.290		18200	18700	-2.6	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.382		19800	20000	-1.2	40.0
Perfluoropentanesulfonic acid	AveID	2.841	2.283		15100	18800	-19.6	50.0
HFPO-DA	AveID	1.078	5.707		106000	20000	429.5*	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.206		20500	20000	2.7	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	2.327		20000	18200	10.0	40.0
DONA	AveID	4.300	4.927		21600	18800	14.6	50.0
6:2 FTS	AveID	0.9451	0.9815		19700	19000	3.9	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	1.007		19900	20000	-0.4	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	1.054		23100	19000	21.1	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9032		20500	20000	2.3	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	1.096		21100	18600	13.5	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	4.983		21100	18600	13.3	50.0
8:2 FTS	AveID	0.7376	0.8296		21600	19200	12.5	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.8479		18500	20000	-7.4	40.0
Perfluorononanesulfonic acid	AveID	0.9697	1.018		20200	19200	5.0	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.9105		22100	20000	10.3	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.8943		22200	20000	11.1	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	1.065		19800	19300	2.6	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8923		21400	20000	7.2	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.369		19200	20000	-3.8	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	6.249		21000	18800	11.4	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9164		19300	20000	-3.4	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.9389		20000	20000	0.2	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8696		20500	20000	2.5	40.0
13C4 PFBA	Ave	0.2445	0.1762		36000	50000	-28.0	50.0
13C5 PFPeA	Ave	0.1855	0.1429		38500	50000	-23.0	50.0
13C3 PFBS	Ave	0.0807	0.0825		47500	46500	2.2	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVIS 200-143753/2 Calibration Date: 06/05/2019 01:35

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B02.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5287		47500	50000	-5.0	50.0
13C3 HFPO-DA	Ave	0.0529	0.0514		48600	50000	-2.8	50.0
13C4 PFHpA	Ave	0.7840	0.8159		52000	50000	4.1	50.0
18O2 PFHxS	Ave	0.1031	0.0811		37200	47300	-21.3	50.0
M2-6:2 FTS	Ave	0.0557	0.0500		42600	47500	-10.3	50.0
13C4 PFOA	Ave	0.9706	0.9307		47900	50000	-4.1	50.0
13C5 PFNA	Ave	1.302	1.206		46300	50000	-7.4	50.0
13C4 PFOS	Ave	0.2326	0.1831		37600	47800	-21.3	50.0
M2-8:2 FTS	Ave	0.2026	0.1966		46500	47900	-3.0	50.0
13C2 PFDA	Ave	1.111	1.151		51800	50000	3.6	50.0
d3-NMeFOSAA	Ave	0.3621	0.2806		38700	50000	-22.5	50.0
d5-NEtFOSAA	Ave	0.2986	0.2474		41400	50000	-17.2	50.0
13C2 PFUnA	Ave	1.073	1.056		49200	50000	-1.5	50.0
13C8 FOSA	Ave	0.4004	0.3790		47300	50000	-5.3	50.0
13C2 PFDoA	Ave	1.367	1.271		46500	50000	-7.0	50.0
13C2 PFTeDA	Ave	1.227	1.112		45300	50000	-9.4	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 05-Jun-2019 01:35:26 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-002 CCVIS
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:49 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 09:32:58
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.360	2.360	0.0	1.000	132902	25.0		125	116	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.360	2.360	0.0	1.000	169388	36.0		72.0	69.5	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	190201	23.1		116	355	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	137382	38.5		77.0	356	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	70274	17.6	Target=1.67	99.7	363	
298.9 > 98.9	2.901	2.901	0.0	1.000	46810		1.50(0.83-2.51)		242	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	73738	47.5		102	295	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.270	3.270	0.0	1.127	38220	18.2		97.4	341	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	0.990	280971	19.8	Target=14.34	98.8	1059	
312.9 > 118.9	3.334	3.302	0.032	1.000	20994		13.38(7.17-21.51)		259	
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	508371	47.5		95.0	451	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.365	3.365	0.0	1.160	67918	15.1	Target=1.23	80.4	332	
348.9 > 98.9	3.365	3.365	0.0	1.000	88340		0.77(0.62-1.85)		951	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.460	3.492	-0.032	1.000	49433	48.6		97.2	295	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.492	3.492	0.0	1.009	112845	105.9		530	97.7	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.905	0.0	1.000	784495	52.0		104	2424	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.905	3.905	0.0	1.000	378344	20.5	Target=2.84	103	944	
362.9 > 168.9	3.905	3.905	0.0	1.000	118570		3.19(1.42-4.26)		415	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.925	3.925	0.0	1.000	66088	20.0	Target=1.34	110	182	
398.9 > 98.9	3.925	3.925	0.0	1.000	71704		0.92(0.67-2.01)		340	M
D 12 18O2 PFHxS										M
402.9 > 83.8	3.925	3.925	0.0	1.000	73811	37.2		78.7	371	M
49 DONA										
376.9 > 250.7	3.966	3.966	0.0	0.736	326754	21.6	Target=2.33	115	693	
376.9 > 85.0	3.966	3.966	0.0	1.000	128025		2.55(1.16-3.49)		653	
13 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.547	4.547	0.0	1.000	17877	19.7		104	91.1	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.547	4.547	0.0	1.000	45630	42.6		89.7	237	M
* 16 13C2 PFOA										
414.9 > 369.8	4.589	4.589	0.0		961549	50.0			3338	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.589	4.589	0.0	1.000	360627	19.9	Target=2.43	99.6	562	
412.9 > 168.9	4.589	4.589	0.0	1.000	143118		2.52(1.22-3.64)		710	
D 17 13C4 PFOA										
416.9 > 371.8	4.589	4.609	-0.020	1.000	894879	47.9		95.9	1536	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.609	4.609	0.0	0.855	70658	23.1	Target=1.30	121	280	
448.9 > 98.9	4.609	4.609	0.0	1.000	73634		0.96(0.65-1.95)		353	
19 Perfluorononanoic acid										
462.9 > 418.7	5.368	5.368	0.0	1.000	418883	20.5	Target=5.00	102	924	
462.9 > 168.9	5.368	5.368	0.0	1.000	96269		4.35(2.50-7.50)		594	
D 20 13C5 PFNA										
467.8 > 422.8	5.368	5.389	-0.021	1.000	1159440	46.3		92.6	1740	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.389	5.389	0.0	1.000	71608	21.1	Target=1.41	113	658	M
498.9 > 98.9	5.389	5.389	0.0	1.000	72689		0.99(0.71-2.12)		496	M
D 22 13C4 PFOS										
502.9 > 80.0	5.389	5.411	-0.022	1.000	168264	37.6		78.7	497	
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.812	5.812	0.0	1.078	326943	21.1		113	1204	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	60112	21.6		112	242	
D 24 M2-8:2 FTS										M
528.8 > 508.8	6.131	6.131	0.0	1.000	181140	46.5		97.0	393	M
26 Perfluorodecanoic acid										M
512.9 > 468.5	6.165	6.165	0.0	1.000	375301	18.5	Target=7.23	92.6	736	
512.9 > 168.9	6.165	6.165	0.0	1.000	46700		8.04(3.61-10.84)		263	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.165	6.165	0.0	1.144	68809	20.2	Target=1.39	105	361	
548.9 > 98.9	6.165	6.165	0.0	1.000	75426		0.91(0.69-2.08)		318	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.199	-0.034	1.000	1106575	51.8		104	885	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.525	6.525	0.0	1.004	98250	22.1		110	256	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.549	-0.048	1.000	269783	38.7		77.5	741	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.897	6.897	0.0	1.003	85086	22.2		111	571	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.897	6.897	0.0	1.280	72275	19.8	Target=1.25	103	352	
598.9 > 98.9	6.897	6.897	0.0	1.000	87138		0.83(0.63-1.88)		474	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.921	-0.048	1.000	237857	41.4		82.8	629	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.000	362520	21.4	Target=7.06	107	1124	
562.9 > 168.9	6.921	6.921	0.0	1.000	54430		6.66(3.53-10.58)		315	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.945	-0.024	1.000	1015696	49.2		98.5	2056	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.013	7.013	0.0	1.000	199638	19.2		96.2	847	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	364444	47.3		94.7	1689	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.274	7.274	0.0	1.350	414440	21.0		111	1224	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.616	7.616	0.0	1.000	447989	19.3	Target=5.37	96.6	1091	
612.9 > 168.9	7.616	7.616	0.0	1.000	76528		5.85(2.68-8.06)		205	
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.655	-0.039	1.000	1222191	46.5		93.0	1456	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.235	8.235	0.0	1.081	458996	20.0	Target=4.67	100	1026	
662.9 > 168.9	8.235	8.235	0.0	1.081	89977		5.10(2.34-7.01)		401	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.786	8.786	0.0	1.000	371962	20.5	Target=4.86	102	618	
712.9 > 168.9	8.786	8.786	0.0	1.000	68536		5.43(2.43-7.30)		273	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.786	8.819	-0.033	1.000	1069334	45.3		90.6	489	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L5_00008 Amount Added: 100.00 Units: uL

Report Date: 05-Jun-2019 15:50:50 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d

Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410

Lims ID: CCVIS

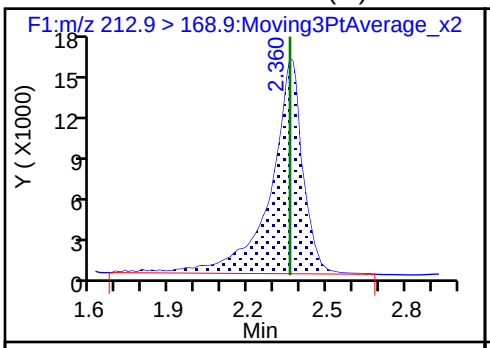
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2

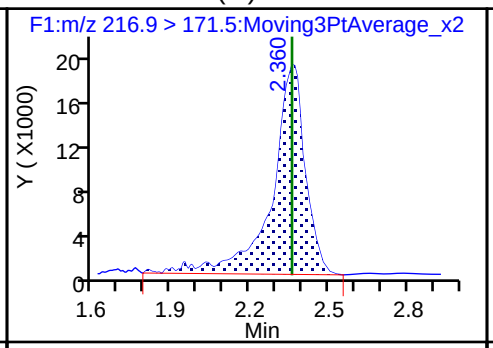
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

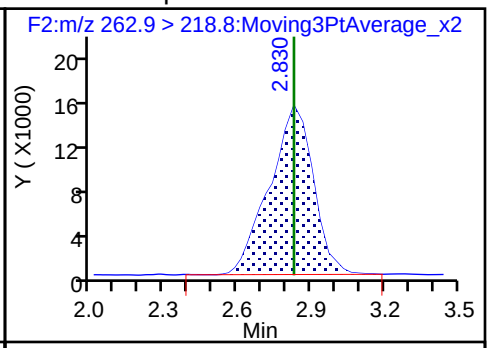
2 Perfluorobutanoic acid (M)



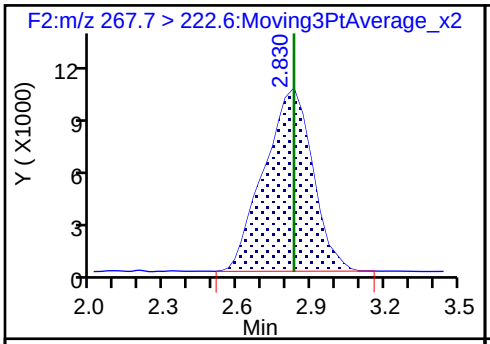
D 1 13C4 PFBA (M)



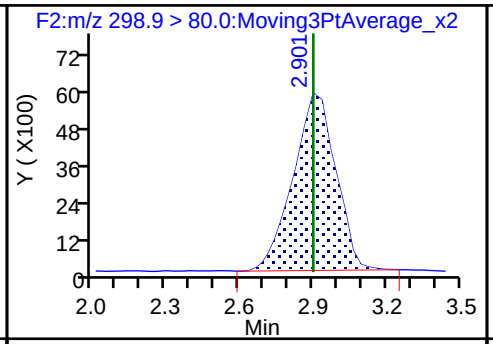
3 Perfluoropentanoic acid



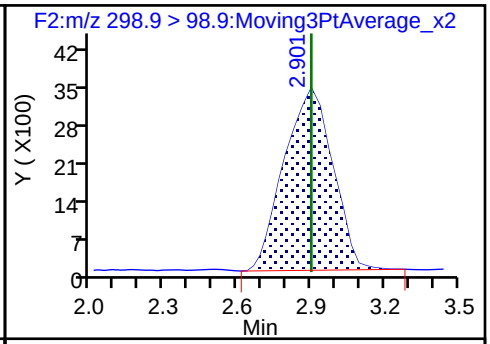
D 4 13C5 PFPeA



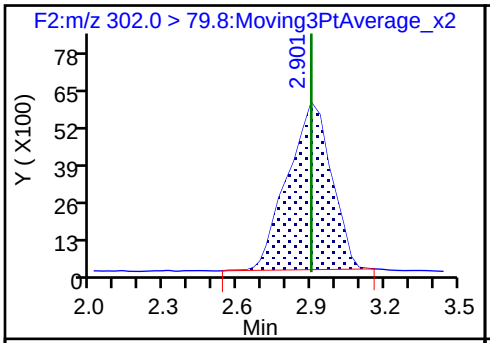
6 Perfluorobutanesulfonic acid



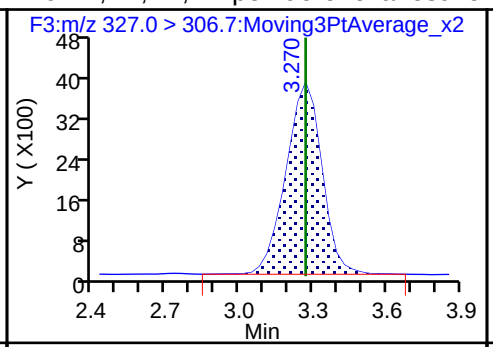
6 Perfluorobutanesulfonic acid



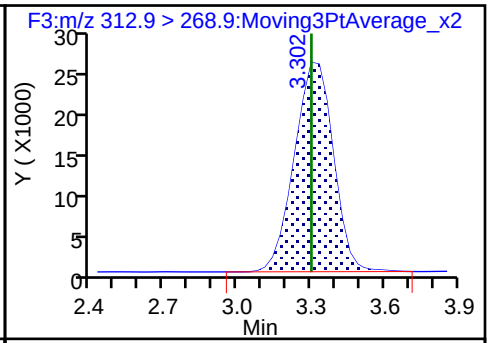
D 5 13C3 PFBS



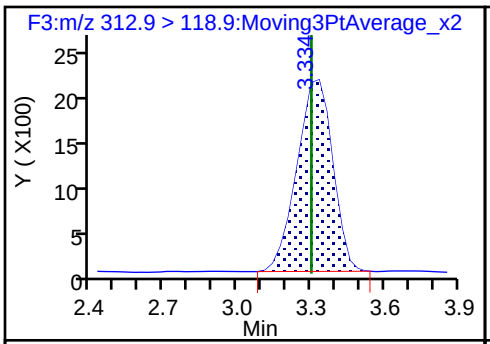
46 1H,1H,2H,2H-perfluorohexanesulfoni



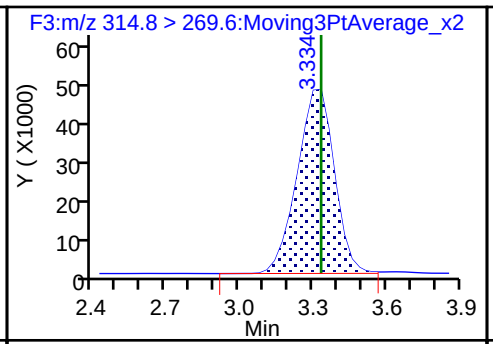
7 Perfluorohexanoic acid



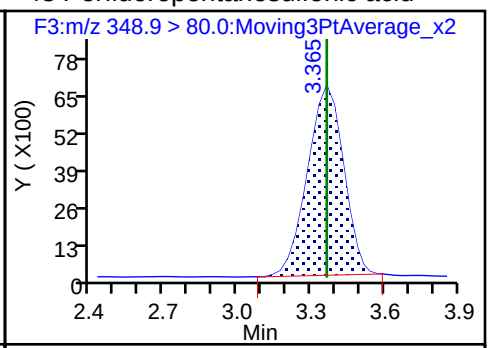
7 Perfluorohexanoic acid



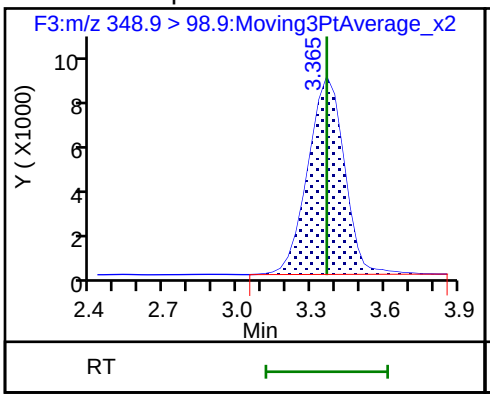
D 8 13C2 PFHxA



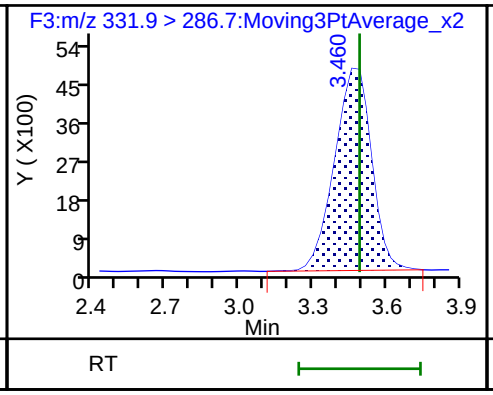
48 Perfluoropentanesulfonic acid



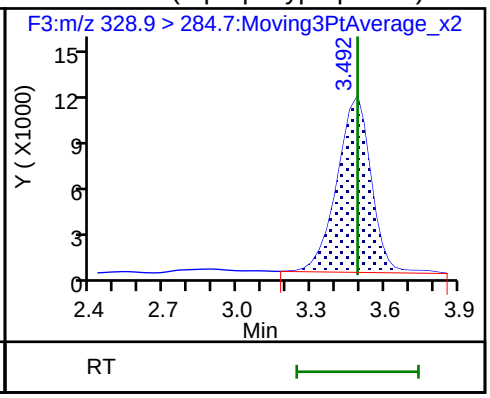
48 Perfluoropentanesulfonic acid



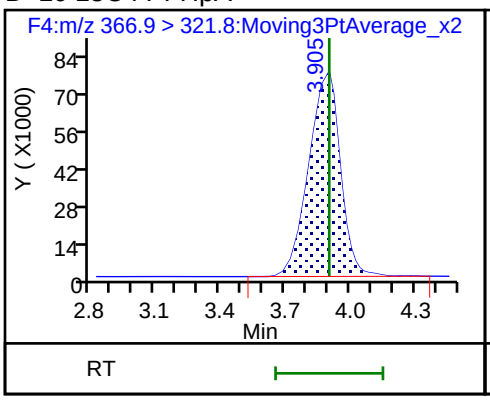
D 42 13C3 HFPO-DA



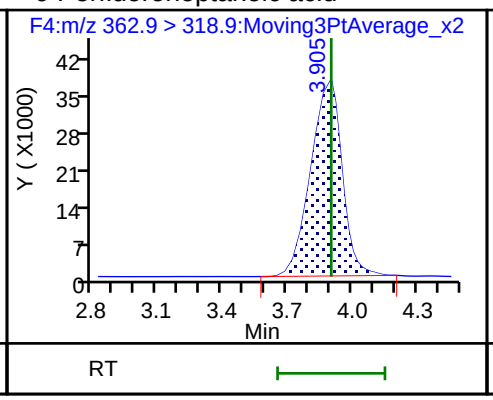
44 Perfluoro(2-propoxypropanoic) acid



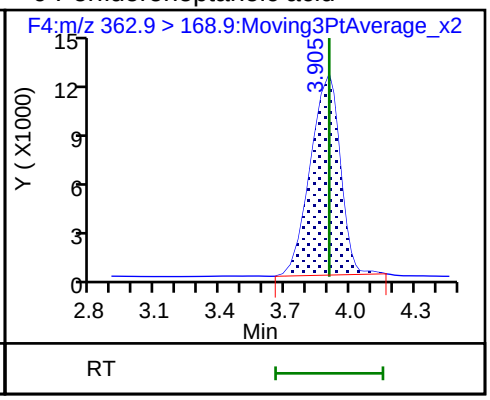
D 10 13C4 PFHpA



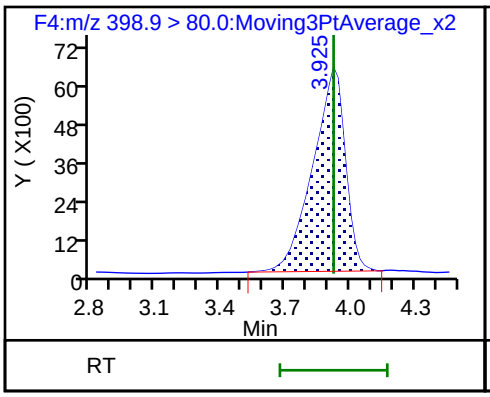
9 Perfluoroheptanoic acid



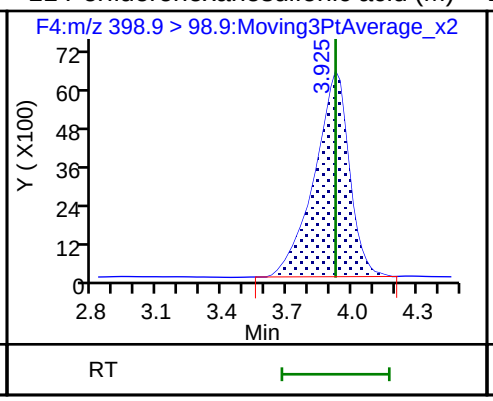
9 Perfluoroheptanoic acid



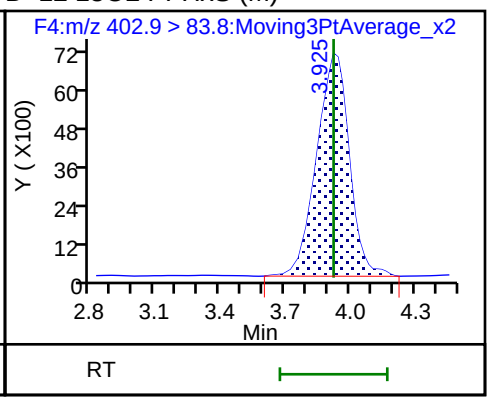
11 Perfluorohexanesulfonic acid



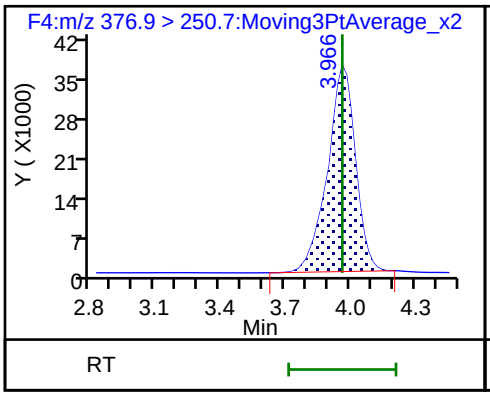
11 Perfluorohexanesulfonic acid (M)



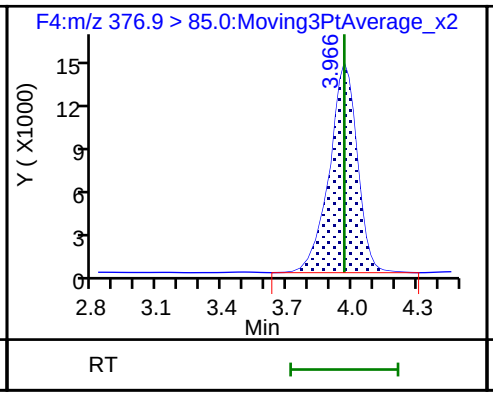
D 12 18O2 PFHxS (M)



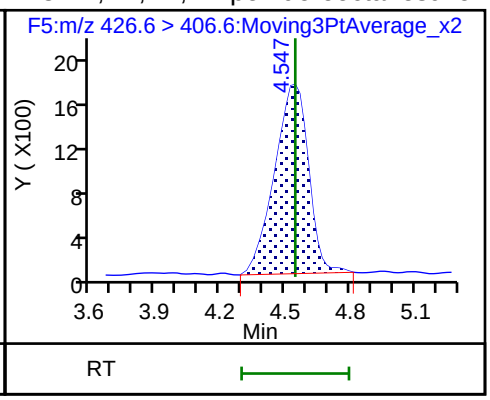
49 DONA



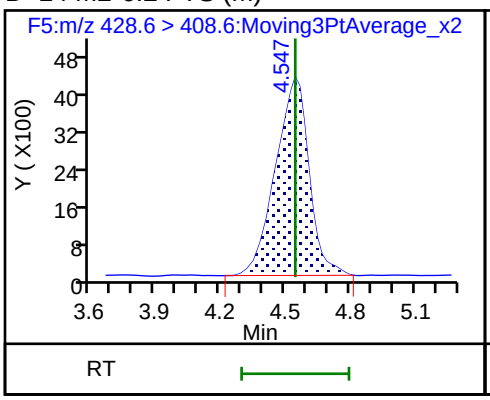
49 DONA



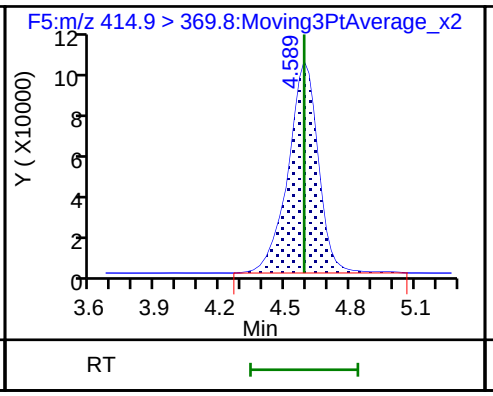
13 1H,1H,2H,2H-perfluorooctanesulfoni (M)



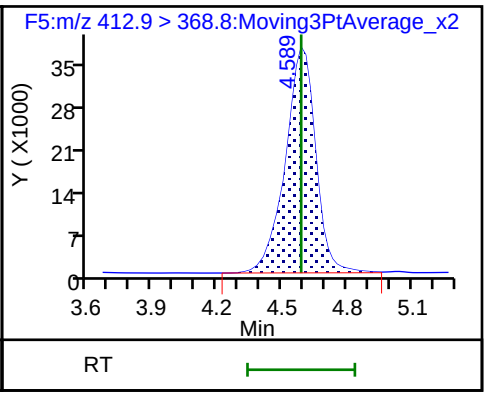
D 14 M2-6:2 FTS (M)



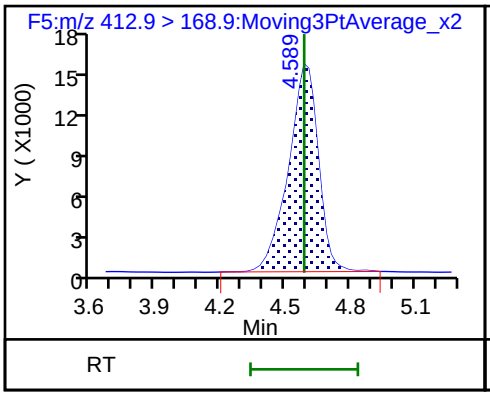
* 16 13C2 PFOA



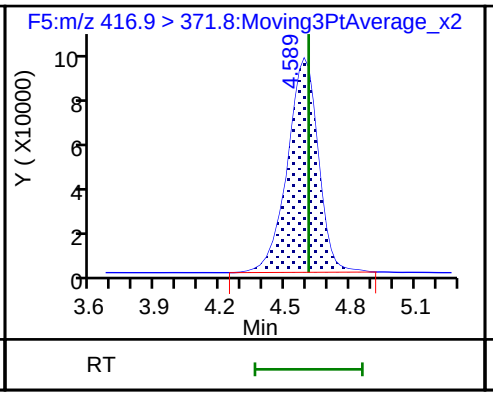
15 Perfluorooctanoic acid



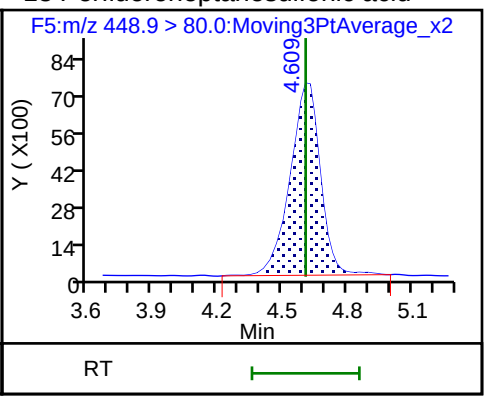
15 Perfluorooctanoic acid



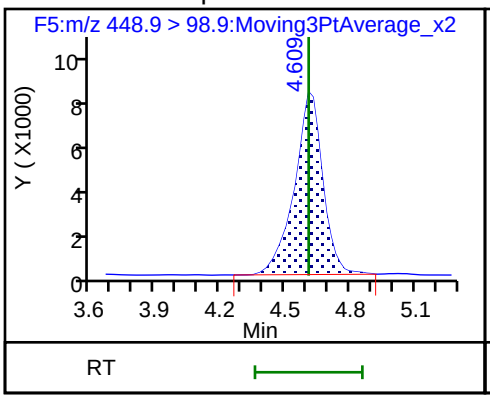
D 17 13C4 PFOA



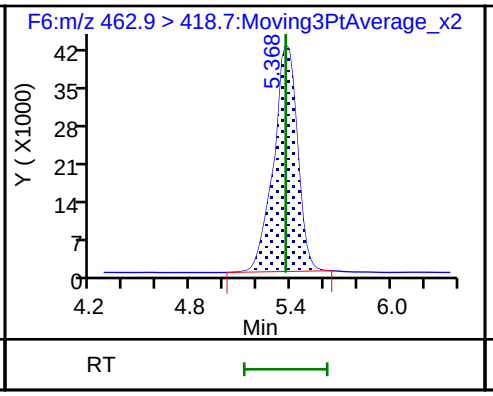
18 Perfluoroheptanesulfonic acid



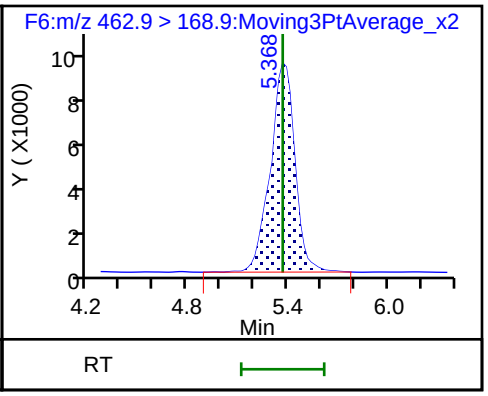
18 Perfluoroheptanesulfonic acid



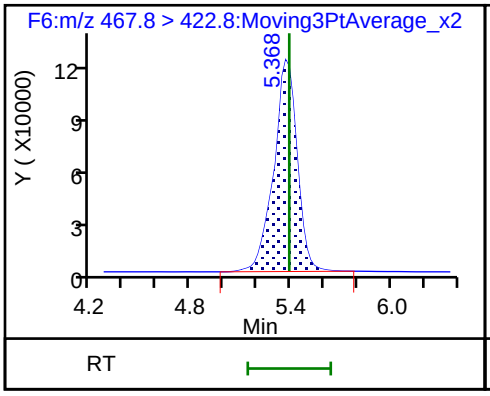
19 Perfluorononanoic acid



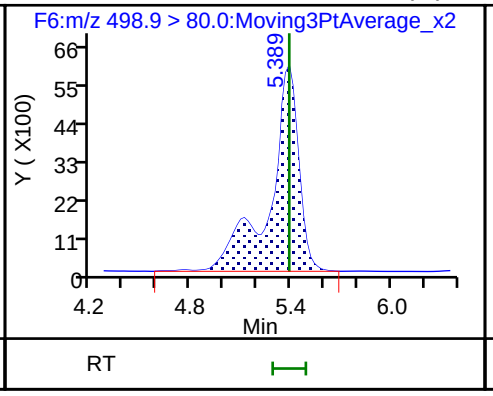
19 Perfluorononanoic acid



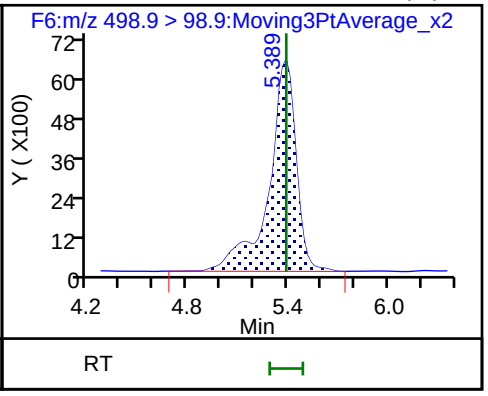
D 20 13C5 PFNA



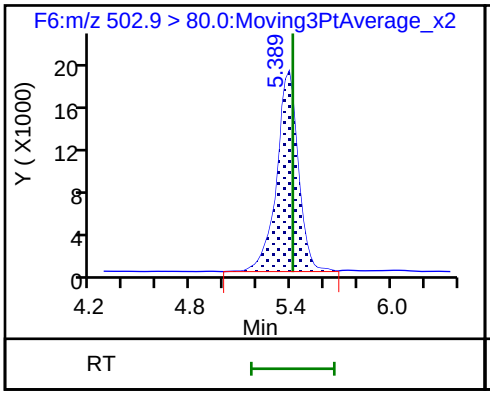
21 Perfluorooctanesulfonic acid (M)



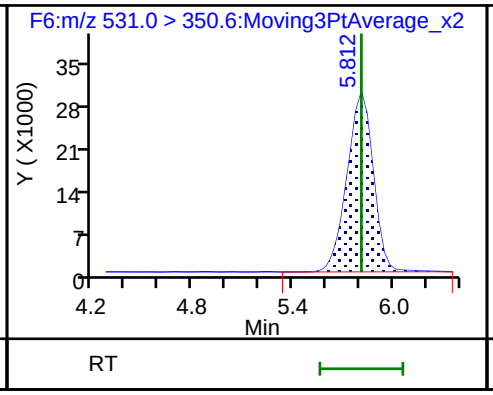
21 Perfluorooctanesulfonic acid (M)



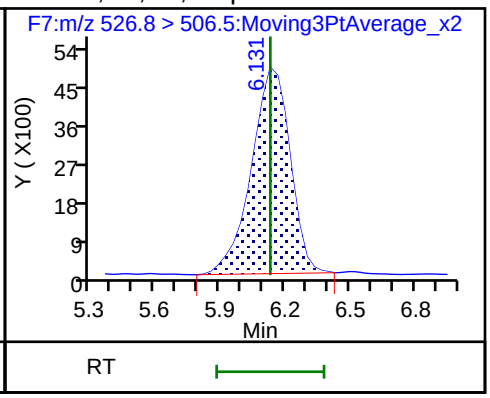
D 22 13C4 PFOS



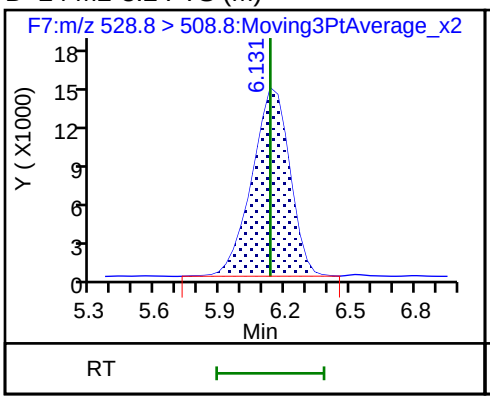
47 9-Chlorohexadecafluoro-3-oxanonane



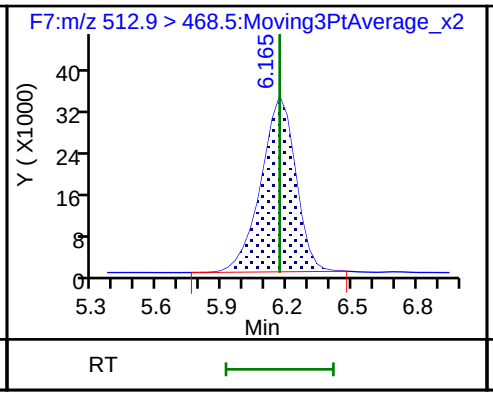
23 1H,1H,2H,2H-perfluorodecanesulfoni



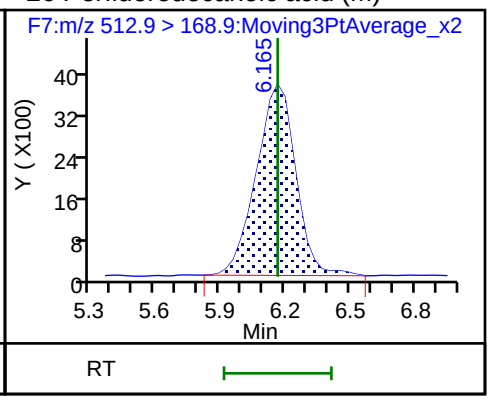
D 24 M2-8:2 FTS (M)



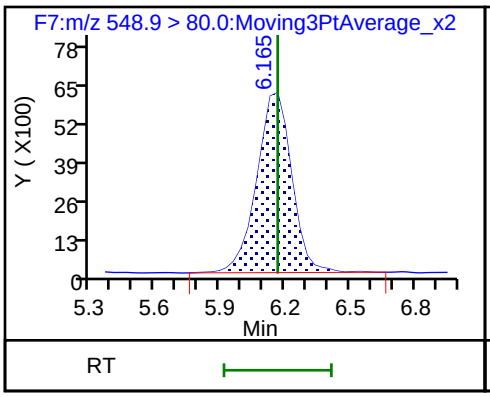
26 Perfluorodecanoic acid



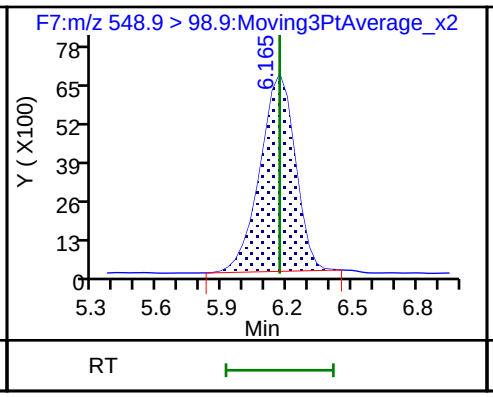
26 Perfluorodecanoic acid (M)



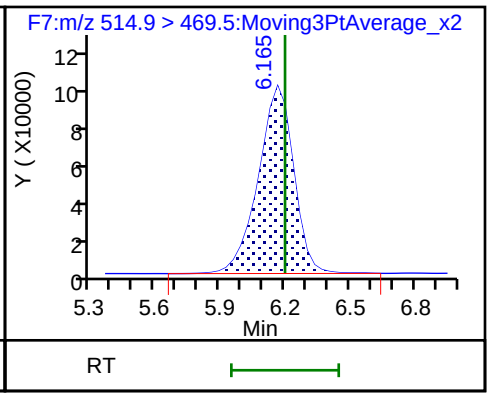
45 Perfluorononanesulfonic acid



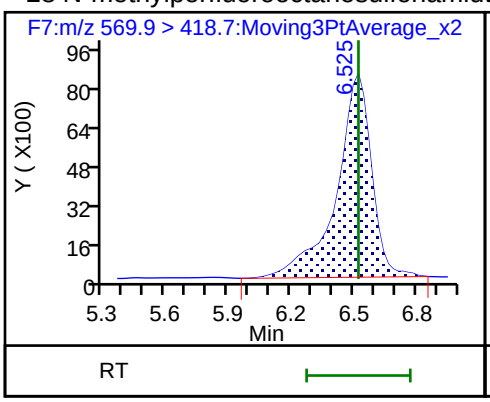
45 Perfluorononanesulfonic acid



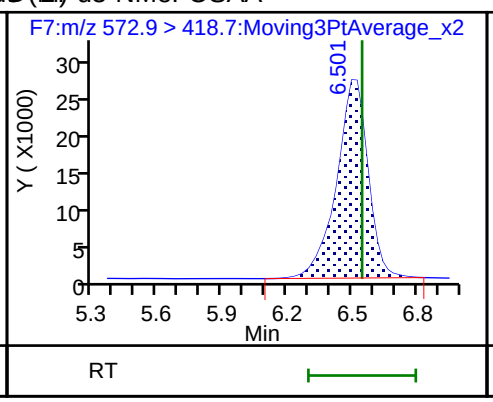
D 25 13C2 PFDA



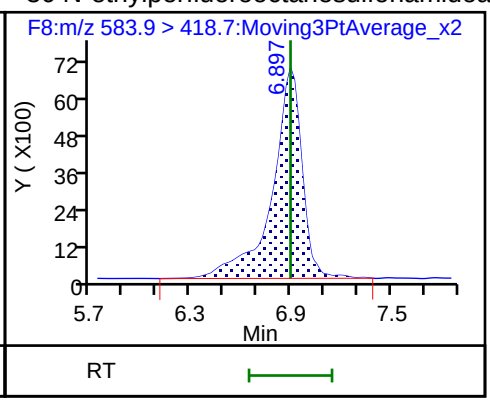
28 N-methylperfluorooctanesulfonamido



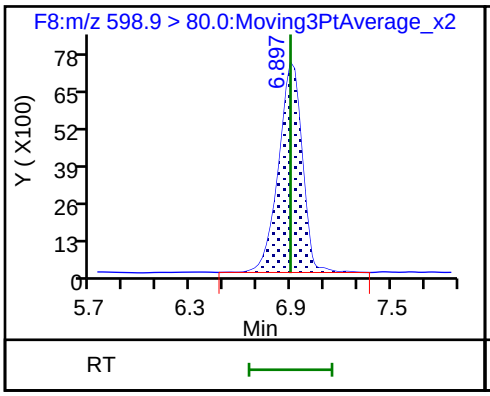
D (27) d3-NMeFOSAA



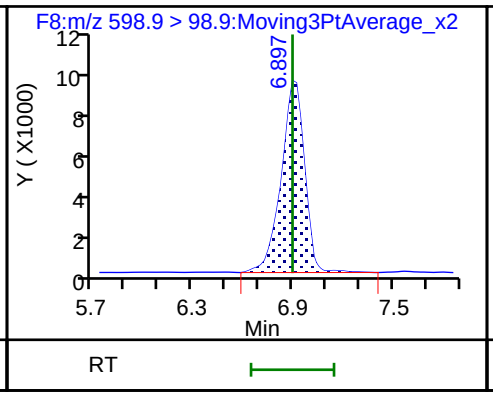
30 N-ethylperfluorooctanesulfonamidoa



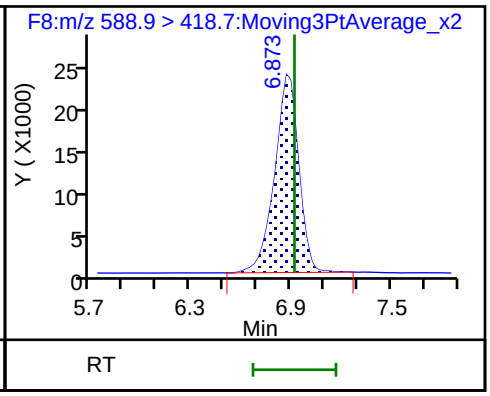
31 Perfluorodecanesulfonic acid



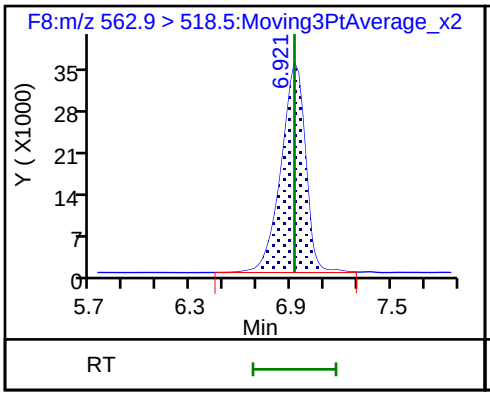
31 Perfluorodecanesulfonic acid



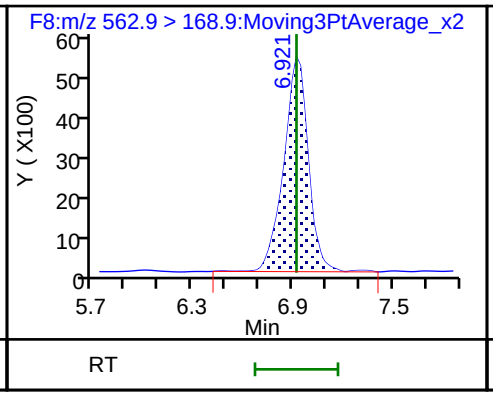
D 29 d5-NEtFOSAA



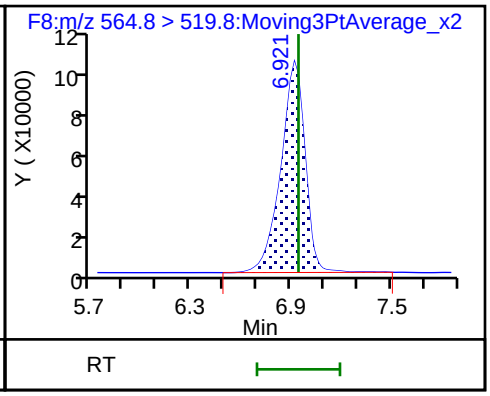
32 Perfluoroundecanoic acid



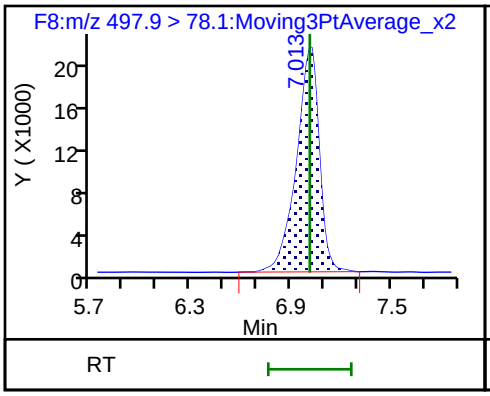
32 Perfluoroundecanoic acid



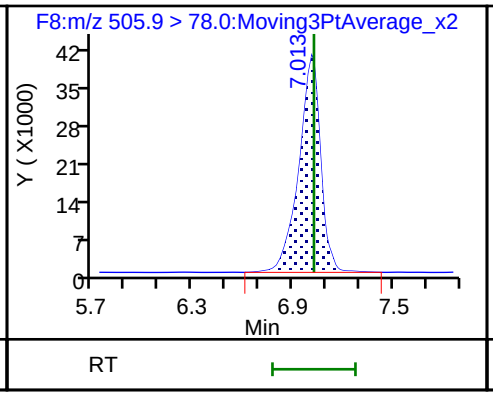
D 33 13C2 PFUnA



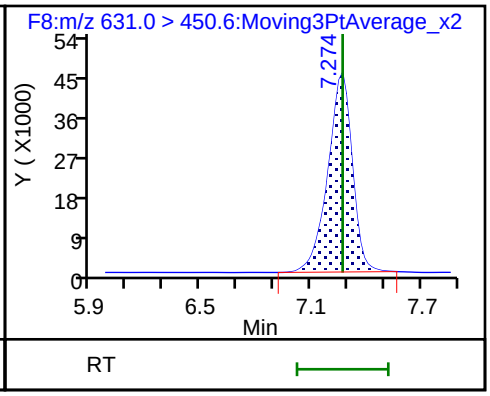
35 Perfluorooctanesulfonamide



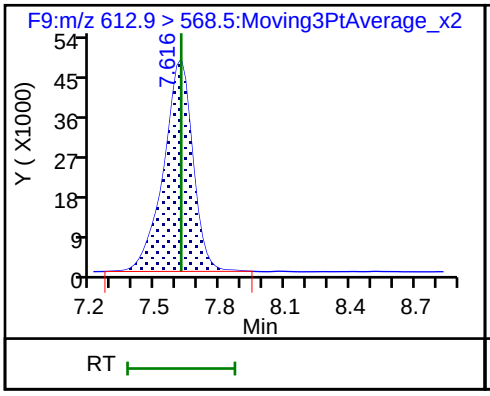
D 34 13C8 FOSA



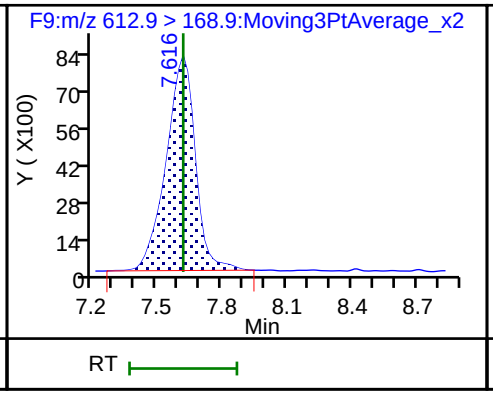
43 11-Chloroeicosafluoro-3-oxaundecan



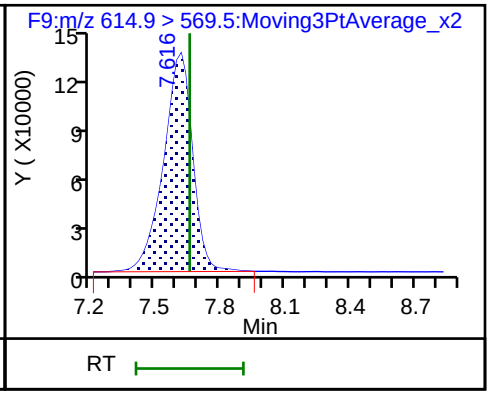
36 Perfluorododecanoic acid



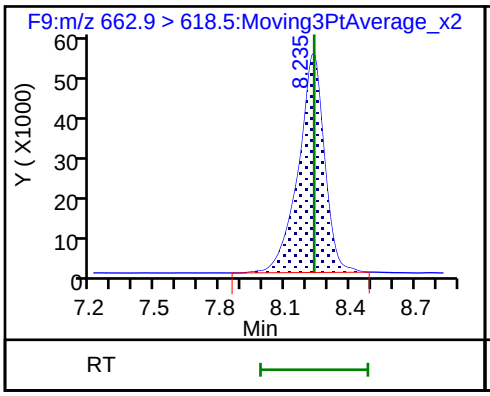
36 Perfluorododecanoic acid



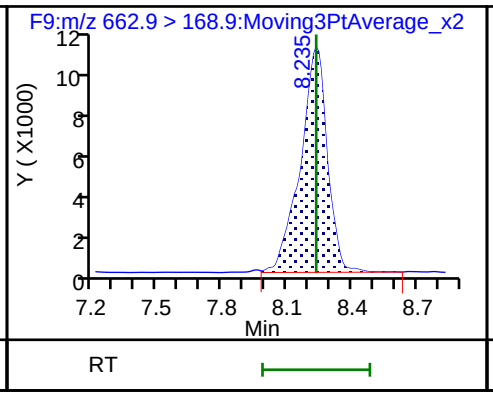
D 37 13C2 PFDoA



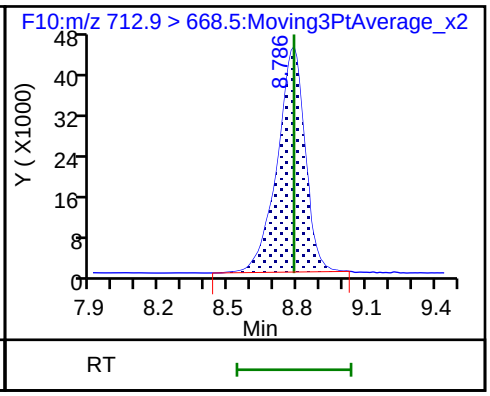
38 Perfluorotridecanoic acid



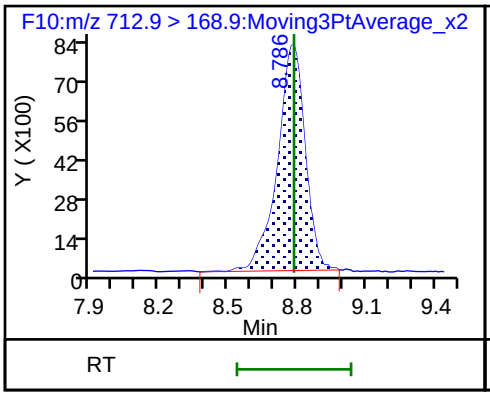
38 Perfluorotridecanoic acid



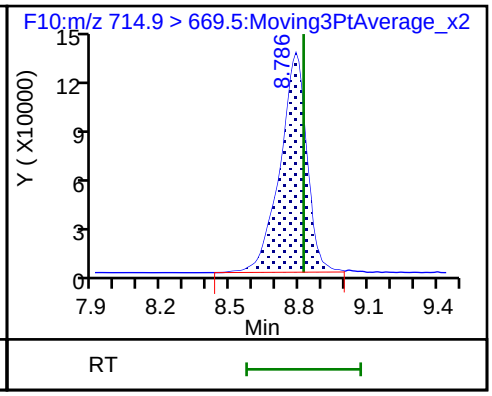
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

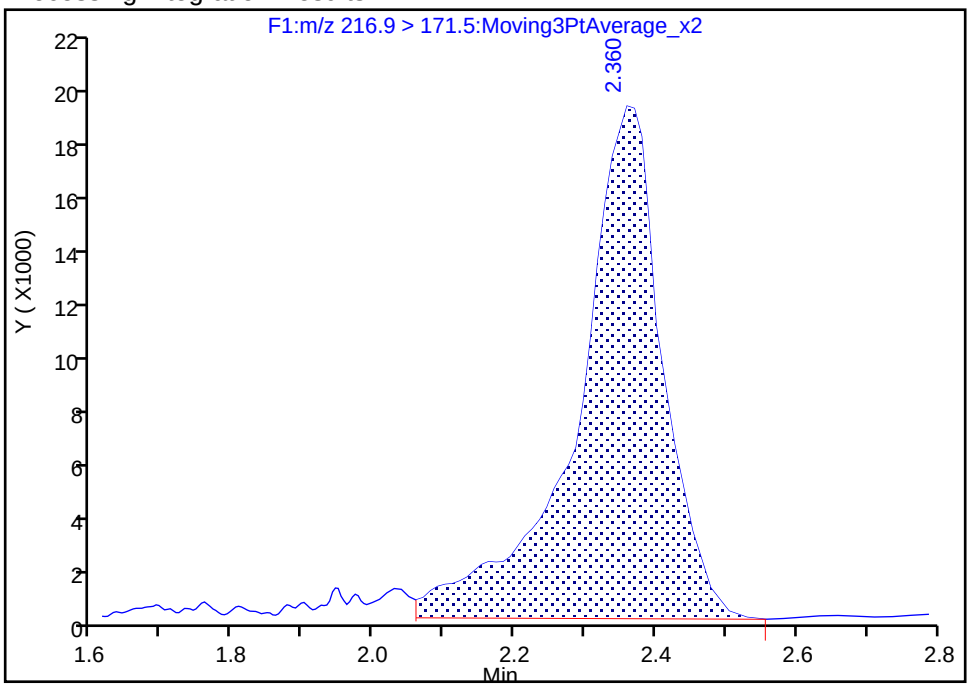
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

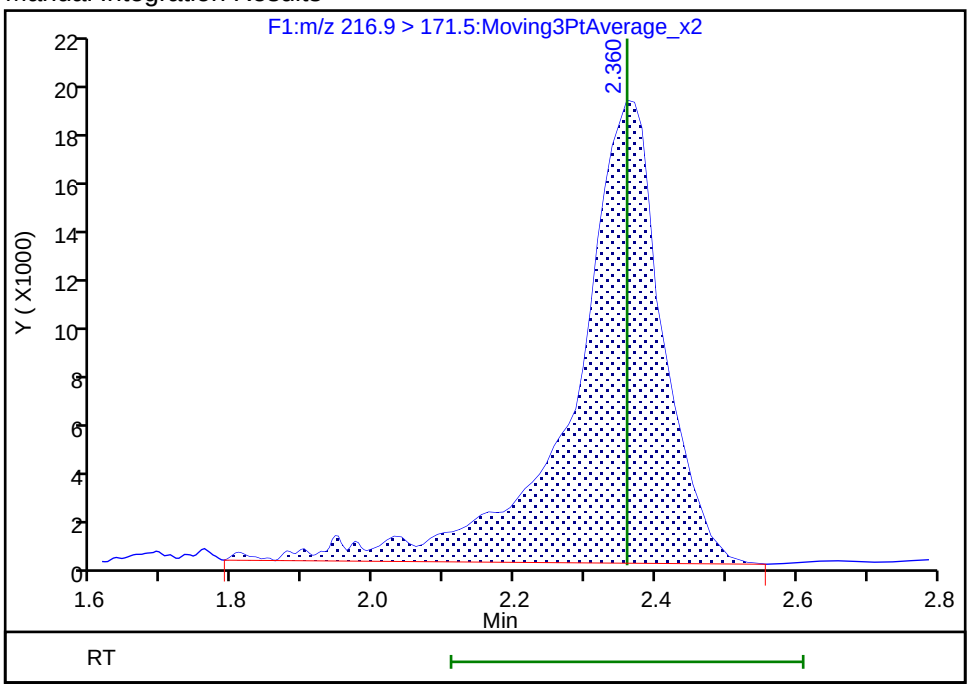
Processing Integration Results

RT: 2.36
Area: 162729
Amount: 34.603923
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 169388
Amount: 36.019943
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:30:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

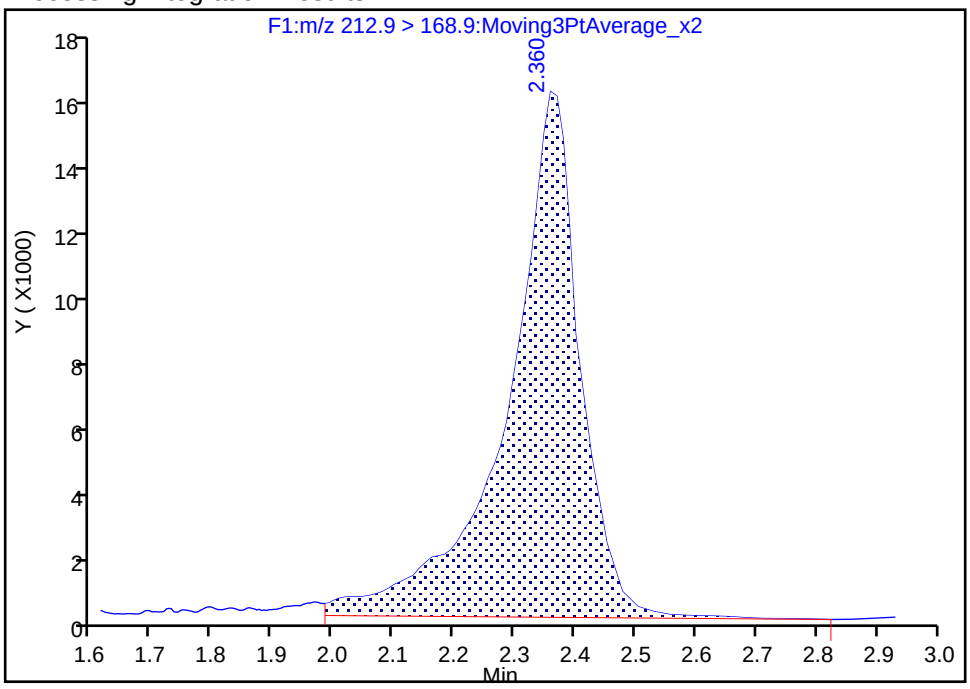
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

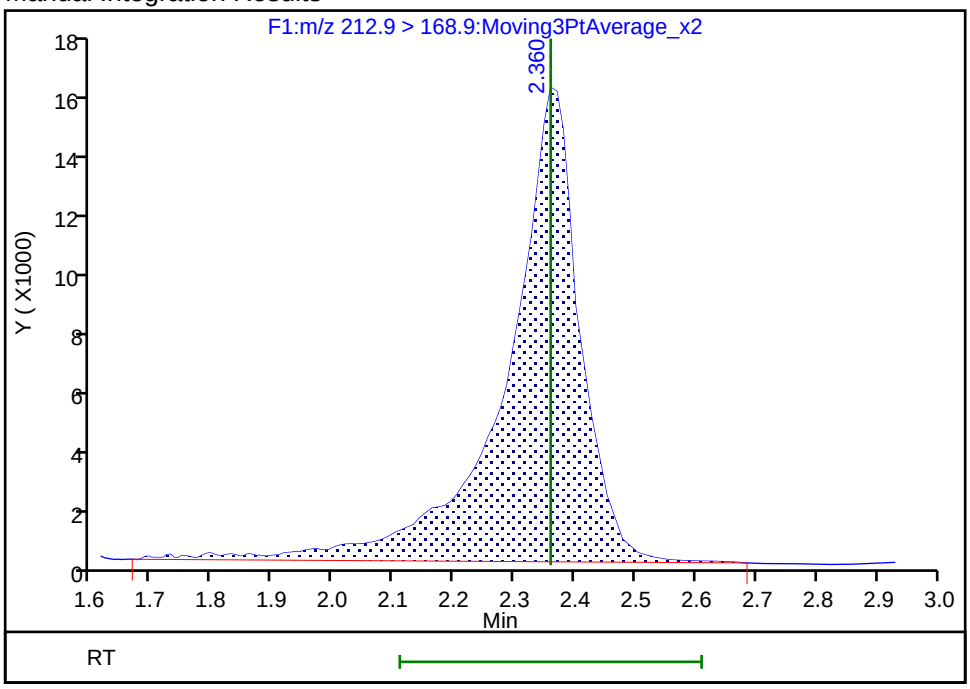
Processing Integration Results

RT: 2.36
Area: 130781
Amount: 25.594877
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 132902
Amount: 24.987467
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:29:40
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

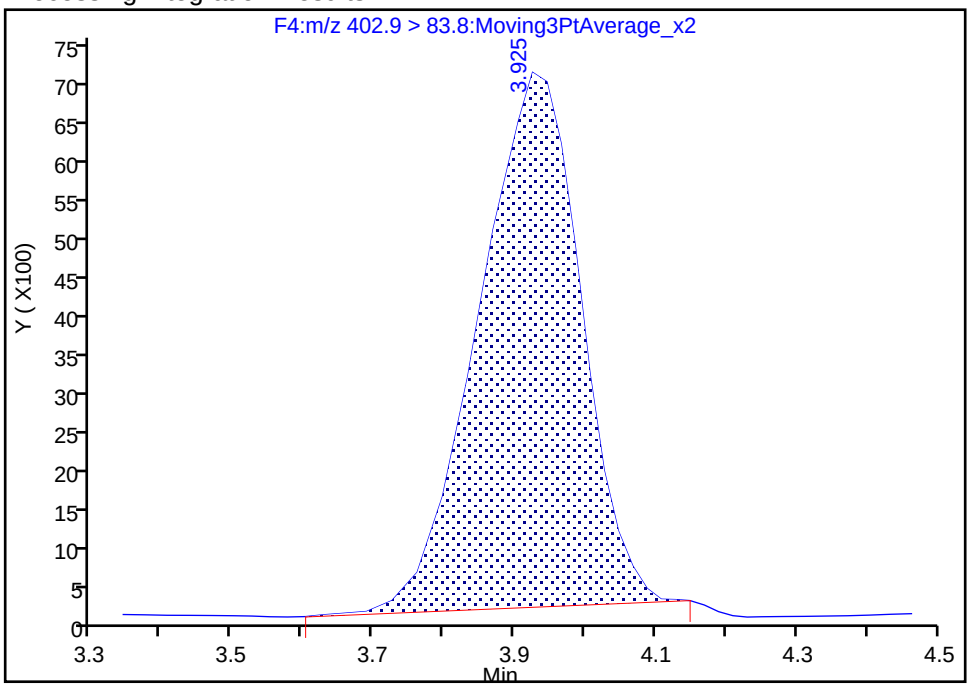
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

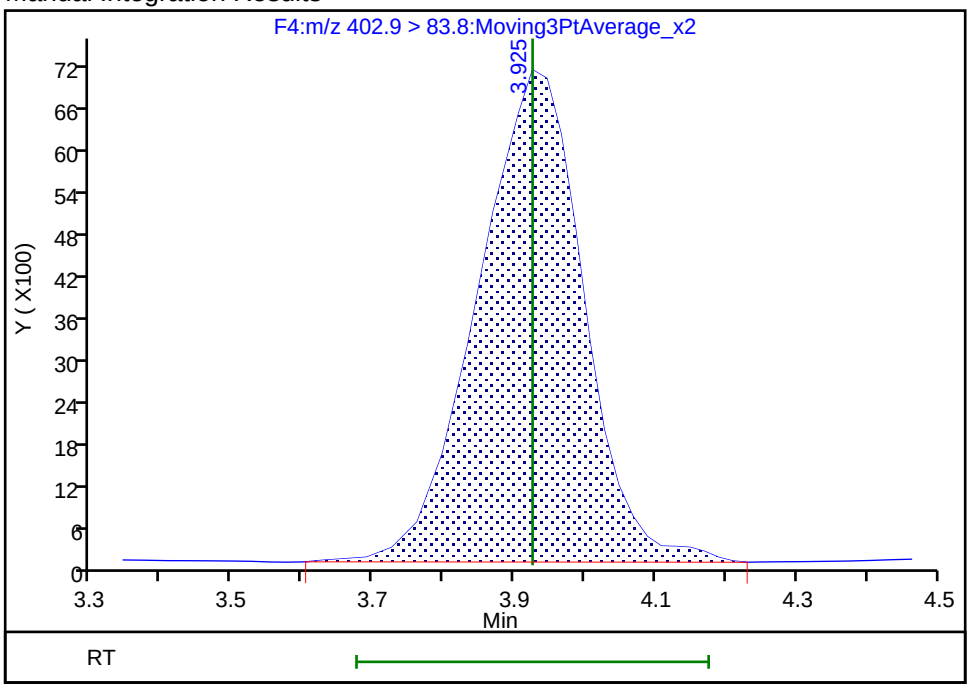
Processing Integration Results

RT: 3.93
Area: 69994
Amount: 35.285097
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 73811
Amount: 37.209308
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:31:31
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

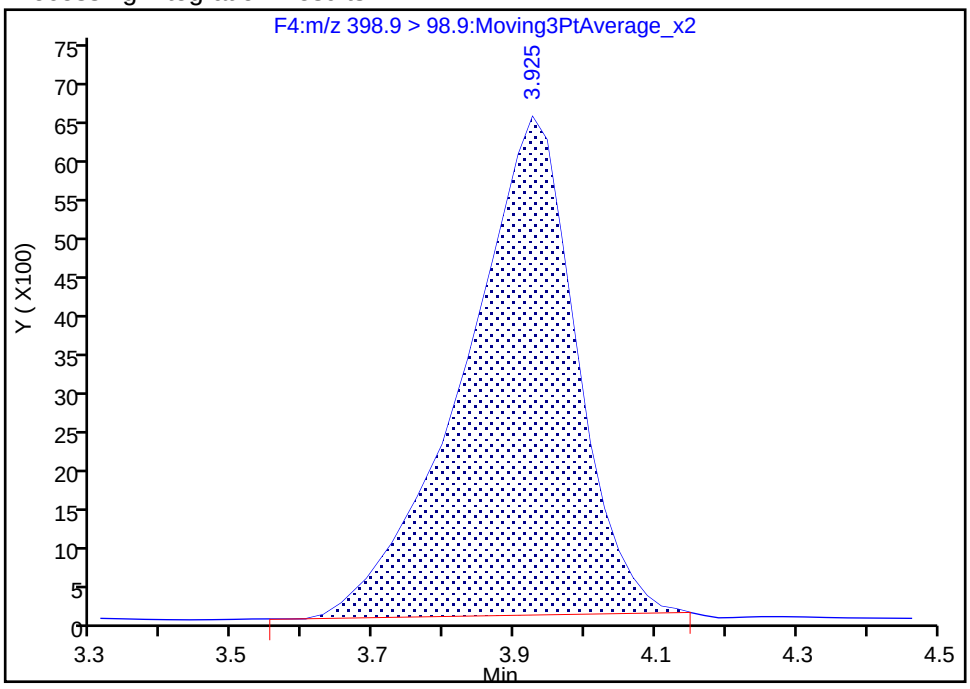
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

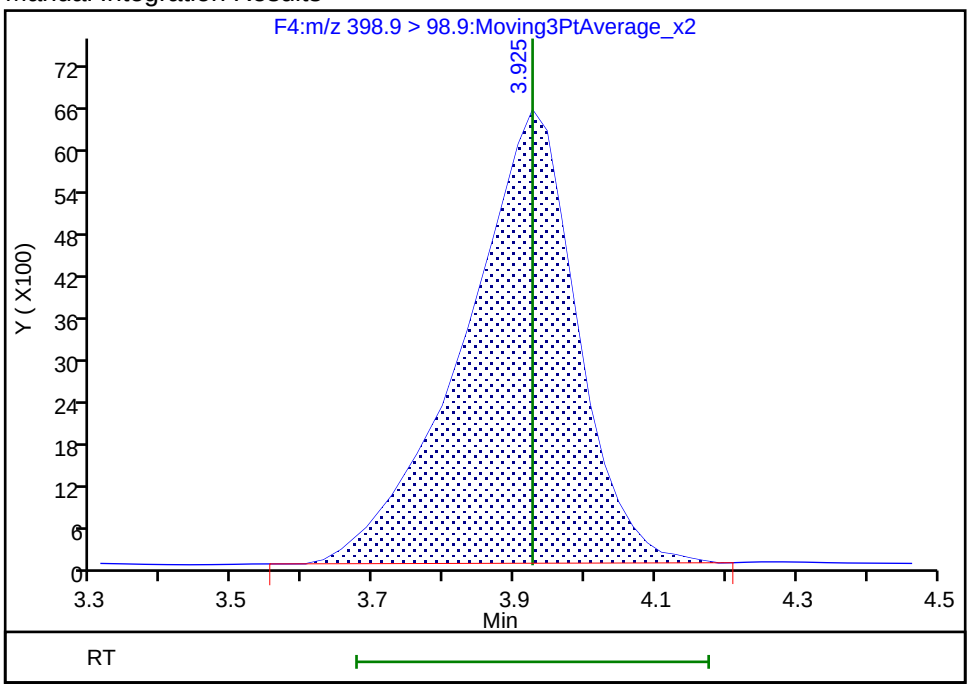
Processing Integration Results

RT: 3.93
Area: 70529
Amount: 20.012677
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 71704
Amount: 20.012677
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:31:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

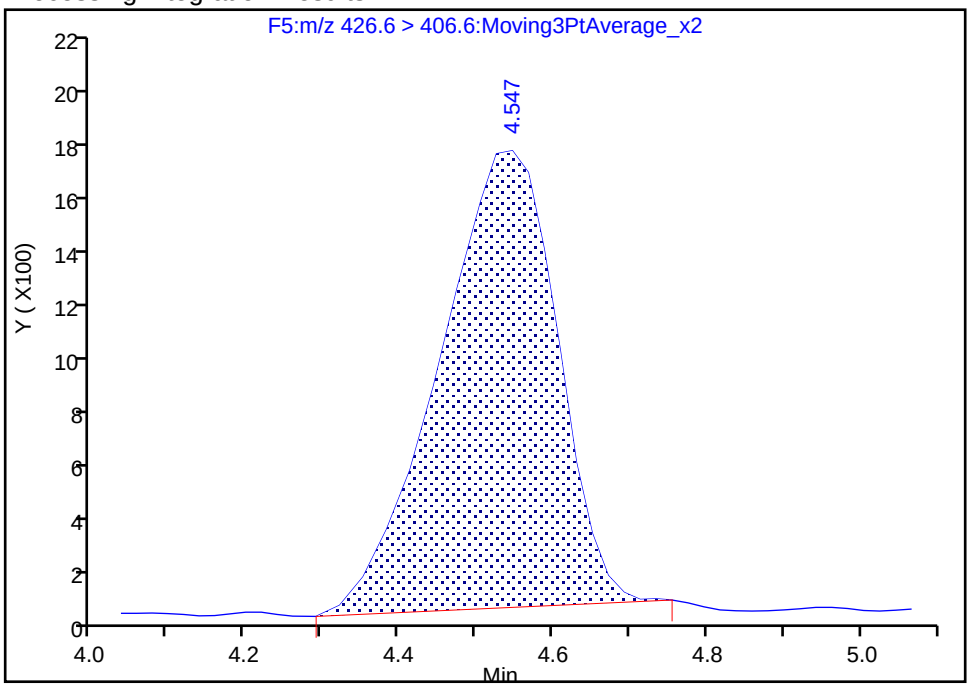
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

13 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

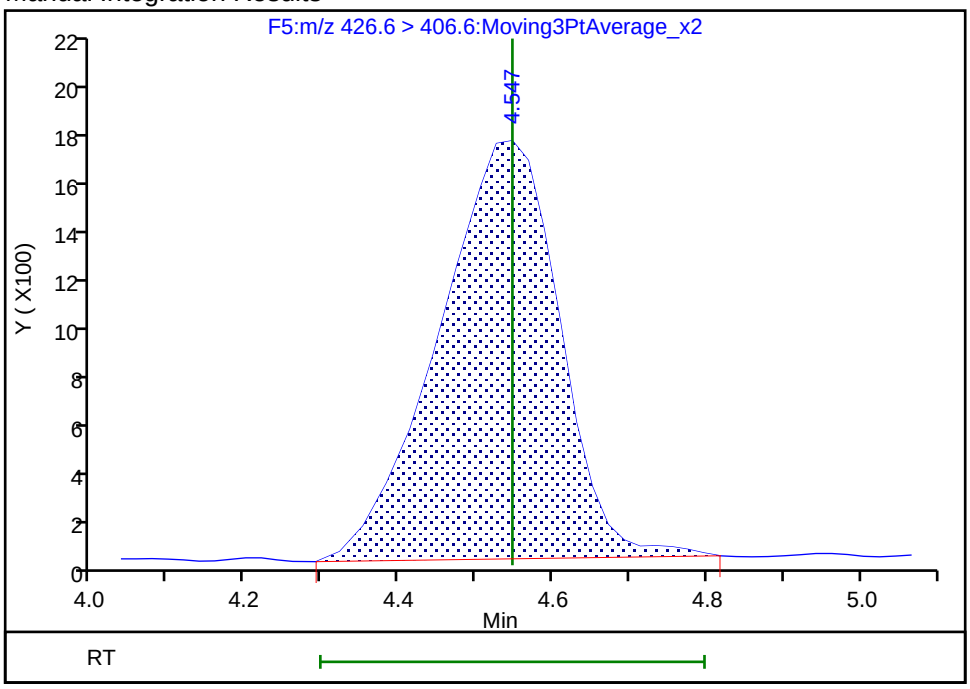
Processing Integration Results

RT: 4.55
Area: 17281
Amount: 18.797364
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 17877
Amount: 19.690277
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:31:40
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

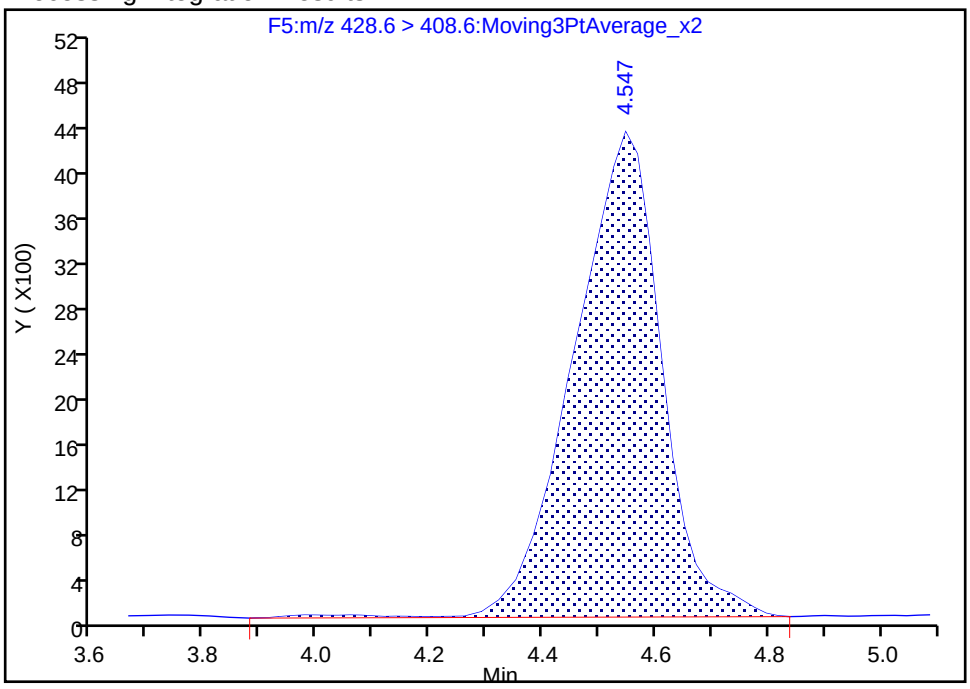
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

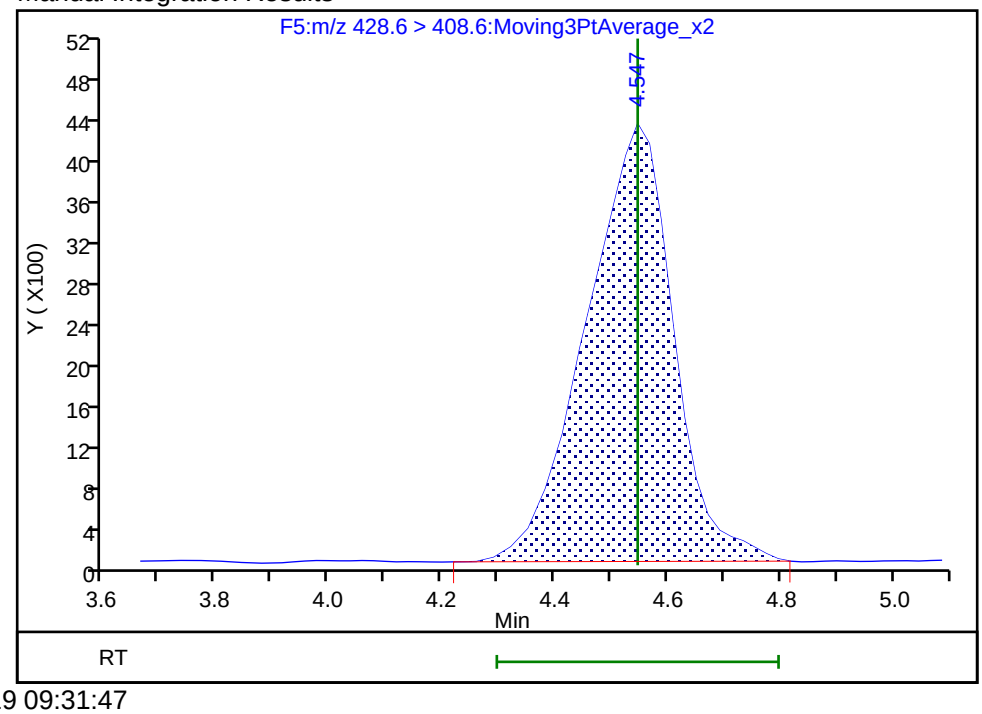
Processing Integration Results

RT: 4.55
Area: 46204
Amount: 43.121218
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 45630
Amount: 42.585516
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:31:47
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

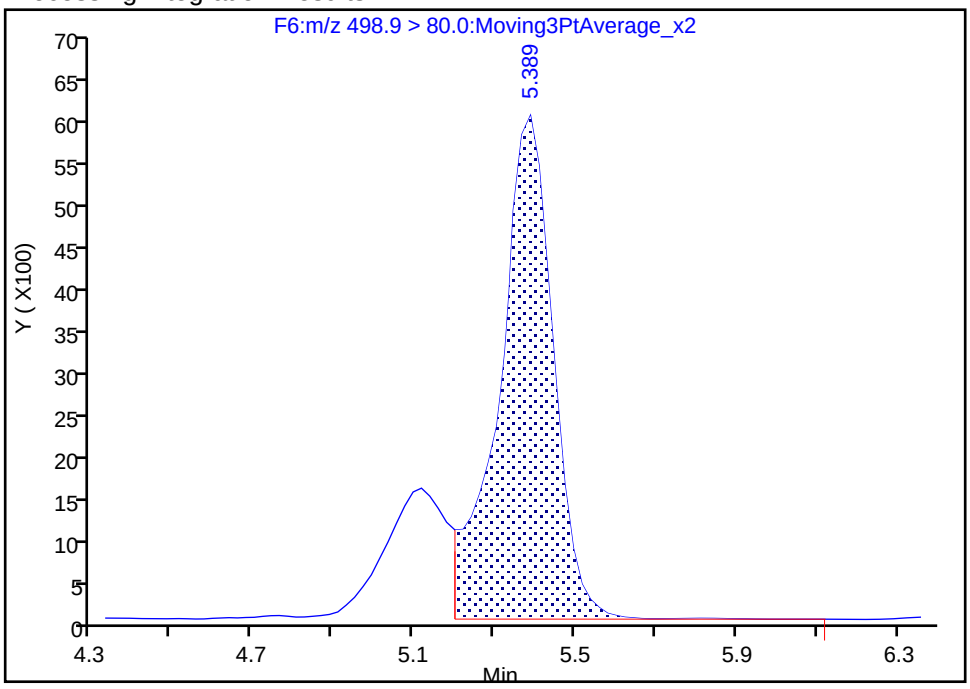
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

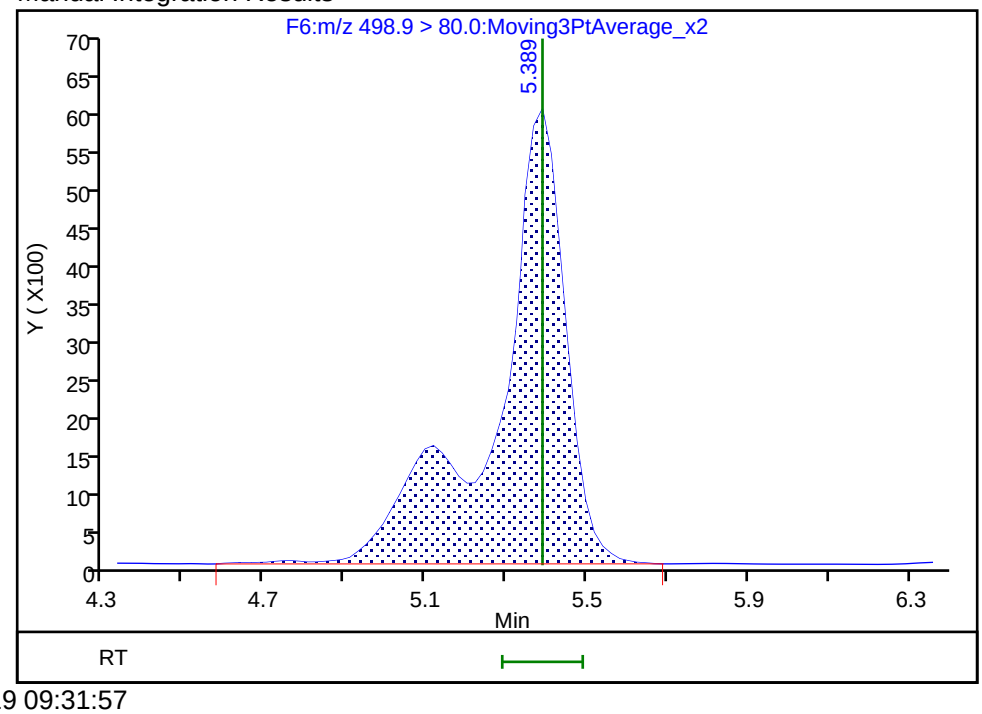
Processing Integration Results

RT: 5.39
Area: 55214
Amount: 16.241890
Amount Units: ng/ml



Manual Integration Results

RT: 5.39
Area: 71608
Amount: 21.064390
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:31:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

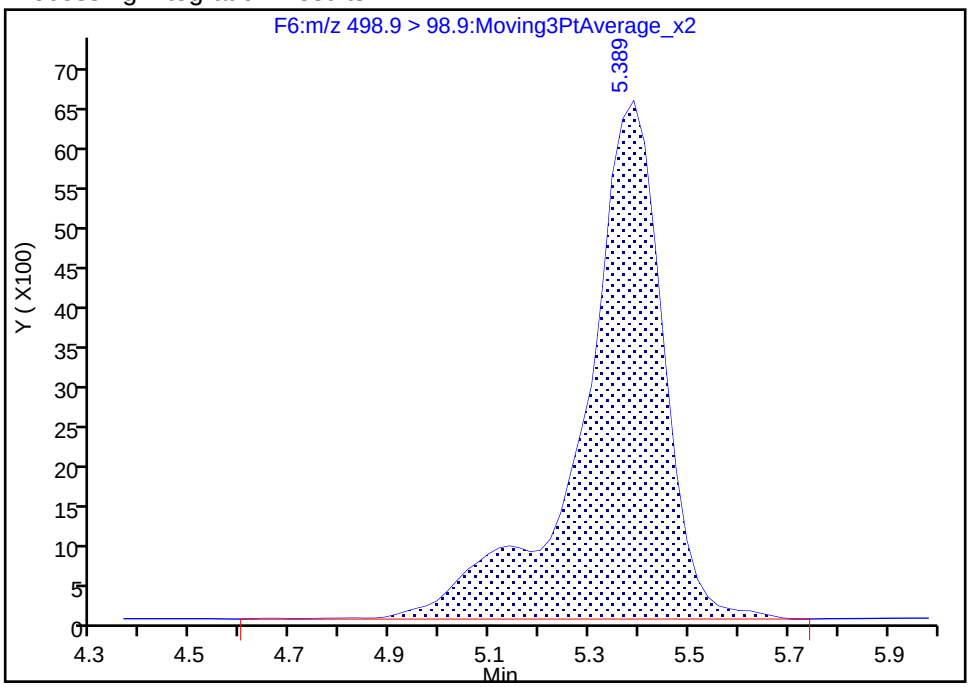
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

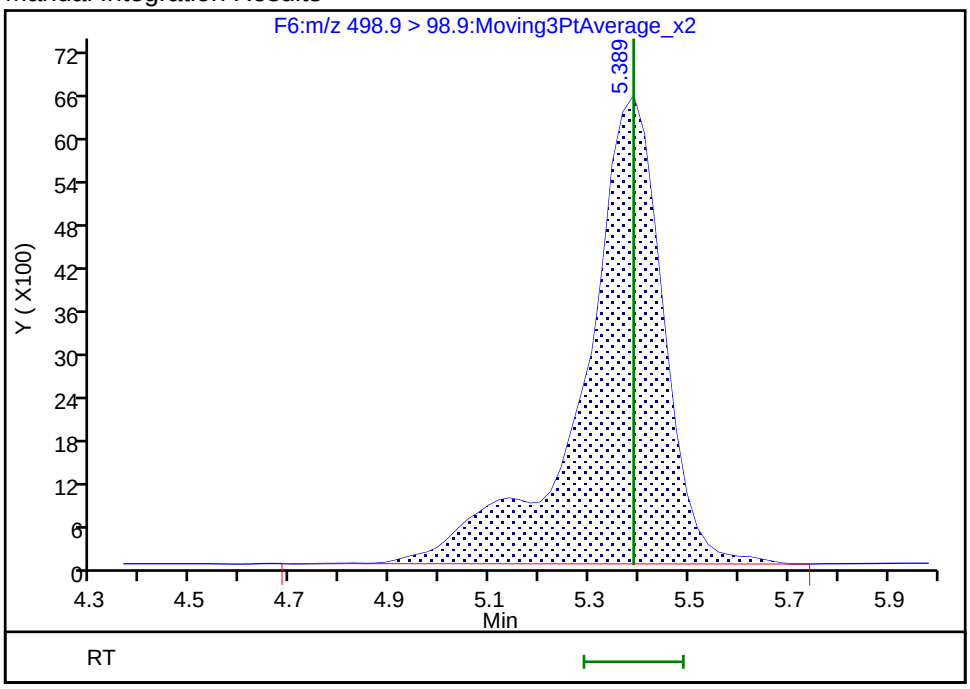
Processing Integration Results

RT: 5.39
Area: 72935
Amount: 16.241890
Amount Units: ng/ml



Manual Integration Results

RT: 5.39
Area: 72689
Amount: 21.064390
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:32:01
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

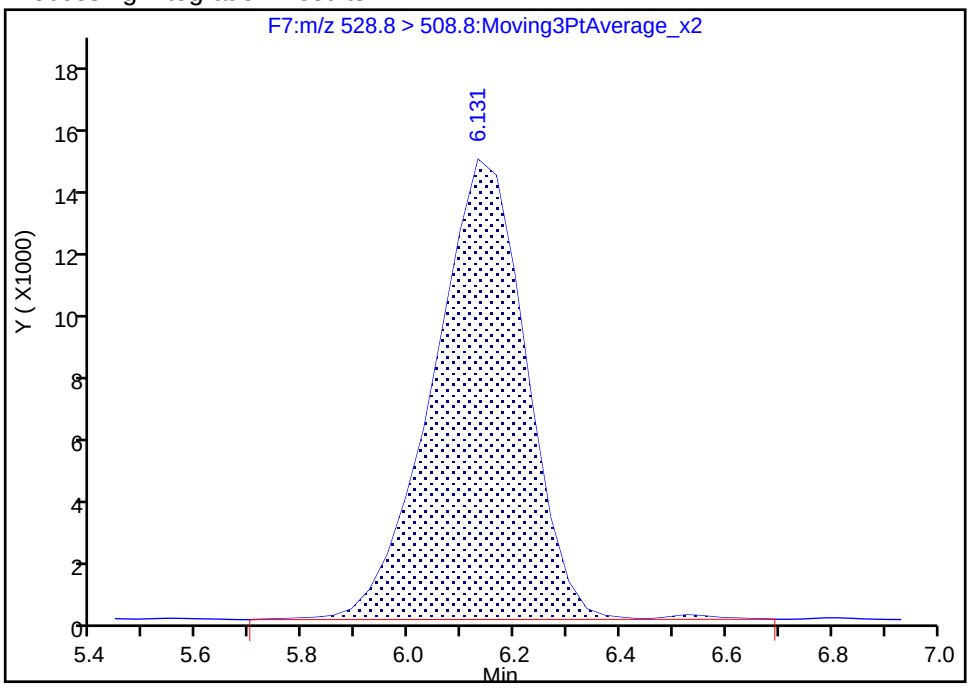
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

D 24 M2-8:2 FTS, CAS: STL02280

Signal: 1

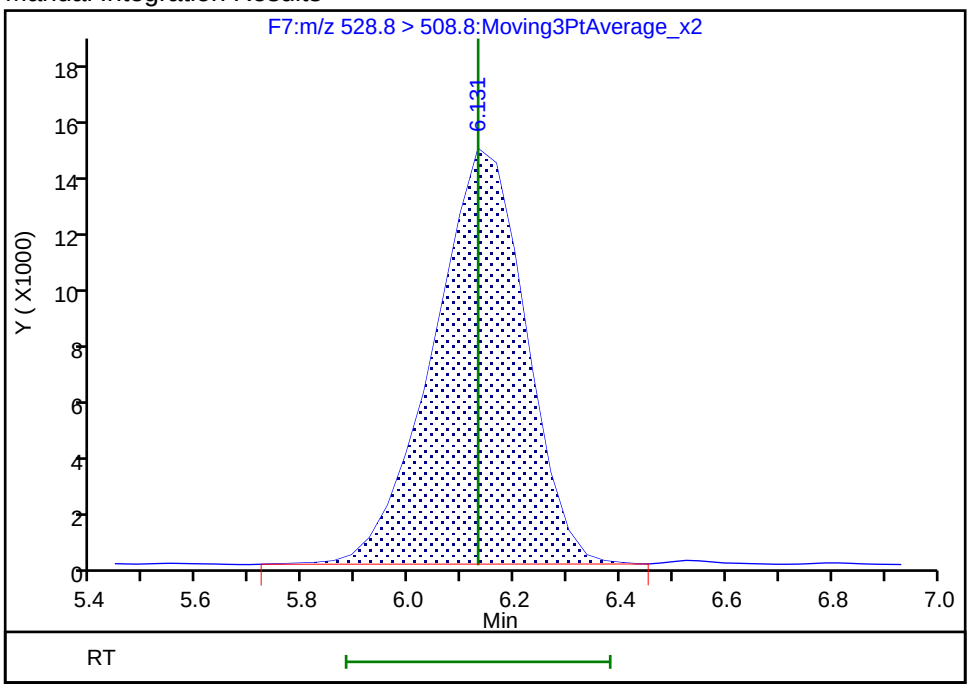
Processing Integration Results

RT: 6.13
Area: 182561
Amount: 46.849039
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 181140
Amount: 46.484380
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:32:14
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

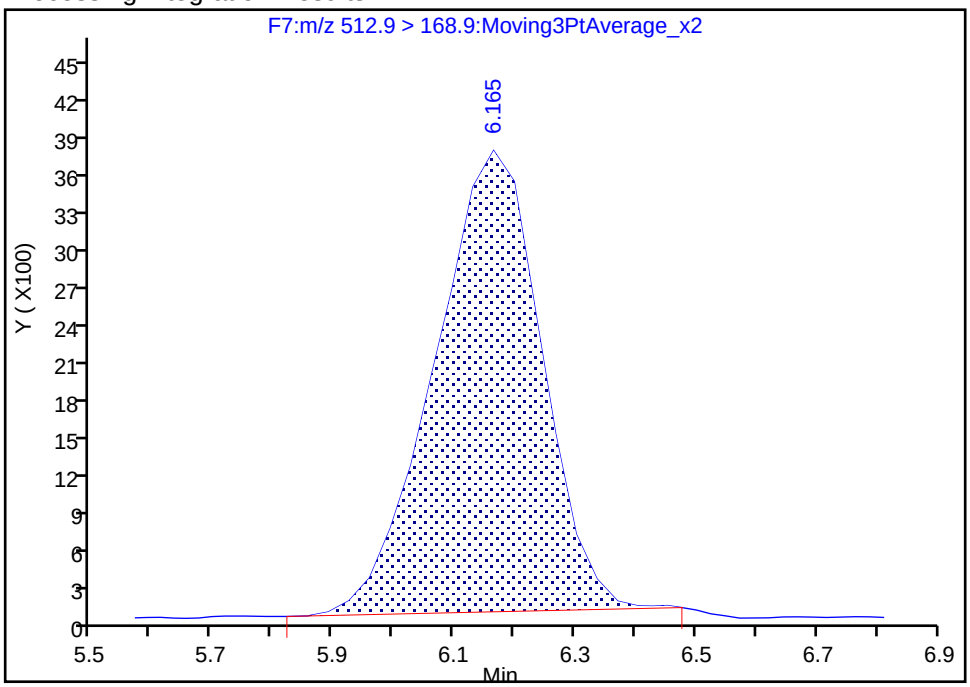
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

26 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

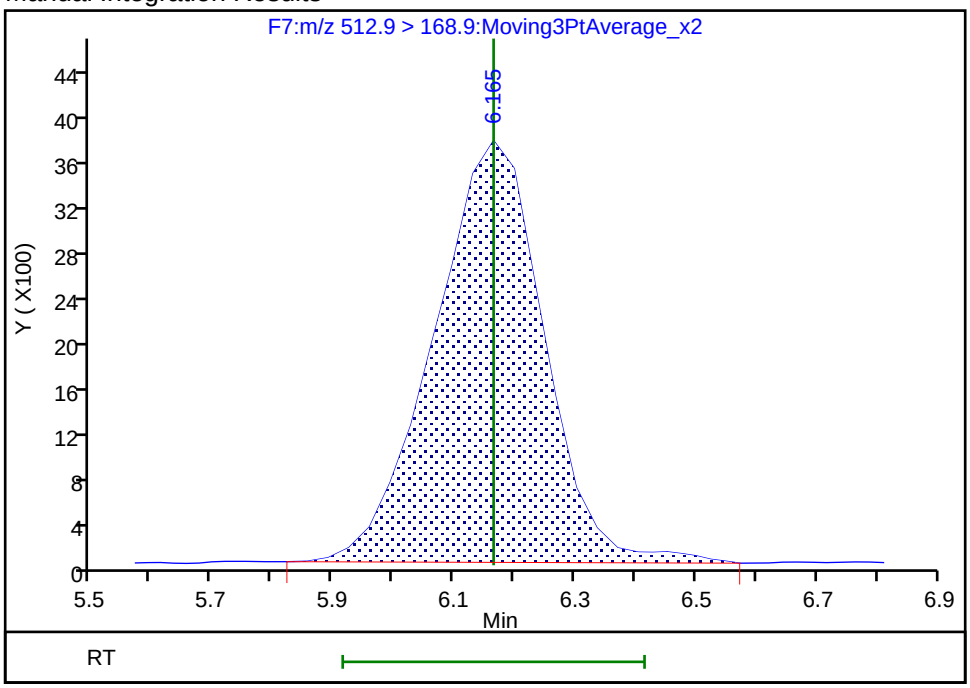
Processing Integration Results

RT: 6.17
Area: 44882
Amount: 18.523023
Amount Units: ng/ml



Manual Integration Results

RT: 6.17
Area: 46700
Amount: 18.523023
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:32:19
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

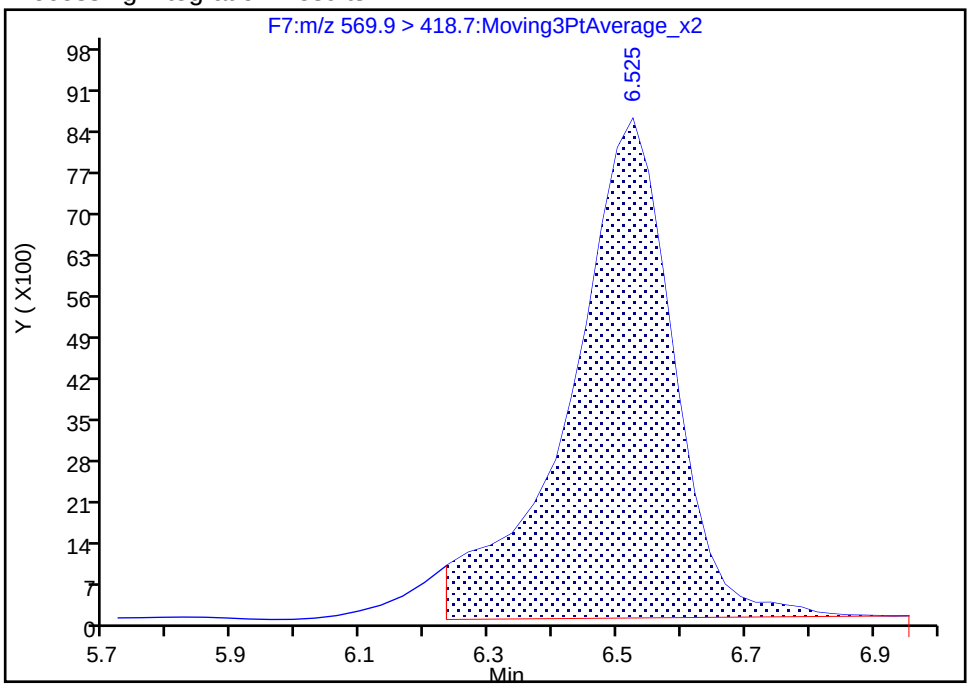
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B02.d
Injection Date: 05-Jun-2019 01:35:26 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

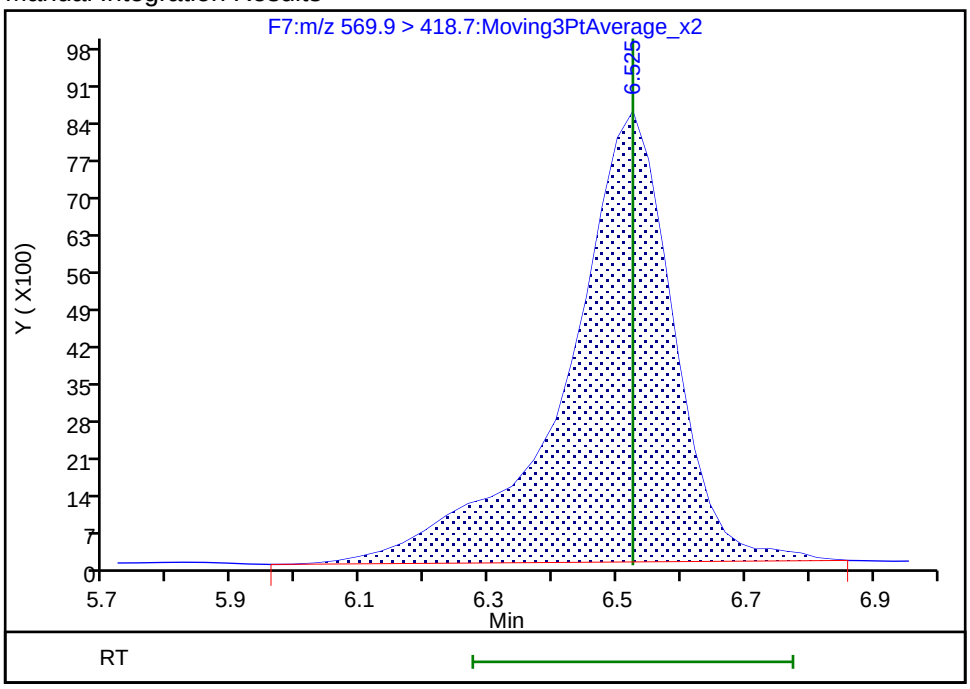
Processing Integration Results

RT: 6.52
Area: 95282
Amount: 21.386401
Amount Units: ng/ml



Manual Integration Results

RT: 6.52
Area: 98250
Amount: 22.052580
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:32:26
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVL 200-143753/3 Calibration Date: 06/05/2019 01:51

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B03.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	1.732		1100	1000	10.3	50.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	5.048		1690	1000	68.6*	50.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	2.833		996	884	12.7	50.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.684		1190	934	27.1	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.466		1050	1000	4.8	50.0
Perfluoropentanesulfonic acid	AveID	2.841	4.489		1480	938	58.0*	50.0
HFPO-DA	AveID	1.078	48.01		44500	1000	4354.5*	50.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.076		917	1000	-8.3	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	2.004		862	910	-5.3	50.0
DONA	AveID	4.300	6.307		1380	942	46.7	50.0
6:2 FTS	AveID	0.9451	0.8200		822	948	-13.2	50.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	0.9637		952	1000	-4.8	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.6837		748	952	-21.5	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.7985		904	1000	-9.6	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	1.024		984	928	6.0	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	4.667		989	932	6.2	50.0
8:2 FTS	AveID	0.7376	0.7297		948	958	-1.1	50.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.8151		890	1000	-11.0	50.0
Perfluorononanesulfonic acid	AveID	0.9697	1.332		1320	960	37.3	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.8067		977	1000	-2.3	50.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	1.212		1130	964	16.7	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.9942		1230	1000	23.5	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	1.015		1220	1000	22.0	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.340		941	1000	-5.9	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	6.949		1170	942	23.9	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9538		1010	1000	0.5	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.8450		901	1000	-9.9	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.7996		942	1000	-5.8	50.0
13C4 PFBA	Ave	0.2445	0.1846		37700	50000	-24.5	50.0
13C5 PFPeA	Ave	0.1855	0.1572		42400	50000	-15.3	50.0
13C3 PFBS	Ave	0.0807	0.0523		30100	46500	-35.2	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVL 200-143753/3 Calibration Date: 06/05/2019 01:51

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B03.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.6031		54200	50000	8.4	50.0
13C3 HFPO-DA	Ave	0.0529	0.0602		56900	50000	13.8	50.0
13C4 PFHpA	Ave	0.7840	0.8477		54100	50000	8.1	50.0
18O2 PFHxS	Ave	0.1031	0.0829		38000	47300	-19.6	50.0
M2-6:2 FTS	Ave	0.0557	0.0515		43900	47500	-7.6	50.0
13C4 PFOA	Ave	0.9706	0.998		51400	50000	2.8	50.0
13C4 PFOS	Ave	0.2326	0.1888		38800	47800	-18.8	50.0
13C5 PFNA	Ave	1.302	1.292		49600	50000	-0.8	50.0
M2-8:2 FTS	Ave	0.2026	0.2013		47600	47900	-0.7	50.0
13C2 PFDA	Ave	1.111	1.183		53200	50000	6.4	50.0
d3-NMeFOSAA	Ave	0.3621	0.2984		41200	50000	-17.6	50.0
d5-NEtFOSAA	Ave	0.2986	0.2757		46200	50000	-7.7	50.0
13C2 PFUnA	Ave	1.073	1.182		55100	50000	10.2	50.0
13C8 FOSA	Ave	0.4004	0.3762		47000	50000	-6.0	50.0
13C2 PFDoA	Ave	1.367	1.304		47700	50000	-4.7	50.0
13C2 PFTeDA	Ave	1.227	1.151		46900	50000	-6.2	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 05-Jun-2019 01:51:25 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-003 CCVL
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:53 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 09:40:27
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										
212.9 > 168.9	2.370	2.360	0.010	1.000	5855	1.10		110	19.9	
D 1 13C4 PFBA										M
216.9 > 171.5	2.370	2.360	0.010	1.000	169030	37.7		75.5	74.6	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.866	2.830	0.036	1.013	14528	1.69		169	26.3	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	143892	42.4		84.7	336	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.937	2.901	0.036	1.000	2397	1.00	Target=1.67	113	19.1	
298.9 > 98.9	2.830	2.901	-0.071	0.964	2105		1.14(0.83-2.51)		7.6	M
D 5 13C3 PFBS										M
302.0 > 79.8	2.937	2.901	0.036	1.000	44514	30.1		64.8	127	M
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.302	3.270	0.032	1.124	1506	1.19		127	16.7	M
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.334	3.302	0.032	1.000	16187	1.05	Target=14.34	105	105	M
312.9 > 118.9	3.302	3.302	0.0	0.990	1394		11.61(7.17-21.51)		10.1	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	552176	54.2		108	722	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.365	3.365	0.0	1.146	4031	1.48	Target=1.23	158	24.4	
348.9 > 98.9	3.365	3.365	0.0	1.000	4132		0.98(0.62-1.85)		49.3	M
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.492	3.492	0.0	1.000	55116	56.9		114	508	
44 Perfluoro(2-propoxypropanoic) acid										M
328.9 > 284.7	3.492	3.492	0.0	1.000	52920	44.5		4454	50.5	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.905	0.0	1.000	776168	54.1		108	1712	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.905	3.905	0.0	1.000	16702	0.9168	Target=2.84	91.7	66.5	M
362.9 > 168.9	3.905	3.905	0.0	1.000	6417		2.60(1.42-4.26)		34.3	M
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.946	3.925	0.021	1.005	2769	0.8616	Target=1.34	94.7	23.0	M
398.9 > 98.9	3.946	3.925	0.021	1.005	1913		1.45(0.67-2.01)		13.9	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.926	3.925	0.001	1.000	71835	38.0		80.4	347	
49 DONA										
376.9 > 250.7	3.966	3.966	0.0	0.739	20539	1.38	Target=2.33	147	117	
376.9 > 85.0	3.946	3.966	-0.020	1.000	7540		2.72(1.16-3.49)		35.8	
13 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.506	4.547	-0.041	0.991	733	0.8225		86.8	5.3	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.547	4.547	0.0	1.000	44791	43.9		92.4	519	M
* 16 13C2 PFOA										M
414.9 > 369.8	4.589	4.589	0.0		915646	50.0			663	M
15 Perfluorooctanoic acid										
412.9 > 368.8	4.589	4.589	0.0	1.000	17614	0.9524	Target=2.43	95.2	55.0	
412.9 > 168.9	4.589	4.589	0.0	1.000	7568		2.33(1.22-3.64)		47.9	
D 17 13C4 PFOA										
416.9 > 371.8	4.589	4.609	-0.020	1.000	913856	51.4		103	556	
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.630	4.609	0.021	0.863	2250	0.7476	Target=1.30	78.5	25.0	
448.9 > 98.9	4.630	4.609	0.021	1.000	2910		0.77(0.65-1.95)		14.7	M
19 Perfluorononanoic acid										M
462.9 > 418.7	5.368	5.368	0.0	1.000	18887	0.9043	Target=5.00	90.4	73.7	M
462.9 > 168.9	5.347	5.368	-0.021	0.996	5897		3.20(2.50-7.50)		35.8	M
D 20 13C5 PFNA										
467.8 > 422.8	5.368	5.389	-0.021	1.000	1182734	49.6		99.2	1775	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.389	5.389	0.0	1.004	3284	0.9837	Target=1.41	106	15.6	M
498.9 > 98.9	5.368	5.389	-0.021	1.000	3918		0.84(0.71-2.12)		23.6	M
D 22 13C4 PFOS										
502.9 > 80.0	5.368	5.411	-0.043	1.000	165244	38.8		81.2	424	
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.812	5.812	0.0	1.083	15037	0.9893		106	71.9	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.062	6.131	-0.069	0.989	2577	0.9478		98.9	11.1	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	176570	47.6		99.3	474	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.165	6.165	0.0	1.000	17656	0.8903	Target=7.23	89.0	72.2	
512.9 > 168.9	6.165	6.165	0.0	1.000	3217		5.49(3.61-10.84)		25.7	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.165	6.165	0.0	1.149	4419	1.32	Target=1.39	137	20.2	
548.9 > 98.9	6.165	6.165	0.0	1.000	3865		1.14(0.69-2.08)		22.4	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.199	-0.034	1.000	1083067	53.2		106	1634	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.477	6.525	-0.048	0.993	4408	0.9769		97.7	22.8	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.525	6.549	-0.024	1.000	273228	41.2		82.4	1288	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.921	6.897	0.024	1.007	5020	1.23		123	48.7	M
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.897	6.897	0.0	1.285	4038	1.13	Target=1.25	117	22.1	M
598.9 > 98.9	6.897	6.897	0.0	1.000	3483		1.16(0.63-1.88)		18.6	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.921	-0.048	1.000	252454	46.2		92.3	651	
32 Perfluoroundecanoic acid										M
562.9 > 518.5	6.945	6.921	0.024	1.003	21974	1.22	Target=7.06	122	85.8	
562.9 > 168.9	6.921	6.921	0.0	1.000	2791		7.87(3.53-10.58)		20.9	M
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.945	-0.024	1.000	1082079	55.1		110	3650	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	7.026	7.013	0.013	1.000	9231	0.9409		94.1	55.8	M
D 34 13C8 FOSA										
505.9 > 78.0	7.026	7.026	0.0	1.000	344446	47.0		94.0	1726	
43 11-Chloroeicosafluoro-3-oxaundecan										M
631.0 > 450.6	7.274	7.274	0.0	1.355	22630	1.17		124	152	M
36 Perfluorododecanoic acid										M
612.9 > 568.5	7.616	7.616	0.0	1.000	22769	1.01	Target=5.37	101	80.7	
612.9 > 168.9	7.596	7.616	-0.020	0.997	3638		6.26(2.68-8.06)		23.2	M
D 37 13C2 PFDoA										
614.9 > 569.5	7.616	7.655	-0.039	1.000	1193640	47.7		95.3	1643	
38 Perfluorotridecanoic acid										M
662.9 > 618.5	8.246	8.235	0.011	1.083	20172	0.9015	Target=4.67	90.1	95.0	
662.9 > 168.9	8.213	8.235	-0.022	1.078	3671		5.49(2.34-7.01)		21.9	M
39 Perfluorotetradecanoic acid										M
712.9 > 668.5	8.797	8.786	0.011	1.001	16850	0.9421	Target=4.86	94.2	69.9	M
712.9 > 168.9	8.775	8.786	-0.011	0.999	4018		4.19(2.43-7.30)		28.0	M
D 40 13C2 PFTeDA										
714.9 > 669.5	8.786	8.819	-0.033	1.000	1053646	46.9		93.8	529	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L1_00006 Amount Added: 100.00 Units: uL

Report Date: 05-Jun-2019 15:50:53 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d

Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410

Lims ID: CCVL

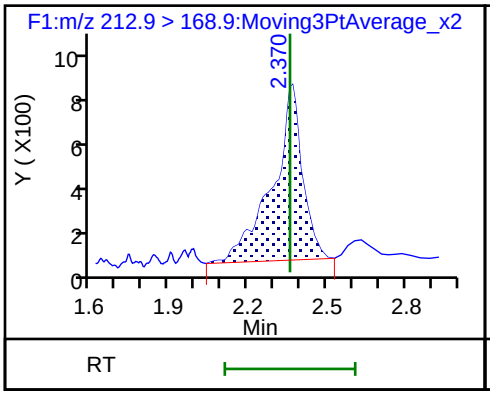
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3

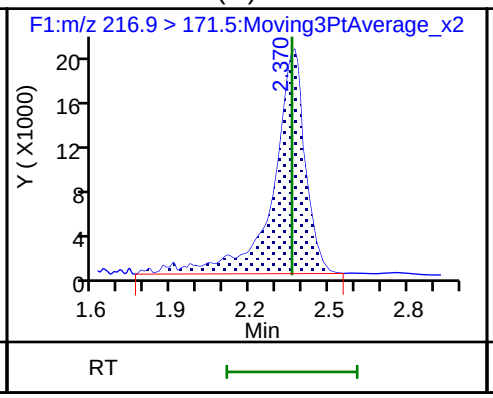
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

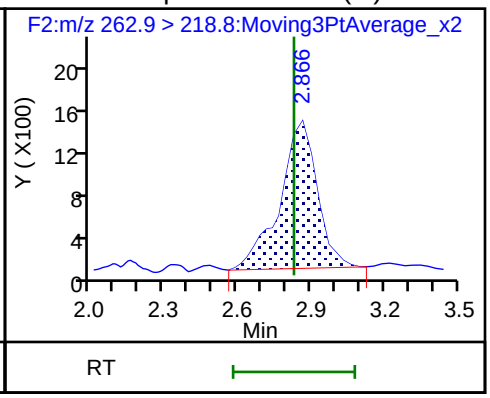
2 Perfluorobutanoic acid



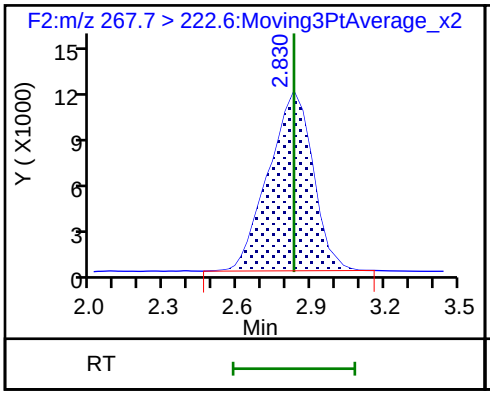
D 1 13C4 PFBA (M)



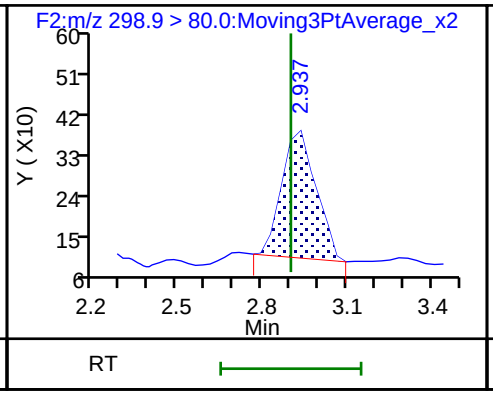
3 Perfluoropentanoic acid (M)



D 4 13C5 PFPeA



6 Perfluorobutanesulfonic acid



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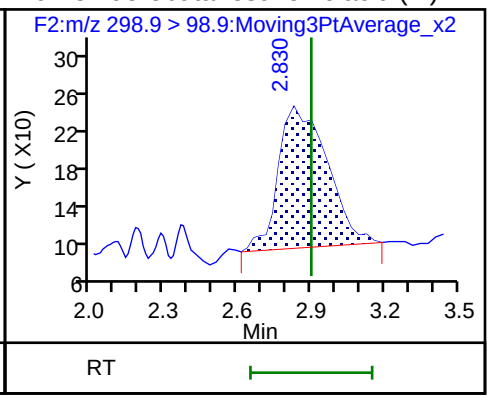
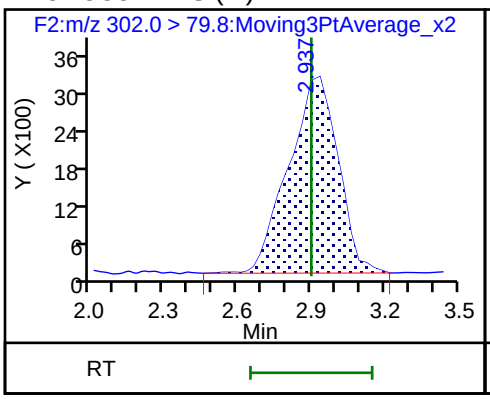
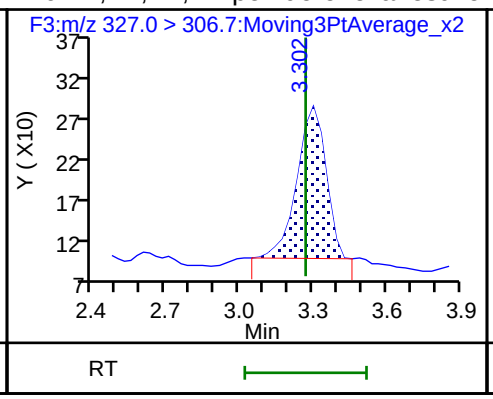


D 5 13C3 PFBS (M)



46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



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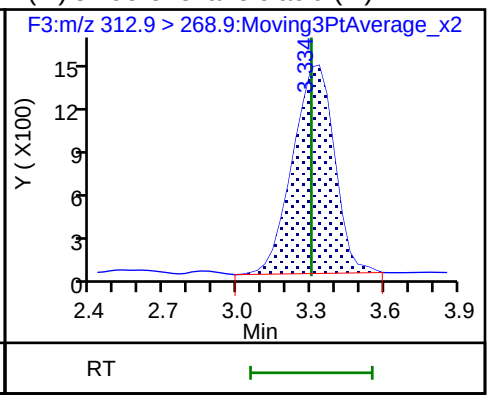

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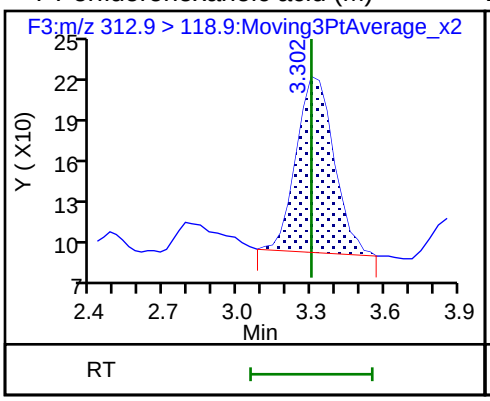
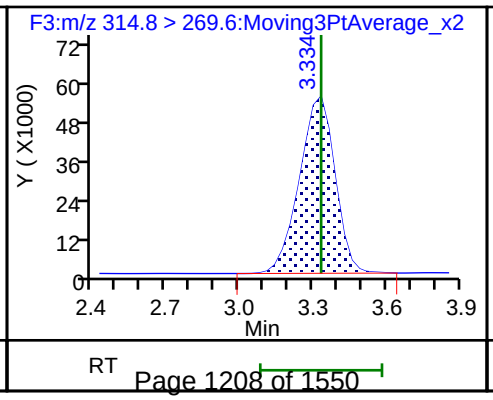
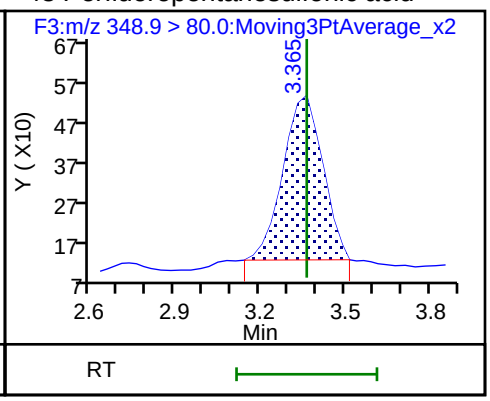


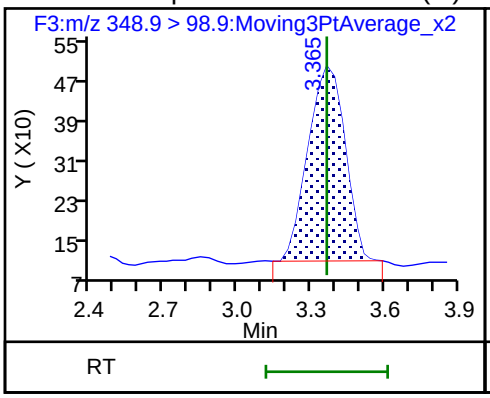
D 8 13C2 PFHxA



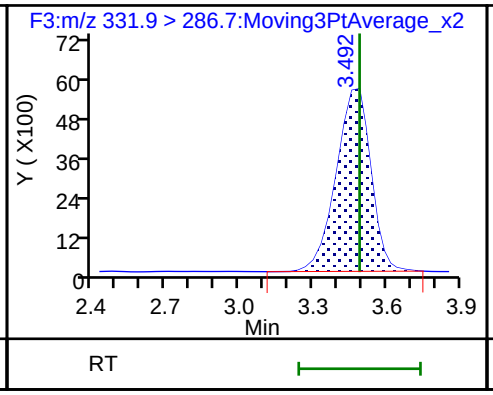
48 Perfluoropentanesulfonic acid



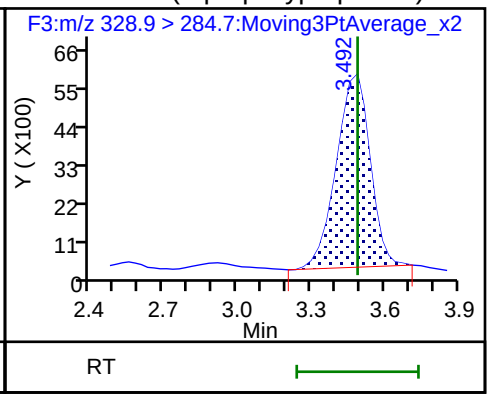
48 Perfluoropentanesulfonic acid (M)



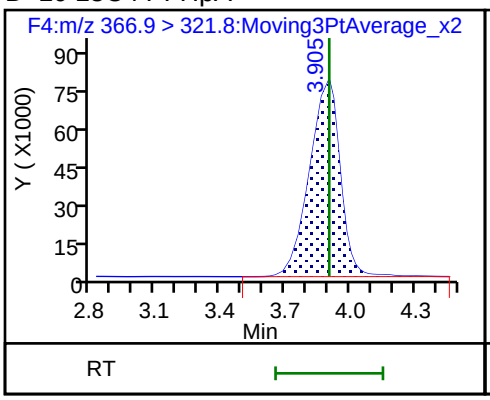
D 42 13C3 HFPO-DA



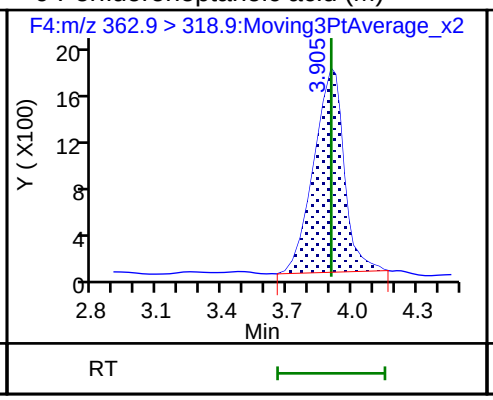
44 Perfluoro(2-propoxypropanoic) acid (M)



D 10 13C4 PFHpA



9 Perfluoroheptanoic acid (M)



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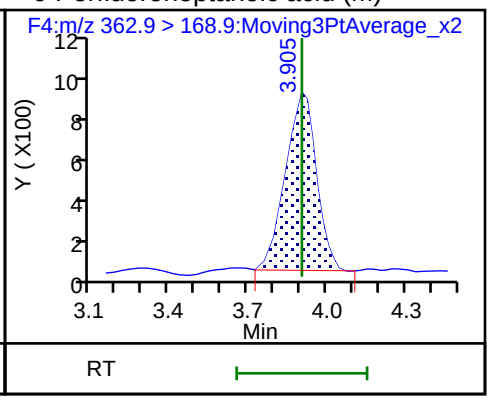
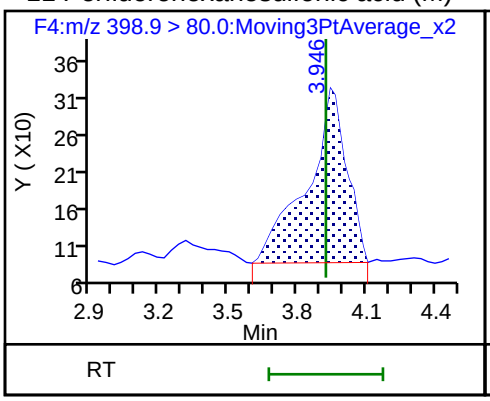


11 Perfluorohexanesulfonic acid (M)



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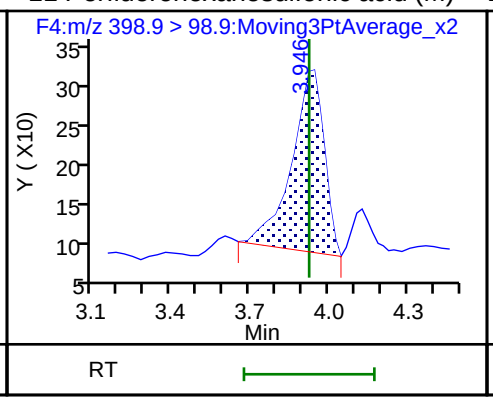
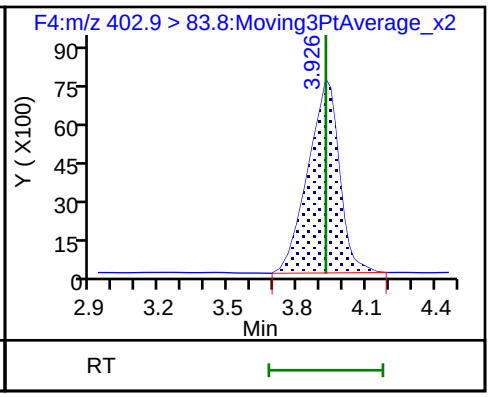
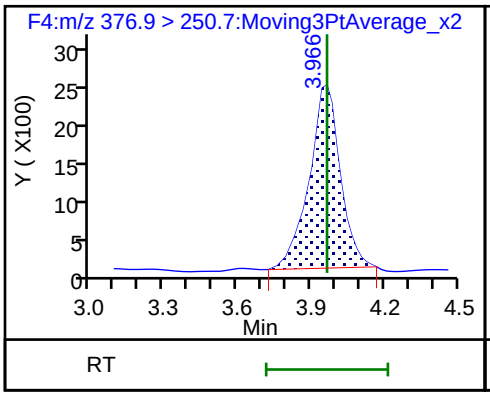


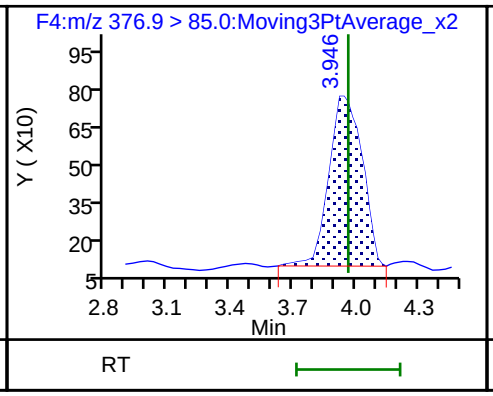
D 12 18O2 PFHxS



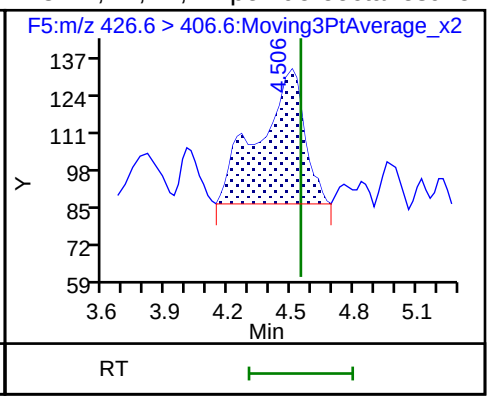
49 DONA



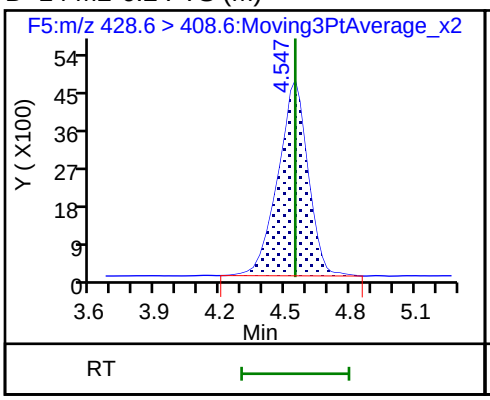
49 DONA



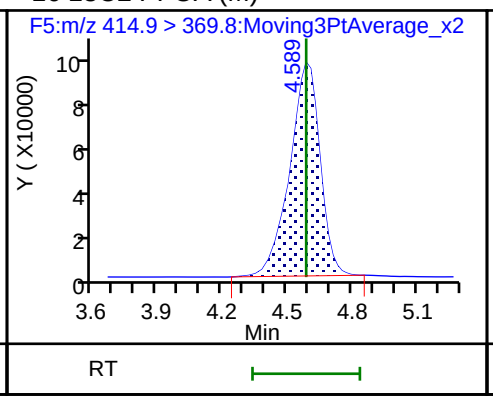
13 1H,1H,2H,2H-perfluorooctanesulfoni (M)



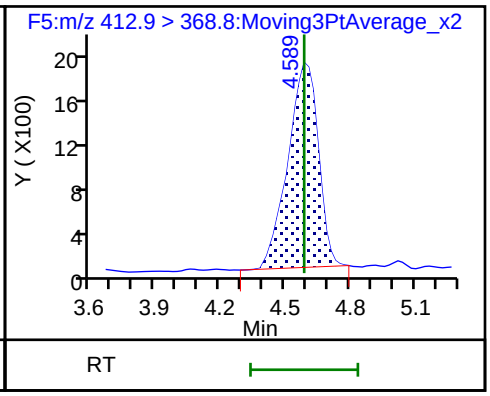
D 14 M2-6:2 FTS (M)



* 16 13C2 PFOA (M)



15 Perfluorooctanoic acid



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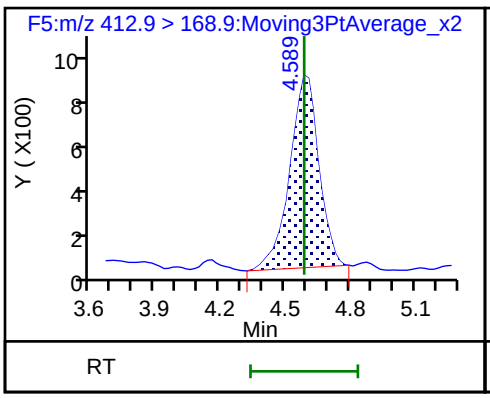
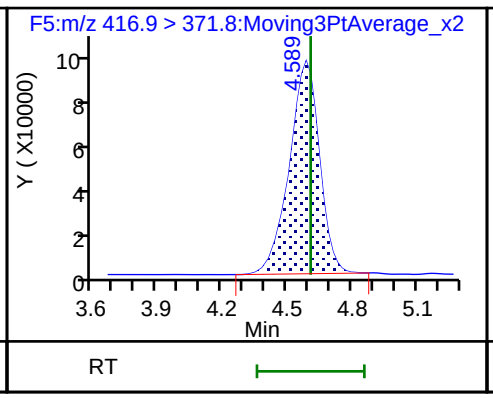
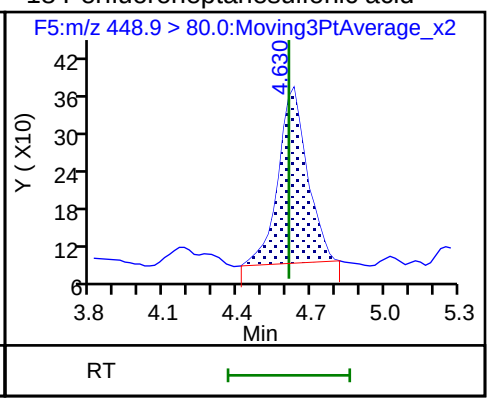


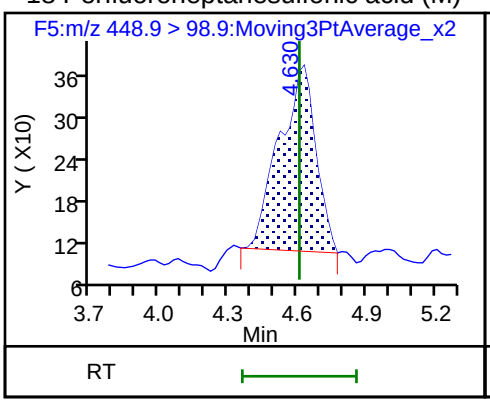
D 17 13C4 PFOA



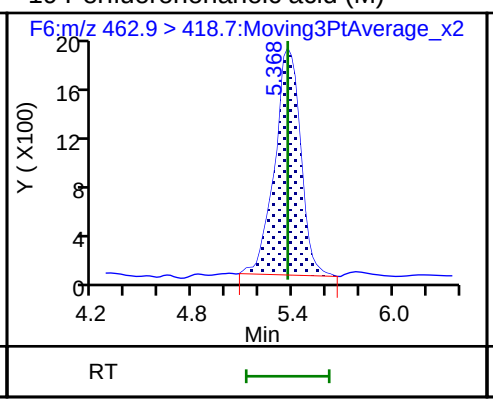
18 Perfluoroheptanesulfonic acid



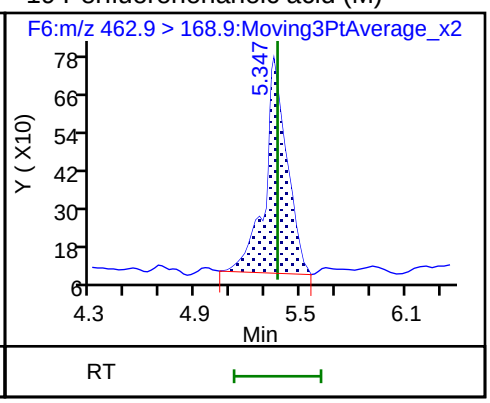
18 Perfluoroheptanesulfonic acid (M)



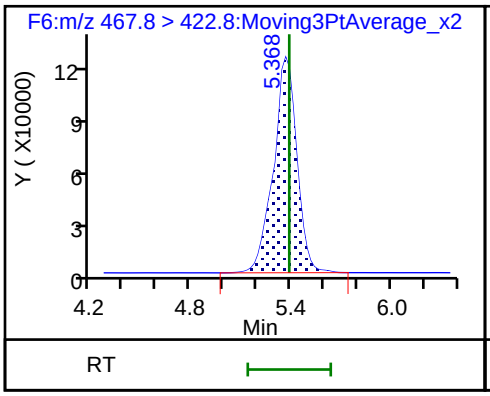
19 Perfluorononanoic acid (M)



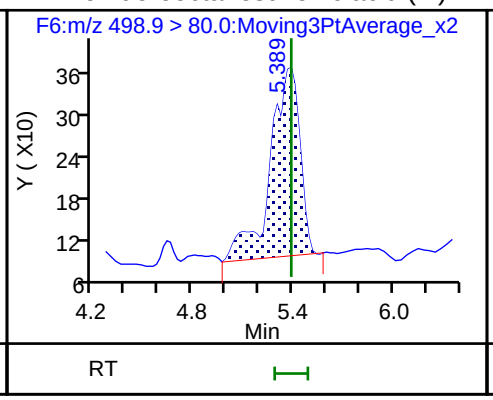
19 Perfluorononanoic acid (M)



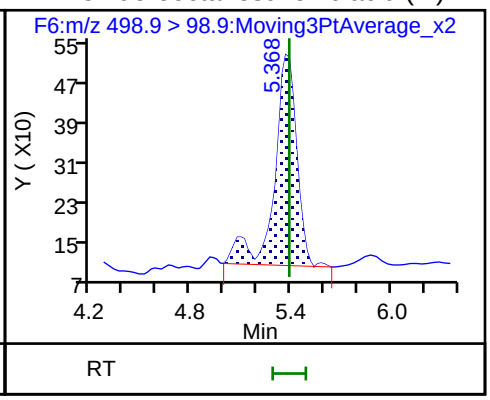
D 20 13C5 PFNA



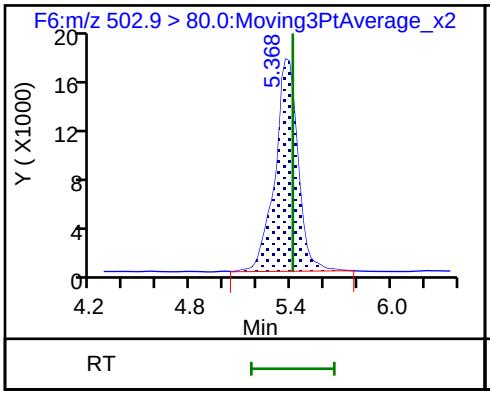
21 Perfluorooctanesulfonic acid (M)



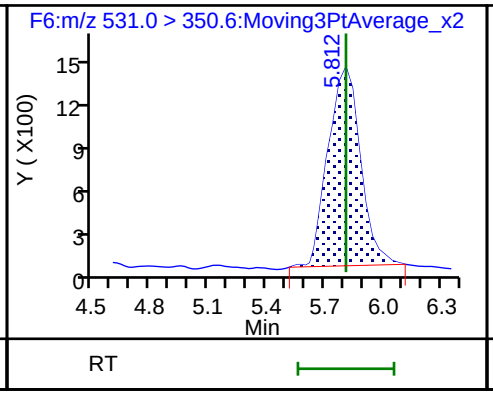
21 Perfluorooctanesulfonic acid (M)



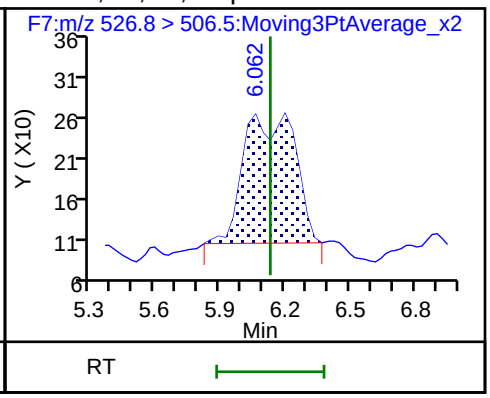
D 22 13C4 PFOS



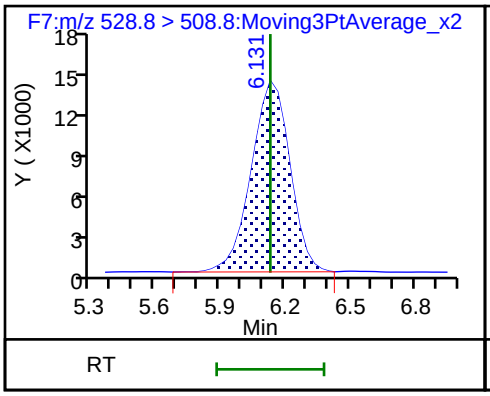
47 9-Chlorohexadecafluoro-3-oxanonane



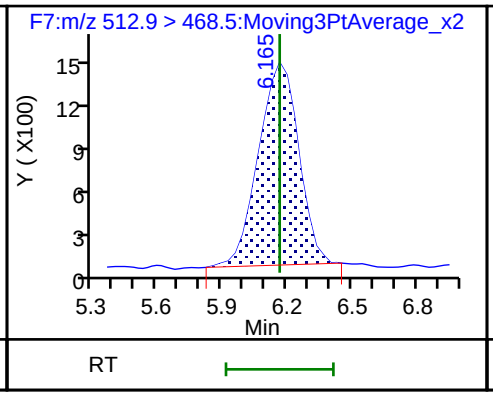
23 1H,1H,2H,2H-perfluorodecanesulfoni



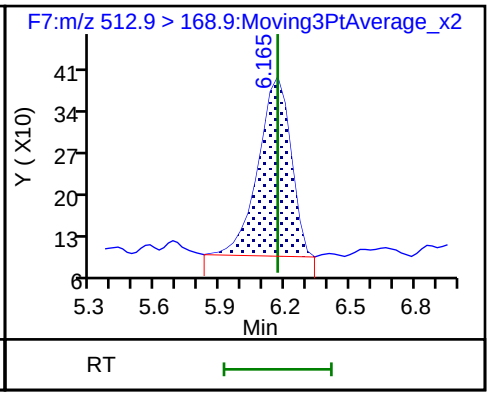
D 24 M2-8:2 FTS



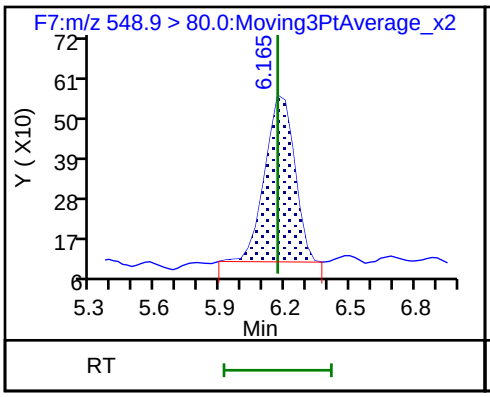
26 Perfluorodecanoic acid



26 Perfluorodecanoic acid



45 Perfluorononanesulfonic acid



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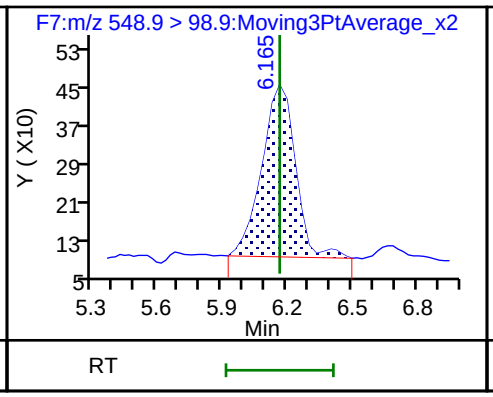
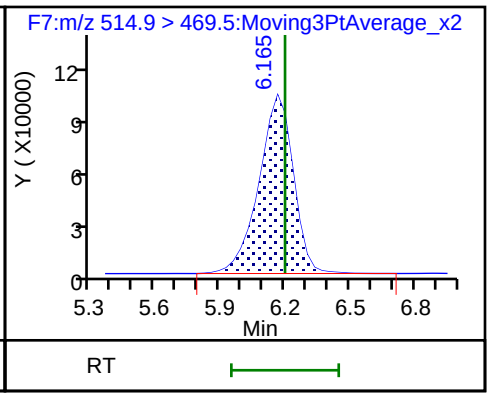
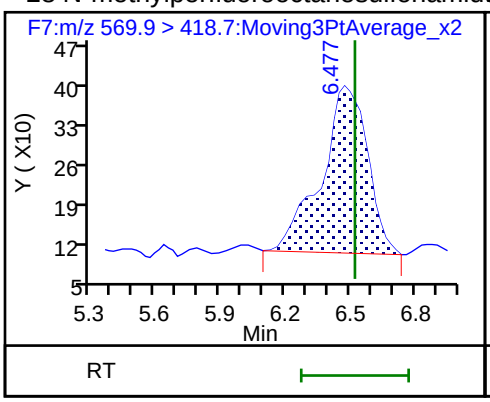


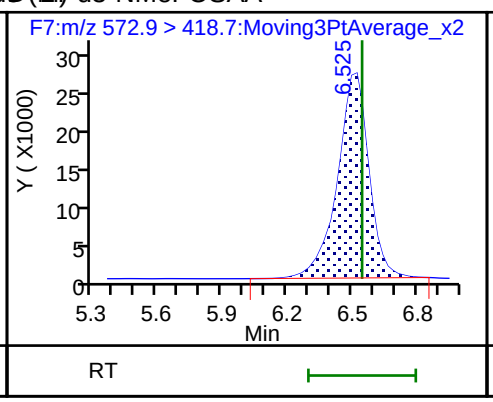
D 25 13C2 PFDA



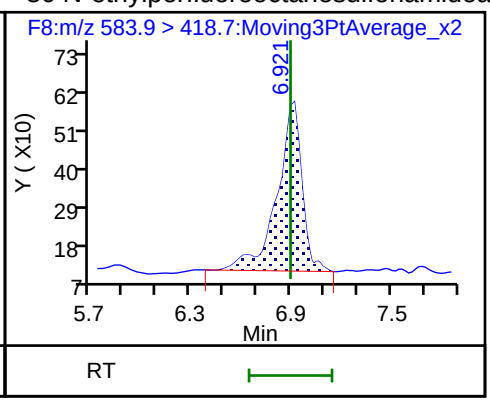
28 N-methylperfluorooctanesulfonamido



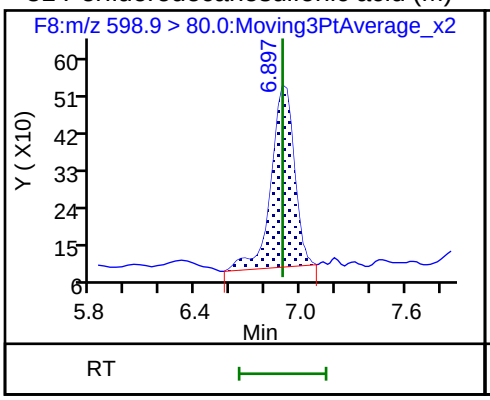
D (27) d3-NMeFOSAA



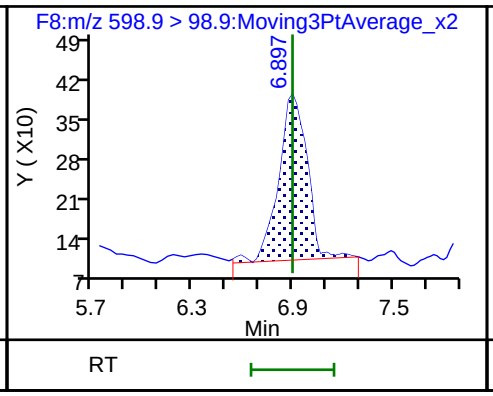
30 N-ethylperfluorooctanesulfonamidoa (M)



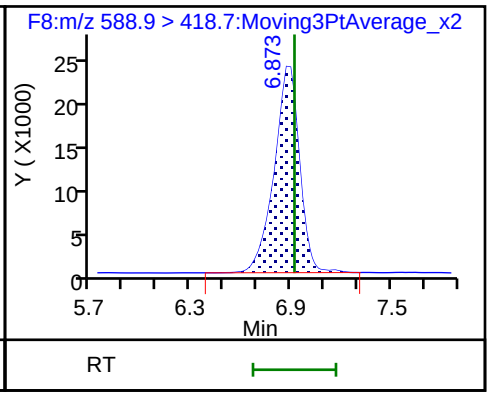
31 Perfluorodecanesulfonic acid (M)



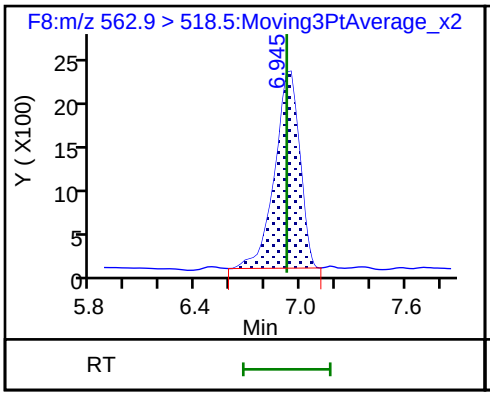
31 Perfluorodecanesulfonic acid



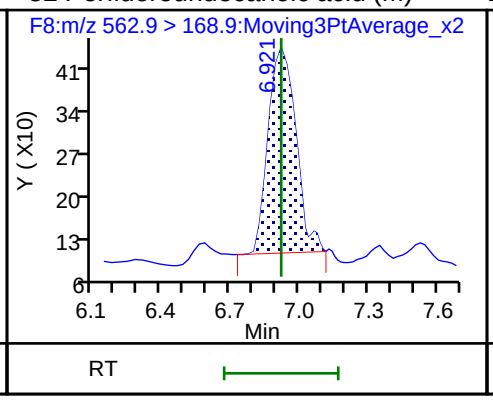
D 29 d5-NEtFOSAA



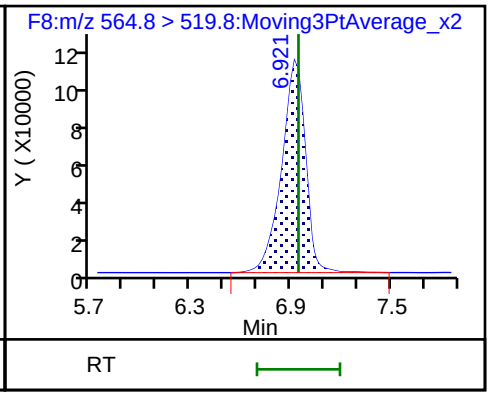
32 Perfluoroundecanoic acid



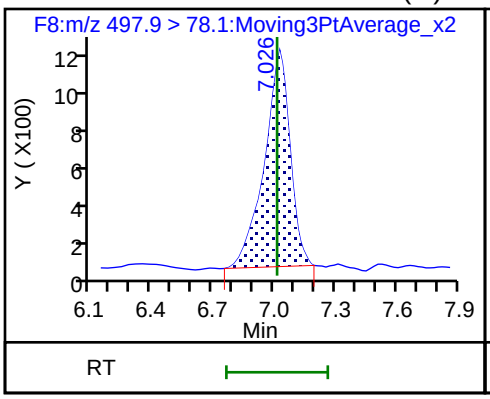
32 Perfluoroundecanoic acid (M)



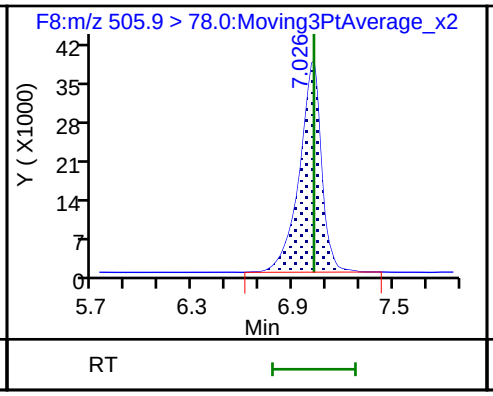
D 33 13C2 PFUnA



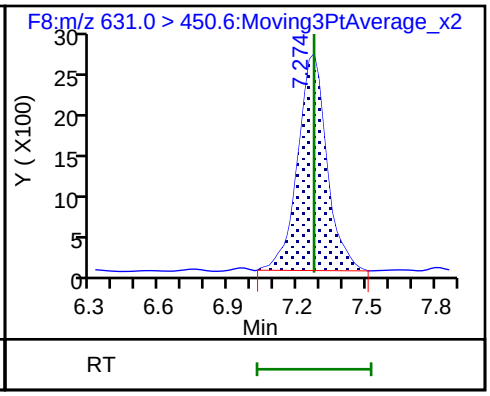
35 Perfluorooctanesulfonamide (M)



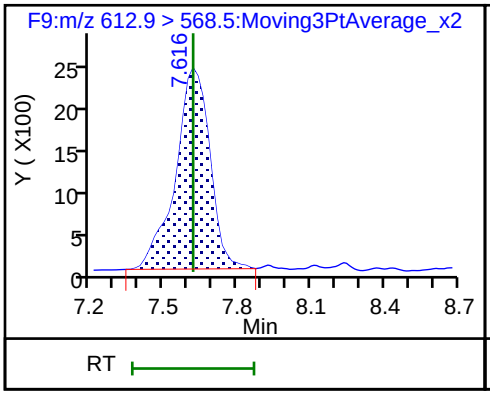
D 34 13C8 FOSA



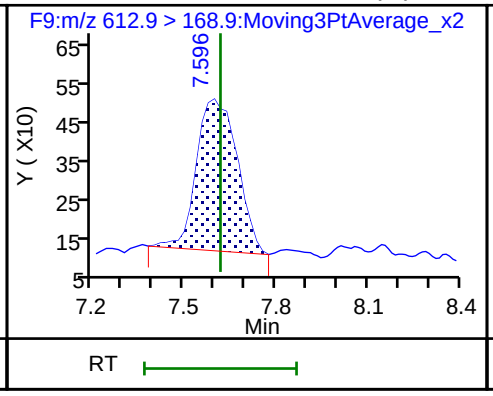
43 11-Chloroeicosafluoro-3-oxaundecan (M)



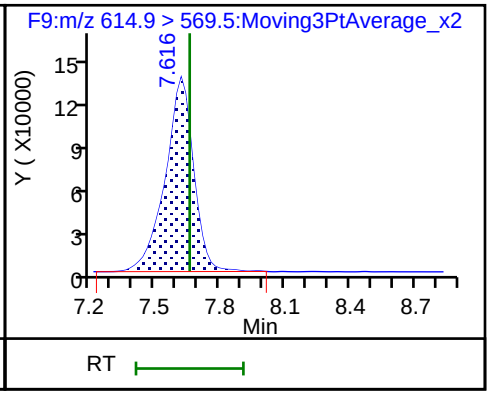
36 Perfluorododecanoic acid



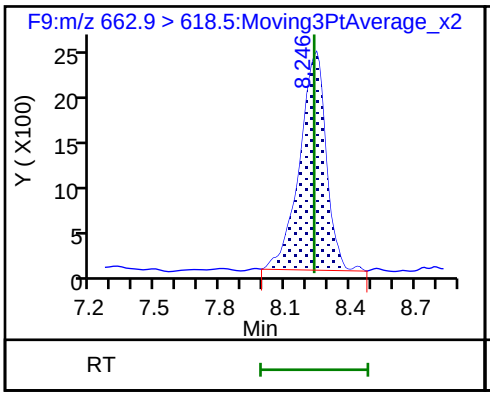
36 Perfluorododecanoic acid (M)



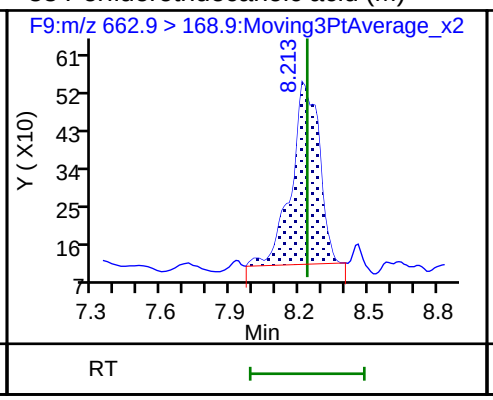
D 37 13C2 PFDoA



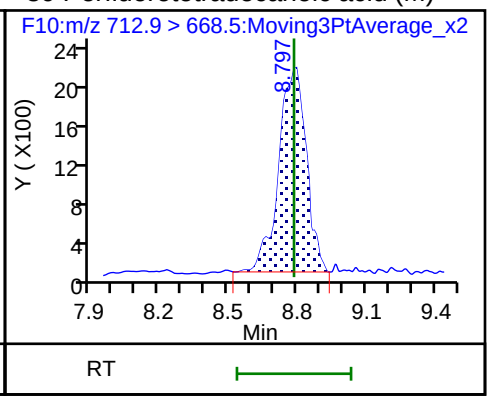
38 Perfluorotridecanoic acid



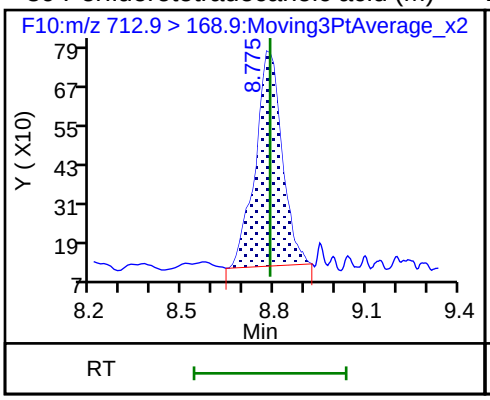
38 Perfluorotridecanoic acid (M)



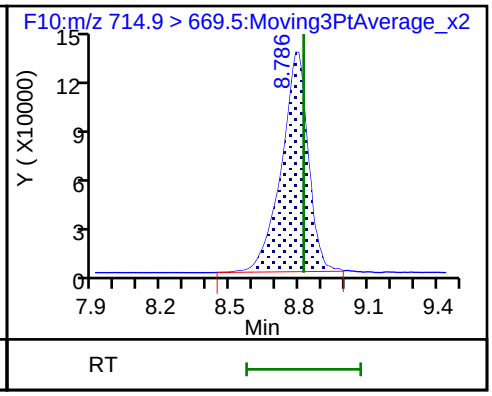
39 Perfluorotetradecanoic acid (M)



39 Perfluorotetradecanoic acid (M)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

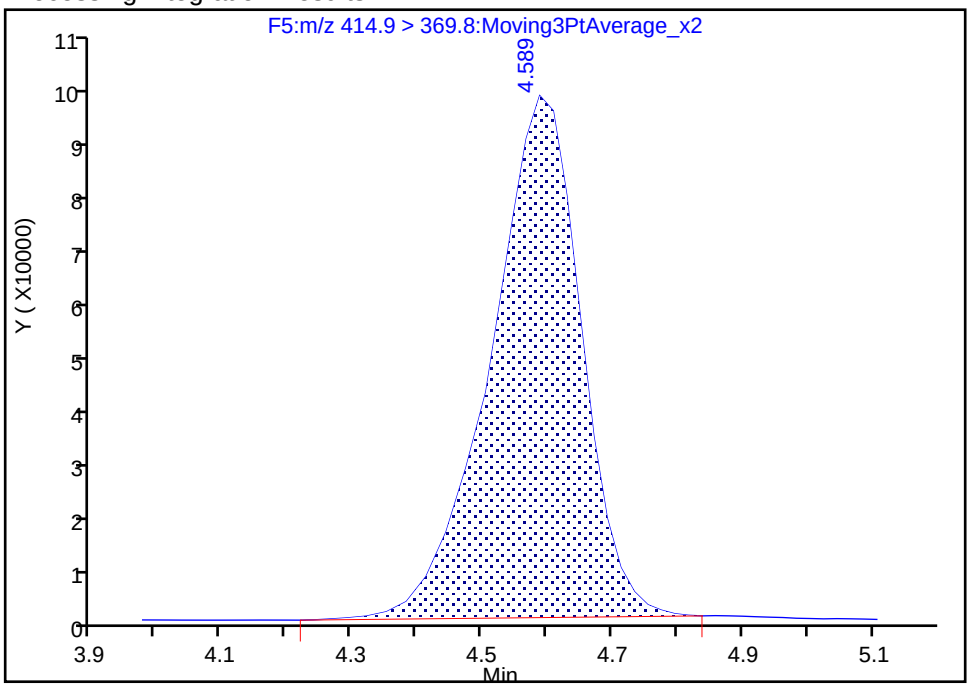
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

* 16 13C2 PFOA, CAS: STL00623

Signal: 1

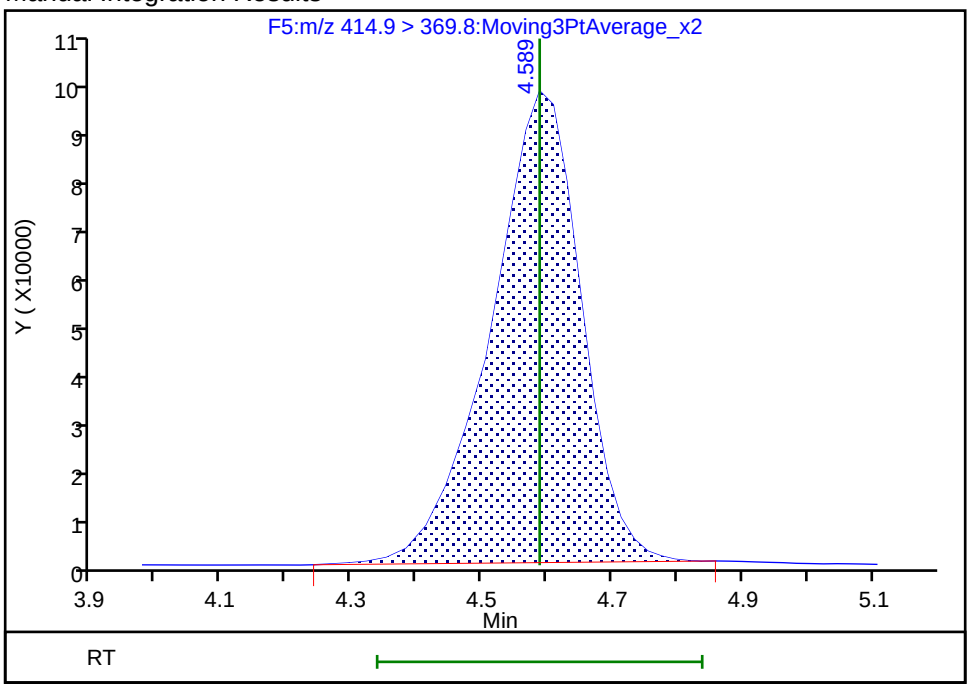
Processing Integration Results

RT: 4.59
Area: 916587
Amount: 50.000000
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 915646
Amount: 50.000000
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:35:26
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

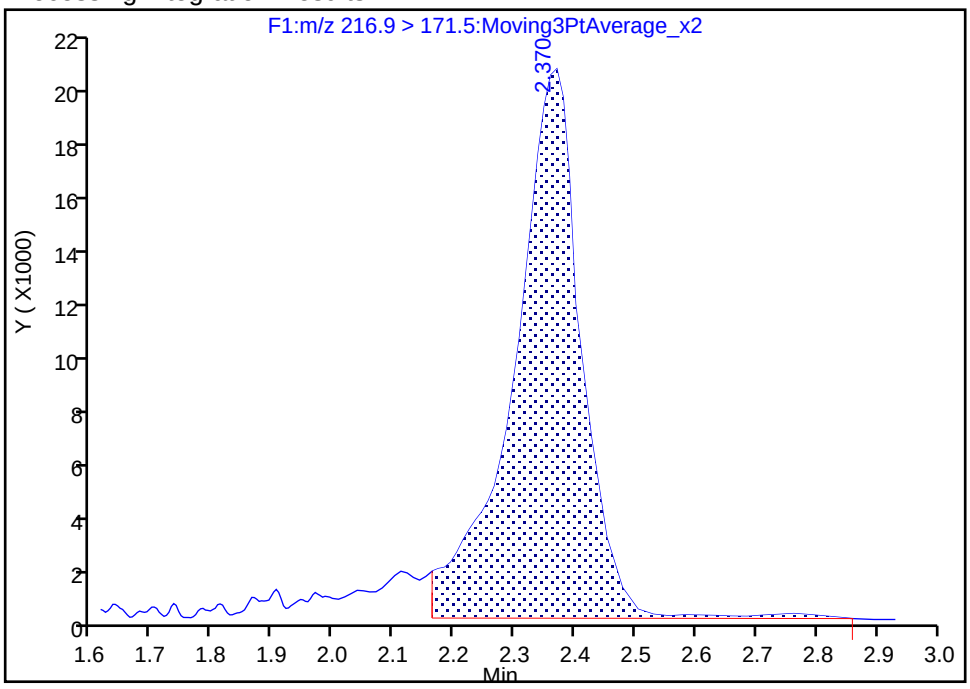
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

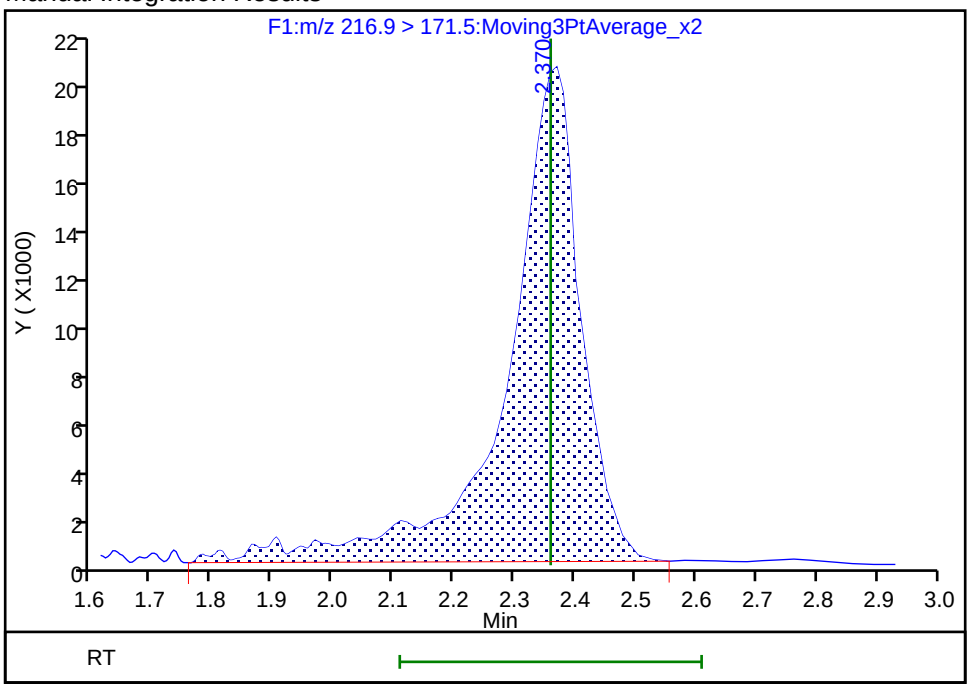
Processing Integration Results

RT: 2.37
Area: 154359
Amount: 34.434205
Amount Units: ng/ml



Manual Integration Results

RT: 2.37
Area: 169030
Amount: 37.745744
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:33:22
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

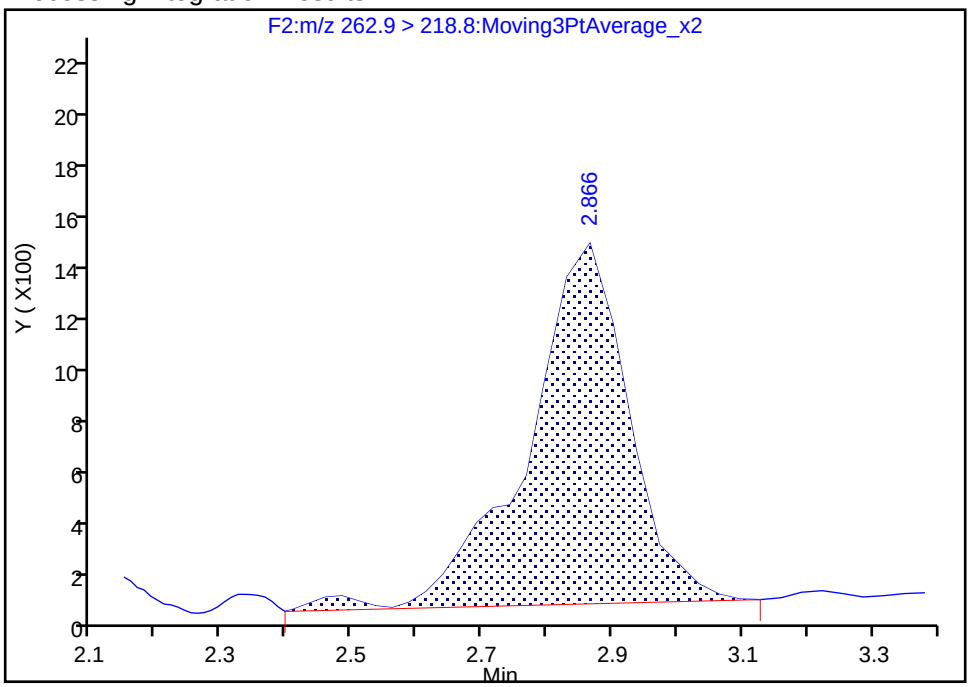
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

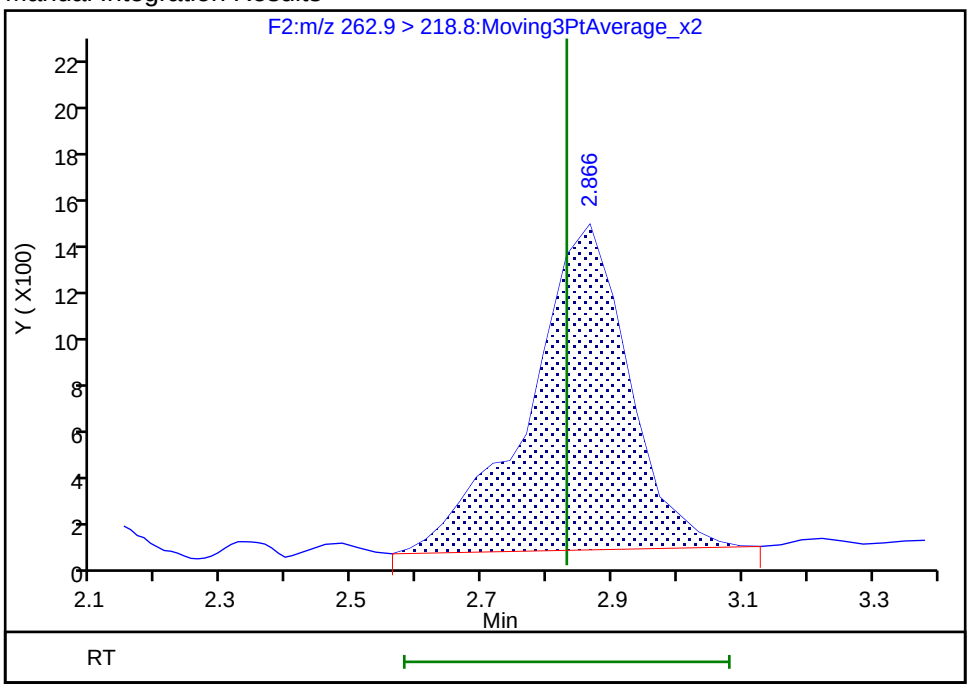
Processing Integration Results

RT: 2.87
Area: 14875
Amount: 1.726094
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 14528
Amount: 1.685829
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:33:34
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

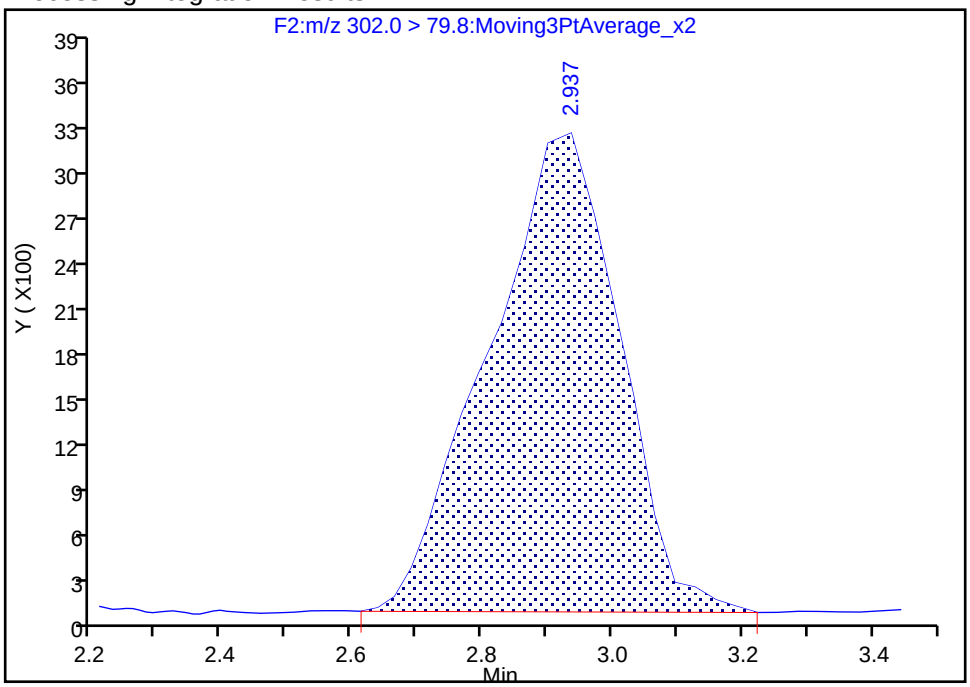
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

D 5 13C3 PFBS, CAS: STL02337

Signal: 1

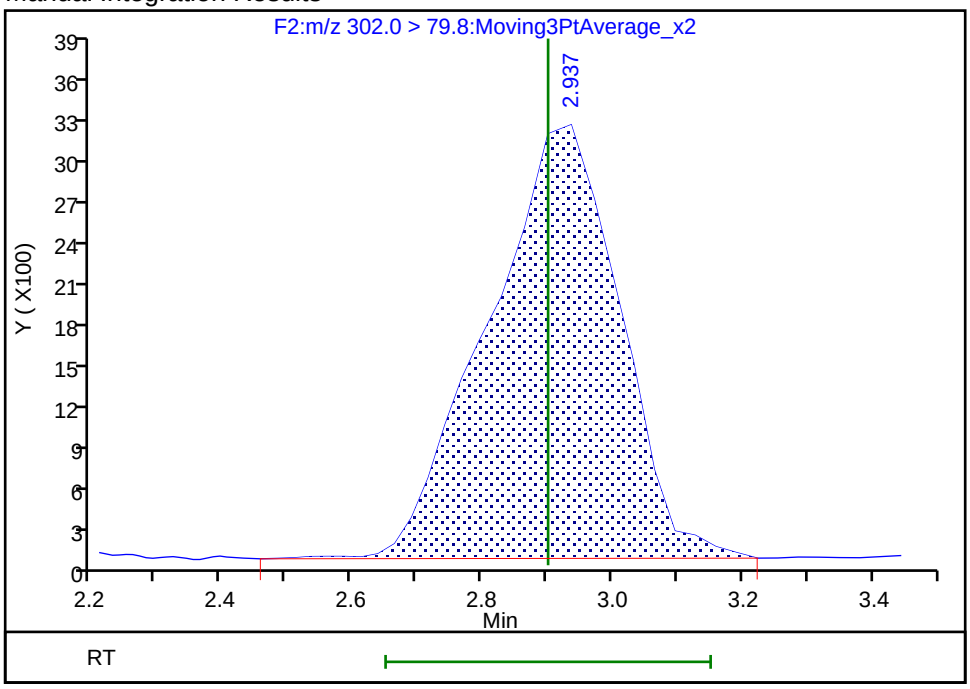
Processing Integration Results

RT: 2.94
Area: 44197
Amount: 29.912105
Amount Units: ng/ml



Manual Integration Results

RT: 2.94
Area: 44514
Amount: 30.126648
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:38:46
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

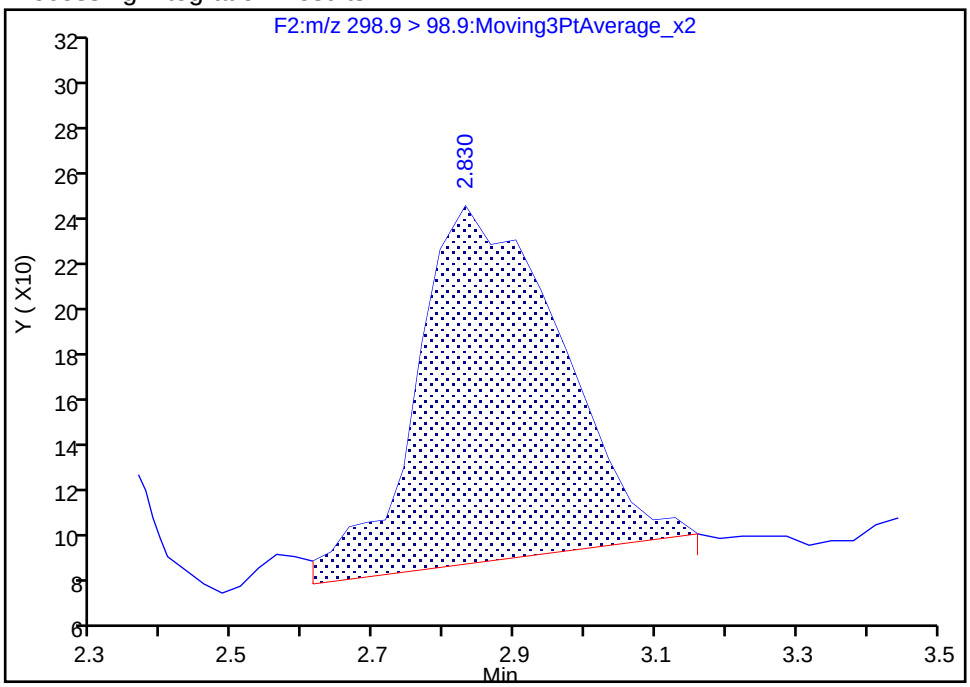
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

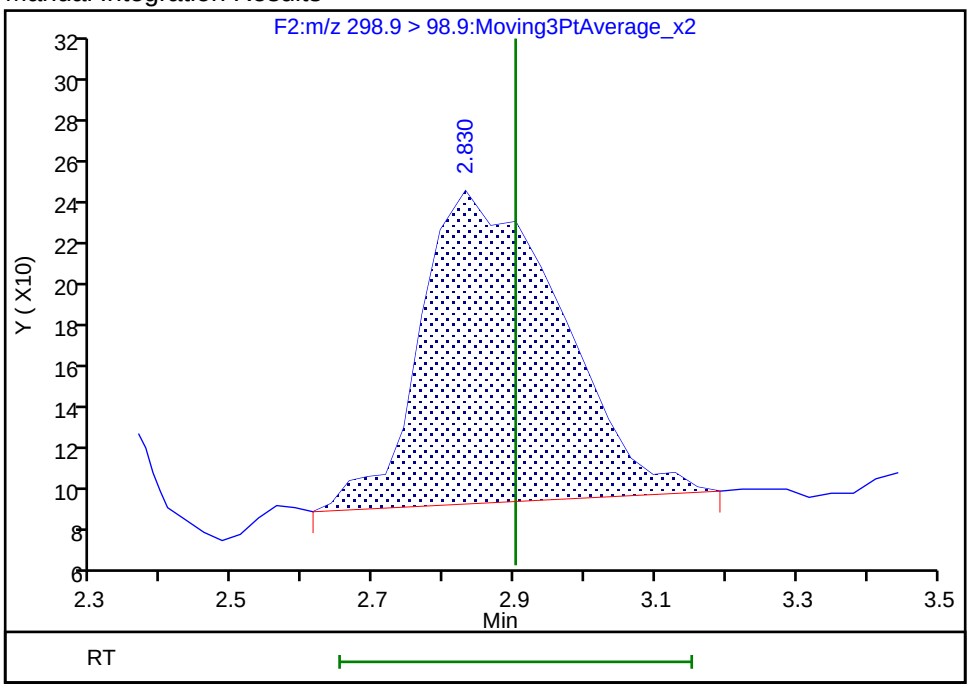
Processing Integration Results

RT: 2.83
Area: 2224
Amount: 1.003361
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 2105
Amount: 0.996216
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:33:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

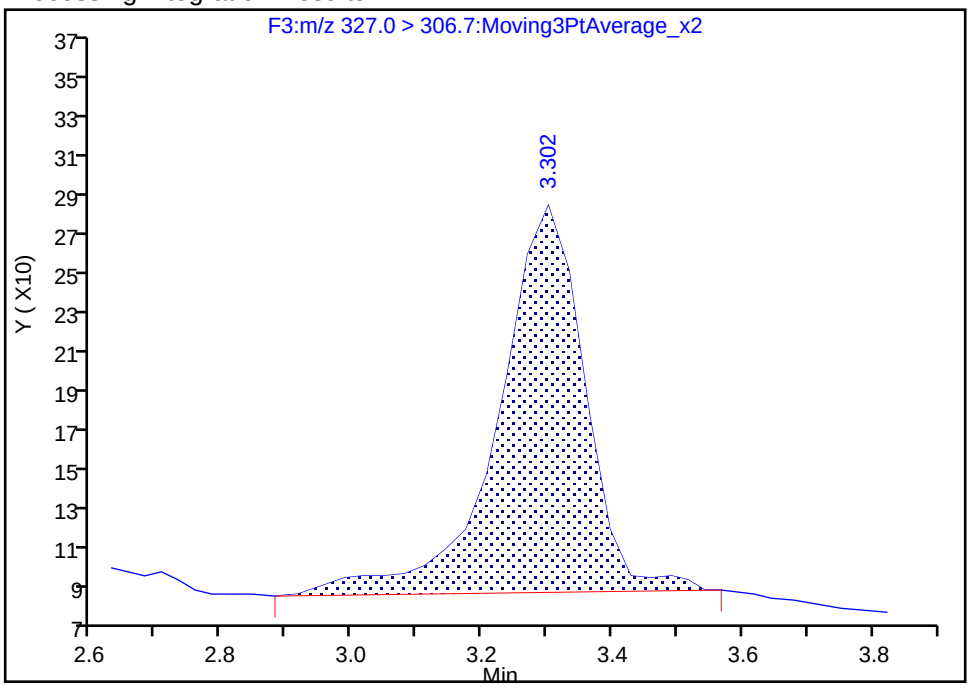
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

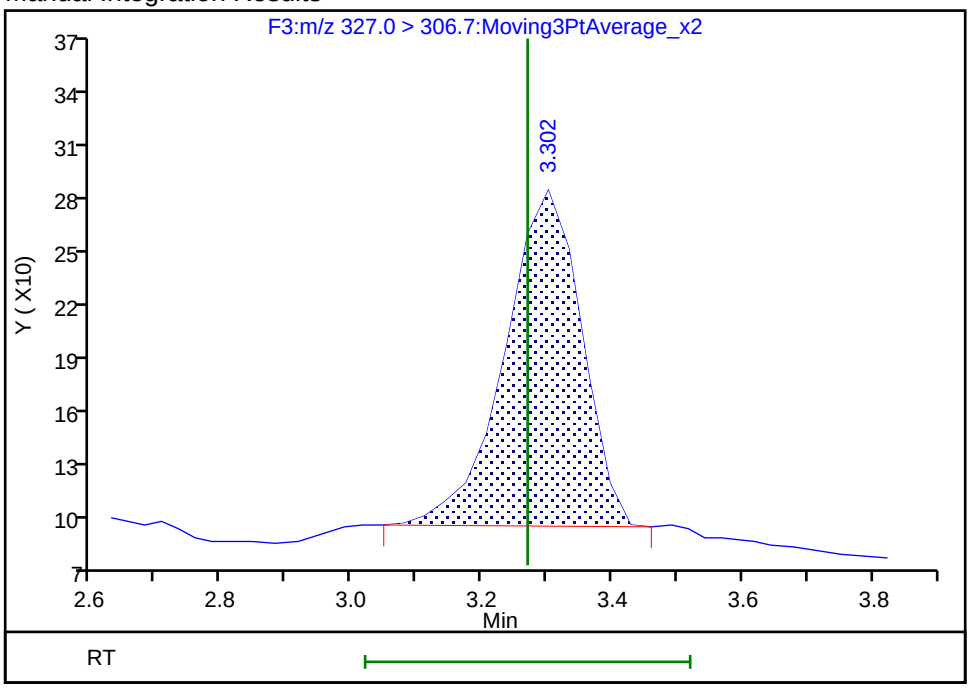
Processing Integration Results

RT: 3.30
Area: 1781
Amount: 1.414452
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 1506
Amount: 1.187532
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:33:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

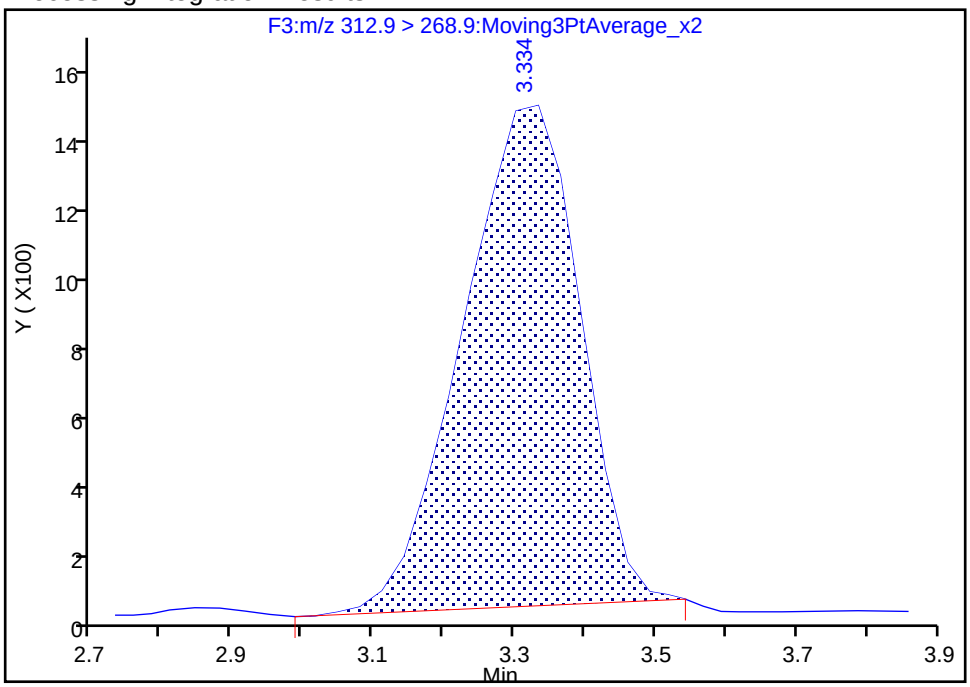
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 1

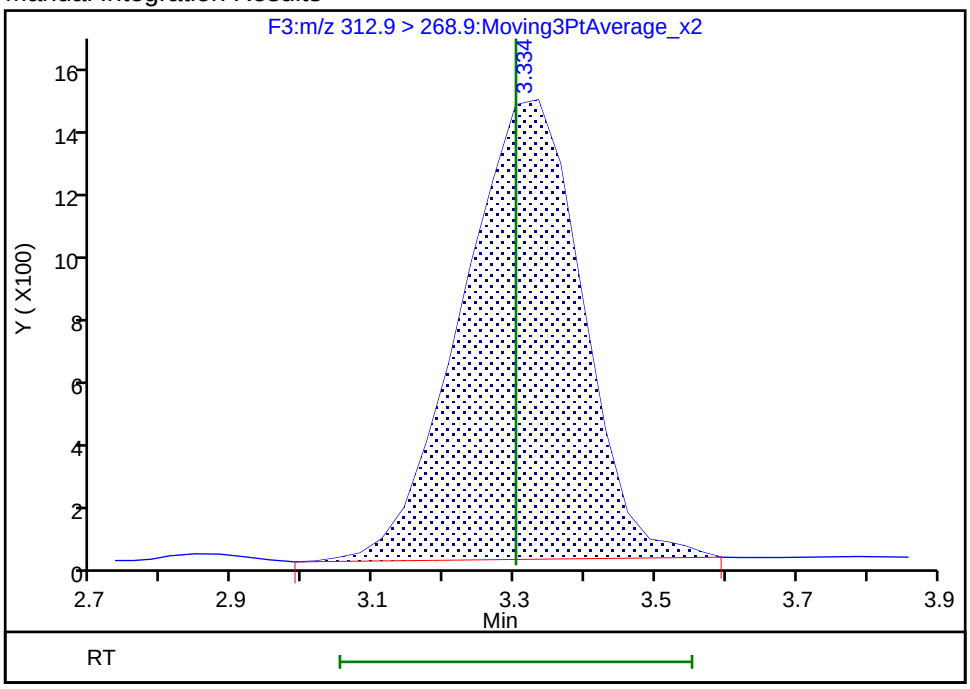
Processing Integration Results

RT: 3.33
Area: 15571
Amount: 1.008573
Amount Units: ng/ml



Manual Integration Results

RT: 3.33
Area: 16187
Amount: 1.048473
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:33:53
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

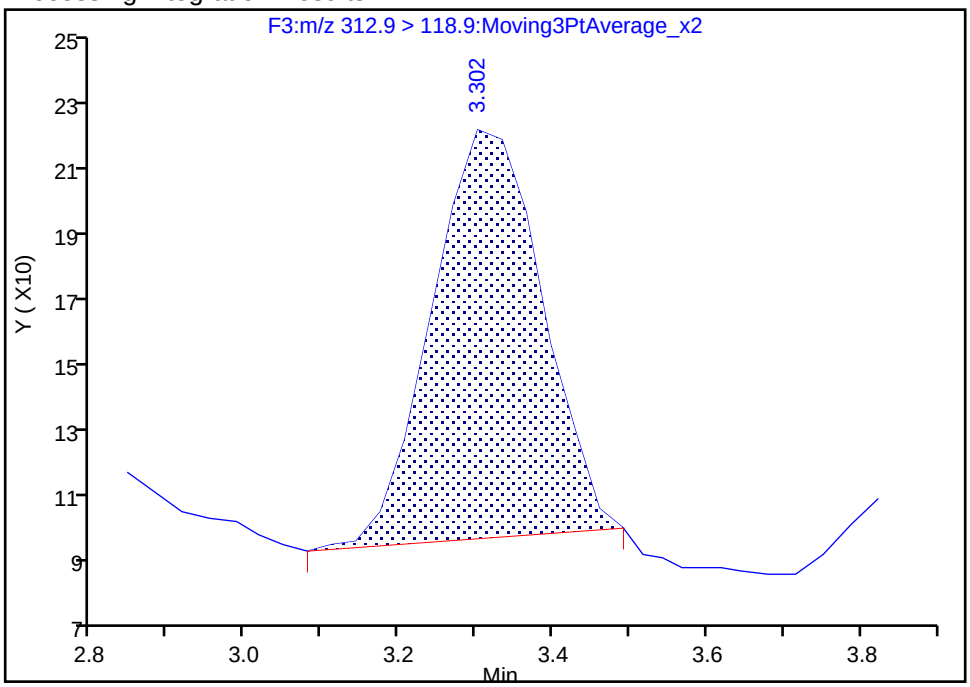
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

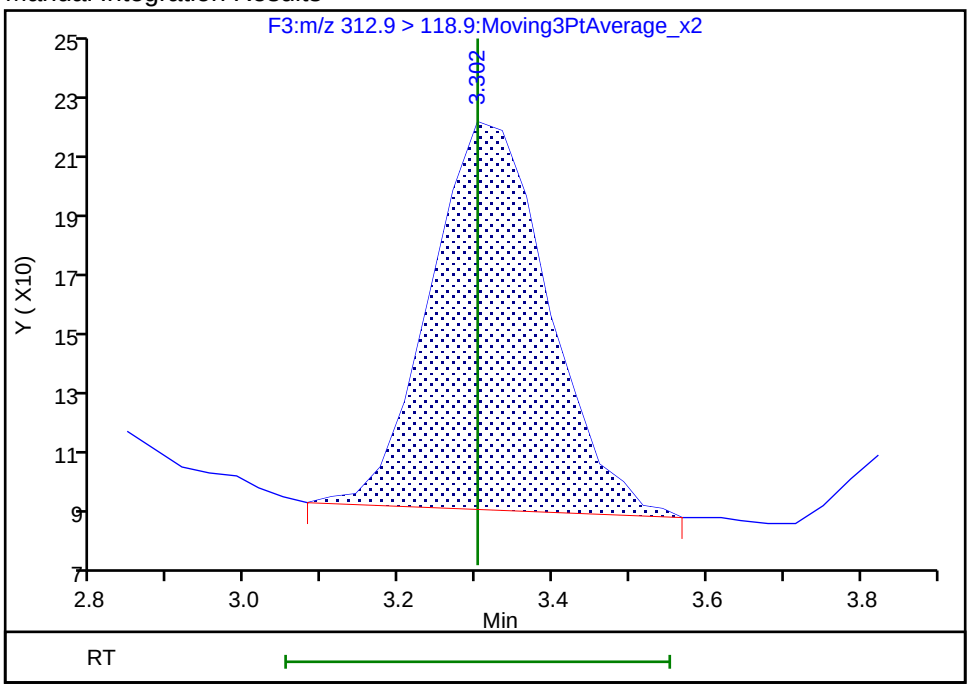
Processing Integration Results

RT: 3.30
Area: 1238
Amount: 1.008573
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 1394
Amount: 1.048473
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:33:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

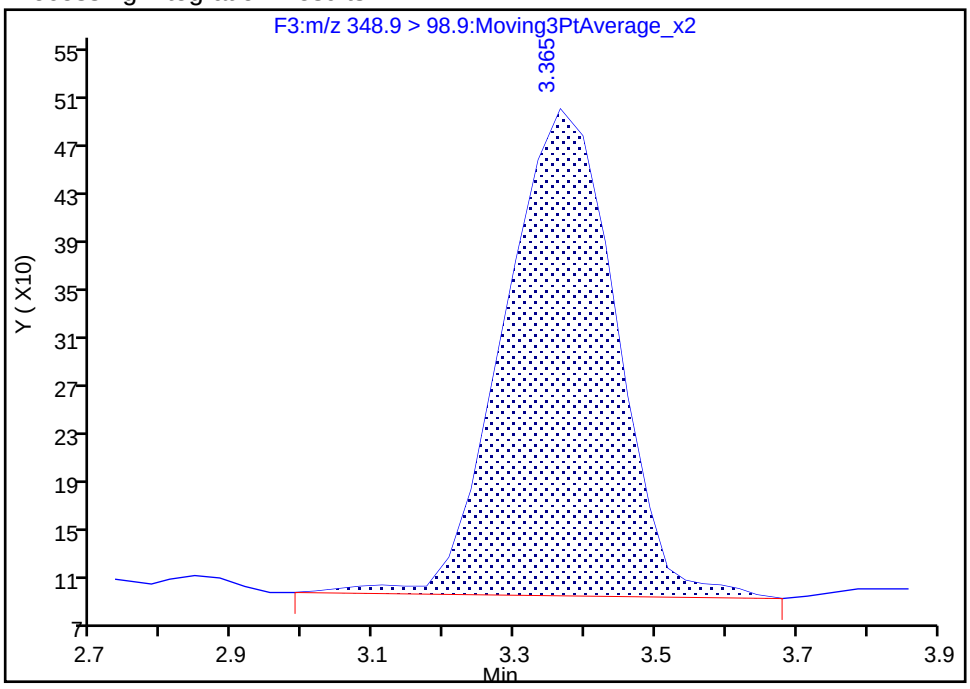
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 2

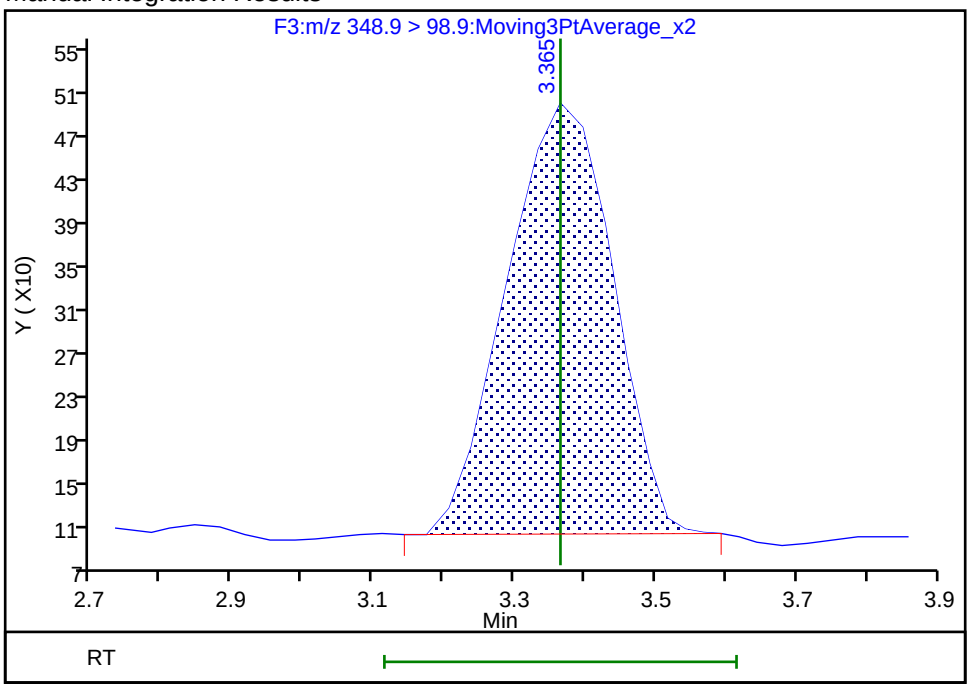
Processing Integration Results

RT: 3.37
Area: 4417
Amount: 1.492757
Amount Units: ng/ml



Manual Integration Results

RT: 3.37
Area: 4132
Amount: 1.482126
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:34:02
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

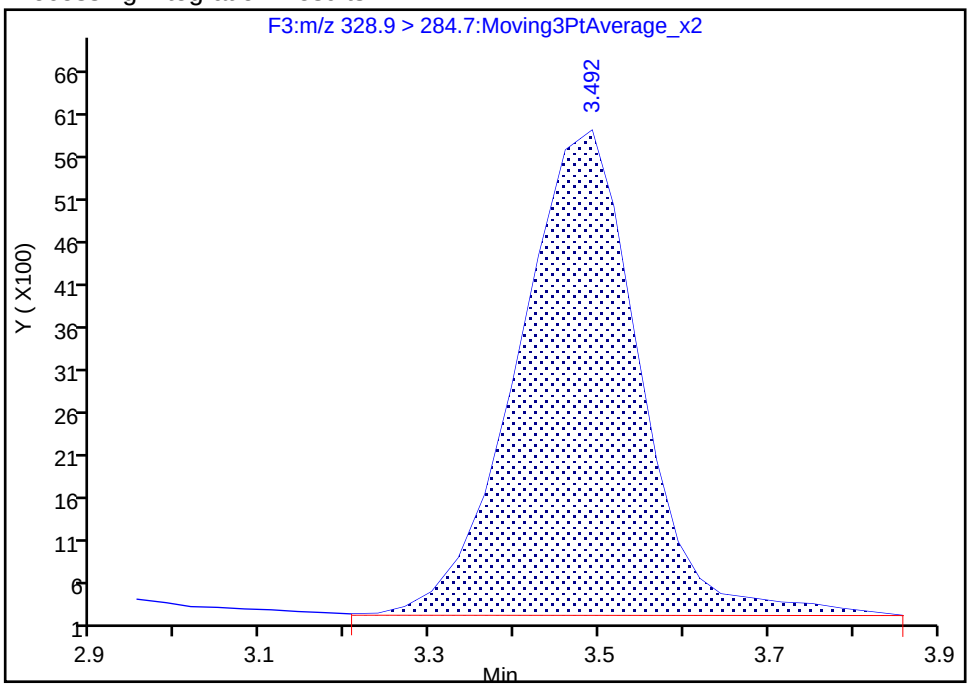
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

44 Perfluoro(2-propoxypropanoic) acid, CAS: 13252-13-6

Signal: 1

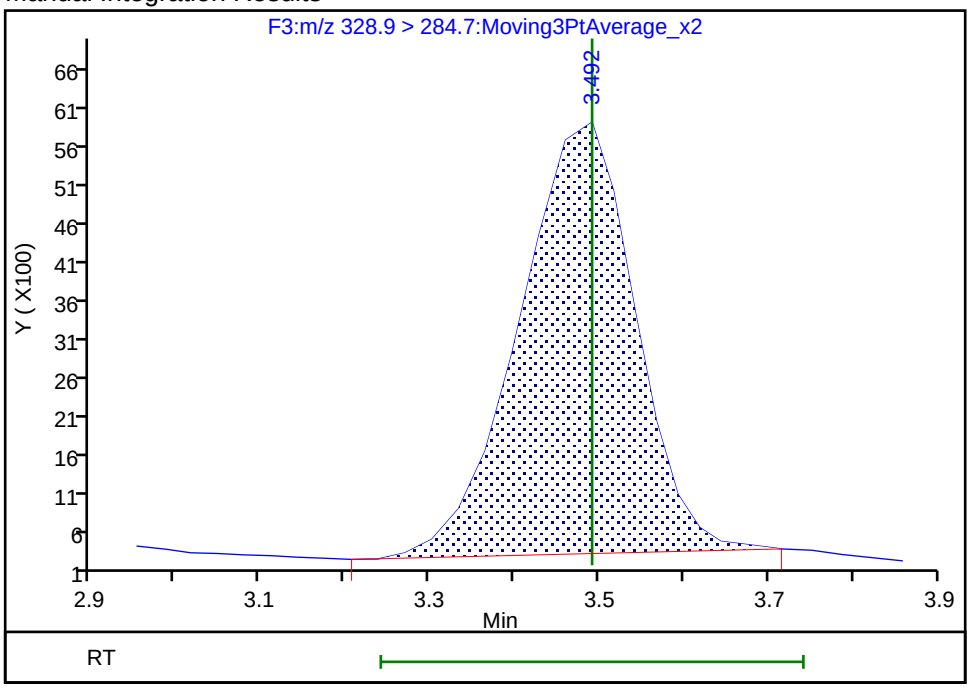
Processing Integration Results

RT: 3.49
Area: 56208
Amount: 47.312505
Amount Units: ng/ml



Manual Integration Results

RT: 3.49
Area: 52920
Amount: 44.544865
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:34:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

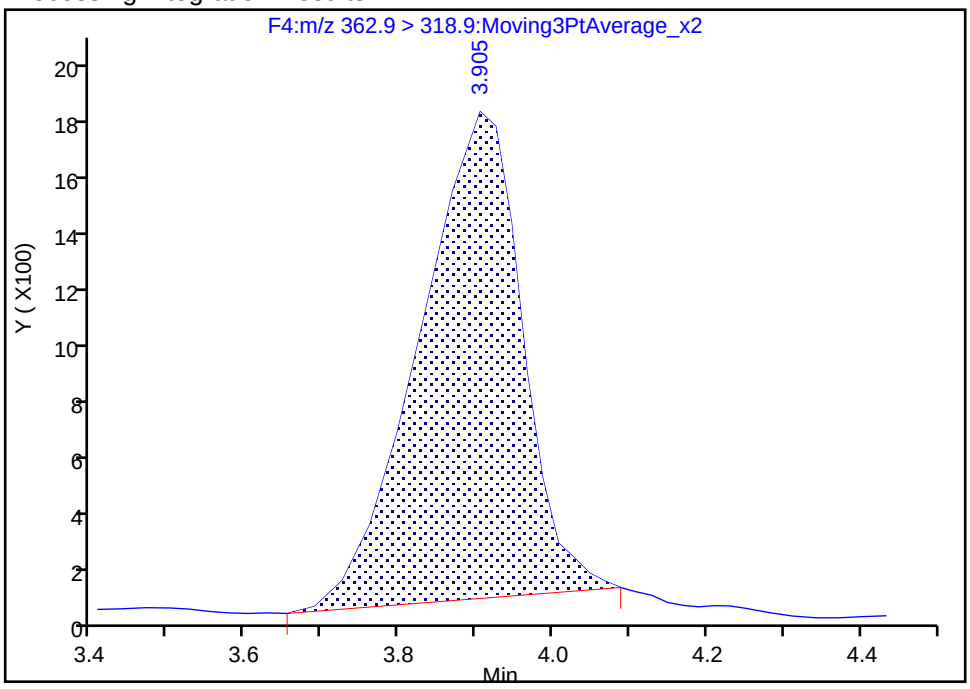
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

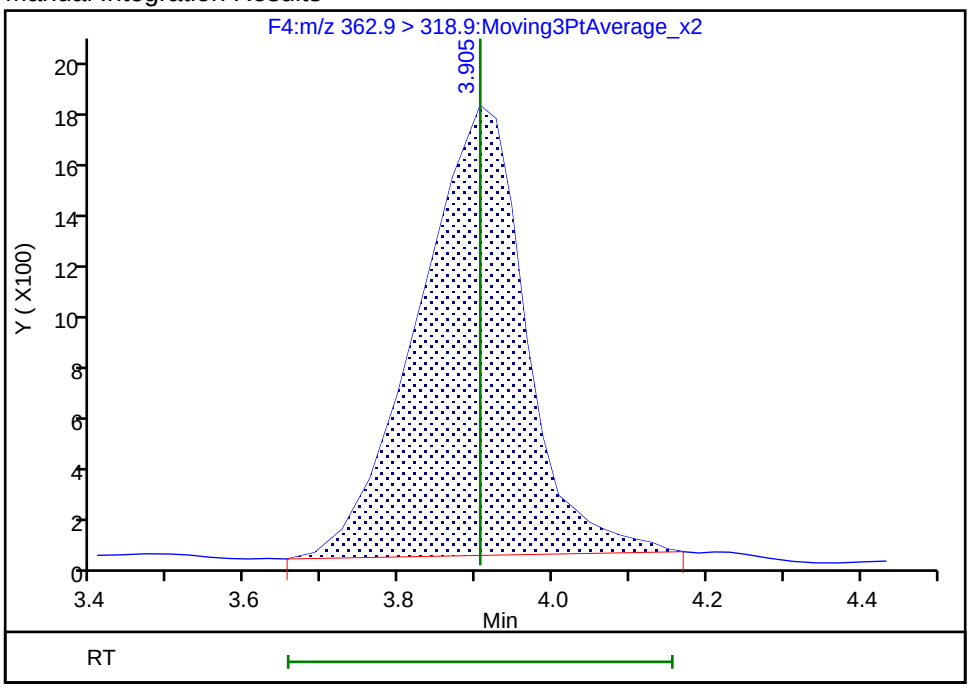
Processing Integration Results

RT: 3.91
Area: 15676
Amount: 0.860471
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 16702
Amount: 0.916789
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:34:16
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

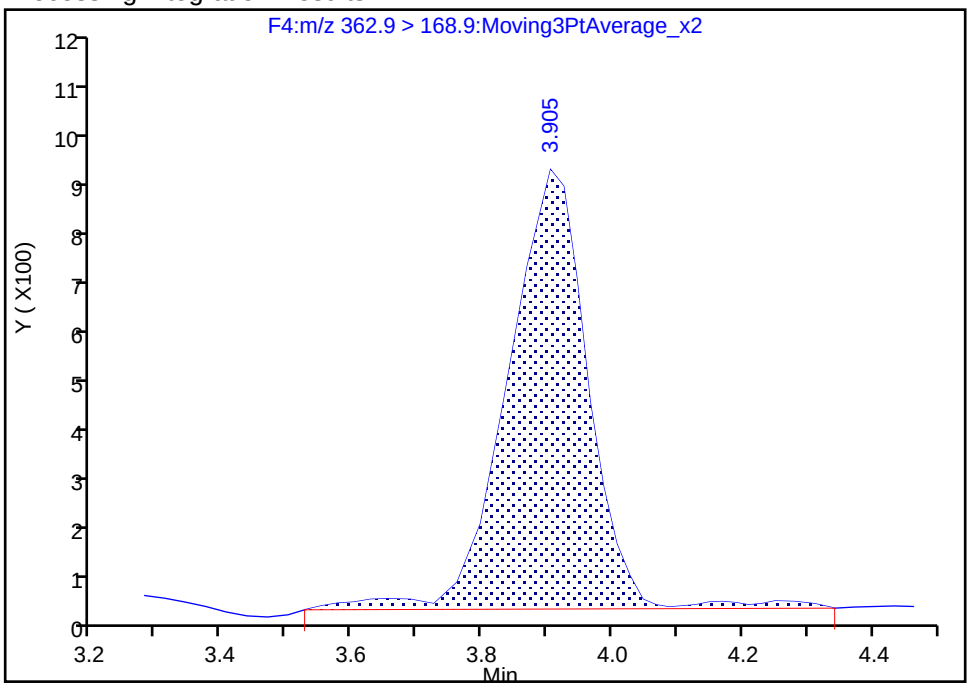
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

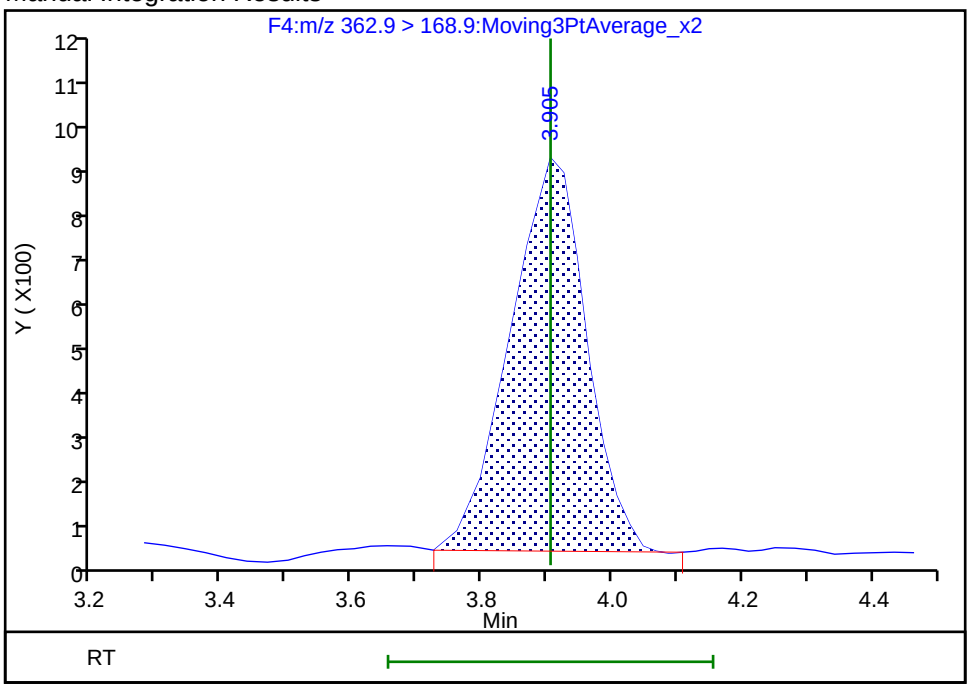
Processing Integration Results

RT: 3.91
Area: 6884
Amount: 0.860471
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 6417
Amount: 0.916789
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:34:19
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

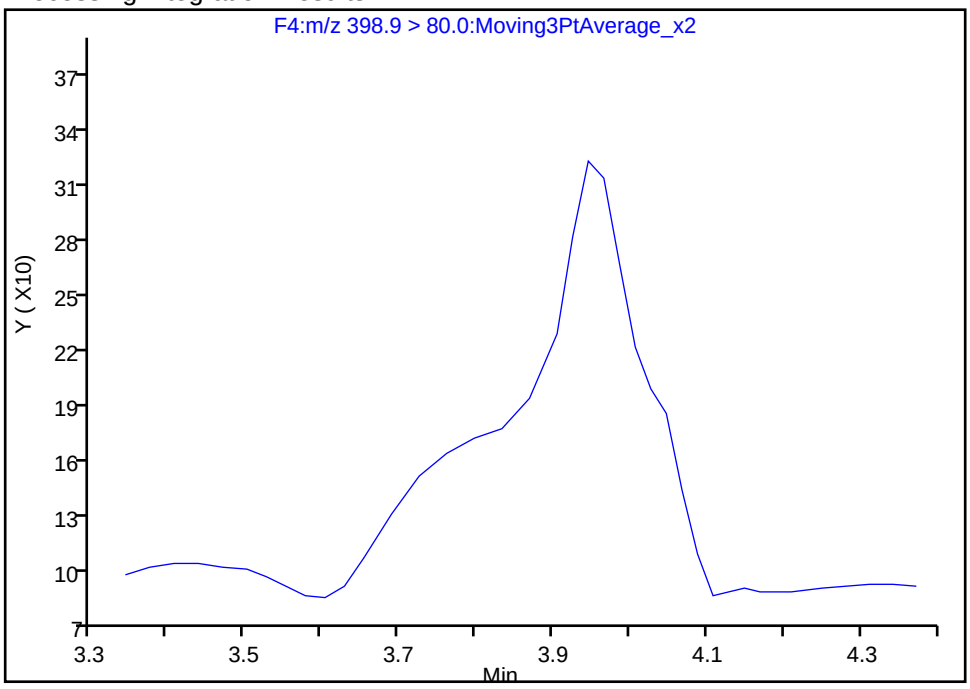
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

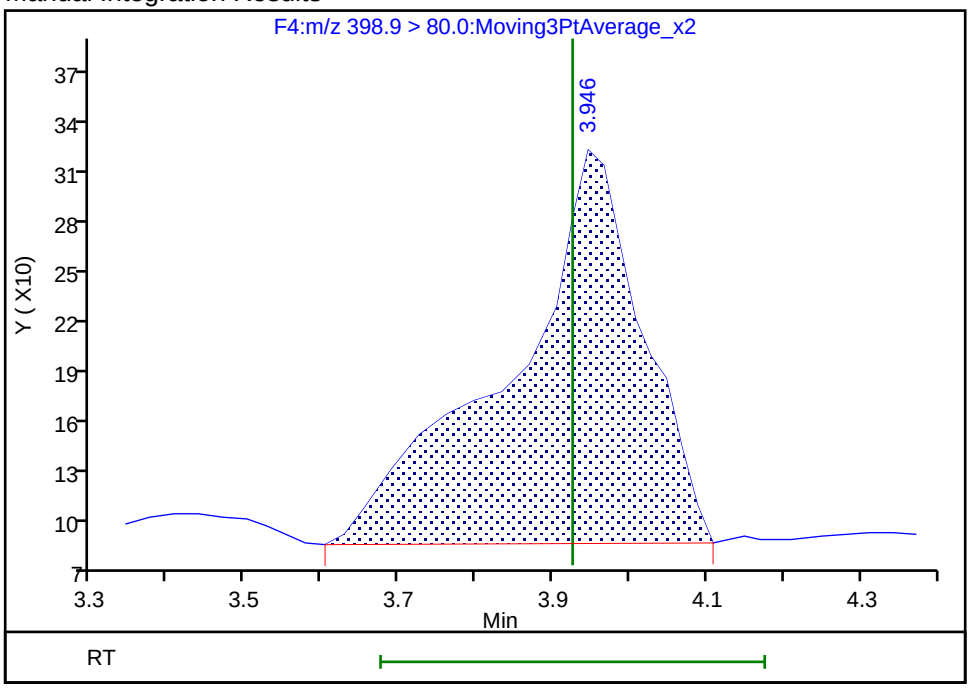
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.95
Area: 2769
Amount: 0.861570
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:34:32
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

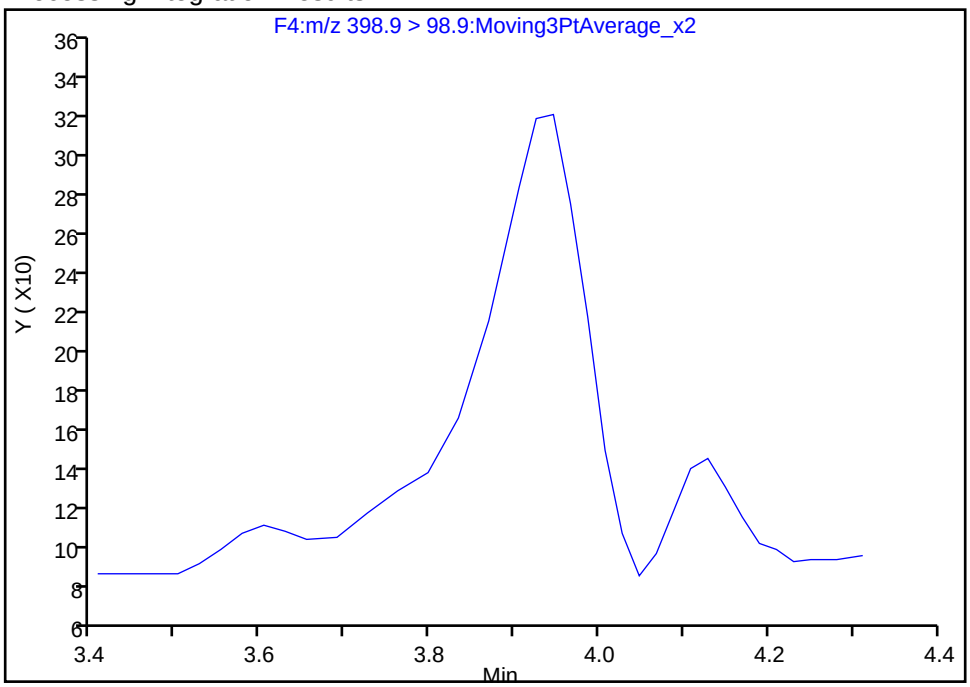
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

