

February 27, 2018

Payson Long  
DER Project Manager  
New York State Department of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway  
Albany, NY 12233-7017

**RE: Spill #17-03865, American Drive-In Cleaners, 3801 Hempstead Turnpike, Levittown, NY Analytical Results – December 2017 Groundwater Sampling Event**

Dear Mr. Long:

As directed by New York State Department of Environmental Conservation (NYSDEC), Environmental Assessment and Remediations (EAR) completed groundwater sampling activities at offsite select monitoring wells in December 2017. The following letter summarizes these site activities.

**Groundwater Sampling Event**

The sampling event was conducted on December 12, 2017. Groundwater samples were collected from 9 monitoring wells: MW-1S, MW-1I, MW-6S, MW-6I, MW-9S, MW-9I, MW-9D, MW-10S and MW-10I. Well locations are displayed in Figure 1. The consultant for the property owner (FMP Group) was notified in advance of the site activities. FMP Group provided total well depth information for the monitoring network.

At each sampling location, depth to water was measured and the volume of standing water was calculated. Each well was purged utilizing a peristaltic pump with dedicated silicone and high density polyethylene (HDPE) tubing. Purge water was screened using a YSI multi-parameter probe with a flow-cell. All wells were purged a minimum of one well volume with purging continuing until values for temperature, pH, and oxidation/reduction potential (ORP) reached stabilization. These parameters, as well as dissolved oxygen and specific conductivity, were recorded prior to sample collection.

Samples collected for laboratory analysis were placed into the appropriate sample containers, provided by the laboratory, and immediately placed in a cooler with ice to maintain a temperature of 4 degrees Celsius. Sampling containers for each method submitted, noted below, were placed in dedicated coolers. A total of 9 sampling locations were submitted to a NYSDEC standby contracted laboratory (Test America, Inc.) for analysis of 1,4-dioxane via EPA Method 8260C SIM and perfluorinated compounds (PFC) via modified EPA Method 537. All samples were submitted for standard 30-day turn around and Category B deliverables. In addition, one blind duplicate sample was collected and submitted for analysis by both analytical methods. An equipment blank sample of the foot valve assembly/HDPE was collected using laboratory provided DI water and submitted for PFC analysis via modified method 537. Trip and Field blank



samples were collected and submitted for 1,4 dioxane analysis only and matrix spike/matrix spike duplicate (MS/MSD) samples were collected and submitted for both analytical methods.

#### Sampling Results

Water level readings collected and field screening readings recorded are summarized in Table 1 and a site map has been included as Figure 1. A table of analytical results has been included as Table 2 and relative percent difference of the duplicated samples has been included as Table 3. Laboratory reports have been included as Appendix A. Laboratory analytical results and field data were compiled into an EQUIS EDD file package, submitted to NYENVDATA and have successfully been uploaded.

Should you have any questions regarding the activities or data detailed in this report, please feel free to contact Jennifer Lawrence at 631-447-6400, extension 131.

Sincerely,

Trisha Vicale  
Project Manager  
(631) 447-6400 ext. 155

CC: Jennifer Lawrence, EAR



## **TABLES**

**TABLE 1**

American Drive-In Cleaners  
3801 Hempstead Turnpike  
Levittown, NY  
Spill# 17-03865



Well Gauging & Field Screening Readings - December 12, 2017

| Sample Location | Diameter (inch) | Total Well Depth (ft bg) | Depth to Water (ft bg) | Total Gallons Purged | Dissolved Oxygen (mg/L) | Temperature °C | pH   | ORP (mV) | Specific Conductance (uS) |
|-----------------|-----------------|--------------------------|------------------------|----------------------|-------------------------|----------------|------|----------|---------------------------|
| MW-1S           | 4               | 35.59                    | 31.62                  | 4.0                  | 7.41                    | 15.92          | 6.75 | 72.5     | 1,276                     |
| MW-1I           | 2               | 77.65                    | 31.77                  | 9.0                  | 0.32                    | 14.65          | 6.76 | -15.6    | 64                        |
| MW-6S           | 2               | 43.00                    | 34.91                  | 2.0                  | 7.21                    | 14.86          | 6.45 | 118.9    | 337                       |
| MW-6I           | 2               | 80.30                    | 34.68                  | 9.0                  | 4.99                    | 14.7           | 6.16 | 80       | 762                       |
| MW-9S           | 2               | 34.79                    | 29.39                  | 2.0                  | 5.45                    | 15.4           | 7.09 | 42.1     | 821                       |
| MW-9I           | 2               | 73.39                    | 29.35                  | 9.0                  | 1.32                    | 14.36          | 6.43 | 63.2     | 395                       |
| MW-9D           | 2               | 92.00*                   | 29.40                  | 13.0                 | 1.44                    | 14.79          | 6.90 | 44       | 5,683                     |
| MW-10S          | 2               | 38.55                    | 30.82                  | 2.0                  | 7.24                    | 15.07          | 6.33 | 105.8    | 351                       |
| MW-10I          | 2               | 69.75                    | 30.69                  | 8.0                  | 1.91                    | 14.49          | 8.12 | 10.4     | 763                       |

Notes:

ft bg - feet below grade

\*Obstruction at 44', total well depth could not be verified. Well construction data used for purging quantity.



TABLE 2

American Drive-In Cleaners  
3801 Hempstead Turnpike  
Levittown, NY  
Spill# 17-03865

## Groundwater Analytical Results



| Sample Location          | Date     | EPA Method 8260C<br>SIM, 1,4-Dioxane<br>(ug/L) | Perfluorinated (PFC) compounds via Modified EPA Method 537<br>(ng/L) |                              |                               |                               |                                  |                                    |                                 |                                      |                               |                               |                                     |                                     |                               |                                 |                                     |                                  |
|--------------------------|----------|------------------------------------------------|----------------------------------------------------------------------|------------------------------|-------------------------------|-------------------------------|----------------------------------|------------------------------------|---------------------------------|--------------------------------------|-------------------------------|-------------------------------|-------------------------------------|-------------------------------------|-------------------------------|---------------------------------|-------------------------------------|----------------------------------|
|                          |          | 1,4-Dioxane                                    | Perfluorobutanesulfonic acid (PFBS)                                  | PERFLUOROBUTYRIC ACID (PFBA) | PERFLUORODECANE SULFONIC ACID | PERFLUORODECANOIC ACID (PFDA) | PERFLUORODODECANOIC ACID (PFDoA) | PERFLUOROHEPTANE SULFONATE (PFHpS) | Perfluoroheptanoic acid (PFHpA) | Perfluorohexanesulfonic acid (PFHxS) | PERFLUOROHXANOIC ACID (PFHxA) | perfluorononanoic acid (PFNA) | Perfluorooctane Sulfonamide (FOSeA) | perfluorooctanesulfonic acid (PFOS) | perfluorooctanoic acid (PFOA) | PERFLUOROPENTANOIC ACID (PFPeA) | PERFLUOROTETRADECANOIC ACID (PFTeA) | PERFLUOROUNDECANOIC ACID (PFUnA) |
| MW-1S                    | 12/12/17 | 1                                              | 6                                                                    | 9                            | <1.83                         | 1.24 J                        | <1.83                            | 6                                  | 25                              | 27                                   | 14                            | 6                             | 1.68 J                              | 157                                 | 234                           | 12                              | <1.83                               | <1.83                            |
| MW-1I                    | 12/12/17 | 0.54                                           | 0.51 J                                                               | 8.41                         | <1.87                         | 0.55 J                        | <1.87                            | <1.87                              | 1.42 J                          | 0.40 BJ                              | 5.04                          | 0.73 J                        | <1.87                               | 1.16 J                              | 1.41 J                        | 8.24                            | <1.87                               | <1.87                            |
| MW-6S                    | 12/12/17 | 0.51                                           | 4.64                                                                 | 7.88                         | <1.8                          | 1.03 J                        | <1.8                             | 1.37 J                             | 7.16                            | 2.17                                 | 8.33                          | 5.97                          | 0.82 J                              | 42.4                                | 19.9                          | 7.58                            | <1.8                                | <1.8                             |
| MW-6I                    | 12/12/17 | 1                                              | 6                                                                    | 8.16                         | <1.73                         | 1.06 J                        | <1.73                            | 0.67 J                             | 10.7                            | 4.39                                 | 12                            | 4                             | 0.31 J                              | 21.8                                | 24                            | 13.5                            | <1.73                               | 1.36 J                           |
| MW-9S                    | 12/12/17 | 0.53                                           | 18.2                                                                 | 9.68                         | 0.30 J                        | 2.15                          | <1.81                            | <1.81                              | 9.92                            | 2.43                                 | 15.1                          | 2.57                          | <1.81                               | 11.1                                | 12.8                          | 22.2                            | <1.81                               | 1.02 J                           |
| MW-9I                    | 12/12/17 | 1                                              | 5                                                                    | 50.4                         | <1.79                         | 1.79                          | <1.79                            | 0.39 J                             | 11.7                            | 2.72                                 | 65                            | 2.84                          | 1.15 J                              | 11.2                                | 14                            | 126                             | <1.79                               | <1.79                            |
| MW-9D                    | 12/12/17 | 0.55                                           | 2.47                                                                 | 48.6                         | <1.79                         | 2.15                          | 0.59 J                           | <1.79                              | 13.9                            | 0.62 BJ                              | 79.9                          | 2.47                          | 1.79                                | 6.01                                | 5.54                          | 186                             | 0.51 J                              | <1.79                            |
| MW-10S                   | 12/12/17 | 1                                              | 3                                                                    | 7.48                         | <1.71                         | 1.07 J                        | <1.71                            | 0.56 J                             | 12.1                            | 3.49                                 | 13                            | 3.74                          | 1.85                                | 23.4                                | 24                            | 13.4                            | <1.71                               | <1.71                            |
| MW-10I                   | 12/12/17 | 0.54                                           | 4.59                                                                 | 69.7                         | <1.83                         | 2.73                          | <1.83                            | 0.52 J                             | 63.7                            | 8.03                                 | 123                           | 7.83                          | <1.83                               | 28.8                                | 40.5                          | 279                             | <1.83                               | 1.10 J                           |
| Trip Blank 12-12-17      | 12/12/17 | 0                                              | na                                                                   | na                           | na                            | na                            | na                               | na                                 | na                              | na                                   | na                            | na                            | na                                  | na                                  | na                            | na                              | na                                  | na                               |
| Field Blank 12-12-17     | 12/12/17 | 1                                              | na                                                                   | na                           | na                            | na                            | na                               | na                                 | na                              | na                                   | na                            | na                            | na                                  | na                                  | na                            | na                              | na                                  | na                               |
| Equipment Blank 12-12-17 | 12/12/17 | na                                             | <1.68                                                                | 0.29 BJ                      | <1.68                         | <1.68                         | <1.68                            | <1.68                              | <1.68                           | 0.25 BJ                              | <1.68                         | <1.68                         | <1.68                               | 0.62 J                              | <1.68                         | <1.68                           | <1.68                               | <1.68                            |

The chemicals listed below were reported below the LRL:

2-(N-methyl perfluorooctanesulfonamido) acetic acid  
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine  
PERFLUOROTRIDECANOIC ACID (PFTriA)  
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)  
SODIUM 1H,1H,2H,2H-PERFLUOROOCTANE SULFONATE (6:2)

J - result is higher than the method detection limit, but lower than the limit of quantization

na- not analyzed for analytical method

Analysis by TestAmerica

TABLE 3

American Drive-In Cleaners  
3801 Hempstead Turnpike  
Levittown, NY  
Spill# 17-03865



Groundwater Sampling - Relative Percent Difference of Duplicate Samples

| Duplicated Sample           | Date     | EPA Method 8260C<br>SIM, 1,4-Dioxane<br>(ug/L) | Perfluorinated (PFC) compounds via Modified EPA Method 537<br>(ng/L) |                              |                               |                               |                                  |                                    |                                 |                                      |                               |                               |                                    |                                     |                               |                                 |                                     |                                  |
|-----------------------------|----------|------------------------------------------------|----------------------------------------------------------------------|------------------------------|-------------------------------|-------------------------------|----------------------------------|------------------------------------|---------------------------------|--------------------------------------|-------------------------------|-------------------------------|------------------------------------|-------------------------------------|-------------------------------|---------------------------------|-------------------------------------|----------------------------------|
|                             |          | 1,4-Dioxane                                    | Perfluorobutanesulfonic acid (PFBS)                                  | PERFLUOROBUTYRIC ACID (PFBA) | PERFLUORODECANE SULFONIC ACID | PERFLUORODECANOIC ACID (PFDA) | PERFLUORODODECANOIC ACID (PFDoA) | PERFLUOROHEPTANE SULFONATE (PFHpS) | Perfluoroheptanoic acid (PFHpA) | Perfluorohexanesulfonic acid (PFHxS) | PERFLUOROHXANOIC ACID (PFHxA) | perfluorononanoic acid (PFNA) | Perfluorooctane Sulfonamide (FOSA) | perfluorooctanesulfonic acid (PFOS) | perfluorooctanoic acid (PFOA) | PERFLUOROPENTANOIC ACID (PFPeA) | PERFLUOROTETRADECANOIC ACID (PFTeA) | PERFLUOROUNDECANOIC ACID (PFUnA) |
| MW-6S                       | 12/12/17 | <0.4                                           | na                                                                   |                              |                               |                               |                                  |                                    |                                 |                                      |                               |                               |                                    |                                     |                               |                                 |                                     |                                  |
| MW-X                        |          | <0.4                                           |                                                                      |                              |                               |                               |                                  |                                    |                                 |                                      |                               |                               |                                    |                                     |                               |                                 |                                     |                                  |
| Relative Percent Difference |          | 0 %                                            |                                                                      |                              |                               |                               |                                  |                                    |                                 |                                      |                               |                               |                                    |                                     |                               |                                 |                                     |                                  |
| MW-6I                       | 12/12/17 | na                                             | 4.64                                                                 | 7.88                         | <1.8                          | 1.03                          | <1.8                             | 1.37                               | 7.16                            | 2.17                                 | 8.33                          | 5.97                          | 0.82                               | 42.4                                | 19.9                          | 7.58                            | <1.8                                | <1.8                             |
| MW-X                        |          |                                                | 3.93                                                                 | 7.97                         | <2.02                         | 0.85                          | <2.02                            | 1.5                                | 6.83                            | 2.39                                 | 8.12                          | 6.13                          | 0.97                               | 43.5                                | 20.6                          | 7.62                            | <2.02                               | <2.02                            |
| Relative Percent Difference |          |                                                | 16.57 %                                                              | 1.14 %                       | 0 %                           | 19.15 %                       | 0 %                              | 9.06 %                             | 4.72 %                          | 9.65 %                               | 2.55 %                        | 2.64 %                        | 16.76 %                            | 2.56 %                              | 3.46 %                        | 0.53 %                          | 0 %                                 | 0 %                              |

The chemicals listed below were reported below the LRL:

2-(N-methyl perfluorooctanesulfonamido) acetic acid  
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine  
PERFLUOROTRIDECANOIC ACID (PFTrA)  
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)  
SODIUM 1H,1H,2H,2H-PERFLUOROOCTANE SULFONATE (6:2)

J - result is higher than the method detection limit, but lower than the limit of quantization

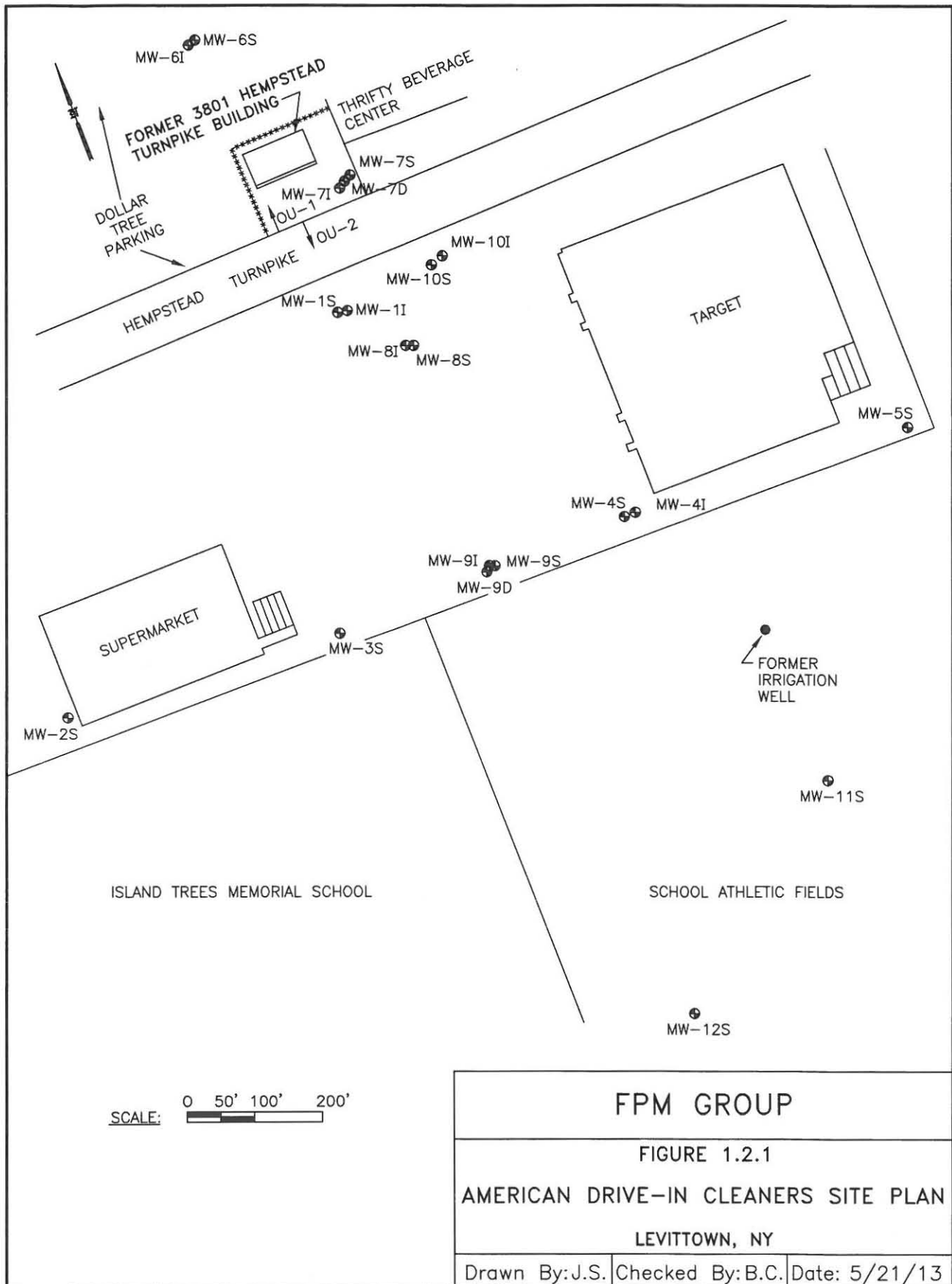
na- not analyzed for analytical method

Analysis by TestAmerica



## FIGURES

Figure 1





## APPENDIX

## ANALYTICAL REPORT

Job Number: 320-34293-1

Job Description: DEC LEVITTOWN3801; Spill: 1703865

For:  
New York State D.E.C.  
625 Broadway  
4th Floor  
Albany, NY 12233  
Attention: Mr. Payson Long