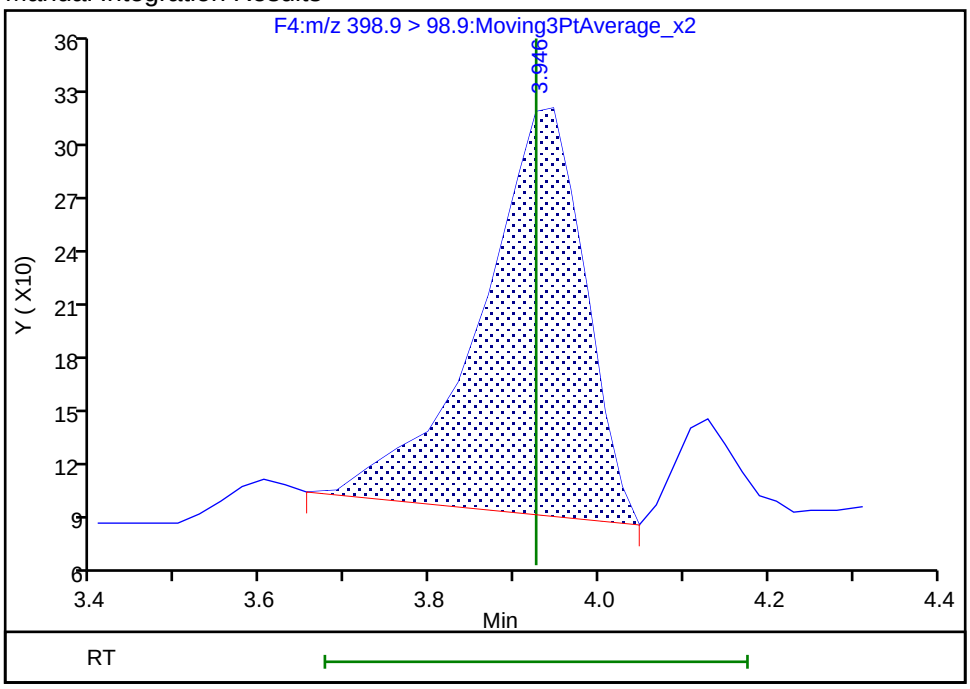
Not Detected
Expected RT: 3.93

Processing Integration Results



Manual Integration Results

RT: 3.95
Area: 1913
Amount: 0.861570
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:34:35
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

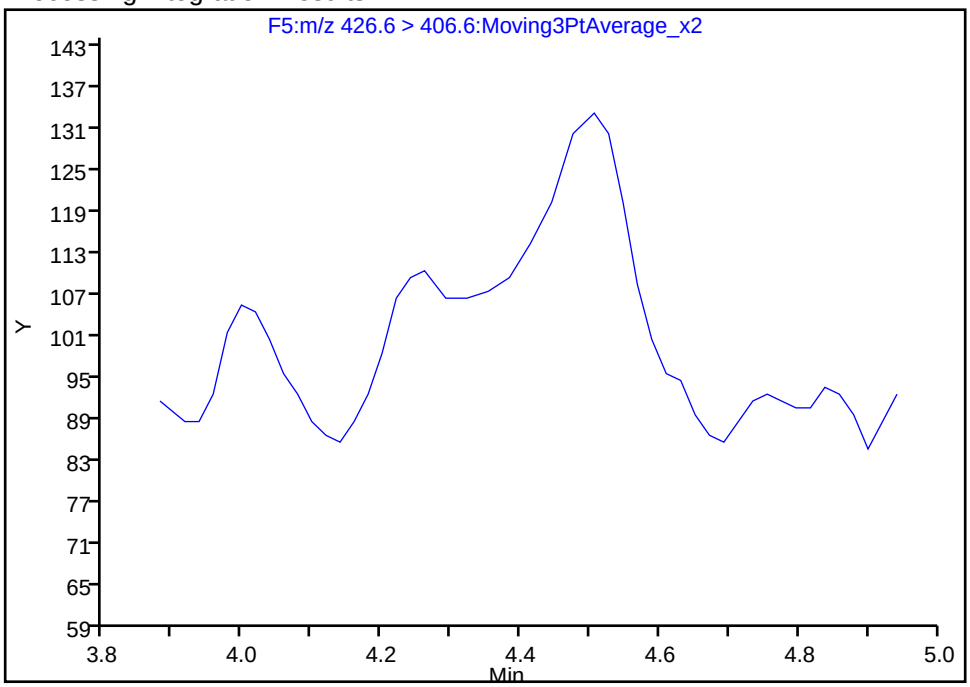
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

13 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

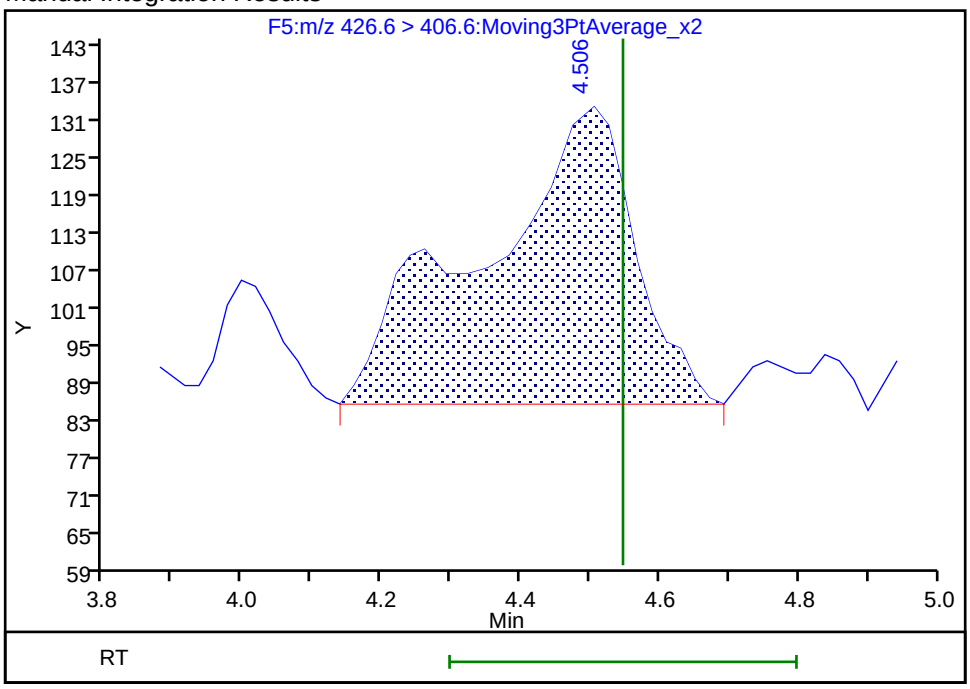
Not Detected
Expected RT: 4.55

Processing Integration Results



Manual Integration Results

RT: 4.51
Area: 733
Amount: 0.822472
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:34:45
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

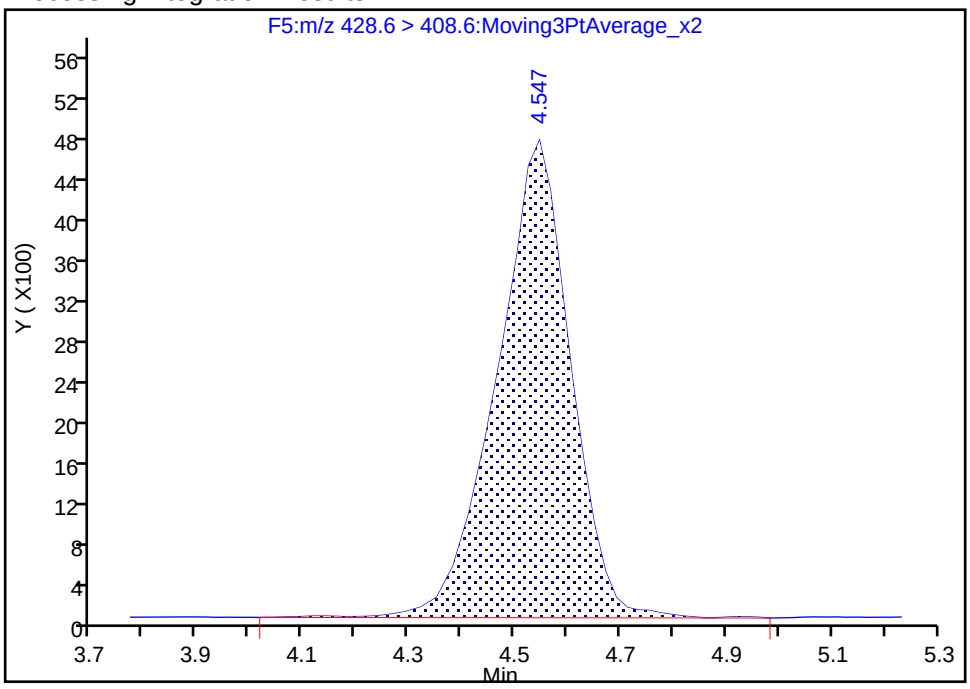
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

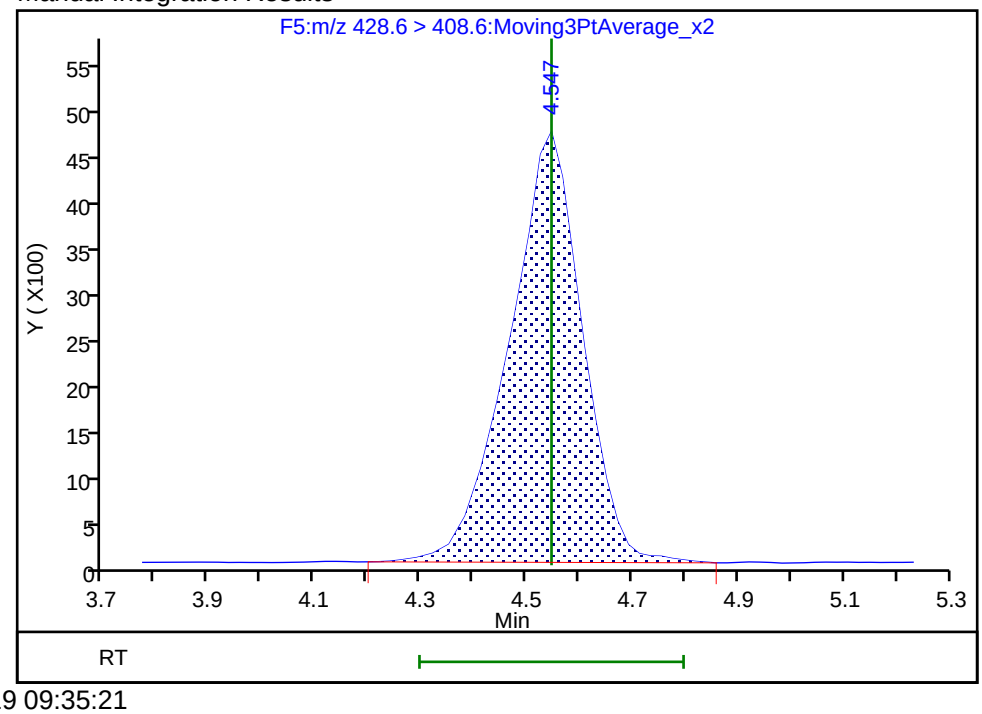
Processing Integration Results

RT: 4.55
Area: 45154
Amount: 44.208461
Amount Units: ng/ml



Manual Integration Results

RT: 4.55
Area: 44791
Amount: 43.898130
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:35:21
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

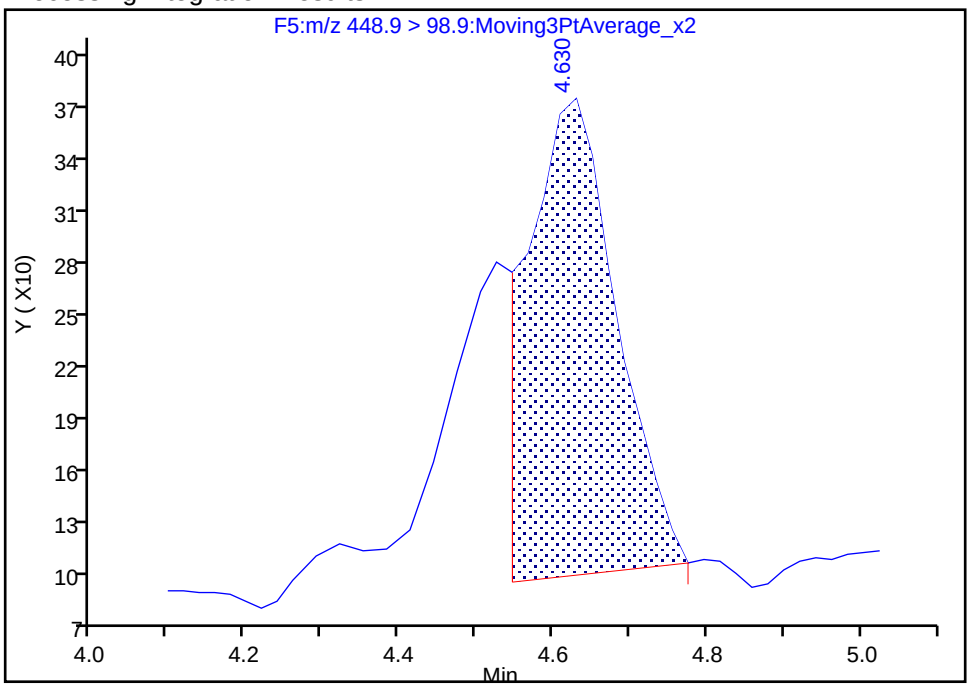
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 2

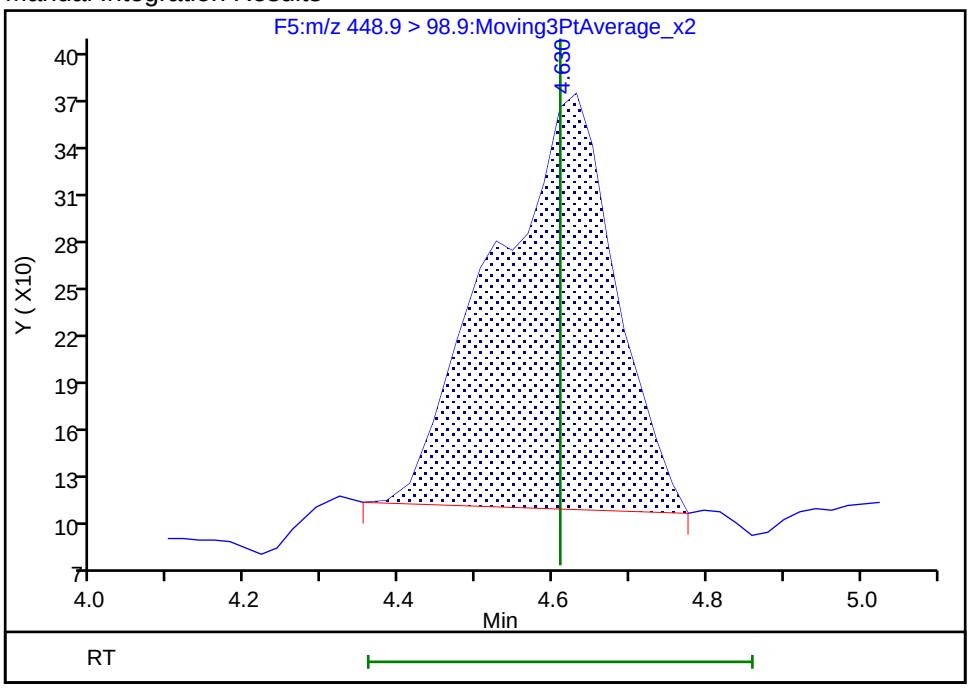
Processing Integration Results

RT: 4.63
Area: 2151
Amount: 0.747612
Amount Units: ng/ml



Manual Integration Results

RT: 4.63
Area: 2910
Amount: 0.747612
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:35:40
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

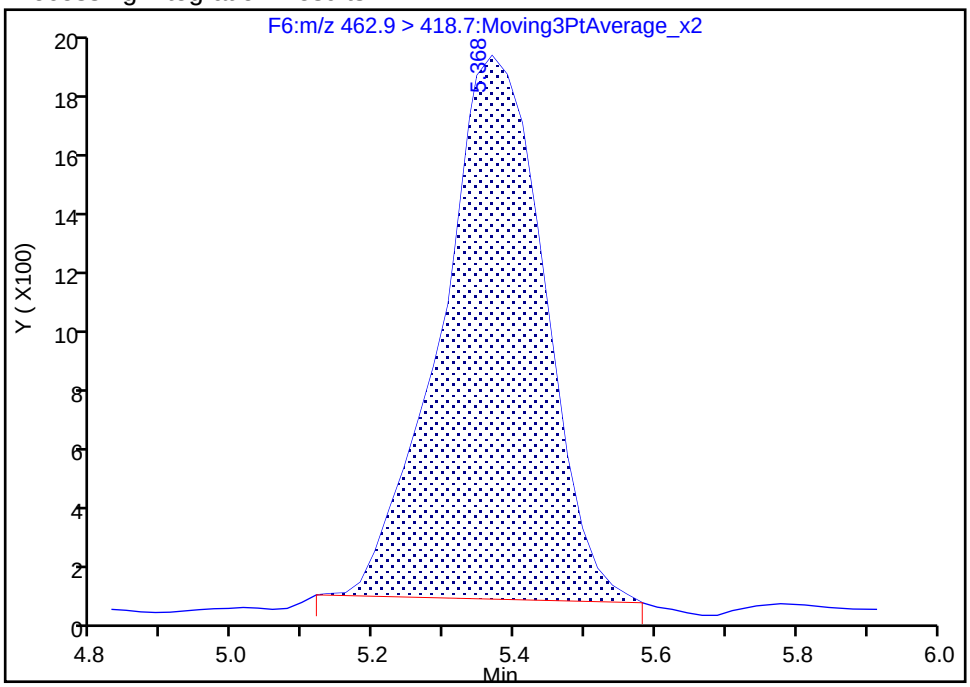
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 1

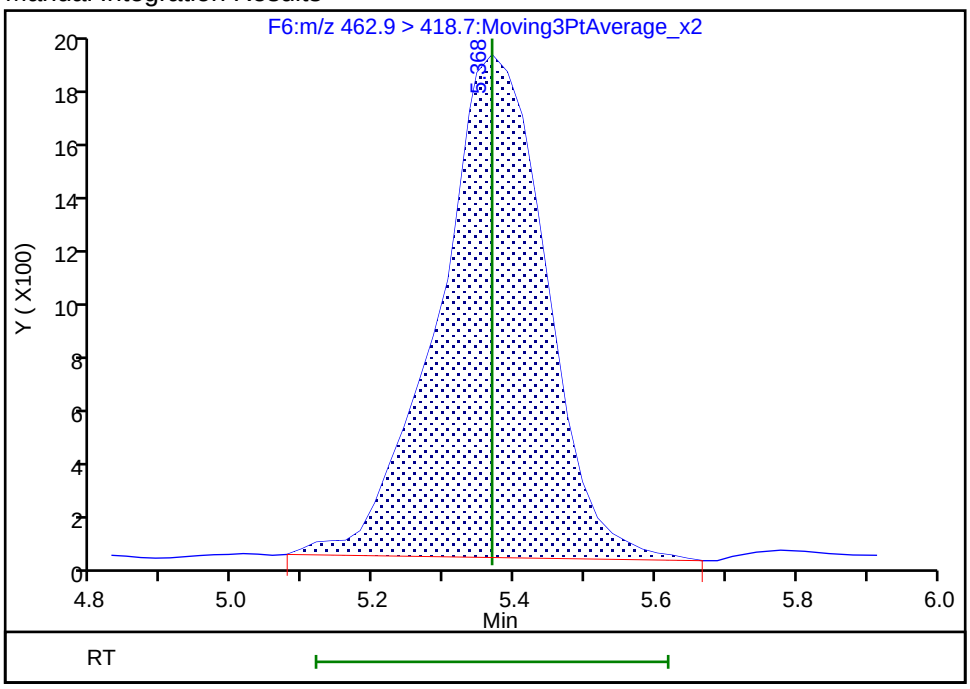
Processing Integration Results

RT: 5.37
Area: 17620
Amount: 0.843604
Amount Units: ng/ml



Manual Integration Results

RT: 5.37
Area: 18887
Amount: 0.904265
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:35:46
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

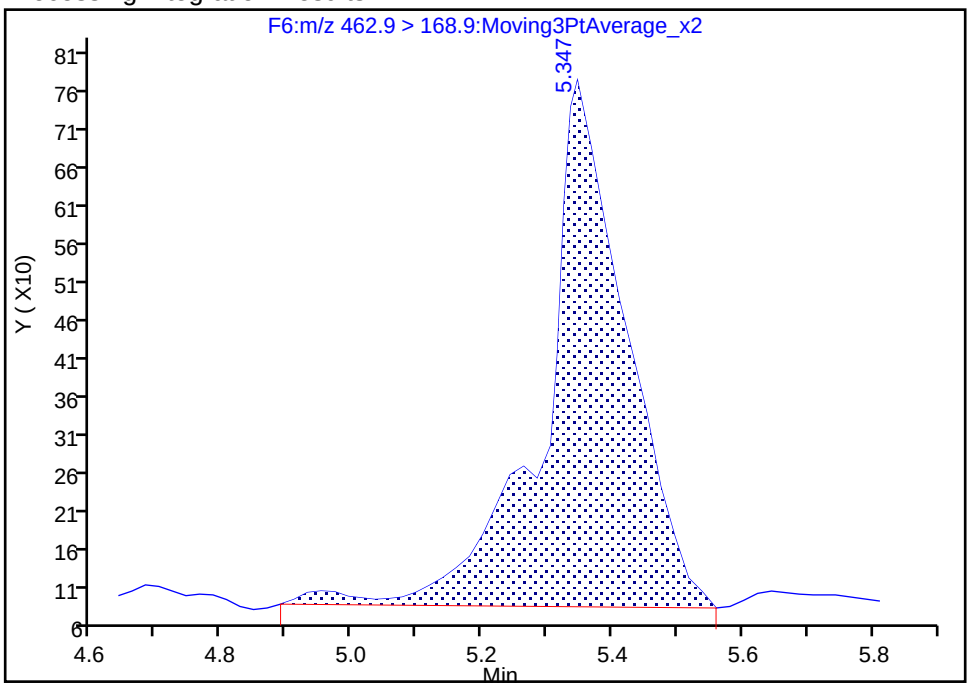
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d				
Injection Date:	05-Jun-2019 01:51:25	Instrument ID:	LC410		
Lims ID:	CCVL				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

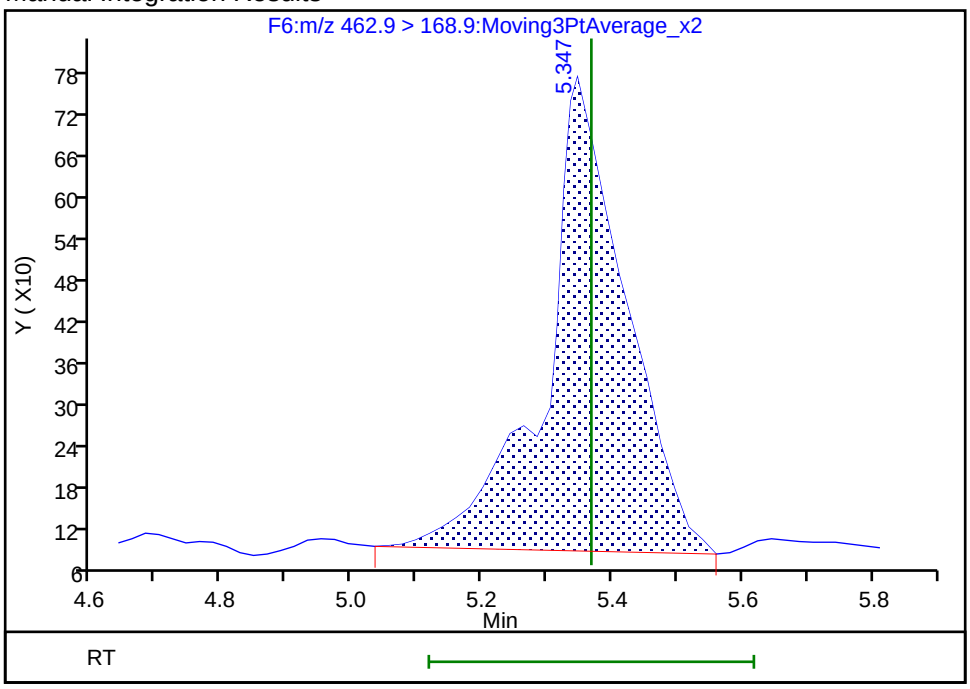
Processing Integration Results

RT: 5.35
Area: 6107
Amount: 0.843604
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 5897
Amount: 0.904265
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:35:55

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

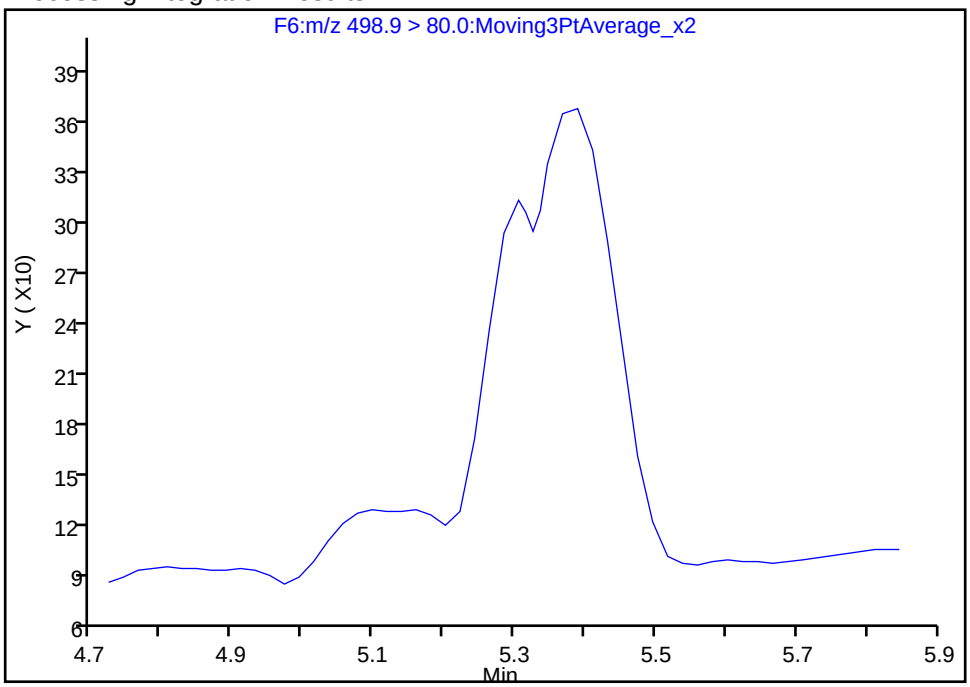
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

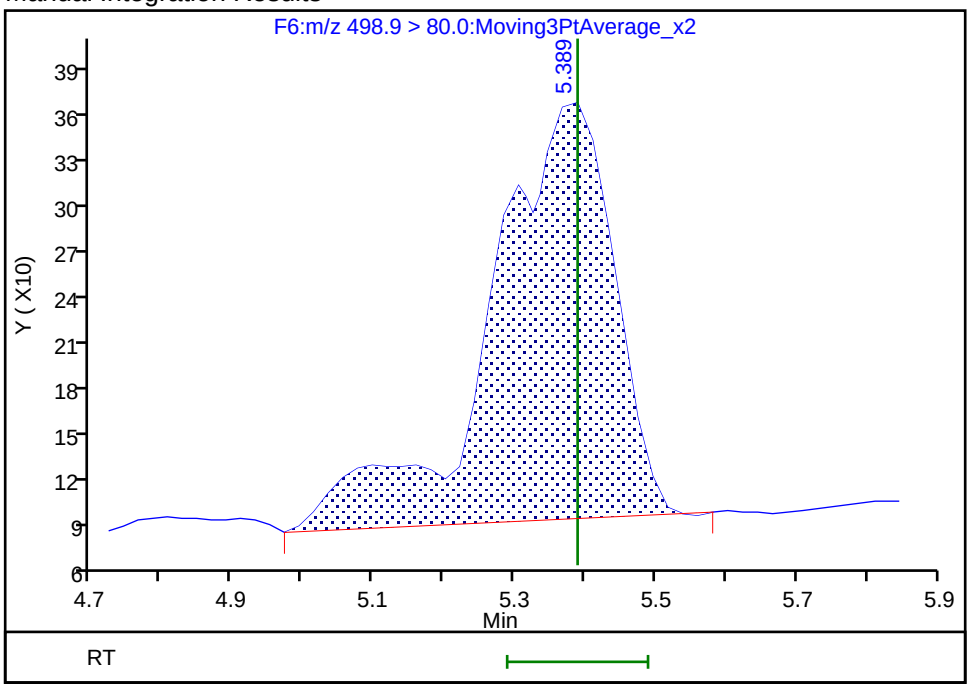
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.39
Area: 3284
Amount: 0.983685
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:34:52
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d

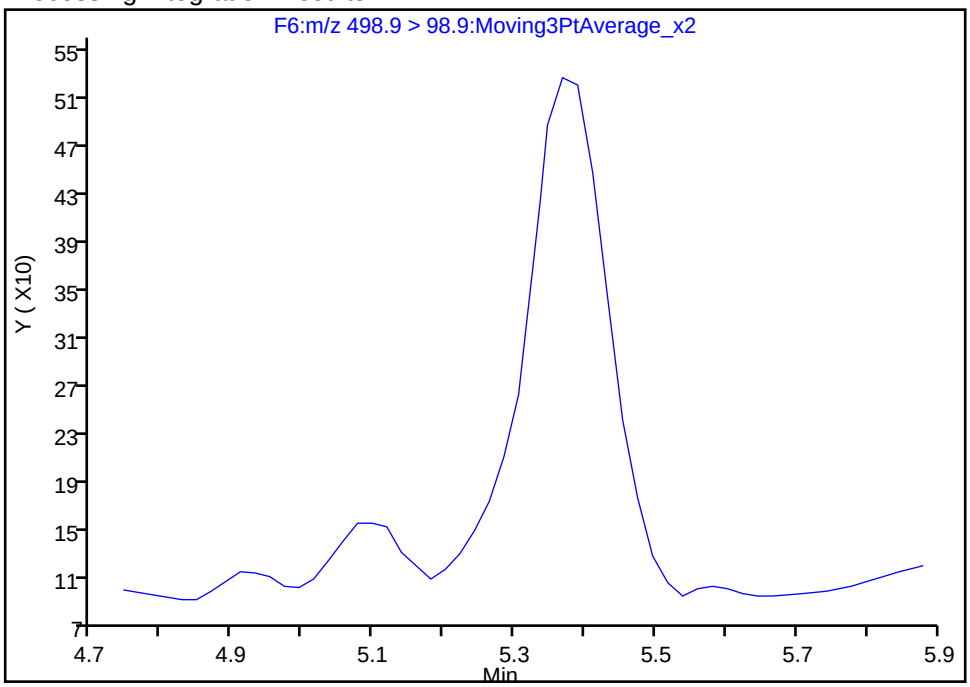
Injection Date:	05-Jun-2019 01:51:25	Instrument ID:	LC410		
Lims ID:	CCVL				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

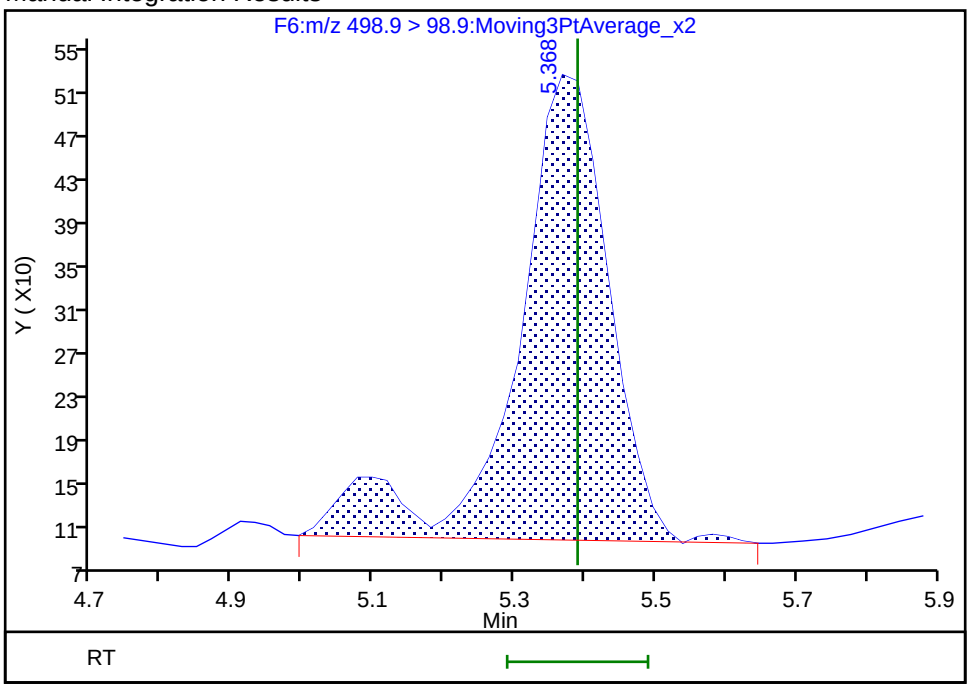
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.37
Area: 3918
Amount: 0.983685
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:34:55
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

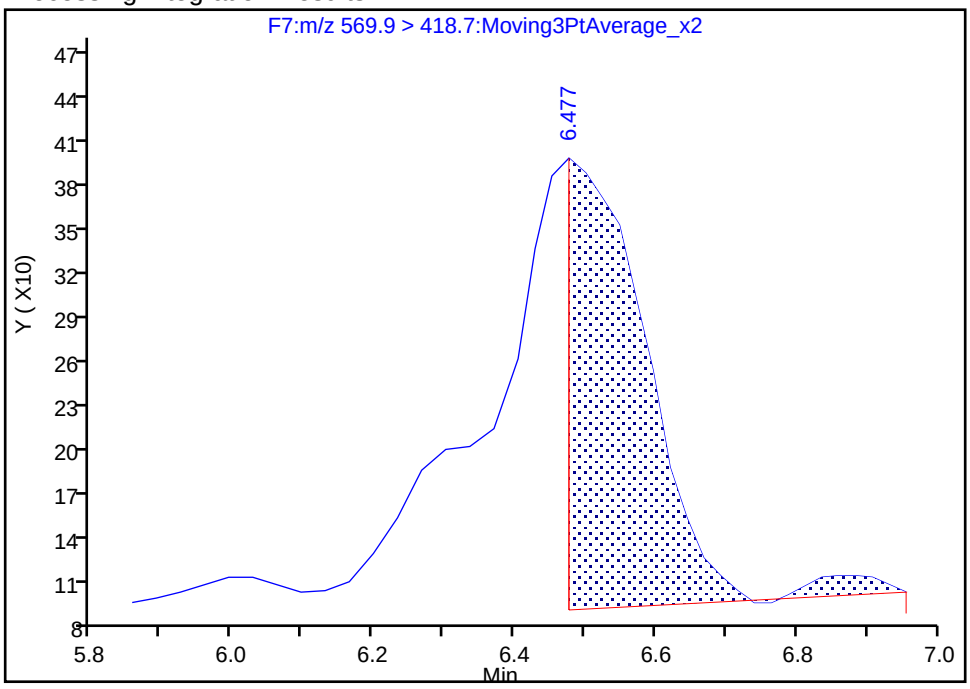
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

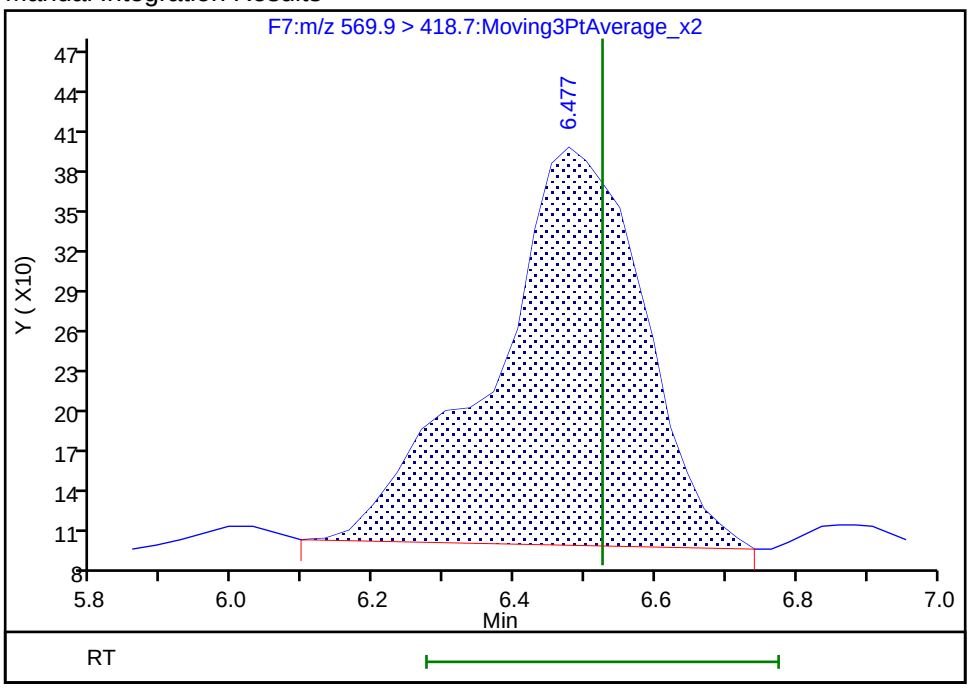
Processing Integration Results

RT: 6.48
Area: 2313
Amount: 0.512616
Amount Units: ng/ml



Manual Integration Results

RT: 6.48
Area: 4408
Amount: 0.976917
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:36:14
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

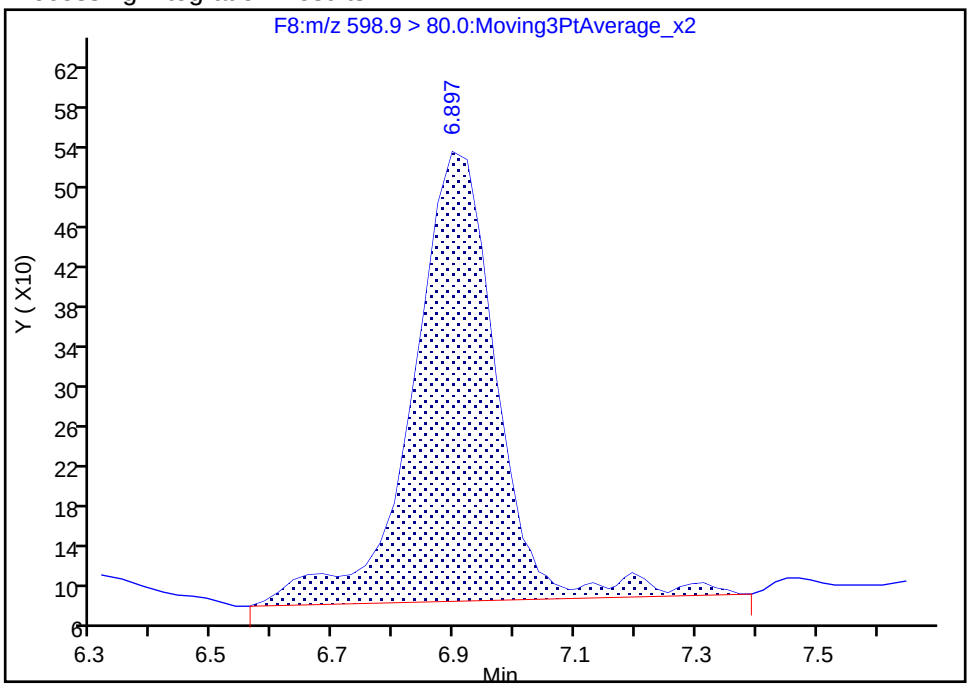
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

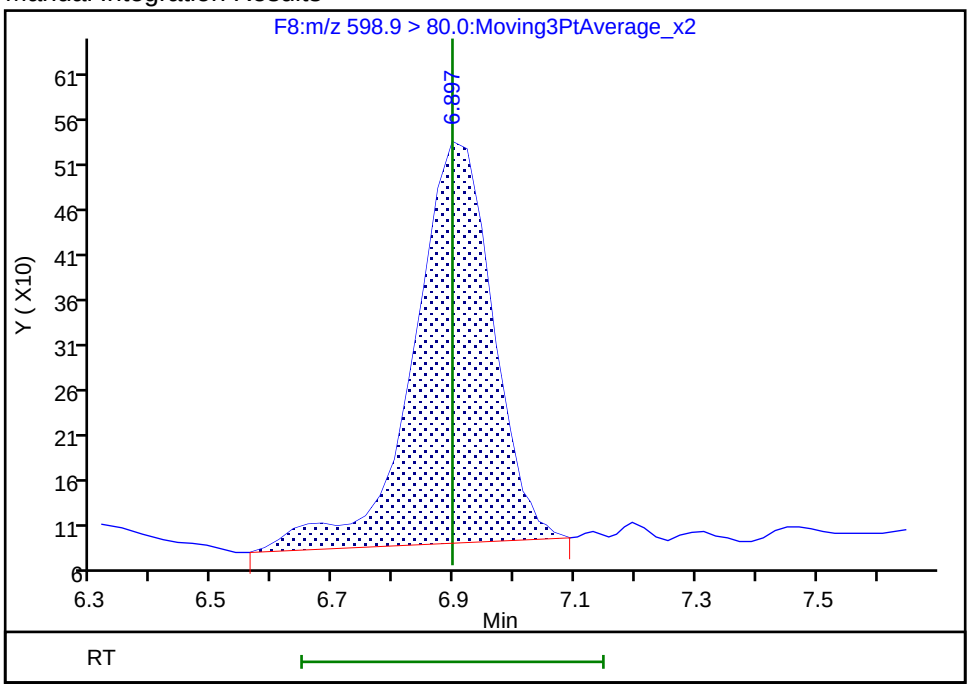
Processing Integration Results

RT: 6.90
Area: 4350
Amount: 1.212122
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 4038
Amount: 1.125183
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:36:32
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

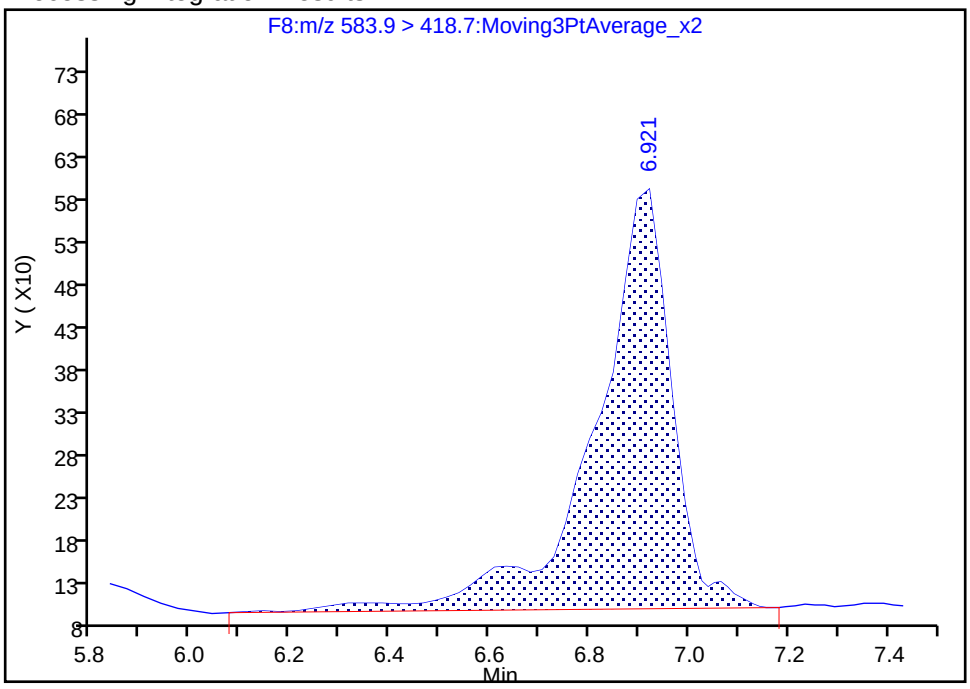
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

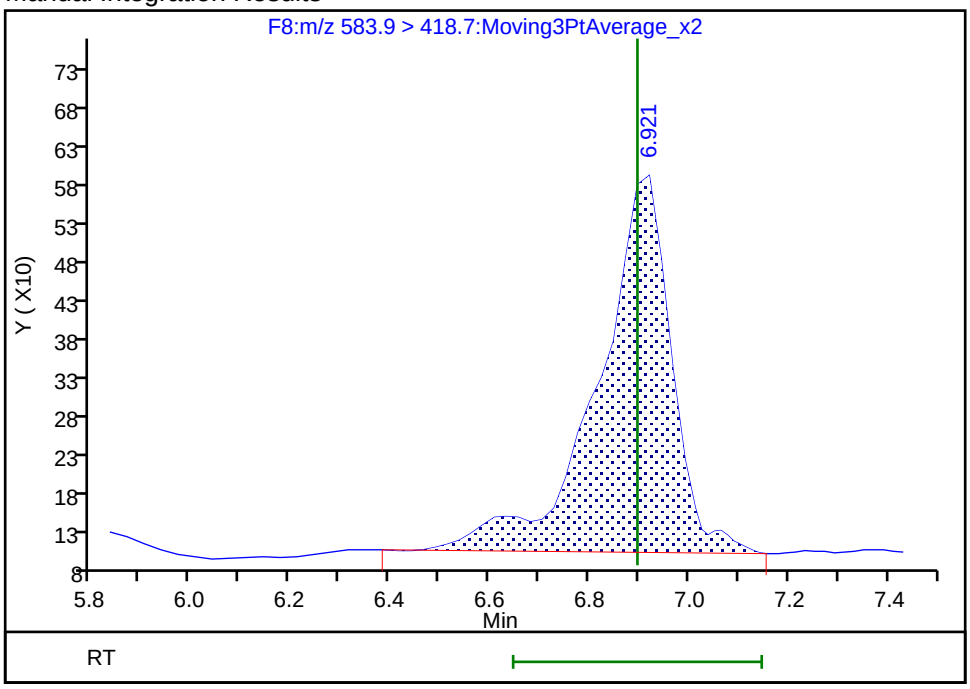
Processing Integration Results

RT: 6.92
Area: 5319
Amount: 1.308171
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 5020
Amount: 1.234634
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:36:26
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

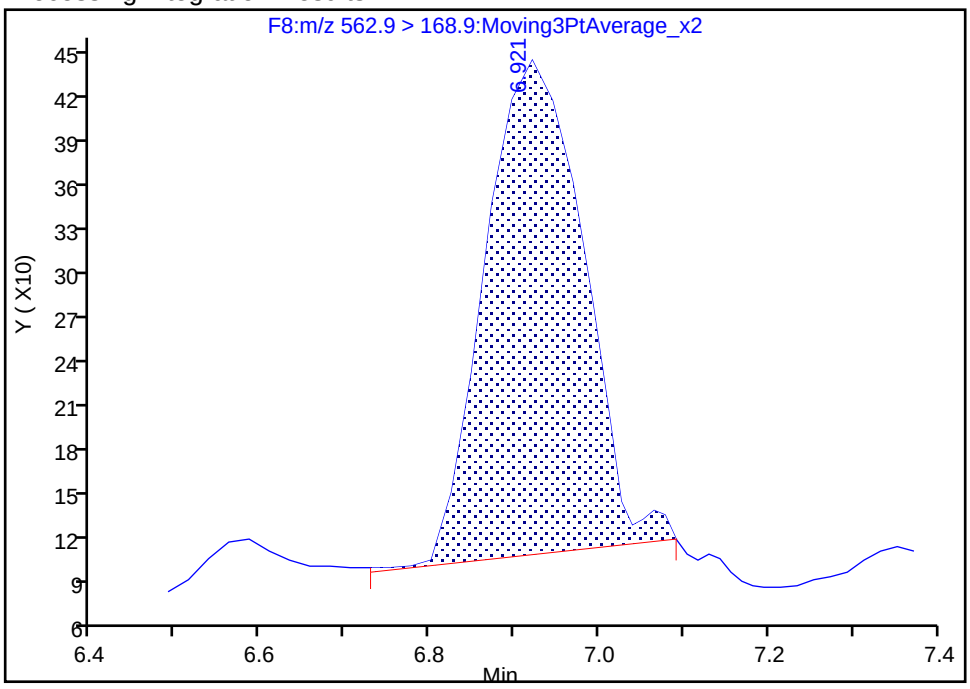
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 2

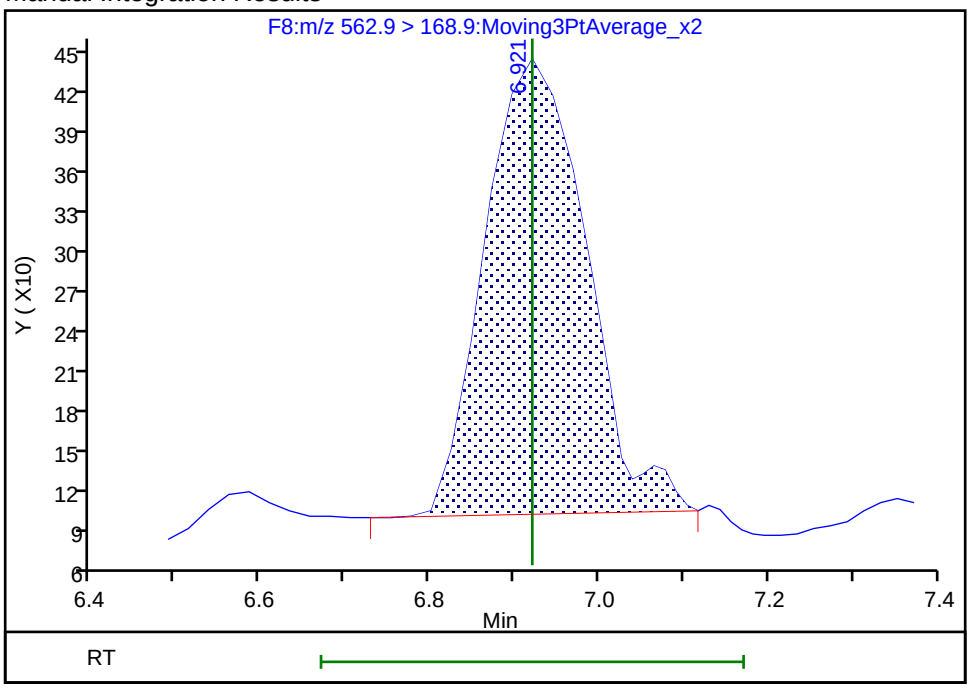
Processing Integration Results

RT: 6.92
Area: 2659
Amount: 1.219641
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 2791
Amount: 1.219641
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:36:39
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

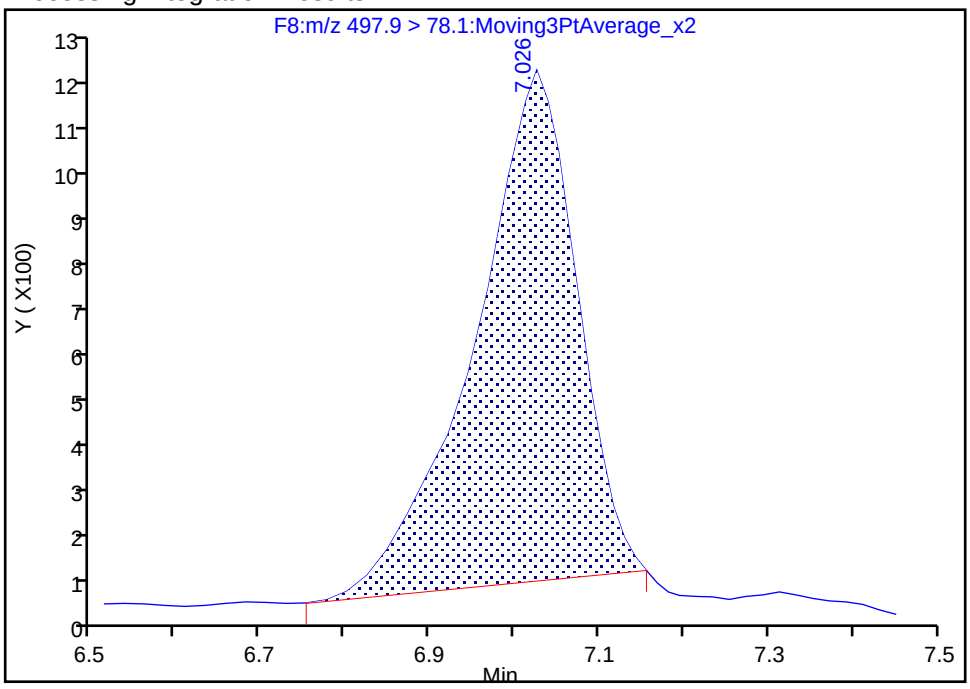
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

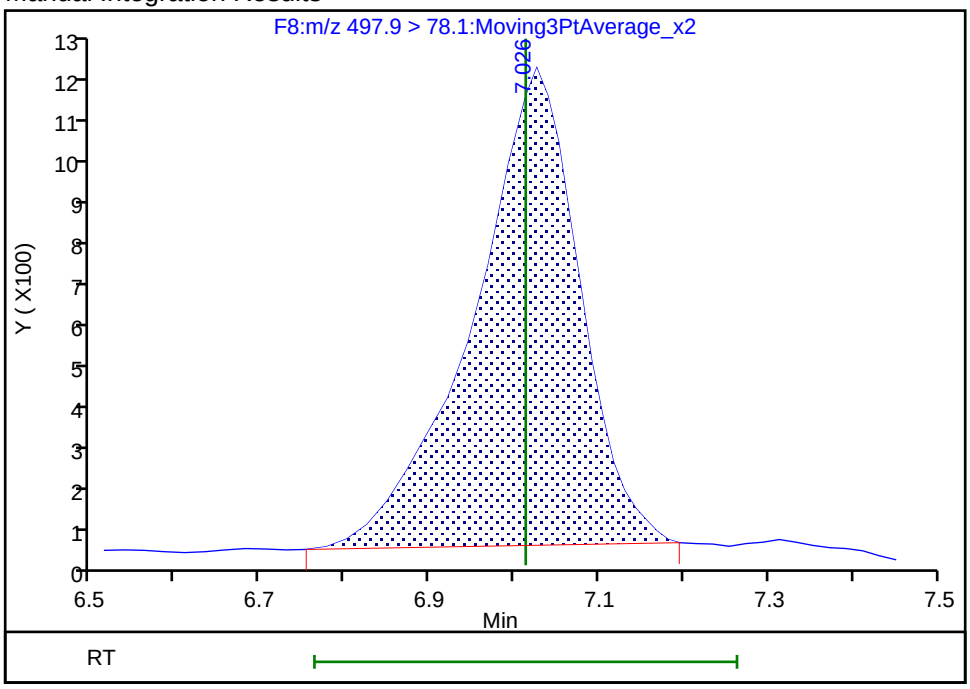
Processing Integration Results

RT: 7.03
Area: 8577
Amount: 0.874281
Amount Units: ng/ml



Manual Integration Results

RT: 7.03
Area: 9231
Amount: 0.940945
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:36:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

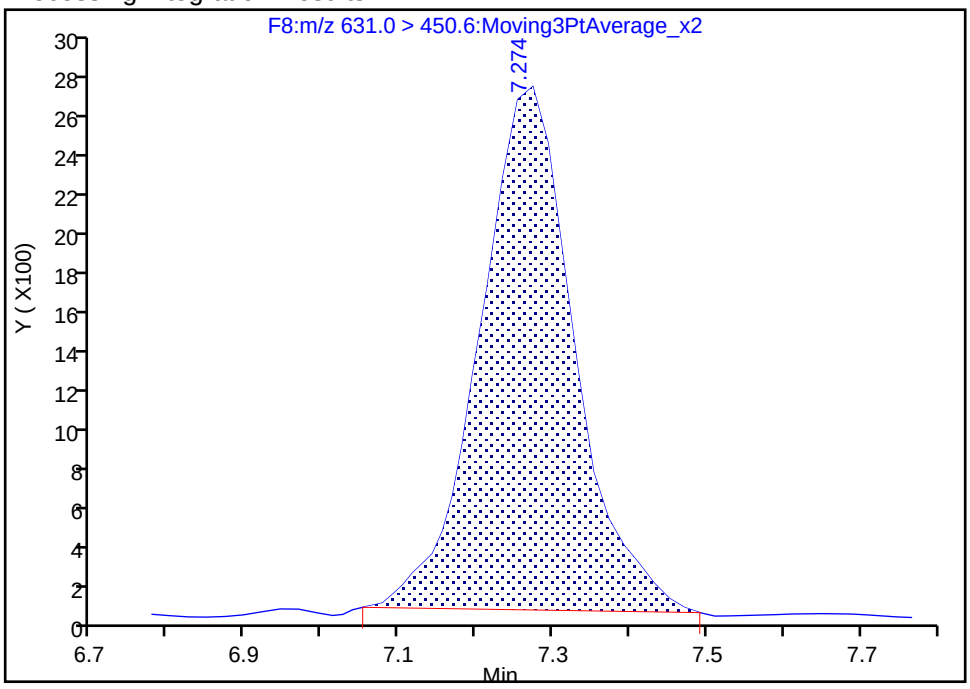
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

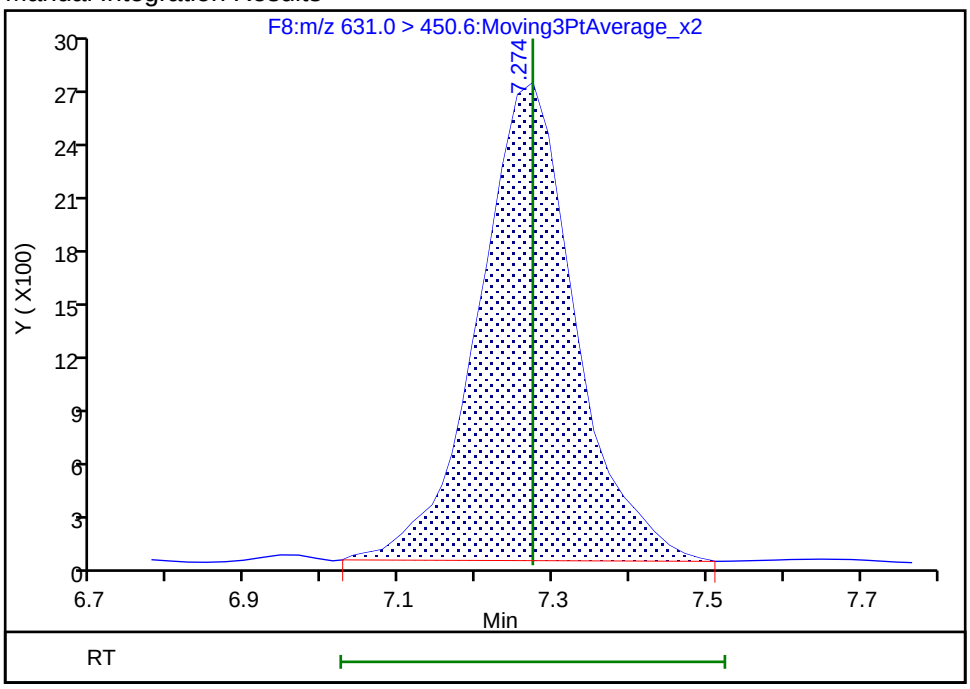
Processing Integration Results

RT: 7.27
Area: 21902
Amount: 1.129456
Amount Units: ng/ml



Manual Integration Results

RT: 7.27
Area: 22630
Amount: 1.166998
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:36:52
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

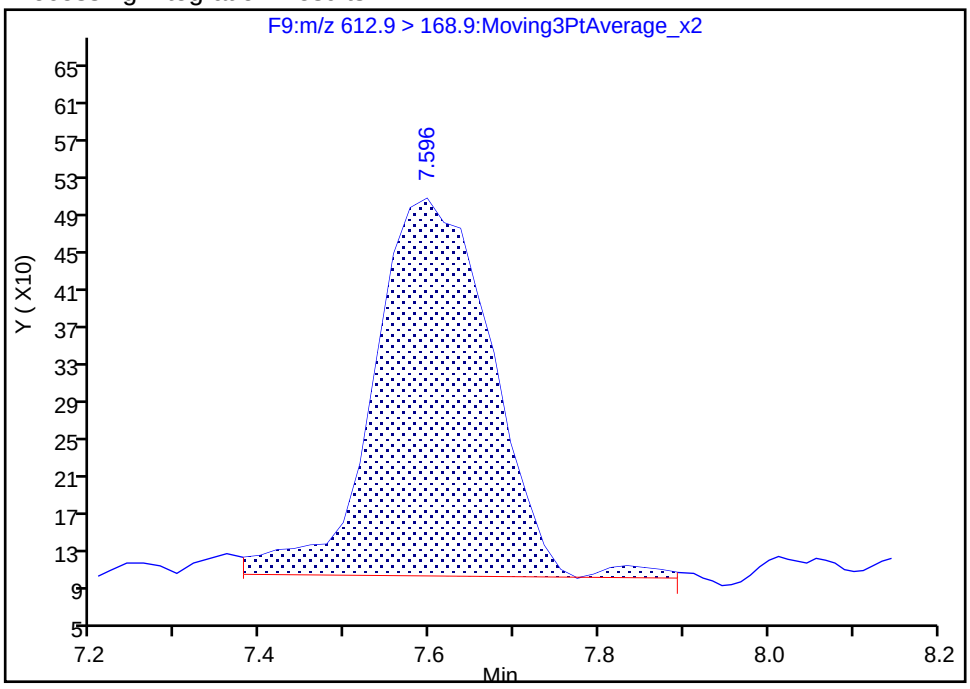
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F9:MRM

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

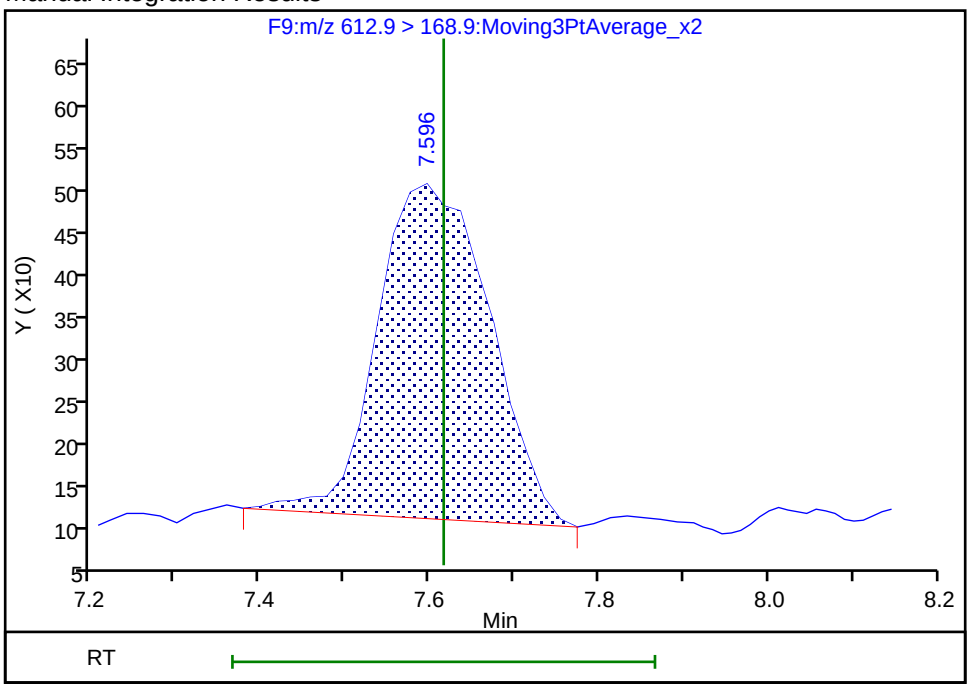
Processing Integration Results

RT: 7.60
Area: 3897
Amount: 1.005222
Amount Units: ng/ml



Manual Integration Results

RT: 7.60
Area: 3638
Amount: 1.005222
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:37:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

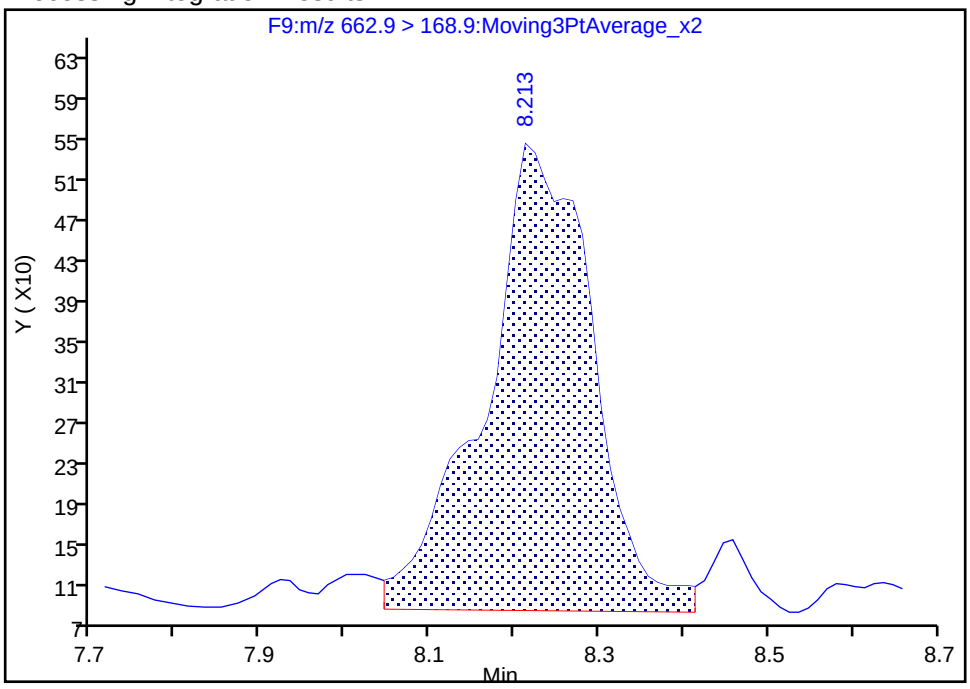
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F9:MRM

38 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 2

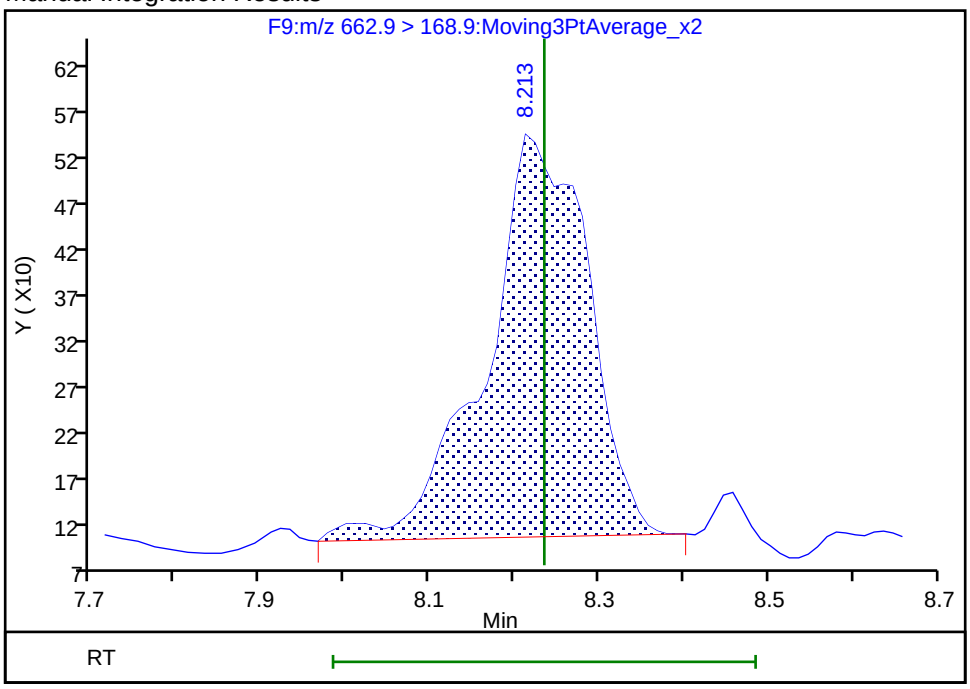
Processing Integration Results

RT: 8.21
Area: 4076
Amount: 0.901463
Amount Units: ng/ml



Manual Integration Results

RT: 8.21
Area: 3671
Amount: 0.901463
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:37:13
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

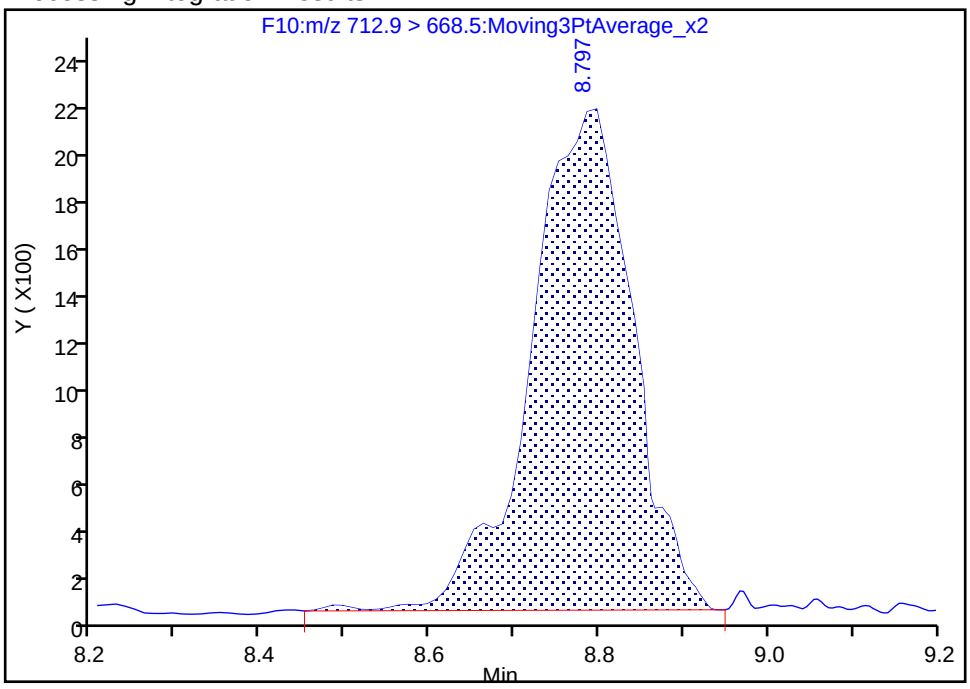
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F10:MRM

39 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 1

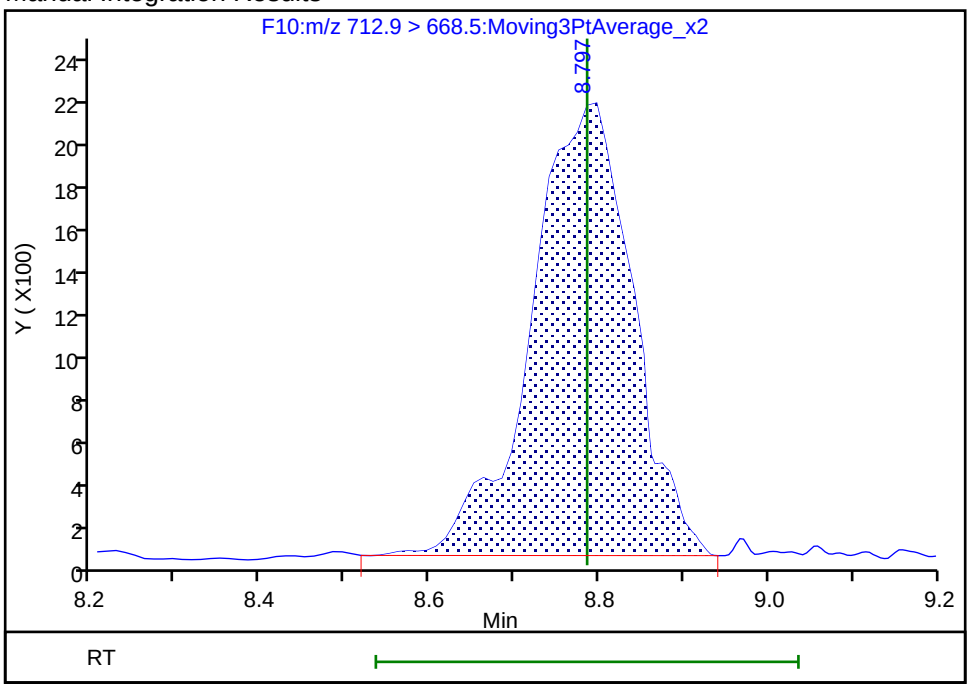
Processing Integration Results

RT: 8.80
Area: 16969
Amount: 0.948751
Amount Units: ng/ml



Manual Integration Results

RT: 8.80
Area: 16850
Amount: 0.942098
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:37:19
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

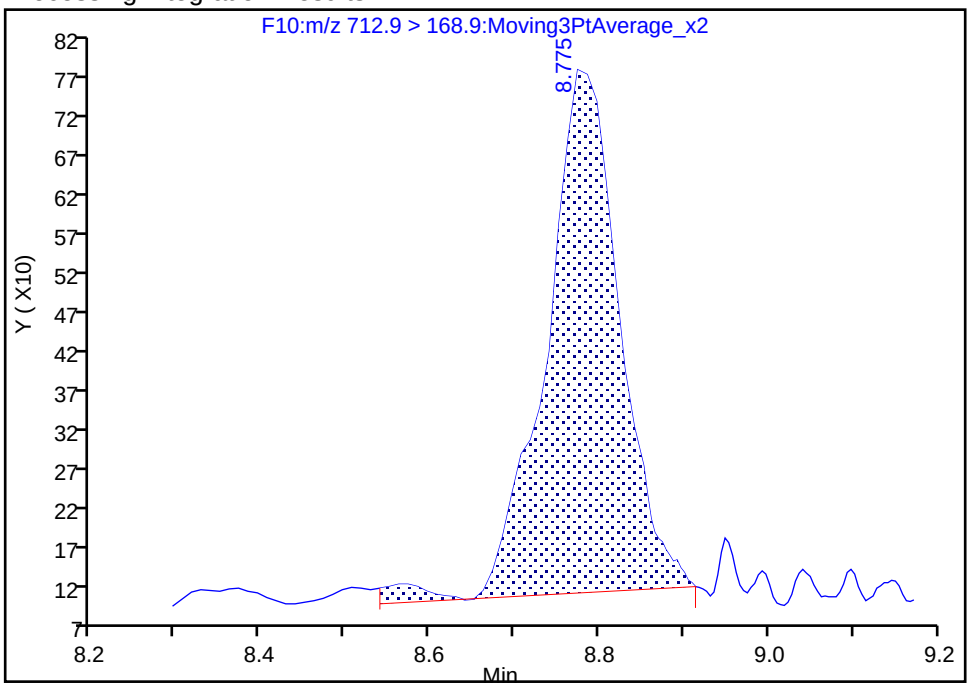
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B03.d
Injection Date: 05-Jun-2019 01:51:25 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F10:MRM

39 Perfluorotetradecanoic acid, CAS: 376-06-7

Signal: 2

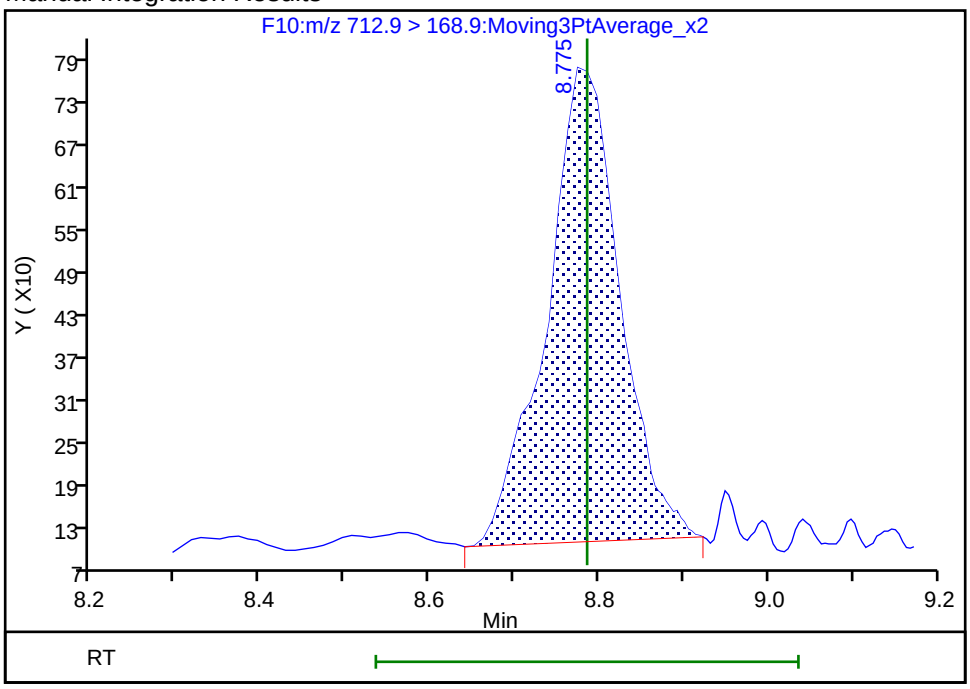
Processing Integration Results

RT: 8.77
Area: 4066
Amount: 0.948751
Amount Units: ng/ml



Manual Integration Results

RT: 8.77
Area: 4018
Amount: 0.942098
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 09:37:23
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143753/4 Calibration Date: 06/05/2019 02:07

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B04.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	1.952		12400	10000	24.3	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	3.847		12800	10000	28.5	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	2.701		9500	8840	7.5	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.542		10900	9340	16.4	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.386		9920	10000	-0.8	40.0
Perfluoropentanesulfonic acid	AveID	2.841	2.944		9720	9380	3.6	50.0
HFPO-DA	AveID	1.078	4.742		44000	10000	340.0*	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.307		11100	10000	11.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	1.989		8550	9100	-6.0	40.0
DONA	AveID	4.300	4.754		10400	9420	10.6	50.0
6:2 FTS	AveID	0.9451	0.9037		9060	9480	-4.4	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	1.021		10100	10000	0.9	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.9068		9920	9520	4.2	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9270		10500	10000	5.0	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	0.9048		8690	9280	-6.3	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	4.454		9440	9320	1.3	50.0
8:2 FTS	AveID	0.7376	0.7660		9950	9580	3.9	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.8921		9740	10000	-2.6	40.0
Perfluorononanesulfonic acid	AveID	0.9697	0.9680		9580	9600	-0.2	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.8575		10400	10000	3.8	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.9429		11700	10000	17.1	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	0.9809		9110	9640	-5.5	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8972		10800	10000	7.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.351		9490	10000	-5.1	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	5.379		9030	9420	-4.1	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9150		9640	10000	-3.6	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.9404		10000	10000	0.3	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8664		10200	10000	2.1	40.0
13C4 PFBA	Ave	0.2445	0.1728		35300	50000	-29.3	50.0
13C5 PFPeA	Ave	0.1855	0.1463		39400	50000	-21.2	50.0
13C3 PFBS	Ave	0.0807	0.0671		38700	46500	-16.8	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143753/4 Calibration Date: 06/05/2019 02:07

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B04.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5627		50600	50000	1.1	50.0
13C3 HFPO-DA	Ave	0.0529	0.0552		52100	50000	4.3	50.0
13C4 PFHpA	Ave	0.7840	0.7811		49800	50000	-0.4	50.0
18O2 PFHxS	Ave	0.1031	0.0854		39200	47300	-17.2	50.0
M2-6:2 FTS	Ave	0.0557	0.0467		39800	47500	-16.1	50.0
13C4 PFOA	Ave	0.9706	0.9315		48000	50000	-4.0	50.0
13C5 PFNA	Ave	1.302	1.164		44700	50000	-10.6	50.0
13C4 PFOS	Ave	0.2326	0.1971		40500	47800	-15.2	50.0
M2-8:2 FTS	Ave	0.2026	0.1822		43100	47900	-10.1	50.0
13C2 PFDA	Ave	1.111	1.120		50400	50000	0.8	50.0
d3-NMeFOSAA	Ave	0.3621	0.2871		39600	50000	-20.7	50.0
d5-NEtFOSAA	Ave	0.2986	0.2483		41600	50000	-16.8	50.0
13C2 PFUnA	Ave	1.073	1.059		49400	50000	-1.3	50.0
13C8 FOSA	Ave	0.4004	0.3752		46900	50000	-6.3	50.0
13C2 PFDoA	Ave	1.367	1.225		44800	50000	-10.4	50.0
13C2 PFTeDA	Ave	1.227	1.060		43200	50000	-13.7	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 05-Jun-2019 02:07:16 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-004 CCV L4
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 10:21:03
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.360	2.360	0.0	1.000	67023	12.4		124	71.3	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.360	2.360	0.0	1.000	171672	35.3		70.7	74.8	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	111800	12.8		128	200	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	145299	39.4		78.8	545	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.902	2.901	0.001	1.000	31847	9.50	Target=1.67	107	154	
298.9 > 98.9	2.902	2.901	0.001	1.000	28647		1.11(0.83-2.51)		155	
D 5 13C3 PFBS										
302.0 > 79.8	2.902	2.901	0.001	1.000	62015	38.7		83.2	156	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.270	3.270	0.0	1.127	19212	10.9		116	259	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	154950	9.92	Target=14.34	99.2	391	
312.9 > 118.9	3.334	3.302	0.032	1.010	11252		13.77(7.17-21.51)		106	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	558942	50.6		101	1182	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.365	3.365	0.0	1.160	36829	9.72	Target=1.23	104	166	
348.9 > 98.9	3.365	3.365	0.0	1.000	44880		0.82(0.62-1.85)		383	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.460	3.492	-0.032	1.000	54799	52.1		104	679	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.492	3.492	0.0	1.009	51975	44.0		440	70.9	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.905	0.0	1.000	775915	49.8		99.6	1117	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.905	3.905	0.0	1.000	202788	11.1	Target=2.84	111	568	
362.9 > 168.9	3.905	3.905	0.0	1.000	66415		3.05(1.42-4.26)		309	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.926	3.925	0.001	1.000	30699	8.55	Target=1.34	94.0	164	M
398.9 > 98.9	3.926	3.925	0.001	1.000	36034		0.85(0.67-2.01)		193	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.926	3.925	0.001	1.000	80243	39.2		82.8	338	
49 DONA										M
376.9 > 250.7	3.966	3.966	0.0	0.739	175406	10.4	Target=2.33	111	820	
376.9 > 85.0	3.966	3.966	0.0	1.000	64463		2.72(1.16-3.49)		248	M
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.547	4.547	0.0	1.005	7956	9.06		95.6	35.1	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	44113	39.8		83.9	154	M
* 16 13C2 PFOA										
414.9 > 369.8	4.589	4.589	0.0		993407	50.0			1091	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.589	-0.021	0.995	189017	10.1	Target=2.43	101	528	
412.9 > 168.9	4.589	4.589	0.0	1.000	72063		2.62(1.22-3.64)		225	
D 17 13C4 PFOA										
416.9 > 371.8	4.589	4.609	-0.020	1.000	925321	48.0		96.0	512	
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.609	4.609	0.0	0.859	33814	9.92	Target=1.30	104	209	
448.9 > 98.9	4.609	4.609	0.0	1.000	43395		0.78(0.65-1.95)		212	M
19 Perfluorononanoic acid										M
462.9 > 418.7	5.368	5.368	0.0	1.004	214472	10.5	Target=5.00	105	801	
462.9 > 168.9	5.347	5.368	-0.021	1.000	46470		4.62(2.50-7.50)		174	M
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.389	-0.042	1.000	1156815	44.7		89.4	1954	
21 Perfluorooctanesulfonic acid										
498.9 > 80.0	5.368	5.389	-0.021	1.000	32888	8.69	Target=1.41	93.7	150	
498.9 > 98.9	5.389	5.389	0.0	1.004	35893		0.92(0.71-2.12)		155	
D 22 13C4 PFOS										
502.9 > 80.0	5.368	5.411	-0.043	1.000	187227	40.5		84.8	878	
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.812	5.812	0.0	1.083	162581	9.44		101	632	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	26561	9.95		104	134	
D 24 M2-8:2 FTS										M
528.8 > 508.8	6.131	6.131	0.0	1.000	173369	43.1		89.9	353	M
26 Perfluorodecanoic acid										
512.9 > 468.5	6.165	6.165	0.0	1.000	198533	9.74	Target=7.23	97.4	588	
512.9 > 168.9	6.131	6.165	-0.034	0.994	27567		7.20(3.61-10.84)		99.8	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										M
548.9 > 80.0	6.165	6.165	0.0	1.148	36397	9.58	Target=1.39	99.8	166	M
548.9 > 98.9	6.131	6.165	-0.034	1.000	44902		0.81(0.69-2.08)		228	M
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.199	-0.034	1.000	1112739	50.4		101	971	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.525	6.525	0.0	1.004	48912	10.4		104	216	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.549	-0.048	1.000	285219	39.6		79.3	703	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.897	6.897	0.0	1.003	46523	11.7		117	253	M
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.897	6.897	0.0	1.285	37038	9.11	Target=1.25	94.5	240	M
598.9 > 98.9	6.897	6.897	0.0	1.000	41495		0.89(0.63-1.88)		174	M
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.921	-0.048	1.000	246697	41.6		83.2	415	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.000	188762	10.8	Target=7.06	108	714	
562.9 > 168.9	6.921	6.921	0.0	1.000	25083		7.53(3.53-10.58)		119	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.945	-0.024	1.000	1051930	49.4		98.7	1178	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.013	7.013	0.0	1.000	100735	9.49		94.9	347	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	372714	46.9		93.7	713	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.254	7.274	-0.020	1.351	198474	9.03		95.9	544	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.596	7.616	-0.020	1.000	222699	9.64	Target=5.37	96.4	557	
612.9 > 168.9	7.596	7.616	-0.020	1.000	35923		6.20(2.68-8.06)		139	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	1216880	44.8		89.6	851	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.224	8.235	-0.011	1.083	228872	10.0	Target=4.67	100	601	
662.9 > 168.9	8.224	8.235	-0.011	1.083	44206		5.18(2.34-7.01)		278	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.775	8.786	-0.011	1.000	182388	10.2	Target=4.86	102	405	
712.9 > 168.9	8.775	8.786	-0.011	1.000	34657		5.26(2.43-7.30)		184	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.775	8.819	-0.044	1.000	1052627	43.2		86.3	459	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L4_00005 Amount Added: 100.00 Units: uL

Report Date: 05-Jun-2019 15:50:56 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410

Lims ID: CCV

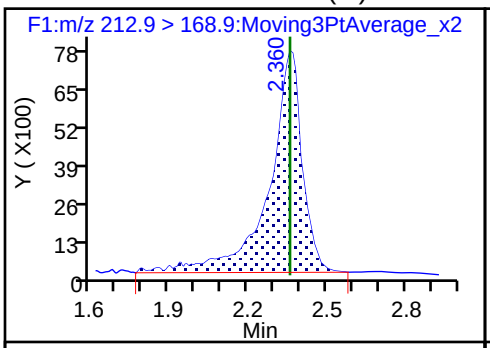
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4

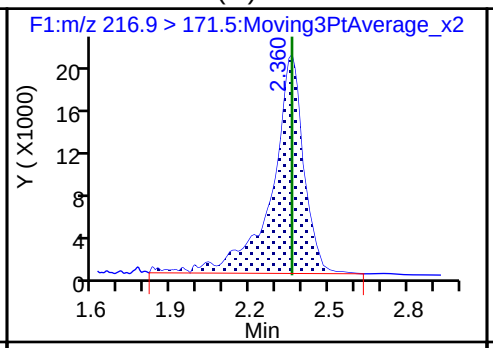
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

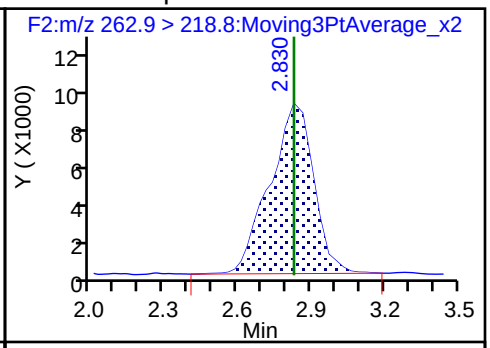
2 Perfluorobutanoic acid (M)



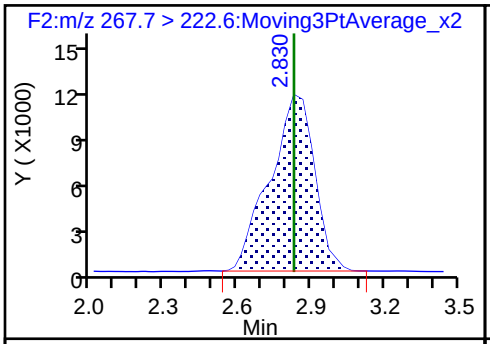
D 1 13C4 PFBA (M)



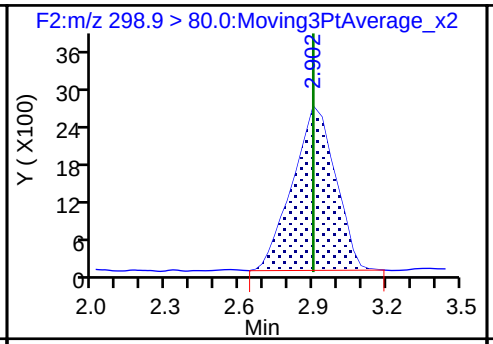
3 Perfluoropentanoic acid



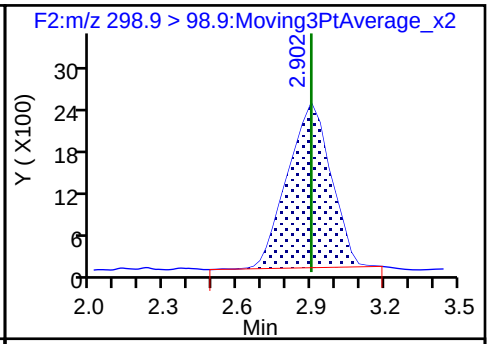
D 4 13C5 PFPeA



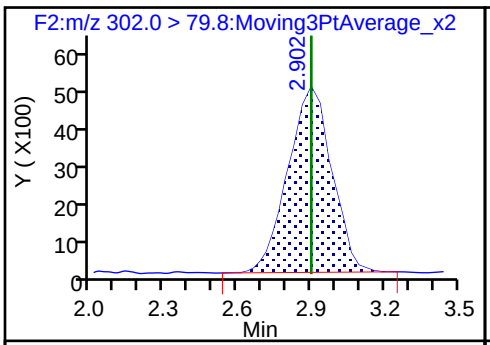
6 Perfluorobutanesulfonic acid



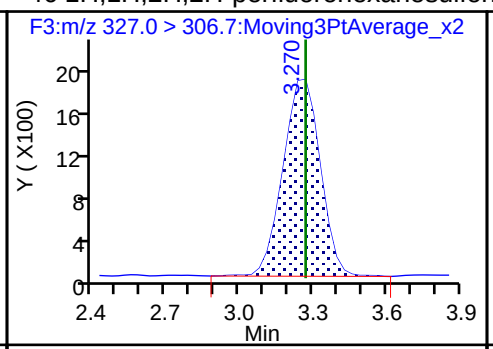
6 Perfluorobutanesulfonic acid



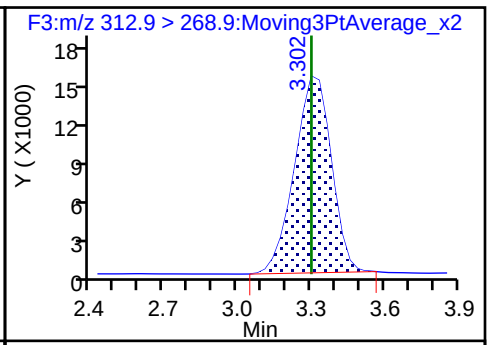
D 5 13C3 PFBS



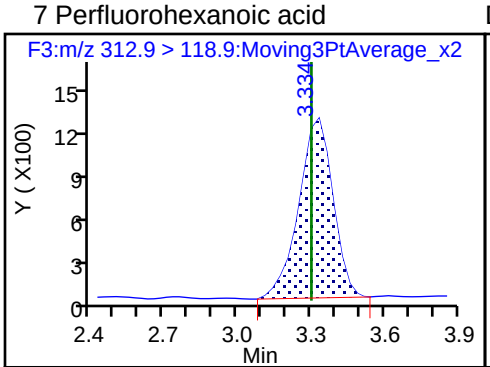
46 1H,1H,2H,2H-perfluorohexanesulfoni



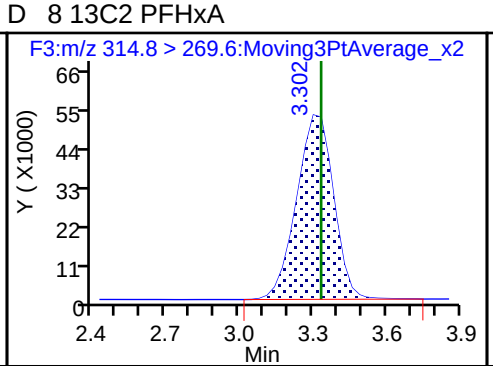
7 Perfluorohexanoic acid



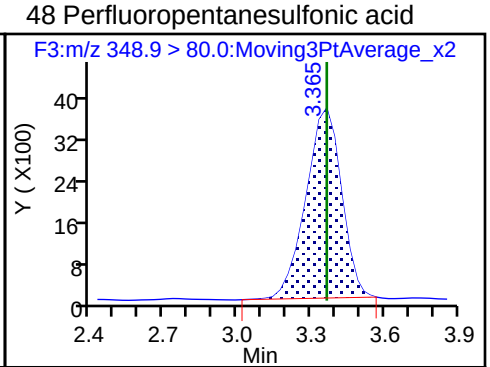
7 Perfluorohexanoic acid



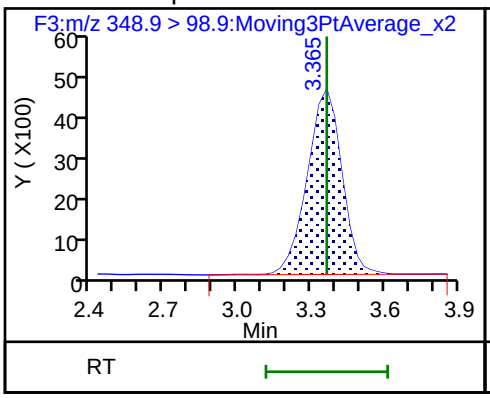
D 8 13C2 PFHxA



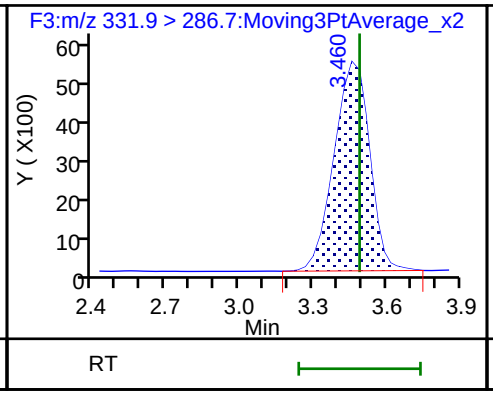
48 Perfluoropentanesulfonic acid



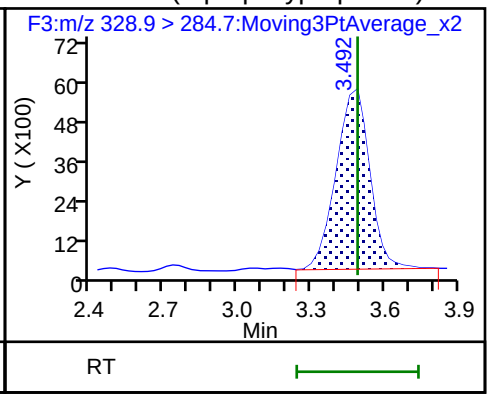
48 Perfluoropentanesulfonic acid



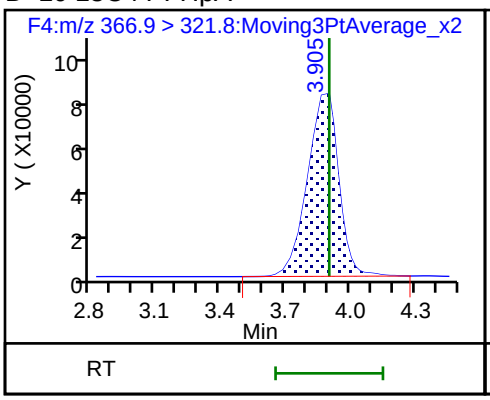
D 42 13C3 HFPO-DA



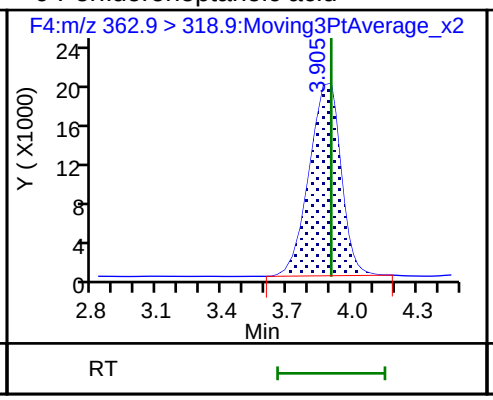
44 Perfluoro(2-propoxypropanoic) acid



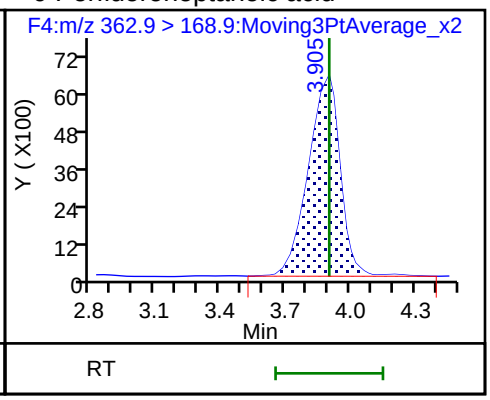
D 10 13C4 PFHpA



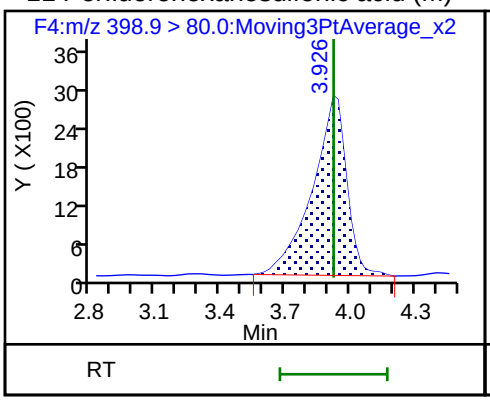
9 Perfluoroheptanoic acid



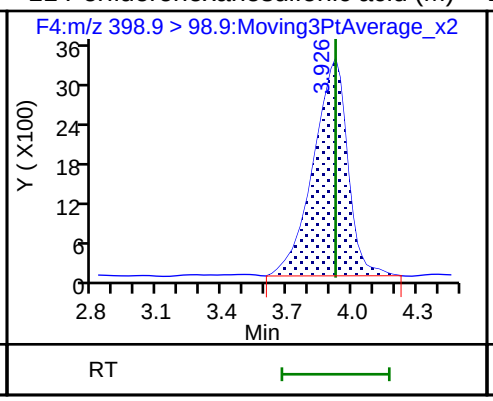
9 Perfluoroheptanoic acid



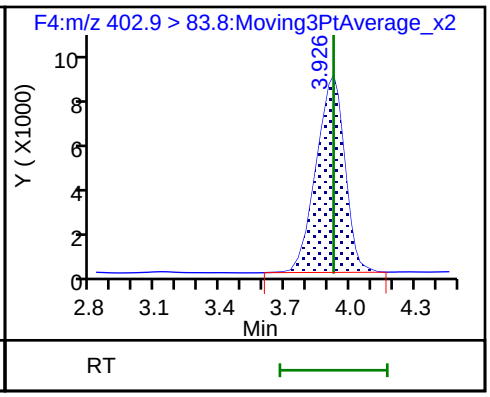
11 Perfluorohexanesulfonic acid (M)



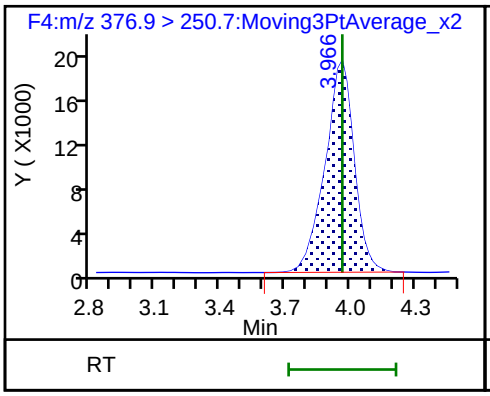
11 Perfluorohexanesulfonic acid (M)



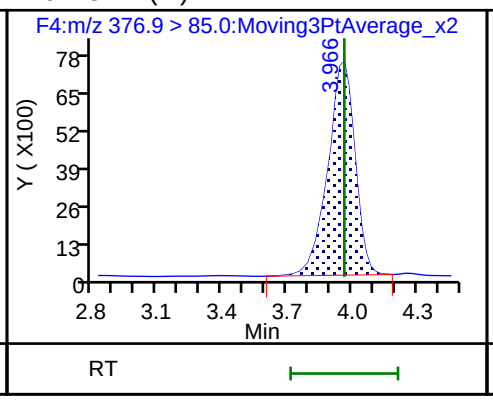
D 12 18O2 PFHxS



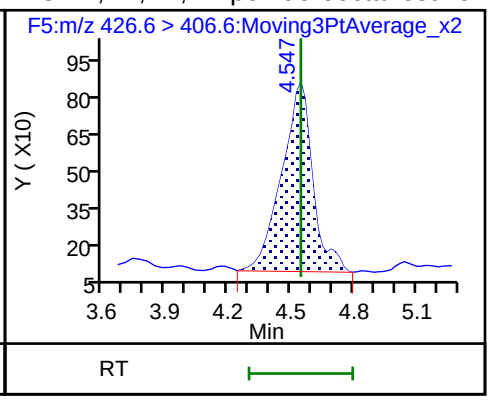
49 DONA



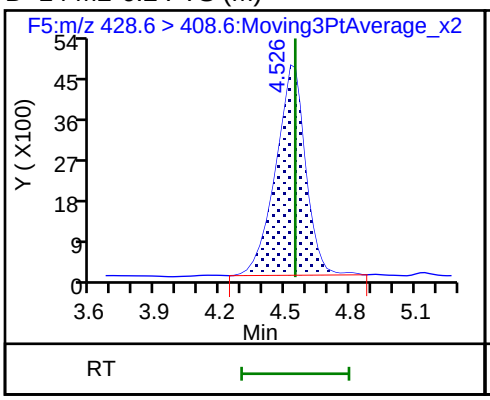
49 DONA (M)



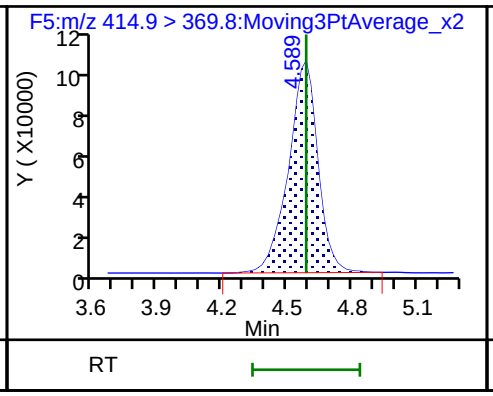
13 1H,1H,2H,2H-perfluorooctanesulfoni



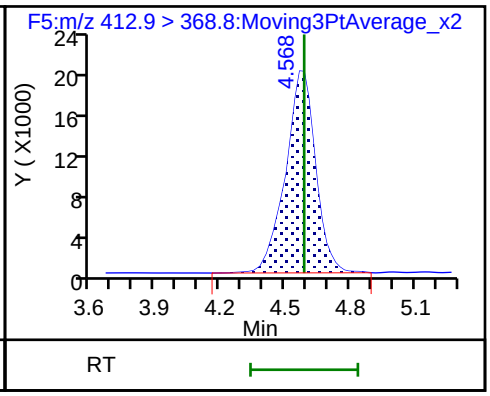
D 14 M2-6:2 FTS (M)



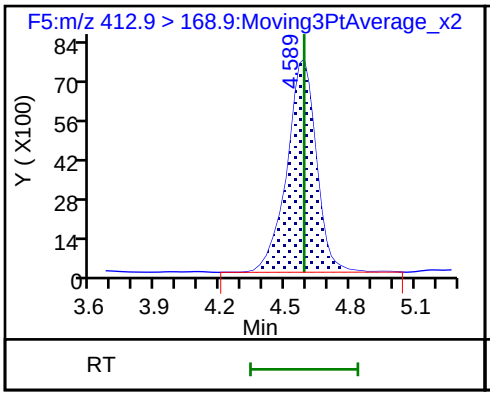
* 16 13C2 PFOA



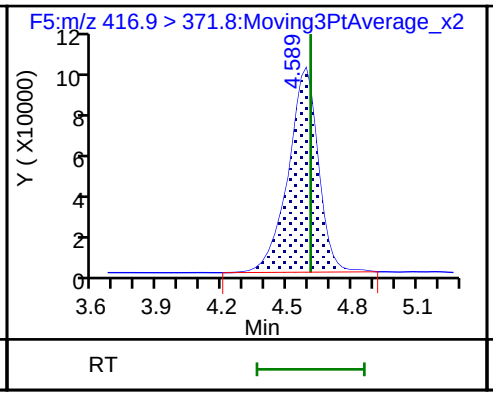
15 Perfluorooctanoic acid



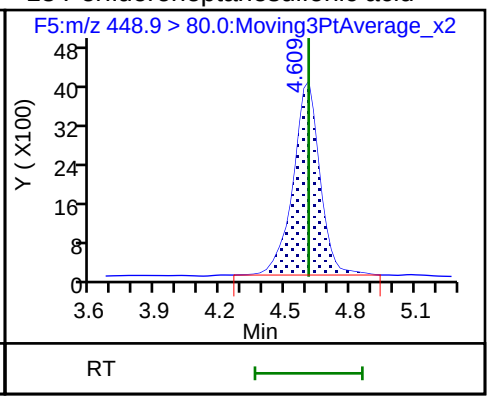
15 Perfluorooctanoic acid



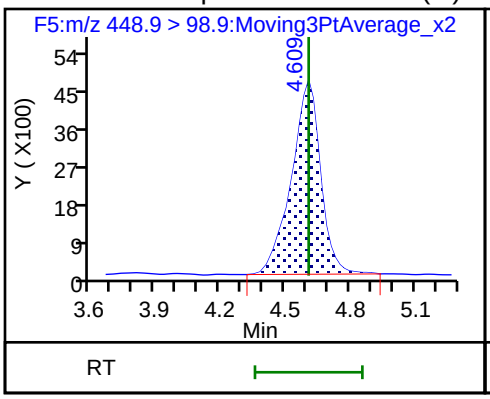
D 17 13C4 PFOA



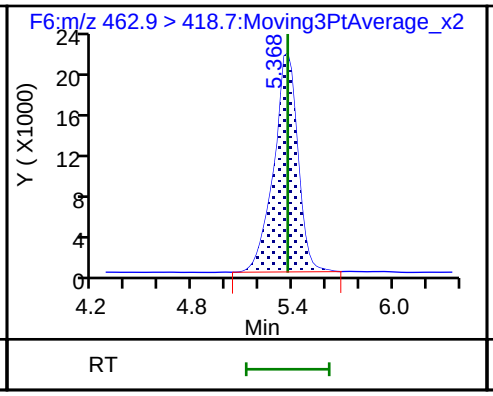
18 Perfluoroheptanesulfonic acid



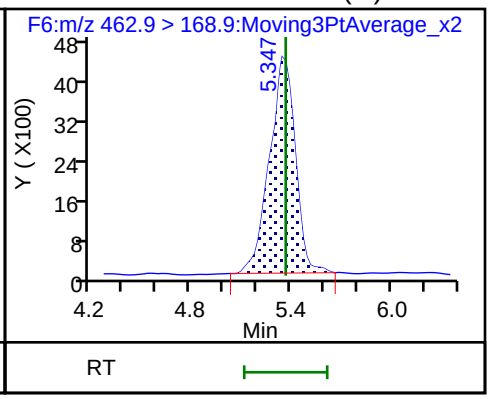
18 Perfluoroheptanesulfonic acid (M)



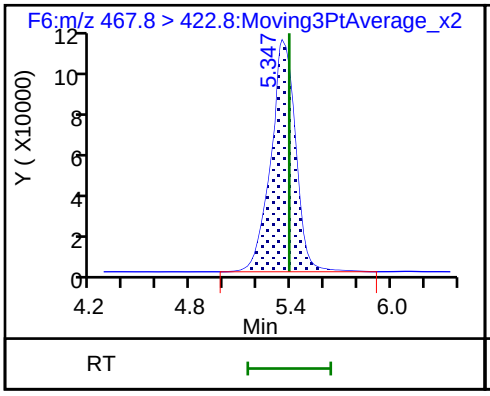
19 Perfluorononanoic acid



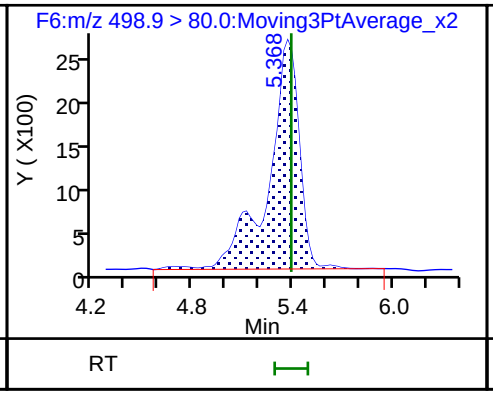
19 Perfluorononanoic acid (M)



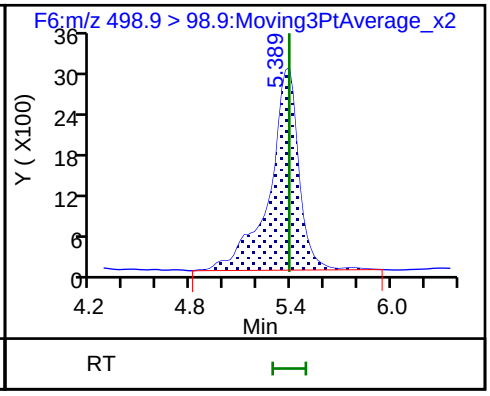
D 20 13C5 PFNA



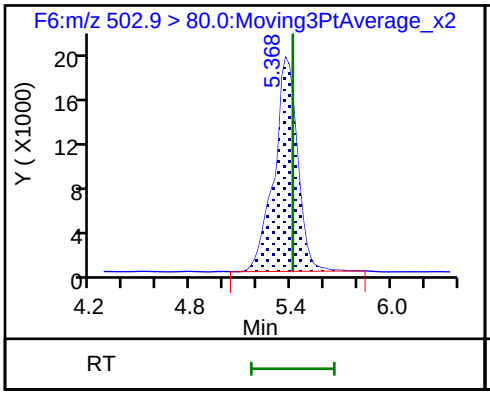
21 Perfluorooctanesulfonic acid



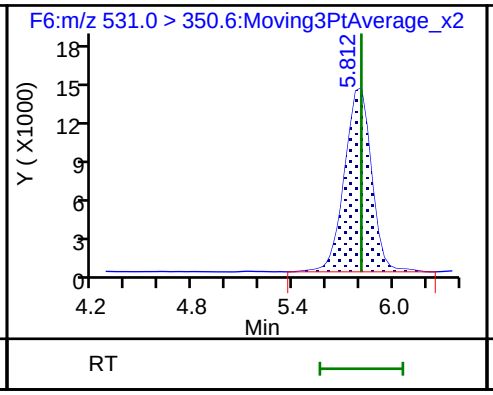
21 Perfluorooctanesulfonic acid



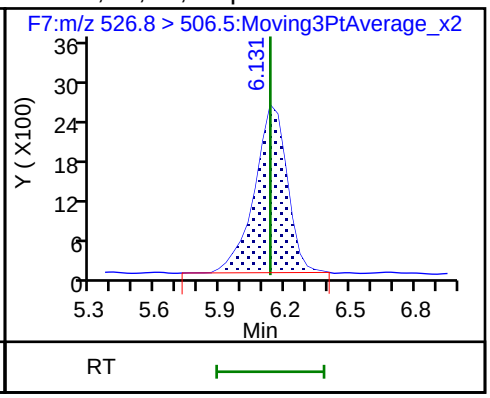
D 22 13C4 PFOS



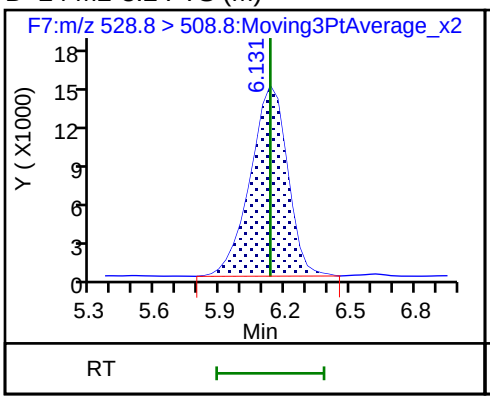
47 9-Chlorohexadecafluoro-3-oxanonane



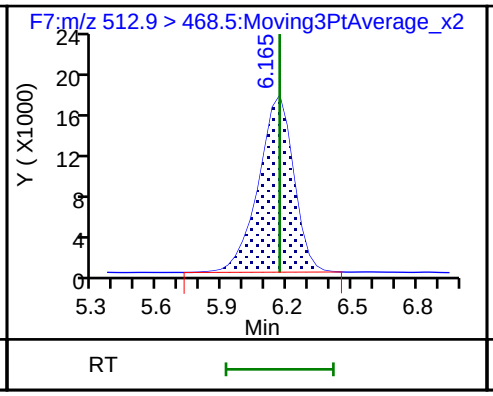
23 1H,1H,2H,2H-perfluorodecanesulfoni



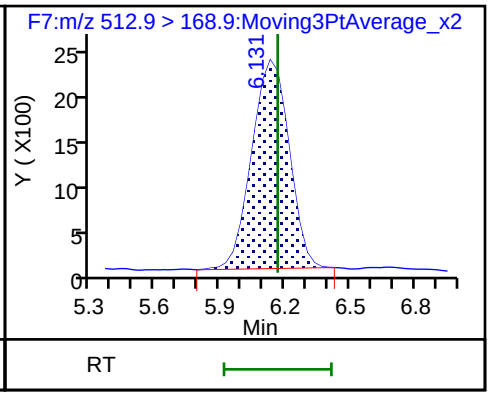
D 24 M2-8:2 FTS (M)



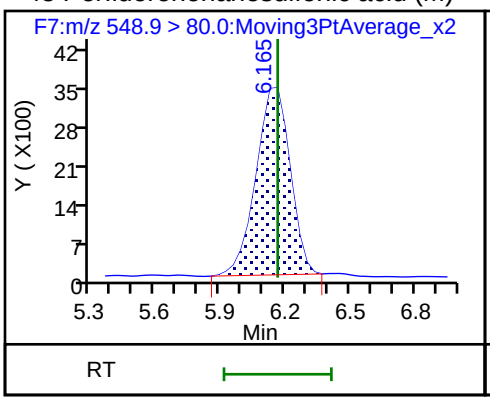
26 Perfluorodecanoic acid



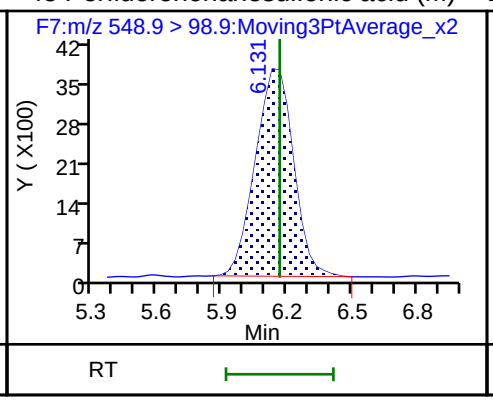
26 Perfluorodecanoic acid



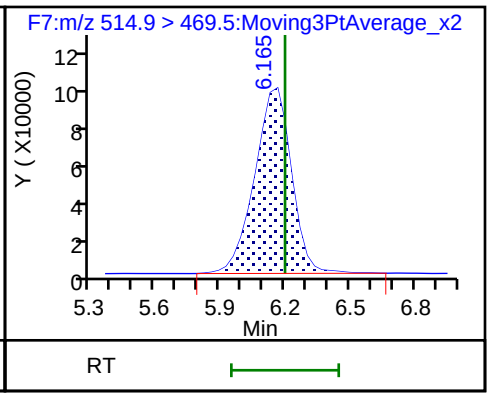
45 Perfluorononanesulfonic acid (M)



45 Perfluorononanesulfonic acid (M)

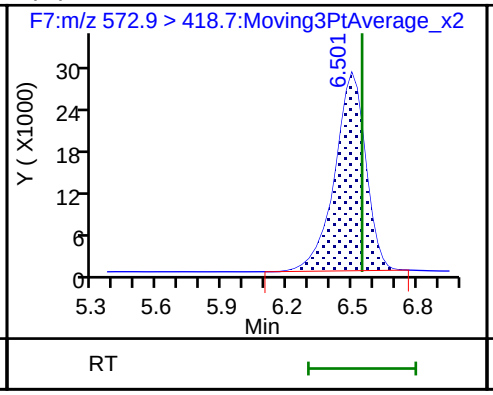


D 25 13C2 PFDA

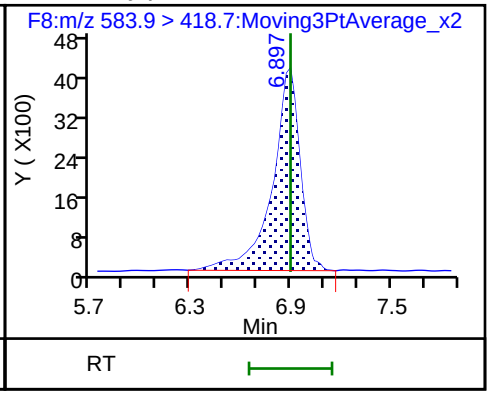


28 N-methylperfluorooctanesulfonamido

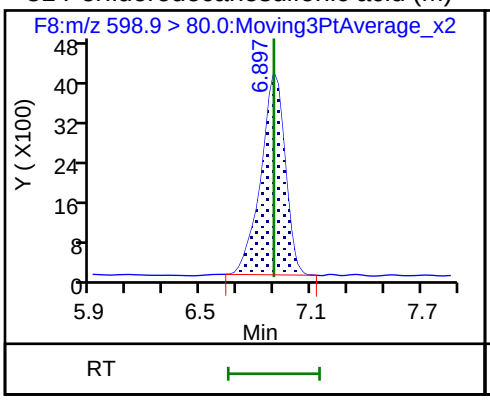
D 27 d3-NMeFOSAA



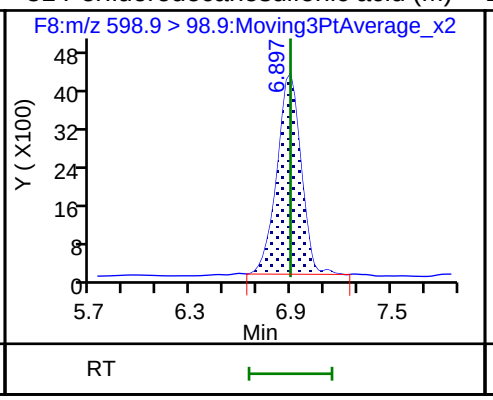
30 N-ethylperfluorooctanesulfonamidoa (M)



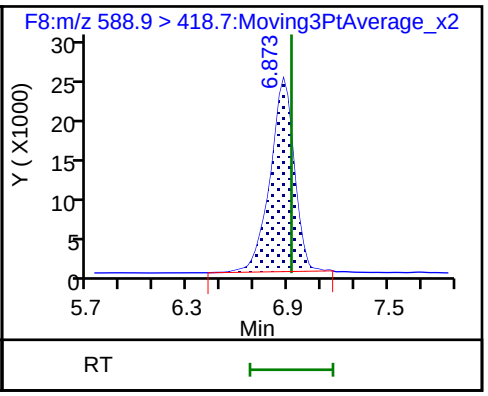
31 Perfluorodecanesulfonic acid (M)



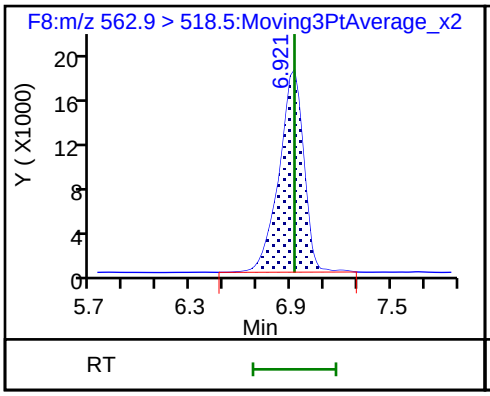
31 Perfluorodecanesulfonic acid (M)



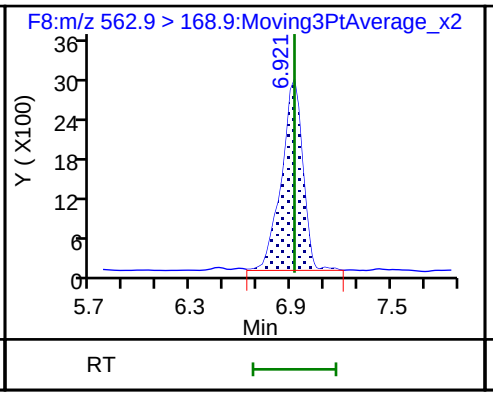
D 29 d5-NEtFOSAA



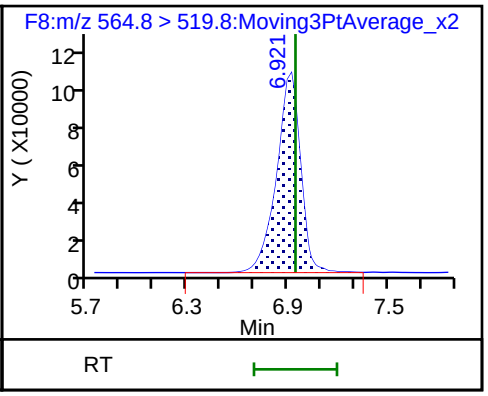
32 Perfluoroundecanoic acid



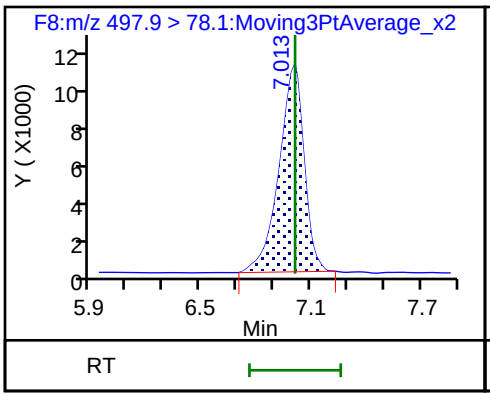
32 Perfluoroundecanoic acid



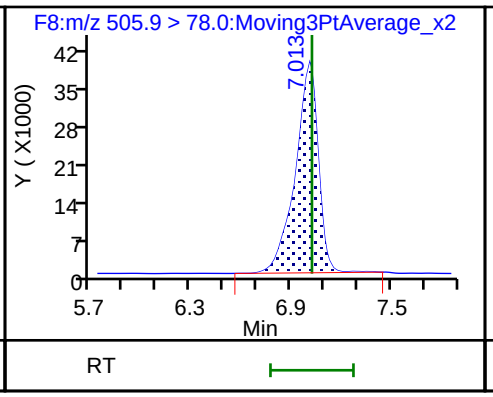
D 33 13C2 PFUnA



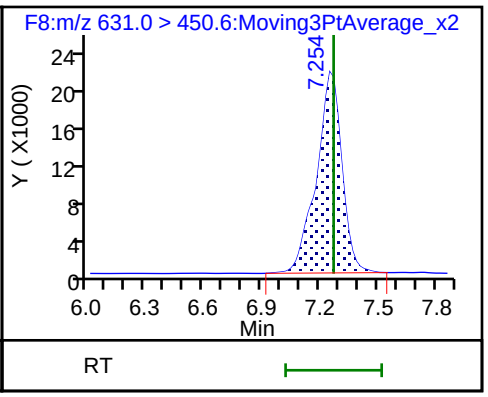
35 Perfluorooctanesulfonamide



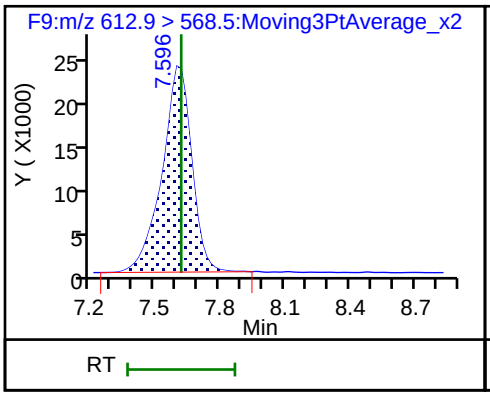
D 34 13C8 FOSA



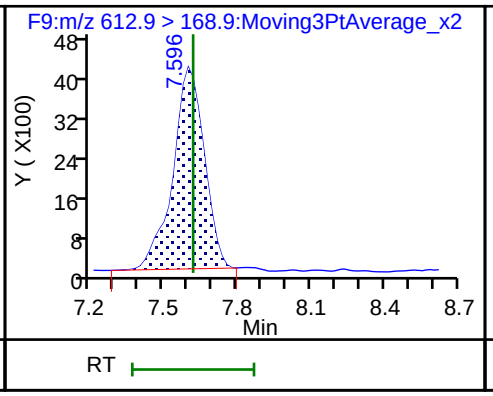
43 11-Chloroeicosafluoro-3-oxaundecan



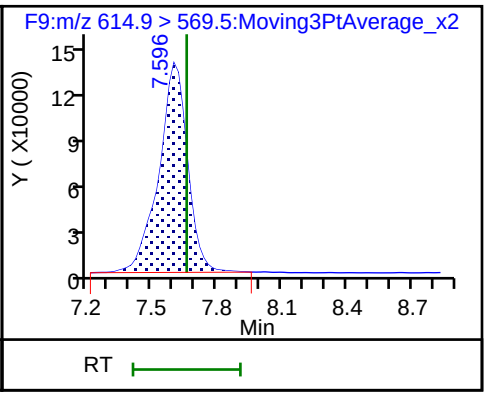
36 Perfluorododecanoic acid



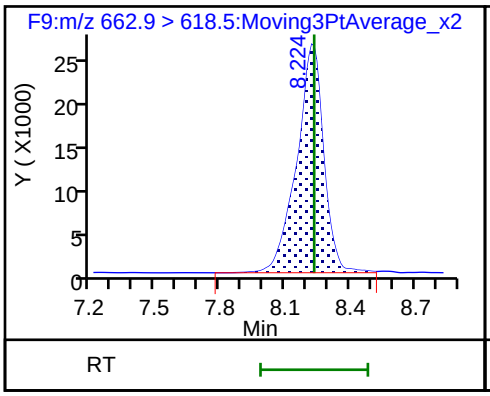
36 Perfluorododecanoic acid



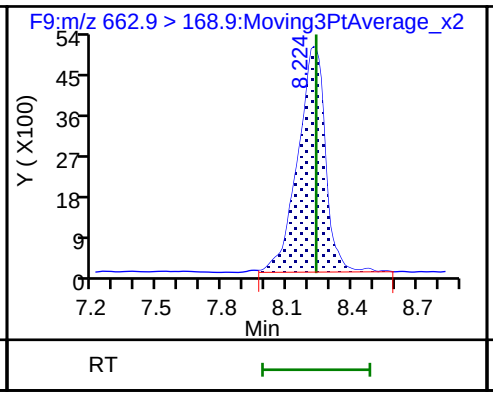
D 37 13C2 PFDoA



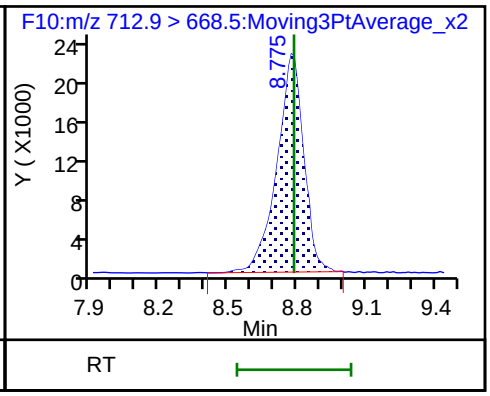
38 Perfluorotridecanoic acid



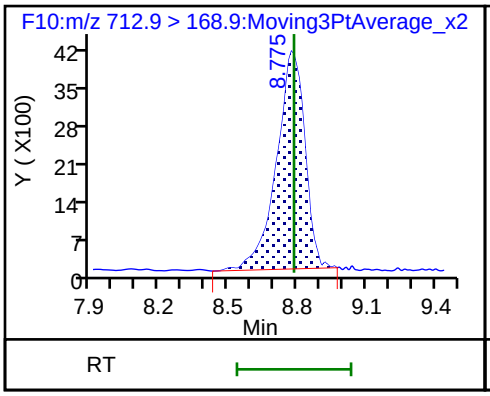
38 Perfluorotridecanoic acid



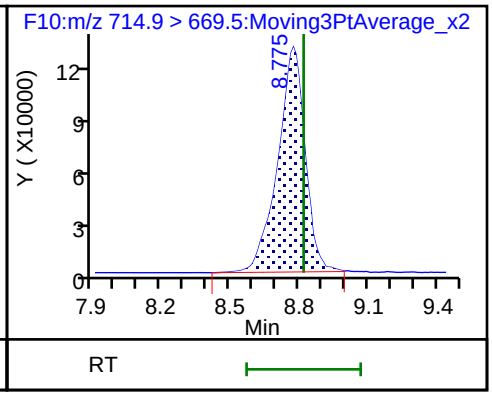
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

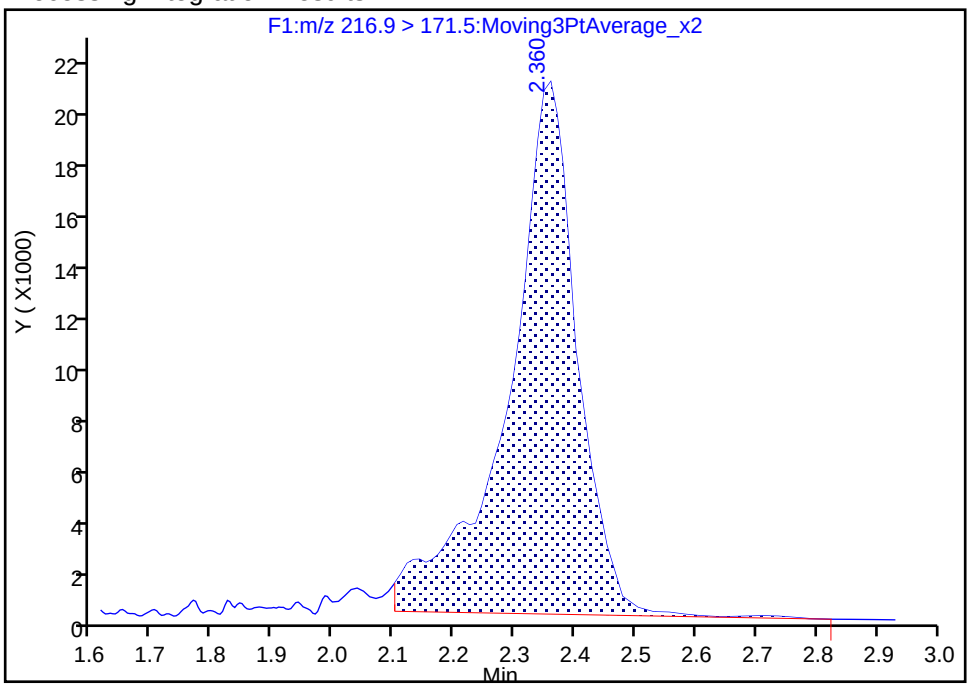
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

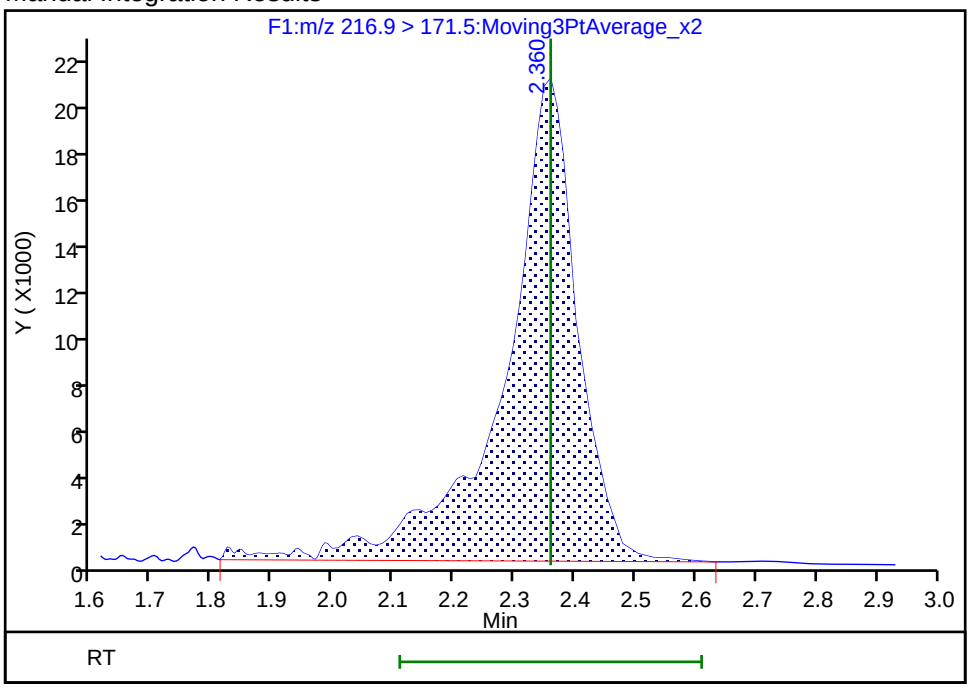
Processing Integration Results

RT: 2.36
Area: 161753
Amount: 33.293306
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 171672
Amount: 35.334915
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:03:50
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

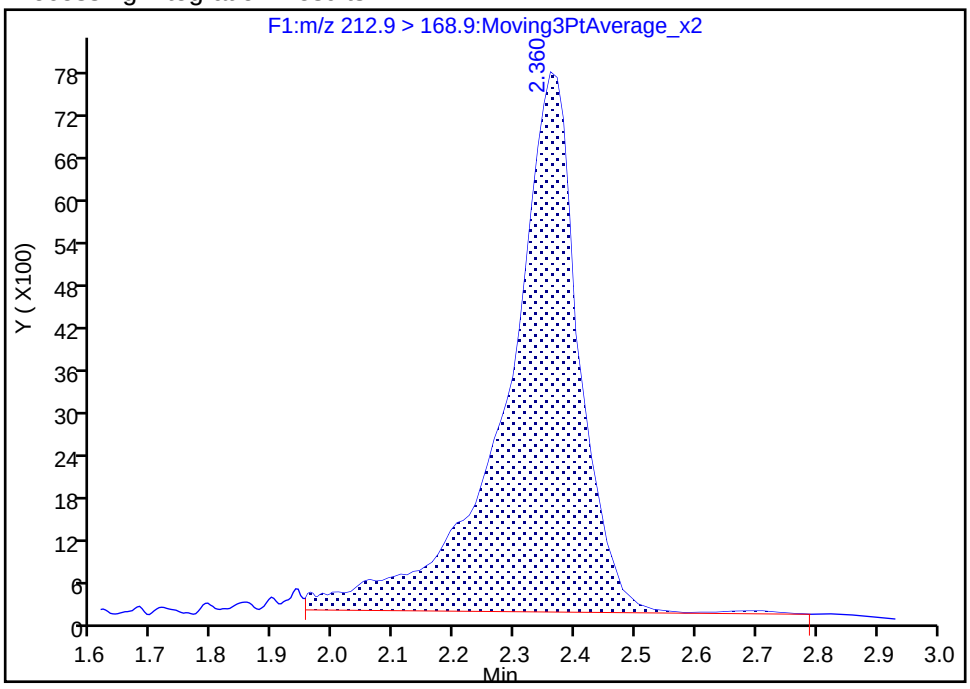
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

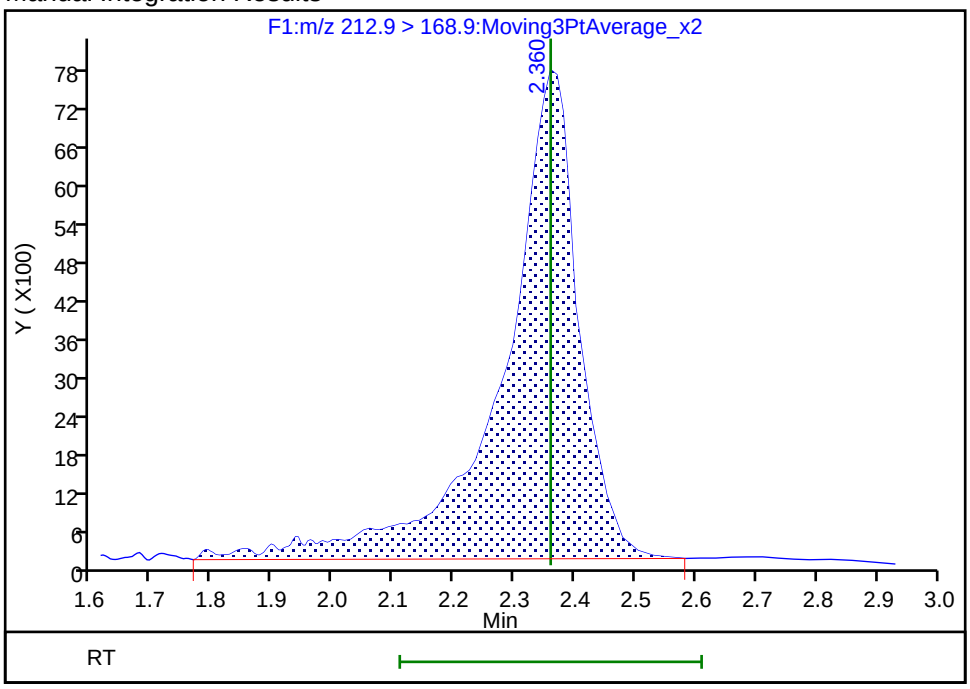
Processing Integration Results

RT: 2.36
Area: 64661
Amount: 12.731027
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 67023
Amount: 12.433624
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:03:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

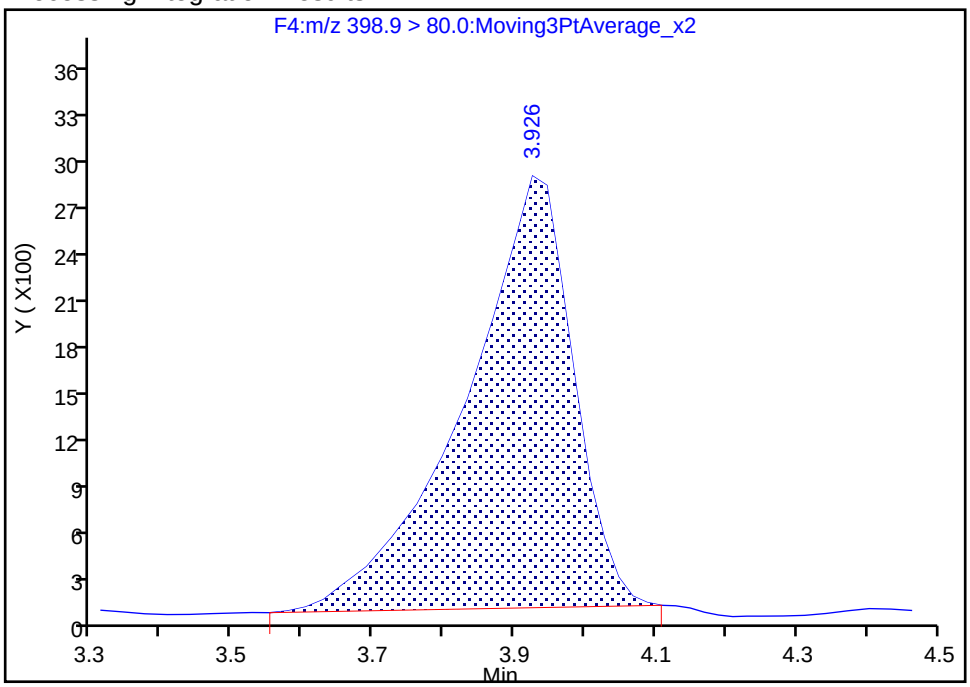
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

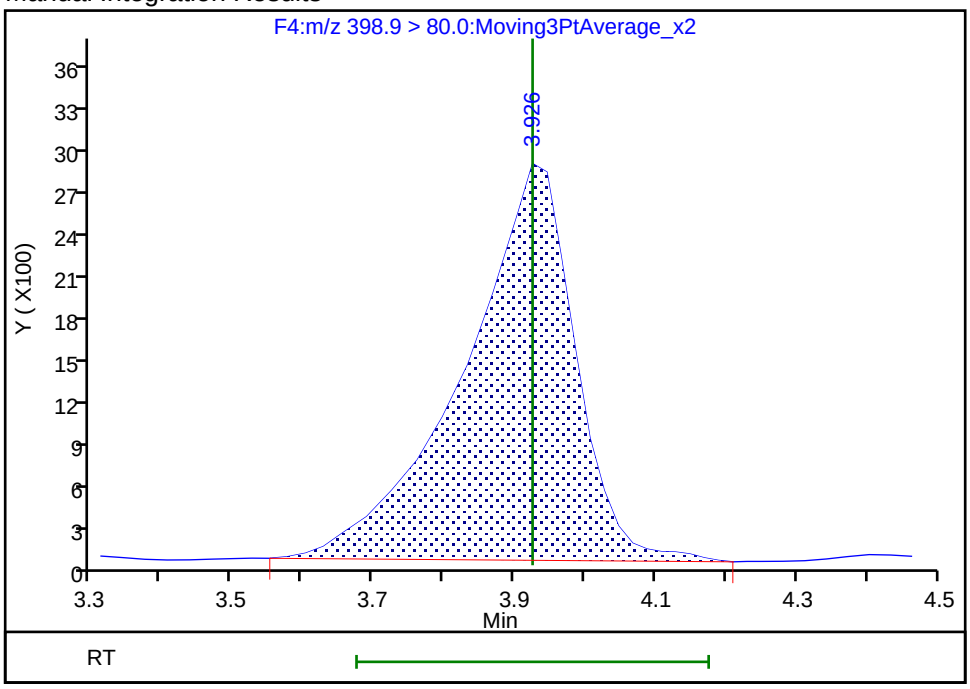
Processing Integration Results

RT: 3.93
Area: 29332
Amount: 8.170304
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 30699
Amount: 8.551076
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:15:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

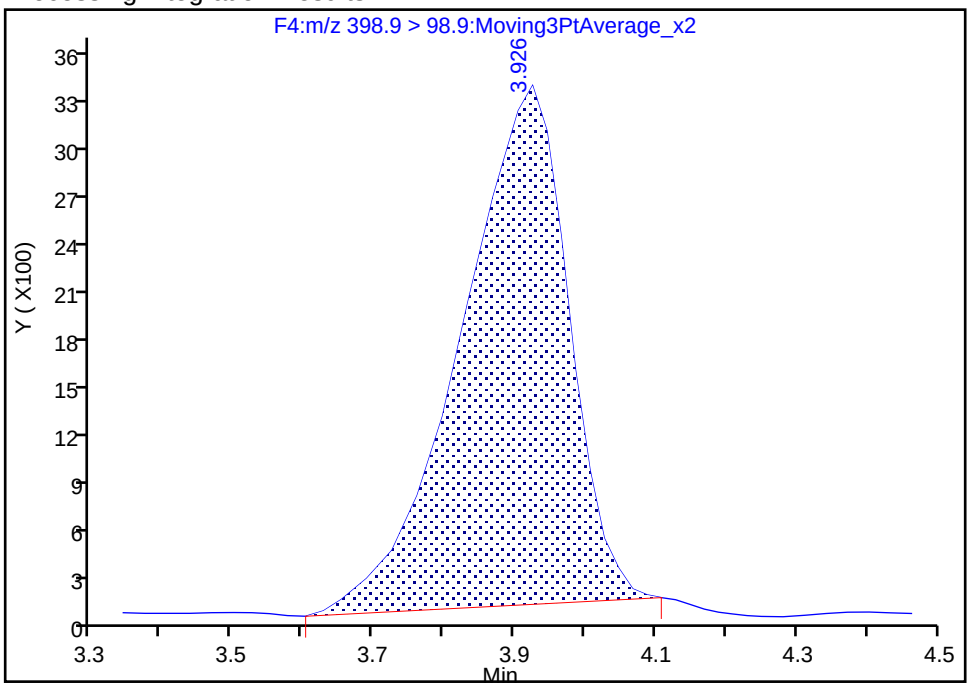
Injection Date:	05-Jun-2019 02:07:16	Instrument ID:	LC410		
Lims ID:	CCV				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

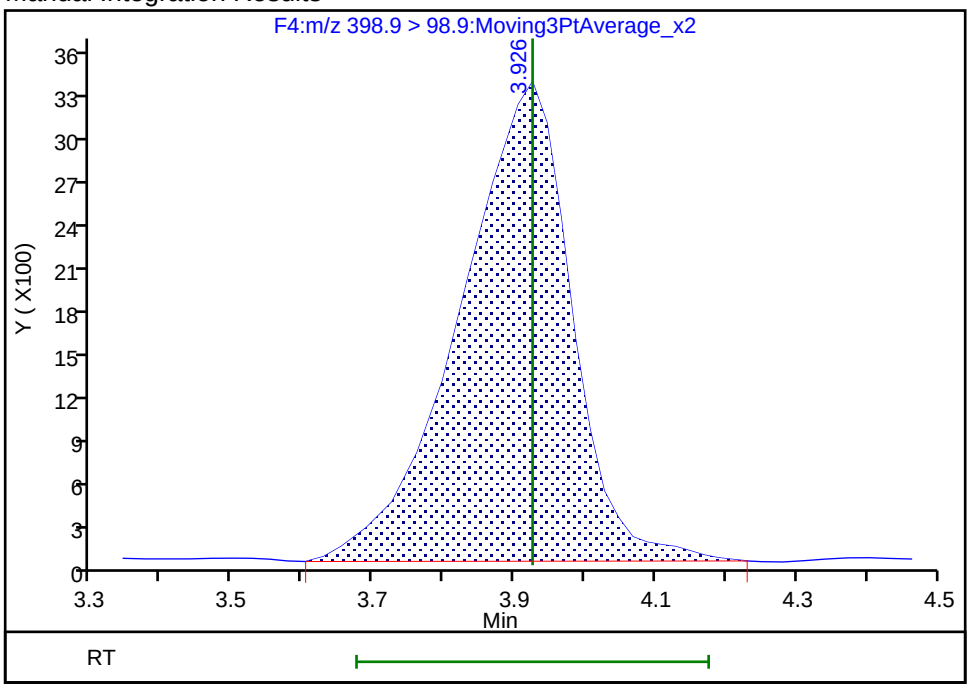
Processing Integration Results

RT: 3.93
Area: 33979
Amount: 8.170304
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 36034
Amount: 8.551076
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:15:30

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

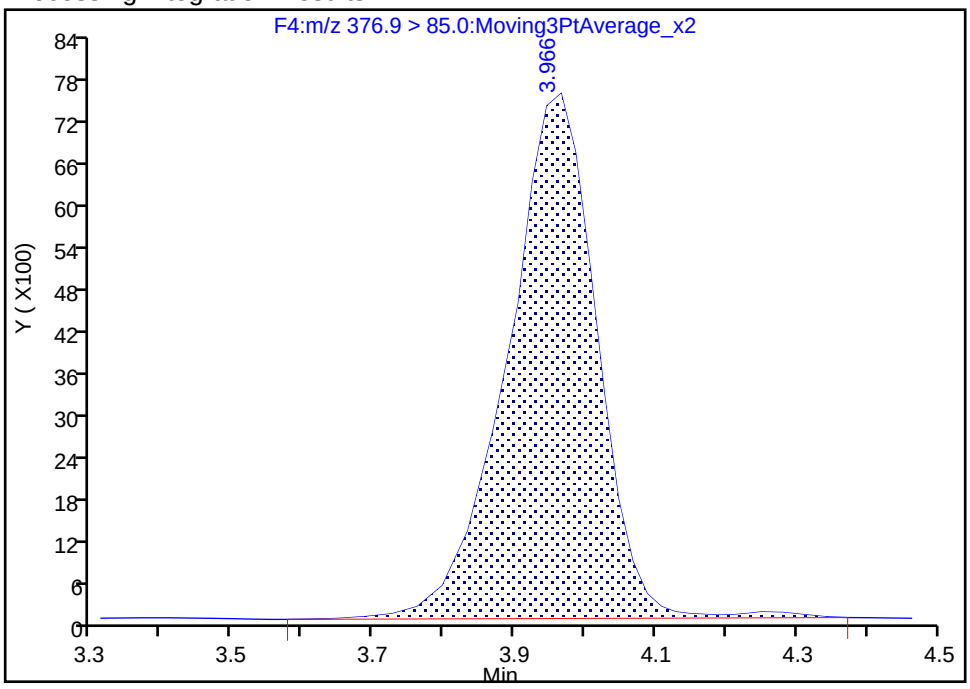
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

49 DONA, CAS: 919005-14-4

Signal: 2

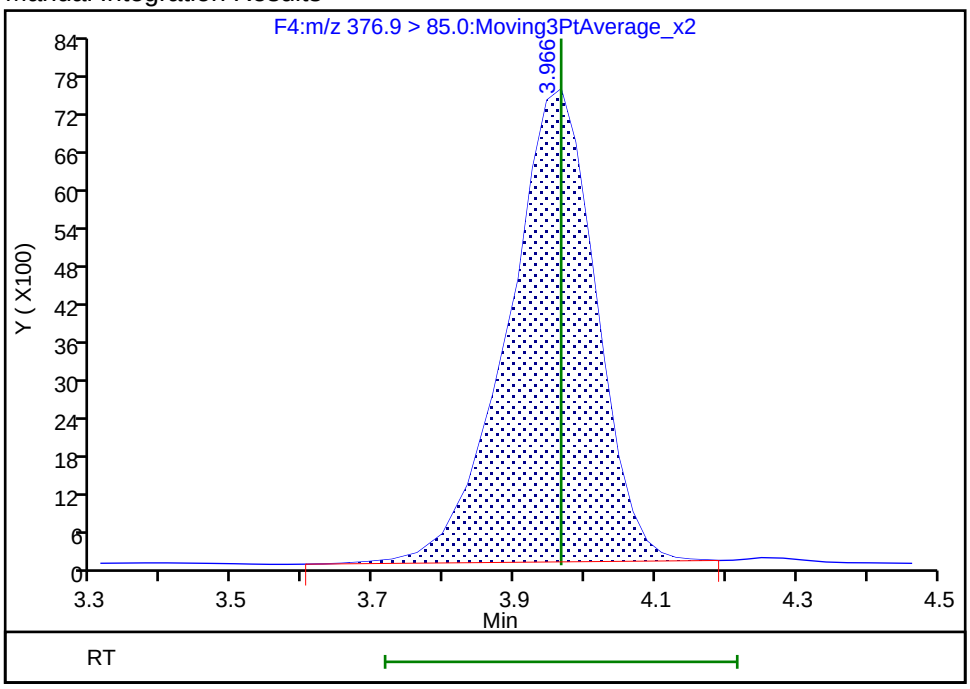
Processing Integration Results

RT: 3.97
Area: 65743
Amount: 10.414758
Amount Units: ng/ml



Manual Integration Results

RT: 3.97
Area: 64463
Amount: 10.414758
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:19:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

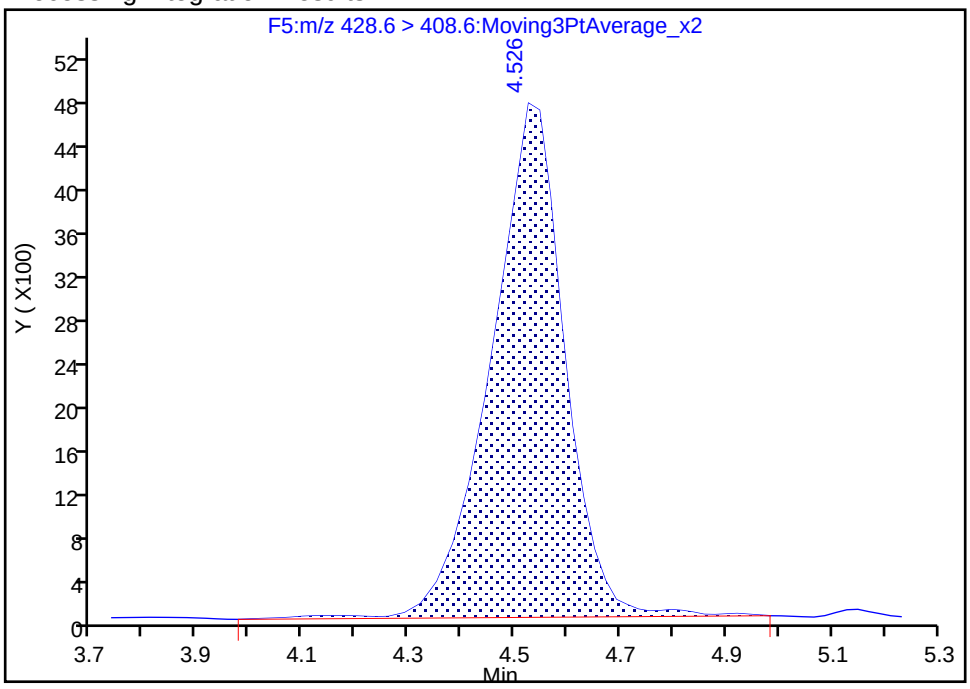
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

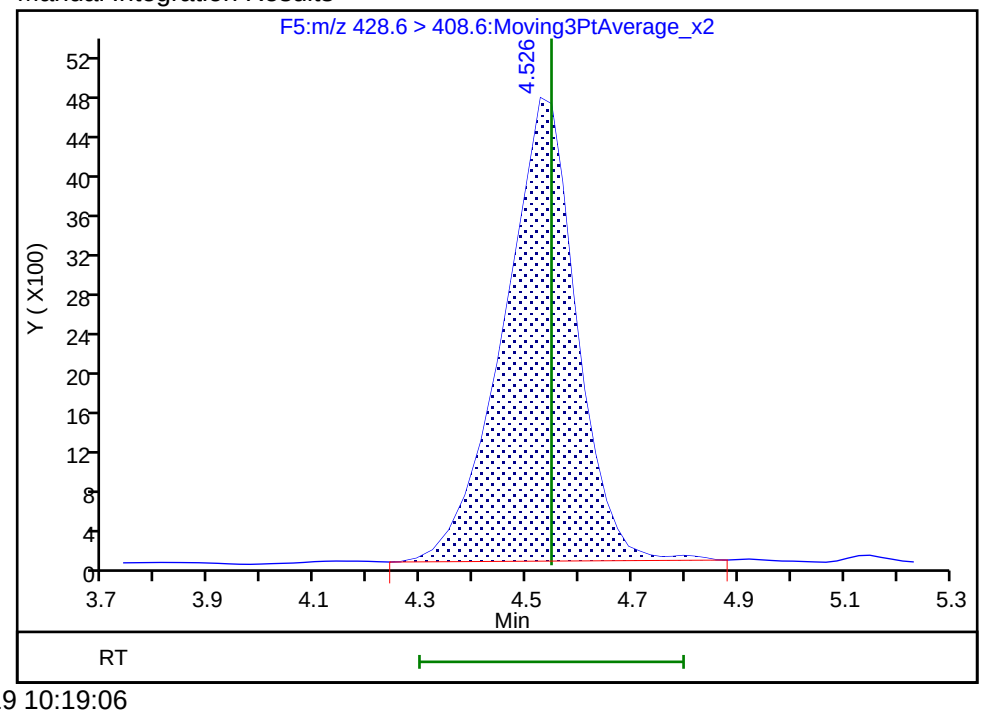
Processing Integration Results

RT: 4.53
Area: 44995
Amount: 40.646195
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 44113
Amount: 39.849441
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:19:06
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

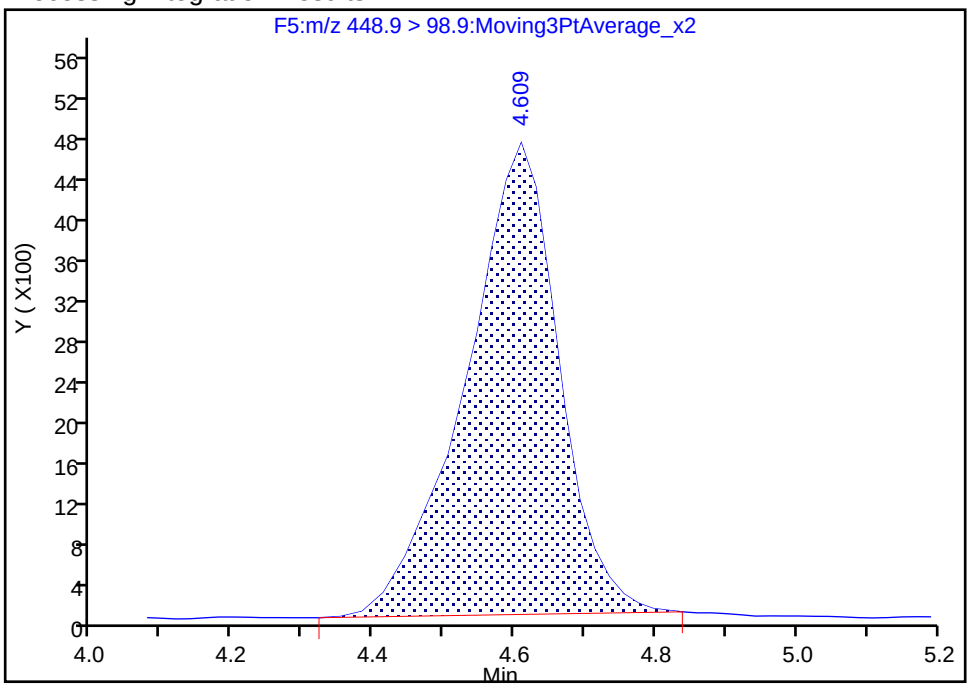
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 2

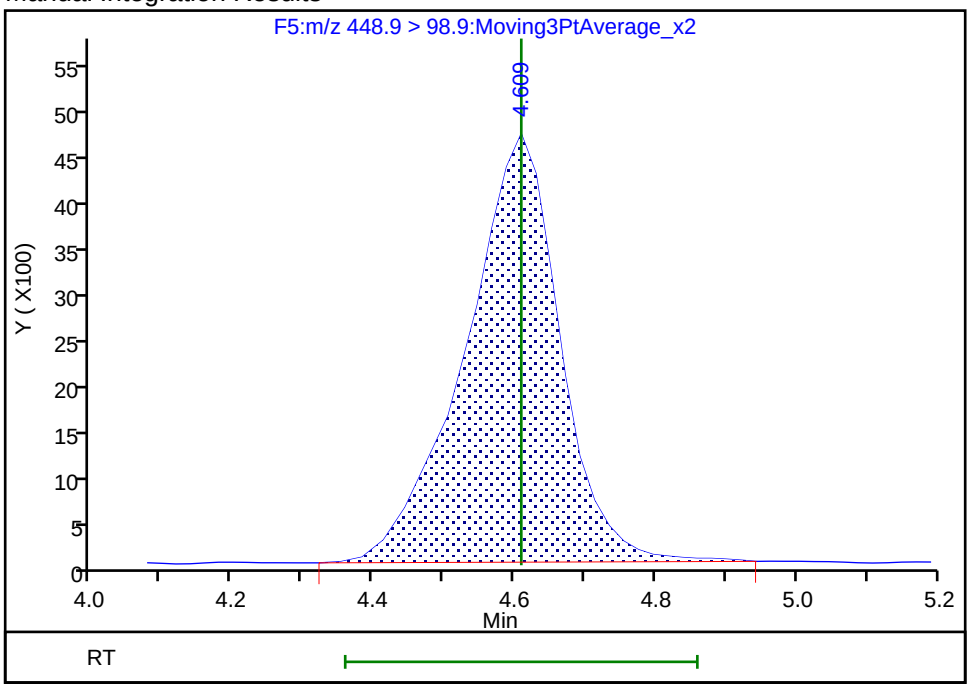
Processing Integration Results

RT: 4.61
Area: 42543
Amount: 9.916249
Amount Units: ng/ml



Manual Integration Results

RT: 4.61
Area: 43395
Amount: 9.916249
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:19:16
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

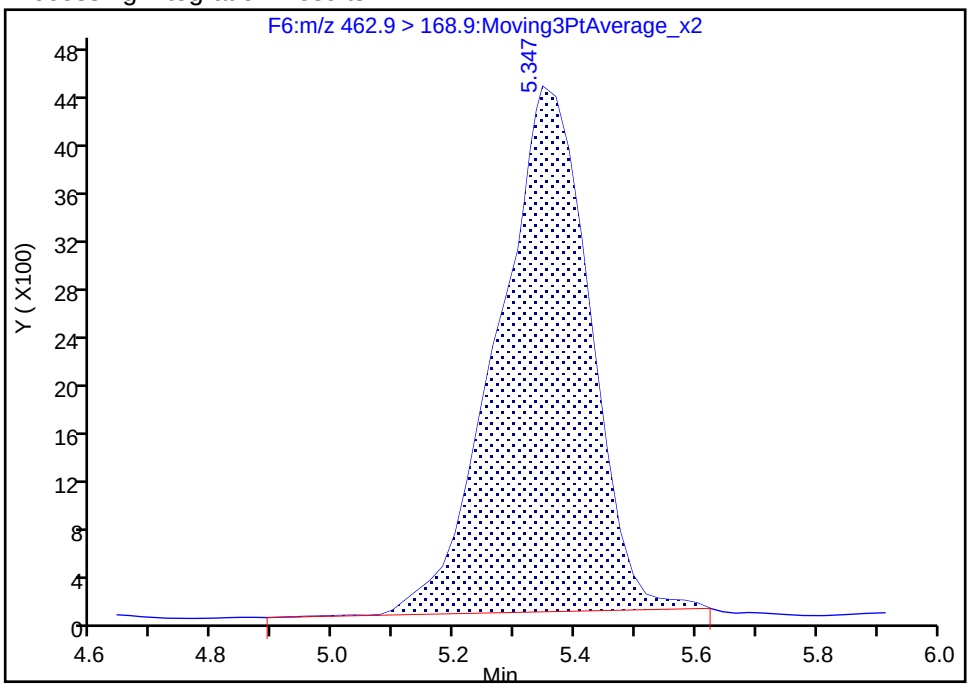
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

19 Perfluorononanoic acid, CAS: 375-95-1

Signal: 2

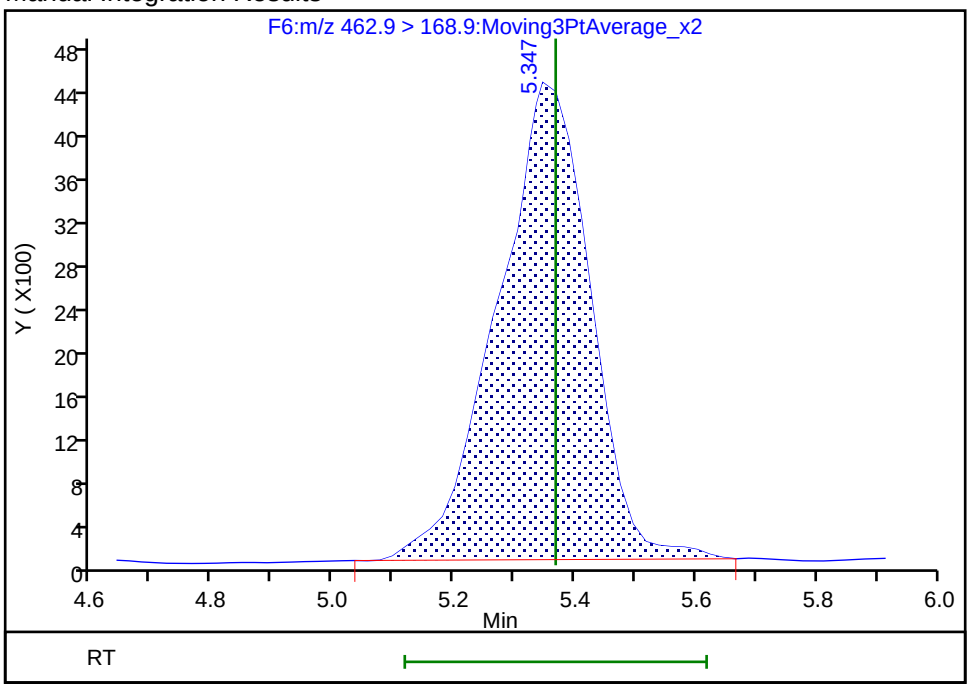
Processing Integration Results

RT: 5.35
Area: 45817
Amount: 10.498482
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 46470
Amount: 10.498482
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:19:21
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

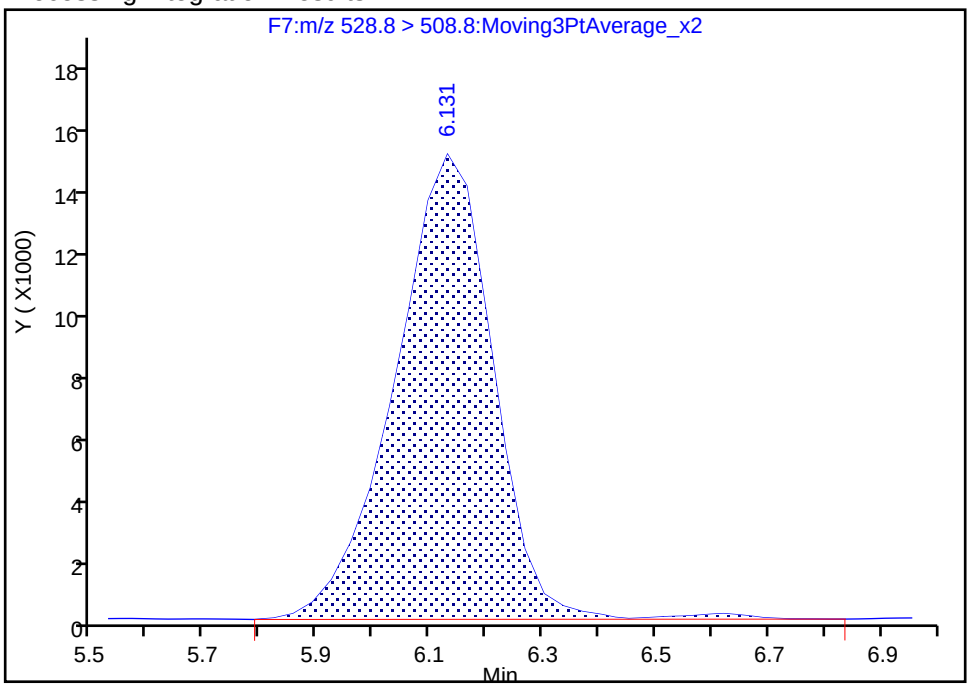
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d				
Injection Date:	05-Jun-2019 02:07:16	Instrument ID:	LC410		
Lims ID:	CCV				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 24 M2-8:2 FTS, CAS: STL02280

Signal: 1

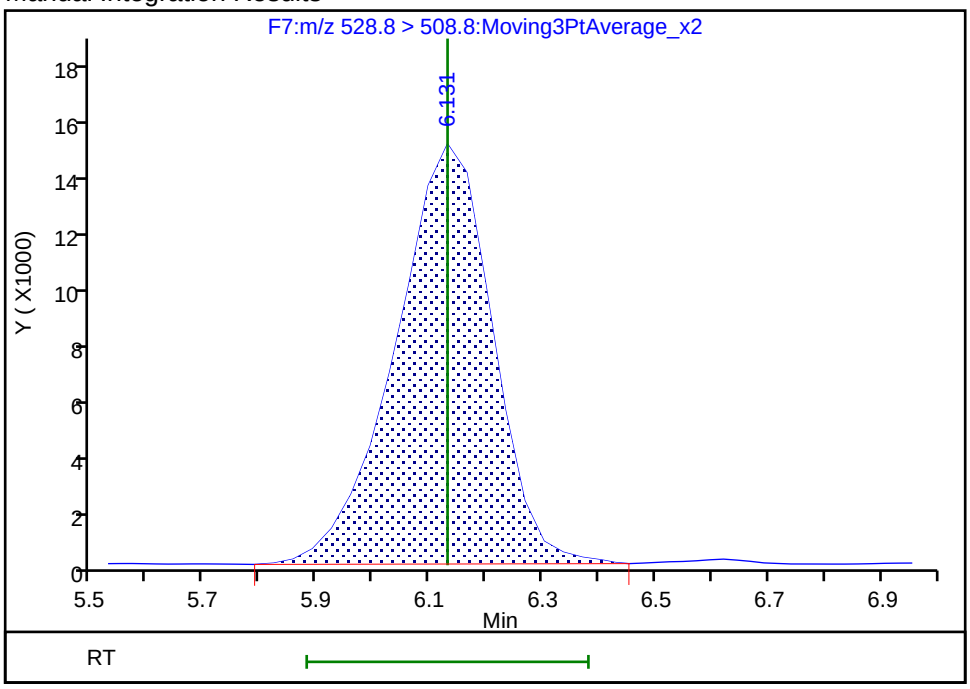
Processing Integration Results

RT: 6.13
Area: 175271
Amount: 43.535842
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 173369
Amount: 43.063401
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:19:31

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

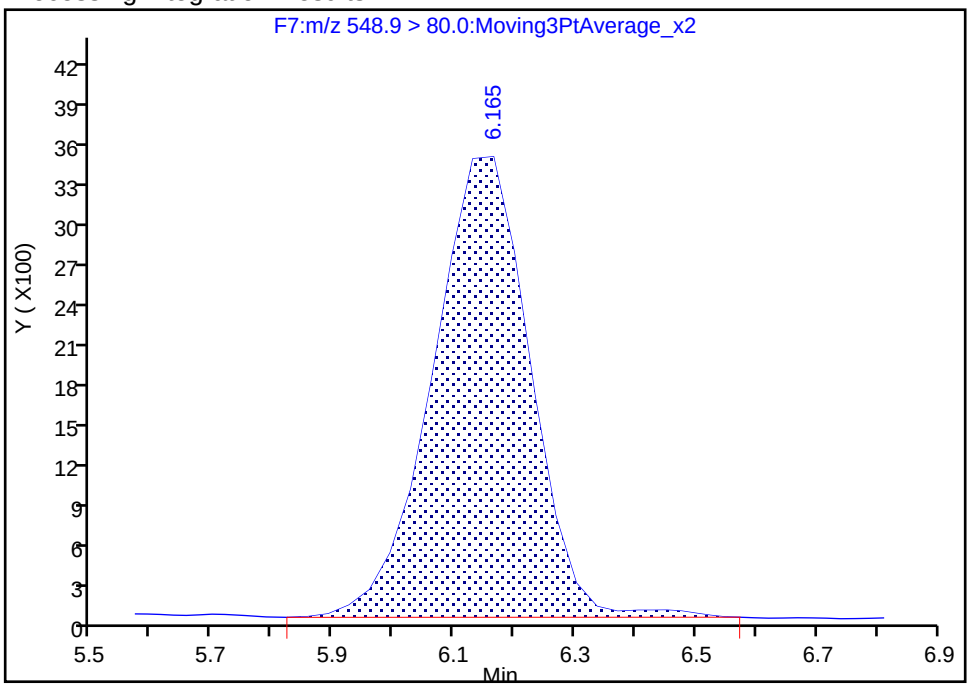
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

45 Perfluorononanesulfonic acid, CAS: 68259-12-1

Signal: 1

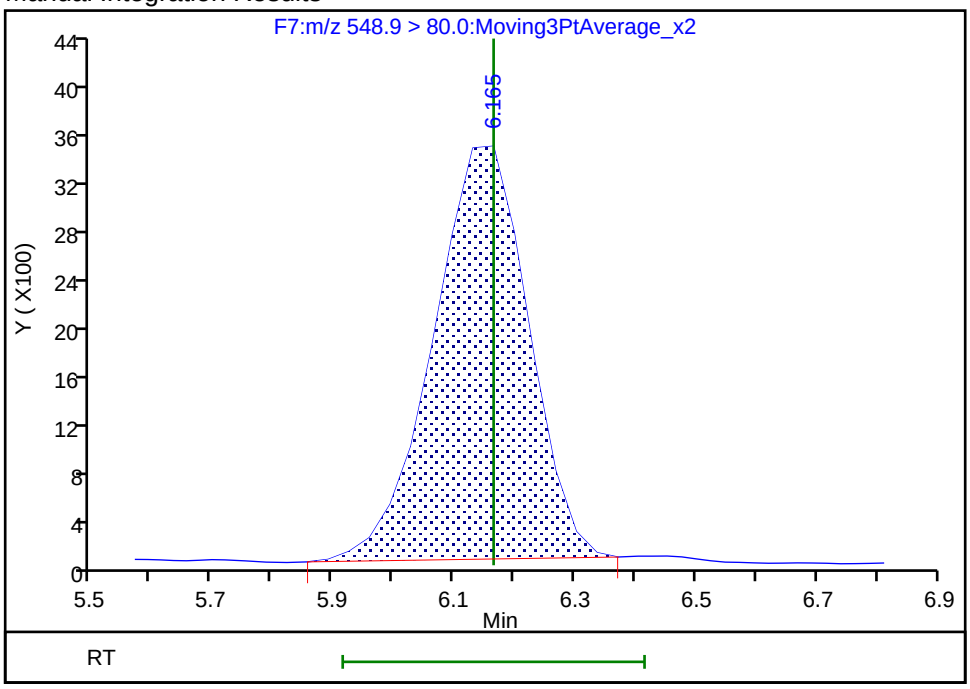
Processing Integration Results

RT: 6.17
Area: 37549
Amount: 9.886237
Amount Units: ng/ml



Manual Integration Results

RT: 6.17
Area: 36397
Amount: 9.582928
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:20:05
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

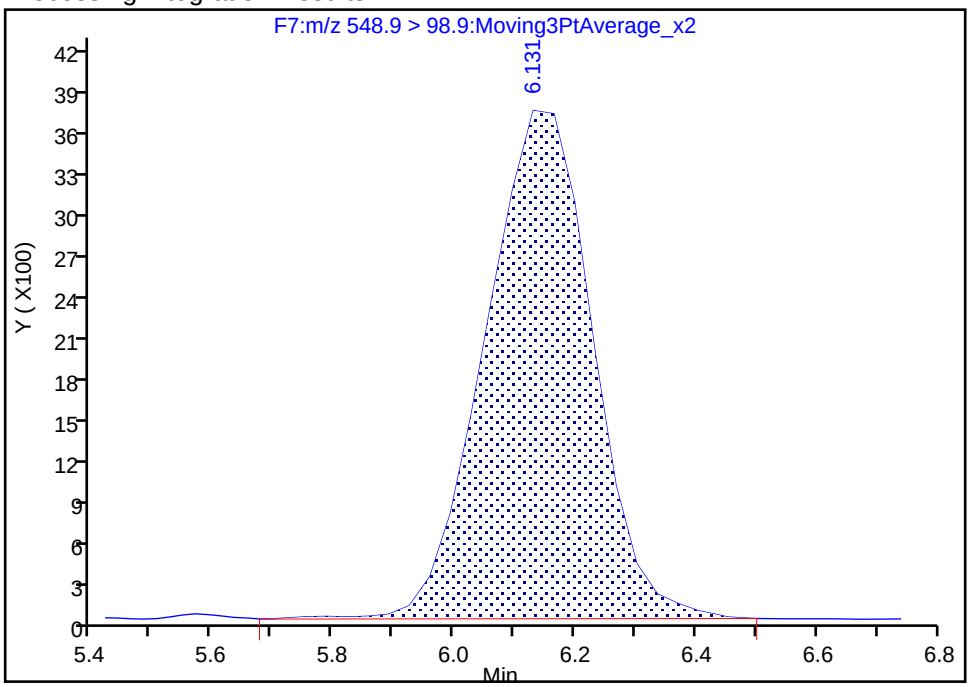
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

45 Perfluorononanesulfonic acid, CAS: 68259-12-1

Signal: 2

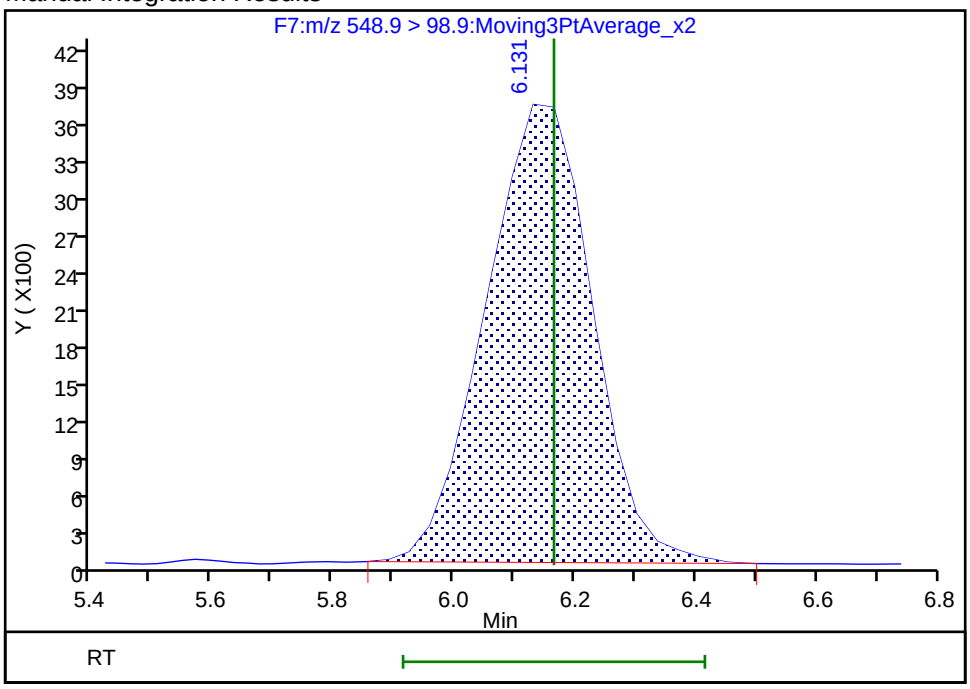
Processing Integration Results

RT: 6.13
Area: 45405
Amount: 9.886237
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 44902
Amount: 9.582928
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:20:08
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

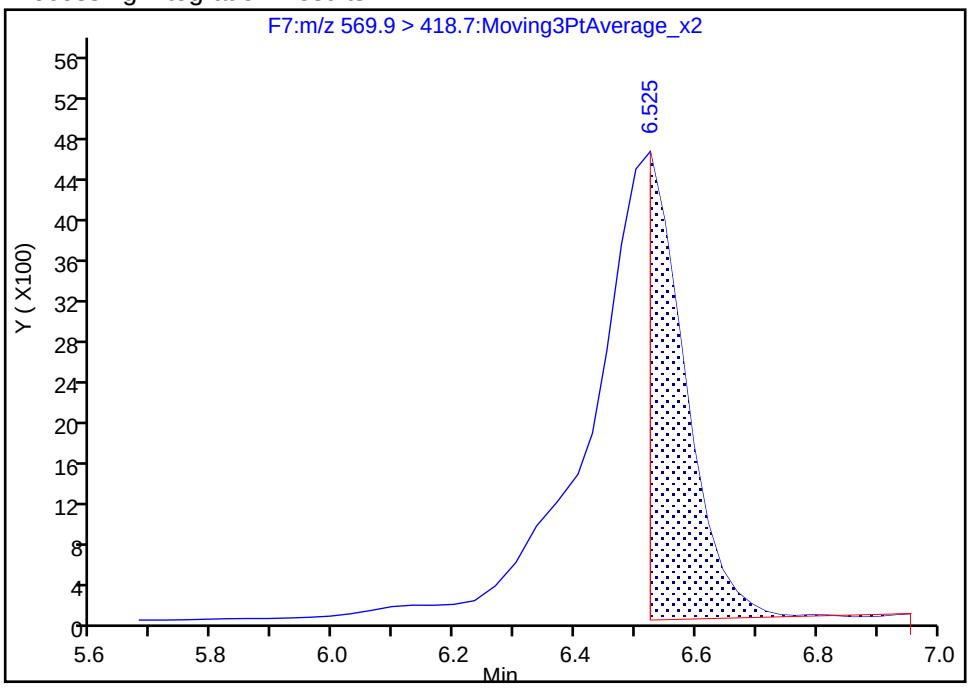
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

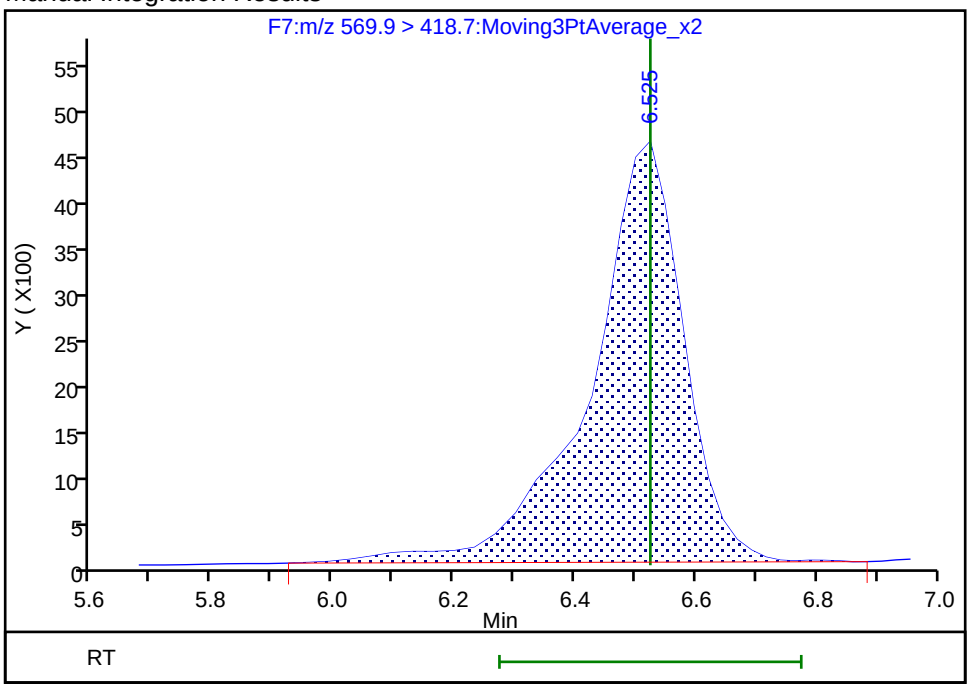
Processing Integration Results

RT: 6.52
Area: 18048
Amount: 3.831705
Amount Units: ng/ml



Manual Integration Results

RT: 6.52
Area: 48912
Amount: 10.384328
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:20:13
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

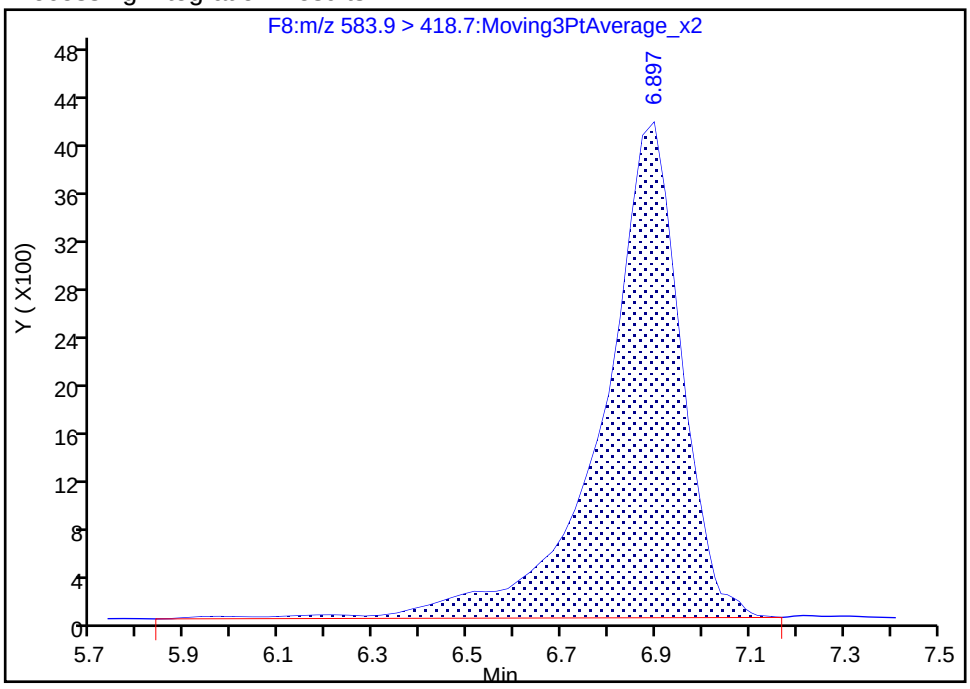
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

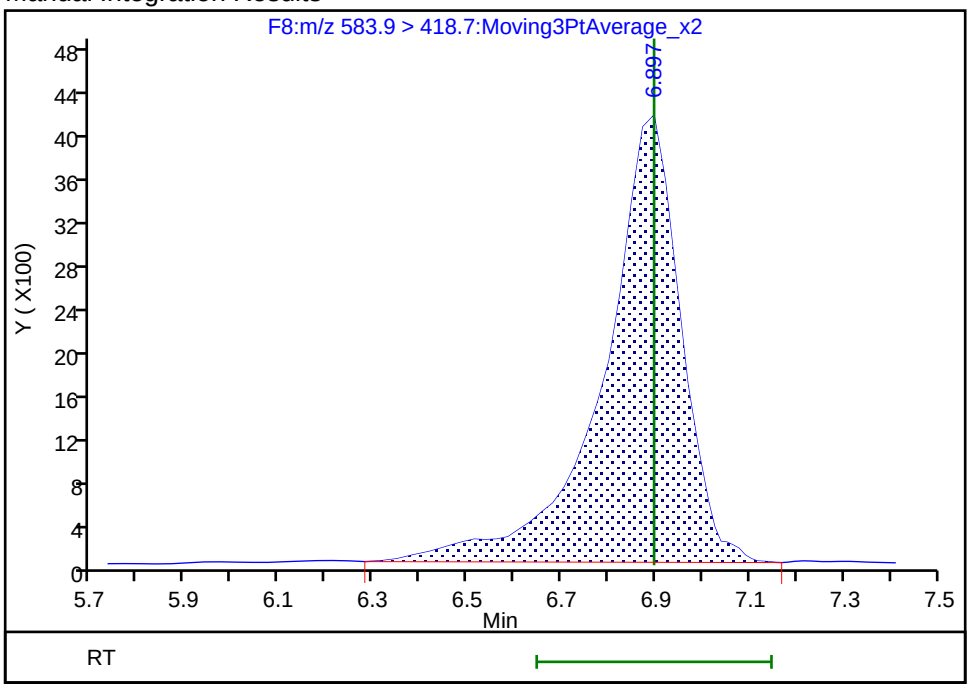
Processing Integration Results

RT: 6.90
Area: 47410
Amount: 11.932262
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 46523
Amount: 11.709019
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:20:20
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

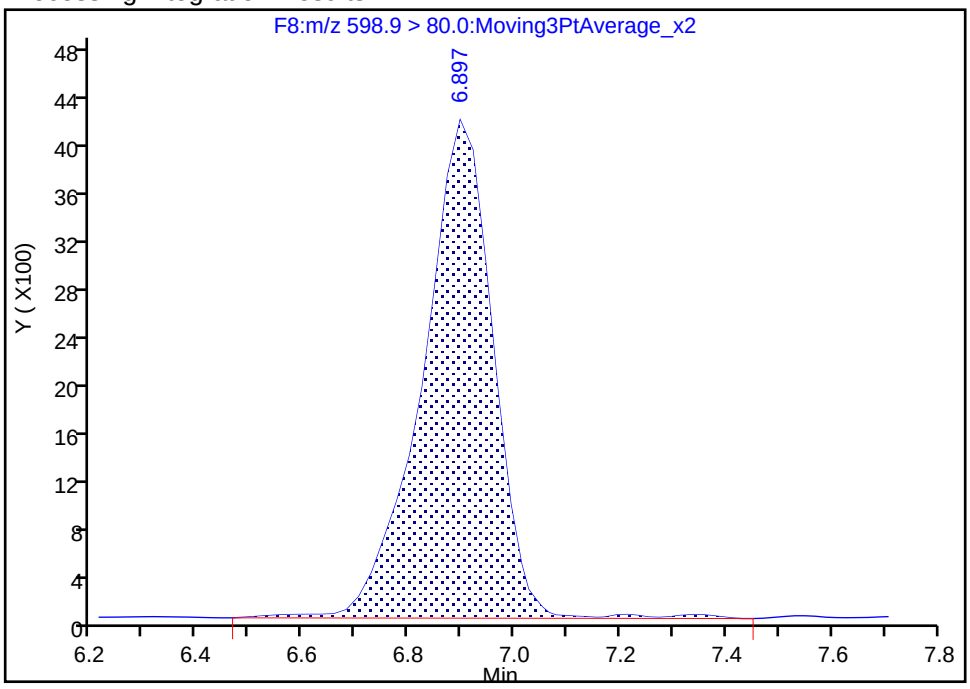
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

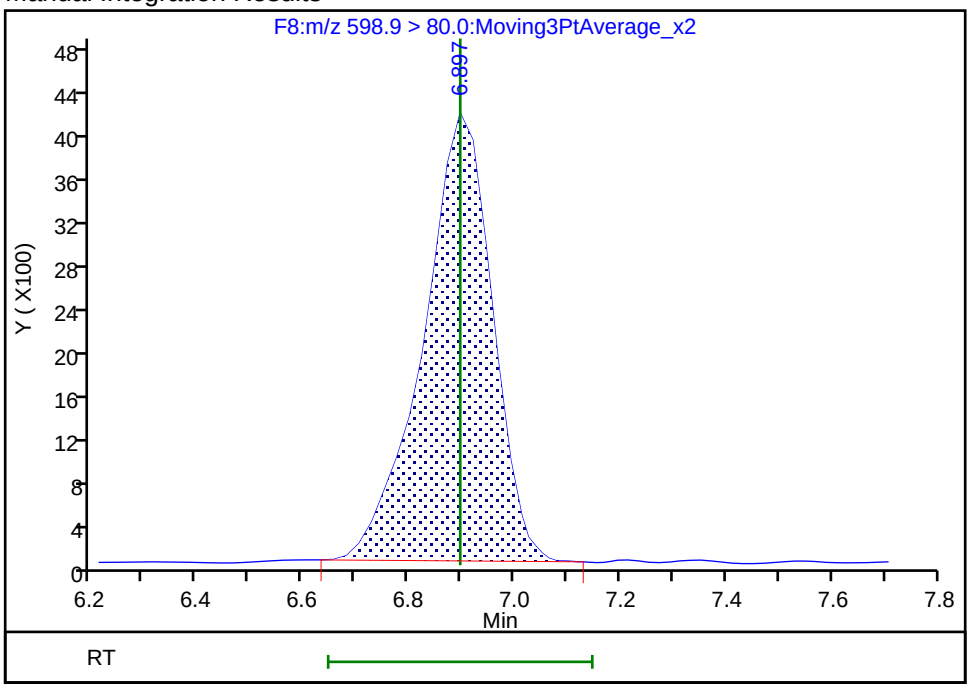
Processing Integration Results

RT: 6.90
Area: 38192
Amount: 9.392616
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 37038
Amount: 9.108811
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:20:26
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

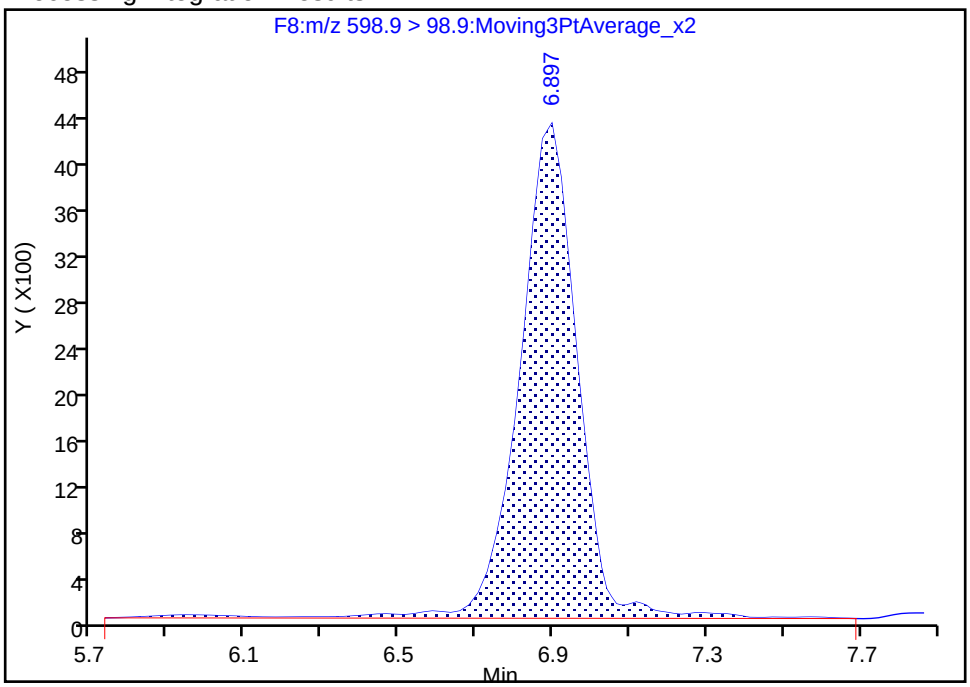
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d
Injection Date: 05-Jun-2019 02:07:16 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 2

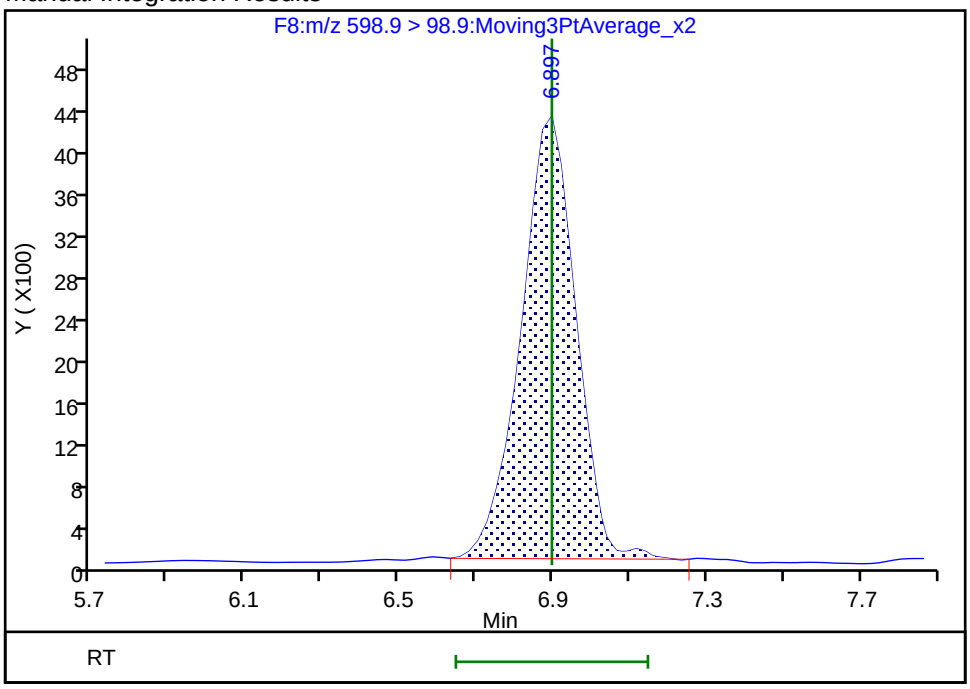
Processing Integration Results

RT: 6.90
Area: 44626
Amount: 9.392616
Amount Units: ng/ml



Manual Integration Results

RT: 6.90
Area: 41495
Amount: 9.108811
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:20:29
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143753/17 Calibration Date: 06/05/2019 05:33

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B17.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	2.107		67100	50000	34.2	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	3.653		61000	50000	22.0	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	3.516		61800	44200	39.9	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.911		67300	46700	44.2	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.568		56100	50000	12.2	40.0
Perfluoropentanesulfonic acid	AveID	2.841	3.218		53100	46900	13.3	50.0
HFPO-DA	AveID	1.078	1.061		49200	50000	-1.6	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.224		52200	50000	4.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	2.369		50900	45500	12.0	40.0
DONA	AveID	4.300	5.072		55600	47100	18.0	50.0
6:2 FTS	AveID	0.9451	0.8861		44400	47400	-6.3	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	1.034		51100	50000	2.1	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.9445		51600	47600	8.5	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9516		53900	50000	7.8	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	1.049		50400	46400	8.7	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	5.463		57900	46600	24.3	50.0
8:2 FTS	AveID	0.7376	0.7553		49100	47900	2.4	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.9716		53100	50000	6.1	40.0
Perfluorononanesulfonic acid	AveID	0.9697	1.060		52500	48000	9.3	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.9282		56200	50000	12.4	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.9214		57200	50000	14.4	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	1.040		48300	48200	0.1	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8702		52300	50000	4.5	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.409		49500	50000	-1.1	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	6.278		52700	47100	11.9	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9461		49900	50000	-0.3	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.9674		51600	50000	3.2	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8995		53000	50000	6.0	40.0
13C4 PFBA	Ave	0.2445	0.1707		34900	50000	-30.2	50.0
13C5 PFPeA	Ave	0.1855	0.1580		42600	50000	-14.8	50.0
13C3 PFBS	Ave	0.0807	0.0616		35500	46500	-23.7	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143753/17 Calibration Date: 06/05/2019 05:33

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B17.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5284		47500	50000	-5.0	50.0
13C3 HFPO-DA	Ave	0.0529	0.0555		52400	50000	4.8	50.0
13C4 PFHpA	Ave	0.7840	0.8105		51700	50000	3.4	50.0
18O2 PFHxS	Ave	0.1031	0.0818		37500	47300	-20.7	50.0
M2-6:2 FTS	Ave	0.0557	0.0508		43300	47500	-8.9	50.0
13C4 PFOA	Ave	0.9706	0.9536		49100	50000	-1.8	50.0
13C4 PFOS	Ave	0.2326	0.1938		39800	47800	-16.7	50.0
13C5 PFNA	Ave	1.302	1.223		47000	50000	-6.1	50.0
13C2 PFDA	Ave	1.111	1.108		49900	50000	-0.3	50.0
M2-8:2 FTS	Ave	0.2026	0.2229		52700	47900	10.0	50.0
d3-NMeFOSAA	Ave	0.3621	0.3237		44700	50000	-10.6	50.0
d5-NEtFOSAA	Ave	0.2986	0.2573		43100	50000	-13.8	50.0
13C2 PFUnA	Ave	1.073	1.119		52100	50000	4.3	50.0
13C8 FOSA	Ave	0.4004	0.3623		45200	50000	-9.5	50.0
13C2 PFDoA	Ave	1.367	1.317		48100	50000	-3.7	50.0
13C2 PFTeDA	Ave	1.227	1.179		48000	50000	-3.9	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d
Lims ID: CCV L7
Client ID:
Sample Type: CCV
Inject. Date: 05-Jun-2019 05:33:51 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-017 CCV L7
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 10:25:24
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										
212.9 > 168.9	2.360	2.360	0.0	1.004	327091	67.1		134	68.6	
D 1 13C4 PFBA										M
216.9 > 171.5	2.349	2.360	-0.011	1.000	155212	34.9		69.8	71.4	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	524810	61.0		122	646	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	143652	42.6		85.2	410	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.901	2.901	0.0	1.000	174005	61.8	Target=1.67	140	693	M
298.9 > 98.9	2.901	2.901	0.0	1.000	151615		1.15(0.83-2.51)		433	M
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	52060	35.5		76.3	105	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.270	3.270	0.0	1.127	99889	67.3		144	921	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	753429	56.1	Target=14.34	112	6327	
312.9 > 118.9	3.302	3.302	0.0	1.000	48305		15.60(7.17-21.51)		574	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	480491	47.5		95.0	1424	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.365	3.365	0.0	1.160	168949	53.1	Target=1.23	113	534	
348.9 > 98.9	3.365	3.365	0.0	1.000	220749		0.77(0.62-1.85)		1635	M
D 42 13C3 HFPO-DA										M
331.9 > 286.7	3.460	3.492	-0.032	1.000	50417	52.4		105	247	M
44 Perfluoro(2-propoxypropanoic) acid										M
328.9 > 284.7	3.460	3.492	-0.032	1.000	53489	49.2		98.4	152	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	736919	51.7		103	2551	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.905	-0.036	1.000	902166	52.2	Target=2.84	104	780	
362.9 > 168.9	3.869	3.905	-0.036	1.000	299730		3.01(1.42-4.26)		897	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.905	3.925	-0.020	1.000	160290	50.9	Target=1.34	112	275	
398.9 > 98.9	3.905	3.925	-0.020	1.000	176419		0.91(0.67-2.01)		519	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.925	-0.020	1.000	70329	37.5		79.3	334	M
49 DONA										
376.9 > 250.7	3.946	3.966	-0.020	0.738	842009	55.6	Target=2.33	118	3668	
376.9 > 85.0	3.946	3.966	-0.020	1.000	302544		2.78(1.16-3.49)		1100	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.526	4.547	-0.021	1.000	38774	44.4		93.7	306	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.547	-0.021	1.000	43853	43.3		91.1	213	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		909273	50.0			1139	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.589	-0.021	1.000	896147	51.1	Target=2.43	102	1432	
412.9 > 168.9	4.568	4.589	-0.021	1.000	346823		2.58(1.22-3.64)		2024	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	867051	49.1		98.2	2170	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.609	-0.020	0.858	158456	51.6	Target=1.30	108	1353	
448.9 > 98.9	4.589	4.609	-0.020	1.000	184967		0.86(0.65-1.95)		464	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.368	-0.021	1.000	1058077	53.9	Target=5.00	108	2629	
462.9 > 168.9	5.336	5.368	-0.032	0.998	238338		4.44(2.50-7.50)		1103	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.389	-0.042	1.000	1111926	47.0		93.9	2173	
21 Perfluorooctanesulfonic acid										
498.9 > 80.0	5.368	5.389	-0.021	1.004	171614	50.4	Target=1.41	109	996	
498.9 > 98.9	5.368	5.389	-0.021	1.004	182885		0.94(0.71-2.12)		823	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	168470	39.8		83.3	469	
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.778	5.812	-0.034	1.081	897324	57.9		124	2856	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	146669	49.1		102	817	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	194190	52.7		110	440	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.165	-0.034	1.000	978957	53.1	Target=7.23	106	951	
512.9 > 168.9	6.131	6.165	-0.034	1.000	132004		7.42(3.61-10.84)		629	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.131	6.165	-0.034	1.147	179333	52.5	Target=1.39	109	594	
548.9 > 98.9	6.131	6.165	-0.034	1.000	211819		0.85(0.69-2.08)		680	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	1007564	49.9		99.7	2874	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.501	6.525	-0.024	1.000	273221	56.2		112	3800	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.549	-0.048	1.000	294369	44.7		89.4	1932	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.873	6.897	-0.024	1.000	215584	57.2		114	825	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.897	6.897	0.0	1.290	176592	48.3	Target=1.25	100	939	
598.9 > 98.9	6.897	6.897	0.0	1.000	215071		0.82(0.63-1.88)		833	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.921	-0.048	1.000	233977	43.1		86.2	467	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.921	6.921	0.0	1.003	885050	52.3	Target=7.06	105	2764	
562.9 > 168.9	6.897	6.921	-0.024	1.000	127089		6.96(3.53-10.58)		566	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	1017058	52.1		104	3213	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.013	7.013	0.0	1.000	464090	49.5		98.9	1056	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	329395	45.2		90.5	1460	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.254	7.274	-0.020	1.357	1042165	52.7		112	1256	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.596	7.616	-0.020	1.000	1132743	49.9	Target=5.37	99.7	2035	
612.9 > 168.9	7.596	7.616	-0.020	1.000	191171		5.93(2.68-8.06)		440	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	1197327	48.1		96.3	1243	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.213	8.235	-0.022	1.081	1158253	51.6	Target=4.67	103	1320	
662.9 > 168.9	8.224	8.235	-0.011	1.083	219863		5.27(2.34-7.01)		878	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.764	8.786	-0.022	0.999	964561	53.0	Target=4.86	106	822	
712.9 > 168.9	8.764	8.786	-0.022	0.999	174468		5.53(2.43-7.30)		555	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.775	8.819	-0.044	1.000	1072357	48.0		96.1	430	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L7_00005 Amount Added: 100.00 Units: uL

Report Date: 05-Jun-2019 15:51:38 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Injection Date: 05-Jun-2019 05:33:51 Instrument ID: LC410

Lims ID: CCV L7

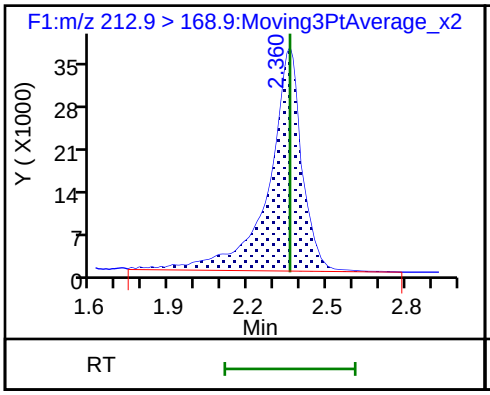
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 17

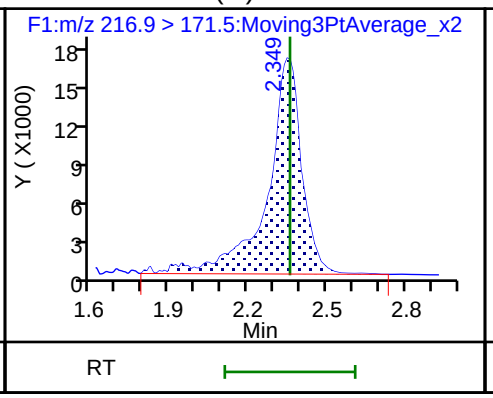
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

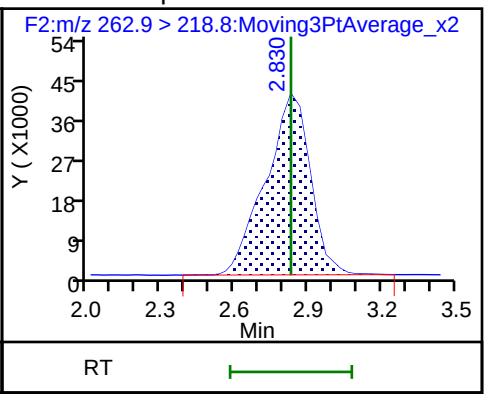
2 Perfluorobutanoic acid



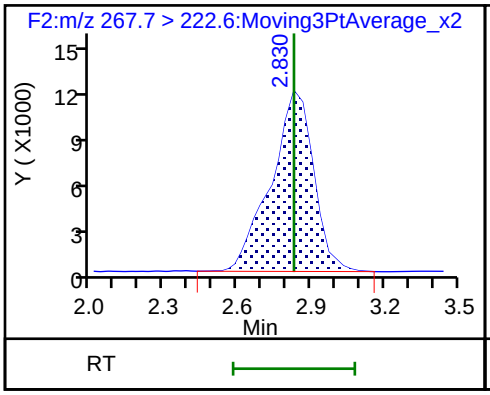
D 1 13C4 PFBA (M)



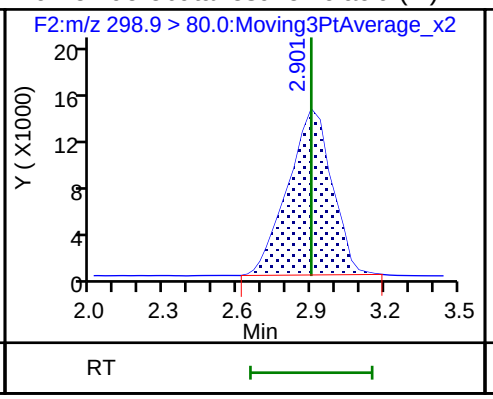
3 Perfluoropentanoic acid



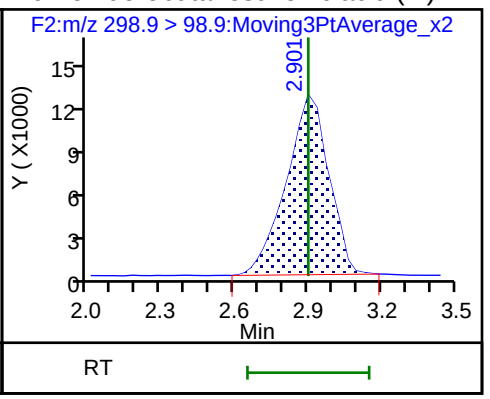
D 4 13C5 PFPeA



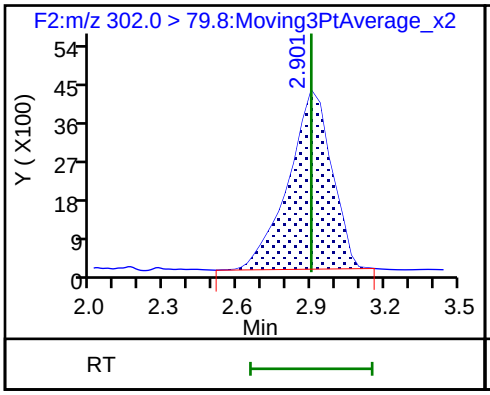
6 Perfluorobutanesulfonic acid (M)



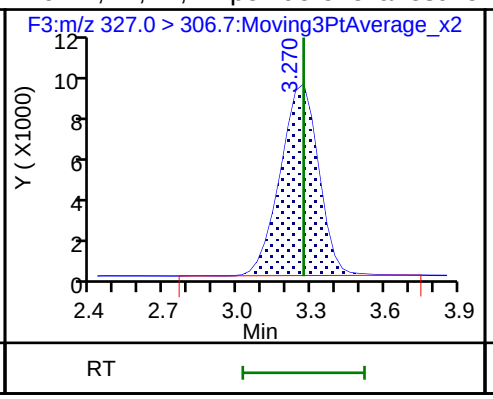
6 Perfluorobutanesulfonic acid (M)



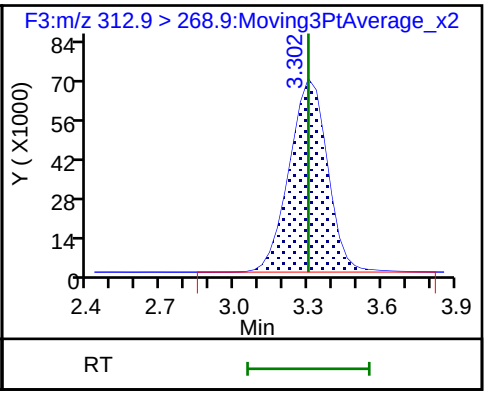
D 5 13C3 PFBS



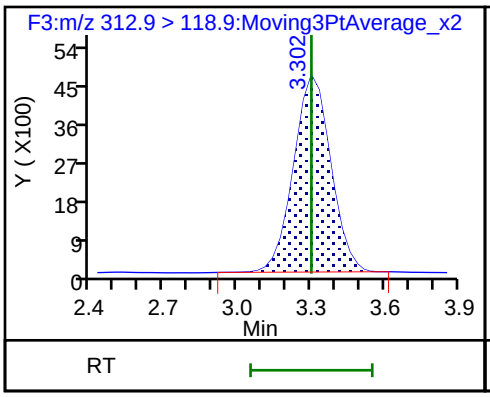
46 1H,1H,2H,2H-perfluorohexanesulfoni



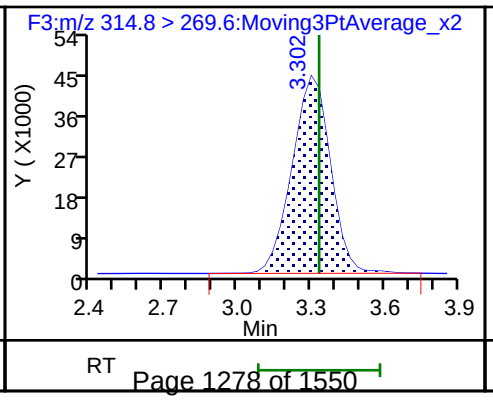
7 Perfluorohexanoic acid



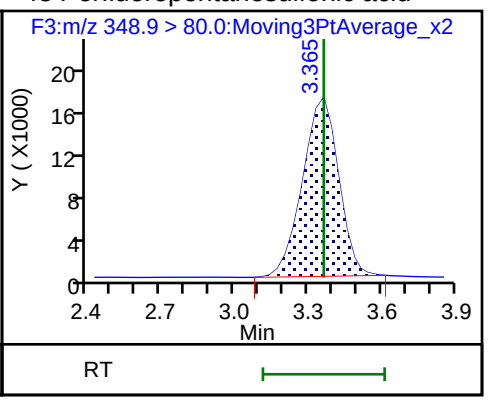
7 Perfluorohexanoic acid



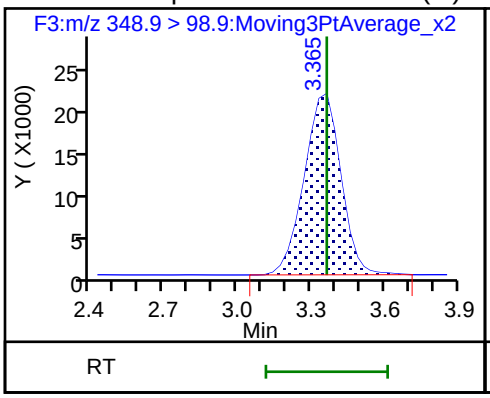
D 8 13C2 PFHxA



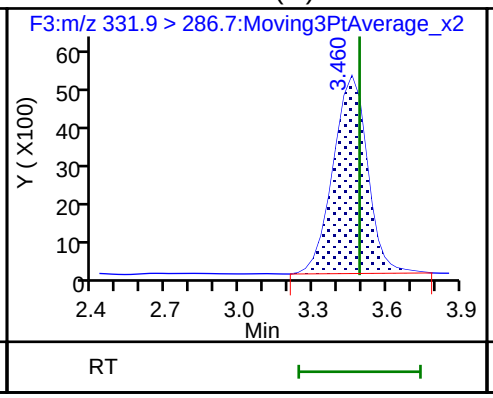
48 Perfluoropentanesulfonic acid



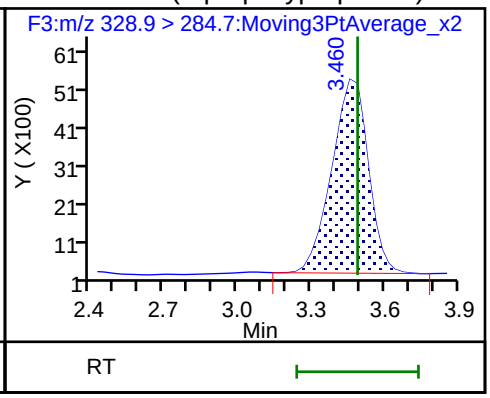
48 Perfluoropentanesulfonic acid (M)



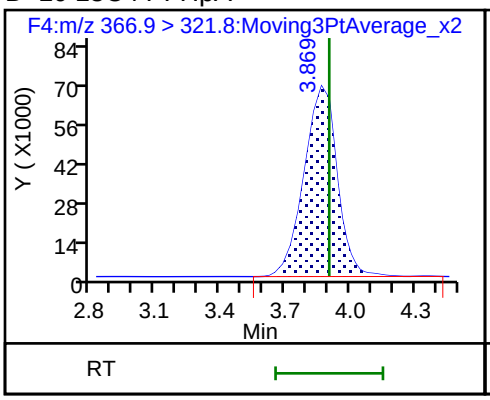
D 42 13C3 HFPO-DA (M)



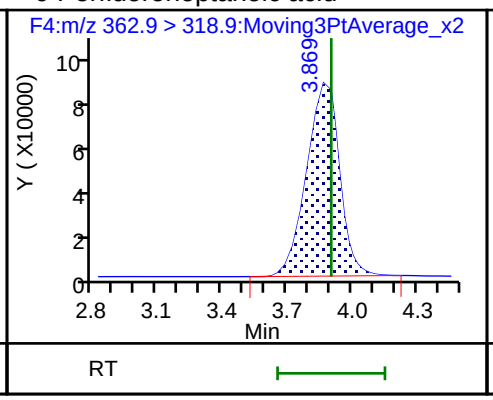
44 Perfluoro(2-propoxypropanoic) acid (M)