Approved for release.  
Thomas A Chupela  
Project Management Assistant I  
1/12/2018 3:12 PM

---

Designee for  
Melissa Haas, Project Manager I  
777 New Durham Road, Edison, NJ, 08817  
(203)944-1310  
melissa.haas@testamericainc.com  
01/12/2018

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

TestAmerica Edison Certifications and Approvals: Connecticut: CTDOH #PH-0200, New Jersey: NJDEP (NELAP) #12028, New York: NYDOH (NELAP) #11452, NYDOH (ELAP) #11452, Pennsylvania: PADEP (NELAP) 68-00522 and Rhode Island: RIDOH LA000132

**TestAmerica Laboratories, Inc.**

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

Job Number: 320-34293-1

Job Description: DEC LEVITTOWN3801; Spill: 1703865

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



Approved for release.  
Thomas A. Chupela  
Project Management Assistant I  
1/12/2018 3:12 PM

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Designee for  
Melissa Haas

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## CASE NARRATIVE

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

**Project: DEC LEVITTOWN3801; Spill: 1703865**

**Report Number: 320-34293-1**

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

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

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

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

### **RECEIPT**

The samples were received on 12/14/2017 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8° C.

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

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

Samples Equipment Blank 12-12-17 (320-34293-1), MW-6S (320-34293-2), MW-6I (320-34293-3), MW-10S (320-34293-4), MW-10I (320-34293-5), MW-1I (320-34293-6), MW-1S (320-34293-7), MW-9D (320-34293-8), MW-9I (320-34293-9), MW-9S (320-34293-10) and MW-X (320-34293-11) were analyzed for Perfluorinated Hydrocarbons (PFC) in accordance with PFC. The samples were prepared on 12/19/2017 and 12/26/2017 and analyzed on 12/27/2017 and 12/29/2017.

Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for d3-NMeFOSAA in the following sample: (480-128901-E-19-A). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

The continuing calibration verification (CCV) associated with batch 320-200786 recovered above the upper control limit for M2-6:2FTS and M2-8:2FTS. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW-X (320-34293-11), (480-128901-E-19-A), (480-128901-E-19-B MS) and (480-128901-E-19-C MS).

Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-6:2FTS in the following sample: MW-9I (320-34293-9). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

The matrix spike duplicate (MSD) recovery for preparation batch 320-200556 and analytical batch 320-201236 was outside control limits for M2-6:2FTS. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

6:2FTS, Perfluorohexanesulfonic acid (PFHxS) and Perfluorooctane Sulfonamide (FOSA) were detected in method blank MB 320-200556/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Perfluorobutanoic acid (PFBA) and Perfluorohexanesulfonic acid (PFHxS) were detected in method blank MB 320-201396/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Refer to the QC report for details.

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

All other quality control parameters were within the acceptance limits.

## Sample Summary

Client: New York State D.E.C.

TestAmerica Job ID: 320-34293-1

Project/Site: DEC LEVITTOWN3801; Spill: 1703865

| Lab Sample ID | Client Sample ID         | Matrix | Collected      | Received       |
|---------------|--------------------------|--------|----------------|----------------|
| 320-34293-1   | Equipment Blank 12-12-17 | Water  | 12/12/17 08:24 | 12/14/17 10:30 |
| 320-34293-2   | MW-6S                    | Water  | 12/12/17 08:56 | 12/14/17 10:30 |
| 320-34293-3   | MW-6I                    | Water  | 12/12/17 09:50 | 12/14/17 10:30 |
| 320-34293-4   | MW-10S                   | Water  | 12/12/17 11:06 | 12/14/17 10:30 |
| 320-34293-5   | MW-10I                   | Water  | 12/12/17 11:51 | 12/14/17 10:30 |
| 320-34293-6   | MW-1I                    | Water  | 12/12/17 12:54 | 12/14/17 10:30 |
| 320-34293-7   | MW-1S                    | Water  | 12/12/17 13:36 | 12/14/17 10:30 |
| 320-34293-8   | MW-9D                    | Water  | 12/12/17 15:03 | 12/14/17 10:30 |
| 320-34293-9   | MW-9I                    | Water  | 12/12/17 16:00 | 12/14/17 10:30 |
| 320-34293-10  | MW-9S                    | Water  | 12/12/17 15:12 | 12/14/17 10:30 |
| 320-34293-11  | MW-X                     | Water  | 12/12/17 00:00 | 12/14/17 10:30 |

# Detection Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

## Client Sample ID: Equipment Blank 12-12-17

## Lab Sample ID: 320-34293-1

| Analyte                              | Result | Qualifier | RL   | MDL  | Unit | Dil Fac | D | Method         | Prep Type |
|--------------------------------------|--------|-----------|------|------|------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)        | 0.29   | J B       | 1.68 | 0.29 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 0.25   | J B       | 1.68 | 0.14 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)  | 0.62   | J         | 1.68 | 0.45 | ng/L | 1       |   | 537 (modified) | Total/NA  |

## Client Sample ID: MW-6S

## Lab Sample ID: 320-34293-2

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit | Dil Fac | D | Method         | Prep Type |
|---------------------------------------|--------|-----------|------|------|------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)         | 7.88   | B         | 1.80 | 0.32 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)       | 7.58   |           | 1.80 | 0.44 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)        | 8.33   |           | 1.80 | 0.52 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)       | 7.16   |           | 1.80 | 0.23 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)         | 19.9   |           | 1.80 | 0.77 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)         | 5.97   |           | 1.80 | 0.24 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)         | 1.03   | J         | 1.80 | 0.28 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)   | 4.64   |           | 1.80 | 0.18 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)  | 2.17   | B         | 1.80 | 0.15 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroheptanesulfonic Acid (PFHpS) | 1.37   | J         | 1.80 | 0.17 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)   | 42.4   |           | 1.80 | 0.49 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctane Sulfonamide (FOSA)    | 0.82   | J         | 1.80 | 0.32 | ng/L | 1       |   | 537 (modified) | Total/NA  |

## Client Sample ID: MW-6I

## Lab Sample ID: 320-34293-3

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit | Dil Fac | D | Method         | Prep Type |
|---------------------------------------|--------|-----------|------|------|------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)         | 8.16   | B         | 1.73 | 0.30 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)       | 13.5   |           | 1.73 | 0.42 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)        | 11.7   |           | 1.73 | 0.50 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)       | 10.7   |           | 1.73 | 0.22 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)         | 24.2   |           | 1.73 | 0.74 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)         | 4.00   |           | 1.73 | 0.23 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)         | 1.06   | J         | 1.73 | 0.27 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroundecanoic acid (PFUnA)      | 1.36   | J         | 1.73 | 0.95 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)   | 6.40   |           | 1.73 | 0.17 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)  | 4.39   | B         | 1.73 | 0.15 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroheptanesulfonic Acid (PFHpS) | 0.67   | J         | 1.73 | 0.16 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)   | 21.8   |           | 1.73 | 0.47 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctane Sulfonamide (FOSA)    | 0.31   | J         | 1.73 | 0.30 | ng/L | 1       |   | 537 (modified) | Total/NA  |

## Client Sample ID: MW-10S

## Lab Sample ID: 320-34293-4

| Analyte                              | Result | Qualifier | RL   | MDL  | Unit | Dil Fac | D | Method         | Prep Type |
|--------------------------------------|--------|-----------|------|------|------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)        | 7.48   | B         | 1.71 | 0.30 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)      | 13.4   |           | 1.71 | 0.42 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)       | 13.2   |           | 1.71 | 0.50 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)      | 12.1   |           | 1.71 | 0.21 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)        | 24.2   |           | 1.71 | 0.73 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)        | 3.74   |           | 1.71 | 0.23 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)        | 1.07   | J         | 1.71 | 0.27 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)  | 3.19   |           | 1.71 | 0.17 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 3.49   | B         | 1.71 | 0.15 | ng/L | 1       |   | 537 (modified) | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

## Client Sample ID: MW-10S (Continued)

## Lab Sample ID: 320-34293-4

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit | Dil | Fac | D | Method         | Prep Type |
|---------------------------------------|--------|-----------|------|------|------|-----|-----|---|----------------|-----------|
| Perfluoroheptanesulfonic Acid (PFHpS) | 0.56   | J         | 1.71 | 0.16 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)   | 23.4   |           | 1.71 | 0.46 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctane Sulfonamide (FOSA)    | 1.85   |           | 1.71 | 0.30 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |

## Client Sample ID: MW-10I

## Lab Sample ID: 320-34293-5

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit | Dil | Fac | D | Method         | Prep Type |
|---------------------------------------|--------|-----------|------|------|------|-----|-----|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)         | 69.7   | B         | 1.83 | 0.32 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)       | 279    |           | 1.83 | 0.45 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)        | 123    |           | 1.83 | 0.53 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)       | 63.7   |           | 1.83 | 0.23 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)         | 40.5   |           | 1.83 | 0.78 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)         | 7.83   |           | 1.83 | 0.25 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)         | 2.73   |           | 1.83 | 0.28 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoroundecanoic acid (PFUnA)      | 1.10   | J         | 1.83 | 1.01 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)   | 4.59   |           | 1.83 | 0.18 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)  | 8.03   | B         | 1.83 | 0.16 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoroheptanesulfonic Acid (PFHpS) | 0.52   | J         | 1.83 | 0.17 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)   | 28.8   |           | 1.83 | 0.49 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |

## Client Sample ID: MW-1I

## Lab Sample ID: 320-34293-6

| Analyte                              | Result | Qualifier | RL   | MDL  | Unit | Dil | Fac | D | Method         | Prep Type |
|--------------------------------------|--------|-----------|------|------|------|-----|-----|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)        | 8.41   | B         | 1.87 | 0.33 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)      | 8.24   |           | 1.87 | 0.46 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)       | 5.04   |           | 1.87 | 0.54 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)      | 1.42   | J         | 1.87 | 0.23 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)        | 1.41   | J         | 1.87 | 0.80 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)        | 0.73   | J         | 1.87 | 0.25 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)        | 0.55   | J         | 1.87 | 0.29 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)  | 0.51   | J         | 1.87 | 0.19 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 0.40   | J B       | 1.87 | 0.16 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)  | 1.16   | J         | 1.87 | 0.51 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |

## Client Sample ID: MW-1S

## Lab Sample ID: 320-34293-7

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit | Dil | Fac | D | Method         | Prep Type |
|---------------------------------------|--------|-----------|------|------|------|-----|-----|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)         | 8.61   | B         | 1.83 | 0.32 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)       | 11.5   |           | 1.83 | 0.45 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)        | 14.3   |           | 1.83 | 0.53 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)       | 25.1   |           | 1.83 | 0.23 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)         | 234    |           | 1.83 | 0.78 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)         | 5.92   |           | 1.83 | 0.25 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)         | 1.24   | J         | 1.83 | 0.28 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)   | 6.38   |           | 1.83 | 0.18 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)  | 27.2   | B         | 1.83 | 0.16 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoroheptanesulfonic Acid (PFHpS) | 5.82   |           | 1.83 | 0.17 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)   | 157    |           | 1.83 | 0.50 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Detection Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

## Client Sample ID: MW-1S (Continued)

## Lab Sample ID: 320-34293-7

| Analyte                            | Result | Qualifier | RL   | MDL  | Unit | Dil Fac | D | Method         | Prep Type |
|------------------------------------|--------|-----------|------|------|------|---------|---|----------------|-----------|
| Perfluorooctane Sulfonamide (FOSA) | 1.68   | J         | 1.83 | 0.32 | ng/L | 1       |   | 537 (modified) | Total/NA  |

## Client Sample ID: MW-9D

## Lab Sample ID: 320-34293-8

| Analyte                              | Result | Qualifier | RL   | MDL  | Unit | Dil Fac | D | Method         | Prep Type |
|--------------------------------------|--------|-----------|------|------|------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)        | 48.6   | B         | 1.79 | 0.31 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)      | 186    |           | 1.79 | 0.44 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)       | 79.9   |           | 1.79 | 0.52 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)      | 13.9   |           | 1.79 | 0.22 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)        | 5.54   |           | 1.79 | 0.76 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)        | 2.47   |           | 1.79 | 0.24 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)        | 2.15   |           | 1.79 | 0.28 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorododecanoic acid (PFDoA)     | 0.59   | J         | 1.79 | 0.49 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorotetradecanoic acid (PFTeA)  | 0.51   | J         | 1.79 | 0.26 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)  | 2.47   |           | 1.79 | 0.18 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 0.62   | J B       | 1.79 | 0.15 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)  | 6.01   |           | 1.79 | 0.48 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctane Sulfonamide (FOSA)   | 1.79   |           | 1.79 | 0.31 | ng/L | 1       |   | 537 (modified) | Total/NA  |

## Client Sample ID: MW-9I

## Lab Sample ID: 320-34293-9

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit | Dil Fac | D | Method         | Prep Type |
|---------------------------------------|--------|-----------|------|------|------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)         | 50.4   | B         | 1.79 | 0.31 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)       | 126    |           | 1.79 | 0.44 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)        | 65.4   |           | 1.79 | 0.52 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)       | 11.7   |           | 1.79 | 0.22 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)         | 14.4   |           | 1.79 | 0.76 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)         | 2.84   |           | 1.79 | 0.24 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)         | 1.79   |           | 1.79 | 0.28 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)   | 5.48   |           | 1.79 | 0.18 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)  | 2.72   | B         | 1.79 | 0.15 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroheptanesulfonic Acid (PFHpS) | 0.39   | J         | 1.79 | 0.17 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)   | 11.2   |           | 1.79 | 0.48 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctane Sulfonamide (FOSA)    | 1.15   | J         | 1.79 | 0.31 | ng/L | 1       |   | 537 (modified) | Total/NA  |

## Client Sample ID: MW-9S

## Lab Sample ID: 320-34293-10

| Analyte                              | Result | Qualifier | RL   | MDL  | Unit | Dil Fac | D | Method         | Prep Type |
|--------------------------------------|--------|-----------|------|------|------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)        | 9.68   | B         | 1.81 | 0.32 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)      | 22.2   |           | 1.81 | 0.44 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)       | 15.1   |           | 1.81 | 0.52 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)      | 9.92   |           | 1.81 | 0.23 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)        | 12.8   |           | 1.81 | 0.77 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)        | 2.57   |           | 1.81 | 0.24 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)        | 2.15   |           | 1.81 | 0.28 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluoroundecanoic acid (PFUnA)     | 1.02   | J         | 1.81 | 0.99 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)  | 18.2   |           | 1.81 | 0.18 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 2.43   | B         | 1.81 | 0.15 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)  | 11.1   |           | 1.81 | 0.49 | ng/L | 1       |   | 537 (modified) | Total/NA  |
| Perfluorodecanesulfonic acid (PFDS)  | 0.30   | J         | 1.81 | 0.29 | ng/L | 1       |   | 537 (modified) | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

## Detection Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

Client Sample ID: MW-X

Lab Sample ID: 320-34293-11

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit | Dil | Fac | D | Method         | Prep Type |
|---------------------------------------|--------|-----------|------|------|------|-----|-----|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA)         | 7.97   |           | 2.02 | 0.35 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoropentanoic acid (PFPeA)       | 7.62   |           | 2.02 | 0.50 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorohexanoic acid (PFHxA)        | 8.12   |           | 2.02 | 0.59 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)       | 6.83   |           | 2.02 | 0.25 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctanoic acid (PFOA)         | 20.6   |           | 2.02 | 0.86 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorononanoic acid (PFNA)         | 6.13   |           | 2.02 | 0.27 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorodecanoic acid (PFDA)         | 0.85   | J         | 2.02 | 0.31 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)   | 3.93   |           | 2.02 | 0.20 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS)  | 2.39   | B         | 2.02 | 0.17 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluoroheptanesulfonic Acid (PFHpS) | 1.50   | J         | 2.02 | 0.19 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctanesulfonic acid (PFOS)   | 43.5   |           | 2.02 | 0.55 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |
| Perfluorooctane Sulfonamide (FOSA)    | 0.97   | J B       | 2.02 | 0.35 | ng/L | 1   |     |   | 537 (modified) | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

# Method Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

| Method         | Method Description           | Protocol | Laboratory |
|----------------|------------------------------|----------|------------|
| 537 (modified) | Fluorinated Alkyl Substances | EPA      | TAL SAC    |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: Equipment Blank 12-12-17**