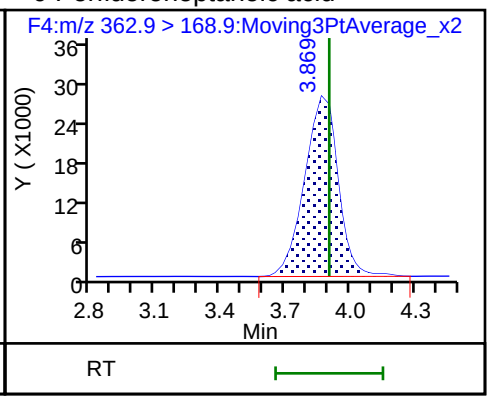
D 10 13C4 PFHpA



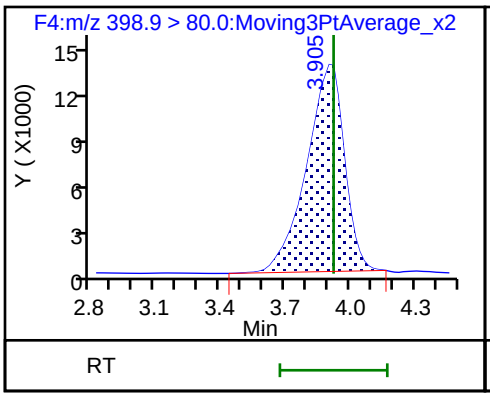
9 Perfluoroheptanoic acid



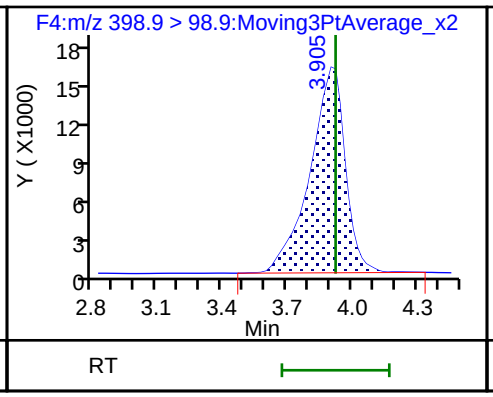
9 Perfluoroheptanoic acid



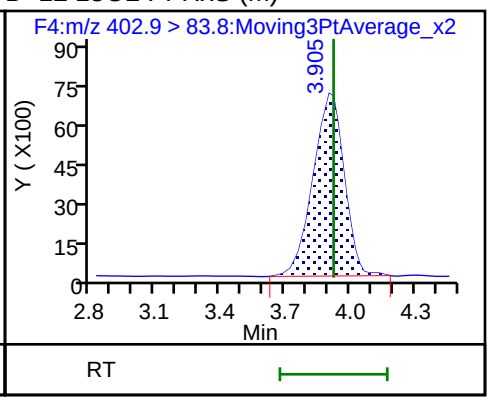
11 Perfluorohexanesulfonic acid



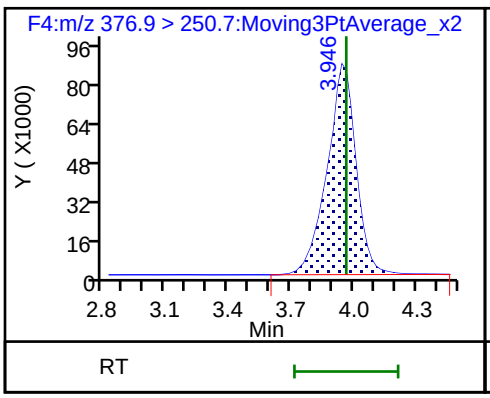
11 Perfluorohexanesulfonic acid



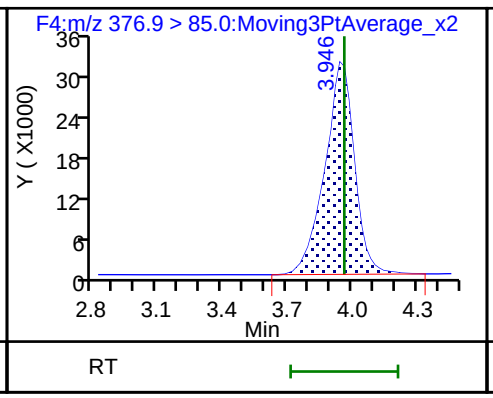
D 12 18O2 PFHxS (M)



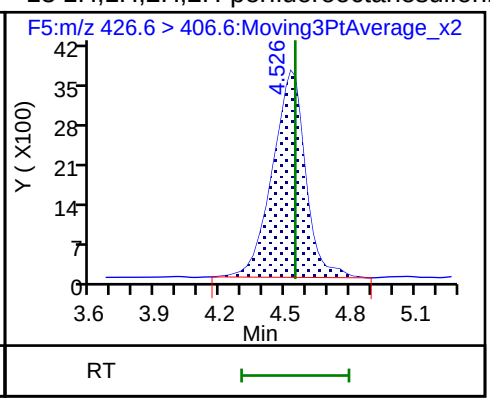
49 DONA



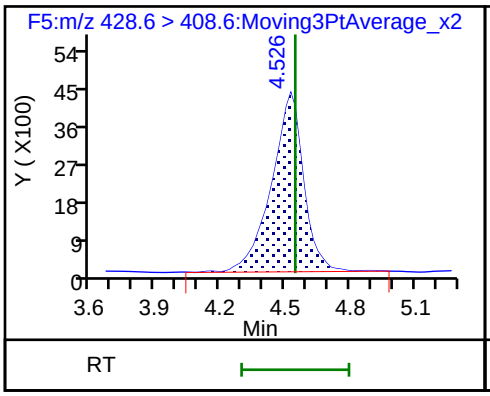
49 DONA



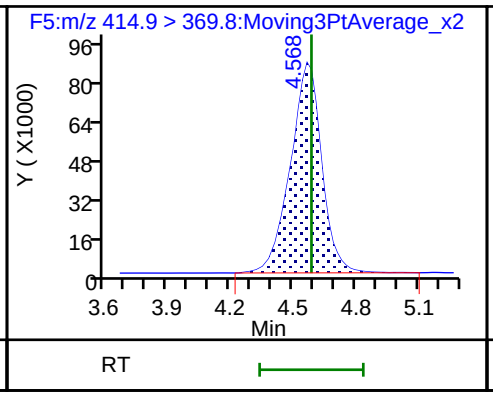
13 1H,1H,2H,2H-perfluorooctanesulfoni



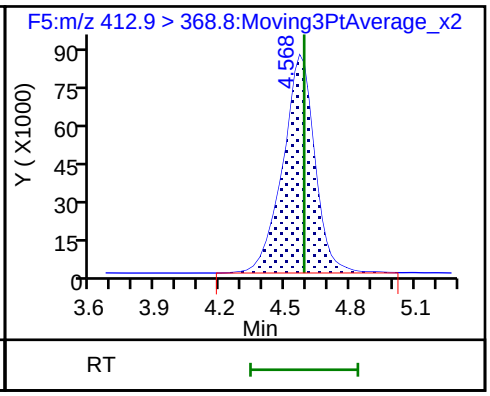
D 14 M2-6:2 FTS



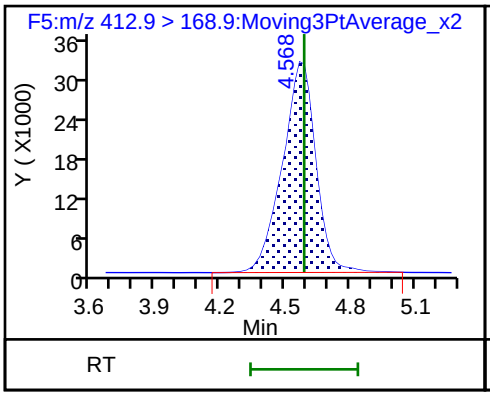
* 16 13C2 PFOA



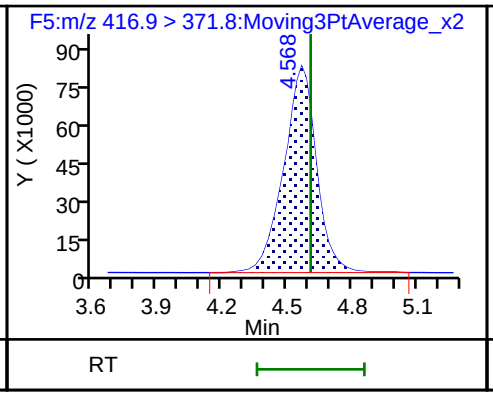
15 Perfluorooctanoic acid



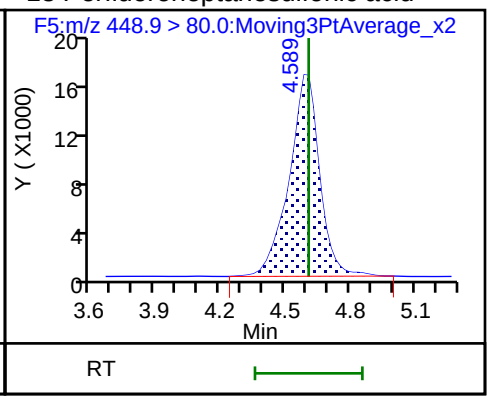
15 Perfluorooctanoic acid



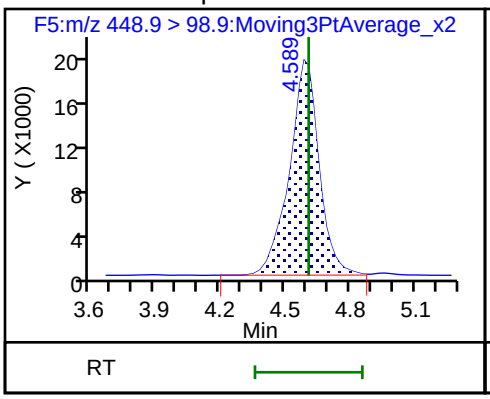
D 17 13C4 PFOA



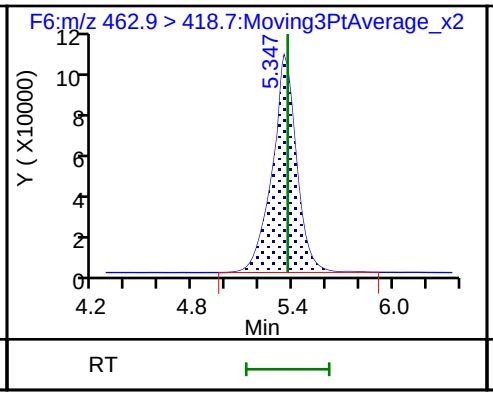
18 Perfluoroheptanesulfonic acid



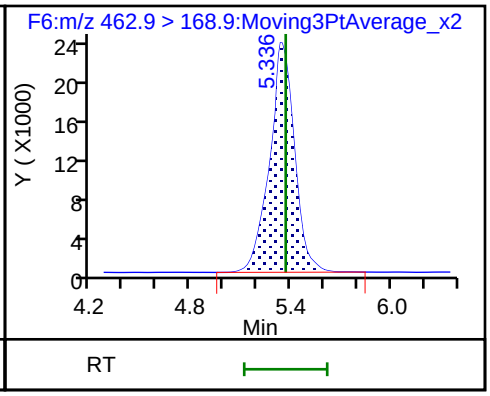
18 Perfluoroheptanesulfonic acid



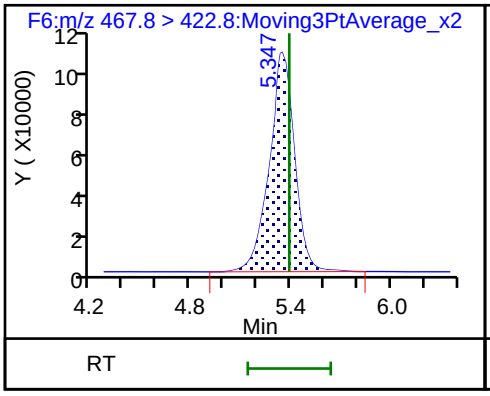
19 Perfluorononanoic acid



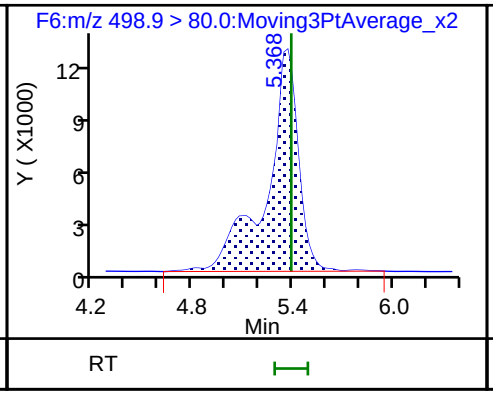
19 Perfluorononanoic acid



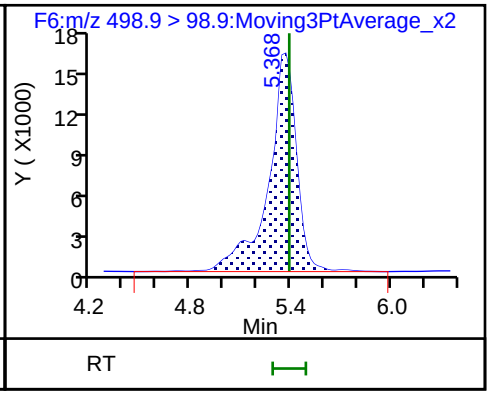
D 20 13C5 PFNA



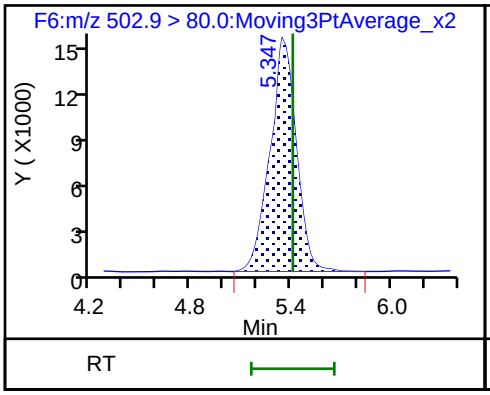
21 Perfluorooctanesulfonic acid



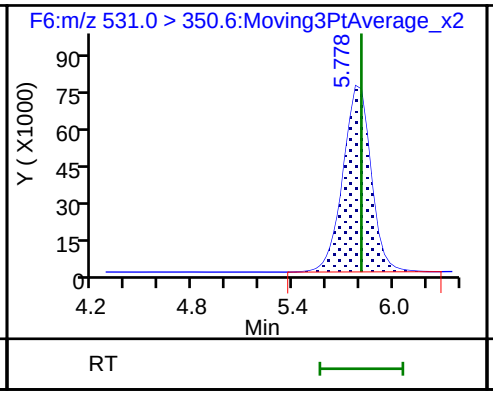
21 Perfluorooctanesulfonic acid



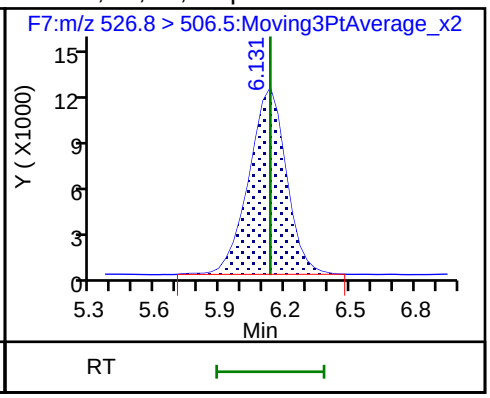
D 22 13C4 PFOS



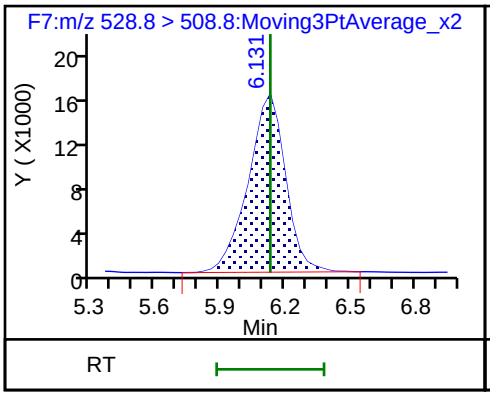
47 9-Chlorohexadecafluoro-3-oxanonane



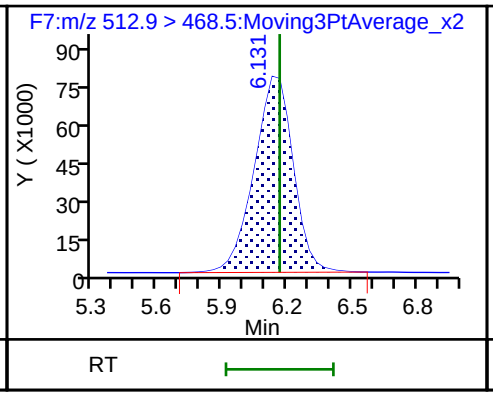
23 1H,1H,2H,2H-perfluorodecanesulfoni



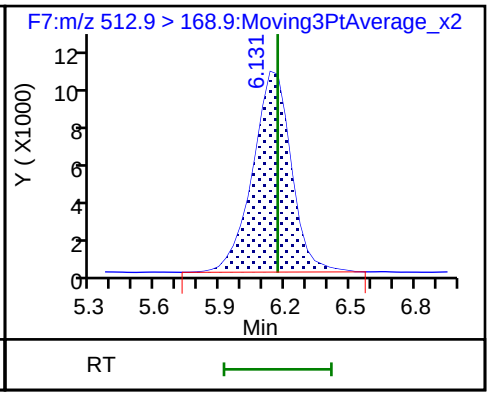
D 24 M2-8:2 FTS



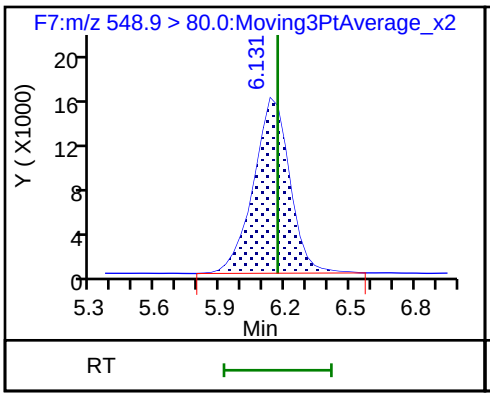
26 Perfluorodecanoic acid



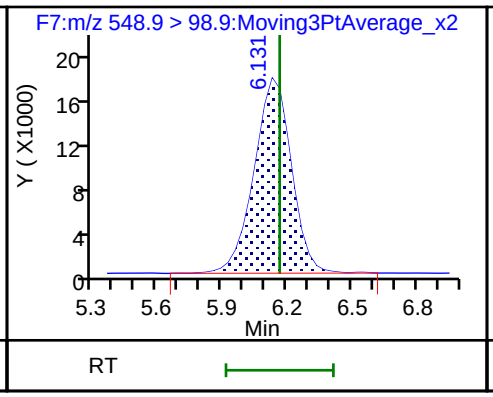
26 Perfluorodecanoic acid



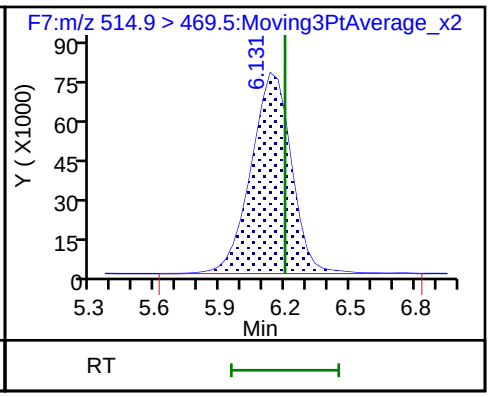
45 Perfluorononanesulfonic acid



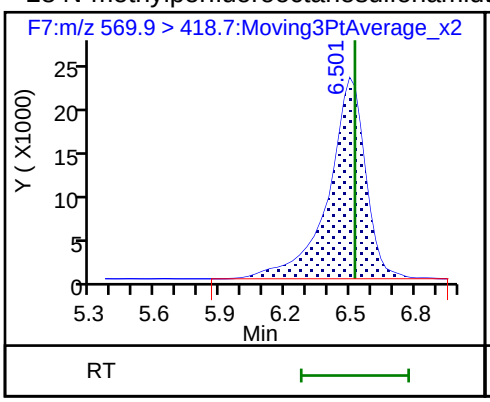
45 Perfluorononanesulfonic acid



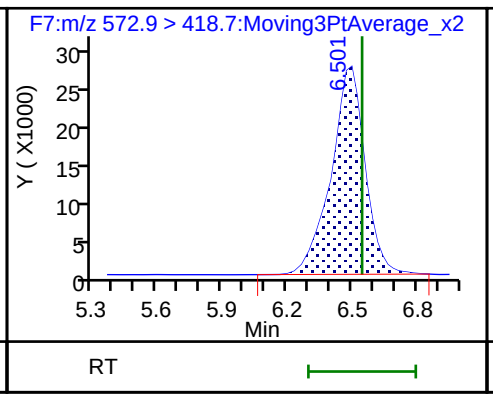
D 25 13C2 PFDA



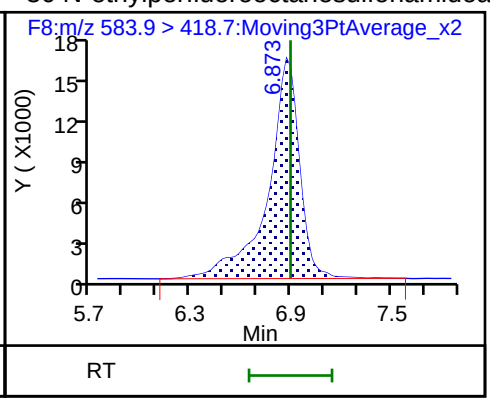
28 N-methylperfluorooctanesulfonamidD



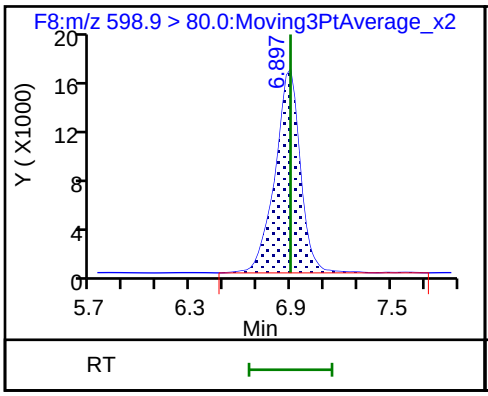
D 27 d3-NMeFOSAA



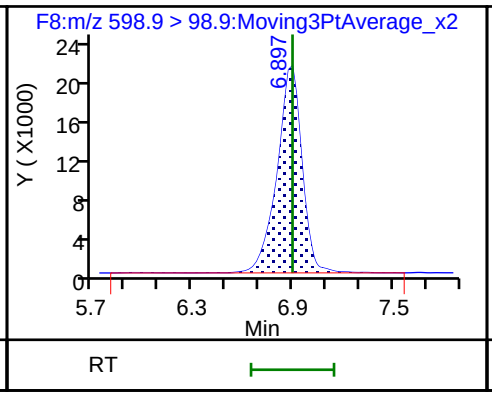
30 N-ethylperfluorooctanesulfonamidoa



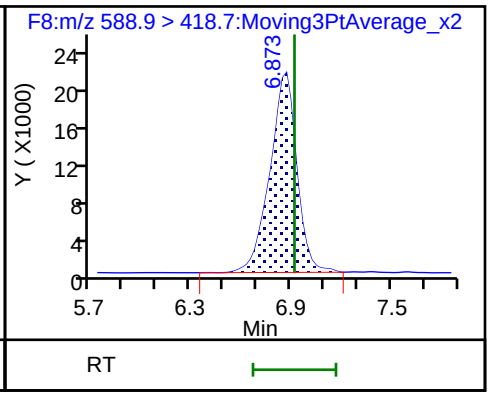
31 Perfluorodecanesulfonic acid



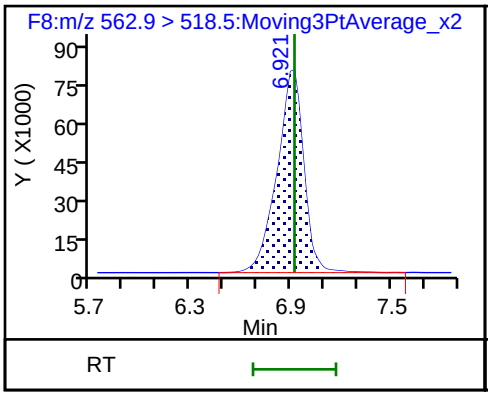
31 Perfluorodecanesulfonic acid



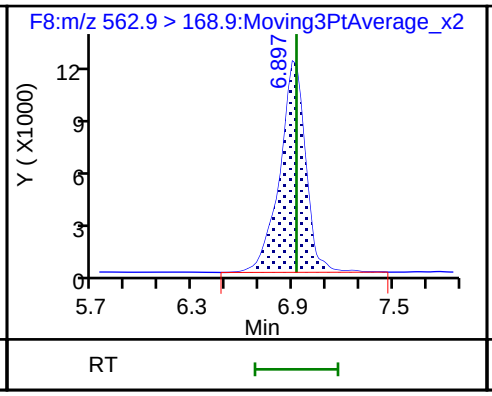
D 29 d5-NEtFOSAA



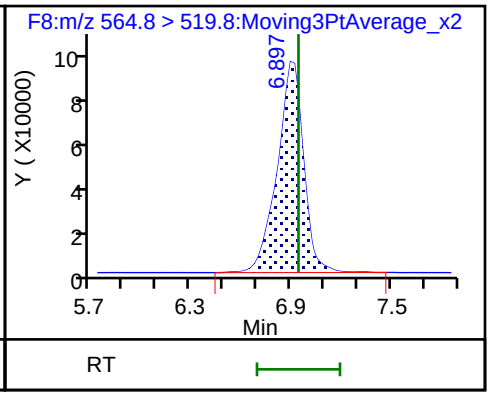
32 Perfluoroundecanoic acid



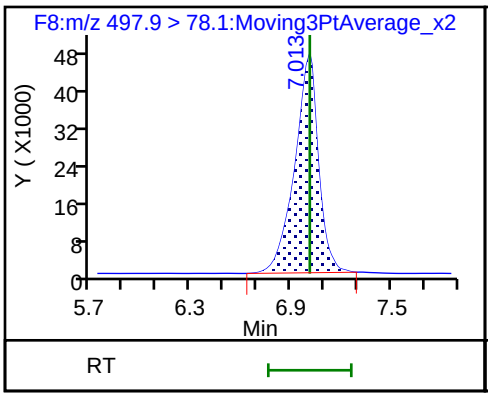
32 Perfluoroundecanoic acid



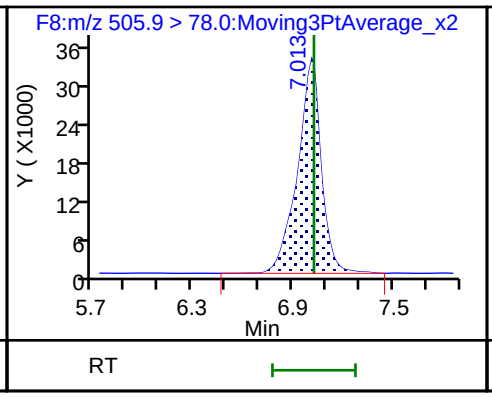
D 33 13C2 PFUnA



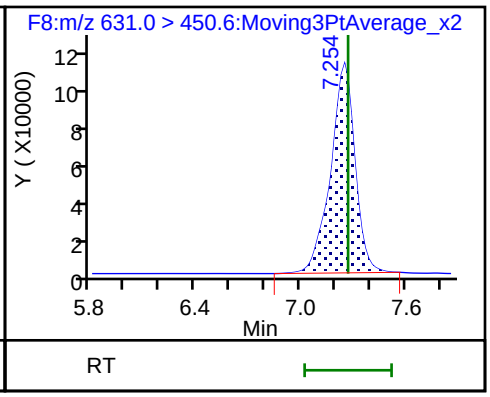
35 Perfluorooctanesulfonamide



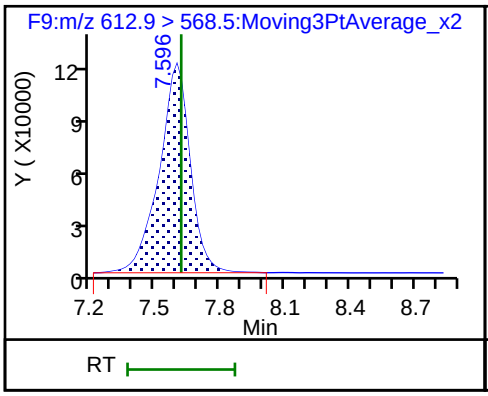
D 34 13C8 FOSA



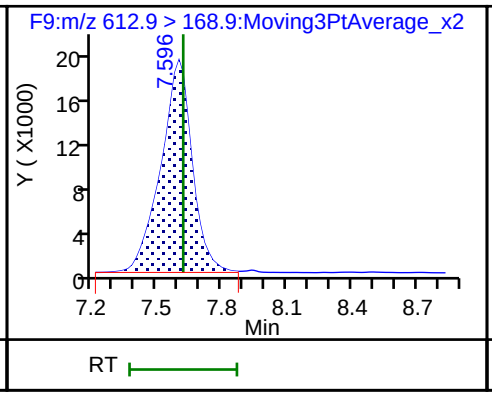
43 11-Chloroeicosafluoro-3-oxaundecan



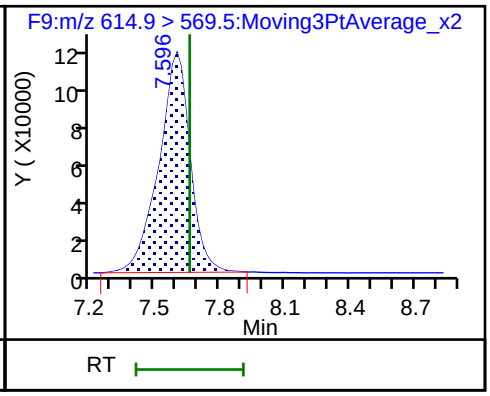
36 Perfluorododecanoic acid



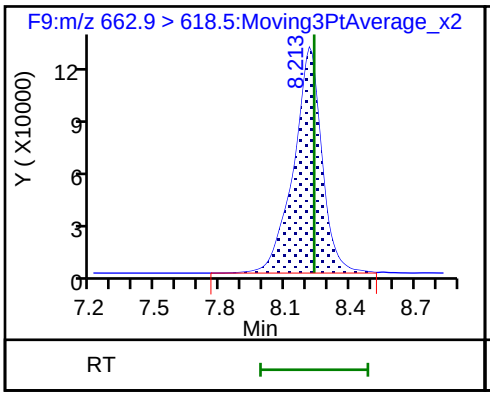
36 Perfluorododecanoic acid



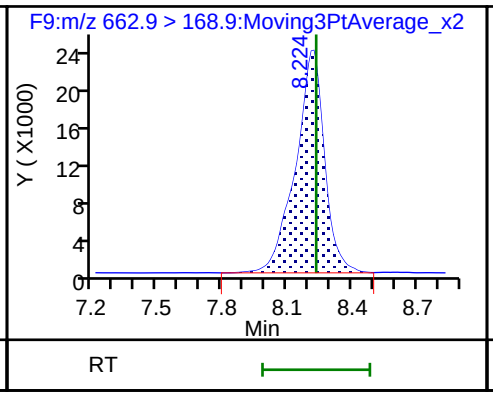
D 37 13C2 PFDoA



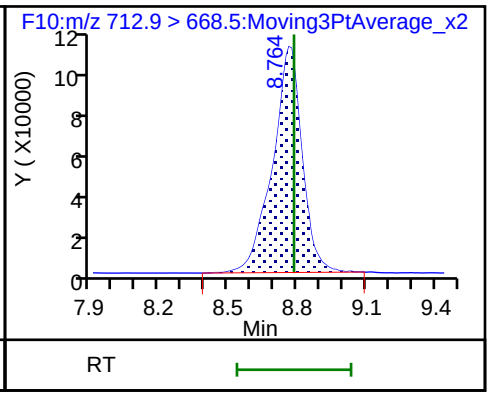
38 Perfluorotridecanoic acid



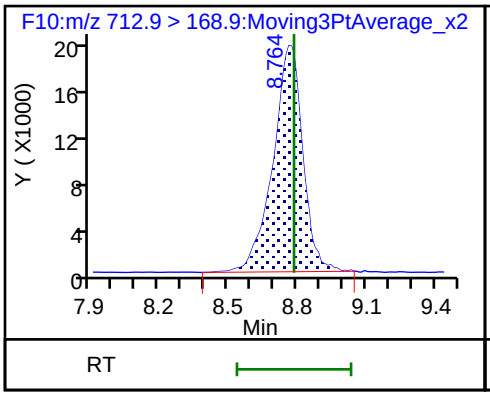
38 Perfluorotridecanoic acid



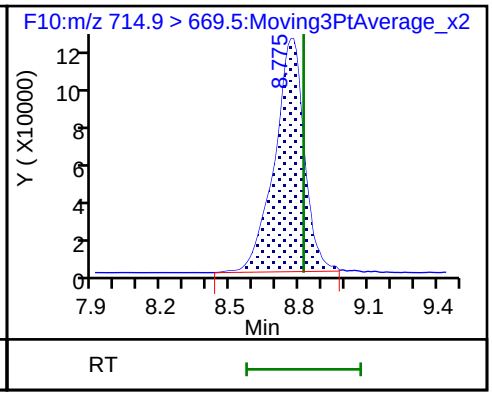
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

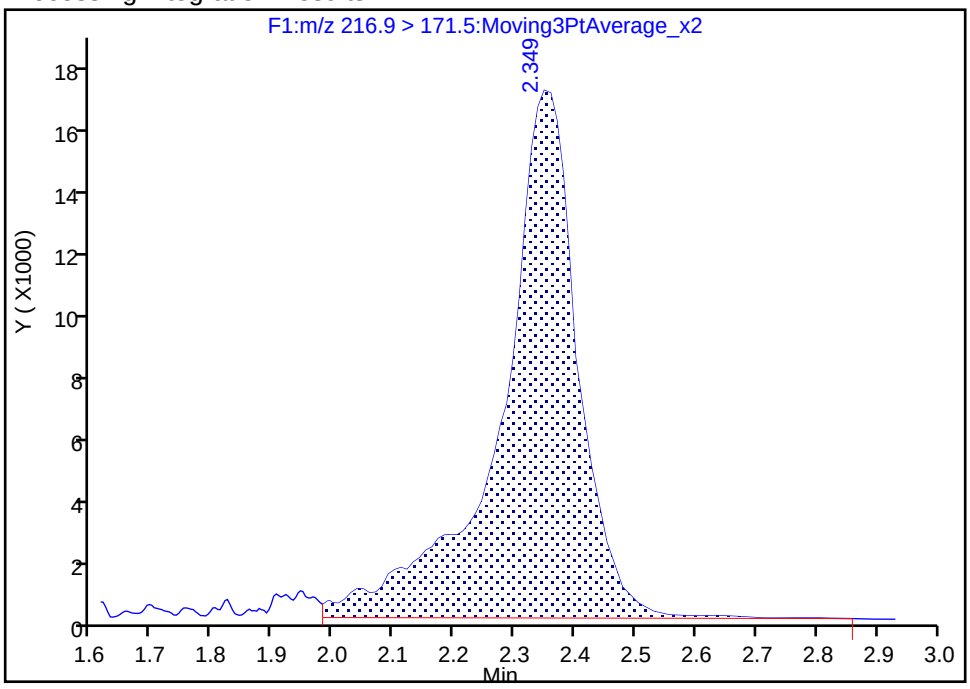
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d
Injection Date: 05-Jun-2019 05:33:51 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

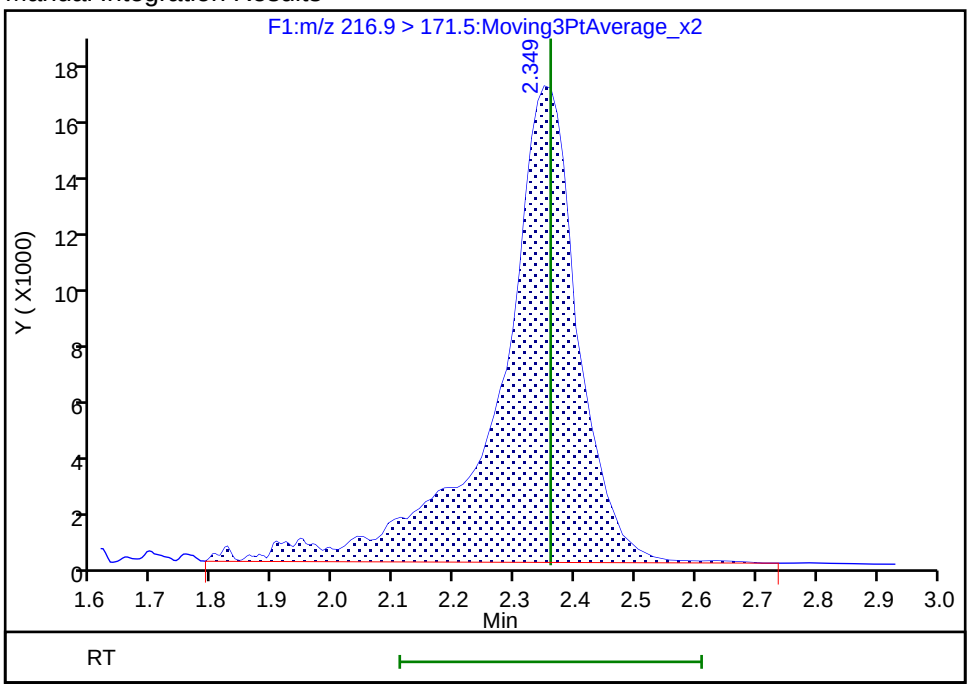
Processing Integration Results

RT: 2.35
Area: 151891
Amount: 34.156200
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 155212
Amount: 34.903003
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:22:28
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

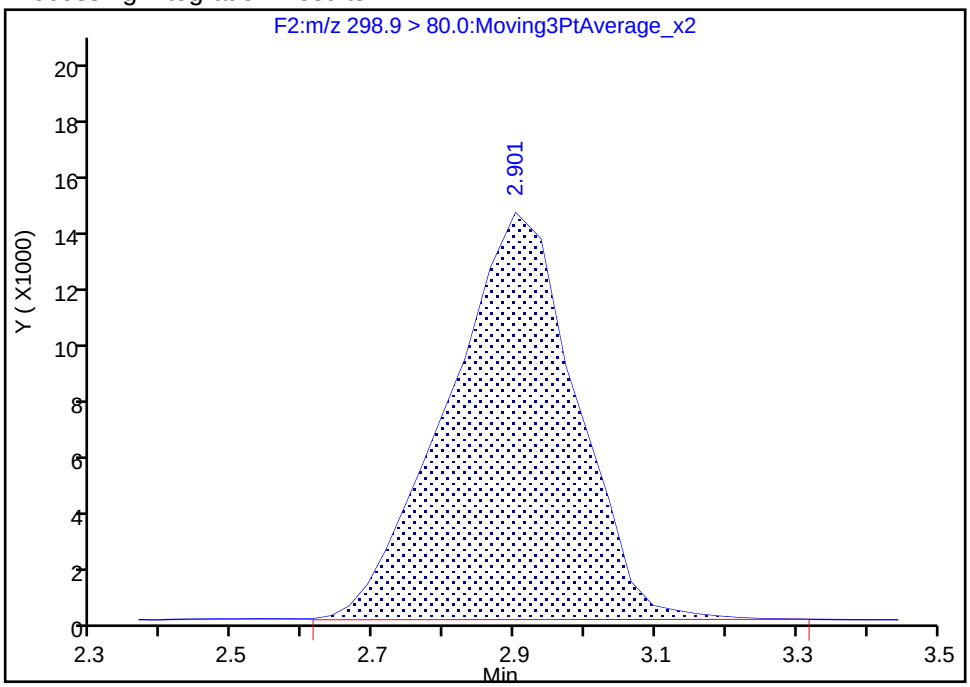
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d
Injection Date: 05-Jun-2019 05:33:51 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

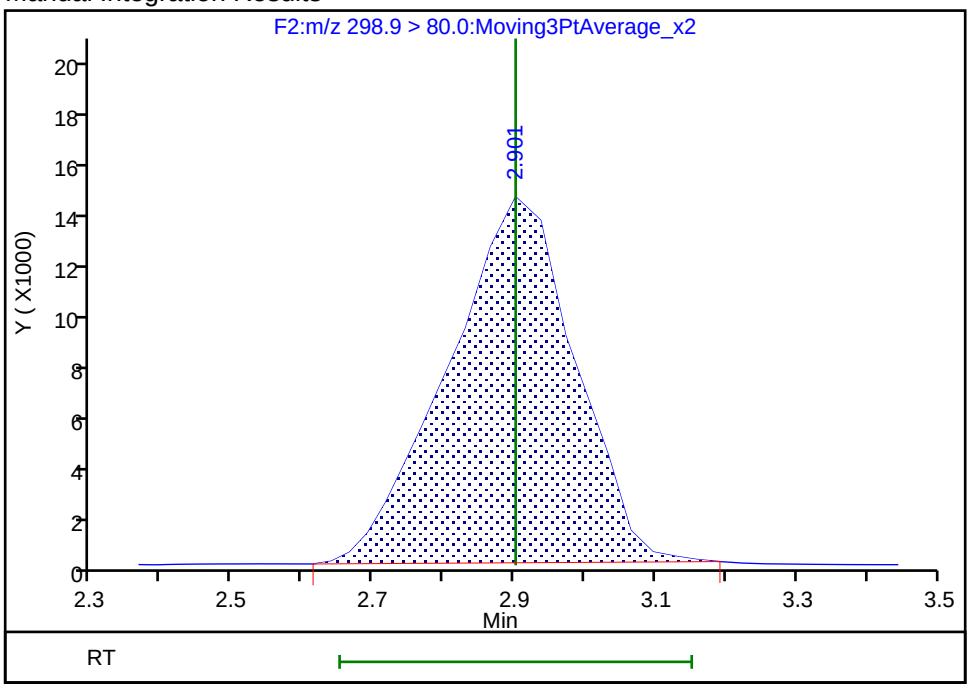
Processing Integration Results

RT: 2.90
Area: 176556
Amount: 62.742274
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 174005
Amount: 61.835731
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:41:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

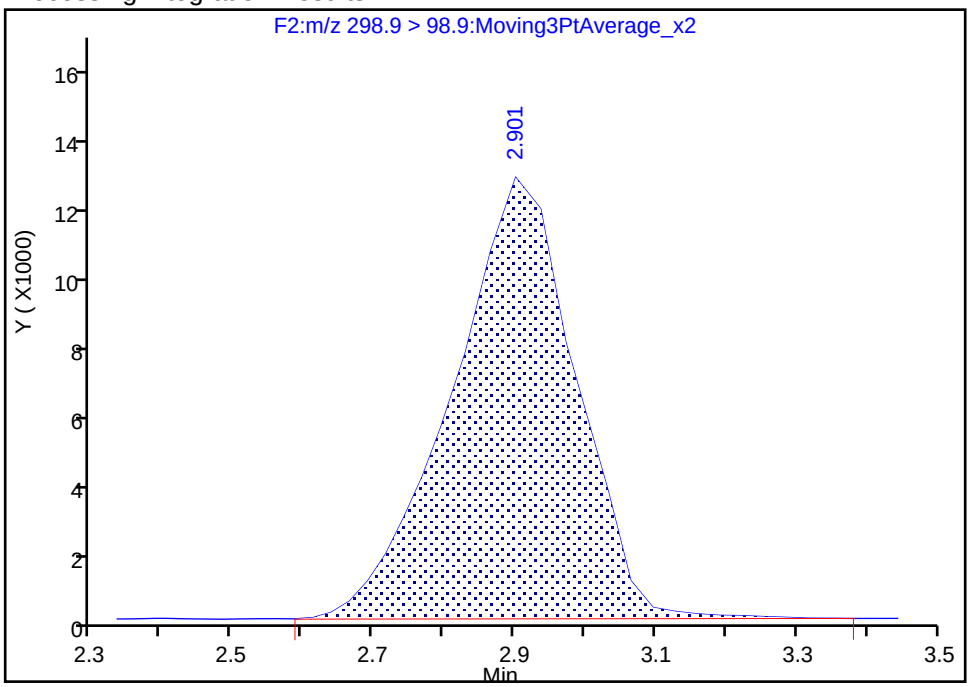
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d
Injection Date: 05-Jun-2019 05:33:51 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

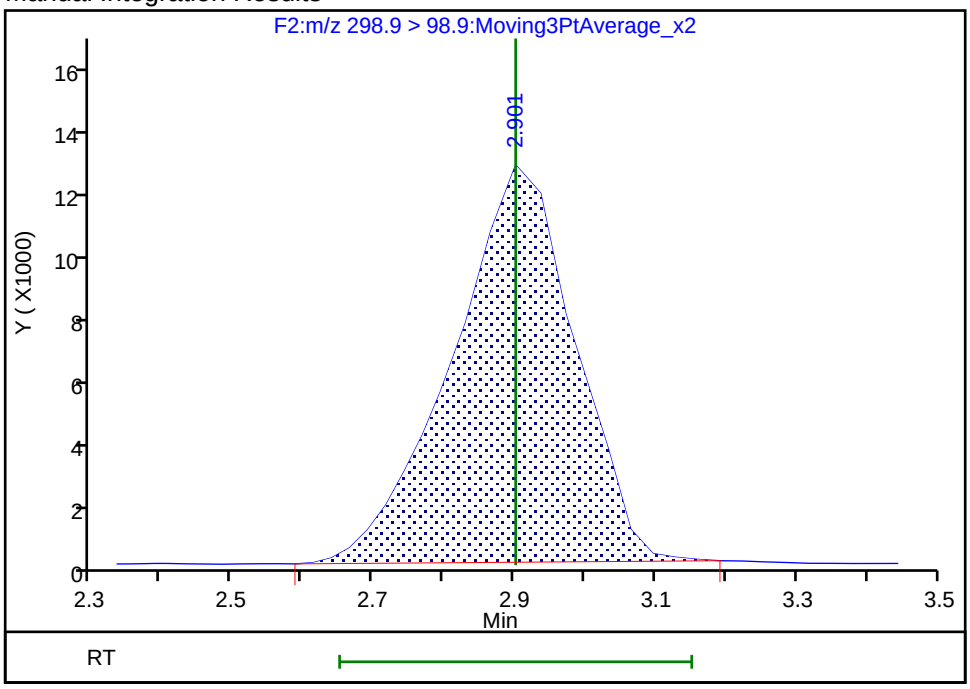
Processing Integration Results

RT: 2.90
Area: 153880
Amount: 62.742274
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 151615
Amount: 61.835731
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:42:02
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

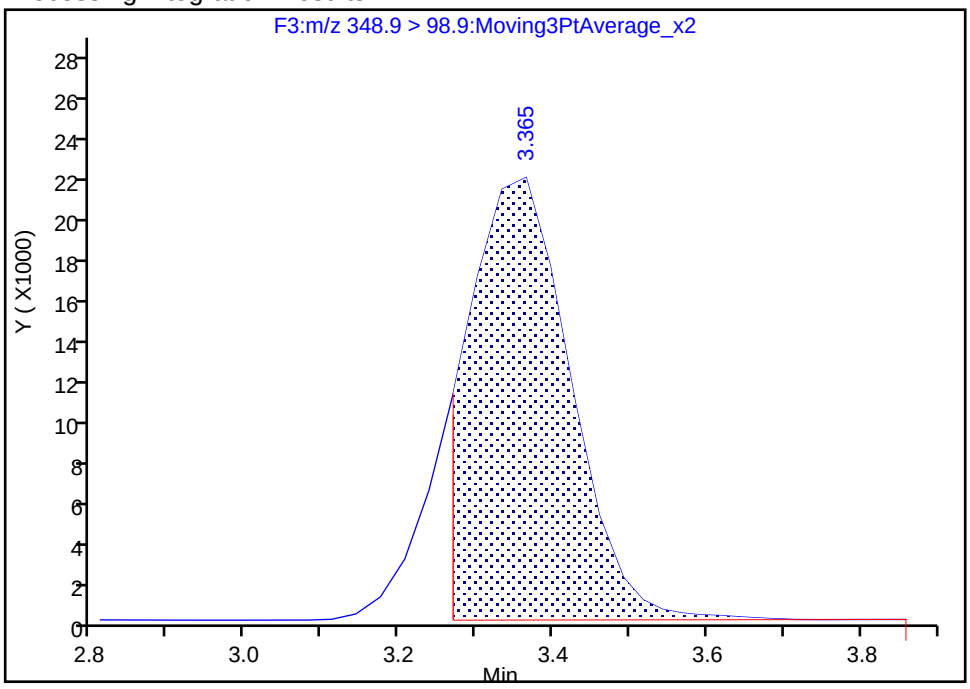
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d
Injection Date: 05-Jun-2019 05:33:51 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 2

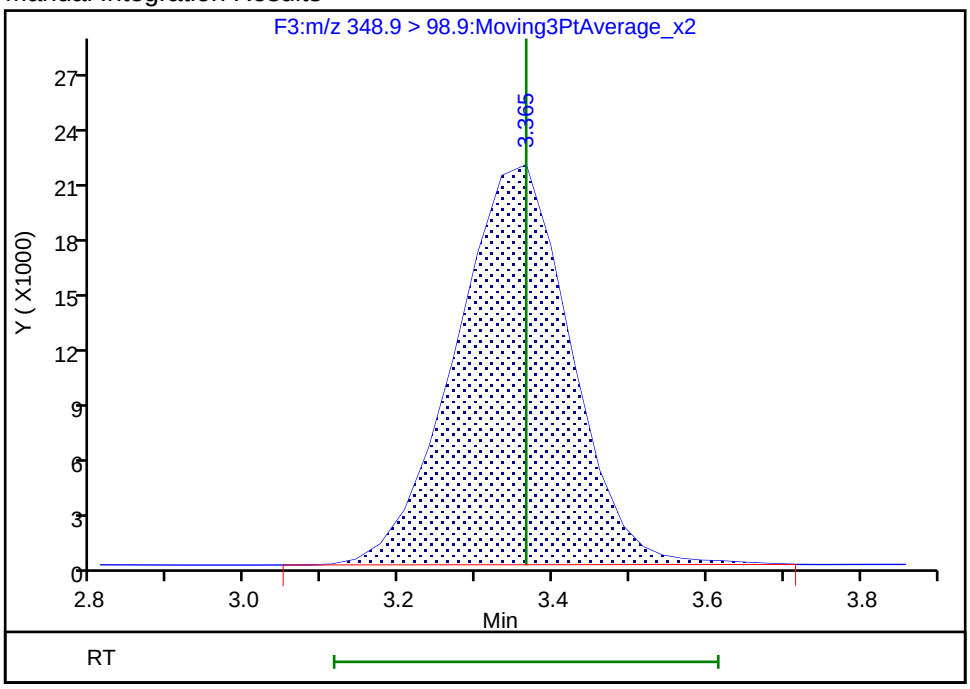
Processing Integration Results

RT: 3.37
Area: 190649
Amount: 53.115406
Amount Units: ng/ml



Manual Integration Results

RT: 3.37
Area: 220749
Amount: 53.115406
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:23:20
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

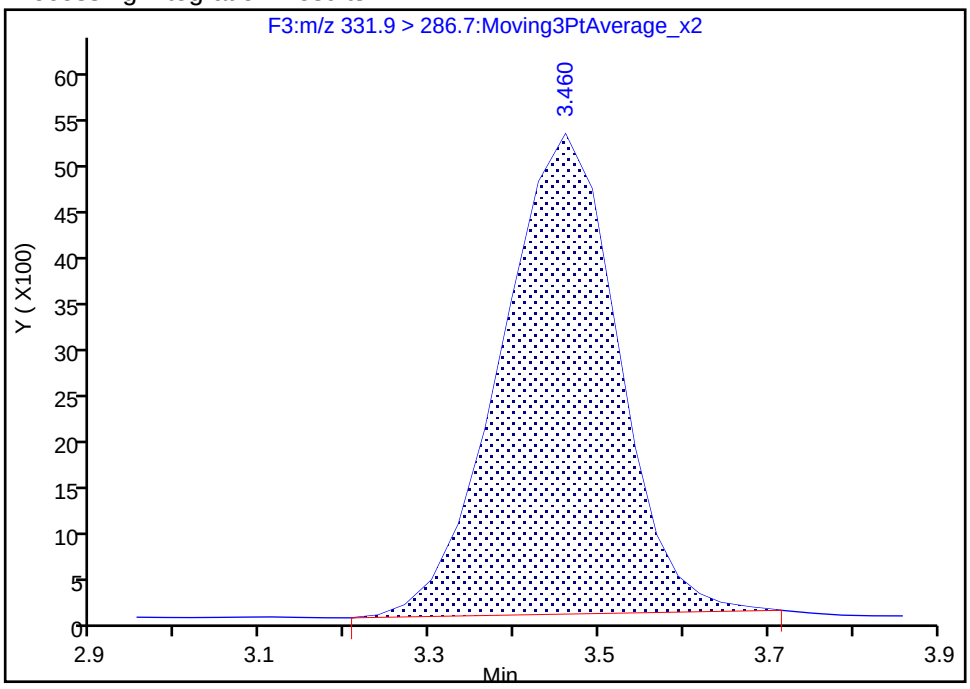
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d
Injection Date: 05-Jun-2019 05:33:51 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

D 42 13C3 HFPO-DA, CAS: STL02255

Signal: 1

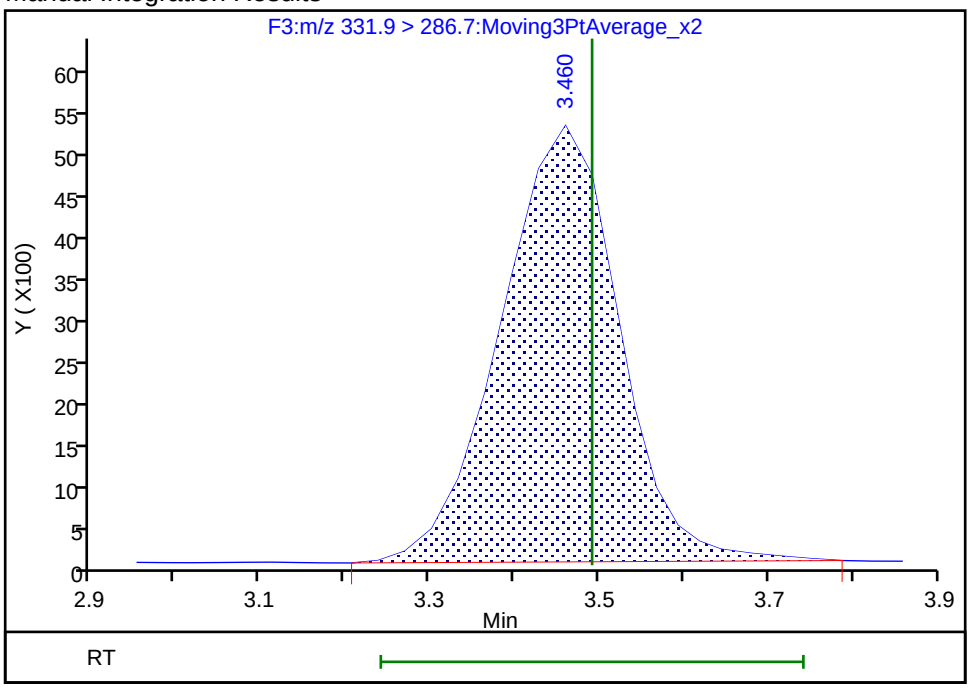
Processing Integration Results

RT: 3.46
Area: 49457
Amount: 51.405588
Amount Units: ng/ml



Manual Integration Results

RT: 3.46
Area: 50417
Amount: 52.403412
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:23:25
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

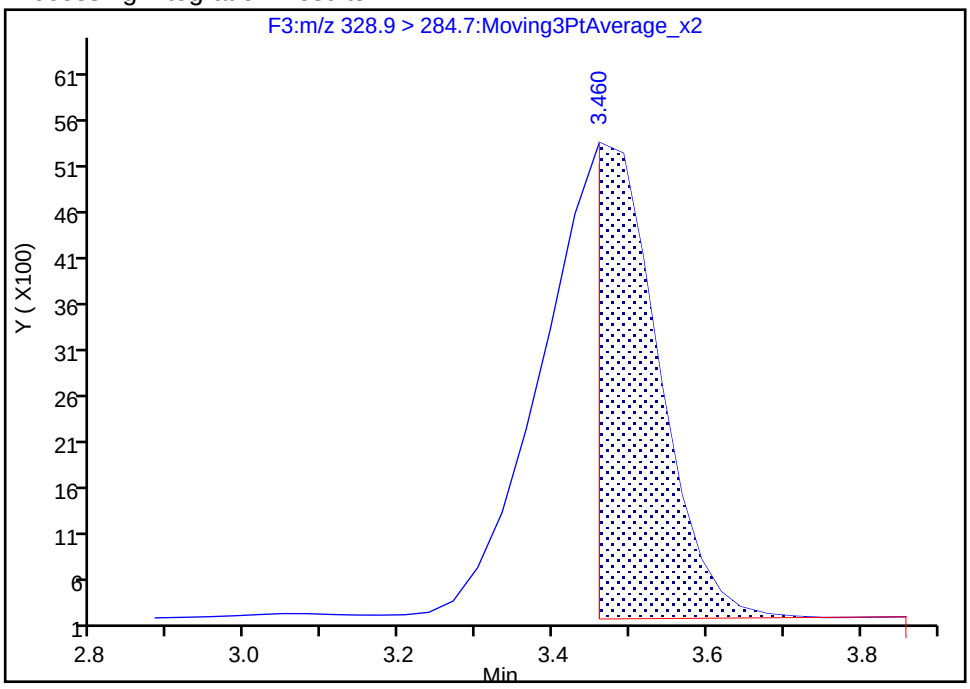
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d
Injection Date: 05-Jun-2019 05:33:51 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

44 Perfluoro(2-propoxypropanoic) acid, CAS: 13252-13-6

Signal: 1

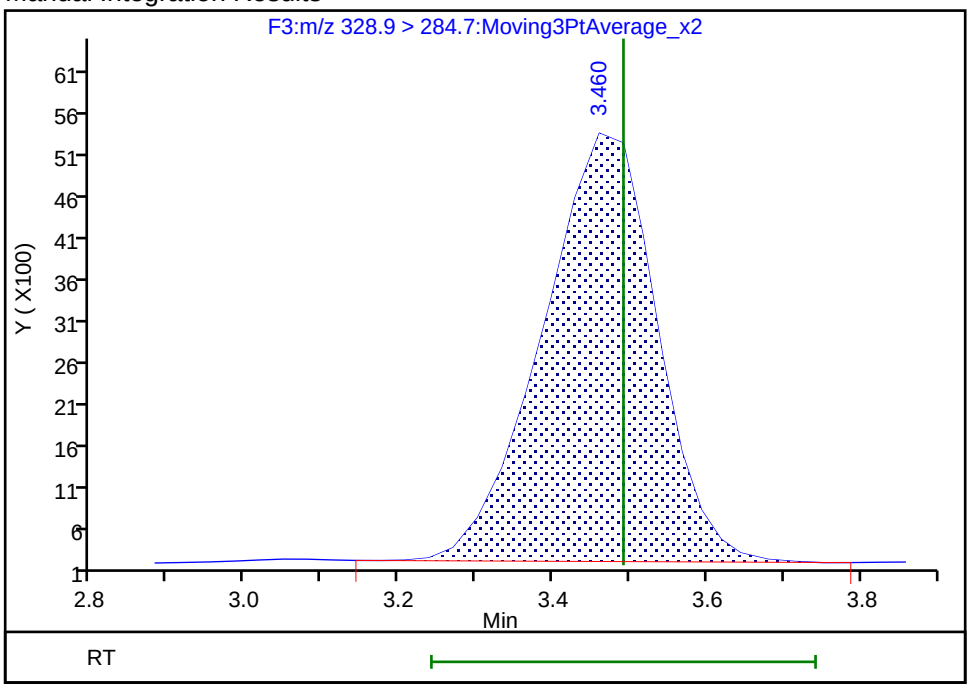
Processing Integration Results

RT: 3.46
Area: 27208
Amount: 25.036587
Amount Units: ng/ml



Manual Integration Results

RT: 3.46
Area: 53489
Amount: 49.220155
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:23:28
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

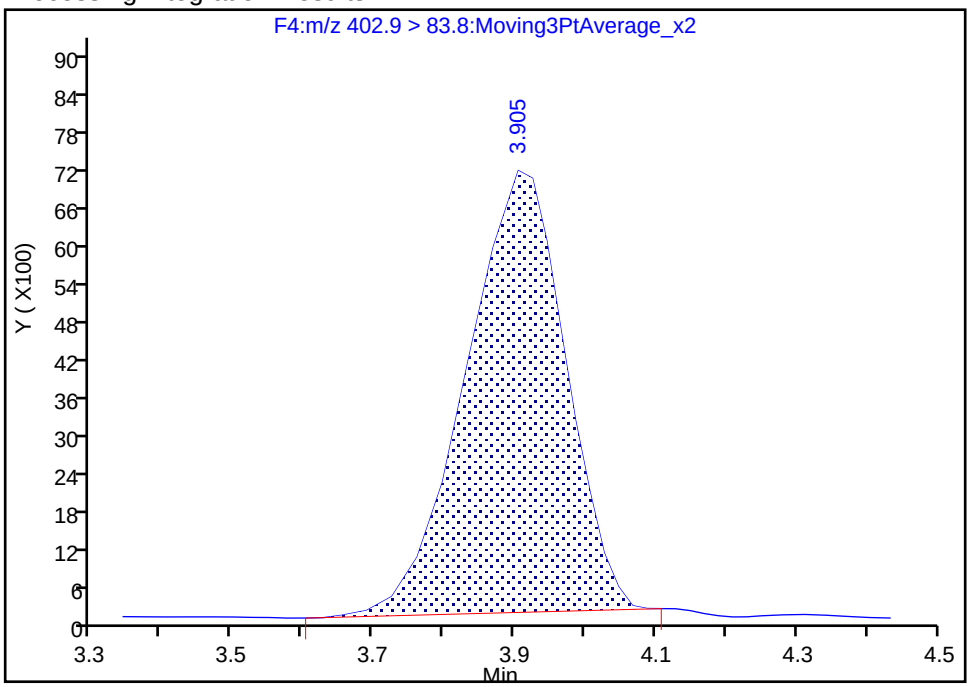
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d				
Injection Date:	05-Jun-2019 05:33:51	Instrument ID:	LC410		
Lims ID:	CCV L7				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

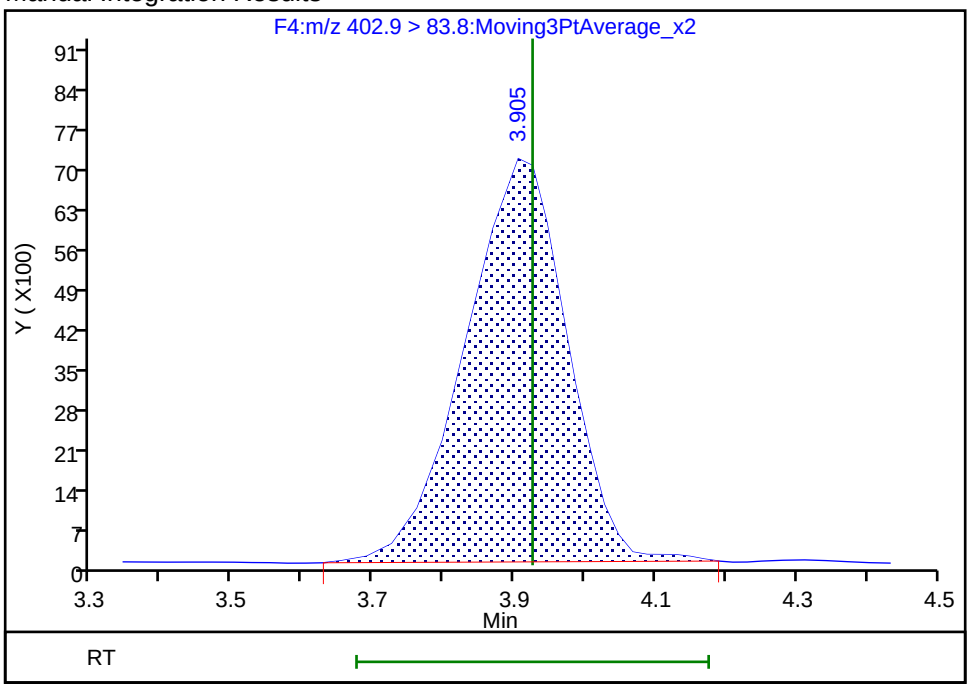
Processing Integration Results

RT: 3.91
Area: 68294
Amount: 36.407443
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 70329
Amount: 37.492299
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:23:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143753/30 Calibration Date: 06/05/2019 09:00

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B30.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	2.018		6430	5000	28.5	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	2.990		4990	5000	-0.1	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	2.394		4210	4420	-4.8	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.825		6430	4670	37.8	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.536		5490	5000	9.9	40.0
Perfluoropentanesulfonic acid	AveID	2.841	3.291		5430	4690	15.9	50.0
HFPO-DA	AveID	1.078	1.785		8280	5000	65.6*	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.281		5460	5000	9.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	1.997		4290	4550	-5.6	40.0
DONA	AveID	4.300	4.754		5210	4710	10.6	50.0
6:2 FTS	AveID	0.9451	0.8049		4040	4740	-14.8	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	0.9736		4810	5000	-3.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.8810		4820	4760	1.2	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.8303		4700	5000	-6.0	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	0.9946		4780	4640	3.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	4.688		4970	4660	6.6	50.0
8:2 FTS	AveID	0.7376	0.6514		4230	4790	-11.7	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.8927		4880	5000	-2.5	40.0
Perfluorononanesulfonic acid	AveID	0.9697	1.127		5580	4800	16.3	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.8087		4900	5000	-2.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.8043		4990	5000	-0.1	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	0.9878		4590	4820	-4.9	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.9145		5490	5000	9.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.462		5130	5000	2.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	6.072		5100	4710	8.2	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9365		4940	5000	-1.3	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.9186		4900	5000	-2.0	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8834		5200	5000	4.1	40.0
13C4 PFBA	Ave	0.2445	0.1710		35000	50000	-30.1	50.0
13C5 PFPeA	Ave	0.1855	0.1609		43400	50000	-13.3	50.0
13C3 PFBS	Ave	0.0807	0.0686		39500	46500	-15.0	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143753/30 Calibration Date: 06/05/2019 09:00

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060419B30.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5283		47500	50000	-5.0	50.0
13C3 HFPO-DA	Ave	0.0529	0.0534		50500	50000	0.9	50.0
13C4 PFHpA	Ave	0.7840	0.7723		49300	50000	-1.5	50.0
18O2 PFHxS	Ave	0.1031	0.0893		41000	47300	-13.4	50.0
M2-6:2 FTS	Ave	0.0557	0.0433		36900	47500	-22.3	50.0
13C4 PFOA	Ave	0.9706	0.9712		50000	50000	0.0	50.0
13C4 PFOS	Ave	0.2326	0.1931		39700	47800	-17.0	50.0
13C5 PFNA	Ave	1.302	1.274		48900	50000	-2.1	50.0
13C2 PFDA	Ave	1.111	1.191		53600	50000	7.2	50.0
M2-8:2 FTS	Ave	0.2026	0.2023		47800	47900	-0.2	50.0
d3-NMeFOSAA	Ave	0.3621	0.3237		44700	50000	-10.6	50.0
d5-NEtFOSAA	Ave	0.2986	0.2764		46300	50000	-7.4	50.0
13C2 PFUnA	Ave	1.073	1.108		51600	50000	3.3	50.0
13C8 FOSA	Ave	0.4004	0.3750		46800	50000	-6.3	50.0
13C2 PFDoA	Ave	1.367	1.263		46200	50000	-7.6	50.0
13C2 PFTeDA	Ave	1.227	1.097		44700	50000	-10.6	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Lims ID: CCV L3
Client ID:
Sample Type: CCV
Inject. Date: 05-Jun-2019 09:00:18 ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-030 CCV L3
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:52:12 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 10:50:53
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.349	2.360	-0.011	1.000	32383	6.43		129	65.5	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.349	2.360	-0.011	1.000	160470	35.0		69.9	69.5	M
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.830	2.830	0.0	1.000	45150	4.99		99.9	74.8	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	150996	43.4		86.7	647	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.901	2.901	0.0	1.000	13624	4.21	Target=1.67	95.2	65.5	
298.9 > 98.9	2.901	2.901	0.0	1.000	14296		0.95(0.83-2.51)		69.7	M
D 5 13C3 PFBS										M
302.0 > 79.8	2.901	2.901	0.0	1.000	59871	39.5		85.0	166	M
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.238	3.270	-0.032	1.116	10974	6.43		138	86.1	M
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.302	3.302	0.0	1.000	76157	5.49	Target=14.34	110	509	
312.9 > 118.9	3.302	3.302	0.0	1.000	4483		16.99(7.17-21.51)		41.4	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	495745	47.5		95.0	3337	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.365	3.365	0.0	1.160	19876	5.43	Target=1.23	116	238	M
348.9 > 98.9	3.334	3.365	-0.031	1.000	23175		0.86(0.62-1.85)		187	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.460	3.492	-0.032	1.000	50101	50.5		101	182	
44 Perfluoro(2-propoxypropanoic) acid										M
328.9 > 284.7	3.429	3.492	-0.063	0.991	8943	8.28		166	15.0	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	724816	49.3		98.5	957	
9 Perfluoroheptanoic acid										M
362.9 > 318.9	3.869	3.905	-0.036	1.000	92828	5.46	Target=2.84	109	414	M
362.9 > 168.9	3.869	3.905	-0.036	1.000	29590		3.14(1.42-4.26)		128	M
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.925	-0.020	1.000	15231	4.29	Target=1.34	94.4	104	M
398.9 > 98.9	3.925	3.925	0.0	1.005	17903		0.85(0.67-2.01)		60.5	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	79294	41.0		86.6	264	
49 DONA										
376.9 > 250.7	3.946	3.966	-0.020	0.738	81170	5.21	Target=2.33	111	320	
376.9 > 85.0	3.946	3.966	-0.020	1.000	36035		2.25(1.16-3.49)		273	
13 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.444	4.547	-0.103	0.982	3101	4.04		85.2	17.1	M
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	38608	36.9		77.7	223	M
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		938473	50.0			2129	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.589	-0.021	1.000	88738	4.81	Target=2.43	96.2	230	
412.9 > 168.9	4.568	4.589	-0.021	1.000	38827		2.29(1.22-3.64)		197	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	911408	50.0		100	1185	
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.589	4.609	-0.020	0.858	15201	4.82	Target=1.30	101	56.5	M
448.9 > 98.9	4.609	4.609	0.0	1.000	18474		0.82(0.65-1.95)		103	
19 Perfluorononanoic acid										
462.9 > 418.7	5.336	5.368	-0.032	0.998	99282	4.70	Target=5.00	94.0	595	
462.9 > 168.9	5.336	5.368	-0.032	0.998	25174		3.94(2.50-7.50)		138	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.389	-0.042	1.000	1195790	48.9		97.9	4581	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.389	-0.042	1.000	16728	4.78	Target=1.41	103	111	
498.9 > 98.9	5.347	5.389	-0.042	1.000	18044		0.93(0.71-2.12)		92.8	M
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	173269	39.7		83.0	591	
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.778	5.812	-0.034	1.081	79195	4.97		107	322	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.097	6.131	-0.034	0.994	11849	4.23		88.3	46.8	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	181901	47.8		99.8	332	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.165	-0.034	1.000	99800	4.88	Target=7.23	97.5	763	
512.9 > 168.9	6.165	6.165	0.0	1.006	9882		10.10(3.61-10.84)		36.2	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										M
548.9 > 80.0	6.131	6.165	-0.034	1.147	19616	5.58	Target=1.39	116	144	M
548.9 > 98.9	6.131	6.165	-0.034	1.000	22281		0.88(0.69-2.08)		128	M
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	1117996	53.6		107	9092	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.501	6.525	-0.024	1.004	24568	4.90		97.9	88.5	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.549	-0.072	1.000	303803	44.7		89.4	1682	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.873	6.897	-0.024	1.004	20860	4.99		99.9	88.7	M
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.873	6.897	-0.024	1.286	17258	4.59	Target=1.25	95.1	118	M
598.9 > 98.9	6.873	6.897	-0.024	1.000	19748		0.87(0.63-1.88)		80.7	M
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.921	-0.072	1.000	259369	46.3		92.6	792	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.897	6.921	-0.024	1.000	95083	5.49	Target=7.06	110	372	
562.9 > 168.9	6.897	6.921	-0.024	1.000	12215		7.78(3.53-10.58)		98.0	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	1039763	51.6		103	1195	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	6.993	7.013	-0.020	1.000	51464	5.13		103	221	M
D 34 13C8 FOSA										
505.9 > 78.0	6.993	7.026	-0.033	1.000	351905	46.8		93.7	1006	
43 11-Chloroeicosafluoro-3-oxaundecan										M
631.0 > 450.6	7.234	7.274	-0.040	1.353	103663	5.10		108	464	M
36 Perfluorododecanoic acid										
612.9 > 568.5	7.577	7.616	-0.039	1.000	111001	4.94	Target=5.37	98.7	599	
612.9 > 168.9	7.577	7.616	-0.039	1.000	21170		5.24(2.68-8.06)		133	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	1185247	46.2		92.4	2023	
38 Perfluorotridecanoic acid										M
662.9 > 618.5	8.202	8.235	-0.033	1.082	108873	4.90	Target=4.67	98.0	354	M
662.9 > 168.9	8.213	8.235	-0.022	1.084	18141		6.00(2.34-7.01)		93.3	M
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.752	8.786	-0.034	1.000	90970	5.20	Target=4.86	104	268	
712.9 > 168.9	8.764	8.786	-0.022	1.001	19194		4.74(2.43-7.30)		94.0	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.819	-0.067	1.000	1029795	44.7		89.4	531	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L3_00005 Amount Added: 100.00 Units: uL

Report Date: 05-Jun-2019 15:52:13 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d

Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410

Lims ID: CCV L3

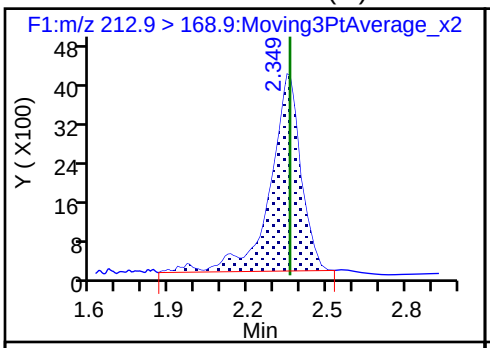
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30

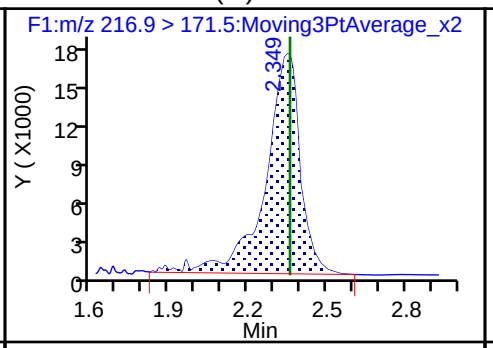
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

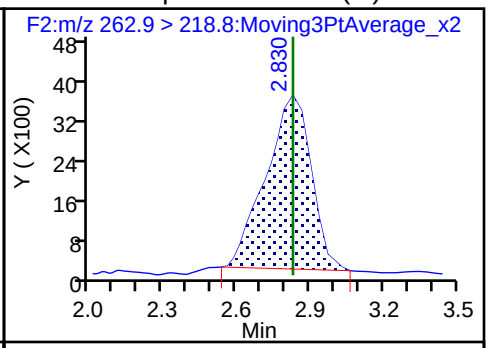
2 Perfluorobutanoic acid (M)



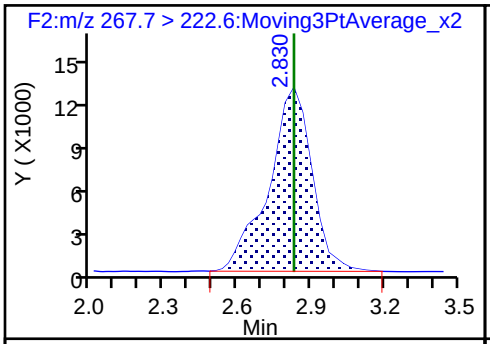
D 1 13C4 PFBA (M)



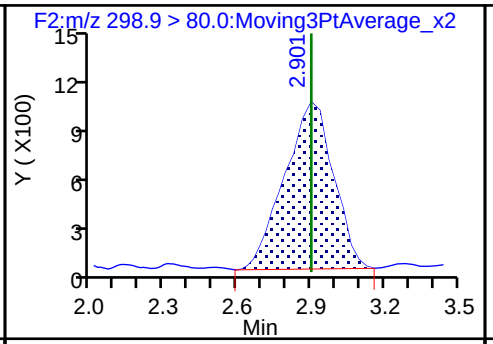
3 Perfluoropentanoic acid (M)



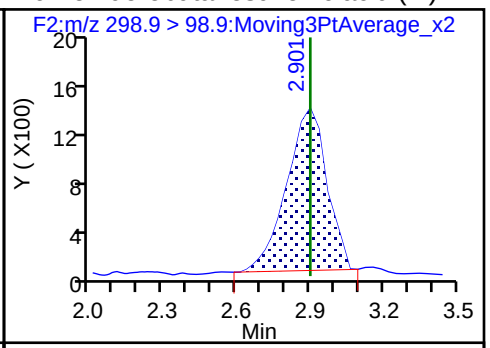
D 4 13C5 PFPeA



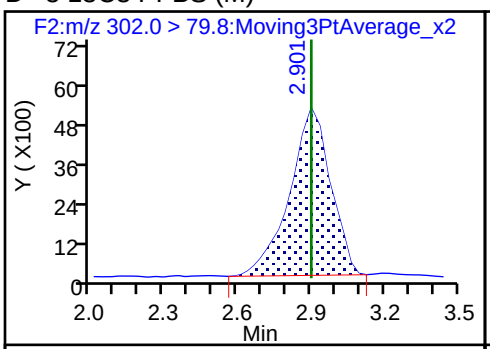
6 Perfluorobutanesulfonic acid



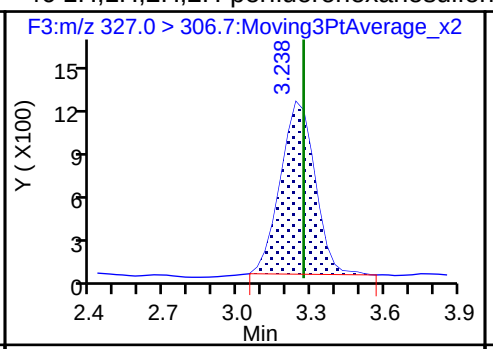
6 Perfluorobutanesulfonic acid (M)



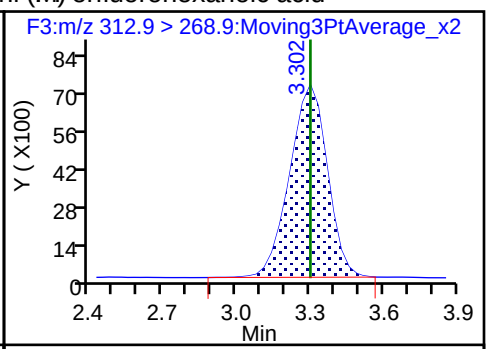
D 5 13C3 PFBS (M)



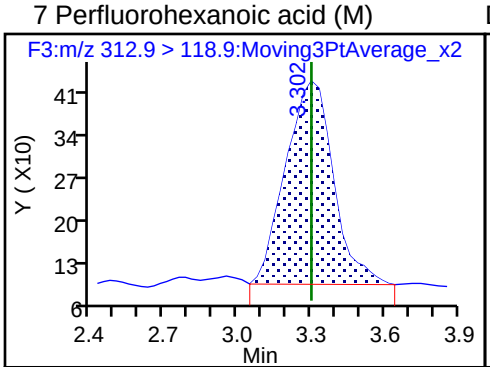
46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



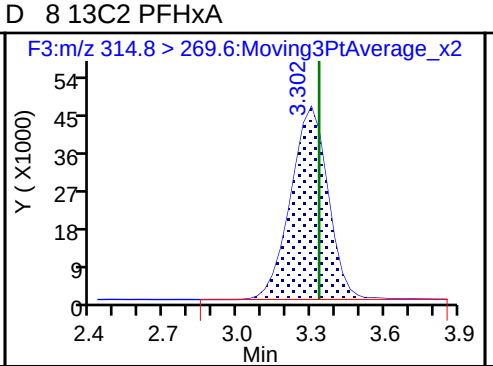
7 Perfluorohexanoic acid (M)



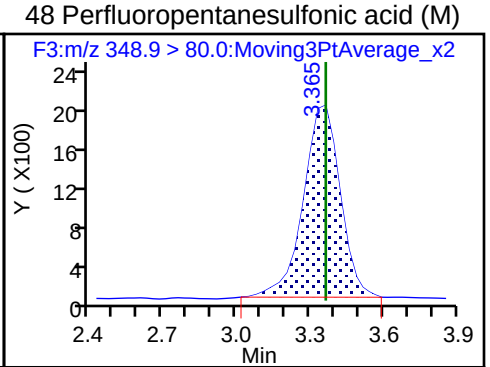
7 Perfluorohexanoic acid (M)



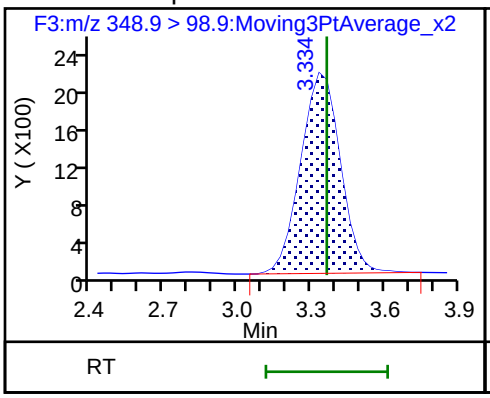
D 8 13C2 PFHxA



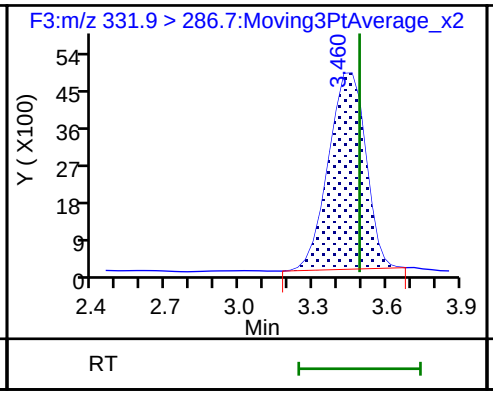
48 Perfluoropentanesulfonic acid (M)



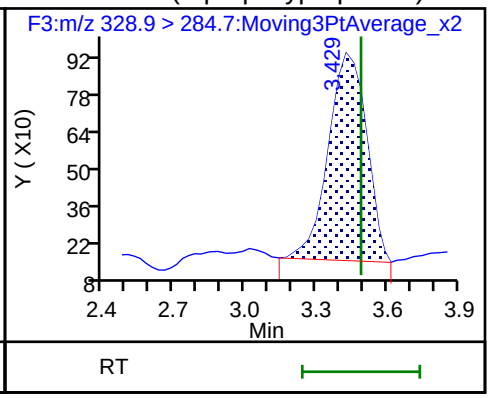
48 Perfluoropentanesulfonic acid



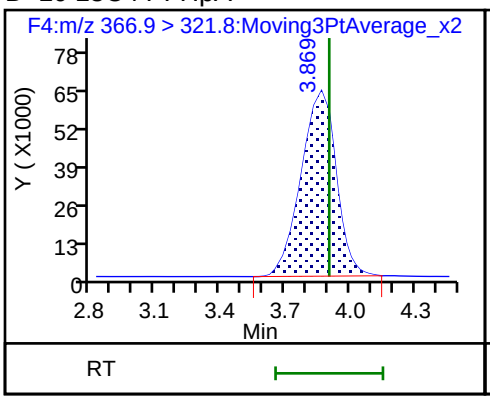
D 42 13C3 HFPO-DA



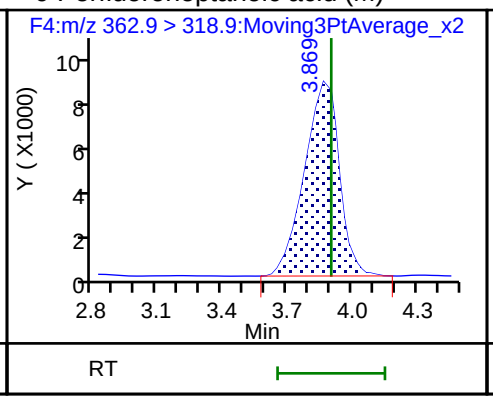
44 Perfluoro(2-propoxypropanoic) acid (M)



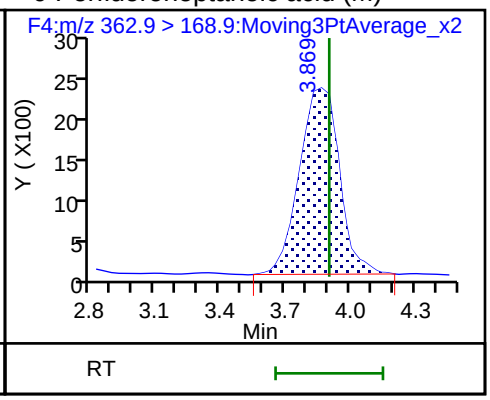
D 10 13C4 PFHpA



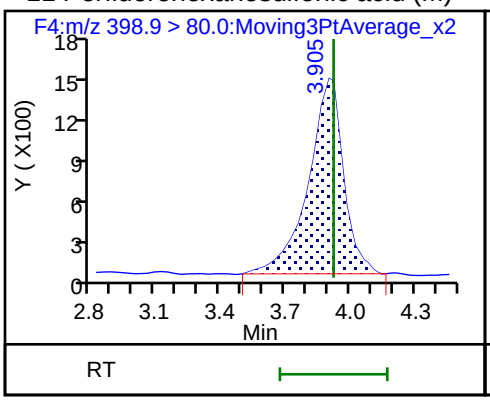
9 Perfluoroheptanoic acid (M)



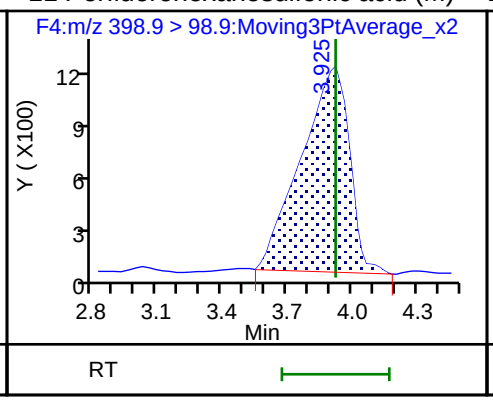
9 Perfluoroheptanoic acid (M)



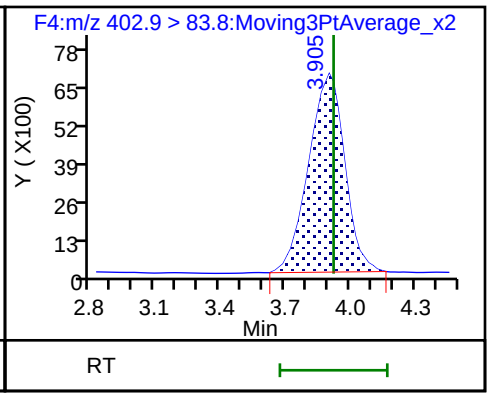
11 Perfluorohexanesulfonic acid (M)



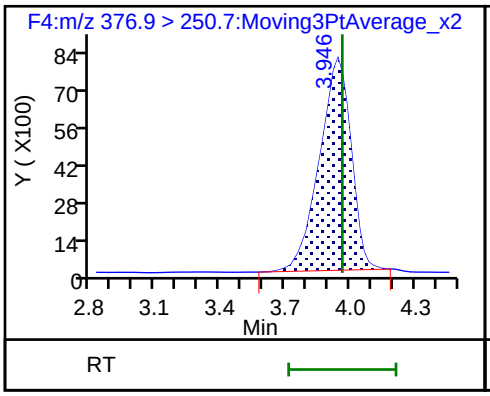
11 Perfluorohexanesulfonic acid (M)



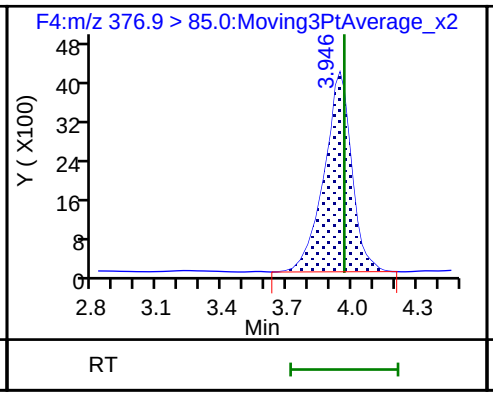
D 12 18O2 PFHxS



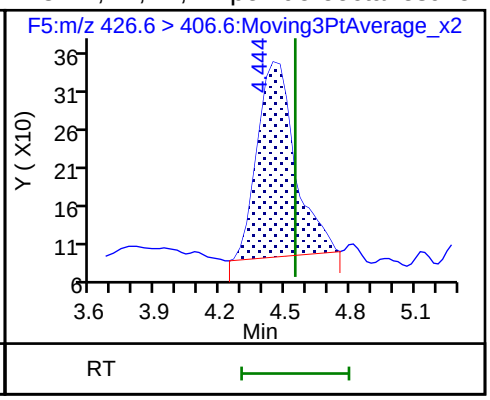
49 DONA



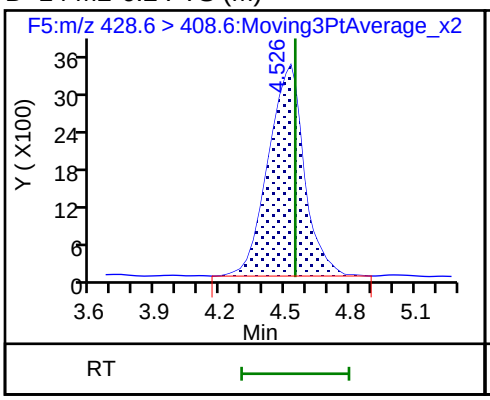
49 DONA



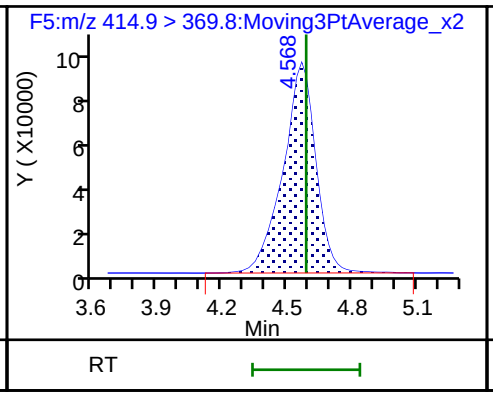
13 1H,1H,2H,2H-perfluorooctanesulfoni (M)



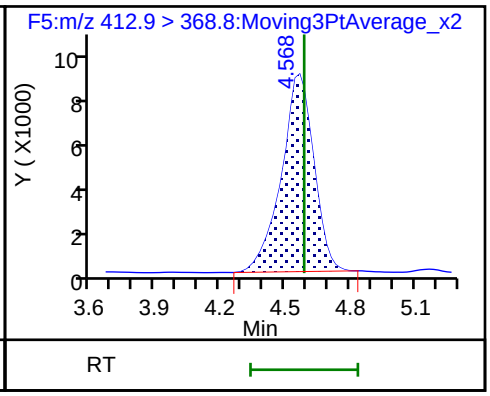
D 14 M2-6:2 FTS (M)



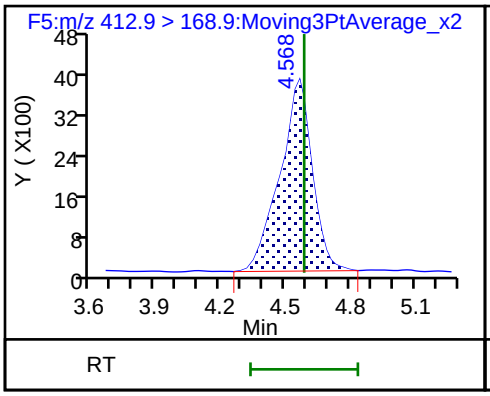
* 16 13C2 PFOA



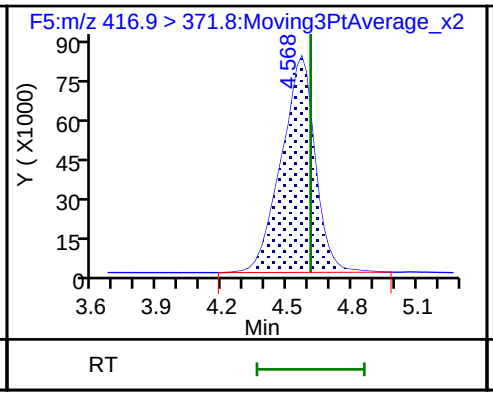
15 Perfluorooctanoic acid



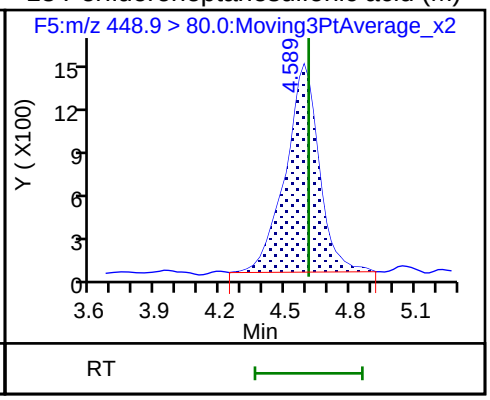
15 Perfluorooctanoic acid



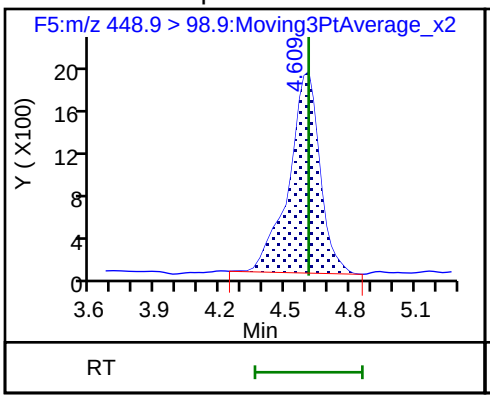
D 17 13C4 PFOA



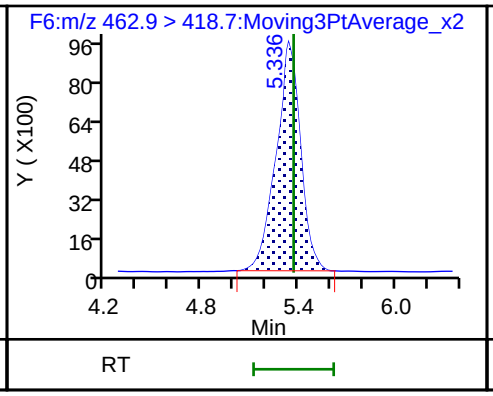
18 Perfluoroheptanesulfonic acid (M)



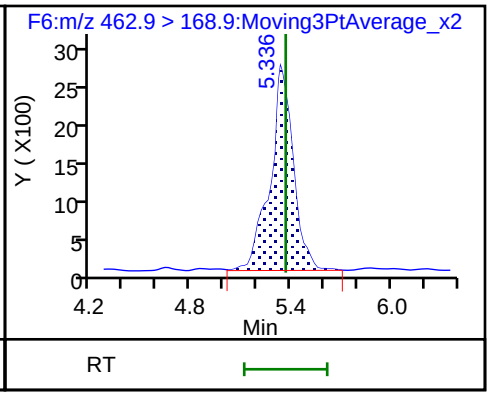
18 Perfluoroheptanesulfonic acid



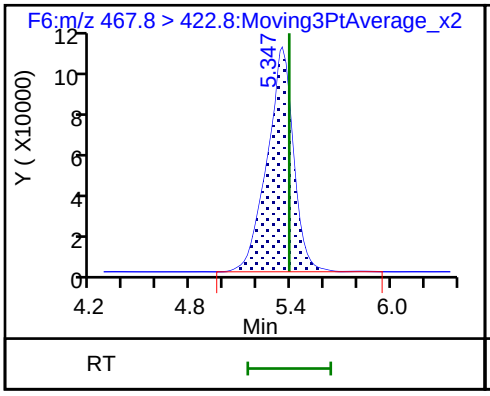
19 Perfluorononanoic acid



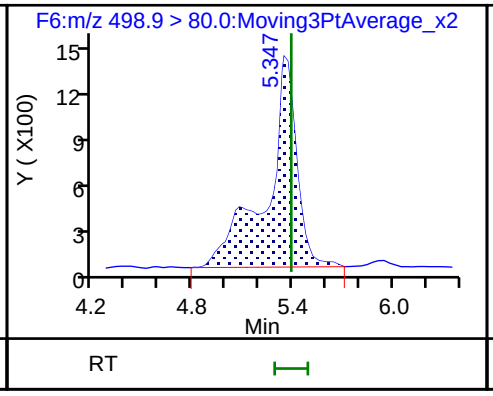
19 Perfluorononanoic acid



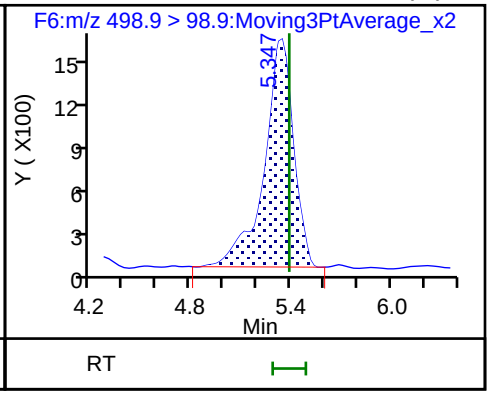
D 20 13C5 PFNA



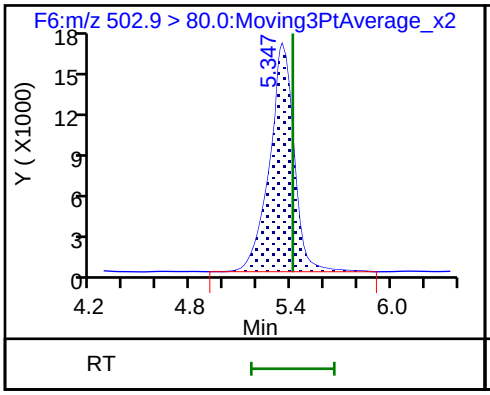
21 Perfluorooctanesulfonic acid



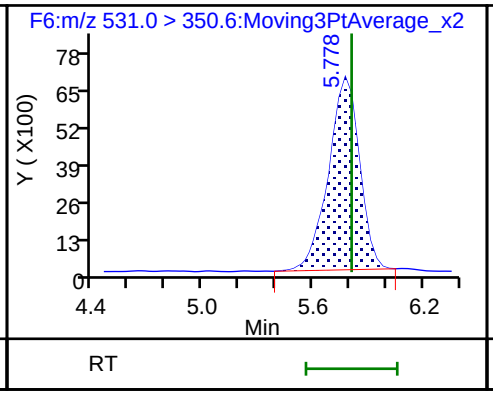
21 Perfluorooctanesulfonic acid (M)



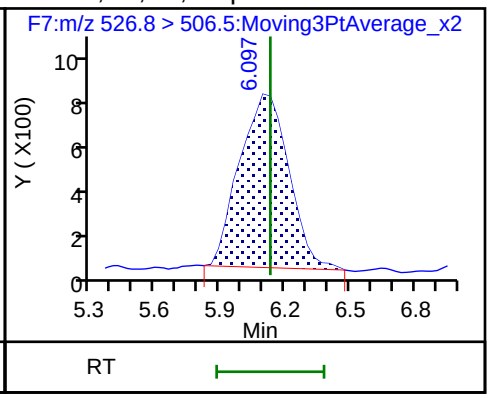
D 22 13C4 PFOS



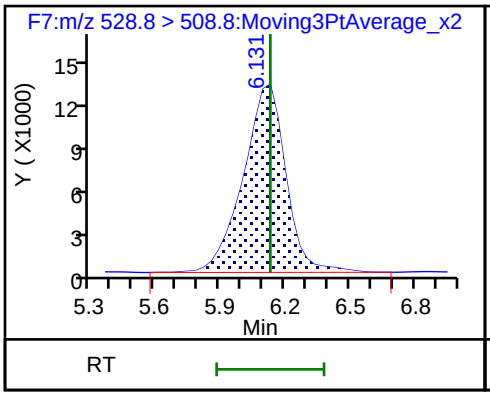
47 9-Chlorohexadecafluoro-3-oxanonane



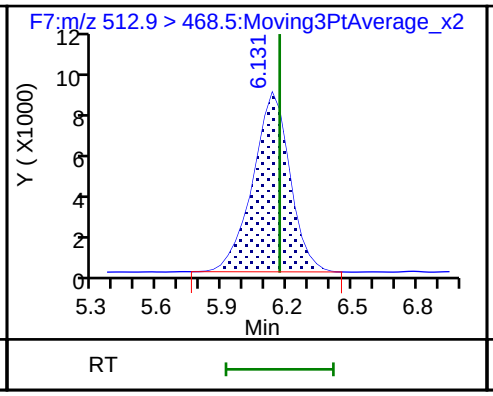
23 1H,1H,2H,2H-perfluorodecanesulfoni (M)



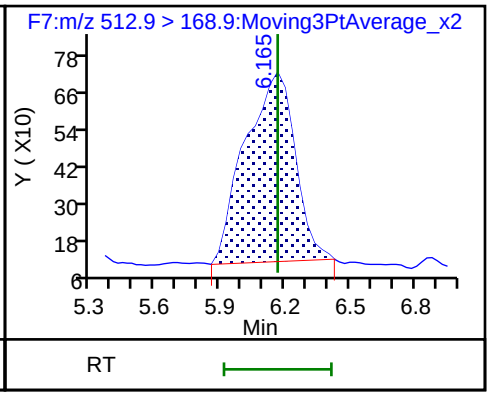
D 24 M2-8:2 FTS



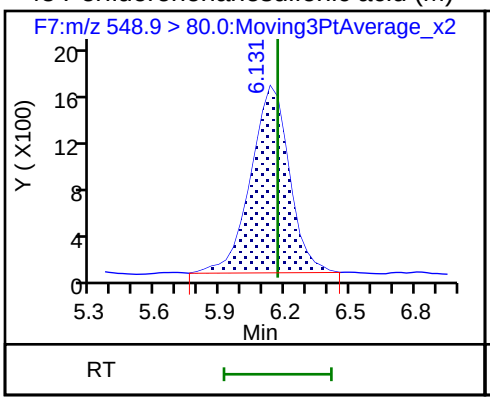
26 Perfluorodecanoic acid



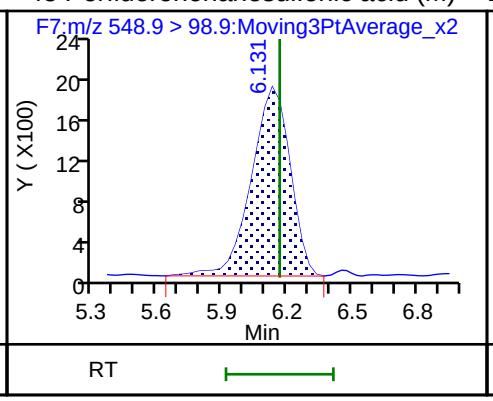
26 Perfluorodecanoic acid



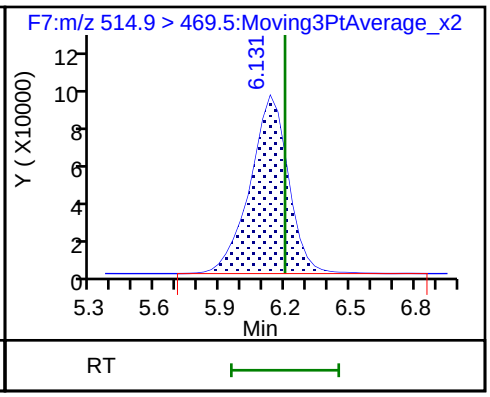
45 Perfluorononanesulfonic acid (M)



45 Perfluorononanesulfonic acid (M)

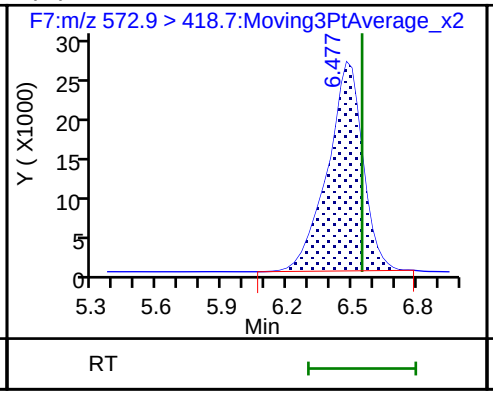


D 25 13C2 PFDA

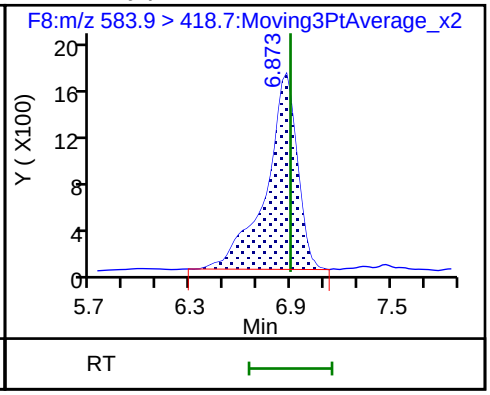


28 N-methylperfluorooctanesulfonamido

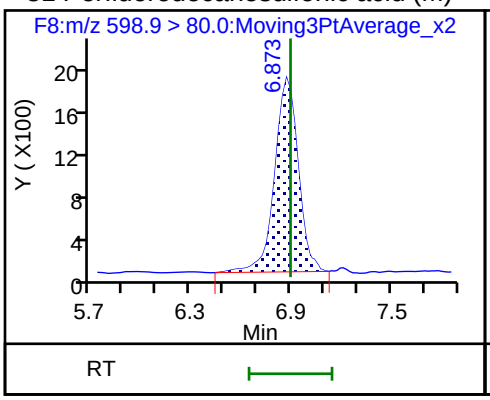
D 27 d3-NMeFOSAA



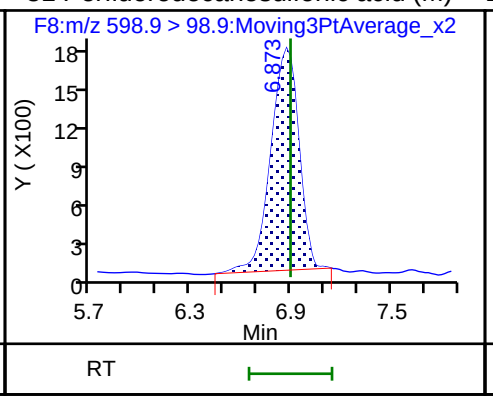
30 N-ethylperfluorooctanesulfonamidoa (M)



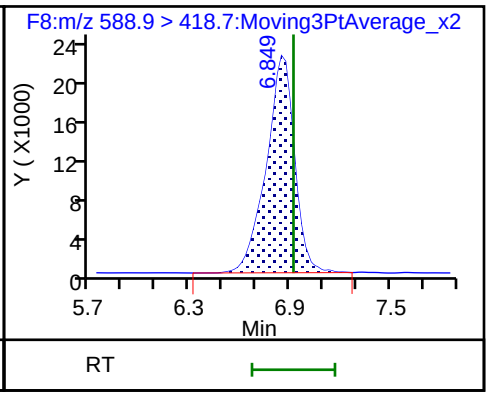
31 Perfluorodecanesulfonic acid (M)



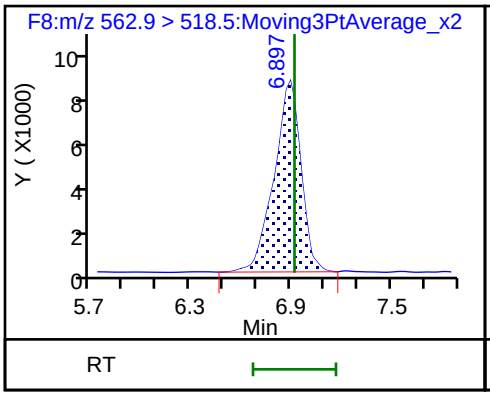
31 Perfluorodecanesulfonic acid (M)



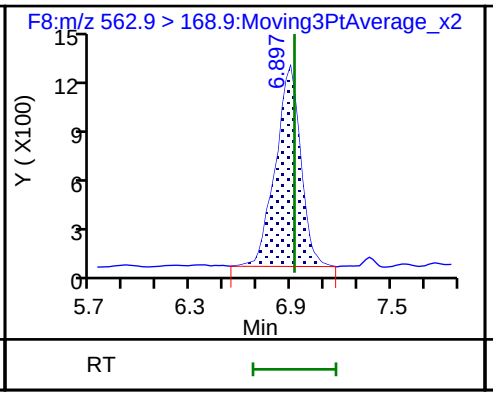
D 29 d5-NEtFOSAA



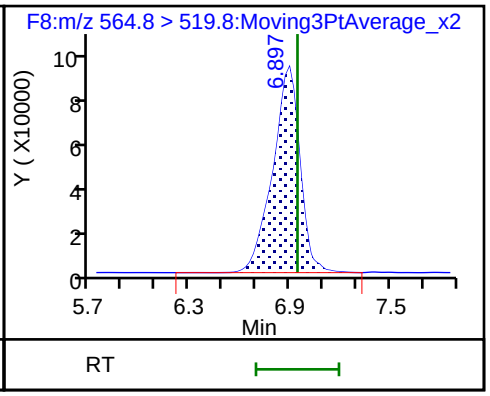
32 Perfluoroundecanoic acid



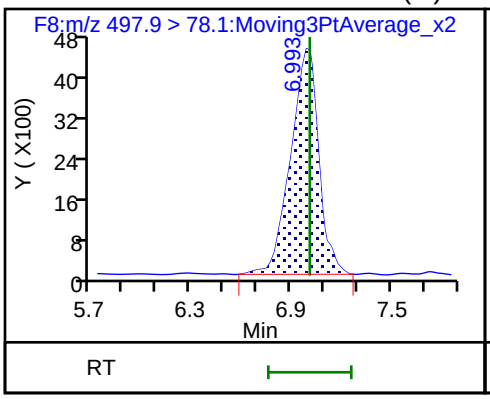
32 Perfluoroundecanoic acid



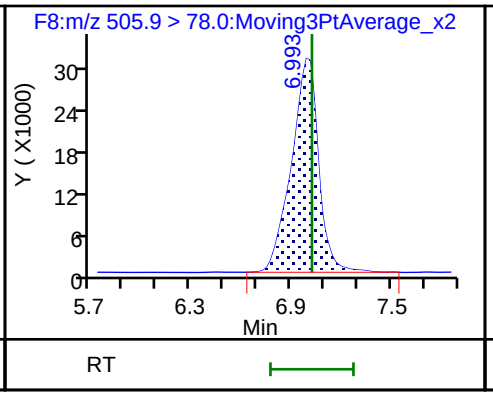
D 33 13C2 PFUnA



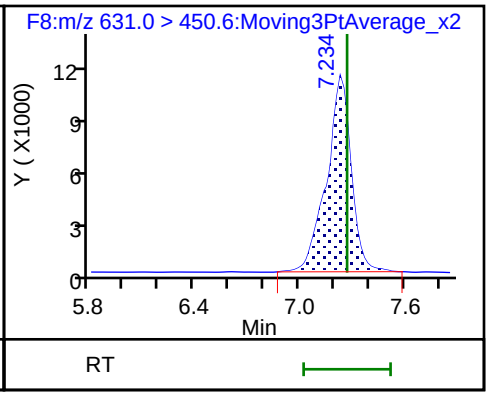
35 Perfluorooctanesulfonamide (M)



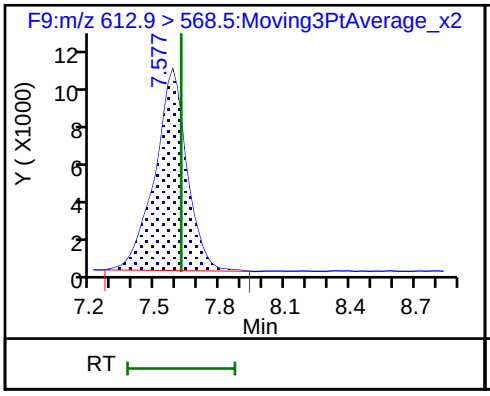
D 34 13C8 FOSA



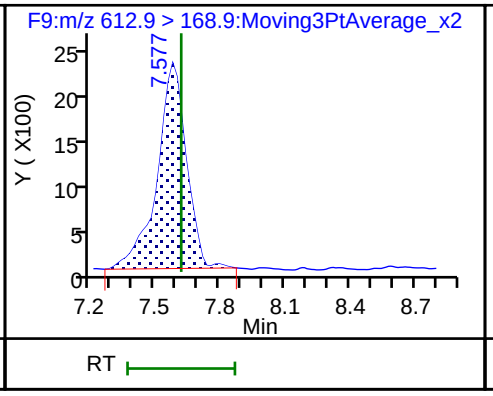
43 11-Chloroeicosafluoro-3-oxaundecan (M)



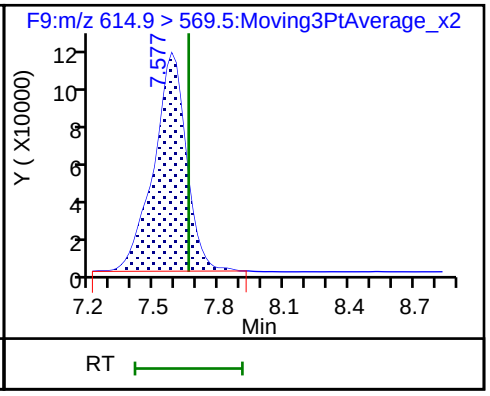
36 Perfluorododecanoic acid



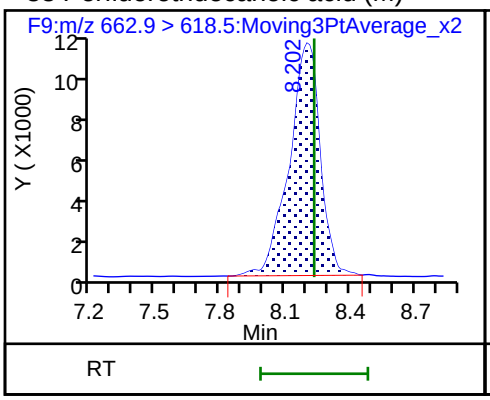
36 Perfluorododecanoic acid



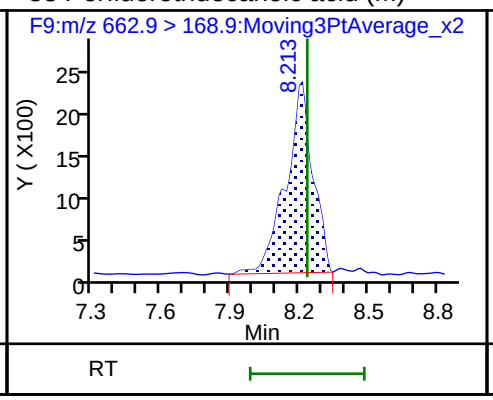
D 37 13C2 PFDoA



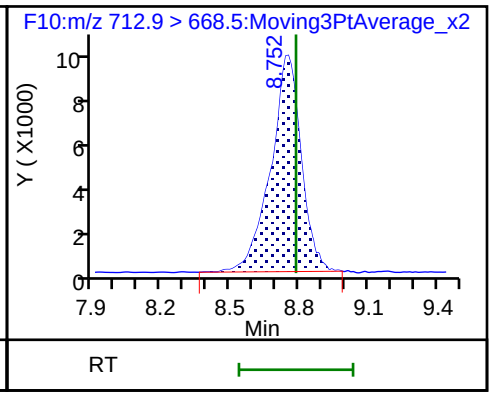
38 Perfluorotridecanoic acid (M)



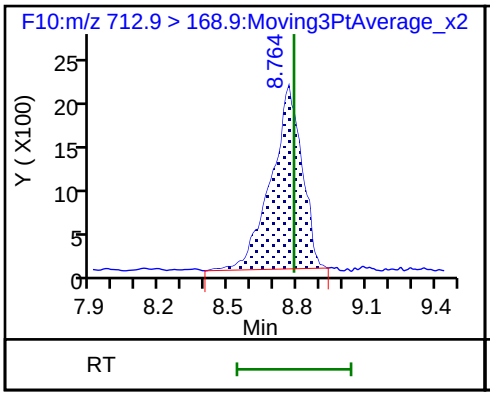
38 Perfluorotridecanoic acid (M)



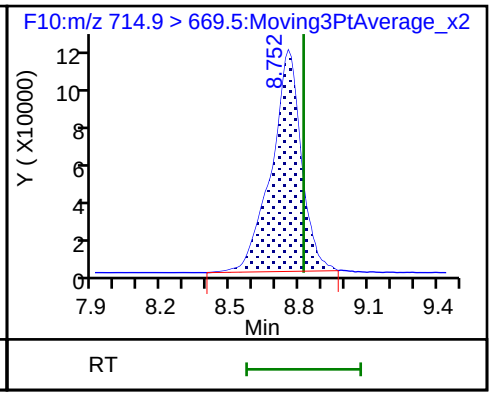
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

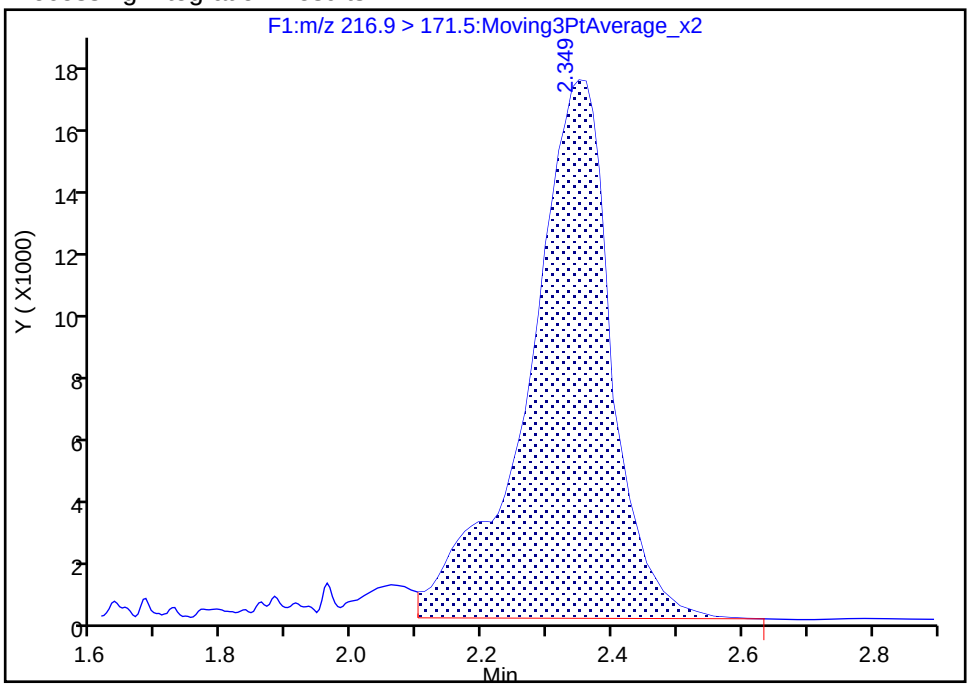
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

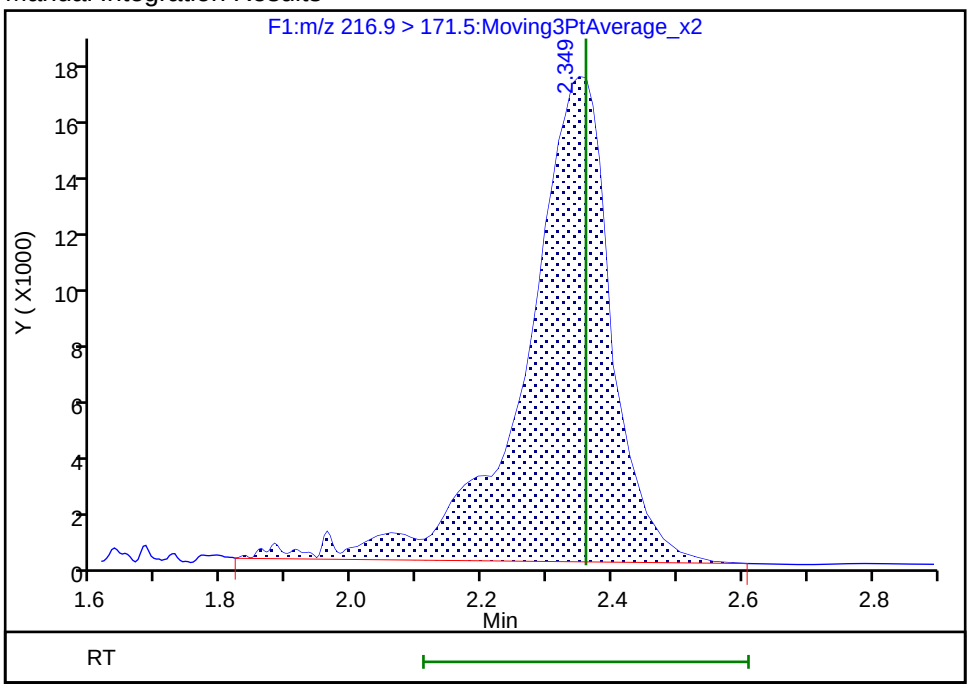
Processing Integration Results

RT: 2.35
Area: 154320
Amount: 33.622673
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 160470
Amount: 34.962612
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:42:43
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

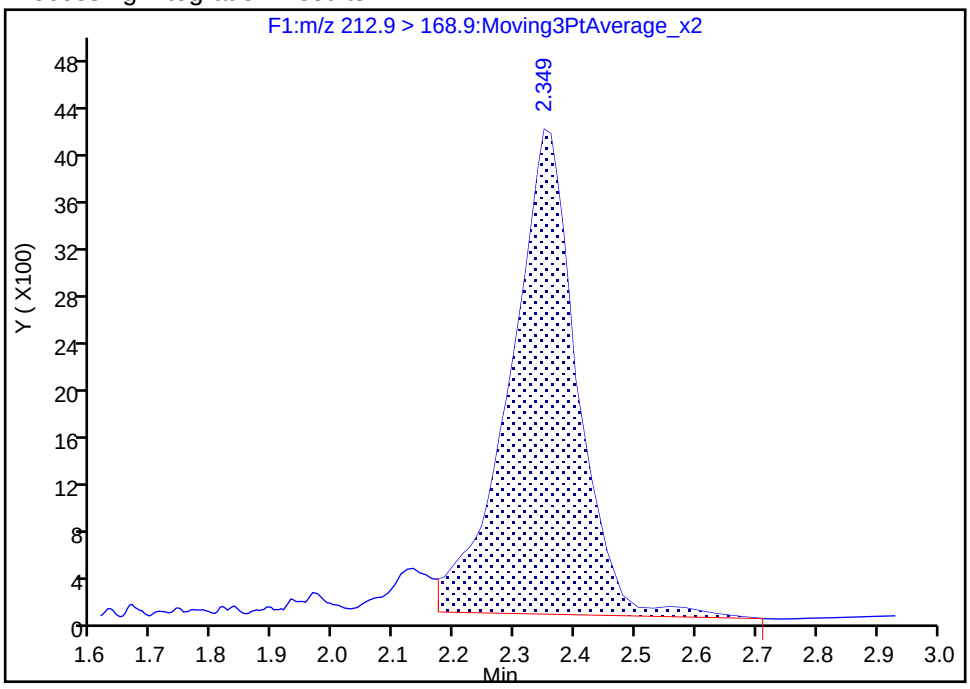
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

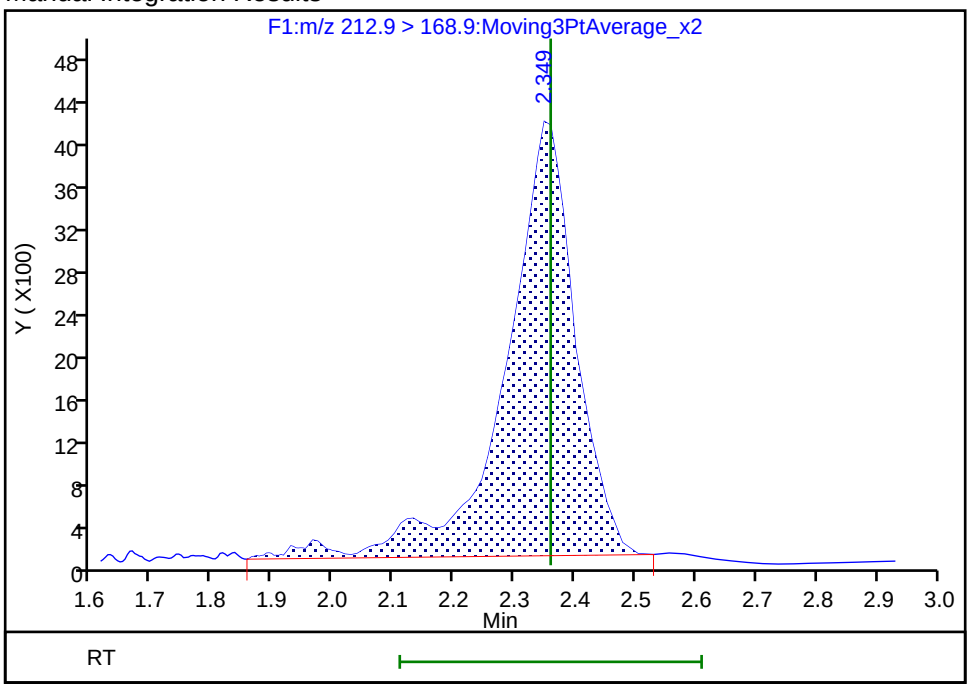
Processing Integration Results

RT: 2.35
Area: 31094
Amount: 6.416936
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 32383
Amount: 6.426827
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:42:39
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

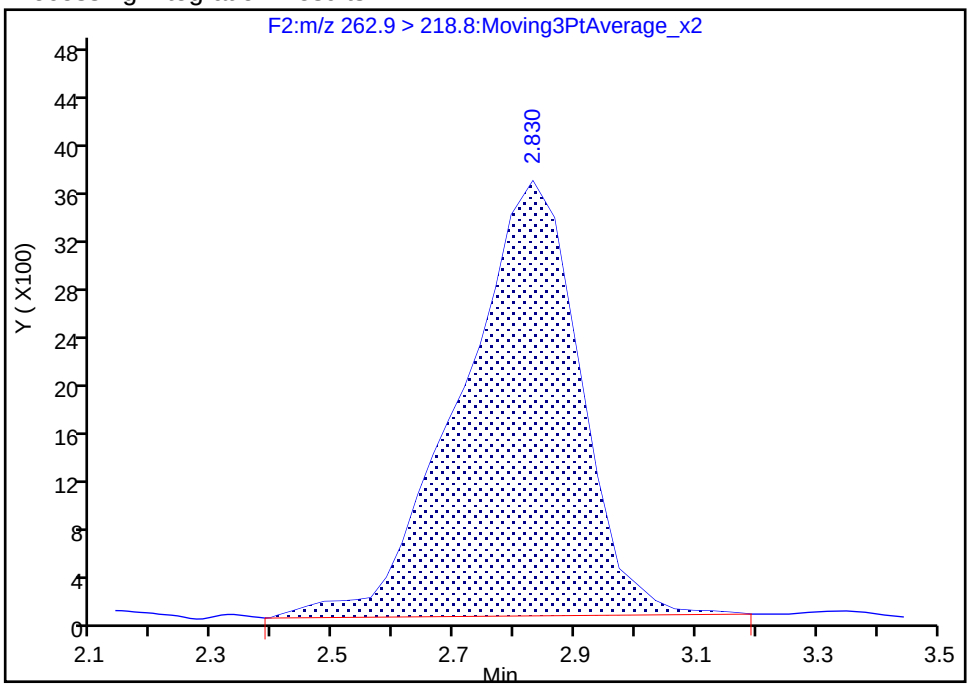
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

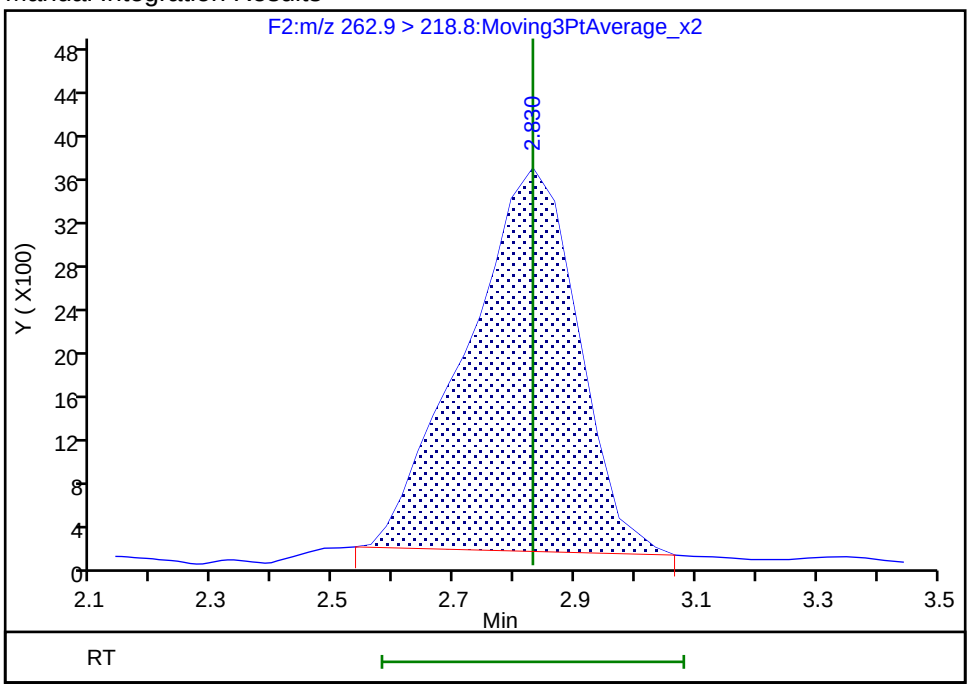
Processing Integration Results

RT: 2.83
Area: 49127
Amount: 5.432491
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 45150
Amount: 4.992712
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:42:50
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

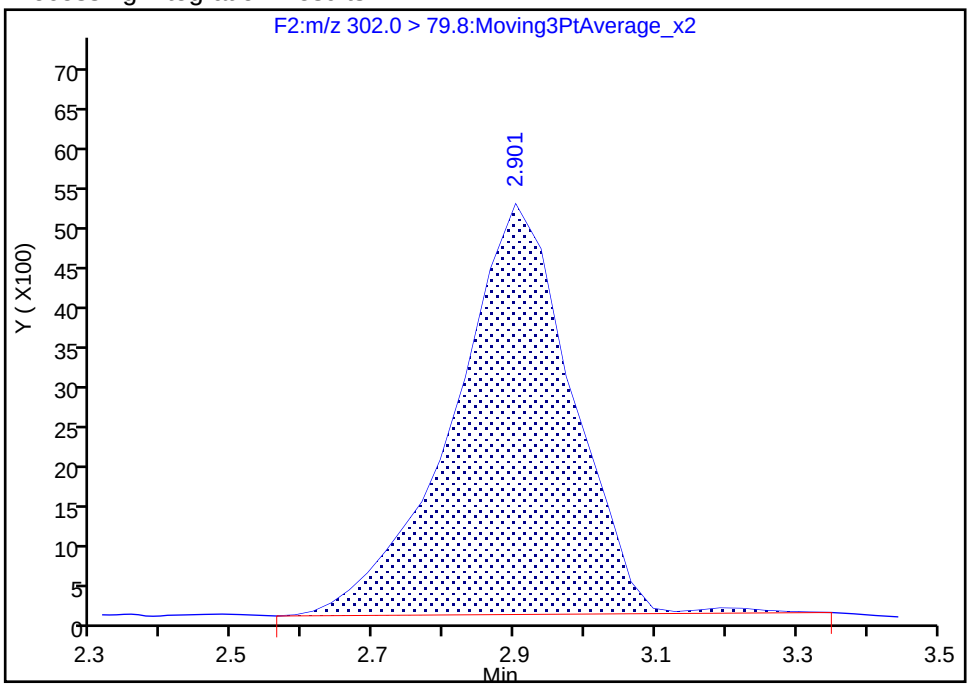
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d				
Injection Date:	05-Jun-2019 09:00:18	Instrument ID:	LC410		
Lims ID:	CCV L3				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

D 5 13C3 PFBS, CAS: STL02337

Signal: 1

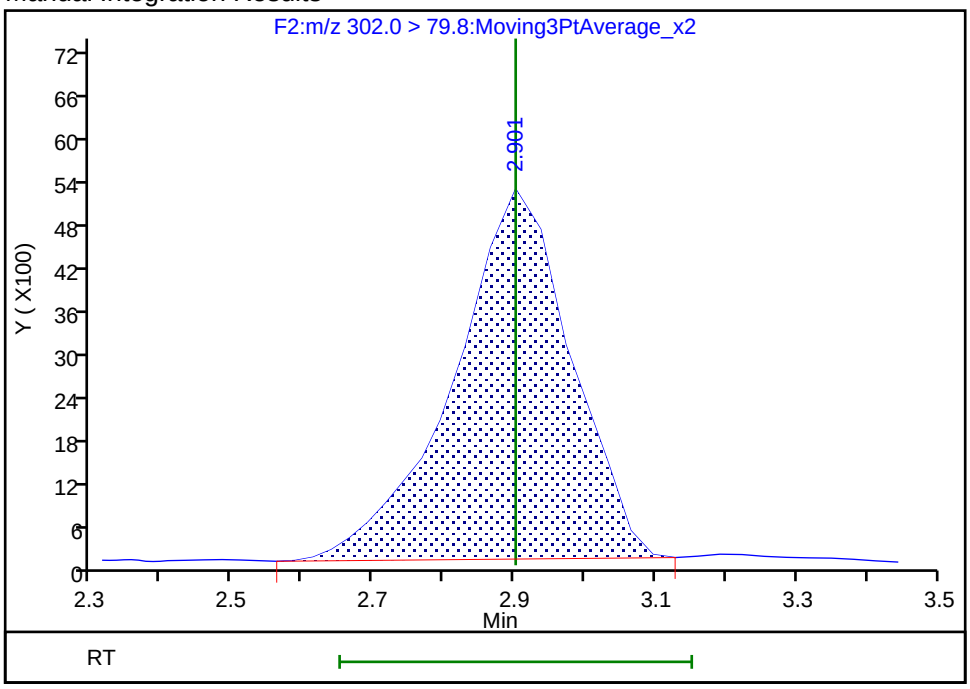
Processing Integration Results

RT: 2.90
Area: 60634
Amount: 40.038355
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 59871
Amount: 39.534524
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:43:01

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

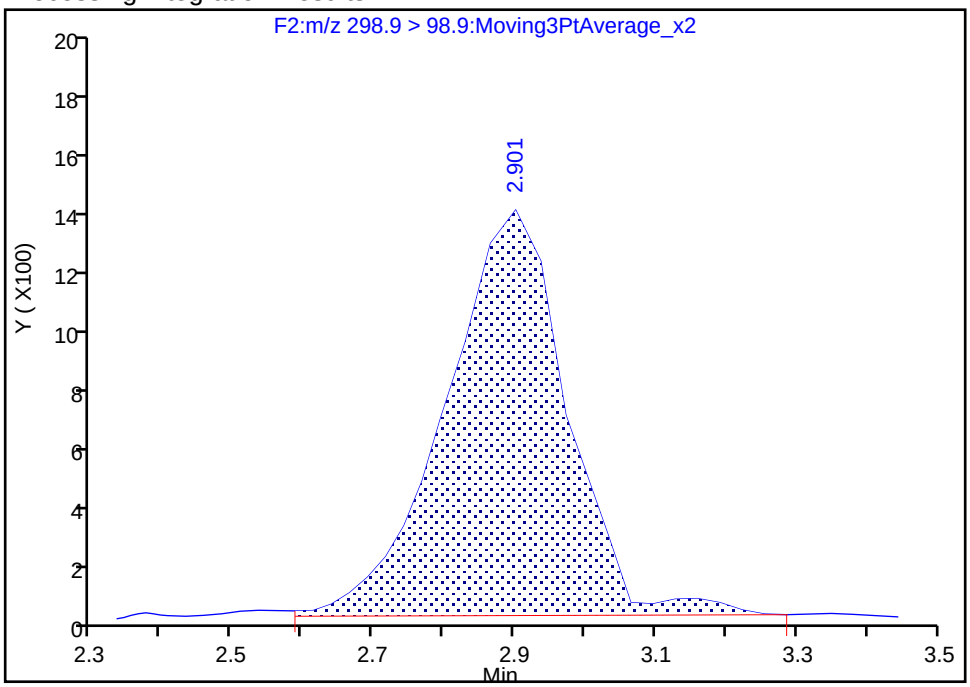
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

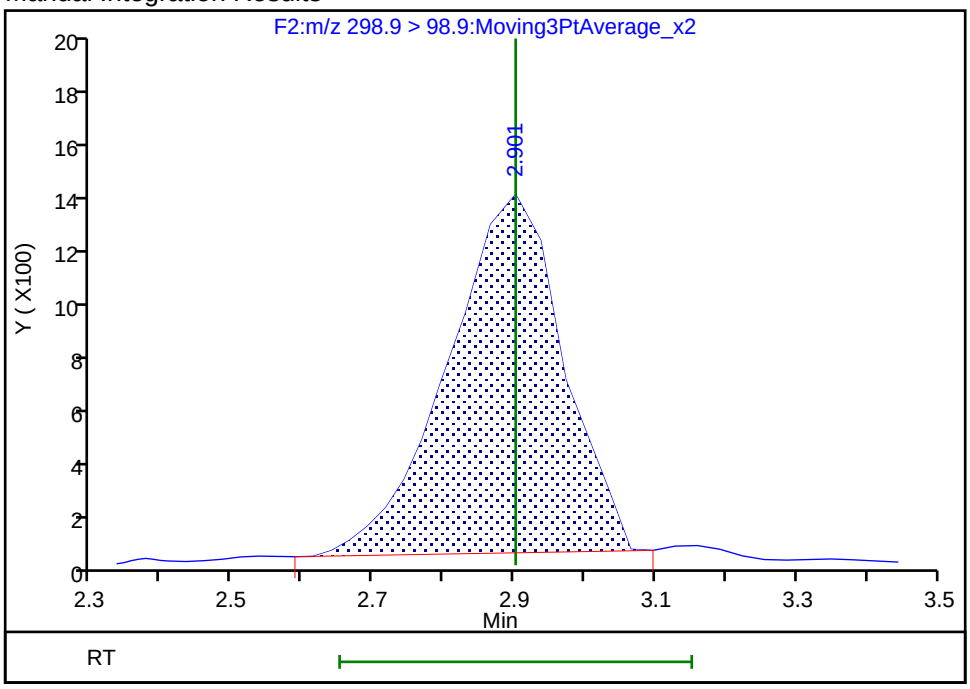
Processing Integration Results

RT: 2.90
Area: 15429
Amount: 4.156907
Amount Units: ng/ml



Manual Integration Results

RT: 2.90
Area: 14296
Amount: 4.209883
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:42:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

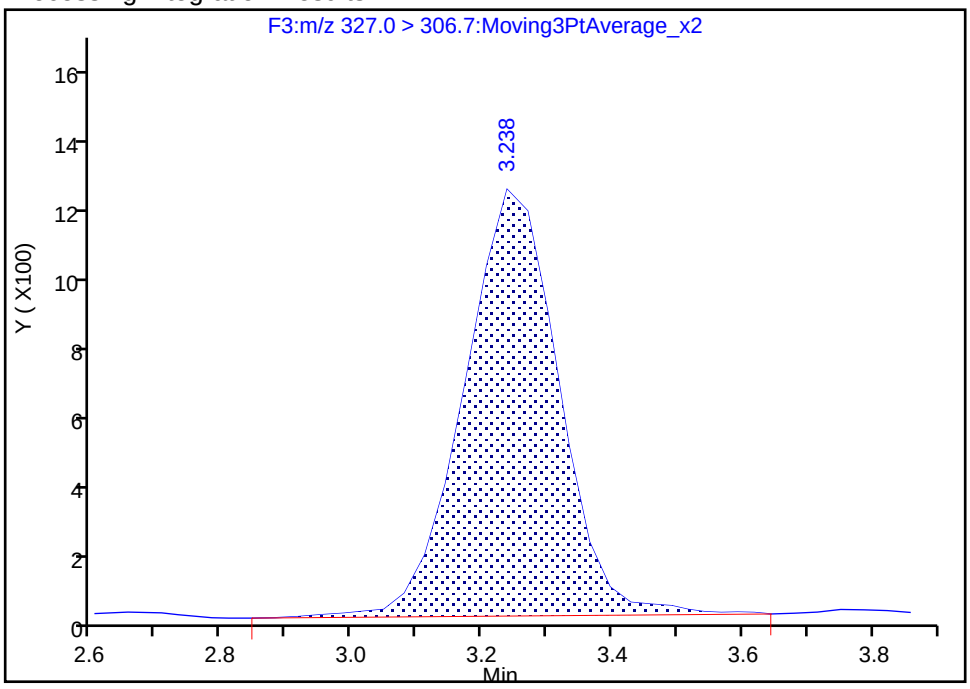
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

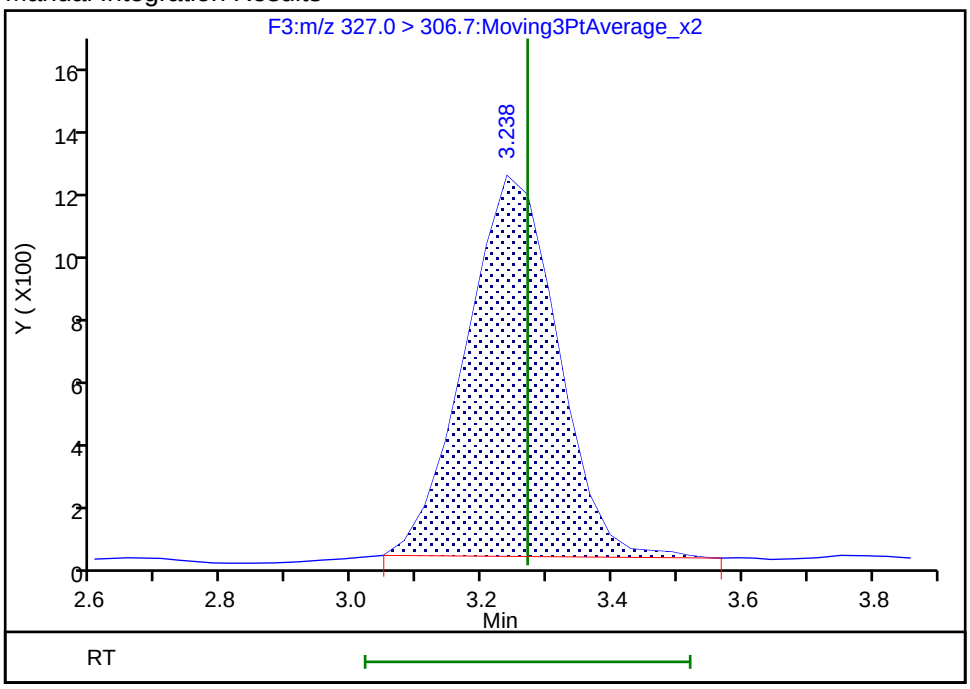
Processing Integration Results

RT: 3.24
Area: 11479
Amount: 6.729836
Amount Units: ng/ml



Manual Integration Results

RT: 3.24
Area: 10974
Amount: 6.433768
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:43:09
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

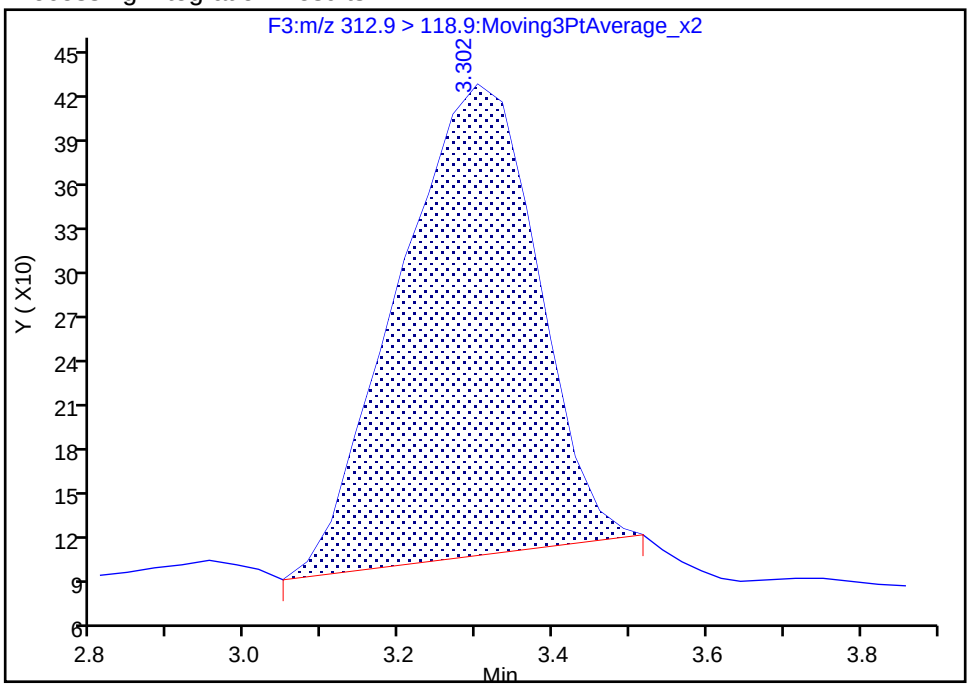
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

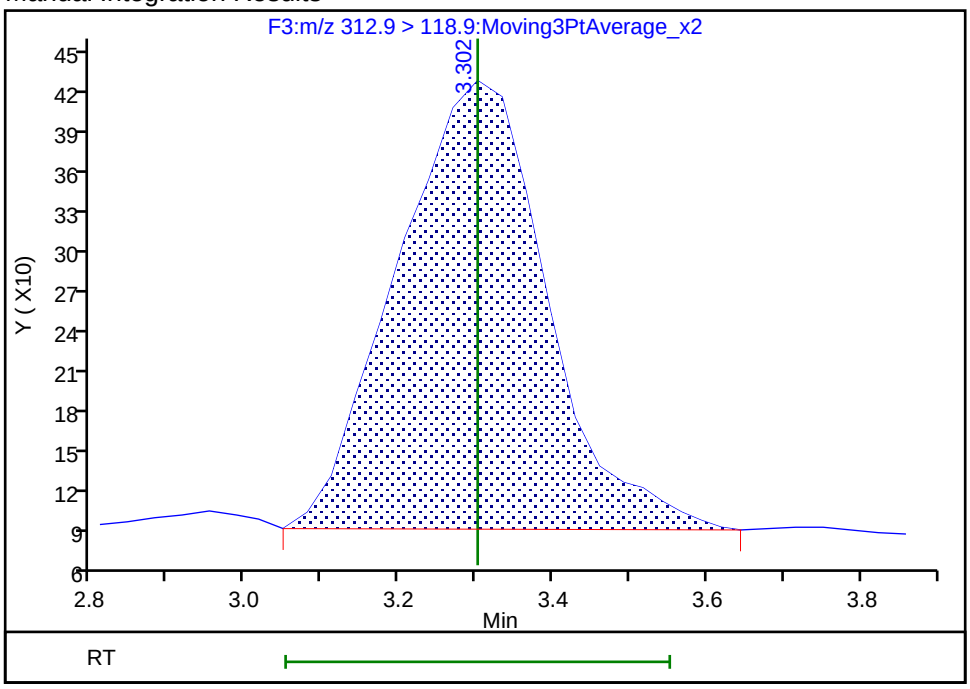
Processing Integration Results

RT: 3.30
Area: 3963
Amount: 5.494397
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 4483
Amount: 5.494397
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:50:50
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

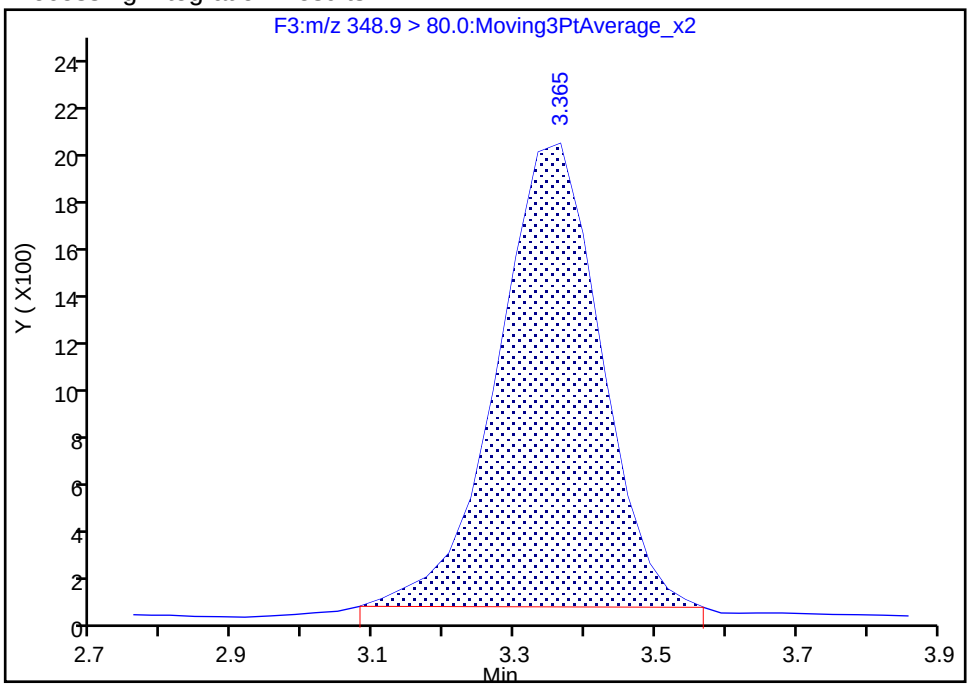
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 1

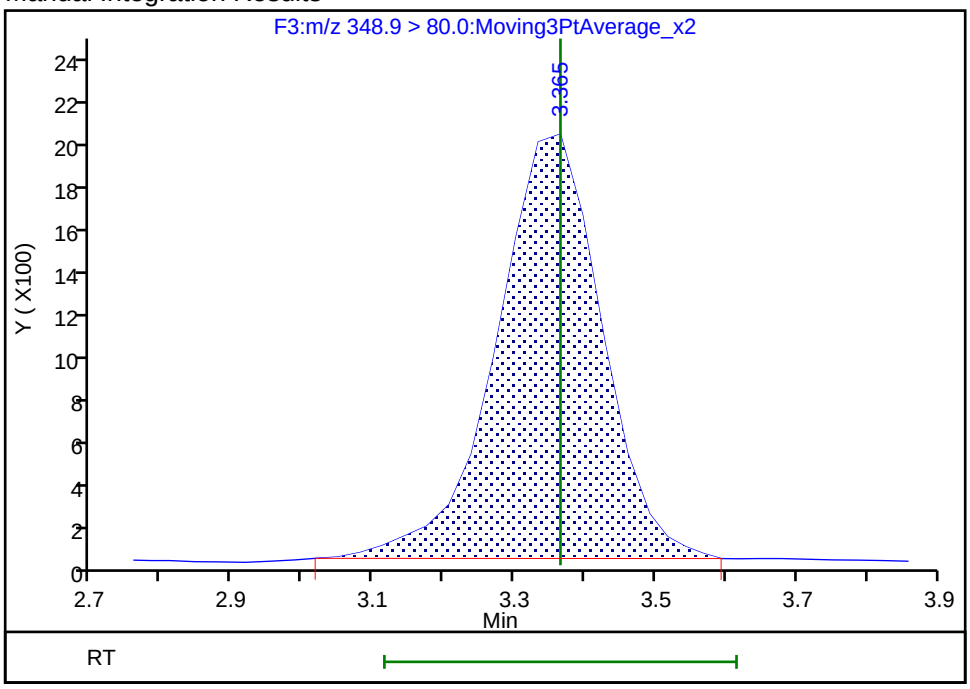
Processing Integration Results

RT: 3.37
Area: 19105
Amount: 5.222754
Amount Units: ng/ml



Manual Integration Results

RT: 3.37
Area: 19876
Amount: 5.433523
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:51:13
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

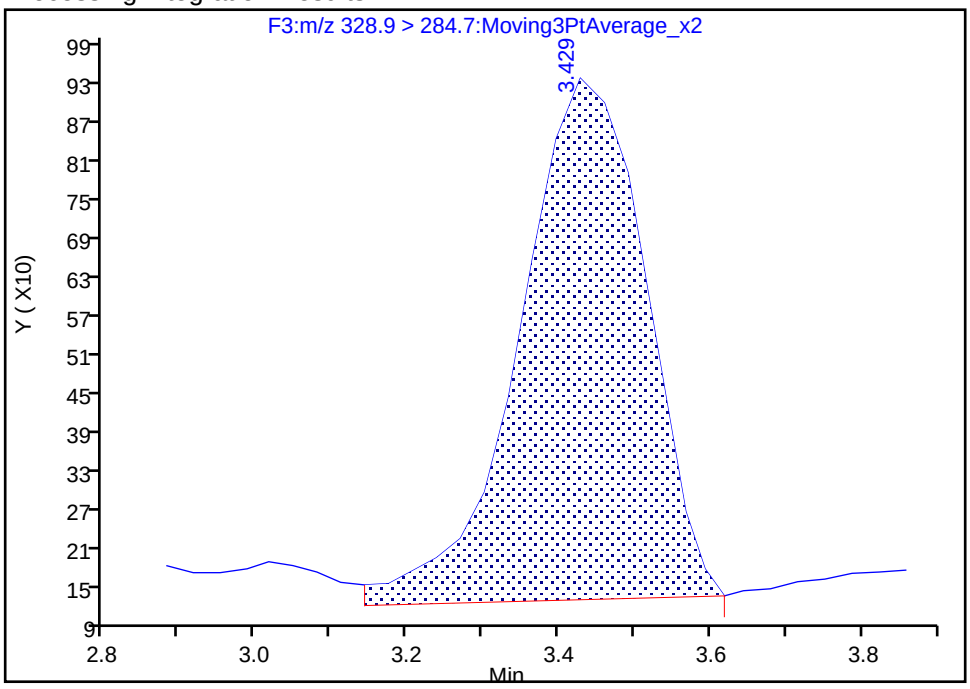
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

44 Perfluoro(2-propoxypropanoic) acid, CAS: 13252-13-6

Signal: 1

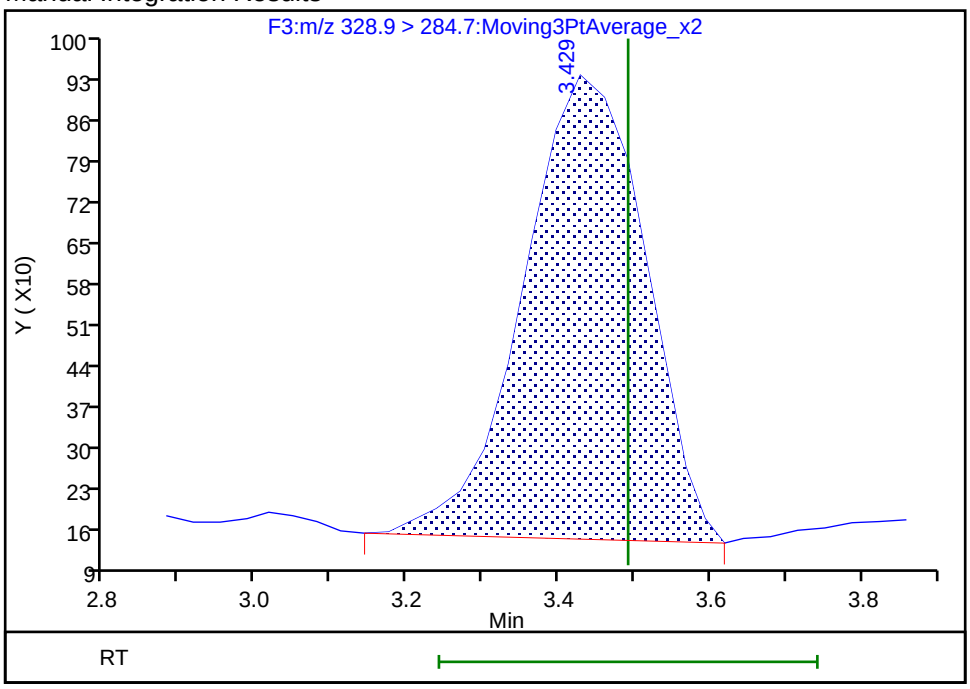
Processing Integration Results

RT: 3.43
Area: 9399
Amount: 8.703436
Amount Units: ng/ml



Manual Integration Results

RT: 3.43
Area: 8943
Amount: 8.281182
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:51:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

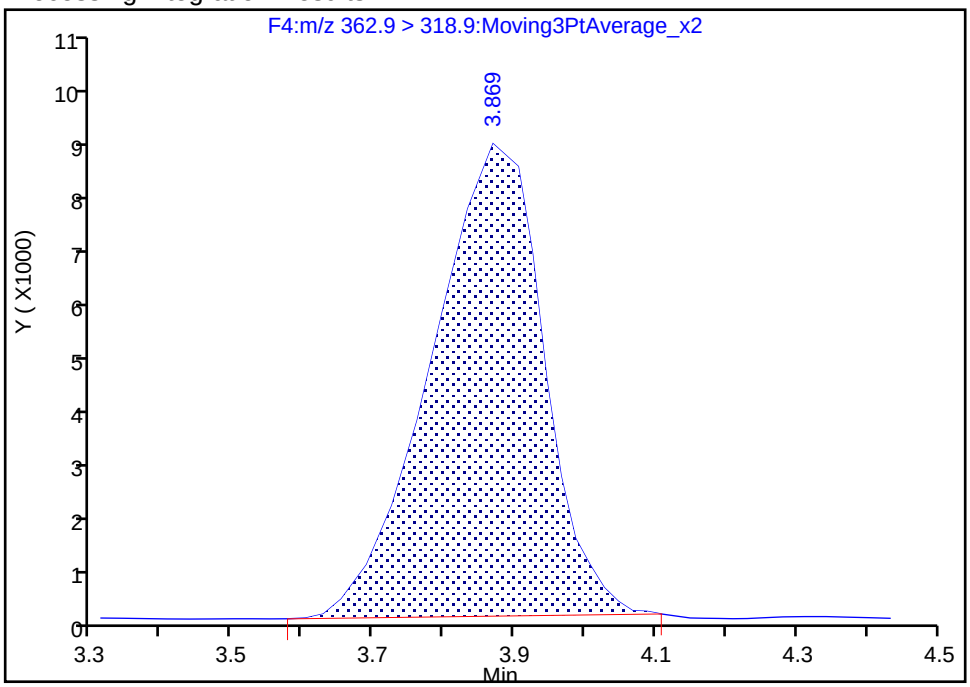
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

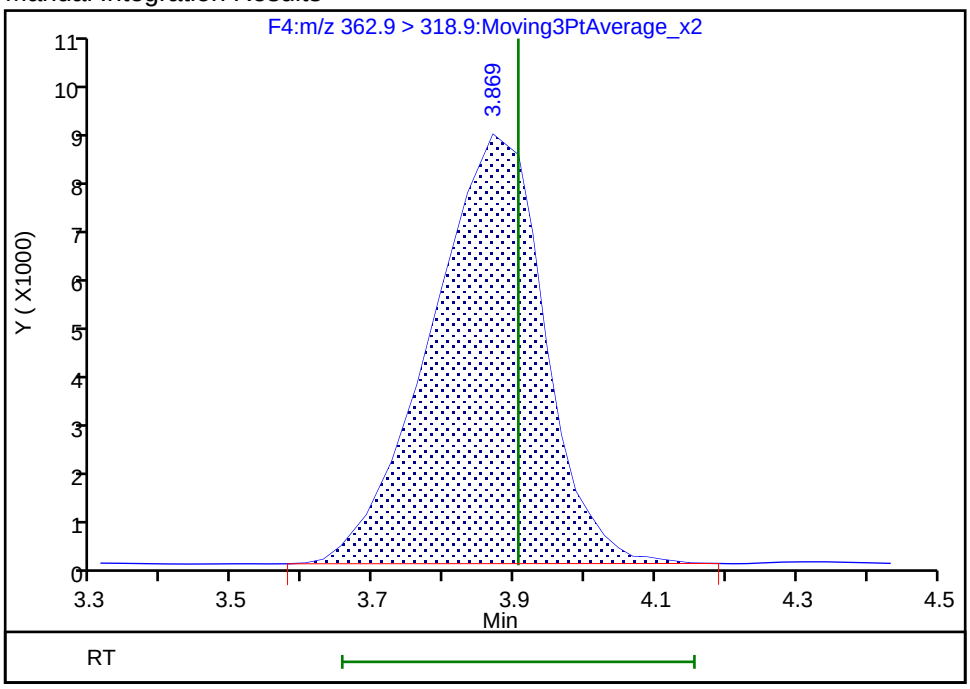
Processing Integration Results

RT: 3.87
Area: 91490
Amount: 5.377776
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 92828
Amount: 5.456424
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:51:42
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

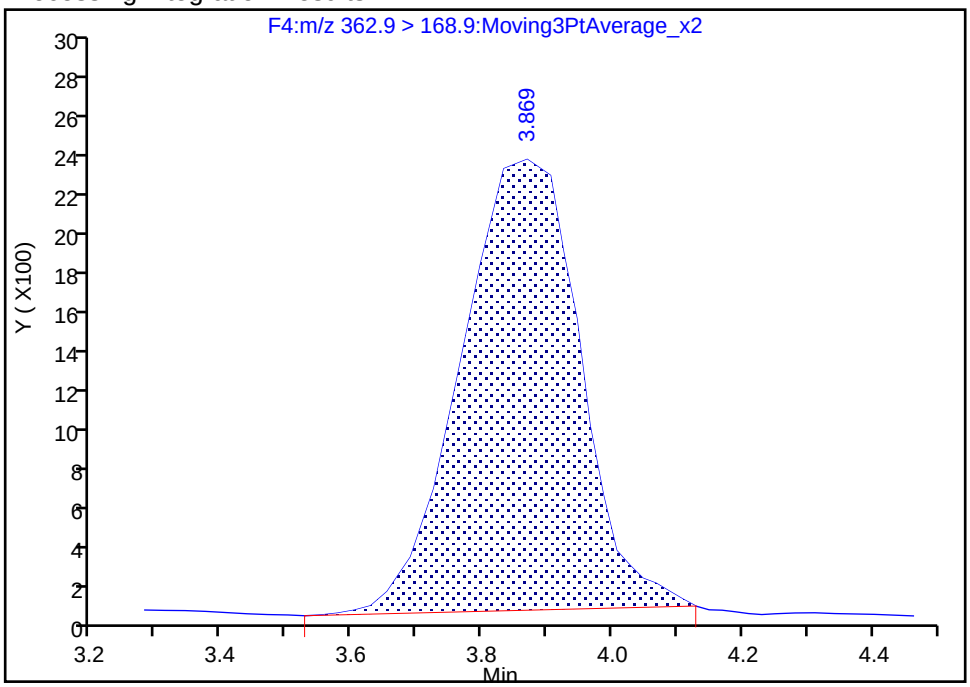
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d				
Injection Date:	05-Jun-2019 09:00:18	Instrument ID:	LC410		
Lims ID:	CCV L3				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

9 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 2

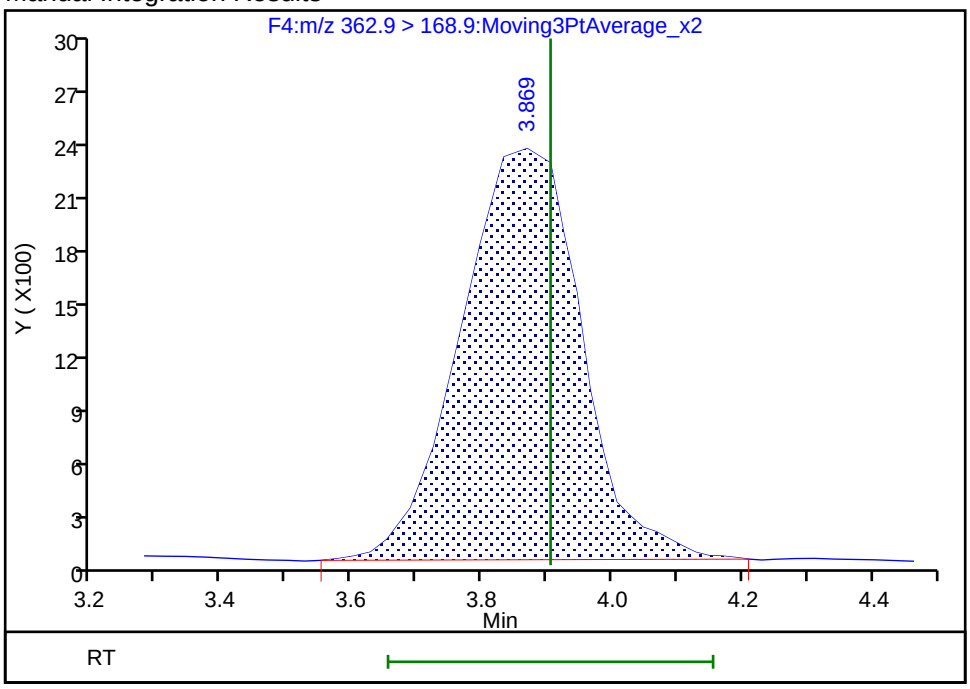
Processing Integration Results

RT: 3.87
Area: 28873
Amount: 5.377776
Amount Units: ng/ml



Manual Integration Results

RT: 3.87
Area: 29590
Amount: 5.456424
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:51:45

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

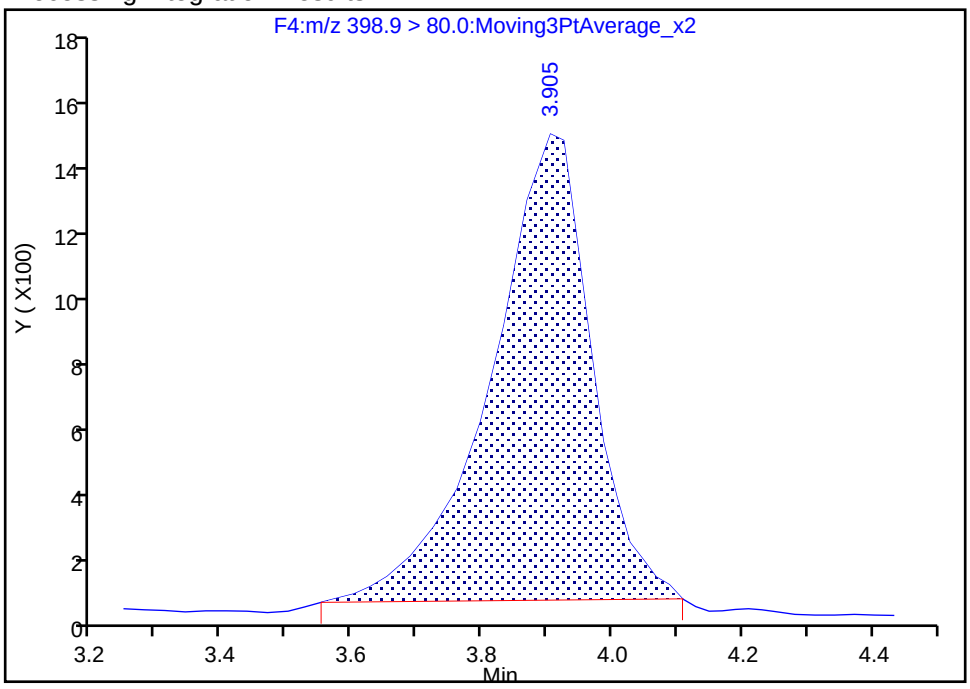
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

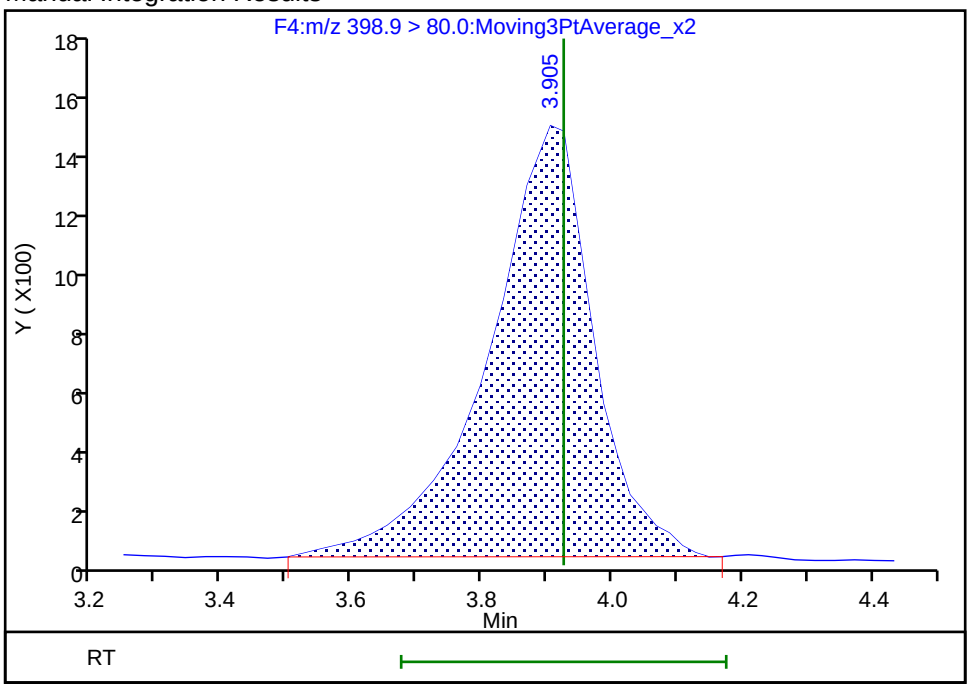
Processing Integration Results

RT: 3.91
Area: 14175
Amount: 3.995641
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 15231
Amount: 4.293305
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:51:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

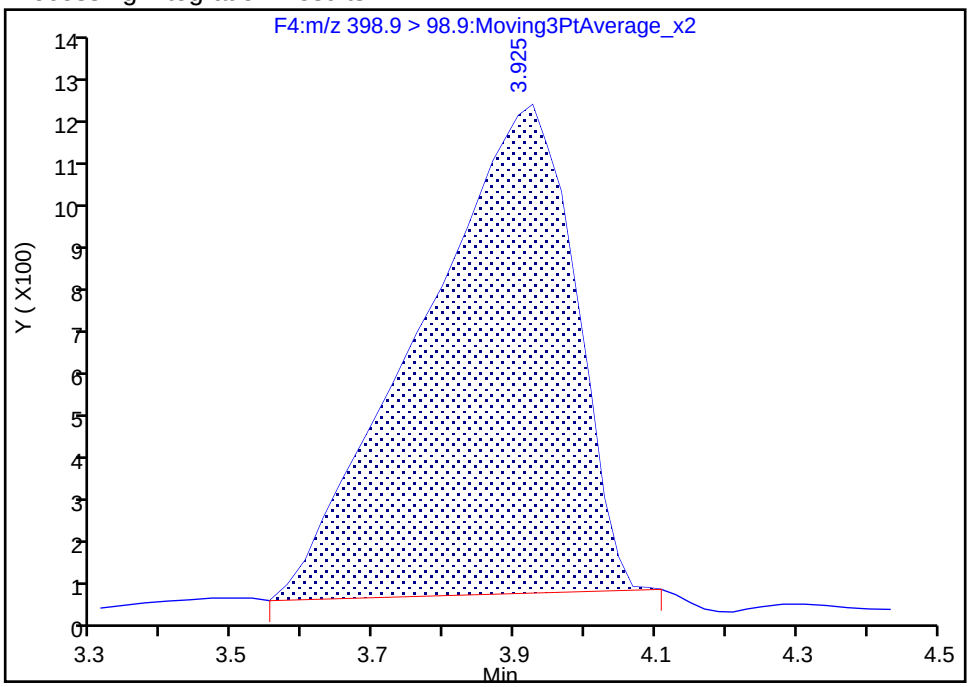
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

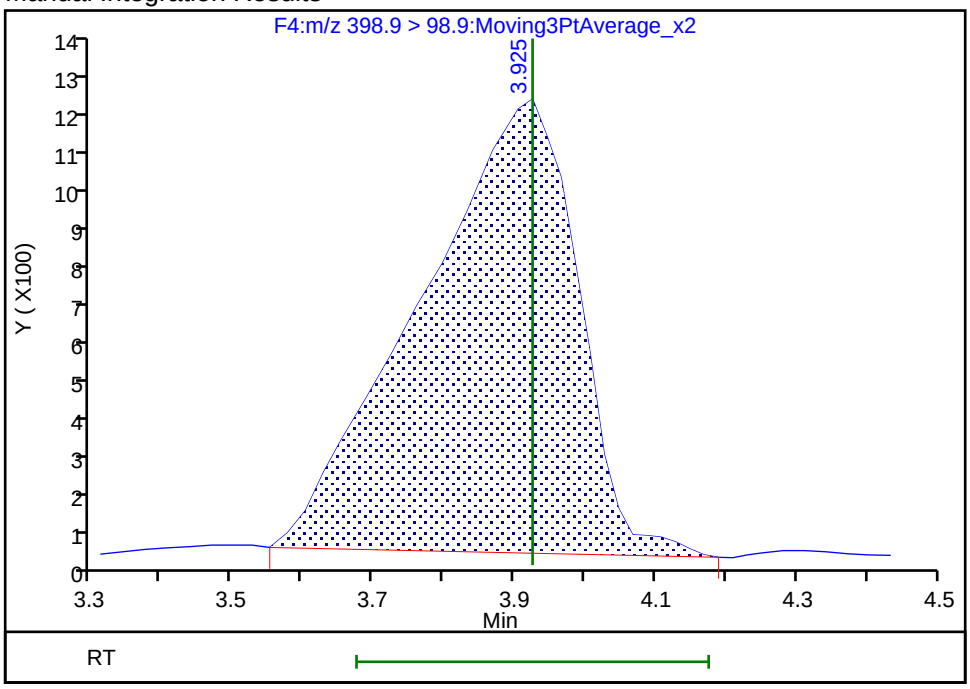
Processing Integration Results

RT: 3.93
Area: 17002
Amount: 3.995641
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 17903
Amount: 4.293305
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:51:54
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

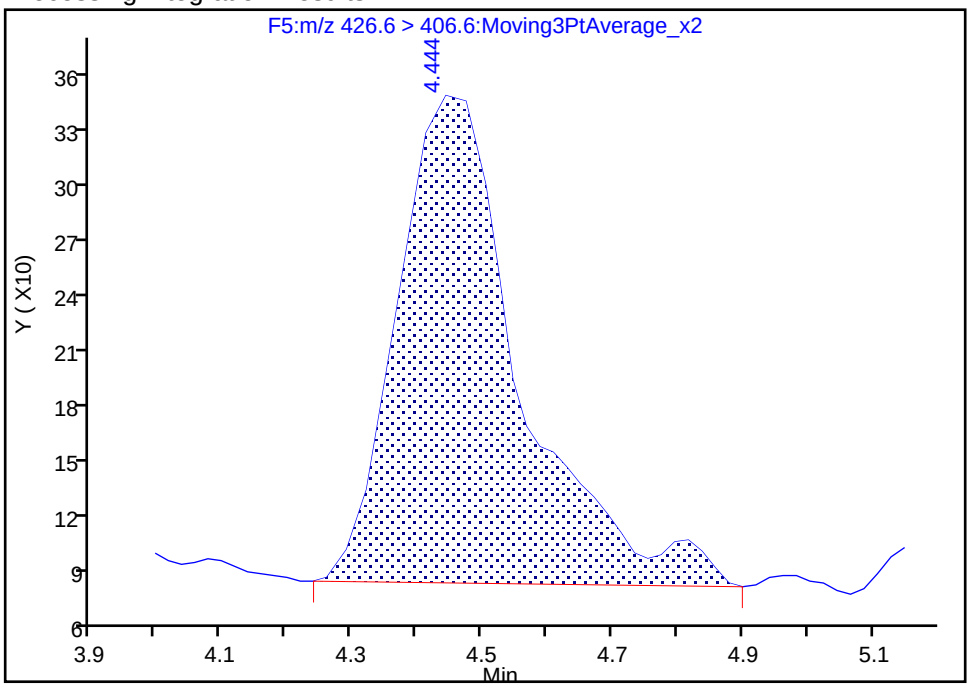
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

13 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

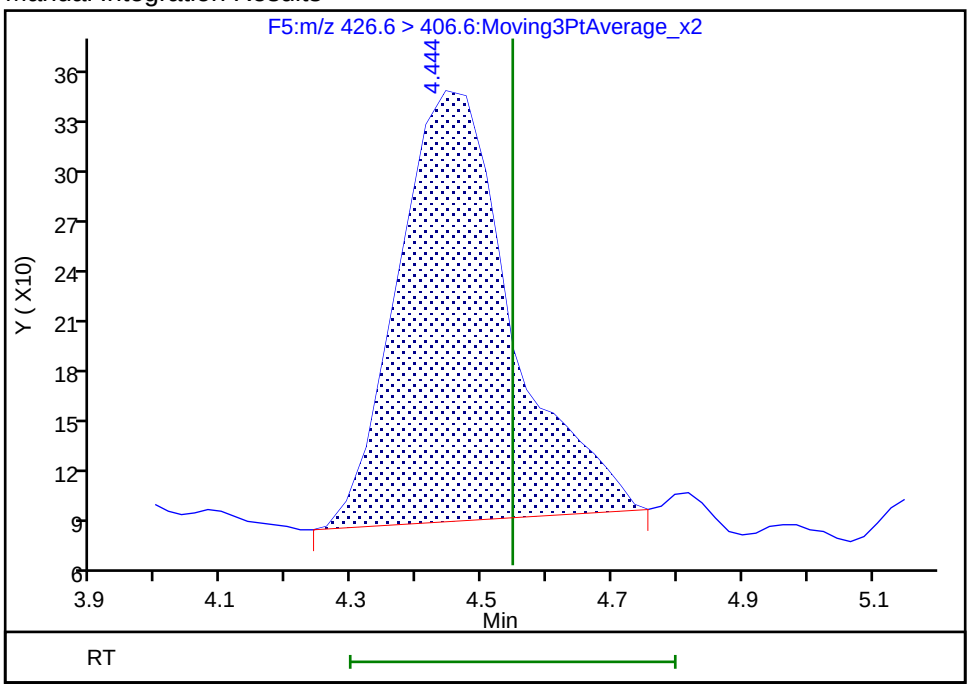
Processing Integration Results

RT: 4.44
Area: 3450
Amount: 4.445811
Amount Units: ng/ml



Manual Integration Results

RT: 4.44
Area: 3101
Amount: 4.036752
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:52:03
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

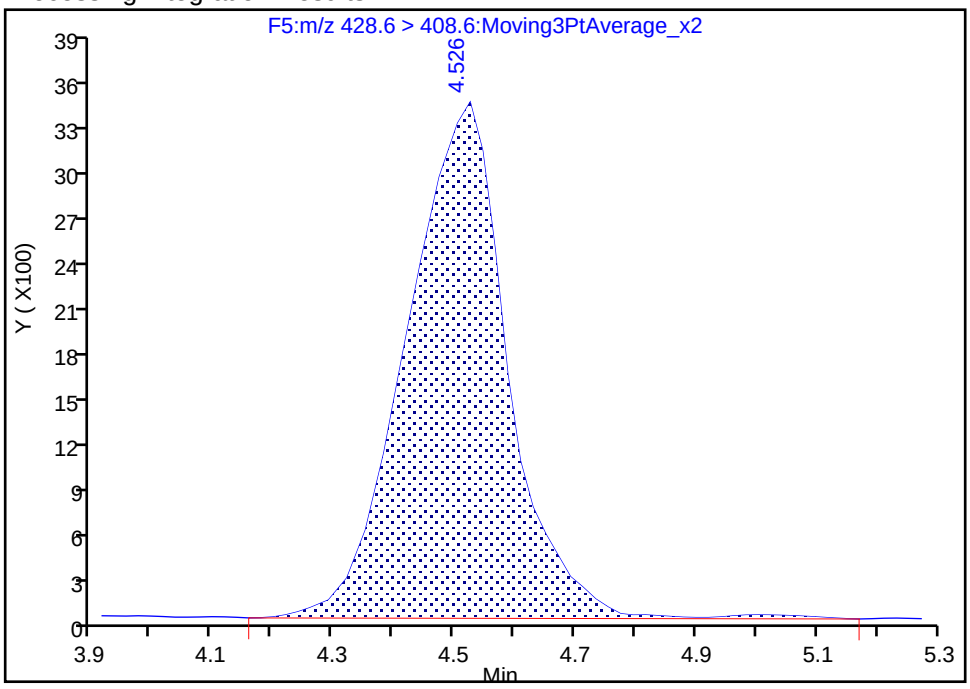
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d				
Injection Date:	05-Jun-2019 09:00:18	Instrument ID:	LC410		
Lims ID:	CCV L3				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

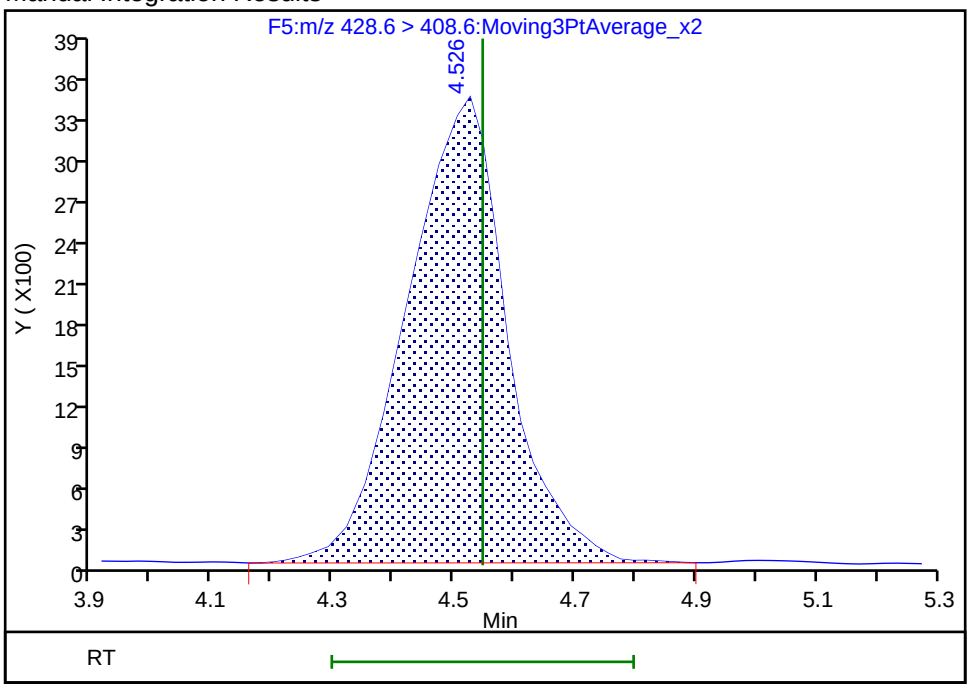
Processing Integration Results

RT: 4.53
Area: 39001
Amount: 37.293816
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 38608
Amount: 36.918018
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:52:15

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

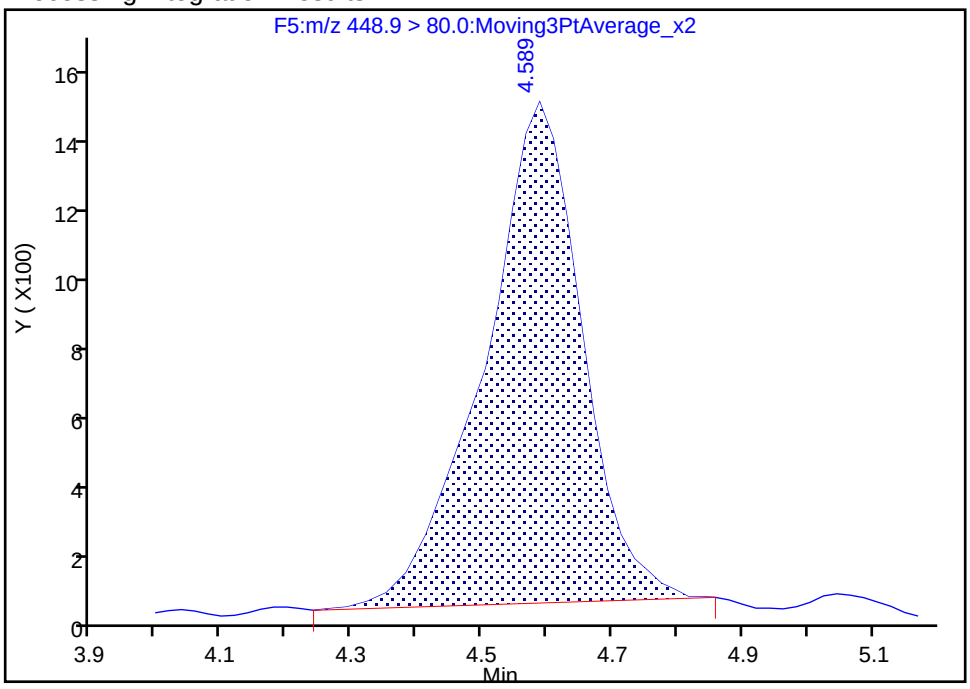
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

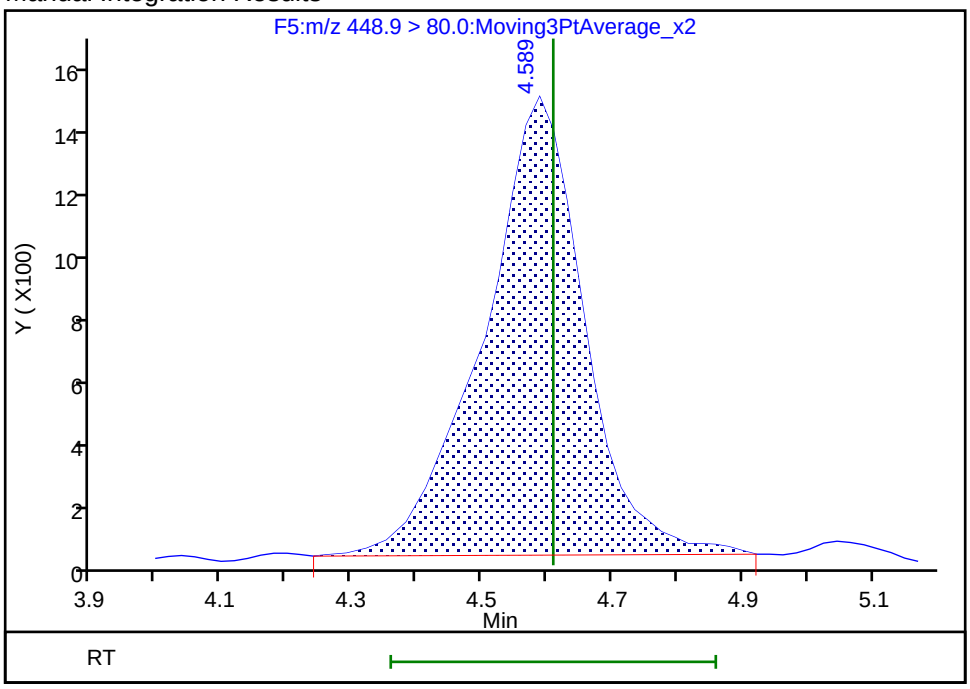
Processing Integration Results

RT: 4.59
Area: 14572
Amount: 4.617614
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 15201
Amount: 4.816934
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:52:32
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

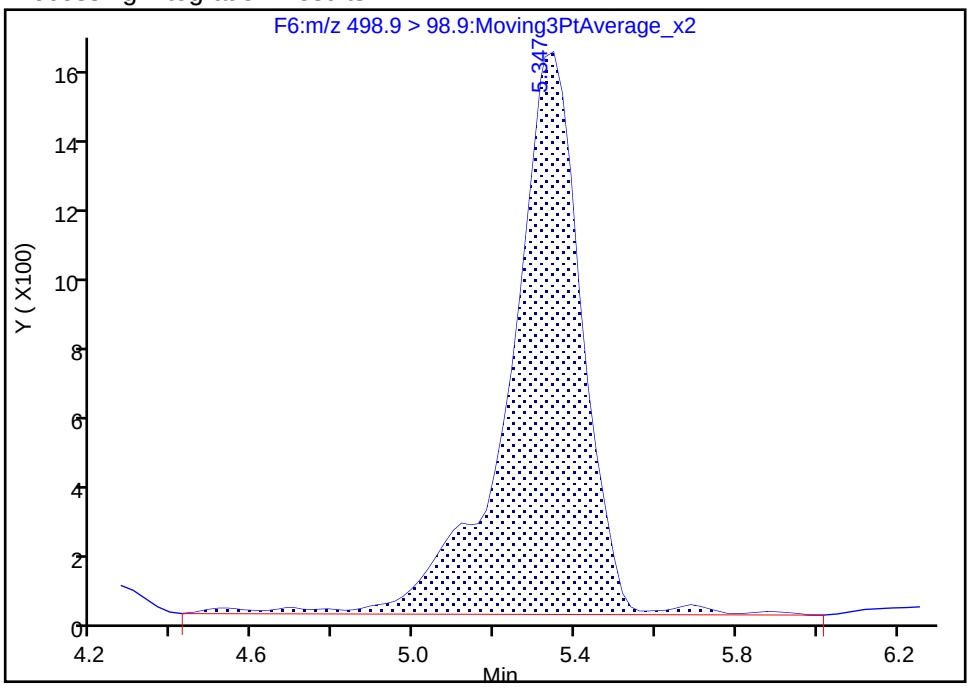
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

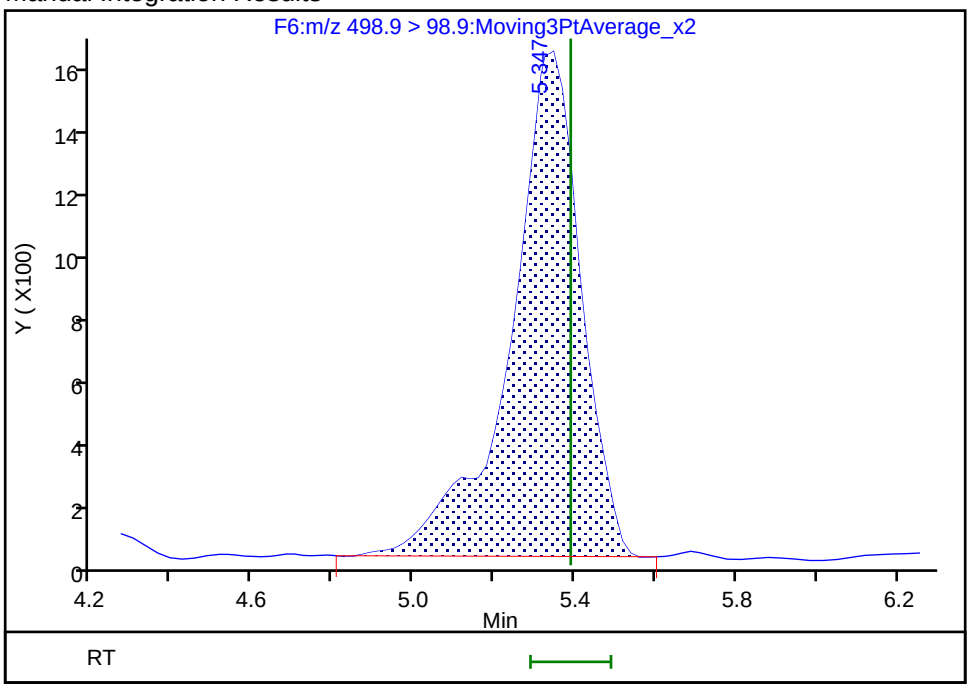
Processing Integration Results

RT: 5.35
Area: 19010
Amount: 4.778611
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 18044
Amount: 4.778611
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:52:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

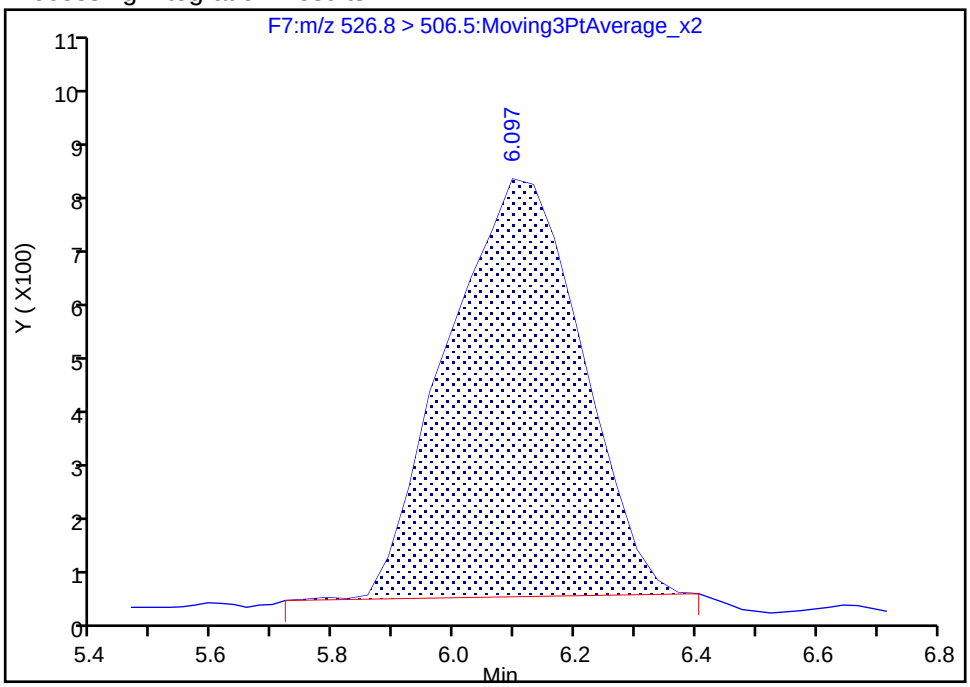
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

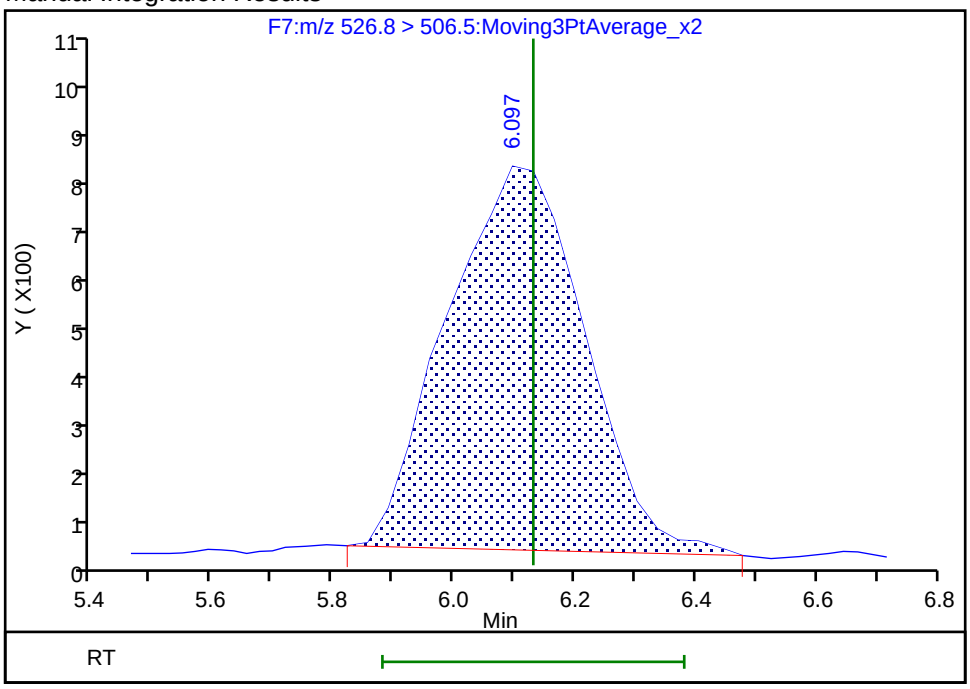
Processing Integration Results

RT: 6.10
Area: 11372
Amount: 4.060107
Amount Units: ng/ml



Manual Integration Results

RT: 6.10
Area: 11849
Amount: 4.230409
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:52:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

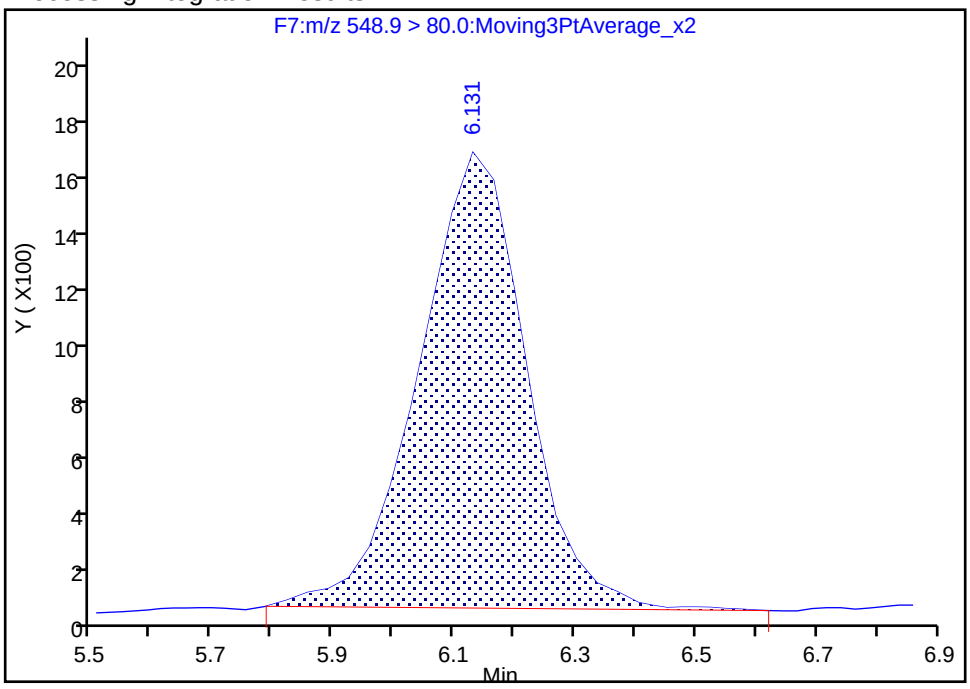
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

45 Perfluorononanesulfonic acid, CAS: 68259-12-1

Signal: 1

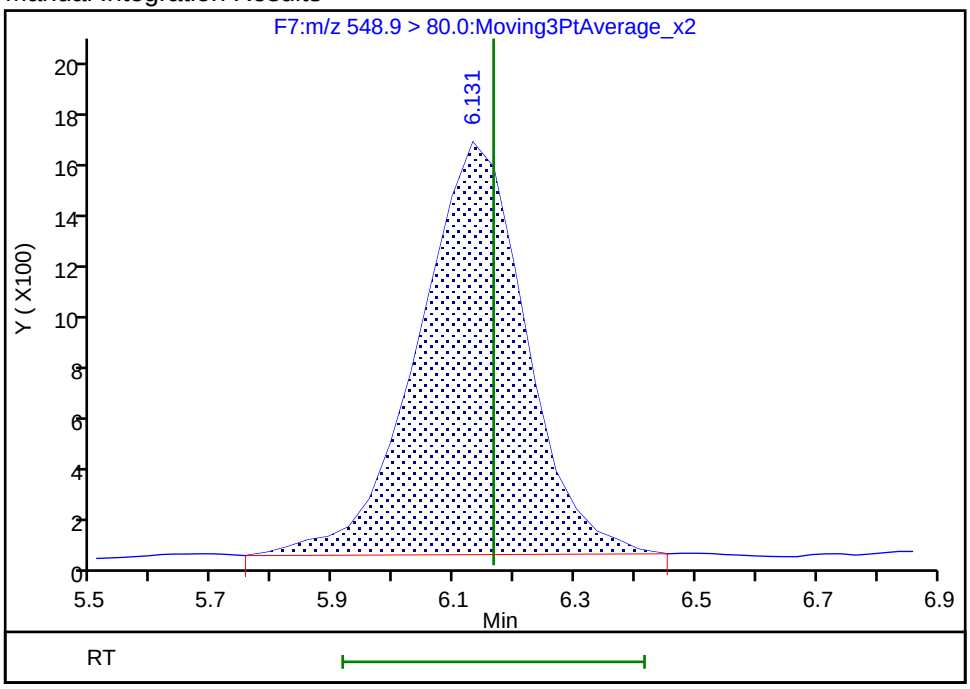
Processing Integration Results

RT: 6.13
Area: 19573
Amount: 5.568493
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 19616
Amount: 5.580726
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:52:55
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

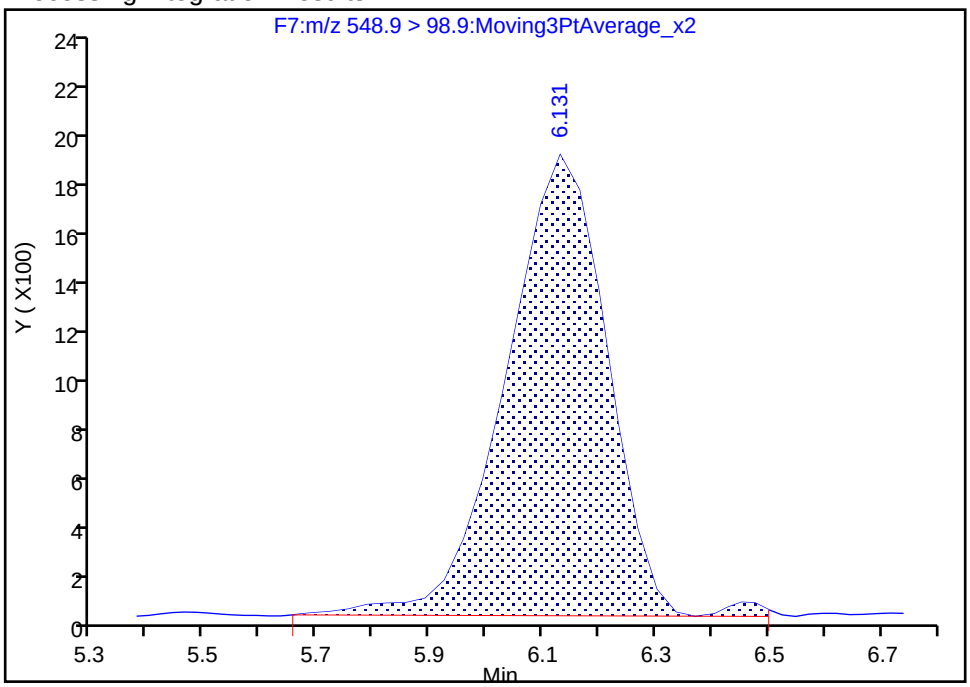
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d				
Injection Date:	05-Jun-2019 09:00:18	Instrument ID:	LC410		
Lims ID:	CCV L3				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

45 Perfluorononanesulfonic acid, CAS: 68259-12-1

Signal: 2

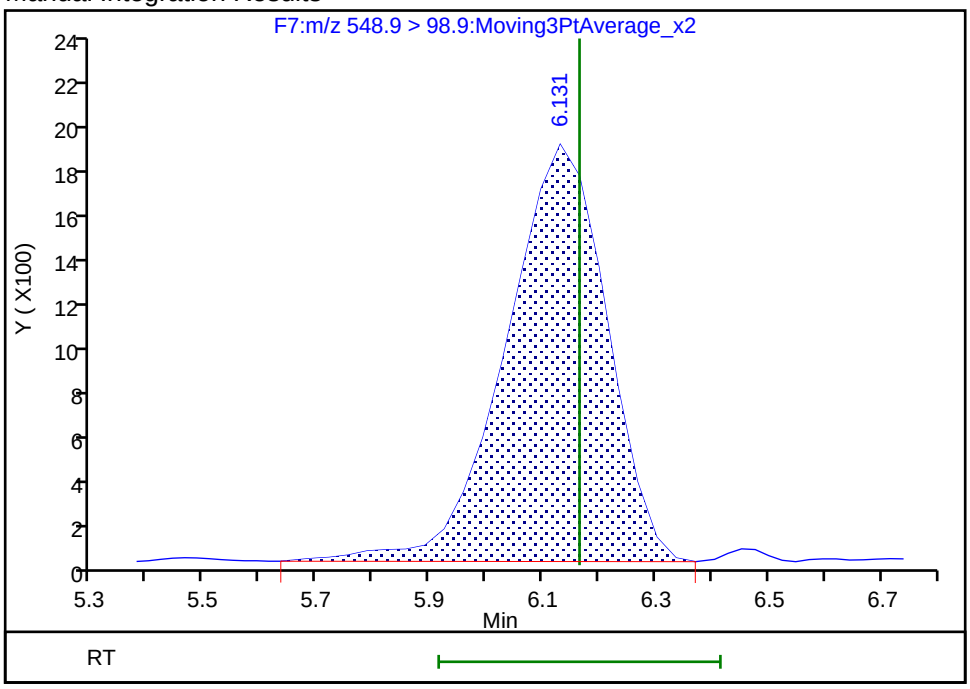
Processing Integration Results

RT: 6.13
Area: 22410
Amount: 5.568493
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 22281
Amount: 5.580726
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:52:59

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

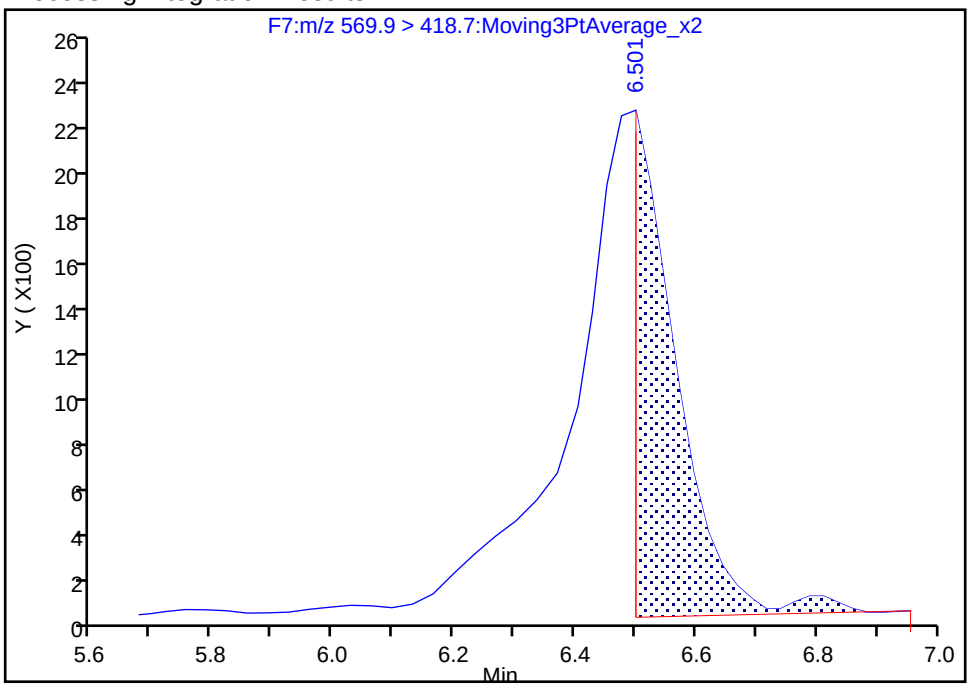
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

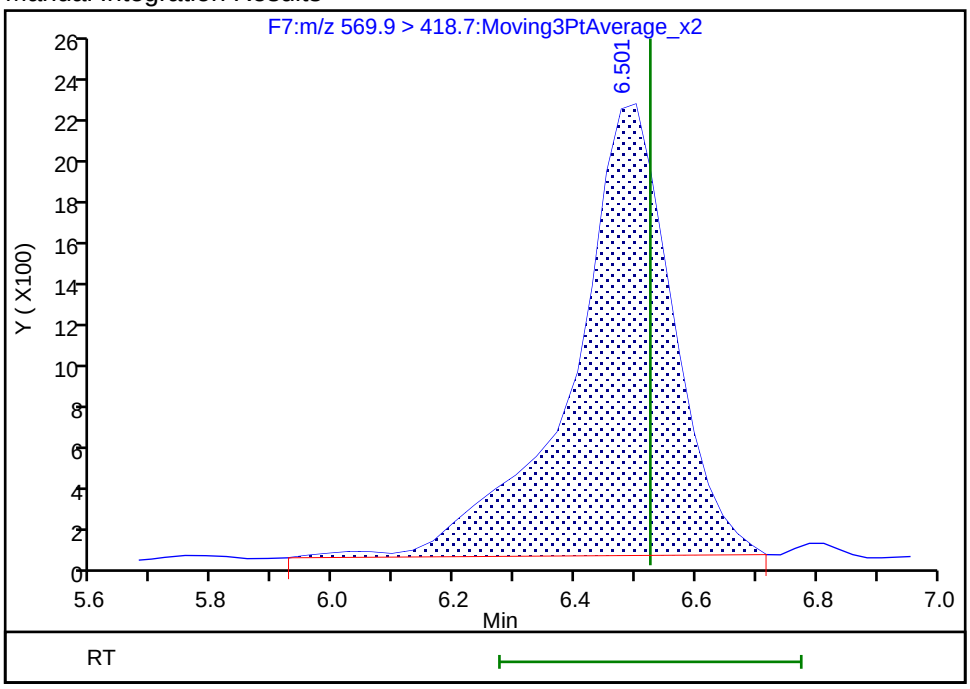
Processing Integration Results

RT: 6.50
Area: 10013
Amount: 1.995784
Amount Units: ng/ml



Manual Integration Results

RT: 6.50
Area: 24568
Amount: 4.896877
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:53:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

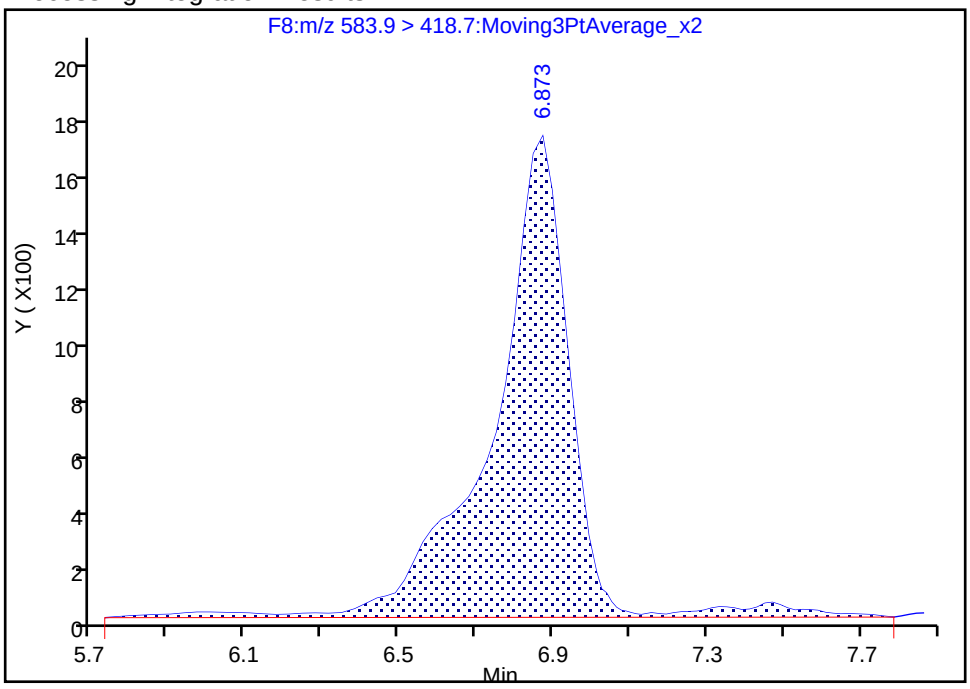
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

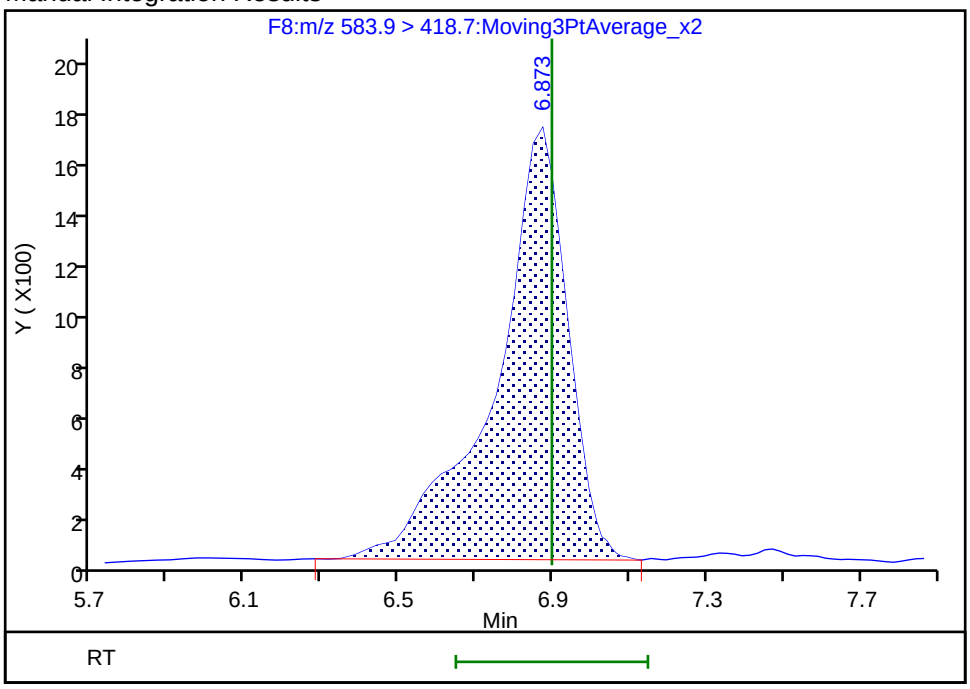
Processing Integration Results

RT: 6.87
Area: 22656
Amount: 5.423528
Amount Units: ng/ml



Manual Integration Results

RT: 6.87
Area: 20860
Amount: 4.993590
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:53:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

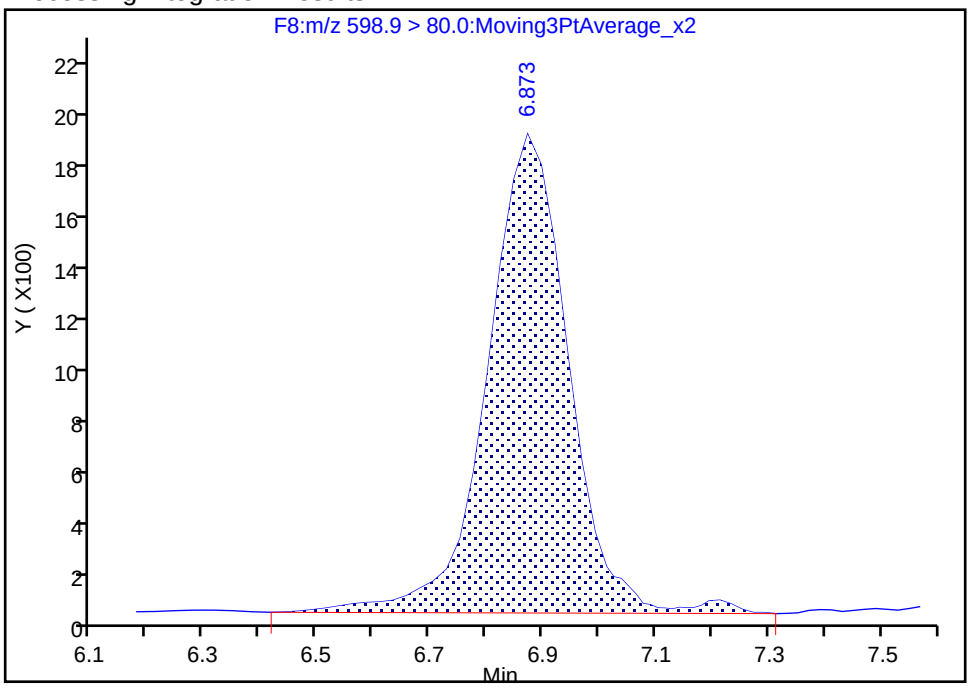
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

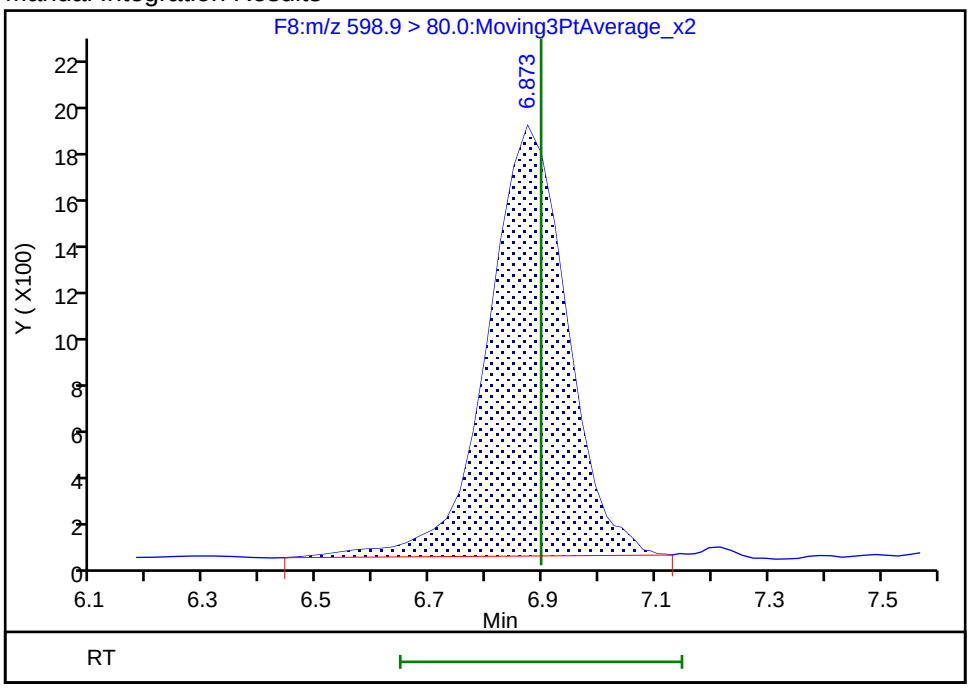
Processing Integration Results

RT: 6.87
Area: 17864
Amount: 4.747232
Amount Units: ng/ml



Manual Integration Results

RT: 6.87
Area: 17258
Amount: 4.586192
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:55:34
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

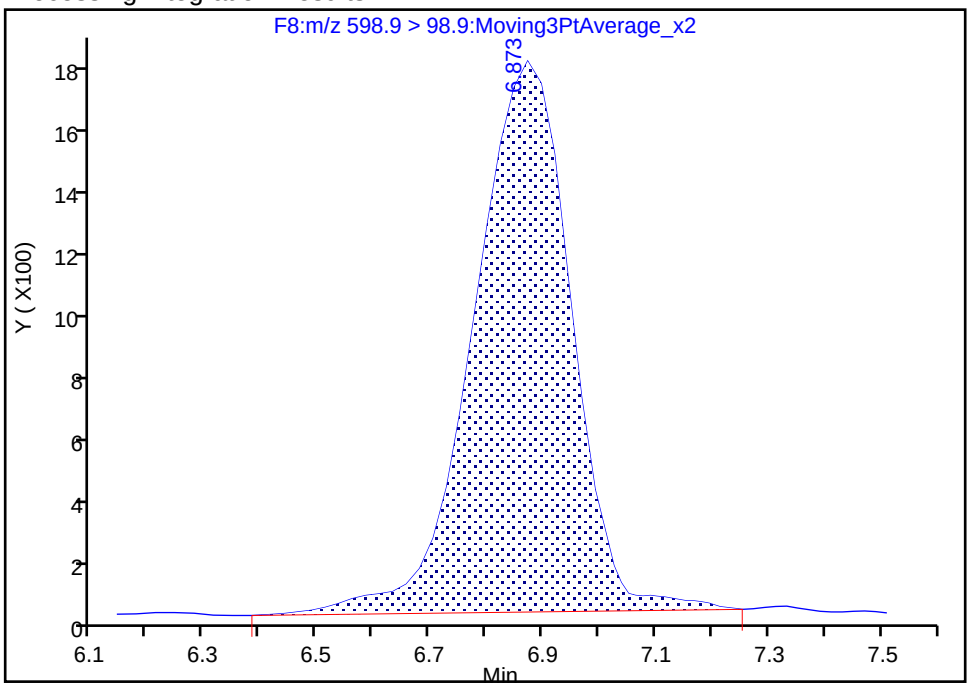
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 2

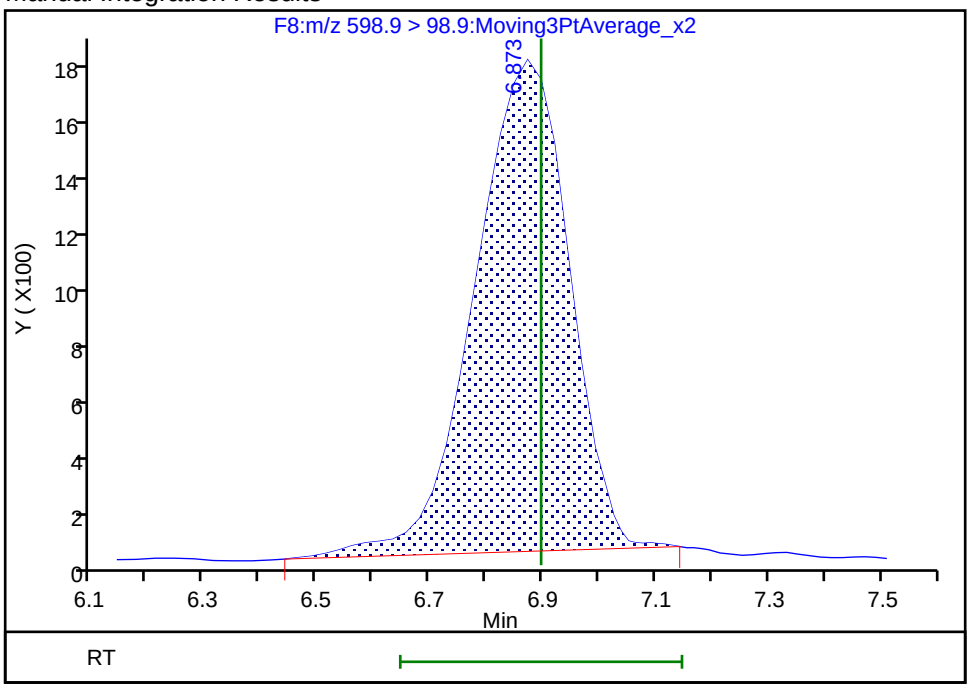
Processing Integration Results

RT: 6.87
Area: 20647
Amount: 4.747232
Amount Units: ng/ml



Manual Integration Results

RT: 6.87
Area: 19748
Amount: 4.586192
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:55:40
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

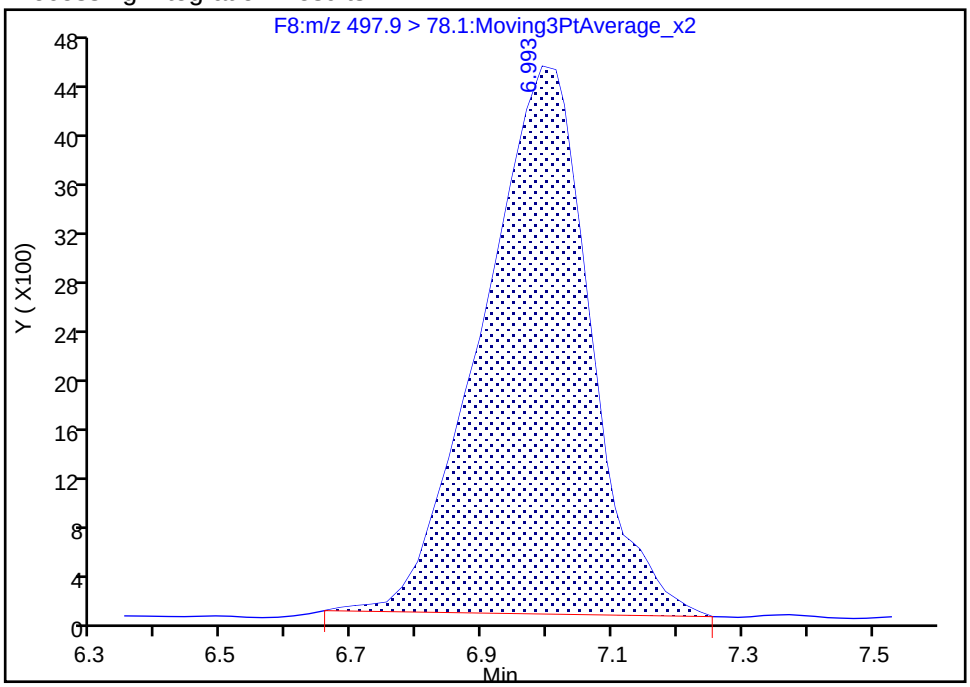
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

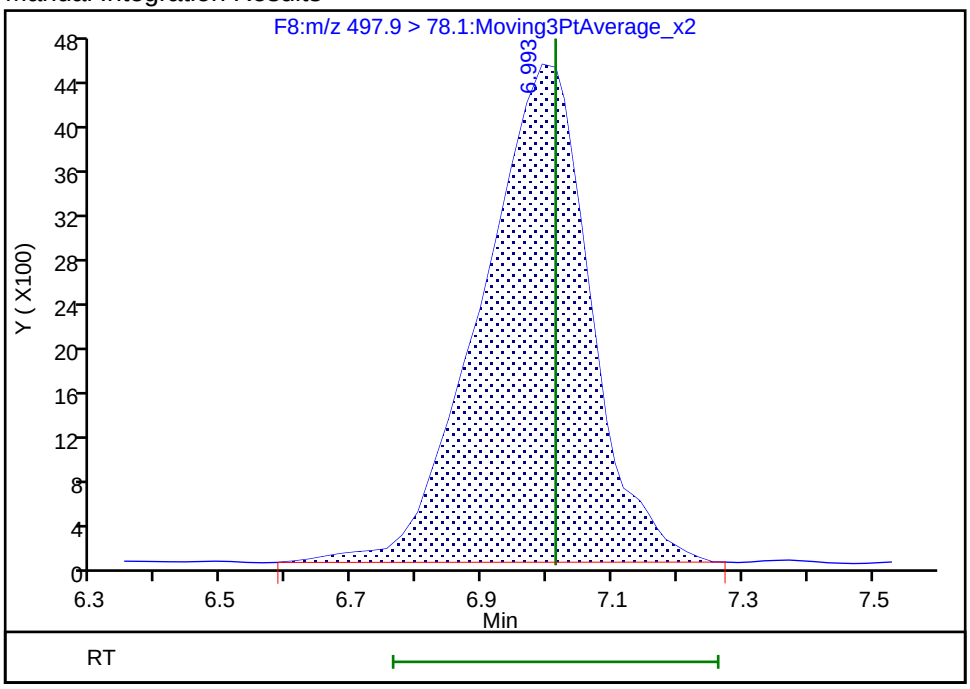
Processing Integration Results

RT: 6.99
Area: 50389
Amount: 5.027443
Amount Units: ng/ml



Manual Integration Results

RT: 6.99
Area: 51464
Amount: 5.134698
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:55:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

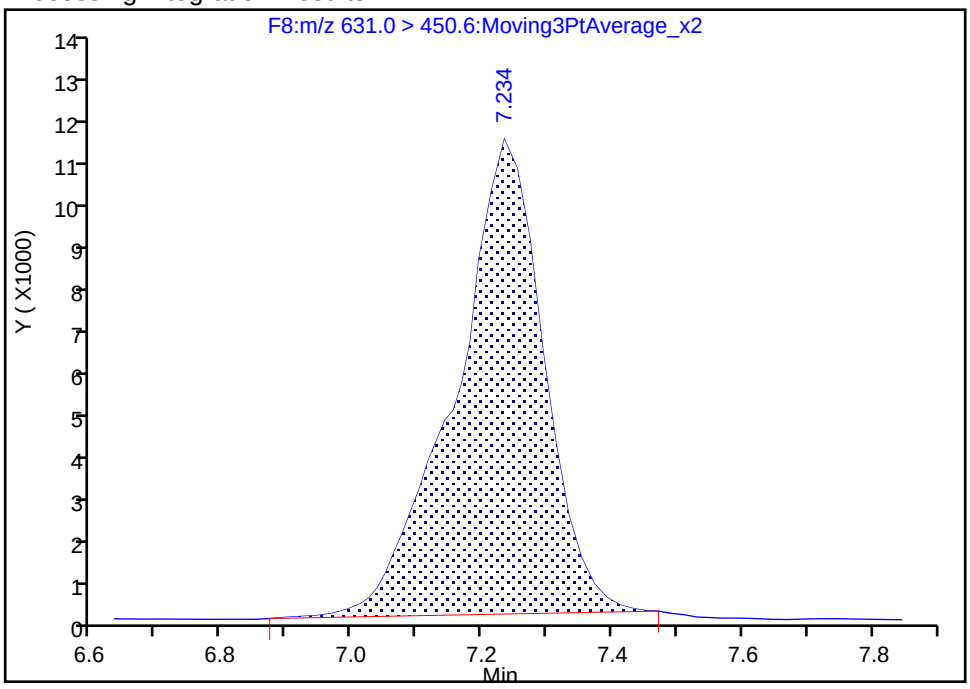
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

43 11-Chloroeicosafluoro-3-oxaundecane-1-sulfon, CAS: 763051-92-9

Signal: 1

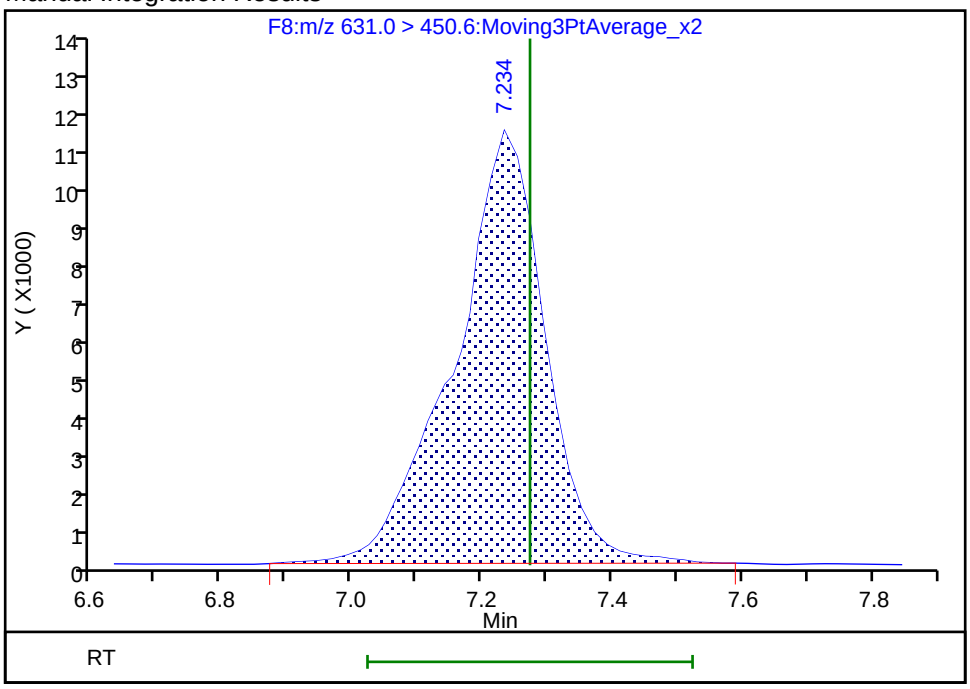
Processing Integration Results

RT: 7.23
Area: 100499
Amount: 4.942563
Amount Units: ng/ml



Manual Integration Results

RT: 7.23
Area: 103663
Amount: 5.098169
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:55:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

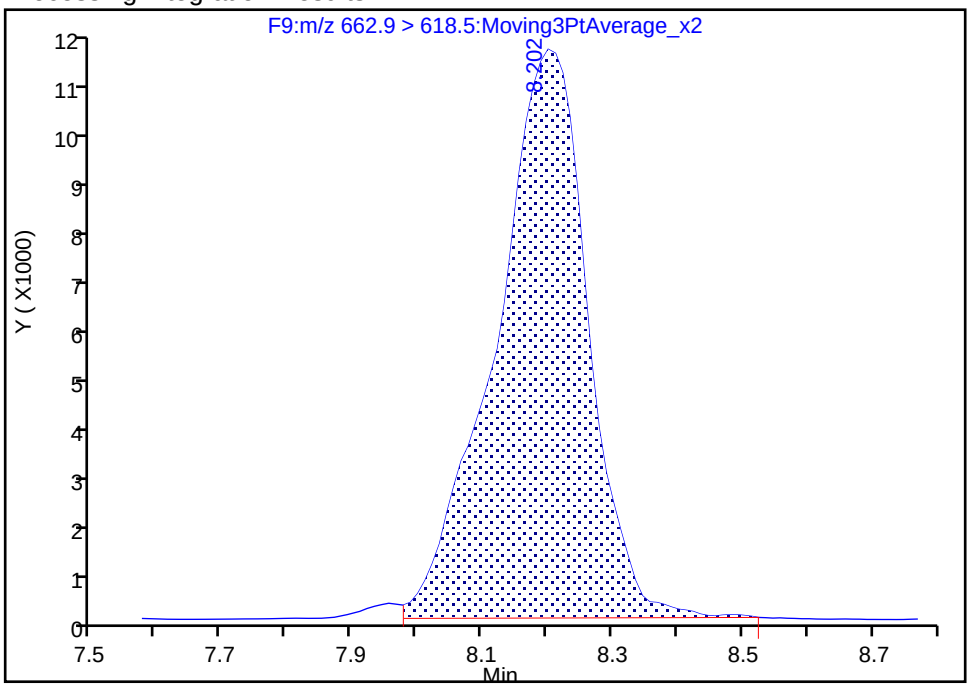
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F9:MRM

38 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

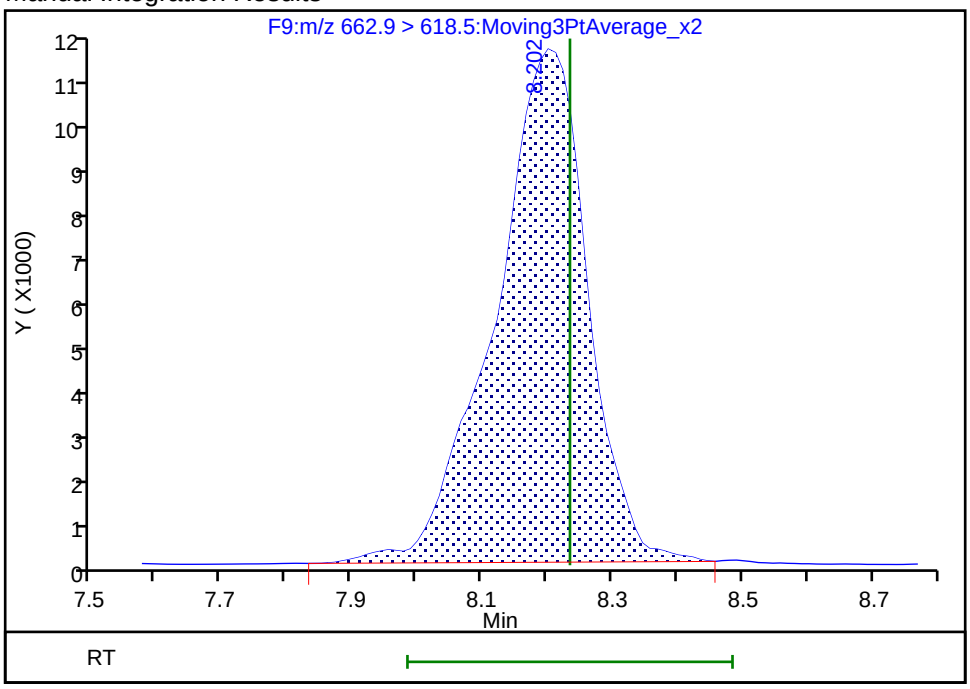
Processing Integration Results

RT: 8.20
Area: 108459
Amount: 4.881230
Amount Units: ng/ml



Manual Integration Results

RT: 8.20
Area: 108873
Amount: 4.899862
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:56:08
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

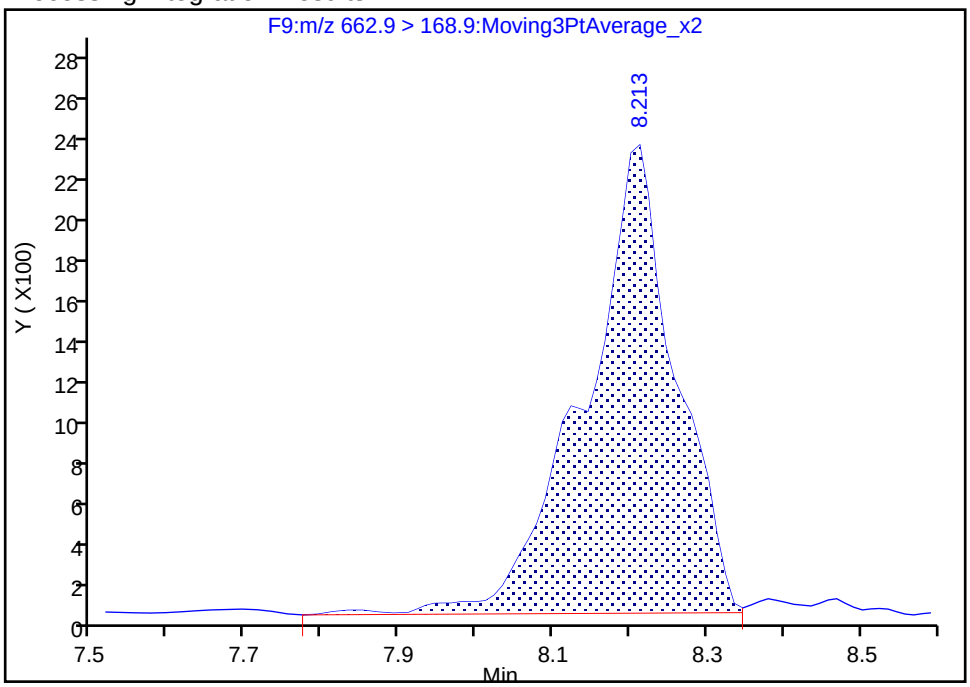
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B30.d
Injection Date: 05-Jun-2019 09:00:18 Instrument ID: LC410
Lims ID: CCV L3
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F9:MRM

38 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 2

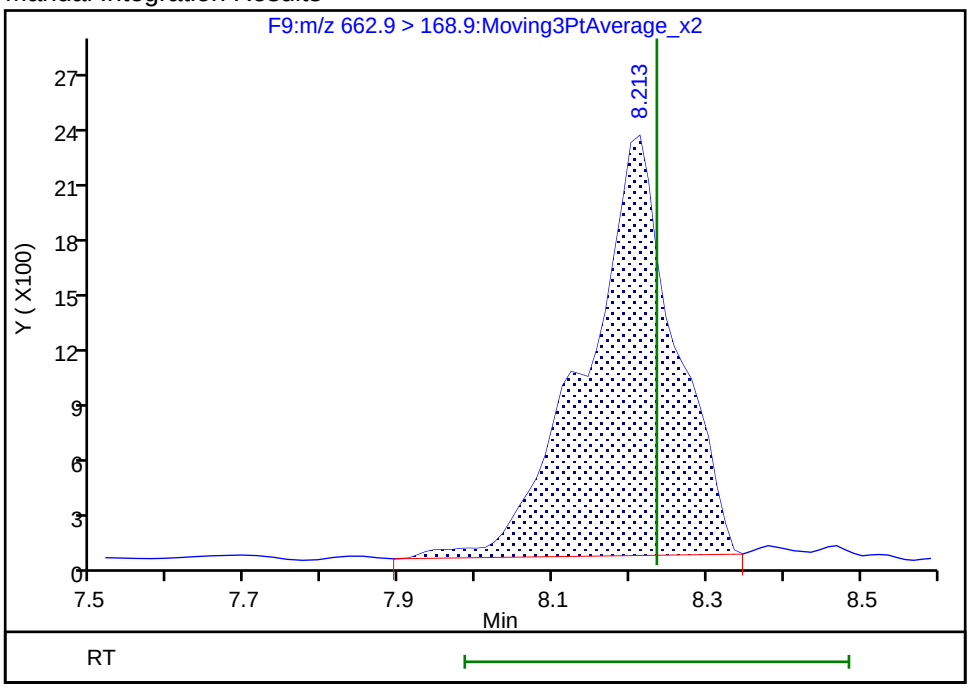
Processing Integration Results

RT: 8.21
Area: 18604
Amount: 4.881230
Amount Units: ng/ml



Manual Integration Results

RT: 8.21
Area: 18141
Amount: 4.899862
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 10:56:14
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVIS 200-143813/2 Calibration Date: 06/06/2019 12:40

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060619A02.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	1.079		13700	20000	-31.3	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	2.869		19200	20000	-4.2	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	3.008		21200	17700	19.7	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	1.072		15100	18700	-19.1	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.486		21300	20000	6.3	40.0
Perfluoropentanesulfonic acid	AveID	2.841	2.590		17100	18800	-8.8	50.0
HFPO-DA	AveID	1.078	1.264		23500	20000	17.3	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.107		18900	20000	-5.7	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	1.842		15800	18200	-12.9	40.0
DONA	AveID	4.300	3.596		15800	18800	-16.4	50.0
6:2 FTS	AveID	0.9451	0.8777		17600	19000	-7.1	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	0.9674		19100	20000	-4.4	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.8700		19000	19000	-0.0	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9299		21100	20000	5.3	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	0.9541		18300	18600	-1.2	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	3.474		14700	18600	-21.0	50.0
8:2 FTS	AveID	0.7376	0.7668		19900	19200	4.0	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.9416		20600	20000	2.9	40.0
Perfluorononanesulfonic acid	AveID	0.9697	0.9421		18700	19200	-2.8	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.8787		21300	20000	6.4	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.9140		22700	20000	13.5	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	0.9269		17200	19300	-10.7	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.9365		22500	20000	12.5	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.383		19400	20000	-2.9	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	4.108		13800	18800	-26.8	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9711		20500	20000	2.4	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.9723		20700	20000	3.7	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8713		20500	20000	2.7	40.0
13C4 PFBA	Ave	0.2445	0.3723		76100	50000	52.3*	50.0
13C5 PFPeA	Ave	0.1855	0.2435		65600	50000	31.2	50.0
13C3 PFBS	Ave	0.0807	0.1134		65300	46500	40.5	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVIS 200-143813/2 Calibration Date: 06/06/2019 12:40

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060619A02.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5572		50100	50000	0.1	50.0
13C3 HFPO-DA	Ave	0.0529	0.0579		54700	50000	9.5	50.0
13C4 PFHpA	Ave	0.7840	0.8712		55600	50000	11.1	50.0
18O2 PFHxS	Ave	0.1031	0.1485		68100	47300	44.0	50.0
M2-6:2 FTS	Ave	0.0557	0.0560		47700	47500	0.4	50.0
13C4 PFOA	Ave	0.9706	0.9625		49600	50000	-0.8	50.0
13C4 PFOS	Ave	0.2326	0.2919		60000	47800	25.5	50.0
13C5 PFNA	Ave	1.302	1.172		45000	50000	-10.0	50.0
M2-8:2 FTS	Ave	0.2026	0.1999		47300	47900	-1.4	50.0
13C2 PFDA	Ave	1.111	1.089		49000	50000	-2.0	50.0
d3-NMeFOSAA	Ave	0.3621	0.2860		39500	50000	-21.0	50.0
d5-NEtFOSAA	Ave	0.2986	0.2281		38200	50000	-23.6	50.0
13C2 PFUnA	Ave	1.073	0.9836		45800	50000	-8.3	50.0
13C8 FOSA	Ave	0.4004	0.5204		65000	50000	30.0	50.0
13C2 PFDoA	Ave	1.367	1.169		42800	50000	-14.5	50.0
13C2 PFTeDA	Ave	1.227	1.032		42000	50000	-15.9	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 06-Jun-2019 12:40:19 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036227002 CCVIS
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:17:59 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 06-Jun-2019 13:37:18
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.349	2.349	0.0	1.000	329926	76.1		152	72.6	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.360	2.360	0.0	1.004	142435	13.7		68.7	108	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	215730	65.6		131	898	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	247554	19.2		95.8	452	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	93439	65.3		141	354	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	106869	21.2	Target=1.67	120	480	
298.9 > 98.9	2.901	2.901	0.0	1.000	50685		2.11(0.83-2.51)		349	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.270	3.270	0.0	1.127	40237	15.1		80.9	380	M
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	293523	21.3	Target=14.34	106	868	
312.9 > 118.9	3.302	3.302	0.0	1.000	20309		14.45(7.17-21.51)		226	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.302	0.0	1.000	493719	50.1		100	3397	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.365	3.365	0.0	1.160	97648	17.1	Target=1.23	91.2	931	M
348.9 > 98.9	3.365	3.365	0.0	1.000	86063		1.13(0.62-1.85)		641	M
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.460	0.0	1.000	25946	23.5		117	164	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.460	3.460	0.0	1.000	51326	54.7		109	413	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.869	0.0	1.000	341716	18.9	Target=2.84	94.3	795	
362.9 > 168.9	3.869	3.869	0.0	1.000	114153		2.99(1.42-4.26)		563	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	771969	55.6		111	1688	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.905	3.905	0.0	0.995	88241	15.8	Target=1.34	87.1	640	
398.9 > 98.9	3.905	3.905	0.0	0.995	76102		1.16(0.67-2.01)		395	
D 12 18O2 PFHxS										
402.9 > 83.8	3.925	3.925	0.0	1.000	124482	68.1		144	507	
49 DONA										
376.9 > 250.7	3.946	3.946	0.0	0.739	350436	15.8	Target=2.33	83.6	2103	
376.9 > 85.0	3.946	3.946	0.0	1.000	162504		2.16(1.16-3.49)		1554	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.526	4.526	0.0	1.000	16507	17.6		92.9	176	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.526	0.0	1.000	47116	47.7		100	683	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.547	0.0	1.000	852905	49.6		99.2	5340	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.568	0.0		886154	50.0			4084	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.568	0.0	1.005	330041	19.1	Target=2.43	95.6	824	
412.9 > 168.9	4.568	4.568	0.0	1.005	139601		2.36(1.22-3.64)		981	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.589	0.0	0.860	85688	19.0	Target=1.30	99.9	623	
448.9 > 98.9	4.589	4.589	0.0	1.000	88566		0.97(0.65-1.95)		1302	
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.336	0.0	1.000	1038419	45.0		90.0	4544	
19 Perfluorononanoic acid										
462.9 > 418.7	5.336	5.336	0.0	1.000	386240	21.1	Target=5.00	105	1419	
462.9 > 168.9	5.336	5.336	0.0	1.000	88622		4.36(2.50-7.50)		1232	
D 22 13C4 PFOS										
502.9 > 80.0	5.336	5.336	0.0	1.000	247268	60.0		125	1155	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.336	5.336	0.0	1.000	91604	18.3	Target=1.41	98.8	746	M
498.9 > 98.9	5.336	5.336	0.0	1.000	80763		1.13(0.71-2.12)		834	M
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.778	5.778	0.0	1.083	334989	14.7		79.0	2113	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.097	6.097	0.0	1.000	52049	19.9		104	556	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.097	0.0	1.000	169689	47.3		98.6	1053	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.131	0.0	1.000	363564	20.6	Target=7.23	103	1183	
512.9 > 168.9	6.131	6.131	0.0	1.000	44658		8.14(3.61-10.84)		451	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.131	6.131	0.0	1.149	93574	18.7	Target=1.39	97.2	685	
548.9 > 98.9	6.131	6.131	0.0	1.000	89781		1.04(0.69-2.08)		716	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.131	0.0	1.000	965239	49.0		98.0	1930	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.477	6.477	0.0	1.000	89082	21.3		106	1597	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.477	0.0	1.000	253460	39.5		79.0	3097	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.849	0.0	1.000	202133	38.2		76.4	1119	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.849	6.849	0.0	1.000	73898	22.7		113	695	M
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.873	6.873	0.0	1.288	92445	17.2	Target=1.25	89.3	755	
598.9 > 98.9	6.873	6.873	0.0	1.000	96700		0.96(0.63-1.88)		1216	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.897	6.897	0.0	1.000	326497	22.5	Target=7.06	112	2684	
562.9 > 168.9	6.897	6.897	0.0	1.000	50558		6.46(3.53-10.58)		522	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.897	0.0	1.000	871621	45.8		91.7	3801	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.945	6.945	0.0	1.000	255146	19.4		97.1	877	
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.945	0.0	1.000	461145	65.0		130	2725	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.234	7.234	0.0	1.356	400349	13.8		73.2	1945	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.577	7.577	0.0	1.000	402502	20.5	Target=5.37	102	3861	
612.9 > 168.9	7.577	7.577	0.0	1.000	71151		5.66(2.68-8.06)		455	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.577	0.0	1.000	1036172	42.8		85.5	2640	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.191	8.191	0.0	1.081	403003	20.7	Target=4.67	104	1204	
662.9 > 168.9	8.191	8.191	0.0	1.081	82837		4.87(2.34-7.01)		961	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.741	8.741	0.0	1.000	914197	42.0		84.1	586	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.752	8.752	0.0	1.001	318613	20.5	Target=4.86	103	1184	
712.9 > 168.9	8.741	8.752	-0.011	1.000	63823		4.99(2.43-7.30)		579	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L5_00008 Amount Added: 100.00 Units: uL

Report Date: 10-Jun-2019 10:18:00 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d

Injection Date: 06-Jun-2019 12:40:19 Instrument ID: LC410

Lims ID: CCVIS

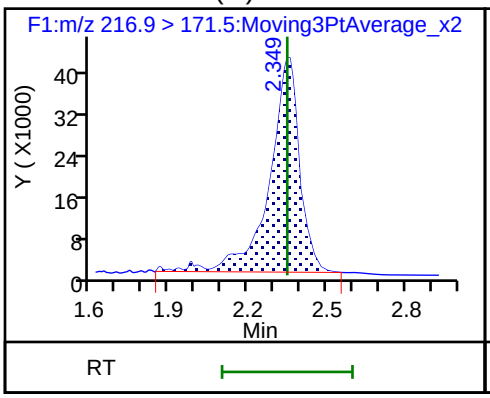
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2

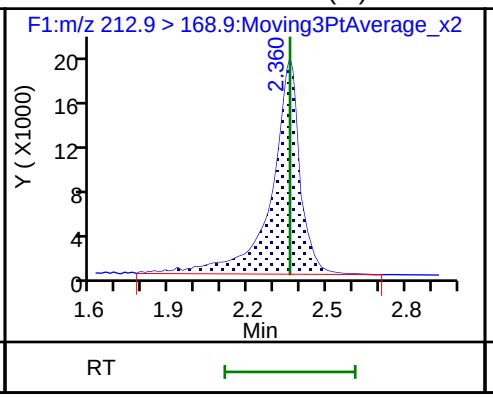
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

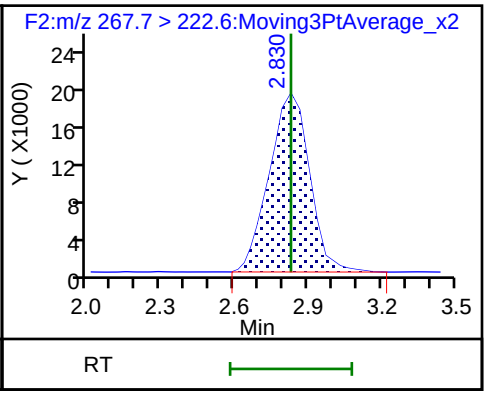
D 1 13C4 PFBA (M)



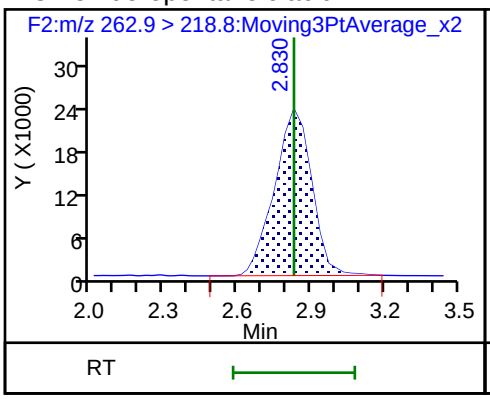
2 Perfluorobutanoic acid (M)



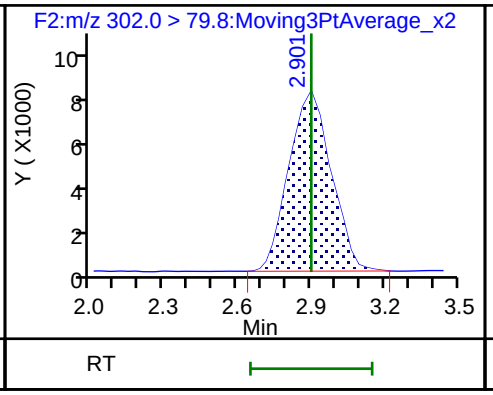
D 4 13C5 PFPeA



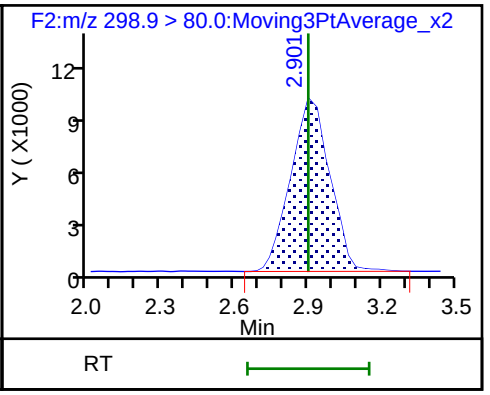
3 Perfluoropentanoic acid



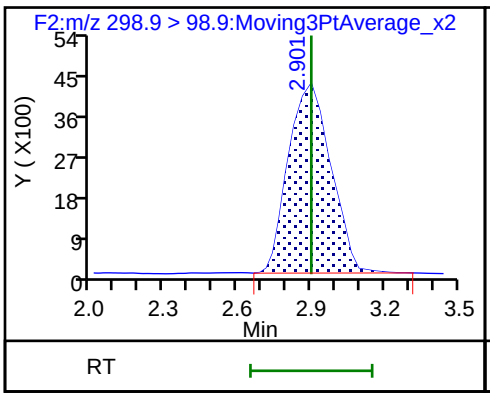
D 5 13C3 PFBS



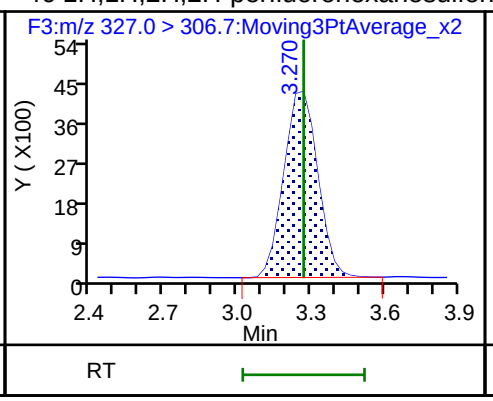
6 Perfluorobutanesulfonic acid



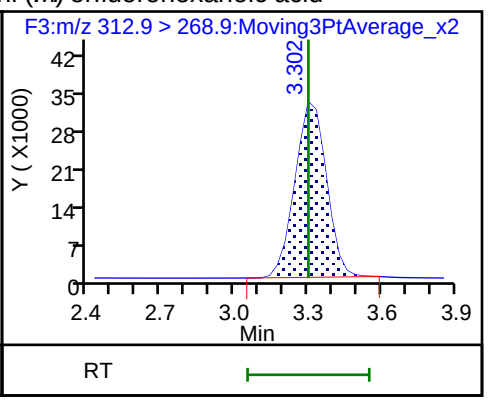
6 Perfluorobutanesulfonic acid



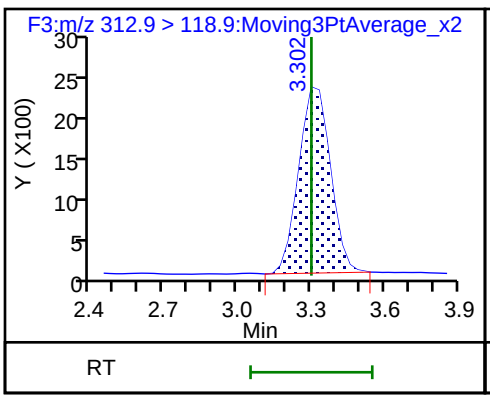
46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



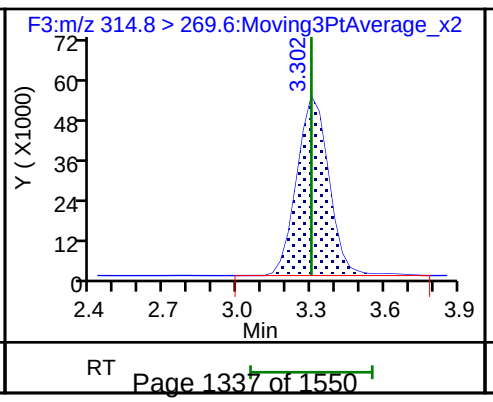
7 Perfluorohexanoic acid



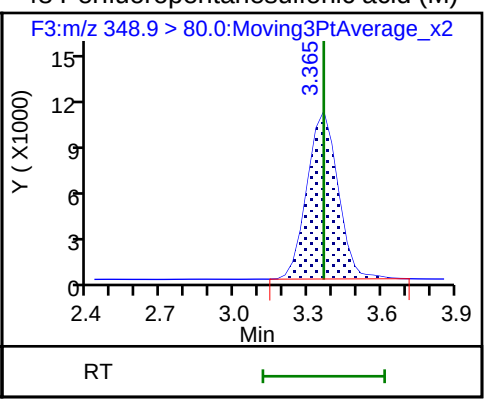
7 Perfluorohexanoic acid



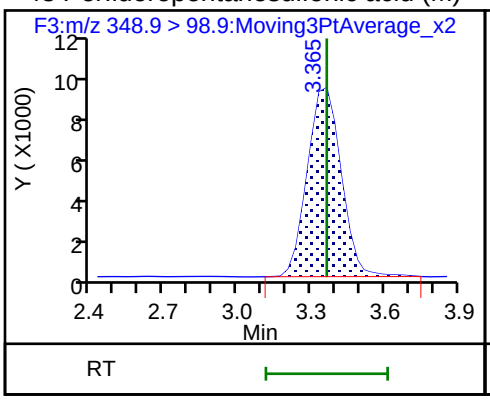
D 8 13C2 PFHxA



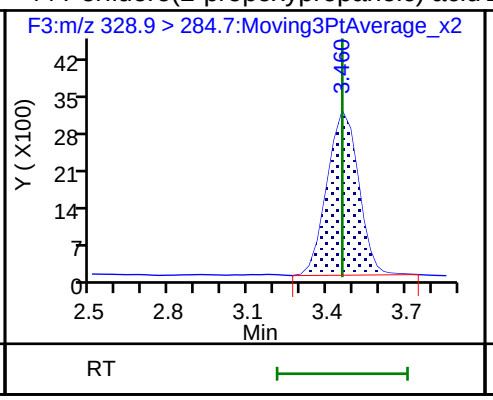
48 Perfluoropentanesulfonic acid (M)



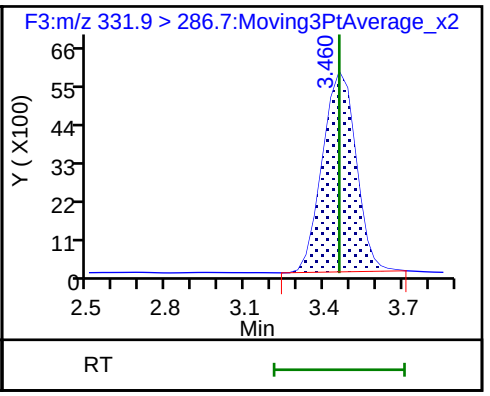
48 Perfluoropentanesulfonic acid (M)



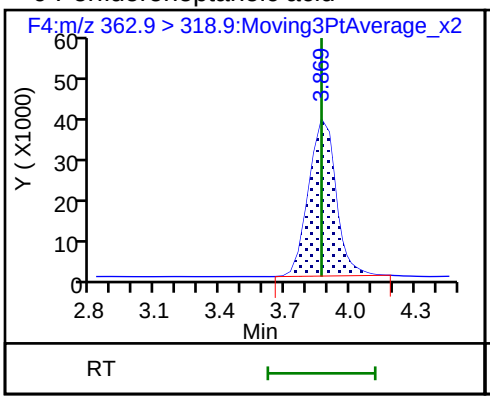
44 Perfluoro(2-propoxypropanoic) acid



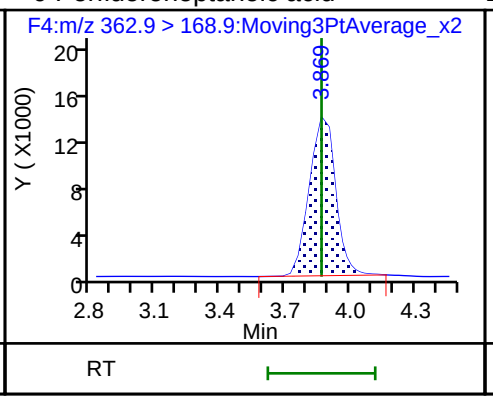
D 42 13C3 HFPO-DA



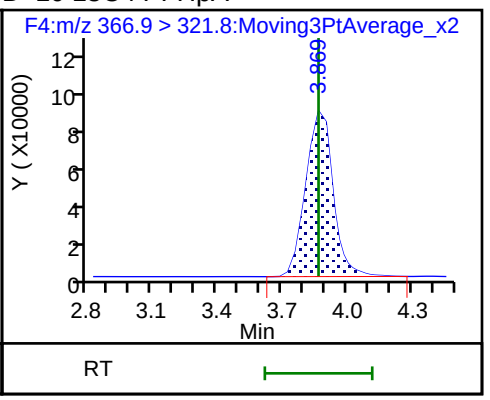
9 Perfluoroheptanoic acid



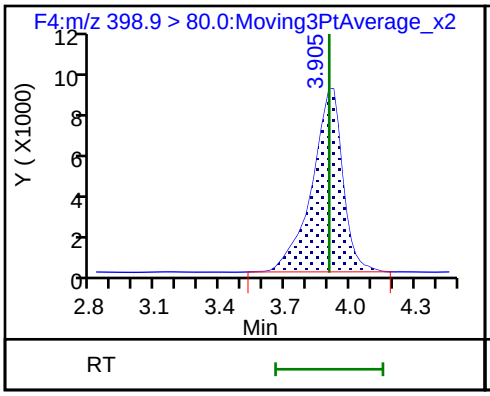
9 Perfluoroheptanoic acid



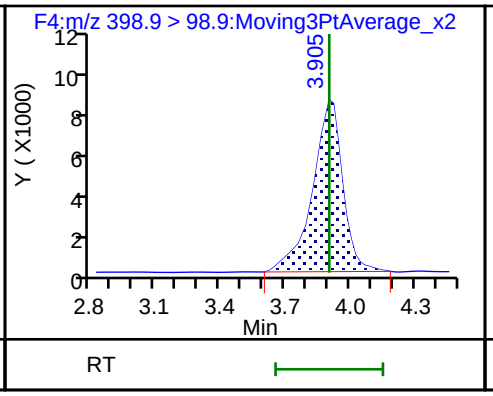
D 10 13C4 PFHpA



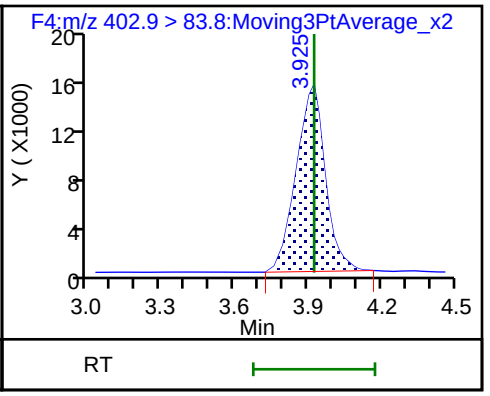
11 Perfluorohexanesulfonic acid



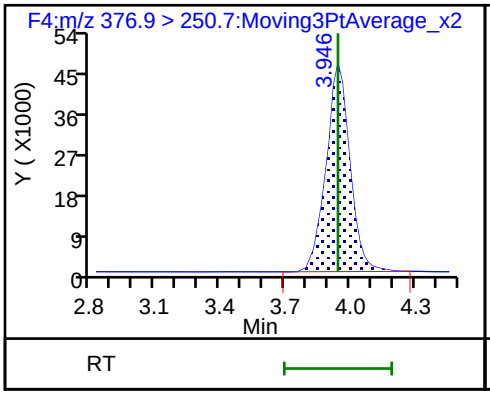
11 Perfluorohexanesulfonic acid



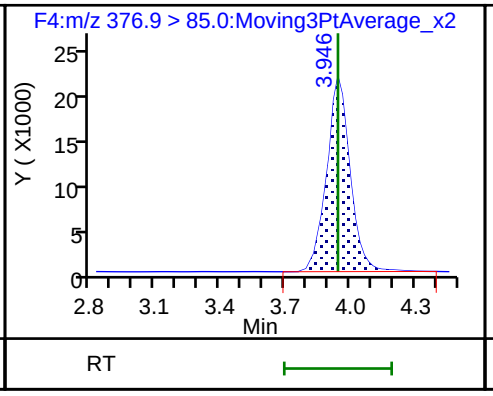
D 12 18O2 PFHxS



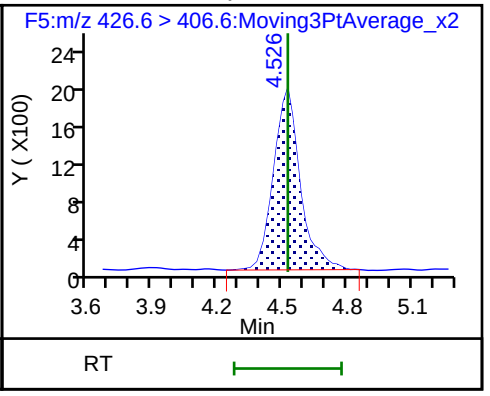
49 DONA



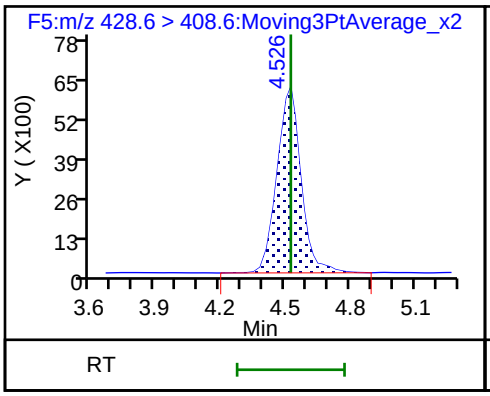
49 DONA



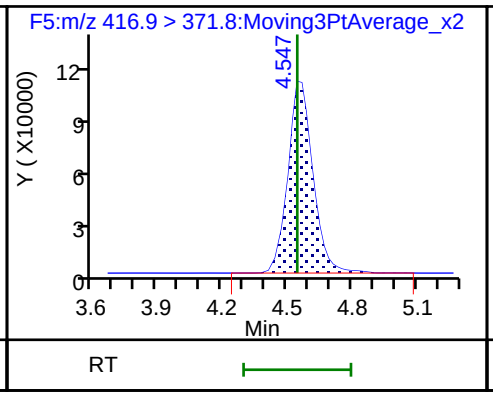
13 1H,1H,2H,2H-perfluorooctanesulfoni



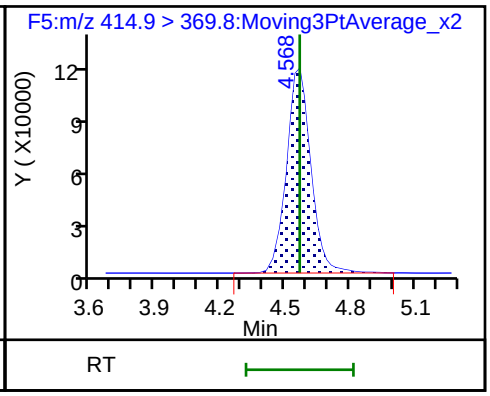
D 14 M2-6:2 FTS



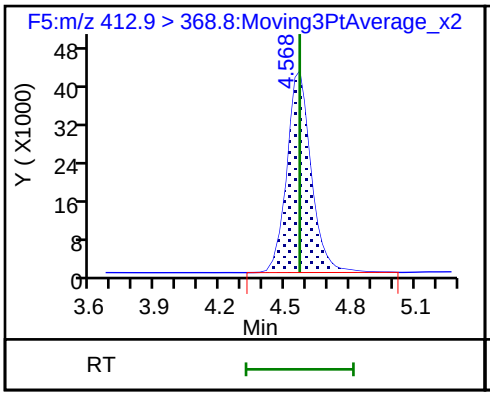
D 17 13C4 PFOA



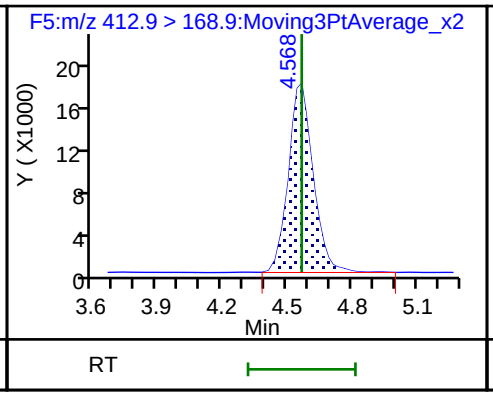
* 16 13C2 PFOA



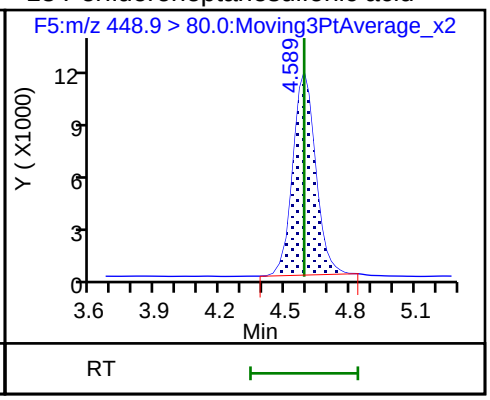
15 Perfluorooctanoic acid



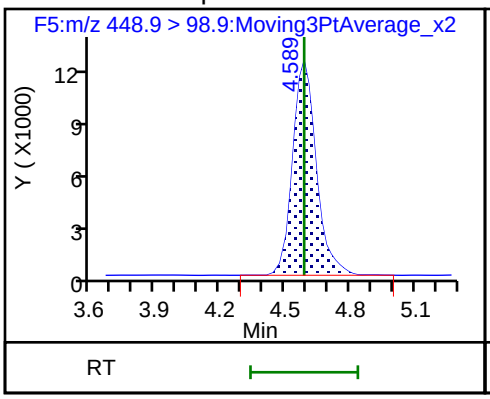
15 Perfluorooctanoic acid



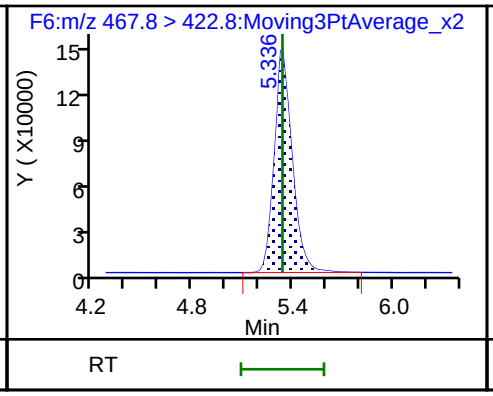
18 Perfluoroheptanesulfonic acid



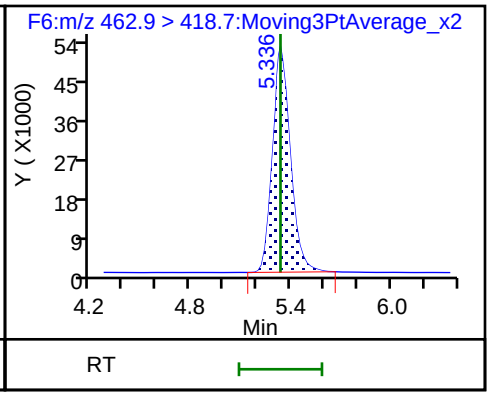
18 Perfluoroheptanesulfonic acid



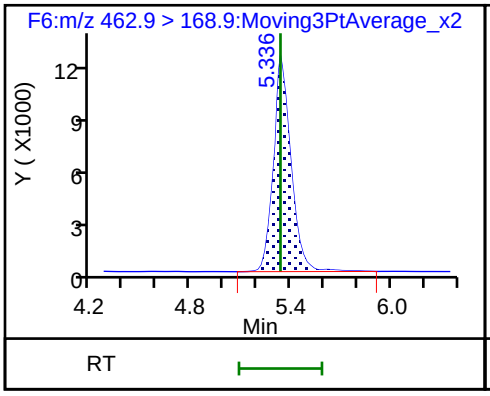
D 20 13C5 PFNA



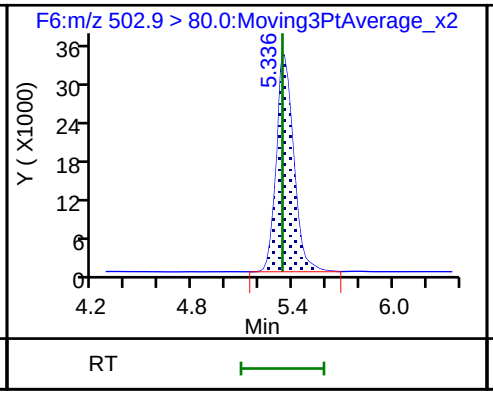
19 Perfluorononanoic acid



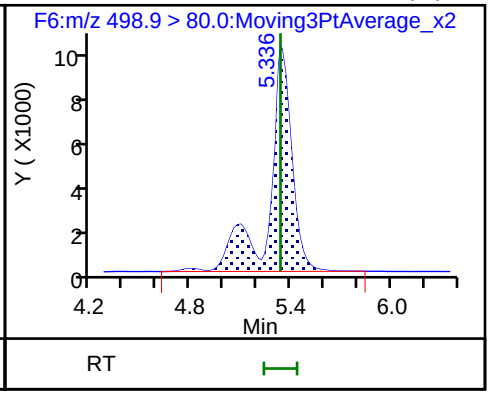
19 Perfluorononanoic acid



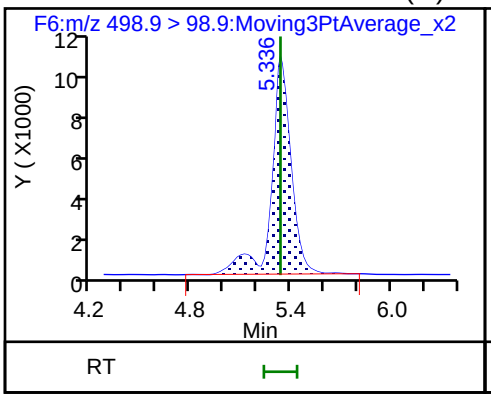
D 22 13C4 PFOS



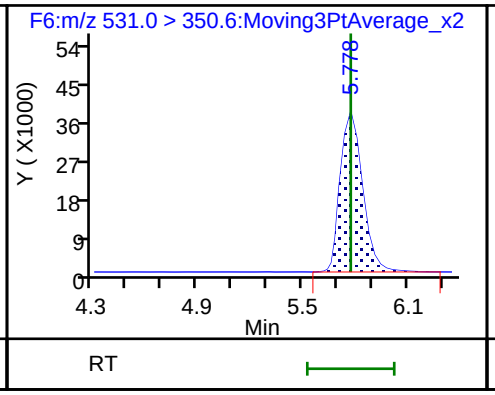
21 Perfluorooctanesulfonic acid (M)



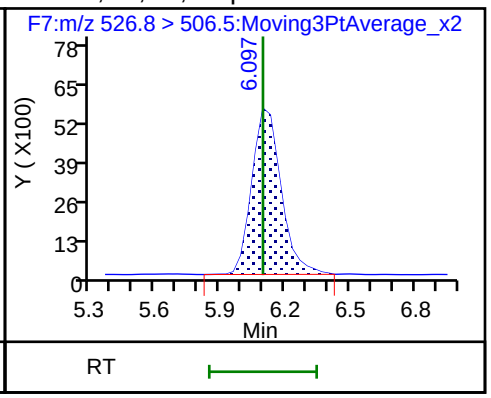
21 Perfluorooctanesulfonic acid (M)



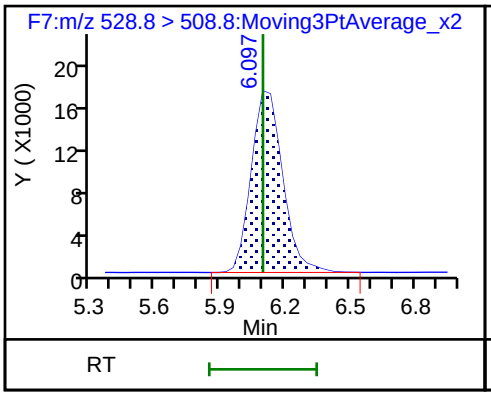
47 9-Chlorohexadecafluoro-3-oxanonane



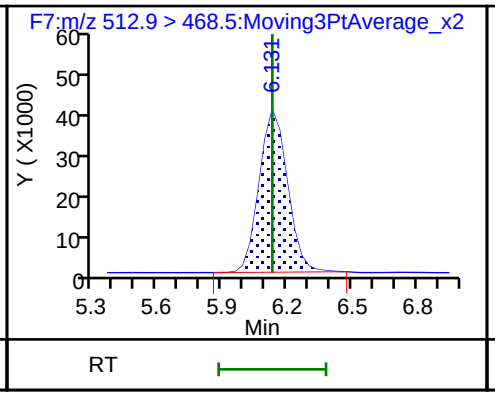
23 1H,1H,2H,2H-perfluorodecanesulfoni



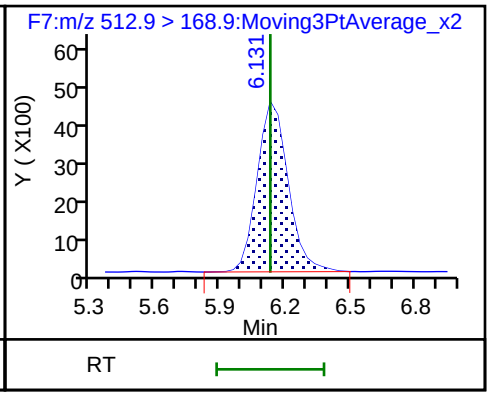
D 24 M2-8:2 FTS



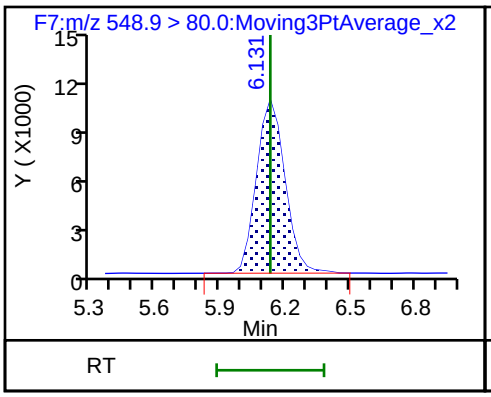
26 Perfluorodecanoic acid



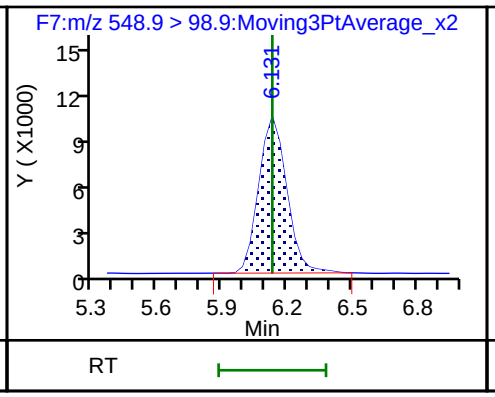
26 Perfluorodecanoic acid



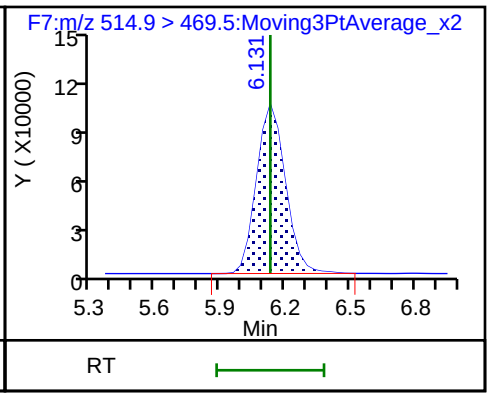
45 Perfluorononanesulfonic acid



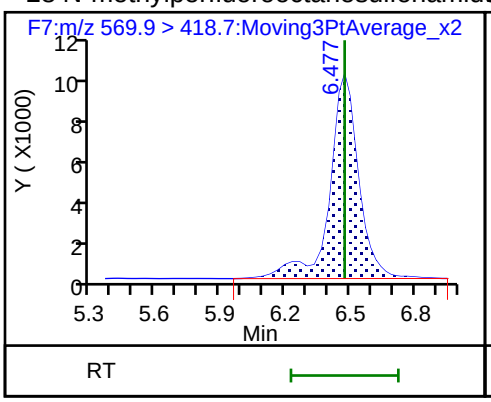
45 Perfluorononanesulfonic acid



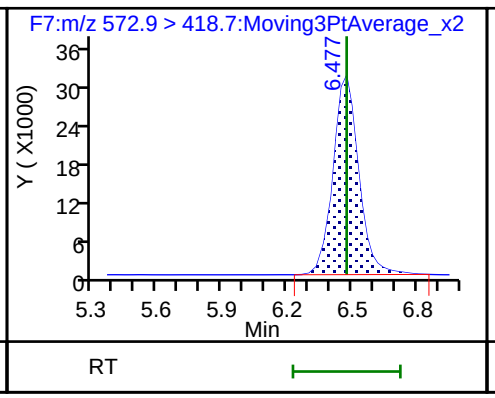
D 25 13C2 PFDA



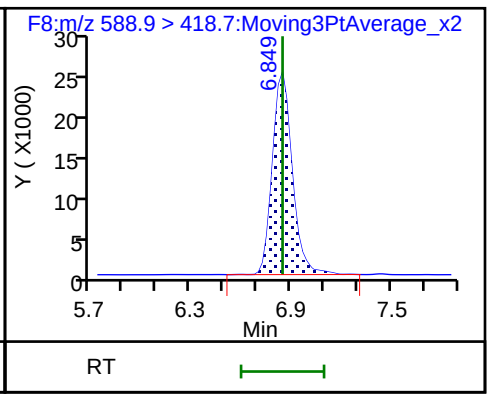
28 N-methylperfluorooctanesulfonamidD



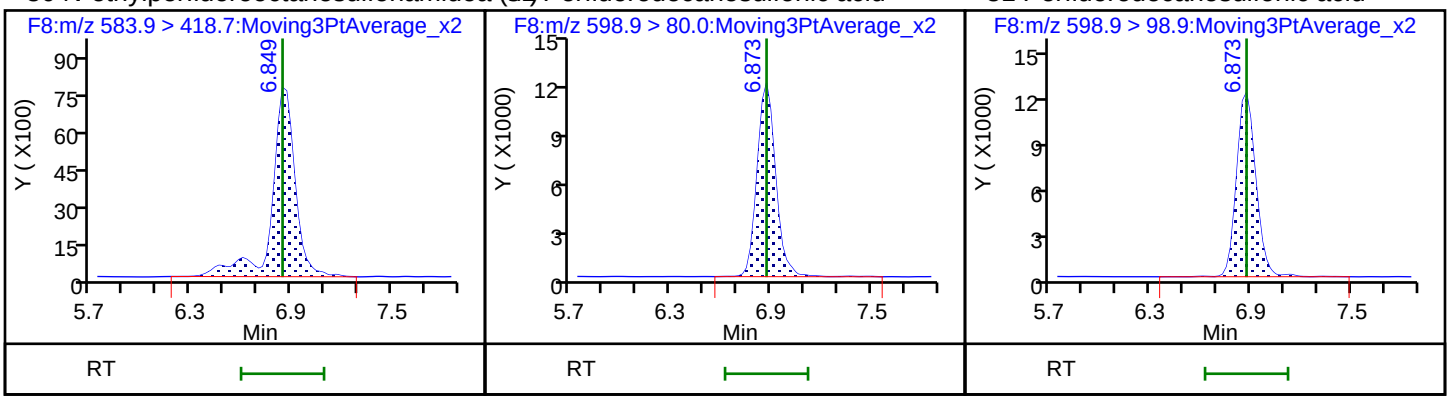
D 27 d3-NMeFOSAA



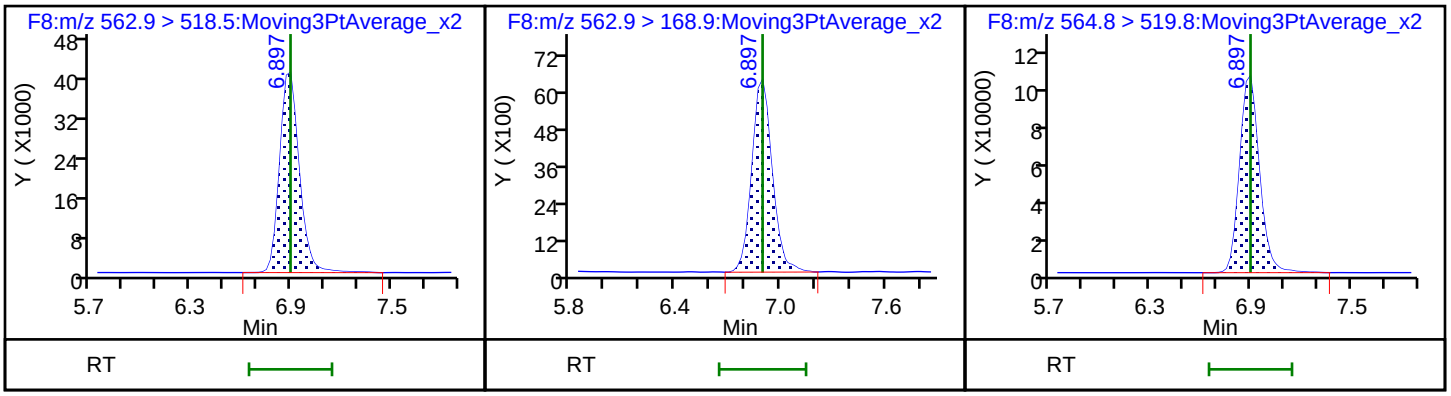
D 29 d5-NEtFOSAA



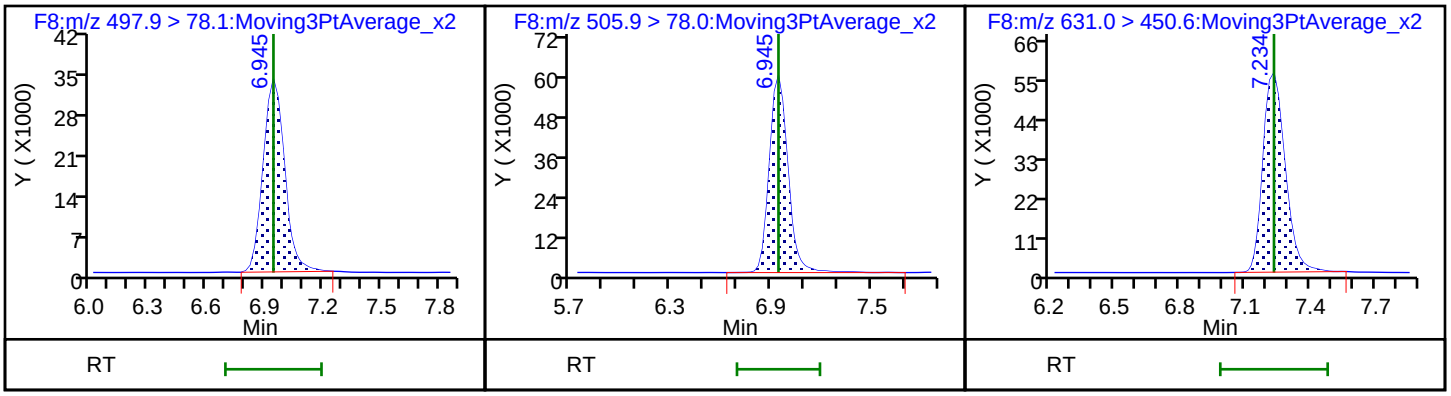
30 N-ethylperfluorooctanesulfonamidoa (31) Perfluorodecanesulfonic acid 31 Perfluorodecanesulfonic acid



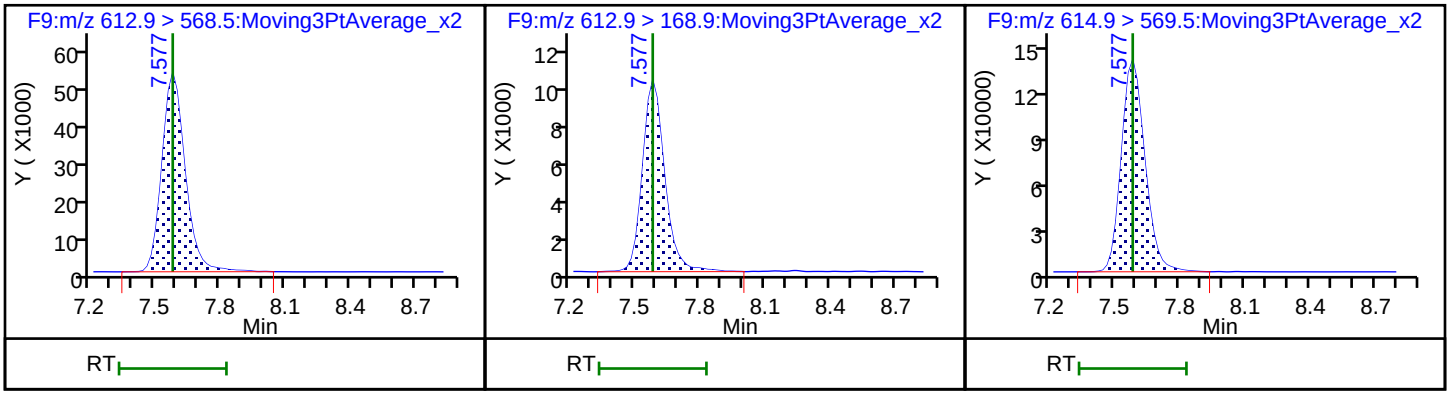
32 Perfluoroundecanoic acid 32 Perfluoroundecanoic acid D 33 13C2 PFUnA



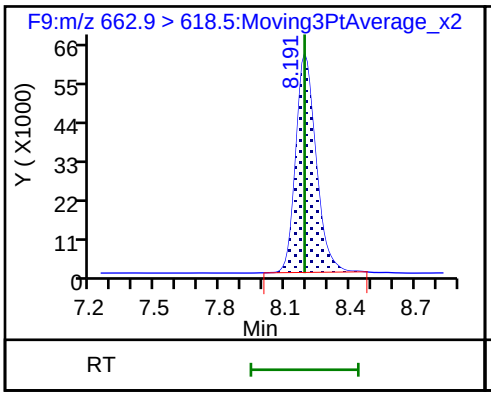
35 Perfluorooctanesulfonamide D 34 13C8 FOSA 43 11-Chloroeicosafluoro-3-oxaundecan



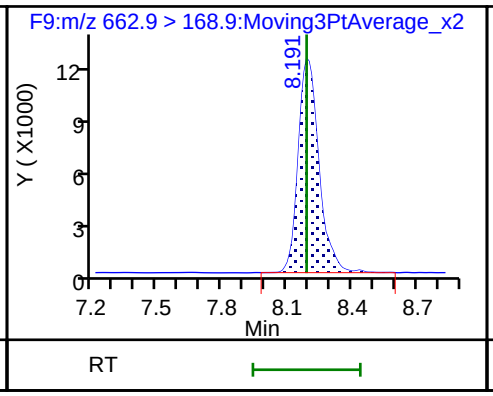
36 Perfluorododecanoic acid 36 Perfluorododecanoic acid D 37 13C2 PFDoA



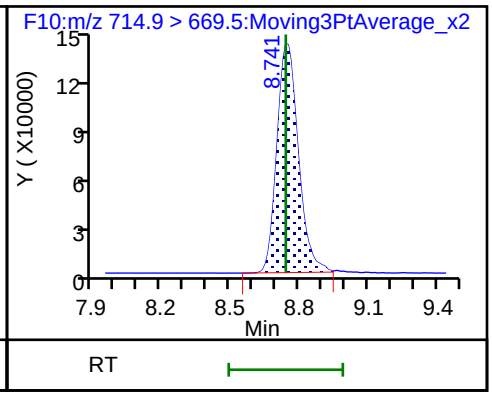
38 Perfluorotridecanoic acid



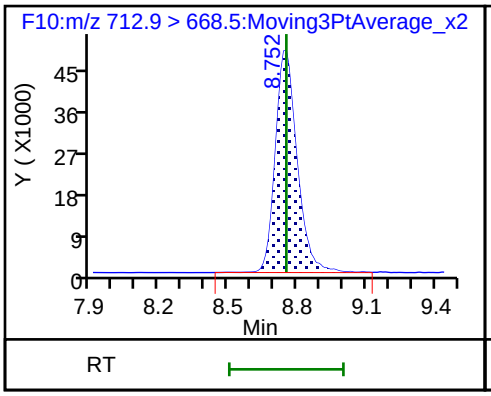
38 Perfluorotridecanoic acid



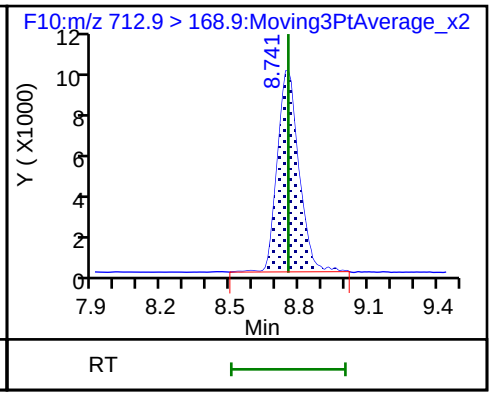
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

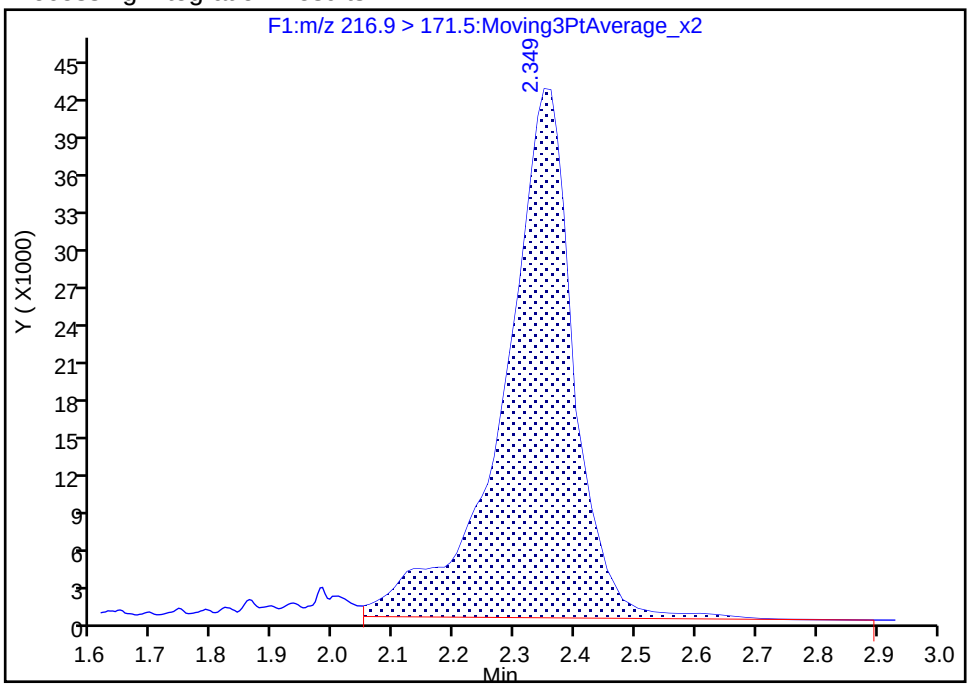
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d
Injection Date: 06-Jun-2019 12:40:19 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

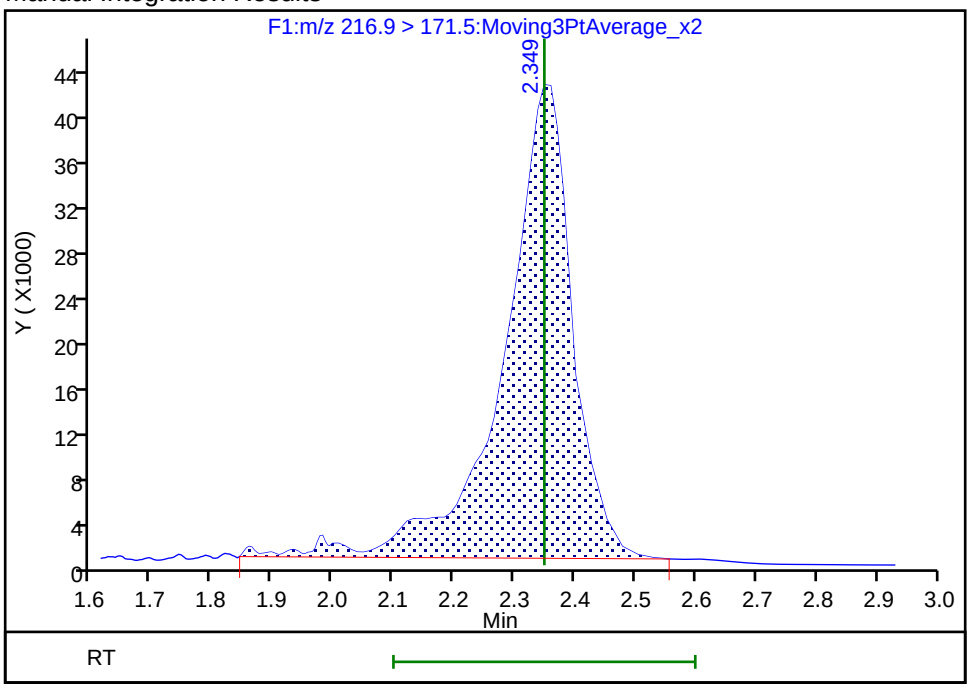
Processing Integration Results

RT: 2.35
Area: 336808
Amount: 77.715026
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 329926
Amount: 76.127074
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:34:46
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

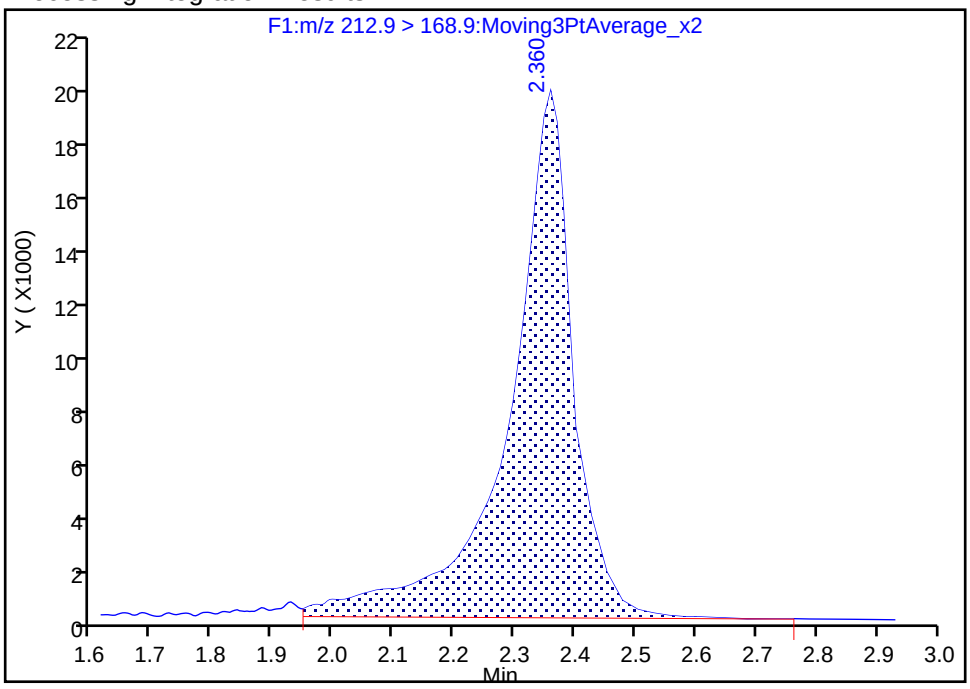
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d
Injection Date: 06-Jun-2019 12:40:19 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

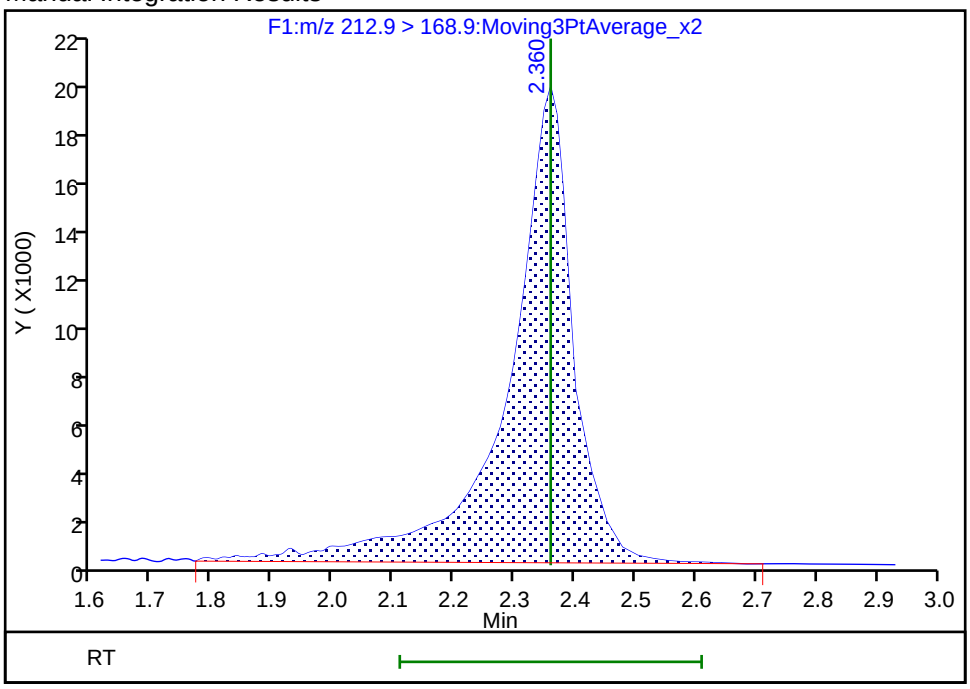
Processing Integration Results

RT: 2.36
Area: 140456
Amount: 13.558046
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 142435
Amount: 13.749077
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:34:55
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

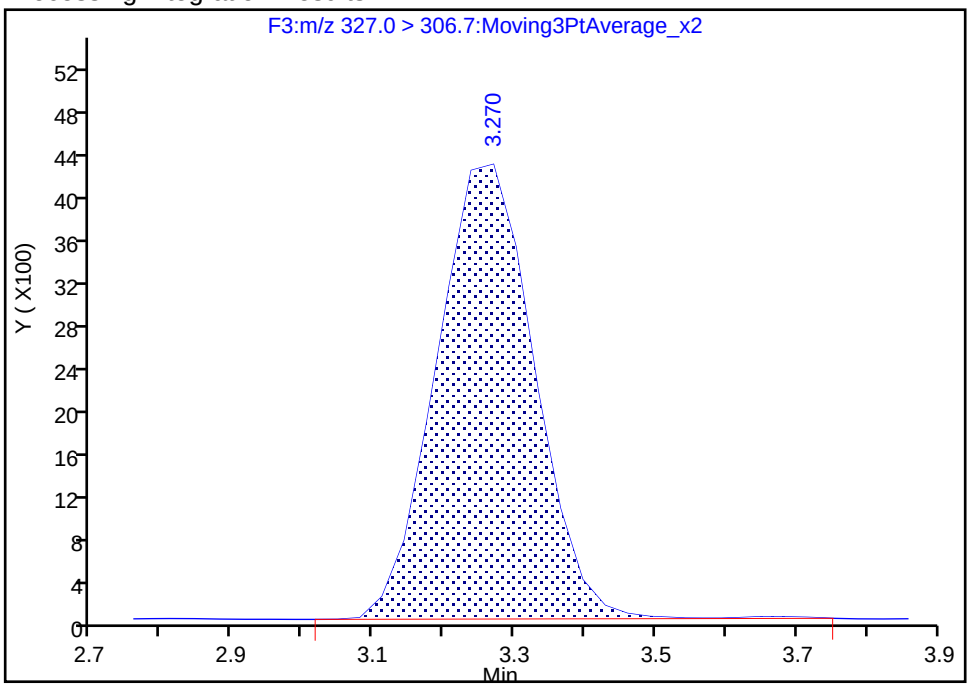
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d
Injection Date: 06-Jun-2019 12:40:19 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

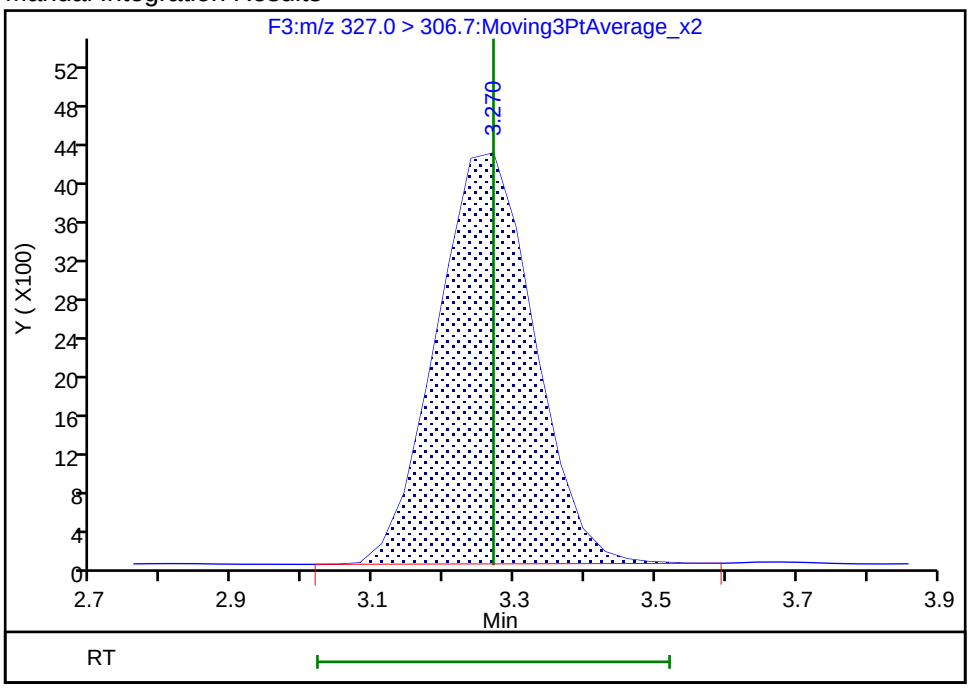
Processing Integration Results

RT: 3.27
Area: 40385
Amount: 15.170813
Amount Units: ng/ml



Manual Integration Results

RT: 3.27
Area: 40237
Amount: 15.115216
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:35:52
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

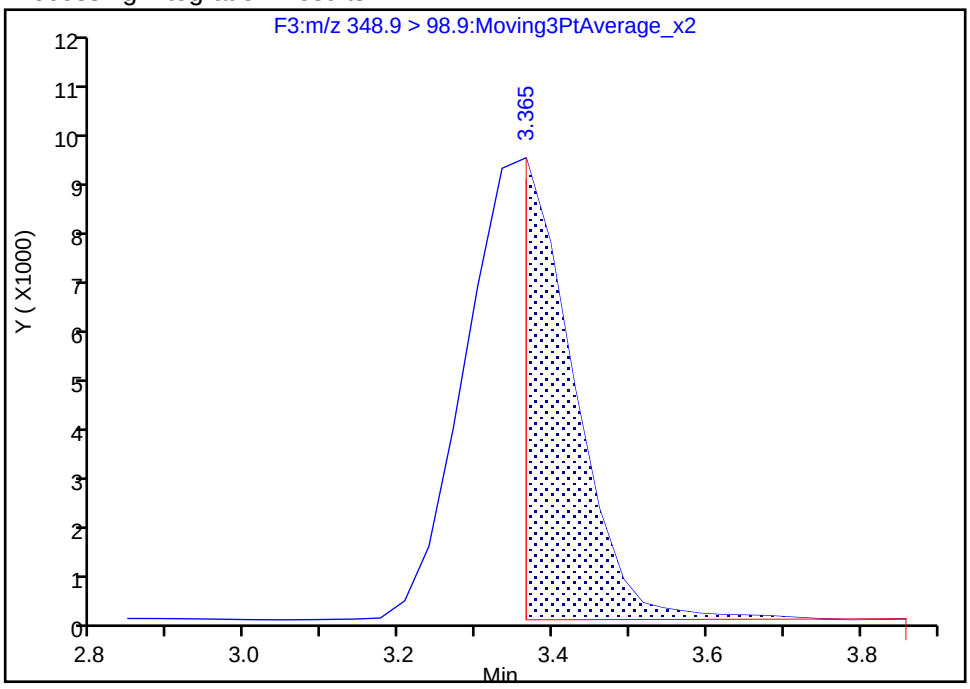
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d
Injection Date: 06-Jun-2019 12:40:19 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 2

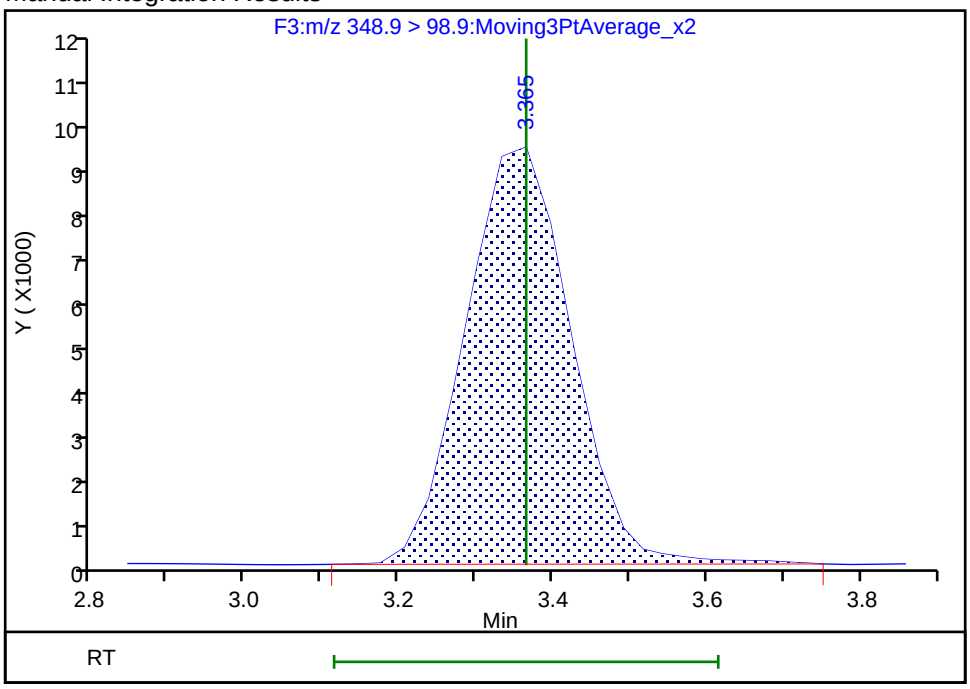
Processing Integration Results

RT: 3.37
Area: 38291
Amount: 16.469118
Amount Units: ng/ml



Manual Integration Results

RT: 3.37
Area: 86063
Amount: 17.104257
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:36:14
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

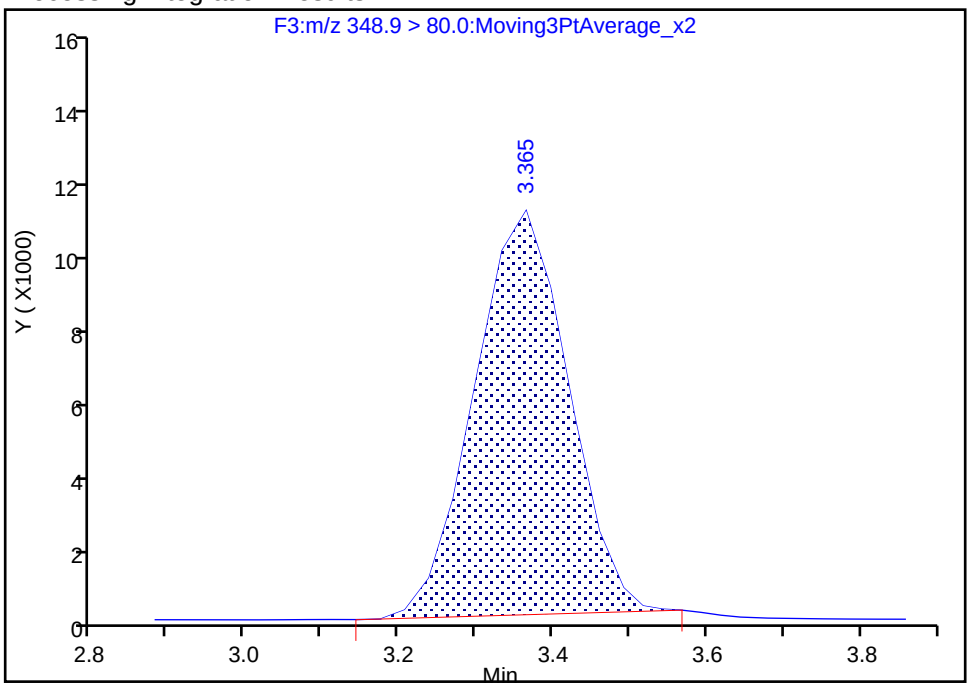
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d				
Injection Date:	06-Jun-2019 12:40:19	Instrument ID:	LC410		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F3:MRM		

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 1

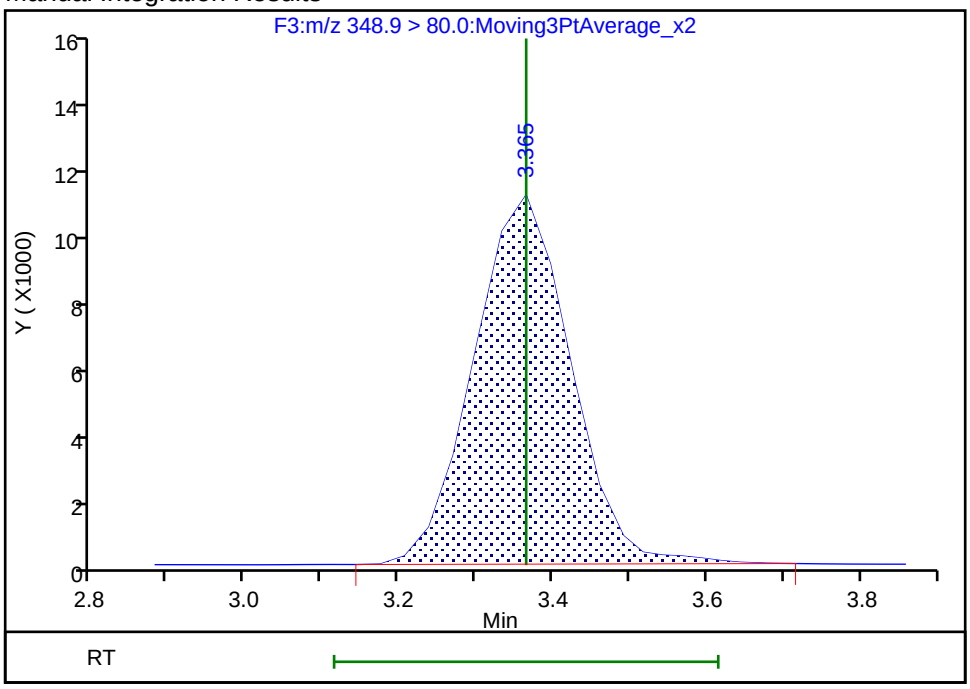
Processing Integration Results

RT: 3.37
Area: 94022
Amount: 16.469118
Amount Units: ng/ml



Manual Integration Results

RT: 3.37
Area: 97648
Amount: 17.104257
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:36:17

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

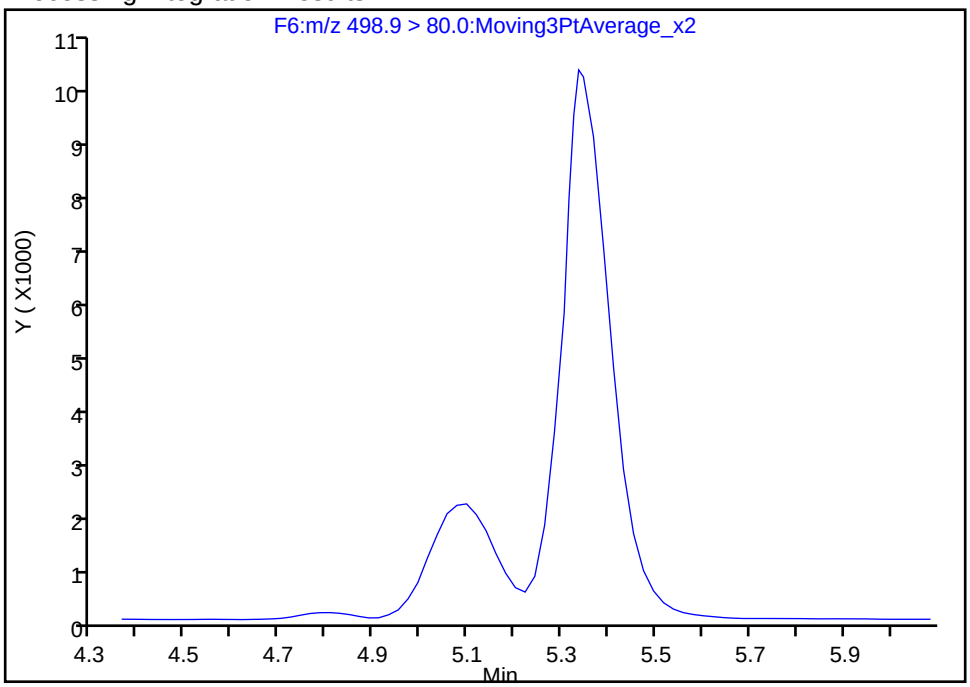
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d
Injection Date: 06-Jun-2019 12:40:19 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

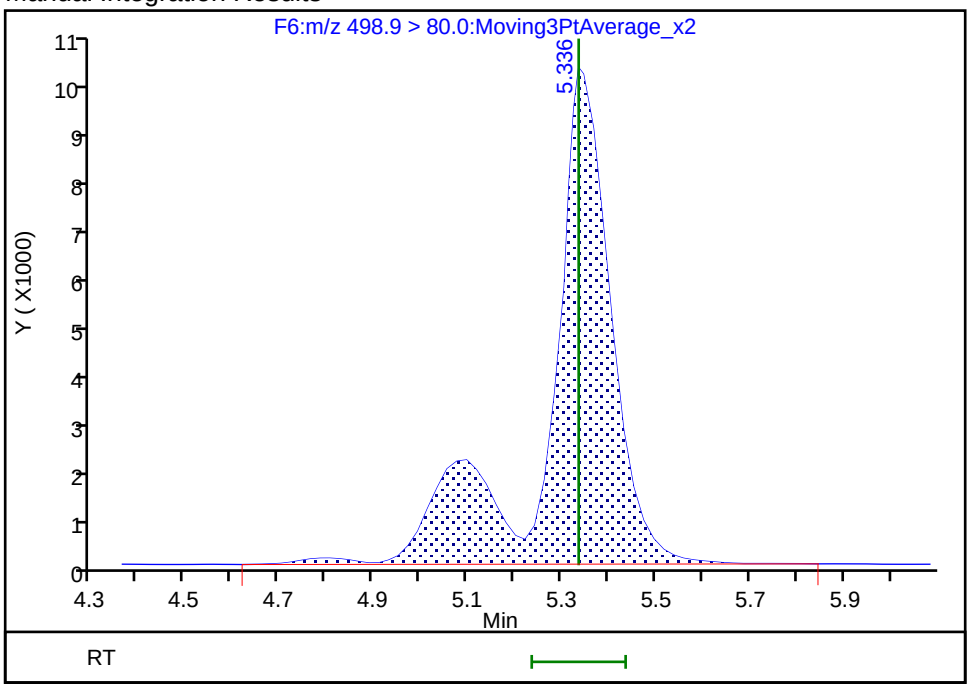
Not Detected
Expected RT: 5.34

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 91604
Amount: 18.336865
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:36:37
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

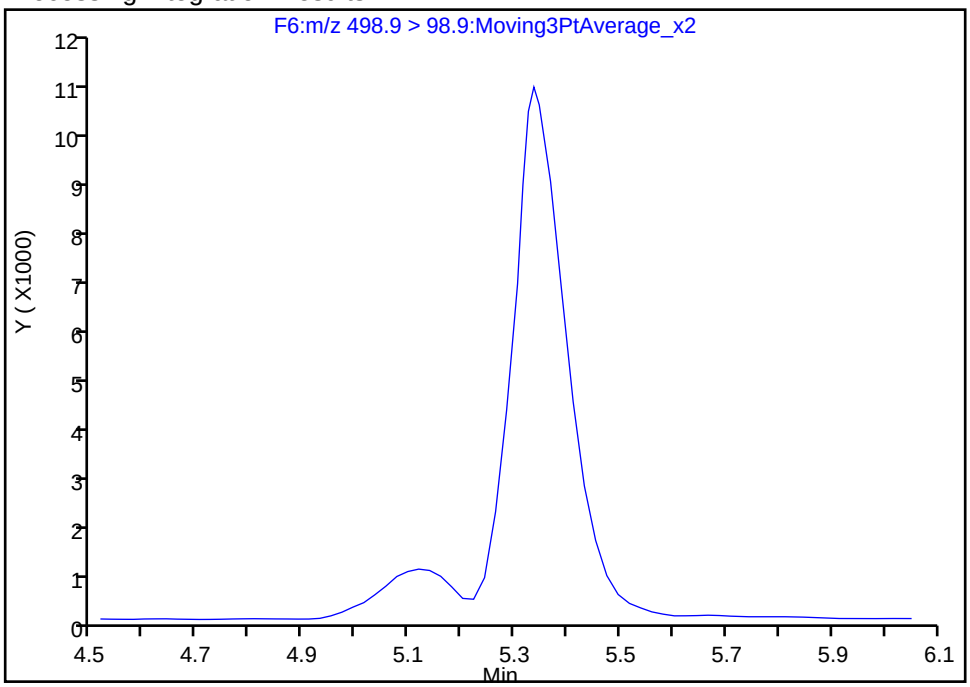
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d
Injection Date: 06-Jun-2019 12:40:19 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

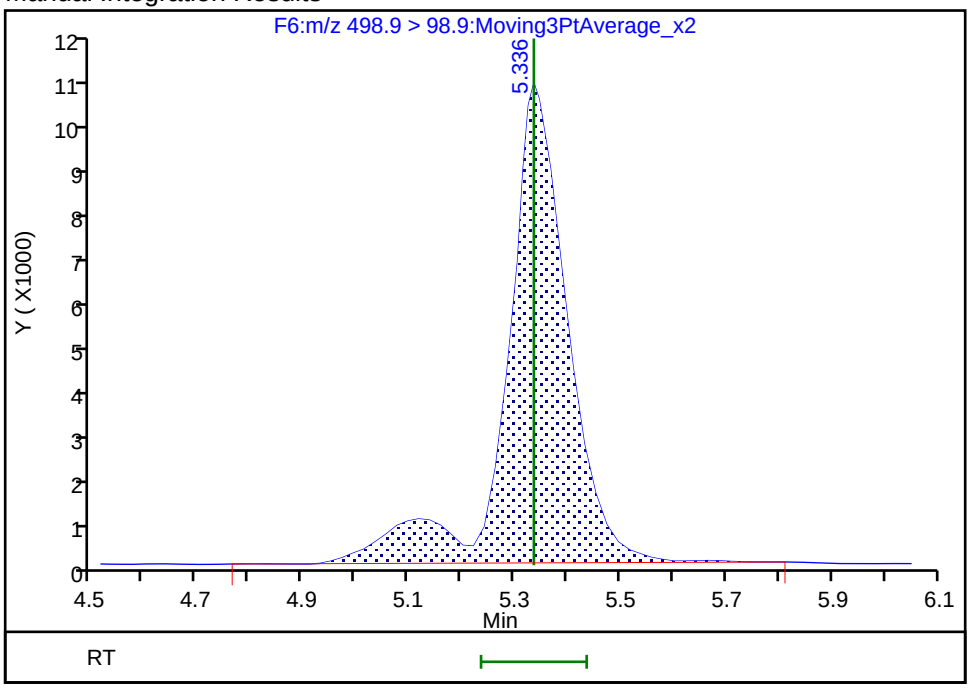
Not Detected
Expected RT: 5.34

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 80763
Amount: 18.336865
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:36:40
Audit Action: Manually Integrated Audit Reason: Missed Peak

Eurofins TestAmerica, Burlington

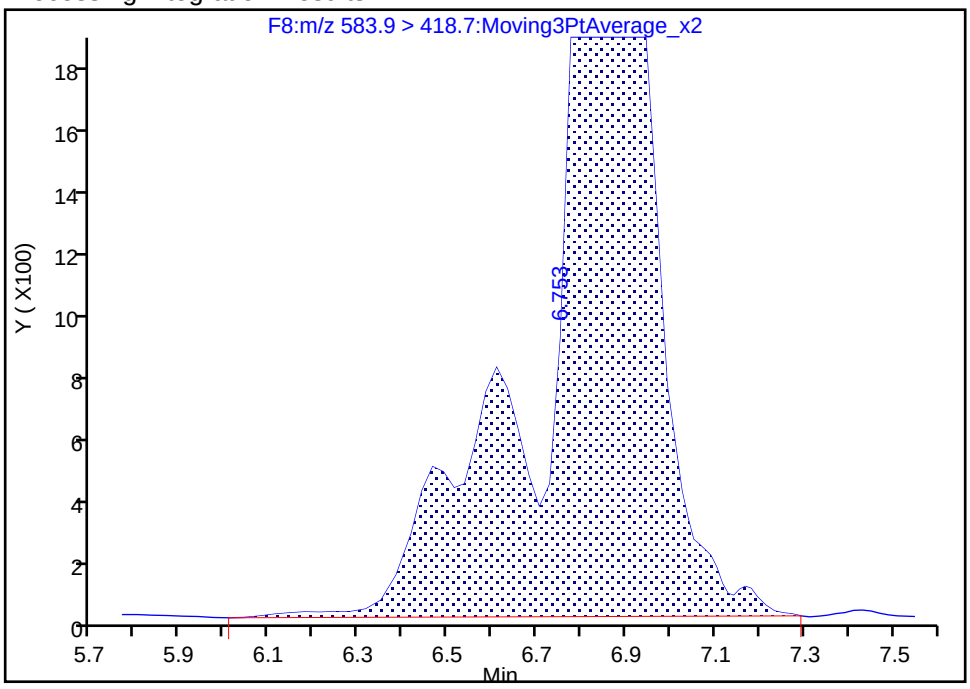
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A02.d
Injection Date: 06-Jun-2019 12:40:19 Instrument ID: LC410
Lims ID: CCVIS
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

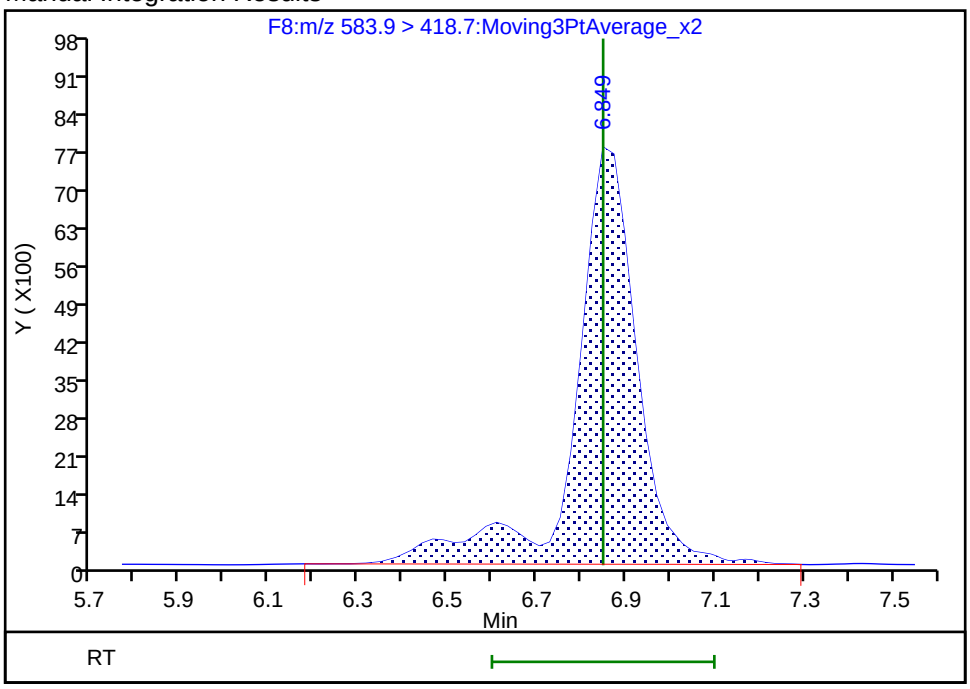
Processing Integration Results

RT: 6.75
Area: 74554
Amount: 22.900787
Amount Units: ng/ml



Manual Integration Results

RT: 6.85
Area: 73898
Amount: 22.699283
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:36:56
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVL 200-143813/3 Calibration Date: 06/06/2019 12:56

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060619A03.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	1.123		715	1000	-28.5	50.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	2.570		858	1000	-14.2	50.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	2.553		898	884	1.6	50.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	0.7603		536	934	-42.6	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.288		921	1000	-7.9	50.0
Perfluoropentanesulfonic acid	AveID	2.841	2.381		786	938	-16.2	50.0
HFPO-DA	AveID	1.078	3.220		2990	1000	198.7*	50.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.230		1050	1000	4.8	50.0
DONA	AveID	4.300	3.347		733	942	-22.2	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	1.420		611	910	-32.9	50.0
6:2 FTS	AveID	0.9451	1.312		1320	948	38.8	50.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	0.9893		978	1000	-2.2	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.7640		835	952	-12.2	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	1.038		998	928	7.5	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	1.027		1160	1000	16.3	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	3.260		691	932	-25.9	50.0
8:2 FTS	AveID	0.7376	0.6883		894	958	-6.7	50.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.8648		945	1000	-5.5	50.0
Perfluorononanesulfonic acid	AveID	0.9697	0.6699		663	960	-30.9	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.8401		1020	1000	1.7	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.7042		875	1000	-12.5	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.9072		1090	1000	9.0	50.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	0.8322		773	964	-19.8	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.399		983	1000	-1.7	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	3.486		585	942	-37.9	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	1.031		1090	1000	8.6	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.9839		1050	1000	5.0	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.9155		1080	1000	7.9	50.0
13C4 PFBA	Ave	0.2445	0.4011		82000	50000	64.0*	50.0
13C5 PFPeA	Ave	0.1855	0.2612		70400	50000	40.8	50.0
13C3 PFBS	Ave	0.0807	0.1522		87700	46500	88.7*	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCVL 200-143813/3 Calibration Date: 06/06/2019 12:56

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060619A03.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.5593		50300	50000	0.5	50.0
13C3 HFPO-DA	Ave	0.0529	0.0650		61400	50000	22.8	50.0
13C4 PFHpA	Ave	0.7840	0.8893		56700	50000	13.4	50.0
18O2 PFHxS	Ave	0.1031	0.1754		80400	47300	70.0*	50.0
M2-6:2 FTS	Ave	0.0557	0.0722		61500	47500	29.5	50.0
13C4 PFOA	Ave	0.9706	1.038		53500	50000	6.9	50.0
13C5 PFNA	Ave	1.302	1.160		44600	50000	-10.9	50.0
13C4 PFOS	Ave	0.2326	0.3305		67900	47800	42.1	50.0
M2-8:2 FTS	Ave	0.2026	0.2153		50900	47900	6.2	50.0
13C2 PFDA	Ave	1.111	1.089		49000	50000	-2.0	50.0
d3-NMeFOSAA	Ave	0.3621	0.2995		41400	50000	-17.3	50.0
d5-NEtFOSAA	Ave	0.2986	0.2560		42900	50000	-14.3	50.0
13C2 PFUnA	Ave	1.073	1.047		48800	50000	-2.4	50.0
13C8 FOSA	Ave	0.4004	0.5828		72800	50000	45.6	50.0
13C2 PFDoA	Ave	1.367	1.240		45300	50000	-9.3	50.0
13C2 PFTeDA	Ave	1.227	1.066		43400	50000	-13.1	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Lims ID: CCVL
Client ID:
Sample Type: CCVL
Inject. Date: 06-Jun-2019 12:56:10 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036227003 CCVL
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:18:05 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 06-Jun-2019 13:40:30
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.360	2.349	0.011	1.000	343488	82.0		164	62.2	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.360	2.360	0.0	1.000	7712	0.7150		71.5	35.2	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	223685	70.4		141	482	
3 Perfluoropentanoic acid										M
262.9 > 218.8	2.830	2.830	0.0	1.000	11499	0.8584		85.8	16.3	M
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	121211	87.7		189	432	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.901	2.901	0.0	1.000	5883	0.8979	Target=1.67	102	31.7	
298.9 > 98.9	2.937	2.901	0.036	1.012	2748		2.14(0.83-2.51)		9.3	M
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.270	3.270	0.0	1.127	1851	0.5360		57.4	14.4	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	12337	0.9213	Target=14.34	92.1	137	
312.9 > 118.9	3.334	3.302	0.032	1.010	1236		9.98(7.17-21.51)		16.4	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.302	0.0	1.000	478930	50.3		101	2616	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.365	3.365	0.0	1.160	5822	0.7861	Target=1.23	83.8	71.8	M
348.9 > 98.9	3.365	3.365	0.0	1.000	3541		1.64(0.62-1.85)		37.2	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.460	0.0	1.000	3583	2.99		299	14.3	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.460	3.460	0.0	1.000	55641	61.4		123	589	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.905	3.869	0.036	1.009	18724	1.05	Target=2.84	105	110	
362.9 > 168.9	3.869	3.869	0.0	1.000	4941		3.79(1.42-4.26)		39.0	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	761444	56.7		113	1568	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.946	3.905	0.041	1.005	3882	0.6108	Target=1.34	67.1	17.8	M
398.9 > 98.9	3.925	3.905	0.020	1.000	3748		1.04(0.67-2.01)		42.8	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.925	3.925	0.0	1.000	142065	80.4		170	963	
49 DONA										
376.9 > 250.7	3.946	3.946	0.0	0.738	17844	0.7332	Target=2.33	77.8	183	
376.9 > 85.0	3.946	3.946	0.0	1.000	9906		1.80(1.16-3.49)		98.5	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.506	4.526	-0.020	0.995	1537	1.32		139	7.4	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.526	0.0	1.000	58704	61.5		130	578	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.547	0.021	1.000	888501	53.5		107	1914	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.568	0.0		856274	50.0			886	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.568	0.0	1.000	17580	0.9777	Target=2.43	97.8	116	
412.9 > 168.9	4.568	4.568	0.0	1.000	7924		2.22(1.22-3.64)		58.3	
18 Perfluoroheptanesulfonic acid										M
448.9 > 80.0	4.589	4.589	0.0	0.858	4117	0.8355	Target=1.30	87.8	36.1	M
448.9 > 98.9	4.589	4.589	0.0	1.000	3148		1.31(0.65-1.95)		21.7	
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.336	0.0	1.000	993637	44.6		89.1	2890	
19 Perfluorononanoic acid										
462.9 > 418.7	5.336	5.336	0.0	1.000	20407	1.16	Target=5.00	116	202	
462.9 > 168.9	5.336	5.336	0.0	1.000	4667		4.37(2.50-7.50)		41.1	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.336	0.011	1.000	270558	67.9		142	1126	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.326	5.336	-0.010	0.996	5454	1.00	Target=1.41	108	51.1	M
498.9 > 98.9	5.336	5.336	0.0	0.998	4724		1.15(0.71-2.12)		47.8	M
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.778	5.778	0.0	1.081	17197	0.6910		74.1	130	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.097	6.097	0.0	1.000	2431	0.8940		93.3	8.9	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.097	0.0	1.000	176594	50.9		106	659	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.131	0.0	1.000	16123	0.9446	Target=7.23	94.5	64.5	
512.9 > 168.9	6.131	6.131	0.0	1.000	3296		4.89(3.61-10.84)		30.1	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										M
548.9 > 80.0	6.131	6.131	0.0	1.147	3640	0.6632	Target=1.39	69.1	18.4	M
548.9 > 98.9	6.131	6.131	0.0	1.000	5667		0.64(0.69-2.08)		22.5	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.131	0.0	1.000	932238	49.0		98.0	3264	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.477	6.477	0.0	1.000	4309	1.02		102	47.5	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.477	0.0	1.000	256467	41.4		82.7	910	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.849	0.0	1.000	219175	42.9		85.7	1340	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.849	6.849	0.0	1.000	3087	0.8745		87.5	28.9	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.897	6.873	0.024	1.290	4541	0.7728	Target=1.25	80.2	34.2	
598.9 > 98.9	6.873	6.873	0.0	1.000	6056		0.75(0.63-1.88)		46.1	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.873	6.897	-0.024	1.000	16267	1.09	Target=7.06	109	105	
562.9 > 168.9	6.873	6.897	-0.024	1.000	2199		7.40(3.53-10.58)		20.3	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.897	-0.024	1.000	896529	48.8		97.6	5545	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	6.945	6.945	0.0	1.000	13966	0.9826		98.3	102	M
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.945	0.0	1.000	499019	72.8		146	1473	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.234	7.234	0.0	1.353	18587	0.5854		62.1	172	
36 Perfluorododecanoic acid										M
612.9 > 568.5	7.577	7.577	0.0	1.000	21886	1.09	Target=5.37	109	175	M
612.9 > 168.9	7.557	7.577	-0.020	0.997	3690		5.93(2.68-8.06)		25.1	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.577	0.0	1.000	1061662	45.3		90.7	1965	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.191	8.191	0.0	1.081	20892	1.05	Target=4.67	105	129	
662.9 > 168.9	8.202	8.191	0.011	1.082	4538		4.60(2.34-7.01)		38.8	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.741	8.741	0.0	1.000	913047	43.4		86.9	801	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.741	8.752	-0.011	1.000	16717	1.08	Target=4.86	108	142	
712.9 > 168.9	8.741	8.752	-0.011	1.000	3873		4.32(2.43-7.30)		40.9	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L1_00006 Amount Added: 100.00 Units: uL

Report Date: 10-Jun-2019 10:18:06 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d

Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410

Lims ID: CCVL

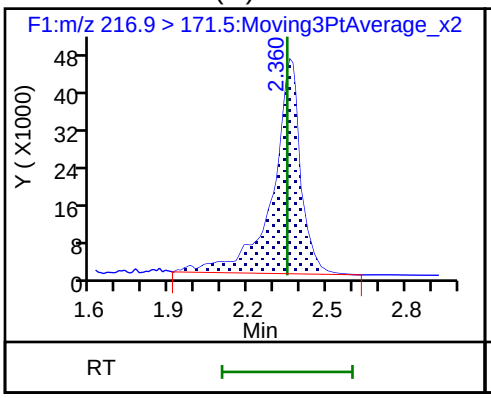
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3

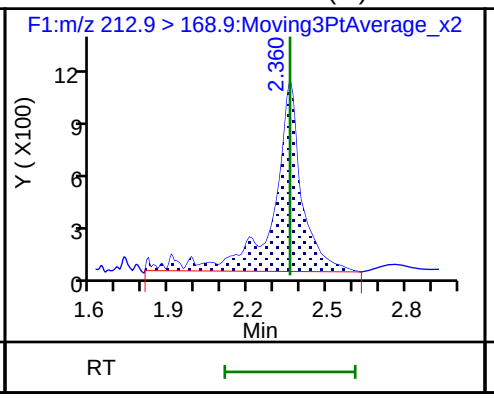
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

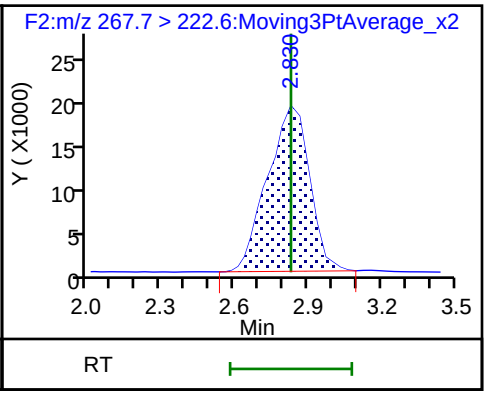
D 1 13C4 PFBA (M)



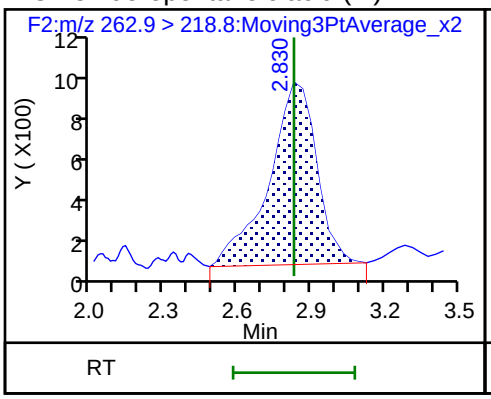
2 Perfluorobutanoic acid (M)



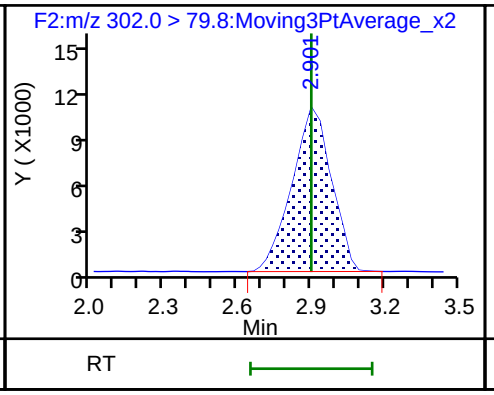
D 4 13C5 PFPeA



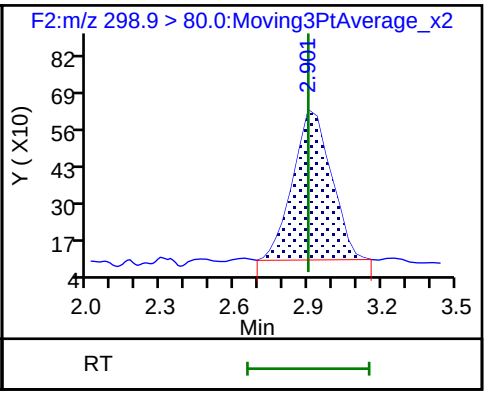
3 Perfluoropentanoic acid (M)



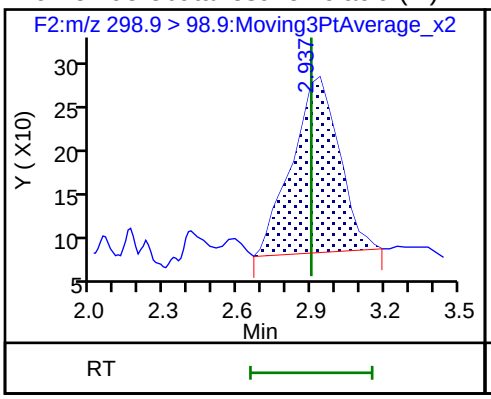
D 5 13C3 PFBS



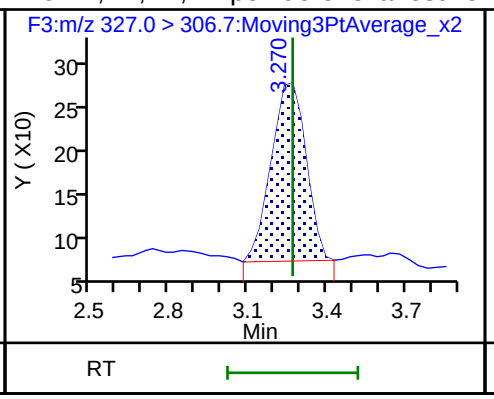
6 Perfluorobutanesulfonic acid



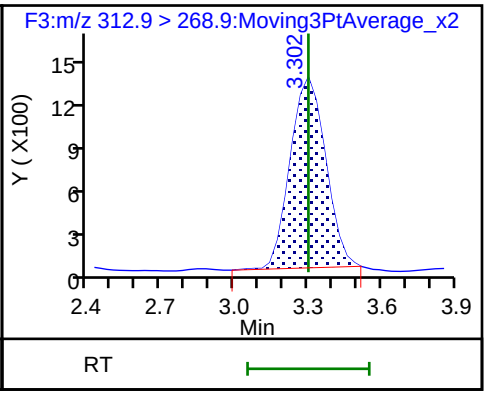
6 Perfluorobutanesulfonic acid (M)



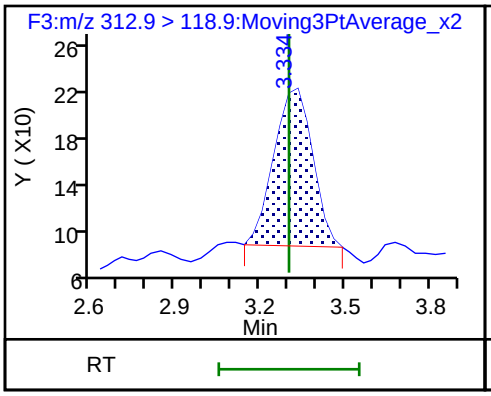
46 1H,1H,2H,2H-perfluorohexanesulfoni



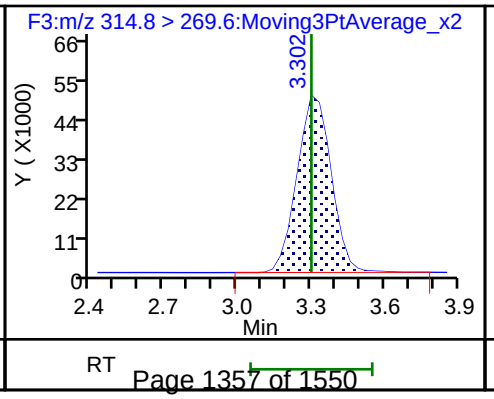
7 Perfluorohexanoic acid



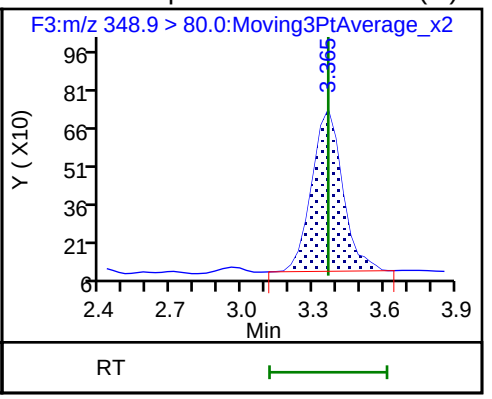
7 Perfluorohexanoic acid



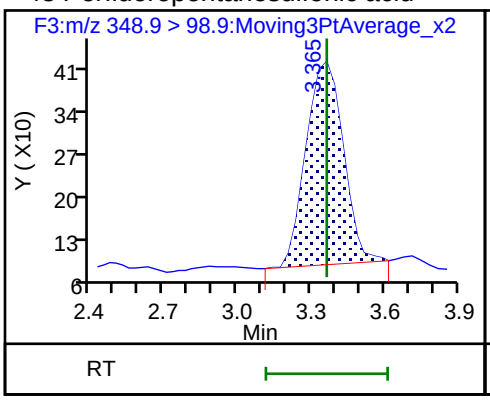
D 8 13C2 PFHxA



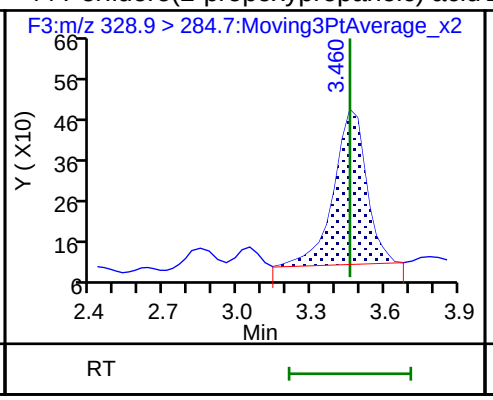
48 Perfluoropentanesulfonic acid (M)



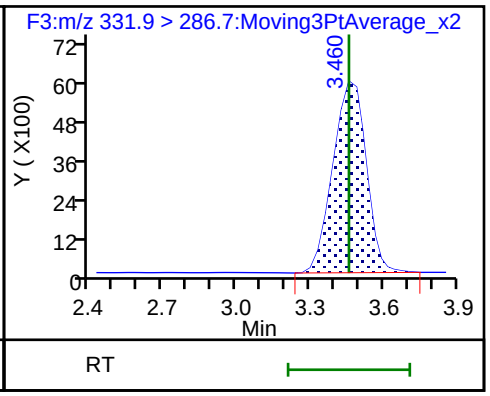
48 Perfluoropentanesulfonic acid



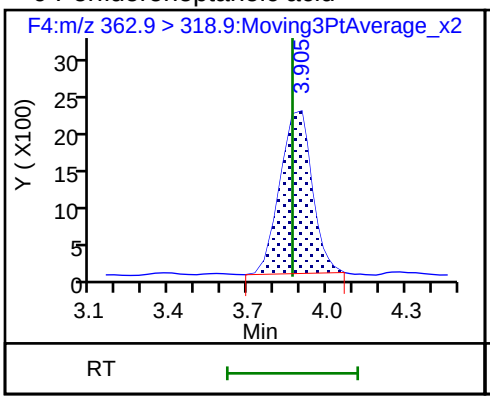
44 Perfluoro(2-propoxypropanoic) acid



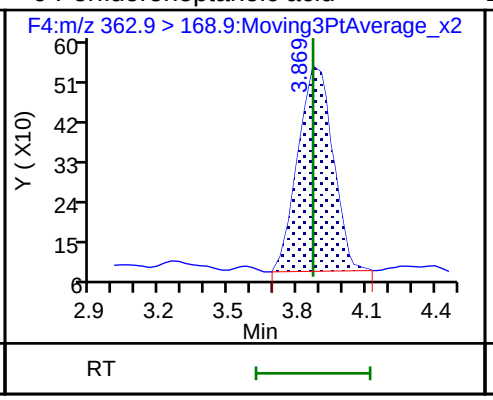
D 42 13C3 HFPO-DA



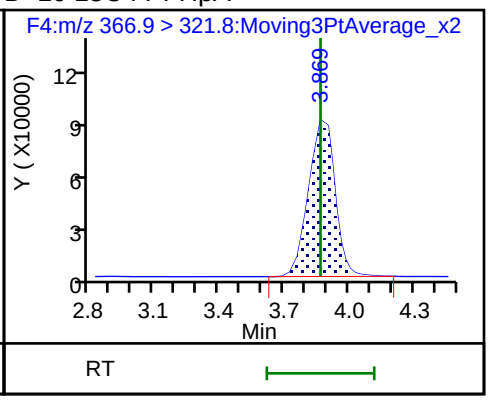
9 Perfluoroheptanoic acid



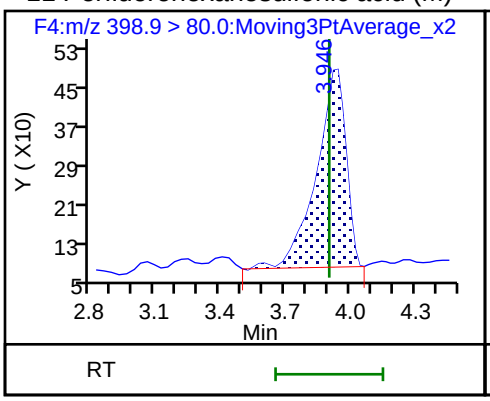
9 Perfluoroheptanoic acid



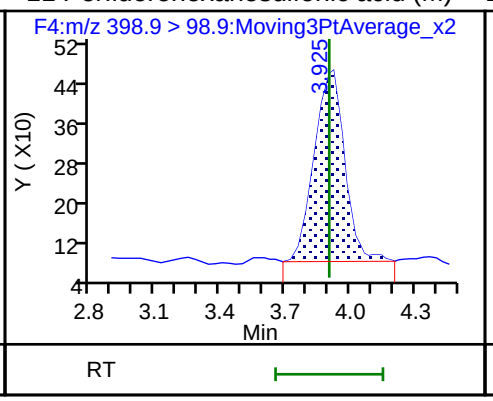
D 10 13C4 PFHpA



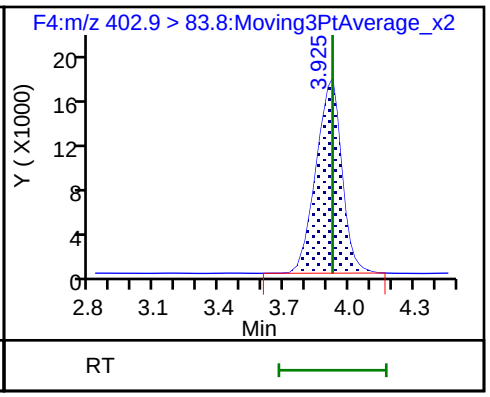
11 Perfluorohexanesulfonic acid (M)



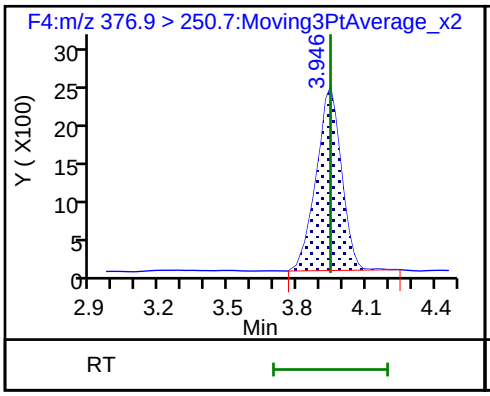
11 Perfluorohexanesulfonic acid (M)



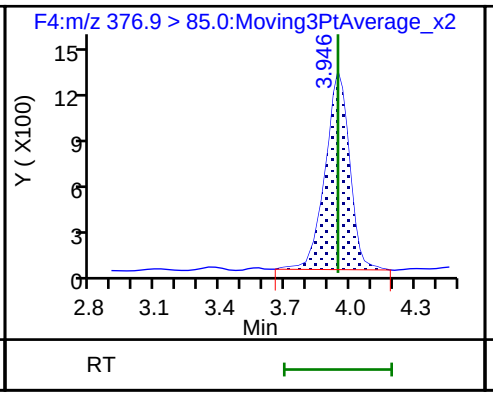
D 12 18O2 PFHxS



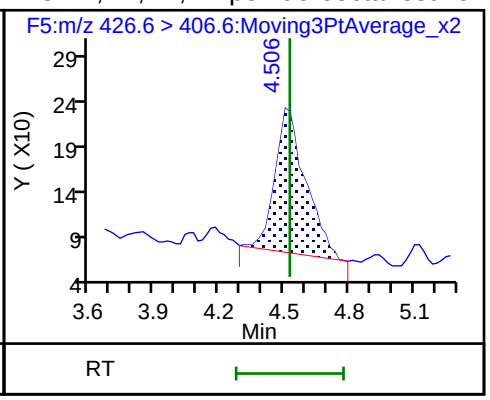
49 DONA



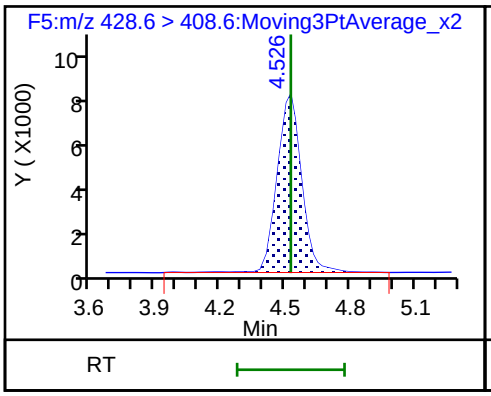
49 DONA



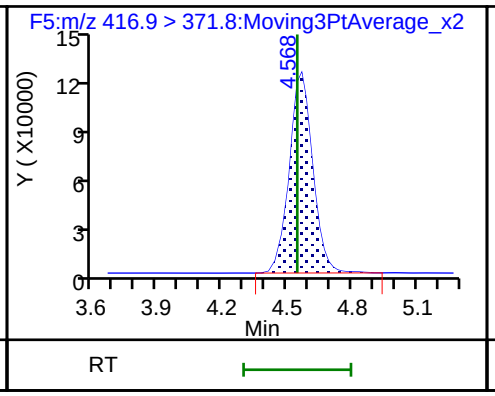
13 1H,1H,2H,2H-perfluorooctanesulfoni



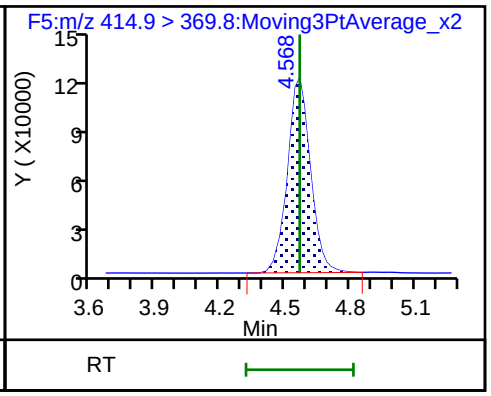
D 14 M2-6:2 FTS



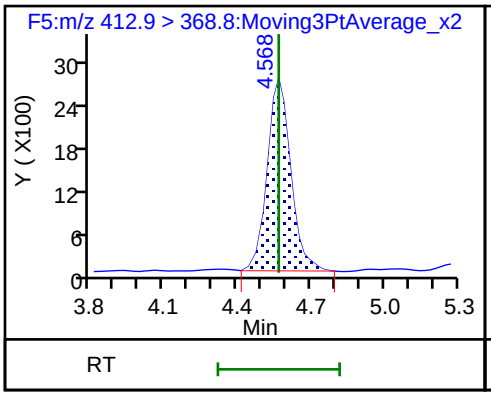
D 17 13C4 PFOA



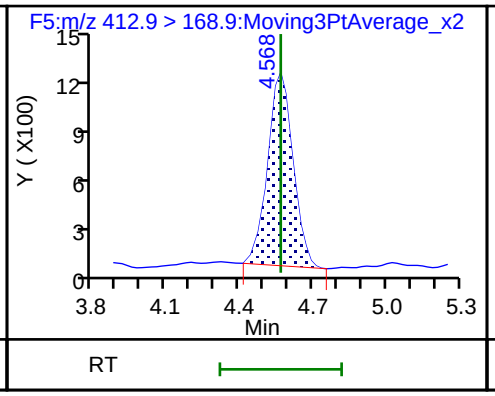
* 16 13C2 PFOA



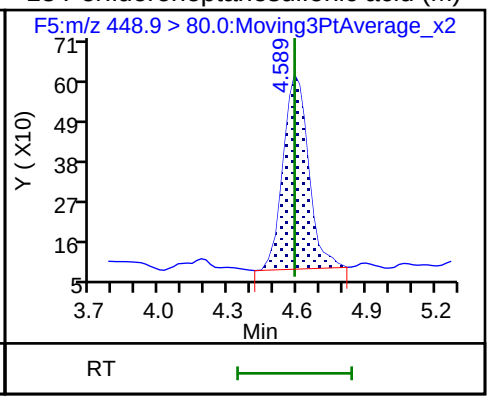
15 Perfluorooctanoic acid



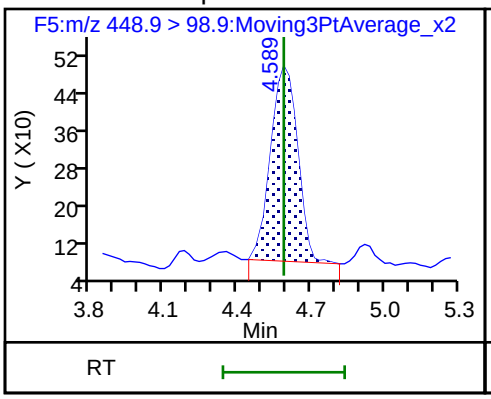
15 Perfluorooctanoic acid



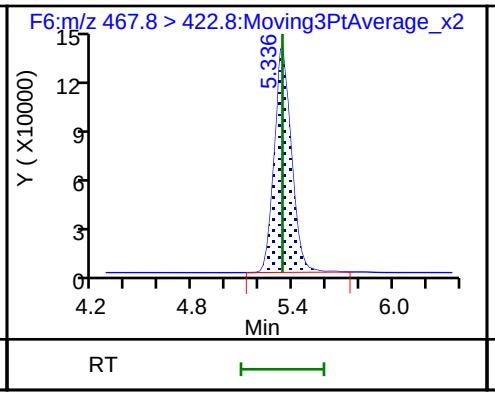
18 Perfluoroheptanesulfonic acid (M)



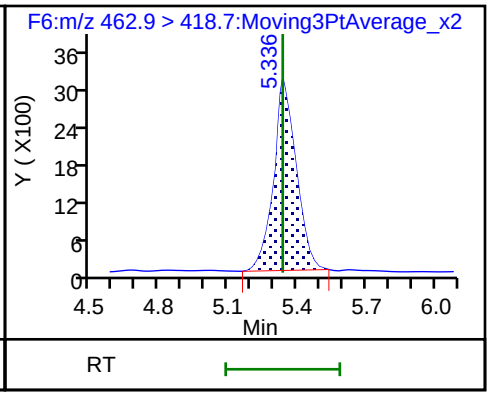
18 Perfluoroheptanesulfonic acid



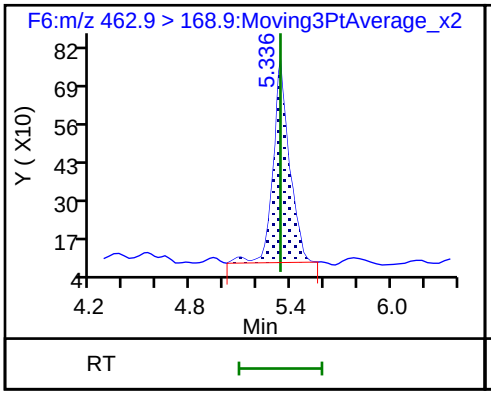
D 20 13C5 PFNA



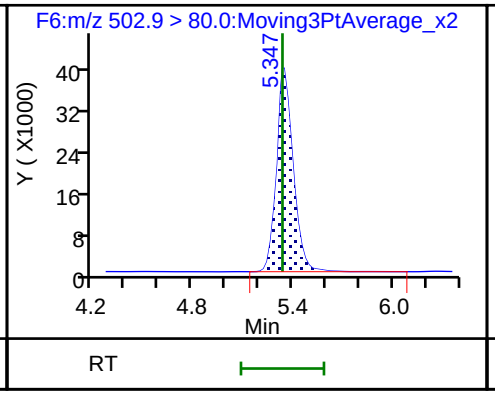
19 Perfluorononanoic acid



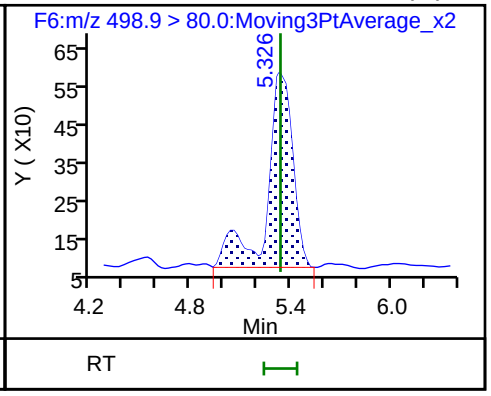
19 Perfluorononanoic acid



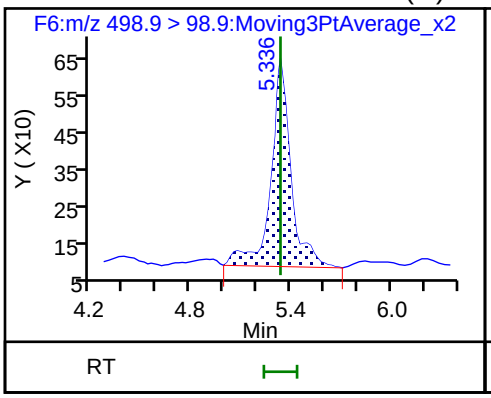
D 22 13C4 PFOS



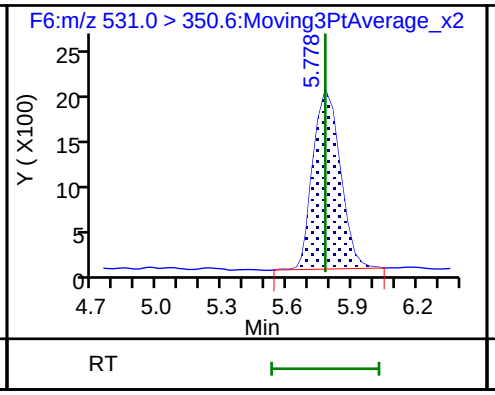
21 Perfluorooctanesulfonic acid (M)



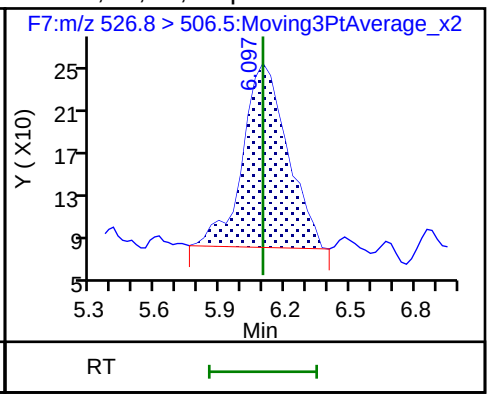
21 Perfluorooctanesulfonic acid (M)



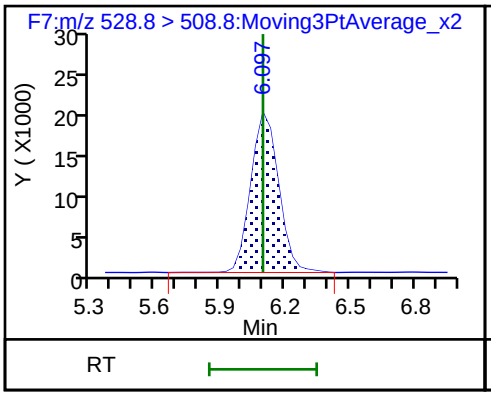
47 9-Chlorohexadecafluoro-3-oxanonane



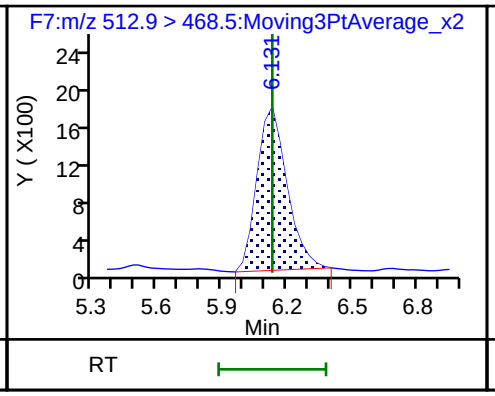
23 1H,1H,2H,2H-perfluorodecanesulfoni (M)



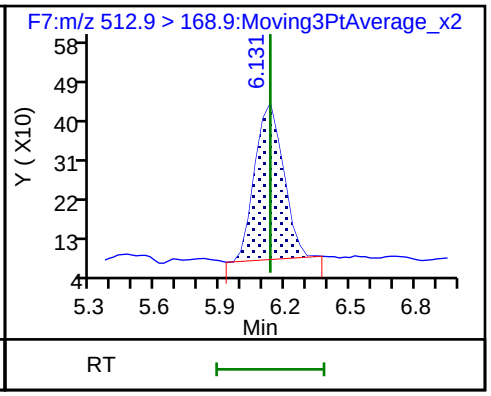
D 24 M2-8:2 FTS



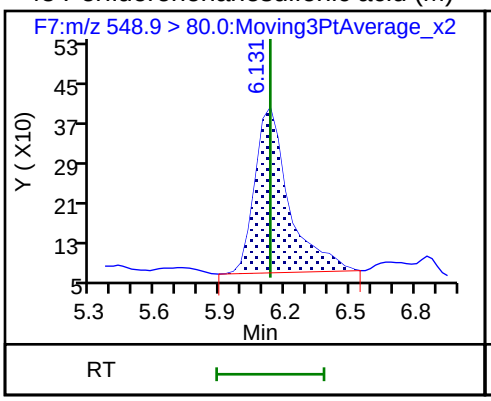
26 Perfluorodecanoic acid



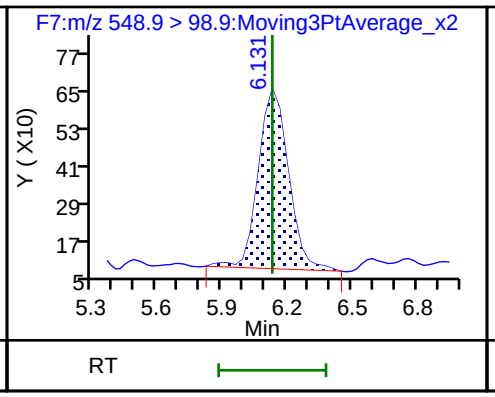
26 Perfluorodecanoic acid



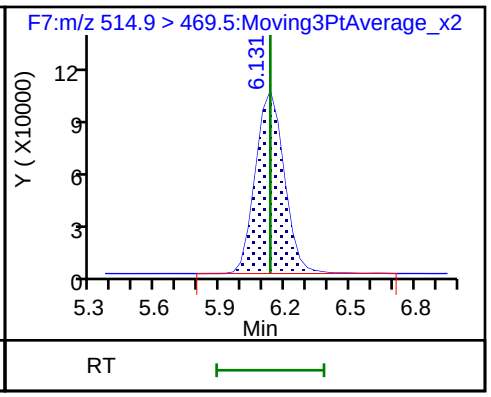
45 Perfluorononanesulfonic acid (M)



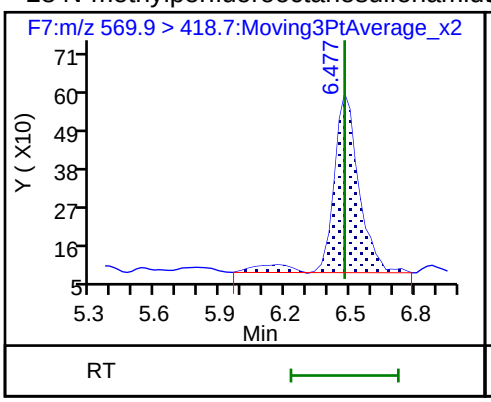
45 Perfluorononanesulfonic acid

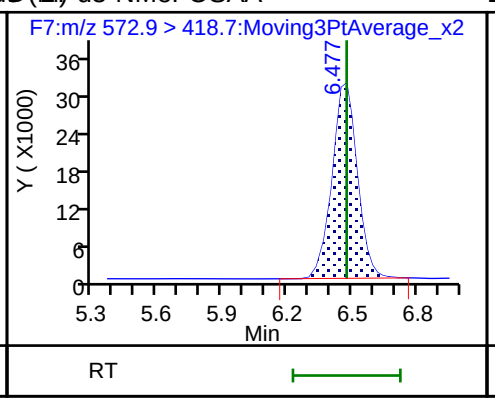


D 25 13C2 PFDA

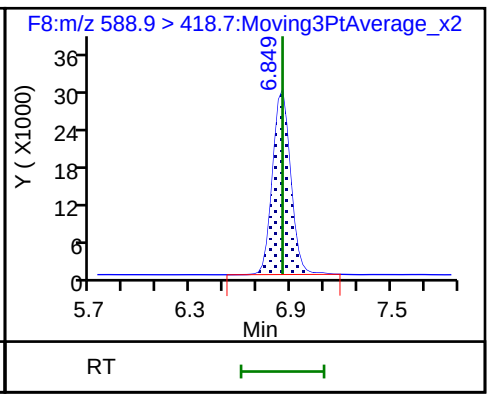


28 N-methylperfluorooctanesulfonamidoD (27) d3-NMeFOSAA

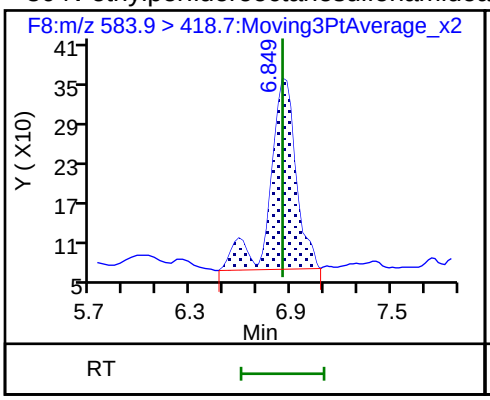




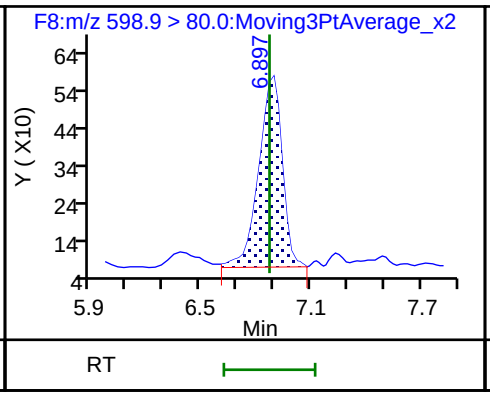
D 29 d5-NEtFOSAA



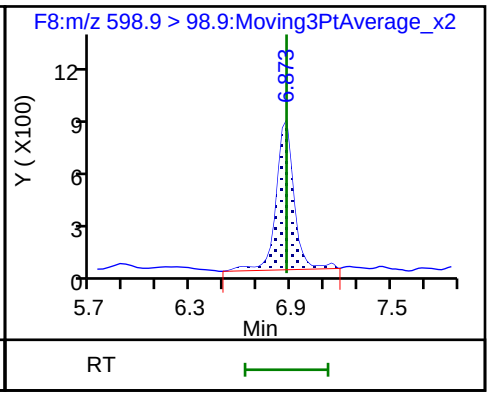
30 N-ethylperfluorooctanesulfonamidoa



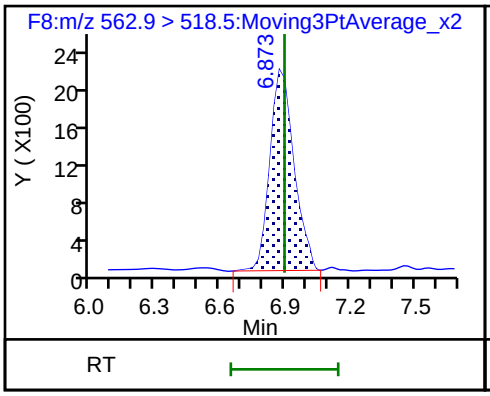
31 Perfluorodecanesulfonic acid



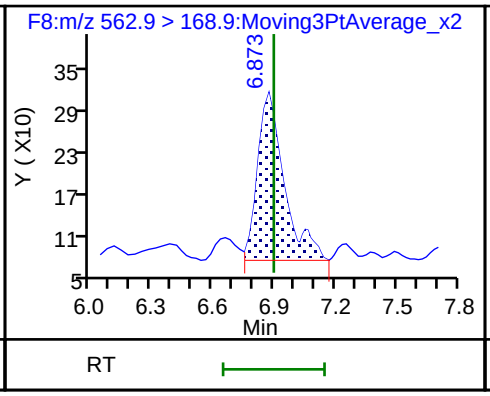
31 Perfluorodecanesulfonic acid



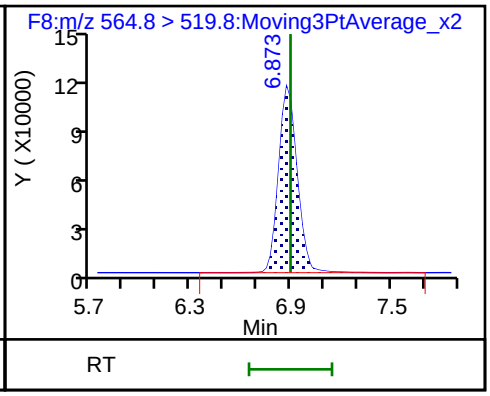
32 Perfluoroundecanoic acid



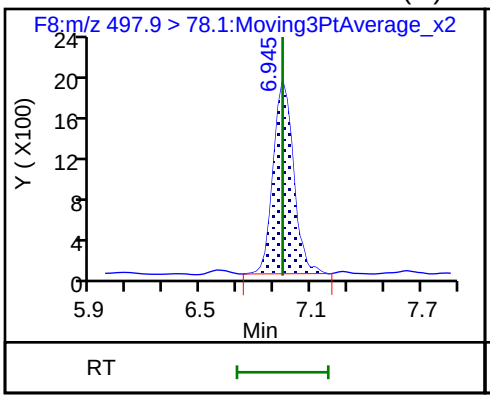
32 Perfluoroundecanoic acid



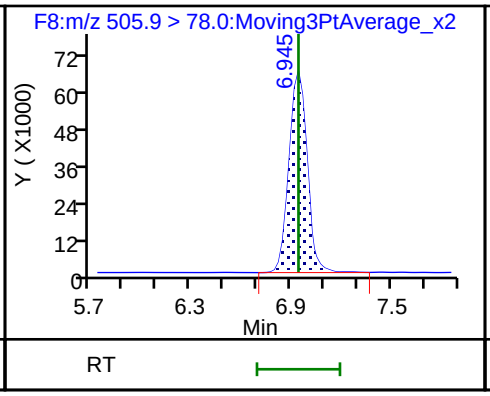
D 33 13C2 PFUnA



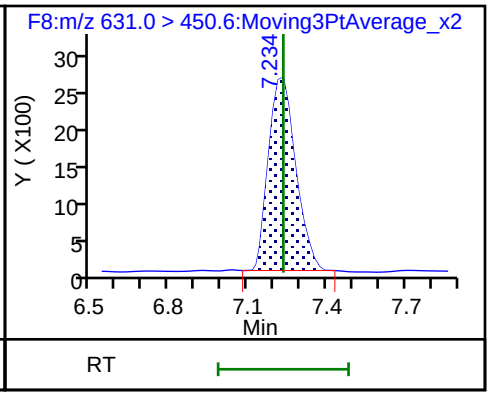
35 Perfluorooctanesulfonamide (M)



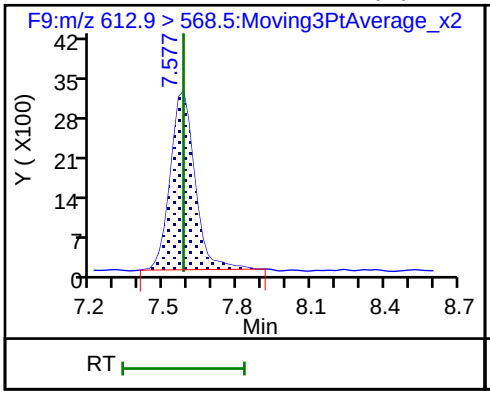
D 34 13C8 FOSA



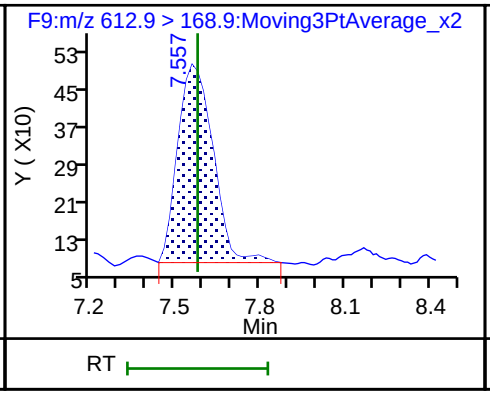
43 11-Chloroeicosafluoro-3-oxaundecan



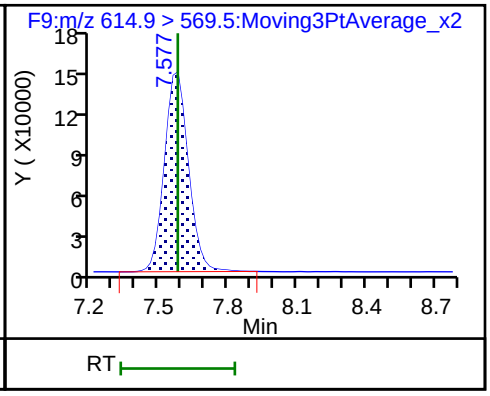
36 Perfluorododecanoic acid (M)



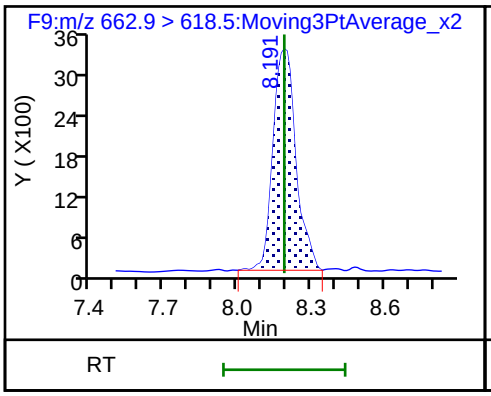
36 Perfluorododecanoic acid



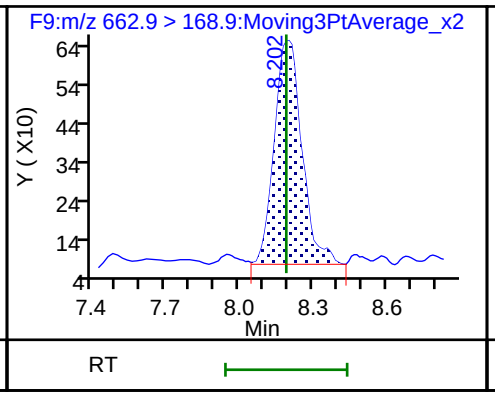
D 37 13C2 PFDoA



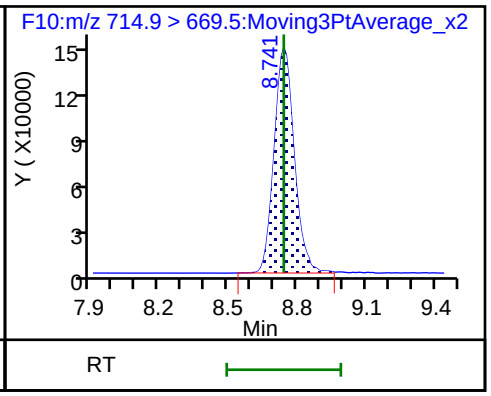
38 Perfluorotridecanoic acid



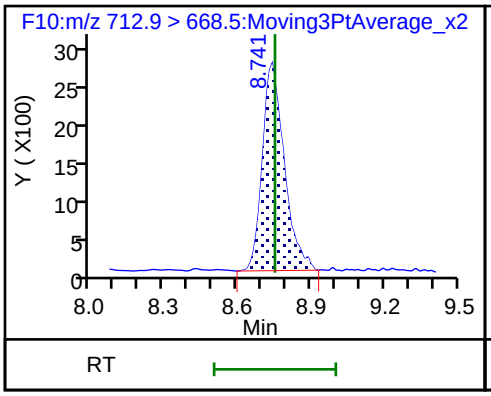
38 Perfluorotridecanoic acid



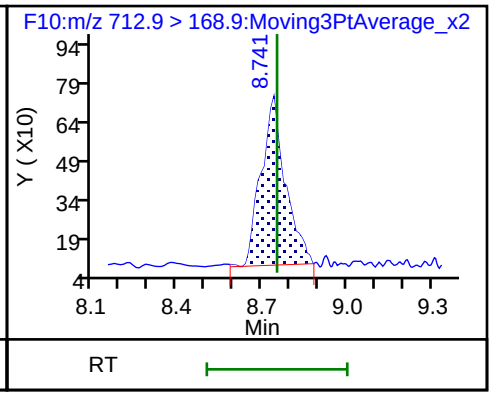
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

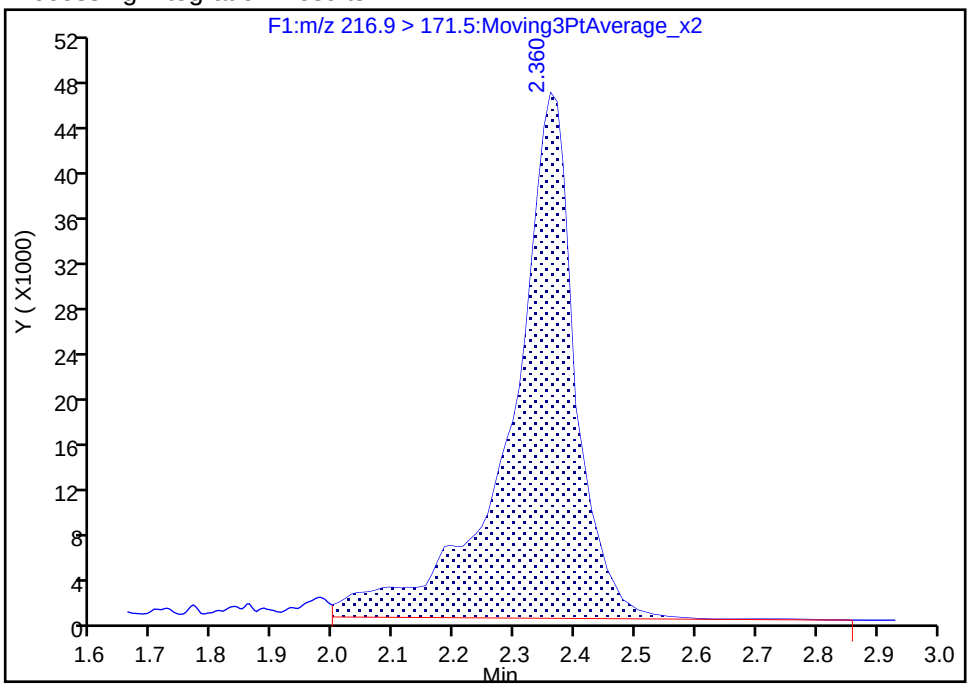
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d				
Injection Date:	06-Jun-2019 12:56:10	Instrument ID:	LC410		
Lims ID:	CCVL				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

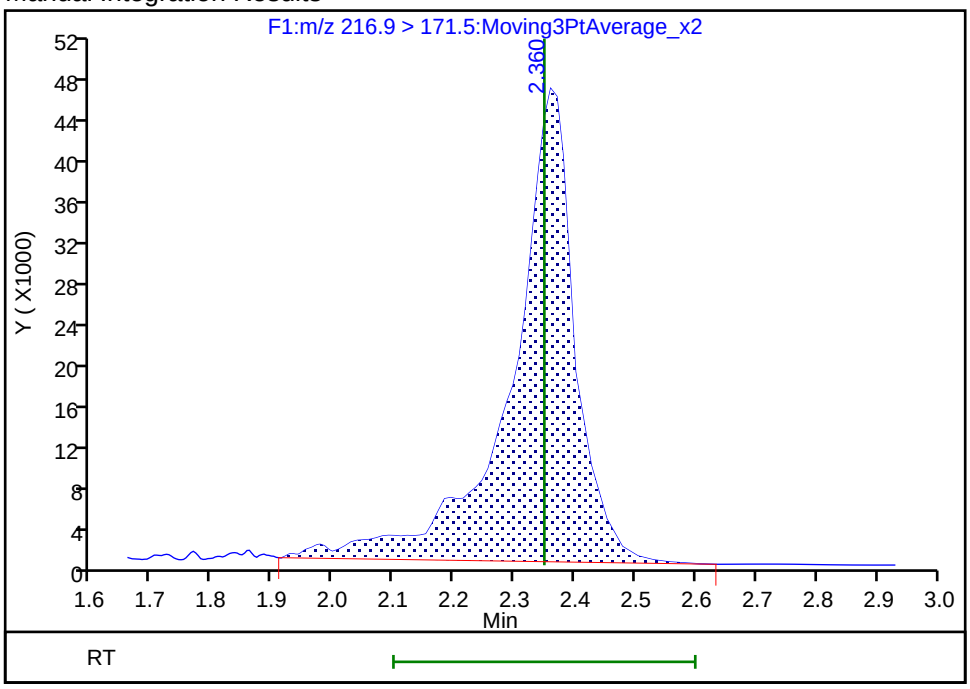
Processing Integration Results

RT: 2.36
Area: 346920
Amount: 82.841581
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 343488
Amount: 82.022049
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:37:35

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

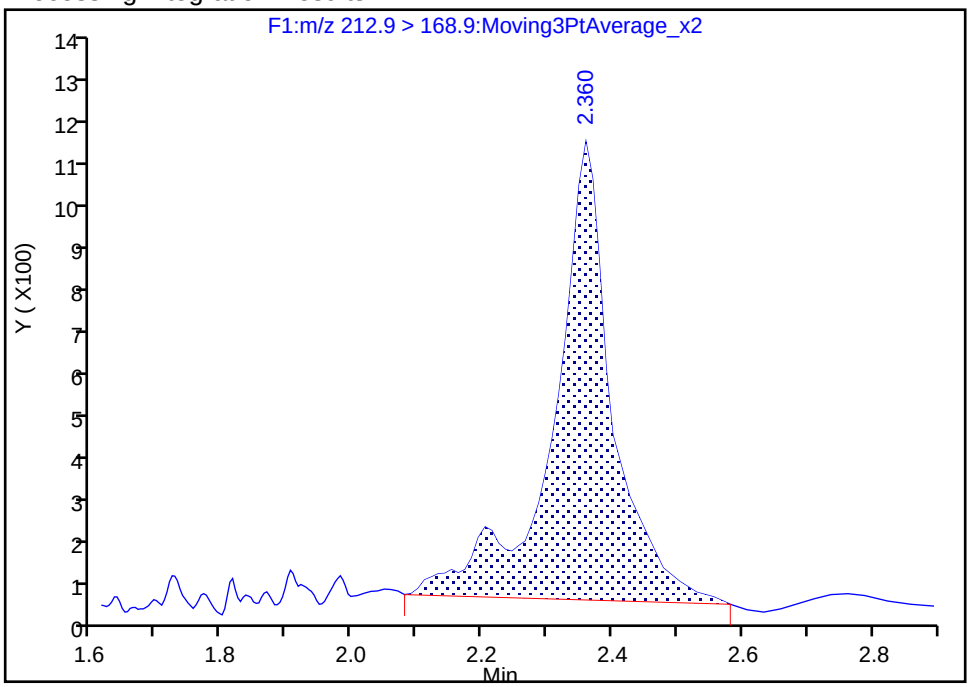
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

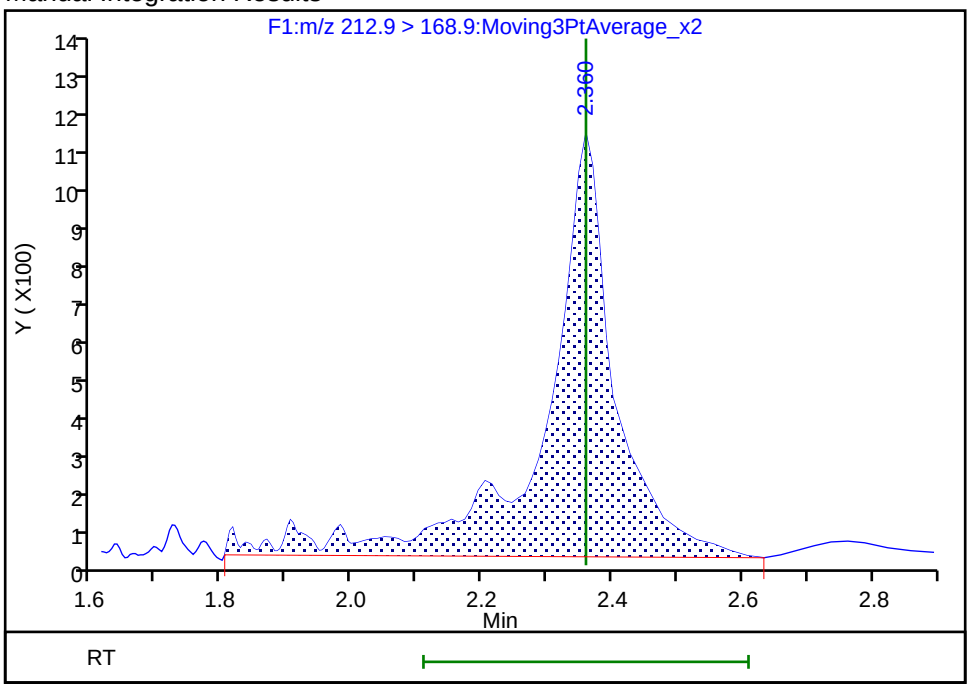
Processing Integration Results

RT: 2.36
Area: 6317
Amount: 0.585697
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 7712
Amount: 0.715037
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:37:41
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

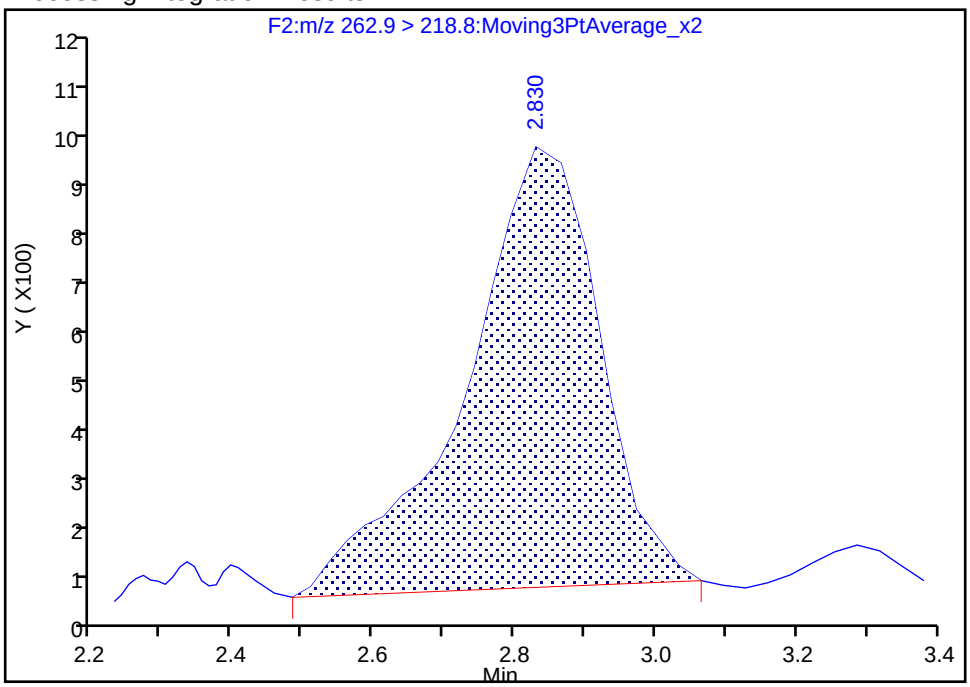
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d				
Injection Date:	06-Jun-2019 12:56:10	Instrument ID:	LC410		
Lims ID:	CCVL				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F2:MRM		

3 Perfluoropentanoic acid, CAS: 2706-90-3

Signal: 1

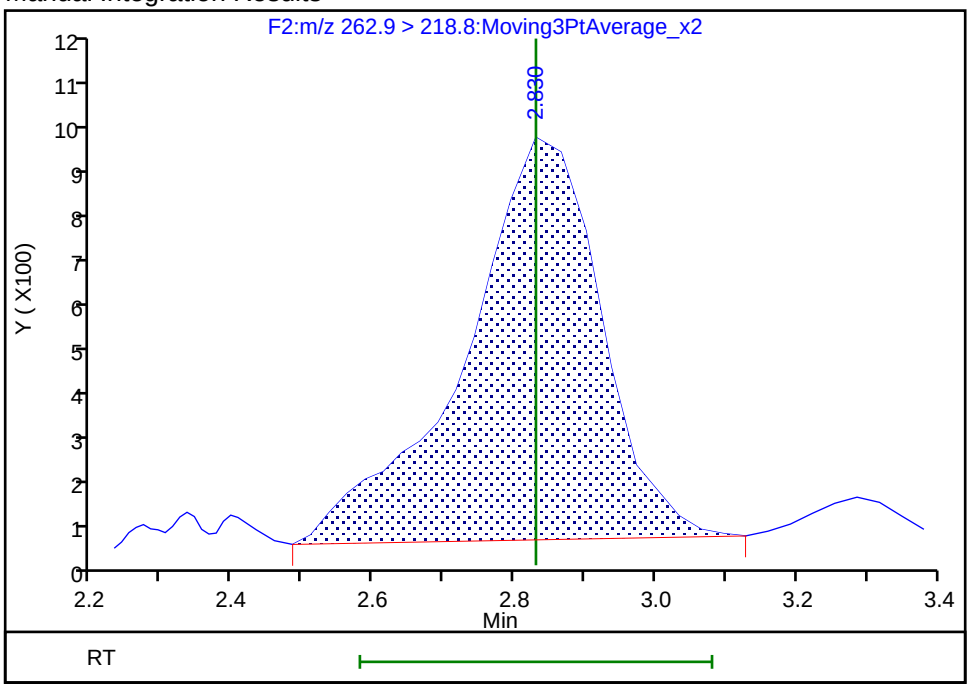
Processing Integration Results

RT: 2.83
Area: 11199
Amount: 0.835962
Amount Units: ng/ml



Manual Integration Results

RT: 2.83
Area: 11499
Amount: 0.858356
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:37:50

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

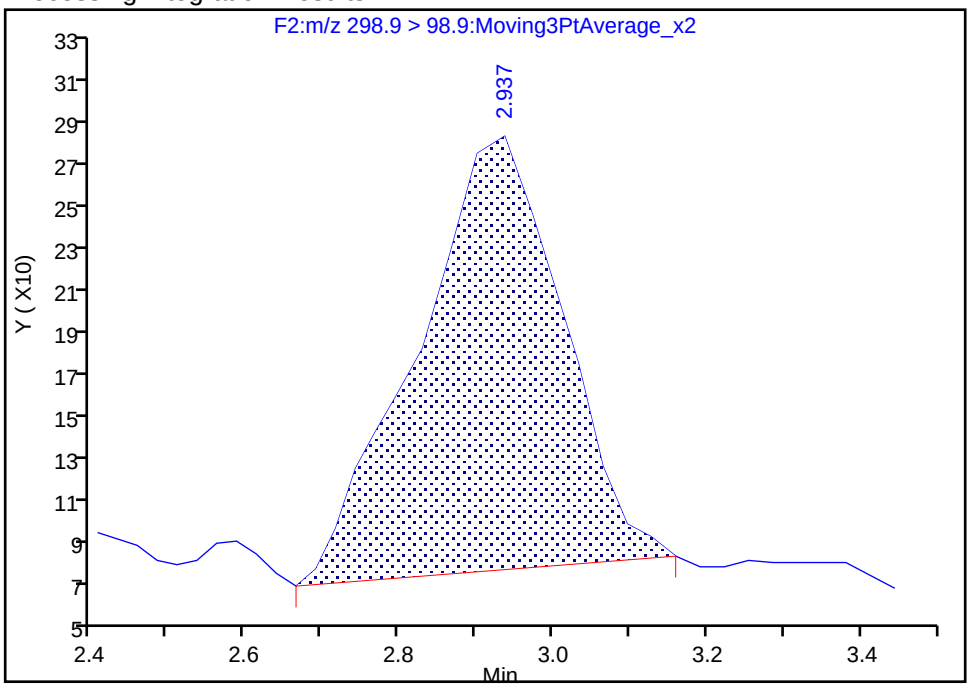
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

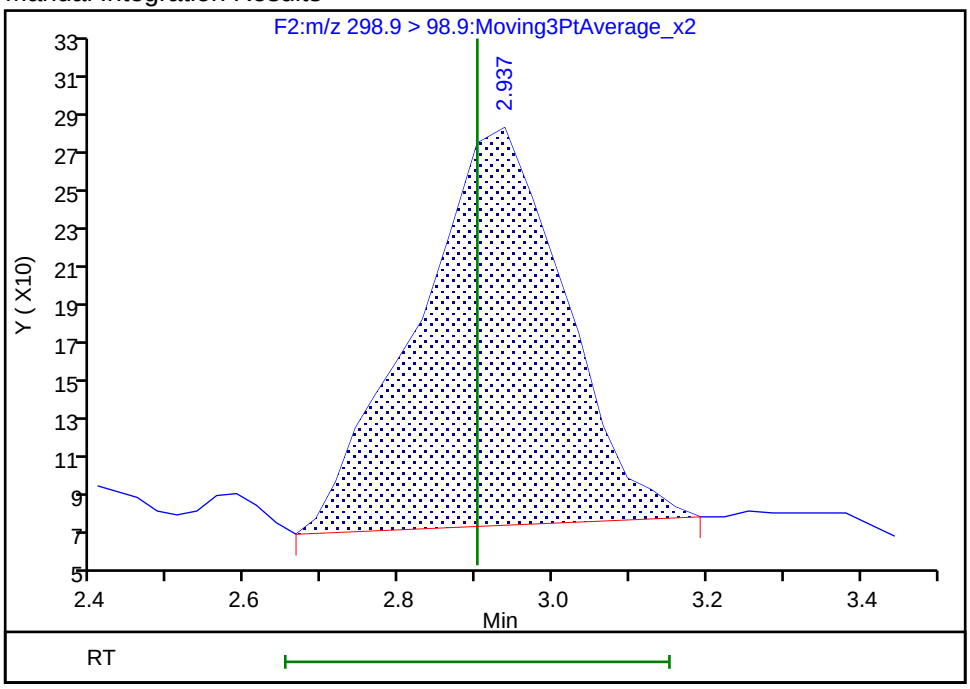
Processing Integration Results

RT: 2.94
Area: 2660
Amount: 0.897922
Amount Units: ng/ml



Manual Integration Results

RT: 2.94
Area: 2748
Amount: 0.897922
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:37:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

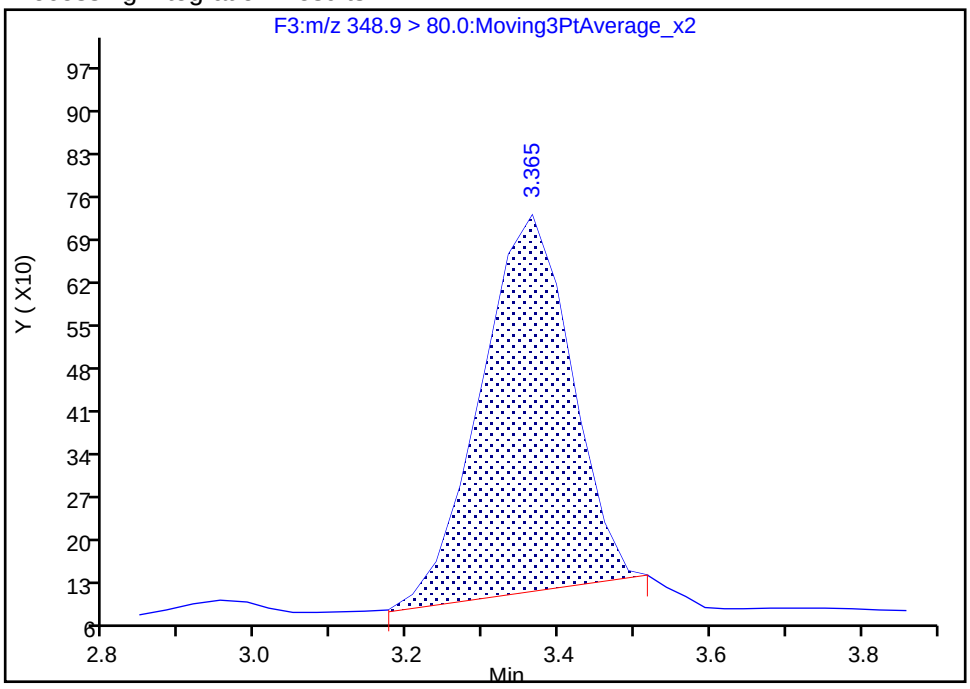
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

48 Perfluoropentanesulfonic acid, CAS: 2706-91-4

Signal: 1

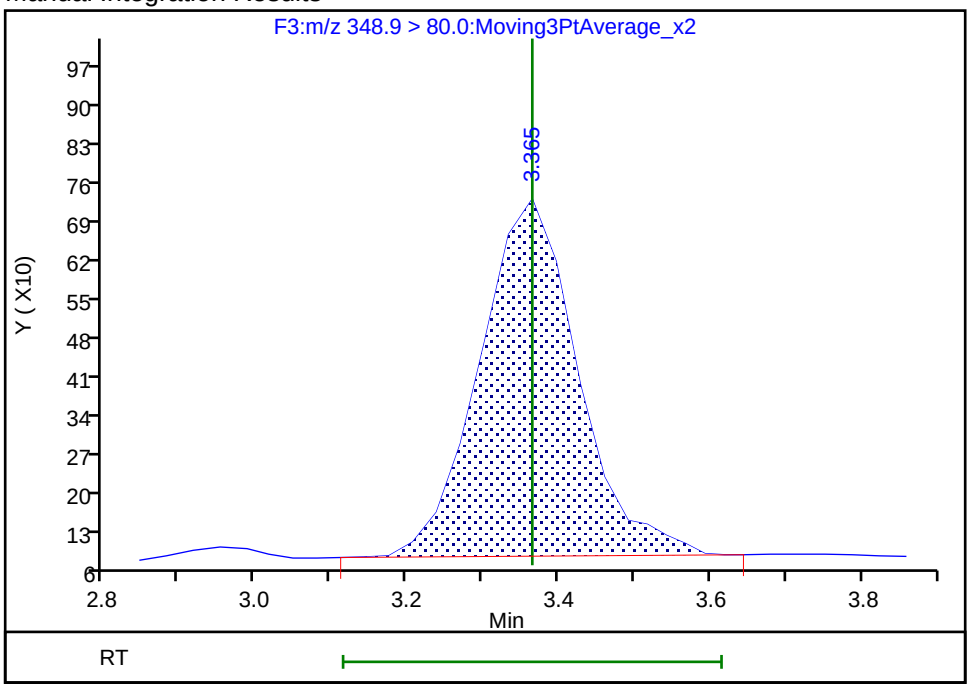
Processing Integration Results

RT: 3.37
Area: 5115
Amount: 0.690673
Amount Units: ng/ml



Manual Integration Results

RT: 3.37
Area: 5822
Amount: 0.786139
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:38:12
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

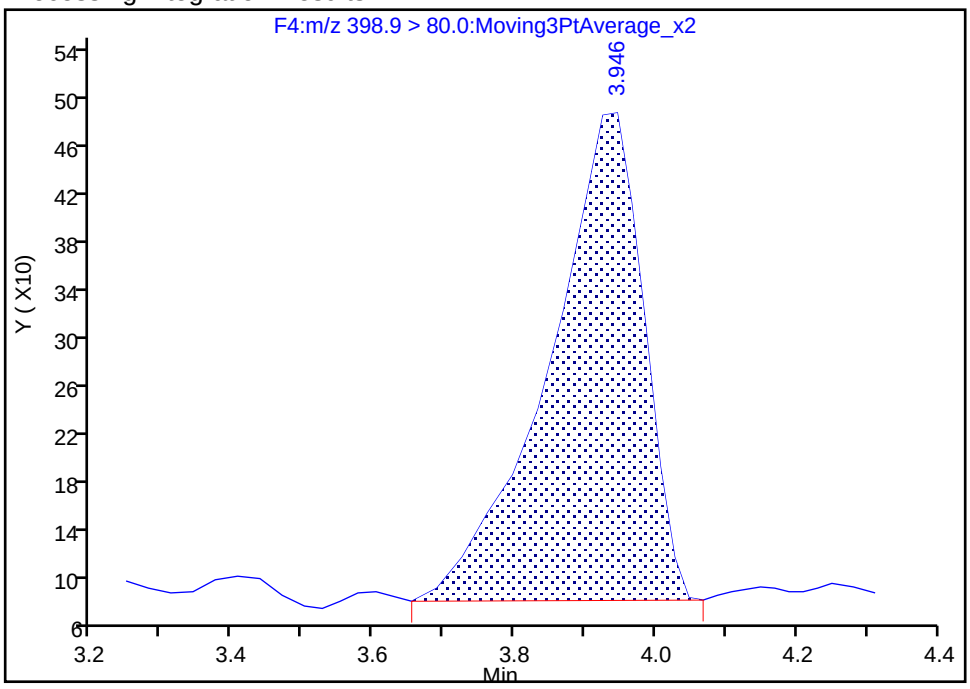
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

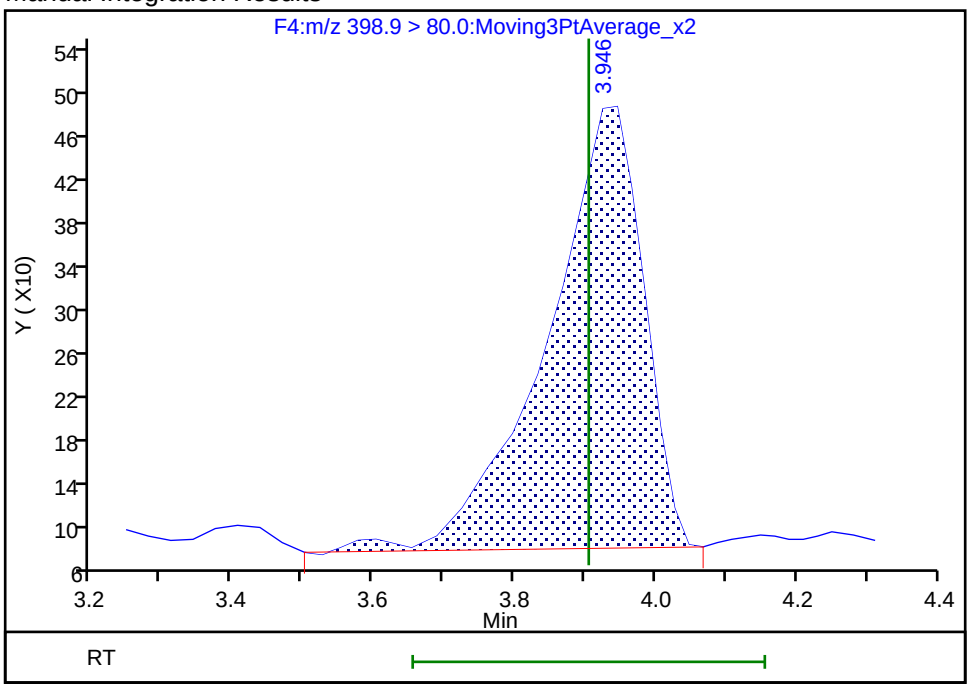
Processing Integration Results

RT: 3.95
Area: 3802
Amount: 0.598176
Amount Units: ng/ml



Manual Integration Results

RT: 3.95
Area: 3882
Amount: 0.610762
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:38:31
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

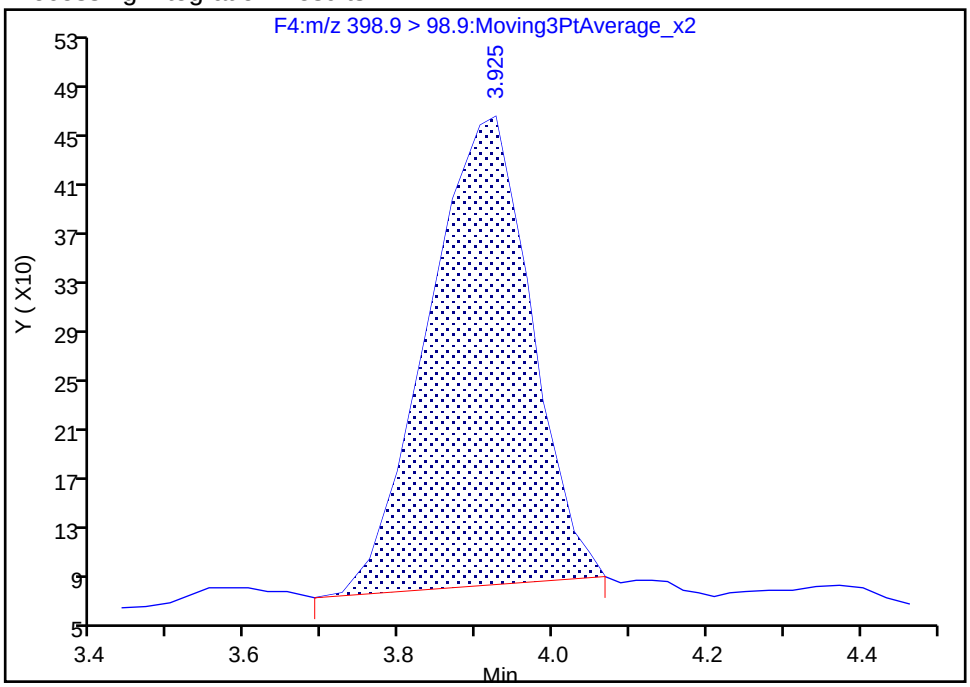
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

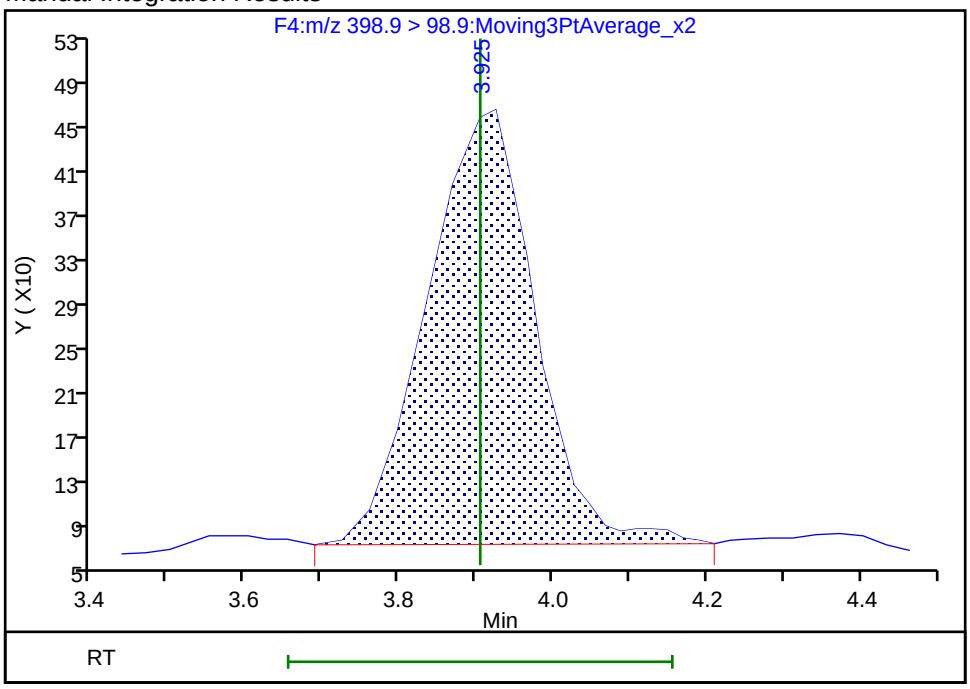
Processing Integration Results

RT: 3.93
Area: 3483
Amount: 0.598176
Amount Units: ng/ml



Manual Integration Results

RT: 3.93
Area: 3748
Amount: 0.610762
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:38:34
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

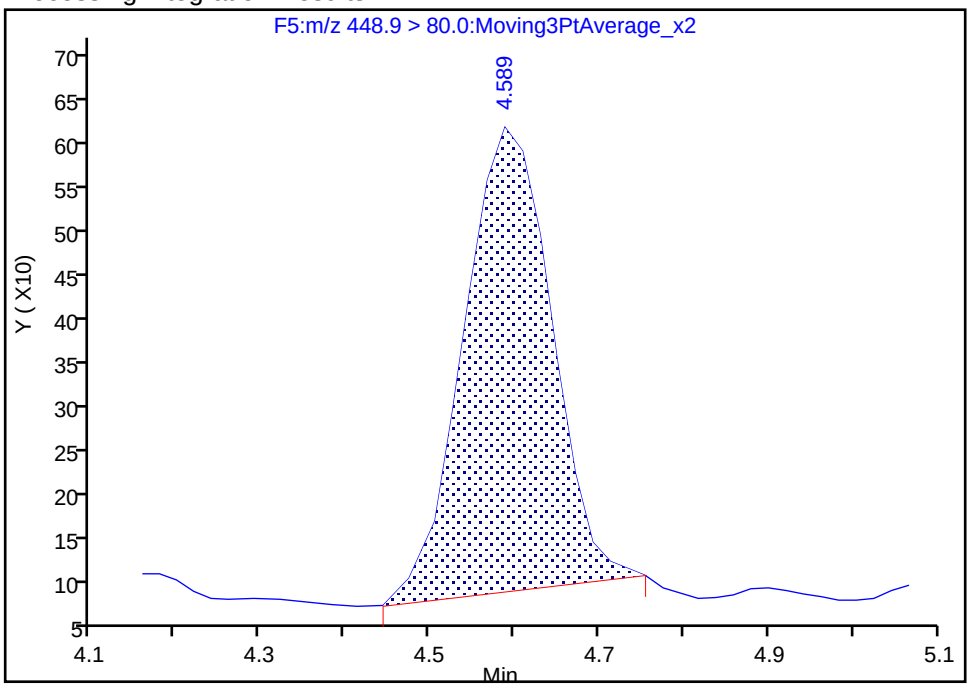
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

18 Perfluoroheptanesulfonic acid, CAS: 375-92-8

Signal: 1

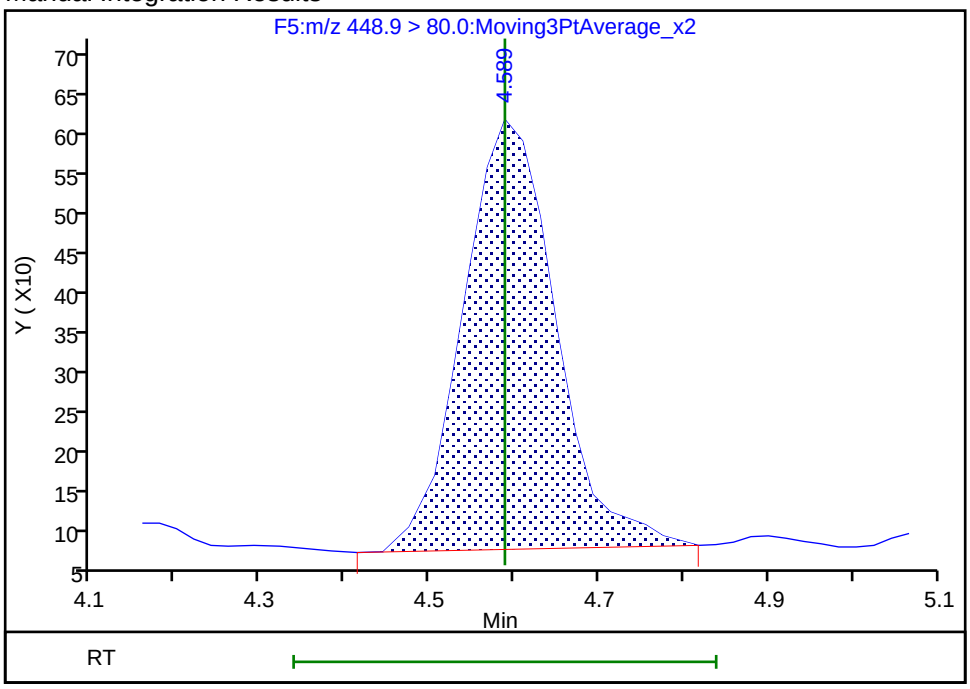
Processing Integration Results

RT: 4.59
Area: 3827
Amount: 0.776636
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 4117
Amount: 0.835487
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:38:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

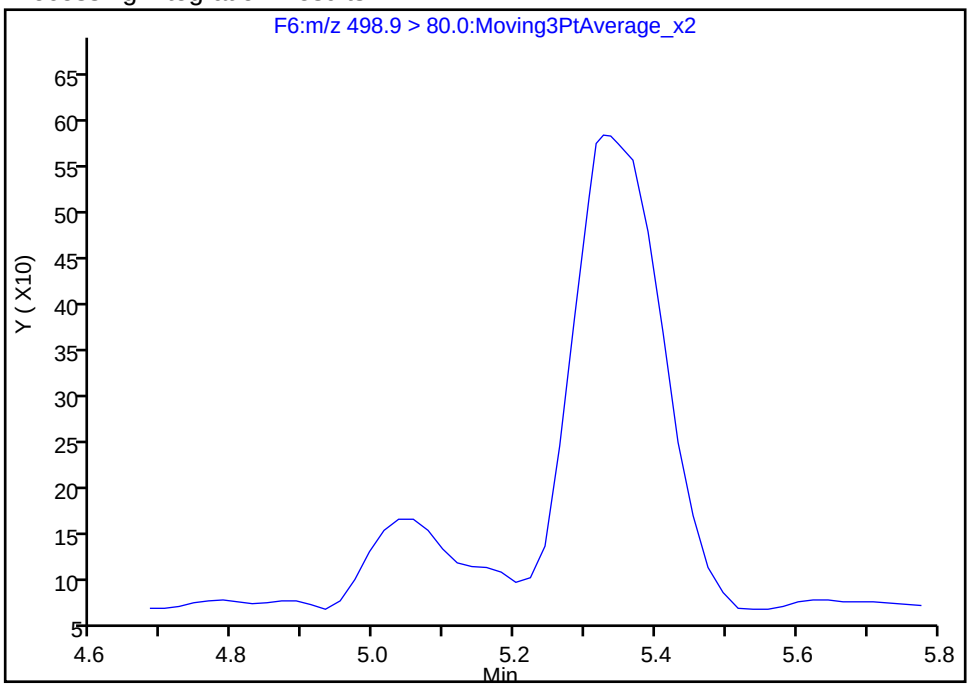
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

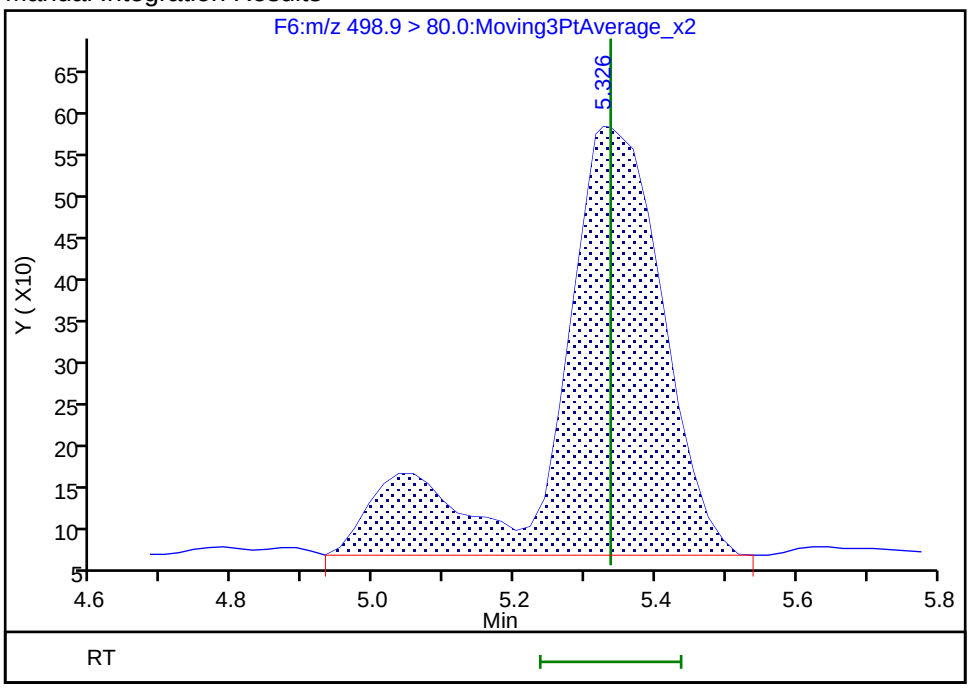
Not Detected
Expected RT: 5.34

Processing Integration Results



Manual Integration Results

RT: 5.33
Area: 5454
Amount: 0.997777
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:38:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

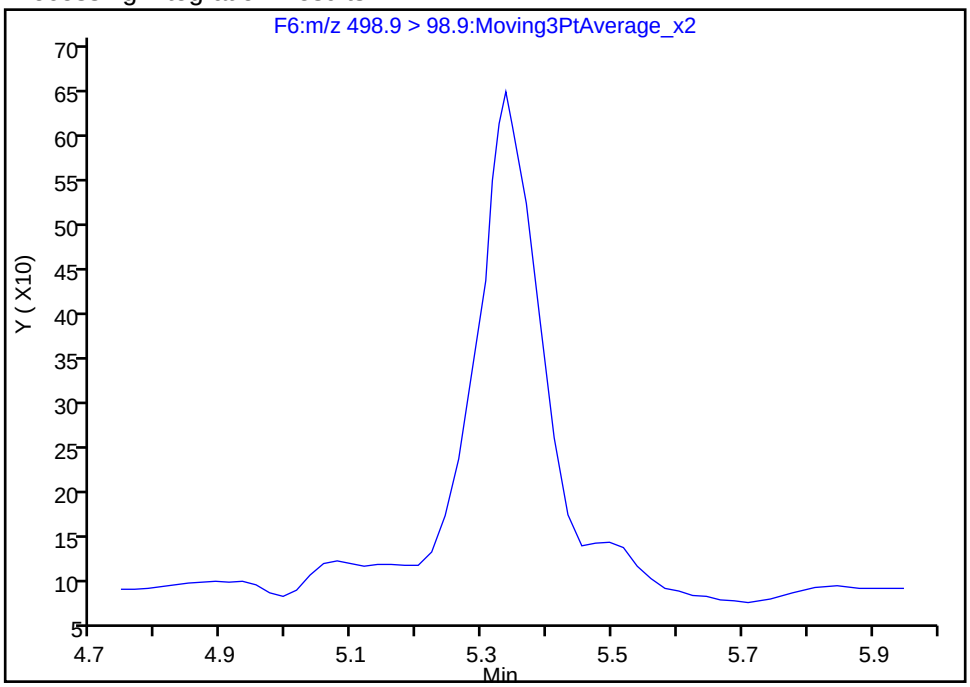
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

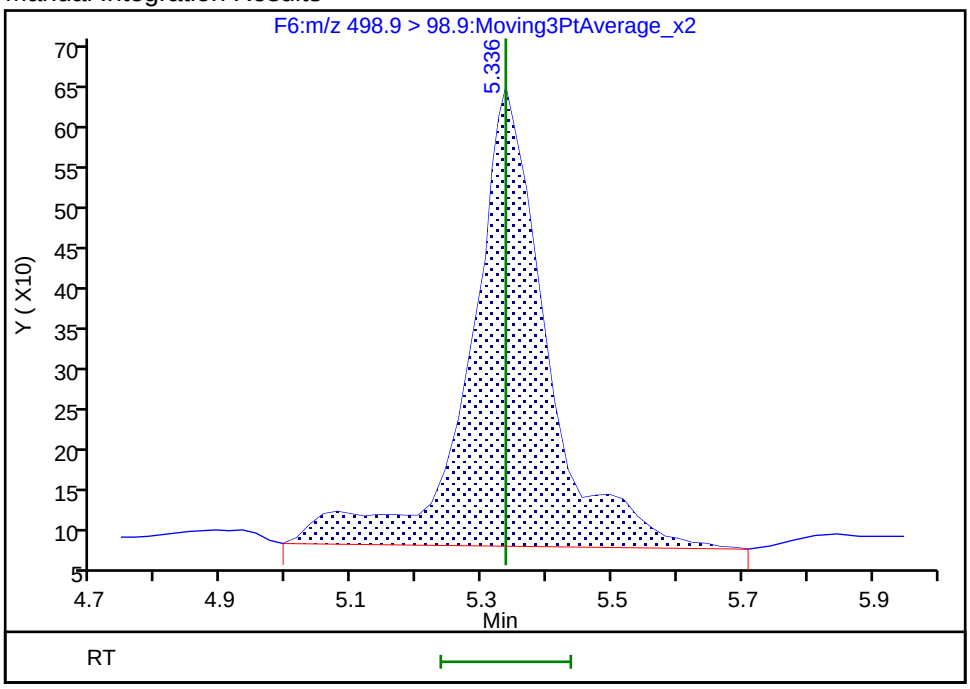
Not Detected
Expected RT: 5.34

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 4724
Amount: 0.997777
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:39:00
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

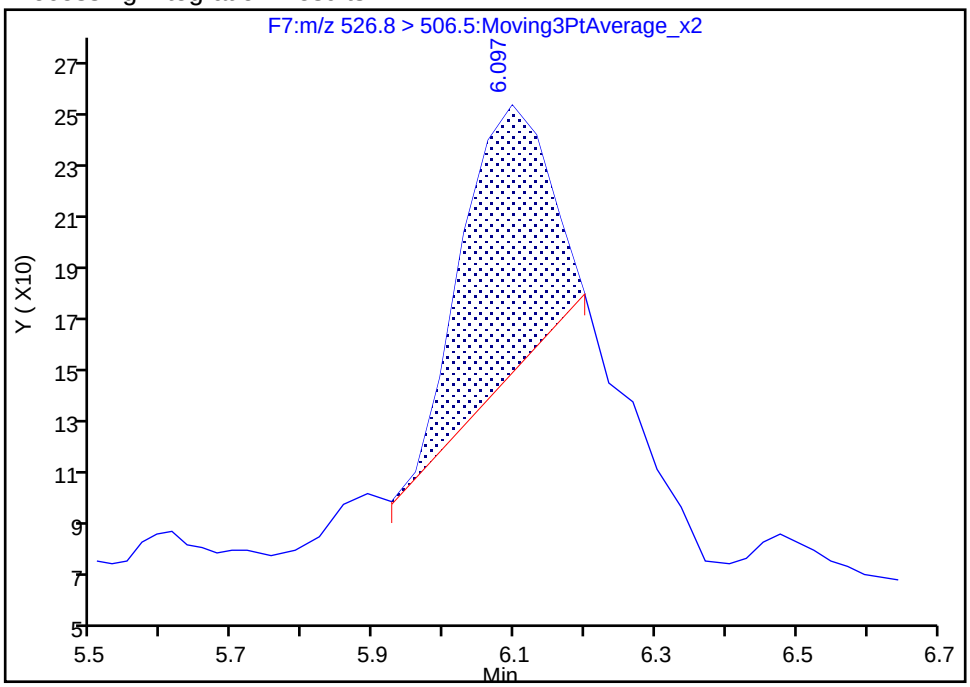
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