**Date Collected: 12/12/17 08:24**

**Date Received: 12/14/17 10:30**

**Lab Sample ID: 320-34293-1**

**Matrix: Water**

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

| Analyte                                                    | Result           | Qualifier        | RL            | MDL  | Unit | D | Prepared        | Analyzed        | Dil Fac        |
|------------------------------------------------------------|------------------|------------------|---------------|------|------|---|-----------------|-----------------|----------------|
| <b>Perfluorobutanoic acid (PFBA)</b>                       | <b>0.29</b>      | <b>J B</b>       | 1.68          | 0.29 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluoropentanoic acid (PFPeA)                            | 0.41             | U                | 1.68          | 0.41 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorohexanoic acid (PFHxA)                             | 0.49             | U                | 1.68          | 0.49 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluoroheptanoic acid (PFHpA)                            | 0.21             | U                | 1.68          | 0.21 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorooctanoic acid (PFOA)                              | 0.71             | U                | 1.68          | 0.71 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorononanoic acid (PFNA)                              | 0.23             | U                | 1.68          | 0.23 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorodecanoic acid (PFDA)                              | 0.26             | U                | 1.68          | 0.26 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluoroundecanoic acid (PFUnA)                           | 0.92             | U                | 1.68          | 0.92 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorododecanoic acid (PFDoA)                           | 0.46             | U                | 1.68          | 0.46 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.09             | U                | 1.68          | 1.09 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.24             | U                | 1.68          | 0.24 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorobutanesulfonic acid (PFBS)                        | 0.17             | U                | 1.68          | 0.17 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| <b>Perfluorohexanesulfonic acid (PFHxS)</b>                | <b>0.25</b>      | <b>J B</b>       | 1.68          | 0.14 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.16             | U                | 1.68          | 0.16 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| <b>Perfluorooctanesulfonic acid (PFOS)</b>                 | <b>0.62</b>      | <b>J</b>         | 1.68          | 0.45 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.27             | U                | 1.68          | 0.27 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.29             | U                | 1.68          | 0.29 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.60             | U                | 16.8          | 2.60 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.59             | U                | 16.8          | 1.59 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 6:2FTS                                                     | 1.68             | U                | 16.8          | 1.68 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 8:2FTS                                                     | 1.68             | U                | 16.8          | 1.68 | ng/L |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| <i>Isotope Dilution</i>                                    | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |      |      |   | <i>Prepared</i> | <i>Analyzed</i> | <i>Dil Fac</i> |
| 13C4 PFBA                                                  | 72               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C5 PFPeA                                                 | 74               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C2 PFHxA                                                 | 75               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C4-PFHpA                                                 | 76               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C4 PFOA                                                  | 84               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C5 PFNA                                                  | 75               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C2 PFDA                                                  | 78               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C2 PFUnA                                                 | 77               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C2 PFDoA                                                 | 79               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C2-PFTeDA                                                | 91               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C3-PFBS                                                  | 74               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 18O2 PFHxS                                                 | 76               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C4 PFOS                                                  | 75               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| 13C8 FOSA                                                  | 68               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| d3-NMeFOSAA                                                | 84               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| d5-NEtFOSAA                                                | 78               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| M2-6:2FTS                                                  | 87               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |
| M2-8:2FTS                                                  | 77               |                  | 25 - 150      |      |      |   | 12/26/17 18:34  | 12/29/17 08:02  | 1              |

TestAmerica Sacramento

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-6S**

**Date Collected: 12/12/17 08:56**

**Date Received: 12/14/17 10:30**

**Lab Sample ID: 320-34293-2**

**Matrix: Water**

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

| Analyte                                                    | Result | Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 7.88   | B         | 1.80 | 0.32 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 7.58   |           | 1.80 | 0.44 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 8.33   |           | 1.80 | 0.52 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 7.16   |           | 1.80 | 0.23 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 19.9   |           | 1.80 | 0.77 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorononanoic acid (PFNA)                              | 5.97   |           | 1.80 | 0.24 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 1.03   | J         | 1.80 | 0.28 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 0.99   | U         | 1.80 | 0.99 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.50   | U         | 1.80 | 0.50 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorotridecanoic acid (PFTriA)                         | 1.17   | U         | 1.80 | 1.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.26   | U         | 1.80 | 0.26 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 4.64   |           | 1.80 | 0.18 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 2.17   | B         | 1.80 | 0.15 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 1.37   | J         | 1.80 | 0.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 42.4   |           | 1.80 | 0.49 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.29   | U         | 1.80 | 0.29 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.82   | J         | 1.80 | 0.32 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.79   | U         | 18.0 | 2.79 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.71   | U         | 18.0 | 1.71 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 6:2FTS                                                     | 1.80   | U         | 18.0 | 1.80 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 8:2FTS                                                     | 1.80   | U         | 18.0 | 1.80 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:10 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 62        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C5 PFPeA       | 76        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C2 PFHxA       | 72        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C4-PFHpA       | 76        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C4 PFOA        | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C5 PFNA        | 79        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C2 PFDA        | 85        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C2 PFUnA       | 82        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C2 PFDoA       | 81        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C2-PFTeDA      | 85        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C3-PFBS        | 74        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 18O2 PFHxS       | 78        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C4 PFOS        | 77        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| 13C8 FOSA        | 69        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| d3-NMeFOSAA      | 78        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| d5-NEtFOSAA      | 85        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| M2-6:2FTS        | 116       |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |
| M2-8:2FTS        | 94        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:10 | 1       |

TestAmerica Sacramento

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-6I**

**Lab Sample ID: 320-34293-3**

**Date Collected: 12/12/17 09:50**

**Matrix: Water**

**Date Received: 12/14/17 10:30**

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

| Analyte                                                    | Result | Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 8.16   | B         | 1.73 | 0.30 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 13.5   |           | 1.73 | 0.42 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 11.7   |           | 1.73 | 0.50 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 10.7   |           | 1.73 | 0.22 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 24.2   |           | 1.73 | 0.74 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorononanoic acid (PFNA)                              | 4.00   |           | 1.73 | 0.23 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 1.06   | J         | 1.73 | 0.27 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 1.36   | J         | 1.73 | 0.95 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.48   | U         | 1.73 | 0.48 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.12   | U         | 1.73 | 1.12 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.25   | U         | 1.73 | 0.25 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 6.40   |           | 1.73 | 0.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 4.39   | B         | 1.73 | 0.15 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.67   | J         | 1.73 | 0.16 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 21.8   |           | 1.73 | 0.47 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.28   | U         | 1.73 | 0.28 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.31   | J         | 1.73 | 0.30 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.68   | U         | 17.3 | 2.68 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.64   | U         | 17.3 | 1.64 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 6:2FTS                                                     | 1.73   | U         | 17.3 | 1.73 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 8:2FTS                                                     | 1.73   | U         | 17.3 | 1.73 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:34 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 69        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C5 PFPeA       | 83        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C2 PFHxA       | 82        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C4-PFHpA       | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C4 PFOA        | 90        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C5 PFNA        | 81        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C2 PFDA        | 82        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C2 PFUnA       | 81        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C2 PFDoA       | 75        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C2-PFTeDA      | 89        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C3-PFBS        | 76        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 18O2 PFHxS       | 81        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C4 PFOS        | 78        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| 13C8 FOSA        | 71        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| d3-NMeFOSAA      | 79        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| d5-NEtFOSAA      | 77        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| M2-6:2FTS        | 95        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |
| M2-8:2FTS        | 79        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:34 | 1       |

TestAmerica Sacramento

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-10S**

**Lab Sample ID: 320-34293-4**

**Date Collected: 12/12/17 11:06**

**Matrix: Water**

**Date Received: 12/14/17 10:30**

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

| Analyte                                                    | Result | Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 7.48   | B         | 1.71 | 0.30 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 13.4   |           | 1.71 | 0.42 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 13.2   |           | 1.71 | 0.50 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 12.1   |           | 1.71 | 0.21 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 24.2   |           | 1.71 | 0.73 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorononanoic acid (PFNA)                              | 3.74   |           | 1.71 | 0.23 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 1.07   | J         | 1.71 | 0.27 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 0.94   | U         | 1.71 | 0.94 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.47   | U         | 1.71 | 0.47 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.11   | U         | 1.71 | 1.11 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.25   | U         | 1.71 | 0.25 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 3.19   |           | 1.71 | 0.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 3.49   | B         | 1.71 | 0.15 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.56   | J         | 1.71 | 0.16 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 23.4   |           | 1.71 | 0.46 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.27   | U         | 1.71 | 0.27 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 1.85   |           | 1.71 | 0.30 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.66   | U         | 17.1 | 2.66 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.63   | U         | 17.1 | 1.63 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 6:2FTS                                                     | 1.71   | U         | 17.1 | 1.71 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 8:2FTS                                                     | 1.71   | U         | 17.1 | 1.71 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:41 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 58        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C5 PFPeA       | 77        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C2 PFHxA       | 80        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C4-PFHpA       | 86        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C4 PFOA        | 92        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C5 PFNA        | 88        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C2 PFDA        | 88        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C2 PFUnA       | 90        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C2 PFDoA       | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C2-PFTeDA      | 91        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C3-PFBS        | 81        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 18O2 PFHxS       | 85        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C4 PFOS        | 82        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| 13C8 FOSA        | 75        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| d3-NMeFOSAA      | 92        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| d5-NEtFOSAA      | 86        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| M2-6:2FTS        | 123       |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |
| M2-8:2FTS        | 94        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:41 | 1       |