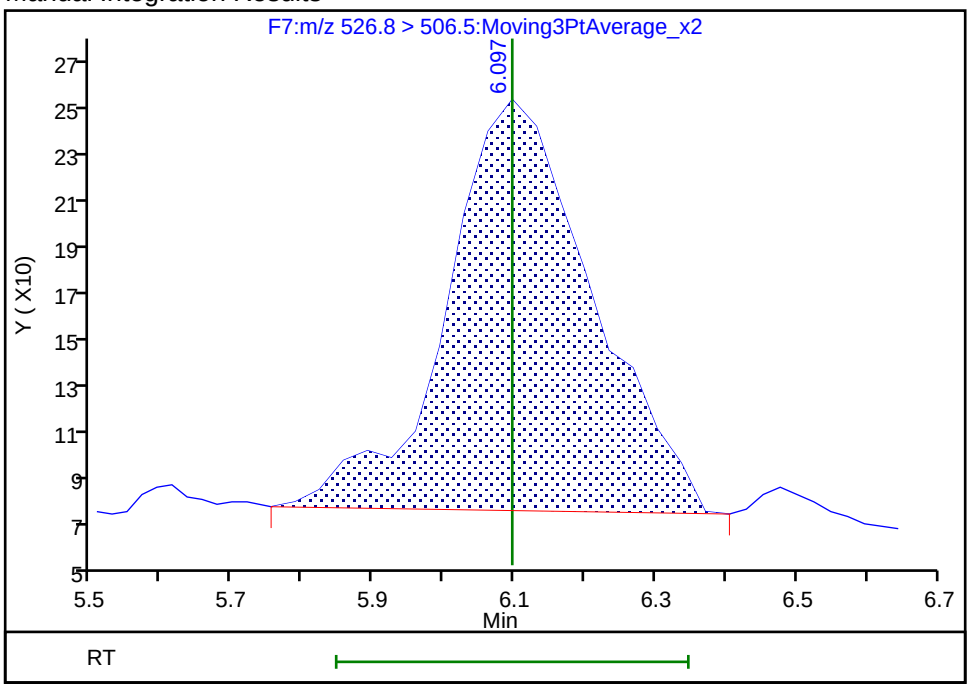
Processing Integration Results

RT: 6.10
Area: 849
Amount: 0.312225
Amount Units: ng/ml



Manual Integration Results

RT: 6.10
Area: 2431
Amount: 0.894015
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:39:07
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

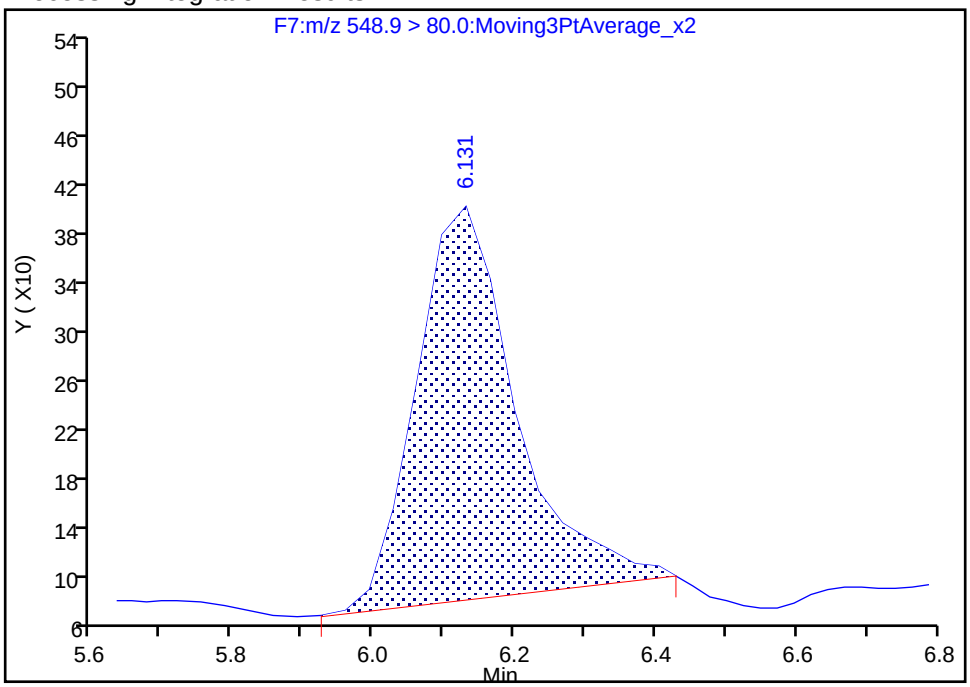
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

45 Perfluorononanesulfonic acid, CAS: 68259-12-1

Signal: 1

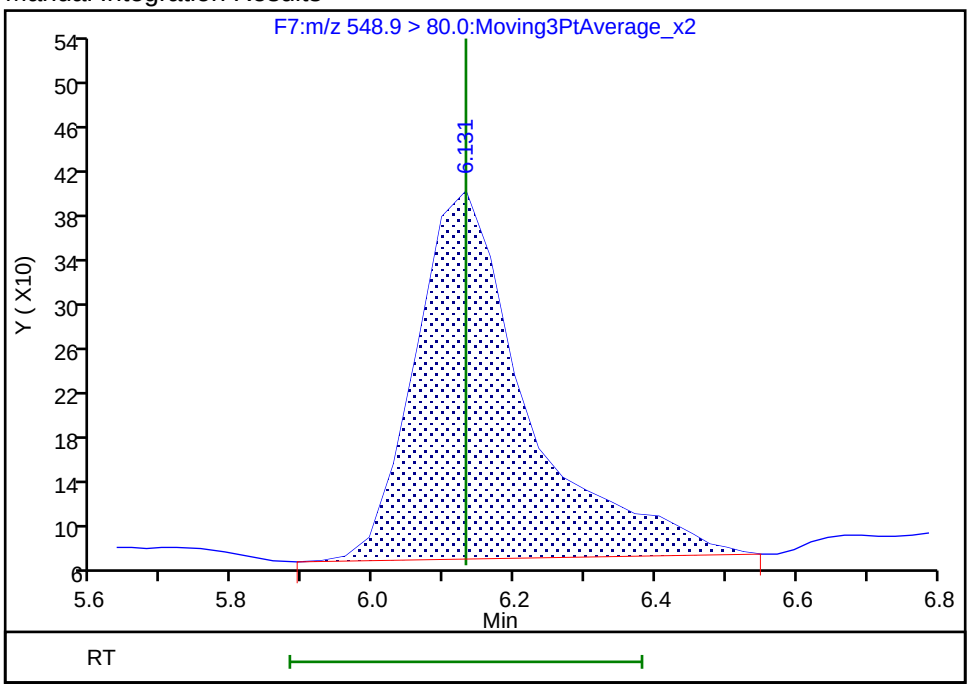
Processing Integration Results

RT: 6.13
Area: 3159
Amount: 0.575560
Amount Units: ng/ml



Manual Integration Results

RT: 6.13
Area: 3640
Amount: 0.663196
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:39:17
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

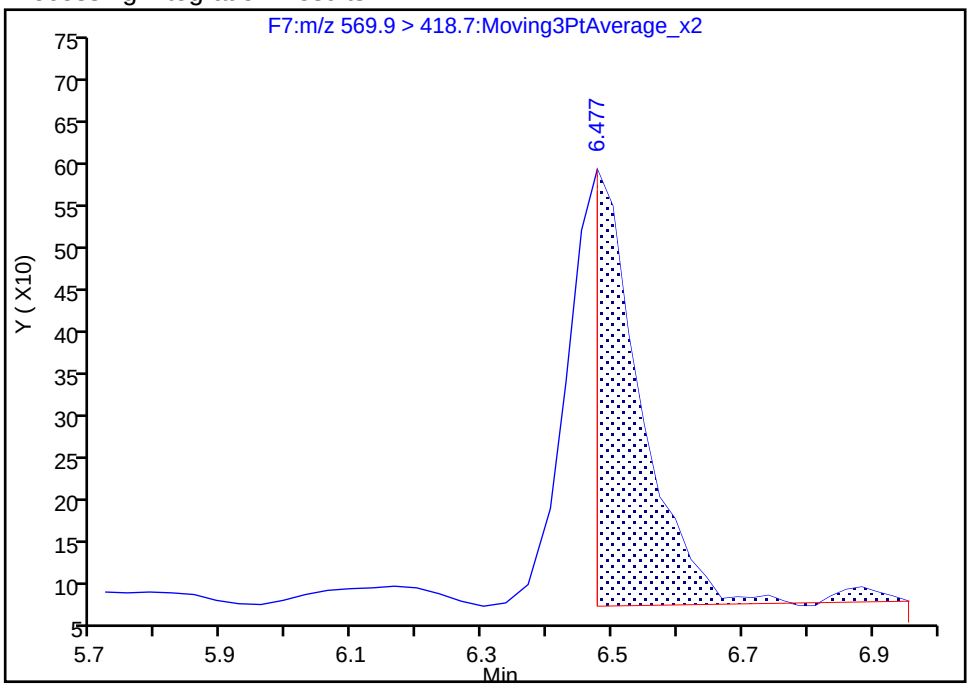
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

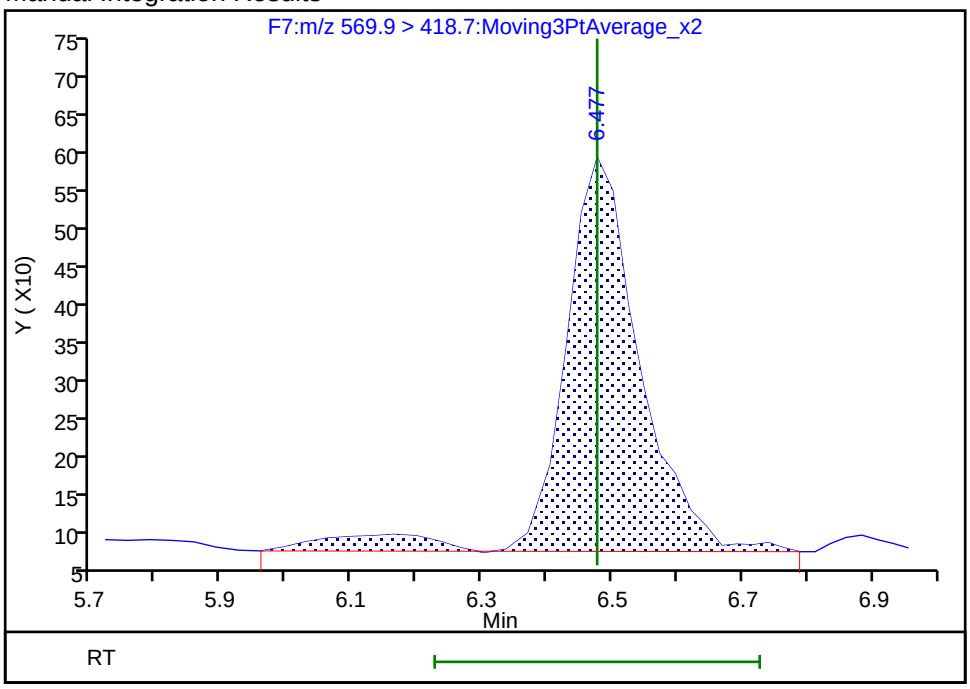
Processing Integration Results

RT: 6.48
Area: 2432
Amount: 0.574214
Amount Units: ng/ml



Manual Integration Results

RT: 6.48
Area: 4309
Amount: 1.017388
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:39:24
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

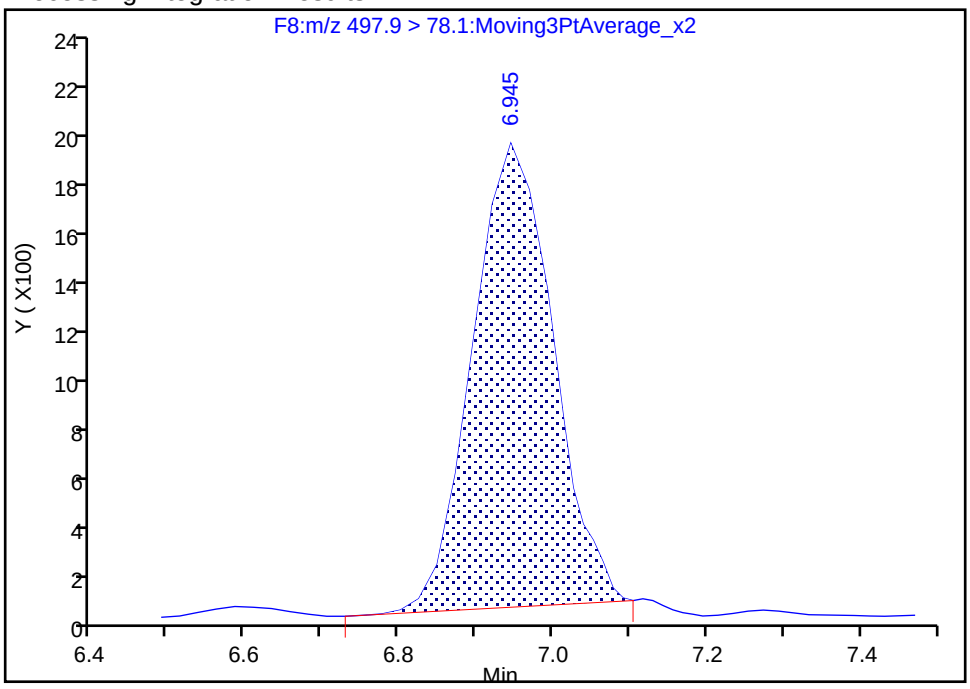
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

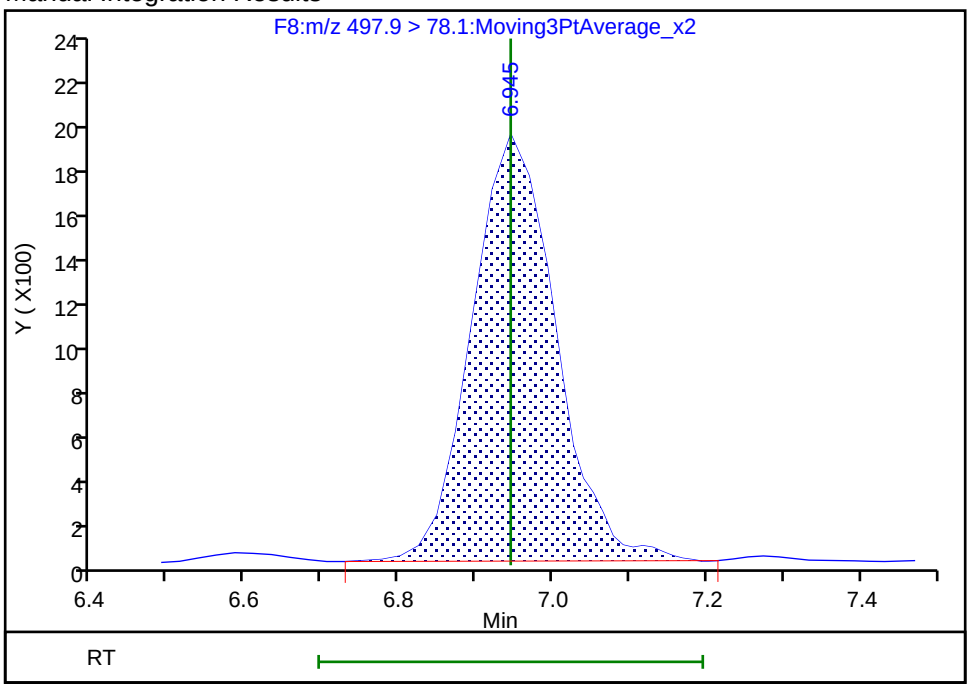
Processing Integration Results

RT: 6.95
Area: 13142
Amount: 0.924658
Amount Units: ng/ml



Manual Integration Results

RT: 6.95
Area: 13966
Amount: 0.982634
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:40:16
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

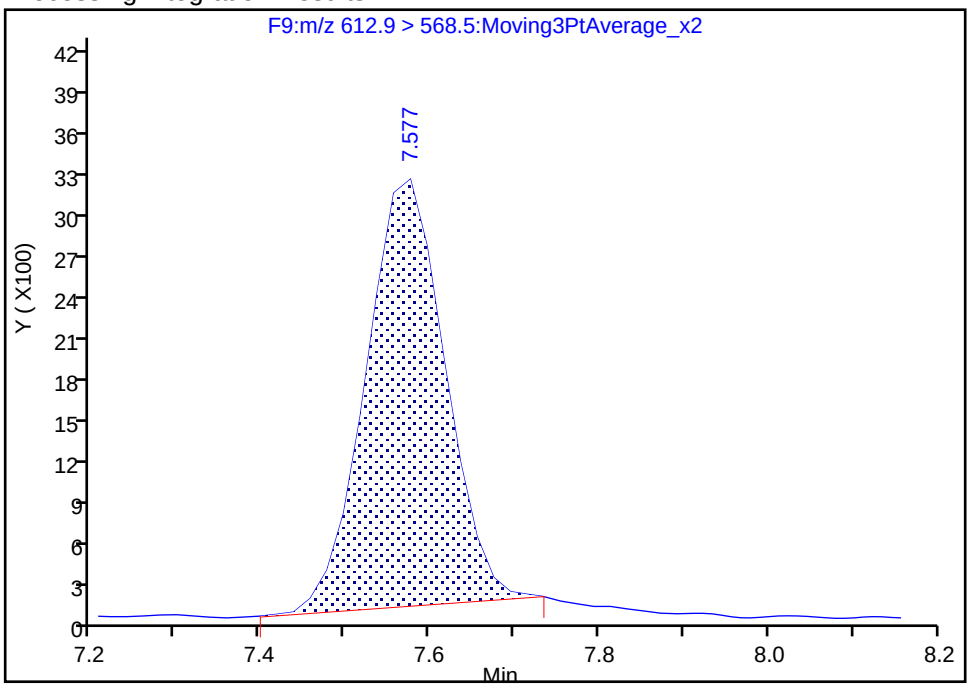
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A03.d
Injection Date: 06-Jun-2019 12:56:10 Instrument ID: LC410
Lims ID: CCVL
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F9:MRM

36 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 1

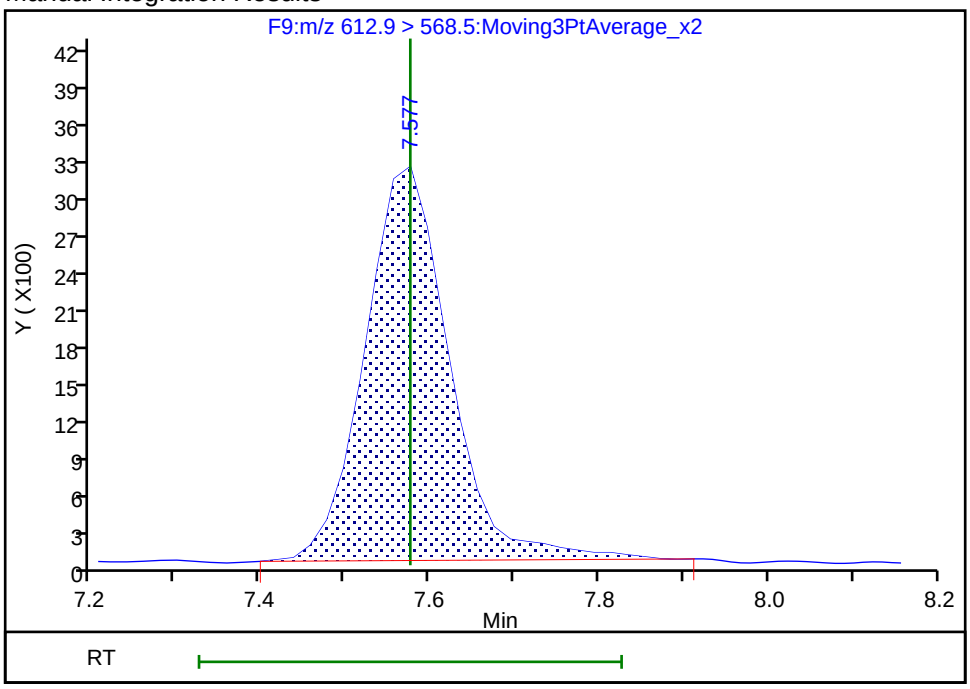
Processing Integration Results

RT: 7.58
Area: 20199
Amount: 1.002617
Amount Units: ng/ml



Manual Integration Results

RT: 7.58
Area: 21886
Amount: 1.086354
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:40:24
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143813/4 Calibration Date: 06/06/2019 13:12

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060619A04.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	0.9449		6020	10000	-39.8	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	2.534		8460	10000	-15.4	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	1.777		6250	8840	-29.3	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	0.9094		6410	9340	-31.4	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.490		10700	10000	6.6	40.0
Perfluoropentanesulfonic acid	AveID	2.841	1.999		6600	9380	-29.6	50.0
HFPO-DA	AveID	1.078	1.363		12600	10000	26.5	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.179		10000	10000	0.4	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	1.861		8000	9100	-12.1	40.0
DONA	AveID	4.300	3.557		7790	9420	-17.3	50.0
6:2 FTS	AveID	0.9451	0.9656		9690	9480	2.2	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	0.9799		9680	10000	-3.2	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.9111		9960	9520	4.7	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	0.9714		11000	10000	10.0	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	1.007		9680	9280	4.3	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	3.319		7040	9320	-24.5	50.0
8:2 FTS	AveID	0.7376	0.8688		11300	9580	17.8	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.9222		10100	10000	0.7	40.0
Perfluorononanesulfonic acid	AveID	0.9697	0.9753		9660	9600	0.6	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.8652		10500	10000	4.8	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.9015		11200	10000	11.9	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	0.8824		8190	9640	-15.0	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8801		10600	10000	5.7	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.170		8220	10000	-17.8	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	3.686		6190	9420	-34.3	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9168		9660	10000	-3.4	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	1.001		10700	10000	6.8	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8604		10100	10000	1.4	40.0
13C4 PFBA	Ave	0.2445	0.4542		92900	50000	85.7*	50.0
13C5 PFPeA	Ave	0.1855	0.2583		69600	50000	39.2	50.0
13C3 PFBS	Ave	0.0807	0.1670		96200	46500	107.0*	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143813/4 Calibration Date: 06/06/2019 13:12

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060619A04.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.6124		55000	50000	10.1	50.0
13C3 HFPO-DA	Ave	0.0529	0.0708		66900	50000	33.8	50.0
13C4 PFHpA	Ave	0.7840	0.8394		53500	50000	7.1	50.0
18O2 PFHxS	Ave	0.1031	0.1777		81500	47300	72.3*	50.0
M2-6:2 FTS	Ave	0.0557	0.0667		56900	47500	19.7	50.0
13C4 PFOA	Ave	0.9706	1.010		52000	50000	4.0	50.0
13C5 PFNA	Ave	1.302	1.182		45400	50000	-9.2	50.0
13C4 PFOS	Ave	0.2326	0.3240		66600	47800	39.3	50.0
M2-8:2 FTS	Ave	0.2026	0.2150		50800	47900	6.1	50.0
13C2 PFDA	Ave	1.111	1.098		49400	50000	-1.2	50.0
d3-NMeFOSAA	Ave	0.3621	0.2958		40900	50000	-18.3	50.0
d5-NEtFOSAA	Ave	0.2986	0.2486		41600	50000	-16.7	50.0
13C2 PFUnA	Ave	1.073	1.044		48700	50000	-2.7	50.0
13C8 FOSA	Ave	0.4004	0.5965		74500	50000	49.0	50.0
13C2 PFDoA	Ave	1.367	1.249		45700	50000	-8.7	50.0
13C2 PFTeDA	Ave	1.227	1.076		43800	50000	-12.3	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 06-Jun-2019 13:12:01 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036227004 CCV L4
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:18:10 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 06-Jun-2019 13:43:06
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.349	2.349	0.0	1.000	393851	92.9		186	67.3	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.349	2.360	-0.011	1.000	74432	6.02		60.2	129	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	223970	69.6		139	725	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	113490	8.46		84.6	172	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	134662	96.2		207	471	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	45495	6.25	Target=1.67	70.7	240	
298.9 > 98.9	2.901	2.901	0.0	1.000	34848		1.31(0.83-2.51)		214	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.270	3.270	0.0	1.127	24598	6.41		68.6	191	
7 Perfluorohexanoic acid										M
312.9 > 268.9	3.302	3.302	0.0	1.000	158255	10.7	Target=14.34	107	779	
312.9 > 118.9	3.302	3.302	0.0	1.000	11211		14.12(7.17-21.51)		122	M
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.302	0.0	1.000	530987	55.0		110	1524	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.365	3.365	0.0	1.160	54306	6.60	Target=1.23	70.4	472	
348.9 > 98.9	3.365	3.365	0.0	1.000	52573		1.03(0.62-1.85)		511	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.460	0.0	1.000	16728	12.6		126	77.3	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.460	3.460	0.0	1.000	61371	66.9		134	442	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.869	0.0	1.000	171557	10.0	Target=2.84	100	634	
362.9 > 168.9	3.869	3.869	0.0	1.000	44199		3.88(1.42-4.26)		124	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	727838	53.5		107	856	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.905	0.0	1.000	52190	8.00	Target=1.34	87.9	482	M
398.9 > 98.9	3.905	3.905	0.0	1.000	40050		1.30(0.67-2.01)		237	M
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	145777	81.5		172	627	
49 DONA										
376.9 > 250.7	3.946	3.946	0.0	0.739	188274	7.79	Target=2.33	82.7	2306	
376.9 > 85.0	3.946	3.946	0.0	1.000	96342		1.95(1.16-3.49)		1353	
13 1H,1H,2H,2H-perfluorooctanesulfoni										M
426.6 > 406.6	4.526	4.526	0.0	1.005	10587	9.69		102	58.7	M
D 14 M2-6:2 FTS										
428.6 > 408.6	4.506	4.526	-0.020	1.000	54935	56.9		120	681	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.547	0.0	1.000	875454	52.0		104	2357	
* 16 13C2 PFOA										
414.9 > 369.8	4.547	4.568	-0.021		867106	50.0			1711	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.568	0.0	1.005	171563	9.68	Target=2.43	96.8	697	
412.9 > 168.9	4.568	4.568	0.0	1.005	66457		2.58(1.22-3.64)		858	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.589	0.0	0.860	48740	9.96	Target=1.30	105	577	
448.9 > 98.9	4.589	4.589	0.0	1.000	44405		1.10(0.65-1.95)		619	
D 20 13C5 PFNA										
467.8 > 422.8	5.326	5.336	-0.010	1.000	1025296	45.4		90.8	7025	
19 Perfluorononanoic acid										
462.9 > 418.7	5.326	5.336	-0.010	1.000	199202	11.0	Target=5.00	110	1318	
462.9 > 168.9	5.337	5.336	0.001	1.002	41663		4.78(2.50-7.50)		344	
D 22 13C4 PFOS										
502.9 > 80.0	5.337	5.336	0.001	1.000	268594	66.6		139	2136	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.337	5.336	0.001	1.000	52502	9.68	Target=1.41	104	450	M
498.9 > 98.9	5.337	5.336	0.001	1.000	45019		1.17(0.71-2.12)		375	M
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.778	5.778	0.0	1.083	173818	7.04		75.5	1116	
23 1H,1H,2H,2H-perfluorodecanesulfoni										M
526.8 > 506.5	6.097	6.097	0.0	1.000	31036	11.3		118	199	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.097	0.0	1.000	178610	50.8		106	977	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.131	0.0	1.000	175648	10.1	Target=7.23	101	640	
512.9 > 168.9	6.131	6.131	0.0	1.000	22599		7.77(3.61-10.84)		202	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.131	6.131	0.0	1.149	52612	9.66	Target=1.39	101	311	
548.9 > 98.9	6.131	6.131	0.0	1.000	48178		1.09(0.69-2.08)		203	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.131	0.0	1.000	952291	49.4		98.8	1742	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.477	6.477	0.0	1.004	44387	10.5		105	639	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.453	6.477	-0.024	1.000	256514	40.9		81.7	915	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.825	6.849	-0.024	1.000	215597	41.6		83.3	722	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.849	6.849	0.0	1.003	38872	11.2		112	385	M
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.873	6.873	0.0	1.288	47799	8.19	Target=1.25	85.0	454	
598.9 > 98.9	6.873	6.873	0.0	1.000	46662		1.02(0.63-1.88)		327	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.873	6.897	-0.024	1.000	159363	10.6	Target=7.06	106	1179	
562.9 > 168.9	6.873	6.897	-0.024	1.000	23172		6.88(3.53-10.58)		219	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.897	-0.024	1.000	905339	48.7		97.3	3701	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.945	6.945	0.0	1.000	121044	8.22		82.2	512	
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.945	0.0	1.000	517234	74.5		149	2875	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.234	7.234	0.0	1.356	195093	6.19		65.7	1358	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.557	7.577	-0.020	1.000	198542	9.66	Target=5.37	96.6	1234	
612.9 > 168.9	7.557	7.577	-0.020	1.000	35882		5.53(2.68-8.06)		330	
D 37 13C2 PFDoA										
614.9 > 569.5	7.557	7.577	-0.020	1.000	1082843	45.7		91.3	2163	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.180	8.191	-0.011	1.082	216876	10.7	Target=4.67	107	611	
662.9 > 168.9	8.191	8.191	0.0	1.084	40433		5.36(2.34-7.01)		358	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.741	8.741	0.0	1.000	932829	43.8		87.7	383	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.730	8.752	-0.022	0.999	160516	10.1	Target=4.86	101	476	
712.9 > 168.9	8.730	8.752	-0.022	0.999	29267		5.48(2.43-7.30)		167	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L4_00005 Amount Added: 100.00 Units: uL

Report Date: 10-Jun-2019 10:18:10 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d

Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410

Lims ID: CCV

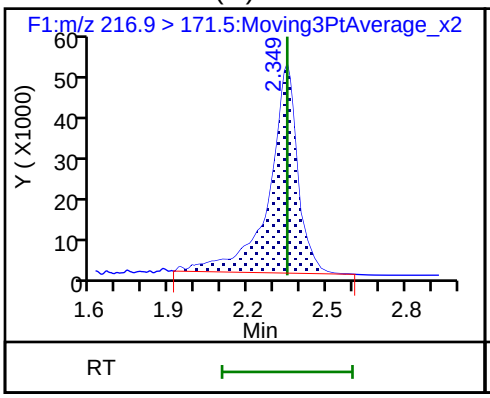
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4

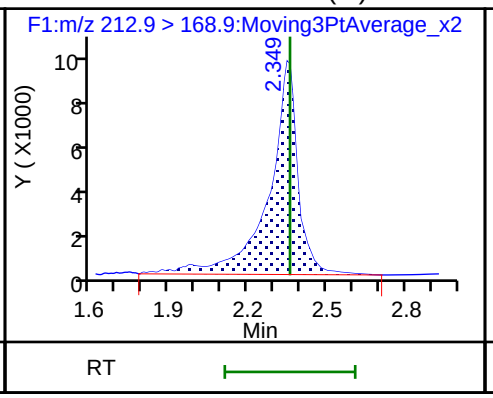
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

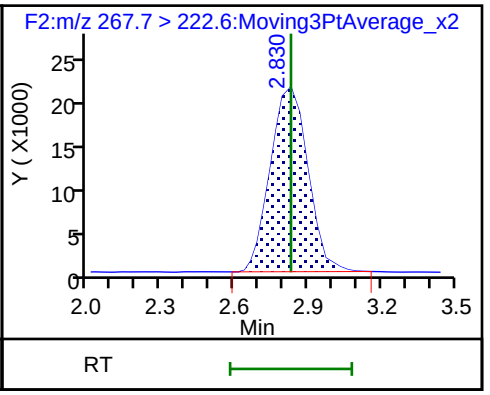
D 1 13C4 PFBA (M)



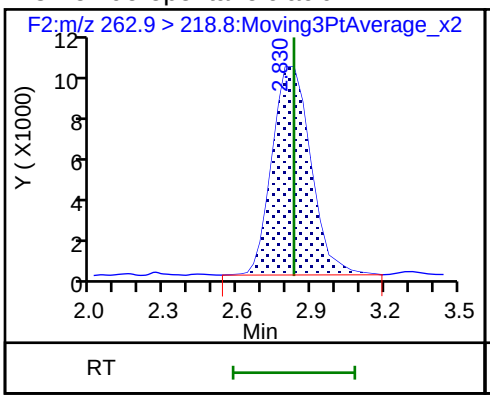
2 Perfluorobutanoic acid (M)



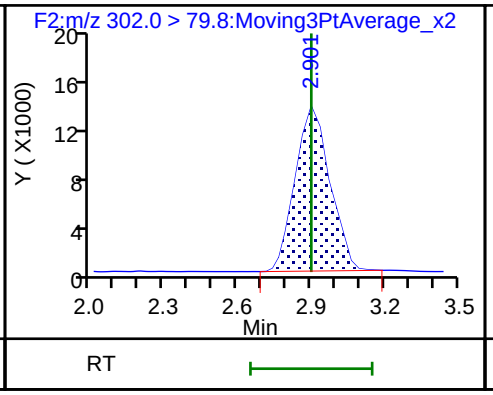
D 4 13C5 PFPeA



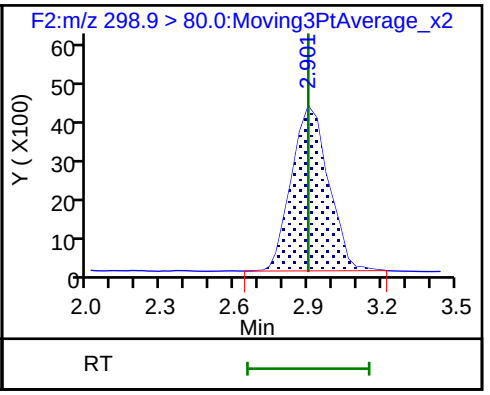
3 Perfluoropentanoic acid



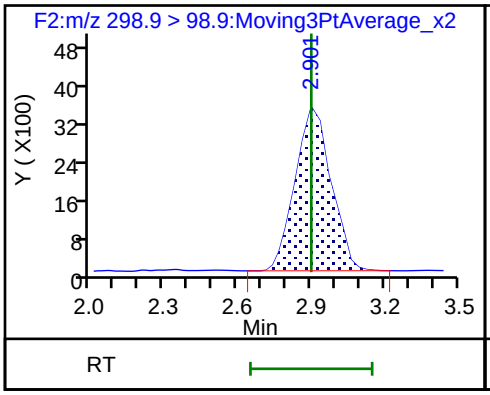
D 5 13C3 PFBS



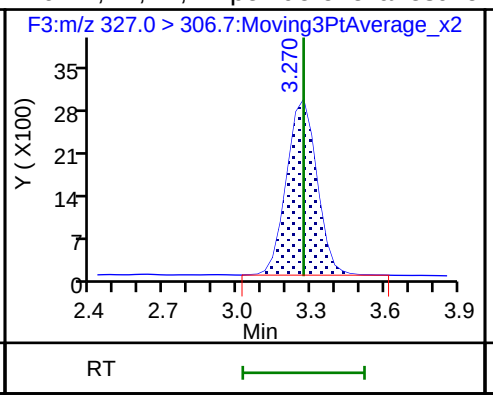
6 Perfluorobutanesulfonic acid



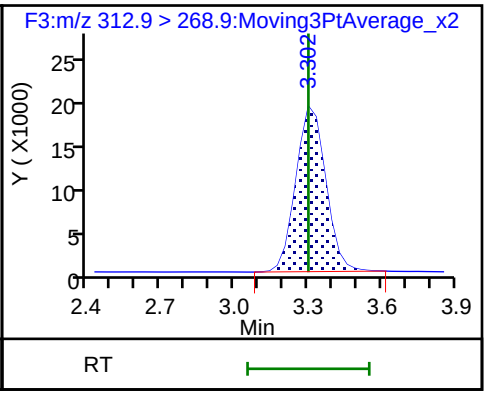
6 Perfluorobutanesulfonic acid



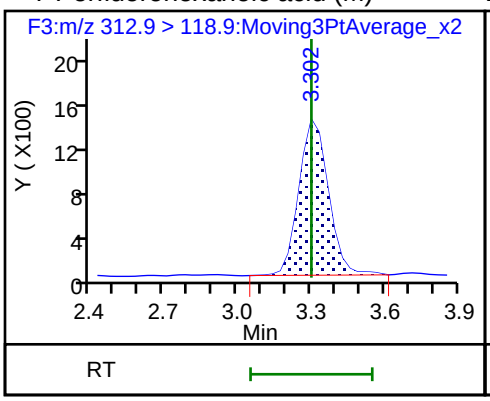
46 1H,1H,2H,2H-perfluorohexanesulfoni



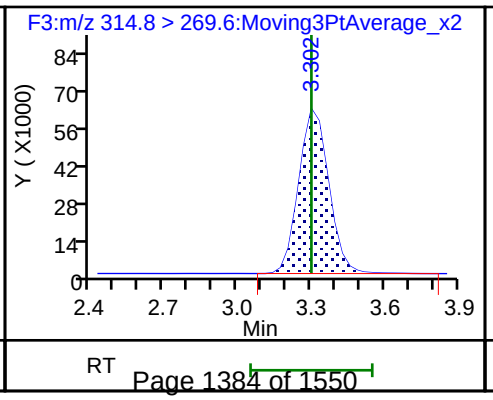
7 Perfluorohexanoic acid



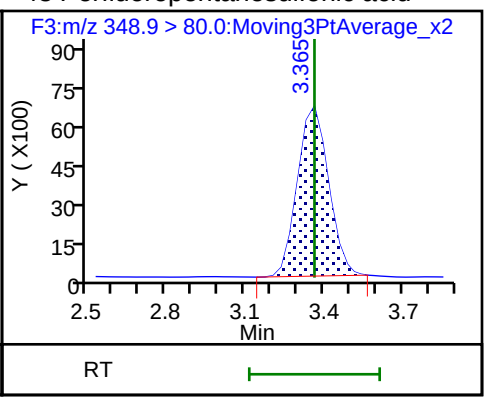
7 Perfluorohexanoic acid (M)



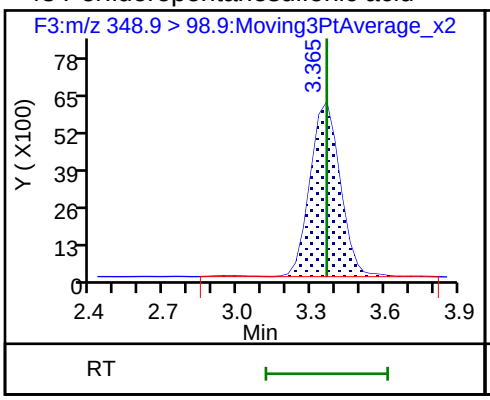
D 8 13C2 PFHxA



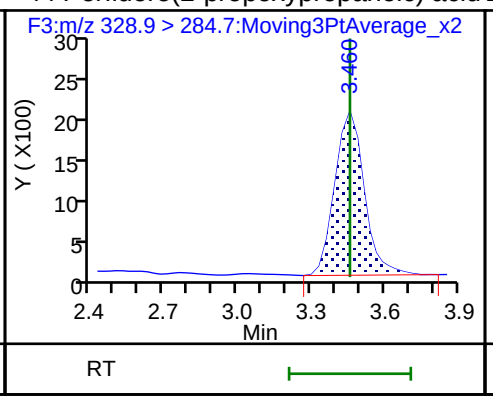
48 Perfluoropentanesulfonic acid



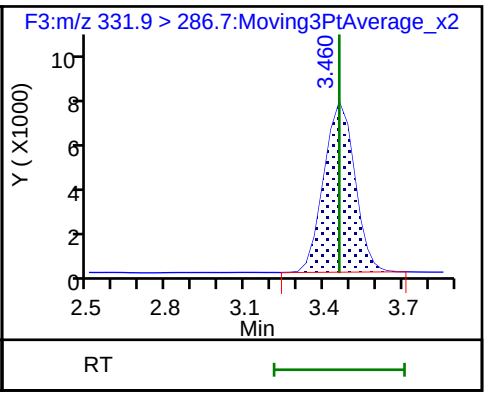
48 Perfluoropentanesulfonic acid



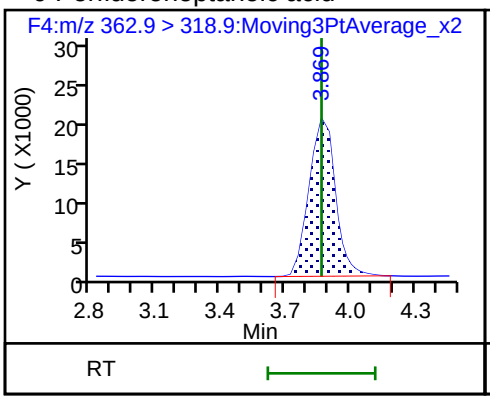
44 Perfluoro(2-propoxypropanoic) acid



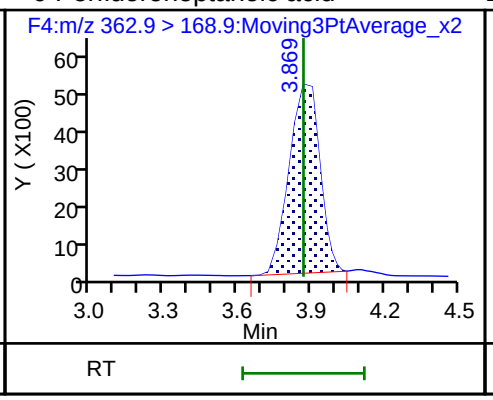
D 42 13C3 HFPO-DA



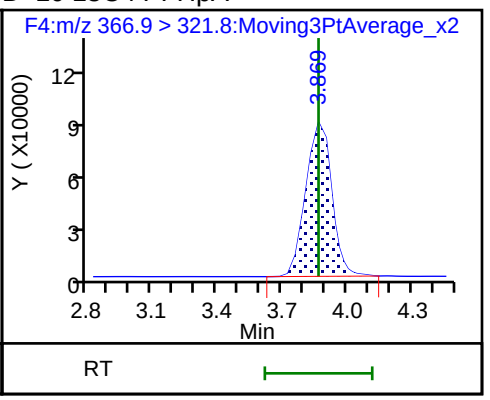
9 Perfluoroheptanoic acid



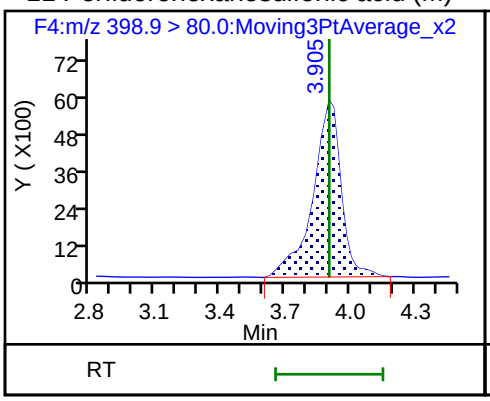
9 Perfluoroheptanoic acid



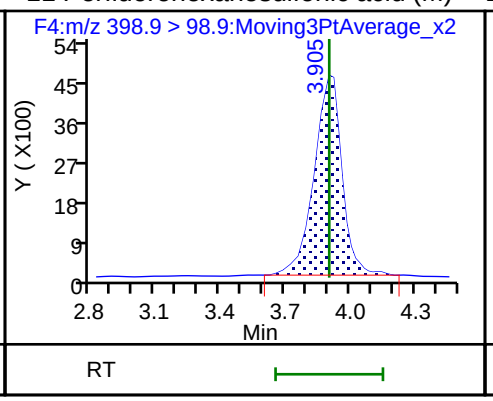
D 10 13C4 PFHpA



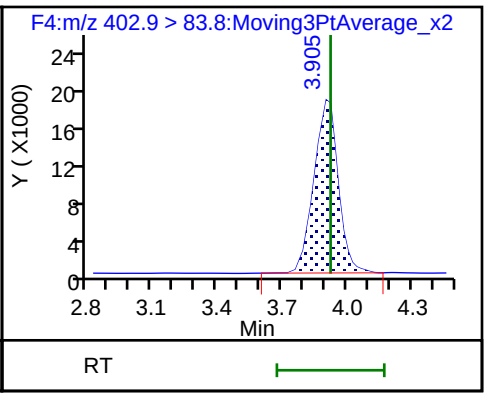
11 Perfluorohexanesulfonic acid (M)



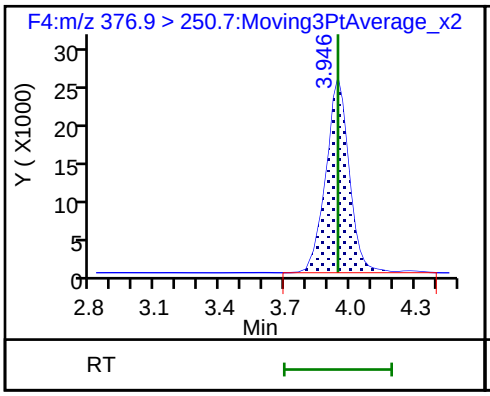
11 Perfluorohexanesulfonic acid (M)



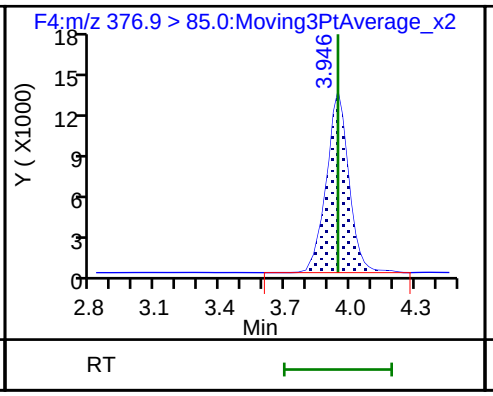
D 12 18O2 PFHxS



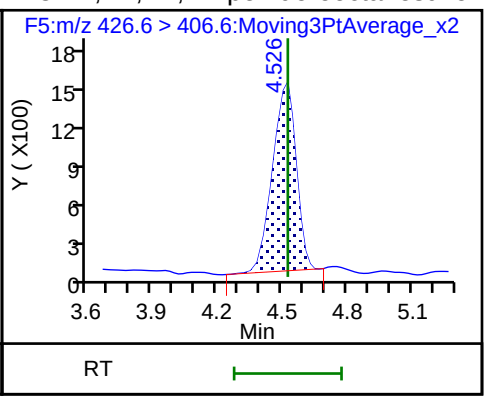
49 DONA



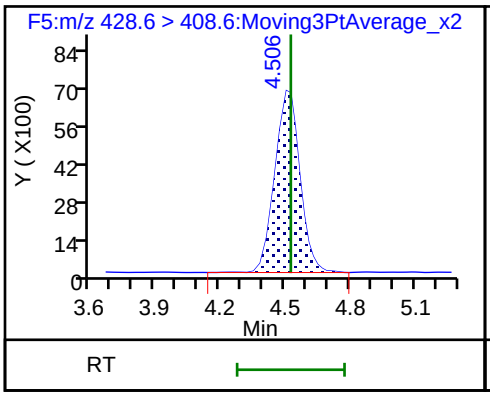
49 DONA



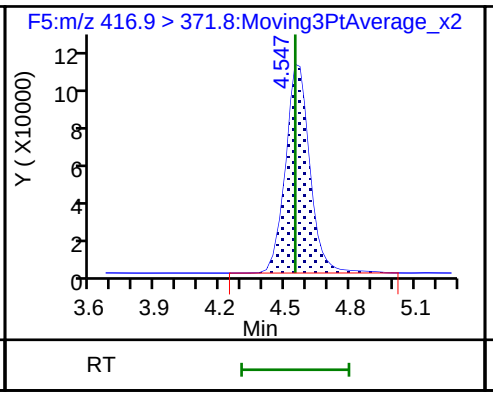
13 1H,1H,2H,2H-perfluorooctanesulfoni (M)



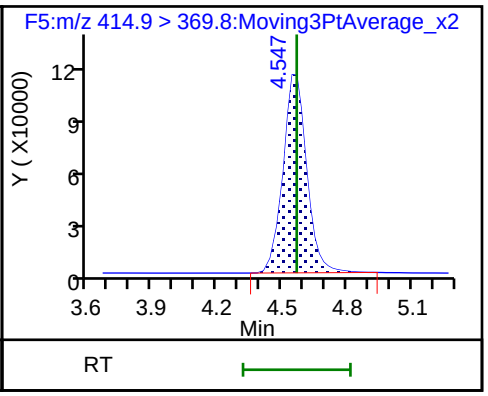
D 14 M2-6:2 FTS



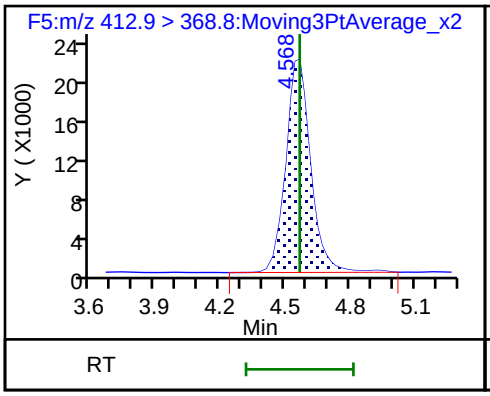
D 17 13C4 PFOA



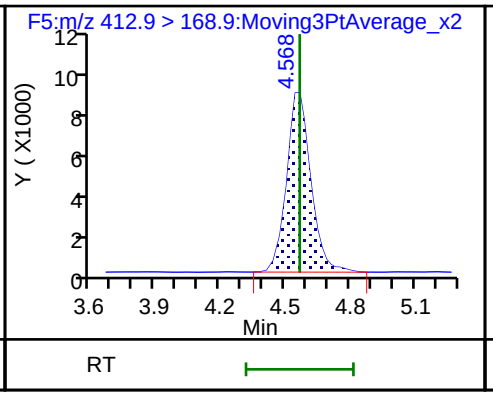
* 16 13C2 PFOA



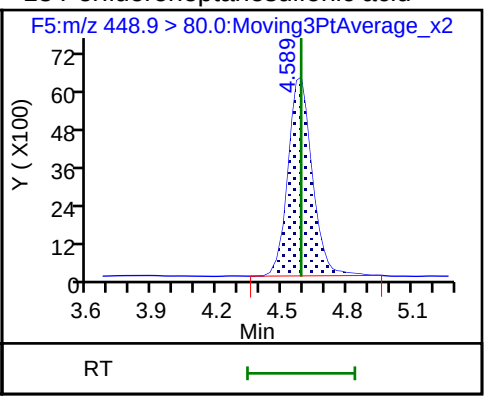
15 Perfluorooctanoic acid



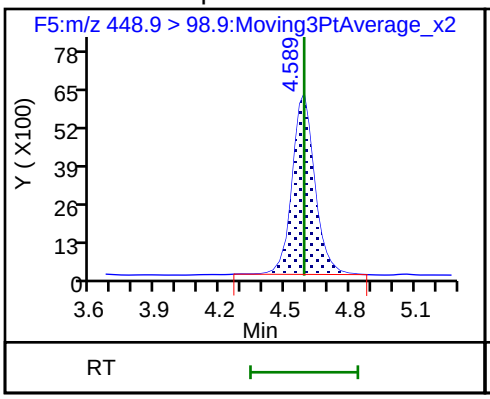
15 Perfluorooctanoic acid



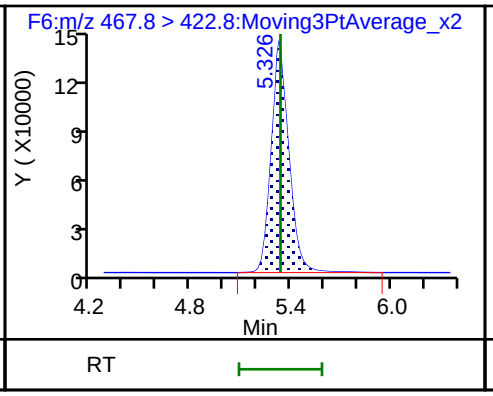
18 Perfluoroheptanesulfonic acid



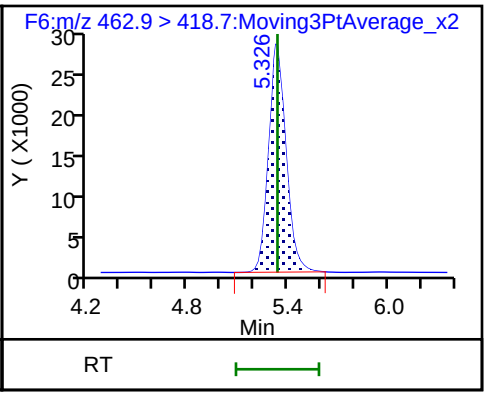
18 Perfluoroheptanesulfonic acid



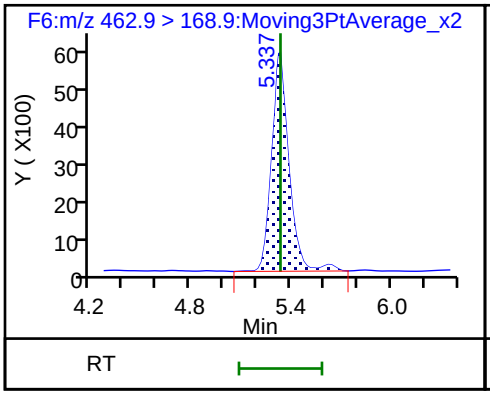
D 20 13C5 PFNA



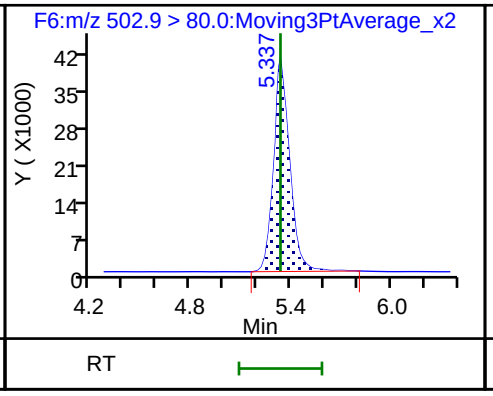
19 Perfluorononanoic acid



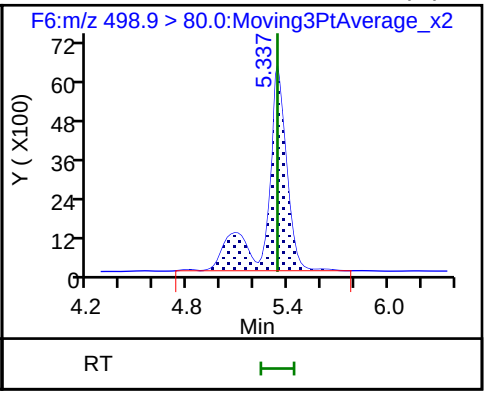
19 Perfluorononanoic acid



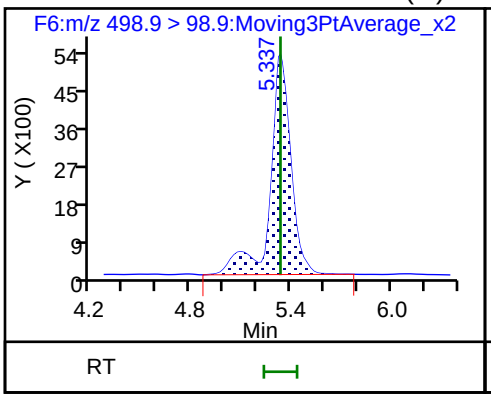
D 22 13C4 PFOS



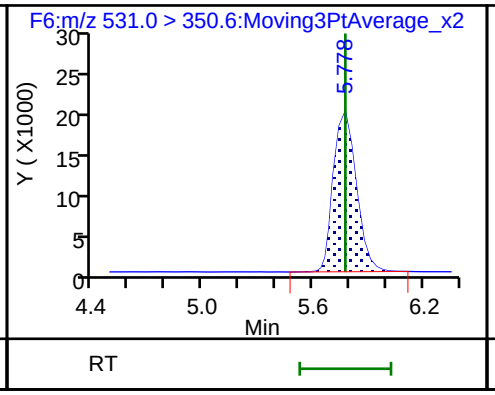
21 Perfluorooctanesulfonic acid (M)



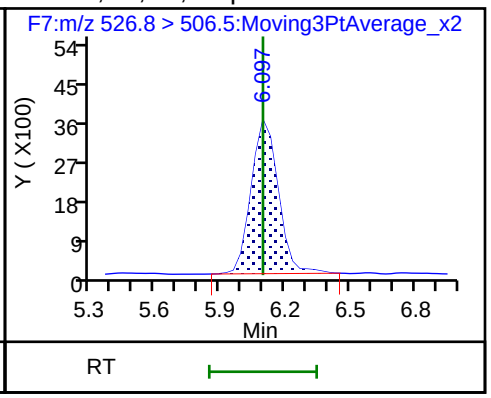
21 Perfluorooctanesulfonic acid (M)



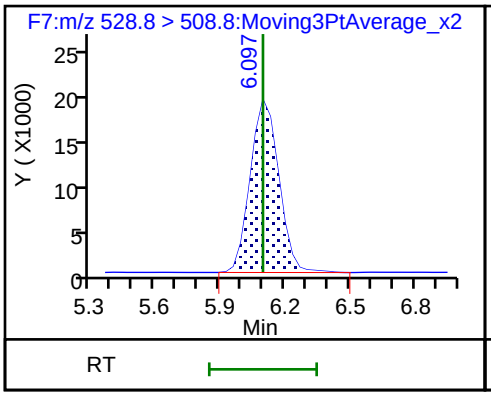
47 9-Chlorohexadecafluoro-3-oxanonane



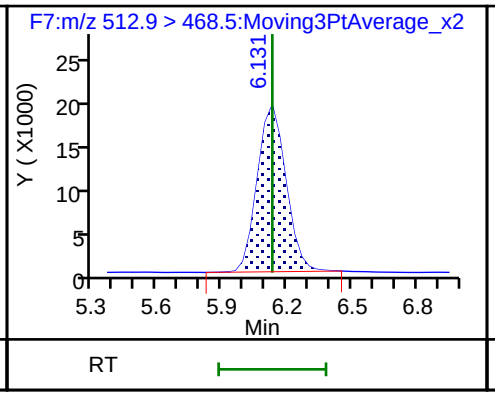
23 1H,1H,2H,2H-perfluorodecanesulfoni (M)



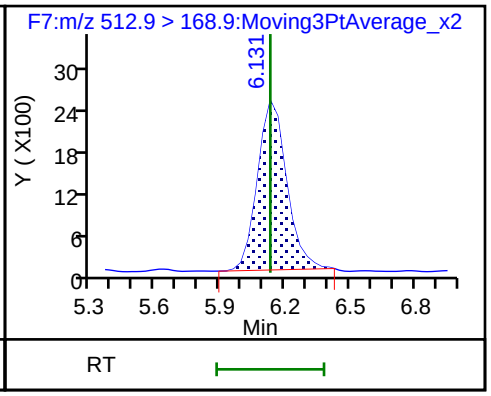
D 24 M2-8:2 FTS



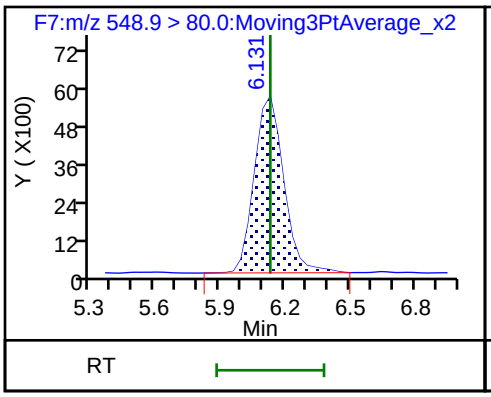
26 Perfluorodecanoic acid



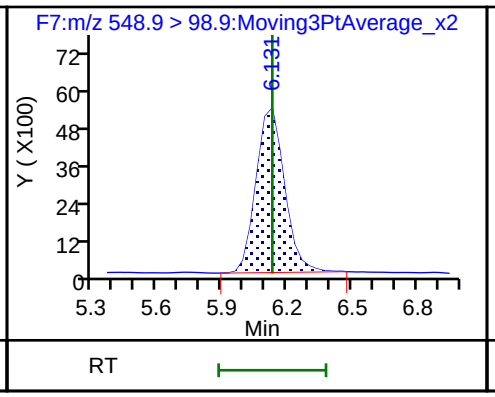
26 Perfluorodecanoic acid



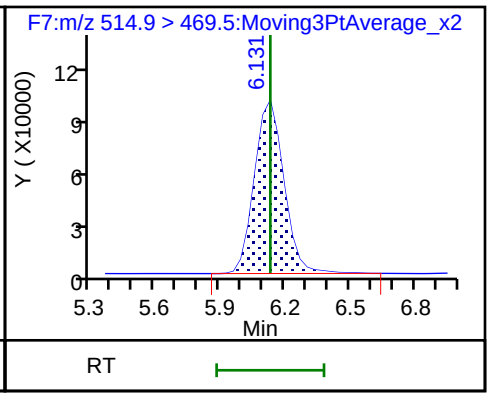
45 Perfluorononanesulfonic acid



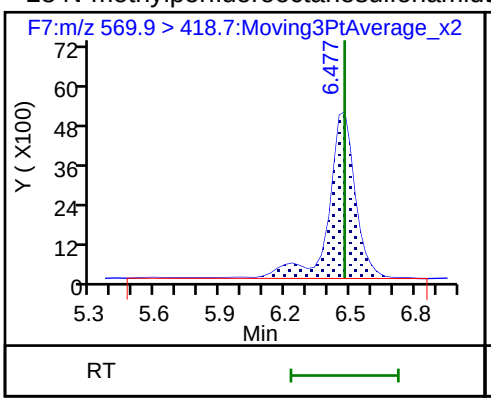
45 Perfluorononanesulfonic acid



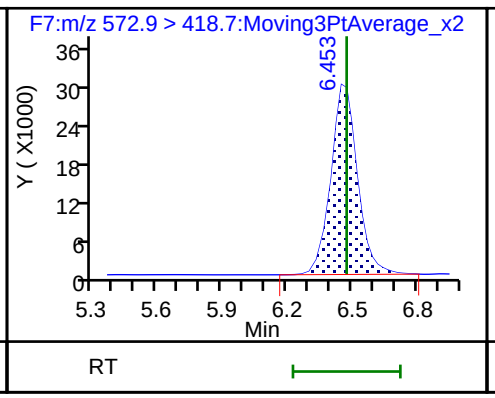
D 25 13C2 PFDA



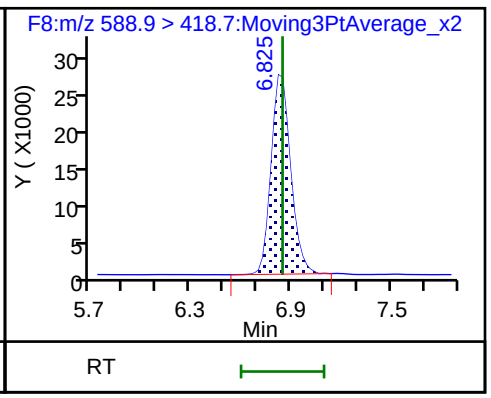
28 N-methylperfluorooctanesulfonamidD



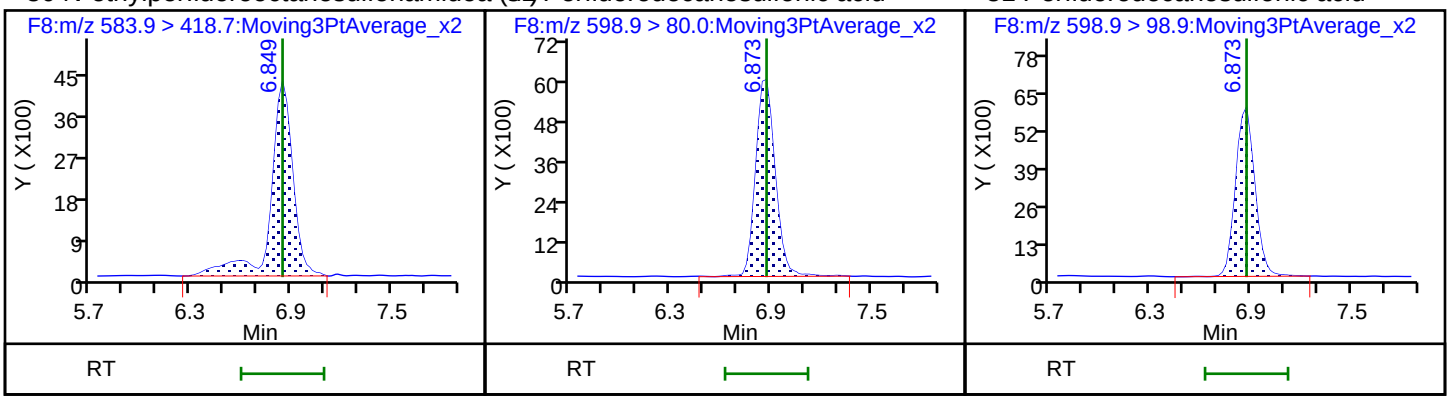
D 27 d3-NMeFOSAA



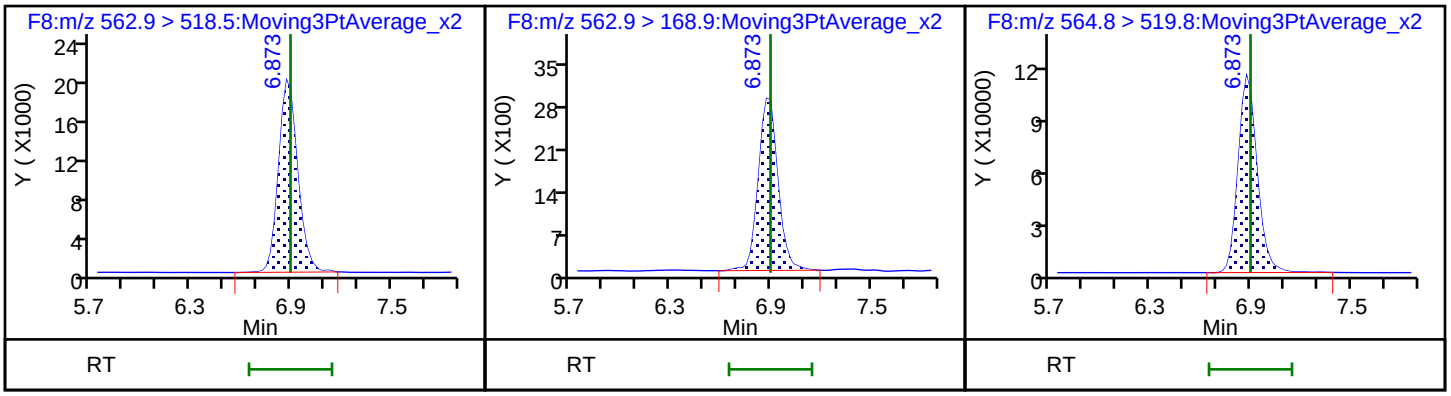
D 29 d5-NEtFOSAA



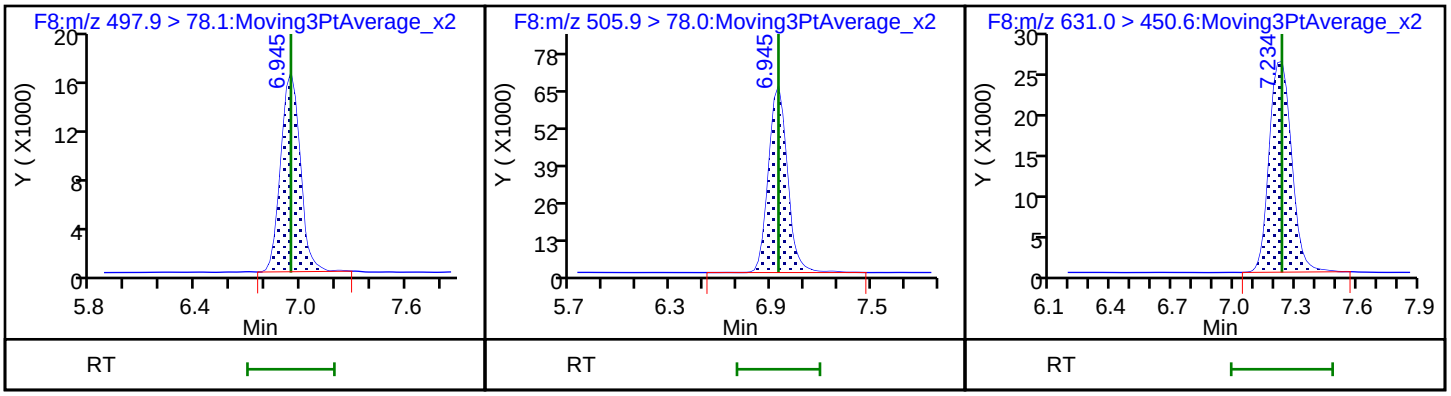
30 N-ethylperfluorooctanesulfonamidoa (31) Perfluorodecanesulfonic acid 31 Perfluorodecanesulfonic acid



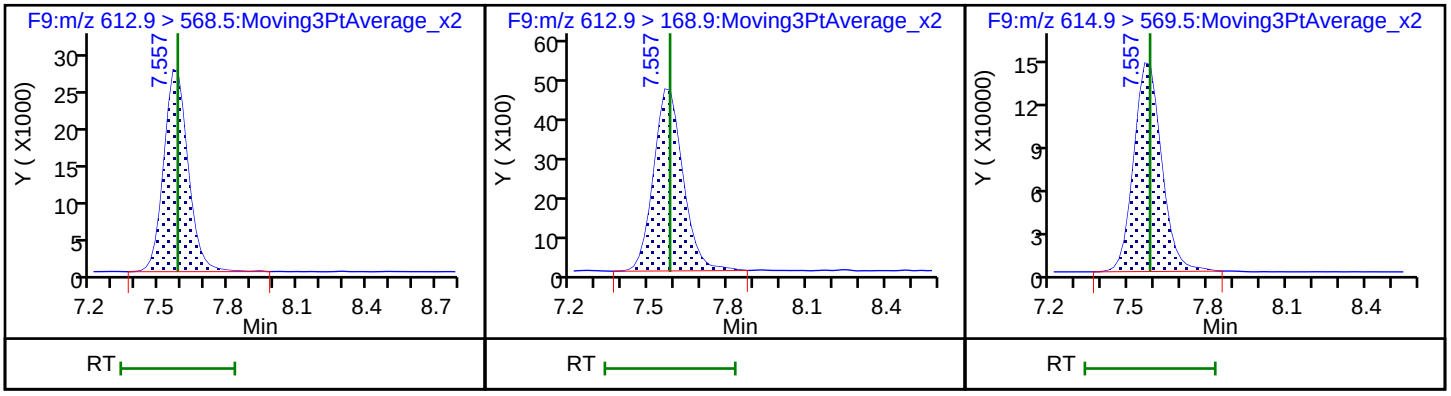
32 Perfluoroundecanoic acid 32 Perfluoroundecanoic acid D 33 13C2 PFUnA



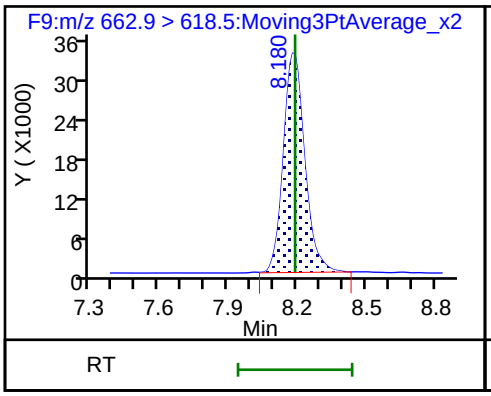
35 Perfluorooctanesulfonamide D 34 13C8 FOSA 43 11-Chloroeicosafluoro-3-oxaundecan



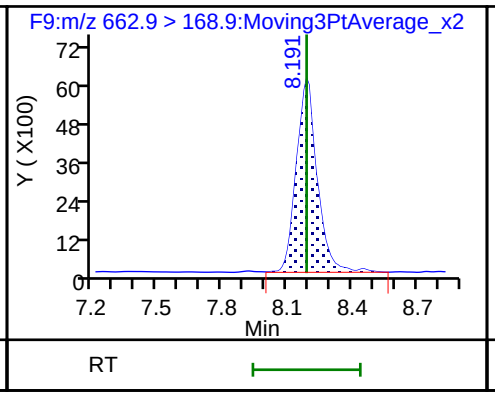
36 Perfluorododecanoic acid 36 Perfluorododecanoic acid D 37 13C2 PFDoA



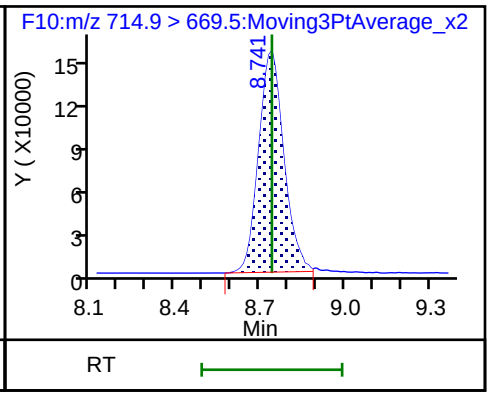
38 Perfluorotridecanoic acid



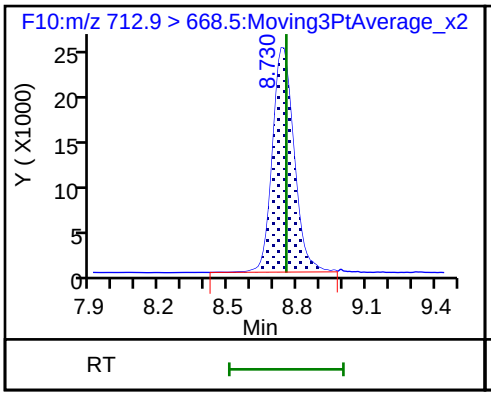
38 Perfluorotridecanoic acid



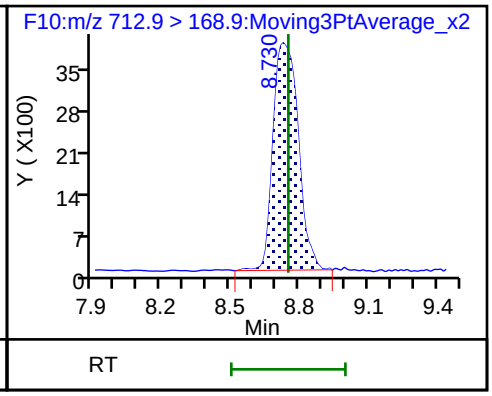
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Eurofins TestAmerica, Burlington

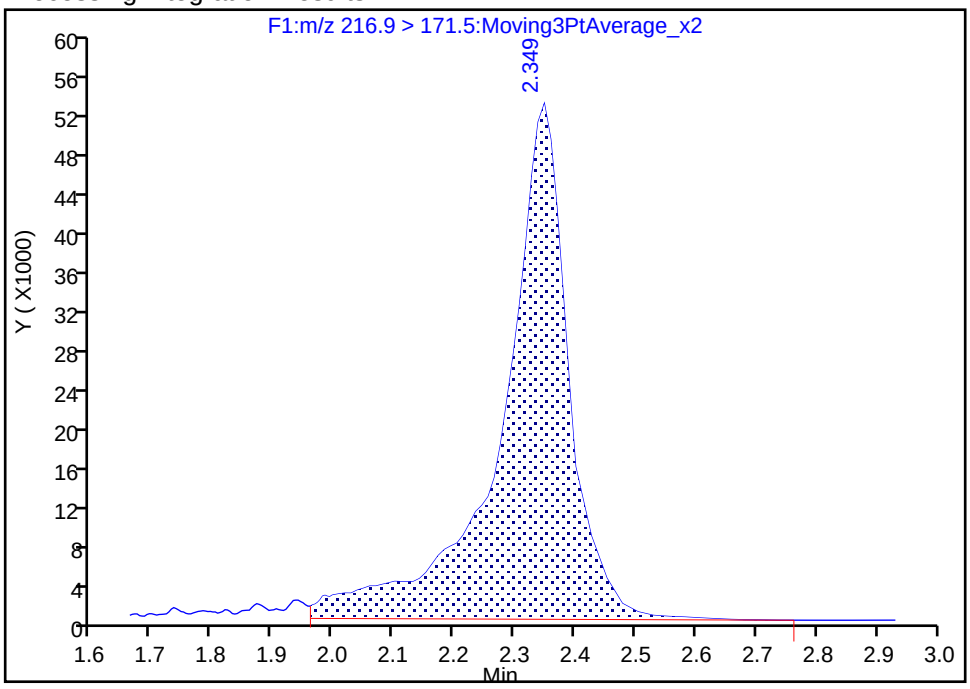
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

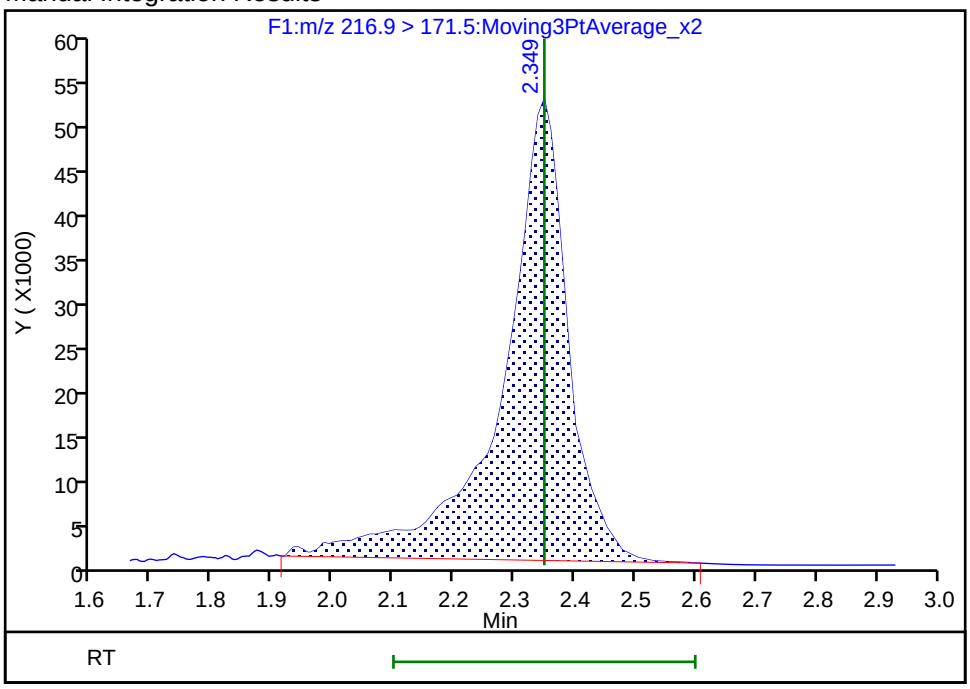
Processing Integration Results

RT: 2.35
Area: 411512
Amount: 97.038062
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 393851
Amount: 92.873446
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:40:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

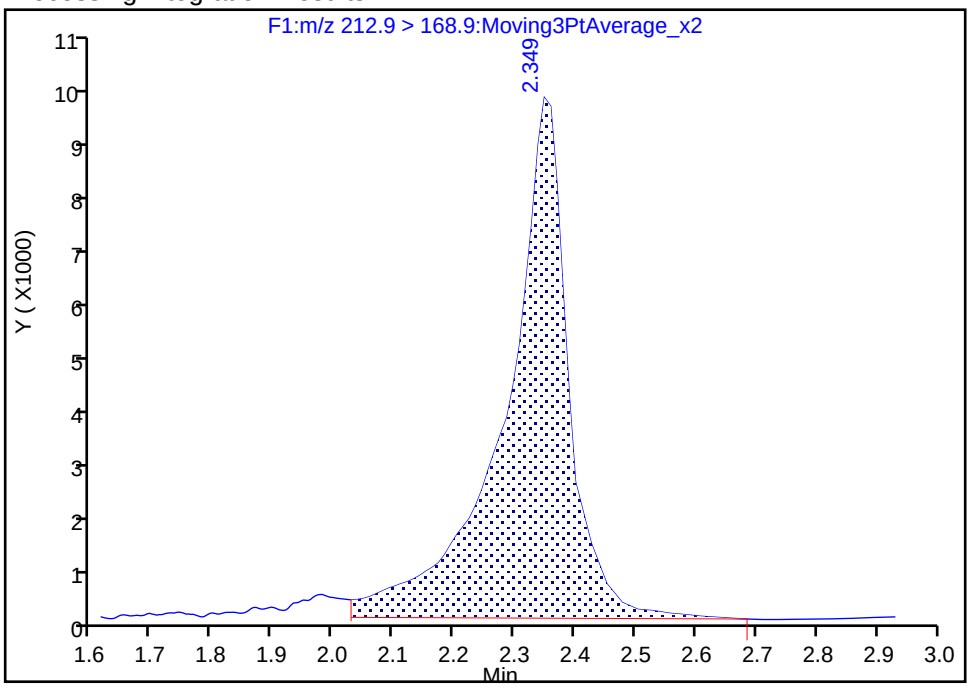
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

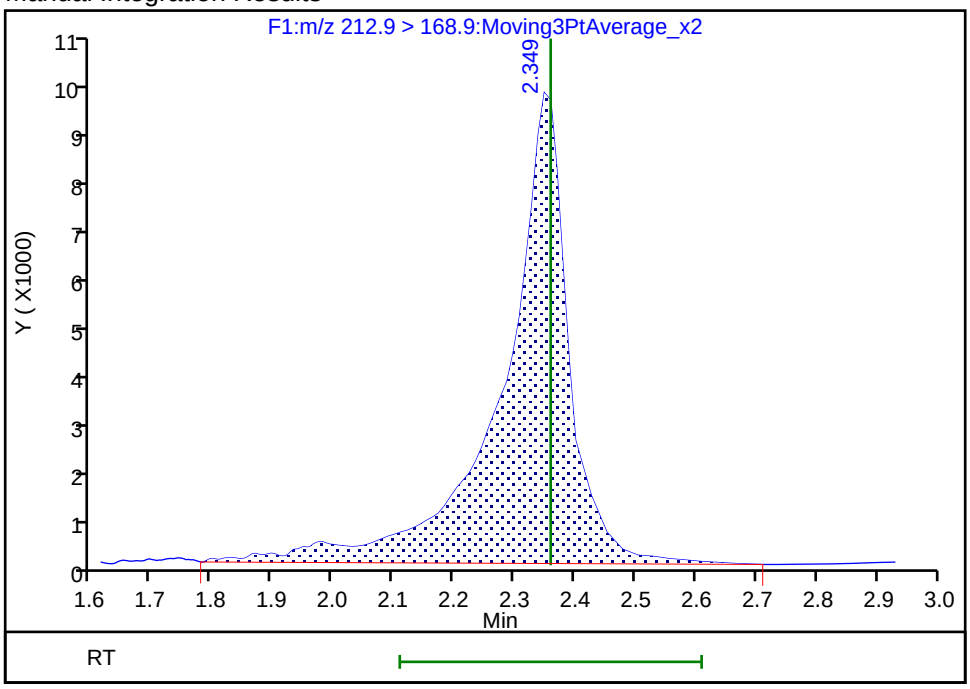
Processing Integration Results

RT: 2.35
Area: 71181
Amount: 5.755797
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 74432
Amount: 6.018678
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:41:11
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

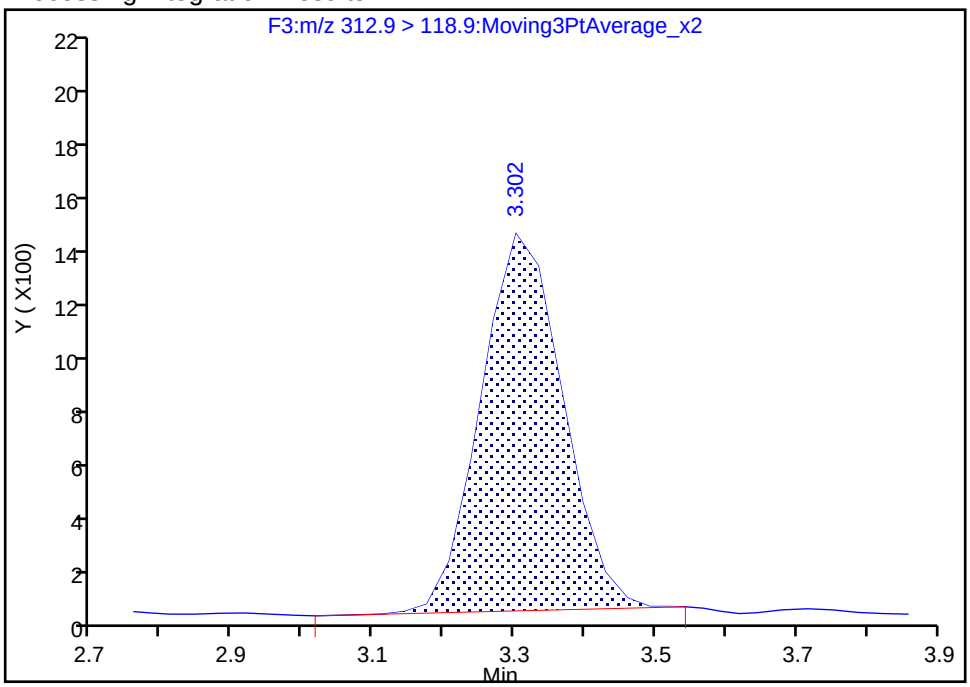
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

7 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

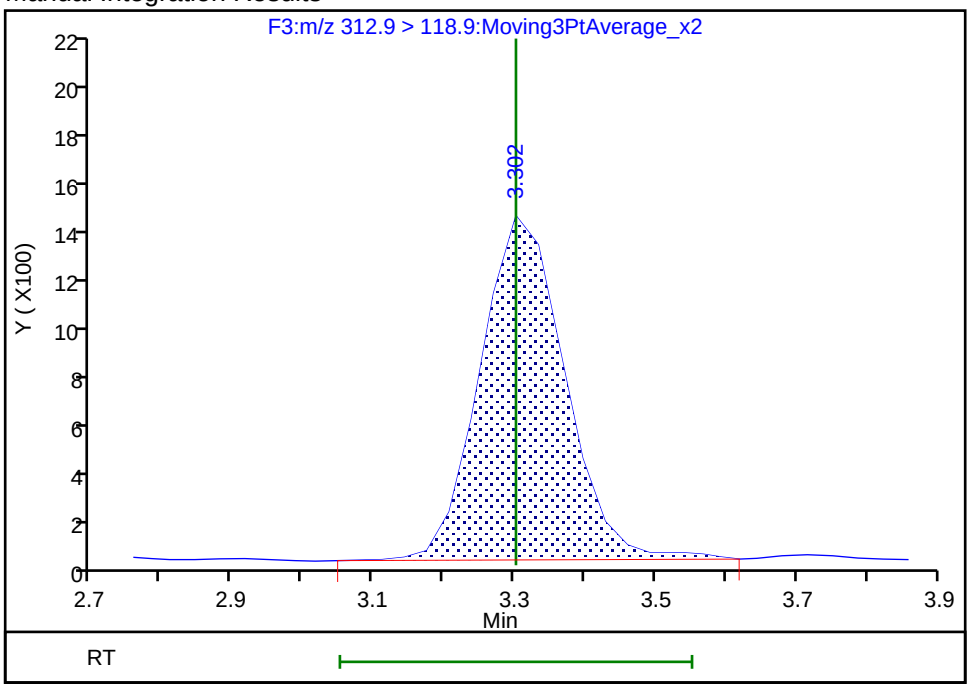
Processing Integration Results

RT: 3.30
Area: 10783
Amount: 10.659629
Amount Units: ng/ml



Manual Integration Results

RT: 3.30
Area: 11211
Amount: 10.659629
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:41:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

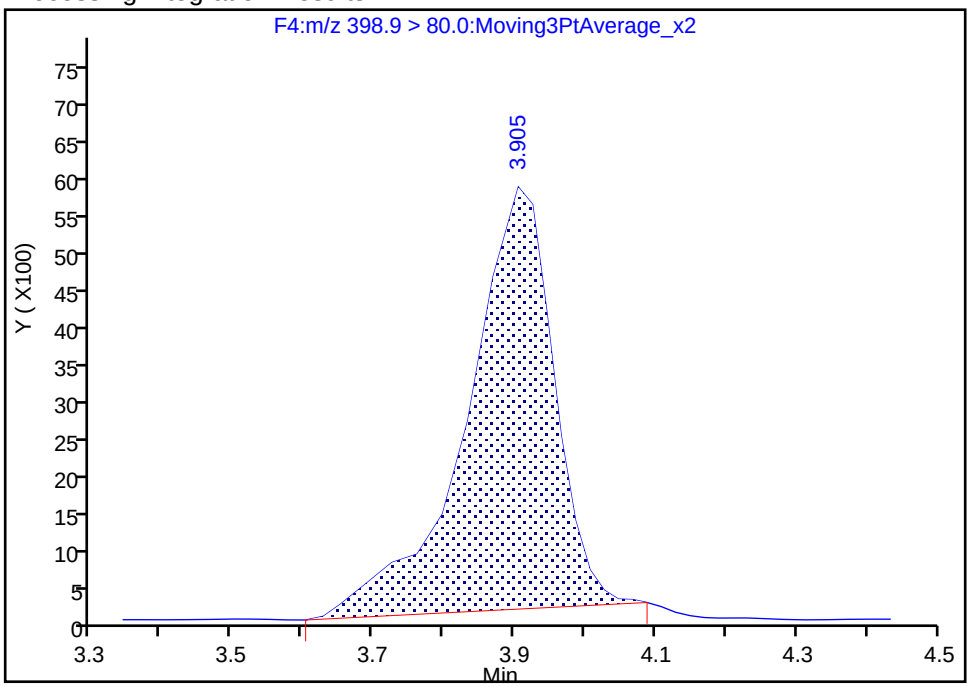
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

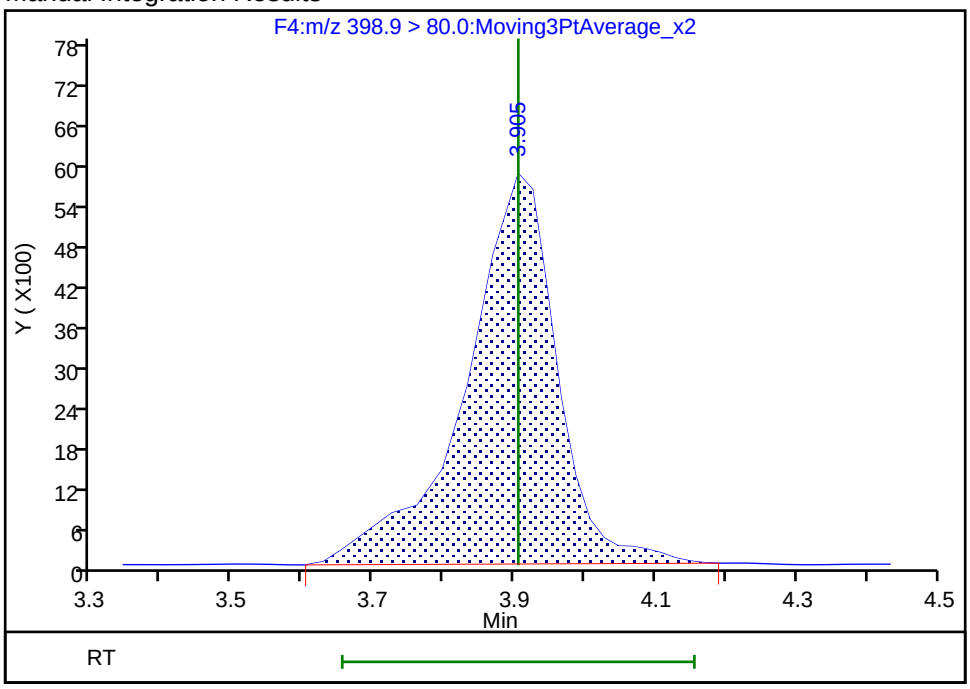
Processing Integration Results

RT: 3.91
Area: 48631
Amount: 7.456377
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 52190
Amount: 8.002063
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:41:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

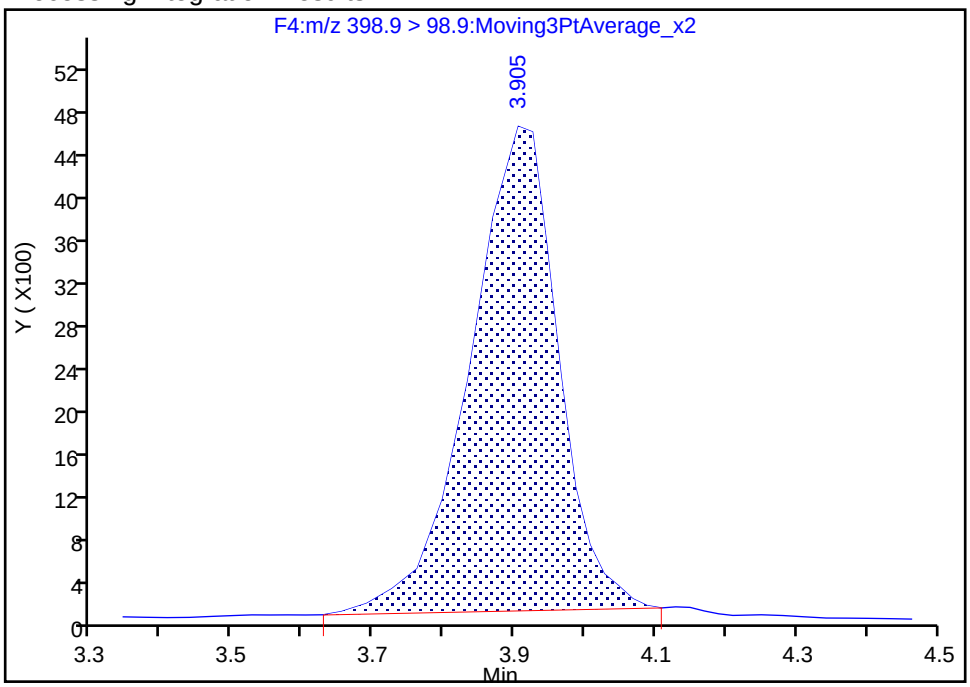
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F4:MRM

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

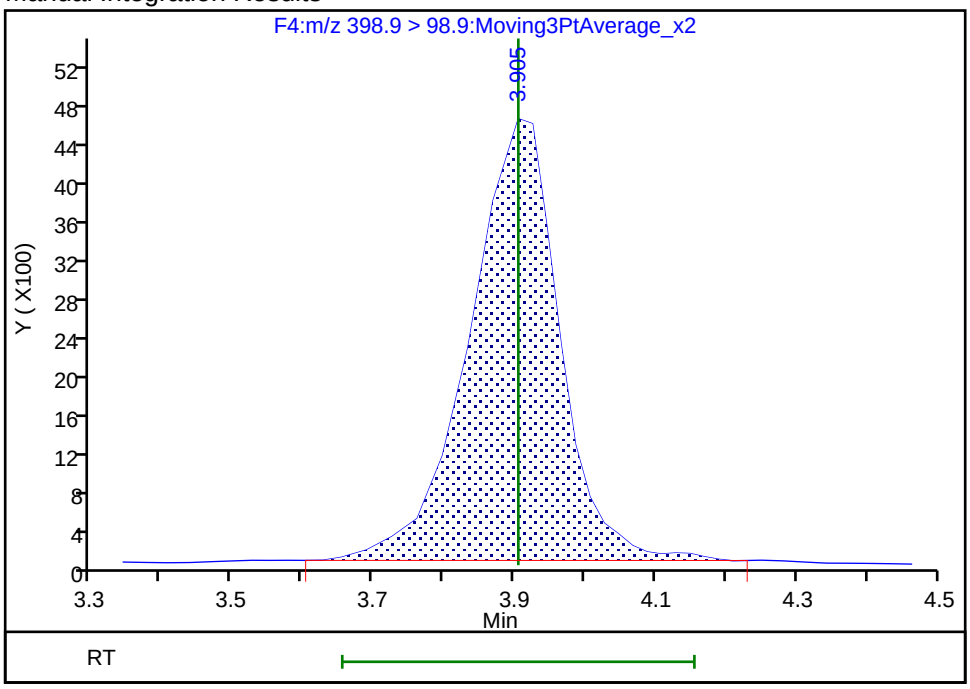
Processing Integration Results

RT: 3.91
Area: 38824
Amount: 7.456377
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 40050
Amount: 8.002063
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:41:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

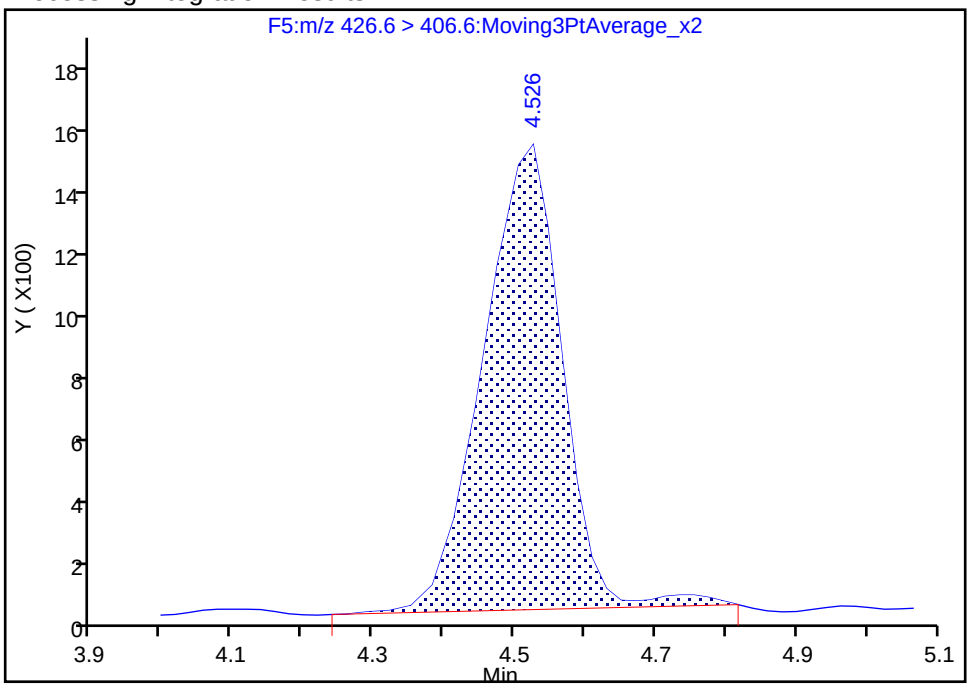
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

13 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:, CAS: 27619-97-2

Signal: 1

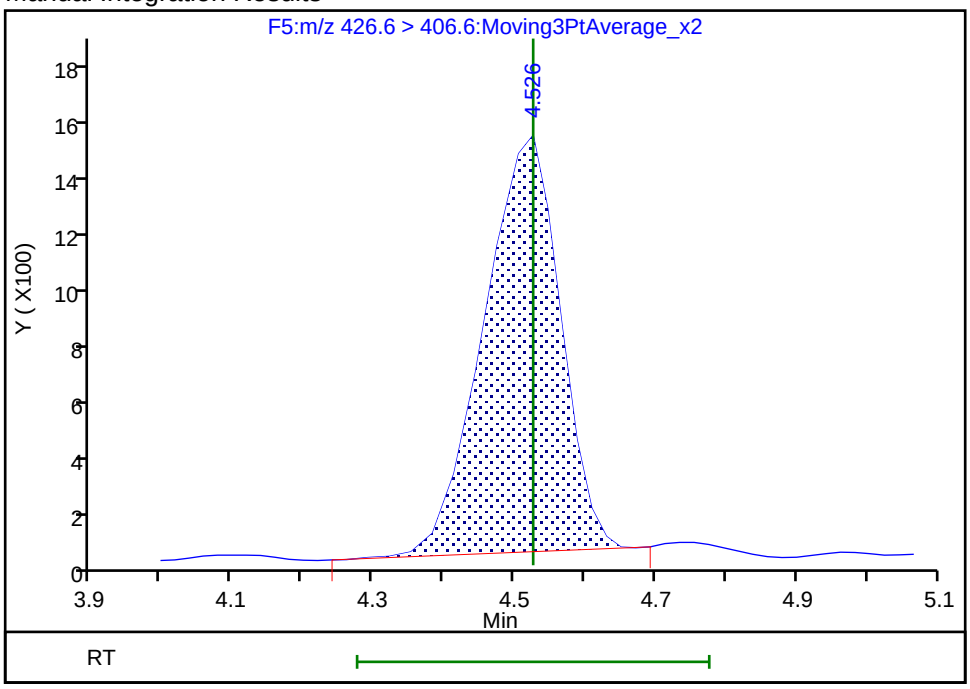
Processing Integration Results

RT: 4.53
Area: 11043
Amount: 10.102889
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 10587
Amount: 9.685709
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:42:12
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

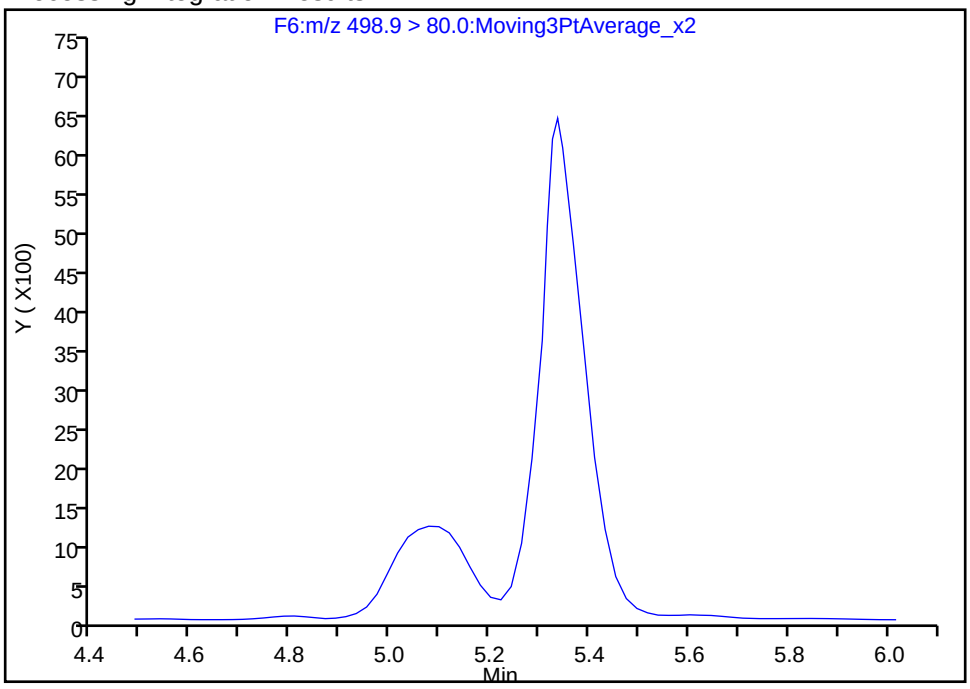
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

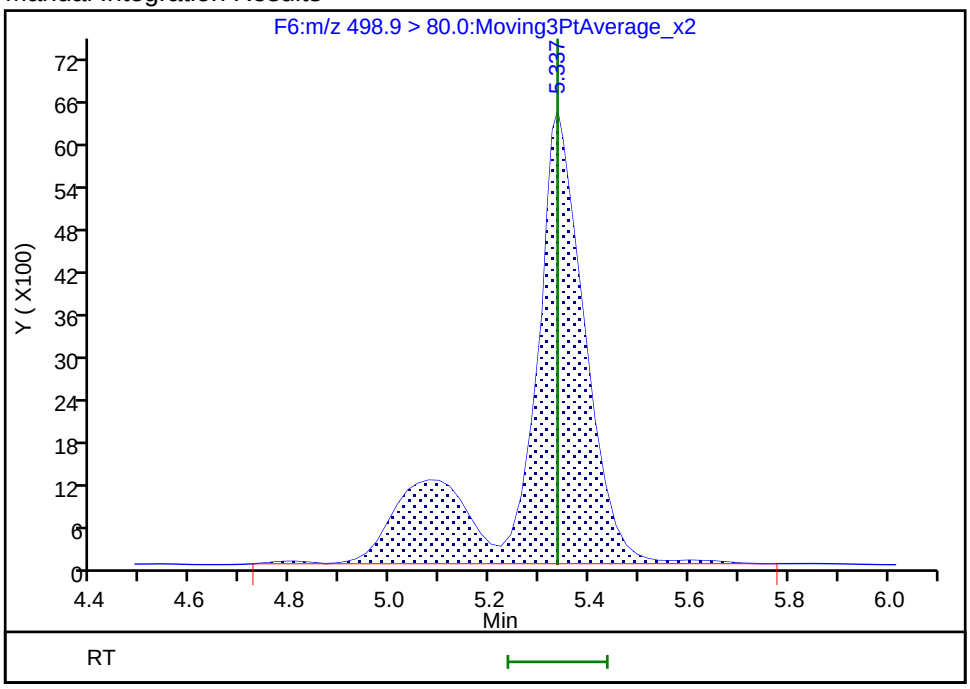
Not Detected
Expected RT: 5.34

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 52502
Amount: 9.675159
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:42:31
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

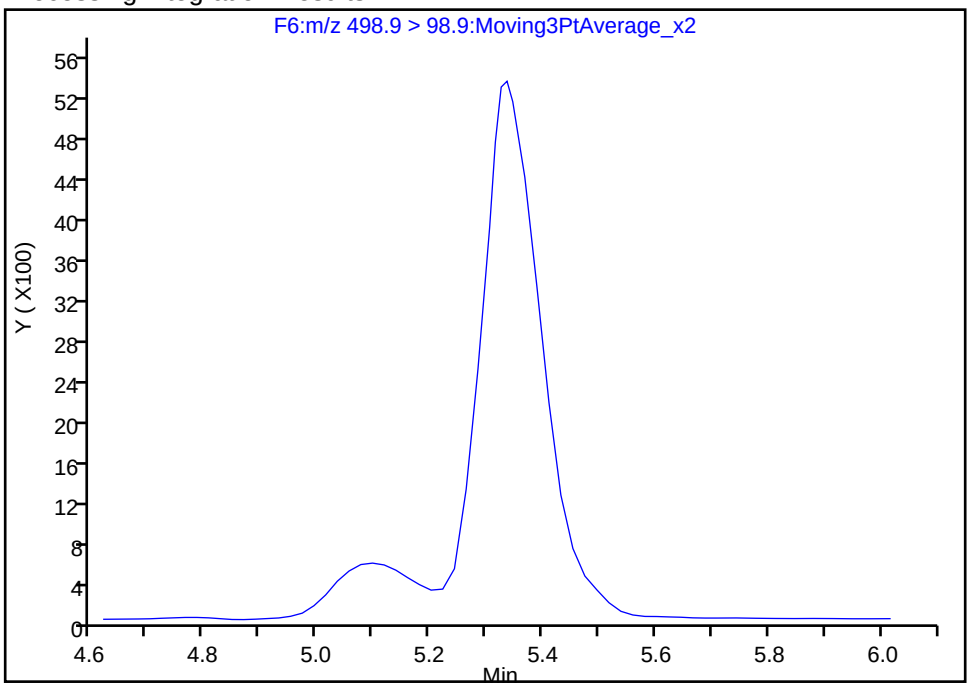
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

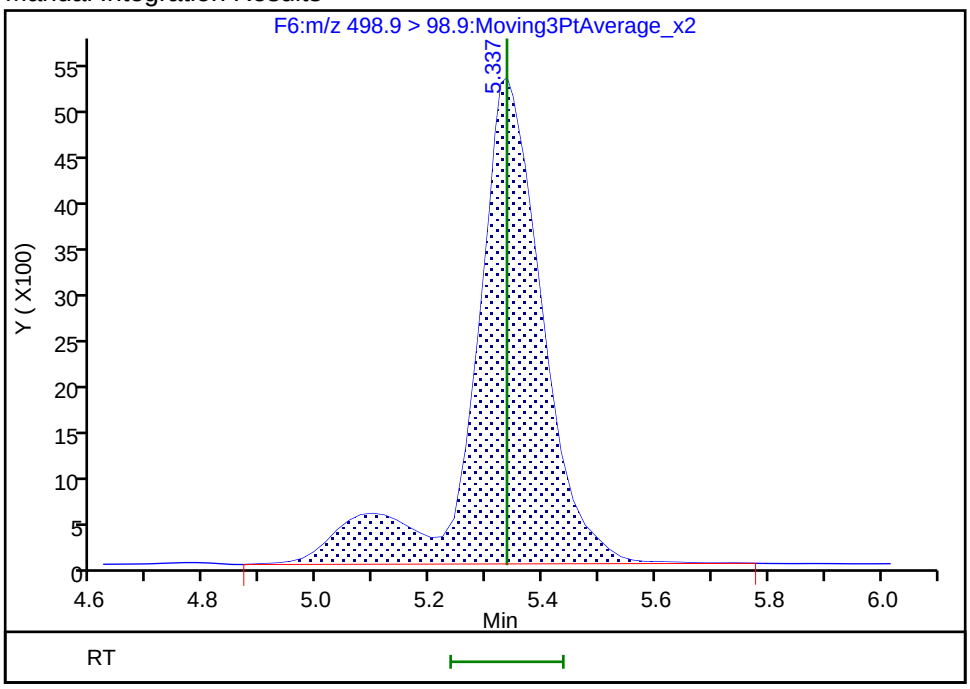
Not Detected
Expected RT: 5.34

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 45019
Amount: 9.675159
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:42:33
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

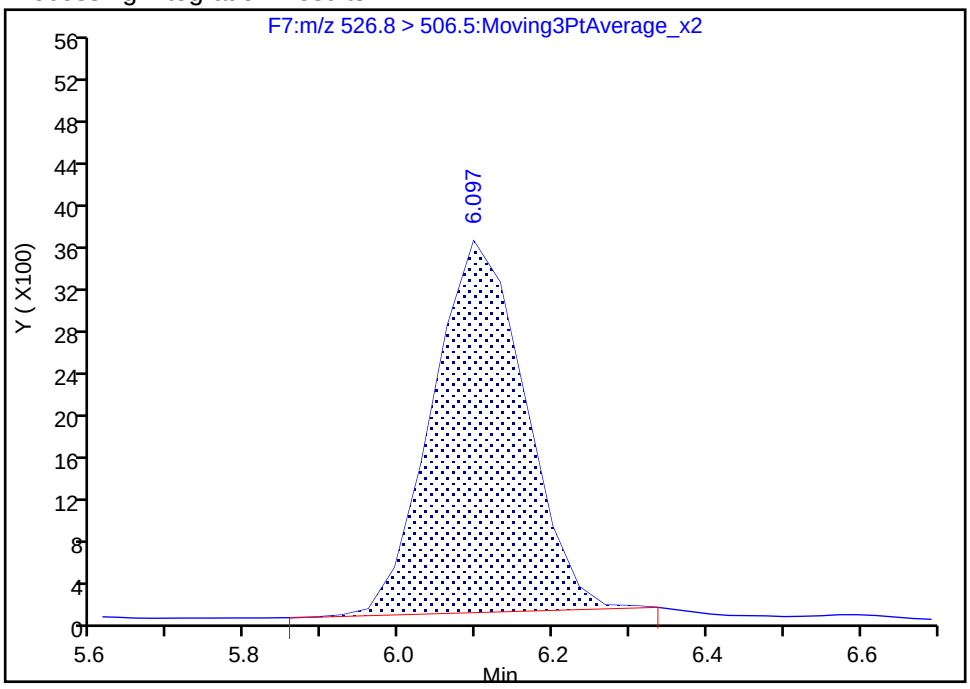
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

23 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:, CAS: 39108-34-4

Signal: 1

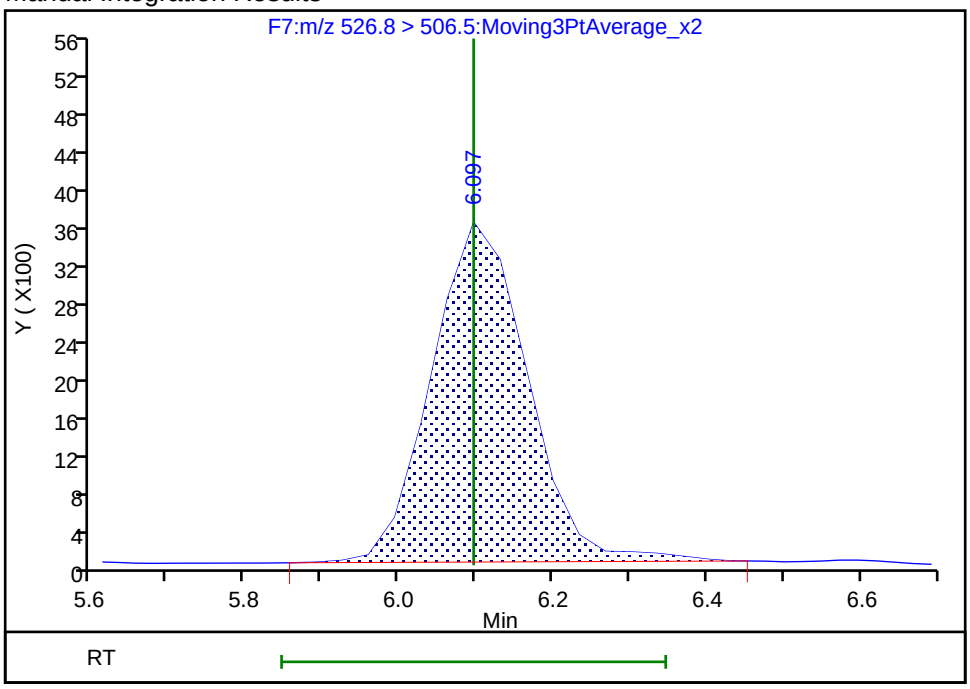
Processing Integration Results

RT: 6.10
Area: 29669
Amount: 10.787799
Amount Units: ng/ml



Manual Integration Results

RT: 6.10
Area: 31036
Amount: 11.284847
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:42:48
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

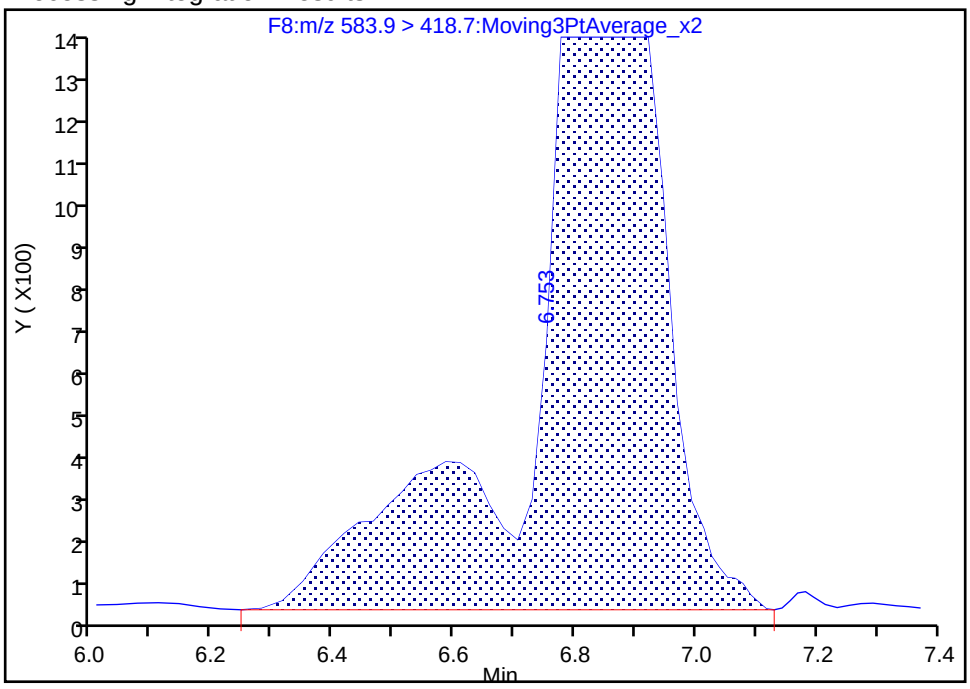
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d
Injection Date: 06-Jun-2019 13:12:01 Instrument ID: LC410
Lims ID: CCV
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

30 N-ethylperfluorooctanesulfonamidoacetic acid, CAS: 2991-50-6

Signal: 1

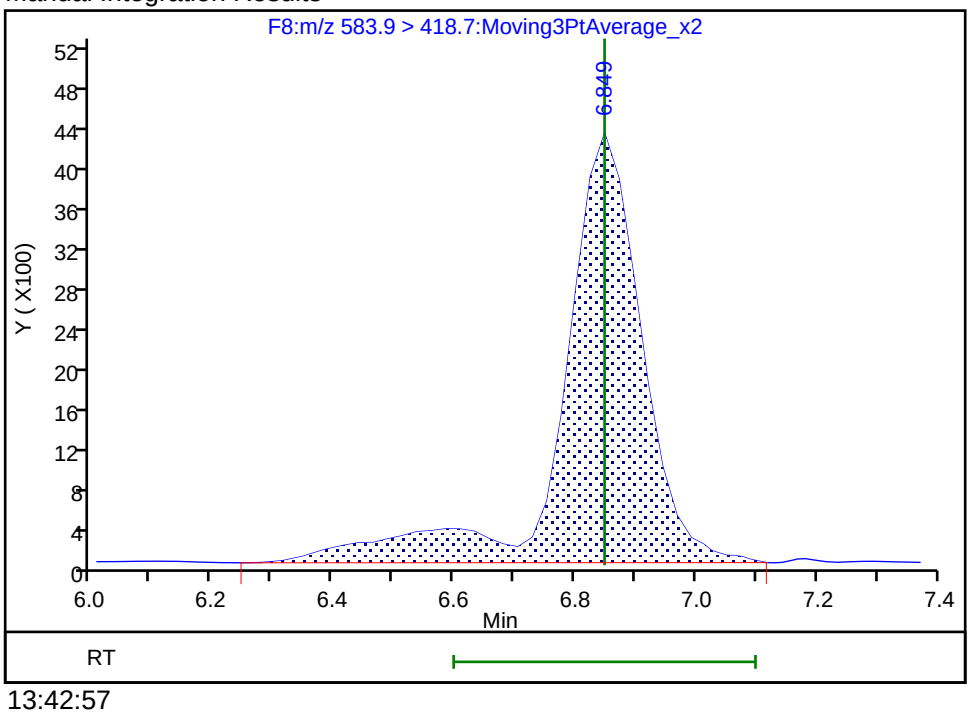
Processing Integration Results

RT: 6.75
Area: 38925
Amount: 11.209922
Amount Units: ng/ml



Manual Integration Results

RT: 6.85
Area: 38872
Amount: 11.194659
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:42:57
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143813/14 Calibration Date: 06/06/2019 15:51

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060619A14.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	1.570	0.9451		30100	50000	-39.8	40.0
Perfluoropentanoic acid (PFPeA)	AveID	2.995	2.386		39800	50000	-20.3	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	2.513	1.640		28800	44200	-34.8	40.0
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	AveID	1.325	0.8196		28900	46700	-38.1	50.0
Perfluorohexanoic acid (PFHxA)	AveID	1.398	1.511		54100	50000	8.1	40.0
Perfluoropentanesulfonic acid	AveID	2.841	1.853		30600	46900	-34.8	50.0
HFPO-DA	AveID	1.078	1.032		47900	50000	-4.2	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	1.174	1.135		48400	50000	-3.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	2.116	1.890		40600	45500	-10.7	40.0
DONA	AveID	4.300	3.381		37000	47100	-21.4	50.0
6:2 FTS	AveID	0.9451	0.9193		46100	47400	-2.7	40.0
Perfluorooctanoic acid (PFOA)	AveID	1.012	1.025		50700	50000	1.3	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.8706	0.9407		51400	47600	8.1	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8830	1.009		57100	50000	14.2	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9657	1.023		49200	46400	5.9	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	4.397	3.272		34700	46600	-25.6	50.0
8:2 FTS	AveID	0.7376	0.7095		46100	47900	-3.8	40.0
Perfluorodecanoic acid (PFDA)	AveID	0.9155	0.9545		52100	50000	4.3	40.0
Perfluorononanesulfonic acid	AveID	0.9697	0.9573		47400	48000	-1.3	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	AveID	0.8257	0.8453		51200	50000	2.4	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	AveID	0.8053	0.9056		56200	50000	12.5	40.0
Perfluorodecanesulfonic acid (PFDS)	AveID	1.038	0.9493		44100	48200	-8.6	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	0.8325	0.8997		54000	50000	8.1	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	1.424	1.357		47600	50000	-4.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	AveID	5.609	3.917		32900	47100	-30.2	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9488	0.9481		50000	50000	-0.0	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.9373	0.9863		52600	50000	5.2	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	0.8487	0.8942		52700	50000	5.3	40.0
13C4 PFBA	Ave	0.2445	0.3879		79300	50000	58.6*	50.0
13C5 PFPeA	Ave	0.1855	0.2811		75800	50000	51.5*	50.0
13C3 PFBS	Ave	0.0807	0.1942		112000	46500	140.7*	50.0

FORM VII 537 (modified)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Lab Sample ID: CCV 200-143813/14 Calibration Date: 06/06/2019 15:51

Instrument ID: LC410 Calib Start Date: 05/23/2019 12:19

GC Column: C-18 ID: 4.60(mm) Calib End Date: 05/23/2019 14:26

Lab File ID: PF060619A14.d Conc. Units: ng/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C2 PFHxA	Ave	0.5563	0.6049		54400	50000	8.7	50.0
13C3 HFPO-DA	Ave	0.0529	0.0827		78200	50000	56.4*	50.0
13C4 PFHpA	Ave	0.7840	0.8777		56000	50000	11.9	50.0
18O2 PFHxS	Ave	0.1031	0.1725		79100	47300	67.2*	50.0
M2-6:2 FTS	Ave	0.0557	0.0814		69400	47500	46.0	50.0
13C4 PFOA	Ave	0.9706	0.9851		50700	50000	1.5	50.0
13C5 PFNA	Ave	1.302	1.171		45000	50000	-10.1	50.0
13C4 PFOS	Ave	0.2326	0.3362		69100	47800	44.5	50.0
13C2 PFDA	Ave	1.111	1.046		47000	50000	-5.9	50.0
M2-8:2 FTS	Ave	0.2026	0.2326		55000	47900	14.8	50.0
d3-NMeFOSAA	Ave	0.3621	0.3157		43600	50000	-12.8	50.0
d5-NEtFOSAA	Ave	0.2986	0.2457		41100	50000	-17.7	50.0
13C2 PFUnA	Ave	1.073	0.9866		46000	50000	-8.0	50.0
13C8 FOSA	Ave	0.4004	0.6002		75000	50000	49.9	50.0
13C2 PFDoA	Ave	1.367	1.225		44800	50000	-10.4	50.0
13C2 PFTeDA	Ave	1.227	1.054		42900	50000	-14.1	50.0

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A14.d
Lims ID: CCV L7
Client ID:
Sample Type: CCV
Inject. Date: 06-Jun-2019 15:51:28 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036227014 CCV L7
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410
Sublist: chrom-PFCISO_10MRM_28*sub2

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:18:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 06-Jun-2019 17:10:23
Ratio Calibration: Initial Calibration Level: 5

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.349	2.349	0.0	1.000	322694	79.3		159	56.8	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.349	2.360	-0.011	1.000	304961	30.1		60.2	76.4	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	233868	75.8		152	809	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	557970	39.8		79.7	704	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	150228	111.9		241	415	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	234177	28.8	Target=1.67	65.2	1008	
298.9 > 98.9	2.901	2.901	0.0	1.000	151391		1.55(0.83-2.51)		718	
46 1H,1H,2H,2H-perfluorohexanesulfoni										M
327.0 > 306.7	3.238	3.270	-0.032	1.116	123649	28.9		61.9	1151	M
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	760568	54.1	Target=14.34	108	3376	
312.9 > 118.9	3.302	3.302	0.0	1.000	46232		16.45(7.17-21.51)		339	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.302	0.0	1.000	503203	54.4		109	1425	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.334	3.365	-0.031	1.149	280738	30.6	Target=1.23	65.2	1445	
348.9 > 98.9	3.334	3.365	-0.031	1.000	257542		1.09(0.62-1.85)		1747	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.460	0.0	1.000	71030	47.9		95.8	387	
D 42 13C3 HFPO-DA										
331.9 > 286.7	3.460	3.460	0.0	1.000	68821	78.2		156	1525	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.869	0.0	1.000	828622	48.4	Target=2.84	96.7	3126	
362.9 > 168.9	3.869	3.869	0.0	1.000	264885		3.13(1.42-4.26)		2417	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	730125	56.0		112	2394	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.905	3.905	0.0	1.000	246785	40.6	Target=1.34	89.3	826	
398.9 > 98.9	3.905	3.905	0.0	1.000	203741		1.21(0.67-2.01)		1178	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	135755	79.1		167	582	
49 DONA										
376.9 > 250.7	3.946	3.946	0.0	0.741	890594	37.0	Target=2.33	78.6	4373	
376.9 > 85.0	3.946	3.946	0.0	1.000	421275		2.11(1.16-3.49)		2422	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.506	4.526	-0.020	1.000	58980	46.1		97.3	390	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.506	4.526	-0.020	1.000	64295	69.4		146	424	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.547	0.0	1.000	819476	50.7		101	2376	
* 16 13C2 PFOA										
414.9 > 369.8	4.547	4.568	-0.021		831874	50.0			1256	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.547	4.568	-0.021	1.000	840245	50.7	Target=2.43	101	2987	
412.9 > 168.9	4.547	4.568	-0.021	1.000	332651		2.53(1.22-3.64)		1687	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.568	4.589	-0.021	0.858	250425	51.4	Target=1.30	108	1802	
448.9 > 98.9	4.568	4.589	-0.021	1.000	225564		1.11(0.65-1.95)		1207	
D 20 13C5 PFNA										
467.8 > 422.8	5.316	5.336	-0.020	1.000	974000	45.0		89.9	3610	
19 Perfluorononanoic acid										
462.9 > 418.7	5.316	5.336	-0.020	1.000	982366	57.1	Target=5.00	114	5456	
462.9 > 168.9	5.316	5.336	-0.020	1.000	200794		4.89(2.50-7.50)		995	
D 22 13C4 PFOS										
502.9 > 80.0	5.326	5.336	-0.010	1.000	267333	69.1		145	1257	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.326	5.336	-0.010	1.000	265510	49.2	Target=1.41	106	1259	M
498.9 > 98.9	5.326	5.336	-0.010	1.000	215865		1.23(0.71-2.12)		1337	M
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.743	5.778	-0.035	1.078	852690	34.7		74.4	7992	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.097	6.097	0.0	1.000	131528	46.1		96.2	759	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.097	0.0	1.000	185376	55.0		115	650	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.097	6.131	-0.034	1.000	830308	52.1	Target=7.23	104	1676	
512.9 > 168.9	6.131	6.131	0.0	1.006	113902		7.29(3.61-10.84)		726	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.097	6.131	-0.034	1.145	256990	47.4	Target=1.39	98.7	1804	
548.9 > 98.9	6.097	6.131	-0.034	1.000	233893		1.10(0.69-2.08)		1121	
D 25 13C2 PFDA										
514.9 > 469.5	6.097	6.131	-0.034	1.000	869857	47.0		94.1	3839	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.453	6.477	-0.024	1.000	222001	51.2		102	2102	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.453	6.477	-0.024	1.000	262630	43.6		87.2	1226	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.825	6.849	-0.024	1.000	204353	41.1		82.3	767	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.849	6.849	0.0	1.003	185068	56.2		112	2365	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.849	6.873	-0.024	1.286	255890	44.1	Target=1.25	91.4	2190	
598.9 > 98.9	6.849	6.873	-0.024	1.000	230543		1.11(0.63-1.88)		1532	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.873	6.897	-0.024	1.000	738441	54.0	Target=7.06	108	1932	
562.9 > 168.9	6.873	6.897	-0.024	1.000	101955		7.24(3.53-10.58)		619	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.897	-0.024	1.000	820760	46.0		92.0	4716	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	6.945	6.945	0.0	1.000	677487	47.6		95.3	1985	
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.945	0.0	1.000	499294	75.0		150	1445	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.215	7.234	-0.019	1.355	1031724	32.9		69.8	7083	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.557	7.577	-0.020	1.000	966021	50.0	Target=5.37	99.9	4246	
612.9 > 168.9	7.557	7.577	-0.020	1.000	175602		5.50(2.68-8.06)		1293	
D 37 13C2 PFDoA										
614.9 > 569.5	7.557	7.577	-0.020	1.000	1018854	44.8		89.6	2726	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.168	8.191	-0.023	1.081	1004930	52.6	Target=4.67	105	2045	
662.9 > 168.9	8.168	8.191	-0.023	1.081	192657		5.22(2.34-7.01)		1337	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.719	8.741	-0.022	1.000	876857	42.9		85.9	1251	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.719	8.752	-0.033	1.000	784043	52.7	Target=4.86	105	1761	
712.9 > 168.9	8.730	8.752	-0.022	1.001	155462		5.04(2.43-7.30)		839	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LCPFAS27-L7_00005 Amount Added: 100.00 Units: uL

Report Date: 10-Jun-2019 10:18:57 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A14.d

Injection Date: 06-Jun-2019 15:51:28 Instrument ID: LC410

Lims ID: CCV L7

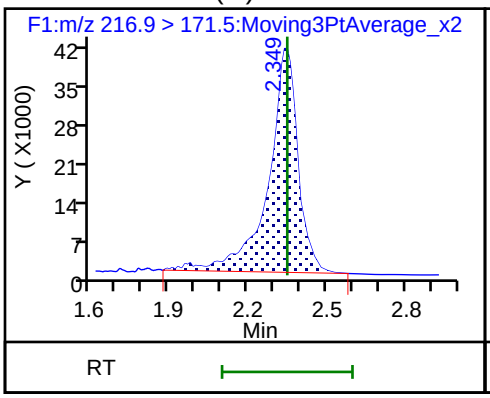
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 14

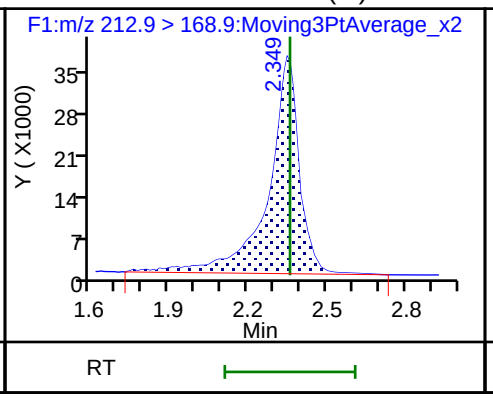
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

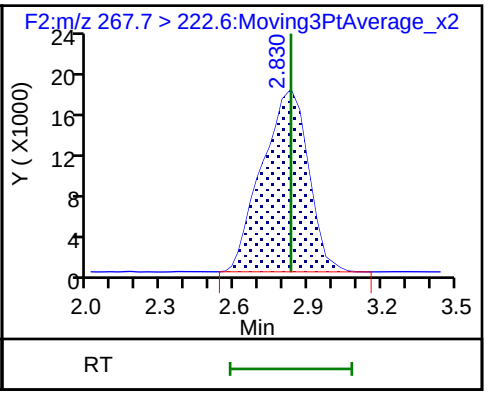
D 1 13C4 PFBA (M)



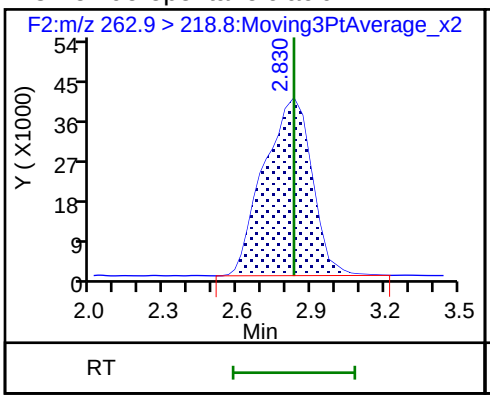
2 Perfluorobutanoic acid (M)



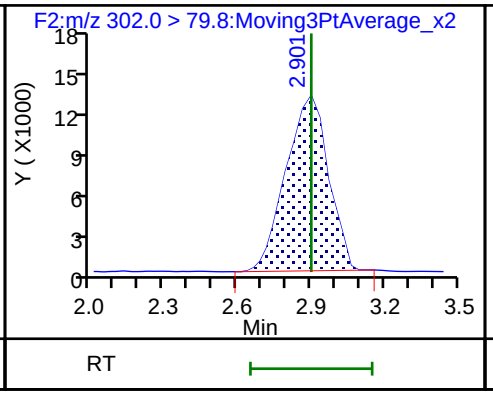
D 4 13C5 PFPeA



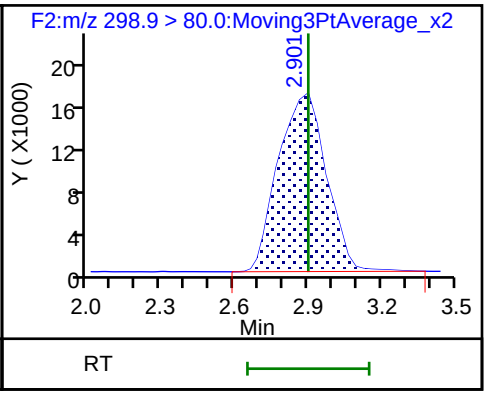
3 Perfluoropentanoic acid



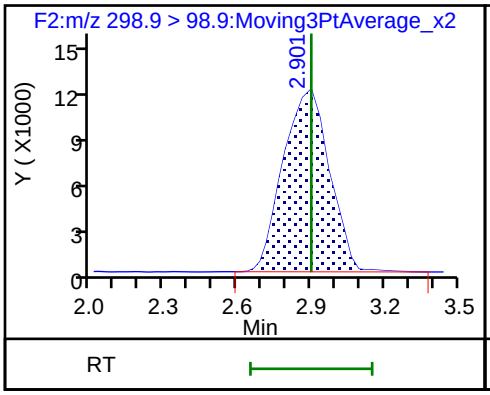
D 5 13C3 PFBS



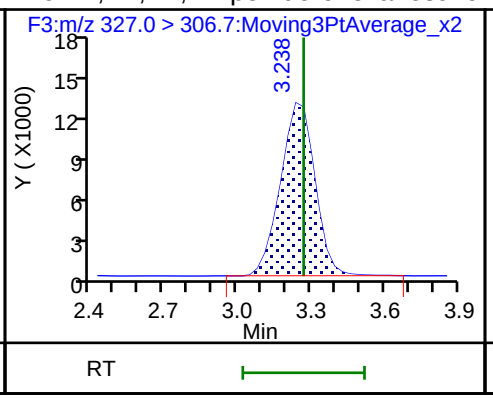
6 Perfluorobutanesulfonic acid



6 Perfluorobutanesulfonic acid



46 1H,1H,2H,2H-perfluorohexanesulfoni (M)



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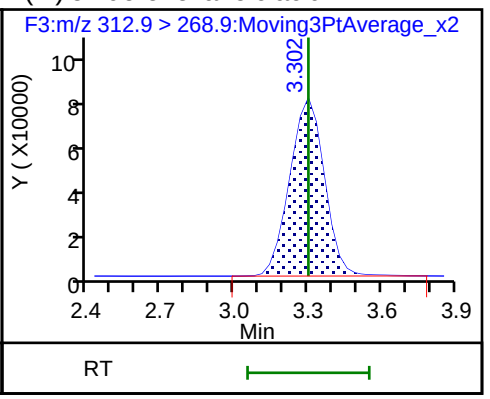
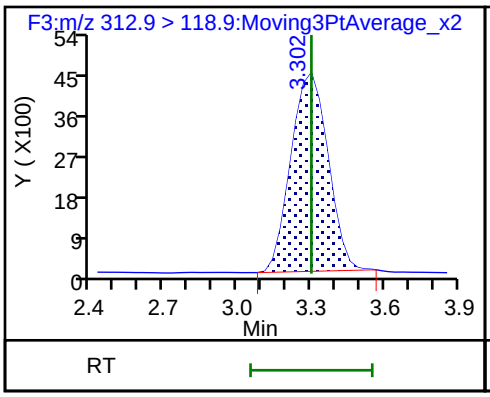
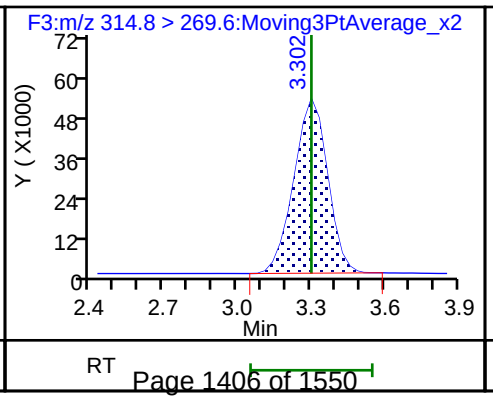


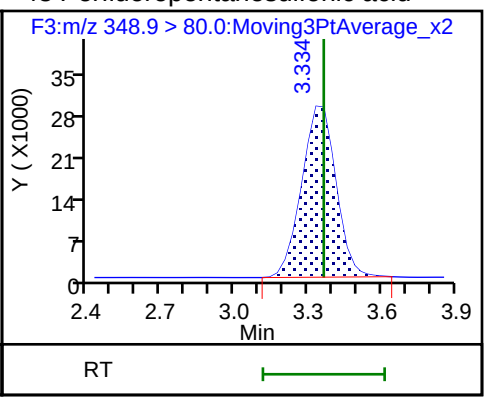
7 Perfluorohexanoic acid



D 8 13C2 PFHxA



48 Perfluoropentanesulfonic acid



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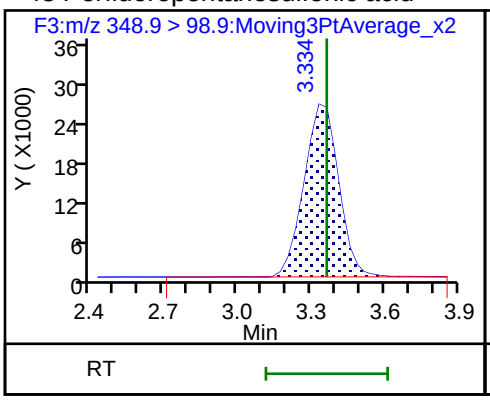
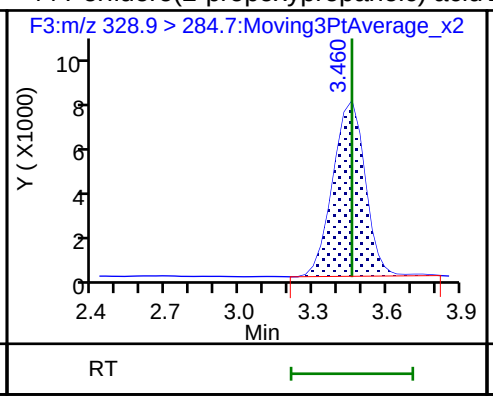
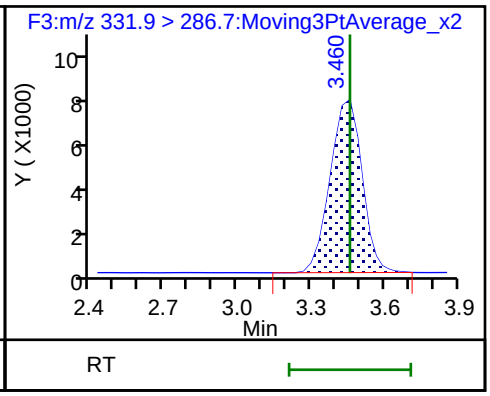


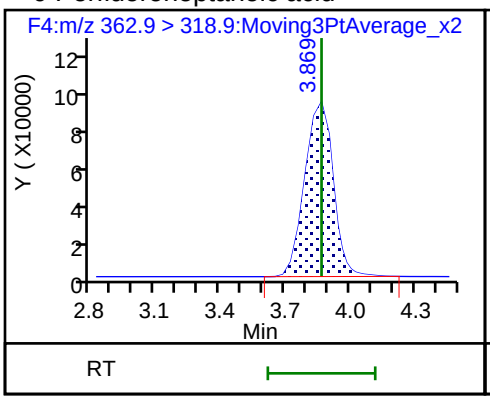
44 Perfluoro(2-propoxypropanoic) acid



D 42 13C3 HFPO-DA



9 Perfluoroheptanoic acid



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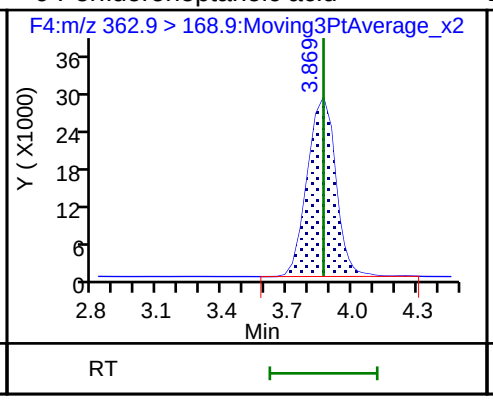
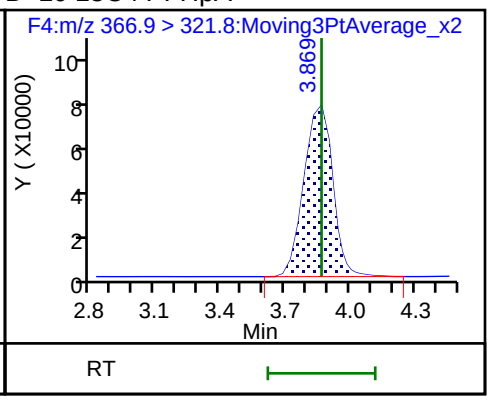
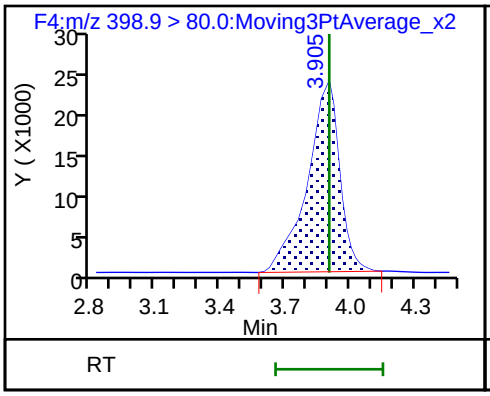


D 10 13C4 PFHpA



11 Perfluorohexanesulfonic acid



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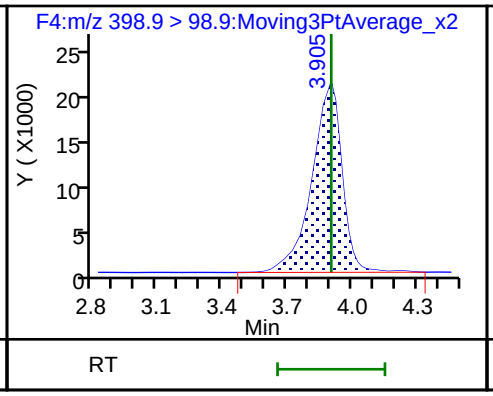
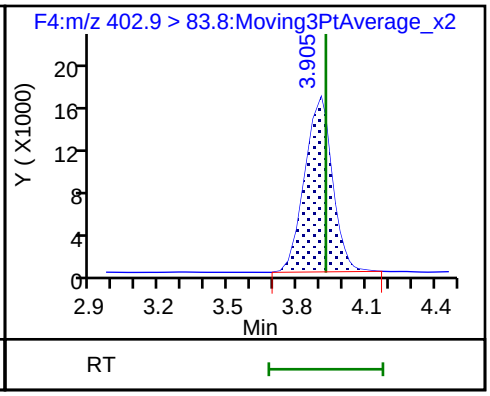
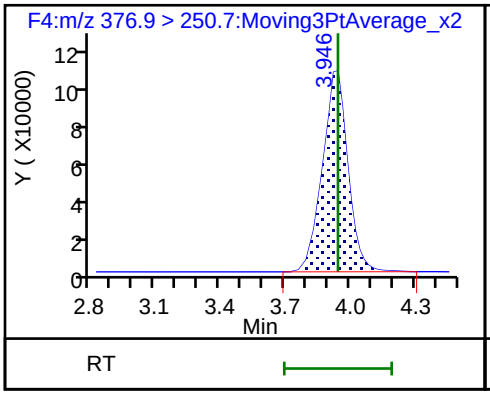


D 12 18O2 PFHxS



49 DONA



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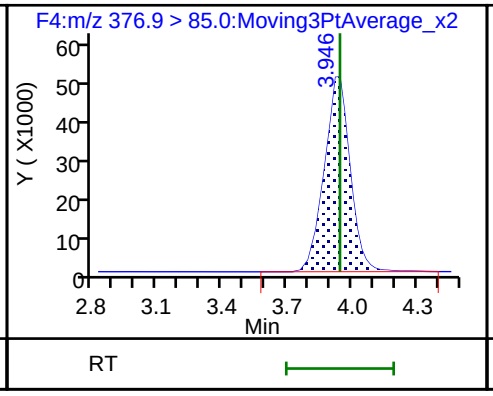
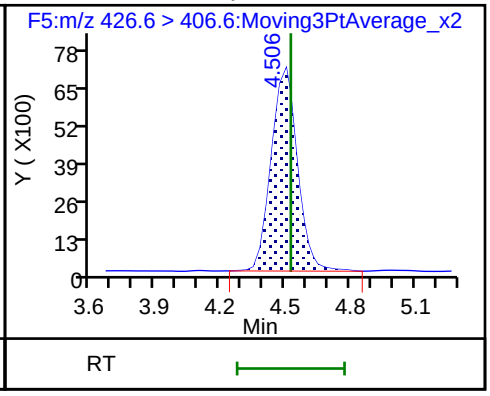
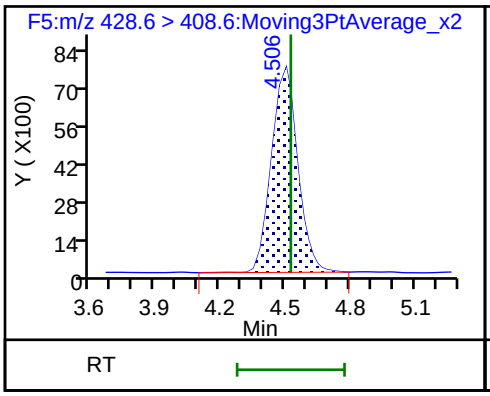


13 1H,1H,2H,2H-perfluorooctanesulfoni



D 14 M2-6:2 FTS



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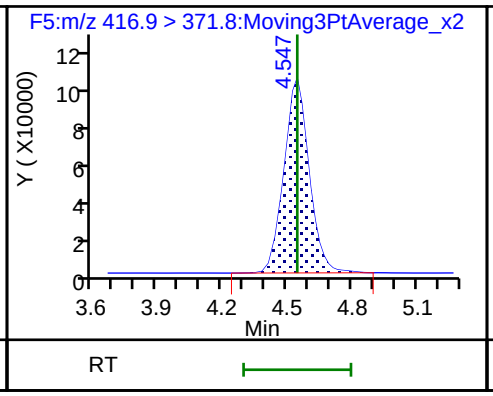
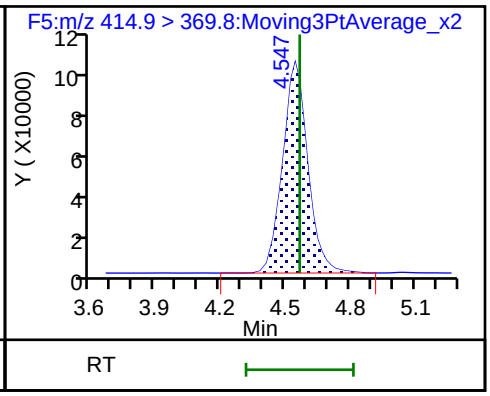
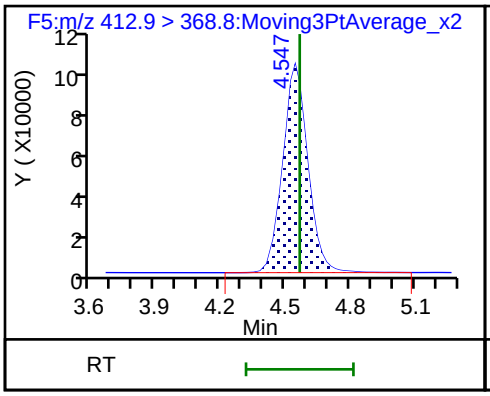


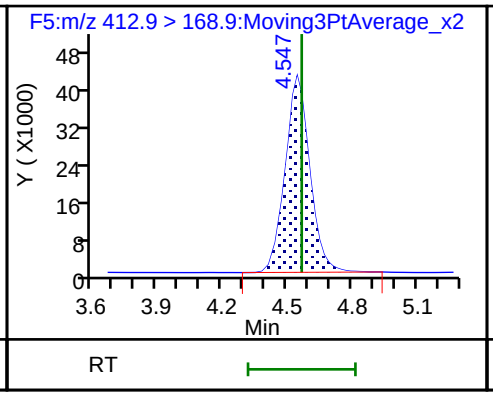
* 16 13C2 PFOA



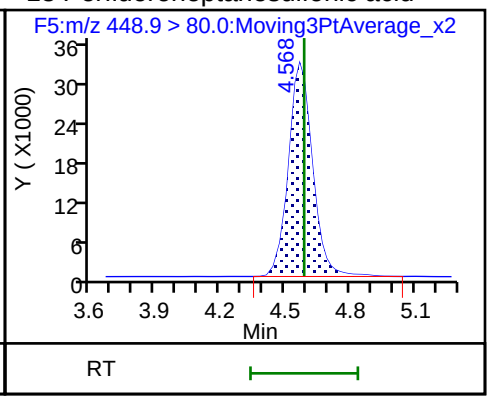
15 Perfluorooctanoic acid



15 Perfluorooctanoic acid



18 Perfluoroheptanesulfonic acid



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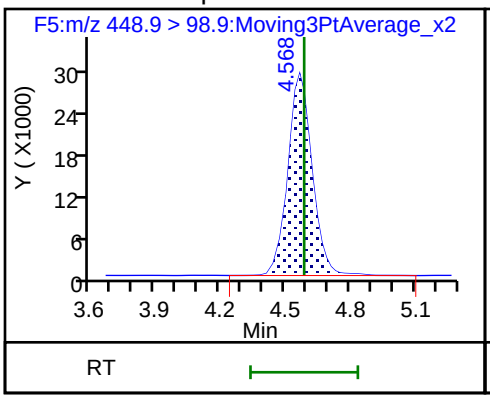
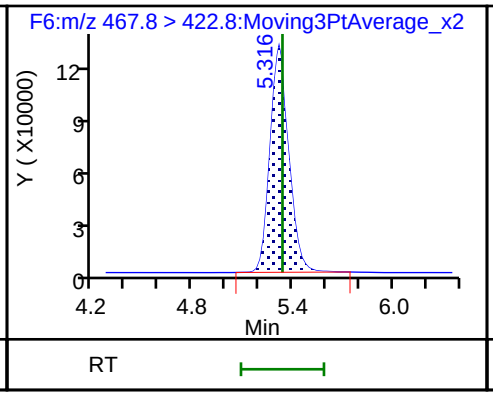
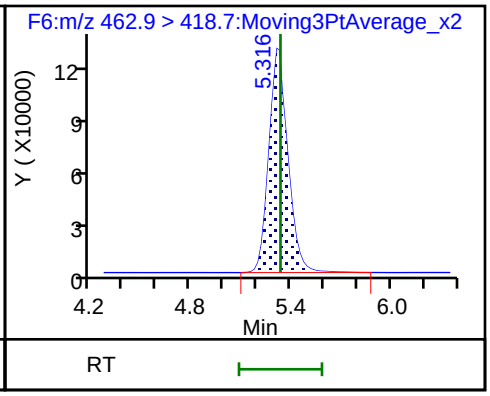


D 20 13C5 PFNA



19 Perfluorononanoic acid



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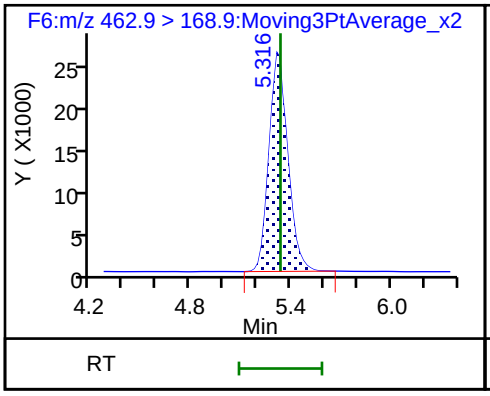
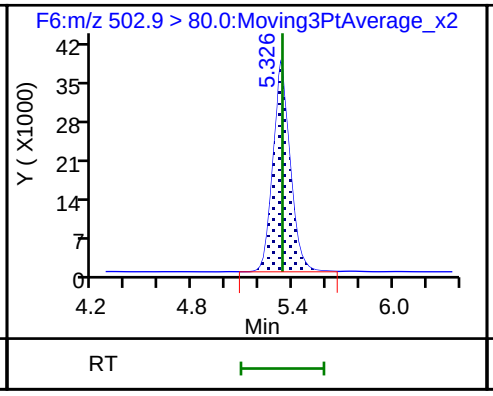
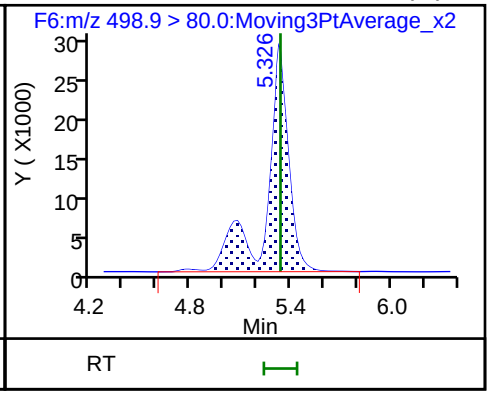


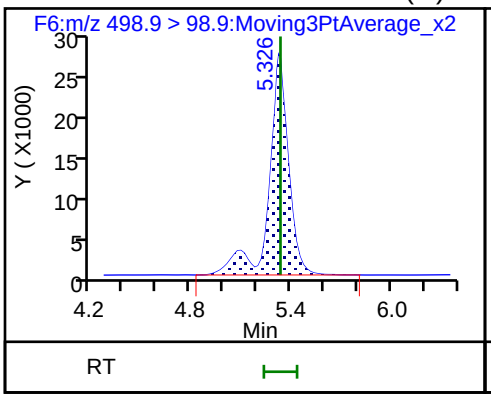
D 22 13C4 PFOS



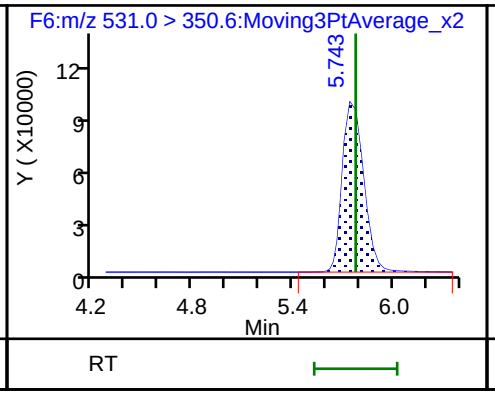
21 Perfluorooctanesulfonic acid (M)



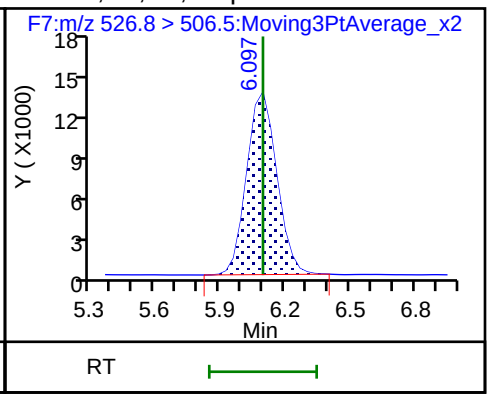
21 Perfluorooctanesulfonic acid (M)



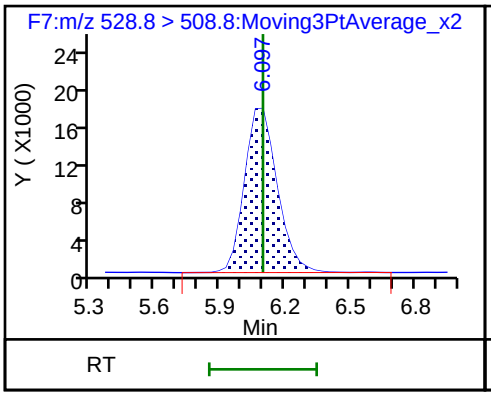
47 9-Chlorohexadecafluoro-3-oxanonane



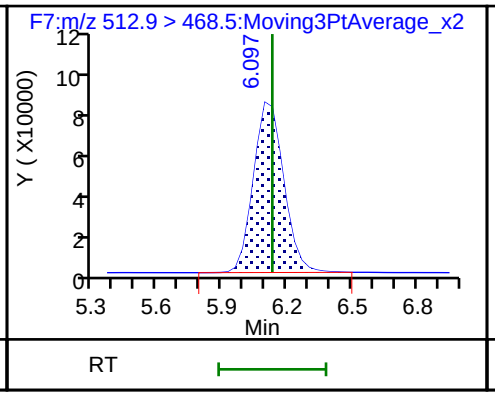
23 1H,1H,2H,2H-perfluorodecanesulfoni



D 24 M2-8:2 FTS



26 Perfluorodecanoic acid



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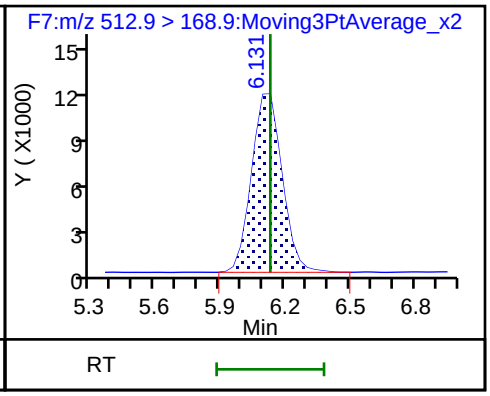
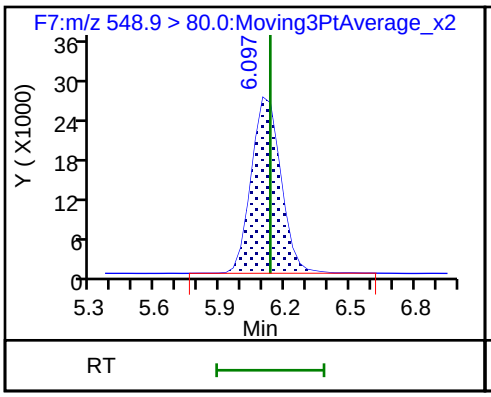


45 Perfluorononanesulfonic acid



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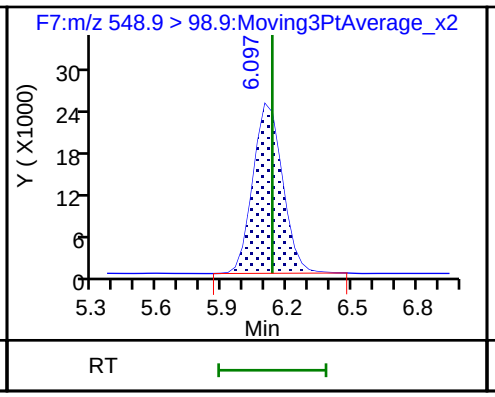
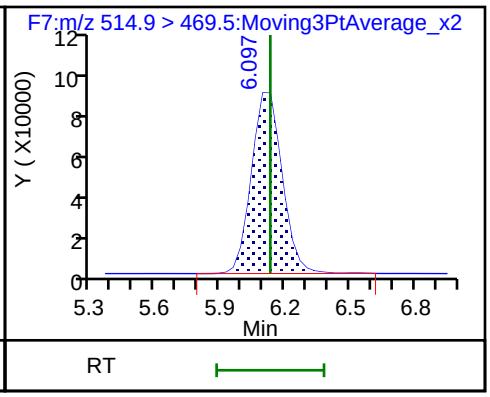
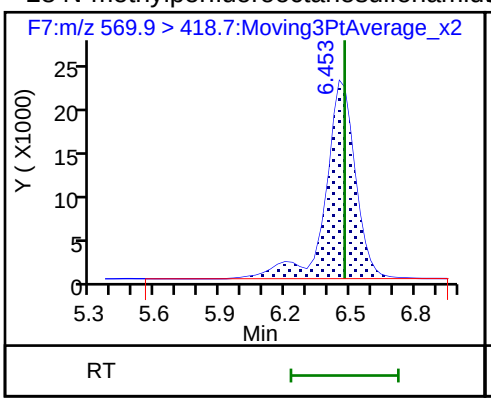


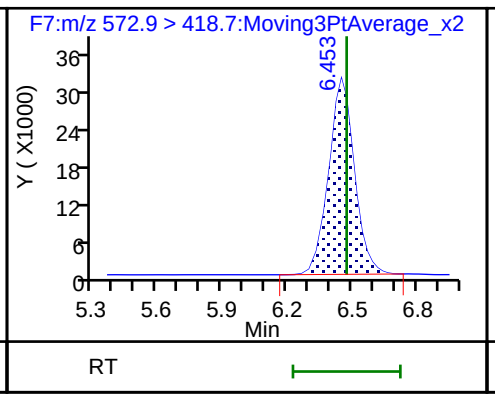
D 25 13C2 PFDA



28 N-methylperfluorooctanesulfonamidD



D 27 d3-NMeFOSAA



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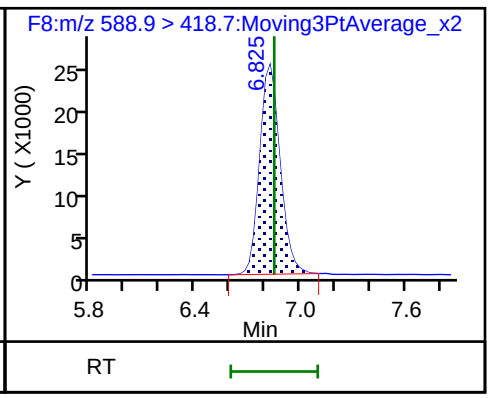
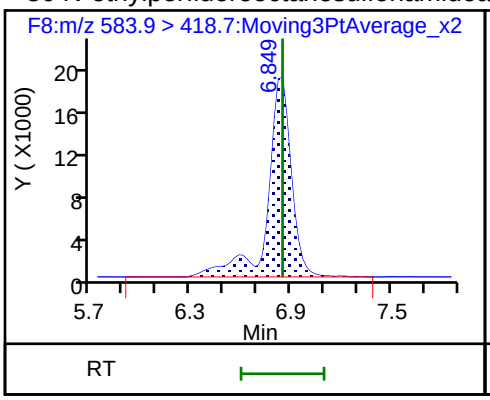
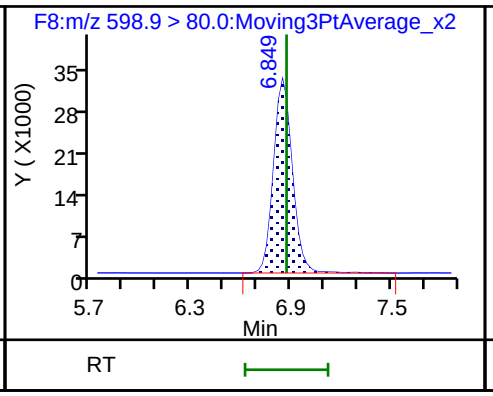


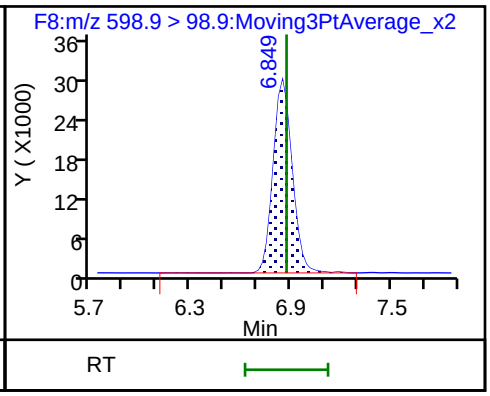
30 N-ethylperfluorooctanesulfonamidoa



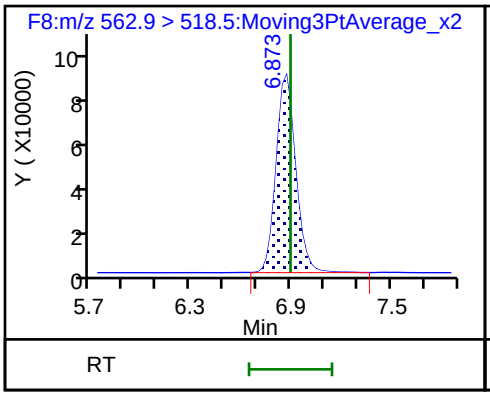
31 Perfluorodecanesulfonic acid



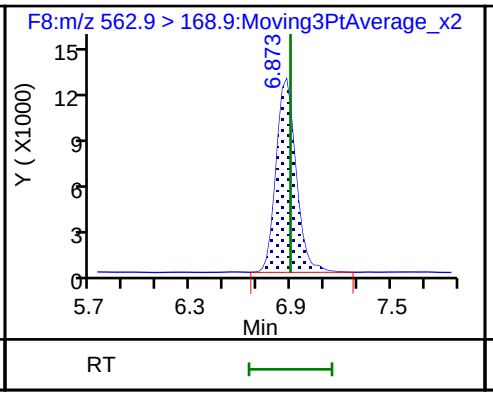
31 Perfluorodecanesulfonic acid



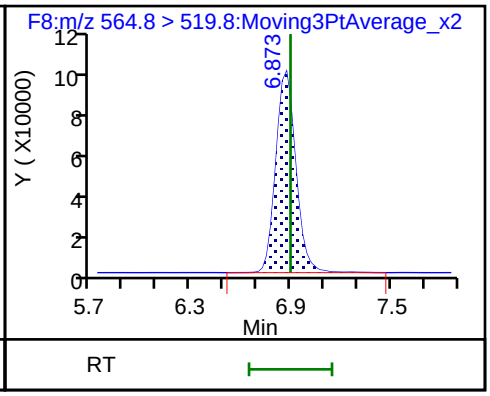
32 Perfluoroundecanoic acid



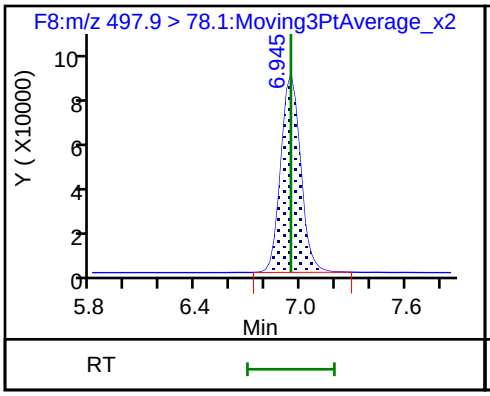
32 Perfluoroundecanoic acid



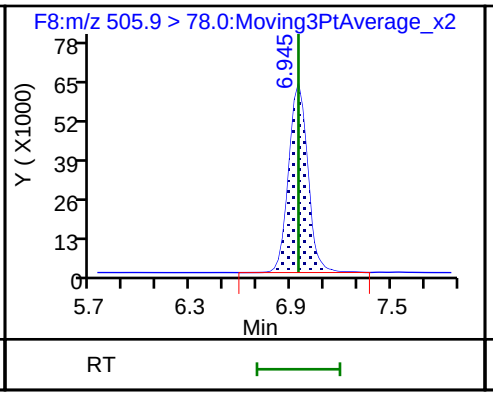
D 33 13C2 PFUnA



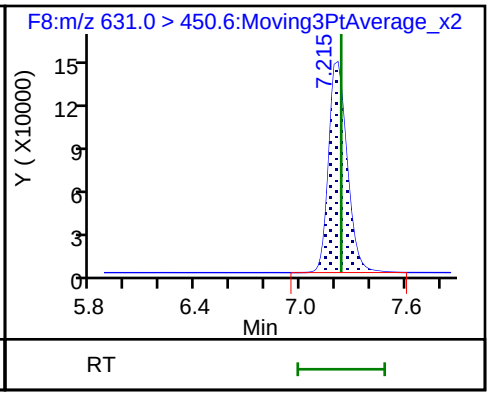
35 Perfluorooctanesulfonamide



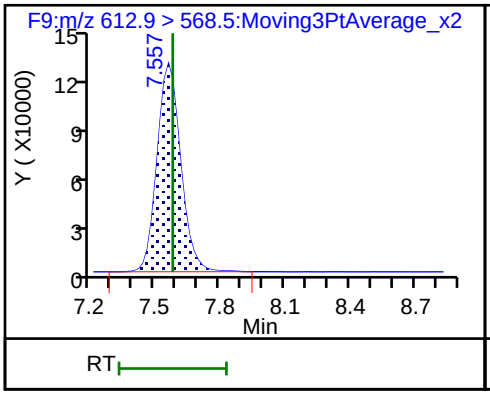
D 34 13C8 FOSA



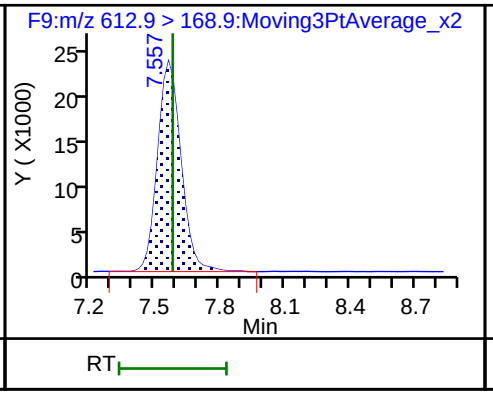
43 11-Chloroeicosafluoro-3-oxaundecan



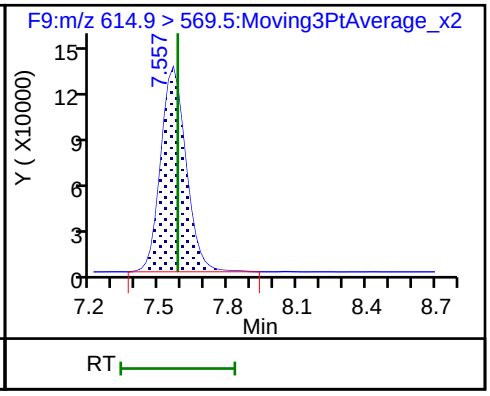
36 Perfluorododecanoic acid



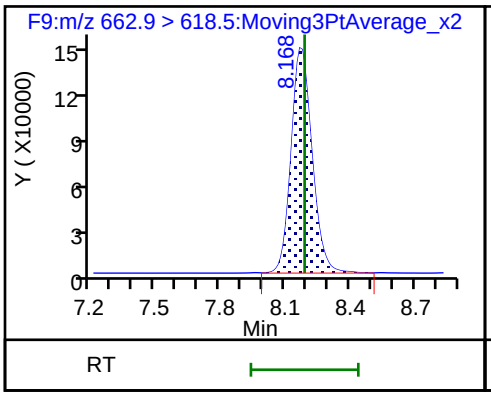
36 Perfluorododecanoic acid



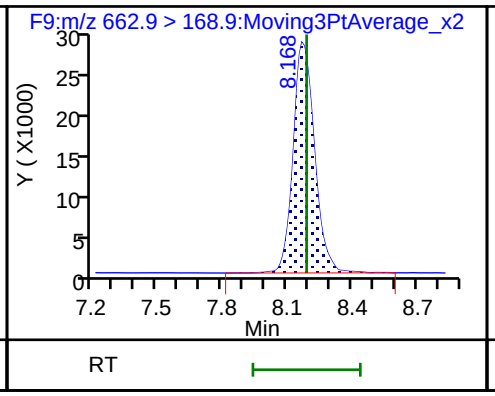
D 37 13C2 PFDoA



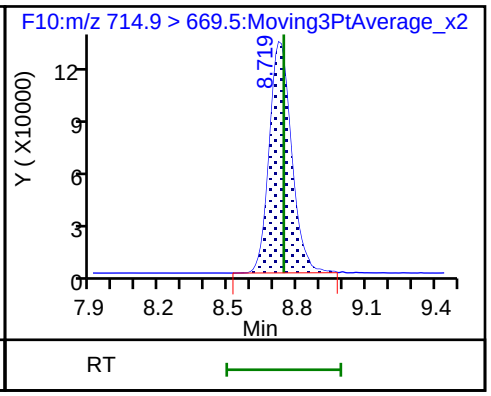
38 Perfluorotridecanoic acid



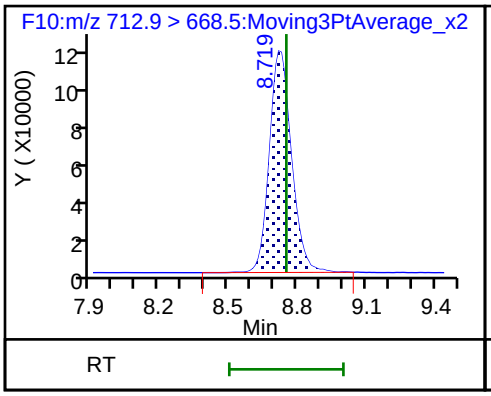
38 Perfluorotridecanoic acid



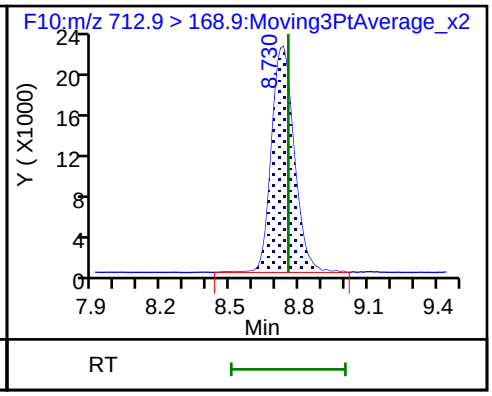
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

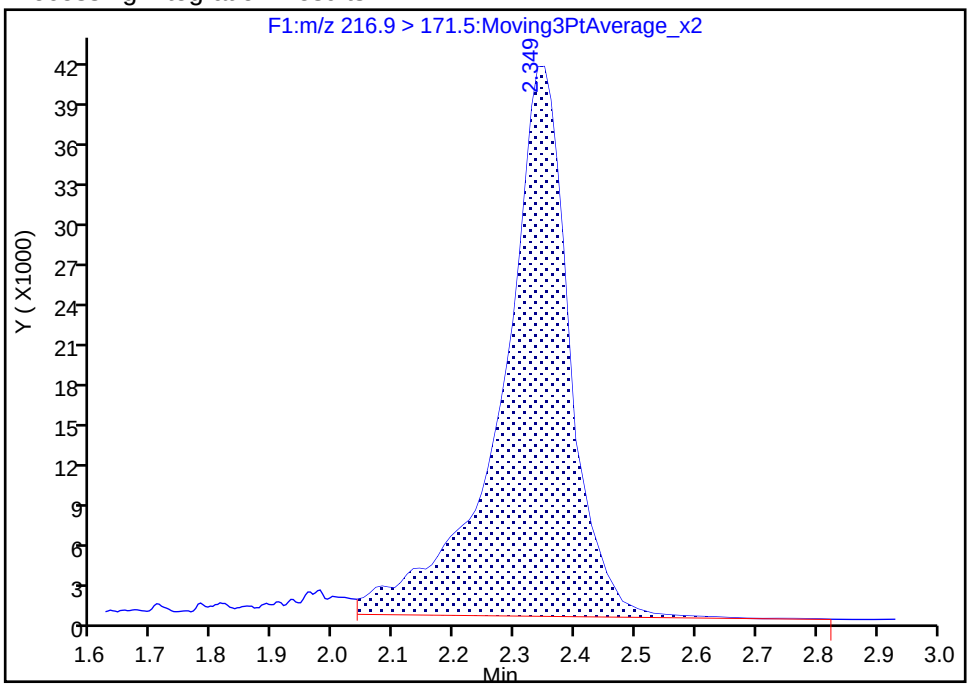
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A14.d
Injection Date: 06-Jun-2019 15:51:28 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

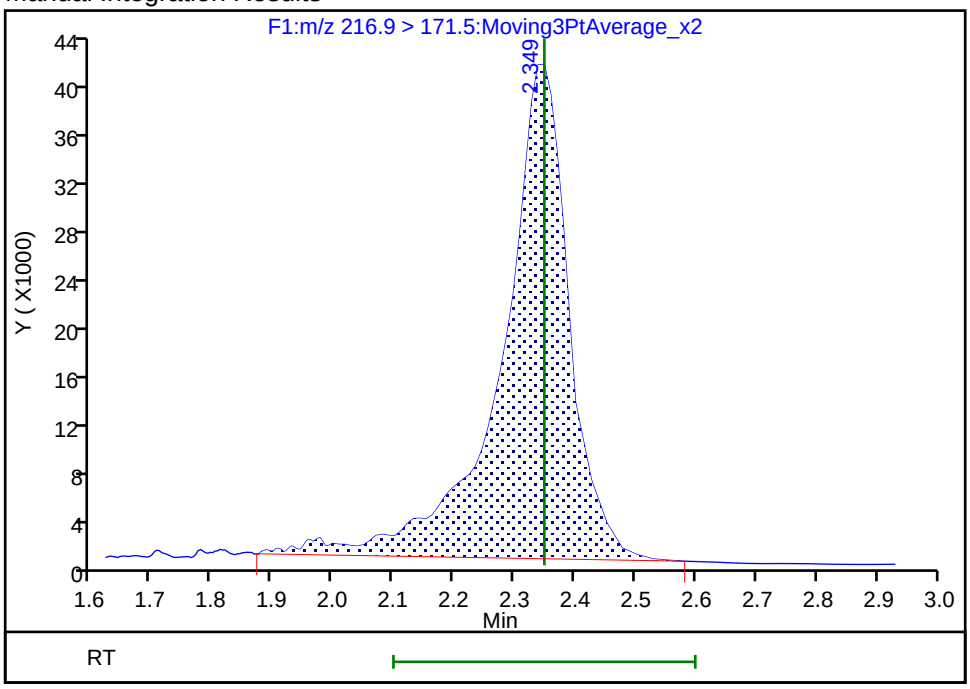
Processing Integration Results

RT: 2.35
Area: 324711
Amount: 79.812562
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 322694
Amount: 79.316792
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 16:37:15
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

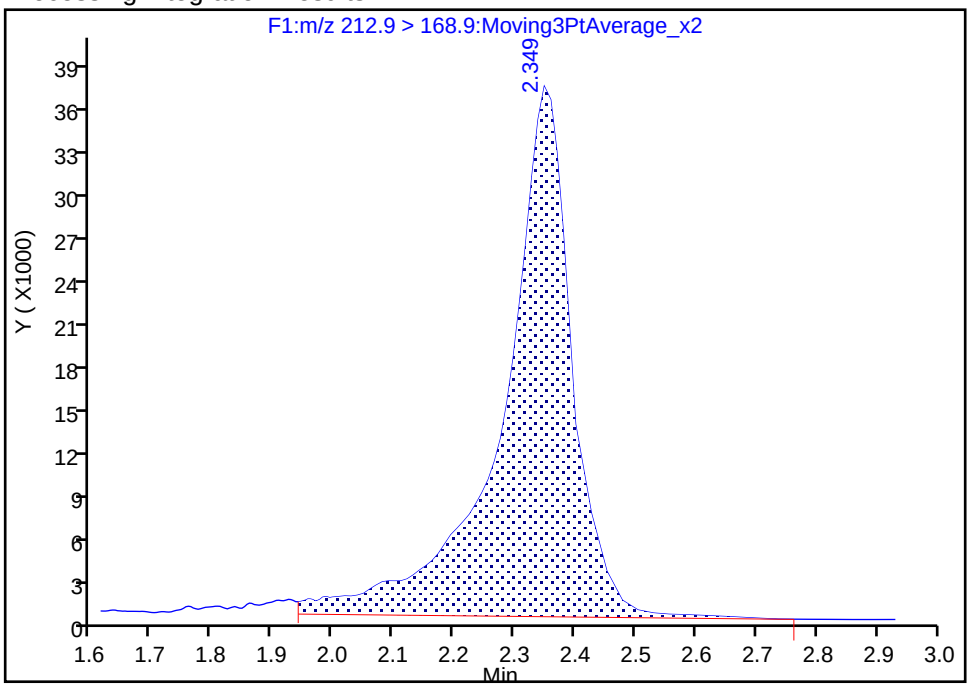
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A14.d
Injection Date: 06-Jun-2019 15:51:28 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

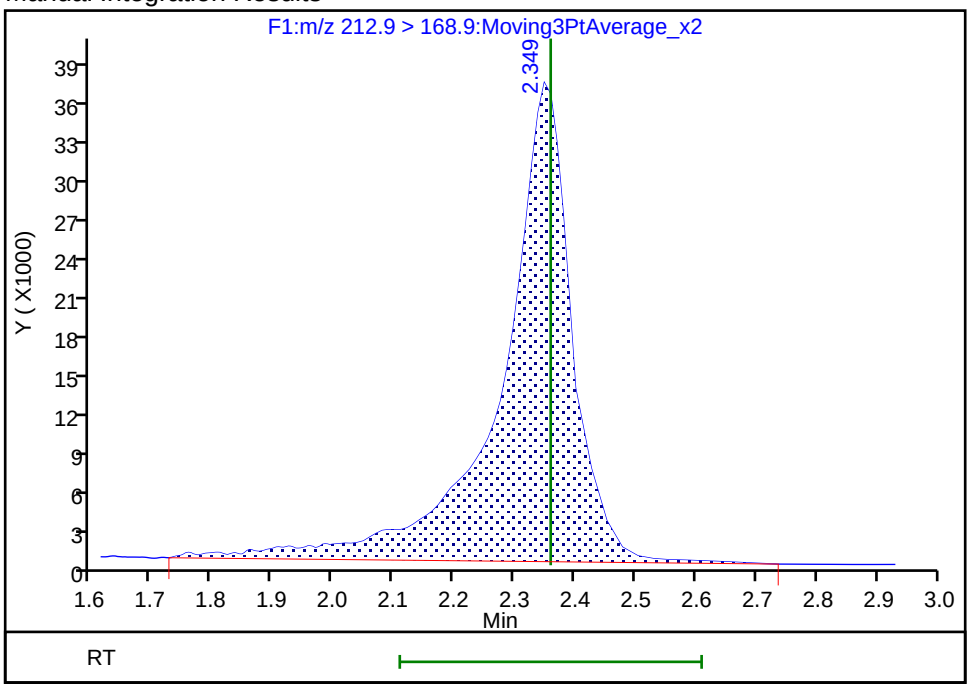
Processing Integration Results

RT: 2.35
Area: 299583
Amount: 29.982263
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 304961
Amount: 30.097246
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 16:37:06
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

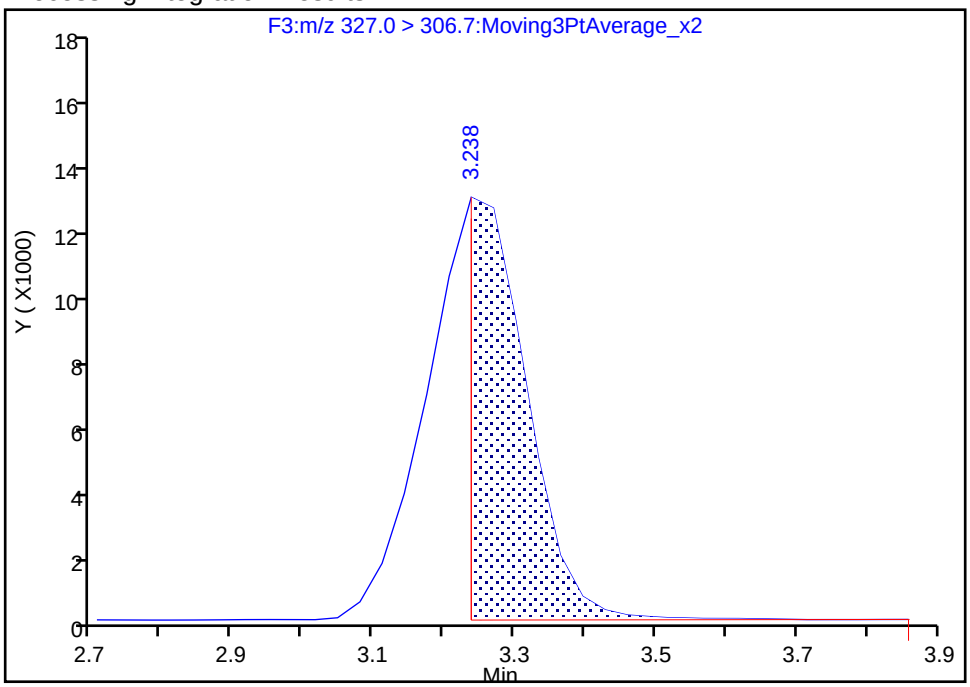
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A14.d
Injection Date: 06-Jun-2019 15:51:28 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F3:MRM

46 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:, CAS: 757124-72-4

Signal: 1

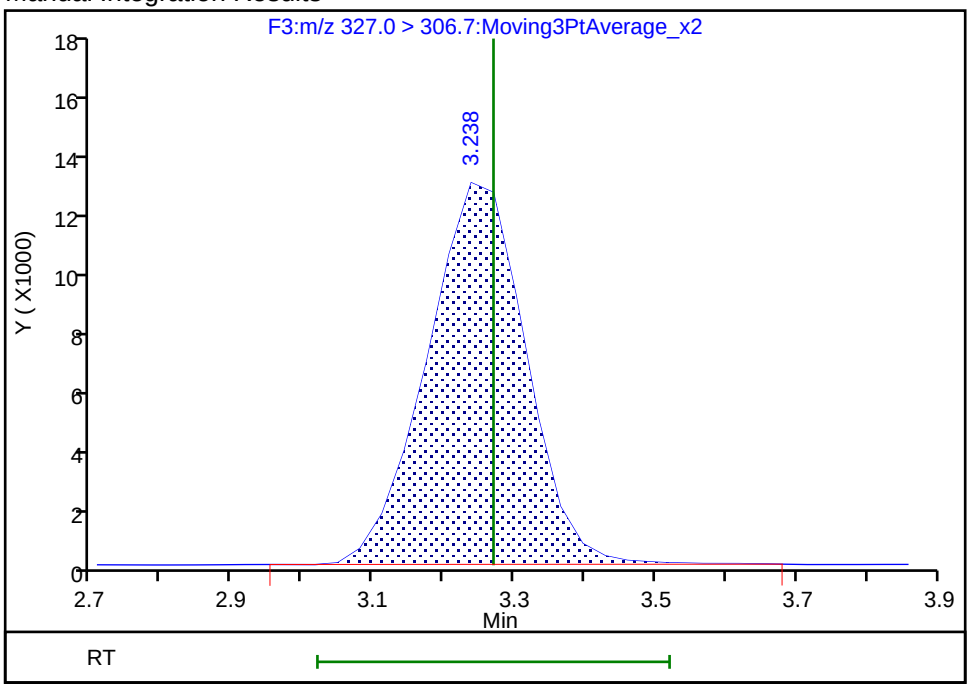
Processing Integration Results

RT: 3.24
Area: 68301
Amount: 15.958539
Amount Units: ng/ml



Manual Integration Results

RT: 3.24
Area: 123649
Amount: 28.890608
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 16:37:42
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

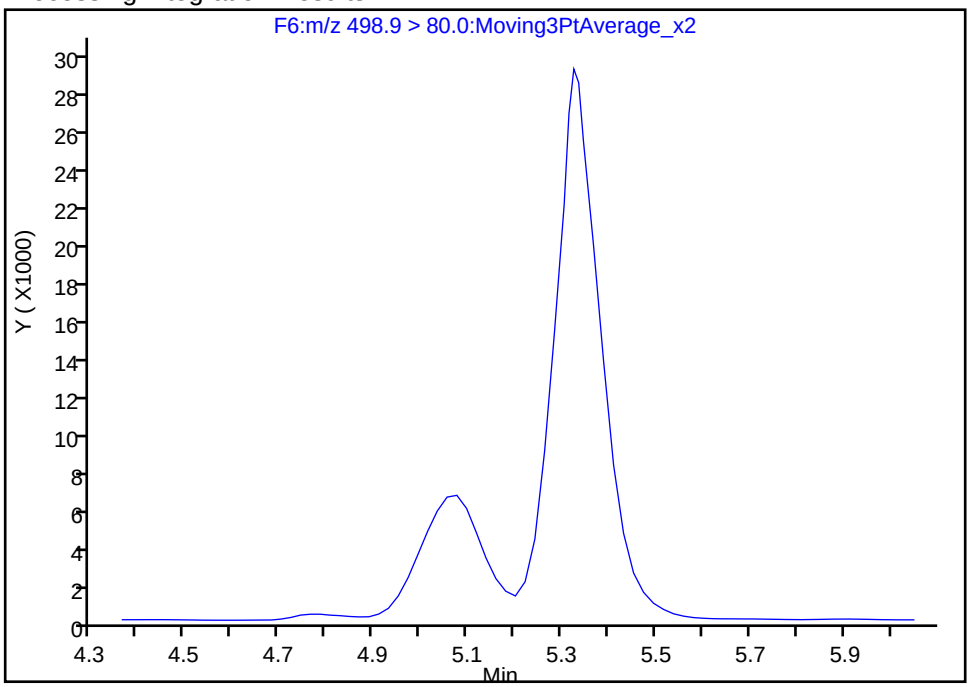
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A14.d
Injection Date: 06-Jun-2019 15:51:28 Instrument ID: LC410
Lims ID: CCV L7
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

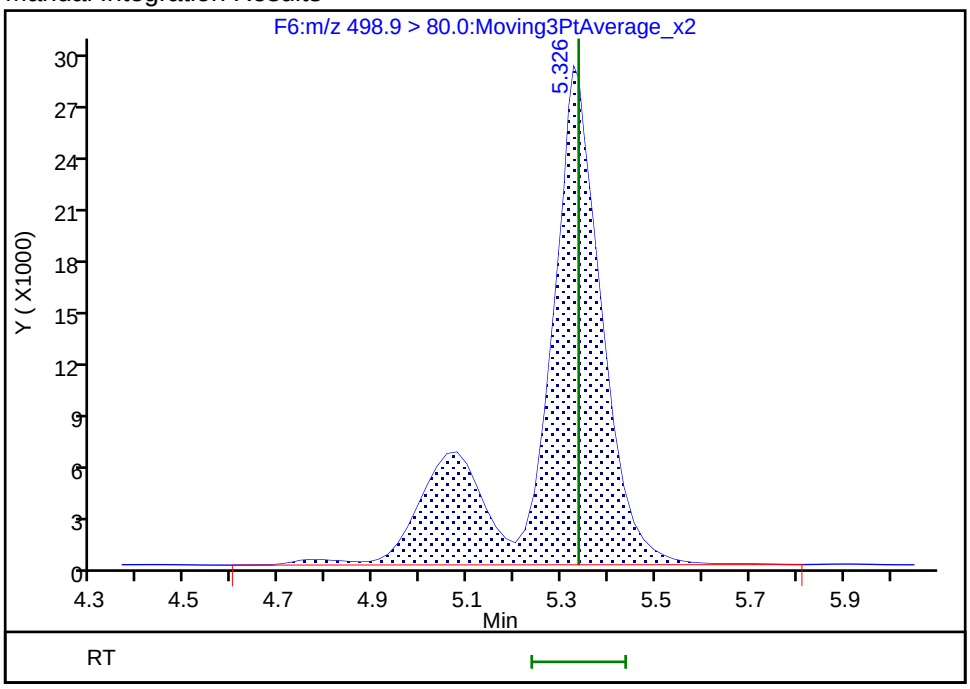
Not Detected
Expected RT: 5.34

Processing Integration Results



Manual Integration Results

RT: 5.33
Area: 265510
Amount: 49.159434
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 16:38:20
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

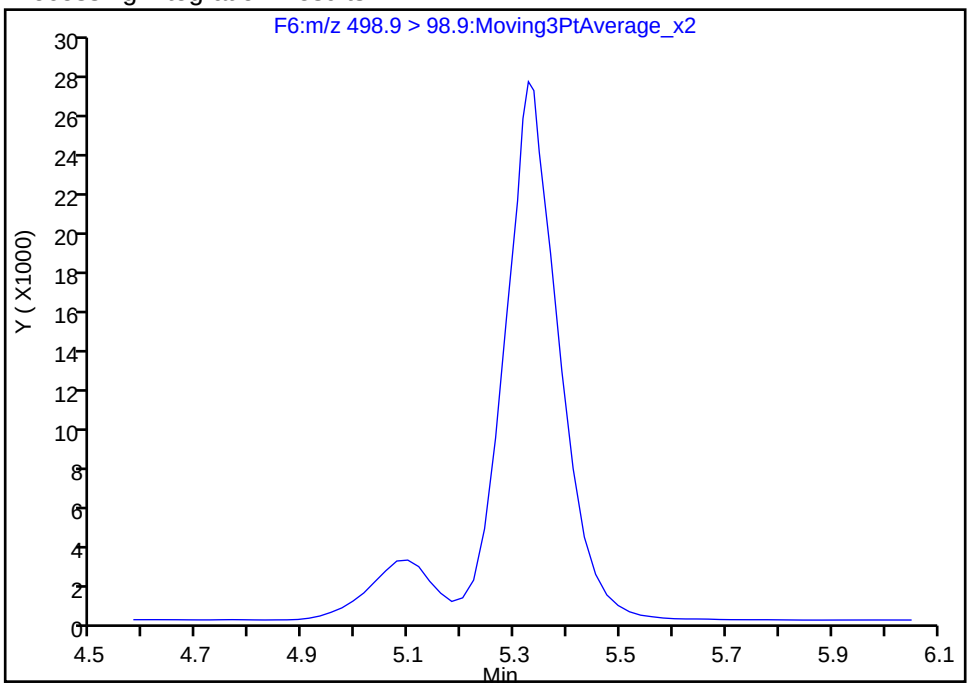
Data File:	\\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A14.d				
Injection Date:	06-Jun-2019 15:51:28	Instrument ID:	LC410		
Lims ID:	CCV L7				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

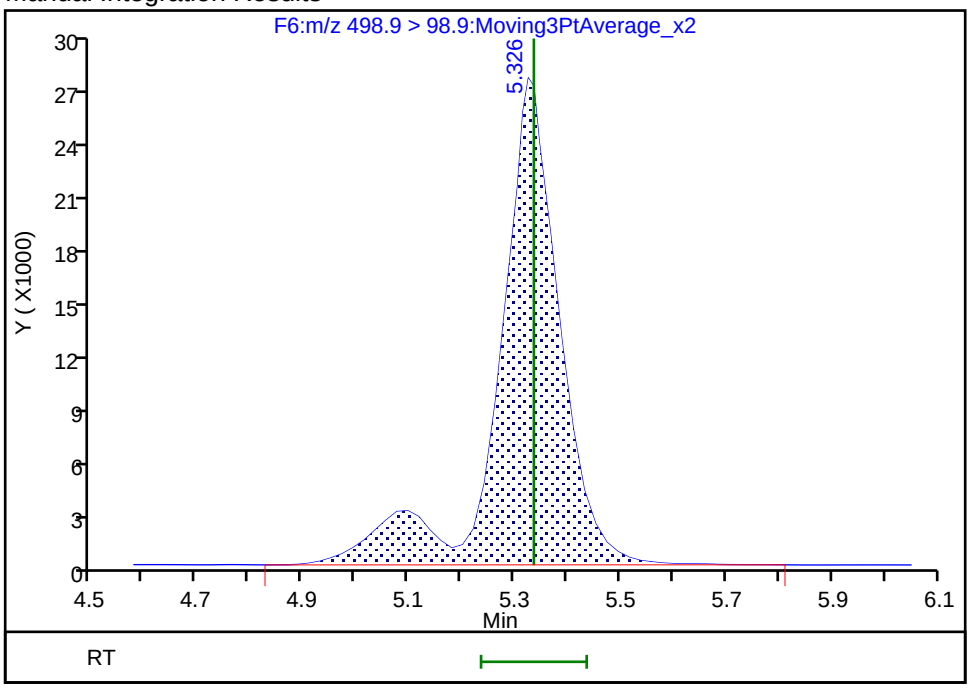
Processing Integration Results

Not Detected
Expected RT: 5.34



Manual Integration Results

RT: 5.33
Area: 215865
Amount: 49.159434
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 16:38:23
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 200-143263/1-A

Matrix: Water Lab File ID: PF053019B39.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 250(mL) Date Analyzed: 05/30/2019 22:50

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		2.0	1.0
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		2.0	0.63
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		2.0	0.76
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.91
335-67-1	Perfluorooctanoic acid (PFOA)	ND		2.0	0.63
375-95-1	Perfluorononanoic acid (PFNA)	ND		2.0	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	ND		2.0	0.77
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.53
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		2.0	0.59
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.60
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.92
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.09	J	2.0	0.49
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.80
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.95
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.90
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.61
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.64
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	1.7
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.5
27619-97-2	6:2 FTS	ND		20	4.6
39108-34-4	8:2 FTS	ND		20	2.9

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 200-143263/1-A

Matrix: Water Lab File ID: PF053019B39.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 250(mL) Date Analyzed: 05/30/2019 22:50

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	59		25-150
STL00992	13C4 PFBA	49		25-150
STL01893	13C5 PFPeA	73		25-150
STL00993	13C2 PFHxA	73		50-150
STL01892	13C4 PFHpA	91		50-150
STL00990	13C4 PFOA	89		50-150
STL00995	13C5 PFNA	84		50-150
STL00996	13C2 PFDA	94		50-150
STL00997	13C2 PFUnA	89		50-150
STL00998	13C2 PFDoA	77		50-150
STL02116	13C2 PFTeDA	74		50-150
STL02337	13C3 PFBS	55		50-150
STL00994	18O2 PFHxS	62		50-150
STL00991	13C4 PFOS	69		50-150
STL02118	d3-NMeFOSAA	74		50-150
STL02117	d5-NEtFOSAA	80		50-150
STL02279	M2-6:2 FTS	76		25-150
STL02280	M2-8:2 FTS	122		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B39.d
Lims ID: MB 200-143263/1-A
Client ID:
Sample Type: MB
Inject. Date: 30-May-2019 22:50:36 ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036138-039 MB 263
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:25:13 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: murrayjw Date: 05-Jun-2019 10:23:25
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.391	-0.011	1.000	108467	24.5		49.0	65.6	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.401	2.391	0.010	1.009	1579	0.4636			2.3	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	122911	36.6		73.2	346	
D 5 13C3 PFBS										
302.0 > 79.8	2.866	2.901	-0.035	1.000	37610	25.7		55.3	82.7	
6 Perfluorobutanesulfonic acid										M
298.9 > 80.0	2.830	2.937	-0.107	0.988	1110	0.5460	Target=1.67		5.7	M
298.9 > 98.9	2.901	2.901	0.0	1.012	728		1.52(0.83-2.51)		3.3	M
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.334	3.302	0.032	1.163	221	0.2063			1.0	
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	366416	36.4		72.7	865	
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.925	-0.020	1.000	648906	45.7		91.4	2747	
D 12 18O2 PFHxS										
402.9 > 83.8	3.946	3.946	0.0	1.000	55051	29.5		62.3	193	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.547	4.589	-0.042	1.000	36660	36.3		76.5	168	
D 17 13C4 PFOA										
416.9 > 371.8	4.609	4.630	-0.021	1.000	785657	44.7		89.4	2651	
* 16 13C2 PFOA										
414.9 > 369.8	4.609	4.630	-0.021		905637	50.0			1450	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.568	4.630	-0.062	0.991	2144	0.1348	Target=2.43		9.6	
412.9 > 168.9	4.589	4.630	-0.041	0.995	1421		1.51(1.22-3.64)		6.3	M
D 20 13C5 PFNA										
467.8 > 422.8	5.411	5.432	-0.021	1.000	987915	41.9		83.8	2862	
D 22 13C4 PFOS										
502.9 > 80.0	5.411	5.453	-0.042	1.000	139334	33.1		69.2	730	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.165	6.234	-0.069	1.000	215096	58.6		122	771	
D 25 13C2 PFDA										
514.9 > 469.5	6.199	6.234	-0.035	1.000	950307	47.2		94.4	1570	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.549	6.597	-0.048	1.000	242582	37.0		74.0	1610	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.921	6.969	-0.048	1.000	216462	40.0		80.0	1038	
D 33 13C2 PFUnA										
564.8 > 519.8	6.969	7.013	-0.044	1.000	860405	44.3		88.6	1246	
D 34 13C8 FOSA										
505.9 > 78.0	7.026	7.039	-0.013	1.000	214090	29.5		59.0	668	
D 37 13C2 PFDoA										
614.9 > 569.5	7.636	7.695	-0.059	1.000	958798	38.7		77.4	1767	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.808	8.870	-0.062	1.000	821264	36.9		73.9	713	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 17:25:17 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B39.d

Injection Date: 30-May-2019 22:50:36 Instrument ID: LC410

Lims ID: MB 200-143263/1-A

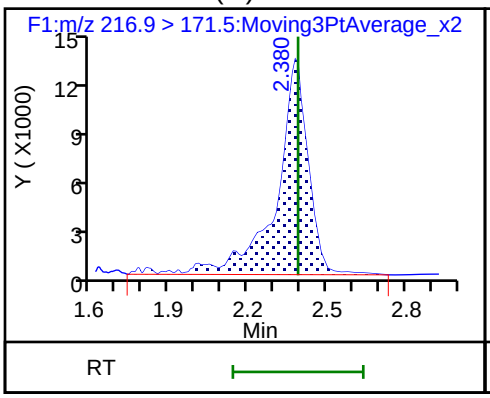
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 39

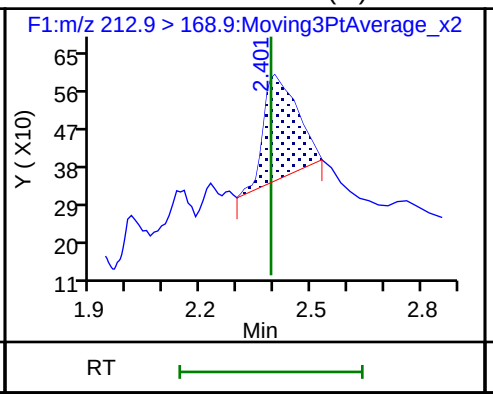
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

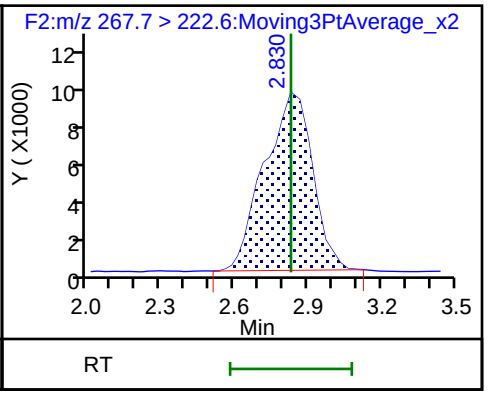
D 1 13C4 PFBA (M)



2 Perfluorobutanoic acid (M)



D 4 13C5 PFPeA



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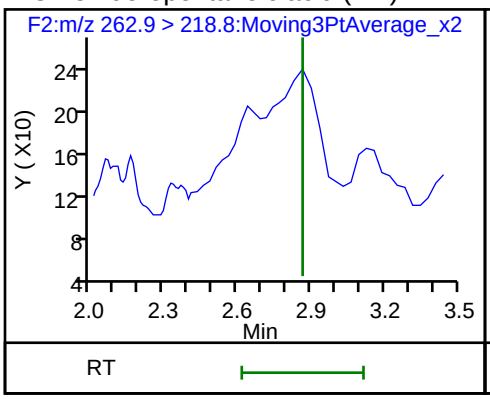
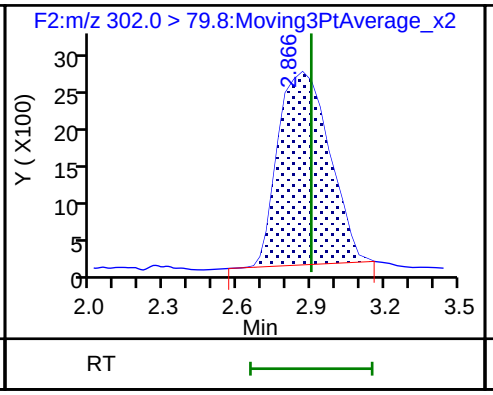
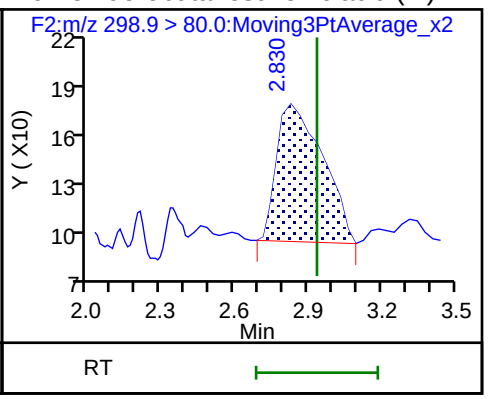


D 5 13C3 PFBS



6 Perfluorobutanesulfonic acid (M)



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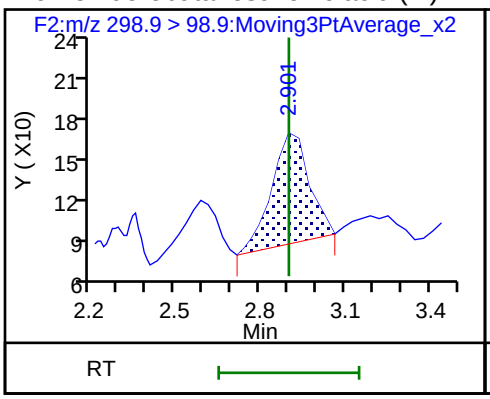
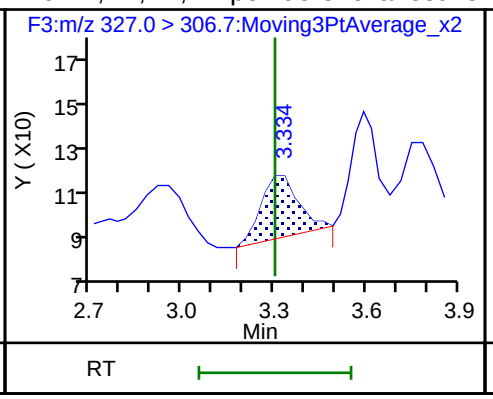
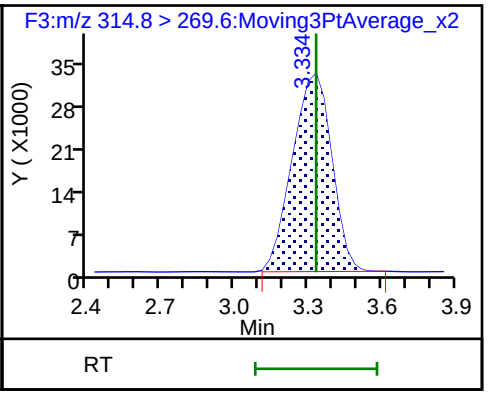


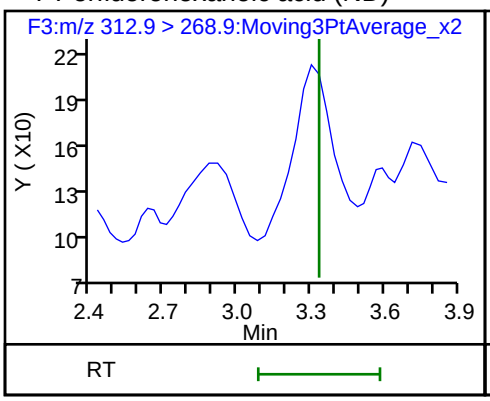
46 1H,1H,2H,2H-perfluorohexanesulfon



D 8 13C2 PFHxA



7 Perfluorohexanoic acid (ND)



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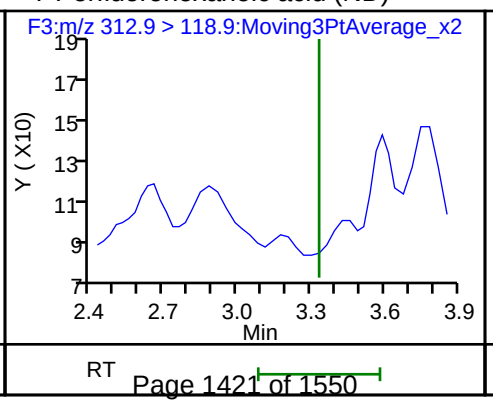
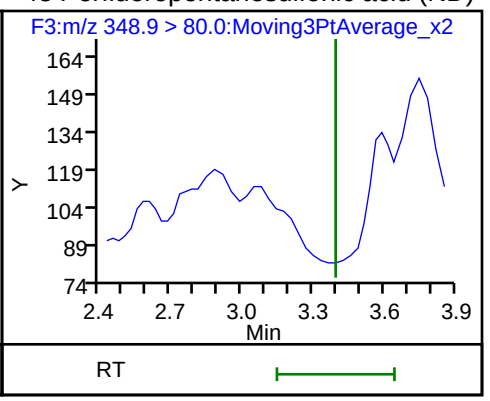


48 Perfluoropentanesulfonic acid (ND)



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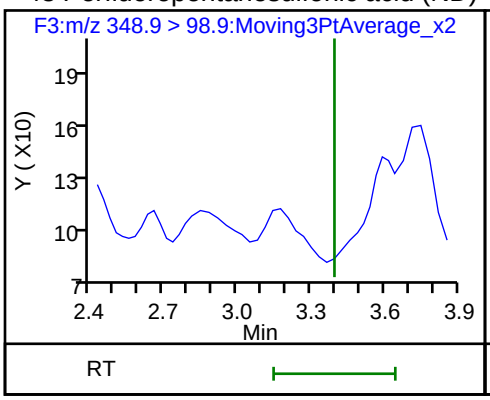
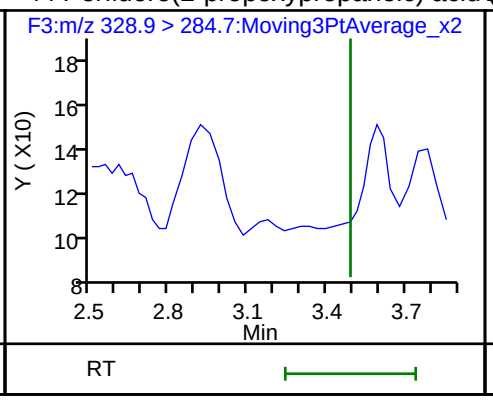
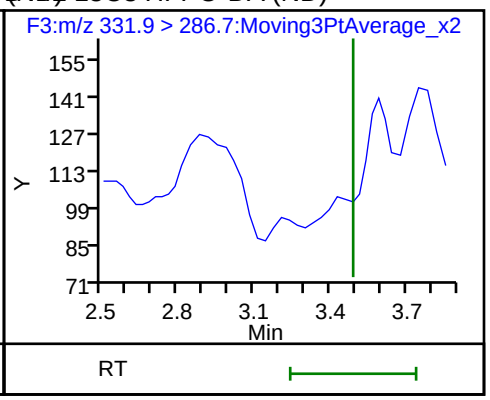


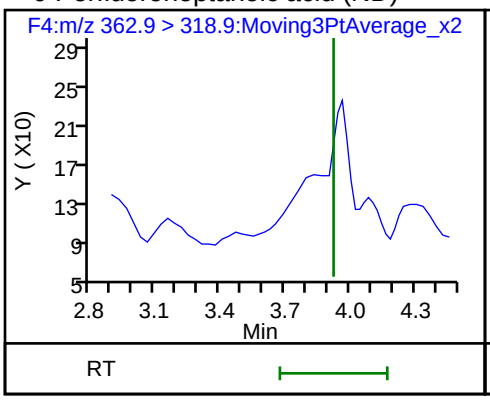
44 Perfluoro(2-propoxypropanoic) acid (ND)



D 42 13C3 HFPO-DA (ND)



9 Perfluoroheptanoic acid (ND)



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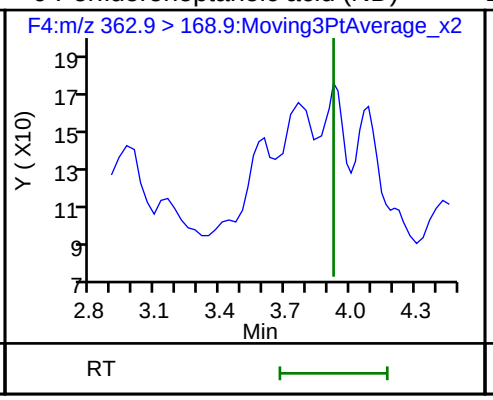
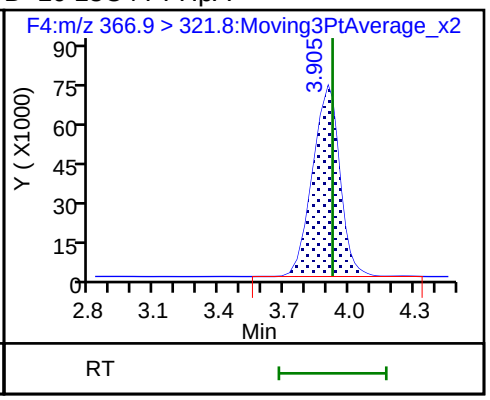
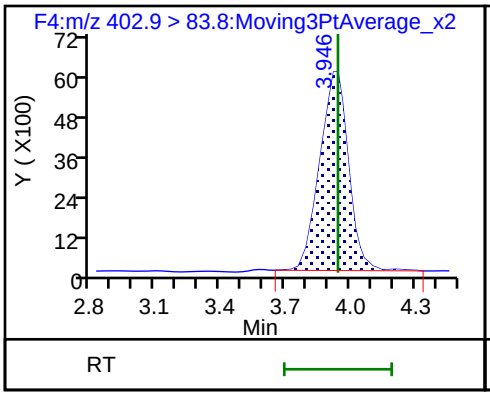


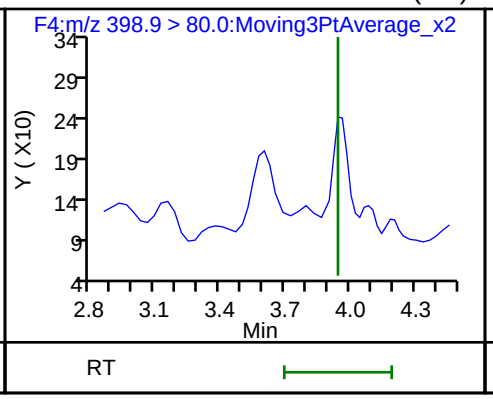
D 10 13C4 PFHpA



D 12 18O2 PFHxS



11 Perfluorohexanesulfonic acid (ND)



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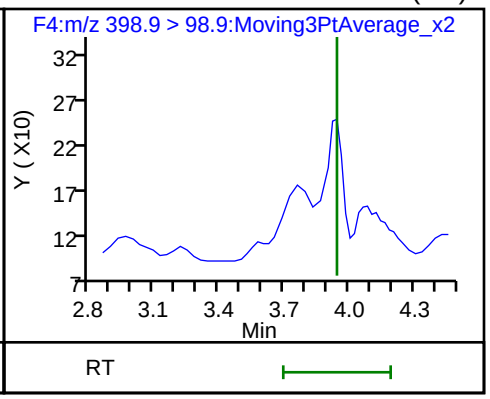
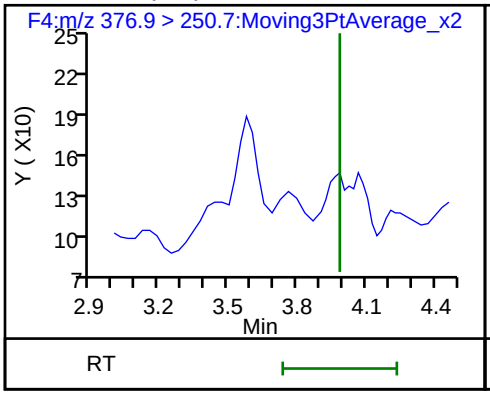


49 DONA (ND)



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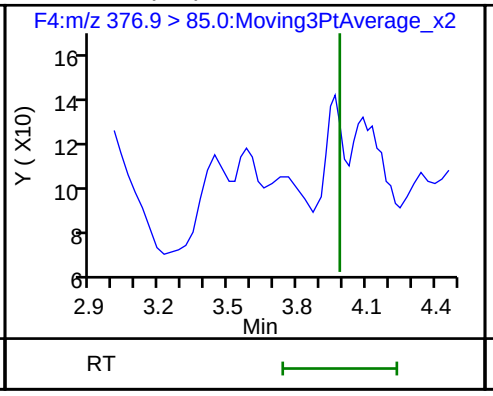
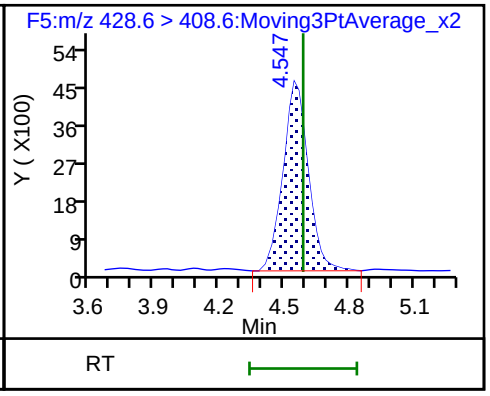
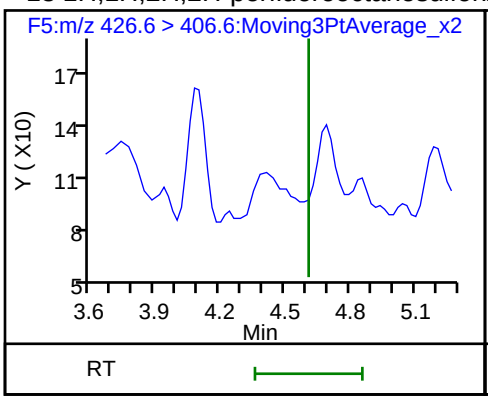