TestAmerica Sacramento

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-10I**

**Lab Sample ID: 320-34293-5**

**Date Collected: 12/12/17 11:51**

**Matrix: Water**

**Date Received: 12/14/17 10:30**

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

| Analyte                                                    | Result | Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 69.7   | B         | 1.83 | 0.32 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 279    |           | 1.83 | 0.45 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 123    |           | 1.83 | 0.53 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 63.7   |           | 1.83 | 0.23 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 40.5   |           | 1.83 | 0.78 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorononanoic acid (PFNA)                              | 7.83   |           | 1.83 | 0.25 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 2.73   |           | 1.83 | 0.28 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 1.10   | J         | 1.83 | 1.01 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.50   | U         | 1.83 | 0.50 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.19   | U         | 1.83 | 1.19 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.27   | U         | 1.83 | 0.27 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 4.59   |           | 1.83 | 0.18 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 8.03   | B         | 1.83 | 0.16 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.52   | J         | 1.83 | 0.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 28.8   |           | 1.83 | 0.49 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.29   | U         | 1.83 | 0.29 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.32   | U         | 1.83 | 0.32 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.83   | U         | 18.3 | 2.83 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.74   | U         | 18.3 | 1.74 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 6:2FTS                                                     | 1.83   | U         | 18.3 | 1.83 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 8:2FTS                                                     | 1.83   | U         | 18.3 | 1.83 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:49 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 74        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C5 PFPeA       | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C2 PFHxA       | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C4-PFHpA       | 90        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C4 PFOA        | 97        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C5 PFNA        | 87        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C2 PFDA        | 89        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C2 PFUnA       | 87        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C2 PFDoA       | 88        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C2-PFTeDA      | 96        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C3-PFBS        | 91        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 18O2 PFHxS       | 85        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C4 PFOS        | 86        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| 13C8 FOSA        | 79        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| d3-NMeFOSAA      | 87        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| d5-NEtFOSAA      | 88        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| M2-6:2FTS        | 112       |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |
| M2-8:2FTS        | 94        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:49 | 1       |

TestAmerica Sacramento

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-1I**

**Date Collected: 12/12/17 12:54**

**Date Received: 12/14/17 10:30**

**Lab Sample ID: 320-34293-6**

**Matrix: Water**

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

| Analyte                                                    | Result | Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 8.41   | B         | 1.87 | 0.33 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 8.24   |           | 1.87 | 0.46 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 5.04   |           | 1.87 | 0.54 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 1.42   | J         | 1.87 | 0.23 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 1.41   | J         | 1.87 | 0.80 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorononanoic acid (PFNA)                              | 0.73   | J         | 1.87 | 0.25 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 0.55   | J         | 1.87 | 0.29 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 1.03   | U         | 1.87 | 1.03 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.52   | U         | 1.87 | 0.52 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.22   | U         | 1.87 | 1.22 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.27   | U         | 1.87 | 0.27 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 0.51   | J         | 1.87 | 0.19 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 0.40   | J B       | 1.87 | 0.16 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.18   | U         | 1.87 | 0.18 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 1.16   | J         | 1.87 | 0.51 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.30   | U         | 1.87 | 0.30 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.33   | U         | 1.87 | 0.33 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.90   | U         | 18.7 | 2.90 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.78   | U         | 18.7 | 1.78 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 6:2FTS                                                     | 1.87   | U         | 18.7 | 1.87 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 8:2FTS                                                     | 1.87   | U         | 18.7 | 1.87 | ng/L |   | 12/26/17 18:34 | 12/29/17 08:57 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 70        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C5 PFPeA       | 82        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C2 PFHxA       | 75        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C4-PFHpA       | 80        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C4 PFOA        | 85        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C5 PFNA        | 81        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C2 PFDA        | 83        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C2 PFUnA       | 82        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C2 PFDoA       | 78        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C2-PFTeDA      | 89        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C3-PFBS        | 80        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 18O2 PFHxS       | 77        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C4 PFOS        | 80        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| 13C8 FOSA        | 72        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| d3-NMeFOSAA      | 88        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| d5-NEtFOSAA      | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| M2-6:2FTS        | 128       |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |
| M2-8:2FTS        | 103       |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 08:57 | 1       |

TestAmerica Sacramento



# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-1S**

**Date Collected: 12/12/17 13:36**

**Date Received: 12/14/17 10:30**

**Lab Sample ID: 320-34293-7**

**Matrix: Water**

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

| Analyte                                                    | Result | Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 8.61   | B         | 1.83 | 0.32 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 11.5   |           | 1.83 | 0.45 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 14.3   |           | 1.83 | 0.53 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 25.1   |           | 1.83 | 0.23 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 234    |           | 1.83 | 0.78 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorononanoic acid (PFNA)                              | 5.92   |           | 1.83 | 0.25 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 1.24   | J         | 1.83 | 0.28 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 1.01   | U         | 1.83 | 1.01 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.50   | U         | 1.83 | 0.50 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorotridecanoic acid (PFTriA)                         | 1.19   | U         | 1.83 | 1.19 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.27   | U         | 1.83 | 0.27 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 6.38   |           | 1.83 | 0.18 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 27.2   | B         | 1.83 | 0.16 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 5.82   |           | 1.83 | 0.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 157    |           | 1.83 | 0.50 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.29   | U         | 1.83 | 0.29 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 1.68   | J         | 1.83 | 0.32 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.84   | U         | 18.3 | 2.84 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.74   | U         | 18.3 | 1.74 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 6:2FTS                                                     | 1.83   | U         | 18.3 | 1.83 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 8:2FTS                                                     | 1.83   | U         | 18.3 | 1.83 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:13 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 51        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C5 PFPeA       | 74        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C2 PFHxA       | 80        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C4-PFHpA       | 85        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C4 PFOA        | 93        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C5 PFNA        | 92        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C2 PFDA        | 86        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C2 PFUnA       | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C2 PFDoA       | 77        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C2-PFTeDA      | 82        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C3-PFBS        | 81        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 18O2 PFHxS       | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C4 PFOS        | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| 13C8 FOSA        | 75        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| d3-NMeFOSAA      | 87        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| d5-NEtFOSAA      | 84        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| M2-6:2FTS        | 133       |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |
| M2-8:2FTS        | 98        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:13 | 1       |

TestAmerica Sacramento

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-9D**

**Date Collected: 12/12/17 15:03**

**Date Received: 12/14/17 10:30**

**Lab Sample ID: 320-34293-8**

**Matrix: Water**

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

| Analyte                                                    | Result | Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 48.6   | B         | 1.79 | 0.31 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 186    |           | 1.79 | 0.44 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 79.9   |           | 1.79 | 0.52 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 13.9   |           | 1.79 | 0.22 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 5.54   |           | 1.79 | 0.76 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorononanoic acid (PFNA)                              | 2.47   |           | 1.79 | 0.24 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 2.15   |           | 1.79 | 0.28 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 0.98   | U         | 1.79 | 0.98 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.59   | J         | 1.79 | 0.49 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.16   | U         | 1.79 | 1.16 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.51   | J         | 1.79 | 0.26 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 2.47   |           | 1.79 | 0.18 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 0.62   | J B       | 1.79 | 0.15 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.17   | U         | 1.79 | 0.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 6.01   |           | 1.79 | 0.48 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.29   | U         | 1.79 | 0.29 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 1.79   |           | 1.79 | 0.31 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.77   | U         | 17.9 | 2.77 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.70   | U         | 17.9 | 1.70 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 6:2FTS                                                     | 1.79   | U         | 17.9 | 1.79 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 8:2FTS                                                     | 1.79   | U         | 17.9 | 1.79 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:20 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 61        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C5 PFPeA       | 72        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C2 PFHxA       | 72        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C4-PFHpA       | 82        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C4 PFOA        | 87        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C5 PFNA        | 81        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C2 PFDA        | 83        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C2 PFUnA       | 83        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C2 PFDoA       | 78        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C2-PFTeDA      | 87        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C3-PFBS        | 78        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 18O2 PFHxS       | 79        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C4 PFOS        | 79        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| 13C8 FOSA        | 74        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| d3-NMeFOSAA      | 113       |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| d5-NEtFOSAA      | 91        |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| M2-6:2FTS        | 150       |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |
| M2-8:2FTS        | 123       |           | 25 - 150 | 12/26/17 18:34 | 12/29/17 09:20 | 1       |

TestAmerica Sacramento



# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-9I**

**Lab Sample ID: 320-34293-9**

**Date Collected: 12/12/17 16:00**

**Matrix: Water**

**Date Received: 12/14/17 10:30**

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

| Analyte                                                    | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|-----------|-----------|----------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 50.4      | B         | 1.79     | 0.31 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 126       |           | 1.79     | 0.44 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 65.4      |           | 1.79     | 0.52 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 11.7      |           | 1.79     | 0.22 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 14.4      |           | 1.79     | 0.76 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorononanoic acid (PFNA)                              | 2.84      |           | 1.79     | 0.24 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 1.79      |           | 1.79     | 0.28 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 0.98      | U         | 1.79     | 0.98 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.49      | U         | 1.79     | 0.49 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorotridecanoic acid (PFTriA)                         | 1.16      | U         | 1.79     | 1.16 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.26      | U         | 1.79     | 0.26 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 5.48      |           | 1.79     | 0.18 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 2.72      | B         | 1.79     | 0.15 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.39      | J         | 1.79     | 0.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 11.2      |           | 1.79     | 0.48 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.29      | U         | 1.79     | 0.29 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 1.15      | J         | 1.79     | 0.31 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.77      | U         | 17.9     | 2.77 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.70      | U         | 17.9     | 1.70 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 6:2FTS                                                     | 1.79      | U         | 17.9     | 1.79 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 8:2FTS                                                     | 1.79      | U         | 17.9     | 1.79 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| Isotope Dilution                                           | %Recovery | Qualifier | Limits   |      |      |   | Prepared       | Analyzed       | Dil Fac |
| 13C4 PFBA                                                  | 51        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C5 PFPeA                                                 | 70        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C2 PFHxA                                                 | 70        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C4-PFHpA                                                 | 76        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C4 PFOA                                                  | 86        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C5 PFNA                                                  | 82        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C2 PFDA                                                  | 87        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C2 PFUnA                                                 | 91        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C2 PFDoA                                                 | 85        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C2-PFTeDA                                                | 79        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C3-PFBS                                                  | 70        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 18O2 PFHxS                                                 | 76        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C4 PFOS                                                  | 79        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| 13C8 FOSA                                                  | 73        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| d3-NMeFOSAA                                                | 101       |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| d5-NEtFOSAA                                                | 96        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| M2-6:2FTS                                                  | 179       | *         | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |
| M2-8:2FTS                                                  | 150       |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:28 | 1       |