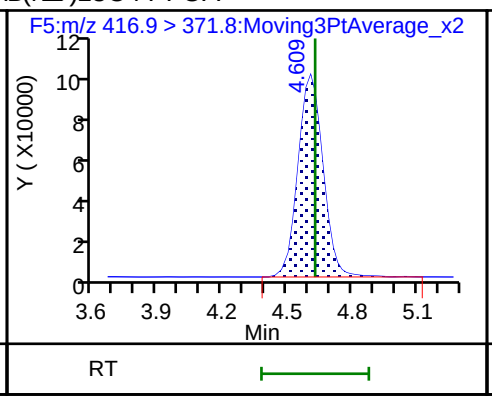
D 14 M2-6:2 FTS



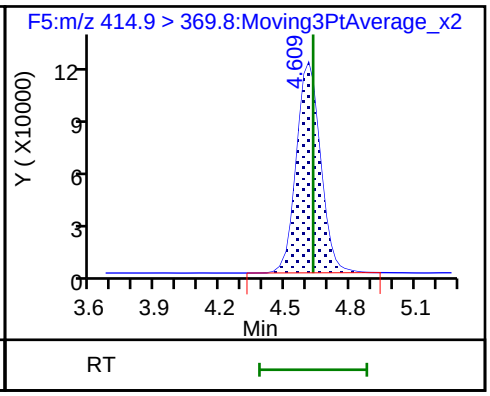
13 1H,1H,2H,2H-perfluorooctanesulfonic (NT)



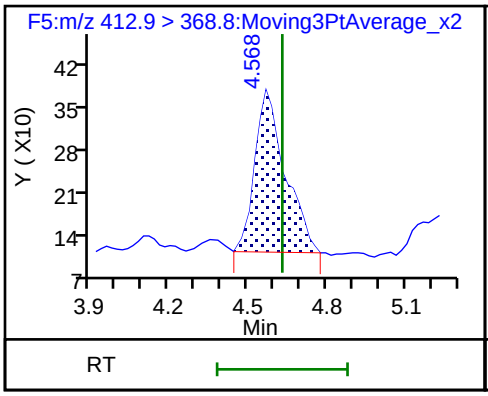
D 17 13C4 PFOA



* 16 13C2 PFOA



15 Perfluorooctanoic acid



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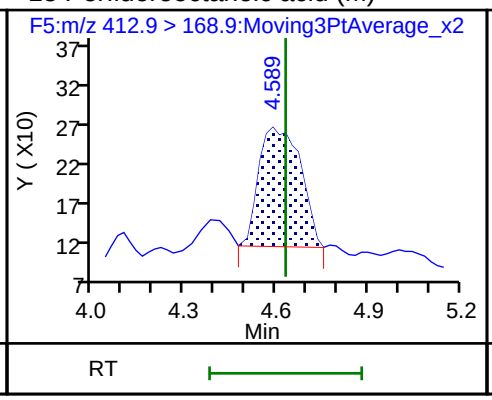
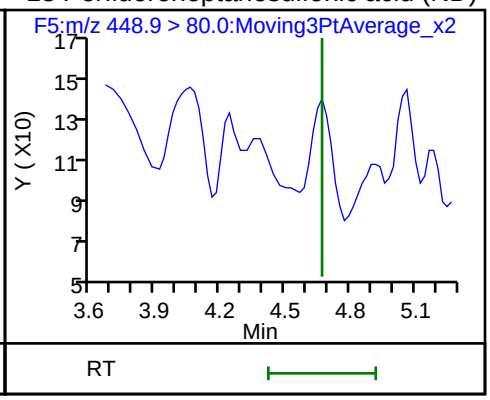


18 Perfluoroheptanesulfonic acid (ND)



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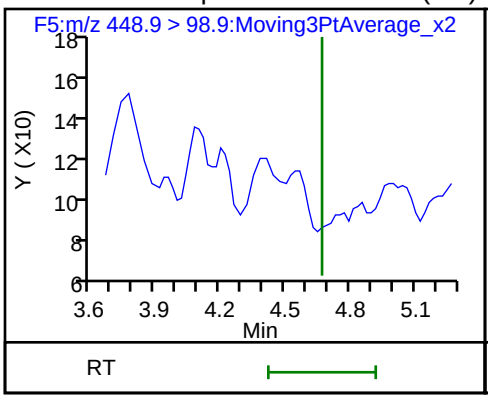
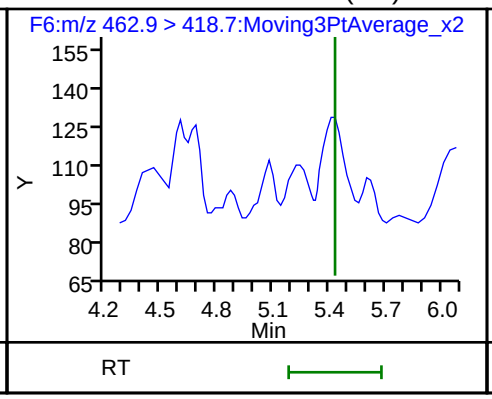


19 Perfluorononanoic acid (ND)



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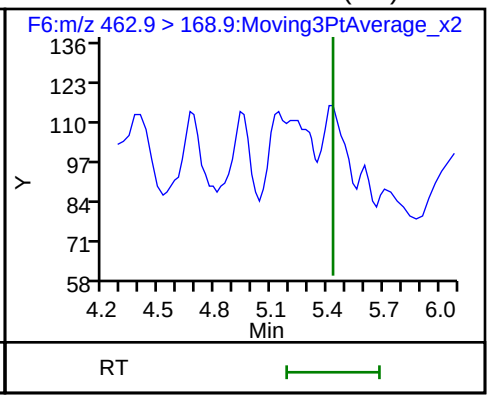
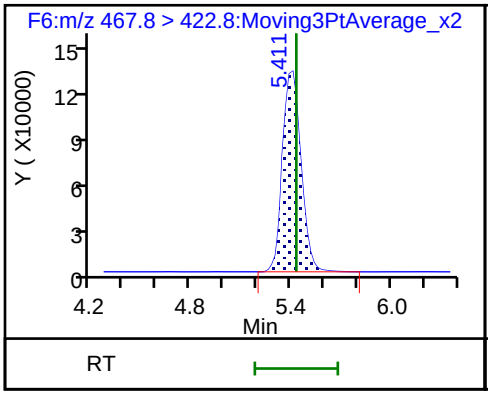


D 20 13C5 PFNA



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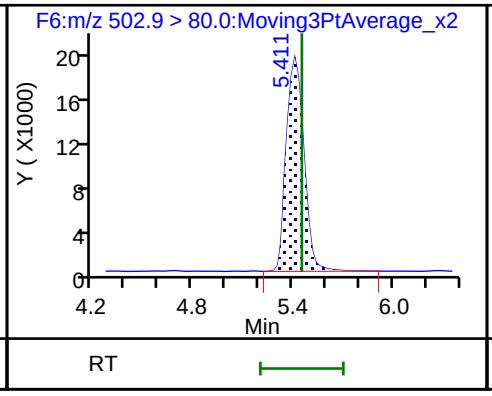
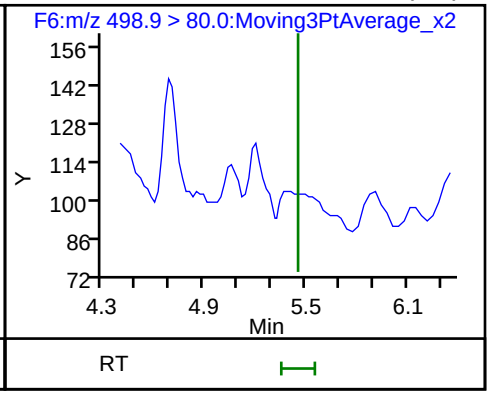


21 Perfluorooctanesulfonic acid (ND)



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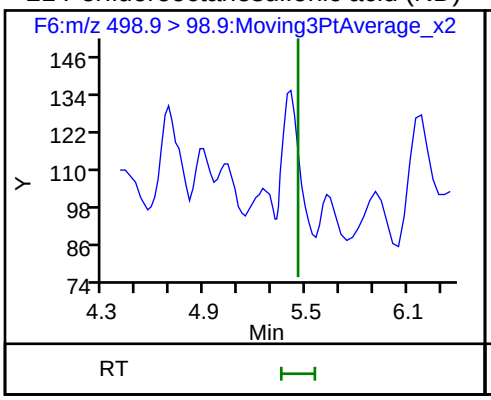
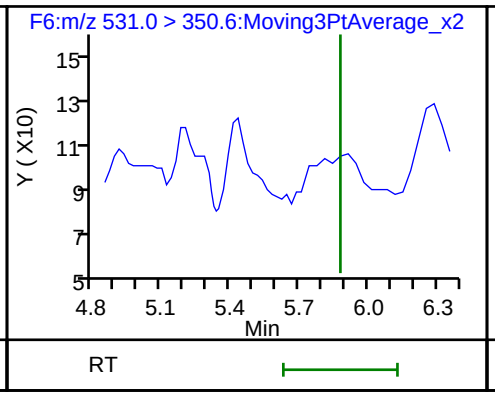
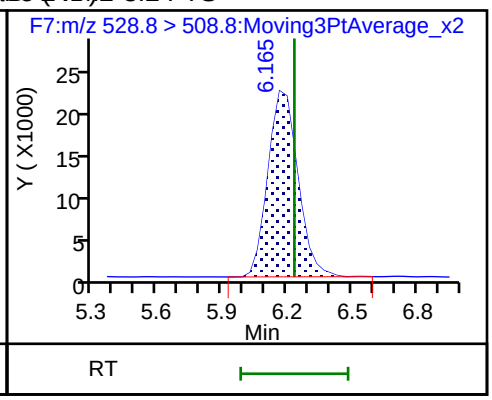


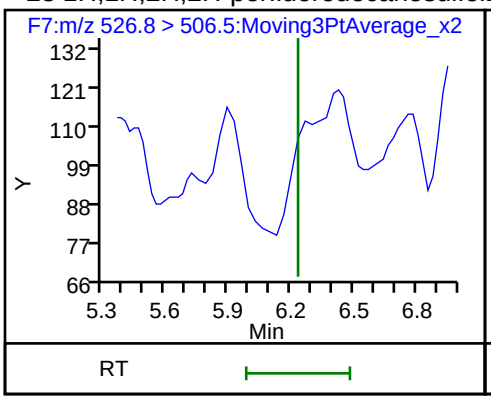
47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (ND)



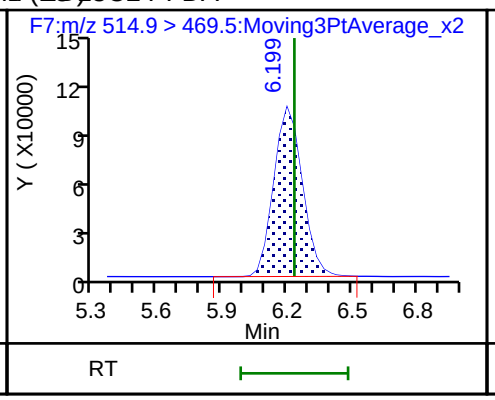
D 24 d2-8:2 FTS



23 1H,1H,2H,2H-perfluorodecanesulfonic acid (ND)



D 25 13C2 PFDA



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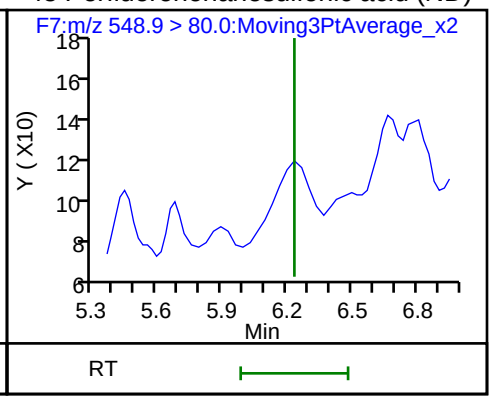

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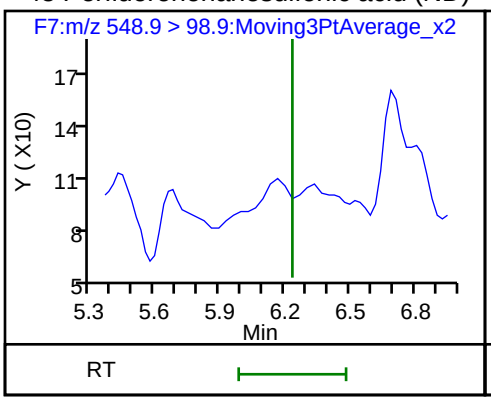
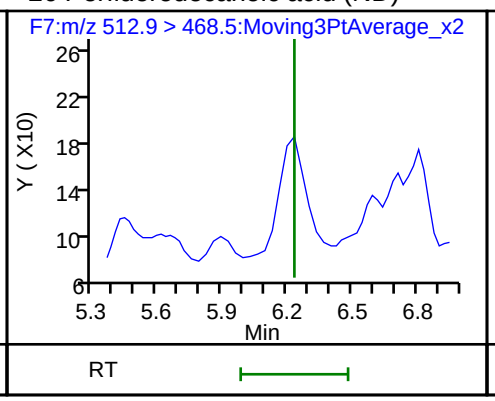


26 Perfluorodecanoic acid (ND)



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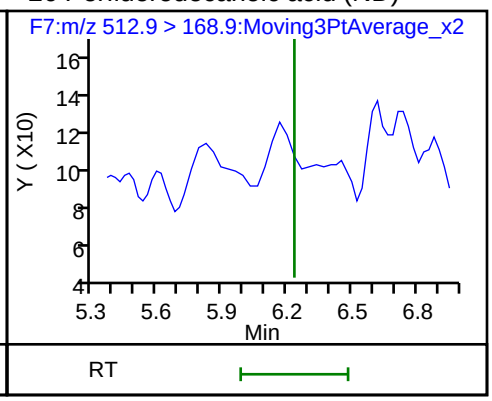
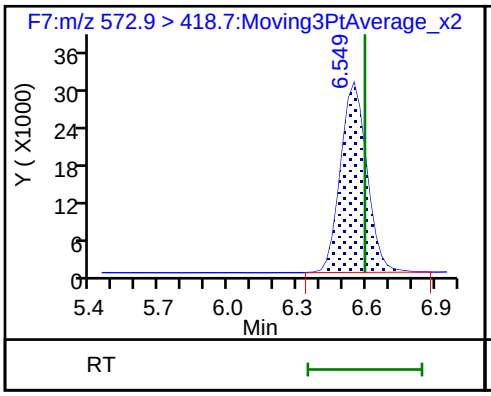
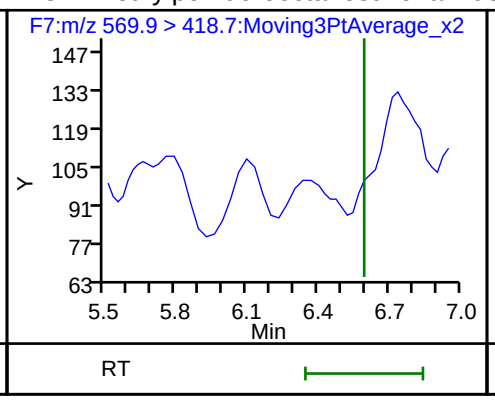


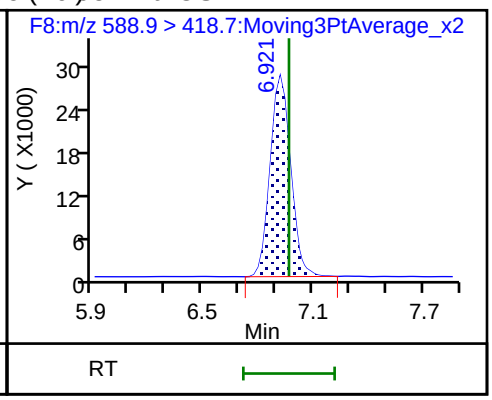
D 27 d3-NMeFOSAA



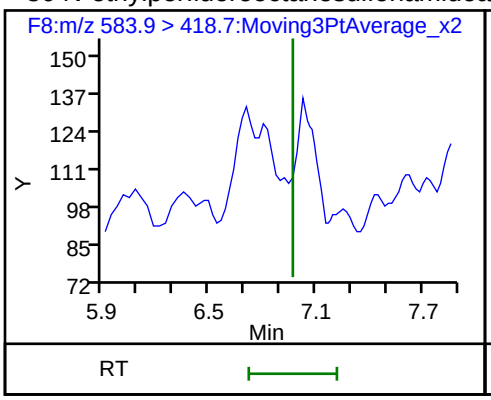
28 N-methylperfluorooctanesulfonamido (ND)



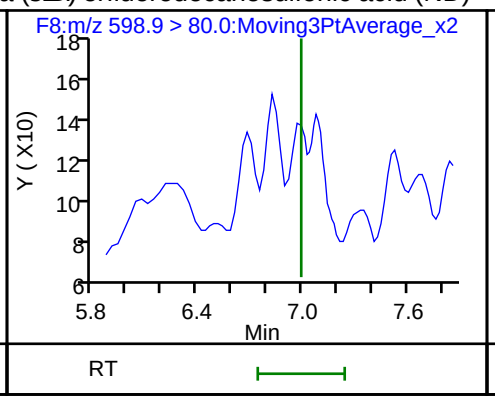
D 29 d5-NEtFOSAA



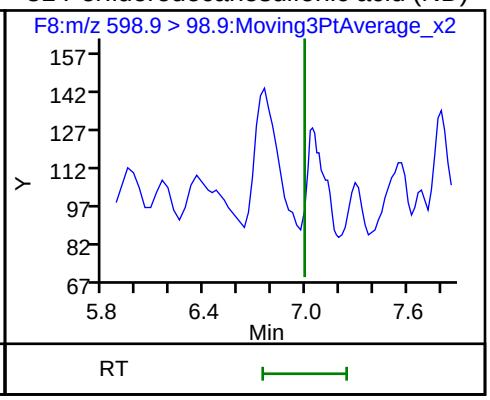
30 N-ethylperfluorooctanesulfonamidoa (ND)



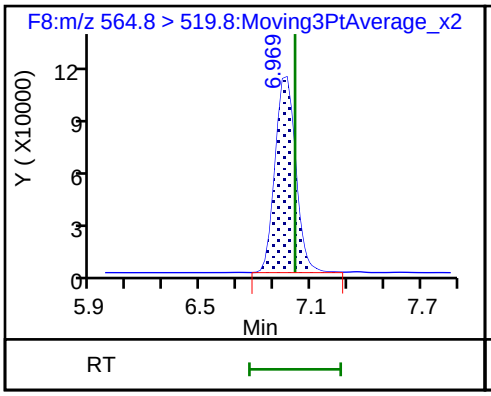
31 Perfluorodecanesulfonic acid (ND)



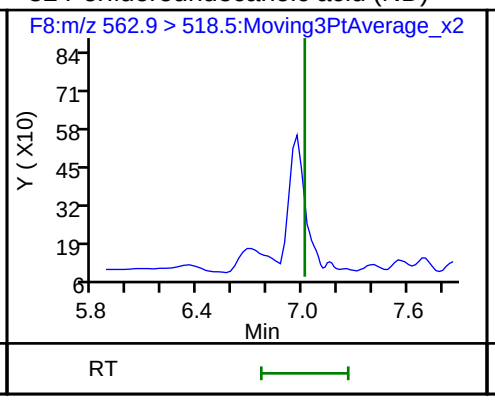
31 Perfluorodecanesulfonic acid (ND)



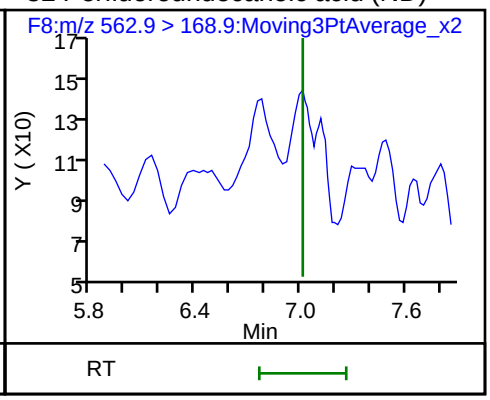
D 33 13C2 PFUnA



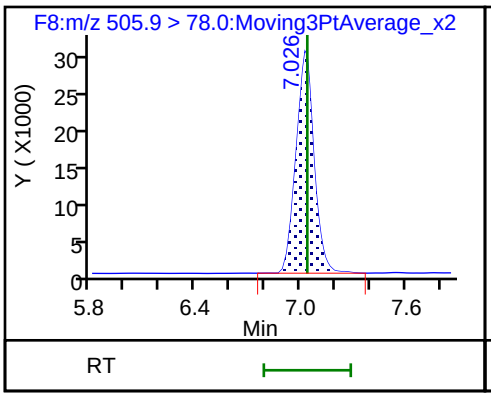
32 Perfluoroundecanoic acid (ND)



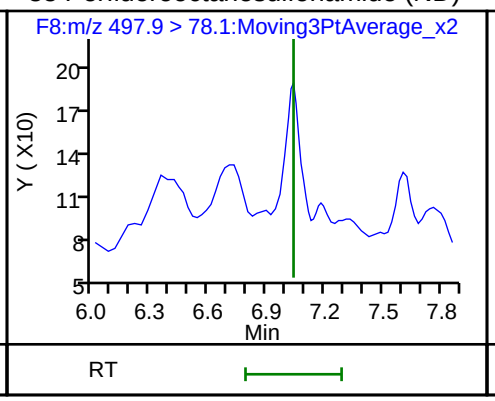
32 Perfluoroundecanoic acid (ND)



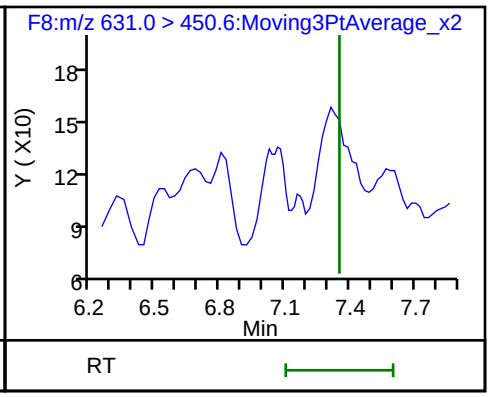
D 34 13C8 FOSA



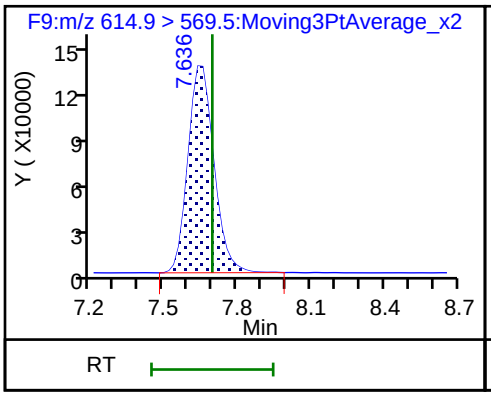
35 Perfluorooctanesulfonamide (ND)



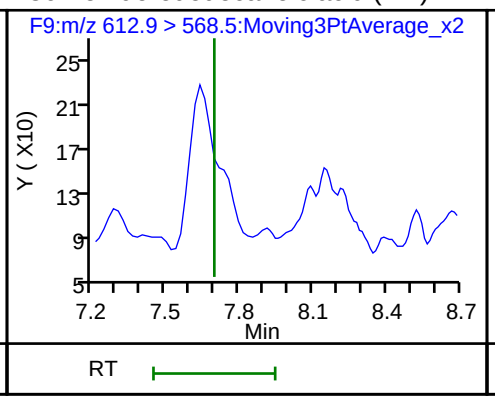
43 11-Chloroeicosafluoro-3-oxaundecan (ND)



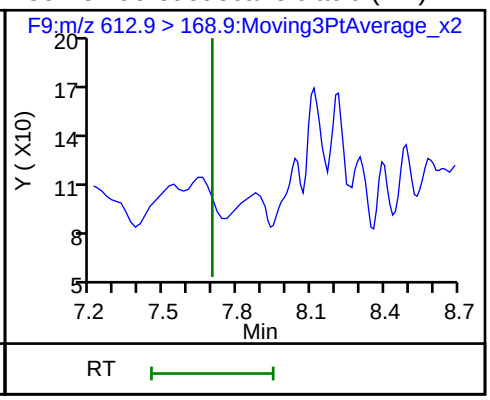
D 37 13C2 PFDoA



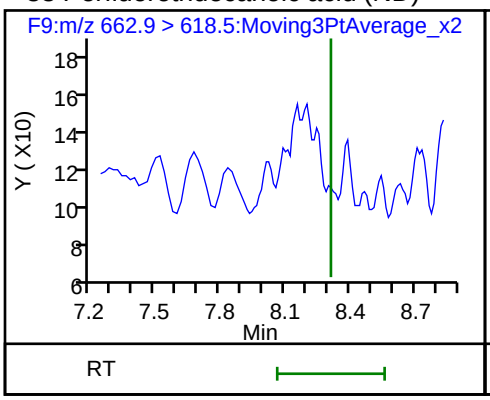
36 Perfluorododecanoic acid (ND)



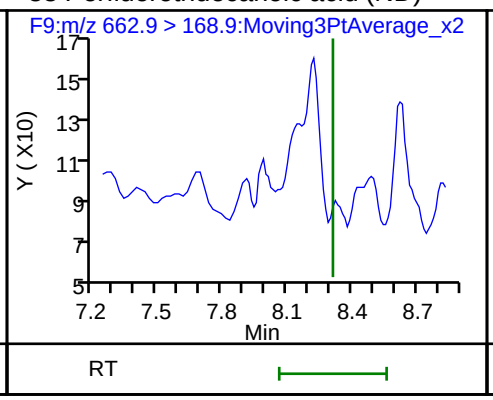
36 Perfluorododecanoic acid (ND)



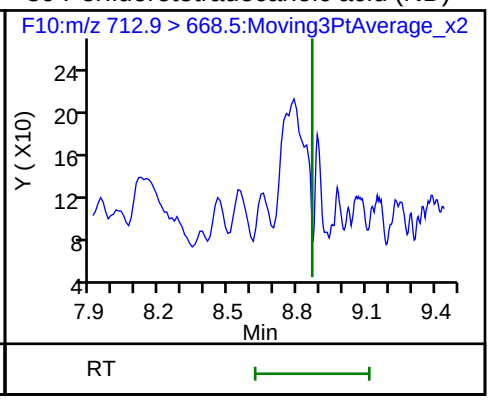
38 Perfluorotridecanoic acid (ND)



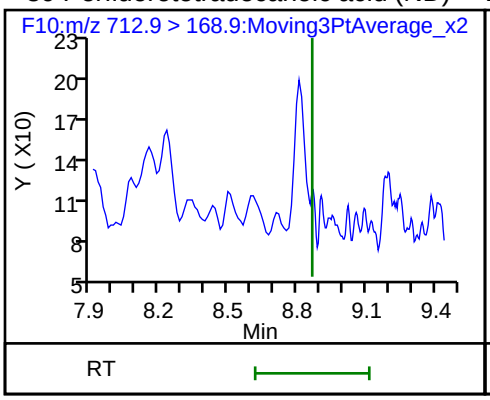
38 Perfluorotridecanoic acid (ND)



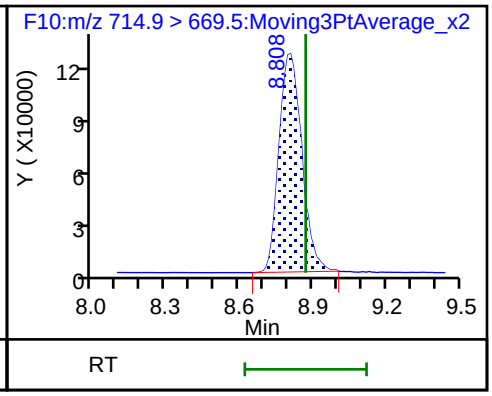
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

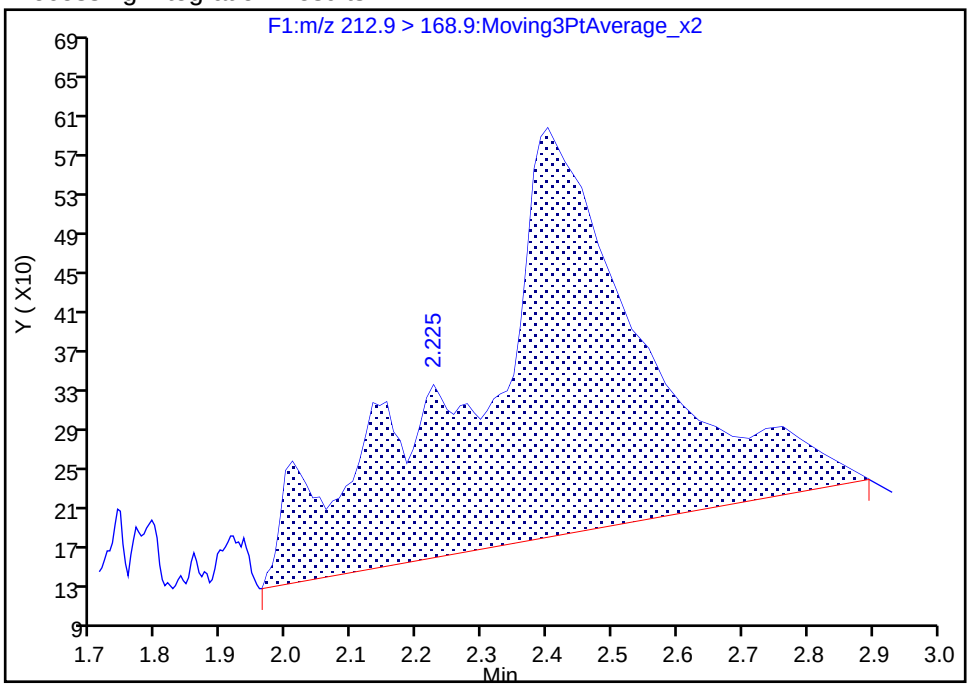
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B39.d
Injection Date: 30-May-2019 22:50:36 Instrument ID: LC410
Lims ID: MB 200-143263/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

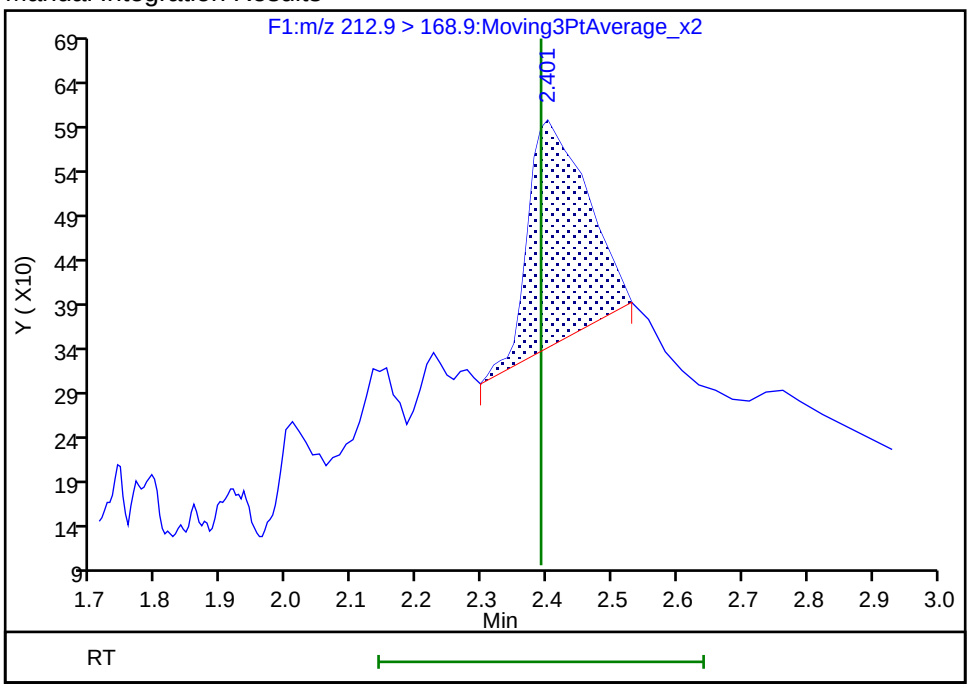
Processing Integration Results

RT: 2.23
Area: 7830
Amount: 2.298992
Amount Units: ng/ml



Manual Integration Results

RT: 2.40
Area: 1579
Amount: 0.463615
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:23:14
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

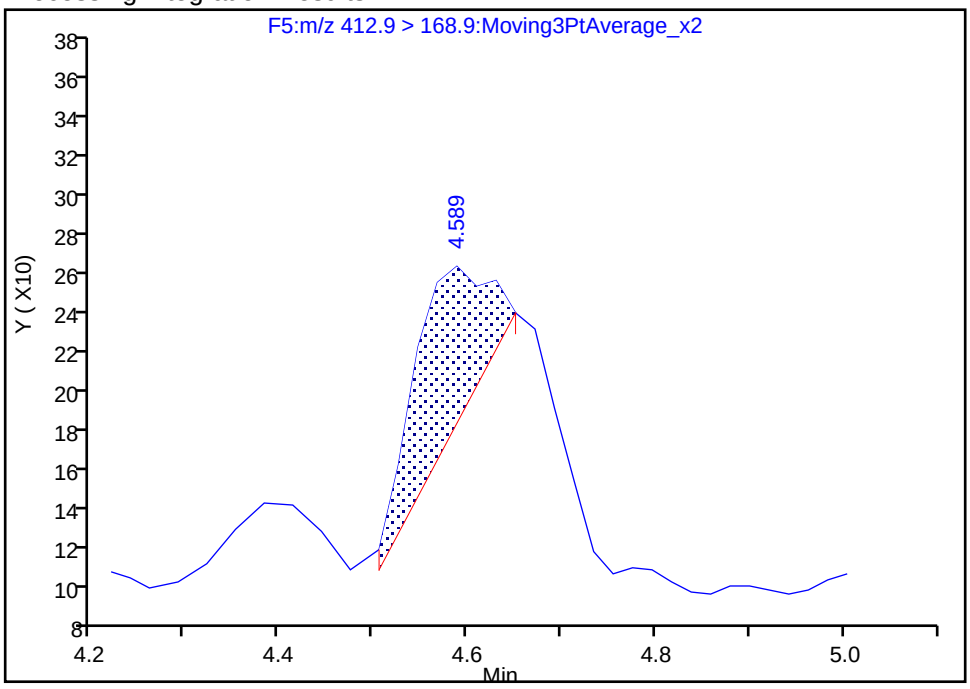
Data File:	\\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B39.d				
Injection Date:	30-May-2019 22:50:36	Instrument ID:	LC410		
Lims ID:	MB 200-143263/1-A				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	39
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

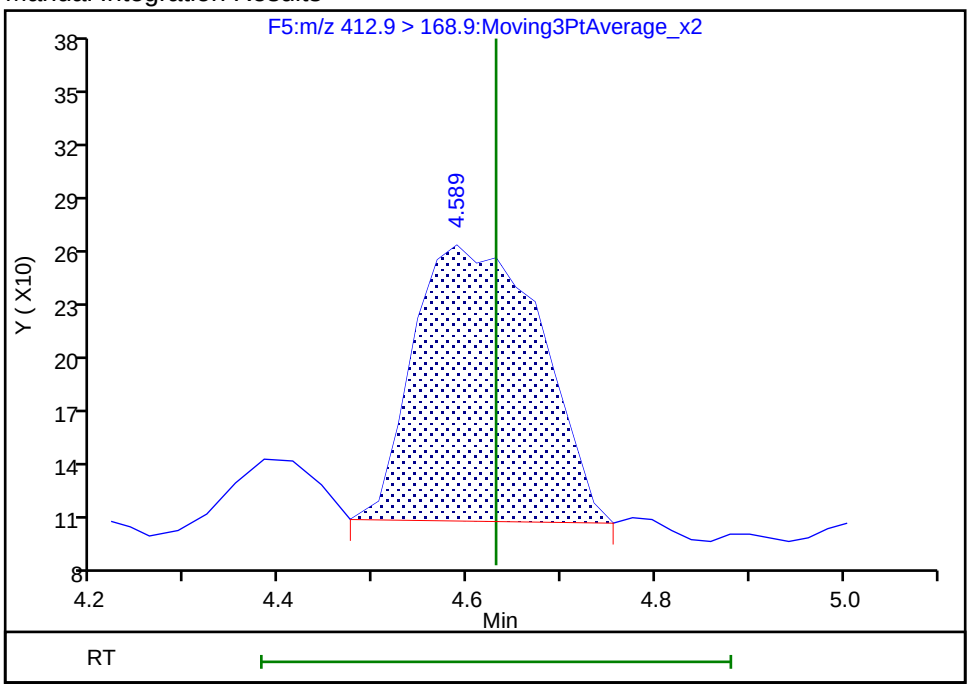
Processing Integration Results

RT: 4.59
Area: 451
Amount: 0.134840
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 1421
Amount: 0.134840
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 14:06:08

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

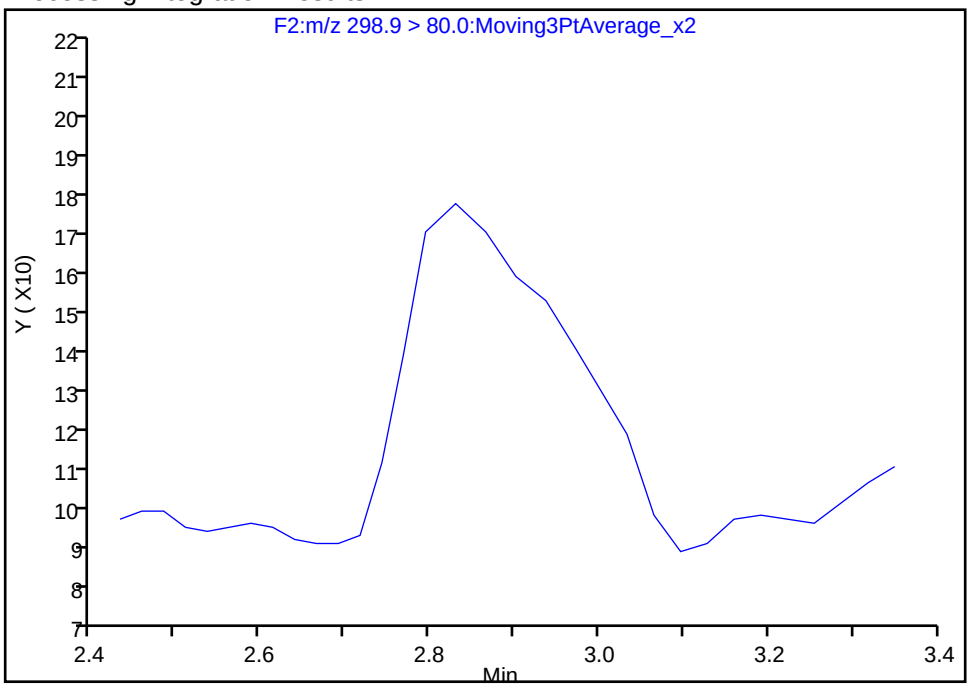
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B39.d
Injection Date: 30-May-2019 22:50:36 Instrument ID: LC410
Lims ID: MB 200-143263/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

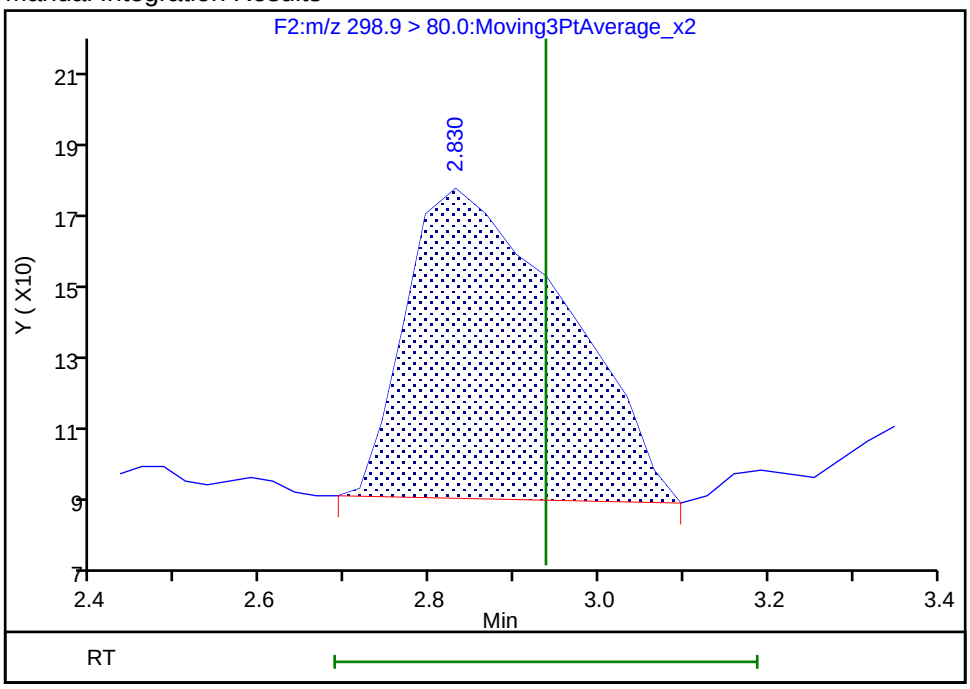
Not Detected
Expected RT: 2.94

Processing Integration Results



Manual Integration Results

RT: 2.83
Area: 1110
Amount: 0.546011
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 14:05:39
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

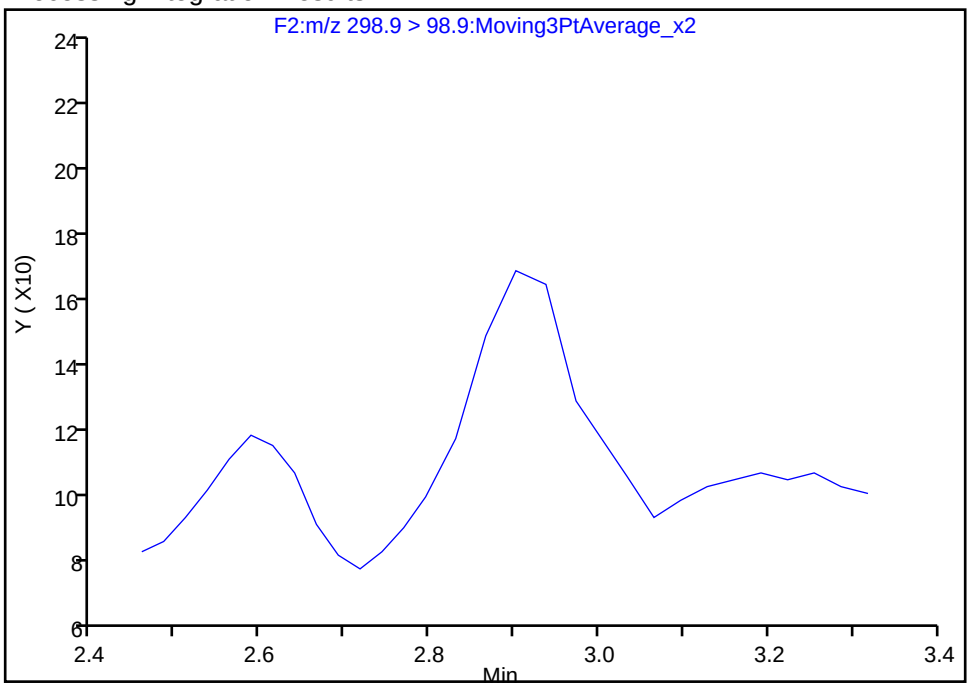
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B39.d
Injection Date: 30-May-2019 22:50:36 Instrument ID: LC410
Lims ID: MB 200-143263/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

6 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 2

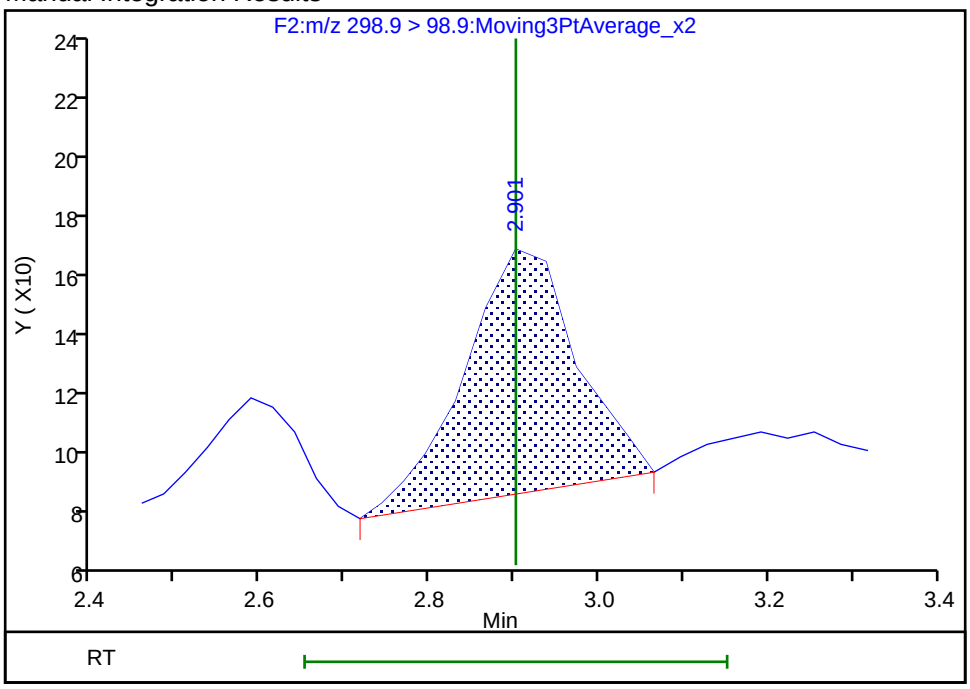
Not Detected
Expected RT: 2.90

Processing Integration Results



Manual Integration Results

RT: 2.90
Area: 728
Amount: 0.546011
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 14:05:44
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

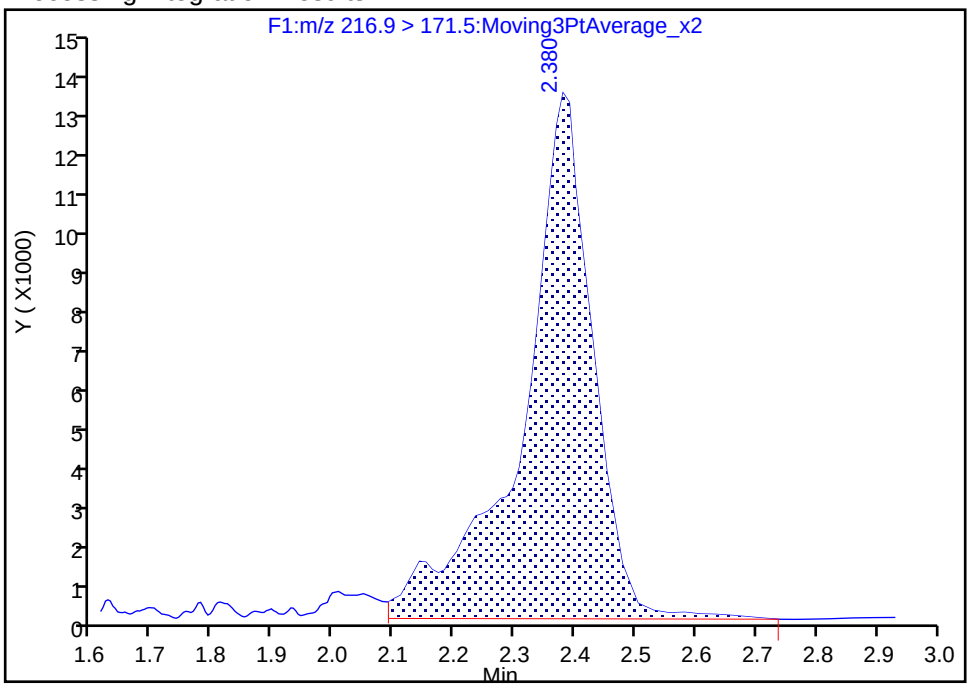
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B39.d
Injection Date: 30-May-2019 22:50:36 Instrument ID: LC410
Lims ID: MB 200-143263/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

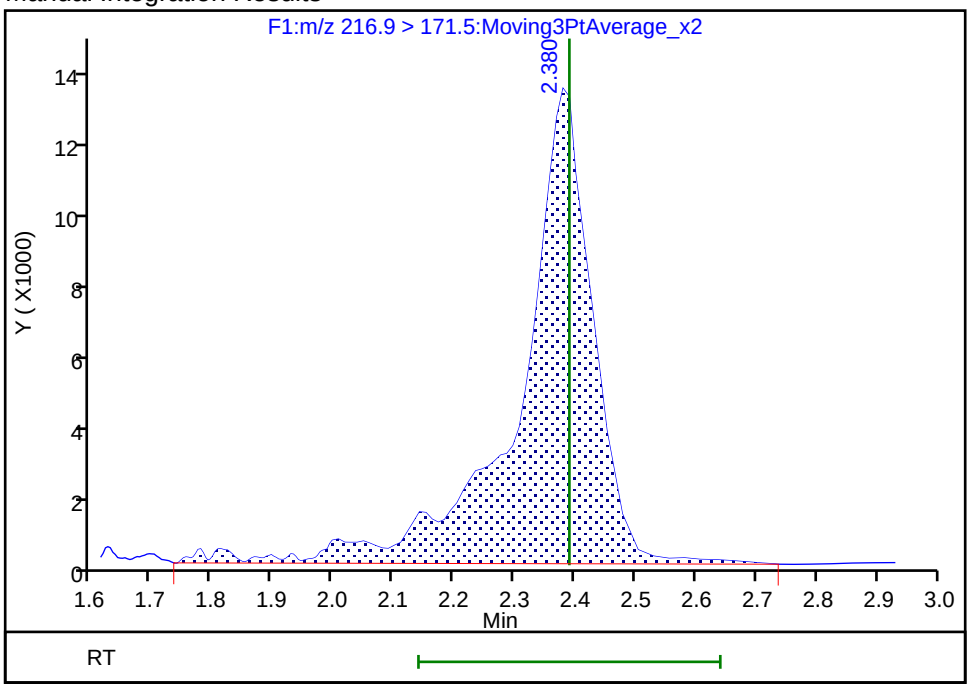
Processing Integration Results

RT: 2.38
Area: 102633
Amount: 23.172061
Amount Units: ng/ml



Manual Integration Results

RT: 2.38
Area: 108467
Amount: 24.489238
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 10:22:46
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 200-143308/1-A

Matrix: Water Lab File ID: PF060419B05.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 250(mL) Date Analyzed: 06/05/2019 02:23

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		2.0	1.0
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		2.0	0.63
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		2.0	0.76
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.91
335-67-1	Perfluorooctanoic acid (PFOA)	ND		2.0	0.63
375-95-1	Perfluorononanoic acid (PFNA)	ND		2.0	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	ND		2.0	0.77
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.53
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		2.0	0.59
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		2.0	0.60
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.92
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.49
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.80
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.95
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.90
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.860	J	2.0	0.61
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.64
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	1.7
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.5
27619-97-2	6:2 FTS	ND		20	4.6
39108-34-4	8:2 FTS	ND		20	2.9

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 200-143308/1-A

Matrix: Water Lab File ID: PF060419B05.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 250(mL) Date Analyzed: 06/05/2019 02:23

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	39		25-150
STL00992	13C4 PFBA	47		25-150
STL01893	13C5 PFPeA	64		25-150
STL00993	13C2 PFHxA	64		50-150
STL01892	13C4 PFHpA	66		50-150
STL00990	13C4 PFOA	62		50-150
STL00995	13C5 PFNA	58		50-150
STL00996	13C2 PFDA	61		50-150
STL00997	13C2 PFUnA	60		50-150
STL00998	13C2 PFDoA	47	*	50-150
STL02116	13C2 PFTeDA	45	*	50-150
STL02337	13C3 PFBS	60		50-150
STL00994	18O2 PFHxS	48	*	50-150
STL00991	13C4 PFOS	49	*	50-150
STL02118	d3-NMeFOSAA	44	*	50-150
STL02117	d5-NEtFOSAA	44	*	50-150
STL02279	M2-6:2 FTS	60		25-150
STL02280	M2-8:2 FTS	64		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d
Lims ID: MB 200-143308/1-A
Client ID:
Sample Type: MB
Inject. Date: 05-Jun-2019 02:23:07 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-005 MB 308
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:50:56 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 11:07:14
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.329	2.360	-0.031	0.991	1158	0.2343			3.9	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.349	2.360	-0.011	1.000	157408	23.7		47.4	49.3	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	161311	32.0		64.1	512	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	61287	28.0		60.2	262	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	479902	31.8		63.6	3691	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.492	-0.032	1.000	40042	NR			52.1	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	702595	33.0		66.0	895	
D 12 18O2 PFHxS										
402.9 > 83.8	3.925	3.925	0.0	1.000	63935	22.8		48.3	275	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	43008	28.4		59.9	229	M
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1357172	50.0			4694	
15 Perfluorooctanoic acid										M
412.9 > 368.8	4.589	4.589	0.0	1.005	2434	0.1466	Target=2.43		7.2	M
412.9 > 168.9	4.589	4.589	0.0	1.005	1484		1.64(1.22-3.64)		7.0	M
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	820104	31.1		62.3	2824	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.389	-0.042	1.000	1022726	28.9		57.9	2341	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.336	5.389	-0.053	0.998	1296	0.4300	Target=1.41		10.3	M
498.9 > 98.9	5.336	5.389	-0.053	0.998	762		1.70(0.71-2.12)		7.2	M
D 22 13C4 PFOS										M
502.9 > 80.0	5.347	5.411	-0.064	1.000	149188	23.6		49.4	560	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	169162	30.8		64.2	687	
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.199	-0.034	1.000	921548	30.5		61.1	998	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.549	-0.048	1.000	217311	22.1		44.2	673	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.921	-0.048	1.000	177204	21.9		43.7	738	
32 Perfluoroundecanoic acid										M
562.9 > 518.5	6.921	6.921	0.0	1.003	2746	0.1896	Target=7.06		25.6	M
562.9 > 168.9	6.897	6.921	-0.024	1.000	642		4.28(3.53-10.58)		3.5	
D 33 13C2 PFUnA										
564.8 > 519.8	6.897	6.945	-0.048	1.000	870039	29.9		59.8	827	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	211987	19.5		39.0	827	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	872339	23.5		47.0	1867	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.764	8.819	-0.055	1.000	754105	22.6		45.3	943	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 15:50:59 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d

Injection Date: 05-Jun-2019 02:23:07 Instrument ID: LC410

Lims ID: MB 200-143308/1-A

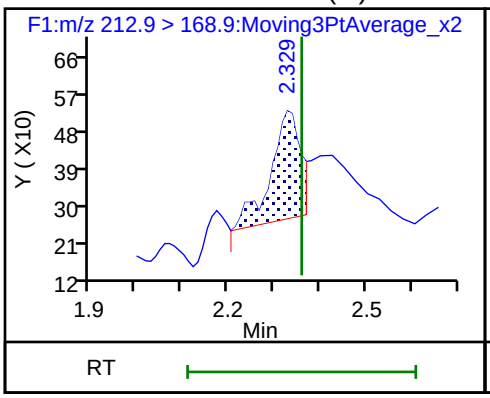
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5

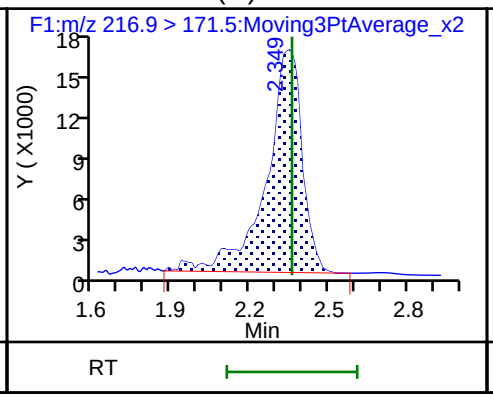
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

2 Perfluorobutanoic acid (M)



D 1 13C4 PFBA (M)



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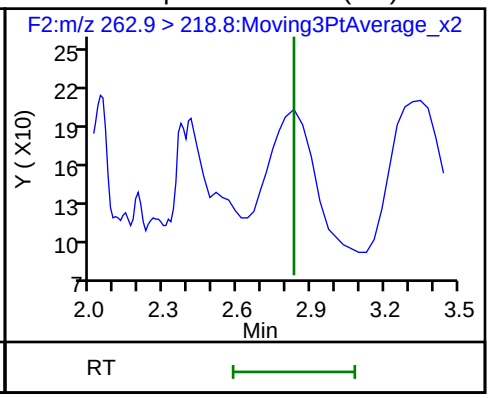
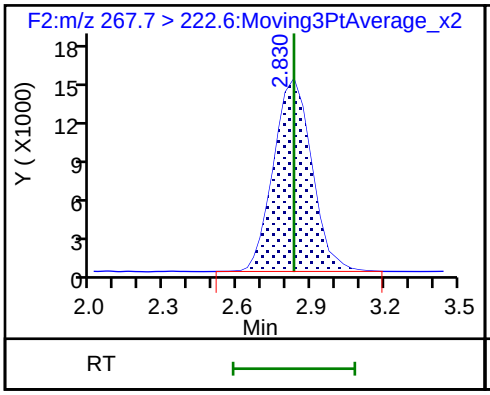
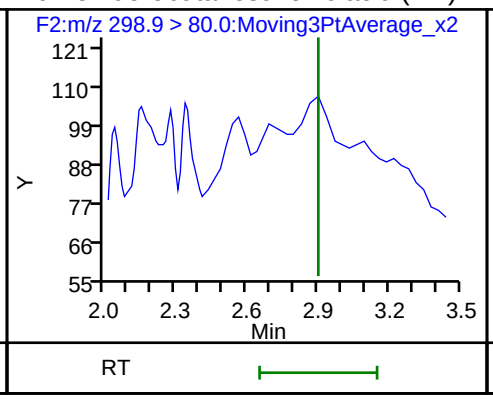


D 4 13C5 PFPeA



6 Perfluorobutanesulfonic acid (ND)



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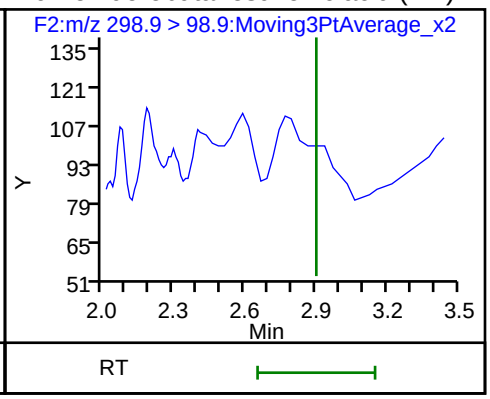
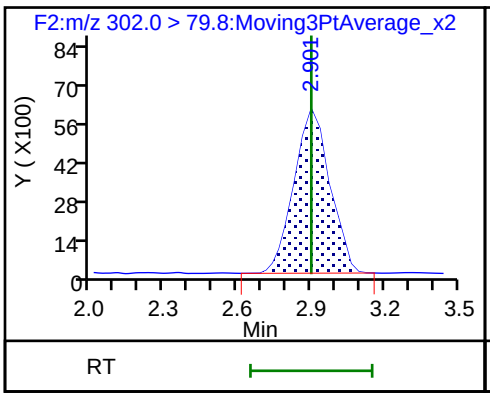
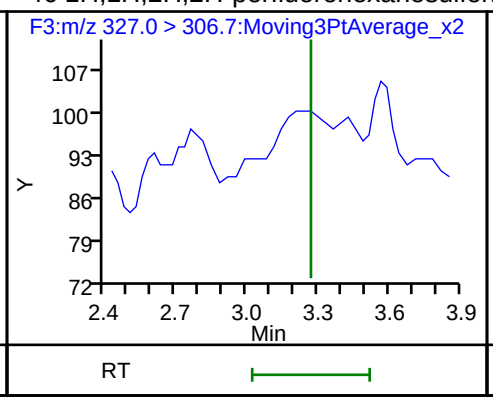


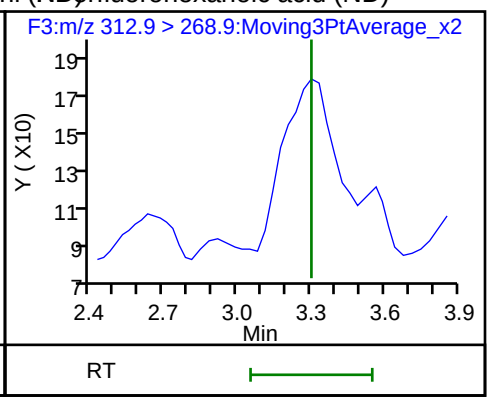
D 5 13C3 PFBS



46 1H,1H,2H,2H-perfluorohexanesulfoni (ND)



7 Perfluorohexanoic acid (ND)



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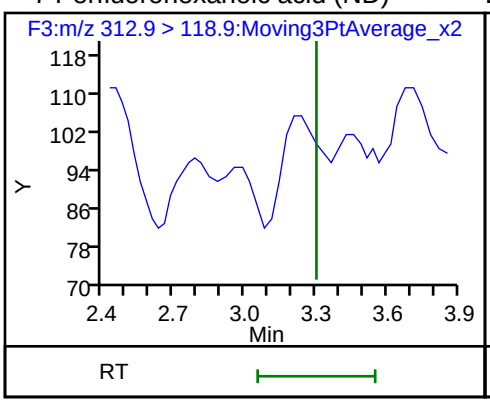
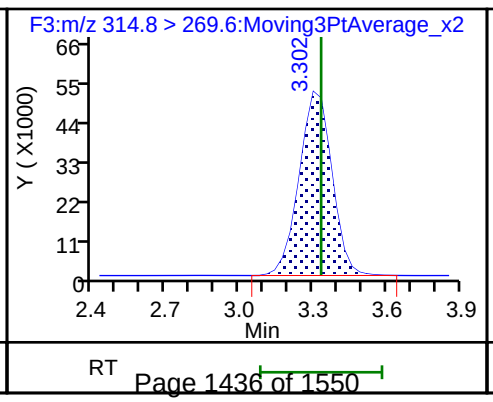
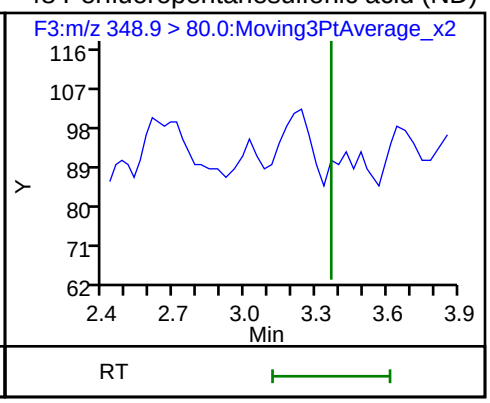


D 8 13C2 PFHxA



48 Perfluoropentanesulfonic acid (ND)



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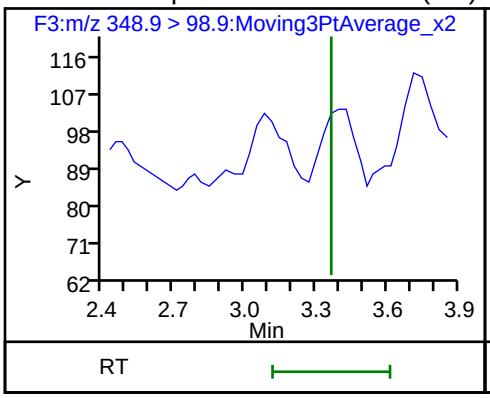
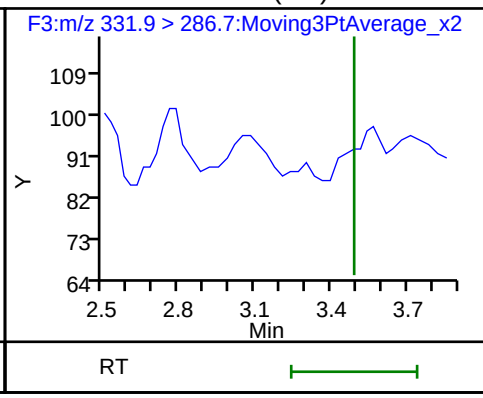
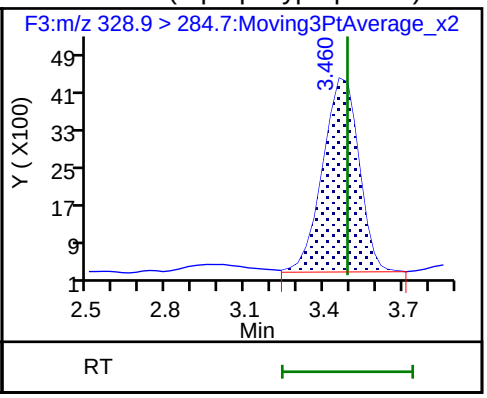


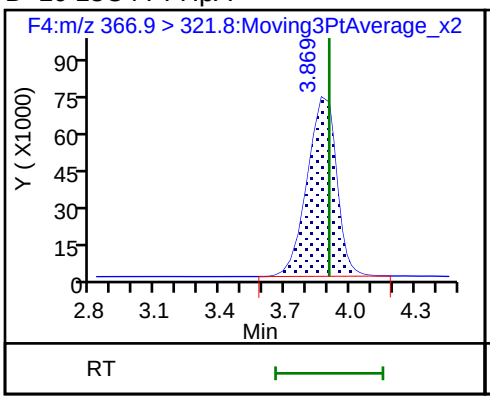
D 42 13C3 HFPO-DA (ND)



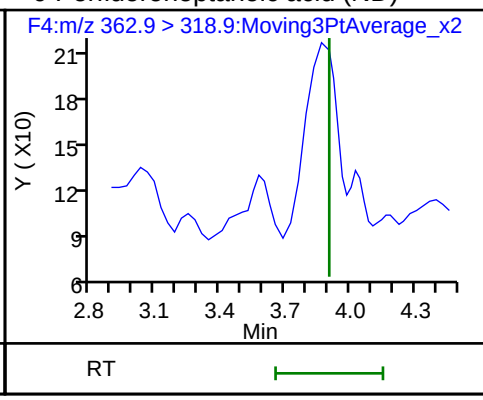
44 Perfluoro(2-propoxypropanoic) acid



D 10 13C4 PFHpA



9 Perfluoroheptanoic acid (ND)



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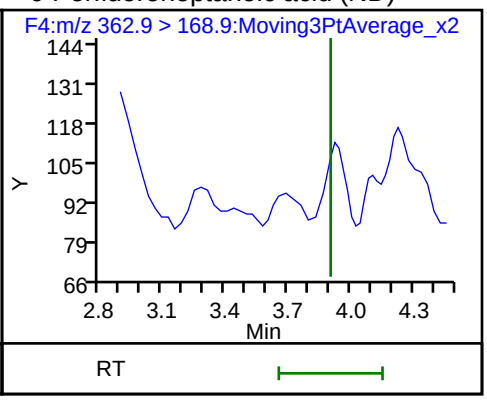
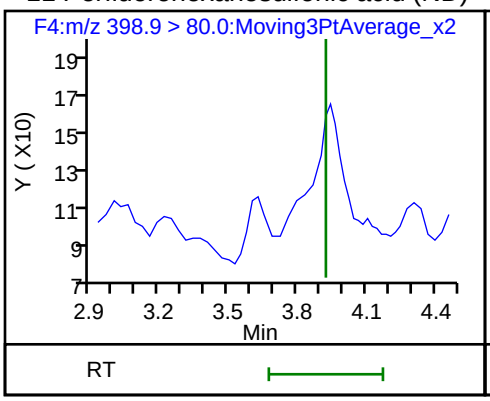


11 Perfluorohexanesulfonic acid (ND)



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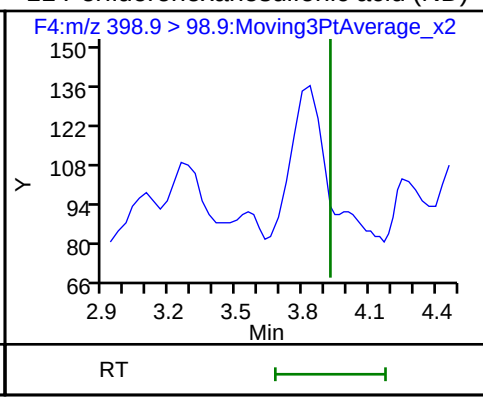
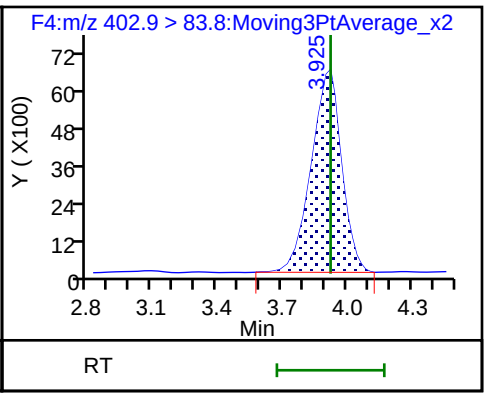
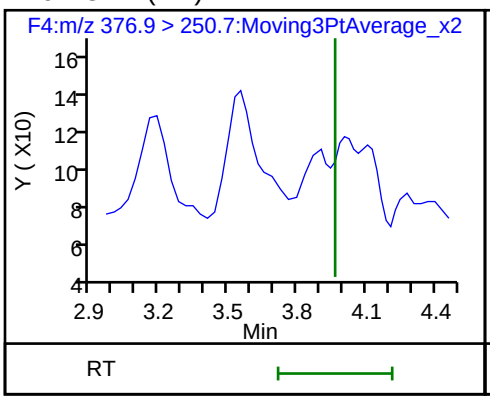


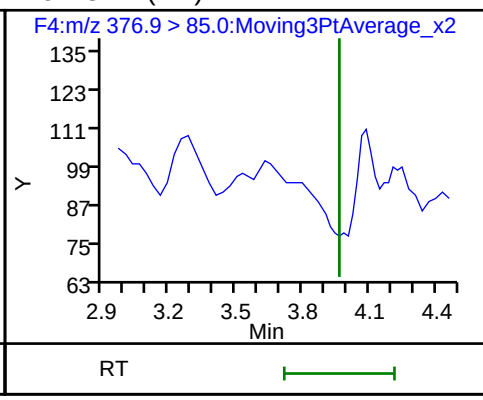
D 12 18O2 PFHxS



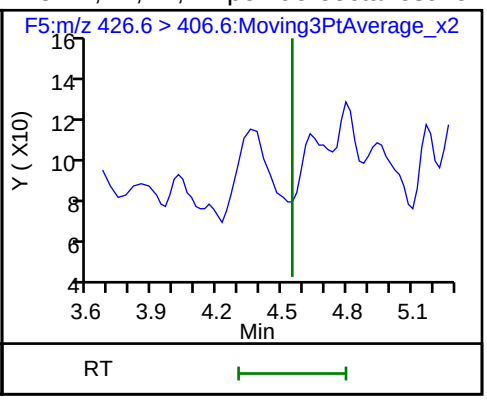
49 DONA (ND)



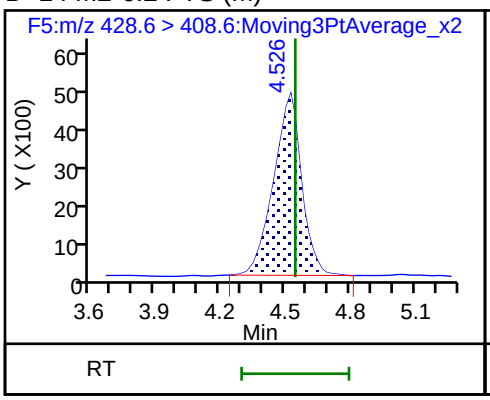
49 DONA (ND)



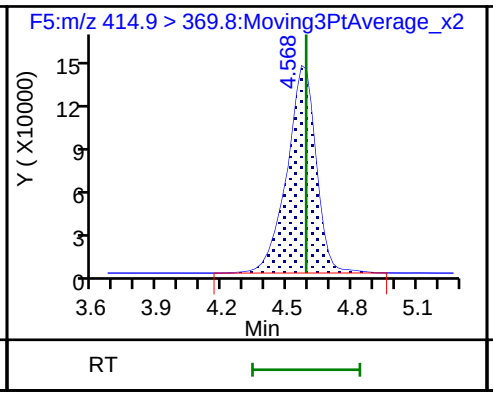
13 1H,1H,2H,2H-perfluorooctanesulfoni (ND)



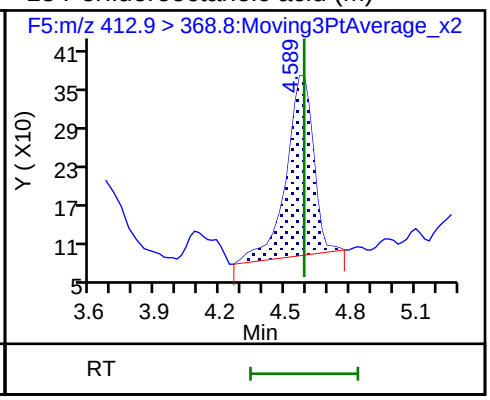
D 14 M2-6:2 FTS (M)



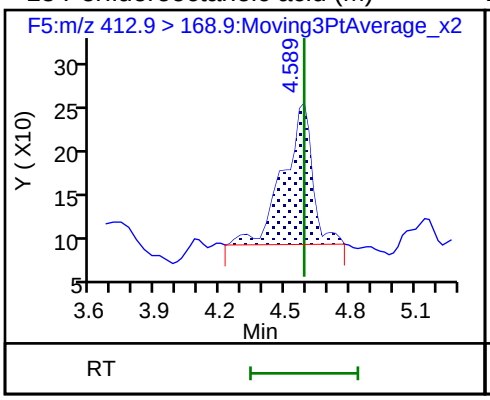
* 16 13C2 PFOA



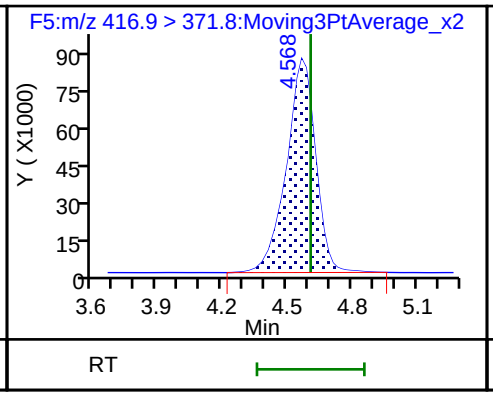
15 Perfluorooctanoic acid (M)



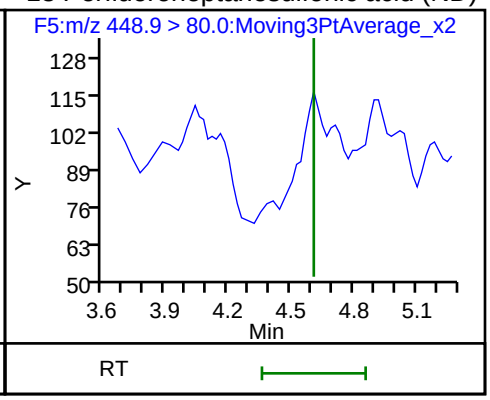
15 Perfluorooctanoic acid (M)



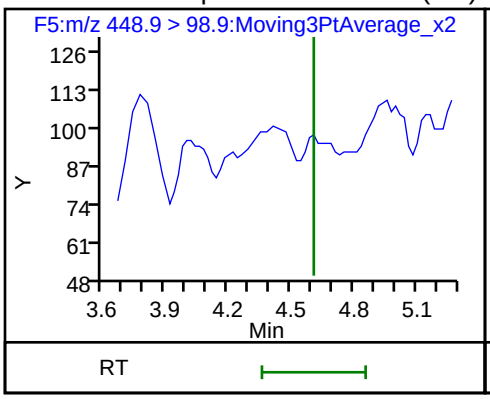
D 17 13C4 PFOA



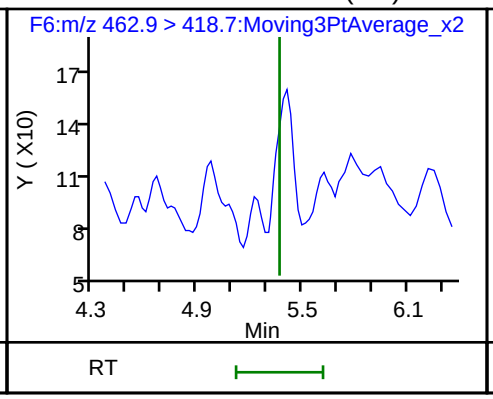
18 Perfluoroheptanesulfonic acid (ND)



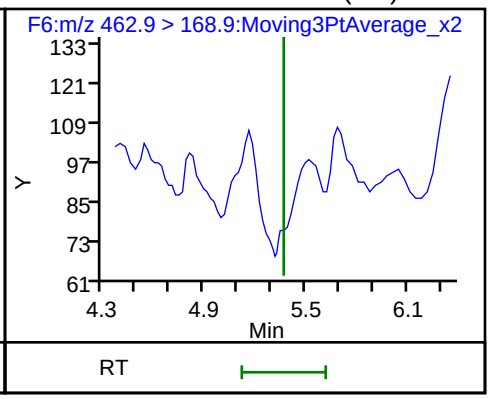
18 Perfluoroheptanesulfonic acid (ND)



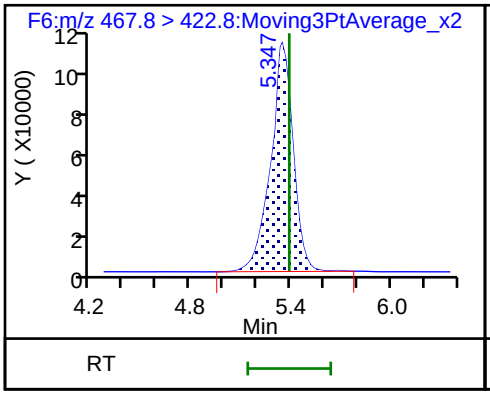
19 Perfluorononanoic acid (ND)



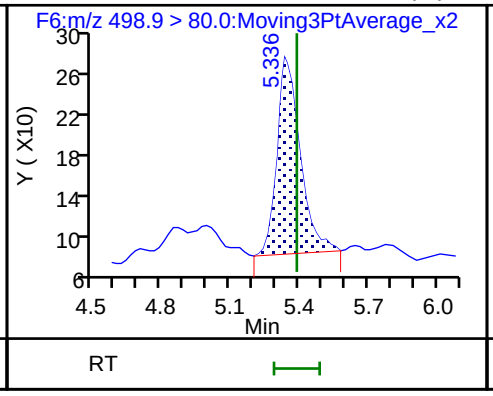
19 Perfluorononanoic acid (ND)



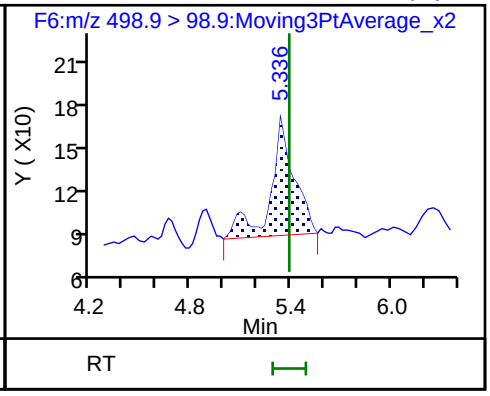
D 20 13C5 PFNA



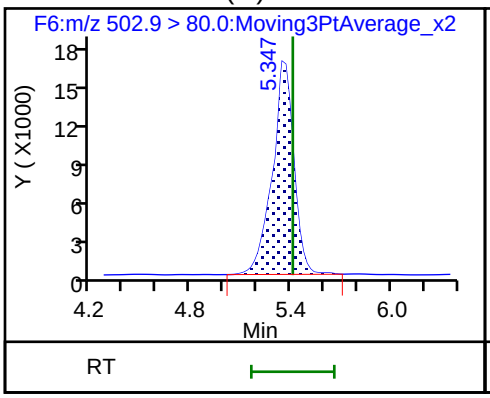
21 Perfluorooctanesulfonic acid (M)



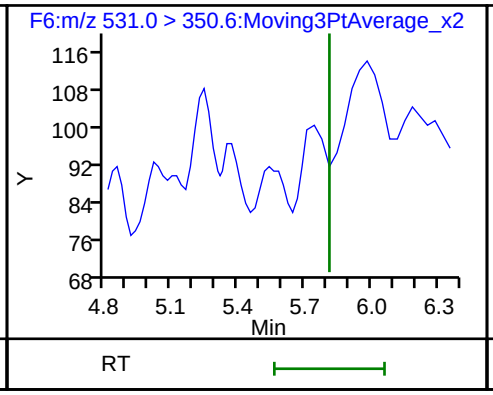
21 Perfluorooctanesulfonic acid (M)



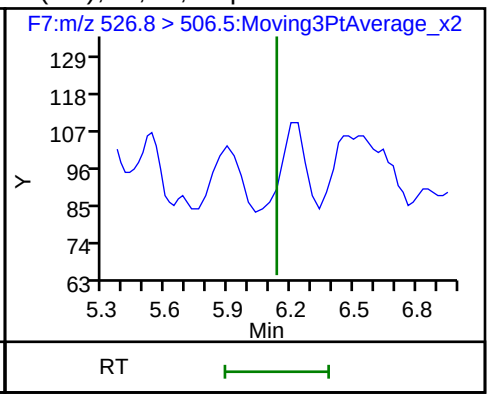
D 22 13C4 PFOS (M)



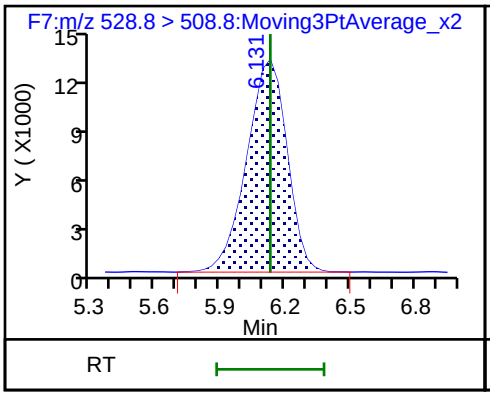
47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (ND)



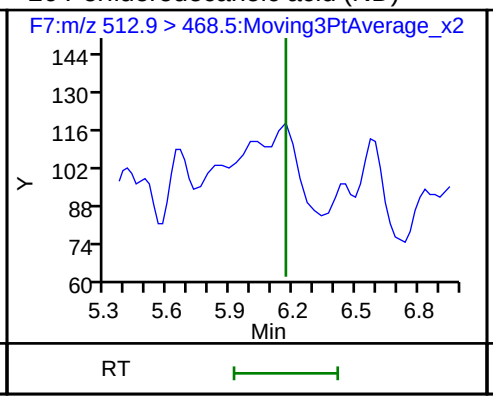
23 (ND),1H,2H,2H-perfluorodecanesulfoni (ND)



D 24 M2-8:2 FTS



26 Perfluorodecanoic acid (ND)



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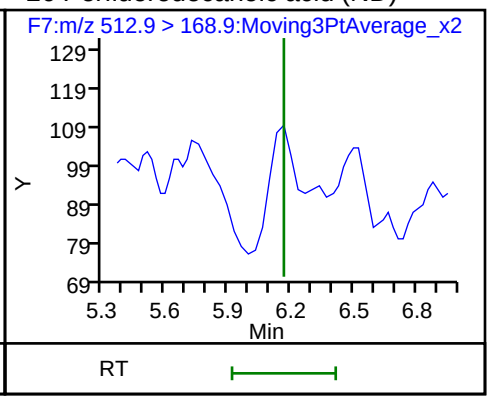
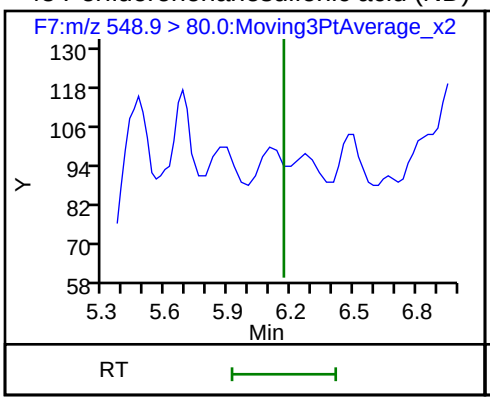


45 Perfluorononanesulfonic acid (ND)



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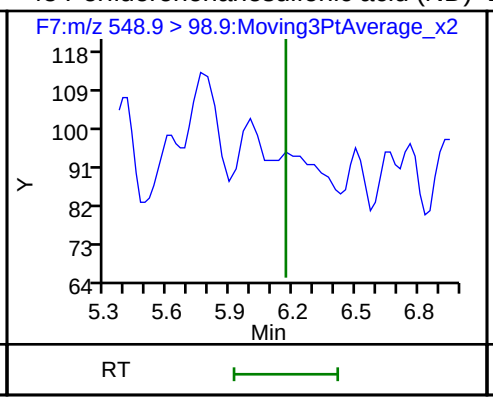
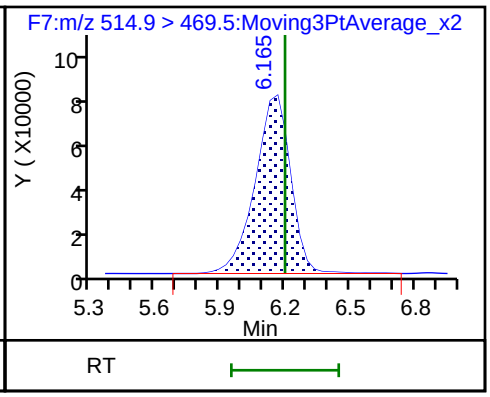
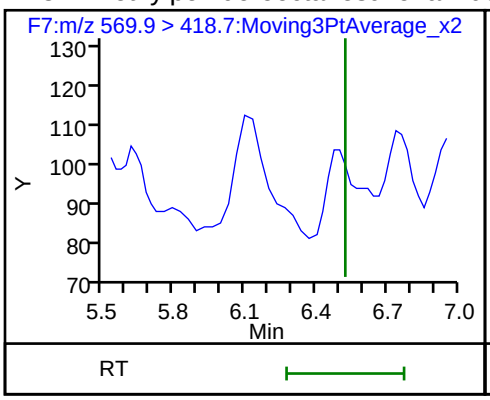


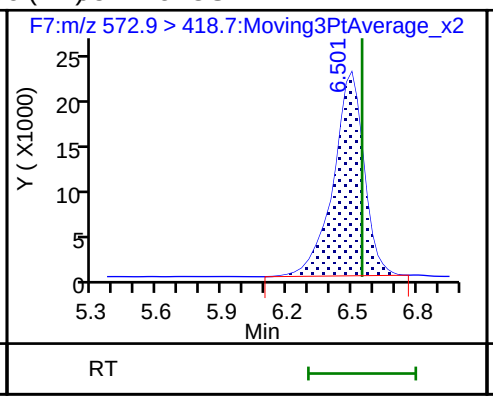
D 25 13C2 PFDA



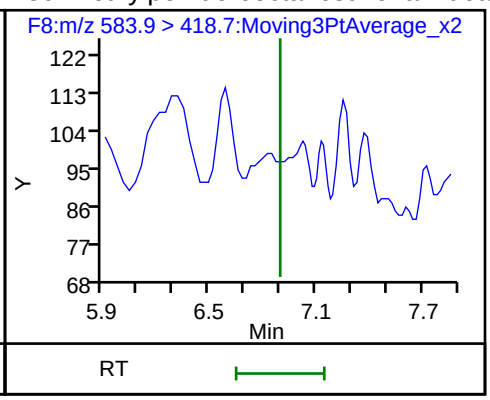
28 N-methylperfluorooctanesulfonamido (ND)



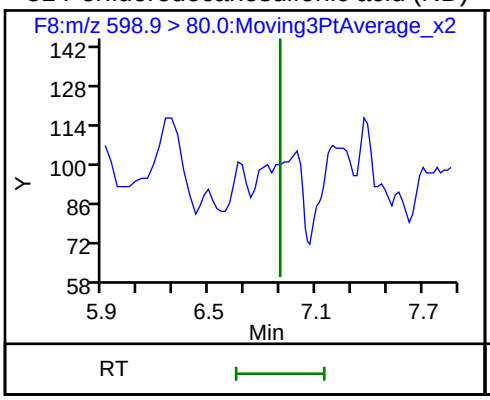
D 27 d3-NMeFOSAA



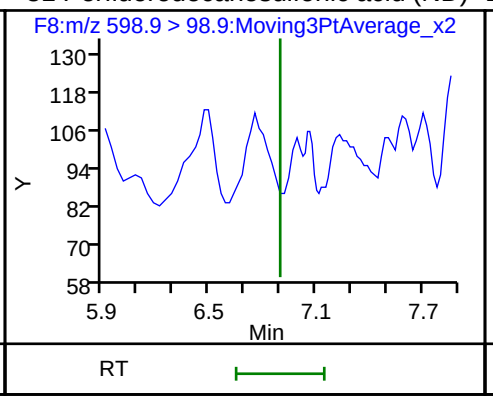
30 N-ethylperfluorooctanesulfonamidoa (ND)



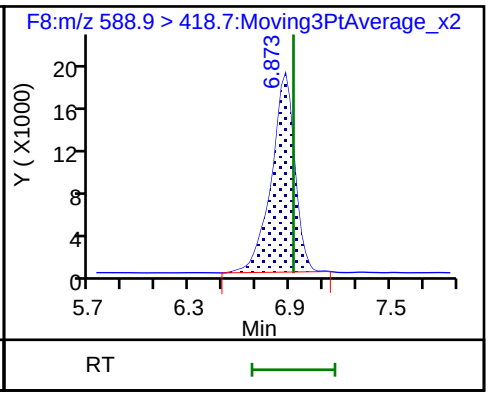
31 Perfluorodecanesulfonic acid (ND)



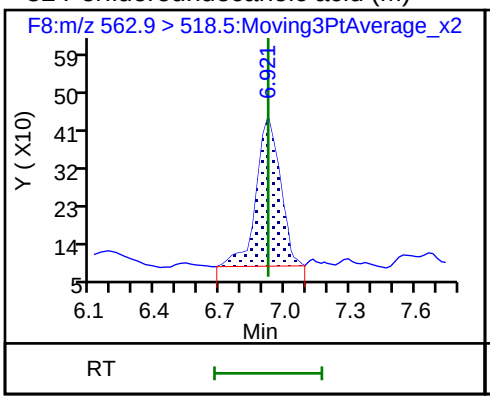
31 Perfluorodecanesulfonic acid (ND)



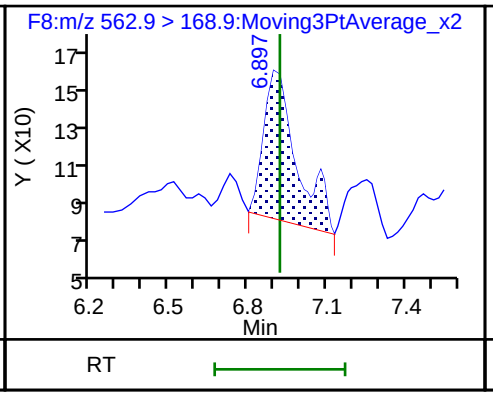
D 29 d5-NEtFOSAA



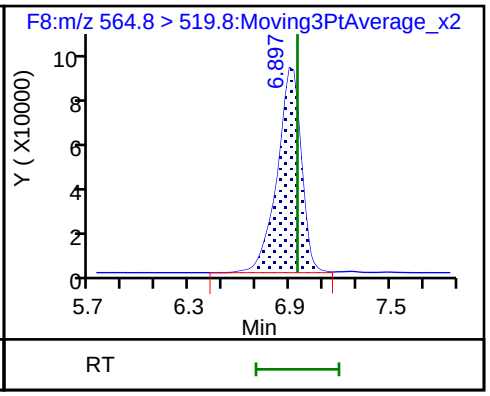
32 Perfluoroundecanoic acid (M)



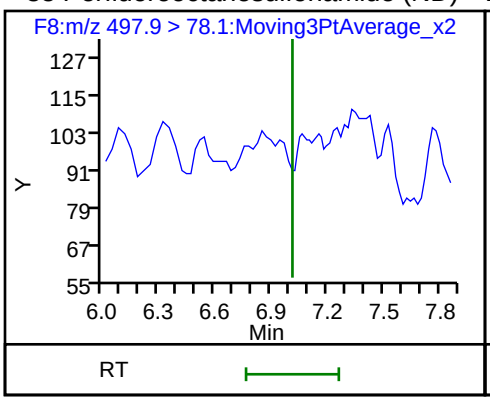
32 Perfluoroundecanoic acid



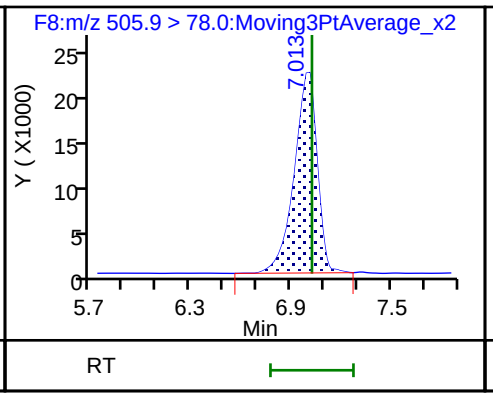
D 33 13C2 PFUnA



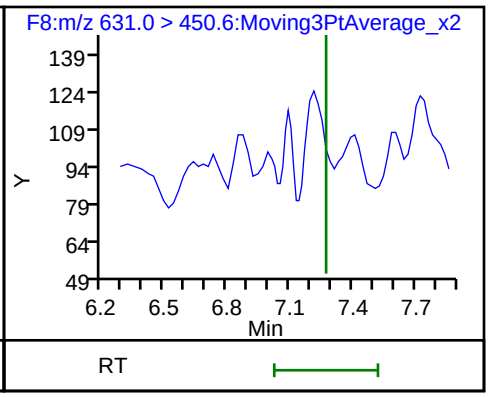
35 Perfluorooctanesulfonamide (ND)



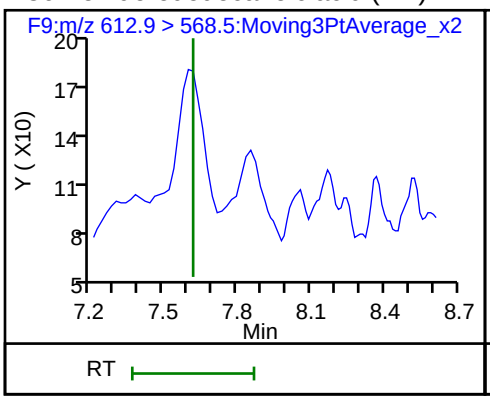
D 34 13C8 FOSA



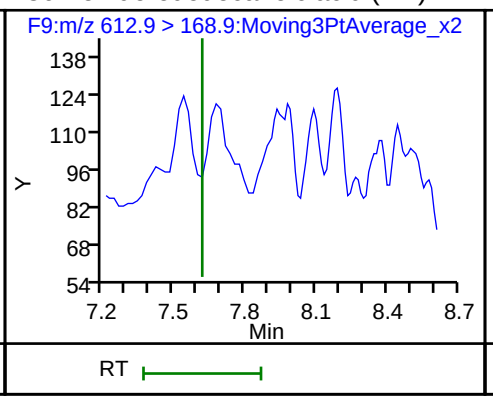
43 11-Chloroeicosafluoro-3-oxaundecan (ND)



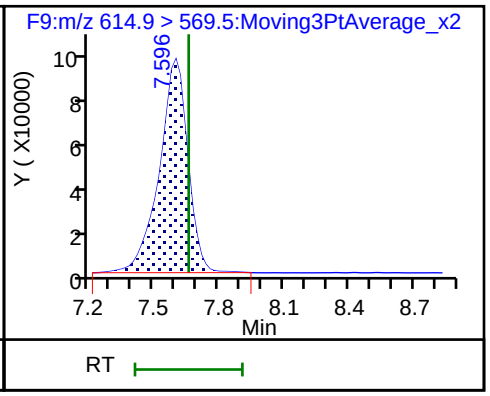
36 Perfluorododecanoic acid (ND)



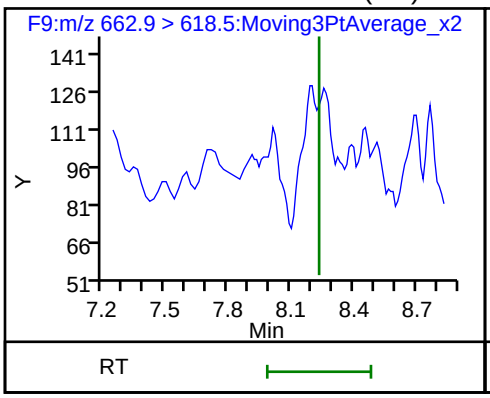
36 Perfluorododecanoic acid (ND)



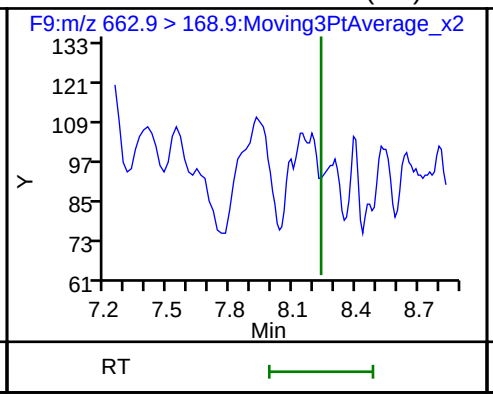
D 37 13C2 PFDoA



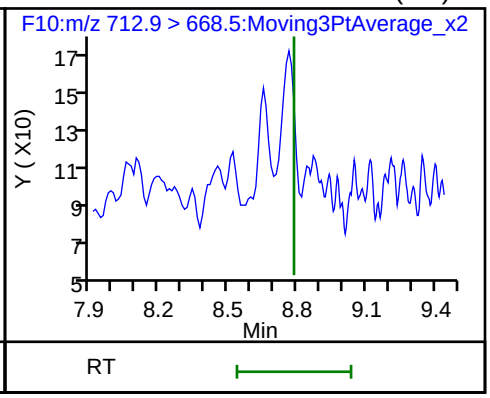
38 Perfluorotridecanoic acid (ND)



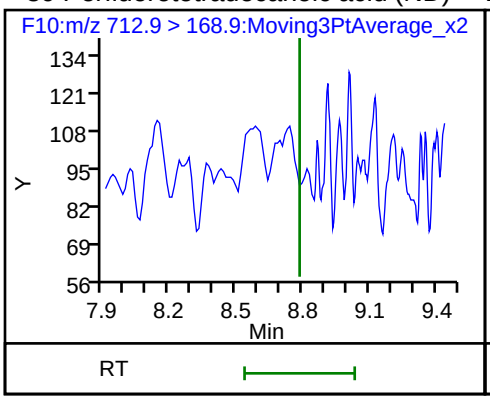
38 Perfluorotridecanoic acid (ND)



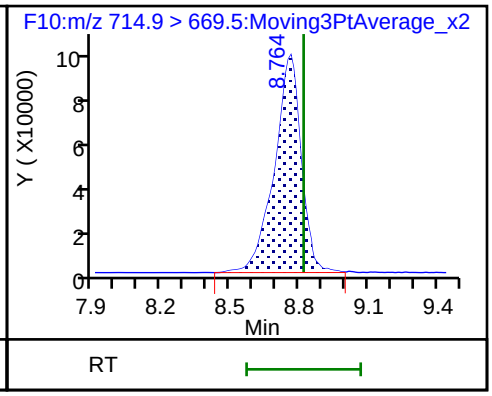
39 Perfluorotetradecanoic acid (ND)



39 Perfluorotetradecanoic acid (ND)



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

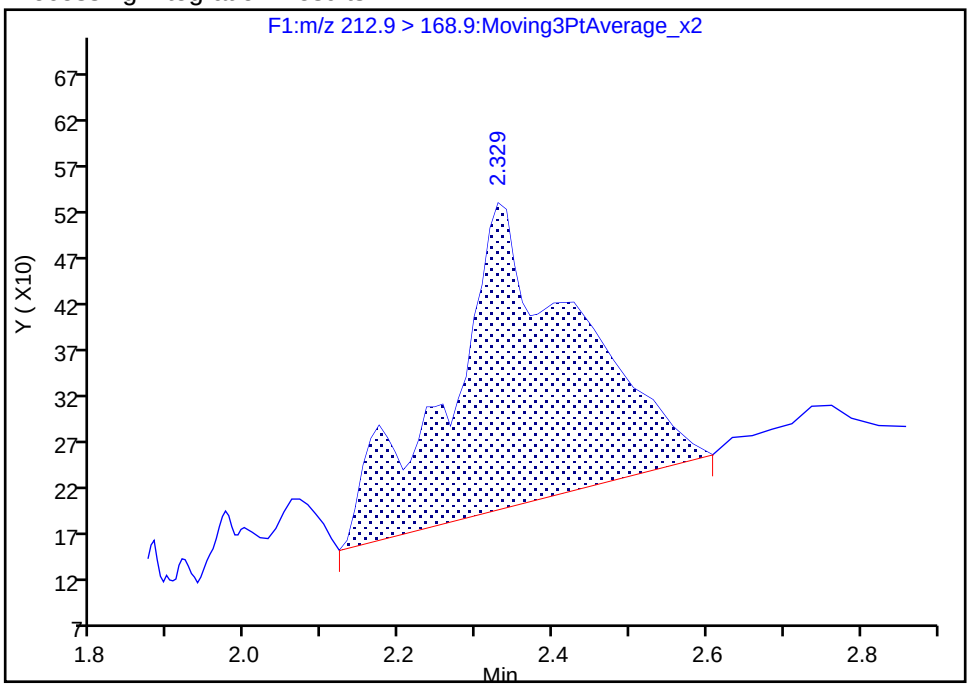
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d
Injection Date: 05-Jun-2019 02:23:07 Instrument ID: LC410
Lims ID: MB 200-143308/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

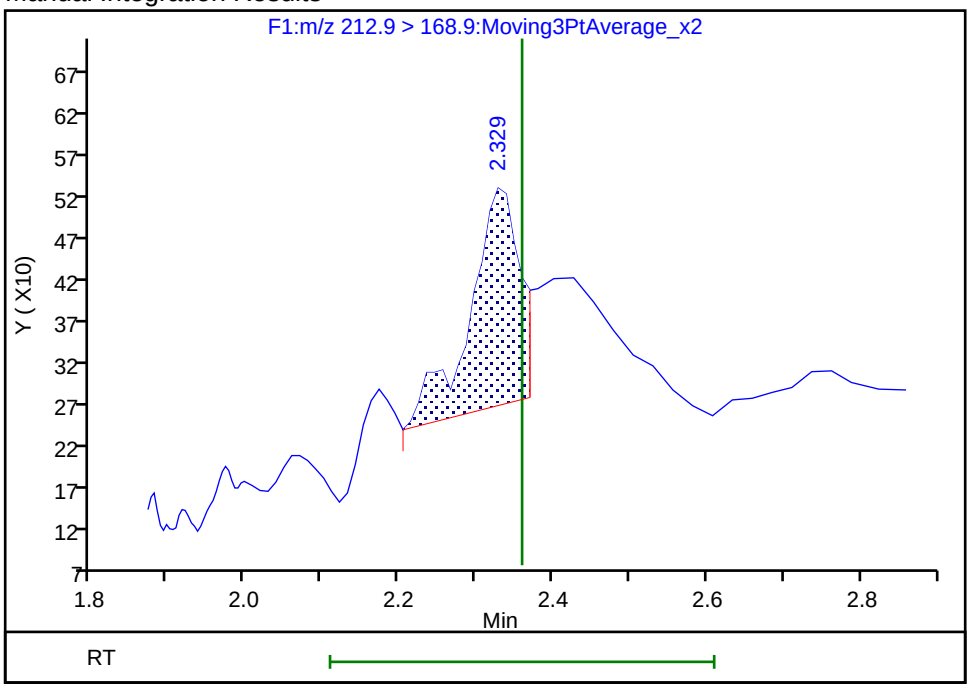
Processing Integration Results

RT: 2.33
Area: 3925
Amount: 0.794120
Amount Units: ng/ml



Manual Integration Results

RT: 2.33
Area: 1158
Amount: 0.234291
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:01:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

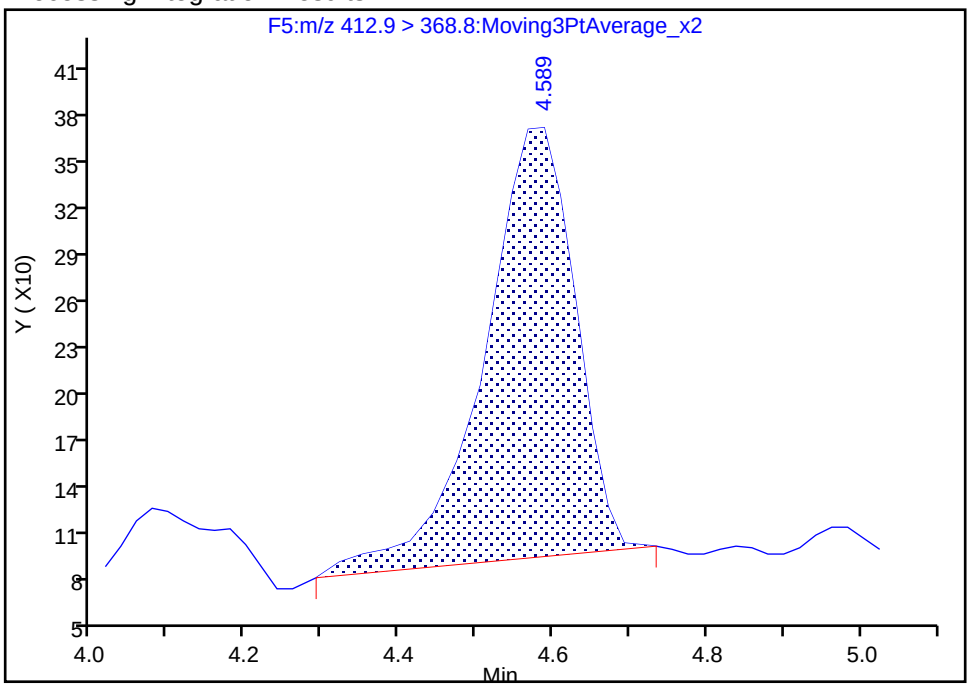
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d
Injection Date: 05-Jun-2019 02:23:07 Instrument ID: LC410
Lims ID: MB 200-143308/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

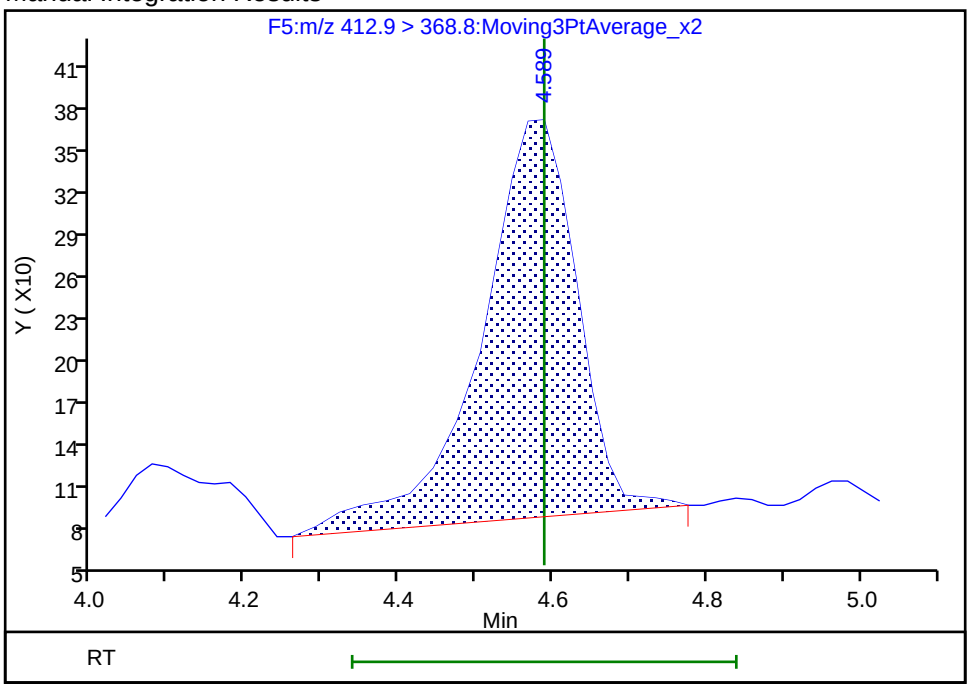
Processing Integration Results

RT: 4.59
Area: 2254
Amount: 0.135804
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 2434
Amount: 0.146649
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:02:01
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

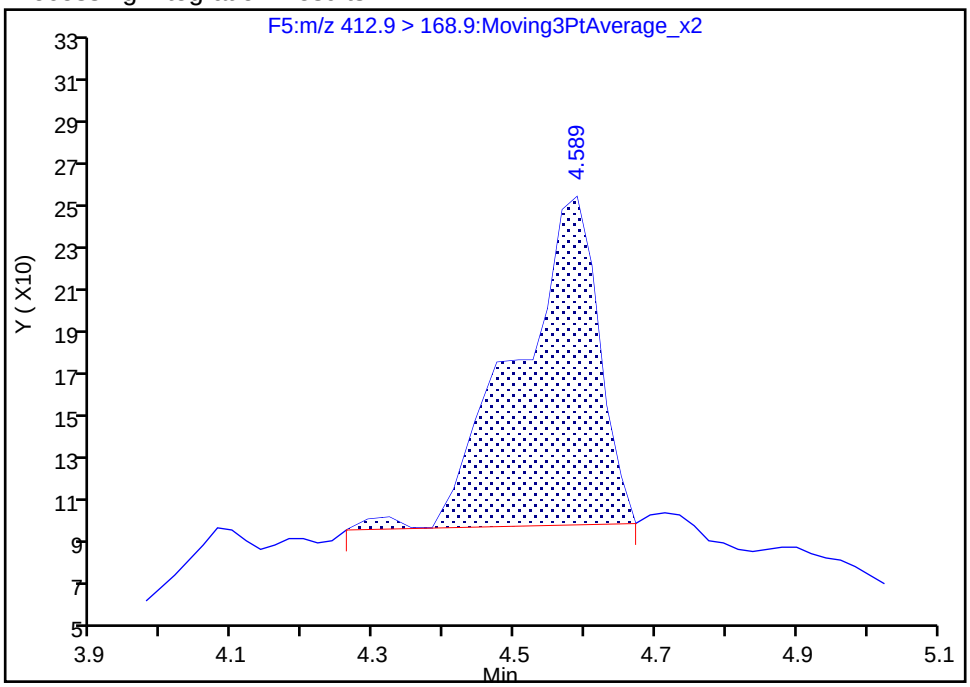
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d
Injection Date: 05-Jun-2019 02:23:07 Instrument ID: LC410
Lims ID: MB 200-143308/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

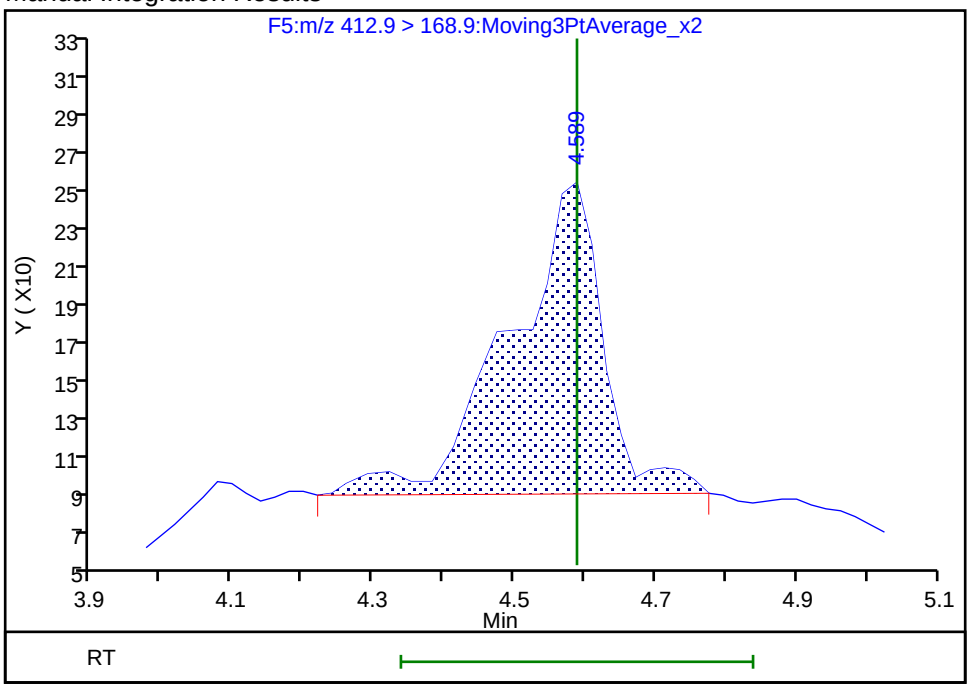
Processing Integration Results

RT: 4.59
Area: 1244
Amount: 0.135804
Amount Units: ng/ml



Manual Integration Results

RT: 4.59
Area: 1484
Amount: 0.146649
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:02:08
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

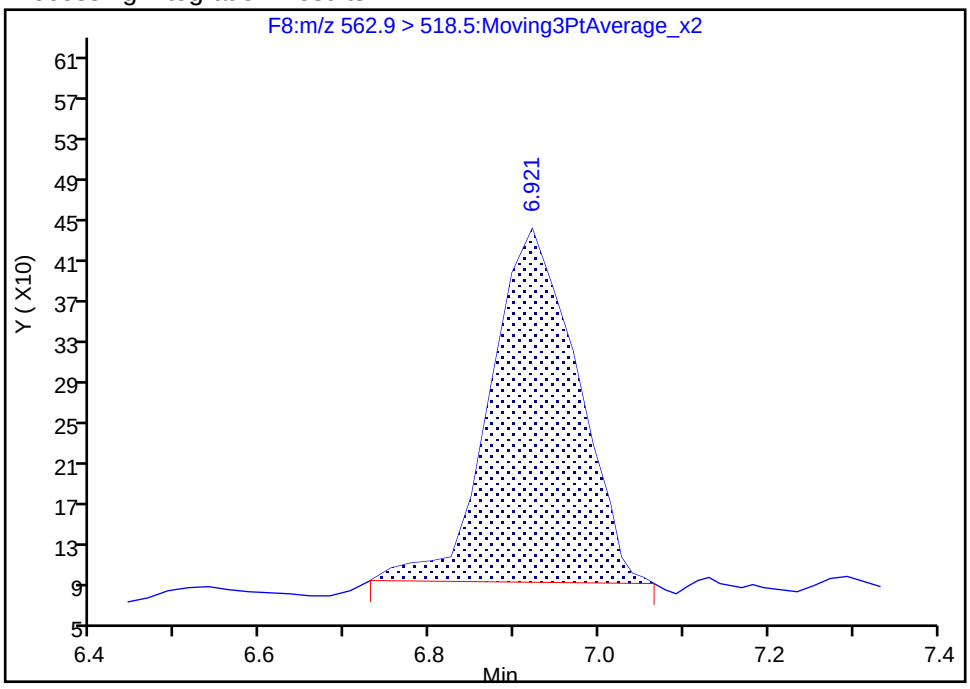
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d
Injection Date: 05-Jun-2019 02:23:07 Instrument ID: LC410
Lims ID: MB 200-143308/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F8:MRM

32 Perfluoroundecanoic acid, CAS: 2058-94-8

Signal: 1

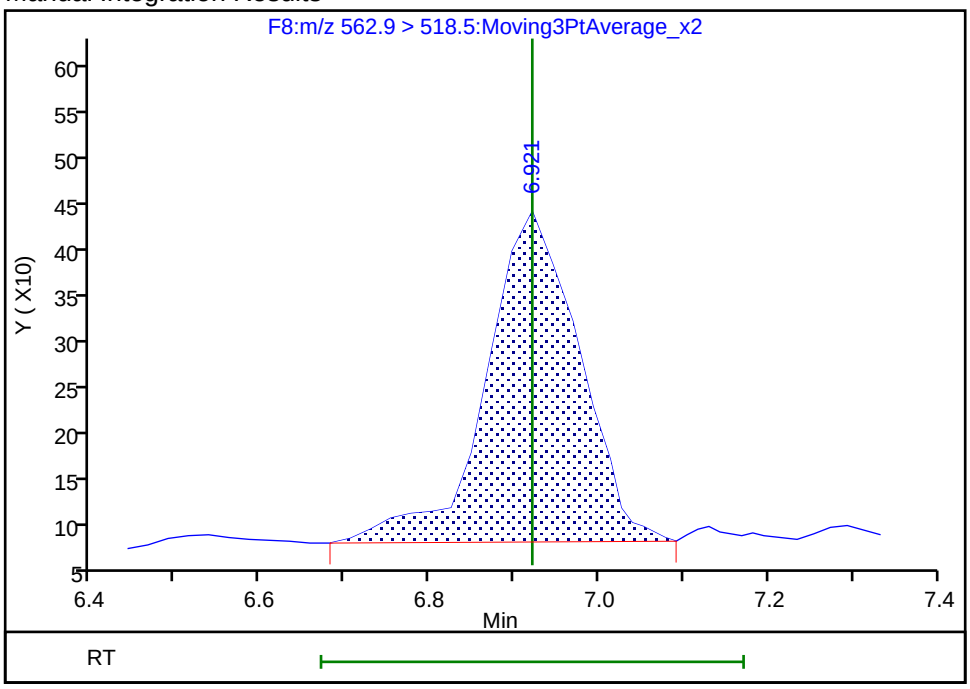
Processing Integration Results

RT: 6.92
Area: 2470
Amount: 0.170506
Amount Units: ng/ml



Manual Integration Results

RT: 6.92
Area: 2746
Amount: 0.189559
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:02:35
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

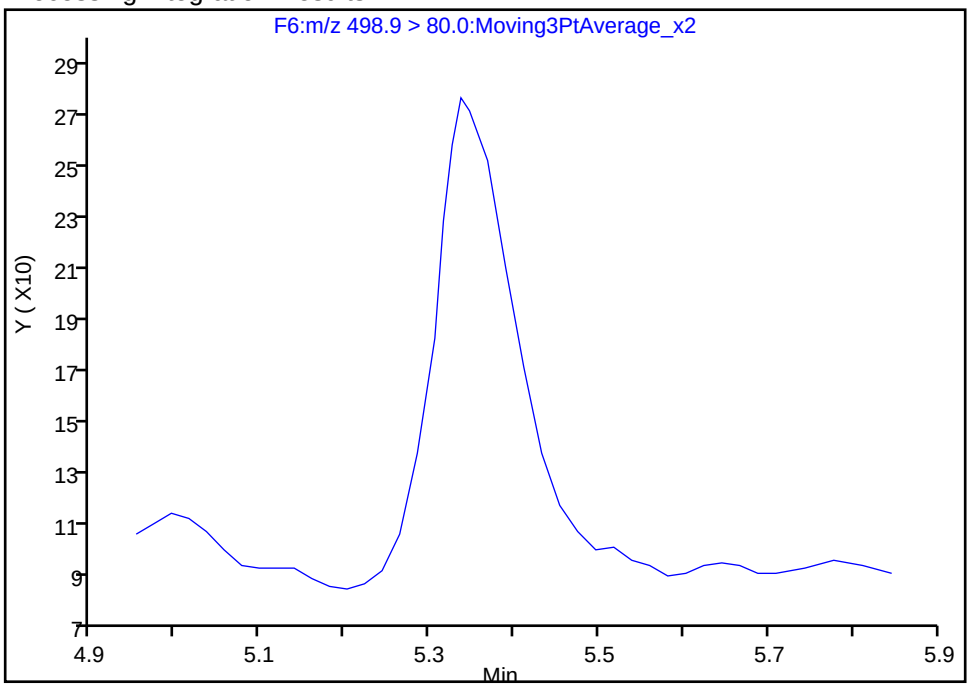
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d
Injection Date: 05-Jun-2019 02:23:07 Instrument ID: LC410
Lims ID: MB 200-143308/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

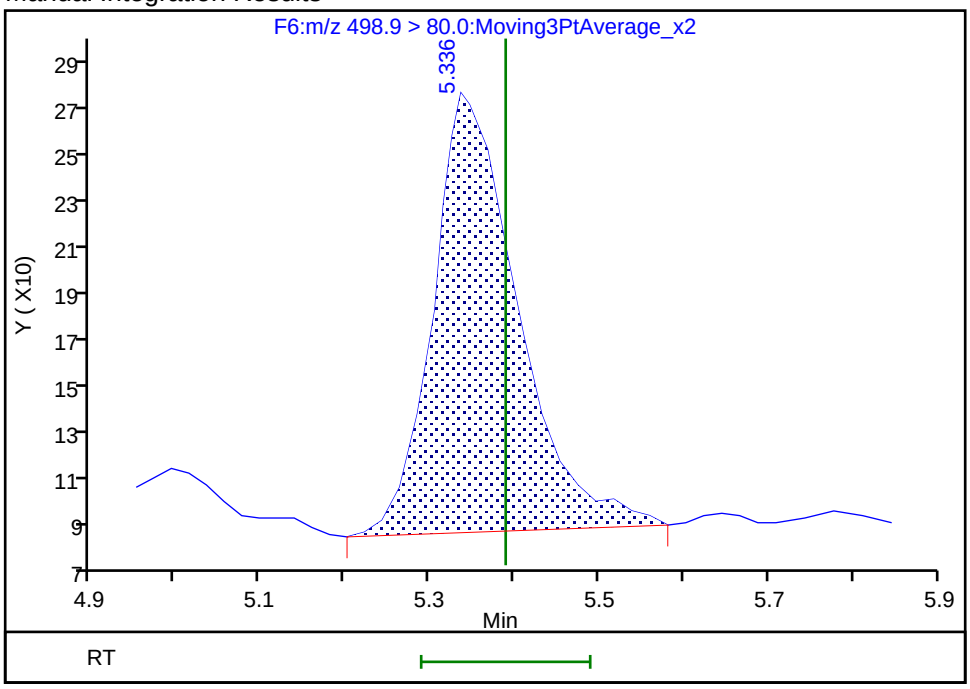
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 1296
Amount: 0.429981
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:03:38
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

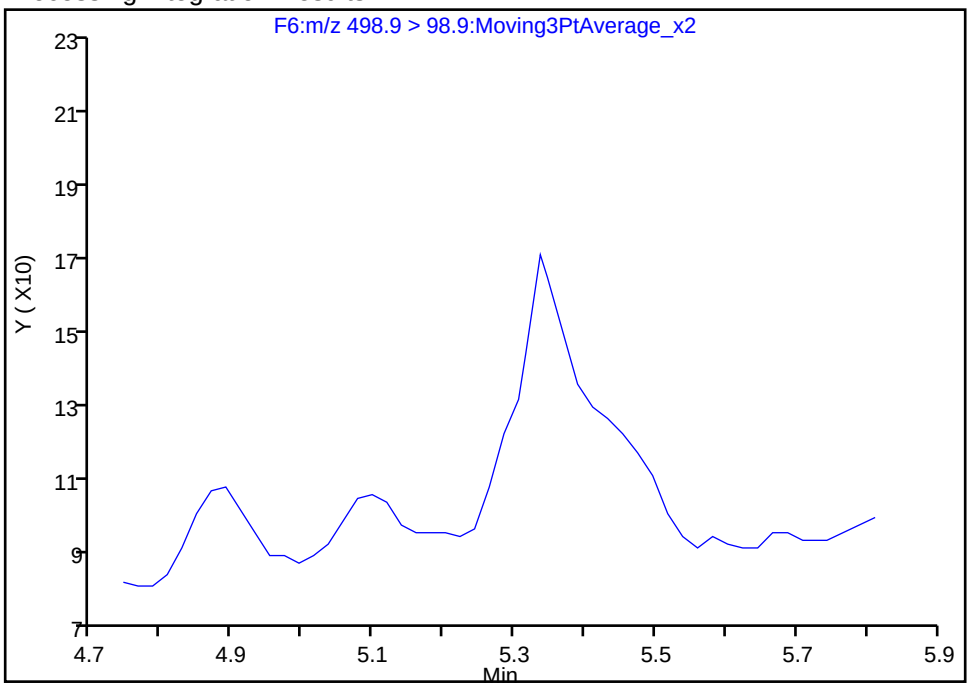
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d
Injection Date: 05-Jun-2019 02:23:07 Instrument ID: LC410
Lims ID: MB 200-143308/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

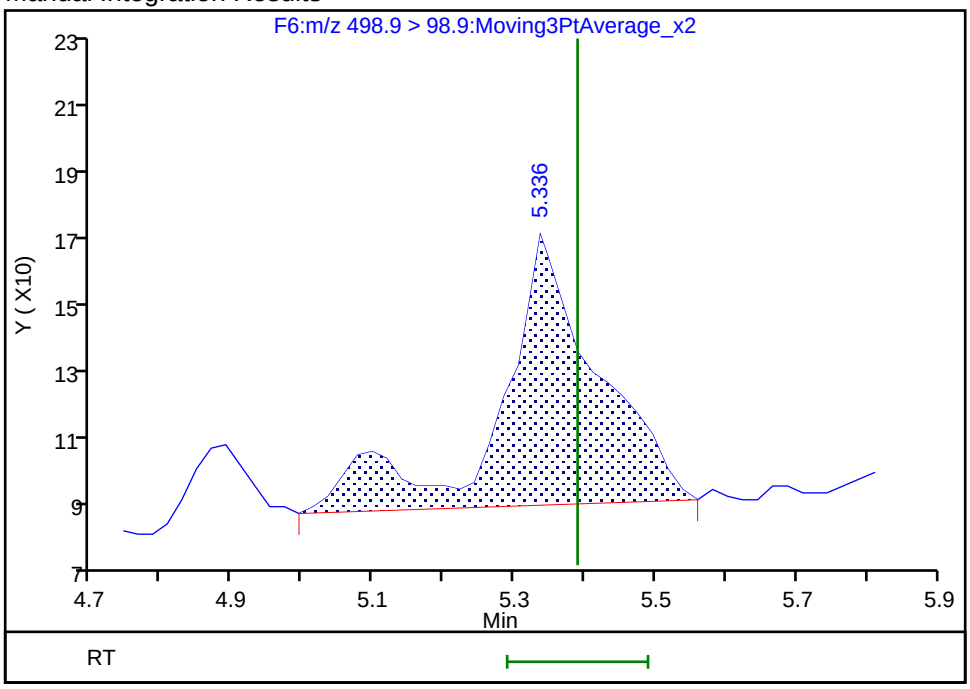
Not Detected
Expected RT: 5.39

Processing Integration Results



Manual Integration Results

RT: 5.34
Area: 762
Amount: 0.429981
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:13:46
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

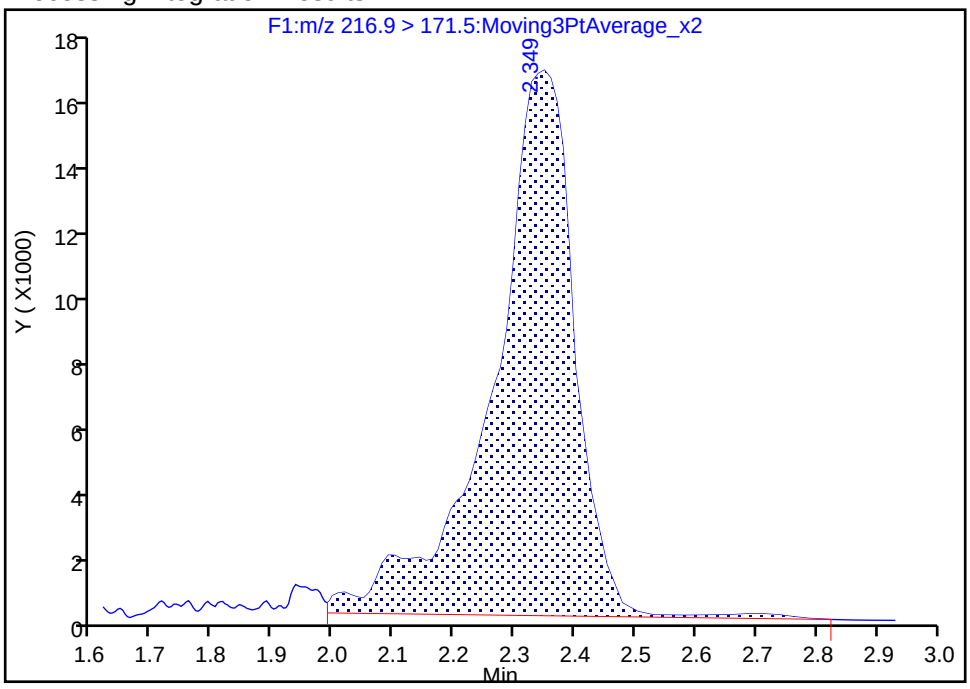
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d
Injection Date: 05-Jun-2019 02:23:07 Instrument ID: LC410
Lims ID: MB 200-143308/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

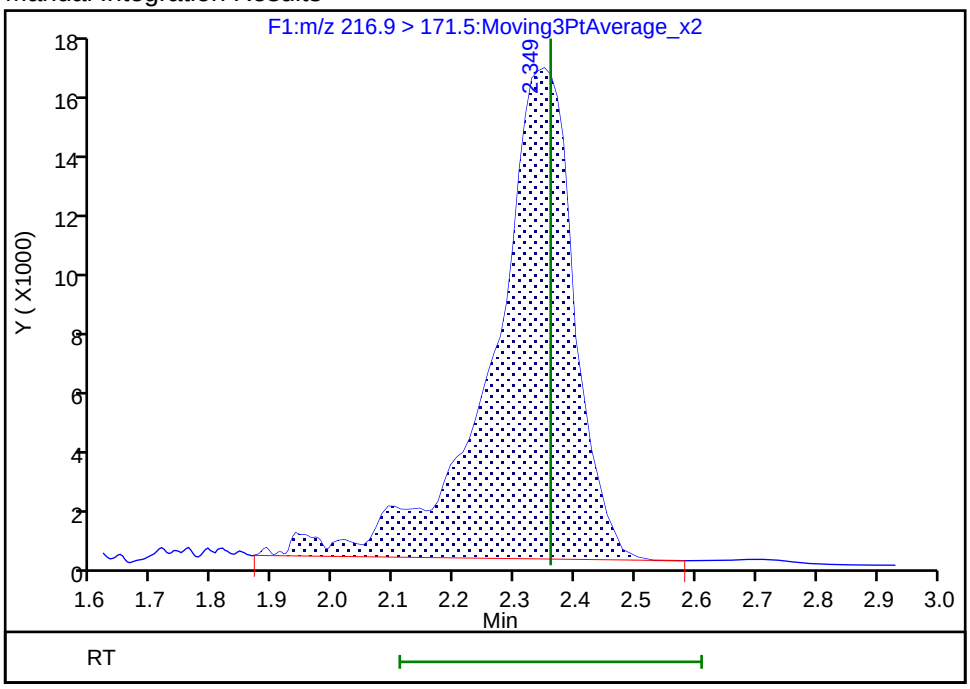
Processing Integration Results

RT: 2.35
Area: 158503
Amount: 23.880004
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 157408
Amount: 23.715032
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:00:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

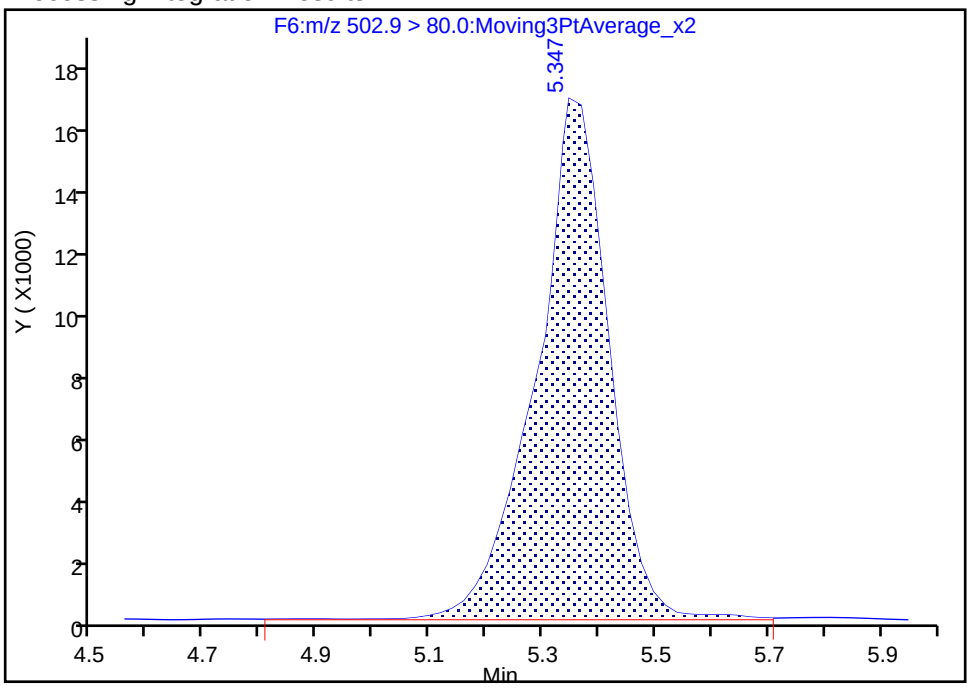
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d				
Injection Date:	05-Jun-2019 02:23:07	Instrument ID:	LC410		
Lims ID:	MB 200-143308/1-A				
Client ID:					
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

D 22 13C4 PFOS, CAS: STL00991

Signal: 1

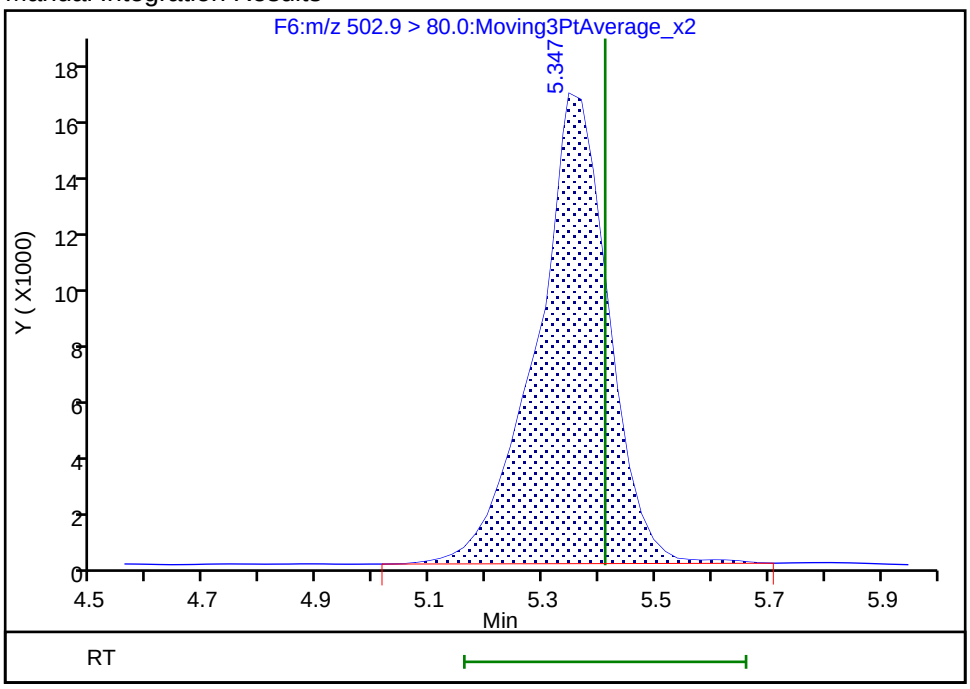
Processing Integration Results

RT: 5.35
Area: 151019
Amount: 23.920196
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 149188
Amount: 23.630180
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:02:19

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

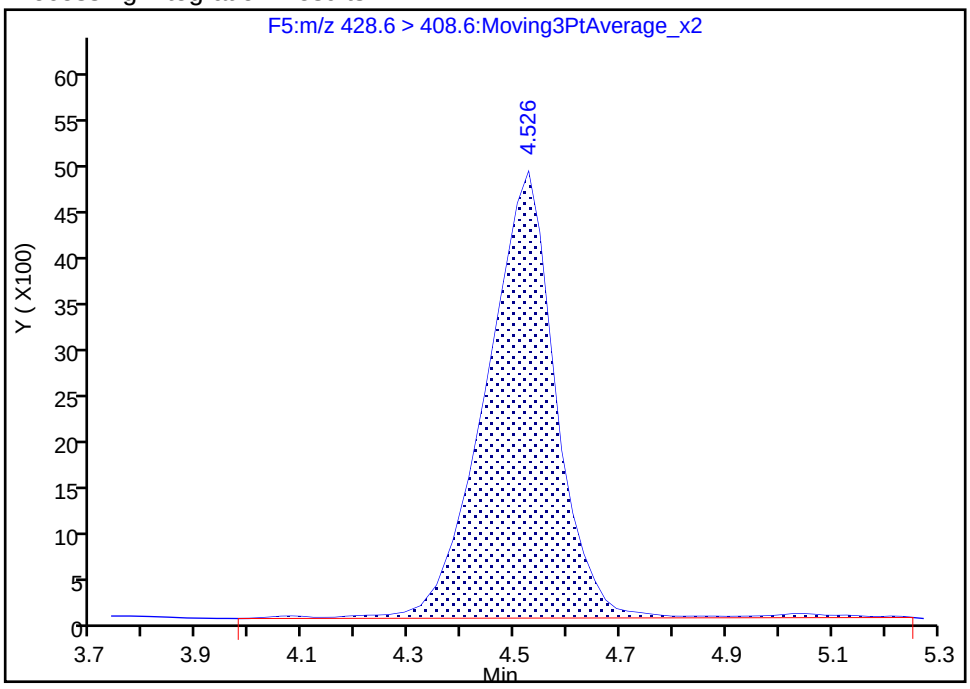
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B05.d
Injection Date: 05-Jun-2019 02:23:07 Instrument ID: LC410
Lims ID: MB 200-143308/1-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

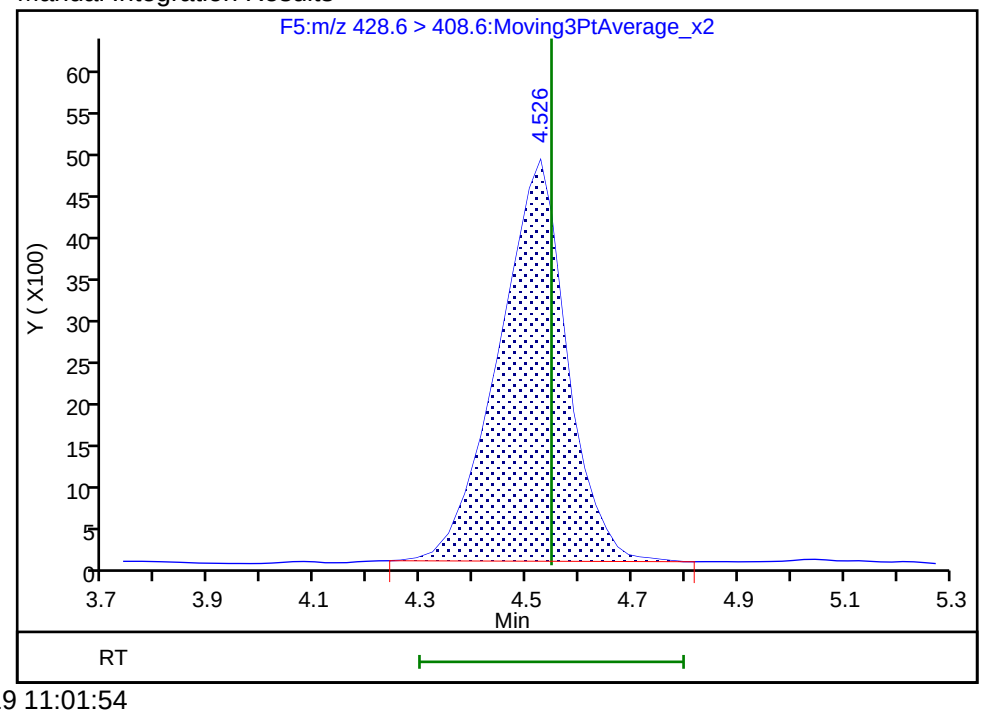
Processing Integration Results

RT: 4.53
Area: 44566
Amount: 29.468065
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 43008
Amount: 28.437880
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:01:54
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 200-143263/2-A

Matrix: Water Lab File ID: PF053019B40.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 250(mL) Date Analyzed: 05/30/2019 23:06

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
2706-90-3	Perfluoropentanoic acid (PFPeA)	44.1		2.0	0.63
307-24-4	Perfluorohexanoic acid (PFHxA)	50.2		2.0	0.76
335-67-1	Perfluorooctanoic acid (PFOA)	46.0		2.0	0.63
375-95-1	Perfluorononanoic acid (PFNA)	45.5		2.0	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	44.8		2.0	0.77
2058-94-8	Perfluoroundecanoic acid (PFUnA)	46.9		2.0	0.53
307-55-1	Perfluorododecanoic acid (PFDoA)	48.1		2.0	0.59
72629-94-8	Perfluorotridecanoic acid (PFTriA)	48.1		2.0	0.60
376-06-7	Perfluorotetradecanoic acid (PFTeA)	49.0		2.0	0.92
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	46.4		2.0	0.80
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	47.0		2.0	0.95
335-77-3	Perfluorodecanesulfonic acid (PFDS)	36.3		2.0	0.90
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	44.1		2.0	0.61
754-91-6	Perfluorooctanesulfonamide (FOSA)	43.9		2.0	0.64
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	45.9		20	1.7
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	52.7		20	1.5
27619-97-2	6:2 FTS	36.6		20	4.6
39108-34-4	8:2 FTS	45.4		20	2.9

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 200-143263/2-A

Matrix: Water Lab File ID: PF053019B40.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 250(mL) Date Analyzed: 05/30/2019 23:06

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	57		25-150
STL01893	13C5 PFPeA	89		25-150
STL00993	13C2 PFHxA	80		50-150
STL01892	13C4 PFHpA	90		50-150
STL00990	13C4 PFOA	97		50-150
STL00995	13C5 PFNA	87		50-150
STL00996	13C2 PFDA	97		50-150
STL00997	13C2 PFUnA	90		50-150
STL00998	13C2 PFDoA	72		50-150
STL02116	13C2 PFTeDA	73		50-150
STL02337	13C3 PFBS	70		50-150
STL00994	18O2 PFHxS	69		50-150
STL00991	13C4 PFOS	77		50-150
STL02118	d3-NMeFOSAA	80		50-150
STL02117	d5-NEtFOSAA	77		50-150
STL02279	M2-6:2 FTS	92		25-150
STL02280	M2-8:2 FTS	127		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B40.d
Lims ID: LCS 200-143263/2-A
Client ID:
Sample Type: LCS
Inject. Date: 30-May-2019 23:06:35 ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036138-040 LCS
Misc. Info.: PFAS27 053019B
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 17:25:13 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0323

First Level Reviewer: murrayjw Date: 05-Jun-2019 10:24:01
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B38.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.380	2.391	-0.011	1.000	105541	25.4		50.8	60.3	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.380	2.391	-0.011	1.000	121614	36.7		183	103	M
D 4 13C5 PFPeA										M
267.7 > 222.6	2.866	2.830	0.036	1.000	139582	44.3		88.5	257	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.866	2.866	0.0	1.000	184296	22.0		110	228	
D 5 13C3 PFBS										
302.0 > 79.8	2.937	2.901	0.036	1.000	44695	32.6		70.1	114	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.937	-0.036	0.988	61038	25.3	Target=1.67	143	171	
298.9 > 98.9	2.937	2.901	0.036	1.000	51534		1.18(0.83-2.51)		115	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.270	3.302	-0.032	1.113	46107	36.2		194	282	
D 8 13C2 PFHxA										
314.8 > 269.6	3.334	3.334	0.0	1.000	376263	39.8		79.6	497	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.334	3.334	0.0	1.000	264019	25.1	Target=14.34	125	1286	
312.9 > 118.9	3.334	3.334	0.0	1.000	17877		14.77(7.17-21.51)		133	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.365	3.397	-0.032	1.146	69116	25.3	Target=1.23	135	484	
348.9 > 98.9	3.365	3.397	-0.032	1.000	90393		0.76(0.62-1.85)		307	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.492	3.492	0.0	1.000	20517	NR		0.0	146	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.905	3.925	-0.020	1.000	379022	26.9	Target=2.84	134	801	
362.9 > 168.9	3.905	3.925	-0.020	1.000	116944		3.24(1.42-4.26)		802	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 10 13C4 PFHpA										
366.9 > 321.8	3.905	3.925	-0.020	1.000	600316	45.0		90.1	2340	
D 12 18O2 PFHxS										
402.9 > 83.8	3.925	3.946	-0.021	1.000	57522	32.8		69.4	248	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.925	3.946	-0.021	1.000	59718	23.2	Target=1.34	127	158	
398.9 > 98.9	3.925	3.946	-0.021	1.000	70817		0.84(0.67-2.01)		261	
49 DONA										
376.9 > 250.7	3.966	3.986	-0.020	0.733	331322	25.2	Target=2.33	134	1843	
376.9 > 85.0	3.966	3.986	-0.020	1.000	118177		2.80(1.16-3.49)		581	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.547	4.589	-0.042	1.000	41335	43.6		91.9	269	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.547	4.609	-0.062	1.000	15066	18.3		96.6	63.2	
D 17 13C4 PFOA										
416.9 > 371.8	4.609	4.630	-0.021	1.000	796444	48.3		96.6	1584	
* 16 13C2 PFOA										
414.9 > 369.8	4.609	4.630	-0.021		849849	50.0			1208	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.609	4.630	-0.021	1.000	371082	23.0	Target=2.43	115	1098	
412.9 > 168.9	4.609	4.630	-0.021	1.000	140173		2.65(1.22-3.64)		425	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.630	4.672	-0.042	0.856	62631	23.5	Target=1.30	123	331	
448.9 > 98.9	4.630	4.672	-0.042	1.000	77238		0.81(0.65-1.95)		655	
19 Perfluorononanoic acid										
462.9 > 418.7	5.389	5.432	-0.043	1.000	387221	22.7	Target=5.00	114	1248	
462.9 > 168.9	5.389	5.432	-0.043	1.000	86923		4.45(2.50-7.50)		410	
D 20 13C5 PFNA										
467.8 > 422.8	5.389	5.432	-0.043	1.000	964422	43.6		87.2	3106	
D 22 13C4 PFOS										
502.9 > 80.0	5.411	5.453	-0.042	1.000	146291	37.0		77.4	492	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.411	5.453	-0.042	1.000	65201	22.1	Target=1.41	119	268	M
498.9 > 98.9	5.411	5.453	-0.042	1.000	70965		0.92(0.71-2.12)		428	M
47 9-Chlorohexadecafluoro-3-oxanonane										M
531.0 > 350.6	5.846	5.880	-0.034	1.080	352595	26.2		141	1100	M
D 24 M2-8:2 FTS										
528.8 > 508.8	6.165	6.234	-0.069	1.000	209456	60.8		127	701	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.165	6.234	-0.069	1.000	73199	22.7		118	410	
D 25 13C2 PFDA										
514.9 > 469.5	6.199	6.234	-0.035	1.000	913063	48.3		96.7	3126	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.199	6.234	-0.035	1.146	58006	19.5	Target=1.39	102	397	
548.9 > 98.9	6.199	6.234	-0.035	1.000	82122		0.71(0.69-2.08)		264	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
26 Perfluorodecanoic acid										
512.9 > 468.5	6.199	6.234	-0.035	1.000	374404	22.4	Target=7.23	112	1596	
512.9 > 168.9	6.199	6.234	-0.035	1.000	45930		8.15(3.61-10.84)		221	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.549	6.597	-0.048	1.000	245696	39.9		79.8	829	
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.549	6.597	-0.048	1.000	93165	23.0		115	300	M
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.921	6.969	-0.048	1.000	194613	38.3		76.7	985	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.921	6.969	-0.048	1.000	82536	26.3		132	319	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.945	6.993	-0.048	1.284	57678	18.2	Target=1.25	94.2	379	
598.9 > 98.9	6.945	6.993	-0.048	1.000	70414		0.82(0.63-1.88)		408	
D 33 13C2 PFUnA										
564.8 > 519.8	6.945	7.013	-0.068	1.000	821015	45.0		90.1	2382	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.969	7.013	-0.044	1.003	320421	23.4	Target=7.06	117	1570	
562.9 > 168.9	6.969	7.013	-0.044	1.003	41868		7.65(3.53-10.58)		172	
D 34 13C8 FOSA										
505.9 > 78.0	7.026	7.039	-0.013	1.000	192527	28.3		56.6	1120	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.026	7.039	-0.013	1.000	120279	21.9		110	598	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.294	7.353	-0.059	1.348	356892	20.8		110	2280	
D 37 13C2 PFDoA										
614.9 > 569.5	7.636	7.695	-0.059	1.000	838378	36.1		72.1	1294	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.636	7.695	-0.059	1.000	382673	24.1	Target=5.37	120	1150	
612.9 > 168.9	7.655	7.695	-0.040	1.003	58296		6.56(2.68-8.06)		331	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.257	8.313	-0.056	1.081	378226	24.1	Target=4.67	120	1418	
662.9 > 168.9	8.257	8.313	-0.056	1.081	70331		5.38(2.34-7.01)		370	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.808	8.866	-0.058	1.000	316078	24.5	Target=4.86	122	1329	
712.9 > 168.9	8.808	8.866	-0.058	1.000	53785		5.88(2.43-7.30)		221	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.808	8.870	-0.062	1.000	760533	36.5		72.9	832	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

M - Manually Integrated

Report Date: 05-Jun-2019 17:25:20 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B40.d

Injection Date: 30-May-2019 23:06:35 Instrument ID: LC410

Lims ID: LCS 200-143263/2-A

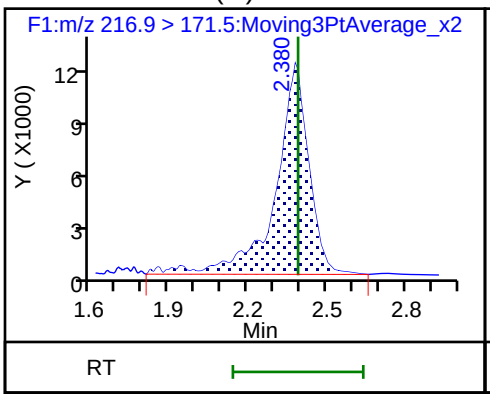
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 40

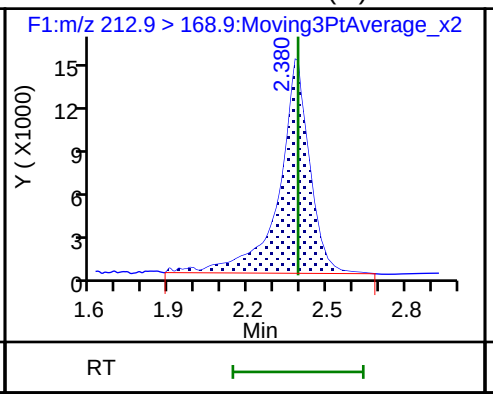
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

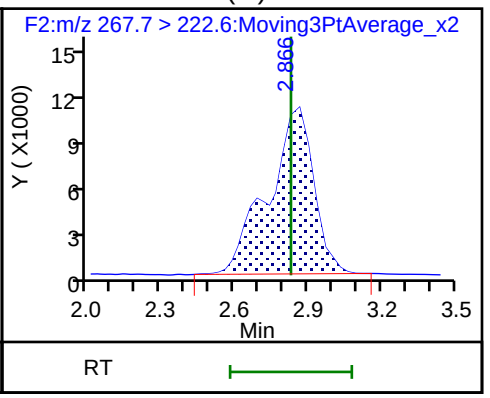
D 1 13C4 PFBA (M)



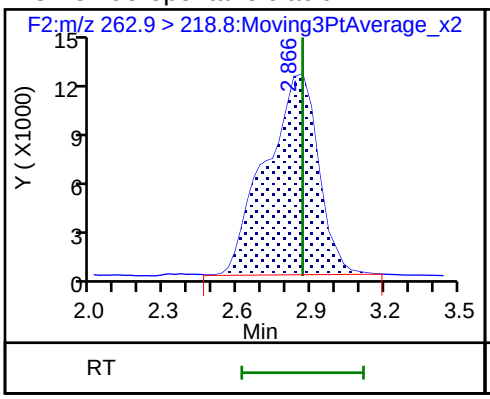
2 Perfluorobutanoic acid (M)



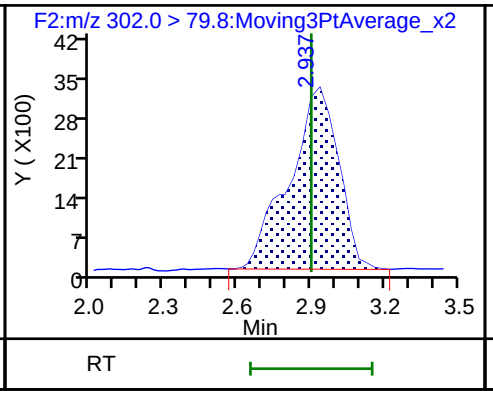
D 4 13C5 PFPeA (M)



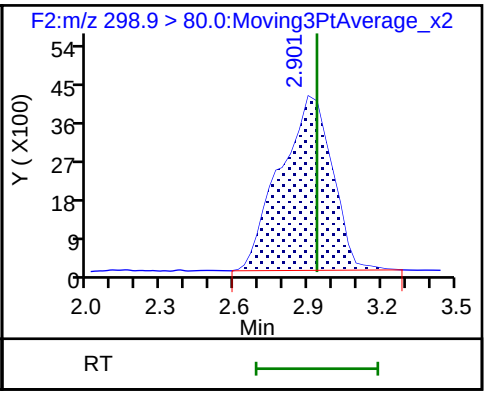
3 Perfluoropentanoic acid



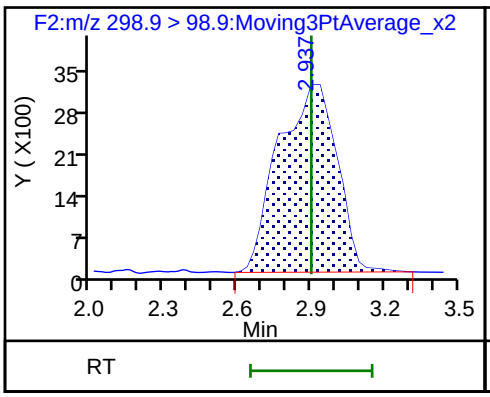
D 5 13C3 PFBS



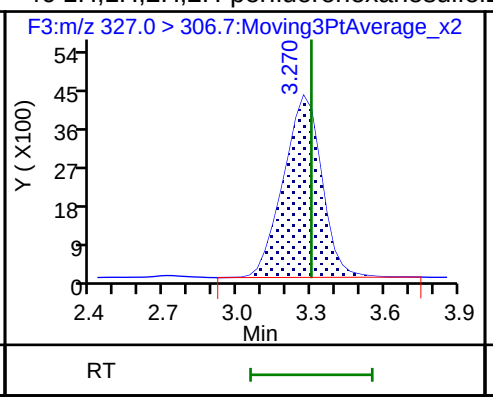
6 Perfluorobutanesulfonic acid



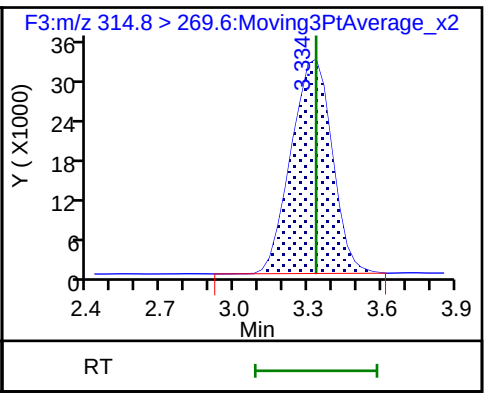
6 Perfluorobutanesulfonic acid



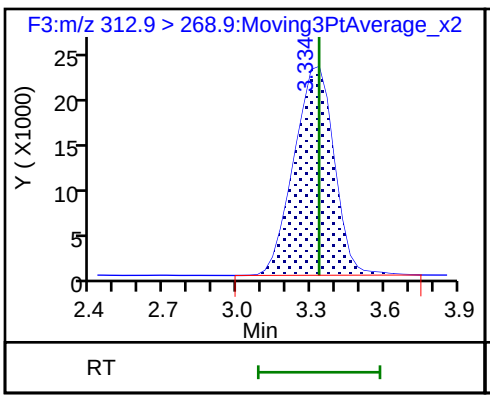
46 1H,1H,2H,2H-perfluorohexanesulfon



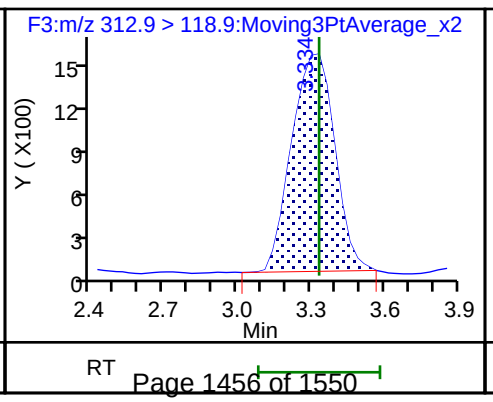
D 8 13C2 PFHxA



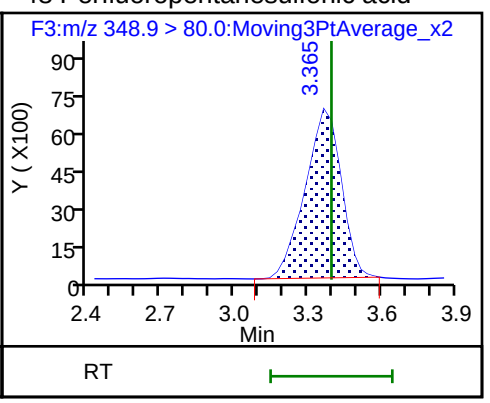
7 Perfluorohexanoic acid



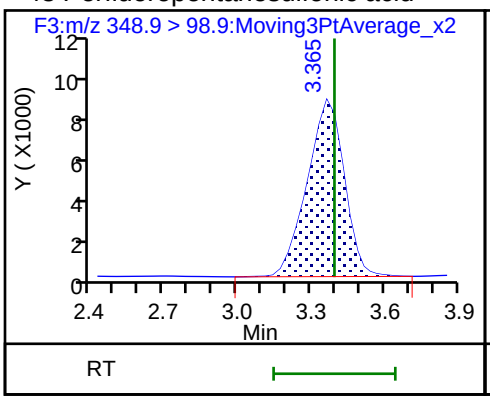
7 Perfluorohexanoic acid



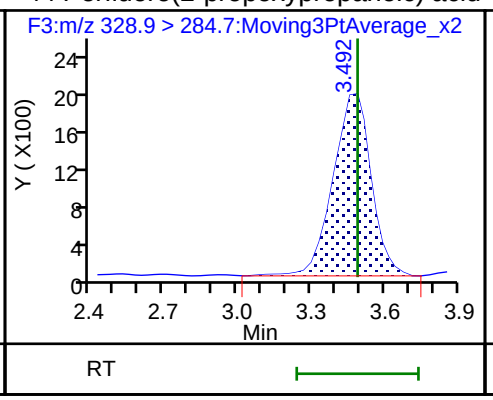
48 Perfluoropentanesulfonic acid



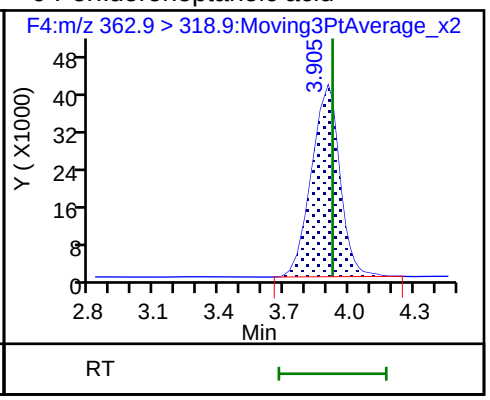
48 Perfluoropentanesulfonic acid



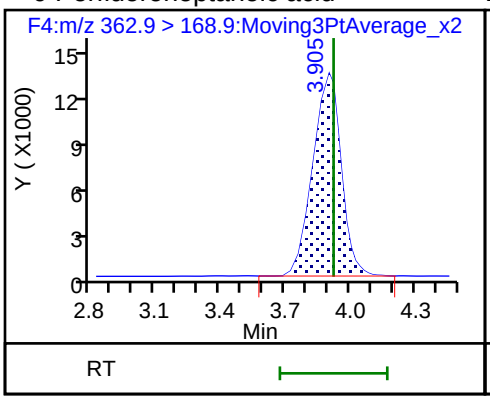
44 Perfluoro(2-propoxypropanoic) acid



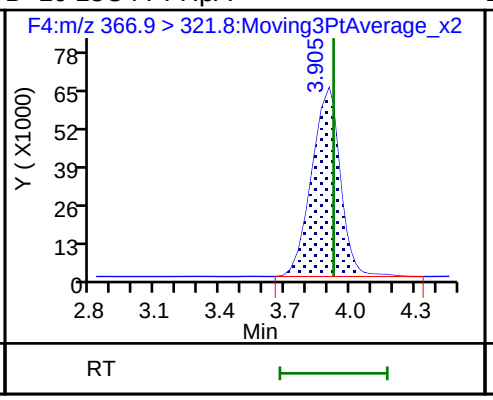
9 Perfluoroheptanoic acid



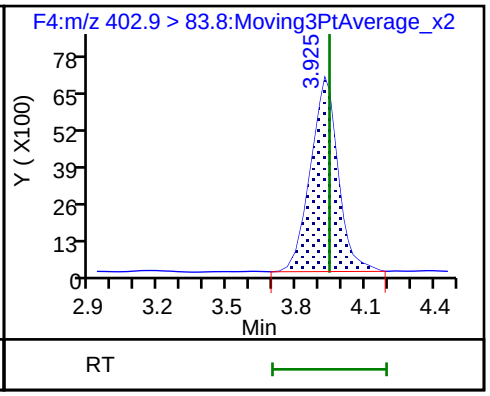
9 Perfluoroheptanoic acid



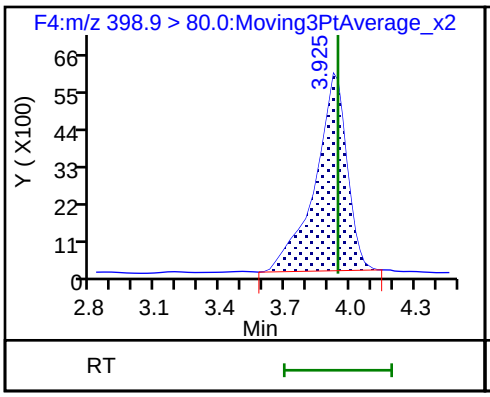
D 10 13C4 PFHpA



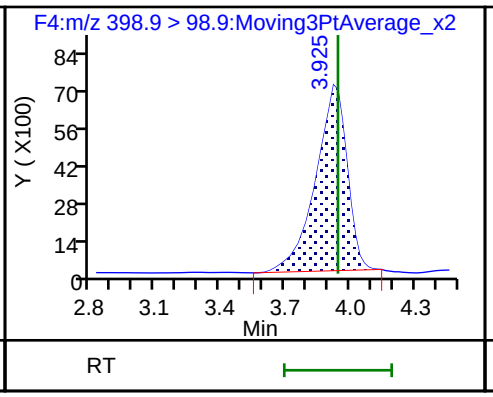
D 12 18O2 PFHxS



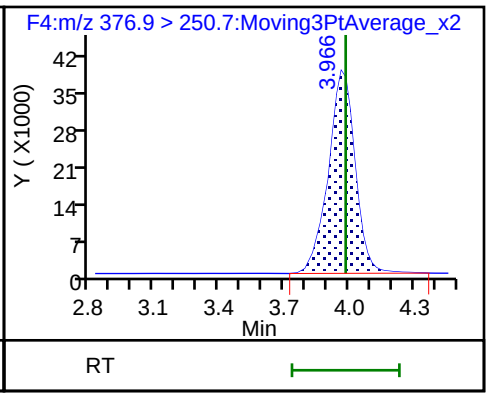
11 Perfluorohexanesulfonic acid



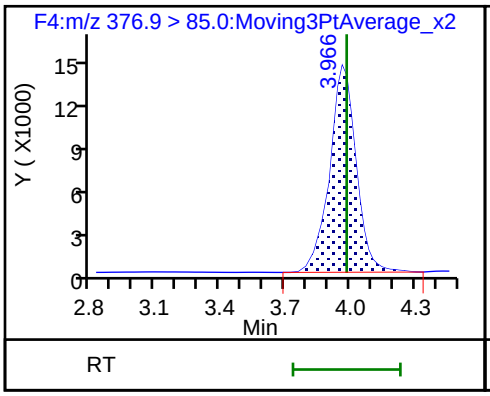
11 Perfluorohexanesulfonic acid



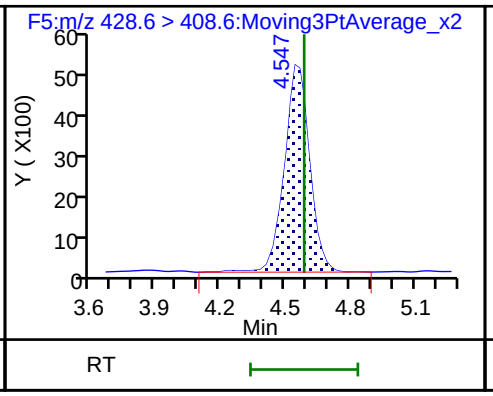
49 DONA



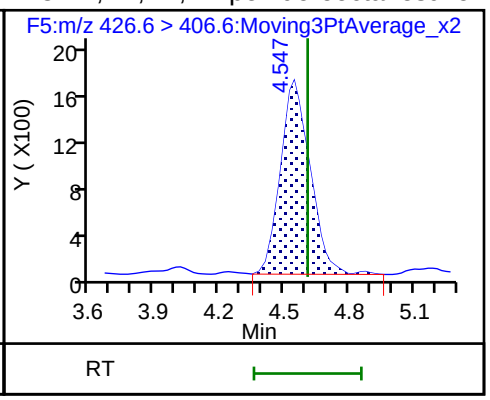
49 DONA



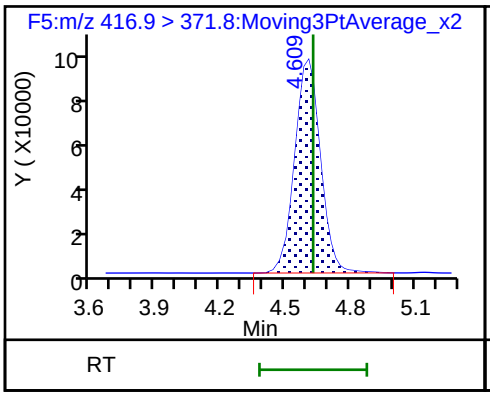
D 14 M2-6:2 FTS



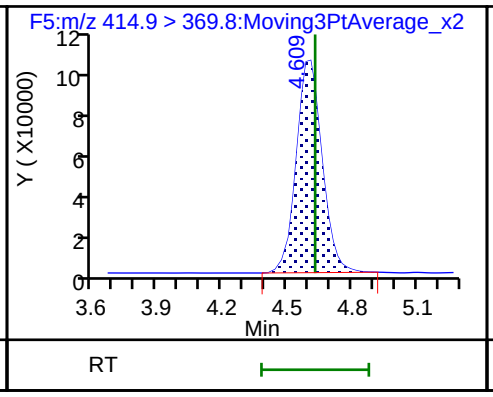
13 1H,1H,2H,2H-perfluorooctanesulfoni



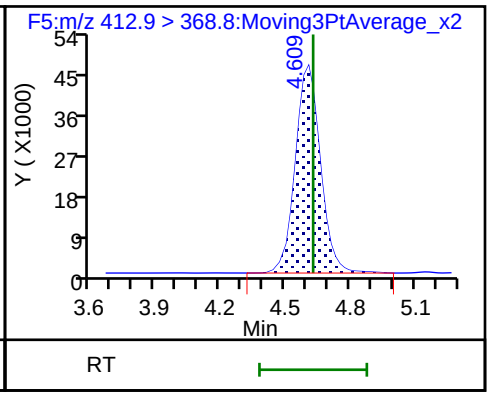
D 17 13C4 PFOA



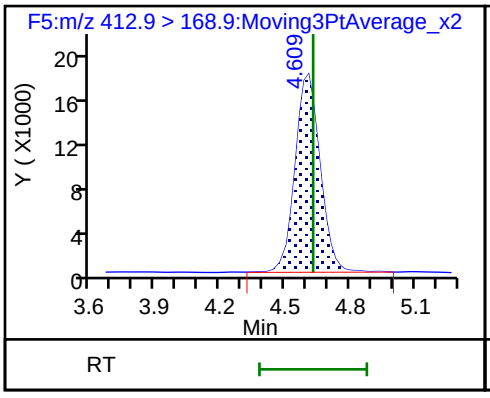
* 16 13C2 PFOA



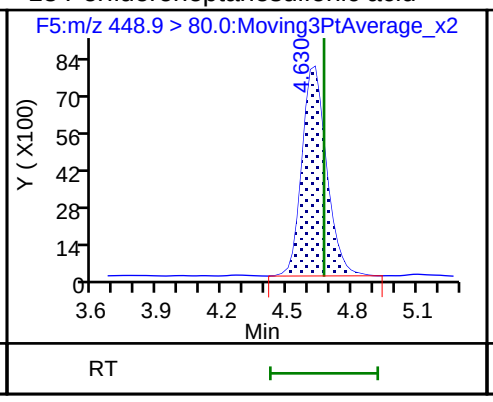
15 Perfluorooctanoic acid



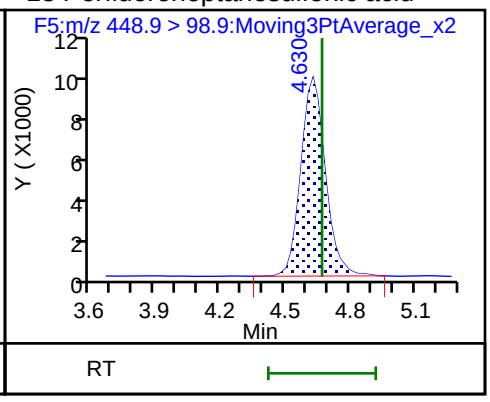
15 Perfluorooctanoic acid



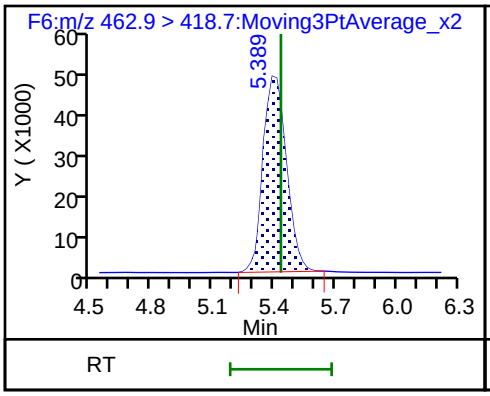
18 Perfluoroheptanesulfonic acid



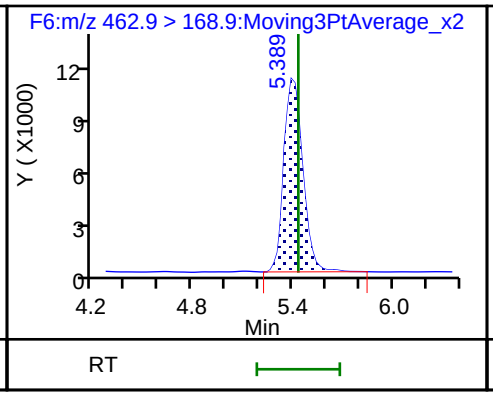
18 Perfluoroheptanesulfonic acid



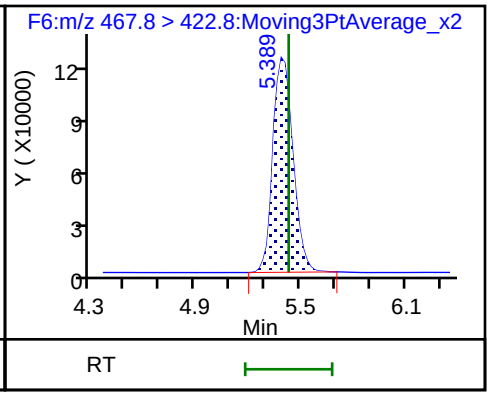
19 Perfluorononanoic acid



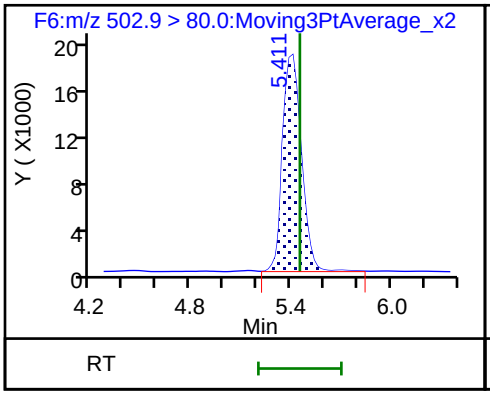
19 Perfluorononanoic acid



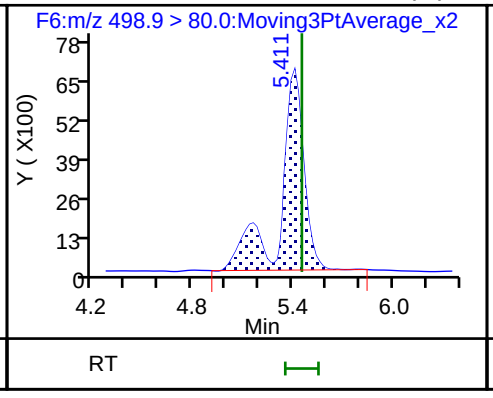
D 20 13C5 PFNA



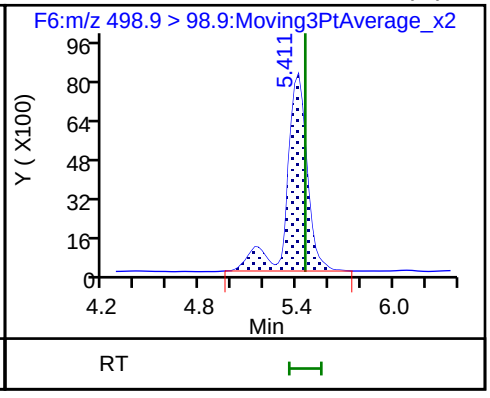
D 22 13C4 PFOS



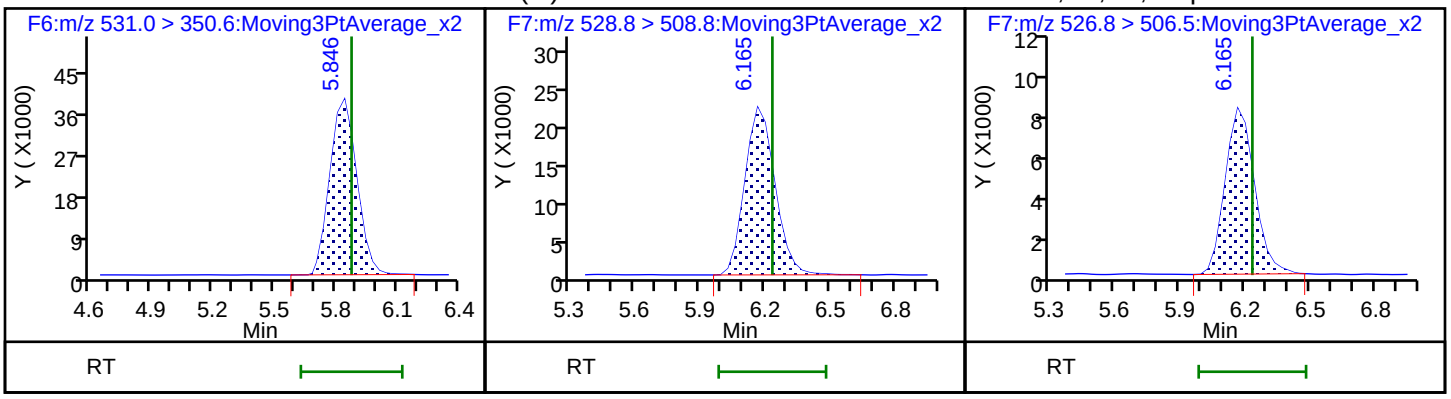
21 Perfluorooctanesulfonic acid (M)



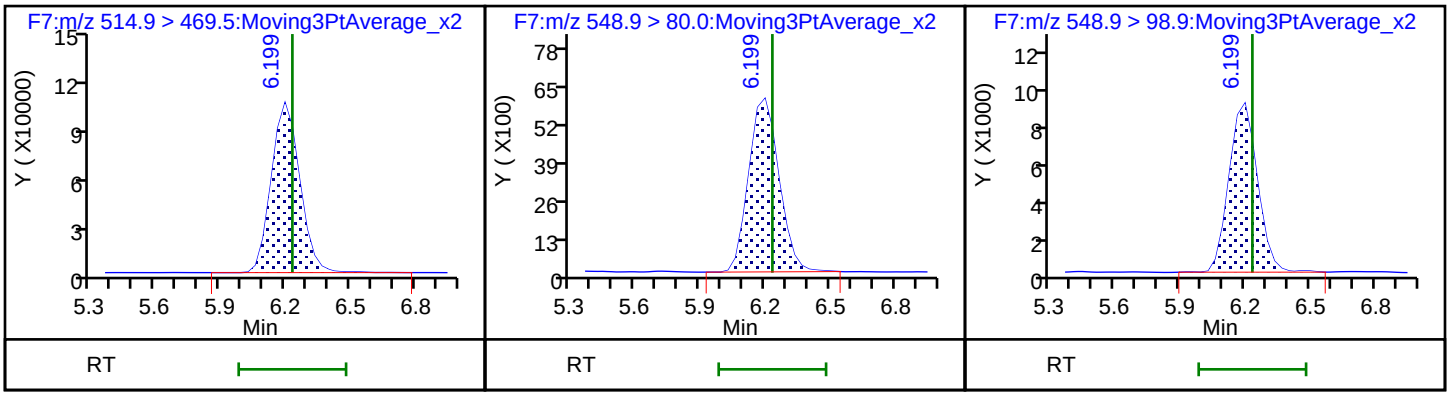
21 Perfluorooctanesulfonic acid (M)



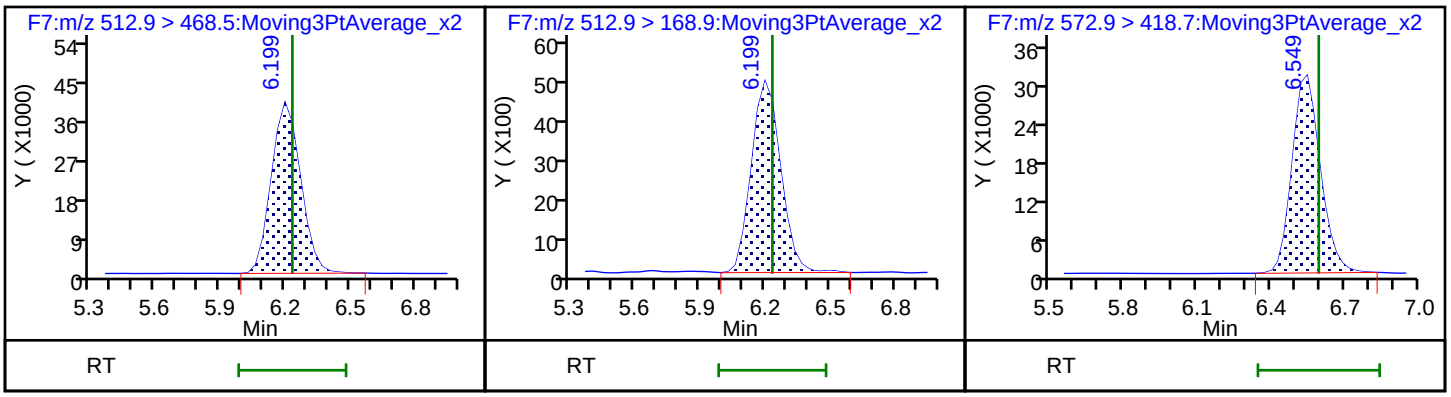
47 9-Chlorohexadecafluoro-3-oxanonane-1-(24) D 24 M2-8:2 FTS 23 1H,1H,2H,2H-perfluorodecanesulfoni



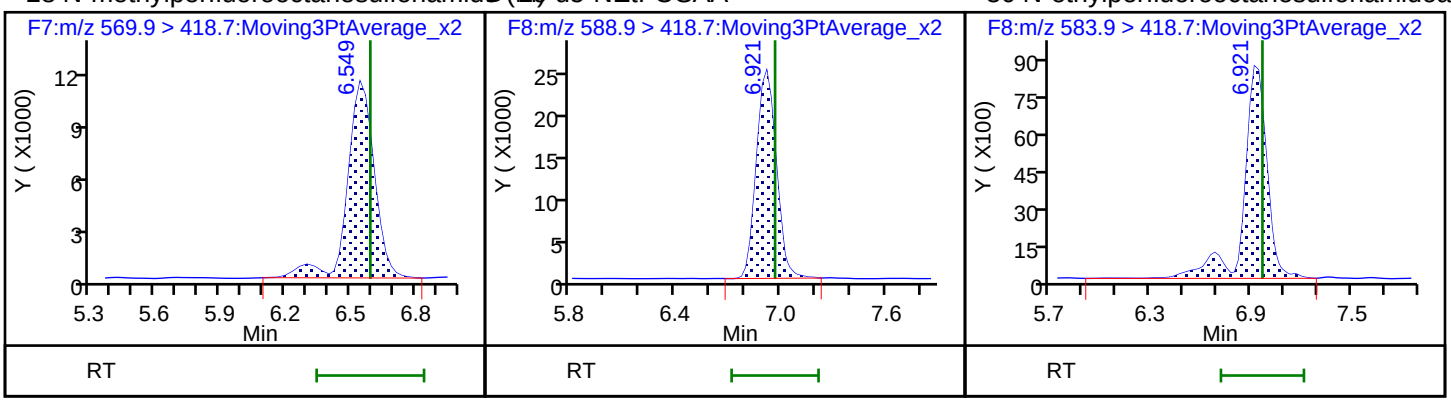
D 25 13C2 PFDA 45 Perfluorononanesulfonic acid 45 Perfluorononanesulfonic acid



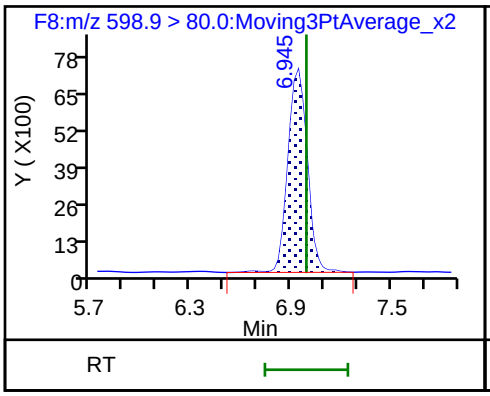
26 Perfluorodecanoic acid 26 Perfluorodecanoic acid D 27 d3-NMeFOSAA



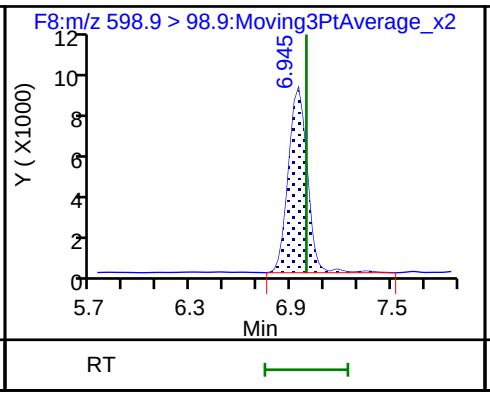
28 N-methylperfluorooctanesulfonamidoD (29) d5-NEtFOSAA 30 N-ethylperfluorooctanesulfonamidoa



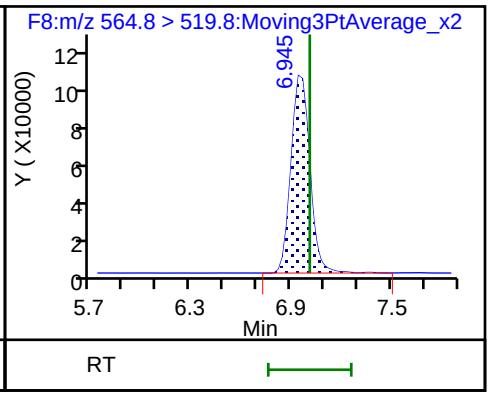
31 Perfluorodecanesulfonic acid



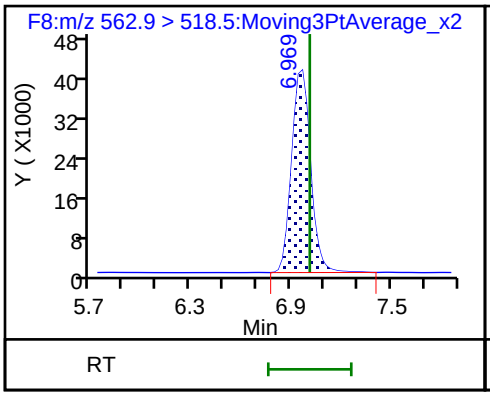
31 Perfluorodecanesulfonic acid



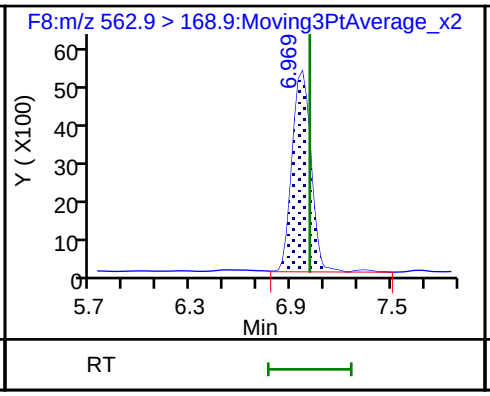
D 33 13C2 PFUnA



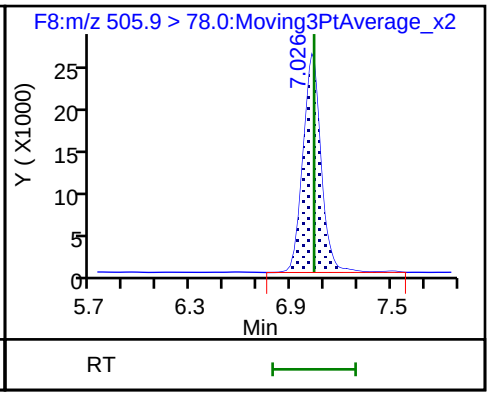
32 Perfluoroundecanoic acid



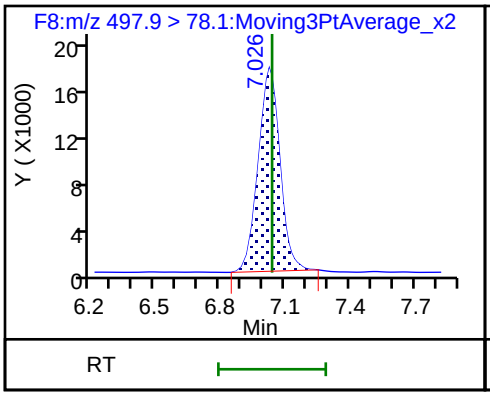
32 Perfluoroundecanoic acid



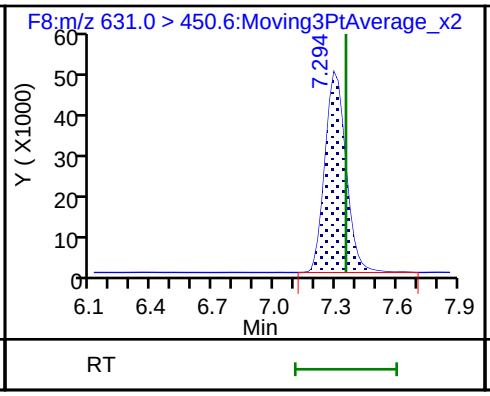
D 34 13C8 FOSA



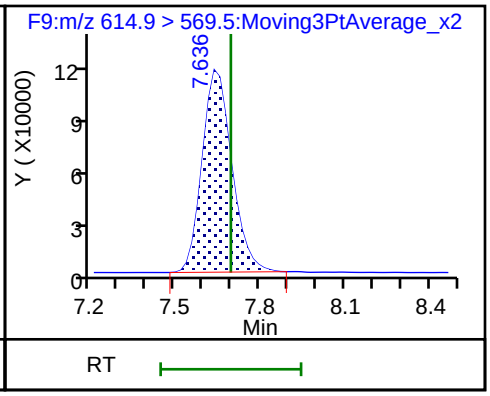
35 Perfluorooctanesulfonamide



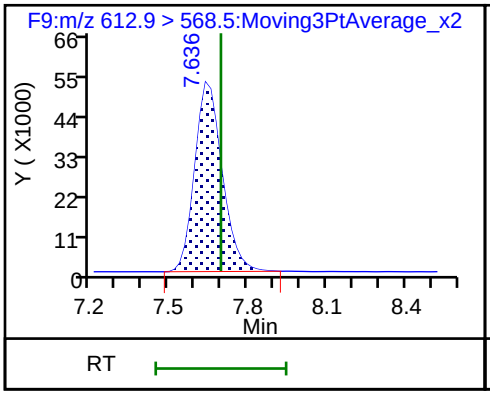
43 11-Chloroeicosafluoro-3-oxaundecan



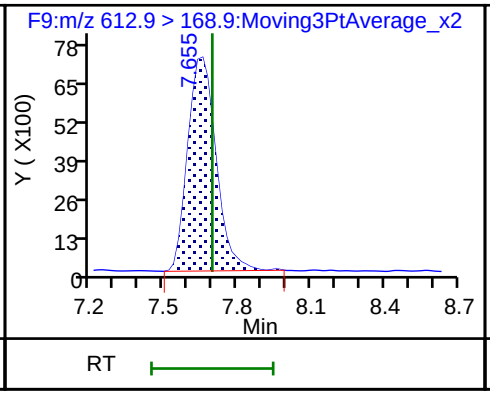
D 37 13C2 PFDoA



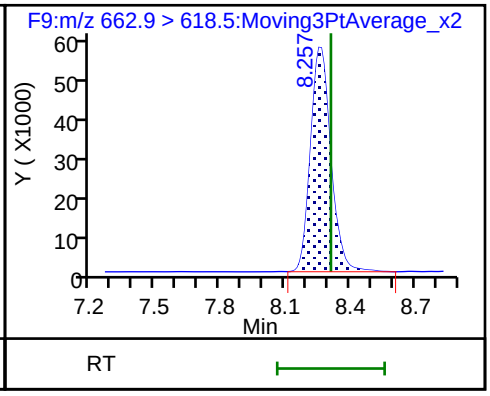
36 Perfluorododecanoic acid



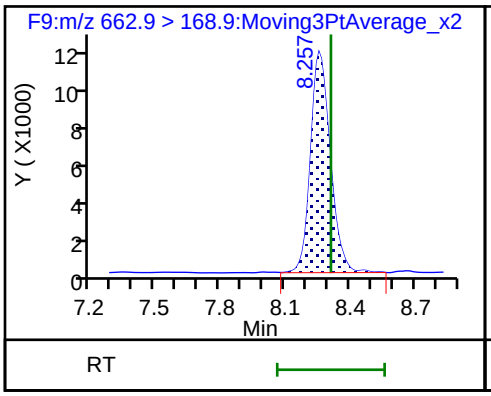
36 Perfluorododecanoic acid



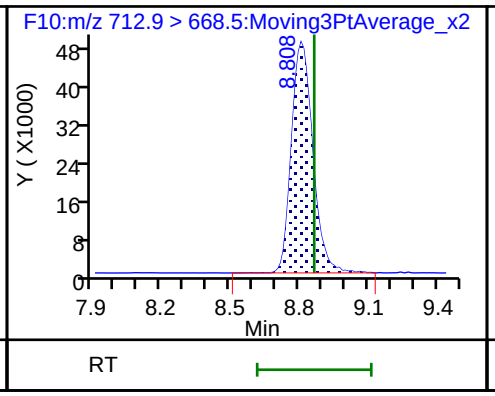
38 Perfluorotridecanoic acid



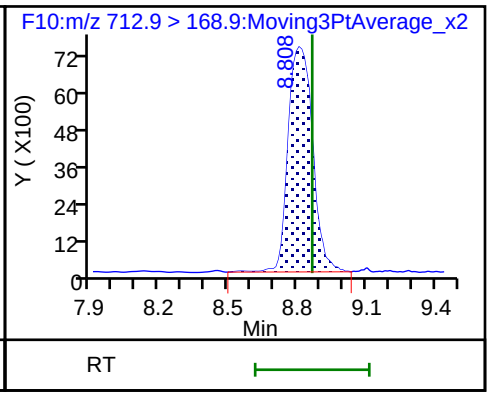
38 Perfluorotridecanoic acid



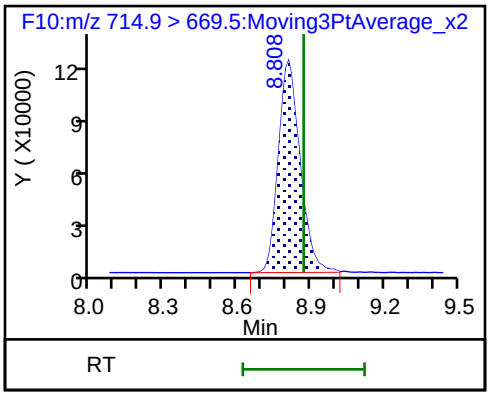
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

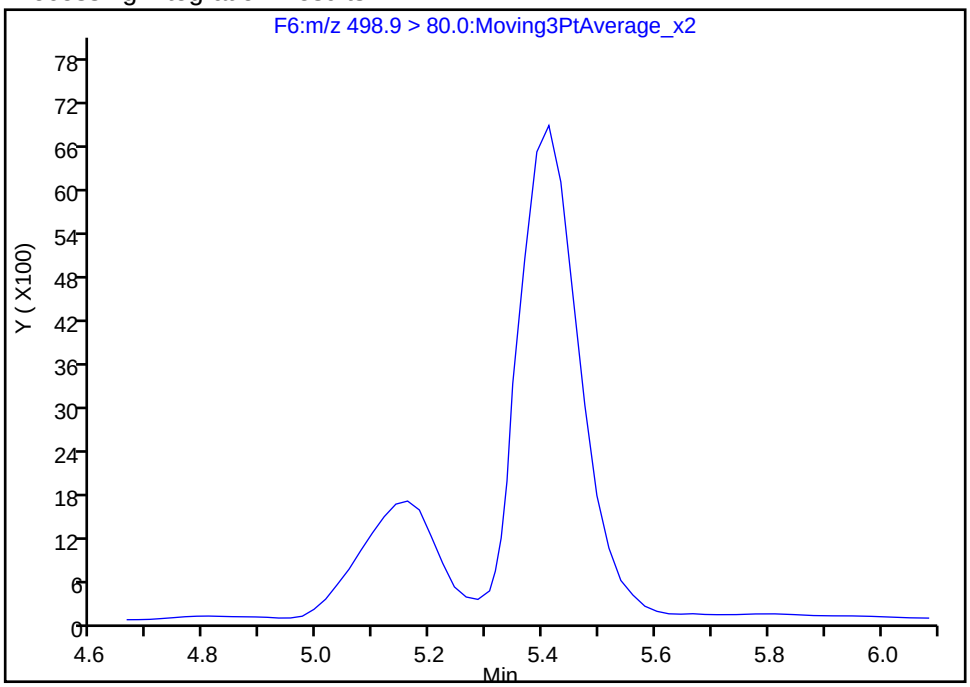
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B40.d
Injection Date: 30-May-2019 23:06:35 Instrument ID: LC410
Lims ID: LCS 200-143263/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

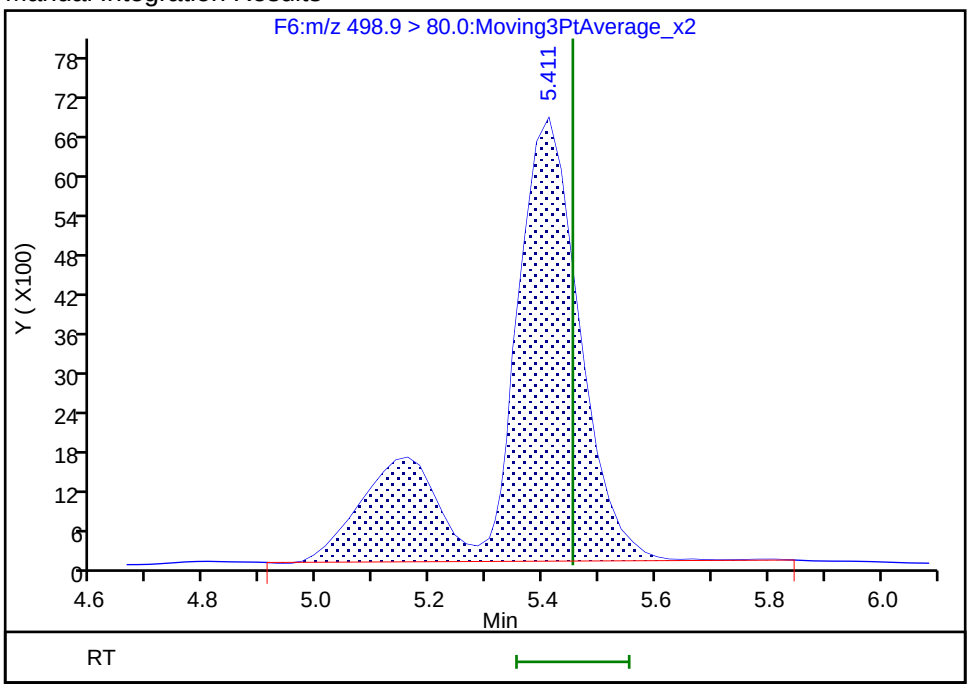
Not Detected
Expected RT: 5.45

Processing Integration Results



Manual Integration Results

RT: 5.41
Area: 65201
Amount: 22.060493
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 14:07:08
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

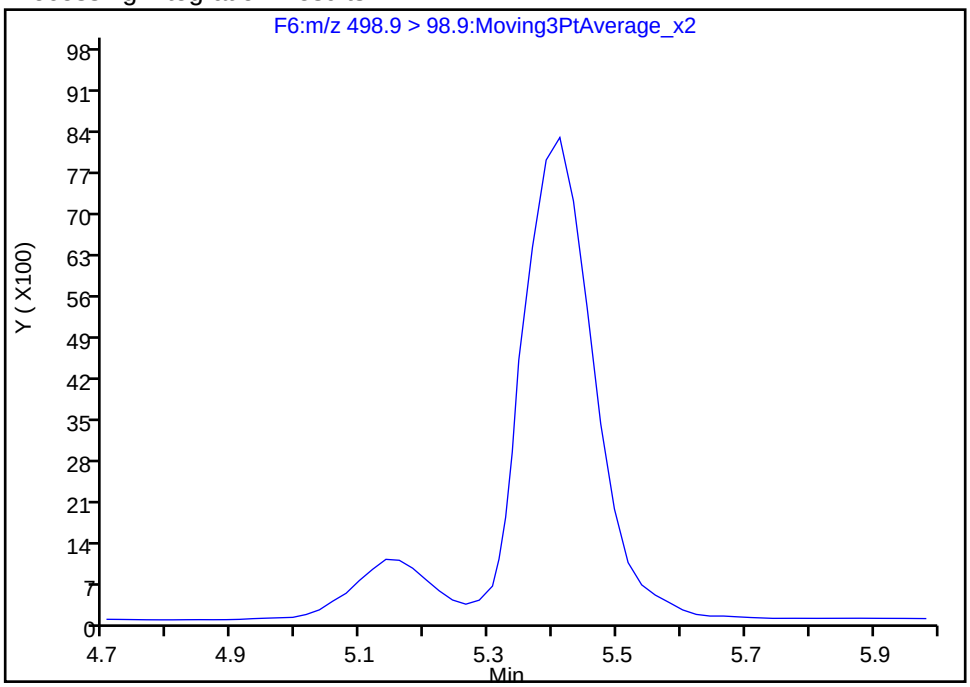
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B40.d
Injection Date: 30-May-2019 23:06:35 Instrument ID: LC410
Lims ID: LCS 200-143263/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

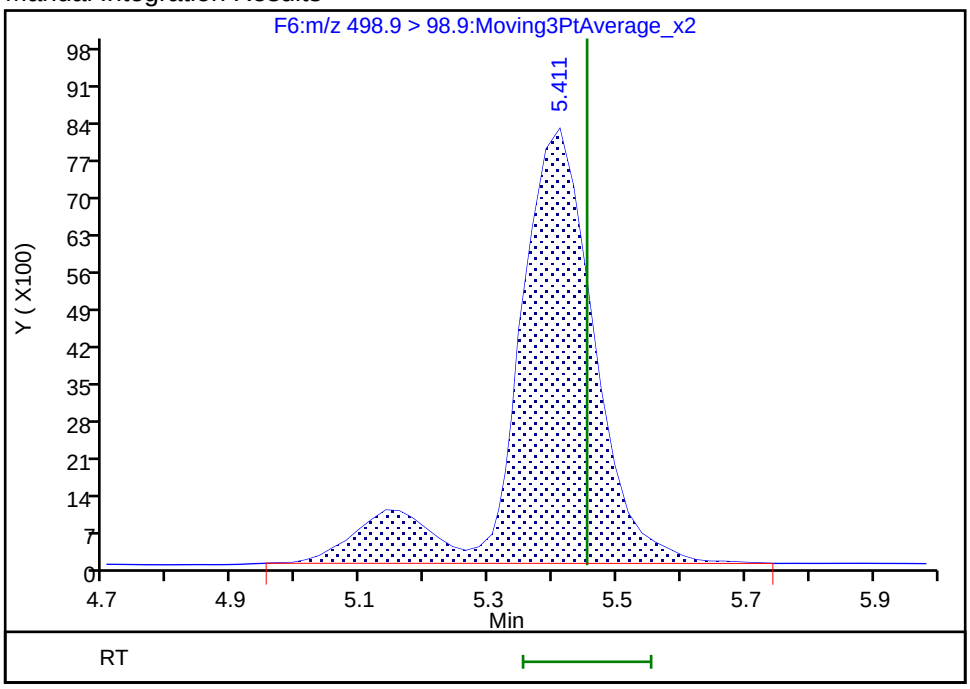
Processing Integration Results

Not Detected
Expected RT: 5.45



Manual Integration Results

RT: 5.41
Area: 70965
Amount: 22.060493
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 14:07:10
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

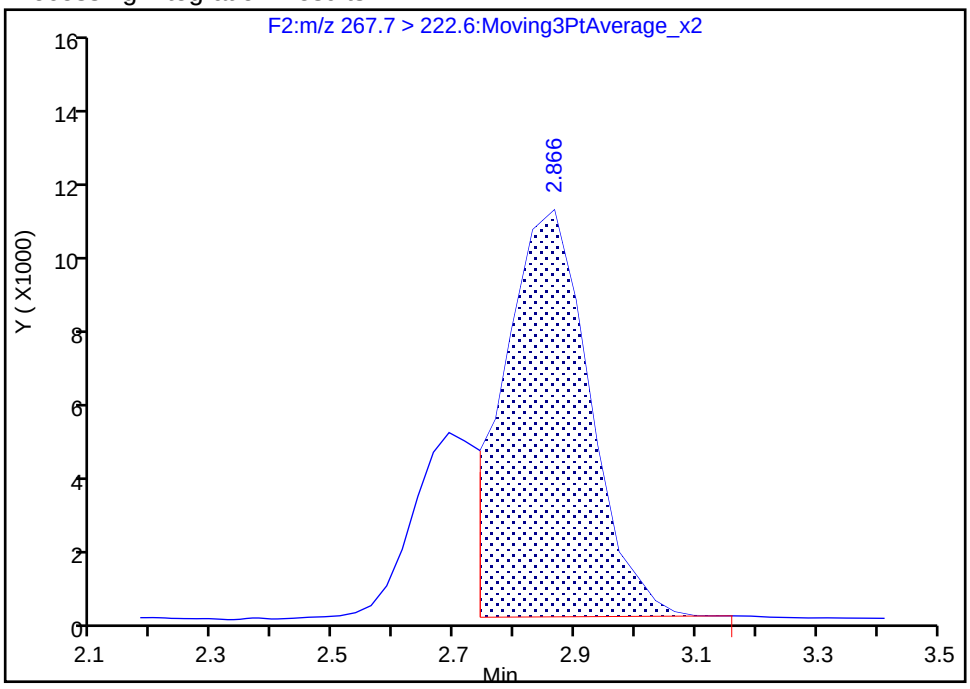
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B40.d
Injection Date: 30-May-2019 23:06:35 Instrument ID: LC410
Lims ID: LCS 200-143263/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F2:MRM

D 4 13C5 PFPeA, CAS: STL01893

Signal: 1

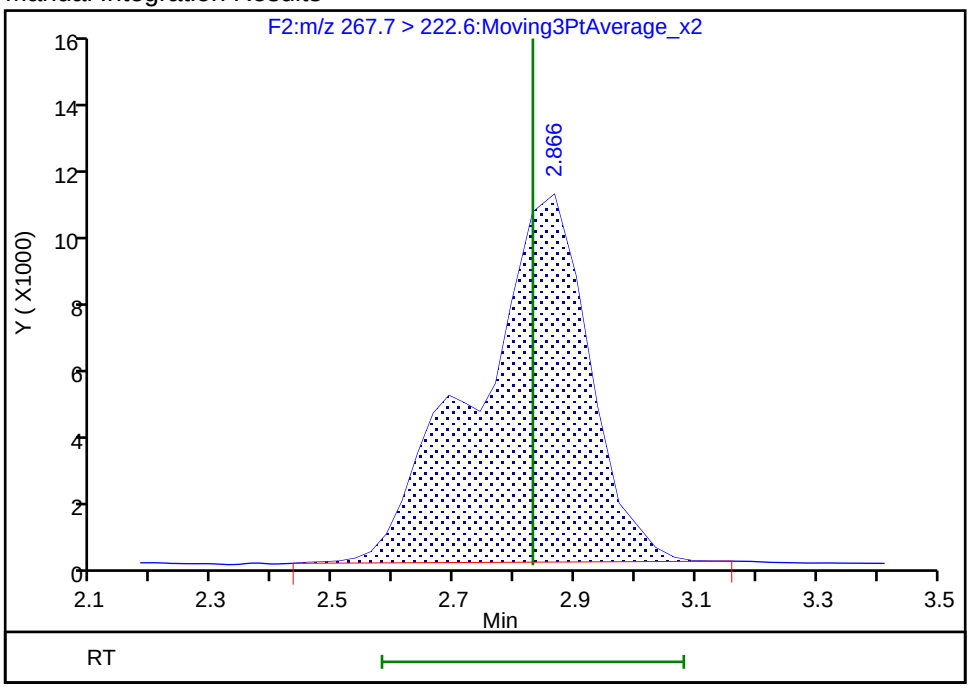
Processing Integration Results

RT: 2.87
Area: 104522
Amount: 33.149570
Amount Units: ng/ml



Manual Integration Results

RT: 2.87
Area: 139582
Amount: 44.268989
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 14:06:42
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

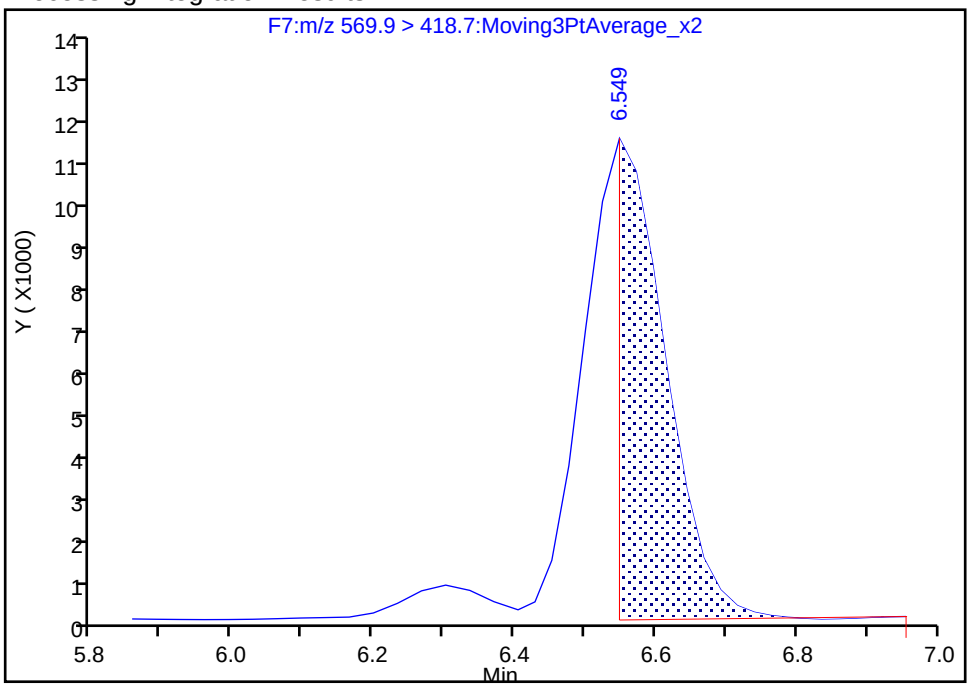
Data File: \\chromna\Burlington\ChromData\LC410\20190530-36138.b\PF053019B40.d
Injection Date: 30-May-2019 23:06:35 Instrument ID: LC410
Lims ID: LCS 200-143263/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F7:MRM

28 N-methylperfluorooctanesulfonamidoacetic aci, CAS: 2355-31-9

Signal: 1

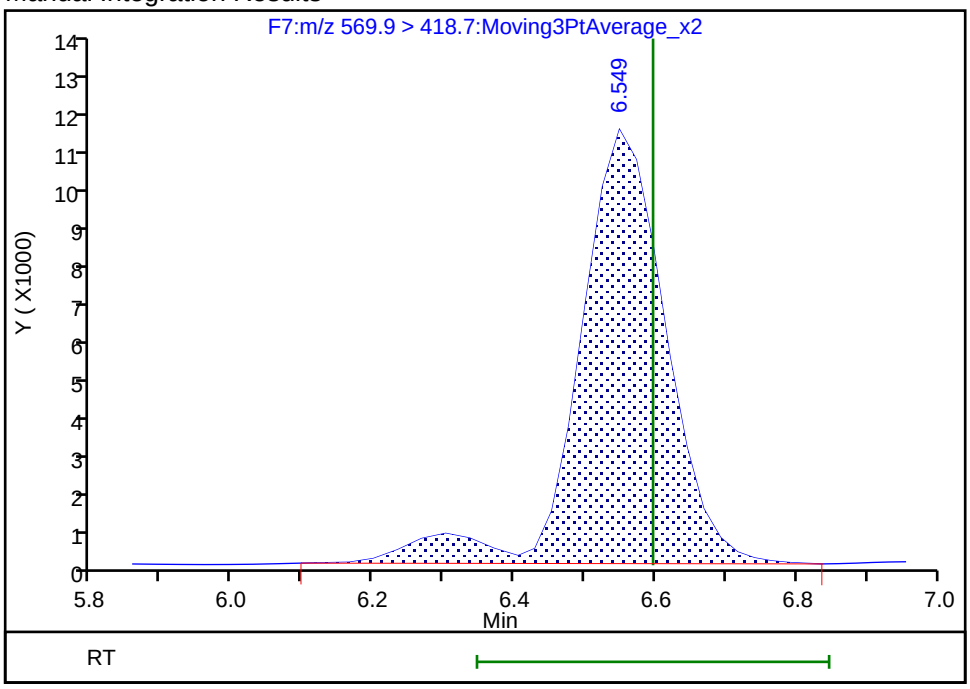
Processing Integration Results

RT: 6.55
Area: 48834
Amount: 12.035542
Amount Units: ng/ml



Manual Integration Results

RT: 6.55
Area: 93165
Amount: 22.961282
Amount Units: ng/ml



Reviewer: murrayjw, 05-Jun-2019 14:07:25
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 200-143263/2-A

Matrix: Water Lab File ID: PF060619A05.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 250(mL) Date Analyzed: 06/06/2019 13:28

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	27.4		2.0	1.0
375-85-9	Perfluoroheptanoic acid (PFHpA)	46.3		2.0	0.91
375-73-5	Perfluorobutanesulfonic acid (PFBS)	33.9		2.0	0.49

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	79		25-150
STL00992	13C4 PFBA	137		25-150
STL01893	13C5 PFPeA	102		25-150
STL00993	13C2 PFHxA	90		50-150
STL01892	13C4 PFHpA	81		50-150
STL00990	13C4 PFOA	96		50-150
STL00995	13C5 PFNA	77		50-150
STL00996	13C2 PFDA	84		50-150
STL00997	13C2 PFUnA	77		50-150
STL00998	13C2 PFDoA	64		50-150
STL02116	13C2 PFTeDA	57		50-150
STL02337	13C3 PFBS	176	*	50-150
STL00994	18O2 PFHxS	139		50-150
STL00991	13C4 PFOS	119		50-150
STL02118	d3-NMeFOSAA	62		50-150
STL02117	d5-NEtFOSAA	61		50-150
STL02279	M2-6:2 FTS	128		25-150
STL02280	M2-8:2 FTS	115		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A05.d
Lims ID: LCS 200-143263/2-A
Client ID:
Sample Type: LCS
Inject. Date: 06-Jun-2019 13:28:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036227005 LCS 263
Misc. Info.: PFAS27 060519A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 10-Jun-2019 10:18:10 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0328