TestAmerica Sacramento

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-9S**

**Lab Sample ID: 320-34293-10**

**Date Collected: 12/12/17 15:12**

**Matrix: Water**

**Date Received: 12/14/17 10:30**

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

| Analyte                                                    | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|-----------|-----------|----------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 9.68      | B         | 1.81     | 0.32 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 22.2      |           | 1.81     | 0.44 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 15.1      |           | 1.81     | 0.52 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 9.92      |           | 1.81     | 0.23 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 12.8      |           | 1.81     | 0.77 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorononanoic acid (PFNA)                              | 2.57      |           | 1.81     | 0.24 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 2.15      |           | 1.81     | 0.28 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 1.02      | J         | 1.81     | 0.99 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.50      | U         | 1.81     | 0.50 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.18      | U         | 1.81     | 1.18 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.26      | U         | 1.81     | 0.26 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 18.2      |           | 1.81     | 0.18 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 2.43      | B         | 1.81     | 0.15 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.17      | U         | 1.81     | 0.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 11.1      |           | 1.81     | 0.49 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.30      | J         | 1.81     | 0.29 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.32      | U         | 1.81     | 0.32 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.80      | U         | 18.1     | 2.80 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.72      | U         | 18.1     | 1.72 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 6:2FTS                                                     | 1.81      | U         | 18.1     | 1.81 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 8:2FTS                                                     | 1.81      | U         | 18.1     | 1.81 | ng/L |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| Isotope Dilution                                           | %Recovery | Qualifier | Limits   |      |      |   | Prepared       | Analyzed       | Dil Fac |
| 13C4 PFBA                                                  | 56        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C5 PFPeA                                                 | 74        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C2 PFHxA                                                 | 69        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C4-PFHpA                                                 | 74        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C4 PFOA                                                  | 84        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C5 PFNA                                                  | 75        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C2 PFDA                                                  | 76        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C2 PFUnA                                                 | 73        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C2 PFDoA                                                 | 74        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C2-PFTeDA                                                | 86        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C3-PFBS                                                  | 75        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 18O2 PFHxS                                                 | 78        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C4 PFOS                                                  | 71        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| 13C8 FOSA                                                  | 67        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| d3-NMeFOSAA                                                | 76        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| d5-NEtFOSAA                                                | 74        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| M2-6:2FTS                                                  | 99        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |
| M2-8:2FTS                                                  | 76        |           | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 09:36 | 1       |

TestAmerica Sacramento

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

**Client Sample ID: MW-X**

**Lab Sample ID: 320-34293-11**

**Date Collected: 12/12/17 00:00**

**Matrix: Water**

**Date Received: 12/14/17 10:30**

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

| Analyte                                                    | Result | Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|--------|-----------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 7.97   |           | 2.02 | 0.35 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 7.62   |           | 2.02 | 0.50 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 8.12   |           | 2.02 | 0.59 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 6.83   |           | 2.02 | 0.25 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 20.6   |           | 2.02 | 0.86 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorononanoic acid (PFNA)                              | 6.13   |           | 2.02 | 0.27 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 0.85   | J         | 2.02 | 0.31 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 1.11   | U         | 2.02 | 1.11 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.56   | U         | 2.02 | 0.56 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.31   | U         | 2.02 | 1.31 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.29   | U         | 2.02 | 0.29 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 3.93   |           | 2.02 | 0.20 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 2.39   | B         | 2.02 | 0.17 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 1.50   | J         | 2.02 | 0.19 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 43.5   |           | 2.02 | 0.55 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.32   | U         | 2.02 | 0.32 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.97   | J B       | 2.02 | 0.35 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 3.13   | U         | 20.2 | 3.13 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.92   | U         | 20.2 | 1.92 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 6:2FTS                                                     | 2.02   | U         | 20.2 | 2.02 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 8:2FTS                                                     | 2.02   | U         | 20.2 | 2.02 | ng/L |   | 12/19/17 15:25 | 12/27/17 19:57 | 1       |

| Isotope Dilution | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 78        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C5 PFPeA       | 93        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C2 PFHxA       | 87        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C4-PFHpA       | 92        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C4 PFOA        | 99        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C5 PFNA        | 93        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C2 PFDA        | 96        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C2 PFUnA       | 93        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C2 PFDoA       | 95        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C2-PFTeDA      | 114       |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C3-PFBS        | 92        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 18O2 PFHxS       | 85        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C4 PFOS        | 87        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| 13C8 FOSA        | 80        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| d3-NMeFOSAA      | 93        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| d5-NEtFOSAA      | 96        |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| M2-6:2FTS        | 129       |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |
| M2-8:2FTS        | 115       |           | 25 - 150 | 12/19/17 15:25 | 12/27/17 19:57 | 1       |

TestAmerica Sacramento

# Isotope Dilution Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID         | Client Sample ID         | Percent Isotope Dilution Recovery (Acceptance Limits) |                   |                   |                   |                  |                  |                  |                   |
|-----------------------|--------------------------|-------------------------------------------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|-------------------|
|                       |                          | PFBA<br>(25-150)                                      | PFPeA<br>(25-150) | PFHxA<br>(25-150) | PFHpA<br>(25-150) | PFOA<br>(25-150) | PFNA<br>(25-150) | PFDA<br>(25-150) | PFUnA<br>(25-150) |
| 320-34293-1           | Equipment Blank 12-12-17 | 72                                                    | 74                | 75                | 76                | 84               | 75               | 78               | 77                |
| 320-34293-2           | MW-6S                    | 62                                                    | 76                | 72                | 76                | 84               | 79               | 85               | 82                |
| 320-34293-2 MS        | MW-6S                    | 67                                                    | 82                | 83                | 85                | 91               | 86               | 86               | 83                |
| 320-34293-2 MSD       | MW-6S                    | 71                                                    | 88                | 89                | 90                | 92               | 90               | 88               | 86                |
| 320-34293-3           | MW-6I                    | 69                                                    | 83                | 82                | 84                | 90               | 81               | 82               | 81                |
| 320-34293-4           | MW-10S                   | 58                                                    | 77                | 80                | 86                | 92               | 88               | 88               | 90                |
| 320-34293-5           | MW-10I                   | 74                                                    | 84                | 84                | 90                | 97               | 87               | 89               | 87                |
| 320-34293-6           | MW-1I                    | 70                                                    | 82                | 75                | 80                | 85               | 81               | 83               | 82                |
| 320-34293-7           | MW-1S                    | 51                                                    | 74                | 80                | 85                | 93               | 92               | 86               | 84                |
| 320-34293-8           | MW-9D                    | 61                                                    | 72                | 72                | 82                | 87               | 81               | 83               | 83                |
| 320-34293-9           | MW-9I                    | 51                                                    | 70                | 70                | 76                | 86               | 82               | 87               | 91                |
| 320-34293-10          | MW-9S                    | 56                                                    | 74                | 69                | 74                | 84               | 75               | 76               | 73                |
| 320-34293-11          | MW-X                     | 78                                                    | 93                | 87                | 92                | 99               | 93               | 96               | 93                |
| 480-128901-E-19-B MS  | Matrix Spike             | 59                                                    | 90                | 88                | 96                | 96               | 102              | 104              | 101               |
| 480-128901-E-19-C MSD | Matrix Spike Duplicate   | 59                                                    | 88                | 88                | 96                | 100              | 103              | 103              | 97                |
| LCS 320-200556/2-A    | Lab Control Sample       | 112                                                   | 107               | 105               | 112               | 105              | 115              | 111              | 105               |
| LCS 320-201396/2-A    | Lab Control Sample       | 78                                                    | 81                | 81                | 82                | 91               | 82               | 82               | 85                |
| MB 320-200556/1-A     | Method Blank             | 109                                                   | 105               | 105               | 108               | 106              | 111              | 106              | 102               |
| MB 320-201396/1-A     | Method Blank             | 62                                                    | 65                | 65                | 66                | 72               | 65               | 63               | 68                |