First Level Reviewer: murrayjw Date: 06-Jun-2019 13:52:40
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										M
216.9 > 171.5	2.360	2.349	0.011	1.000	270155	68.7		137	89.9	M
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.360	2.360	0.0	1.000	116042	13.7		68.4	186	M
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	151937	50.9		102	526	
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	185314	20.4		102	279	
D 5 13C3 PFBS										
302.0 > 79.8	2.902	2.901	0.001	1.000	105969	81.7		176	351	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.902	2.901	0.001	1.000	97047	16.9	Target=1.67	95.8	547	
298.9 > 98.9	2.902	2.901	0.001	1.000	62857		1.54(0.83-2.51)		282	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.270	3.270	0.0	1.127	43425	14.4		77.0	250	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	291443	25.9	Target=14.34	130	540	
312.9 > 118.9	3.302	3.302	0.0	1.000	19635		14.84(7.17-21.51)		120	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.302	0.0	1.000	402082	44.9		89.9	808	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.365	3.365	0.0	1.160	91925	14.2	Target=1.23	75.7	443	
348.9 > 98.9	3.365	3.365	0.0	1.000	96902		0.95(0.62-1.85)		1202	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.460	0.0	1.000	19760	NR		0.0	78.6	
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.869	0.0	1.000	276697	23.1	Target=2.84	116	394	
362.9 > 168.9	3.869	3.869	0.0	1.000	113636		2.43(1.42-4.26)		657	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.869	0.0	1.000	509451	40.4		80.8	682	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.905	3.905	0.0	1.000	81988	16.8	Target=1.34	92.3	331	
398.9 > 98.9	3.905	3.905	0.0	1.000	77130		1.06(0.67-2.01)		469	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	109100	65.8		139	513	
49 DONA										
376.9 > 250.7	3.946	3.946	0.0	0.739	323169	16.9	Target=2.33	89.6	1275	
376.9 > 85.0	3.946	3.946	0.0	1.000	165674		1.95(1.16-3.49)		975	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.506	4.526	-0.020	1.000	23580	21.7		115	119	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.506	4.526	-0.020	1.000	54527	60.9		128	602	
D 17 13C4 PFOA										
416.9 > 371.8	4.547	4.547	0.0	1.000	750251	48.1		96.1	1057	
* 16 13C2 PFOA										
414.9 > 369.8	4.547	4.568	-0.021		804066	50.0			1309	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.547	4.568	-0.021	1.000	329822	21.7	Target=2.43	109	1076	
412.9 > 168.9	4.547	4.568	-0.021	1.000	134054		2.46(1.22-3.64)		344	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.589	0.0	0.860	91390	23.6	Target=1.30	124	355	
448.9 > 98.9	4.589	4.589	0.0	1.000	78670		1.16(0.65-1.95)		680	
D 20 13C5 PFNA										
467.8 > 422.8	5.326	5.336	-0.010	1.000	804642	38.4		76.9	2155	
19 Perfluorononanoic acid										
462.9 > 418.7	5.326	5.336	-0.010	1.000	358010	25.2	Target=5.00	126	1225	
462.9 > 168.9	5.336	5.336	0.0	1.002	82113		4.36(2.50-7.50)		676	
D 22 13C4 PFOS										
502.9 > 80.0	5.336	5.336	0.0	1.000	212805	56.9		119	890	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.336	5.336	0.0	1.000	93320	21.7	Target=1.41	117	1221	M
498.9 > 98.9	5.336	5.336	0.0	1.000	80169		1.16(0.71-2.12)		1020	
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.778	5.778	0.0	1.083	312160	15.9		85.6	1975	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.097	6.097	0.0	1.000	63521	22.9		119	356	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.097	0.0	1.000	180212	55.3		115	979	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.131	0.0	1.000	329425	24.1	Target=7.23	121	1422	
512.9 > 168.9	6.131	6.131	0.0	1.000	41327		7.97(3.61-10.84)		166	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.131	6.131	0.0	1.149	95282	22.1	Target=1.39	115	1304	
548.9 > 98.9	6.131	6.131	0.0	1.000	85922		1.11(0.69-2.08)		423	
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.131	0.0	1.000	746377	41.8		83.5	3135	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
28 N-methylperfluorooctanesulfonamido										M
569.9 > 418.7	6.477	6.477	0.0	1.004	68876	22.9		115	313	M
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.453	6.477	-0.024	1.000	181907	31.2		62.5	699	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.825	6.849	-0.024	1.000	146791	30.6		61.1	396	
30 N-ethylperfluorooctanesulfonamidoa										M
583.9 > 418.7	6.849	6.849	0.0	1.003	64193	27.2		136	624	M
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.849	6.873	-0.024	1.283	79397	17.2	Target=1.25	89.1	872	
598.9 > 98.9	6.849	6.873	-0.024	1.000	74726		1.06(0.63-1.88)		367	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.873	6.897	-0.024	1.000	271138	24.4	Target=7.06	122	1663	
562.9 > 168.9	6.873	6.897	-0.024	1.000	40922		6.63(3.53-10.58)		426	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.897	-0.024	1.000	667214	38.7		77.4	1695	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	6.945	6.945	0.0	1.000	158814	21.9		109	683	M
D 34 13C8 FOSA										
505.9 > 78.0	6.945	6.945	0.0	1.000	254727	39.6		79.1	1294	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.215	7.234	-0.019	1.352	319873	12.8		68.0	1569	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.577	7.577	0.0	1.003	307703	23.0	Target=5.37	115	1120	
612.9 > 168.9	7.577	7.577	0.0	1.003	52301		5.88(2.68-8.06)		475	
D 37 13C2 PFDoA										
614.9 > 569.5	7.557	7.577	-0.020	1.000	706388	32.1		64.2	913	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.179	8.191	-0.012	1.082	305601	23.1	Target=4.67	115	765	
662.9 > 168.9	8.179	8.191	-0.012	1.082	60268		5.07(2.34-7.01)		546	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.730	8.741	-0.011	1.000	563897	28.6		57.1	481	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.741	8.752	-0.011	1.001	244765	25.6	Target=4.86	128	555	
712.9 > 168.9	8.730	8.752	-0.022	1.000	44674		5.48(2.43-7.30)		193	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

M - Manually Integrated

Report Date: 10-Jun-2019 10:18:14 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A05.d

Injection Date: 06-Jun-2019 13:28:00 Instrument ID: LC410

Lims ID: LCS 200-143263/2-A

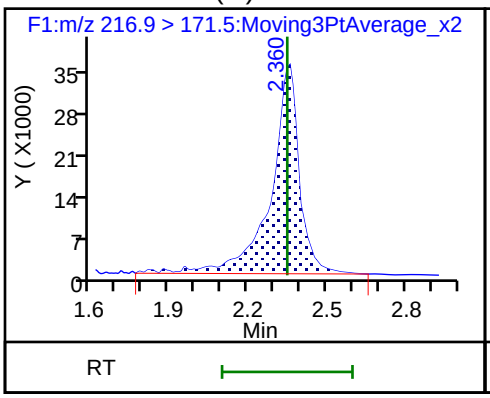
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5

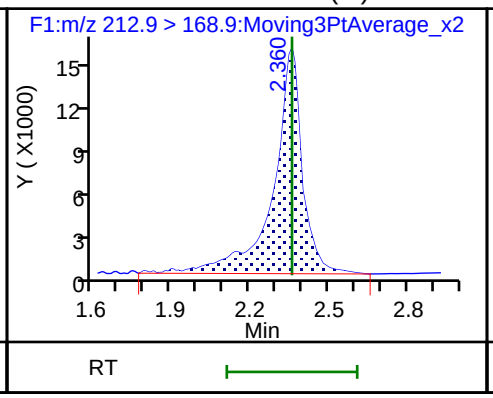
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

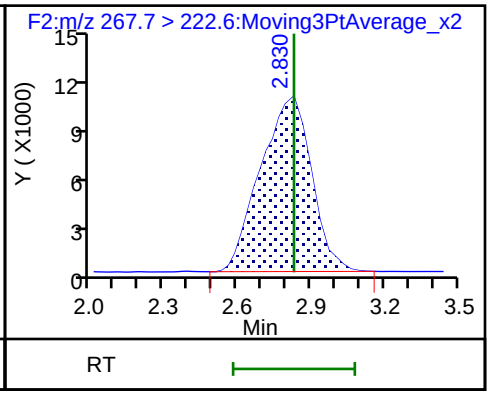
D 1 13C4 PFBA (M)



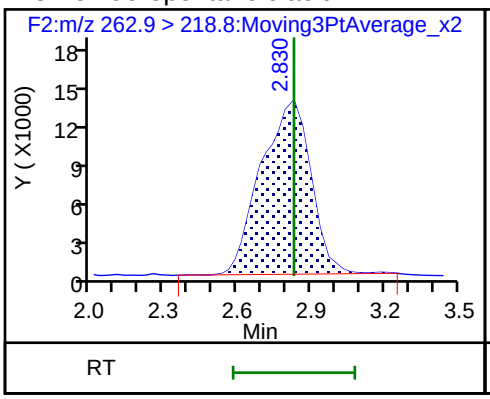
2 Perfluorobutanoic acid (M)



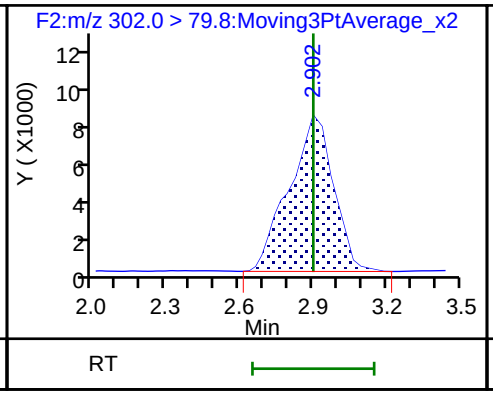
D 4 13C5 PFPeA



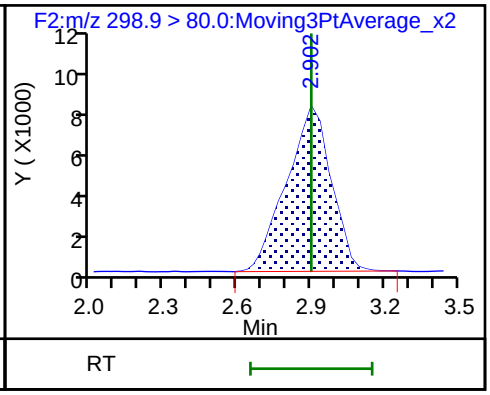
3 Perfluoropentanoic acid



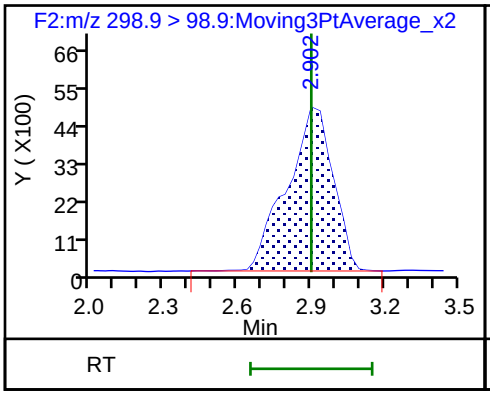
D 5 13C3 PFBS



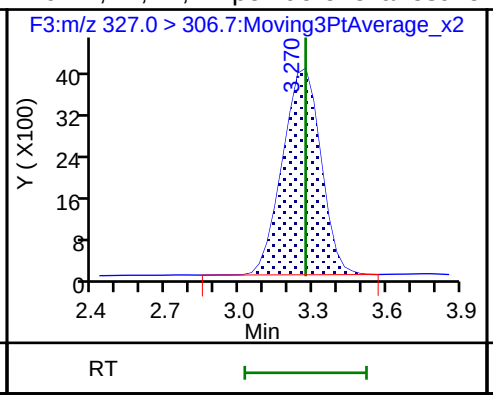
6 Perfluorobutanesulfonic acid



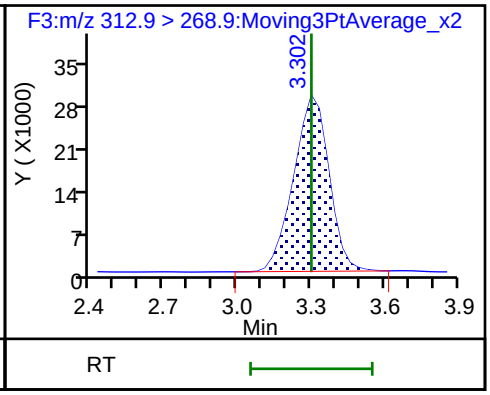
6 Perfluorobutanesulfonic acid



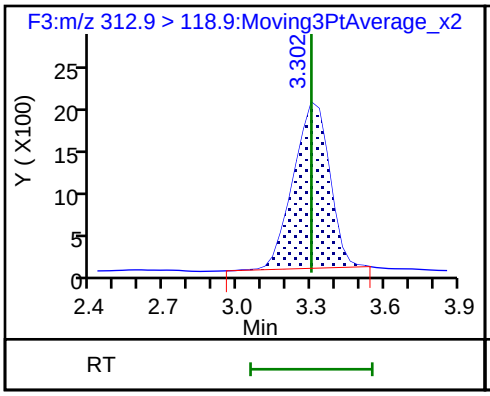
46 1H,1H,2H,2H-perfluorohexanesulfoni



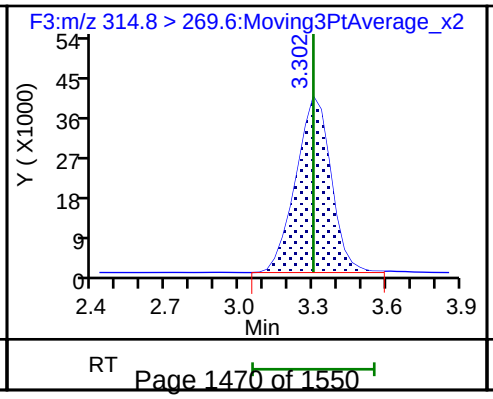
7 Perfluorohexanoic acid



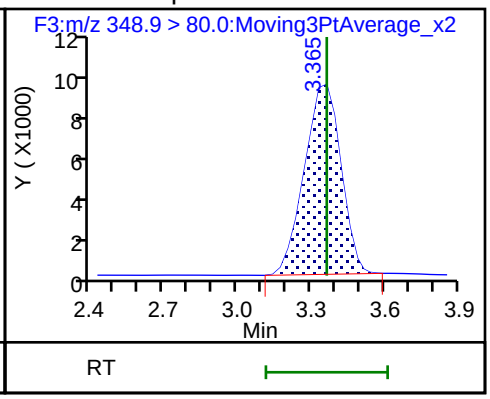
7 Perfluorohexanoic acid



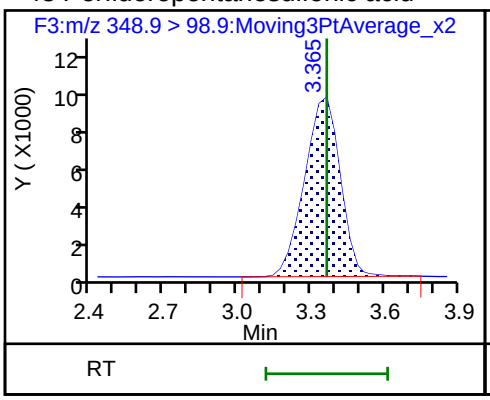
D 8 13C2 PFHxA



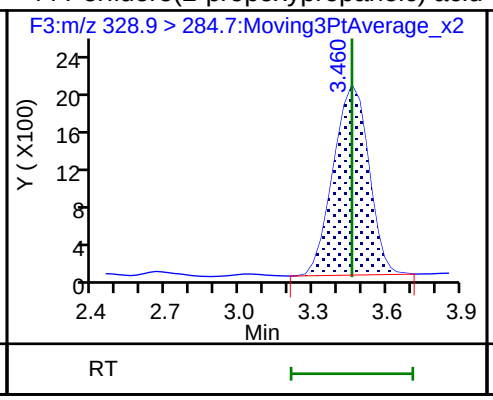
48 Perfluoropentanesulfonic acid



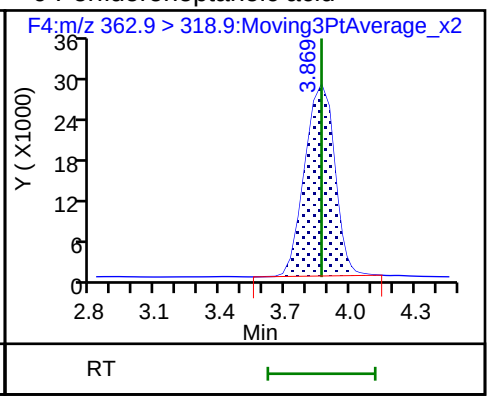
48 Perfluoropentanesulfonic acid



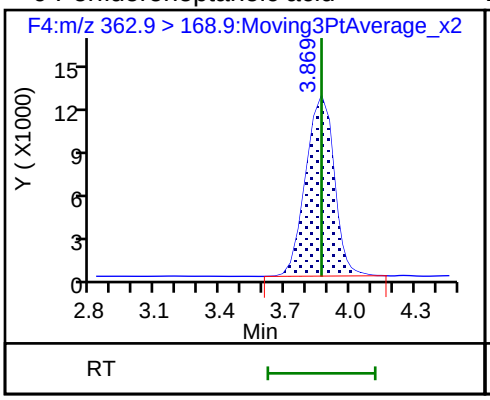
44 Perfluoro(2-propoxypropanoic) acid



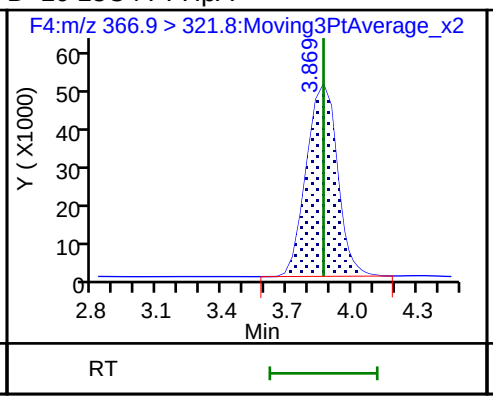
9 Perfluoroheptanoic acid



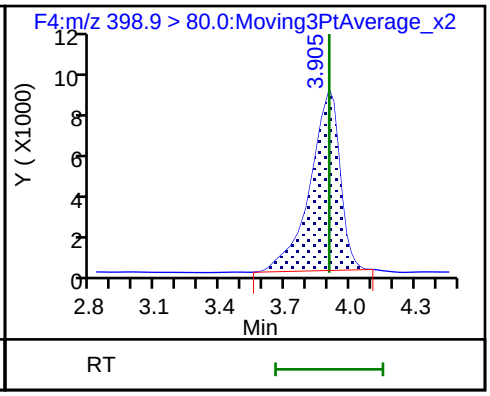
9 Perfluoroheptanoic acid



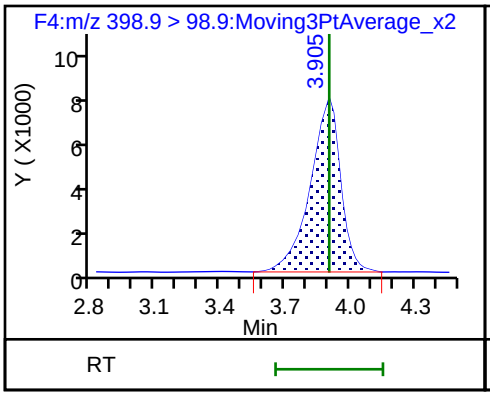
D 10 13C4 PFHpA



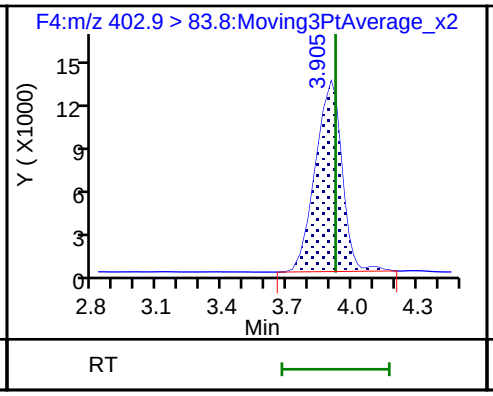
11 Perfluorohexanesulfonic acid



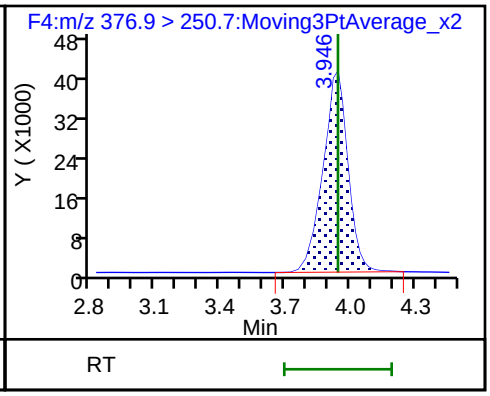
11 Perfluorohexanesulfonic acid



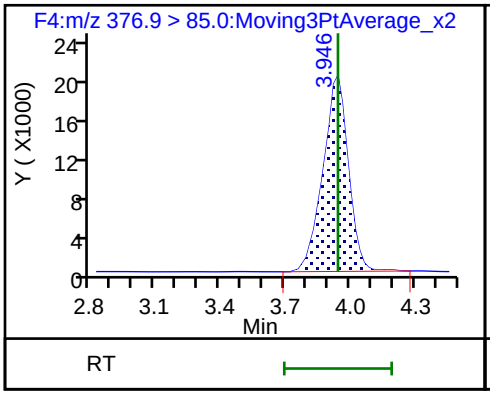
D 12 18O2 PFHxS



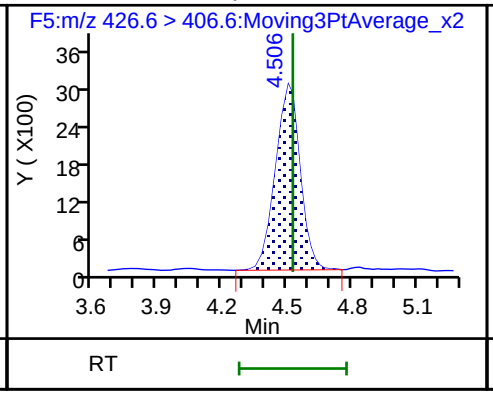
49 DONA



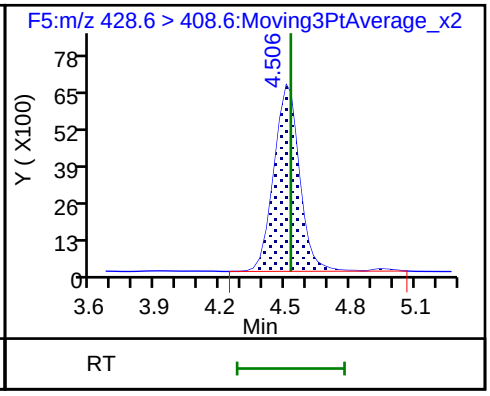
49 DONA



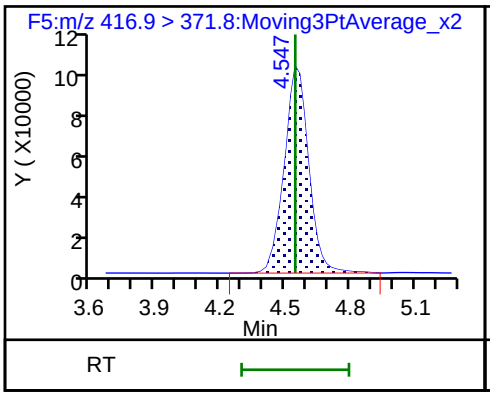
13 1H,1H,2H,2H-perfluorooctanesulfon



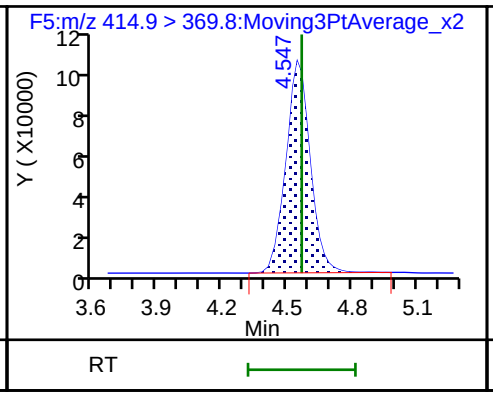
D 14 M2-6:2 FTS



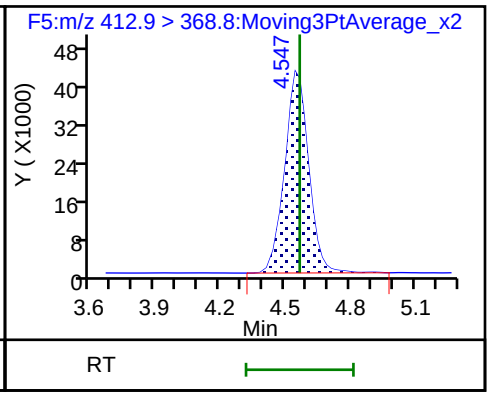
D 17 13C4 PFOA



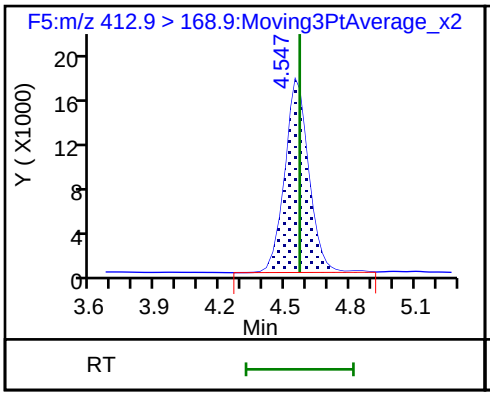
* 16 13C2 PFOA



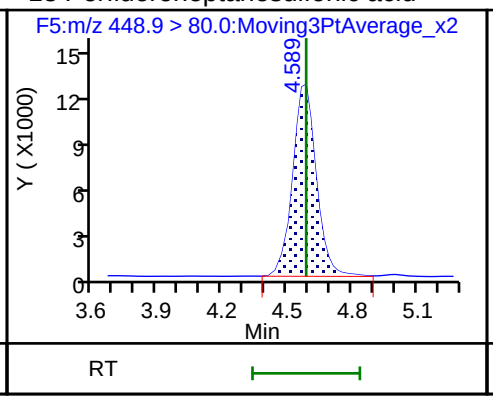
15 Perfluorooctanoic acid



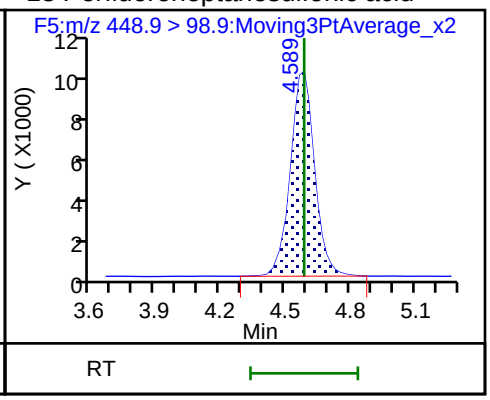
15 Perfluorooctanoic acid



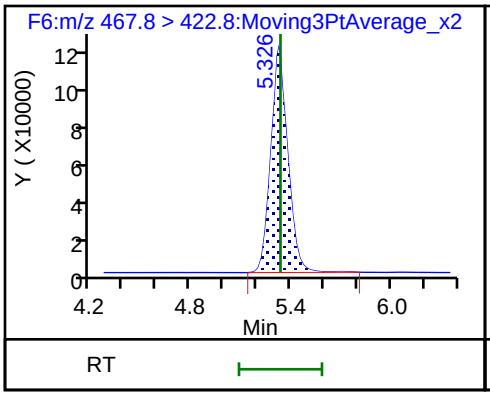
18 Perfluoroheptanesulfonic acid



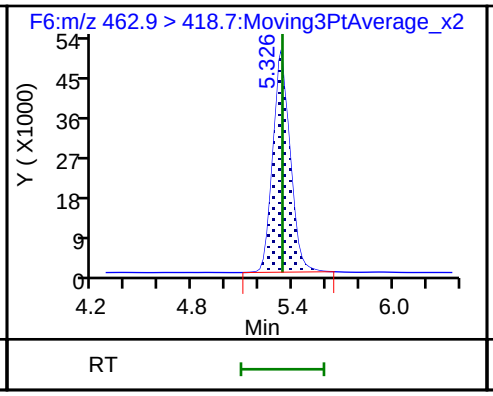
18 Perfluoroheptanesulfonic acid



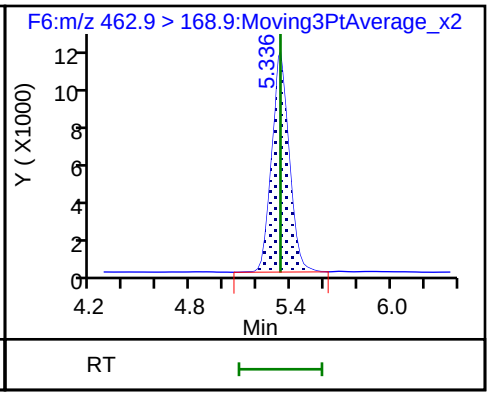
D 20 13C5 PFNA



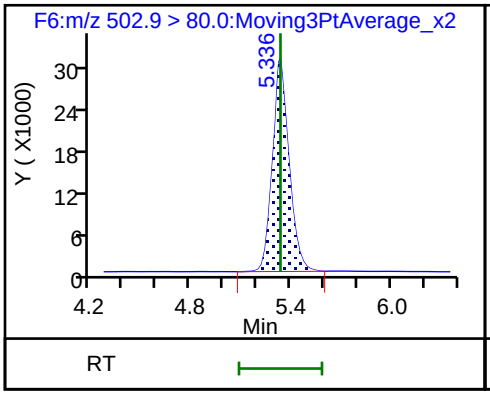
19 Perfluorononanoic acid



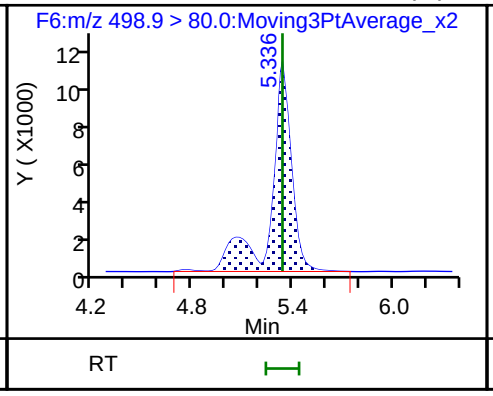
19 Perfluorononanoic acid



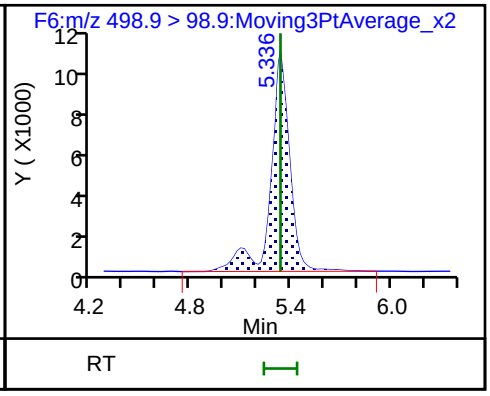
D 22 13C4 PFOS



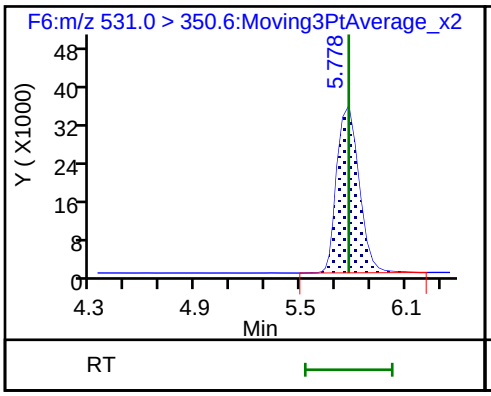
21 Perfluorooctanesulfonic acid (M)



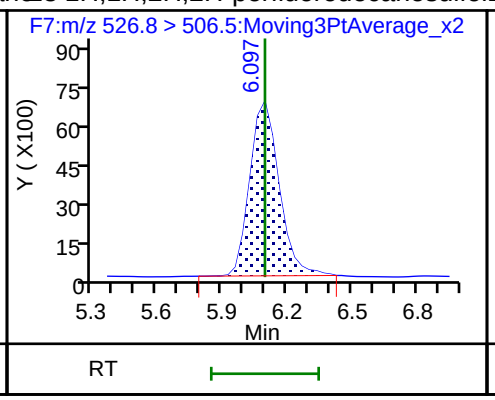
21 Perfluorooctanesulfonic acid



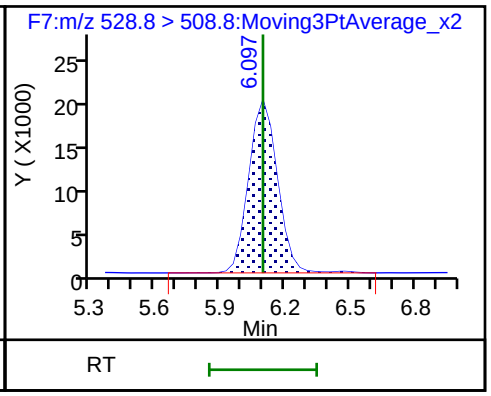
47 9-Chlorohexadecafluoro-3-oxanonane



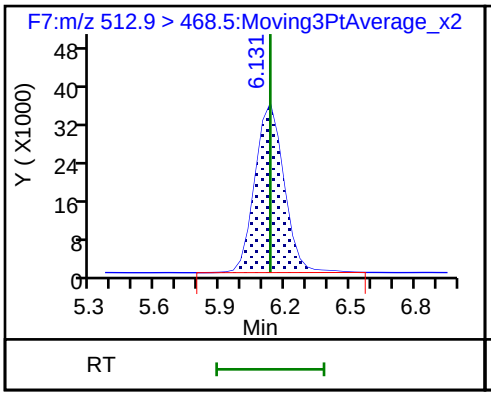
23 1H,1H,2H,2H-perfluorodecanesulfon



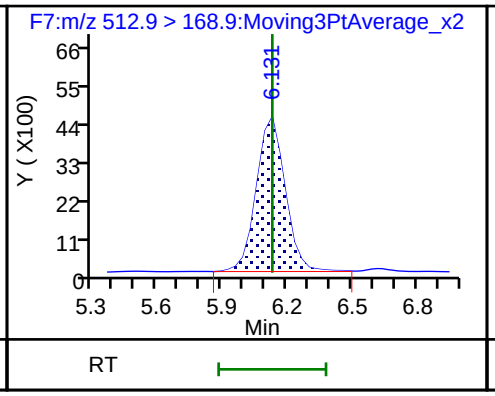
D 24 M2-8:2 FTS



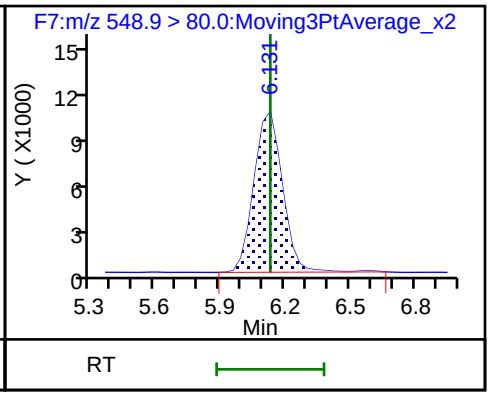
26 Perfluorodecanoic acid



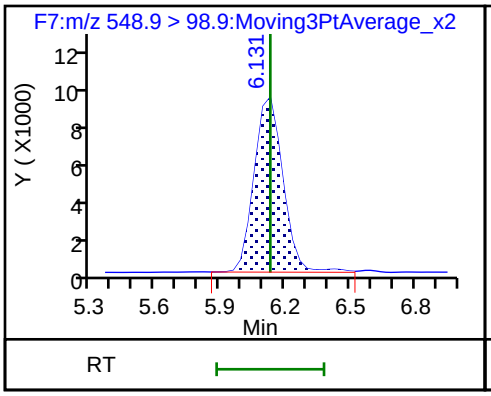
26 Perfluorodecanoic acid



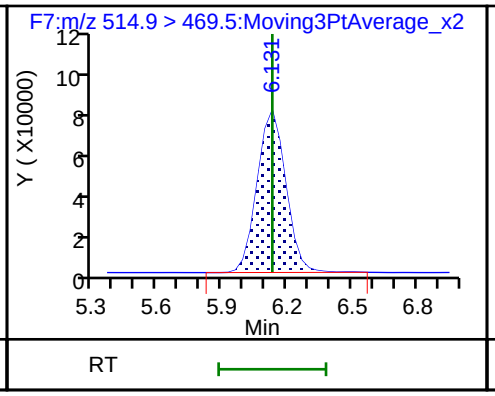
45 Perfluorononanesulfonic acid



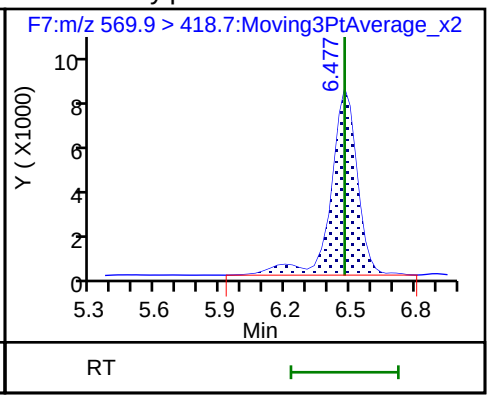
45 Perfluorononanesulfonic acid



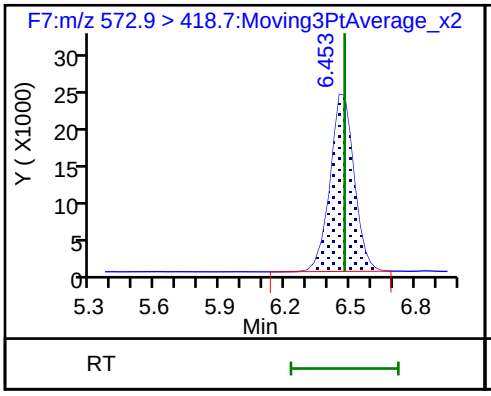
D 25 13C2 PFDA



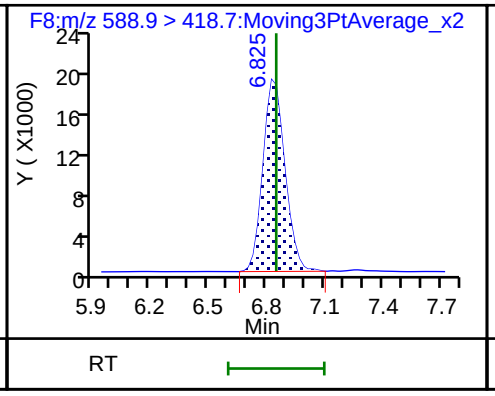
28 N-methylperfluorooctanesulfonamido (M)



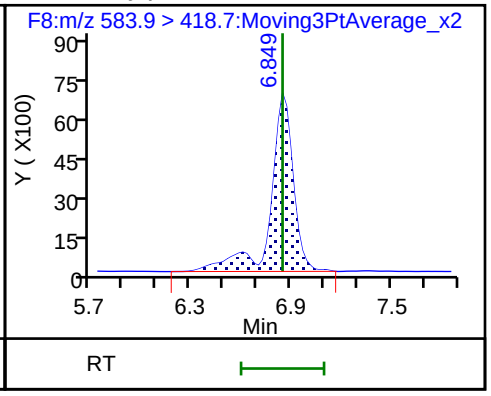
D 27 d3-NMeFOSAA



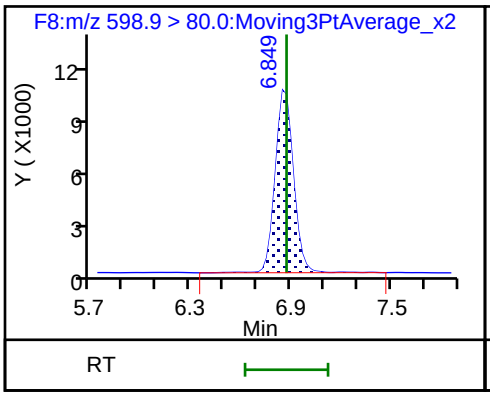
D 29 d5-NEtFOSAA



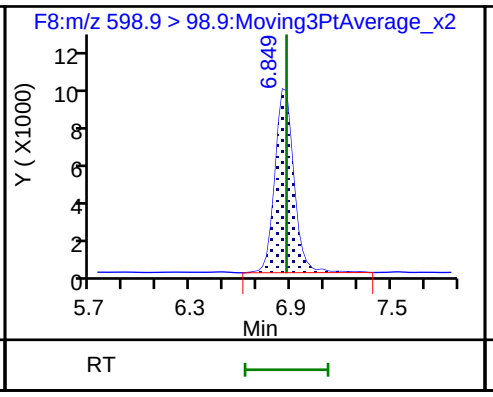
30 N-ethylperfluorooctanesulfonamidoa (M)



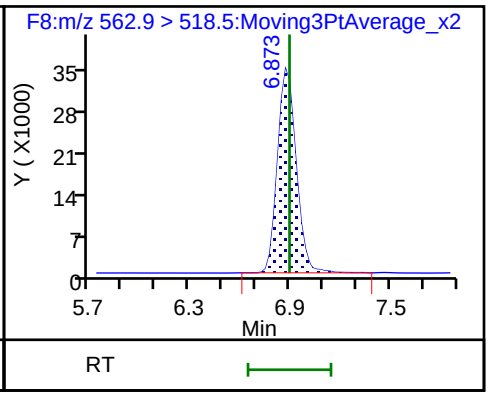
31 Perfluorodecanesulfonic acid



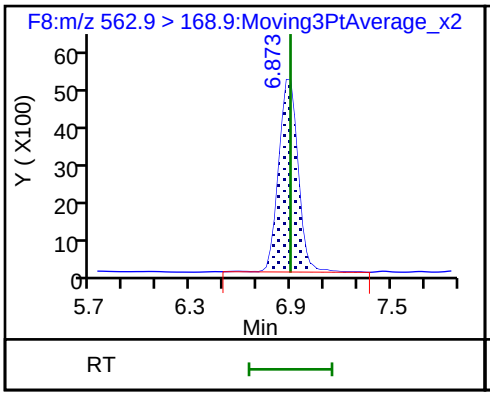
31 Perfluorodecanesulfonic acid



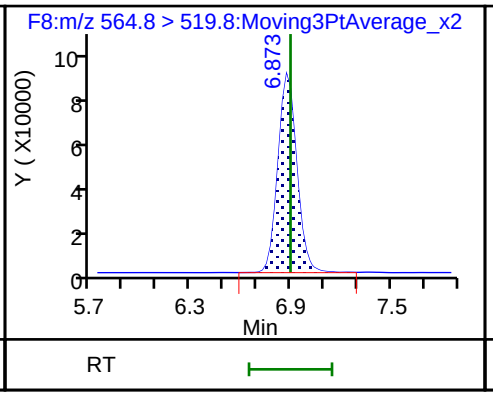
32 Perfluoroundecanoic acid



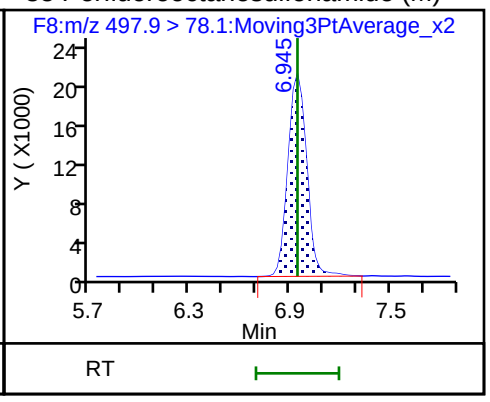
32 Perfluoroundecanoic acid



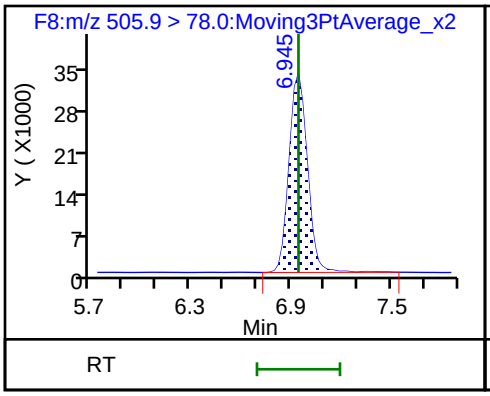
D 33 13C2 PFUnA



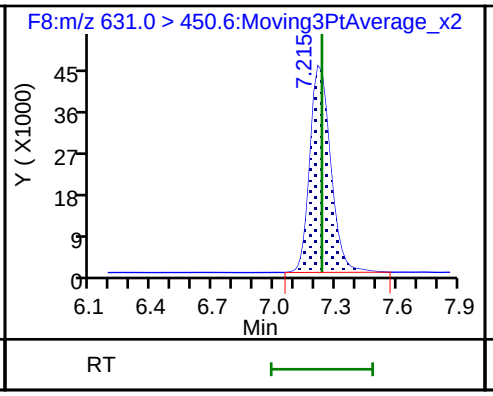
35 Perfluorooctanesulfonamide (M)



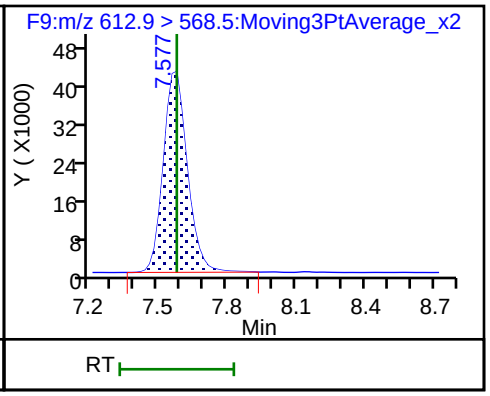
D 34 13C8 FOSA



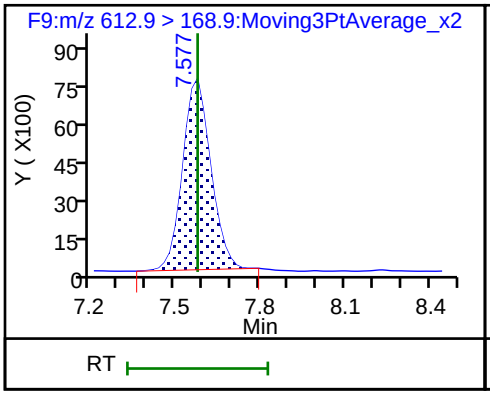
43 11-Chloroeicosafluoro-3-oxaundecan



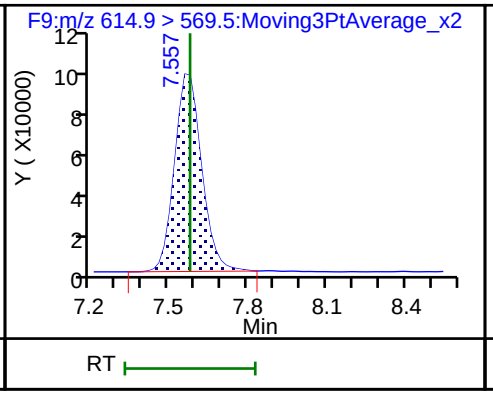
36 Perfluorododecanoic acid



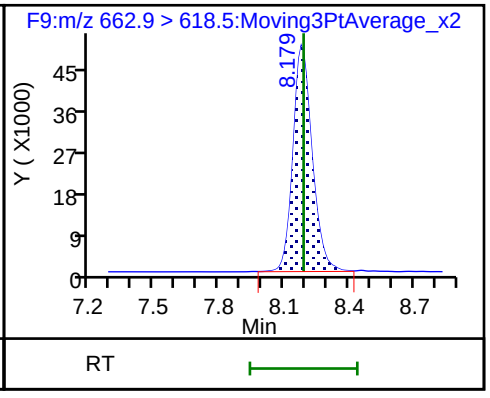
36 Perfluorododecanoic acid



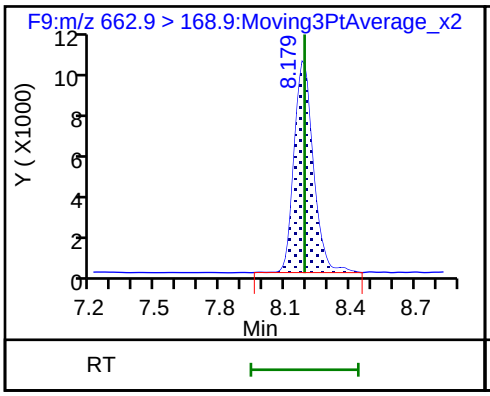
D 37 13C2 PFDoA



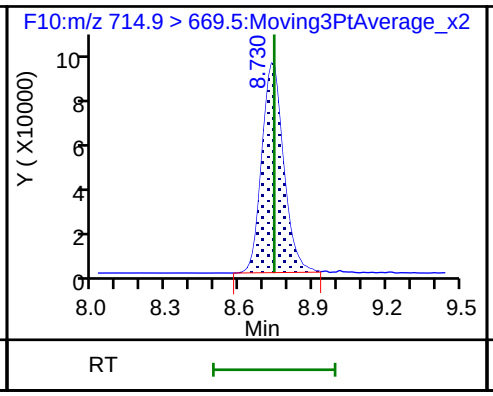
38 Perfluorotridecanoic acid



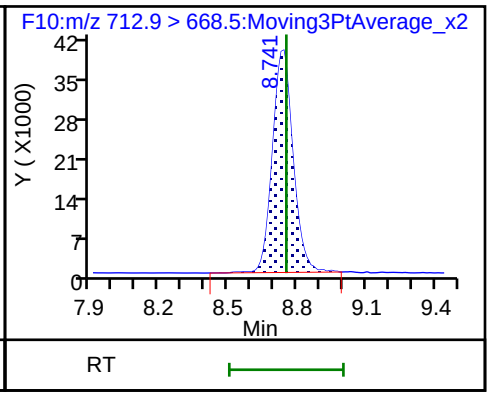
38 Perfluorotridecanoic acid



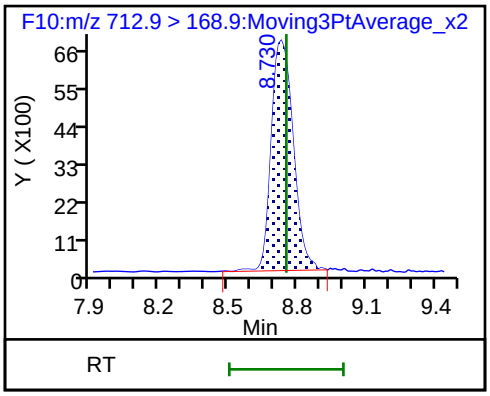
D 40 13C2 PFTeDA



39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



Eurofins TestAmerica, Burlington

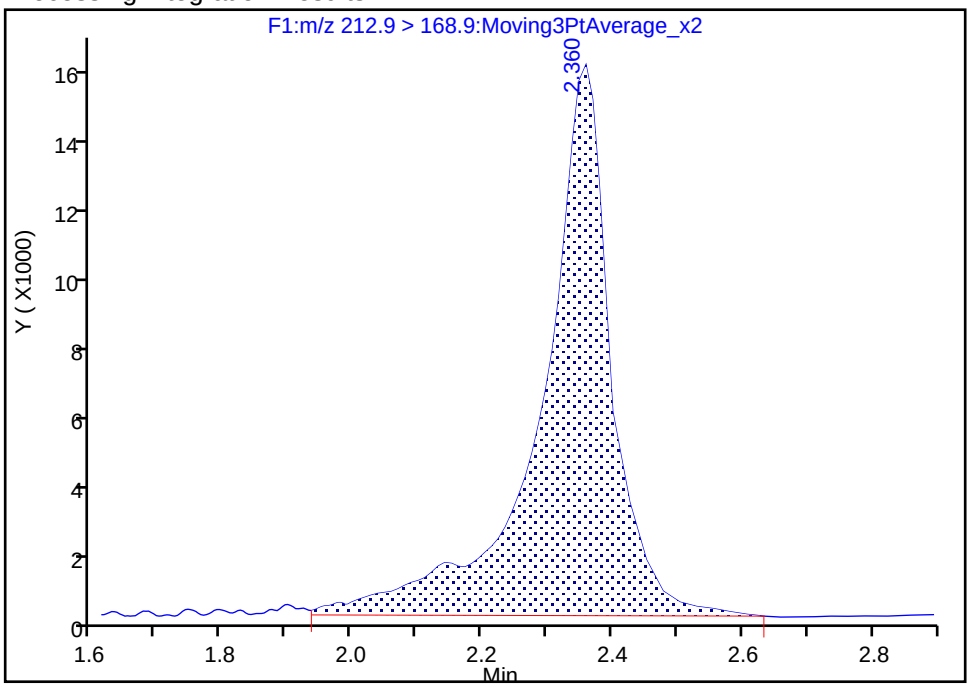
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A05.d
Injection Date: 06-Jun-2019 13:28:00 Instrument ID: LC410
Lims ID: LCS 200-143263/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

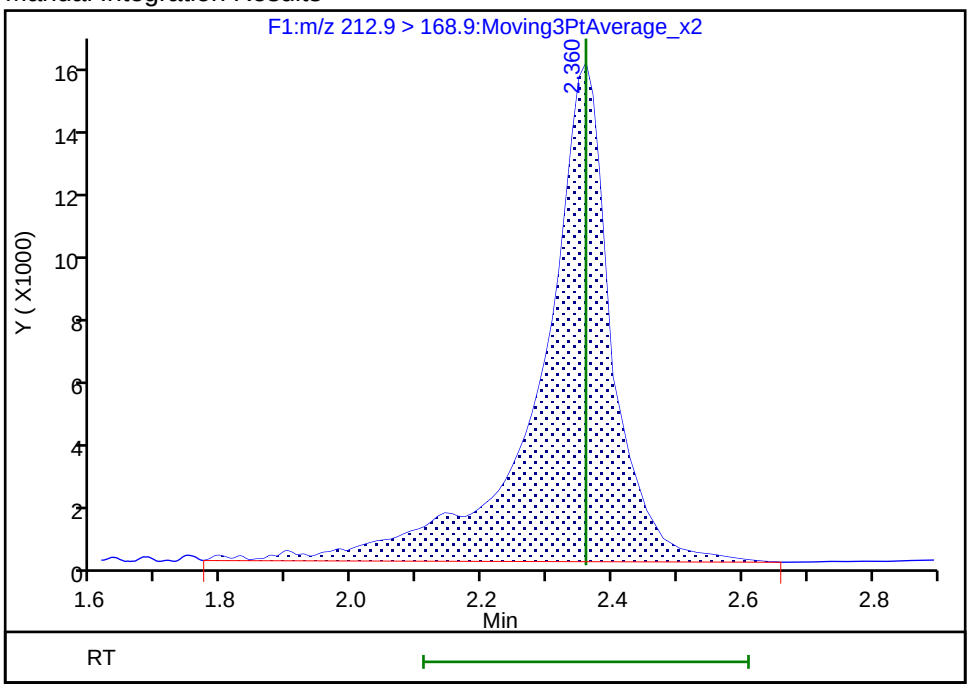
Processing Integration Results

RT: 2.36
Area: 113880
Amount: 13.651948
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 116042
Amount: 13.679668
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:52:09
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

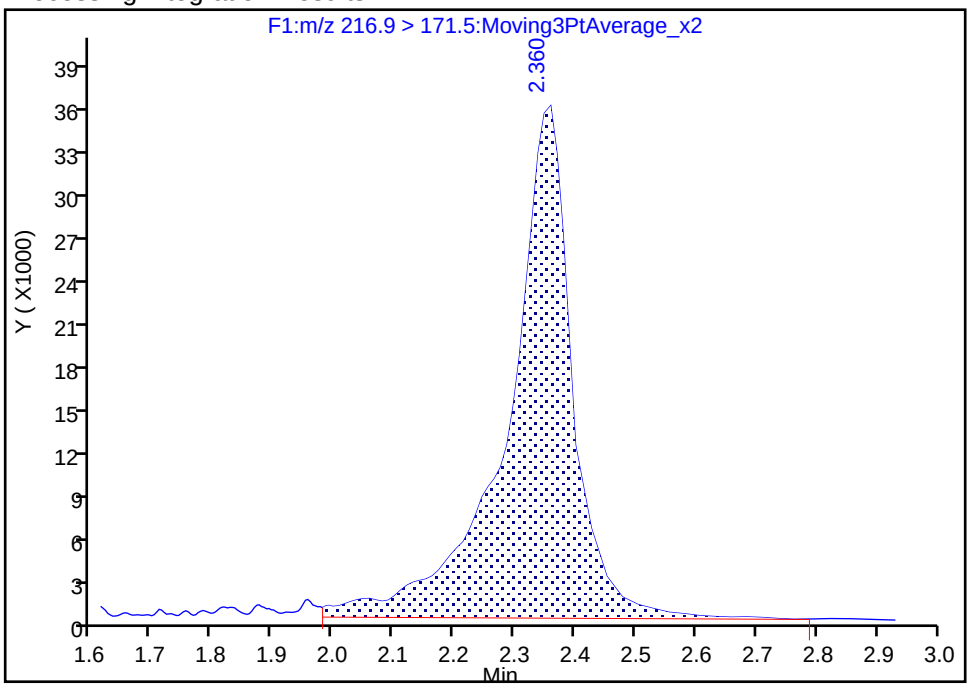
Data File: \\chromna\Burlington\ChromData\LC410\20190606-36227.b\PF060619A05.d
Injection Date: 06-Jun-2019 13:28:00 Instrument ID: LC410
Lims ID: LCS 200-143263/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

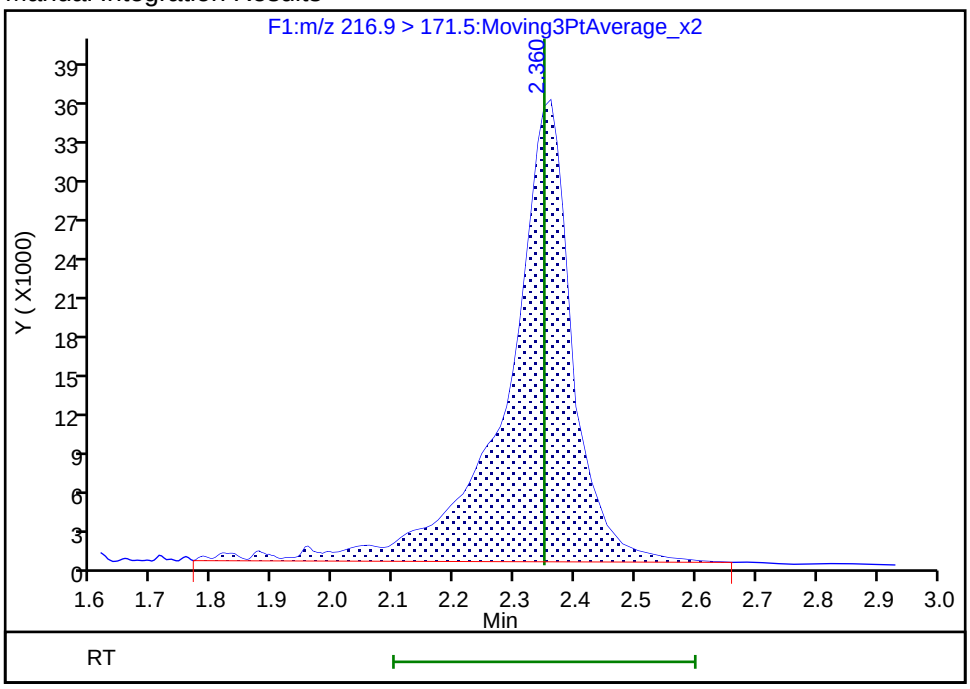
Processing Integration Results

RT: 2.36
Area: 269871
Amount: 68.627206
Amount Units: ng/ml



Manual Integration Results

RT: 2.36
Area: 270155
Amount: 68.699427
Amount Units: ng/ml



Reviewer: murrayjw, 06-Jun-2019 13:52:30
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 200-143308/2-A

Matrix: Water Lab File ID: PF060419B06.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 250(mL) Date Analyzed: 06/05/2019 02:39

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	65.4		2.0	1.0
2706-90-3	Perfluoropentanoic acid (PFPeA)	58.8		2.0	0.63
307-24-4	Perfluorohexanoic acid (PFHxA)	48.6		2.0	0.76
375-85-9	Perfluoroheptanoic acid (PFHpA)	49.8		2.0	0.91
335-67-1	Perfluorooctanoic acid (PFOA)	48.7		2.0	0.63
375-95-1	Perfluorononanoic acid (PFNA)	50.4		2.0	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	46.5		2.0	0.77
2058-94-8	Perfluoroundecanoic acid (PFUnA)	48.6		2.0	0.53
307-55-1	Perfluorododecanoic acid (PFDoA)	46.7		2.0	0.59
72629-94-8	Perfluorotridecanoic acid (PFTriA)	47.6		2.0	0.60
376-06-7	Perfluorotetradecanoic acid (PFTeA)	50.4		2.0	0.92
375-73-5	Perfluorobutanesulfonic acid (PFBS)	39.8		2.0	0.49
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	41.5		2.0	0.80
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	54.9		2.0	0.95
335-77-3	Perfluorodecanesulfonic acid (PFDS)	42.5		2.0	0.90
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	51.2		2.0	0.61
754-91-6	Perfluorooctanesulfonamide (FOSA)	43.9		2.0	0.64
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	52.0		20	1.7
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	48.0		20	1.5
27619-97-2	6:2 FTS	47.6		20	4.6
39108-34-4	8:2 FTS	46.8		20	2.9

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 200-143308/2-A

Matrix: Water Lab File ID: PF060419B06.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 250(mL) Date Analyzed: 06/05/2019 02:39

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	45		25-150
STL00992	13C4 PFBA	44		25-150
STL01893	13C5 PFPeA	54		25-150
STL00993	13C2 PFHxA	64		50-150
STL01892	13C4 PFHpA	66		50-150
STL00990	13C4 PFOA	64		50-150
STL00995	13C5 PFNA	60		50-150
STL00996	13C2 PFDA	64		50-150
STL00997	13C2 PFUnA	67		50-150
STL00998	13C2 PFDoA	55		50-150
STL02116	13C2 PFTeDA	51		50-150
STL02337	13C3 PFBS	60		50-150
STL00994	18O2 PFHxS	53		50-150
STL00991	13C4 PFOS	49	*	50-150
STL02118	d3-NMeFOSAA	47	*	50-150
STL02117	d5-NEtFOSAA	49	*	50-150
STL02279	M2-6:2 FTS	63		25-150
STL02280	M2-8:2 FTS	74		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B06.d
Lims ID: LCS 200-143308/2-A
Client ID:
Sample Type: LCS
Inject. Date: 05-Jun-2019 02:39:06 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-006 LCS
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 12-Jun-2019 13:28:24 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0337

First Level Reviewer: murrayjw Date: 12-Jun-2019 13:28:24
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B04.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.349	2.360	-0.011	1.004	123281	29.6		148	91.7	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.339	2.360	-0.021	1.000	132536	22.4		44.9	76.1	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	212993	29.4		147	517	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	121021	27.0		54.0	342	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	58276	19.9	Target=1.67	112	481	
298.9 > 98.9	2.901	2.901	0.0	1.000	55330		1.05(0.83-2.51)		305	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	54219	27.8		59.9	130	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.238	3.270	-0.032	1.116	38692	25.0		134	594	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	292364	24.3	Target=14.34	122	746	
312.9 > 118.9	3.302	3.302	0.0	1.000	20655		14.15(7.17-21.51)		105	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	430049	32.0		64.0	1291	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.365	3.365	0.0	1.160	66732	20.1	Target=1.23	107	351	
348.9 > 98.9	3.365	3.365	0.0	1.000	81965		0.81(0.62-1.85)		1001	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.492	-0.032	1.000	48585	NR		0.0	63.2	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	624853	33.0		66.0	1806	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.905	-0.036	1.000	365297	24.9	Target=2.84	125	755	
362.9 > 168.9	3.869	3.905	-0.036	1.000	121499		3.01(1.42-4.26)		1376	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.905	3.925	-0.020	1.000	58075	20.8	Target=1.34	114	183	
398.9 > 98.9	3.926	3.925	0.001	1.005	60072		0.97(0.67-2.01)		243	
D 12 18O2 PFHxS										
402.9 > 83.8	3.905	3.925	-0.020	1.000	62516	25.1		53.1	204	
49 DONA										
376.9 > 250.7	3.946	3.966	-0.020	0.735	315727	26.7	Target=2.33	142	754	
376.9 > 85.0	3.966	3.966	0.0	1.000	122471		2.58(1.16-3.49)		962	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.526	4.547	-0.021	1.000	19208	23.8		126	116	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	40548	30.1		63.5	229	M
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1207218	50.0			2382	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.589	-0.021	1.000	371297	24.3	Target=2.43	122	517	
412.9 > 168.9	4.589	4.589	0.0	1.005	141102		2.63(1.22-3.64)		547	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	753908	32.2		64.3	1065	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.609	4.609	0.0	0.859	65663	27.4	Target=1.30	144	558	
448.9 > 98.9	4.589	4.609	-0.020	1.000	73490		0.89(0.65-1.95)		337	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.368	-0.021	1.000	422567	25.2	Target=5.00	126	1024	
462.9 > 168.9	5.347	5.368	-0.021	1.000	100883		4.19(2.50-7.50)		436	
D 20 13C5 PFNA										
467.8 > 422.8	5.347	5.389	-0.042	1.000	950121	30.2		60.4	1797	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.368	5.389	-0.021	1.000	67032	25.2	Target=1.41	136	423	M
498.9 > 98.9	5.368	5.389	-0.021	1.000	67661		0.99(0.71-2.12)		477	M
D 22 13C4 PFOS										M
502.9 > 80.0	5.368	5.411	-0.043	1.000	131616	23.4		49.0	430	M
47 9-Chlorohexadecafluoro-3-oxanonane										M
531.0 > 350.6	5.778	5.812	-0.034	1.076	300081	24.8		133	1079	M
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.000	62716	23.4		122	629	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.131	6.131	0.0	1.000	173879	35.5		74.2	579	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.165	6.165	0.0	1.000	365744	23.2	Target=7.23	116	686	
512.9 > 168.9	6.165	6.165	0.0	1.000	47188		7.75(3.61-10.84)		141	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.131	6.165	-0.034	1.142	73946	27.7	Target=1.39	144	368	
548.9 > 98.9	6.131	6.165	-0.034	1.000	74982		0.99(0.69-2.08)		246	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 25 13C2 PFDA										
514.9 > 469.5	6.165	6.199	-0.034	1.000	859793	32.0		64.1	849	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.501	6.525	-0.024	1.000	88558	26.0		130	315	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.501	6.549	-0.048	1.000	206097	23.6		47.2	853	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.873	6.897	-0.024	1.000	68394	24.0		120	459	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.897	6.897	0.0	1.285	60613	21.2	Target=1.25	110	487	
598.9 > 98.9	6.897	6.897	0.0	1.000	77010		0.79(0.63-1.88)		240	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.873	6.921	-0.048	1.000	176966	24.5		49.1	541	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.897	6.921	-0.024	0.997	349350	24.3	Target=7.06	121	1317	
562.9 > 168.9	6.921	6.921	0.0	1.000	48437		7.21(3.53-10.58)		251	
D 33 13C2 PFUnA										
564.8 > 519.8	6.921	6.945	-0.024	1.000	863619	33.3		66.7	1086	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.013	7.013	0.0	1.000	136643	22.0		110	454	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	218458	22.6		45.2	659	
43 11-Chloroeicosafluoro-3-oxaundecan										M
631.0 > 450.6	7.254	7.274	-0.020	1.351	343056	22.2		118	1042	M
36 Perfluorododecanoic acid										
612.9 > 568.5	7.596	7.616	-0.020	1.000	399533	23.4	Target=5.37	117	780	
612.9 > 168.9	7.596	7.616	-0.020	1.000	66852		5.98(2.68-8.06)		316	
D 37 13C2 PFDoA										
614.9 > 569.5	7.596	7.655	-0.059	1.000	901573	27.3		54.6	816	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.224	8.235	-0.011	1.083	402156	23.8	Target=4.67	119	605	
662.9 > 168.9	8.213	8.235	-0.022	1.081	72301		5.56(2.34-7.01)		259	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.764	8.786	-0.022	1.001	325029	25.2	Target=4.86	126	460	
712.9 > 168.9	8.764	8.786	-0.022	1.001	59990		5.42(2.43-7.30)		298	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.819	-0.067	1.000	759950	25.6		51.3	464	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags

M - Manually Integrated

Report Date: 12-Jun-2019 13:28:25 Chrom Revision: 2.3 02-Jun-2019 10:27:32

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B06.d

Injection Date: 05-Jun-2019 02:39:06 Instrument ID: LC410

Lims ID: LCS 200-143308/2-A

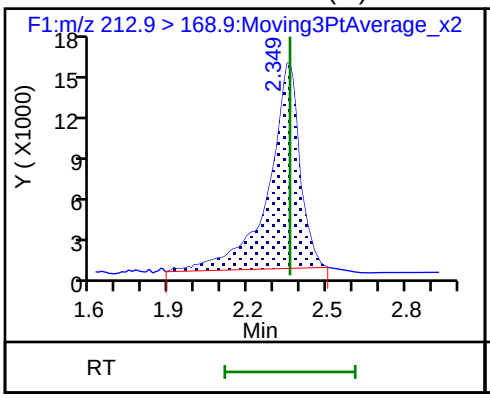
Client ID:

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6

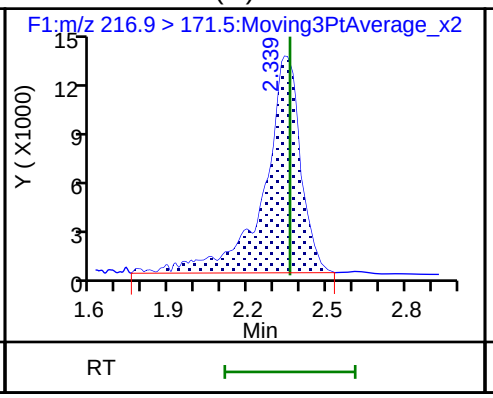
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

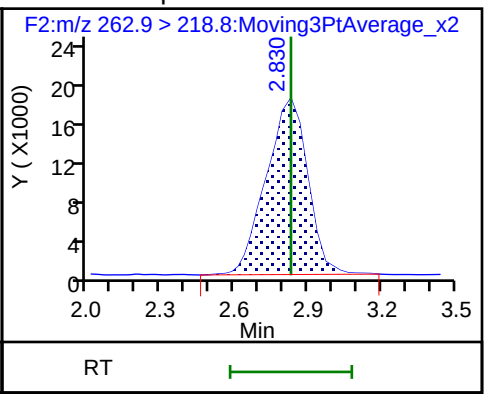
2 Perfluorobutanoic acid (M)



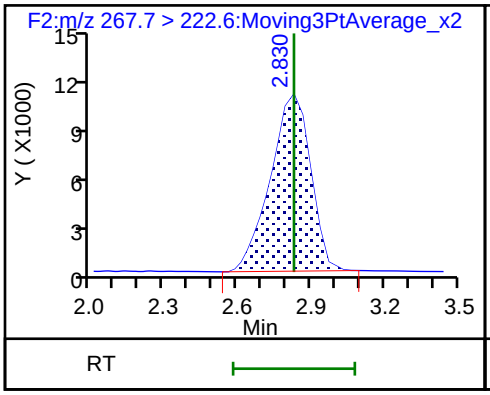
D 1 13C4 PFBA (M)



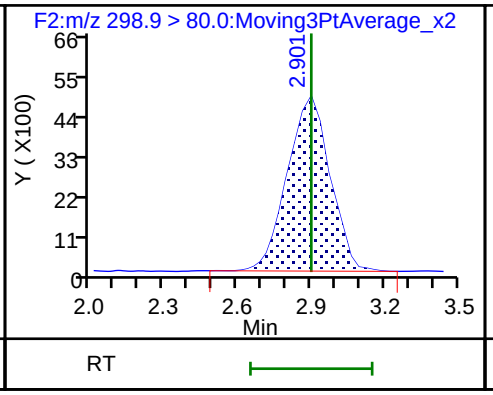
3 Perfluoropentanoic acid



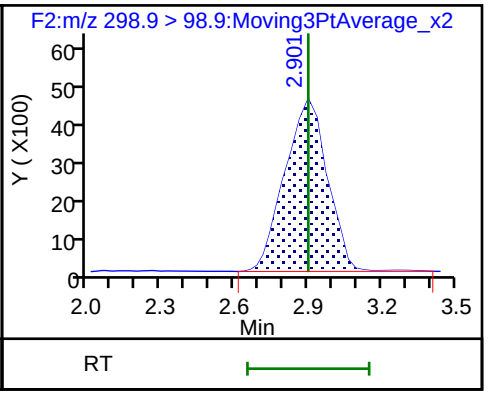
D 4 13C5 PFPeA



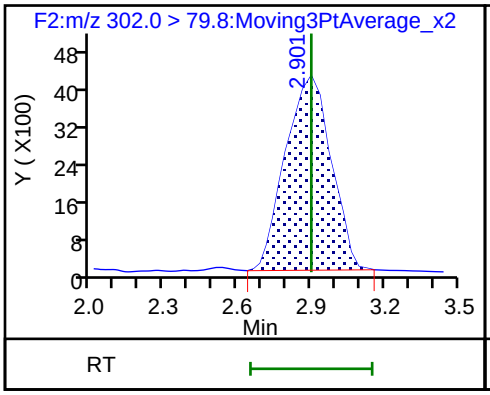
6 Perfluorobutanesulfonic acid



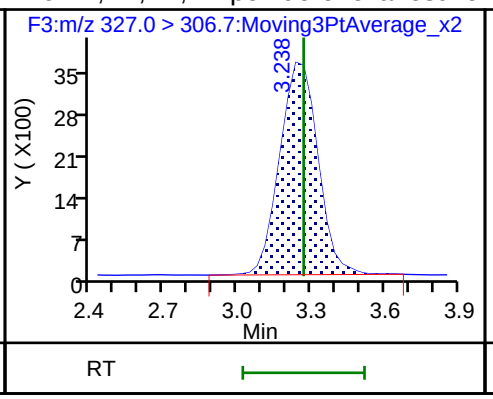
6 Perfluorobutanesulfonic acid



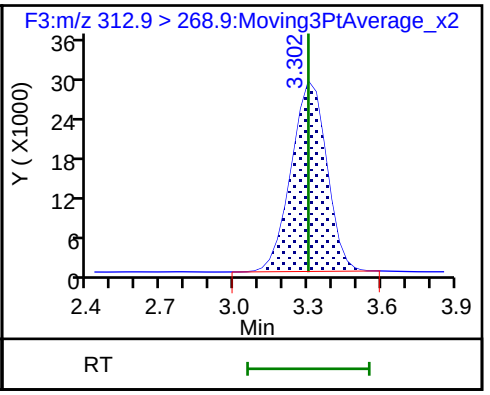
D 5 13C3 PFBS



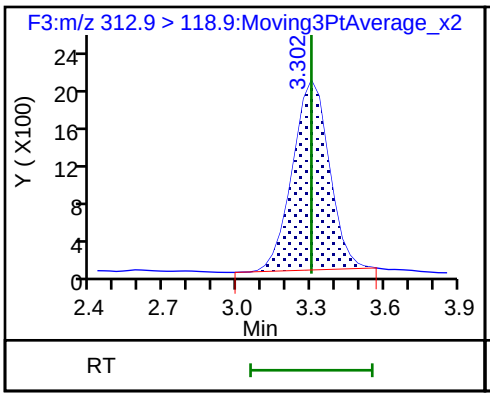
46 1H,1H,2H,2H-perfluorohexanesulfoni



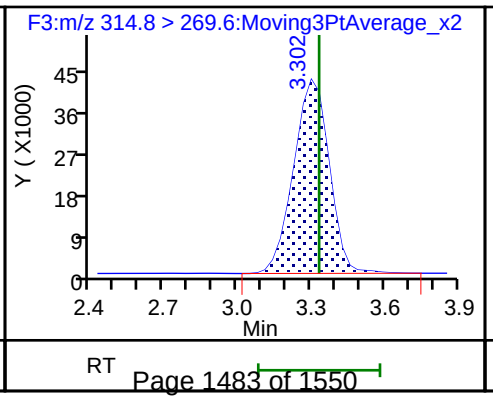
7 Perfluorohexanoic acid



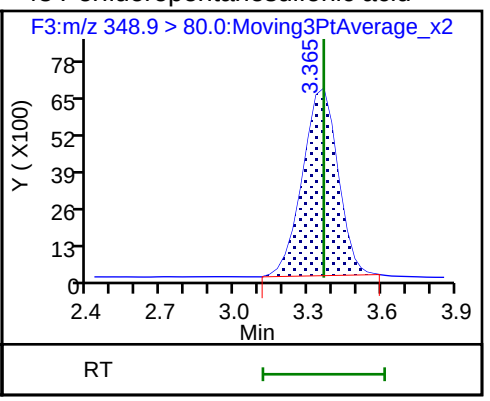
7 Perfluorohexanoic acid



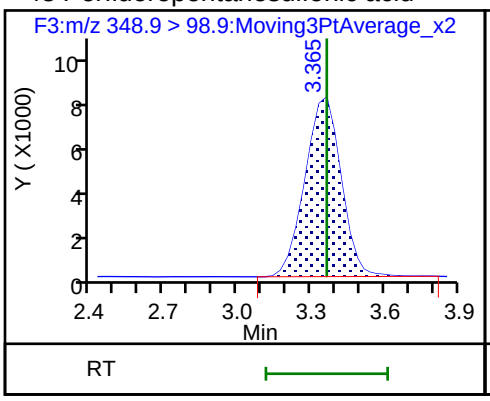
D 8 13C2 PFHxA



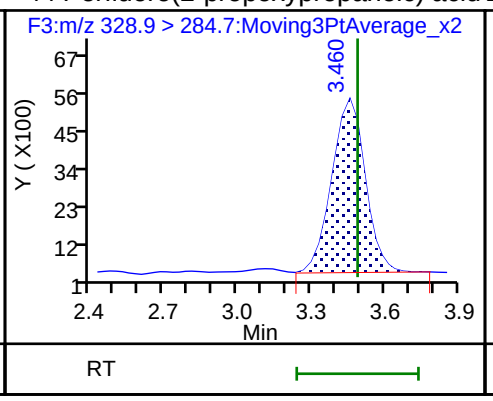
48 Perfluoropentanesulfonic acid



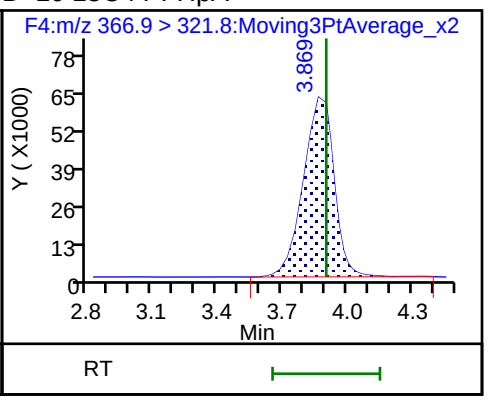
48 Perfluoropentanesulfonic acid



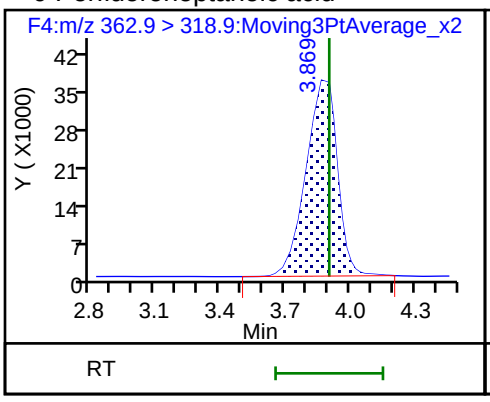
44 Perfluoro(2-propoxypropanoic) acid



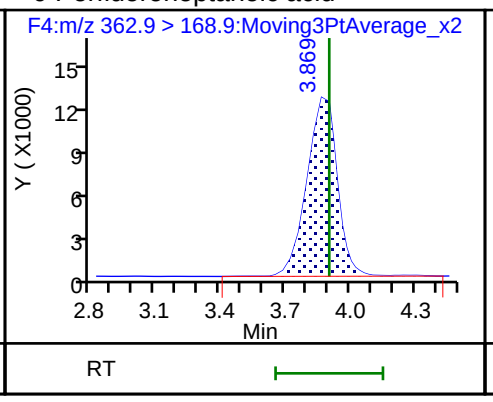
D 10 13C4 PFHpA



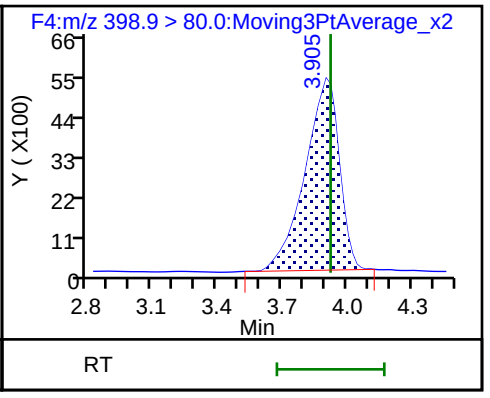
9 Perfluoroheptanoic acid



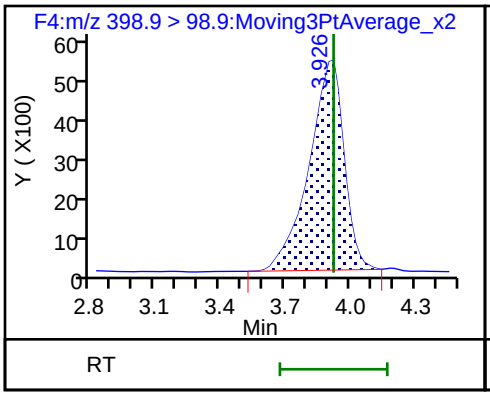
9 Perfluoroheptanoic acid



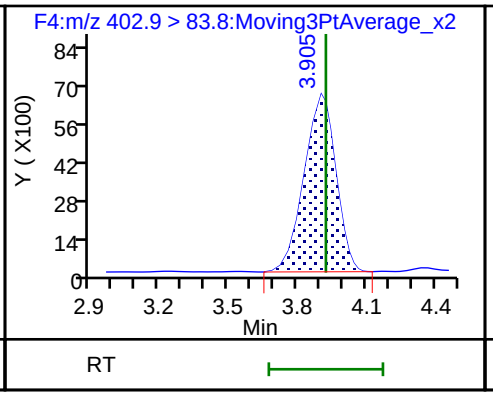
11 Perfluorohexanesulfonic acid



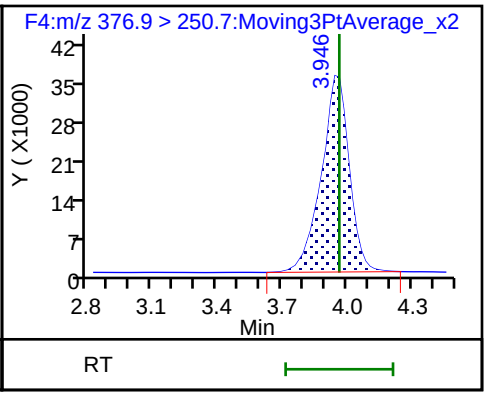
11 Perfluorohexanesulfonic acid



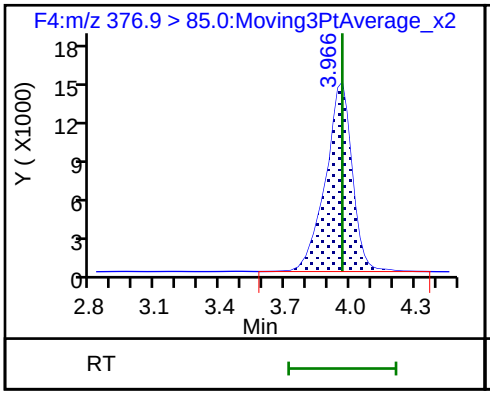
D 12 18O2 PFHxS



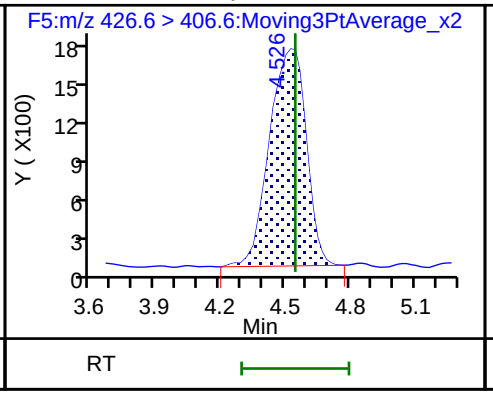
49 DONA



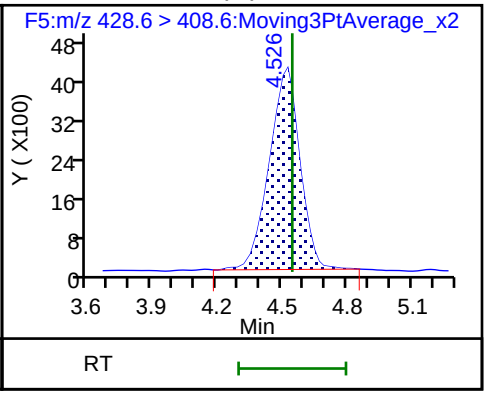
49 DONA



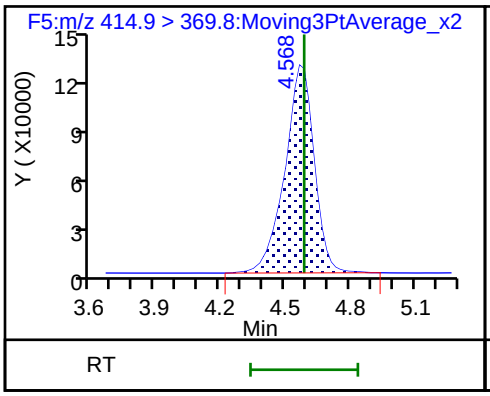
13 1H,1H,2H,2H-perfluorooctanesulfon



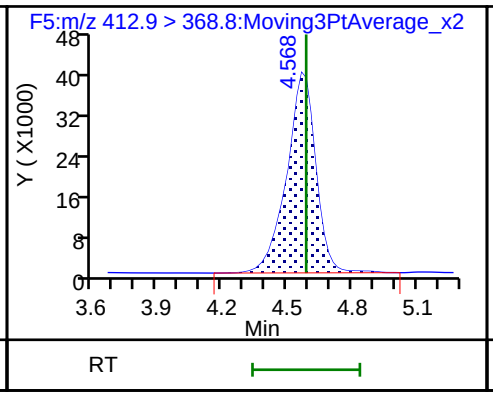
D 14 M2-6:2 FTS (M)



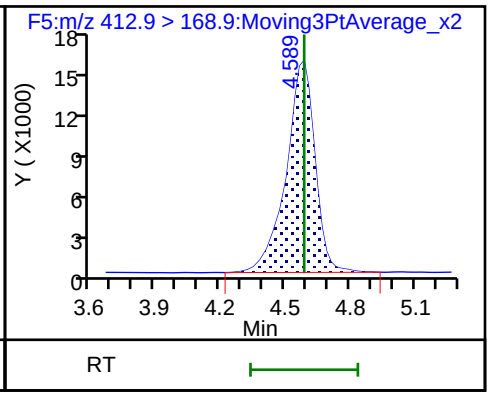
* 16 13C2 PFOA



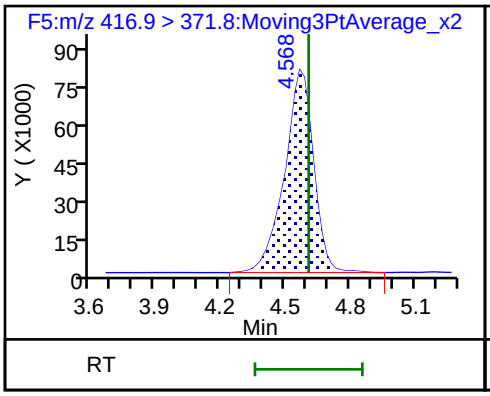
15 Perfluorooctanoic acid



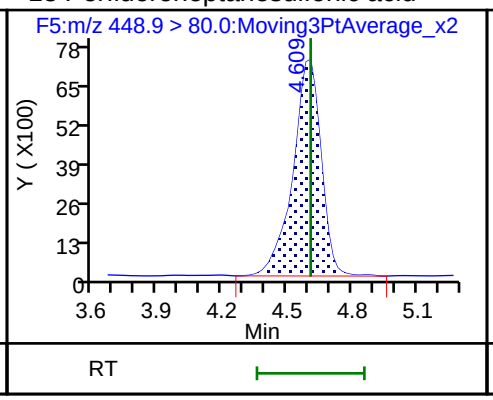
15 Perfluorooctanoic acid



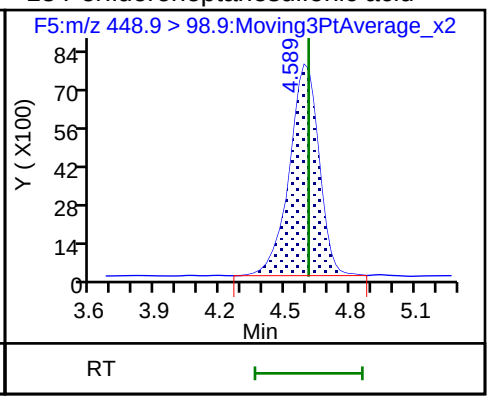
D 17 13C4 PFOA



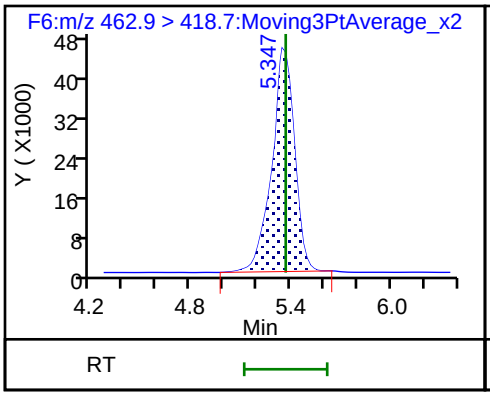
18 Perfluoroheptanesulfonic acid



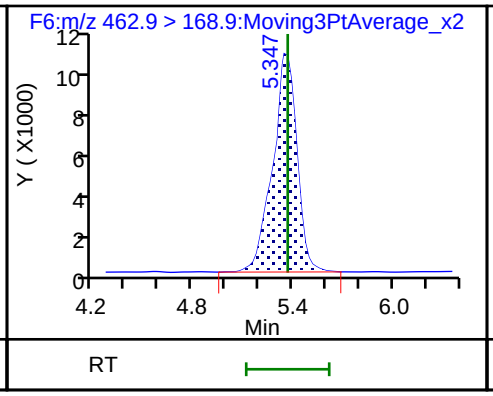
18 Perfluoroheptanesulfonic acid



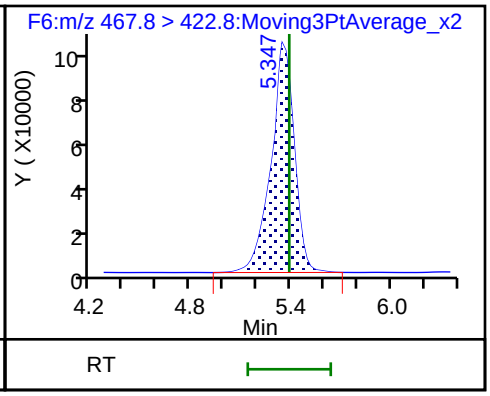
19 Perfluorononanoic acid



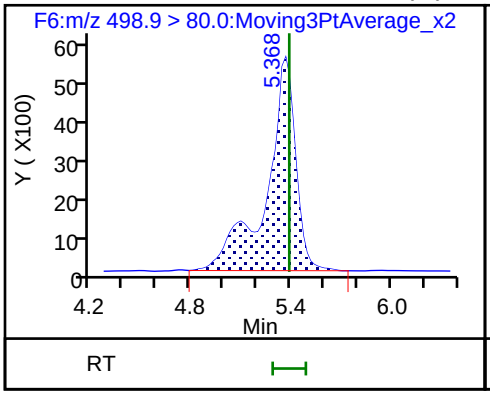
19 Perfluorononanoic acid



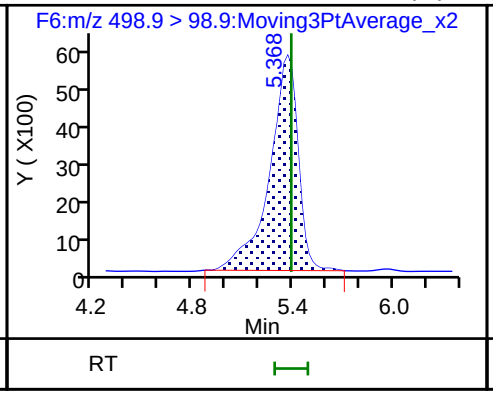
D 20 13C5 PFNA



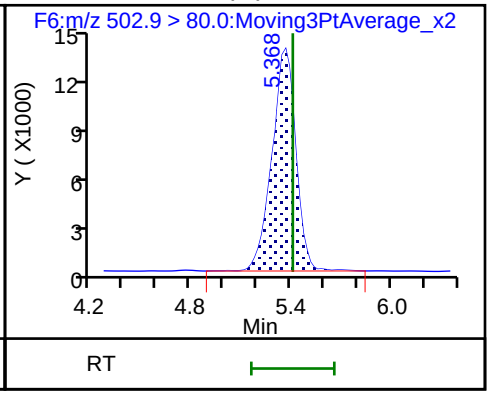
21 Perfluorooctanesulfonic acid (M)



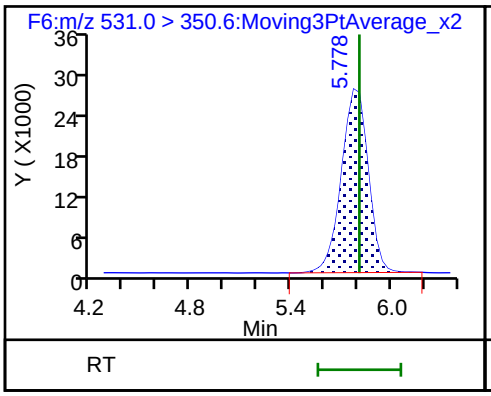
21 Perfluorooctanesulfonic acid (M)



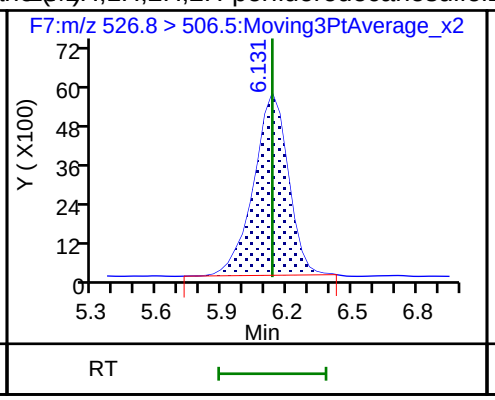
D 22 13C4 PFOS (M)



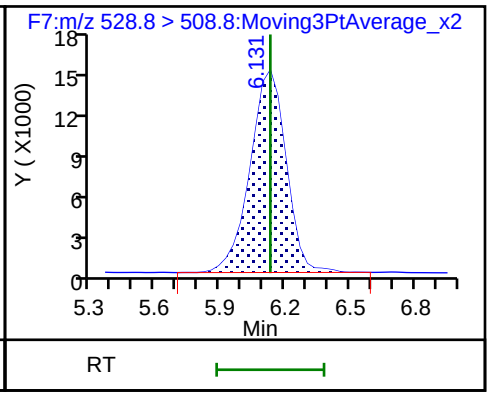
47 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid



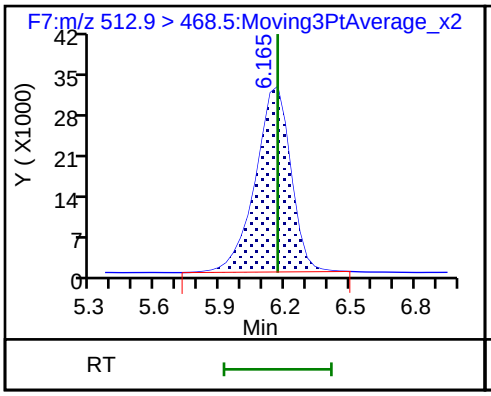
23 (M)H,1H,2H,2H-perfluorodecanesulfonic acid



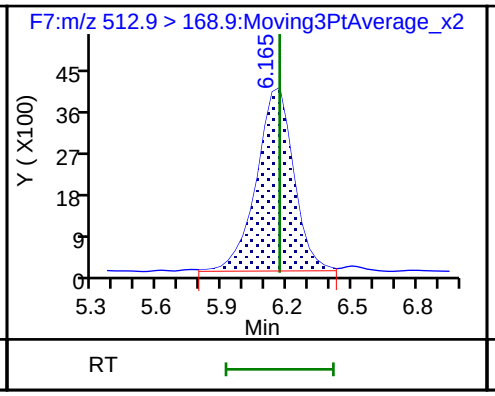
D 24 M2-8:2 FTS



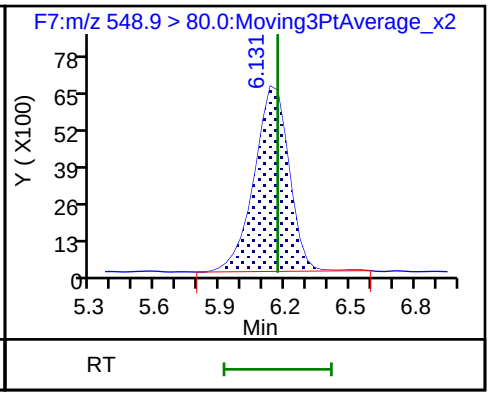
26 Perfluorodecanoic acid



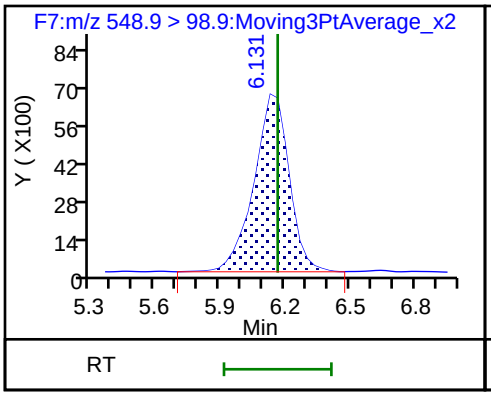
26 Perfluorodecanoic acid



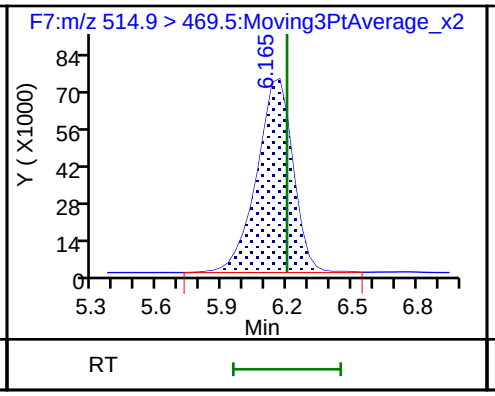
45 Perfluorononanesulfonic acid



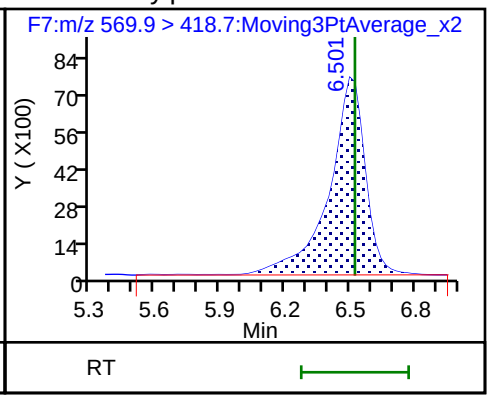
45 Perfluorononanesulfonic acid



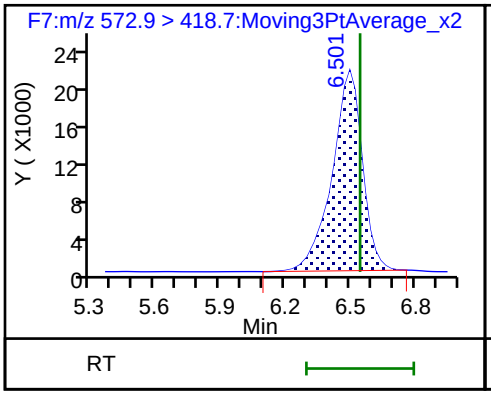
D 25 13C2 PFDA



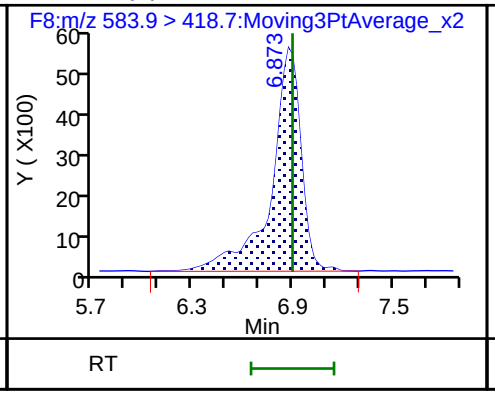
28 N-methylperfluorooctanesulfonamido



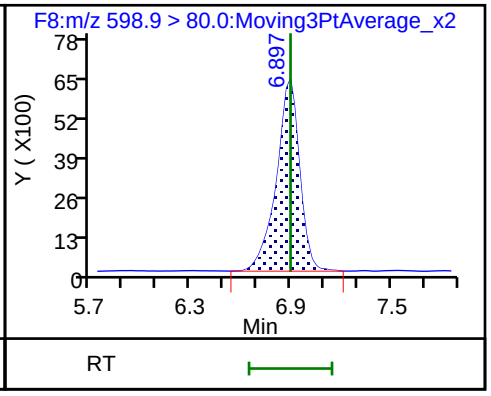
D 27 d3-NMeFOSAA



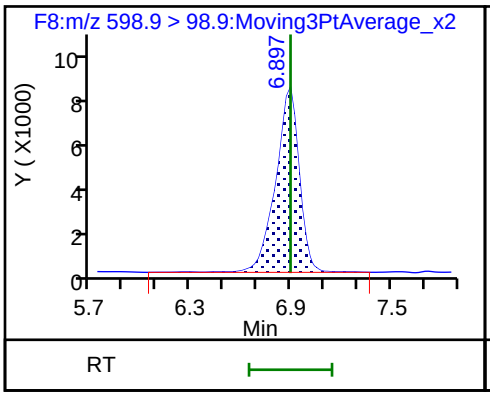
30 N-ethylperfluorooctanesulfonamidoa



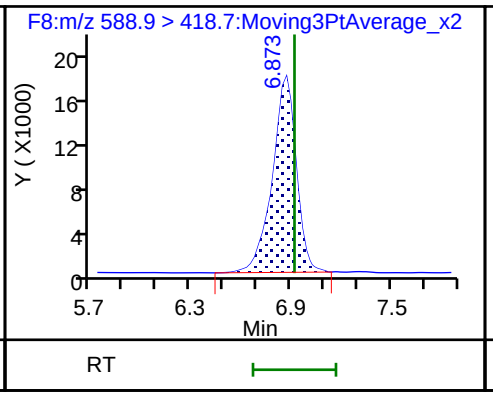
31 Perfluorodecanesulfonic acid



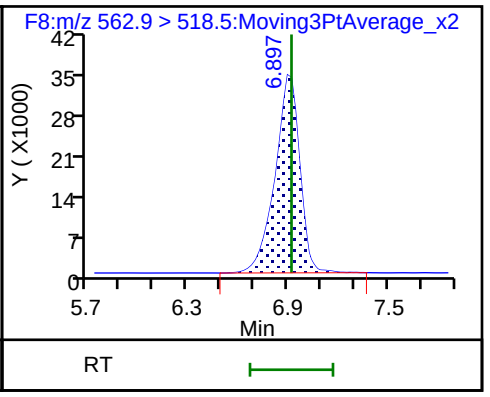
31 Perfluorodecanesulfonic acid



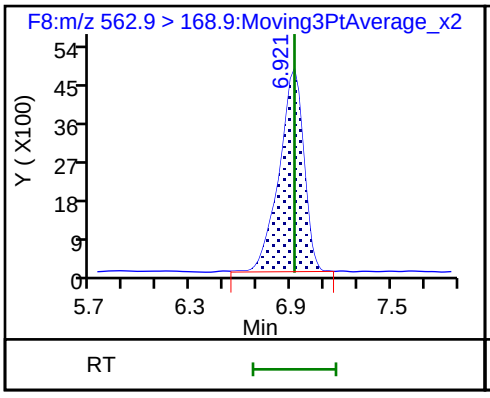
D 29 d5-NEtFOSAA



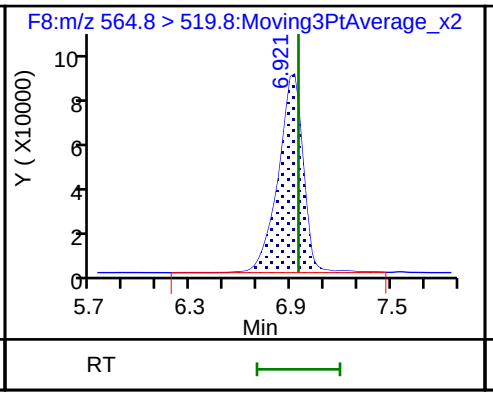
32 Perfluoroundecanoic acid



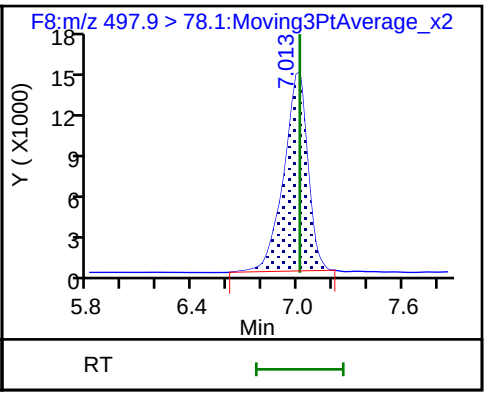
32 Perfluoroundecanoic acid



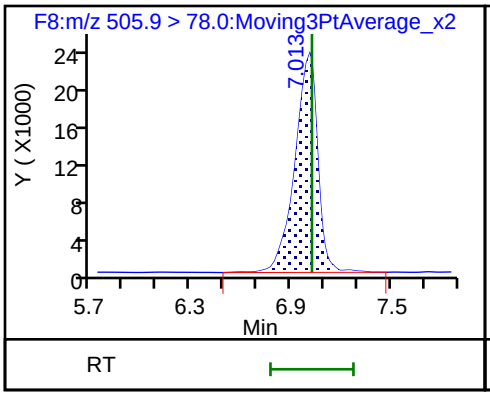
D 33 13C2 PFUnA



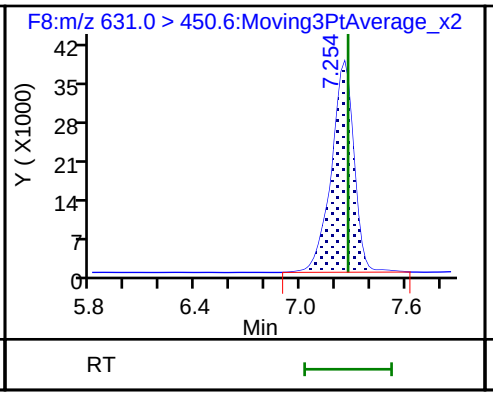
35 Perfluorooctanesulfonamide



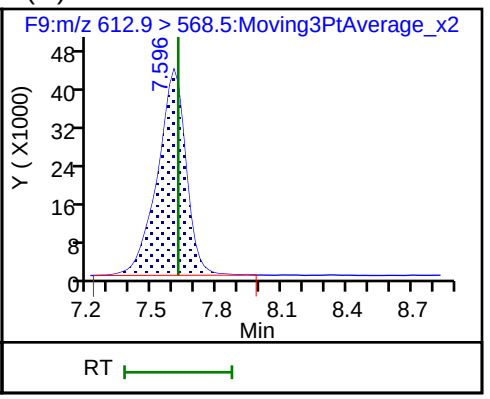
D 34 13C8 FOSA



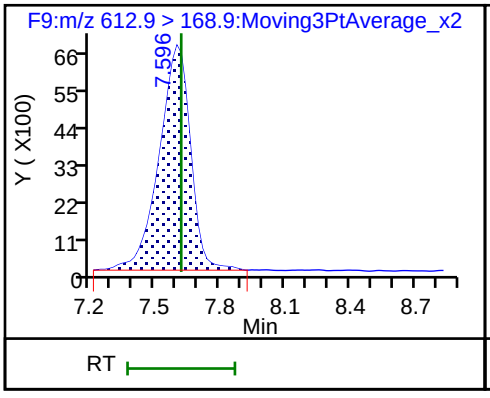
43 11-Chloroeicosafluoro-3-oxaundecan-1



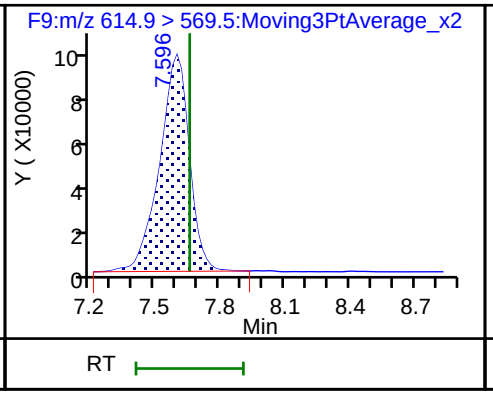
36 Perfluorododecanoic acid



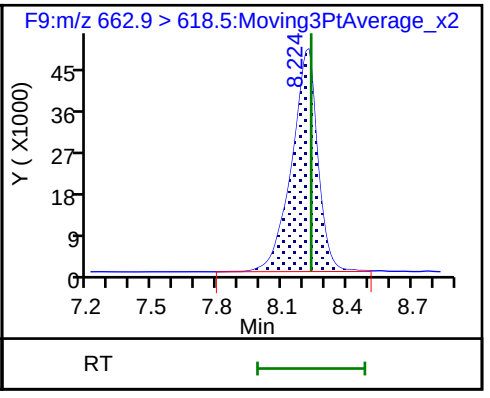
36 Perfluorododecanoic acid



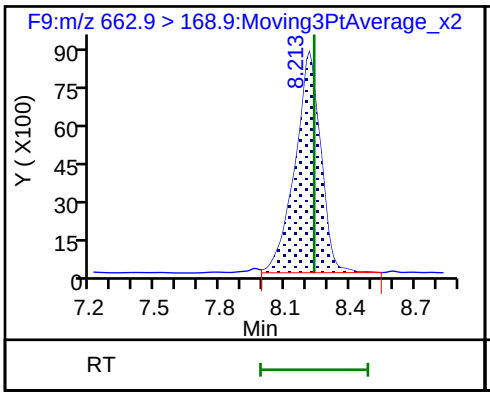
D 37 13C2 PFDoA



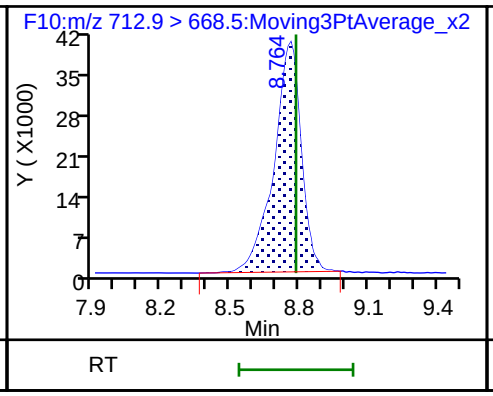
38 Perfluorotridecanoic acid



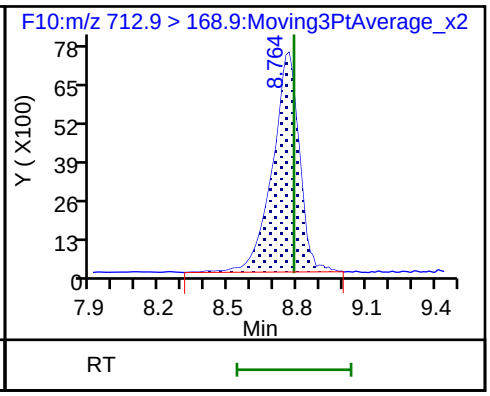
38 Perfluorotridecanoic acid



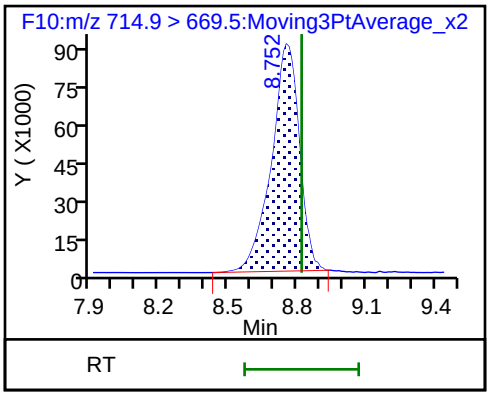
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

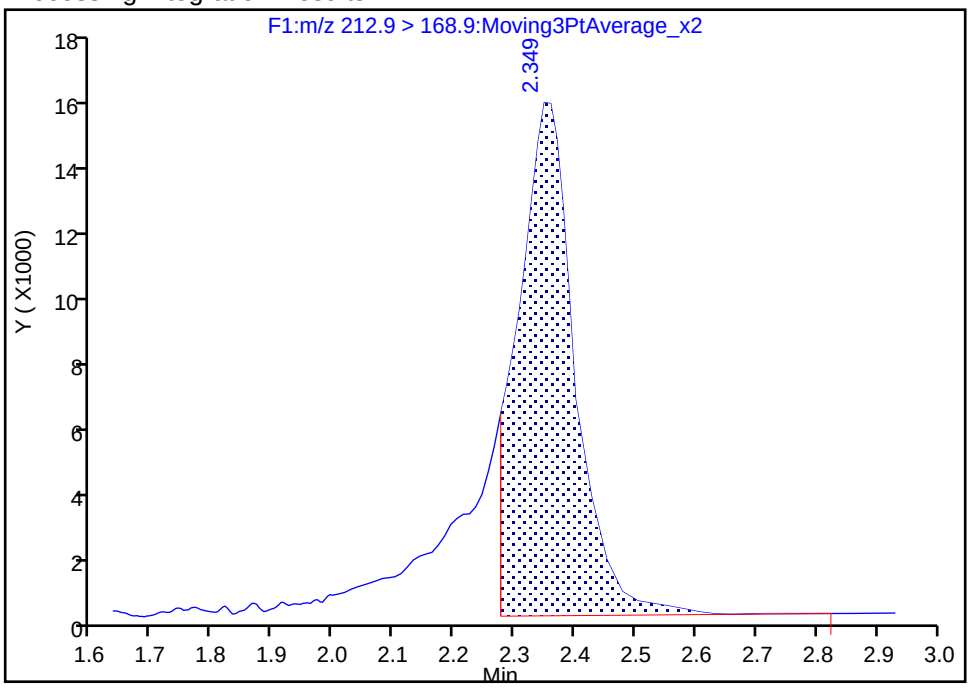
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B06.d
Injection Date: 05-Jun-2019 02:39:06 Instrument ID: LC410
Lims ID: LCS 200-143308/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

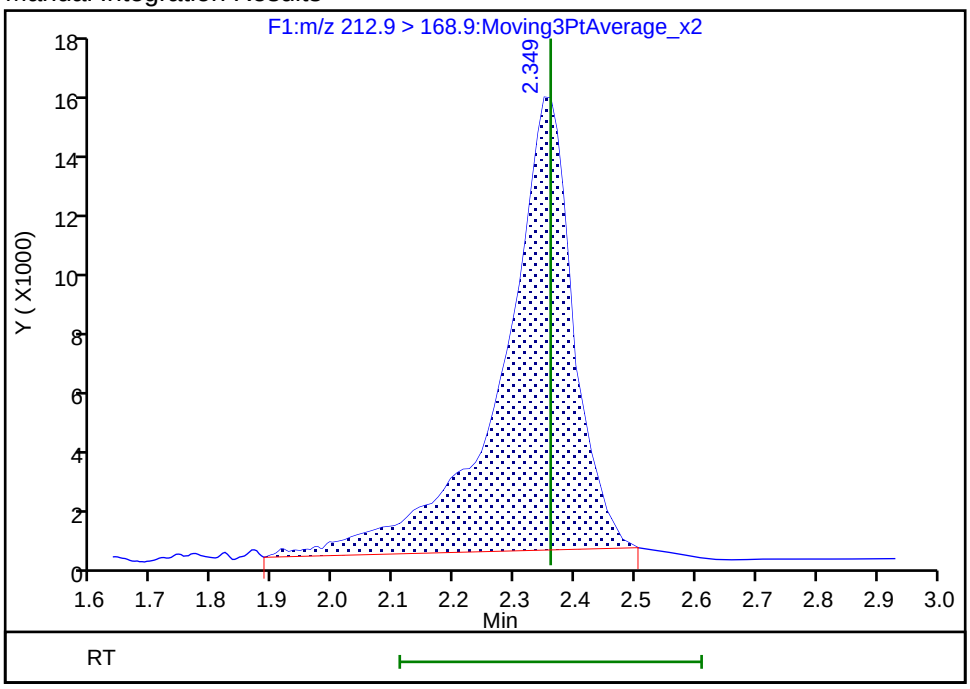
Processing Integration Results

RT: 2.35
Area: 98995
Amount: 23.545398
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 123281
Amount: 29.623450
Amount Units: ng/ml



Reviewer: murrayjw, 12-Jun-2019 13:24:44
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

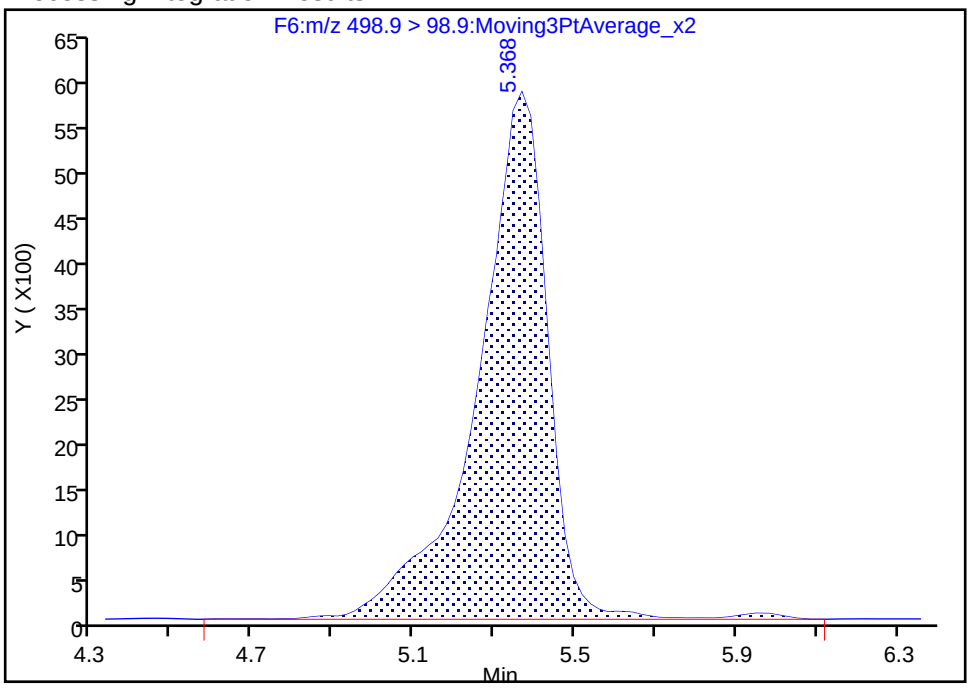
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B06.d
Injection Date: 05-Jun-2019 02:39:06 Instrument ID: LC410
Lims ID: LCS 200-143308/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

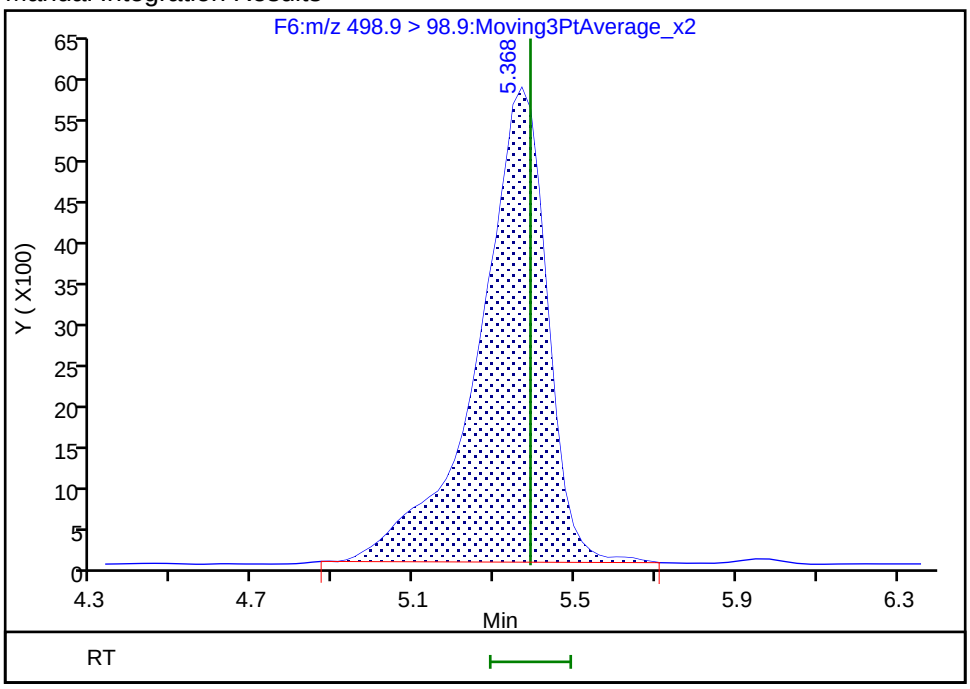
Processing Integration Results

RT: 5.37
Area: 69752
Amount: 25.586552
Amount Units: ng/ml



Manual Integration Results

RT: 5.37
Area: 67661
Amount: 25.208793
Amount Units: ng/ml



Reviewer: murrayjw, 12-Jun-2019 13:25:19
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

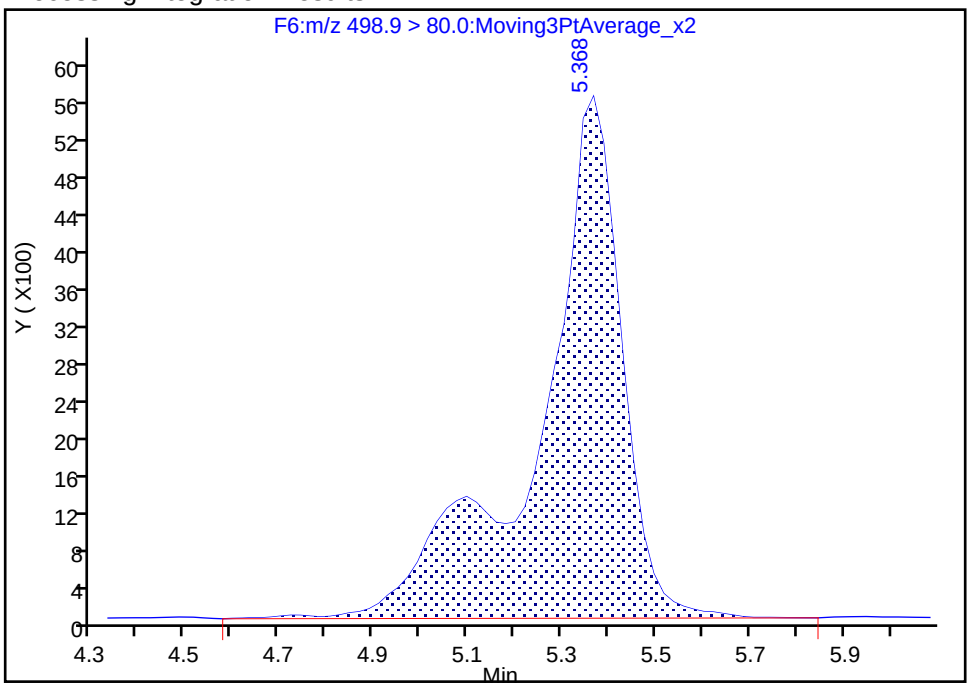
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B06.d
Injection Date: 05-Jun-2019 02:39:06 Instrument ID: LC410
Lims ID: LCS 200-143308/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

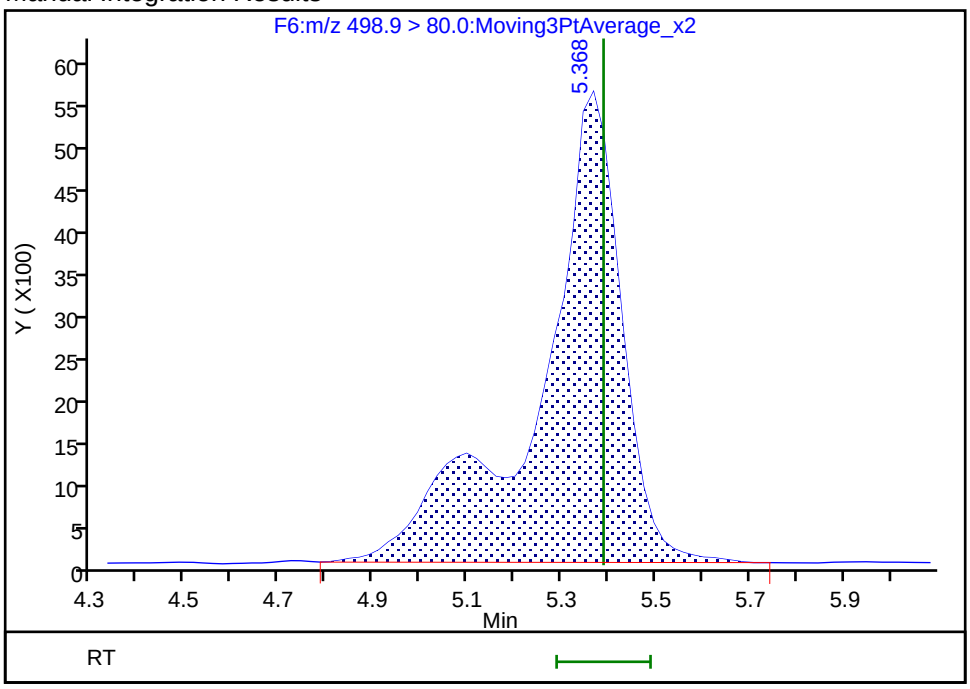
Processing Integration Results

RT: 5.37
Area: 67930
Amount: 25.586552
Amount Units: ng/ml



Manual Integration Results

RT: 5.37
Area: 67032
Amount: 25.208793
Amount Units: ng/ml



Reviewer: murrayjw, 12-Jun-2019 13:28:16
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

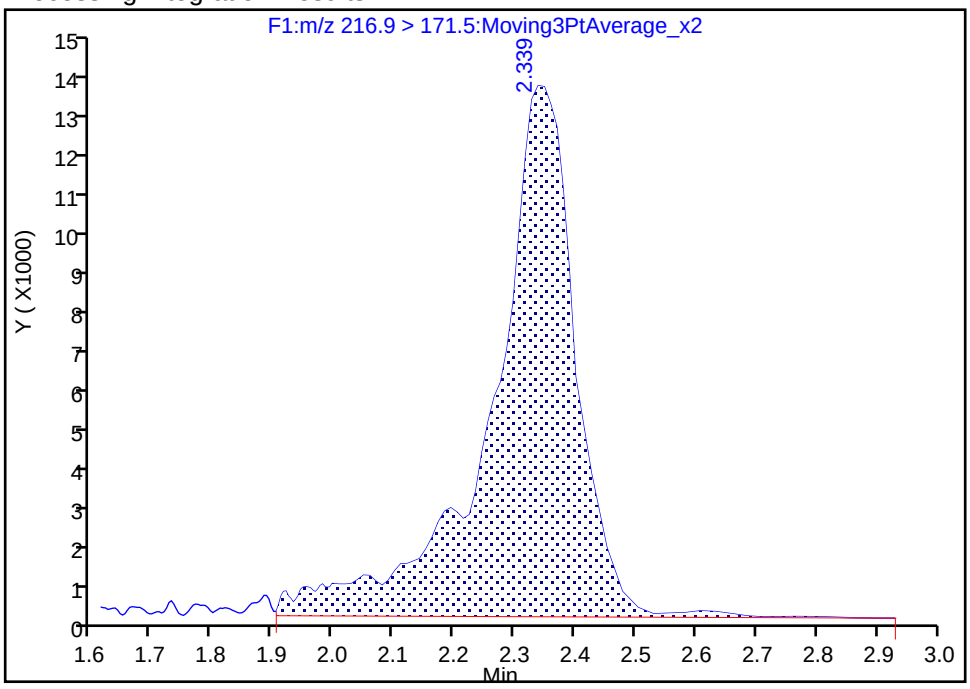
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B06.d
Injection Date: 05-Jun-2019 02:39:06 Instrument ID: LC410
Lims ID: LCS 200-143308/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

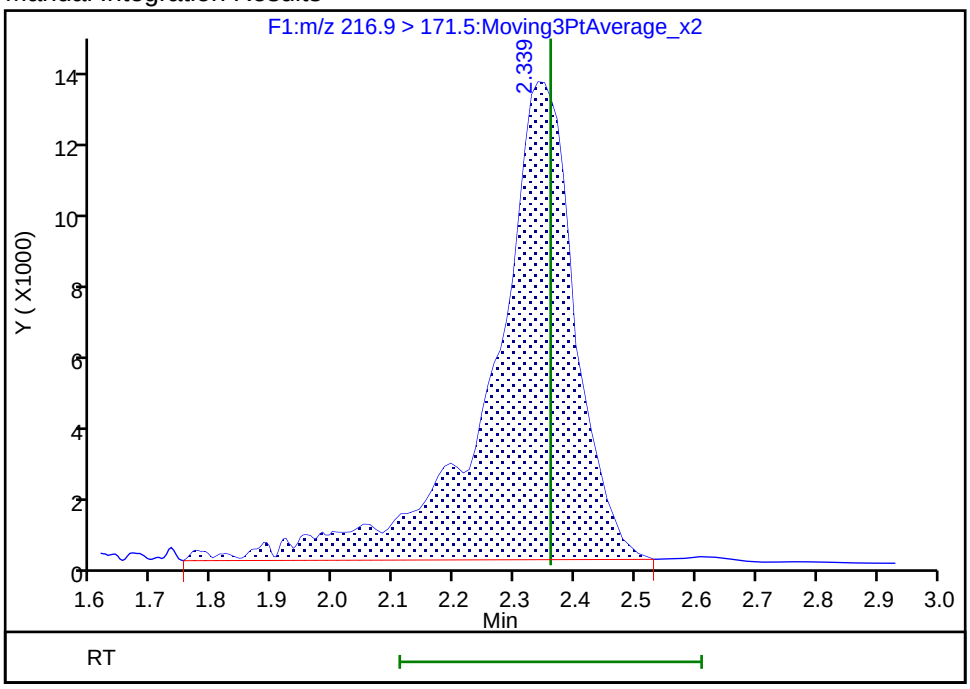
Processing Integration Results

RT: 2.34
Area: 133900
Amount: 22.679145
Amount Units: ng/ml



Manual Integration Results

RT: 2.34
Area: 132536
Amount: 22.448119
Amount Units: ng/ml



Reviewer: murrayjw, 12-Jun-2019 13:24:38
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

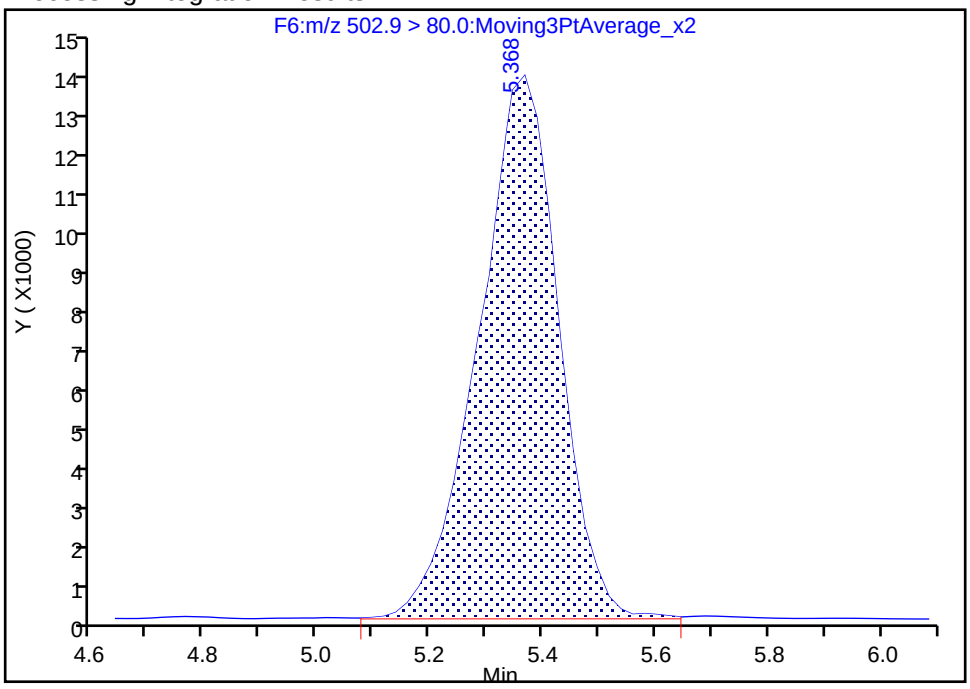
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B06.d
Injection Date: 05-Jun-2019 02:39:06 Instrument ID: LC410
Lims ID: LCS 200-143308/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F6:MRM

D 22 13C4 PFOS, CAS: STL00991

Signal: 1

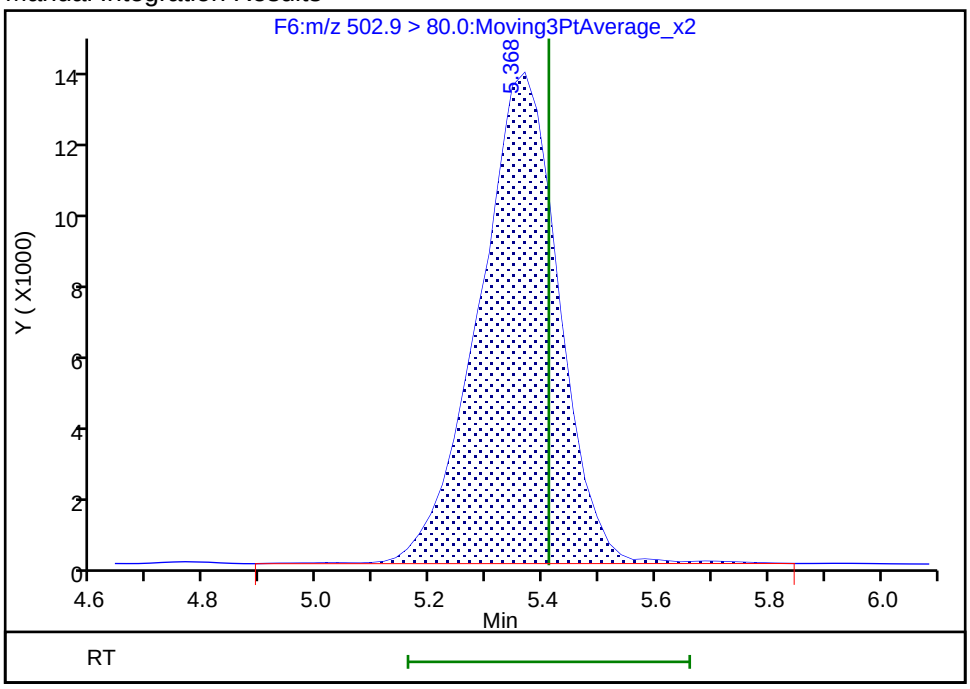
Processing Integration Results

RT: 5.37
Area: 131302
Amount: 23.380493
Amount Units: ng/ml



Manual Integration Results

RT: 5.37
Area: 131616
Amount: 23.436406
Amount Units: ng/ml



Reviewer: murrayjw, 12-Jun-2019 13:26:21
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

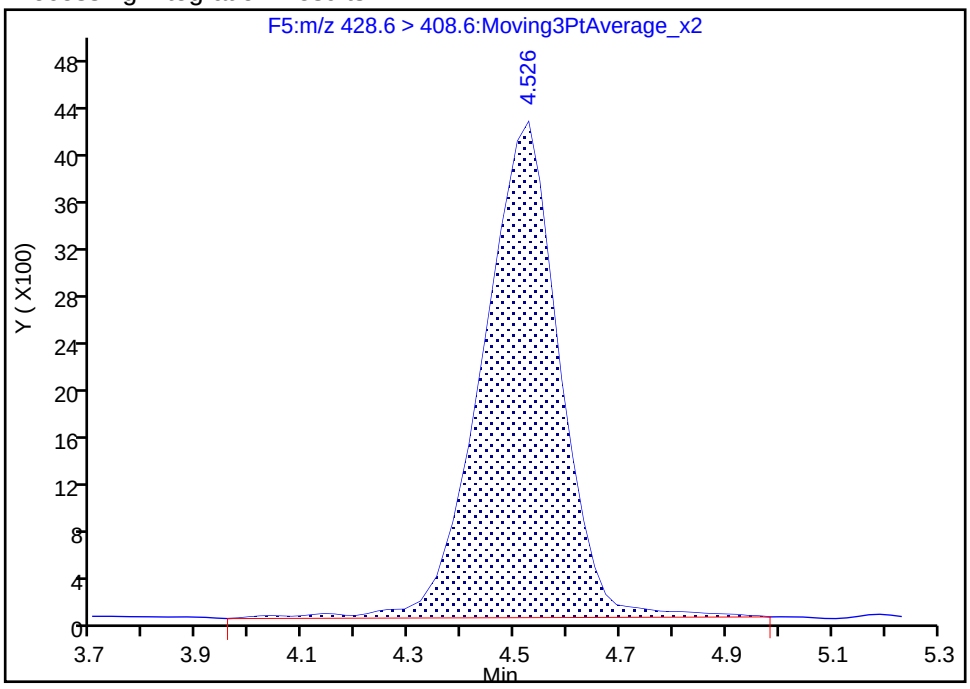
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B06.d
Injection Date: 05-Jun-2019 02:39:06 Instrument ID: LC410
Lims ID: LCS 200-143308/2-A
Client ID:
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F5:MRM

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

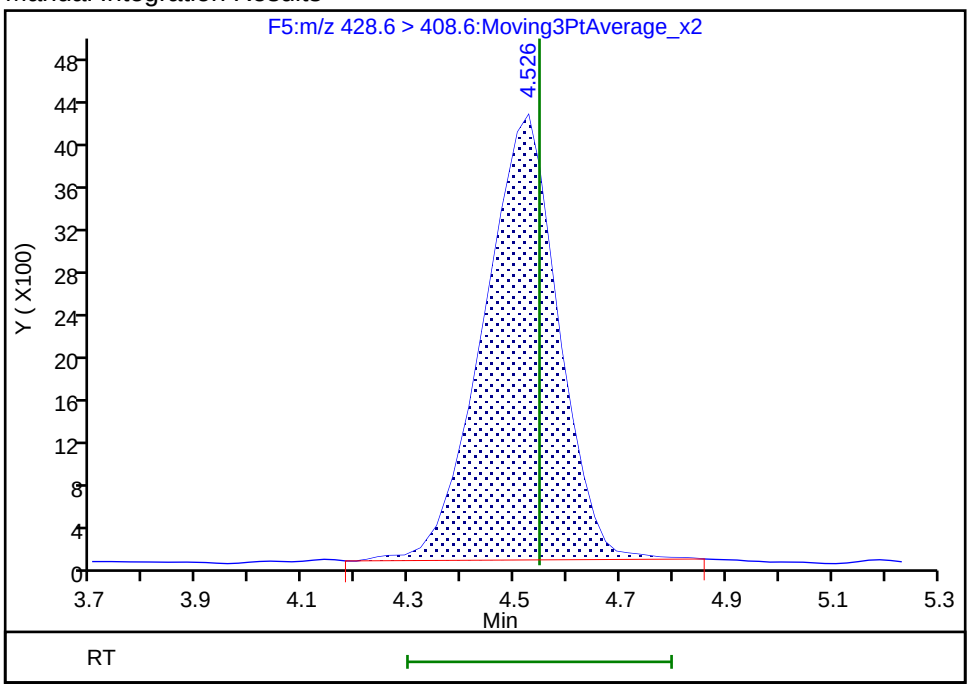
Processing Integration Results

RT: 4.53
Area: 42019
Amount: 31.235098
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 40548
Amount: 30.141620
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 11:08:21
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8S 051619 MS Lab Sample ID: 200-48826-17 MS

Matrix: Water Lab File ID: PF060419B21.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 10:52

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 300.5(mL) Date Analyzed: 06/05/2019 06:37

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	48.5		1.7	0.83
2706-90-3	Perfluoropentanoic acid (PFPeA)	48.5		1.7	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	45.3		1.7	0.63
375-85-9	Perfluoroheptanoic acid (PFHpA)	37.5		1.7	0.76
335-67-1	Perfluorooctanoic acid (PFOA)	38.5		1.7	0.52
375-95-1	Perfluorononanoic acid (PFNA)	40.0		1.7	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	36.8		1.7	0.64
2058-94-8	Perfluoroundecanoic acid (PFUnA)	40.5		1.7	0.44
307-55-1	Perfluorododecanoic acid (PFDoA)	37.3		1.7	0.49
72629-94-8	Perfluorotridecanoic acid (PFTriA)	37.8		1.7	0.50
376-06-7	Perfluorotetradecanoic acid (PFTeA)	40.5		1.7	0.77
375-73-5	Perfluorobutanesulfonic acid (PFBS)	43.7		1.7	0.41
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	37.0		1.7	0.67
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	43.5		1.7	0.79
335-77-3	Perfluorodecanesulfonic acid (PFDS)	36.2		1.7	0.75
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	49.3		1.7	0.51
754-91-6	Perfluorooctanesulfonamide (FOSA)	36.1		1.7	0.53
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	41.1		17	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	43.3		17	1.2
27619-97-2	6:2 FTS	43.1		17	3.8
39108-34-4	8:2 FTS	39.6		17	2.4

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8S 051619 MS Lab Sample ID: 200-48826-17 MS

Matrix: Water Lab File ID: PF060419B21.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 10:52

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 300.5(mL) Date Analyzed: 06/05/2019 06:37

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	38		25-150
STL00992	13C4 PFBA	29		25-150
STL01893	13C5 PFPeA	32		25-150
STL00993	13C2 PFHxA	44	*	50-150
STL01892	13C4 PFHpA	55		50-150
STL00990	13C4 PFOA	55		50-150
STL00995	13C5 PFNA	45	*	50-150
STL00996	13C2 PFDA	50		50-150
STL00997	13C2 PFUnA	54		50-150
STL00998	13C2 PFDoA	46	*	50-150
STL02116	13C2 PFTeDA	45	*	50-150
STL02337	13C3 PFBS	38	*	50-150
STL00994	18O2 PFHxS	47	*	50-150
STL00991	13C4 PFOS	40	*	50-150
STL02118	d3-NMeFOSAA	37	*	50-150
STL02117	d5-NEtFOSAA	41	*	50-150
STL02279	M2-6:2 FTS	58		25-150
STL02280	M2-8:2 FTS	64		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d
Lims ID: 200-48826-A-17-B MS
Client ID: MW-8S 051619
Sample Type: MS
Inject. Date: 05-Jun-2019 06:37:23 ALS Bottle#: 0 Worklist Smp#: 21
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-021 17MS
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 14:27:55
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.339	2.360	-0.021	1.000	82217	29.2		146	196	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.339	2.360	-0.021	1.000	89757	14.4		28.7	295	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.830	2.830	0.0	1.000	132268	29.1		146	125	
D 4 13C5 PFPeA										
267.7 > 222.6	2.830	2.830	0.0	1.000	75838	16.0		32.0	206	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	51596	26.3	Target=1.67	149	48.0	
298.9 > 98.9	2.901	2.901	0.0	1.000	47059		1.10(0.83-2.51)		200	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	36326	17.6		37.9	204	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.270	3.270	0.0	1.127	84481	81.6		437	717	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	239475	27.2	Target=14.34	136	114	
312.9 > 118.9	3.302	3.302	0.0	1.000	13739		17.43(7.17-21.51)		160	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	314419	22.1		44.3	755	
48 Perfluoropentanesulfonic acid										
348.9 > 80.0	3.365	3.365	0.0	1.160	58219	26.2	Target=1.23	140	131	
348.9 > 98.9	3.365	3.365	0.0	1.000	76883		0.76(0.62-1.85)		263	
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.492	-0.032	1.000	22767	NR		0.0	24.2	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	552419	27.6		55.2	1873	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.905	-0.036	1.000	292215	22.5	Target=2.84	113	108	
362.9 > 168.9	3.869	3.905	-0.036	1.000	98982		2.95(1.42-4.26)		508	
11 Perfluorohexanesulfonic acid										
398.9 > 80.0	3.926	3.925	0.001	1.005	57605	22.2	Target=1.34	122	245	
398.9 > 98.9	3.926	3.925	0.001	1.005	72014		0.80(0.67-2.01)		394	
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.925	-0.020	1.000	57974	22.0		46.5	253	M
49 DONA										
376.9 > 250.7	3.946	3.966	-0.020	0.738	291357	28.3	Target=2.33	150	1558	
376.9 > 85.0	3.946	3.966	-0.020	1.000	102296		2.85(1.16-3.49)		592	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.506	4.547	-0.041	0.995	20347	25.9		136	95.1	
D 14 M2-6:2 FTS										
428.6 > 408.6	4.526	4.547	-0.021	1.000	39522	27.8		58.5	262	
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1277037	50.0			1168	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.589	-0.021	1.000	318722	23.1	Target=2.43	116	596	
412.9 > 168.9	4.568	4.589	-0.021	1.000	129101		2.47(1.22-3.64)		223	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	680911	27.5		54.9	2090	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.609	-0.020	0.858	54493	26.2	Target=1.30	137	303	
448.9 > 98.9	4.609	4.609	0.0	1.000	66262		0.82(0.65-1.95)		246	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.368	-0.021	1.002	320844	24.0	Target=5.00	120	835	
462.9 > 168.9	5.347	5.368	-0.021	1.002	73403		4.37(2.50-7.50)		544	
D 20 13C5 PFNA										
467.8 > 422.8	5.337	5.389	-0.052	1.000	756379	22.7		45.5	1268	
21 Perfluorooctanesulfonic acid										M
498.9 > 80.0	5.347	5.389	-0.042	1.000	68550	29.7	Target=1.41	160	487	M
498.9 > 98.9	5.347	5.389	-0.042	1.000	66797		1.03(0.71-2.12)		488	M
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	114400	19.3		40.3	537	
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.778	5.812	-0.034	1.081	271658	25.8		139	1070	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.097	6.131	-0.034	1.000	58099	23.8		124	171	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.131	-0.034	1.000	158469	30.6		63.9	543	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.165	-0.034	1.000	287895	22.1	Target=7.23	111	302	
512.9 > 168.9	6.131	6.165	-0.034	1.000	33318		8.64(3.61-10.84)		279	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.131	6.165	-0.034	1.147	48891	21.1	Target=1.39	110	228	
548.9 > 98.9	6.131	6.165	-0.034	1.000	61707		0.79(0.69-2.08)		172	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	710916	25.0		50.1	724	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.501	6.525	-0.024	1.004	70549	24.7		124	369	
D 27 d3-NMeFOSAA										M
572.9 > 418.7	6.477	6.549	-0.072	1.000	172793	18.7		37.4	835	M
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.849	6.897	-0.048	1.000	65173	26.0		130	384	
31 Perfluorodecanesulfonic acid										M
598.9 > 80.0	6.873	6.897	-0.024	1.286	54107	21.8	Target=1.25	113	282	M
598.9 > 98.9	6.873	6.897	-0.024	1.000	66499		0.81(0.63-1.88)		437	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.921	-0.072	1.000	155411	20.4		40.8	1112	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.873	6.921	-0.048	1.000	300797	24.3	Target=7.06	122	545	
562.9 > 168.9	6.873	6.921	-0.048	1.000	37431		8.04(3.53-10.58)		296	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.945	-0.072	1.000	742642	27.1		54.2	3122	
35 Perfluorooctanesulfonamide										M
497.9 > 78.1	7.013	7.013	0.0	1.000	120962	21.7		108	427	M
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	195795	19.1		38.3	739	
43 11-Chloroeicosafluoro-3-oxaundecan										M
631.0 > 450.6	7.234	7.274	-0.040	1.353	320838	23.9		127	692	M
36 Perfluorododecanoic acid										
612.9 > 568.5	7.596	7.616	-0.020	1.003	342113	22.4	Target=5.37	112	1110	
612.9 > 168.9	7.596	7.616	-0.020	1.003	59080		5.79(2.68-8.06)		353	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	803623	23.0		46.0	2009	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.202	8.235	-0.033	1.082	341871	22.7	Target=4.67	113	551	
662.9 > 168.9	8.213	8.235	-0.022	1.084	60279		5.67(2.34-7.01)		281	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.752	8.786	-0.034	1.000	294189	24.3	Target=4.86	122	806	
712.9 > 168.9	8.752	8.786	-0.034	1.000	53743		5.47(2.43-7.30)		282	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.819	-0.067	1.000	711761	22.7		45.4	530	
S 50 F-53B										
212.9 > 168.9						49.7				

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags
M - Manually Integrated

Report Date: 05-Jun-2019 15:51:49 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d

Injection Date: 05-Jun-2019 06:37:23 Instrument ID: LC410

Lims ID: 200-48826-A-17-B MS

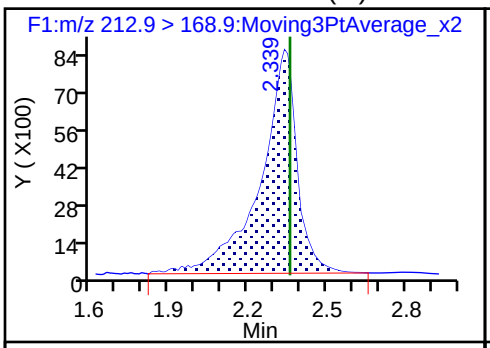
Client ID: MW-8S 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 21

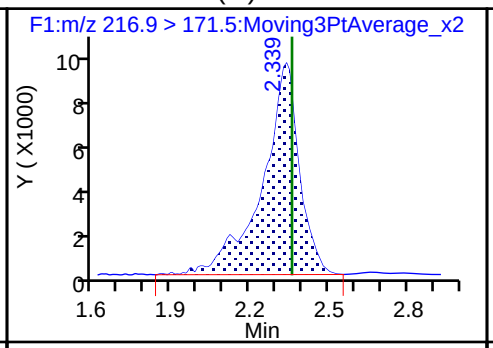
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

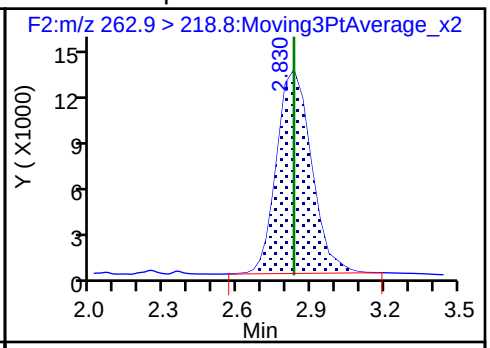
2 Perfluorobutanoic acid (M)



D 1 13C4 PFBA (M)



3 Perfluoropentanoic acid



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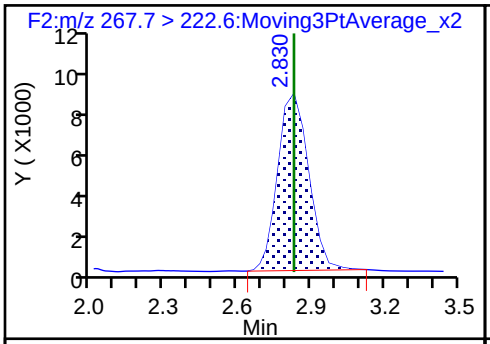
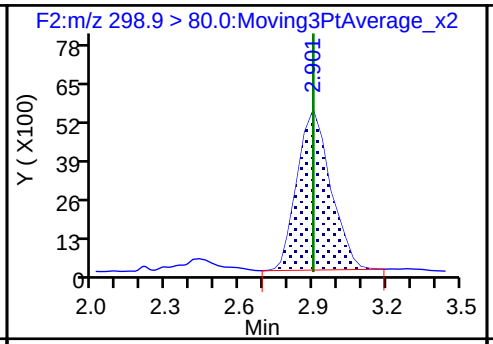


6 Perfluorobutanesulfonic acid



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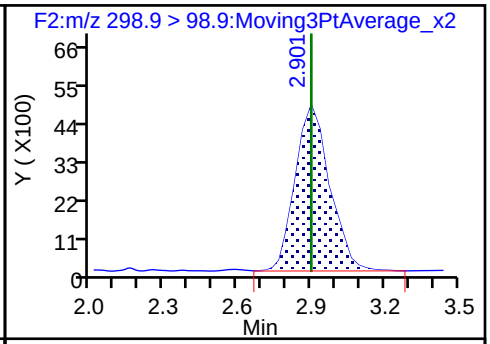
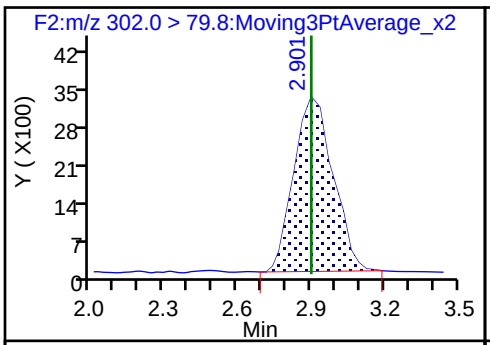
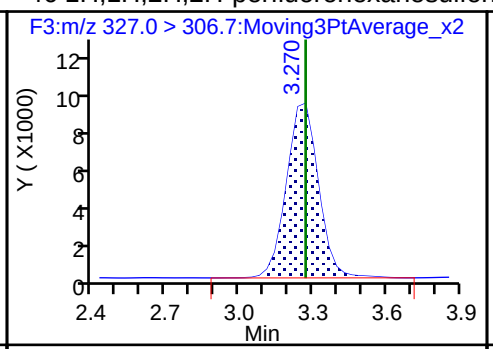


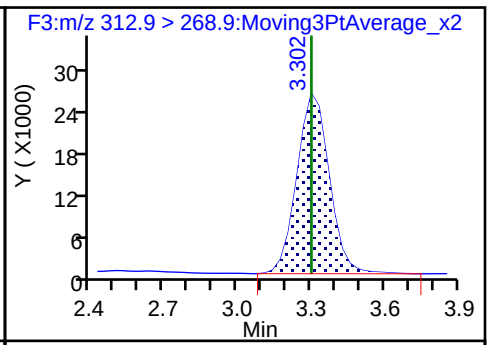
D 5 13C3 PFBS



46 1H,1H,2H,2H-perfluorohexanesulfoni



7 Perfluorohexanoic acid



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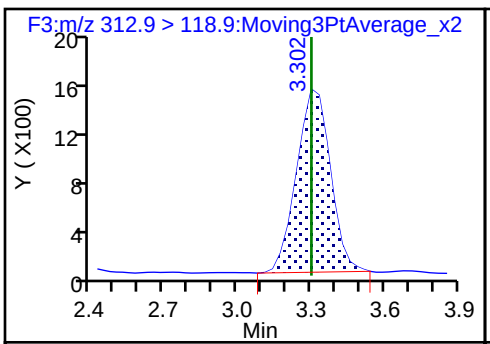
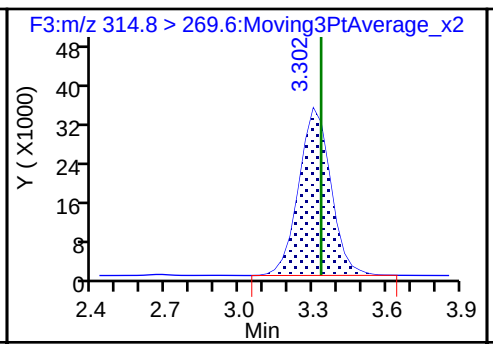
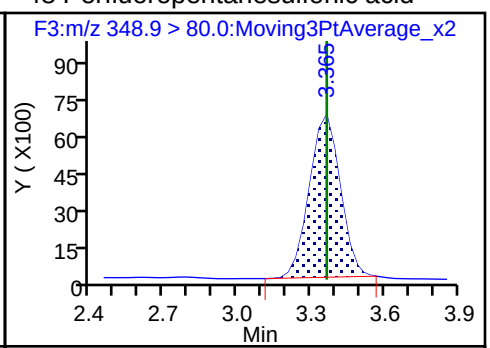


D 8 13C2 PFHxA



48 Perfluoropentanesulfonic acid



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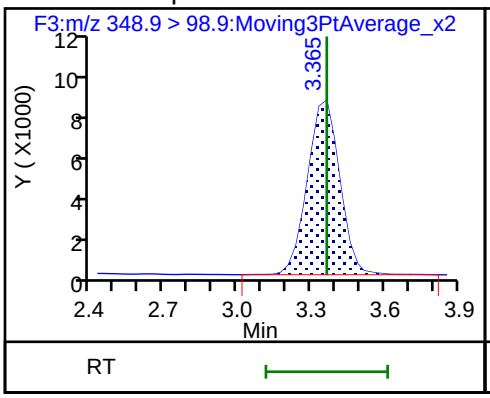
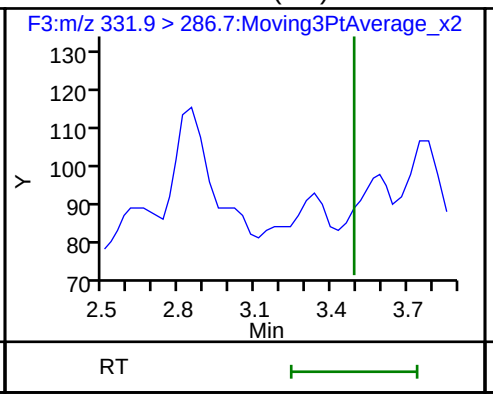
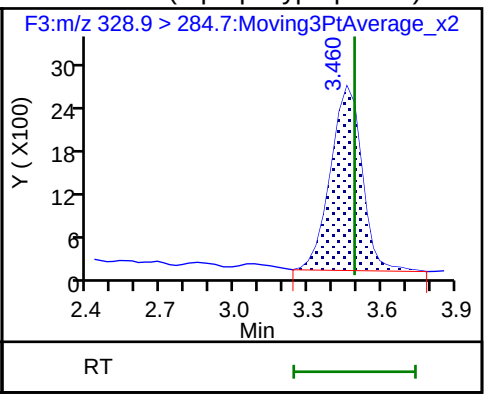


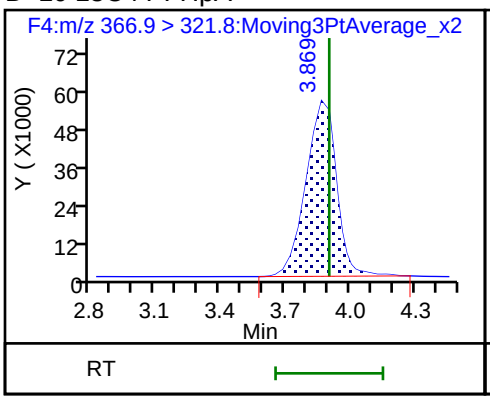
D 42 13C3 HFPO-DA (ND)



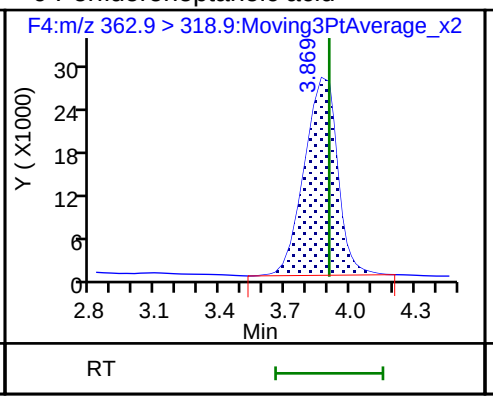
44 Perfluoro(2-propoxypropanoic) acid



D 10 13C4 PFHpA



9 Perfluoroheptanoic acid



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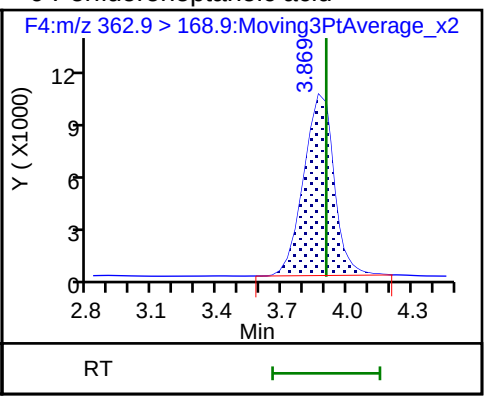
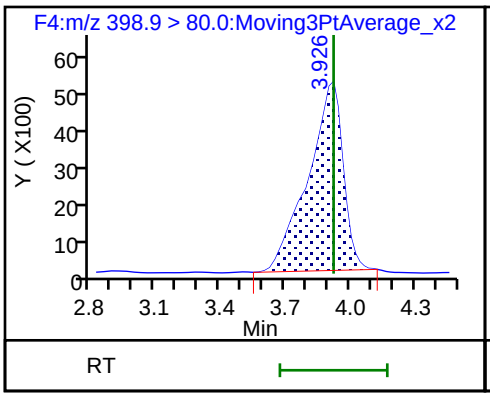


11 Perfluorohexanesulfonic acid



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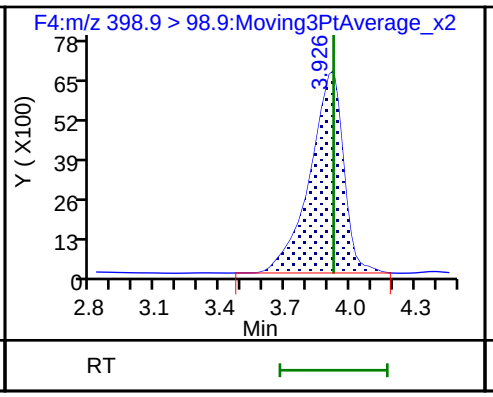
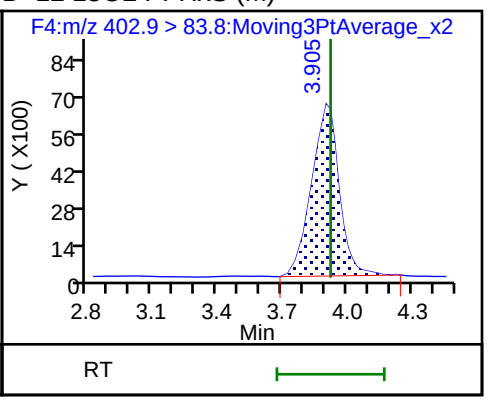
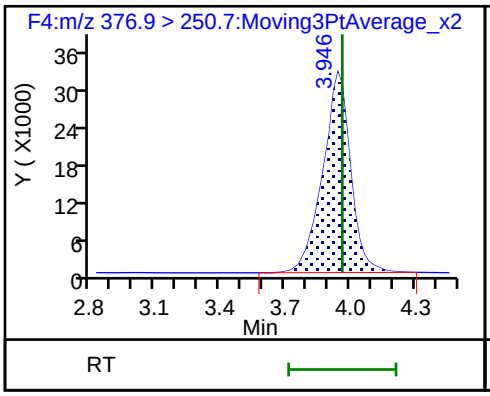


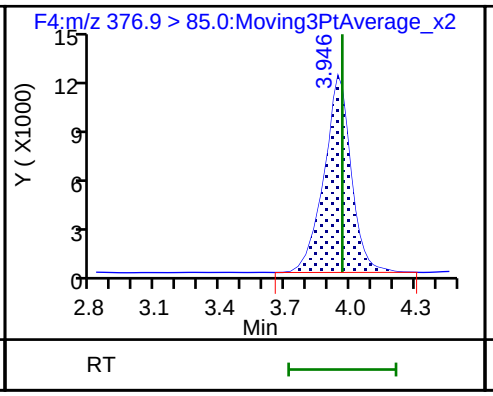
D 12 18O2 PFHxS (M)



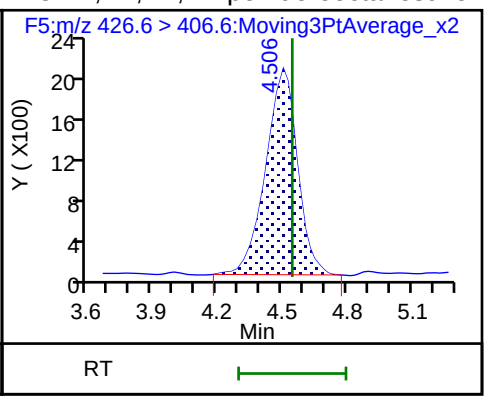
49 DONA



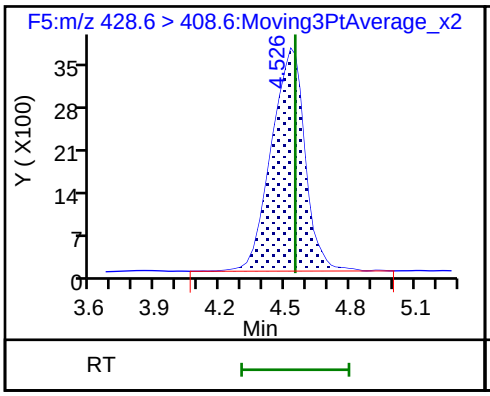
49 DONA



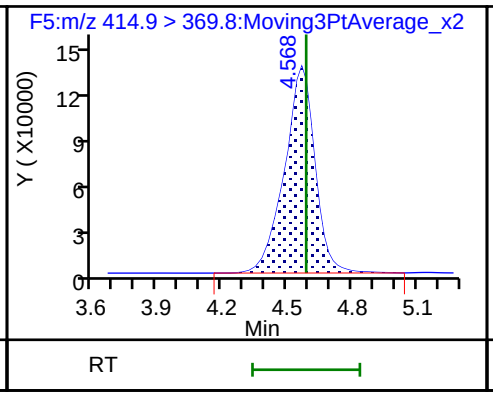
13 1H,1H,2H,2H-perfluorooctanesulfoni



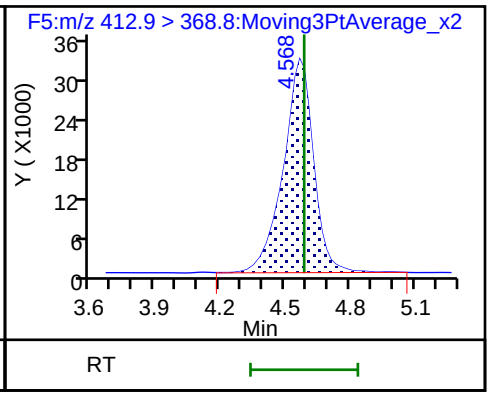
D 14 M2-6:2 FTS



* 16 13C2 PFOA



15 Perfluorooctanoic acid



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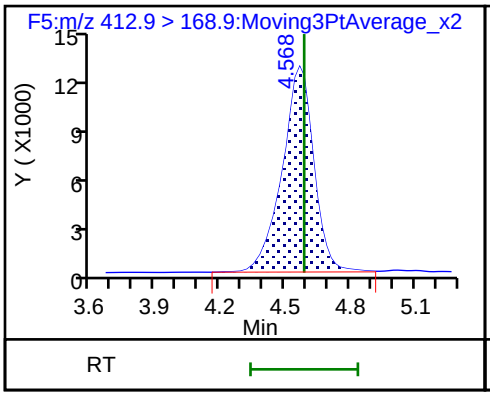

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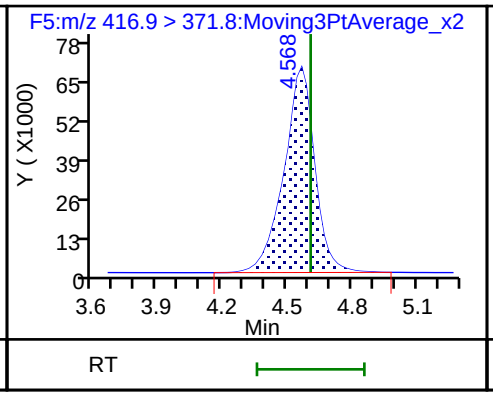

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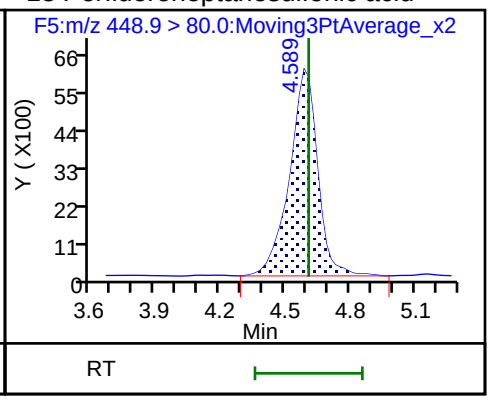

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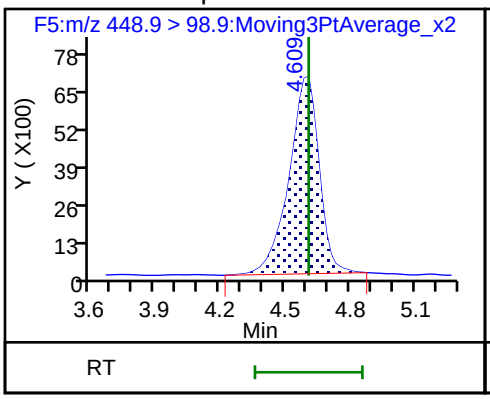
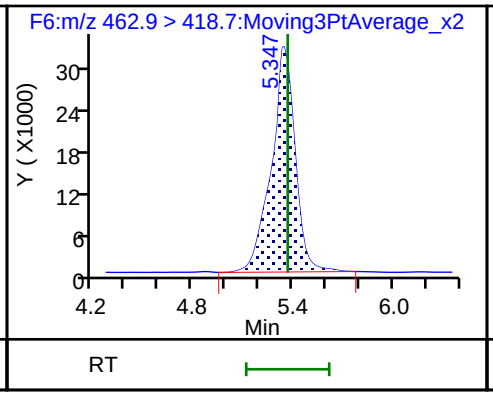


19 Perfluorononanoic acid



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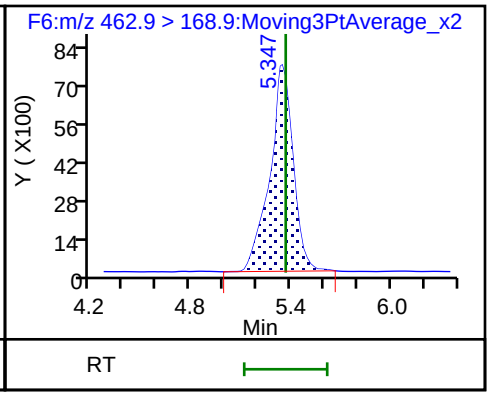

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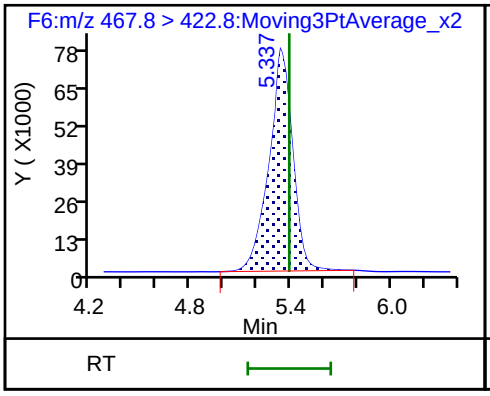
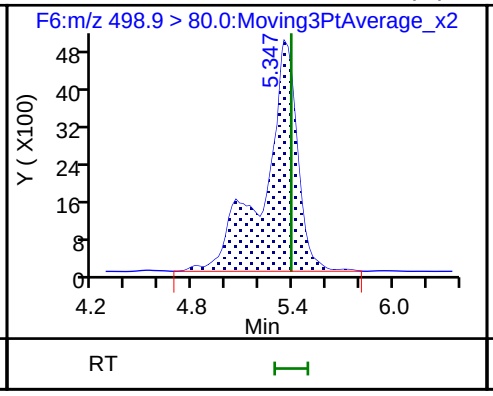


21 Perfluorooctanesulfonic acid (M)



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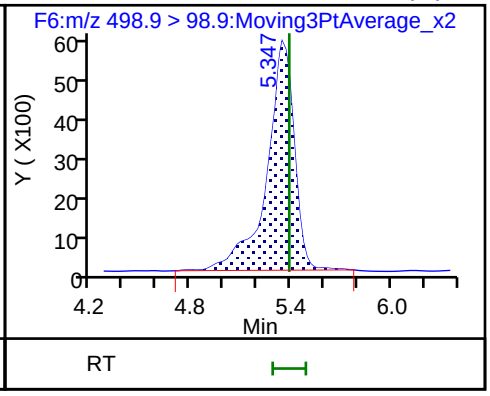
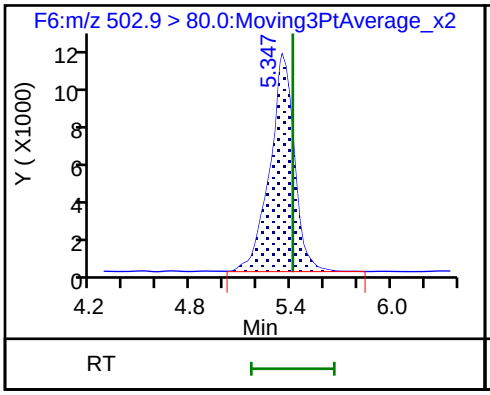
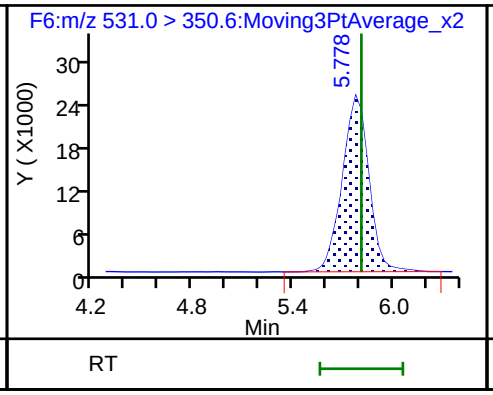


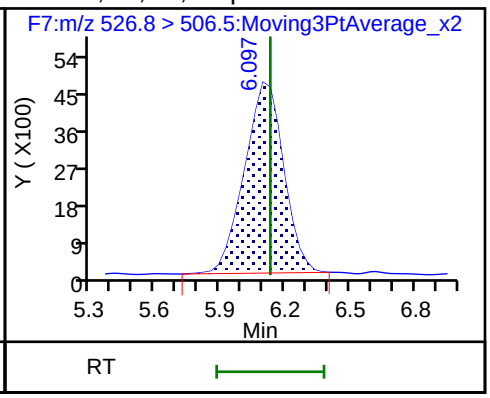
D 22 13C4 PFOS



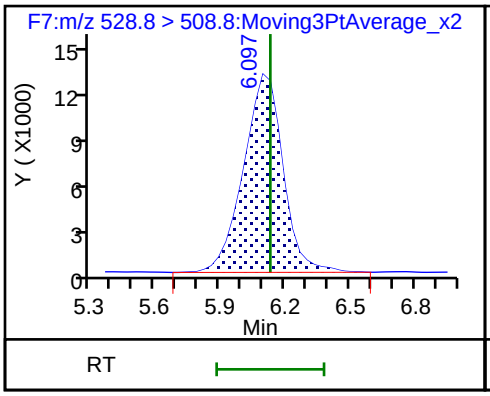
47 9-Chlorohexadecafluoro-3-oxanonane



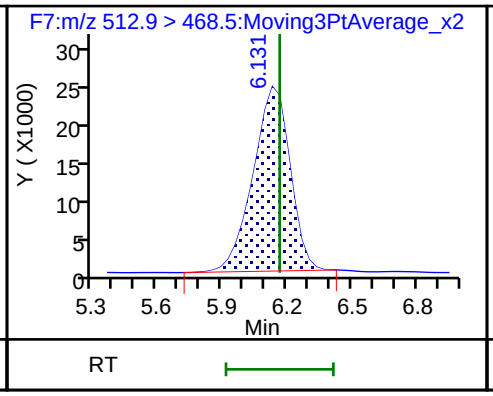
23 1H,1H,2H,2H-perfluorodecanesulfoni



D 24 M2-8:2 FTS



26 Perfluorodecanoic acid



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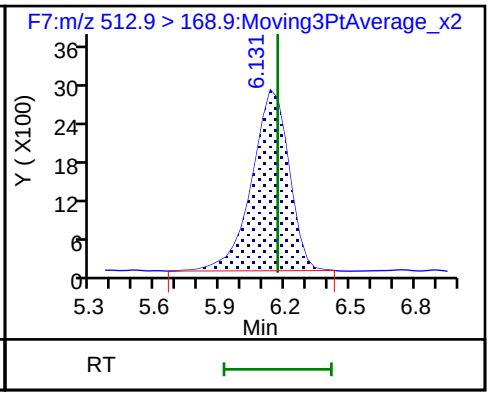
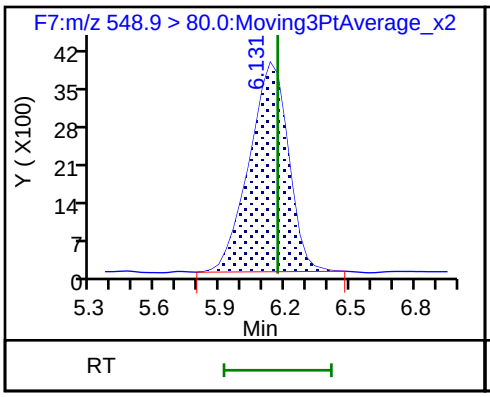


45 Perfluorononanesulfonic acid



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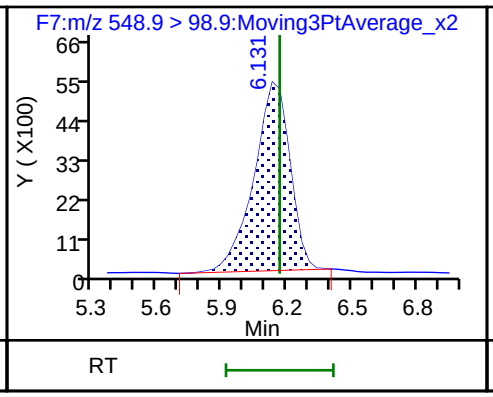
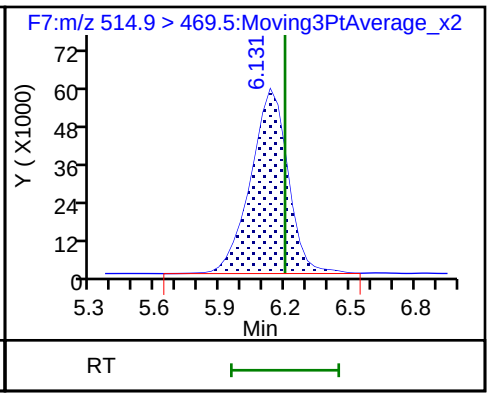
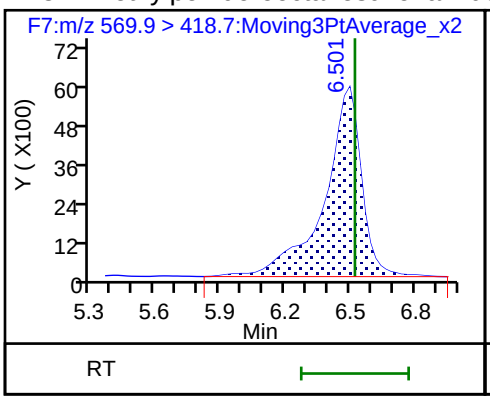
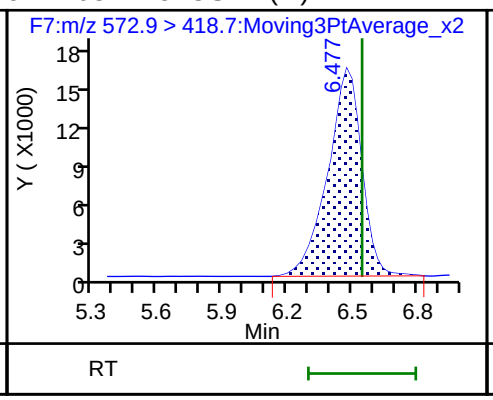


D 25 13C2 PFDA

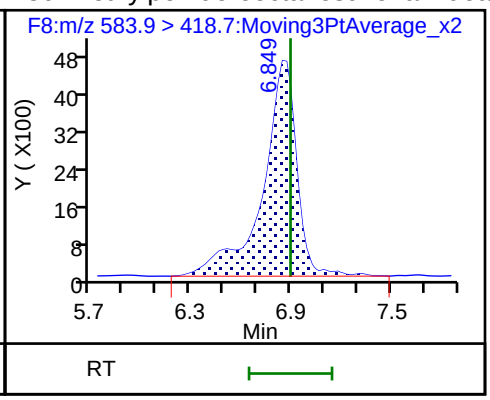


28 N-methylperfluorooctanesulfonamidoD 27 d3-NMeFOSAA (M)

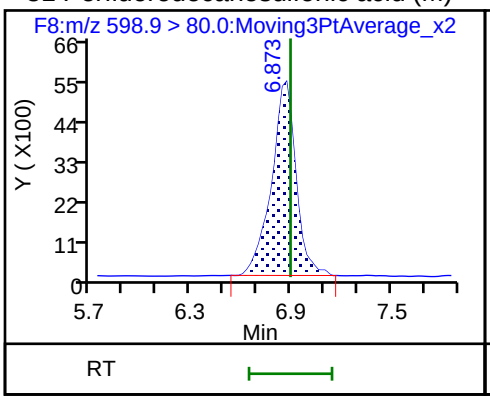




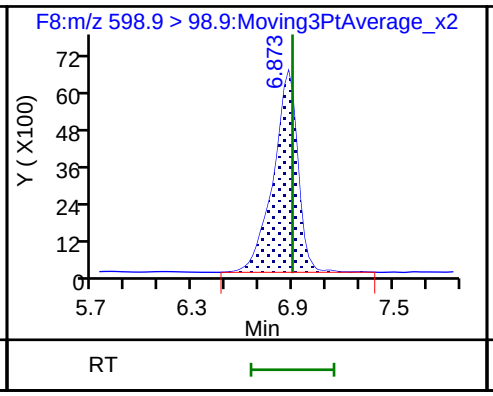
30 N-ethylperfluorooctanesulfonamidoa



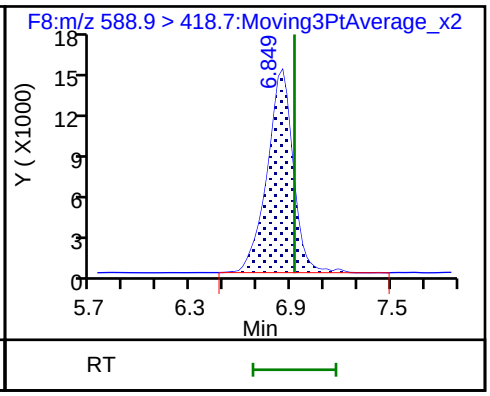
31 Perfluorodecanesulfonic acid (M)



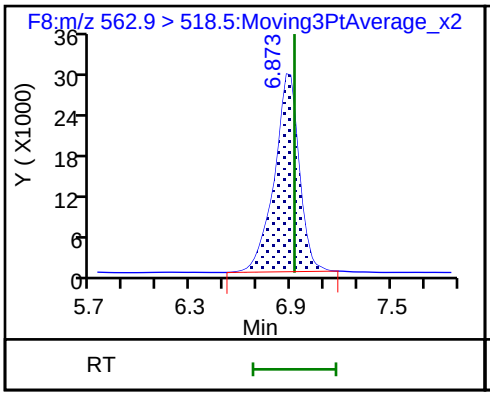
31 Perfluorodecanesulfonic acid



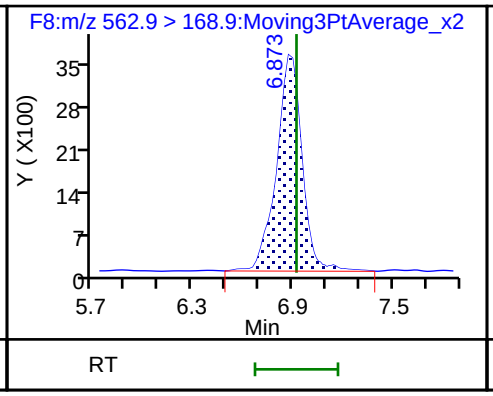
D 29 d5-NEtFOSAA



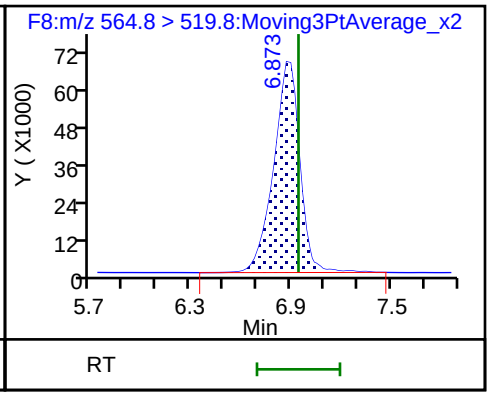
32 Perfluoroundecanoic acid



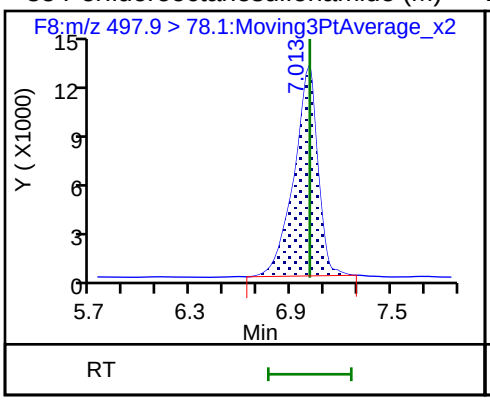
32 Perfluoroundecanoic acid



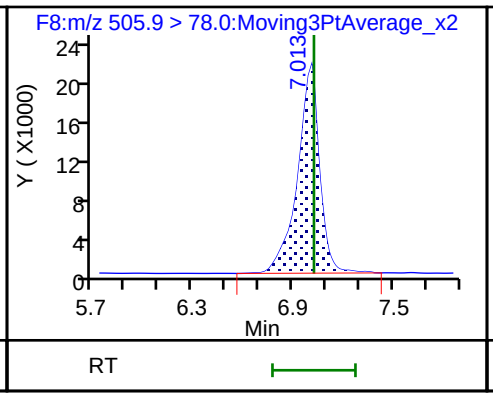
D 33 13C2 PFUnA



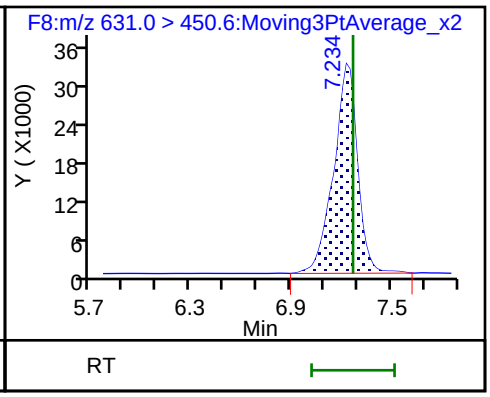
35 Perfluorooctanesulfonamide (M)



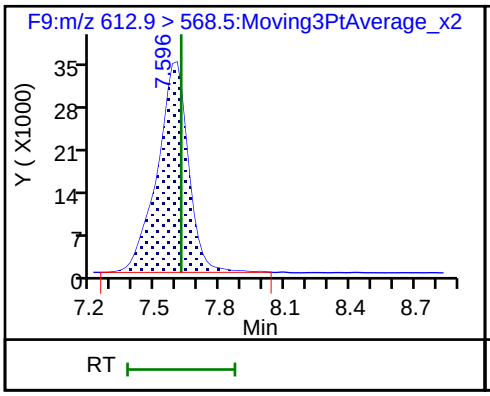
D 34 13C8 FOSA



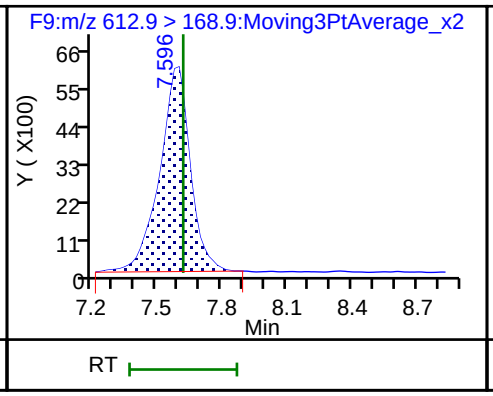
43 11-Chloroeicosafluoro-3-oxaundecan (M)



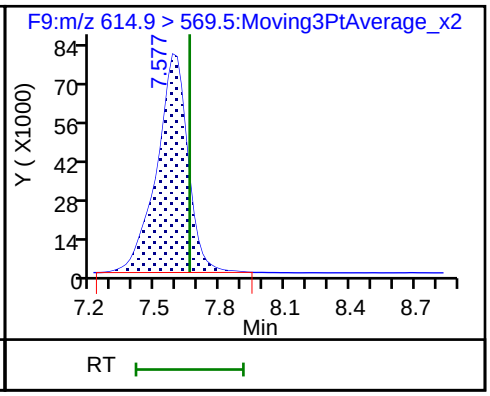
36 Perfluorododecanoic acid



36 Perfluorododecanoic acid

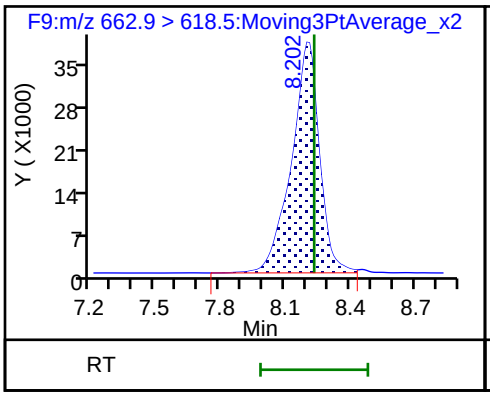


D 37 13C2 PFDoA

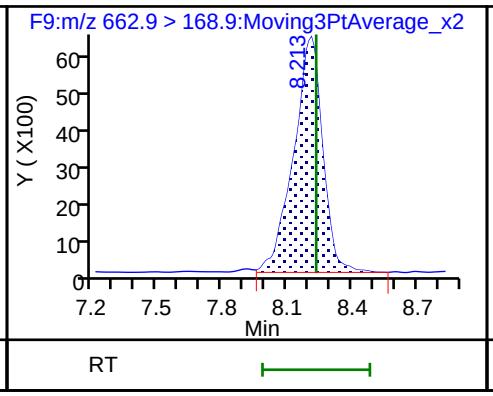


Report Date: 05-Jun-2019 15:51:49 Chrom Revision: 2.3 03-May-2019 15:52:00
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d

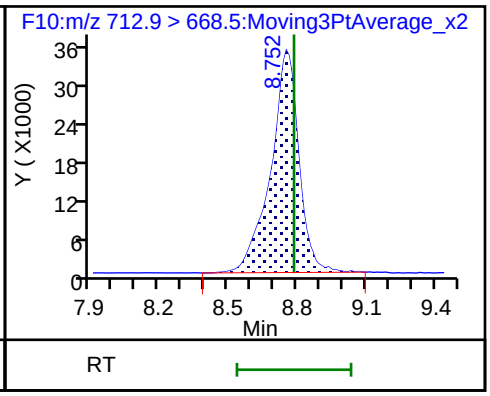
38 Perfluorotridecanoic acid



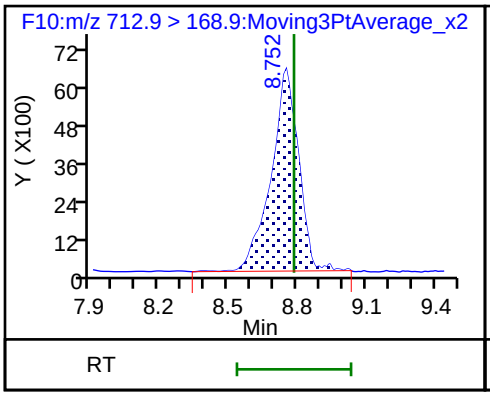
38 Perfluorotridecanoic acid



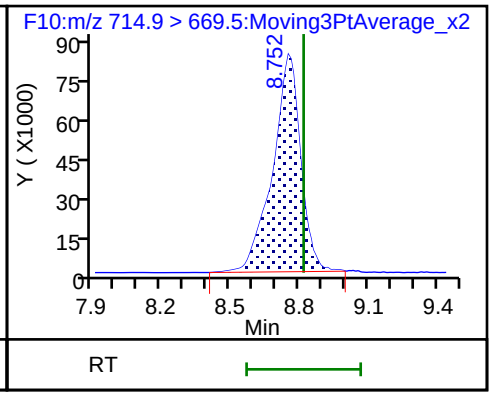
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Eurofins TestAmerica, Burlington

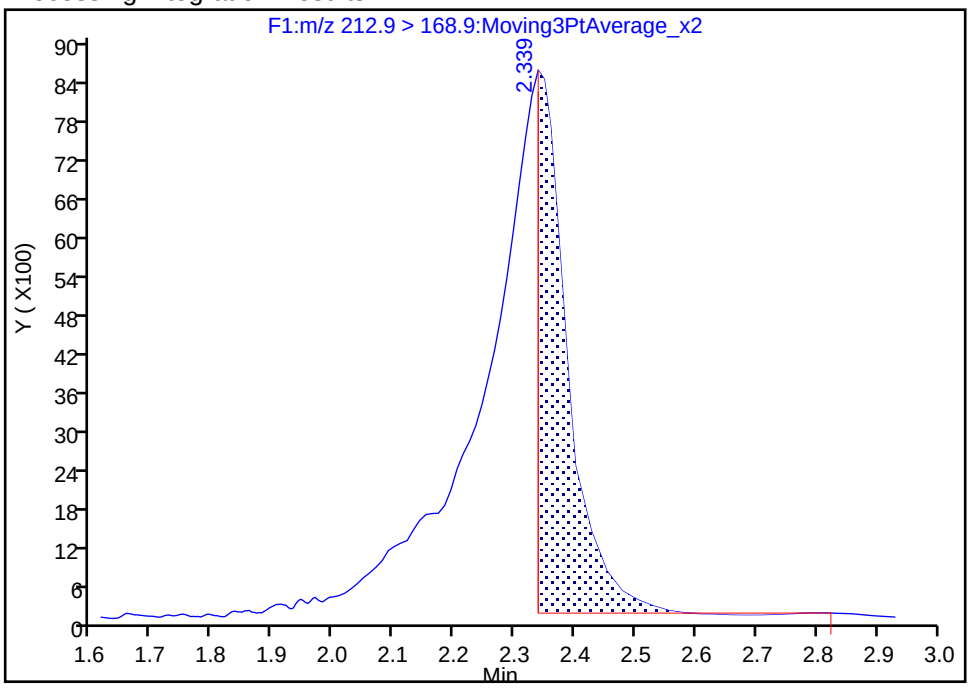
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d				
Injection Date:	05-Jun-2019 06:37:23	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-B MS				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

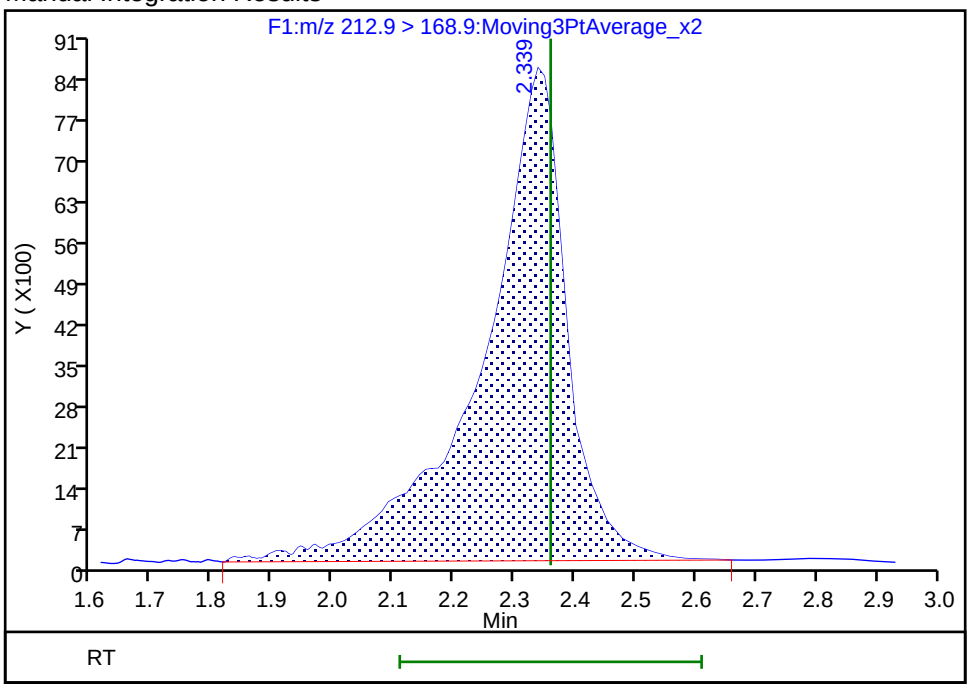
Processing Integration Results

RT: 2.34
Area: 27874
Amount: 9.970608
Amount Units: ng/ml



Manual Integration Results

RT: 2.34
Area: 82217
Amount: 29.172030
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:25:16
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

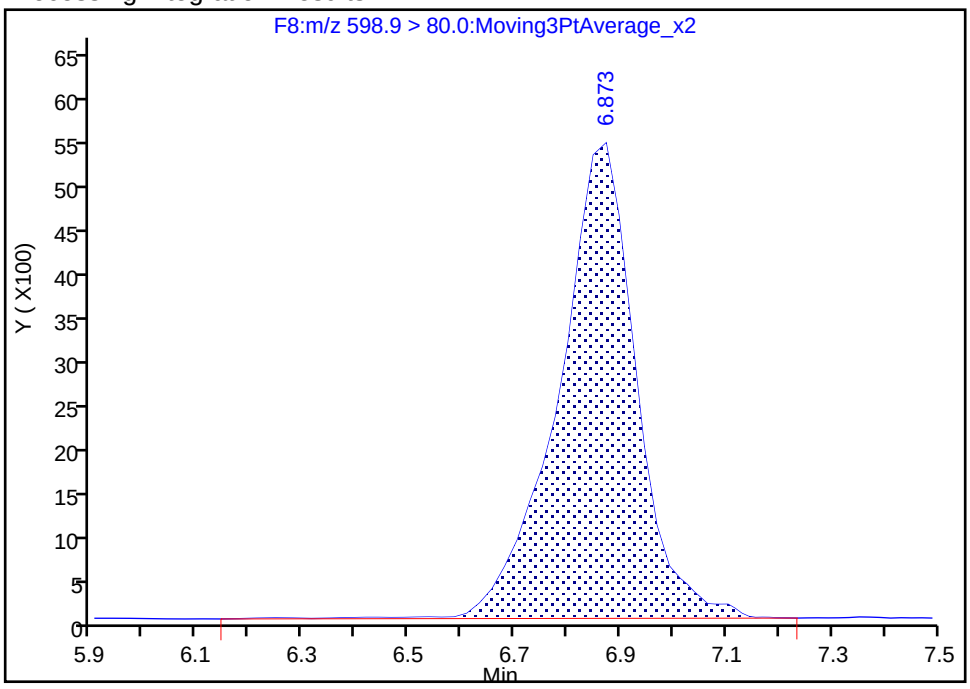
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d				
Injection Date:	05-Jun-2019 06:37:23	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-B MS				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

31 Perfluorodecanesulfonic acid, CAS: 335-77-3

Signal: 1

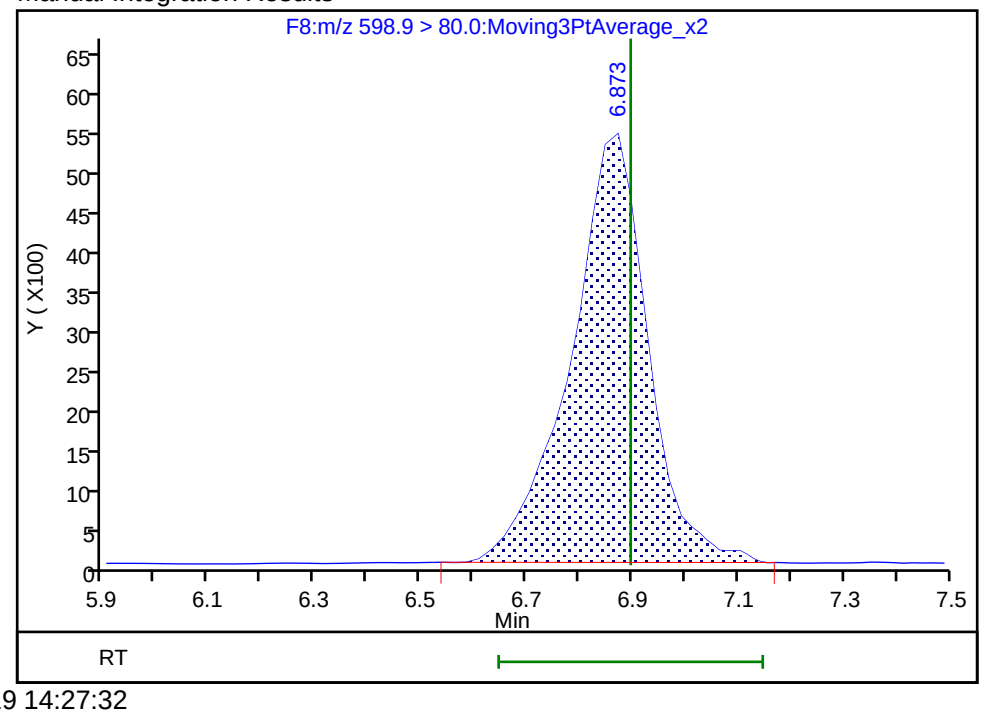
Processing Integration Results

RT: 6.87
Area: 54828
Amount: 22.067799
Amount Units: ng/ml



Manual Integration Results

RT: 6.87
Area: 54107
Amount: 21.777603
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:27:32

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

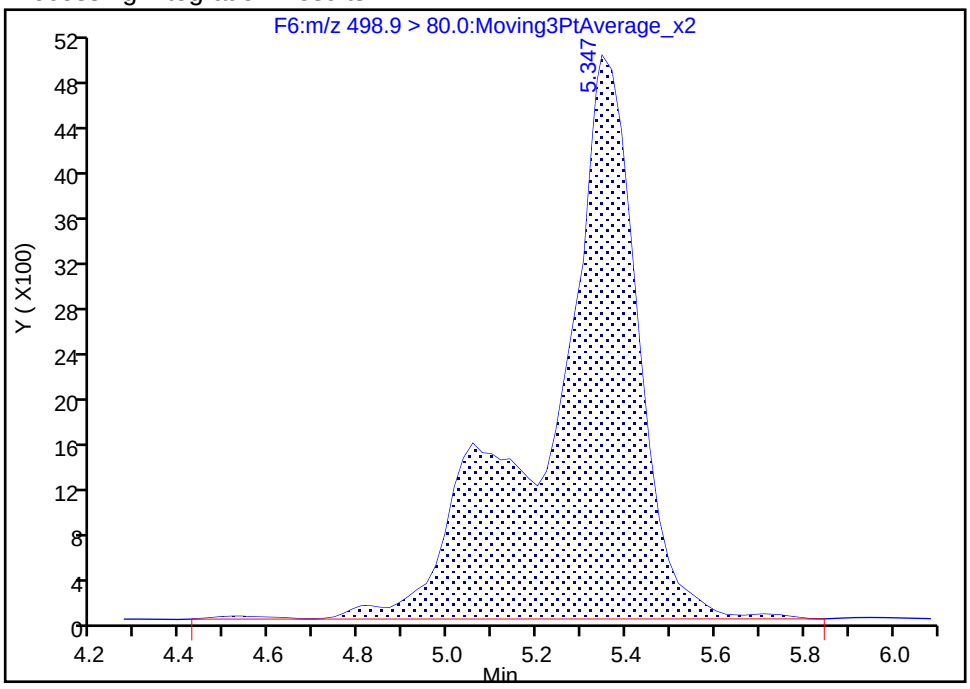
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d				
Injection Date:	05-Jun-2019 06:37:23	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-B MS				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

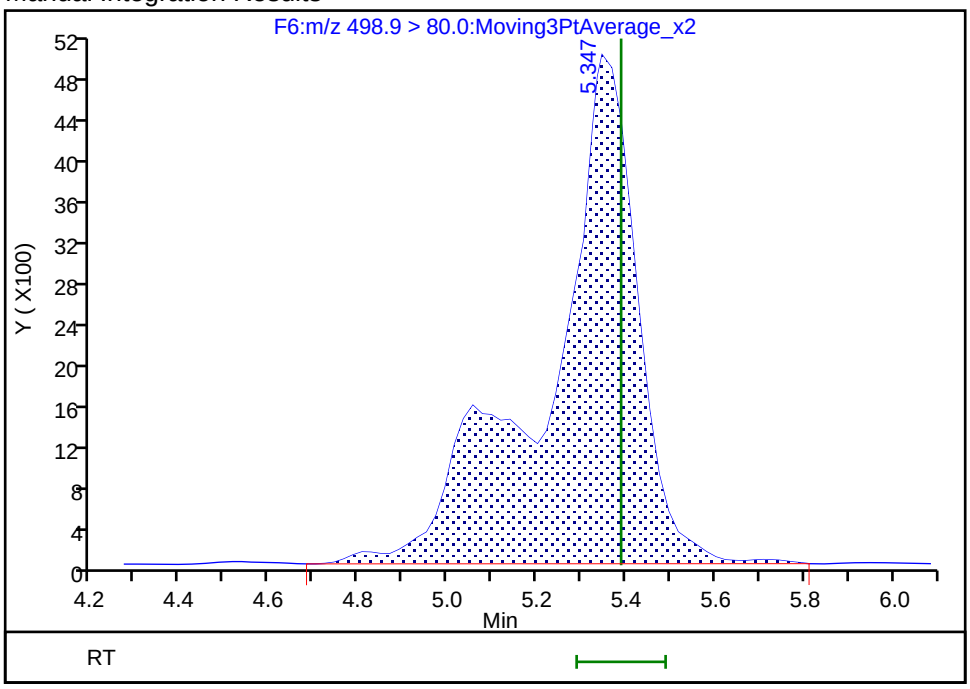
Processing Integration Results

RT: 5.35
Area: 68884
Amount: 29.803749
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 68550
Amount: 29.659238
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:27:14
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

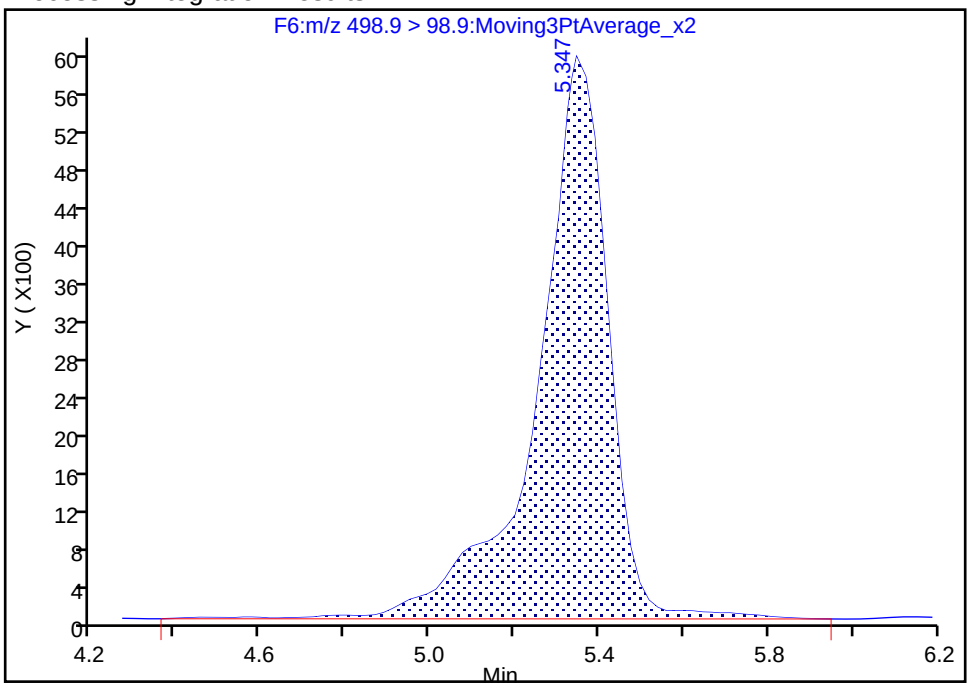
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d				
Injection Date:	05-Jun-2019 06:37:23	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-B MS				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F6:MRM		

21 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

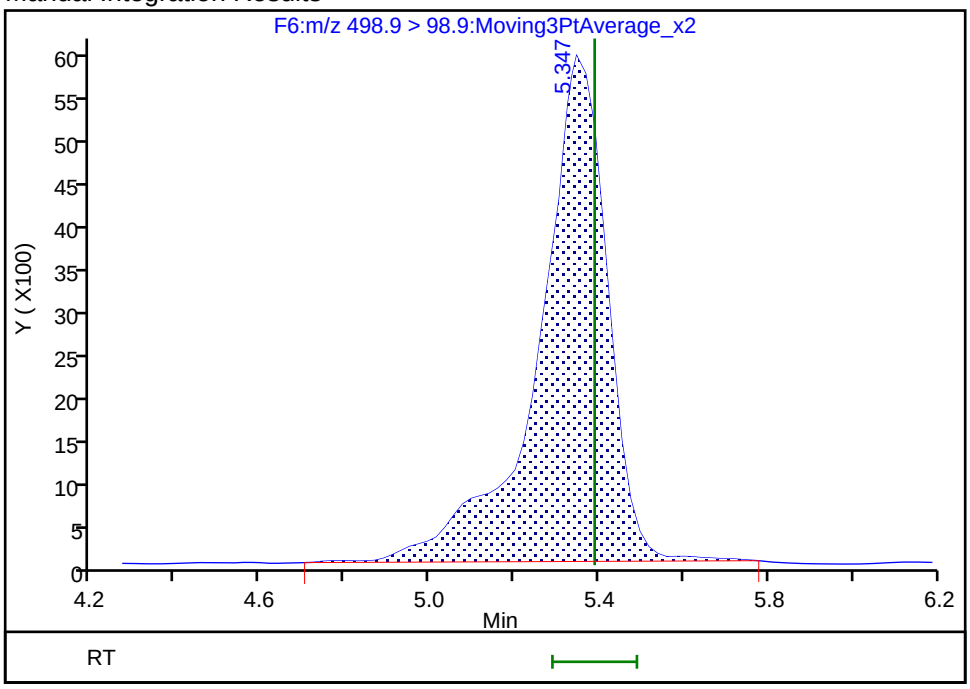
Processing Integration Results

RT: 5.35
Area: 68816
Amount: 29.803749
Amount Units: ng/ml



Manual Integration Results

RT: 5.35
Area: 66797
Amount: 29.659238
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:27:16

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

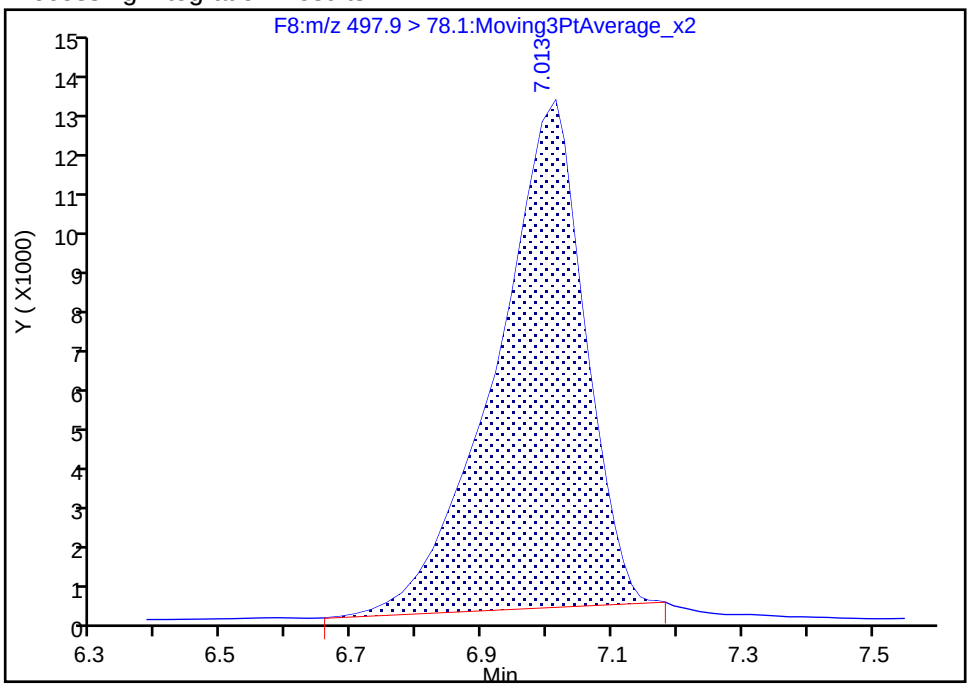
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d				
Injection Date:	05-Jun-2019 06:37:23	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-B MS				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F8:MRM		

35 Perfluorooctanesulfonamide, CAS: 754-91-6

Signal: 1

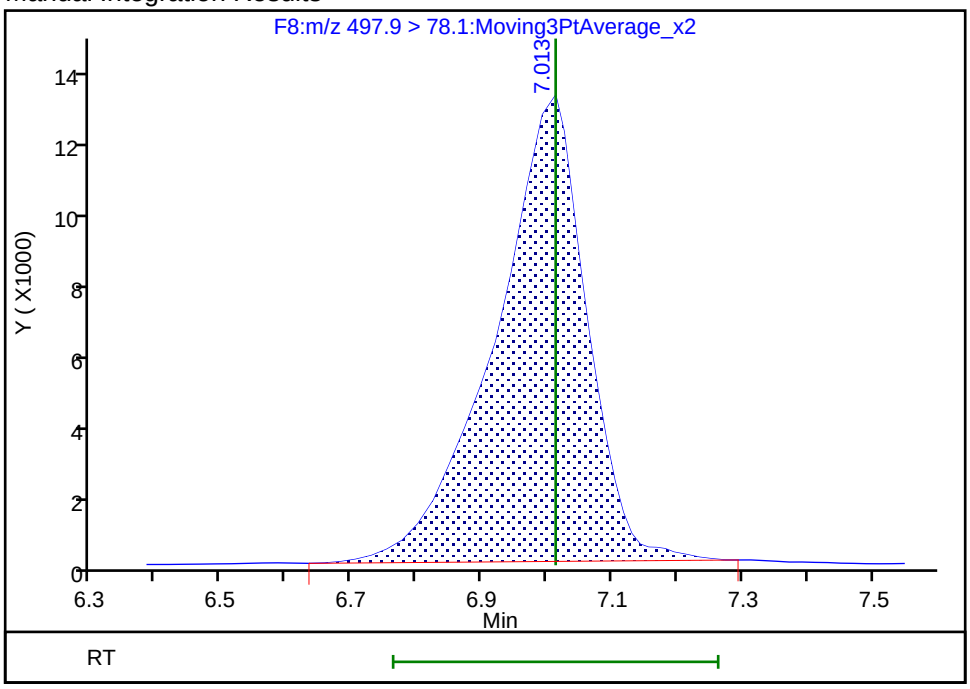
Processing Integration Results

RT: 7.01
Area: 115439
Amount: 20.700831
Amount Units: ng/ml



Manual Integration Results

RT: 7.01
Area: 120962
Amount: 21.691230
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:27:39
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

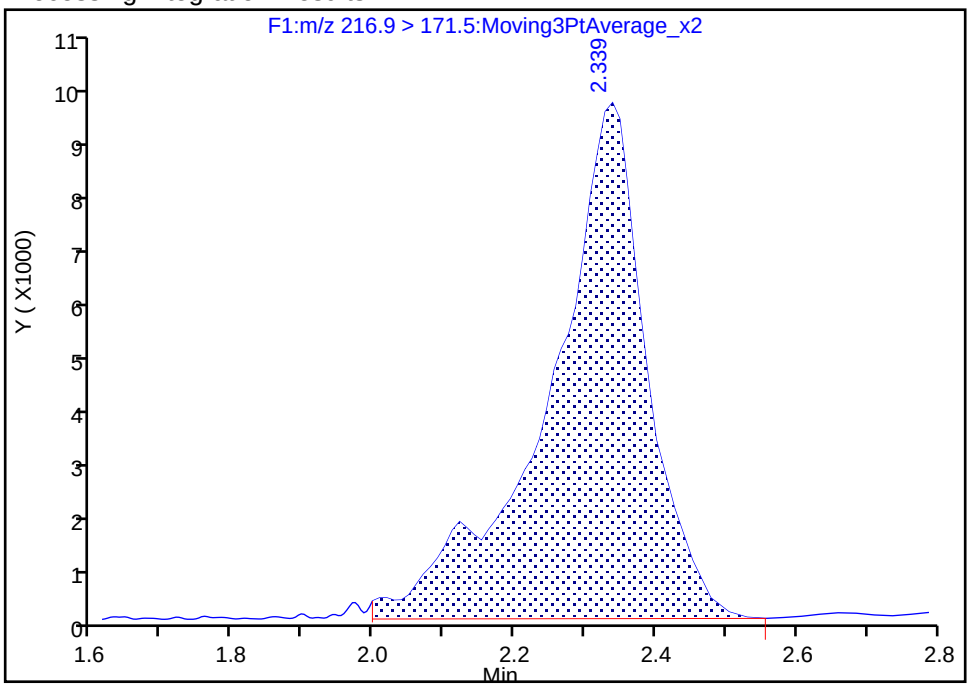
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d				
Injection Date:	05-Jun-2019 06:37:23	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-B MS				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

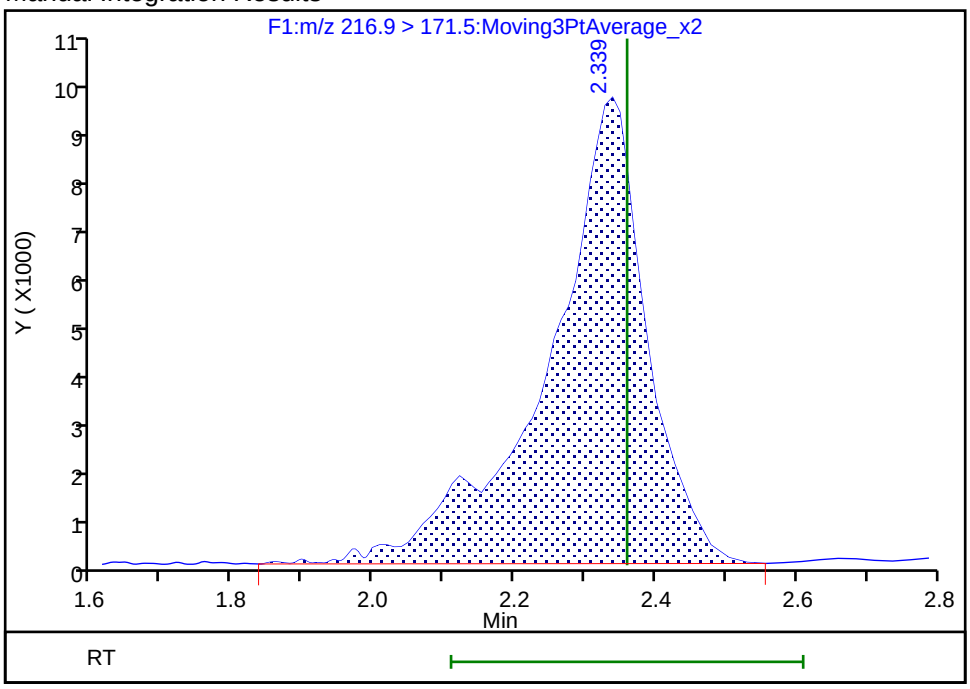
Processing Integration Results

RT: 2.34
Area: 89033
Amount: 14.255397
Amount Units: ng/ml



Manual Integration Results

RT: 2.34
Area: 89757
Amount: 14.371320
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:25:19
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

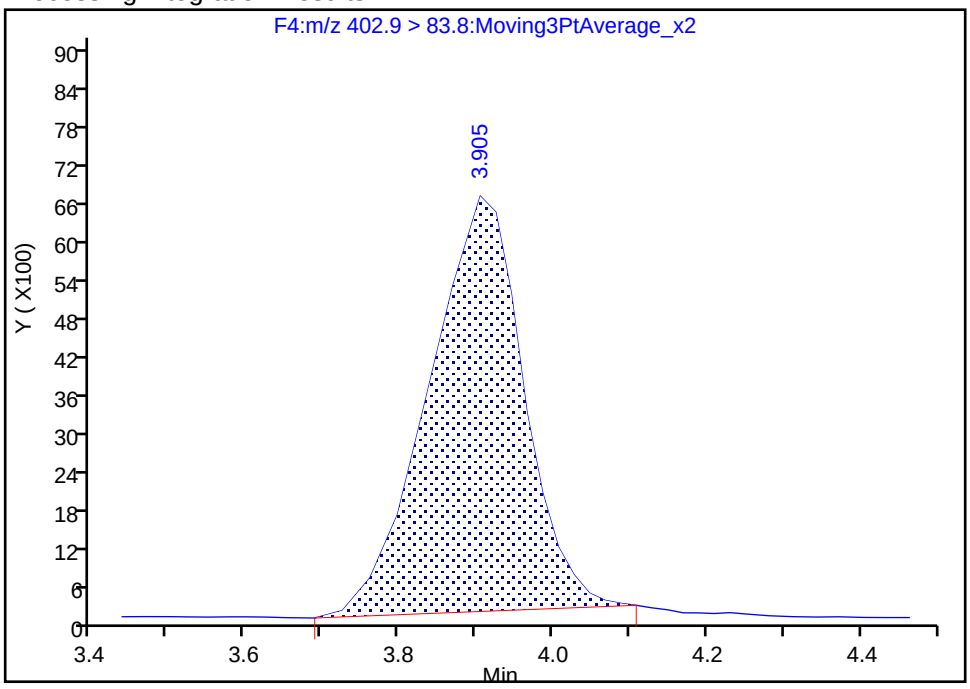
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d				
Injection Date:	05-Jun-2019 06:37:23	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-B MS				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

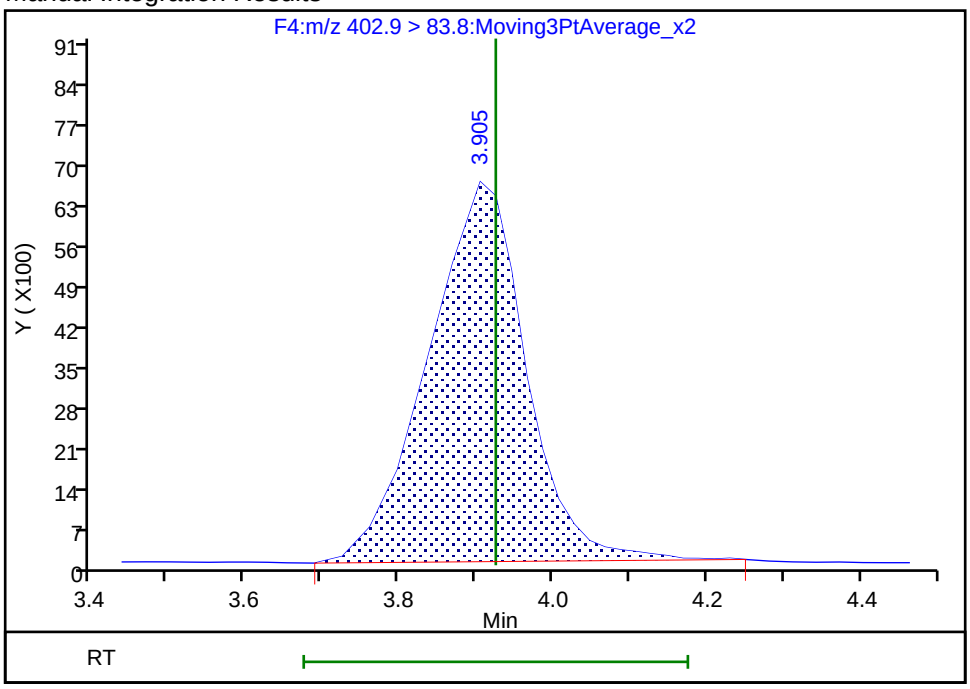
Processing Integration Results

RT: 3.91
Area: 55654
Amount: 21.124908
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 57974
Amount: 22.005524
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:26:40

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

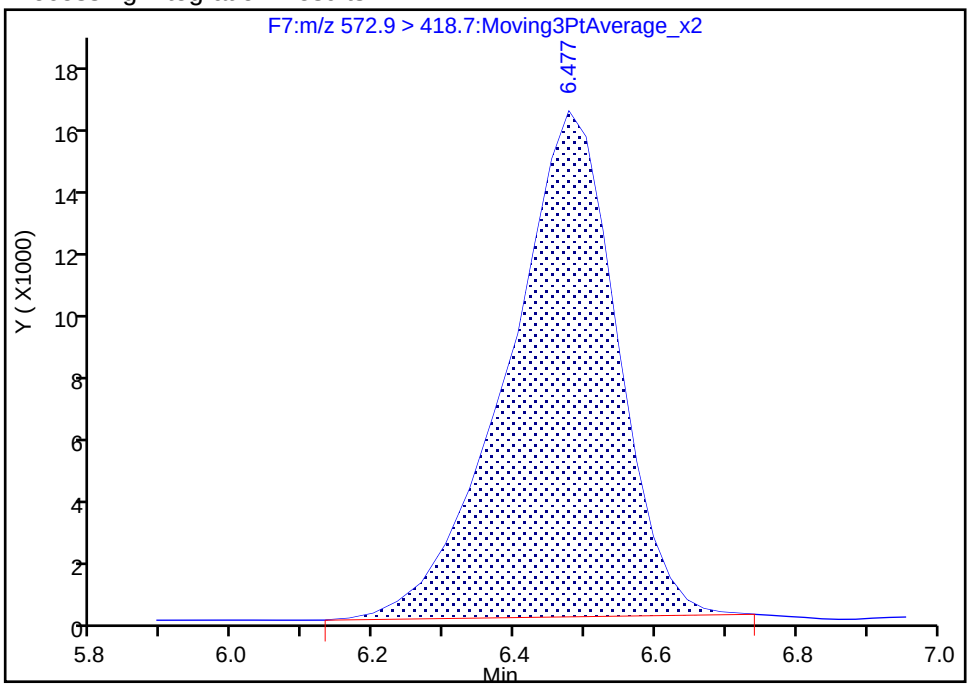
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B21.d				
Injection Date:	05-Jun-2019 06:37:23	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-B MS				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F7:MRM		

D 27 d3-NMeFOSAA, CAS: STL02118

Signal: 1

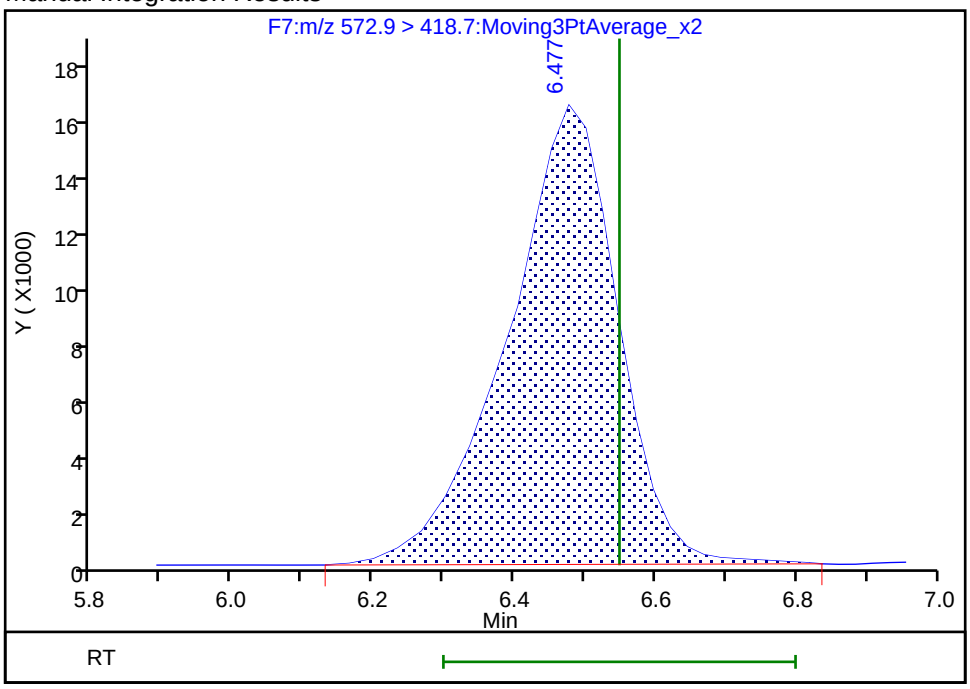
Processing Integration Results

RT: 6.48
Area: 169728
Amount: 18.353398
Amount Units: ng/ml



Manual Integration Results

RT: 6.48
Area: 172793
Amount: 18.684829
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:27:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8S 051619 MSD Lab Sample ID: 200-48826-17 MSD

Matrix: Water Lab File ID: PF060419B22.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 10:52

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 289.1(mL) Date Analyzed: 06/05/2019 06:53

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	51.3		1.7	0.86
2706-90-3	Perfluoropentanoic acid (PFPeA)	46.4		1.7	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	46.0		1.7	0.66
375-85-9	Perfluoroheptanoic acid (PFHpA)	40.9		1.7	0.79
335-67-1	Perfluorooctanoic acid (PFOA)	40.3		1.7	0.54
375-95-1	Perfluorononanoic acid (PFNA)	42.1		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	40.9		1.7	0.67
2058-94-8	Perfluoroundecanoic acid (PFUnA)	43.9		1.7	0.46
307-55-1	Perfluorododecanoic acid (PFDoA)	40.7		1.7	0.51
72629-94-8	Perfluorotridecanoic acid (PFTriA)	40.2		1.7	0.52
376-06-7	Perfluorotetradecanoic acid (PFTeA)	44.4		1.7	0.80
375-73-5	Perfluorobutanesulfonic acid (PFBS)	40.1		1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	35.3		1.7	0.69
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	45.2		1.7	0.82
335-77-3	Perfluorodecanesulfonic acid (PFDS)	29.0		1.7	0.78
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	47.4		1.7	0.53
754-91-6	Perfluorooctanesulfonamide (FOSA)	41.6		1.7	0.55
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	41.7		17	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0		17	1.3
27619-97-2	6:2 FTS	45.8		17	4.0
39108-34-4	8:2 FTS	44.8		17	2.5

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8S 051619 MSD Lab Sample ID: 200-48826-17 MSD

Matrix: Water Lab File ID: PF060419B22.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 10:52

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 289.1(mL) Date Analyzed: 06/05/2019 06:53

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	36		25-150
STL00992	13C4 PFBA	26		25-150
STL01893	13C5 PFPeA	36		25-150
STL00993	13C2 PFHxA	44	*	50-150
STL01892	13C4 PFHpA	56		50-150
STL00990	13C4 PFOA	53		50-150
STL00995	13C5 PFNA	44	*	50-150
STL00996	13C2 PFDA	48	*	50-150
STL00997	13C2 PFUnA	52		50-150
STL00998	13C2 PFDoA	45	*	50-150
STL02116	13C2 PFTeDA	43	*	50-150
STL02337	13C3 PFBS	42	*	50-150
STL00994	18O2 PFHxS	49	*	50-150
STL00991	13C4 PFOS	42	*	50-150
STL02118	d3-NMeFOSAA	37	*	50-150
STL02117	d5-NEtFOSAA	39	*	50-150
STL02279	M2-6:2 FTS	52		25-150
STL02280	M2-8:2 FTS	62		25-150

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B22.d
Lims ID: 200-48826-A-17-C MSD
Client ID: MW-8S 051619
Sample Type: MSD
Inject. Date: 05-Jun-2019 06:53:14 ALS Bottle#: 0 Worklist Smp#: 22
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-0036200-022 17MSD
Misc. Info.: PFAS27 060419A
Operator ID: JWM Instrument ID: LC410

Method: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PFCISO_10MRM_28.m
Limit Group: LC_PFC_ICAL
Last Update: 05-Jun-2019 15:51:37 Calib Date: 23-May-2019 14:26:50
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromna\Burlington\ChromData\LC410\20190523-36057.b\PF052319B10.d

Column 1 : C-18 (4.60 mm) Det: F1:MRM
Process Host: CTX0330

First Level Reviewer: chirgwinb Date: 05-Jun-2019 14:29:30
Ratio Calibration: CCV Sample: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B17.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobutanoic acid										M
212.9 > 168.9	2.339	2.360	-0.021	0.996	81472	29.7		148	36.2	M
D 1 13C4 PFBA										M
216.9 > 171.5	2.349	2.360	-0.011	1.000	87426	13.1		26.3	64.0	M
3 Perfluoropentanoic acid										
262.9 > 218.8	2.795	2.830	-0.035	1.000	147749	26.8		134	146	
D 4 13C5 PFPeA										
267.7 > 222.6	2.795	2.830	-0.035	1.000	92031	18.2		36.4	386	
6 Perfluorobutanesulfonic acid										
298.9 > 80.0	2.901	2.901	0.0	1.000	54213	23.2	Target=1.67	131	33.7	
298.9 > 98.9	2.901	2.901	0.0	1.000	41517		1.31(0.83-2.51)		142	
D 5 13C3 PFBS										
302.0 > 79.8	2.901	2.901	0.0	1.000	43302	19.7		42.4	114	
46 1H,1H,2H,2H-perfluorohexanesulfoni										
327.0 > 306.7	3.238	3.270	-0.032	1.116	92294	74.8		401	853	
7 Perfluorohexanoic acid										
312.9 > 268.9	3.302	3.302	0.0	1.000	249091	26.6	Target=14.34	133	143	
312.9 > 118.9	3.302	3.302	0.0	1.000	17585		14.16(7.17-21.51)		133	
D 8 13C2 PFHxA										
314.8 > 269.6	3.302	3.334	-0.032	1.000	335297	22.1		44.3	1232	
48 Perfluoropentanesulfonic acid										M
348.9 > 80.0	3.334	3.365	-0.031	1.149	63236	23.9	Target=1.23	127	156	
348.9 > 98.9	3.334	3.365	-0.031	1.000	83283		0.76(0.62-1.85)		216	M
44 Perfluoro(2-propoxypropanoic) acid										
328.9 > 284.7	3.460	3.492	-0.032	1.000	18151	NR		0.0	15.9	
D 10 13C4 PFHpA										
366.9 > 321.8	3.869	3.905	-0.036	1.000	596211	27.9		55.9	2764	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
9 Perfluoroheptanoic acid										
362.9 > 318.9	3.869	3.905	-0.036	1.000	330781	23.6	Target=2.84	118	117	
362.9 > 168.9	3.869	3.905	-0.036	1.000	114162		2.90(1.42-4.26)		677	
11 Perfluorohexanesulfonic acid										M
398.9 > 80.0	3.905	3.925	-0.020	1.000	59095	20.4	Target=1.34	112	208	
398.9 > 98.9	3.905	3.925	-0.020	1.000	65477		0.90(0.67-2.01)		229	M
D 12 18O2 PFHxS										M
402.9 > 83.8	3.905	3.925	-0.020	1.000	64630	23.0		48.7	230	M
49 DONA										
376.9 > 250.7	3.946	3.966	-0.020	0.738	296243	25.8	Target=2.33	137	1014	
376.9 > 85.0	3.946	3.966	-0.020	1.000	113426		2.61(1.16-3.49)		634	
13 1H,1H,2H,2H-perfluorooctanesulfoni										
426.6 > 406.6	4.547	4.547	0.0	1.005	19601	26.5		140	106	
D 14 M2-6:2 FTS										M
428.6 > 408.6	4.526	4.547	-0.021	1.000	37208	24.5		51.6	292	M
* 16 13C2 PFOA										
414.9 > 369.8	4.568	4.589	-0.021		1361079	50.0			2983	
15 Perfluorooctanoic acid										
412.9 > 368.8	4.568	4.589	-0.021	1.000	330745	23.3	Target=2.43	117	440	
412.9 > 168.9	4.568	4.589	-0.021	1.000	127401		2.60(1.22-3.64)		380	
D 17 13C4 PFOA										
416.9 > 371.8	4.568	4.609	-0.041	1.000	700607	26.5		53.0	1022	
18 Perfluoroheptanesulfonic acid										
448.9 > 80.0	4.589	4.609	-0.020	0.858	60851	26.1	Target=1.30	137	407	
448.9 > 98.9	4.589	4.609	-0.020	1.000	66636		0.91(0.65-1.95)		303	
19 Perfluorononanoic acid										
462.9 > 418.7	5.347	5.368	-0.021	1.002	337149	24.3	Target=5.00	122	567	
462.9 > 168.9	5.347	5.368	-0.021	1.002	79492		4.24(2.50-7.50)		425	
D 20 13C5 PFNA										
467.8 > 422.8	5.336	5.389	-0.053	1.000	784994	22.1		44.3	1518	
21 Perfluorooctanesulfonic acid										
498.9 > 80.0	5.368	5.389	-0.021	1.004	70851	27.4	Target=1.41	148	192	
498.9 > 98.9	5.347	5.389	-0.042	1.000	75789		0.93(0.71-2.12)		448	
D 22 13C4 PFOS										
502.9 > 80.0	5.347	5.411	-0.064	1.000	127825	20.2		42.2	450	
47 9-Chlorohexadecafluoro-3-oxanonane										
531.0 > 350.6	5.778	5.812	-0.034	1.081	287610	24.5		131	1901	
23 1H,1H,2H,2H-perfluorodecanesulfoni										
526.8 > 506.5	6.131	6.131	0.0	1.006	65267	25.9		135	344	
D 24 M2-8:2 FTS										
528.8 > 508.8	6.097	6.131	-0.034	1.000	163626	29.7		61.9	663	
26 Perfluorodecanoic acid										
512.9 > 468.5	6.131	6.165	-0.034	1.000	314434	23.7	Target=7.23	118	717	
512.9 > 168.9	6.131	6.165	-0.034	1.000	44913		7.00(3.61-10.84)		172	
45 Perfluorononanesulfonic acid										
548.9 > 80.0	6.131	6.165	-0.034	1.147	61379	23.7	Target=1.39	123	141	
548.9 > 98.9	6.131	6.165	-0.034	1.000	64888		0.95(0.69-2.08)		239	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 25 13C2 PFDA										
514.9 > 469.5	6.131	6.199	-0.068	1.000	725315	24.0		47.9	2293	
28 N-methylperfluorooctanesulfonamido										
569.9 > 418.7	6.501	6.525	-0.024	1.004	72446	24.1		120	493	
D 27 d3-NMeFOSAA										
572.9 > 418.7	6.477	6.549	-0.072	1.000	182095	18.5		36.9	582	
30 N-ethylperfluorooctanesulfonamidoa										
583.9 > 418.7	6.849	6.897	-0.048	1.000	74349	28.9		144	387	
31 Perfluorodecanesulfonic acid										
598.9 > 80.0	6.873	6.897	-0.024	1.286	46571	16.8	Target=1.25	87.0	210	
598.9 > 98.9	6.873	6.897	-0.024	1.000	68265		0.68(0.63-1.88)		420	
D 29 d5-NEtFOSAA										
588.9 > 418.7	6.849	6.921	-0.072	1.000	159808	19.7		39.3	503	
32 Perfluoroundecanoic acid										
562.9 > 518.5	6.897	6.921	-0.024	1.003	318770	25.4	Target=7.06	127	649	
562.9 > 168.9	6.873	6.921	-0.048	1.000	48868		6.52(3.53-10.58)		232	
D 33 13C2 PFUnA										
564.8 > 519.8	6.873	6.945	-0.072	1.000	754227	25.8		51.7	3692	
35 Perfluorooctanesulfonamide										
497.9 > 78.1	7.013	7.013	0.0	1.000	134875	24.0		120	427	
D 34 13C8 FOSA										
505.9 > 78.0	7.013	7.026	-0.013	1.000	197077	18.1		36.2	585	
43 11-Chloroeicosafluoro-3-oxaundecan										
631.0 > 450.6	7.234	7.274	-0.040	1.353	328468	21.9		116	662	
36 Perfluorododecanoic acid										
612.9 > 568.5	7.577	7.616	-0.039	1.000	371202	23.5	Target=5.37	118	903	
612.9 > 168.9	7.577	7.616	-0.039	1.000	69288		5.36(2.68-8.06)		343	
D 37 13C2 PFDoA										
614.9 > 569.5	7.577	7.655	-0.078	1.000	831183	22.3		44.7	1048	
38 Perfluorotridecanoic acid										
662.9 > 618.5	8.213	8.235	-0.022	1.084	362208	23.2	Target=4.67	116	897	
662.9 > 168.9	8.213	8.235	-0.022	1.084	65472		5.53(2.34-7.01)		246	
39 Perfluorotetradecanoic acid										
712.9 > 668.5	8.764	8.786	-0.022	1.001	310546	25.7	Target=4.86	128	733	
712.9 > 168.9	8.752	8.786	-0.034	1.000	57726		5.38(2.43-7.30)		329	
D 40 13C2 PFTeDA										
714.9 > 669.5	8.752	8.819	-0.067	1.000	712058	21.3		42.6	321	
S 50 F-53B										
212.9 > 168.9						46.4				

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Review Flags
M - Manually Integrated

Report Date: 05-Jun-2019 15:51:52 Chrom Revision: 2.3 03-May-2019 15:52:00

Eurofins TestAmerica, Burlington

Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B22.d

Injection Date: 05-Jun-2019 06:53:14 Instrument ID: LC410

Lims ID: 200-48826-A-17-C MSD

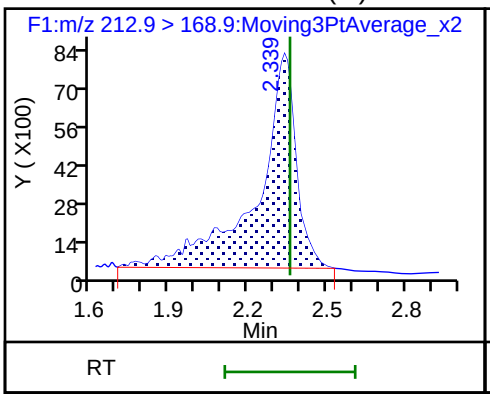
Client ID: MW-8S 051619

Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 22

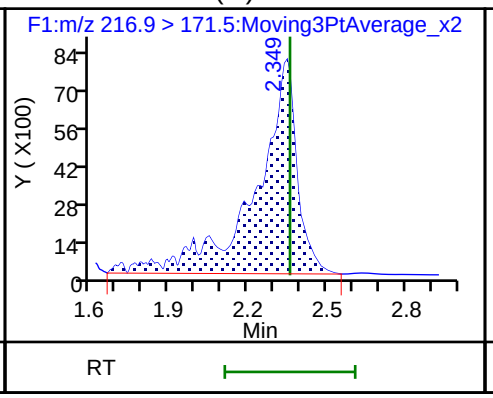
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL

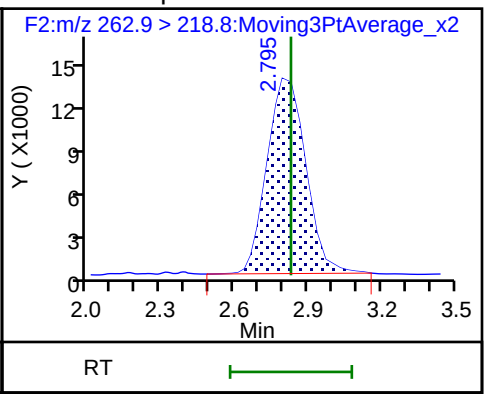
2 Perfluorobutanoic acid (M)



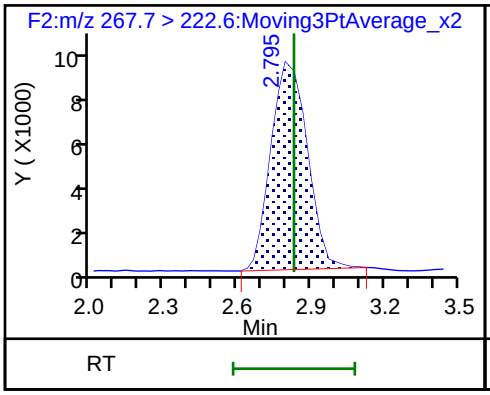
D 1 13C4 PFBA (M)



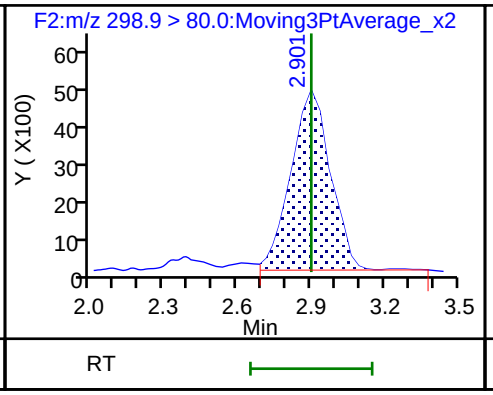
3 Perfluoropentanoic acid



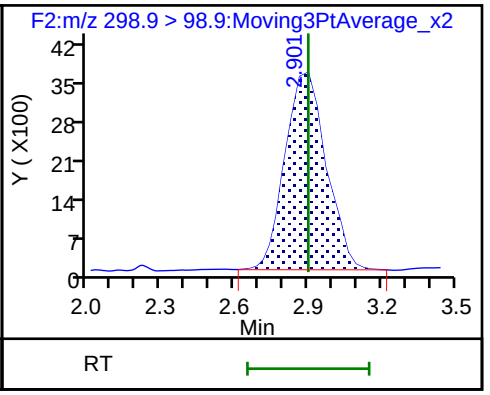
D 4 13C5 PFPeA



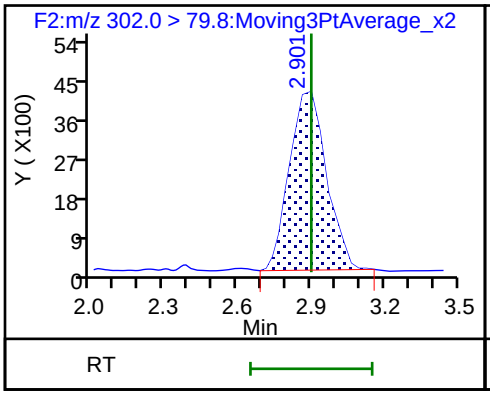
6 Perfluorobutanesulfonic acid



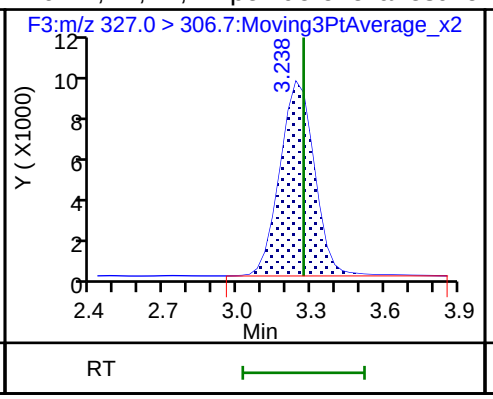
6 Perfluorobutanesulfonic acid



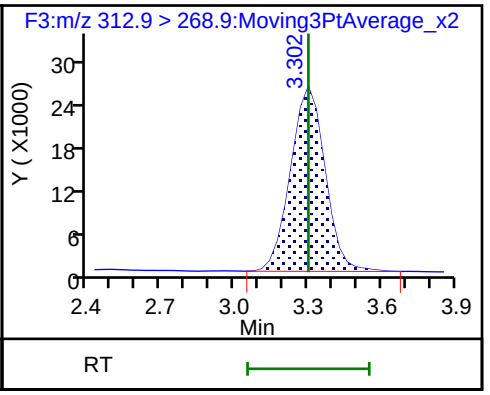
D 5 13C3 PFBS



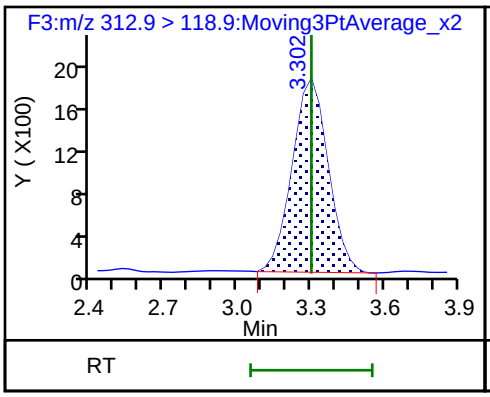
46 1H,1H,2H,2H-perfluorohexanesulfoni



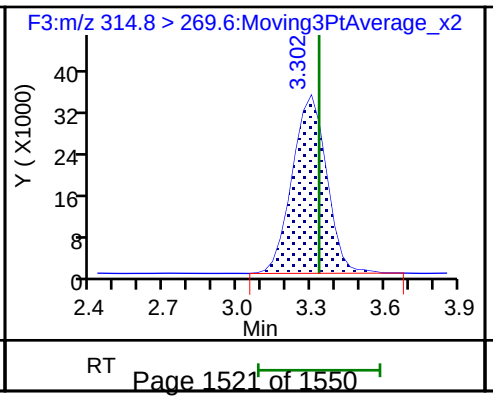
7 Perfluorohexanoic acid



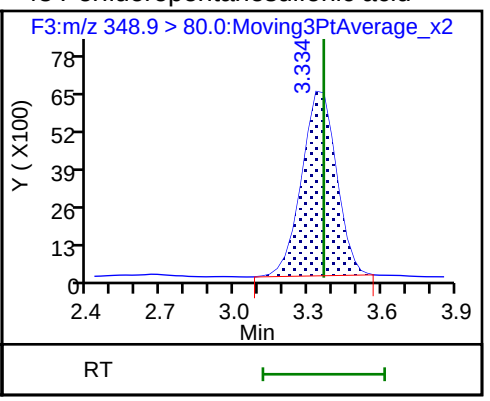
7 Perfluorohexanoic acid



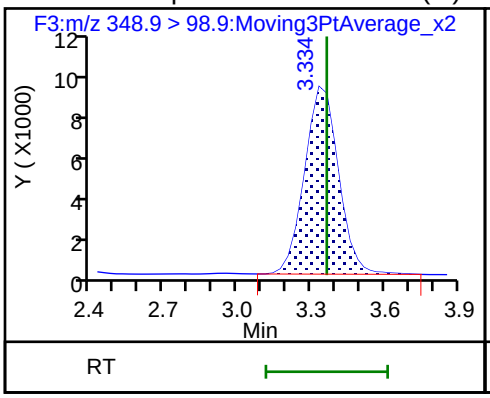
D 8 13C2 PFHxA



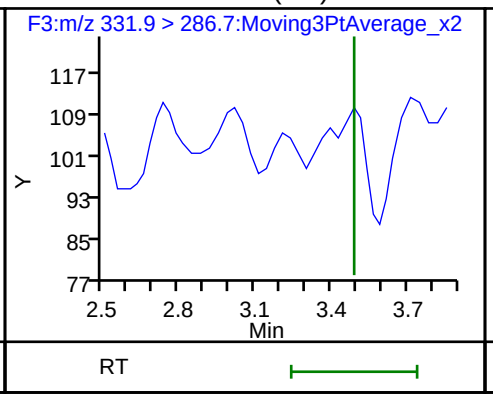
48 Perfluoropentanesulfonic acid



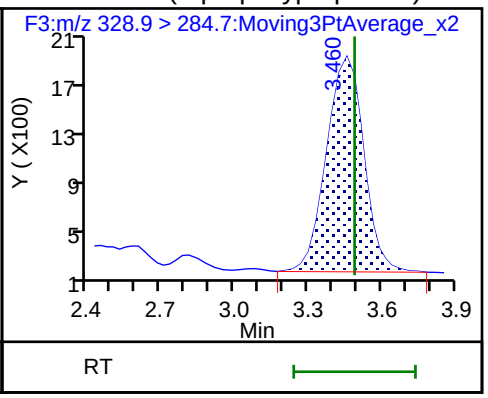
48 Perfluoropentanesulfonic acid (M)



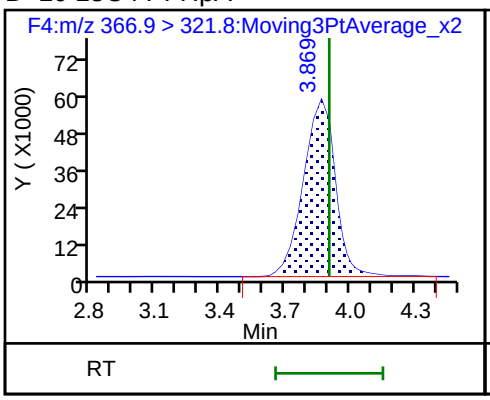
D 42 13C3 HFPO-DA (ND)



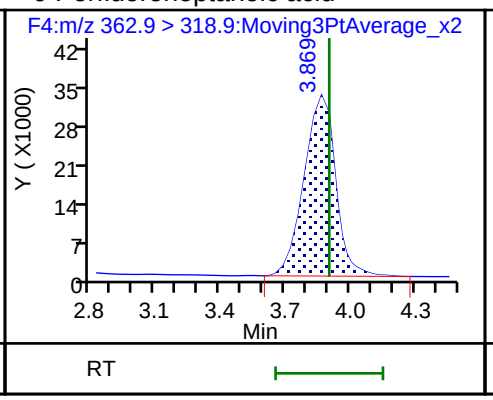
44 Perfluoro(2-propoxypropanoic) acid



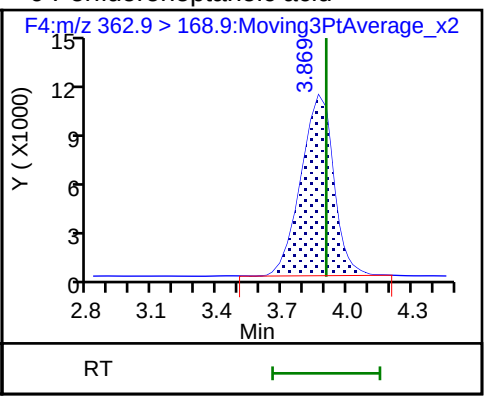
D 10 13C4 PFHpA



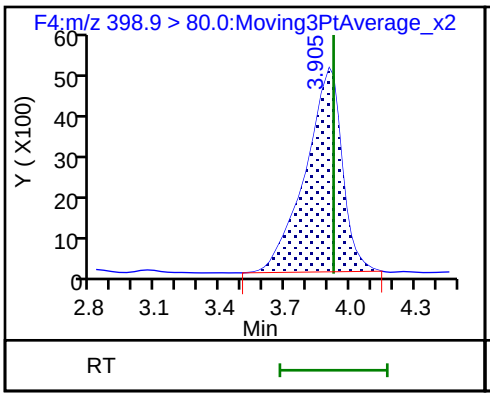
9 Perfluoroheptanoic acid



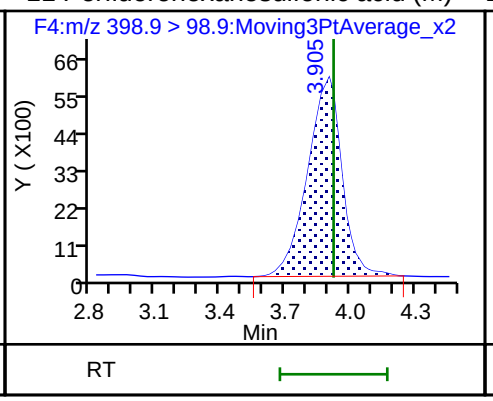
9 Perfluoroheptanoic acid



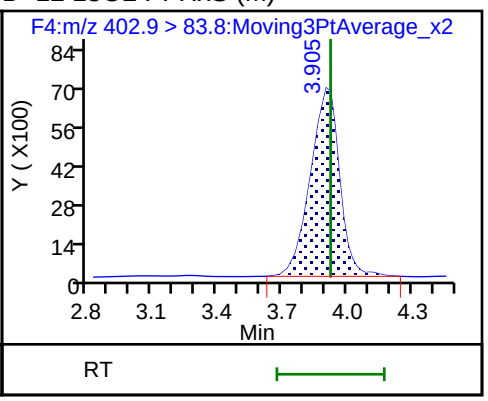
11 Perfluorohexanesulfonic acid



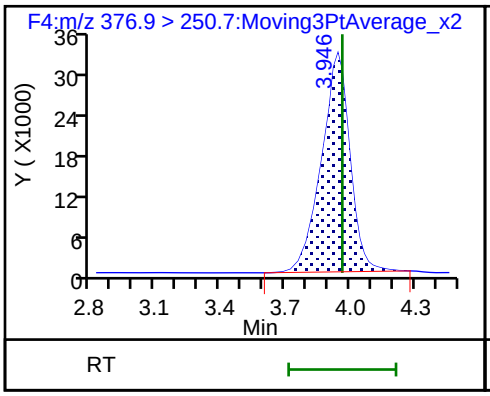
11 Perfluorohexanesulfonic acid (M)



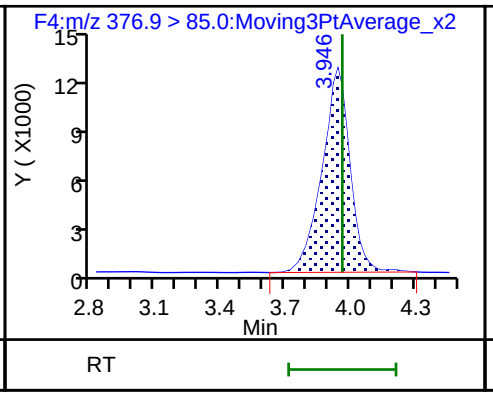
D 12 18O2 PFHxS (M)



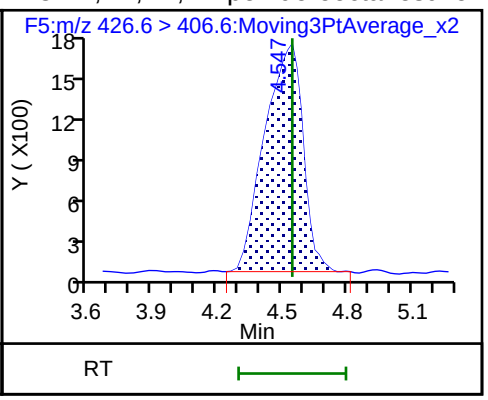
49 DONA



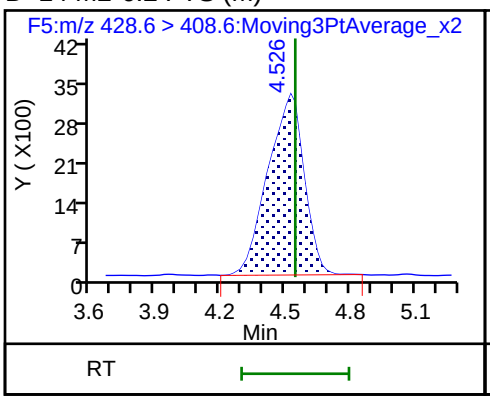
49 DONA



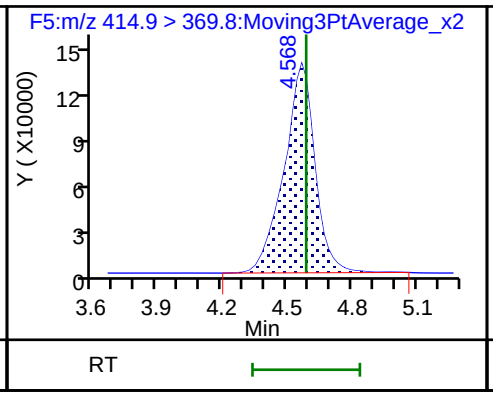
13 1H,1H,2H,2H-perfluorooctanesulfoni



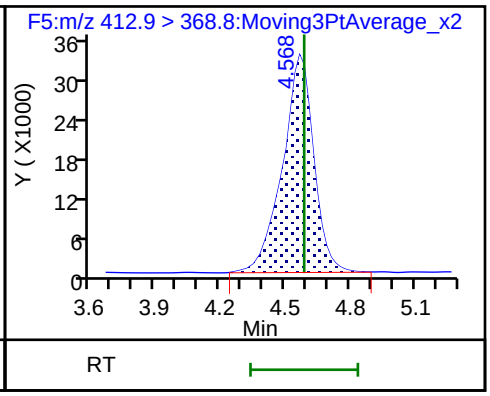
D 14 M2-6:2 FTS (M)



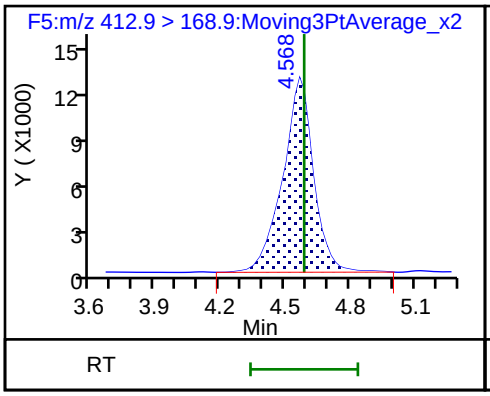
* 16 13C2 PFOA



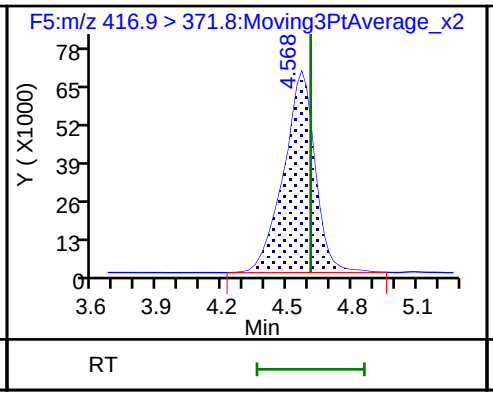
15 Perfluorooctanoic acid



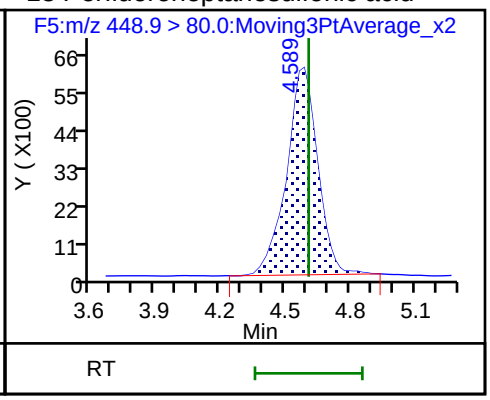
15 Perfluorooctanoic acid



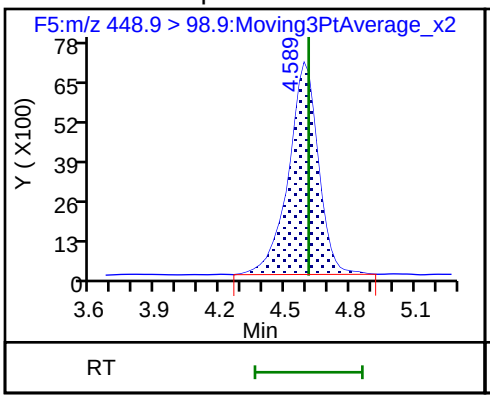
D 17 13C4 PFOA



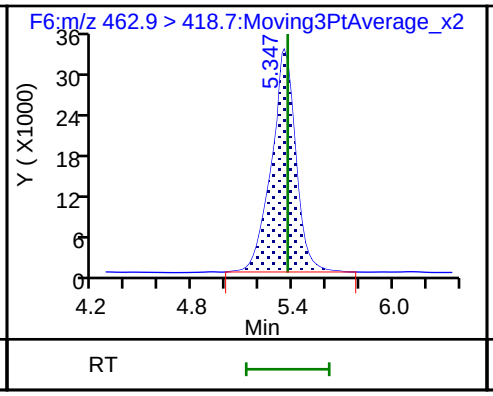
18 Perfluoroheptanesulfonic acid



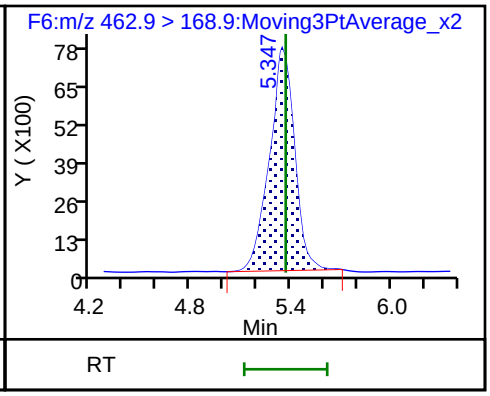
18 Perfluoroheptanesulfonic acid



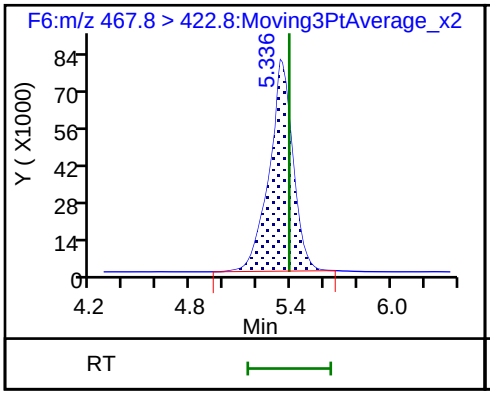
19 Perfluorononanoic acid



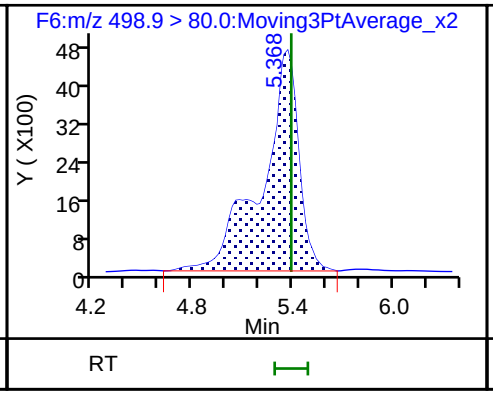
19 Perfluorononanoic acid



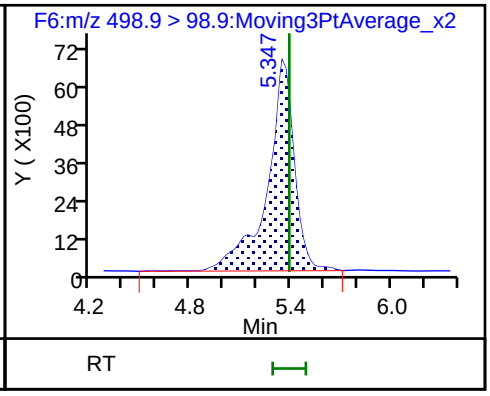
D 20 13C5 PFNA



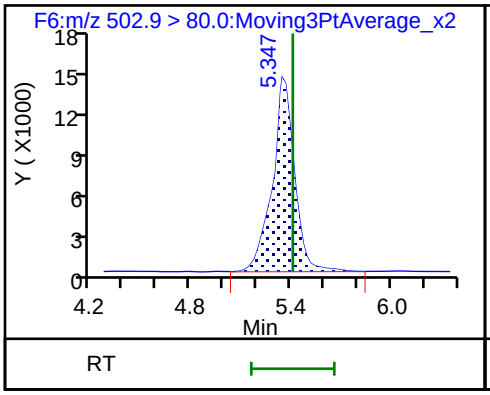
21 Perfluorooctanesulfonic acid



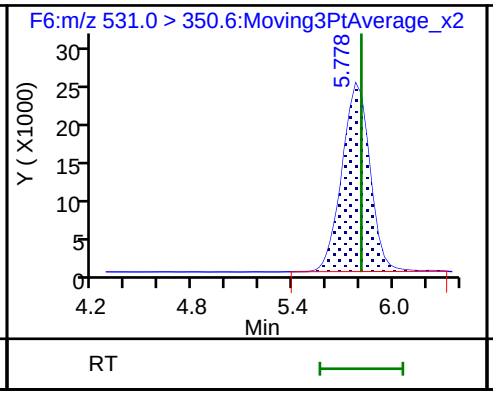
21 Perfluorooctanesulfonic acid



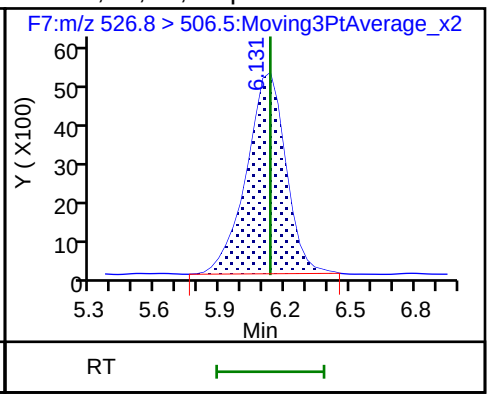
D 22 13C4 PFOS



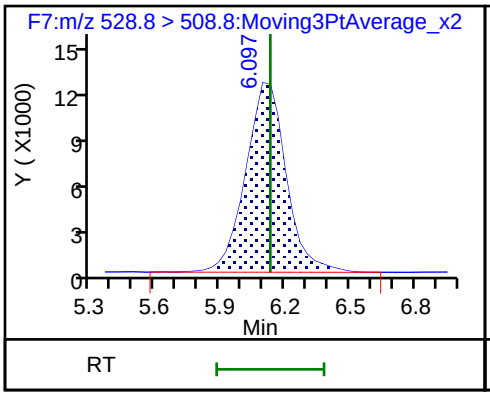
47 9-Chlorohexadecafluoro-3-oxanonane



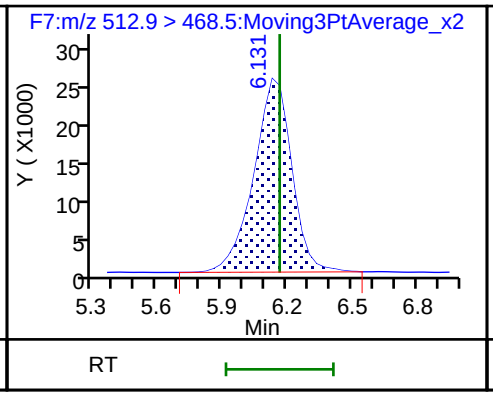
23 1H,1H,2H,2H-perfluorodecanesulfoni



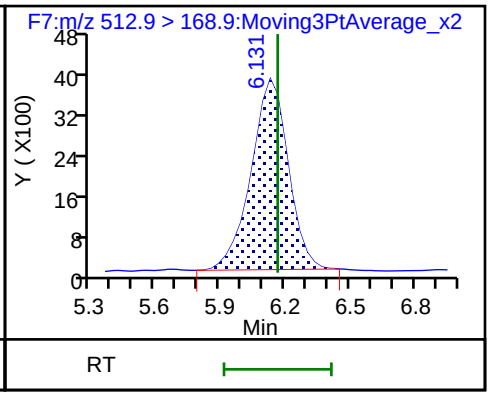
D 24 M2-8:2 FTS



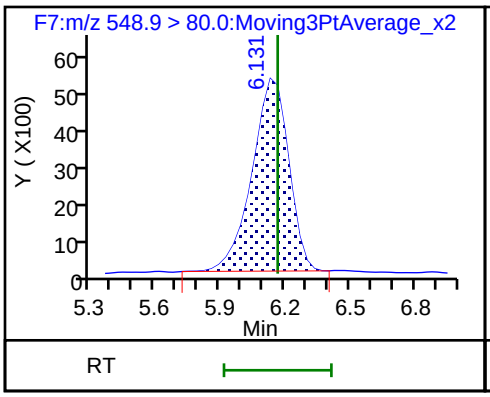
26 Perfluorodecanoic acid



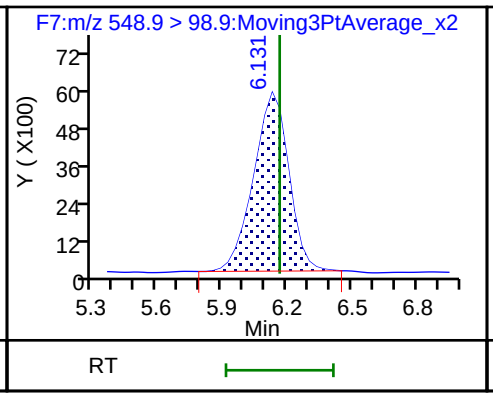
26 Perfluorodecanoic acid



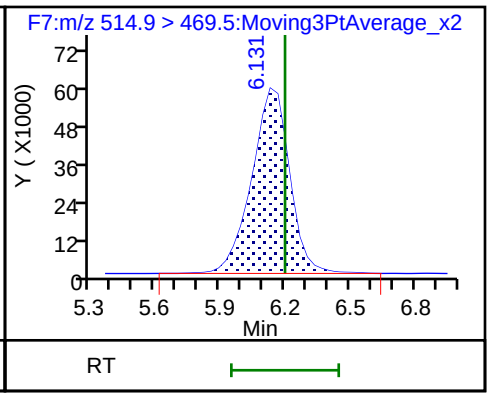
45 Perfluorononanesulfonic acid



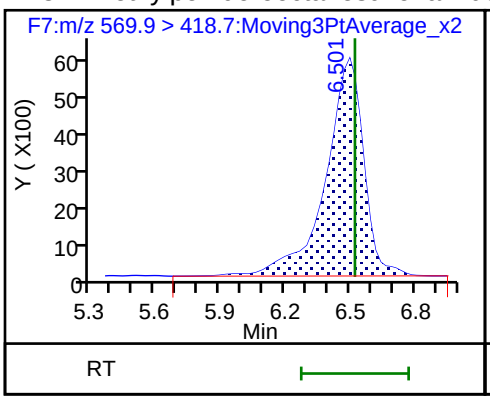
45 Perfluorononanesulfonic acid

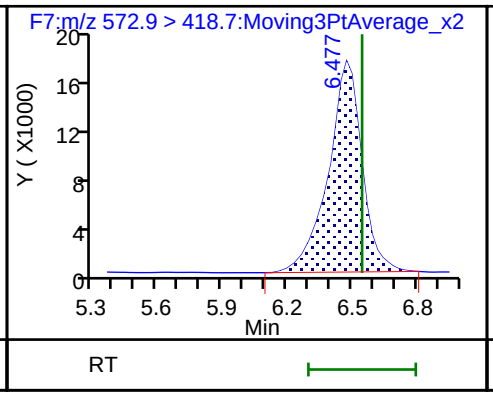


D 25 13C2 PFDA

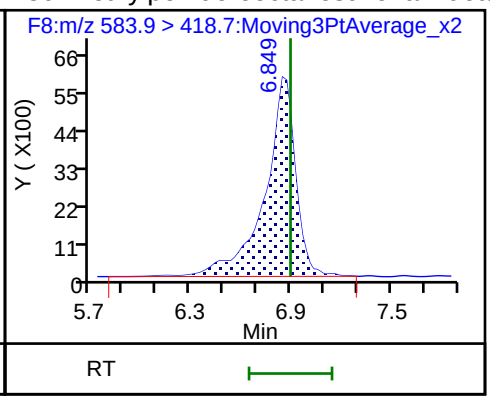


28 N-methylperfluorooctanesulfonamidoD 27 d3-NMeFOSAA

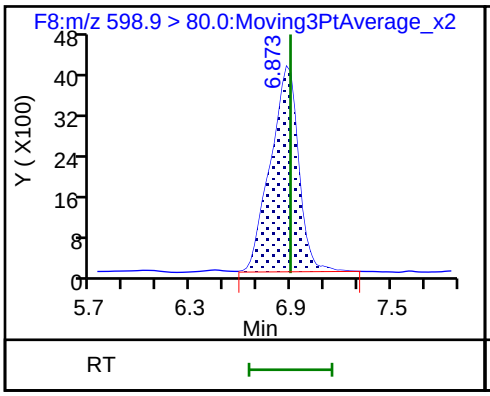




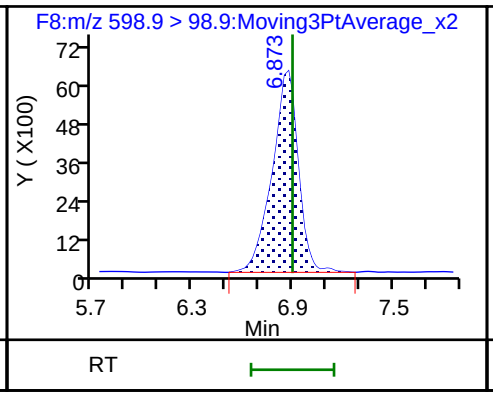
30 N-ethylperfluorooctanesulfonamidoa



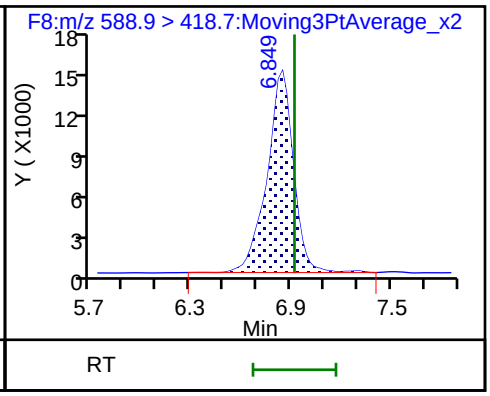
31 Perfluorodecanesulfonic acid



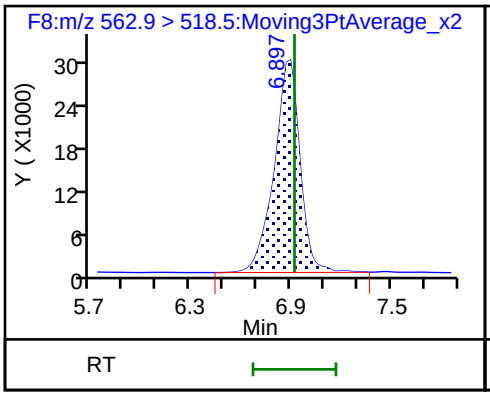
31 Perfluorodecanesulfonic acid



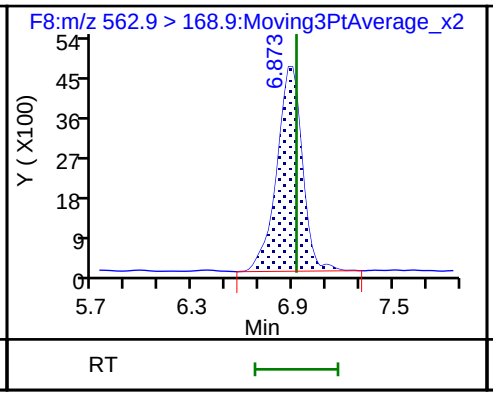
D 29 d5-NEtFOSAA



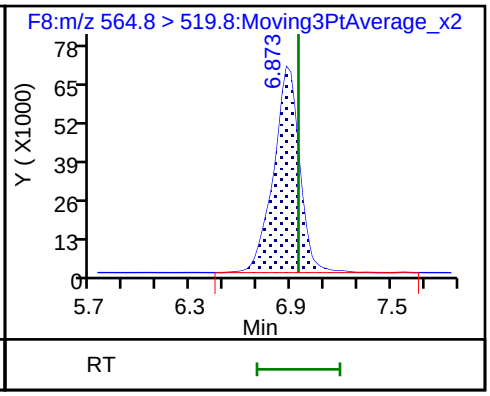
32 Perfluoroundecanoic acid



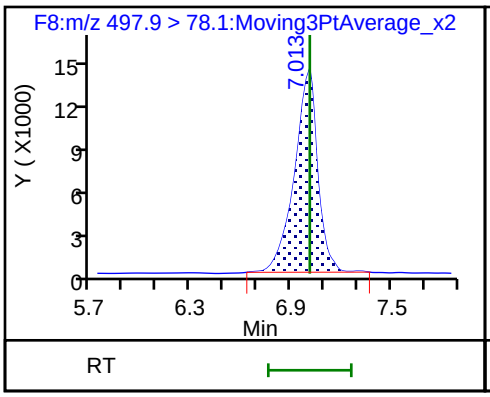
32 Perfluoroundecanoic acid



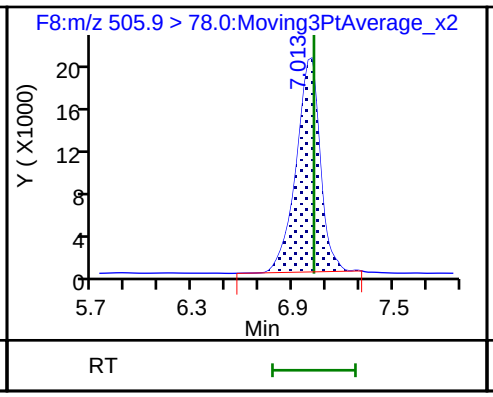
D 33 13C2 PFUnA



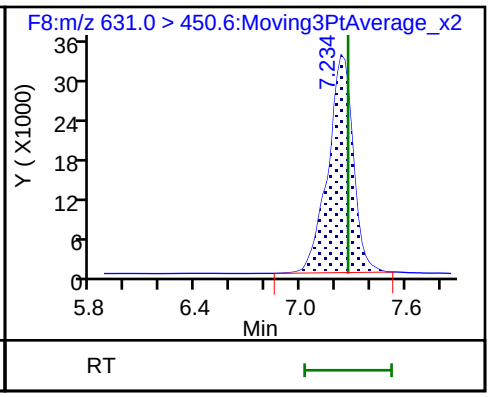
35 Perfluorooctanesulfonamide



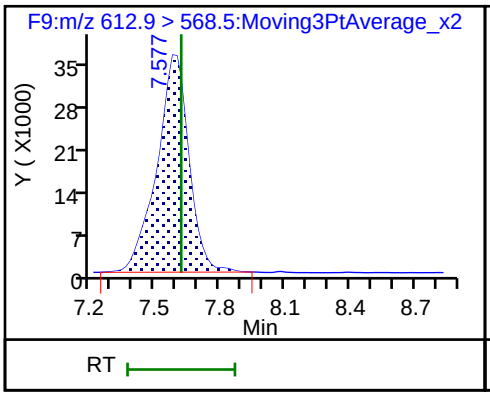
D 34 13C8 FOSA



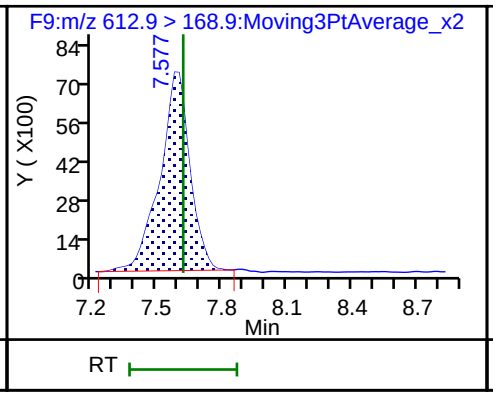
43 11-Chloroeicosafluoro-3-oxaundecan



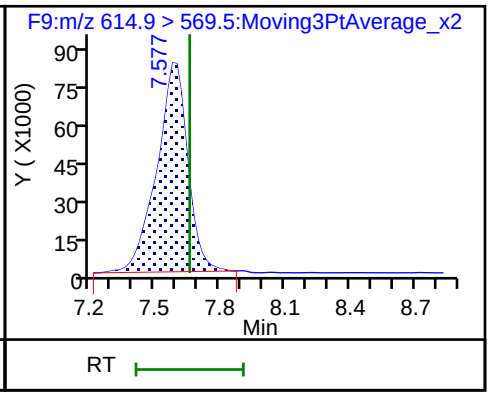
36 Perfluorododecanoic acid



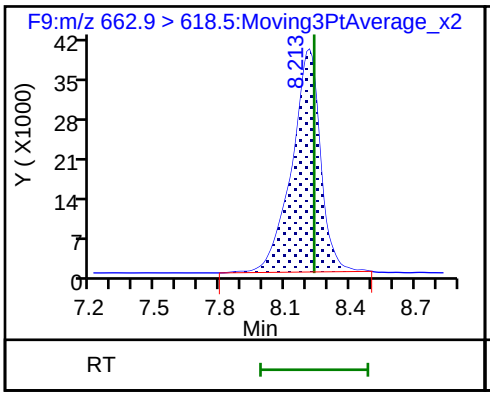
36 Perfluorododecanoic acid



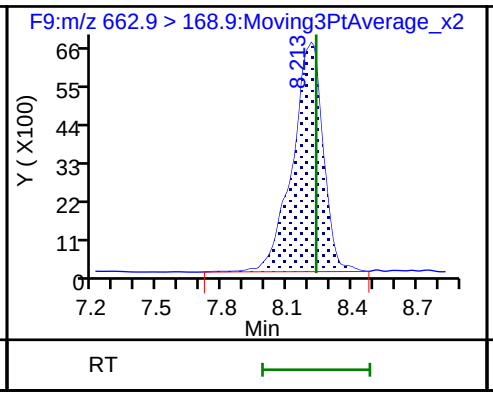
D 37 13C2 PFDoA



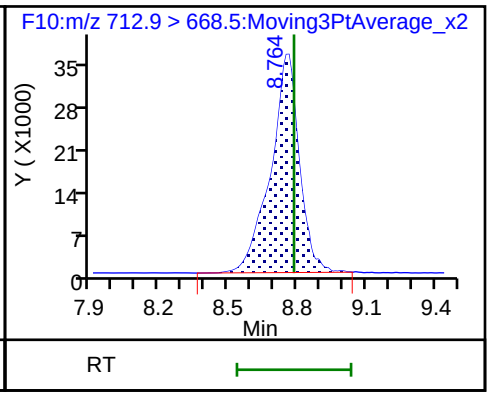
38 Perfluorotridecanoic acid



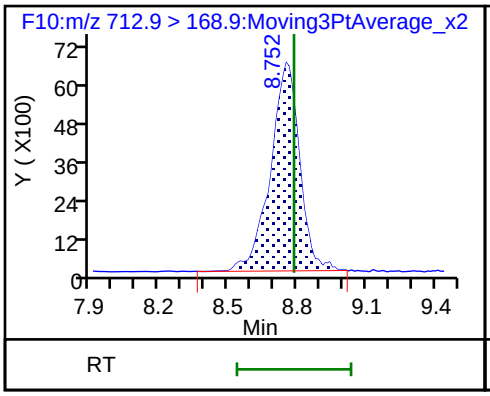
38 Perfluorotridecanoic acid



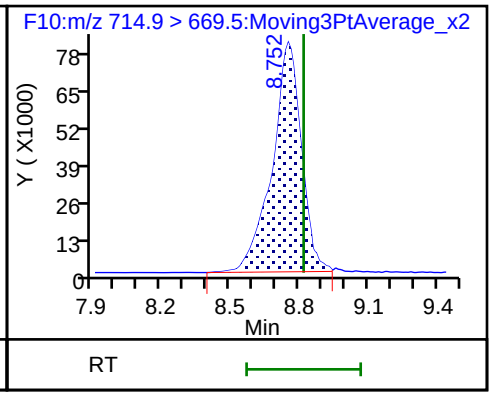
39 Perfluorotetradecanoic acid



39 Perfluorotetradecanoic acid



D 40 13C2 PFTeDA



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

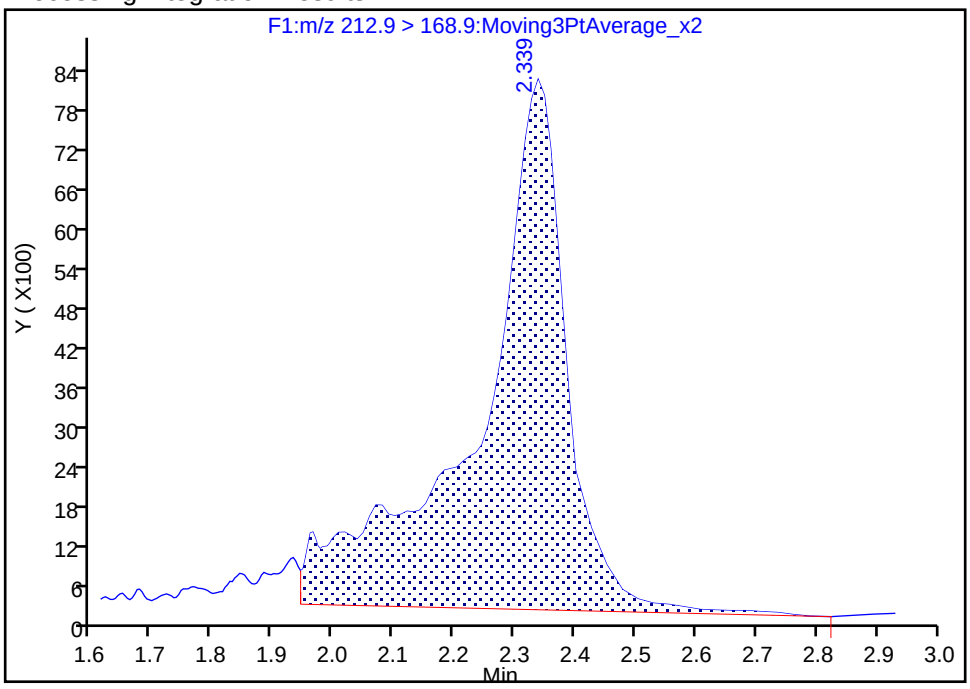
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B22.d				
Injection Date:	05-Jun-2019 06:53:14	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-C MSD				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	22
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F1:MRM		

2 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

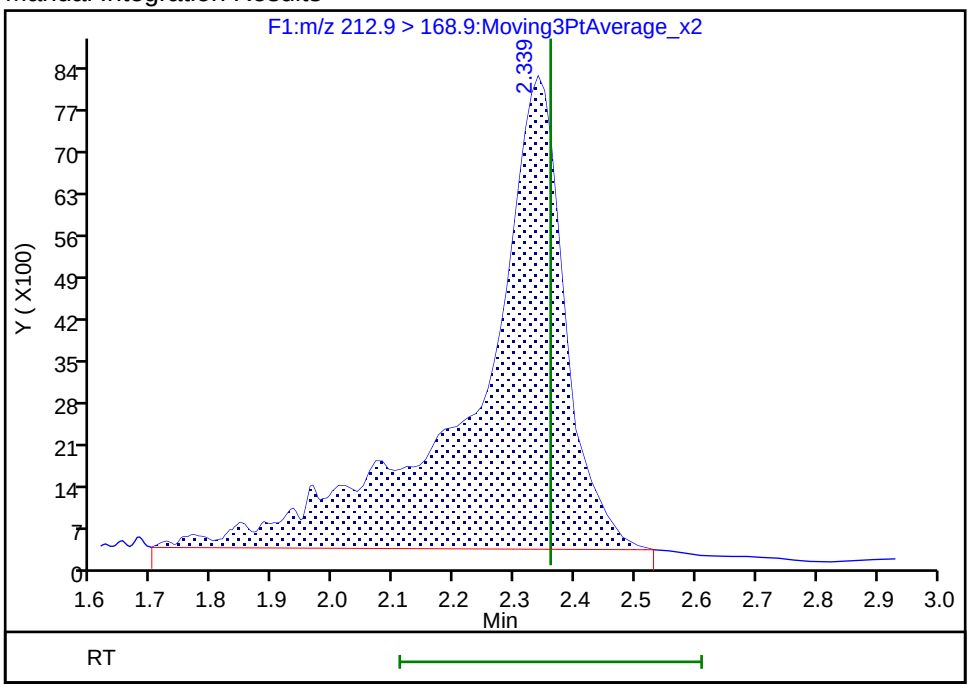
Processing Integration Results

RT: 2.34
Area: 81624
Amount: 35.838975
Amount Units: ng/ml



Manual Integration Results

RT: 2.34
Area: 81472
Amount: 29.678443
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:28:25

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

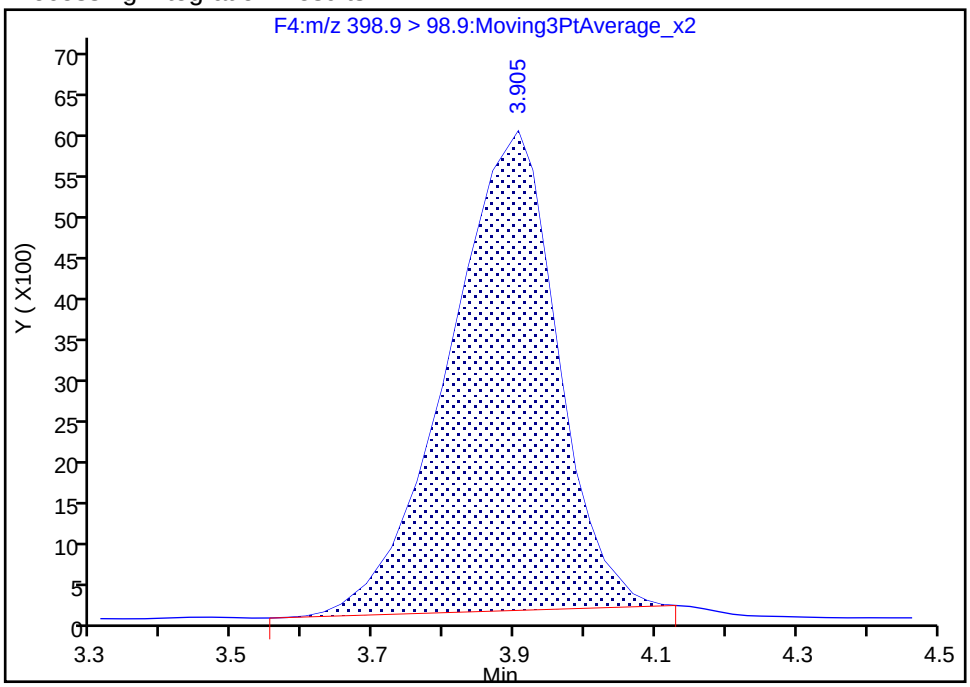
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B22.d				
Injection Date:	05-Jun-2019 06:53:14	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-C MSD				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	22
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

11 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

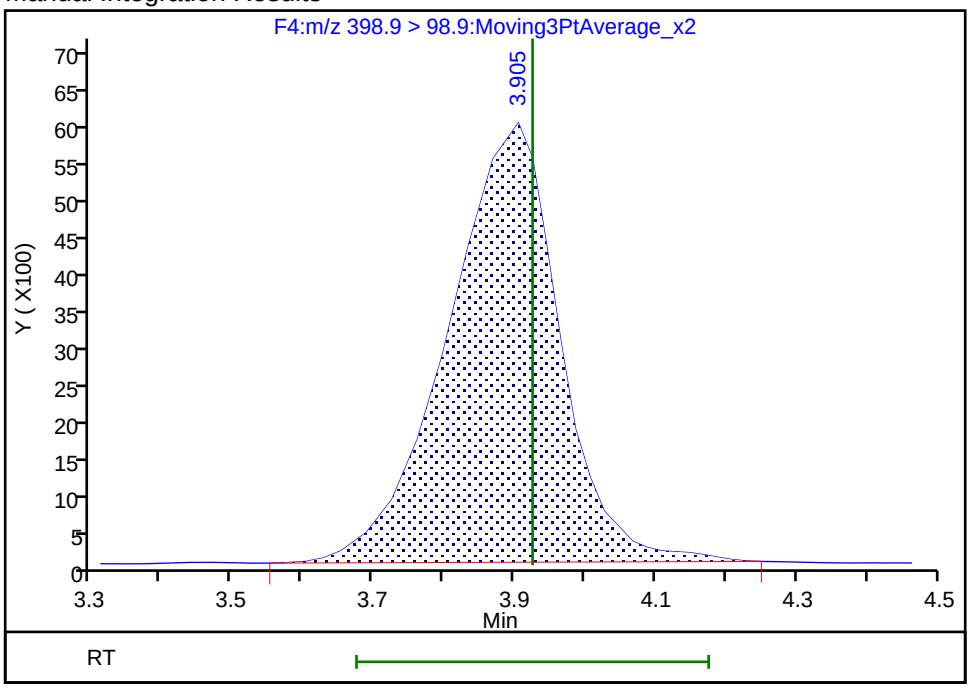
Processing Integration Results

RT: 3.91
Area: 62728
Amount: 21.188225
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 65477
Amount: 20.437146
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:28:49
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins TestAmerica, Burlington

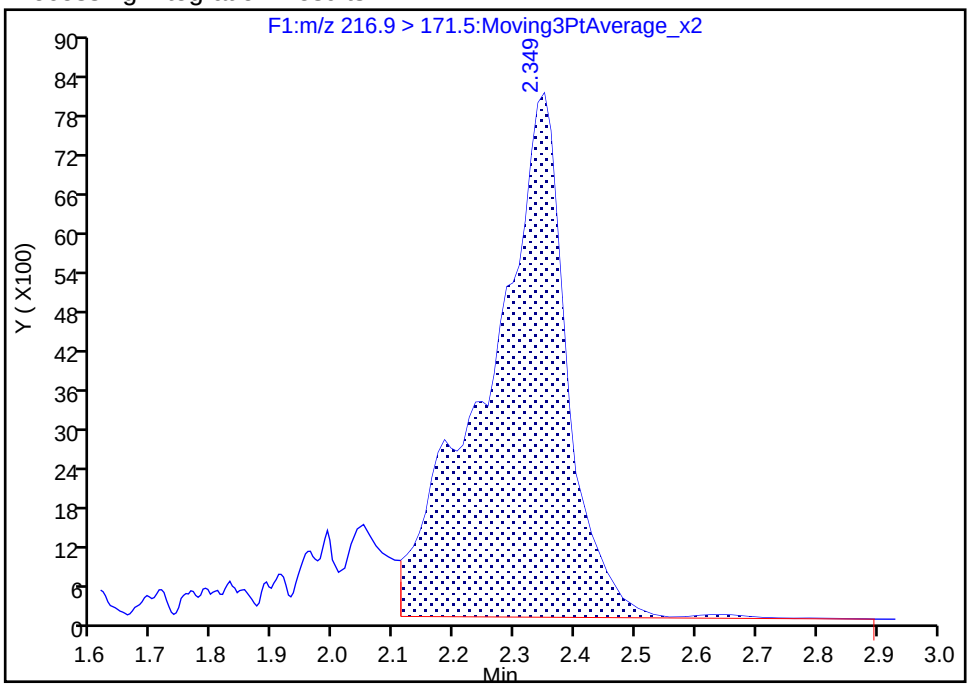
Data File: \\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B22.d
Injection Date: 05-Jun-2019 06:53:14 Instrument ID: LC410
Lims ID: 200-48826-A-17-C MSD
Client ID: MW-8S 051619
Operator ID: JWM ALS Bottle#: 0 Worklist Smp#: 22
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: PFCISO_10MRM_28 Limit Group: LC_PFC_ICAL
Column: C-18 (4.60 mm) Detector F1:MRM

D 1 13C4 PFBA, CAS: STL00992

Signal: 1

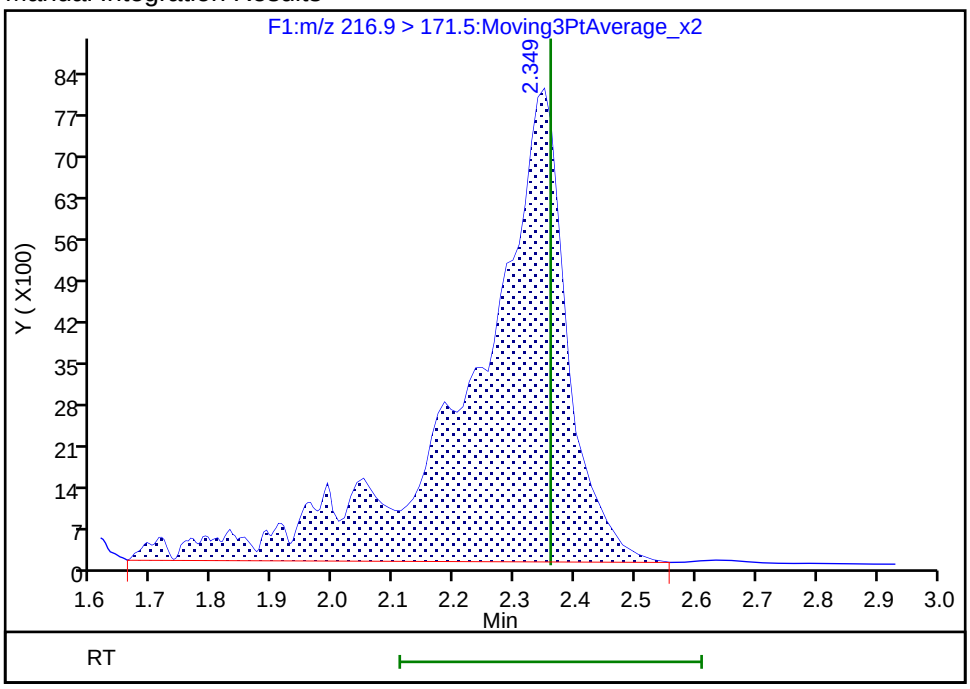
Processing Integration Results

RT: 2.35
Area: 72533
Amount: 10.896427
Amount Units: ng/ml



Manual Integration Results

RT: 2.35
Area: 87426
Amount: 13.133760
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:28:33
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

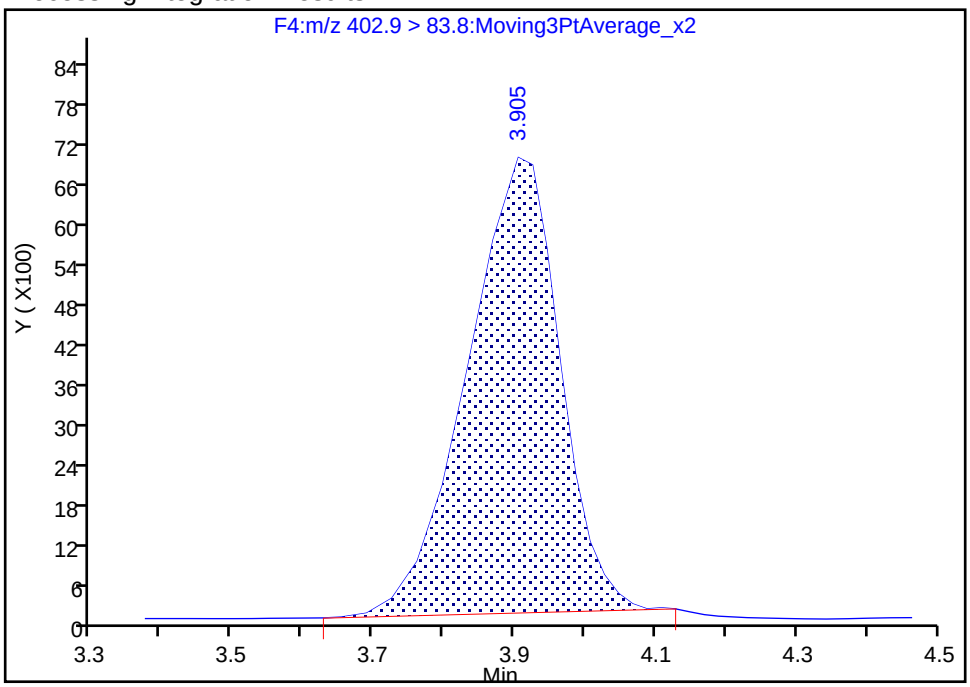
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B22.d				
Injection Date:	05-Jun-2019 06:53:14	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-C MSD				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	22
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F4:MRM		

D 12 18O2 PFHxS, CAS: STL00994

Signal: 1

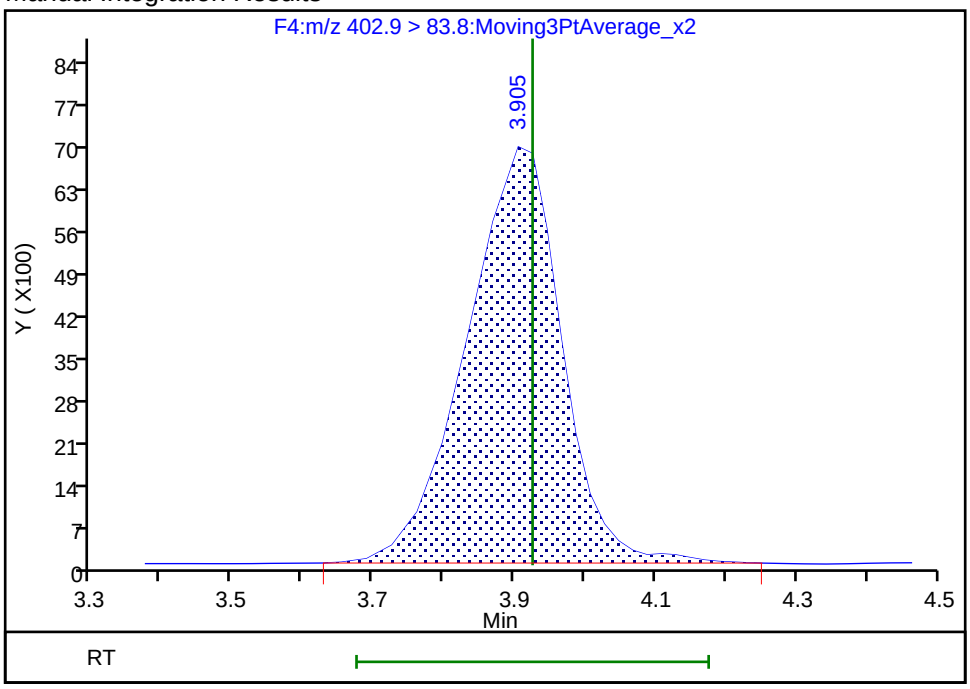
Processing Integration Results

RT: 3.91
Area: 62339
Amount: 22.201301
Amount Units: ng/ml



Manual Integration Results

RT: 3.91
Area: 64630
Amount: 23.017213
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:28:53

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Burlington

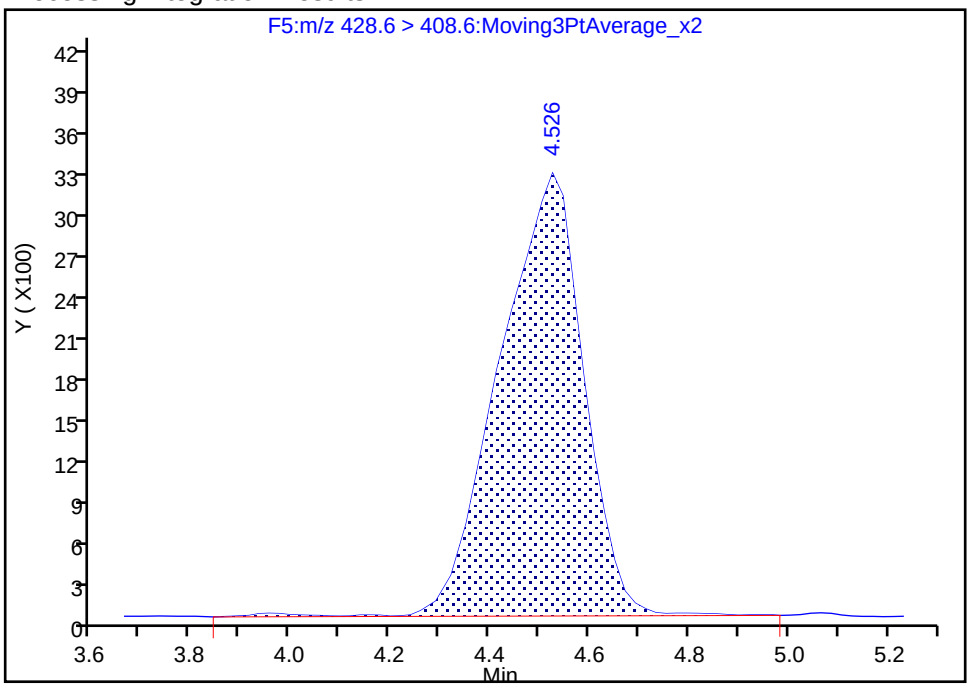
Data File:	\\chromna\Burlington\ChromData\LC410\20190604-36200.b\PF060419B22.d				
Injection Date:	05-Jun-2019 06:53:14	Instrument ID:	LC410		
Lims ID:	200-48826-A-17-C MSD				
Client ID:	MW-8S 051619				
Operator ID:	JWM	ALS Bottle#:	0	Worklist Smp#:	22
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	PFCISO_10MRM_28	Limit Group:	LC_PFC_ICAL		
Column:	C-18 (4.60 mm)	Detector	F5:MRM		

D 14 M2-6:2 FTS, CAS: STL02279

Signal: 1

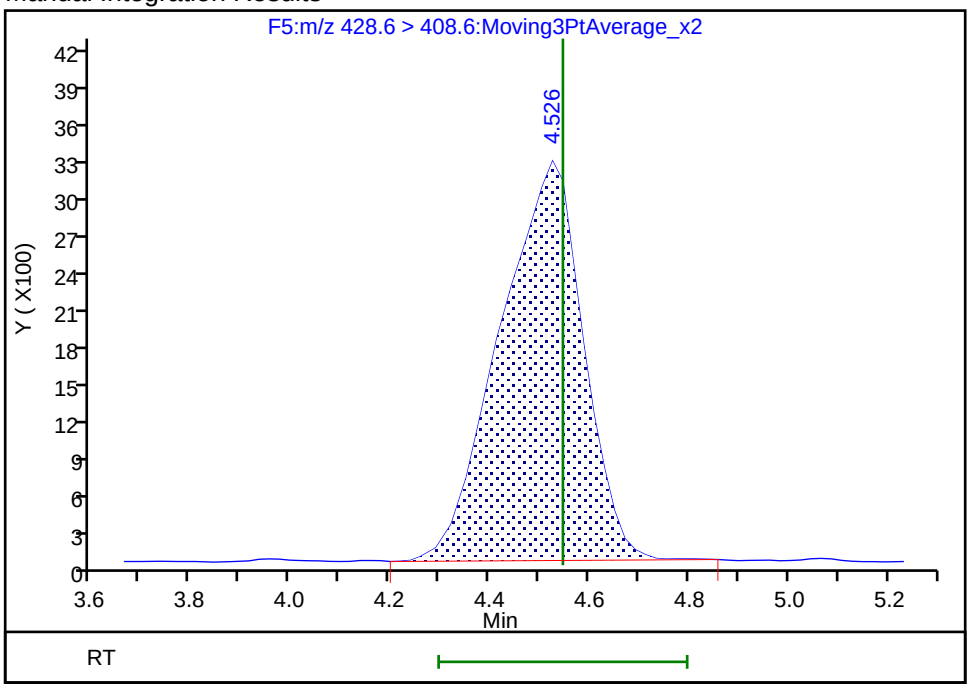
Processing Integration Results

RT: 4.53
Area: 37702
Amount: 24.857870
Amount Units: ng/ml



Manual Integration Results

RT: 4.53
Area: 37208
Amount: 24.532164
Amount Units: ng/ml



Reviewer: chirgwinb, 05-Jun-2019 14:28:59

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Instrument ID: LC410 Start Date: 05/23/2019 11:57

Analysis Batch Number: 143347 End Date: 05/23/2019 15:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/23/2019 11:57	1		C-18 4.6(mm)
IC 200-143347/2		05/23/2019 12:19	1	PF052319B02.d	C-18 4.6(mm)
IC 200-143347/3		05/23/2019 12:35	1	PF052319B03.d	C-18 4.6(mm)
IC 200-143347/4		05/23/2019 12:51	1	PF052319B04.d	C-18 4.6(mm)
IC 200-143347/5		05/23/2019 13:07	1	PF052319B05.d	C-18 4.6(mm)
ICIS 200-143347/6		05/23/2019 13:23	1	PF052319B06.d	C-18 4.6(mm)
IC 200-143347/7		05/23/2019 13:39	1	PF052319B07.d	C-18 4.6(mm)
IC 200-143347/8		05/23/2019 13:55	1	PF052319B08.d	C-18 4.6(mm)
IC 200-143347/9		05/23/2019 14:10	1	PF052319B09.d	C-18 4.6(mm)
IC 200-143347/10		05/23/2019 14:26	1	PF052319B10.d	C-18 4.6(mm)
ICB 200-143347/11		05/23/2019 14:42	1		C-18 4.6(mm)
ICV 200-143347/12		05/23/2019 14:58	1	PF052319B12.d	C-18 4.6(mm)
ZZZZZ		05/23/2019 15:14	1		C-18 4.6(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Instrument ID: LC410 Start Date: 05/30/2019 12:39

Analysis Batch Number: 143596 End Date: 05/31/2019 11:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/30/2019 12:39	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 13:02	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 13:18	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 13:34	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 13:50	1		C-18 4.6(mm)
CCVIS 200-143596/6		05/30/2019 14:06	1	PF053019B06.d	C-18 4.6(mm)
CCVL 200-143596/7		05/30/2019 14:22	1	PF053019B07.d	C-18 4.6(mm)
CCV 200-143596/8		05/30/2019 14:38	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 14:53	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 15:09	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 15:25	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 15:41	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 15:57	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 16:13	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 16:29	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 16:45	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 17:01	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 17:16	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 17:32	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 17:48	5		C-18 4.6(mm)
CCV 200-143596/21		05/30/2019 18:04	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 18:20	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 18:36	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 18:52	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 19:08	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 19:24	1		C-18 4.6(mm)
CCV 200-143596/27		05/30/2019 19:40	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 19:55	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 20:11	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 20:27	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 20:43	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 20:59	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 21:15	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 21:31	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 21:47	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 22:02	1		C-18 4.6(mm)
ZZZZZ		05/30/2019 22:18	1		C-18 4.6(mm)
CCV 200-143596/38		05/30/2019 22:34	1	PF053019B38.d	C-18 4.6(mm)
MB 200-143263/1-A		05/30/2019 22:50	1	PF053019B39.d	C-18 4.6(mm)
LCS 200-143263/2-A		05/30/2019 23:06	1	PF053019B40.d	C-18 4.6(mm)
ZZZZZ		05/30/2019 23:22	10		C-18 4.6(mm)
ZZZZZ		05/30/2019 23:38	5		C-18 4.6(mm)
ZZZZZ		05/30/2019 23:54	5		C-18 4.6(mm)
ZZZZZ		05/31/2019 00:10	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 00:25	1		C-18 4.6(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Instrument ID: LC410 Start Date: 05/30/2019 12:39

Analysis Batch Number: 143596 End Date: 05/31/2019 11:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		05/31/2019 00:41	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 00:57	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 01:13	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 01:29	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 01:45	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 02:01	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 02:17	1		C-18 4.6(mm)
CCV 200-143596/53		05/31/2019 02:33	1	PF053019B53.d	C-18 4.6(mm)
200-48826-1		05/31/2019 02:49	5	PF053019B54.d	C-18 4.6(mm)
200-48826-2		05/31/2019 03:04	5	PF053019B55.d	C-18 4.6(mm)
200-48826-3		05/31/2019 03:20	5	PF053019B56.d	C-18 4.6(mm)
200-48826-4		05/31/2019 03:36	5	PF053019B57.d	C-18 4.6(mm)
200-48826-5		05/31/2019 03:52	5	PF053019B58.d	C-18 4.6(mm)
200-48826-6		05/31/2019 04:08	5	PF053019B59.d	C-18 4.6(mm)
ZZZZZ		05/31/2019 04:24	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 04:40	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 04:56	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 05:12	5		C-18 4.6(mm)
CCV 200-143596/64		05/31/2019 05:27	1	PF053019B64.d	C-18 4.6(mm)
ZZZZZ		05/31/2019 05:43	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 06:00	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 06:15	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 06:31	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 06:47	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 07:03	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 07:19	5		C-18 4.6(mm)
ZZZZZ		05/31/2019 07:35	5		C-18 4.6(mm)
ZZZZZ		05/31/2019 07:51	5		C-18 4.6(mm)
CCV 200-143596/74		05/31/2019 08:07	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 08:23	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 08:38	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 08:54	10		C-18 4.6(mm)
ZZZZZ		05/31/2019 09:10	5		C-18 4.6(mm)
ZZZZZ		05/31/2019 09:26	5		C-18 4.6(mm)
ZZZZZ		05/31/2019 09:42	5		C-18 4.6(mm)
ZZZZZ		05/31/2019 09:58	5		C-18 4.6(mm)
ZZZZZ		05/31/2019 10:14	5		C-18 4.6(mm)
ZZZZZ		05/31/2019 10:30	1		C-18 4.6(mm)
ZZZZZ		05/31/2019 10:46	10		C-18 4.6(mm)
CCV 200-143596/85		05/31/2019 11:01	1		C-18 4.6(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Instrument ID: LC410 Start Date: 06/05/2019 01:19

Analysis Batch Number: 143753 End Date: 06/05/2019 18:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/05/2019 01:19	1		C-18 4.6(mm)
CCVIS 200-143753/2		06/05/2019 01:35	1	PF060419B02.d	C-18 4.6(mm)
CCVL 200-143753/3		06/05/2019 01:51	1	PF060419B03.d	C-18 4.6(mm)
CCV 200-143753/4		06/05/2019 02:07	1	PF060419B04.d	C-18 4.6(mm)
MB 200-143308/1-A		06/05/2019 02:23	1	PF060419B05.d	C-18 4.6(mm)
LCS 200-143308/2-A		06/05/2019 02:39	1	PF060419B06.d	C-18 4.6(mm)
ZZZZZ		06/05/2019 02:54	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 03:10	1		C-18 4.6(mm)
200-48826-7		06/05/2019 03:26	5	PF060419B09.d	C-18 4.6(mm)
200-48826-8		06/05/2019 03:42	5	PF060419B10.d	C-18 4.6(mm)
200-48826-9		06/05/2019 03:58	5	PF060419B11.d	C-18 4.6(mm)
200-48826-10		06/05/2019 04:14	5	PF060419B12.d	C-18 4.6(mm)
200-48826-11		06/05/2019 04:30	5	PF060419B13.d	C-18 4.6(mm)
200-48826-12		06/05/2019 04:46	5	PF060419B14.d	C-18 4.6(mm)
200-48826-13		06/05/2019 05:02	1	PF060419B15.d	C-18 4.6(mm)
200-48826-14		06/05/2019 05:17	1	PF060419B16.d	C-18 4.6(mm)
CCV 200-143753/17		06/05/2019 05:33	1	PF060419B17.d	C-18 4.6(mm)
200-48826-15		06/05/2019 05:49	1	PF060419B18.d	C-18 4.6(mm)
200-48826-16		06/05/2019 06:05	1	PF060419B19.d	C-18 4.6(mm)
200-48826-17		06/05/2019 06:21	1	PF060419B20.d	C-18 4.6(mm)
200-48826-17 MS		06/05/2019 06:37	1	PF060419B21.d	C-18 4.6(mm)
200-48826-17 MSD		06/05/2019 06:53	1	PF060419B22.d	C-18 4.6(mm)
200-48826-18		06/05/2019 07:09	5	PF060419B23.d	C-18 4.6(mm)
200-48826-19		06/05/2019 07:25	5	PF060419B24.d	C-18 4.6(mm)
200-48826-20		06/05/2019 07:40	5	PF060419B25.d	C-18 4.6(mm)
200-48826-21		06/05/2019 07:56	1	PF060419B26.d	C-18 4.6(mm)
200-48826-22		06/05/2019 08:12	1	PF060419B27.d	C-18 4.6(mm)
200-48826-23		06/05/2019 08:28	1	PF060419B28.d	C-18 4.6(mm)
ZZZZZ		06/05/2019 08:44	5		C-18 4.6(mm)
CCV 200-143753/30		06/05/2019 09:00	1	PF060419B30.d	C-18 4.6(mm)
ZZZZZ		06/05/2019 09:16	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 09:32	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 09:47	20		C-18 4.6(mm)
ZZZZZ		06/05/2019 10:03	5		C-18 4.6(mm)
ZZZZZ		06/05/2019 10:19	5		C-18 4.6(mm)
ZZZZZ		06/05/2019 10:35	5		C-18 4.6(mm)
ZZZZZ		06/05/2019 10:51	5		C-18 4.6(mm)
ZZZZZ		06/05/2019 11:07	20		C-18 4.6(mm)
ZZZZZ		06/05/2019 11:23	25		C-18 4.6(mm)
ZZZZZ		06/05/2019 11:39	5		C-18 4.6(mm)
ZZZZZ		06/05/2019 11:55	5		C-18 4.6(mm)
ZZZZZ		06/05/2019 12:11	5		C-18 4.6(mm)
ZZZZZ		06/05/2019 12:26	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 12:42	5		C-18 4.6(mm)
CCV 200-143753/45		06/05/2019 12:58	1		C-18 4.6(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Instrument ID: LC410 Start Date: 06/05/2019 01:19

Analysis Batch Number: 143753 End Date: 06/05/2019 18:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/05/2019 13:14	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 13:30	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 13:46	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 14:02	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 14:18	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 14:34	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 14:49	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 15:05	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 15:21	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 15:37	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 15:53	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 16:09	1		C-18 4.6(mm)
CCV 200-143753/58		06/05/2019 16:25	1		C-18 4.6(mm)
ZZZZZ		06/05/2019 16:41	5		C-18 4.6(mm)
ZZZZZ		06/05/2019 17:12	5		C-18 4.6(mm)
CCV 200-143753/64		06/05/2019 18:00	1		C-18 4.6(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Instrument ID: LC410 Start Date: 06/06/2019 12:17

Analysis Batch Number: 143813 End Date: 06/07/2019 08:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/06/2019 12:17	1		C-18 4.6(mm)
CCVIS 200-143813/2		06/06/2019 12:40	1	PF060619A02.d	C-18 4.6(mm)
CCVL 200-143813/3		06/06/2019 12:56	1	PF060619A03.d	C-18 4.6(mm)
CCV 200-143813/4		06/06/2019 13:12	1	PF060619A04.d	C-18 4.6(mm)
LCS 200-143263/2-A		06/06/2019 13:28	1	PF060619A05.d	C-18 4.6(mm)
ZZZZZ		06/06/2019 13:44	10		C-18 4.6(mm)
200-48826-5		06/06/2019 14:00	10	PF060619A07.d	C-18 4.6(mm)
200-48826-6		06/06/2019 14:16	10	PF060619A08.d	C-18 4.6(mm)
200-48826-7		06/06/2019 14:31	10	PF060619A09.d	C-18 4.6(mm)
200-48826-8		06/06/2019 14:47	10	PF060619A10.d	C-18 4.6(mm)
200-48826-9		06/06/2019 15:03	20	PF060619A11.d	C-18 4.6(mm)
ZZZZZ		06/06/2019 15:19	10		C-18 4.6(mm)
ZZZZZ		06/06/2019 15:35	1		C-18 4.6(mm)
CCV 200-143813/14		06/06/2019 15:51	1	PF060619A14.d	C-18 4.6(mm)
ZZZZZ		06/06/2019 16:07	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 16:23	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 16:39	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 16:55	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 17:10	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 17:26	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 17:42	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 17:58	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 18:14	10		C-18 4.6(mm)
CCV 200-143813/24		06/06/2019 18:30	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 18:46	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 19:02	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 19:18	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 19:33	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 19:49	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 20:05	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 20:21	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 20:37	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 20:53	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 21:09	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 21:25	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 21:40	5		C-18 4.6(mm)
CCV 200-143813/37		06/06/2019 21:56	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 22:12	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 22:28	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 22:44	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 23:00	1		C-18 4.6(mm)
ZZZZZ		06/06/2019 23:16	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 23:32	5		C-18 4.6(mm)
ZZZZZ		06/06/2019 23:48	5		C-18 4.6(mm)
ZZZZZ		06/07/2019 00:04	5		C-18 4.6(mm)

537 (modified)

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Instrument ID: LC410 Start Date: 06/06/2019 12:17

Analysis Batch Number: 143813 End Date: 06/07/2019 08:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/07/2019 00:19	5		C-18 4.6(mm)
ZZZZZ		06/07/2019 00:35	5		C-18 4.6(mm)
ZZZZZ		06/07/2019 00:51	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 01:07	1		C-18 4.6(mm)
CCV 200-143813/50		06/07/2019 01:23	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 01:39	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 01:55	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 02:11	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 02:26	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 02:42	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 02:58	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 03:14	10		C-18 4.6(mm)
ZZZZZ		06/07/2019 03:30	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 03:46	10		C-18 4.6(mm)
ZZZZZ		06/07/2019 04:02	10		C-18 4.6(mm)
ZZZZZ		06/07/2019 04:18	10		C-18 4.6(mm)
ZZZZZ		06/07/2019 04:34	1		C-18 4.6(mm)
CCV 200-143813/63		06/07/2019 04:49	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 05:05	10		C-18 4.6(mm)
ZZZZZ		06/07/2019 05:21	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 05:37	10		C-18 4.6(mm)
ZZZZZ		06/07/2019 05:53	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 06:09	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 06:25	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 06:41	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 06:57	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 07:12	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 07:28	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 07:44	1		C-18 4.6(mm)
ZZZZZ		06/07/2019 08:00	1		C-18 4.6(mm)
CCV 200-143813/76		06/07/2019 08:16	1		C-18 4.6(mm)

537 (modified)

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Burlingt Job No.: 200-48826-1

SDG No.:

Batch Number: 143263 Batch Start Date: 05/21/19 14:07 Batch Analyst: Bourdeau, Timothy P

Batch Method: 3535 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFCIDA21 00008	LCPFAS27 MS 00006
MB 200-143263/1		3535, 537 (modified)		250 g	0 g	250 mL	0.5 mL	25 uL	
LCS 200-143263/2		3535, 537 (modified)		250 g	0 g	250 mL	0.5 mL	25 uL	25 uL
200-48826-A-1	K-3 051319	3535, 537 (modified)	T	326.01 g	27.18 g	298.8 mL	0.5 mL	25 uL	
200-48826-A-2	MW-18 051319	3535, 537 (modified)	T	323.26 g	26.40 g	296.9 mL	0.5 mL	25 uL	
200-48826-A-3	MW-17 051319	3535, 537 (modified)	T	338.02 g	26.34 g	311.7 mL	0.5 mL	25 uL	
200-48826-A-4	MW-15S 051319	3535, 537 (modified)	T	320.77 g	27.31 g	293.5 mL	0.5 mL	25 uL	
200-48826-A-5	VEW-2 051419	3535, 537 (modified)	T	321.78 g	26.26 g	295.5 mL	0.5 mL	25 uL	
200-48826-A-6	VEW-1 051419	3535, 537 (modified)	T	330.53 g	26.46 g	304.1 mL	0.5 mL	25 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	PFAS21 IS Stk 00008					
MB 200-143263/1		3535, 537 (modified)		5 uL					
LCS 200-143263/2		3535, 537 (modified)		5 uL					
200-48826-A-1	K-3 051319	3535, 537 (modified)	T	5 uL					
200-48826-A-2	MW-18 051319	3535, 537 (modified)	T	5 uL					
200-48826-A-3	MW-17 051319	3535, 537 (modified)	T	5 uL					
200-48826-A-4	MW-15S 051319	3535, 537 (modified)	T	5 uL					
200-48826-A-5	VEW-2 051419	3535, 537 (modified)	T	5 uL					
200-48826-A-6	VEW-1 051419	3535, 537 (modified)	T	5 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Burlingt Job No.: 200-48826-1

SDG No.:

Batch Number: 143263 Batch Start Date: 05/21/19 14:07 Batch Analyst: Bourdeau, Timothy P

Batch Method: 3535 Batch End Date:

Batch Notes	
Balance ID	M02926
First End time	05/22/2019 09:25
Manifold ID	IDA 3 & 4
Rinse Solvent Lot	1276652
Rinse Solvent Name	Hexane
Solvent Lot #	1282168
Solvent Name	Methanol (0.3% NH4OH)
SPE Cartridge Lot ID	Lot 004238285A
SPE Cartridge Type	Oasis WAX 500mg
Analyst ID - Spike Analyst	TPB
Analyst ID - Spike Witness Analyst	GL
First Start time	05/22/2019 08:50

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.

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Burlingt Job No.: 200-48826-1

SDG No.:

Batch Number: 143308 Batch Start Date: 05/22/19 11:30 Batch Analyst: Bourdeau, Timothy P

Batch Method: 3535 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFCIDA21 00008	LCPFAS27 MS 00006
MB 200-143308/1		3535, 537 (modified)		250 g	0 g	250 mL	0.5 mL	25 uL	
LCS 200-143308/2		3535, 537 (modified)		250 g	0 g	250 mL	0.5 mL	25 uL	25 uL
200-48826-A-7	VEW-3 051419	3535, 537 (modified)	T	318.00 g	27.30 g	290.7 mL	0.5 mL	25 uL	
200-48826-A-8	VEW-4 051419	3535, 537 (modified)	T	331.57 g	26.34 g	305.2 mL	0.5 mL	25 uL	
200-48826-A-9	ASW 051419	3535, 537 (modified)	T	333.76 g	26.33 g	307.4 mL	0.5 mL	25 uL	
200-48826-A-10	MW-23 051419	3535, 537 (modified)	T	332.14 g	26.57 g	305.6 mL	0.5 mL	25 uL	
200-48826-A-11	MW-22 051519	3535, 537 (modified)	T	326.14 g	26.68 g	299.5 mL	0.5 mL	25 uL	
200-48826-A-12	K-2 051519	3535, 537 (modified)	T	318.91 g	27.45 g	291.5 mL	0.5 mL	25 uL	
200-48826-A-13	MW-15D 051519	3535, 537 (modified)	T	314.92 g	26.42 g	288.5 mL	0.5 mL	25 uL	
200-48826-A-14	MW-16D 051519	3535, 537 (modified)	T	327.66 g	26.42 g	301.2 mL	0.5 mL	25 uL	
200-48826-A-15	MW-24 051519	3535, 537 (modified)	T	323.10 g	26.27 g	296.8 mL	0.5 mL	25 uL	
200-48826-A-16	MW-8D 051619	3535, 537 (modified)	T	315.46 g	26.40 g	289.1 mL	0.5 mL	25 uL	
200-48826-A-17	MW-8S 051619	3535, 537 (modified)	T	323.88 g	27.33 g	296.6 mL	0.5 mL	25 uL	
200-48826-A-17 MS	MW-8S 051619	3535, 537 (modified)	T	327.85 g	27.32 g	300.5 mL	0.5 mL	25 uL	25 uL
200-48826-A-17 MSD	MW-8S 051619	3535, 537 (modified)	T	315.64 g	26.55 g	289.1 mL	0.5 mL	25 uL	25 uL
200-48826-A-18	MW-21 051619	3535, 537 (modified)	T	329.58 g	26.25 g	303.3 mL	0.5 mL	25 uL	
200-48826-A-19	MW-20 051619	3535, 537 (modified)	T	322.05 g	26.38 g	295.7 mL	0.5 mL	25 uL	
200-48826-A-20	MW-19 051619	3535, 537 (modified)	T	324.85 g	26.28 g	298.6 mL	0.5 mL	25 uL	
200-48826-A-21	DUP 051619	3535, 537 (modified)	T	319.49 g	27.36 g	292.1 mL	0.5 mL	25 uL	
200-48826-A-22	FIELD BLANK 051619	3535, 537 (modified)	T	332.75 g	27.42 g	305.3 mL	0.5 mL	25 uL	
200-48826-A-23	EQUIPMENT BLANK 051619	3535, 537 (modified)	T	318.92 g	26.42 g	292.5 mL	0.5 mL	25 uL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Burlingt Job No.: 200-48826-1

SDG No.:

Batch Number: 143308 Batch Start Date: 05/22/19 11:30 Batch Analyst: Bourdeau, Timothy P

Batch Method: 3535 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	PFAS21 IS Stk 00008					
MB 200-143308/1		3535, 537 (modified)		5 uL					
LCS 200-143308/2		3535, 537 (modified)		5 uL					
200-48826-A-7	VEW-3 051419	3535, 537 (modified)	T	5 uL					
200-48826-A-8	VEW-4 051419	3535, 537 (modified)	T	5 uL					
200-48826-A-9	ASW 051419	3535, 537 (modified)	T	5 uL					
200-48826-A-10	MW-23 051419	3535, 537 (modified)	T	5 uL					
200-48826-A-11	MW-22 051519	3535, 537 (modified)	T	5 uL					
200-48826-A-12	K-2 051519	3535, 537 (modified)	T	5 uL					
200-48826-A-13	MW-15D 051519	3535, 537 (modified)	T	5 uL					
200-48826-A-14	MW-16D 051519	3535, 537 (modified)	T	5 uL					
200-48826-A-15	MW-24 051519	3535, 537 (modified)	T	5 uL					
200-48826-A-16	MW-8D 051619	3535, 537 (modified)	T	5 uL					
200-48826-A-17	MW-8S 051619	3535, 537 (modified)	T	5 uL					
200-48826-A-17 MS	MW-8S 051619	3535, 537 (modified)	T	5 uL					
200-48826-A-17 MSD	MW-8S 051619	3535, 537 (modified)	T	5 uL					
200-48826-A-18	MW-21 051619	3535, 537 (modified)	T	5 uL					
200-48826-A-19	MW-20 051619	3535, 537 (modified)	T	5 uL					
200-48826-A-20	MW-19 051619	3535, 537 (modified)	T	5 uL					
200-48826-A-21	DUP 051619	3535, 537 (modified)	T	5 uL					
200-48826-A-22	FIELD BLANK 051619	3535, 537 (modified)	T	5 uL					
200-48826-A-23	EQUIPMENT BLANK 051619	3535, 537 (modified)	T	5 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Burlingt Job No.: 200-48826-1

SDG No.:

Batch Number: 143308 Batch Start Date: 05/22/19 11:30 Batch Analyst: Bourdeau, Timothy P

Batch Method: 3535 Batch End Date:

Batch Notes	
Balance ID	M02926
First End time	05/22/2019 12:52
Manifold ID	IDA 3 & 4
Rinse Solvent Lot	1276652
Rinse Solvent Name	Hexane
Solvent Lot #	1282168
Solvent Name	Methanol (0.3% NH4OH)
SPE Cartridge Lot ID	Lot 004238285A
SPE Cartridge Type	Oasis WAX 500mg
Analyst ID - Spike Analyst	TPB
Analyst ID - Spike Witness Analyst	GL
First Start time	05/22/2019 12:34

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.

Subcontract Data

Shipping and Receiving Documents

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

200-48826 Chain of Custody

eurofins | Environment Testing TestAmerica

Client Information	Sampler: 60	Lab PM: Stone, Judy L	JC No: 480-130202-29377.1
Client Contact: Walter Howard	Phone: 518-384-4212	E-Mail: judy.stone@testamericainc.com	Page: Page 1 of 3
Company: AECOM			Job #:
Address: 40 British American Blvd	Due Date Requested:	Analysis Requested	
City: Latham	TAT Requested (days): Standard		
State, Zip: NY, 12110			
Phone: 518-402-9625(Tel)	PO #: Callout		
Email: walter.howard@aecom.com	WO #:		
Project Name: Korkay, Inc. #518014	Project #: 48020095		
Site:	SSOW#:		

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (21 Analytes)	8270D_SIM_WS_10 - Sim List	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	1		
K-3 051319	5/13/19	1206	6	Water			X		2	# Cat B report
MW-18 051319		1302		Water			X		2	# Report to:
MW-17 051319		1410		Water			X		2	Walter Howard @
MW-16S 051319		1448		Water			X		2	aecom.com
VEW-2 051419	5/14/19	0938		Water			X		2	
VEW-1 051419		1032		Water			X		2	
VEW-3 051419		1128		Water			X		2	
VEW-4 051419		1222		Water			X		2	
ASW 051419		1354		Water			X		2	
MW-23 051419		1502		Water			X		2	
MW-22 051419	5/15/19	0935		Water			X		2	

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/17/19 1428	AECOM		5/17/19 1428	TA
2		5/17/19 1800	TA		5/18/19 11:10	TA Buf
3						

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.: 627058

Cooler Temperature(s) °C and Other Remarks: 2.4

Ver: 01/16/2019

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: 60	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-130202-29377.2
Client Contact: Walter Howard	Phone: 518-384-4212	E-Mail: judy.stone@testamericainc.com		Page: Page 2 of 3
Company: AECOM				Job #:
Address: 40 British American Blvd	Due Date Requested:	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 - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify); Other:
City: Latham	TAT Requested (days): Standard			
State, Zip: NY, 12110	PO #: Callout			
Phone: 518-402-9625(Tel)	WO #:			
Email: walter.howard@aecom.com	Project #: 48020095			
Project Name: Korkay, Inc. #518014	SSOW#:			
Site:				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (21 Analytes)	8270_SIM_MS_10 - Sim list	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N			
K-2 051519	5/15/19	1050	G	Water			X		2	
MW-150 051519		1218		Water			X		2	
MW-160 051519		1342		Water			X		2	
MW-24 051519		1456		Water			X		2	
MW-80 051619	5/16/19	0944		Water			X	X	4	
MW-85 051619		1052		Water			X	X	4	
MW-21 051619		1334		Water			X	X	4	
MW-20 051619		1440		Water			X	X	4	
MW-19 051619		1540		Water			X	X	4	
DUP 051619		—		Water			X	X	4	
Field Blank 051619		1600		Water			X	X	4	

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/17/19 1428	AECOM	[signature]	5/17/19 1428	TA
2	[signature]	5/17/19 1800	TA	[signature]	5/18/19 11:10	TA Bal
3						

Custody Seals Intact: ☐ Yes ☒ No | Custody Seal No.: 627256

Cooler Temperature(s) °C and Other Remarks: 2.4

Ver: 01/16/2019

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: 60	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-130202-29377.3
Client Contact: Walter Howard	Phone: 518-584-4212	E-Mail: judy.stone@testamericainc.com		Page: Page 3 of 3
Company: AECOM				Job #:
Address: 40 British American Blvd	Due Date Requested:	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 - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Latham	TAT Requested (days): Standard			
State, Zip: NY, 12110				Other:
Phone: 518-402-9625(Tel)	PO #: Callout			
Email: walter.howard@aecom.com	WO #:			
Project Name: Korkay, Inc. #518014	Project #: 48020095			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Wewater, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (21 Analytes)	8270 - SIM_MS_10 - Sim 1:2	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N			
MS 051619	5/16/19	1052	G	Water			X	X	4	
MSD 051619	"	1052	G	Water			X	X	4	
Equipment Blank 051619	"	1610	—	Water			X		2	
				Water						
				Water						
				Water						
				Water						
				Water						
				Water						
				Water						

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	5/17/19-1428	AECOM		5/17/19 1428	
Relinquished by: Karl Fodor	Date/Time: 5/17/19 1800	Company TA	Received by:	Date/Time: 5/18/19 11:10	Company TA Buff
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No.: 627258

Cooler Temperature(s) °C and Other Remarks: 2.4

Ver: 01/16/2019

ORIGIN ID:SCHA (518) 438-8140
TIM KNOLLMEYER
TESTAMERICA LAB INC
25 KRAFT AVE

ALBANY, NY 12205
UNITED STATES US

SHIP DATE: 17MAY19
ACTWGT: 77.20 LB
CAD: 0439821/CAFE3211
DIMS: 30x16x15 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING/ CALLAHAN
TESTAMERICA – BURLINGTON
30 COMMUNITY DRIVE, SUITE 11

BURLINGTON VT 05403
(802) 660 – 1990
REF: NYSDEC PFAS

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05403
VT – US BTV

Part # 156148-434 RIT EXP 09/19

Login Sample Receipt Checklist

Client: New York State D.E.C. Job Number: 200-48826-1

Login Number: 48826 **List Source: Eurofins TestAmerica, Burlington**
List Number: 2
Creator: Hall, Samuel C

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	627258
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	2.4ºC
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	GO
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 <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix D

Data Usability Summary Report – PFAS and 1,4 Dioxane Analyses

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
KORKAY, BROADALBIN, NEW YORK

Client: AECOM Technical Services, Inc., Latham, New York
SDG: 200-48826-1
Laboratory: Eurofins Test America, Burlington, Vermont and Edison, New Jersey
Site: Korkay, Inc., Broadalbin, New York
Date: July 22, 2019

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	K-3-051319	200-48826-1	Water
2	MW-18 051319	200-48826-2	Water
3	MW-17 051319	200-48826-3	Water
4	MW-15S 051319	200-48826-4	Water
5	VEW-2 051419	200-48826-5	Water
6	VEW-1 051419	200-48826-6	Water
7	VEW-3 051419	200-48826-7	Water
8	VEW-4 051419	200-48826-8	Water
9	ASW 051419	200-48826-9	Water
10	MW-23 051419	200-48826-10	Water
11	MW-22 051519	200-48826-11	Water
12	K-2 051519	200-48826-12	Water
13	MW-15D 051519	200-48826-13	Water
14	MW-16D 051519	200-48826-14	Water
15	MW-24 051519	200-48826-15	Water
16*	MW-8D 051619	200-48826-16	Water
17*	MW-8S 051619	200-48826-17	Water
17MS	MW-8S 051619MS	200-48826-17MS	Water
17MSD	MW-8S 051619MSD	200-48826-17MSD	Water
18*	MW-21 051619	200-48826-18	Water
19*	MW-20 051619	200-48826-19	Water
20*	MW-19 051619	200-48826-20	Water
21*	DUP 051619	200-48826-21	Water
22*	FIELD BLANK 051619	200-48826-22	Water
23*	EQUIPMENT BLANK 051619	200-48826-23	Water

* - Includes 1,4-Dioxane

A Data Usability Summary Review was performed on the analytical data for twenty-one water samples, one aqueous field blank sample and one aqueous equipment blank sample collected on May 13-16, 2019 by AECOM at the Korkay site in Broadalbin, New York. The samples were analyzed under Environmental Protection Agency (USEPA) Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions the EPA Method Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS).

Specific method references are as follows:

Analysis	*Method References*
1,4-Dioxane	USEPA SW-846 Method 8270D-SIM
PFCs	USEPA Method 537 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) and the USEPA Data Review and Validation Guidelines as follows:

- SOP Number HW-35A, Revision 1, September 2016: Semivolatile Data Validation;
- USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537, November 2018;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Data Completeness
- Holding times and sample preservation
- Gas Chromatography (GC)/Mass Spectroscopy (MS) tuning
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and Continuing Calibration summaries
- Method blank and field blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Semivolatile Organic Compounds by SIM (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days for all samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC samples are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
FIELD BLANK 051619	None - ND	-	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable %R and relative percent difference (RPD) values.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	MW-8S 051619 ug/L	DUP 051619 ug/L	RPD	Qualifier
None	ND	ND	-	-

Perfluorinated Compounds (PFCs)

Holding Times

- Aqueous samples were extracted within 14 days and analyzed within 28 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) criteria and/or correlation coefficients were met.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values except for the following.

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
05/31/19 (0233)	PFBA	61.9%	J/UJ	1-6

Method Blank

- The method blanks were free of contamination except for the following.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
MB 200-143263/1-A	PFBS	1.09	U	2
MB200-143308/1-A	PFOS	0.860	U	14, 16, 17

Field QC Blank

- Field QC samples were free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
FIELD BLANK 051619	None - ND	-	-	-
EQUIPMENT BLANK 051619	None - ND	-	-	-

Surrogate Spike Recoveries

- Many surrogates exceeded QC criteria. The reviewer qualified the associated compounds estimated (J/UJ). See surrogate recovery pages included with the Form Is for specific compounds and percent recovery values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable %R and relative percent difference (RPD) values.

Laboratory Control Samples

- The following table presents LCS percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

LCS ID	Compound	%R	Qualifier	Affected Samples
200-143263/2-A	NEtFOSAA	132%	J	4, 5, 6
200-143308/2-A	PFOS	138%	J	11

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria except for the following.

Sample ID	Internal Standard	Area Count	Qualifier
1	13C2 PFOA	Low	J - Associated Compound
2	13C2 PFOA	Low	J - Associated Compound
3	13C2 PFOA	Low	J - Associated Compound
4	13C2 PFOA	Low	J - Associated Compound
5	13C2 PFOA	Low	J - Associated Compound
6	13C2 PFOA	Low	J - Associated Compound
7	13C2 PFOA	Low	J - Associated Compound
8	13C2 PFOA	Low	J - Associated Compound
9	13C2 PFOA	Low	J - Associated Compound
10	13C2 PFOA	Low	J - Associated Compound
11	13C2 PFOA	Low	J - Associated Compound
12	13C2 PFOA	Low	J - Associated Compound
14	13C2 PFOA	Low	J - Associated Compound
16	13C2 PFOA	Low	J - Associated Compound
18	13C2 PFOA	Low	J - Associated Compound
19	13C2 PFOA	Low	UJ - Associated Compound
20	13C2 PFOA	Low	J - Associated Compound

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- Several samples were analyzed at various dilutions due to high concentrations of target compounds and/or matrix interference. The reporting limits were adjusted accordingly. No action was required.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

PFCs				
Compound	MW-8S 051619 ng/L	DUP 051619 ng/L	RPD	Qualifier
PFOA	0.69	0.59	16%	None
PFBS	1.0	1.2	18%	None
PFHxS	1.0	ND	NC	None
PFOS	8.0	ND	NC	None
NEtFOSAA	1.7	ND	NC	None

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 7/22/19

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

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FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1
SDG No.:
Client Sample ID: MW-8D 051619 Lab Sample ID: 200-48826-16
Matrix: Water Lab File ID: h2380742.D
Analysis Method: 8270D SIM Date Collected: 05/16/2019 09:44
Extract. Method: 3510C Date Extracted: 05/21/2019 12:26
Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 14:32
Con. Extract Vol.: 2(mL) Dilution Factor: 1
Injection Volume: 5(uL) Level: (low/med) Low
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND	J	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	80		38-125

NW 7/22/19

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

17

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8S 051619 Lab Sample ID: 200-48826-17

Matrix: Water Lab File ID: h2380743.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 10:52

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 14:53

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	95		38-125

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

18

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-21 051619 Lab Sample ID: 200-48826-18

Matrix: Water Lab File ID: h2380746.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 13:34

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 15:57

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	82		38-125

MW 7/22/19

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

19

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-20 051619 Lab Sample ID: 200-48826-19

Matrix: Water Lab File ID: h2380747.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 14:40

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 16:18

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND	f	0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	87		38-125

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

20

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-19 051619 Lab Sample ID: 200-48826-20

Matrix: Water Lab File ID: h2380748.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 15:40

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 16:39

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	99		38-125

MW 7/22/19

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

21

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: DUP 051619 Lab Sample ID: 200-48826-21

Matrix: Water Lab File ID: h2380749.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 00:00

Extract. Method: 3510C Date Extracted: 05/21/2019 12:26

Sample wt/vol: 250(mL) Date Analyzed: 05/22/2019 17:00

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 611861 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	89		38-125

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

22

Lab Name: Eurofins TestAmerica, Edison Job No.: 200-48826-1

SDG No.:

Client Sample ID: FIELD BLANK 051619 Lab Sample ID: 200-48826-22

Matrix: Water Lab File ID: h2380881.D

Analysis Method: 8270D SIM Date Collected: 05/16/2019 16:00

Extract. Method: 3510C Date Extracted: 05/23/2019 16:18

Sample wt/vol: 250(mL) Date Analyzed: 05/24/2019 20:14

Con. Extract Vol.: 2(mL) Dilution Factor: 1

Injection Volume: 5(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 612564 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.40	0.17

CAS NO.	SURROGATE	%REC	Q	LIMITS
4165-60-0	Nitrobenzene-d5	64		38-125

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: K-3 051319 Lab Sample ID: 200-48826-1

Matrix: Water Lab File ID: PF053019B54.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 12:06

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 298.8(mL) Date Analyzed: 05/31/2019 02:49

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	9.6	J	8.4	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.3	J	8.4	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		8.4	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		8.4	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	15	J	8.4	2.6
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.4	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.4	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.4	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.4	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.4	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.4	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		8.4	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	13	J	8.4	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	4.9	J	8.4	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.4	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	330	J	8.4	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.4	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		84	7.1
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		84	6.3
27619-97-2	6:2 FTS	ND		84	19
39108-34-4	8:2 FTS	ND		84	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: K-3 051319 Lab Sample ID: 200-48826-1

Matrix: Water Lab File ID: PF053019B54.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 12:06

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 298.8(mL) Date Analyzed: 05/31/2019 02:49

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	61		25-150
STL00992	13C4 PFBA	39		25-150
STL01893	13C5 PFPeA	61		25-150
STL00993	13C2 PFHxA	75		50-150
STL01892	13C4 PFHpA	92		50-150
STL00990	13C4 PFOA	84		50-150
STL00995	13C5 PFNA	73		50-150
STL00996	13C2 PFDA	81		50-150
STL00997	13C2 PFUnA	65		50-150
STL00998	13C2 PFDoA	61		50-150
STL02116	13C2 PFTeDA	54		50-150
STL02337	13C3 PFBS	54		50-150
STL00994	18O2 PFHxS	47		50-150
STL00991	13C4 PFOS	40		50-150
STL02118	d3-NMeFOSAA	53		50-150
STL02117	d5-NEtFOSAA	64		50-150
STL02279	M2-6:2 FTS	55		25-150
STL02280	M2-8:2 FTS	49		25-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

2

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-18 051319 Lab Sample ID: 200-48826-2

Matrix: Water Lab File ID: PF053019B55.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 13:02

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 296.9(mL) Date Analyzed: 05/31/2019 03:04

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	~~ND~~	~~CI~~ UJ	8.4	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	13		8.4	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	13		8.4	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	13		8.4	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	49	J	8.4	2.7
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.4	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.4	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.4	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.4	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.4	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.4	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.7	~~J B~~ U	8.4	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	15		8.4	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	11		8.4	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.4	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	81		8.4	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.4	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		84	7.2
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		84	6.3
27619-97-2	6:2 FTS	ND		84	19
39108-34-4	8:2 FTS	ND		84	12

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1
SDG No.:
Client Sample ID: MW-18 051319 Lab Sample ID: 200-48826-2
Matrix: Water Lab File ID: PF053019B55.d
Analysis Method: 537 (modified) Date Collected: 05/13/2019 13:02
Extraction Method: 3535 Date Extracted: 05/21/2019 14:07
Sample wt/vol: 296.9(mL) Date Analyzed: 05/31/2019 03:04
Con. Extract Vol.: 0.5(mL) Dilution Factor: 5
Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	59		25-150
STL00992	13C4 PFBA	44		25-150
STL01893	13C5 PFPeA	57		25-150
STL00993	13C2 PFHxA	81		50-150
STL01892	13C4 PFHpA	98		50-150
STL00990	13C4 PFOA	85		50-150
STL00995	13C5 PFNA	71		50-150
STL00996	13C2 PFDA	72		50-150
STL00997	13C2 PFUnA	71		50-150
STL00998	13C2 PFDoA	65		50-150
STL02116	13C2 PFTeDA	60		50-150
STL02337	13C3 PFBS	78		50-150
STL00994	18O2 PFHxS	53		50-150
STL00991	13C4 PFOS	63		50-150
STL02118	d3-NMeFOSAA	59		50-150
STL02117	d5-NEtFOSAA	69		50-150
STL02279	M2-6:2 FTS	66		25-150
STL02280	M2-8:2 FTS	73		25-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-17 051319 Lab Sample ID: 200-48826-3

Matrix: Water Lab File ID: PF053019B56.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 14:10

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 311.7(mL) Date Analyzed: 05/31/2019 03:20

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	~~ND~~	~~J~~ UJ	8.0	4.0
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.5	J	8.0	2.5
307-24-4	Perfluorohexanoic acid (PFHxA)	5.3	J	8.0	3.0
375-85-9	Perfluoroheptanoic acid (PFHpA)	4.3	J ~~J~~	8.0	3.6
335-67-1	Perfluorooctanoic acid (PFOA)	9.2	J	8.0	2.5
375-95-1	Perfluorononanoic acid (PFNA)	1.2	J	8.0	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.0	3.1
2058-94-8	Perfluoroundecanoic acid (PFUnA)	~~ND~~	UJ	8.0	2.1
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.0	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.0	2.4
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.0	3.7
375-73-5	Perfluorobutanesulfonic acid (PFBS)	~~ND~~	~~J~~ UJ	8.0	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	~~ND~~	UJ	8.0	3.2
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.0	3.8
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.0	3.6
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	160		8.0	2.4
754-91-6	Perfluorooctanesulfonamide (FOSA)	2.9	J	8.0	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	80	6.8
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	63	~~J~~ J	80	6.0
27619-97-2	6:2 FTS	ND		80	18
39108-34-4	8:2 FTS	ND		80	12

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-17 051319 Lab Sample ID: 200-48826-3

Matrix: Water Lab File ID: PF053019B56.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 14:10

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 311.7(mL) Date Analyzed: 05/31/2019 03:20

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	29		25-150
STL00992	13C4 PFBA	51		25-150
STL01893	13C5 PFPeA	59		25-150
STL00993	13C2 PFHxA	51		50-150
STL01892	13C4 PFHpA	69		50-150
STL00990	13C4 PFOA	87		50-150
STL00995	13C5 PFNA	73		50-150
STL00996	13C2 PFDA	80		50-150
STL00997	13C2 PFUnA	48	✓	50-150
STL00998	13C2 PFDoA	74		50-150
STL02116	13C2 PFTeDA	61		50-150
STL02337	13C3 PFBS	35	✓	50-150
STL00994	18O2 PFHxS	40	✓	50-150
STL00991	13C4 PFOS	61		50-150
STL02118	d3-NMeFOSAA	34	✓	50-150
STL02117	d5-NEtFOSAA	35	✓	50-150
STL02279	M2-6:2 FTS	110		25-150
STL02280	M2-8:2 FTS	184	✓	25-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-15S 051319 Lab Sample ID: 200-48826-4

Matrix: Water Lab File ID: PF053019B57.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 14:48

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 293.5(mL) Date Analyzed: 05/31/2019 03:36

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	~~ND~~	~~U~~ J	8.5	4.3
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.8	J	8.5	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		8.5	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		8.5	3.9
335-67-1	Perfluorooctanoic acid (PFOA)	5.8	~~J~~ J	8.5	2.7
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.5	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.5	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.5	2.3
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.5	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.5	2.6
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.5	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		8.5	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		8.5	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.5	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.5	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	26		8.5	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.5	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		85	7.2
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	16	~~J~~ J	85	6.4
27619-97-2	6:2 FTS	ND		85	20
39108-34-4	8:2 FTS	ND		85	12

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-15S 051319 Lab Sample ID: 200-48826-4

Matrix: Water Lab File ID: PF053019B57.d

Analysis Method: 537 (modified) Date Collected: 05/13/2019 14:48

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 293.5(mL) Date Analyzed: 05/31/2019 03:36

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	61		25-150
STL00992	13C4 PFBA	58		25-150
STL01893	13C5 PFPeA	81		25-150
STL00993	13C2 PFHxA	85		50-150
STL01892	13C4 PFHpA	104		50-150
STL00990	13C4 PFOA	96		50-150
STL00995	13C5 PFNA	78		50-150
STL00996	13C2 PFDA	91		50-150
STL00997	13C2 PFUnA	104		50-150
STL00998	13C2 PFDoA	86		50-150
STL02116	13C2 PFTeDA	77		50-150
STL02337	13C3 PFBS	68		50-150
STL00994	18O2 PFHxS	67		50-150
STL00991	13C4 PFOS	70		50-150
STL02118	d3-NMeFOSAA	74		50-150
STL02117	d5-NEtFOSAA	97		50-150
STL02279	M2-6:2 FTS	110		25-150
STL02280	M2-8:2 FTS	135		25-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-2 051419 Lab Sample ID: 200-48826-5

Matrix: Water Lab File ID: PF053019B58.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 09:38

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 295.5(mL) Date Analyzed: 05/31/2019 03:52

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	~~ND~~ CI UJ		8.5	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	13		8.5	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	12		8.5	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	19	J	8.5	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	71	J	8.5	2.7
375-95-1	Perfluorononanoic acid (PFNA)	9.5		8.5	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.5	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.5	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.5	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.5	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.5	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND	J	8.5	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	18		8.5	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	25		8.5	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.5	3.8
754-91-6	Perfluorooctanesulfonamide (FOSA)	68		8.5	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		85	7.2
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	23	J J	85	6.3
27619-97-2	6:2 FTS	ND		85	19
39108-34-4	8:2 FTS	ND		85	12

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-2 051419 Lab Sample ID: 200-48826-5

Matrix: Water Lab File ID: PF053019B58.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 09:38

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 295.5(mL) Date Analyzed: 05/31/2019 03:52

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	50		25-150
STL00992	13C4 PFBA	44		25-150
STL01893	13C5 PFPeA	32		25-150
STL00993	13C2 PFHxA	66		50-150
STL01892	13C4 PFHpA	68		50-150
STL00990	13C4 PFOA	88		50-150
STL00995	13C5 PFNA	61		50-150
STL00996	13C2 PFDA	70		50-150
STL00997	13C2 PFUnA	71		50-150
STL00998	13C2 PFDoA	62		50-150
STL02116	13C2 PFTeDA	57		50-150
STL02337	13C3 PFBS	58		50-150
STL00994	18O2 PFHxS	51		50-150
STL00991	13C4 PFOS	51		50-150
STL02118	d3-NMeFOSAA	56		50-150
STL02117	d5-NEtFOSAA	60		50-150
STL02279	M2-6:2 FTS	144		25-150
STL02280	M2-8:2 FTS	91		25-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1
SDG No.:
Client Sample ID: VEW-2 051419 Lab Sample ID: 200-48826-5
Matrix: Water Lab File ID: PF060619A07.d
Analysis Method: 537 (modified) Date Collected: 05/14/2019 09:38
Extraction Method: 3535 Date Extracted: 05/21/2019 14:07
Sample wt/vol: 295.5(mL) Date Analyzed: 06/06/2019 14:00
Con. Extract Vol.: 0.5(mL) Dilution Factor: 10
Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2100		17	5.2

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	75		50-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1
SDG No.:
Client Sample ID: VEW-1 051419 Lab Sample ID: 200-48826-6
Matrix: Water Lab File ID: PF053019B59.d
Analysis Method: 537 (modified) Date Collected: 05/14/2019 10:32
Extraction Method: 3535 Date Extracted: 05/21/2019 14:07
Sample wt/vol: 304.1(mL) Date Analyzed: 05/31/2019 04:08
Con. Extract Vol.: 0.5(mL) Dilution Factor: 5
Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 143596 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND	~~CI~~ UJ	8.2	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	6.1	J	8.2	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	14		8.2	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	19	/	8.2	3.7
335-67-1	Perfluorooctanoic acid (PFOA)	76	J	8.2	2.6
375-95-1	Perfluorononanoic acid (PFNA)	6.3	J	8.2	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.2	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.2	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND	/	8.2	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	30	J	8.2	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	15		8.2	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		82	7.0
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	100	/ J	82	6.2
27619-97-2	6:2 FTS	ND		82	19
39108-34-4	8:2 FTS	ND		82	12

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1
SDG No.:
Client Sample ID: VEW-1 051419 Lab Sample ID: 200-48826-6
Matrix: Water Lab File ID: PF053019B59.d
Analysis Method: 537 (modified) Date Collected: 05/14/2019 10:32
Extraction Method: 3535 Date Extracted: 05/21/2019 14:07
Sample wt/vol: 304.1(mL) Date Analyzed: 05/31/2019 04:08
Con. Extract Vol.: 0.5(mL) Dilution Factor: 5
Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 143596 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	26		25-150
STL00992	13C4 PFBA	36		25-150
STL01893	13C5 PFPeA	46		25-150
STL00993	13C2 PFHxA	56		50-150
STL01892	13C4 PFHpA	72		50-150
STL00990	13C4 PFOA	94		50-150
STL00995	13C5 PFNA	72		50-150
STL00996	13C2 PFDA	96		50-150
STL00997	13C2 PFUnA	61		50-150
STL00998	13C2 PFDoA	74		50-150
STL02116	13C2 PFTeDA	92		50-150
STL02337	13C3 PFBS	66		50-150
STL00994	18O2 PFHxS	36	*	50-150
STL00991	13C4 PFOS	59		50-150
STL02118	d3-NMeFOSAA	68		50-150
STL02117	d5-NEtFOSAA	59		50-150
STL02279	M2-6:2 FTS	196	*	25-150
STL02280	M2-8:2 FTS	304	*	25-150

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b

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-1 051419 Lab Sample ID: 200-48826-6

Matrix: Water Lab File ID: PF060619A08.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 10:32

Extraction Method: 3535 Date Extracted: 05/21/2019 14:07

Sample wt/vol: 304.1(mL) Date Analyzed: 06/06/2019 14:16

Con. Extract Vol.: 0.5(mL) Dilution Factor: 10

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1500		16	5.0

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	103		50-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-3 051419 Lab Sample ID: 200-48826-7

Matrix: Water Lab File ID: PF060419B09.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 11:28

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 290.7(mL) Date Analyzed: 06/05/2019 03:26

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.6	4.3
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.6	J	8.6	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	13	J	8.6	3.3
375-85-9	Perfluoroheptanoic acid (PFHpA)	14		8.6	3.9
335-67-1	Perfluorooctanoic acid (PFOA)	180	J	8.6	2.7
375-95-1	Perfluorononanoic acid (PFNA)	5.7	~~J~~ J	8.6	1.2
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.6	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.6	2.3
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.6	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.6	2.6
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	8.6	4.0
375-73-5	Perfluorobutanesulfonic acid (PFBS)	~~ND~~	UJ	8.6	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	42	J	8.6	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	51		8.6	4.1
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.6	3.9
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.6	2.8
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	86	7.3
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		86	6.4
27619-97-2	6:2 FTS	ND		86	20
39108-34-4	8:2 FTS	ND		86	12

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-3 051419 Lab Sample ID: 200-48826-7

Matrix: Water Lab File ID: PF060419B09.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 11:28

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 290.7(mL) Date Analyzed: 06/05/2019 03:26

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	31		25-150
STL00992	13C4 PFBA	29		25-150
STL01893	13C5 PFPeA	47		25-150
STL00993	13C2 PFHxA	38	*	50-150
STL01892	13C4 PFHpA	53		50-150
STL00990	13C4 PFOA	63		50-150
STL00995	13C5 PFNA	46	*	50-150
STL00996	13C2 PFDA	58		50-150
STL00997	13C2 PFUnA	66		50-150
STL00998	13C2 PFDoA	58		50-150
STL02116	13C2 PFTeDA	47	*	50-150
STL02337	13C3 PFBS	48	*	50-150
STL00994	18O2 PFHxS	36	*	50-150
STL00991	13C4 PFOS	39	*	50-150
STL02118	d3-NMeFOSAA	48	*	50-150
STL02117	d5-NEtFOSAA	52		50-150
STL02279	M2-6:2 FTS	64		25-150
STL02280	M2-8:2 FTS	69		25-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1
SDG No.:
Client Sample ID: VEW-3 051419 Lab Sample ID: 200-48826-7
Matrix: Water Lab File ID: PF060619A09.d
Analysis Method: 537 (modified) Date Collected: 05/14/2019 11:28
Extraction Method: 3535 Date Extracted: 05/22/2019 11:30
Sample wt/vol: 290.7(mL) Date Analyzed: 06/06/2019 14:31
Con. Extract Vol.: 0.5(mL) Dilution Factor: 10
Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)
% Moisture: GPC Cleanup:(Y/N) N
Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1900	~~B~~ J	17	5.2

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	67		50-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-4 051419 Lab Sample ID: 200-48826-8

Matrix: Water Lab File ID: PF060419B10.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 12:22

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.2(mL) Date Analyzed: 06/05/2019 03:42

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	~~ND~~	UJ	8.2	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	22		8.2	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	14	J	8.2	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	26	J	8.2	3.7
335-67-1	Perfluorooctanoic acid (PFOA)	110	J	8.2	2.6
375-95-1	Perfluorononanoic acid (PFNA)	9.6		8.2	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.2	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	8.2	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	~~ND~~	UJ	8.2	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	29	J	8.2	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	21		8.2	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7
754-91-6	Perfluorooctanesulfonamide (FOSA)	~~ND~~	UJ	8.2	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	82	7.0
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		82	6.1
27619-97-2	6:2 FTS	ND		82	19
39108-34-4	8:2 FTS	ND		82	12

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-4 051419 Lab Sample ID: 200-48826-8

Matrix: Water Lab File ID: PF060419B10.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 12:22

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.2(mL) Date Analyzed: 06/05/2019 03:42

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	21	*	25-150
STL00992	13C4 PFBA	23	*	25-150
STL01893	13C5 PFPeA	29		25-150
STL00993	13C2 PFHxA	33	*	50-150
STL01892	13C4 PFHpA	47	*	50-150
STL00990	13C4 PFOA	60		50-150
STL00995	13C5 PFNA	52		50-150
STL00996	13C2 PFDA	61		50-150
STL00997	13C2 PFUnA	59		50-150
STL00998	13C2 PFDoA	58		50-150
STL02116	13C2 PFTeDA	46	*	50-150
STL02337	13C3 PFBS	36	*	50-150
STL00994	18O2 PFHxS	25	*	50-150
STL00991	13C4 PFOS	39	*	50-150
STL02118	d3-NMeFOSAA	46	*	50-150
STL02117	d5-NEtFOSAA	59		50-150
STL02279	M2-6:2 FTS	103		25-150
STL02280	M2-8:2 FTS	112		25-150

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LCMS ORGANICS ANALYSIS DATA SHEET

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: VEW-4 051419 Lab Sample ID: 200-48826-8

Matrix: Water Lab File ID: PF060619A10.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 12:22

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.2(mL) Date Analyzed: 06/06/2019 14:47

Con. Extract Vol.: 0.5(mL) Dilution Factor: 10

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1800	~~B~~ J	16	5.0

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	74		50-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: ASW 051419 Lab Sample ID: 200-48826-9

Matrix: Water Lab File ID: PF060419B11.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 13:54

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 307.4(mL) Date Analyzed: 06/05/2019 03:58

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	~~ND~~	UJ	8.1	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		8.1	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	6.2	~~J~~ J	8.1	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	8.1	J	8.1	3.7
335-67-1	Perfluorooctanoic acid (PFOA)	24	J	8.1	2.6
375-95-1	Perfluorononanoic acid (PFNA)	6.5	J	8.1	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.1	3.7
375-73-5	Perfluorobutanesulfonic acid (PFBS)	22	J	8.1	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	12	J	8.1	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	7.5	J	8.1	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.1	3.7
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	240	~~J~~ J	8.1	2.5
754-91-6	Perfluorooctanesulfonamide (FOSA)	~~ND~~	UJ	8.1	2.6
27619-97-2	6:2 FTS	ND		81	19

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	9	~~J~~	25-150
STL00992	13C4 PFBA	17	~~J~~	25-150
STL01893	13C5 PFPeA	39		25-150
STL00993	13C2 PFHxA	29	~~J~~	50-150
STL01892	13C4 PFHpA	45	~~J~~	50-150
STL00990	13C4 PFOA	59		50-150
STL00995	13C5 PFNA	50		50-150
STL02116	13C2 PFTeDA	62		50-150
STL02337	13C3 PFBS	28	~~J~~	50-150
STL00994	18O2 PFHxS	36	~~J~~	50-150
STL00991	13C4 PFOS	47	~~J~~	50-150
STL02279	M2-6:2 FTS	144		25-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: ASW 051419 Lab Sample ID: 200-48826-9

Matrix: Water Lab File ID: PF060619A11.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 13:54

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 307.4(mL) Date Analyzed: 06/06/2019 15:03

Con. Extract Vol.: 0.5(mL) Dilution Factor: 20

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143813 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
335-76-2	Perfluorodecanoic acid (PFDA)	~~ND~~	UJ	33	13
2058-94-8	Perfluoroundecanoic acid (PFUnA)	~~ND~~	UJ	33	8.6
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		33	9.6
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		33	9.8
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	330	28
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	170	~~J~~ J	330	24
39108-34-4	8:2 FTS	ND		330	47

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00996	13C2 PFDA	45	✗	50-150
STL00997	13C2 PFUnA	26	✗	50-150
STL00998	13C2 PFDoA	52		50-150
STL02118	d3-NMeFOSAA	21	✗	50-150
STL02117	d5-NEtFOSAA	7	✗	50-150
STL02280	M2-8:2 FTS	105		25-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-23 051419 Lab Sample ID: 200-48826-10

Matrix: Water Lab File ID: PF060419B12.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 15:02

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.6(mL) Date Analyzed: 06/05/2019 04:14

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.2	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	17		8.2	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	26	J	8.2	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	42	J	8.2	3.7
335-67-1	Perfluorooctanoic acid (PFOA)	150	J	8.2	2.6
375-95-1	Perfluorononanoic acid (PFNA)	ND		8.2	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.2	3.1
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND	UJ	8.2	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.2	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND	UJ	8.2	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	8.1	~~J~~ J	8.2	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	13	J	8.2	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.2	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	52	~~J~~ J	8.2	2.5
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	82	7.0
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	82	6.1
27619-97-2	6:2 FTS	ND		82	19
39108-34-4	8:2 FTS	ND		82	12

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-23 051419 Lab Sample ID: 200-48826-10

Matrix: Water Lab File ID: PF060419B12.d

Analysis Method: 537 (modified) Date Collected: 05/14/2019 15:02

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.6(mL) Date Analyzed: 06/05/2019 04:14

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	19	*	25-150
STL00992	13C4 PFBA	28		25-150
STL01893	13C5 PFPeA	35		25-150
STL00993	13C2 PFHxA	34	*	50-150
STL01892	13C4 PFHpA	49	*	50-150
STL00990	13C4 PFOA	64		50-150
STL00995	13C5 PFNA	53		50-150
STL00996	13C2 PFDA	62		50-150
STL00997	13C2 PFUnA	47	*	50-150
STL00998	13C2 PFDoA	58		50-150
STL02116	13C2 PFTeDA	40	*	50-150
STL02337	13C3 PFBS	40	*	50-150
STL00994	18O2 PFHxS	24	*	50-150
STL00991	13C4 PFOS	46	*	50-150
STL02118	d3-NMeFOSAA	31	*	50-150
STL02117	d5-NEtFOSAA	38	*	50-150
STL02279	M2-6:2 FTS	70		25-150
STL02280	M2-8:2 FTS	115		25-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-22 051519 Lab Sample ID: 200-48826-11

Matrix: Water Lab File ID: PF060419B13.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 09:35

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 299.5(mL) Date Analyzed: 06/05/2019 04:30

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	45		8.3	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	34		8.3	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	21		8.3	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	14		8.3	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	95	J	8.3	2.6
375-95-1	Perfluorononanoic acid (PFNA)	55		8.3	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	3.5	J	8.3	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.3	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.3	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.3	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	8.3	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	~~ND~~	UJ	8.3	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	33	J	8.3	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	9.4		8.3	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.3	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	350	~~J~~ J	8.3	2.5
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.3	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	83	7.1
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	83	6.3
27619-97-2	6:2 FTS	ND		83	19
39108-34-4	8:2 FTS	ND		83	12

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-22 051519 Lab Sample ID: 200-48826-11

Matrix: Water Lab File ID: PF060419B13.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 09:35

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 299.5(mL) Date Analyzed: 06/05/2019 04:30

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	36		25-150
STL00992	13C4 PFBA	34		25-150
STL01893	13C5 PFPeA	40		25-150
STL00993	13C2 PFHxA	54		50-150
STL01892	13C4 PFHpA	58		50-150
STL00990	13C4 PFOA	63		50-150
STL00995	13C5 PFNA	52		50-150
STL00996	13C2 PFDA	54		50-150
STL00997	13C2 PFUnA	61		50-150
STL00998	13C2 PFDoA	50		50-150
STL02116	13C2 PFTeDA	43	*	50-150
STL02337	13C3 PFBS	37	*	50-150
STL00994	18O2 PFHxS	37	*	50-150
STL00991	13C4 PFOS	50		50-150
STL02118	d3-NMeFOSAA	47	*	50-150
STL02117	d5-NEtFOSAA	45	*	50-150
STL02279	M2-6:2 FTS	79		25-150
STL02280	M2-8:2 FTS	78		25-150

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: K-2 051519 Lab Sample ID: 200-48826-12

Matrix: Water Lab File ID: PF060419B14.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 10:50

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 291.5(mL) Date Analyzed: 06/05/2019 04:46

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.6	4.3
2706-90-3	Perfluoropentanoic acid (PFPeA)	4.8	J	8.6	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	4.6	J	8.6	3.3
375-85-9	Perfluoroheptanoic acid (PFHpA)	6.1	J	8.6	3.9
335-67-1	Perfluorooctanoic acid (PFOA)	44	J	8.6	2.7
375-95-1	Perfluorononanoic acid (PFNA)	1.6	J	8.6	1.2
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.6	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.6	2.3
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		8.6	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.6	2.6
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		8.6	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND	UJ	8.6	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	5.0	~~J~~ J	8.6	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.6	4.1
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.6	3.9
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1400	~~J~~ J	8.6	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.6	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	86	7.3
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		86	6.4
27619-97-2	6:2 FTS	ND		86	20
39108-34-4	8:2 FTS	ND		86	12

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12

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: K-2 051519 Lab Sample ID: 200-48826-12

Matrix: Water Lab File ID: PF060419B14.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 10:50

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 291.5(mL) Date Analyzed: 06/05/2019 04:46

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	48		25-150
STL00992	13C4 PFBA	41		25-150
STL01893	13C5 PFPeA	42		25-150
STL00993	13C2 PFHxA	57		50-150
STL01892	13C4 PFHpA	69		50-150
STL00990	13C4 PFOA	66		50-150
STL00995	13C5 PFNA	51		50-150
STL00996	13C2 PFDA	56		50-150
STL00997	13C2 PFUnA	64		50-150
STL00998	13C2 PFDoA	54		50-150
STL02116	13C2 PFTeDA	50		50-150
STL02337	13C3 PFBS	27	X	50-150
STL00994	18O2 PFHxS	47	X	50-150
STL00991	13C4 PFOS	45	X	50-150
STL02118	d3-NMeFOSAA	46	X	50-150
STL02117	d5-NEtFOSAA	50		50-150
STL02279	M2-6:2 FTS	72		25-150
STL02280	M2-8:2 FTS	82		25-150

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13

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-15D 051519 Lab Sample ID: 200-48826-13

Matrix: Water Lab File ID: PF060419B15.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 12:18

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 288.5(mL) Date Analyzed: 06/05/2019 05:02

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.8		1.7	0.87
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.55
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.66
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.79
335-67-1	Perfluorooctanoic acid (PFOA)	2.1		1.7	0.55
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.67
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.51
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.52
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	1.7	0.80
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	~~ND~~	UJ	1.7	0.69
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.82
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.78
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	~~ND~~	J UJ	1.7	0.53
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	17	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3
27619-97-2	6:2 FTS	ND		17	4.0
39108-34-4	8:2 FTS	ND		17	2.5

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13

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-15D 051519 Lab Sample ID: 200-48826-13

Matrix: Water Lab File ID: PF060419B15.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 12:18

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 288.5(mL) Date Analyzed: 06/05/2019 05:02

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	45		25-150
STL00992	13C4 PFBA	31		25-150
STL01893	13C5 PFPeA	50		25-150
STL00993	13C2 PFHxA	54		50-150
STL01892	13C4 PFHpA	64		50-150
STL00990	13C4 PFOA	62		50-150
STL00995	13C5 PFNA	56		50-150
STL00996	13C2 PFDA	62		50-150
STL00997	13C2 PFUnA	64		50-150
STL00998	13C2 PFDoA	63		50-150
STL02116	13C2 PFTeDA	47	*	50-150
STL02337	13C3 PFBS	52		50-150
STL00994	18O2 PFHxS	46	*	50-150
STL00991	13C4 PFOS	42	*	50-150
STL02118	d3-NMeFOSAA	45	*	50-150
STL02117	d5-NEtFOSAA	52		50-150
STL02279	M2-6:2 FTS	61		25-150
STL02280	M2-8:2 FTS	74		25-150

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14

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-16D 051519 Lab Sample ID: 200-48826-14

Matrix: Water Lab File ID: PF060419B16.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 13:42

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 301.2(mL) Date Analyzed: 06/05/2019 05:17

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	~~ND~~	UJ	1.7	0.83
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.60	J	1.7	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	0.94	J	1.7	0.63
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.0	J	1.7	0.76
335-67-1	Perfluorooctanoic acid (PFOA)	6.1	J	1.7	0.52
375-95-1	Perfluorononanoic acid (PFNA)	0.48	~~J~~ J	1.7	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.64
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	1.7	0.49
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.50
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	1.7	0.76
375-73-5	Perfluorobutanesulfonic acid (PFBS)	~~ND~~	UJ	1.7	0.41
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	~~ND~~	UJ	1.7	0.66
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.79
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.75
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.6	~~J B~~	UJ 1.7	0.51
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.53
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	17	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	17	1.2
27619-97-2	6:2 FTS	ND		17	3.8
39108-34-4	8:2 FTS	ND		17	2.4

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Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-16D 051519 Lab Sample ID: 200-48826-14

Matrix: Water Lab File ID: PF060419B16.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 13:42

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 301.2(mL) Date Analyzed: 06/05/2019 05:17

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	39		25-150
STL00992	13C4 PFBA	12		25-150
STL01893	13C5 PFPeA	37		25-150
STL00993	13C2 PFHxA	53		50-150
STL01892	13C4 PFHpA	65		50-150
STL00990	13C4 PFOA	61		50-150
STL00995	13C5 PFNA	49		50-150
STL00996	13C2 PFDA	52		50-150
STL00997	13C2 PFUnA	51		50-150
STL00998	13C2 PFDoA	42		50-150
STL02116	13C2 PFTeDA	34		50-150
STL02337	13C3 PFBS	45		50-150
STL00994	18O2 PFHxS	45		50-150
STL00991	13C4 PFOS	35		50-150
STL02118	d3-NMeFOSAA	38		50-150
STL02117	d5-NEtFOSAA	43		50-150
STL02279	M2-6:2 FTS	65		25-150
STL02280	M2-8:2 FTS	61		25-150

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15

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-24 051519 Lab Sample ID: 200-48826-15

Matrix: Water Lab File ID: PF060419B18.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 14:56

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 296.8(mL) Date Analyzed: 06/05/2019 05:49

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.7	0.84
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.3	J	1.7	0.53
307-24-4	Perfluorohexanoic acid (PFHxA)	~~ND~~	UJ	1.7	0.64
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.0		1.7	0.77
335-67-1	Perfluorooctanoic acid (PFOA)	8.5		1.7	0.53
375-95-1	Perfluorononanoic acid (PFNA)	0.90	~~J~~ J	1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	~~ND~~	UJ	1.7	0.65
2058-94-8	Perfluoroundecanoic acid (PFUnA)	~~ND~~	UJ	1.7	0.45
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	1.7	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	1.7	0.77
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.2	J	1.7	0.41
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.9	J	1.7	0.67
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.80
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.76
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	36	~~B~~ J	1.7	0.51
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.54
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	17	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	17	1.3
27619-97-2	6:2 FTS	ND		17	3.9
39108-34-4	8:2 FTS	ND		17	2.4

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15

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-24 051519 Lab Sample ID: 200-48826-15

Matrix: Water Lab File ID: PF060419B18.d

Analysis Method: 537 (modified) Date Collected: 05/15/2019 14:56

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 296.8(mL) Date Analyzed: 06/05/2019 05:49

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	35		25-150
STL00992	13C4 PFBA	29		25-150
STL01893	13C5 PFPeA	35		25-150
STL00993	13C2 PFHxA	49	*	50-150
STL01892	13C4 PFHpA	58		50-150
STL00990	13C4 PFOA	58		50-150
STL00995	13C5 PFNA	46	*	50-150
STL00996	13C2 PFDA	46	*	50-150
STL00997	13C2 PFUnA	44	*	50-150
STL00998	13C2 PFDoA	38	*	50-150
STL02116	13C2 PFTeDA	40	*	50-150
STL02337	13C3 PFBS	44	*	50-150
STL00994	18O2 PFHxS	44	*	50-150
STL00991	13C4 PFOS	40	*	50-150
STL02118	d3-NMeFOSAA	32	*	50-150
STL02117	d5-NEtFOSAA	37	*	50-150
STL02279	M2-6:2 FTS	78		25-150
STL02280	M2-8:2 FTS	66		25-150

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16

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8D 051619 Lab Sample ID: 200-48826-16

Matrix: Water Lab File ID: PF060419B19.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 09:44

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 289.1(mL) Date Analyzed: 06/05/2019 06:05

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.0	~~J~~ J	1.7	0.86
2706-90-3	Perfluoropentanoic acid (PFPeA)	2.2		1.7	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	1.4	~~J~~ J	1.7	0.66
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.1	J	1.7	0.79
335-67-1	Perfluorooctanoic acid (PFOA)	2.7	J	1.7	0.54
375-95-1	Perfluorononanoic acid (PFNA)	0.24	J	1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.67
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.46
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	1.7	0.51
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.52
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	1.7	0.80
375-73-5	Perfluorobutanesulfonic acid (PFBS)	~~ND~~	UJ	1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	~~ND~~	UJ	1.7	0.69
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.82
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.78
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.1	~~B~~ UJ	1.7	0.53
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	17	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.3
27619-97-2	6:2 FTS	ND		17	4.0
39108-34-4	8:2 FTS	ND		17	2.5

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16

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8D 051619 Lab Sample ID: 200-48826-16

Matrix: Water Lab File ID: PF060419B19.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 09:44

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 289.1(mL) Date Analyzed: 06/05/2019 06:05

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	40		25-150
STL00992	13C4 PFBA	12	*	25-150
STL01893	13C5 PFPeA	30		25-150
STL00993	13C2 PFHxA	46	*	50-150
STL01892	13C4 PFHpA	54		50-150
STL00990	13C4 PFOA	58		50-150
STL00995	13C5 PFNA	50		50-150
STL00996	13C2 PFDA	54		50-150
STL00997	13C2 PFUnA	55		50-150
STL00998	13C2 PFDoA	45	*	50-150
STL02116	13C2 PFTeDA	40	*	50-150
STL02337	13C3 PFBS	33	*	50-150
STL00994	18O2 PFHxS	33	*	50-150
STL00991	13C4 PFOS	37	*	50-150
STL02118	d3-NMeFOSAA	43	*	50-150
STL02117	d5-NEtFOSAA	52		50-150
STL02279	M2-6:2 FTS	109		25-150
STL02280	M2-8:2 FTS	89		25-150

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17

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8S 051619 Lab Sample ID: 200-48826-17

Matrix: Water Lab File ID: PF060419B20.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 10:52

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 296.6(mL) Date Analyzed: 06/05/2019 06:21

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	~~ND~~	UJ	1.7	0.84
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.53
307-24-4	Perfluorohexanoic acid (PFHxA)	~~ND~~	UJ	1.7	0.64
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.77
335-67-1	Perfluorooctanoic acid (PFOA)	0.69	J	1.7	0.53
375-95-1	Perfluorononanoic acid (PFNA)	~~ND~~	UJ	1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	~~ND~~	UJ	1.7	0.65
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	1.7	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	1.7	0.78
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.0	~~J~~ J	1.7	0.41
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.0	~~J~~ J	1.7	0.67
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.80
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.76
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	8.0	~~B~~ UJ	1.7	0.51
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.54
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	17	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.7	~~J~~ J	17	1.3
27619-97-2	6:2 FTS	ND		17	3.9
39108-34-4	8:2 FTS	ND		17	2.4

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17

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-8S 051619 Lab Sample ID: 200-48826-17

Matrix: Water Lab File ID: PF060419B20.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 10:52

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 296.6(mL) Date Analyzed: 06/05/2019 06:21

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	34		25-150
STL00992	13C4 PFBA	22	*	25-150
STL01893	13C5 PFPeA	32		25-150
STL00993	13C2 PFHxA	45	*	50-150
STL01892	13C4 PFHpA	54		50-150
STL00990	13C4 PFOA	54		50-150
STL00995	13C5 PFNA	42	*	50-150
STL00996	13C2 PFDA	47	*	50-150
STL00997	13C2 PFUnA	52		50-150
STL00998	13C2 PFDoA	43	*	50-150
STL02116	13C2 PFTeDA	43	*	50-150
STL02337	13C3 PFBS	33	*	50-150
STL00994	18O2 PFHxS	42	*	50-150
STL00991	13C4 PFOS	40	*	50-150
STL02118	d3-NMeFOSAA	36	*	50-150
STL02117	d5-NEtFOSAA	40	*	50-150
STL02279	M2-6:2 FTS	63		25-150
STL02280	M2-8:2 FTS	62		25-150

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18

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-21 051619 Lab Sample ID: 200-48826-18

Matrix: Water Lab File ID: PF060419B23.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 13:34

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 303.3(mL) Date Analyzed: 06/05/2019 07:09

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.2	4.1
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.2	J	8.2	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		8.2	3.1
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		8.2	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	7.0	~~J~~ UJ	8.2	2.6
375-95-1	Perfluorononanoic acid (PFNA)	~~ND~~	UJ	8.2	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	ND		8.2	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.2	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	8.2	2.4
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.2	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	8.2	3.8
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.4	~~J~~ J	8.2	2.0
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	~~ND~~	UJ	8.2	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.2	3.9
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.2	3.7
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	510	~~B~~ J	8.2	2.5
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.2	2.6
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	82	7.0
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	82	6.2
27619-97-2	6:2 FTS	ND		82	19
39108-34-4	8:2 FTS	ND		82	12

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18

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-21 051619 Lab Sample ID: 200-48826-18

Matrix: Water Lab File ID: PF060419B23.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 13:34

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 303.3(mL) Date Analyzed: 06/05/2019 07:09

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	35		25-150
STL00992	13C4 PFBA	27		25-150
STL01893	13C5 PFPeA	35		25-150
STL00993	13C2 PFHxA	51		50-150
STL01892	13C4 PFHpA	58		50-150
STL00990	13C4 PFOA	57		50-150
STL00995	13C5 PFNA	45	*	50-150
STL00996	13C2 PFDA	51		50-150
STL00997	13C2 PFUnA	61		50-150
STL00998	13C2 PFDoA	46	*	50-150
STL02116	13C2 PFTeDA	38	*	50-150
STL02337	13C3 PFBS	34	*	50-150
STL00994	18O2 PFHxS	37	*	50-150
STL00991	13C4 PFOS	39	*	50-150
STL02118	d3-NMeFOSAA	36	*	50-150
STL02117	d5-NEtFOSAA	46	*	50-150
STL02279	M2-6:2 FTS	65		25-150
STL02280	M2-8:2 FTS	47		25-150

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19

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-20 051619 Lab Sample ID: 200-48826-19

Matrix: Water Lab File ID: PF060419B24.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 14:40

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 295.7(mL) Date Analyzed: 06/05/2019 07:25

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	6.3	J	8.5	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	6.2	~~J~~ UJ	8.5	2.7
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		8.5	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		8.5	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	~~ND~~	UJ	8.5	2.7
375-95-1	Perfluorononanoic acid (PFNA)	~~ND~~	UJ	8.5	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	~~ND~~	UJ	8.5	3.3
2058-94-8	Perfluoroundecanoic acid (PFUnA)	~~ND~~	UJ	8.5	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	8.5	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.5	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	8.5	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	~~ND~~	UJ	8.5	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	~~ND~~	UJ	8.5	3.4
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.5	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.5	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	~~ND~~	/ UJ	8.5	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.5	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	85	7.2
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	85	6.3
27619-97-2	6:2 FTS	ND		85	19
39108-34-4	8:2 FTS	ND		85	12

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19

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-20 051619 Lab Sample ID: 200-48826-19

Matrix: Water Lab File ID: PF060419B24.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 14:40

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 295.7(mL) Date Analyzed: 06/05/2019 07:25

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	38		25-150
STL00992	13C4 PFBA	40		25-150
STL01893	13C5 PFPeA	23	*	25-150
STL00993	13C2 PFHxA	52		50-150
STL01892	13C4 PFHpA	63		50-150
STL00990	13C4 PFOA	63		50-150
STL00995	13C5 PFNA	49	*	50-150
STL00996	13C2 PFDA	48	*	50-150
STL00997	13C2 PFUnA	48	*	50-150
STL00998	13C2 PFDoA	38	*	50-150
STL02116	13C2 PFTeDA	33	*	50-150
STL02337	13C3 PFBS	18	*	50-150
STL00994	18O2 PFHxS	40	*	50-150
STL00991	13C4 PFOS	43	*	50-150
STL02118	d3-NMeFOSAA	39	*	50-150
STL02117	d5-NEtFOSAA	38	*	50-150
STL02279	M2-6:2 FTS	37		25-150
STL02280	M2-8:2 FTS	48		25-150

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20

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-19 051619 Lab Sample ID: 200-48826-20

Matrix: Water Lab File ID: PF060419B25.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 15:40

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 298.6(mL) Date Analyzed: 06/05/2019 07:40

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		8.4	4.2
2706-90-3	Perfluoropentanoic acid (PFPeA)	12		8.4	2.6
307-24-4	Perfluorohexanoic acid (PFHxA)	11		8.4	3.2
375-85-9	Perfluoroheptanoic acid (PFHpA)	15		8.4	3.8
335-67-1	Perfluorooctanoic acid (PFOA)	20	J	8.4	2.6
375-95-1	Perfluorononanoic acid (PFNA)	~~ND~~	UJ	8.4	1.1
335-76-2	Perfluorodecanoic acid (PFDA)	~~ND~~	UJ	8.4	3.2
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		8.4	2.2
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	8.4	2.5
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		8.4	2.5
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	8.4	3.9
375-73-5	Perfluorobutanesulfonic acid (PFBS)	~~ND~~	UJ	8.4	2.1
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	~~ND~~	UJ	8.4	3.3
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		8.4	4.0
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		8.4	3.8
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	38	~~P~~ J	8.4	2.6
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		8.4	2.7
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	84	7.1
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	84	6.3
27619-97-2	6:2 FTS	ND		84	19
39108-34-4	8:2 FTS	ND		84	12

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20

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: MW-19 051619 Lab Sample ID: 200-48826-20

Matrix: Water Lab File ID: PF060419B25.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 15:40

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 298.6(mL) Date Analyzed: 06/05/2019 07:40

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	31		25-150
STL00992	13C4 PFBA	27		25-150
STL01893	13C5 PFPeA	37		25-150
STL00993	13C2 PFHxA	51		50-150
STL01892	13C4 PFHpA	52		50-150
STL00990	13C4 PFOA	52		50-150
STL00995	13C5 PFNA	48	*	50-150
STL00996	13C2 PFDA	48	*	50-150
STL00997	13C2 PFUnA	57		50-150
STL00998	13C2 PFDoA	41	*	50-150
STL02116	13C2 PFTeDA	38	*	50-150
STL02337	13C3 PFBS	40	*	50-150
STL00994	18O2 PFHxS	26	*	50-150
STL00991	13C4 PFOS	38	*	50-150
STL02118	d3-NMeFOSAA	38	*	50-150
STL02117	d5-NEtFOSAA	38	*	50-150
STL02279	M2-6:2 FTS	63		25-150
STL02280	M2-8:2 FTS	60		25-150

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21

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: DUP 051619 Lab Sample ID: 200-48826-21

Matrix: Water Lab File ID: PF060419B26.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 00:00

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 292.1(mL) Date Analyzed: 06/05/2019 07:56

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	~~ND~~	UJ	1.7	0.86
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	~~ND~~	UJ	1.7	0.65
375-85-9	Perfluoroheptanoic acid (PFHpA)	~~ND~~	UJ	1.7	0.78
335-67-1	Perfluorooctanoic acid (PFOA)	0.59	J	1.7	0.54
375-95-1	Perfluorononanoic acid (PFNA)	~~ND~~	UJ	1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	~~ND~~	UJ	1.7	0.66
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	1.7	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	1.7	0.79
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.2	& J	1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	~~ND~~	UJ	1.7	0.68
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.81
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.77
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	~~ND~~	/ UJ	1.7	0.52
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	17	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	17	1.3
27619-97-2	6:2 FTS	ND		17	3.9
39108-34-4	8:2 FTS	ND		17	2.5

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21

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: DUP 051619 Lab Sample ID: 200-48826-21

Matrix: Water Lab File ID: PF060419B26.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 00:00

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 292.1(mL) Date Analyzed: 06/05/2019 07:56

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	34		25-150
STL00992	13C4 PFBA	21	*	25-150
STL01893	13C5 PFPeA	35		25-150
STL00993	13C2 PFHxA	49	*	50-150
STL01892	13C4 PFHpA	48	*	50-150
STL00990	13C4 PFOA	54		50-150
STL00995	13C5 PFNA	43	*	50-150
STL00996	13C2 PFDA	48	*	50-150
STL00997	13C2 PFUnA	55		50-150
STL00998	13C2 PFDoA	45	*	50-150
STL02116	13C2 PFTeDA	44	*	50-150
STL02337	13C3 PFBS	30	*	50-150
STL00994	18O2 PFHxS	39	*	50-150
STL00991	13C4 PFOS	42	*	50-150
STL02118	d3-NMeFOSAA	35	*	50-150
STL02117	d5-NEtFOSAA	41	*	50-150
STL02279	M2-6:2 FTS	67		25-150
STL02280	M2-8:2 FTS	67		25-150

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22

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: FIELD BLANK 051619 Lab Sample ID: 200-48826-22

Matrix: Water Lab File ID: PF060419B27.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 16:00

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.3(mL) Date Analyzed: 06/05/2019 08:12

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.6	0.82
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.6	0.52
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.6	0.62
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.75
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.6	0.52
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.6	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.6	0.63
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.43
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	1.6	0.48
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.6	0.49
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	1.6	0.75
375-73-5	Perfluorobutanesulfonic acid (PFBS)	~~ND~~	UJ	1.6	0.40
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	~~ND~~	UJ	1.6	0.66
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.78
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.74
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	~~ND~~	J/UJ	1.6	0.50
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.52
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	16	1.4
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	16	1.2
27619-97-2	6:2 FTS	ND		16	3.8
39108-34-4	8:2 FTS	ND		16	2.4

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

22

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: FIELD BLANK 051619 Lab Sample ID: 200-48826-22

Matrix: Water Lab File ID: PF060419B27.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 16:00

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 305.3(mL) Date Analyzed: 06/05/2019 08:12

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	29		25-150
STL00992	13C4 PFBA	38		25-150
STL01893	13C5 PFPeA	50		25-150
STL00993	13C2 PFHxA	58		50-150
STL01892	13C4 PFHpA	57		50-150
STL00990	13C4 PFOA	60		50-150
STL00995	13C5 PFNA	55		50-150
STL00996	13C2 PFDA	59		50-150
STL00997	13C2 PFUnA	55		50-150
STL00998	13C2 PFDoA	42	*	50-150
STL02116	13C2 PFTeDA	38	*	50-150
STL02337	13C3 PFBS	47	*	50-150
STL00994	18O2 PFHxS	37	*	50-150
STL00991	13C4 PFOS	44	*	50-150
STL02118	d3-NMeFOSAA	42	*	50-150
STL02117	d5-NEtFOSAA	42	*	50-150
STL02279	M2-6:2 FTS	52		25-150
STL02280	M2-8:2 FTS	61		25-150

MW 7/22/19

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

23

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: EQUIPMENT BLANK 051619 Lab Sample ID: 200-48826-23

Matrix: Water Lab File ID: PF060419B28.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 16:10

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 292.5(mL) Date Analyzed: 06/05/2019 08:28

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.7	0.85
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.54
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.65
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.78
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.7	0.54
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.66
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.45
307-55-1	Perfluorododecanoic acid (PFDoA)	~~ND~~	UJ	1.7	0.50
72629-94-8	Perfluorotridecanoic acid (PFTriA)	ND		1.7	0.51
376-06-7	Perfluorotetradecanoic acid (PFTeA)	~~ND~~	UJ	1.7	0.79
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.42
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.68
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.81
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.77
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	~~ND~~	J UJ	1.7	0.52
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.55
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	~~ND~~	UJ	17	1.5
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	~~ND~~	UJ	17	1.3
27619-97-2	6:2 FTS	ND		17	3.9
39108-34-4	8:2 FTS	ND		17	2.5

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

23

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-48826-1

SDG No.:

Client Sample ID: EQUIPMENT BLANK 051619 Lab Sample ID: 200-48826-23

Matrix: Water Lab File ID: PF060419B28.d

Analysis Method: 537 (modified) Date Collected: 05/16/2019 16:10

Extraction Method: 3535 Date Extracted: 05/22/2019 11:30

Sample wt/vol: 292.5(mL) Date Analyzed: 06/05/2019 08:28

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 143753 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL01056	13C8 FOSA	32		25-150
STL00992	13C4 PFBA	35		25-150
STL01893	13C5 PFPeA	44		25-150
STL00993	13C2 PFHxA	56		50-150
STL01892	13C4 PFHpA	63		50-150
STL00990	13C4 PFOA	63		50-150
STL00995	13C5 PFNA	55		50-150
STL00996	13C2 PFDA	63		50-150
STL00997	13C2 PFUnA	58		50-150
STL00998	13C2 PFDoA	47	*	50-150
STL02116	13C2 PFTeDA	43	*	50-150
STL02337	13C3 PFBS	56		50-150
STL00994	18O2 PFHxS	50		50-150
STL00991	13C4 PFOS	48	*	50-150
STL02118	d3-NMeFOSAA	47	*	50-150
STL02117	d5-NEtFOSAA	47	*	50-150
STL02279	M2-6:2 FTS	49		25-150
STL02280	M2-8:2 FTS	65		25-150

NW 7/22/19

Appendix E

TVOC Isoconcentration Contour Maps from Previous Sampling Events (2007 to 2013)

Project Management Initials: Designer:____ Checked:____ Approved:____ ANSI B 11" x 17"

Last saved by: MEISTERK(2017-09-15) Last Plotted: 2017-09-15
Filename: P:\60273289_KORKAY INC\CADD\[TASK_NUMBER]\CIVIL\SHEET\KORKAY-GW-JUNE_13_2017.DWG

AECOM

Figure: 5g

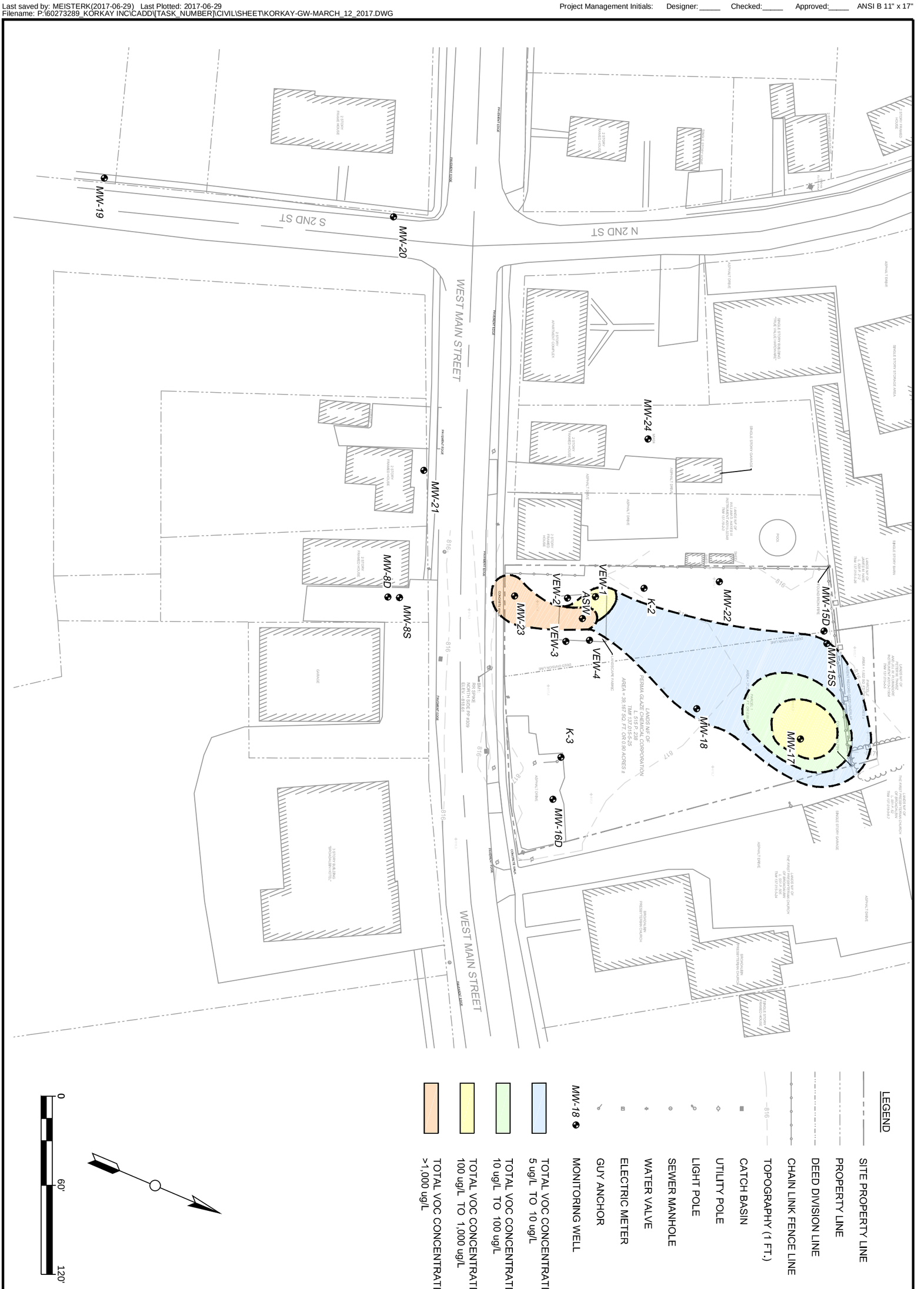
TOTAL VOC ISOCONCENTRATION CONTOUR MAP
JUNE 13, 2017

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: SEPTEMBER 2017

LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MONITORING WELL
- TOTAL VOC CONCENTRATION 5 ug/L TO 10 ug/L
- TOTAL VOC CONCENTRATION 10 ug/L TO 100 ug/L
- TOTAL VOC CONCENTRATION 100 ug/L TO 1,000 ug/L
- TOTAL VOC CONCENTRATION >1,000 ug/L

0 60' 120'



KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: JUNE 2017

TOTAL VOC ISOCONCENTRATION CONTOUR MAP
MARCH 12, 2017

AECOM

Figure: 5

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MW-18 MONITORING WELL
- TOTAL VOC CONCENTRATION 5 ug/L TO 10 ug/L
- TOTAL VOC CONCENTRATION 10 ug/L TO 100 ug/L
- TOTAL VOC CONCENTRATION 100 ug/L TO 1,000 ug/L
- TOTAL VOC CONCENTRATION >1,000 ug/L

AECOM

Figure: 5e

TOTAL VOC ISOCONCENTRATION CONTOUR MAP
DECEMBER 6, 2016

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: JANUARY 2017

Last saved by: MEISTERK(2017-01-20) Last Plotted: 2017-01-20
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Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

AECOM

Figure: 5d

TOTAL VOC ISOCONCENTRATION CONTOUR MAP
SEPTEMBER 14, 2016

LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- 816 TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MW-18 MONITORING WELL
- TOTAL VOC CONCENTRATION 5 ug/L TO 10 ug/L
- TOTAL VOC CONCENTRATION 10 ug/L TO 100 ug/L
- TOTAL VOC CONCENTRATION 100 ug/L TO 1,000 ug/L
- TOTAL VOC CONCENTRATION >1,000 ug/L

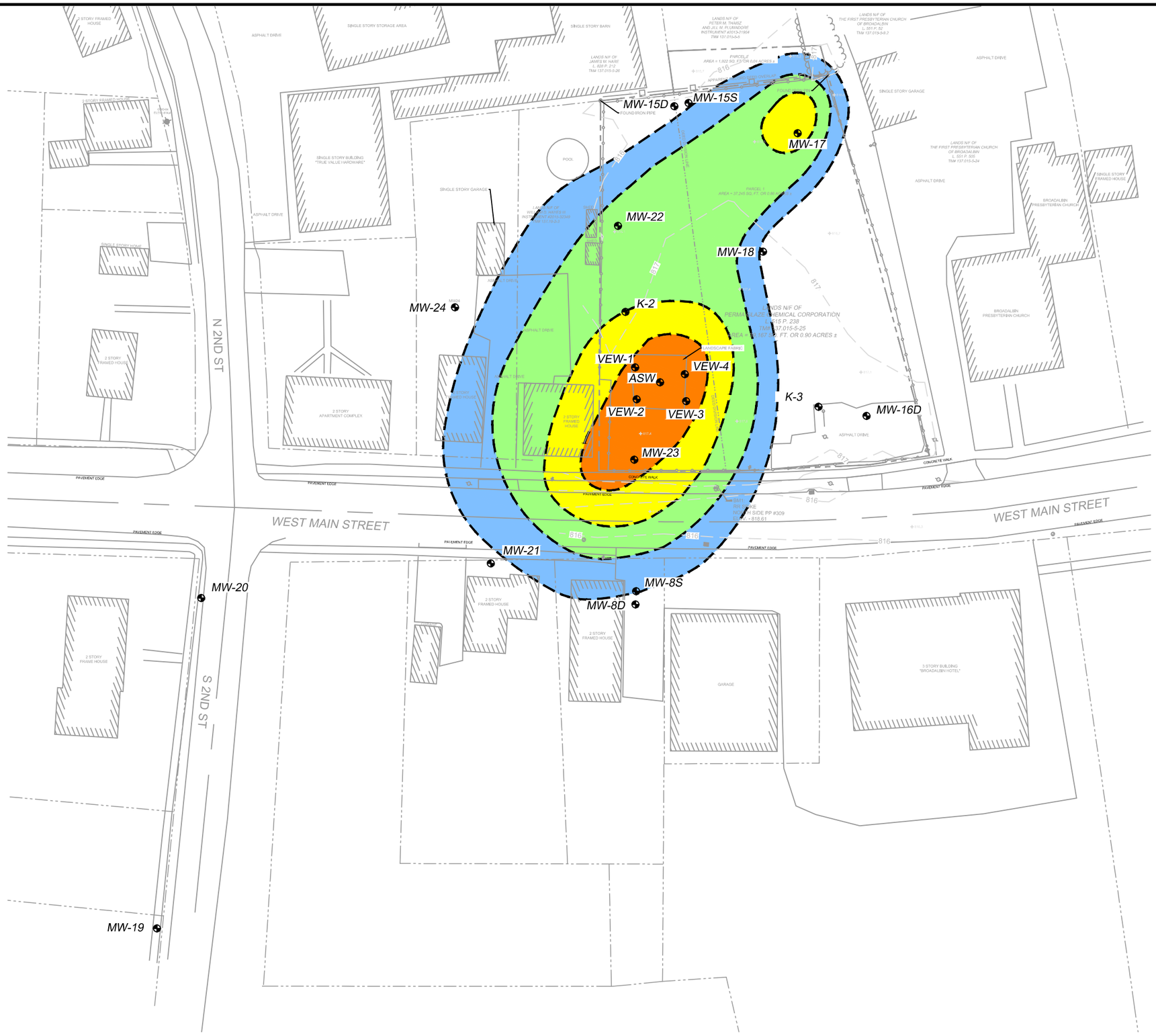
MW-15D
MW-15S
MW-17
MW-22
MW-18
MW-24
K-2
VEW-1
VEW-4
ASW
VEW-2
VEW-3
MW-23
K-3
MW-16D
MW-21
MW-8S
MW-8D
MW-20
MW-19
N 2ND ST
S 2ND ST
WEST MAIN STREET

0 60' 120'

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: SEPTEMBER 2016

Last saved by: MEISTERK(2016-10-19) Last Plotted: 2016-10-19
Filename: P:\60273289_KORKAY INC\CADD\[TASK_NUMBER]\CIVIL\SHEET\KORKAY-GW-SEPT-2016.DWG

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"



LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- 816 TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MW-18 MONITORING WELL
- TOTAL VOC CONCENTRATION 5 ug/L TO 10 ug/L
- TOTAL VOC CONCENTRATION 10 ug/L TO 100 ug/L
- TOTAL VOC CONCENTRATION 100 ug/L TO 1,000 ug/L
- TOTAL VOC CONCENTRATION >1,000 ug/L

AECOM

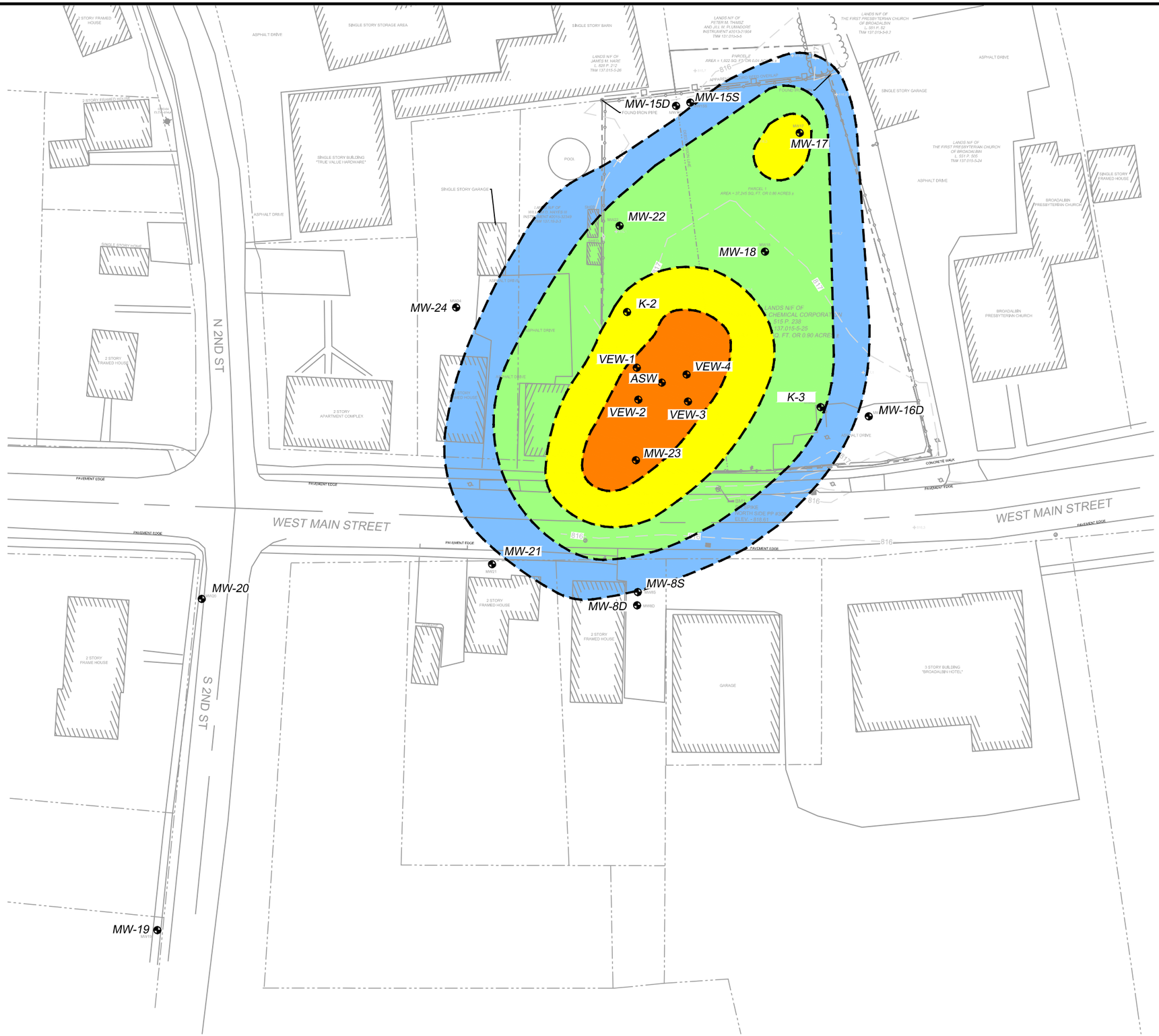
Figure: 5c

TOTAL VOC ISOCONCENTRATION CONTOUR MAP MAY 31, 2016

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: JUNE 2016

Last saved by: MEISTERK(2016-06-20) Last Plotted: 2016-06-20
Filename: P:\60273289_KORKAY INC\CADD\[TASK_NUMBER]\CIVIL\SHEET\KORKAY-GW-MAY-2016.DWG

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"



LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- 816 TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MW-18 MONITORING WELL
- TOTAL VOC CONCENTRATION 5 ug/L TO 10 ug/L
- TOTAL VOC CONCENTRATION 10 ug/L TO 100 ug/L
- TOTAL VOC CONCENTRATION 100 ug/L TO 1,000 ug/L
- TOTAL VOC CONCENTRATION >1,000 ug/L

0 60' 120'

AECOM

Figure: 5b

TOTAL VOC ISOCONCENTRATION CONTOUR MAP MARCH 8, 2016

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: APRIL 2016

Last saved by: MEISTERK(2016-04-07) Last Plotted: 2016-04-07
Filename: P:\60273289_KORKAY INC\CADD\[TASK_NUMBER]\CIVIL\SHEET\KORKAY-GW-MAR-2016.DWG

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

AECOM

Figure: 5a

TOTAL VOC ISOCONCENTRATION CONTOUR MAP
DECEMBER 8, 2015

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: JANUARY 2016

Last saved by: MEISTERK (2016-01-21) Last Plotted: 2016-01-21
Filename: P:\60273289_KORKAY INC\CADD\[TASK_NUMBER]\CIVIL\SHEET\KORKAY-GW-DEC-2015.DWG

Project Management Initials: Designer: Checked: Approved: ANSI B 11" x 17"

AECOM

Figure: 3

TOTAL VOC ISOCONCENTRATION CONTOUR MAP OCTOBER 14, 2015

KORKAY INC.
NYSDEC SITE ID: 518014
BROADALBIN, NEW YORK
Project No.: 60273289 Date: JANUARY 2016

LEGEND

- SITE PROPERTY LINE
- PROPERTY LINE
- DEED DIVISION LINE
- CHAIN LINK FENCE LINE
- TOPOGRAPHY (1 FT.)
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- SEWER MANHOLE
- WATER VALVE
- ELECTRIC METER
- GUY ANCHOR
- MW-18 MONITORING WELL
- TOTAL VOC CONCENTRATION 5 ug/L TO 10 ug/L
- TOTAL VOC CONCENTRATION 10 ug/L TO 100 ug/L
- TOTAL VOC CONCENTRATION 100 ug/L TO 1,000 ug/L
- TOTAL VOC CONCENTRATION >1,000 ug/L

0 60' 120'

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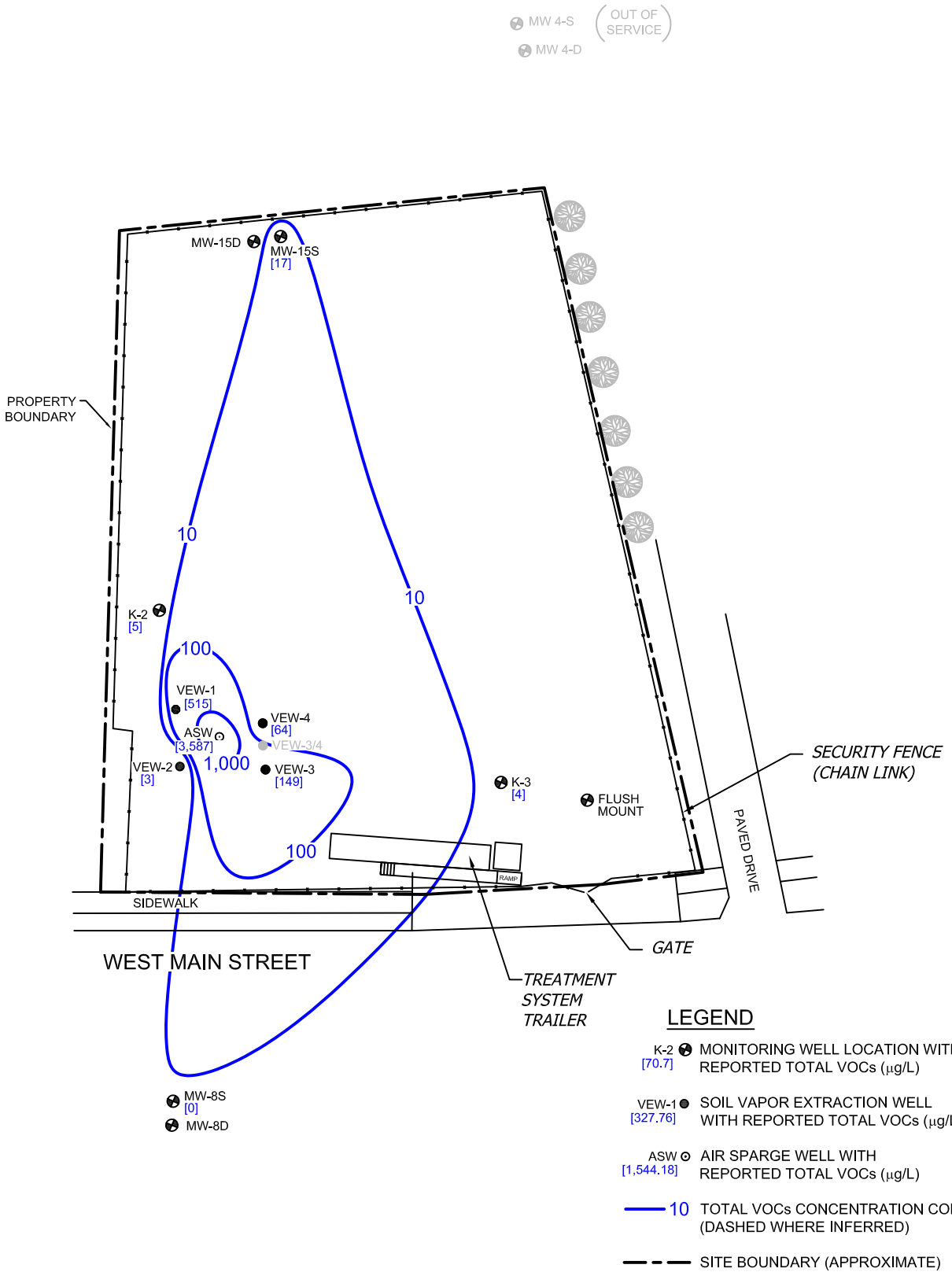


NOTE:
FOR MAP REFERENCE INFORMATION, SEE FIGURE 1-2 "SITE LAYOUT".

PLAN

NORTH

Scale in Feet

0 25' 50'

AECOM

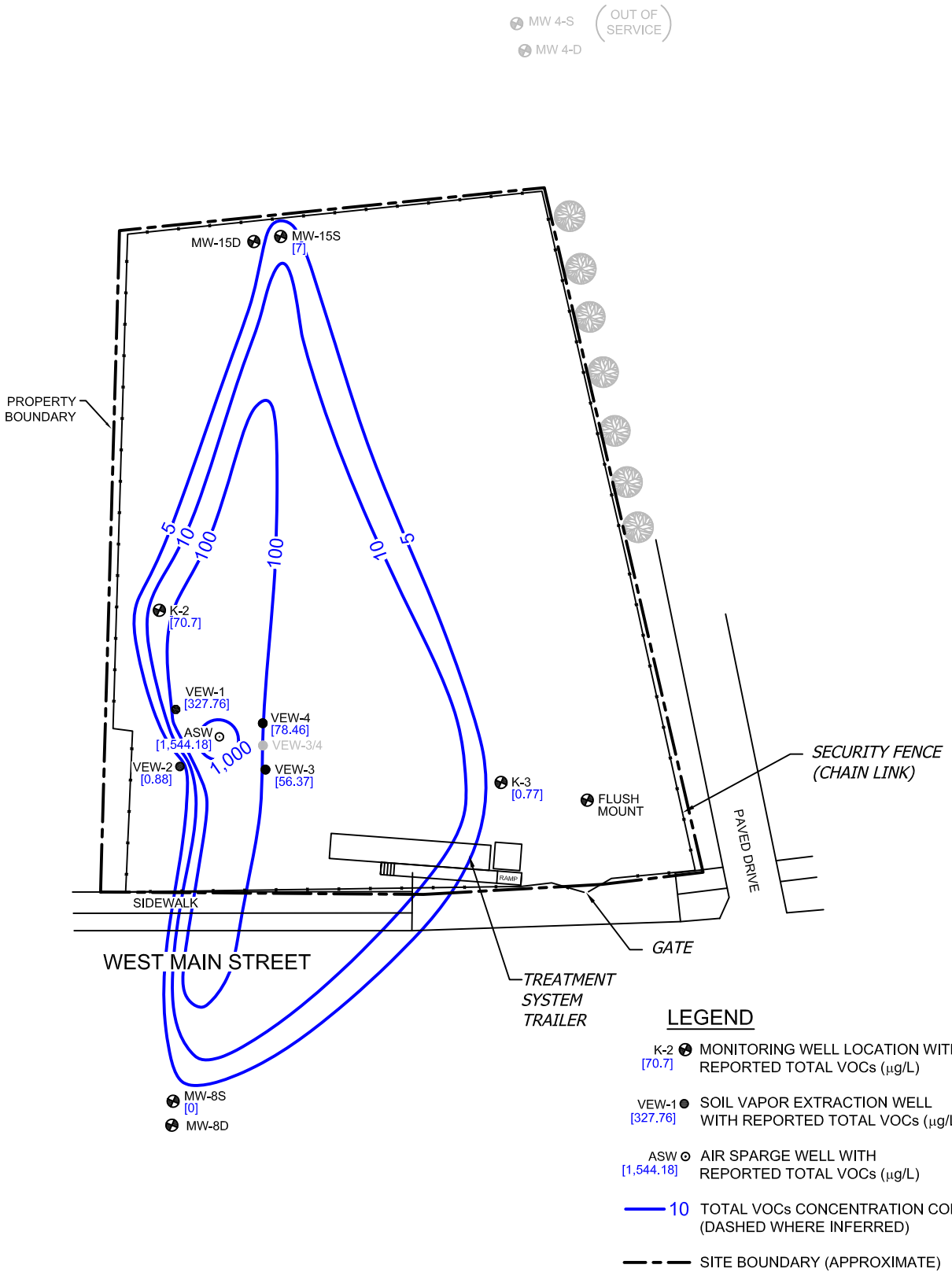
FIGURE 4D

TOTAL VOC
ISOCONCENTRATION MAP - SHALLOW AQUIFER
JUNE 25, 2013
NYSDEC SITE ID: 5-18-014

KORKAY INC.

70 WEST MAIN STREET
BROADALBIN, NEW YORK

DATE: OCTOBER 2013 | PROJECT NO.: 60273289



NOTE:
FOR MAP REFERENCE INFORMATION, SEE FIGURE 1-2 "SITE LAYOUT".

PLAN

NORTH

Scale in Feet

0 25' 50'

AECOM

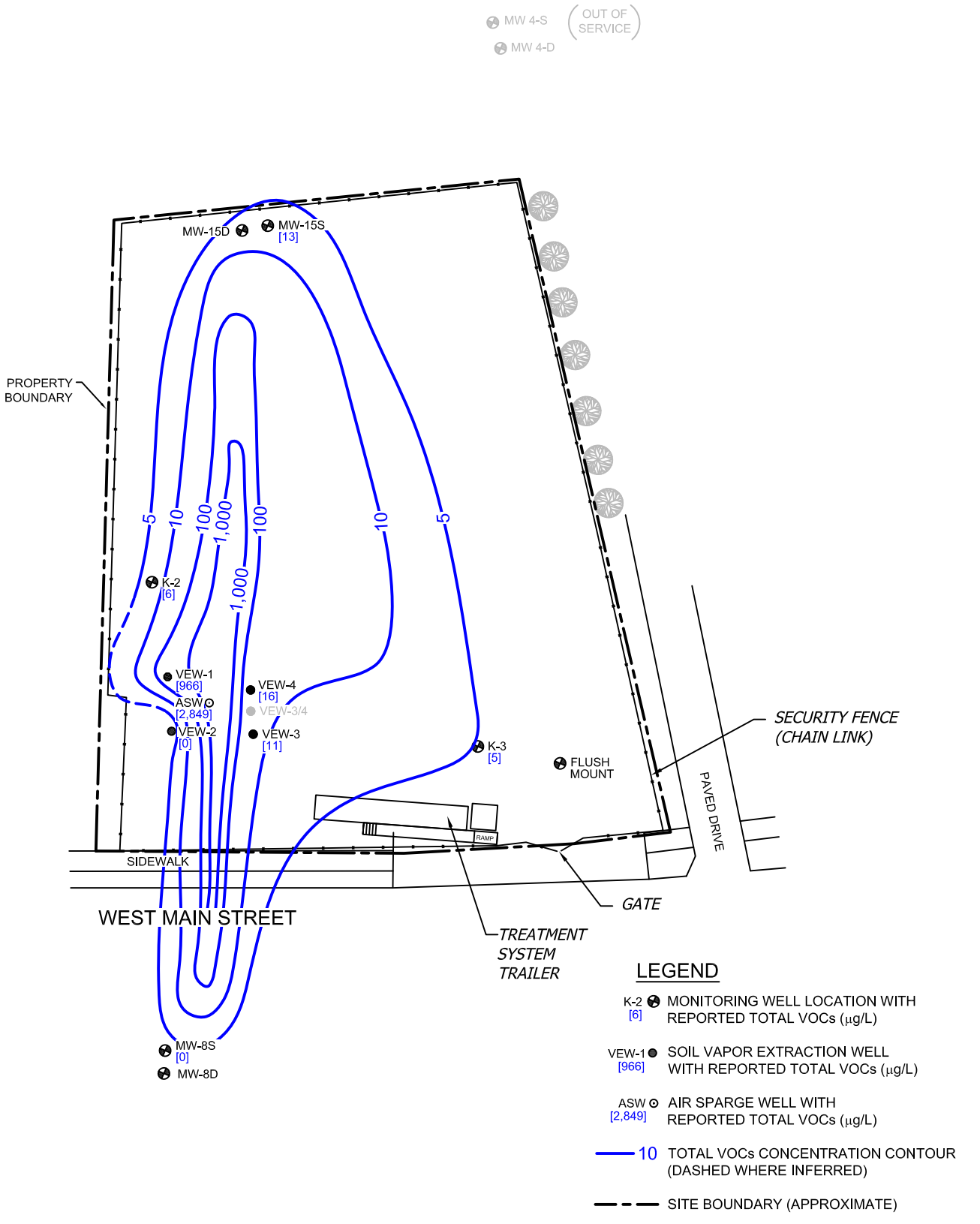
FIGURE 4C

TOTAL VOC
ISOCONCENTRATION MAP - SHALLOW AQUIFER
JANUARY 10, 2012
NYSDEC SITE ID: 5-18-014

KORKAY INC.

70 WEST MAIN STREET
BROADALBIN, NEW YORK

DATE: OCTOBER 2013 | PROJECT NO.: 60273289



NOTE:
FOR MAP REFERENCE INFORMATION, SEE FIGURE 1-2 "SITE LAYOUT".

PLAN

NORTH

Scale in Feet

0 25' 50'

AECOM

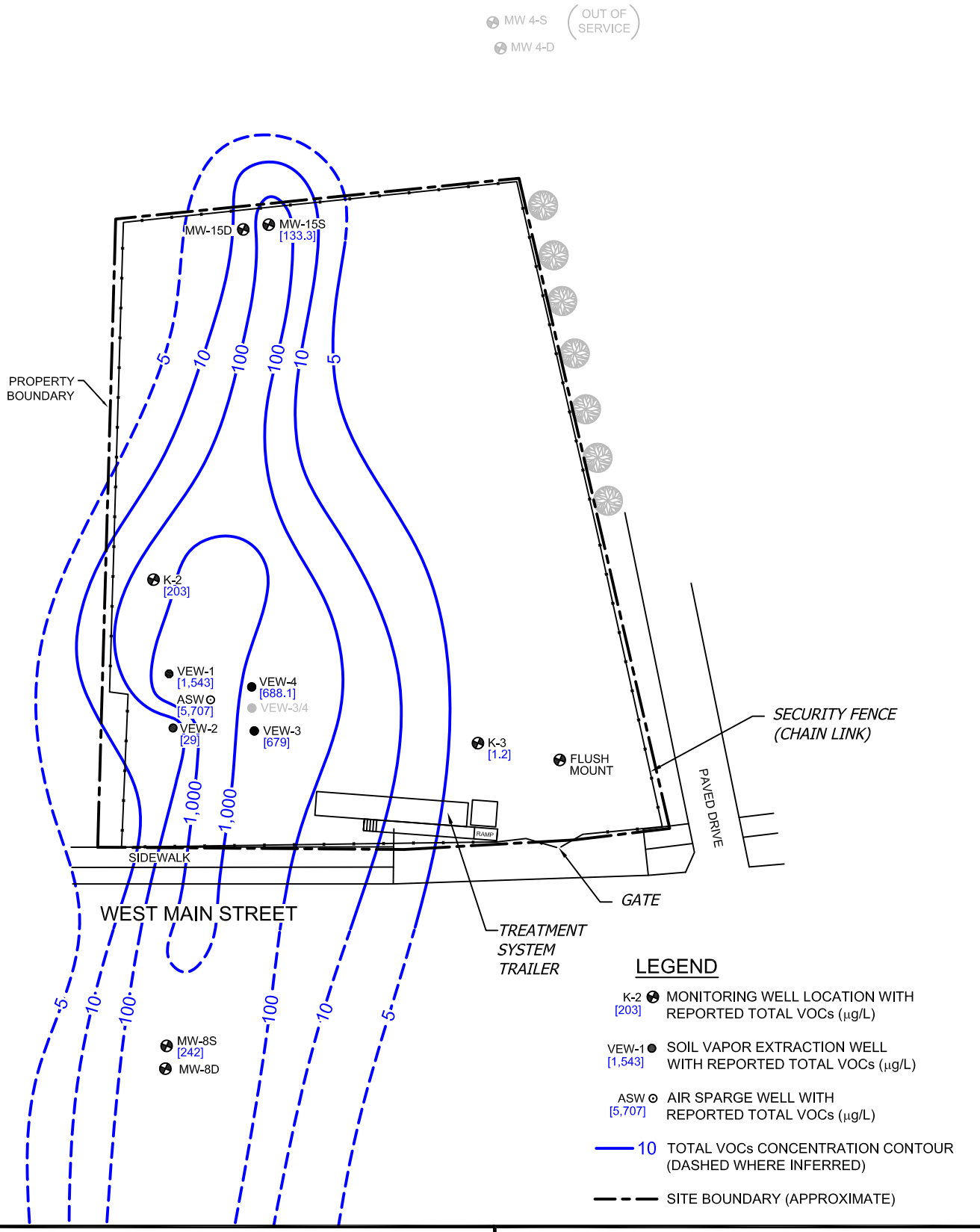
FIGURE 4B

TOTAL VOC
ISOCONCENTRATION MAP - SHALLOW AQUIFER
MARCH 25, 2010
NYSDEC SITE ID: 5-18-014

KORKAY INC.

70 WEST MAIN STREET
BROADALBIN, NEW YORK

DATE: OCTOBER 2013 | PROJECT NO.: 60273289



NOTE:
FOR MAP REFERENCE INFORMATION,
SEE FIGURE 1-2 "SITE LAYOUT".

PLAN

NORTH

Scale in Feet

0 25' 50'

AECOM

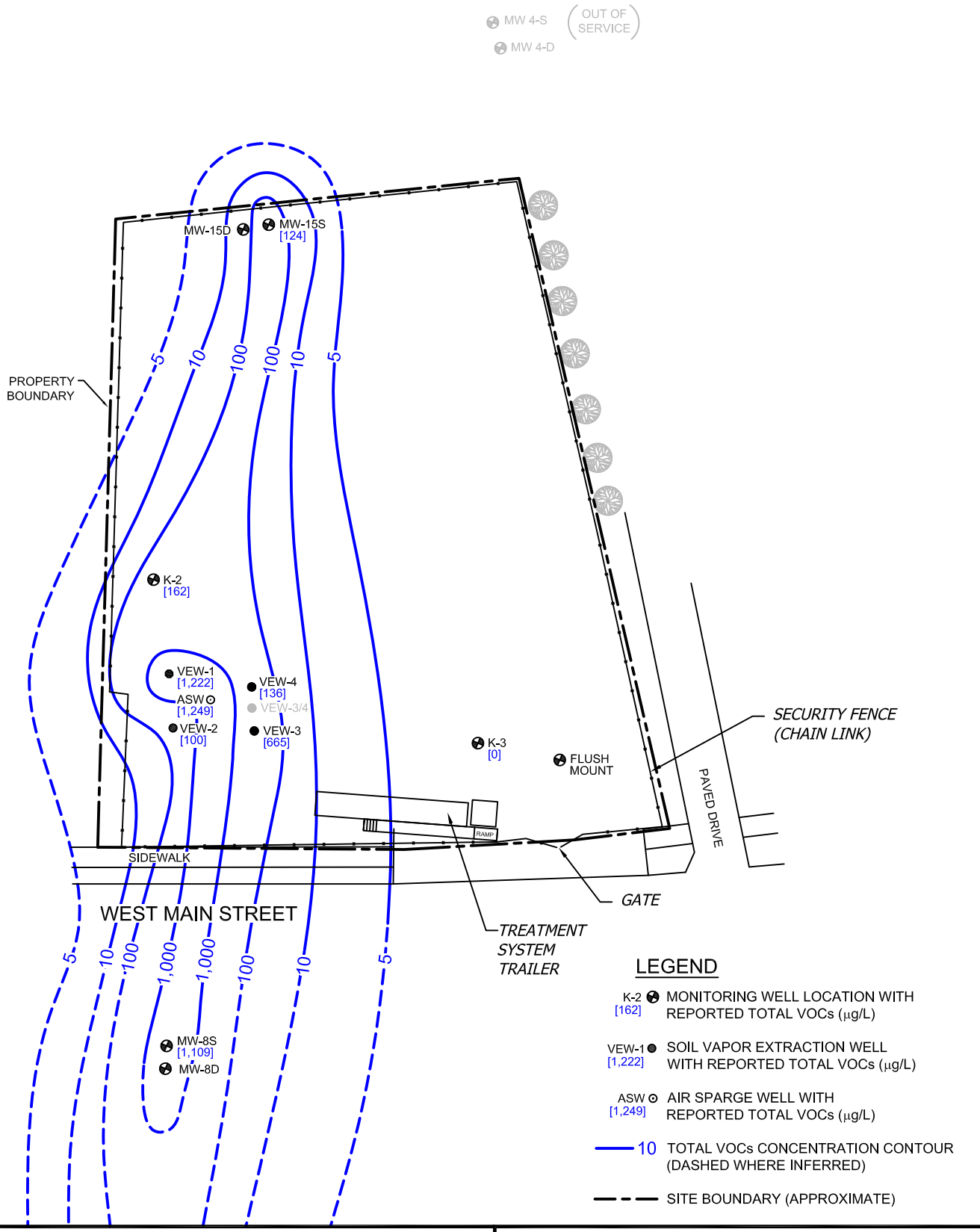
FIGURE 4A

TOTAL VOC
ISOCONCENTRATION MAP - SHALLOW AQUIFER
NOVEMBER 25, 2008
NYSDEC SITE ID: 5-18-014

KORKAY INC.

70 WEST MAIN STREET
BROADALBIN, NEW YORK

DATE: OCTOBER 2013 | PROJECT NO.: 60273289



NOTE:
FOR MAP REFERENCE INFORMATION, SEE FIGURE 1-2 "SITE LAYOUT".

PLAN

NORTH

Scale in Feet

0 25' 50'

AECOM

FIGURE 4

TOTAL VOC
ISOCONCENTRATION MAP - SHALLOW AQUIFER
AUGUST 14, 2007
NYSDEC SITE ID: 5-18-014

KORKAY INC.

70 WEST MAIN STREET
BROADALBIN, NEW YORK

DATE: OCTOBER 2013 | PROJECT NO.: 60273289