| Lab Sample ID         | Client Sample ID         | Percent Isotope Dilution Recovery (Acceptance Limits) |                   |                     |                   |                  |                   |                     |                     |
|-----------------------|--------------------------|-------------------------------------------------------|-------------------|---------------------|-------------------|------------------|-------------------|---------------------|---------------------|
|                       |                          | PFDaA<br>(25-150)                                     | PFTDA<br>(25-150) | 3C3-PFB<br>(25-150) | PFHxS<br>(25-150) | PFOS<br>(25-150) | PFOSA<br>(25-150) | -NMeFOS<br>(25-150) | -NEtFOS<br>(25-150) |
| 320-34293-1           | Equipment Blank 12-12-17 | 79                                                    | 91                | 74                  | 76                | 75               | 68                | 84                  | 78                  |
| 320-34293-2           | MW-6S                    | 81                                                    | 85                | 74                  | 78                | 77               | 69                | 78                  | 85                  |
| 320-34293-2 MS        | MW-6S                    | 80                                                    | 91                | 86                  | 82                | 84               | 74                | 85                  | 82                  |
| 320-34293-2 MSD       | MW-6S                    | 83                                                    | 92                | 86                  | 86                | 85               | 78                | 90                  | 86                  |
| 320-34293-3           | MW-6I                    | 75                                                    | 89                | 76                  | 81                | 78               | 71                | 79                  | 77                  |
| 320-34293-4           | MW-10S                   | 84                                                    | 91                | 81                  | 85                | 82               | 75                | 92                  | 86                  |
| 320-34293-5           | MW-10I                   | 88                                                    | 96                | 91                  | 85                | 86               | 79                | 87                  | 88                  |
| 320-34293-6           | MW-1I                    | 78                                                    | 89                | 80                  | 77                | 80               | 72                | 88                  | 84                  |
| 320-34293-7           | MW-1S                    | 77                                                    | 82                | 81                  | 84                | 84               | 75                | 87                  | 84                  |
| 320-34293-8           | MW-9D                    | 78                                                    | 87                | 78                  | 79                | 79               | 74                | 113                 | 91                  |
| 320-34293-9           | MW-9I                    | 85                                                    | 79                | 70                  | 76                | 79               | 73                | 101                 | 96                  |
| 320-34293-10          | MW-9S                    | 74                                                    | 86                | 75                  | 78                | 71               | 67                | 76                  | 74                  |
| 320-34293-11          | MW-X                     | 95                                                    | 114               | 92                  | 85                | 87               | 80                | 93                  | 96                  |
| 480-128901-E-19-B MS  | Matrix Spike             | 95                                                    | 109               | 96                  | 97                | 102              | 98                | 101                 | 104                 |
| 480-128901-E-19-C MSD | Matrix Spike Duplicate   | 96                                                    | 103               | 92                  | 99                | 99               | 94                | 100                 | 101                 |
| LCS 320-200556/2-A    | Lab Control Sample       | 104                                                   | 117               | 105                 | 103               | 109              | 96                | 103                 | 104                 |
| LCS 320-201396/2-A    | Lab Control Sample       | 85                                                    | 101               | 82                  | 79                | 81               | 74                | 85                  | 85                  |
| MB 320-200556/1-A     | Method Blank             | 97                                                    | 107               | 101                 | 100               | 105              | 95                | 95                  | 98                  |
| MB 320-201396/1-A     | Method Blank             | 62                                                    | 76                | 65                  | 64                | 63               | 56                | 66                  | 65                  |

| Lab Sample ID   | Client Sample ID         | Percent Isotope Dilution Recovery (Acceptance Limits) |                     |
|-----------------|--------------------------|-------------------------------------------------------|---------------------|
|                 |                          | M262FTS<br>(25-150)                                   | M282FTS<br>(25-150) |
| 320-34293-1     | Equipment Blank 12-12-17 | 87                                                    | 77                  |
| 320-34293-2     | MW-6S                    | 116                                                   | 94                  |
| 320-34293-2 MS  | MW-6S                    | 106                                                   | 90                  |
| 320-34293-2 MSD | MW-6S                    | 105                                                   | 100                 |

TestAmerica Sacramento

# Isotope Dilution Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID         | Client Sample ID       | Percent Isotope Dilution Recovery (Acceptance Limits) |                     |
|-----------------------|------------------------|-------------------------------------------------------|---------------------|
|                       |                        | M262FTS<br>(25-150)                                   | M282FTS<br>(25-150) |
| 320-34293-3           | MW-6I                  | 95                                                    | 79                  |
| 320-34293-4           | MW-10S                 | 123                                                   | 94                  |
| 320-34293-5           | MW-10I                 | 112                                                   | 94                  |
| 320-34293-6           | MW-1I                  | 128                                                   | 103                 |
| 320-34293-7           | MW-1S                  | 133                                                   | 98                  |
| 320-34293-8           | MW-9D                  | 150                                                   | 123                 |
| 320-34293-9           | MW-9I                  | 179 *                                                 | 150                 |
| 320-34293-10          | MW-9S                  | 99                                                    | 76                  |
| 320-34293-11          | MW-X                   | 129                                                   | 115                 |
| 480-128901-E-19-B MS  | Matrix Spike           | 87                                                    | 111                 |
| 480-128901-E-19-C MSD | Matrix Spike Duplicate | 92                                                    | 106                 |
| LCS 320-200556/2-A    | Lab Control Sample     | 54                                                    | 100                 |
| LCS 320-201396/2-A    | Lab Control Sample     | 89                                                    | 83                  |
| MB 320-200556/1-A     | Method Blank           | 52                                                    | 95                  |
| MB 320-201396/1-A     | Method Blank           | 69                                                    | 67                  |

### Surrogate Legend

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

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: MB 320-200556/1-A

Matrix: Water

Analysis Batch: 201236

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 200556

| Analyte                                                    | MB Result | MB Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|-----------|--------------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 0.35      | U            | 2.00 | 0.35 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 0.49      | U            | 2.00 | 0.49 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 0.58      | U            | 2.00 | 0.58 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 0.25      | U            | 2.00 | 0.25 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 0.85      | U            | 2.00 | 0.85 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorononanoic acid (PFNA)                              | 0.27      | U            | 2.00 | 0.27 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 0.31      | U            | 2.00 | 0.31 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 1.10      | U            | 2.00 | 1.10 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.55      | U            | 2.00 | 0.55 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.30      | U            | 2.00 | 1.30 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.29      | U            | 2.00 | 0.29 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 0.20      | U            | 2.00 | 0.20 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 0.291     | J            | 2.00 | 0.17 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.19      | U            | 2.00 | 0.19 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 0.54      | U            | 2.00 | 0.54 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.32      | U            | 2.00 | 0.32 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.351     | J            | 2.00 | 0.35 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 3.10      | U            | 20.0 | 3.10 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.90      | U            | 20.0 | 1.90 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 6:2FTS                                                     | 2.025     | J            | 20.0 | 2.00 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 8:2FTS                                                     | 2.00      | U            | 20.0 | 2.00 | ng/L |   | 12/19/17 15:25 | 12/23/17 14:41 | 1       |

| Isotope Dilution | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|--------------|--------------|----------|----------------|----------------|---------|
| 13C4 PFBA        | 109          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C5 PFPeA       | 105          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C2 PFHxA       | 105          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C4-PFHpA       | 108          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C4 PFOA        | 106          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C5 PFNA        | 111          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C2 PFDA        | 106          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C2 PFUnA       | 102          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C2 PFDoA       | 97           |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C2-PFTeDA      | 107          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C3-PFBS        | 101          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 18O2 PFHxS       | 100          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C4 PFOS        | 105          |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| 13C8 FOSA        | 95           |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| d3-NMeFOSAA      | 95           |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| d5-NEtFOSAA      | 98           |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| M2-6:2FTS        | 52           |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |
| M2-8:2FTS        | 95           |              | 25 - 150 | 12/19/17 15:25 | 12/23/17 14:41 | 1       |

TestAmerica Sacramento

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: LCS 320-200556/2-A

Matrix: Water

Analysis Batch: 201236

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 200556

| Analyte                                                    | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------------------------------------------|-------------|------------|---------------|------|---|------|--------------|
| Perfluorobutanoic acid (PFBA)                              | 40.0        | 42.07      |               | ng/L |   | 105  | 78 - 138     |
| Perfluoropentanoic acid (PFPeA)                            | 40.0        | 40.62      |               | ng/L |   | 102  | 66 - 136     |
| Perfluorohexanoic acid (PFHxA)                             | 40.0        | 41.43      |               | ng/L |   | 104  | 76 - 136     |
| Perfluoroheptanoic acid (PFHpA)                            | 40.0        | 39.47      |               | ng/L |   | 99   | 78 - 138     |
| Perfluorooctanoic acid (PFOA)                              | 40.0        | 37.93      |               | ng/L |   | 95   | 70 - 130     |
| Perfluorononanoic acid (PFNA)                              | 40.0        | 40.54      |               | ng/L |   | 101  | 77 - 137     |
| Perfluorodecanoic acid (PFDA)                              | 40.0        | 41.73      |               | ng/L |   | 104  | 74 - 134     |
| Perfluoroundecanoic acid (PFUnA)                           | 40.0        | 37.59      |               | ng/L |   | 94   | 68 - 128     |
| Perfluorododecanoic acid (PFDoA)                           | 40.0        | 41.06      |               | ng/L |   | 103  | 72 - 132     |
| Perfluorotridecanoic Acid (PFTriA)                         | 40.0        | 45.35      |               | ng/L |   | 113  | 56 - 163     |
| Perfluorotetradecanoic acid (PFTeA)                        | 40.0        | 42.59      |               | ng/L |   | 106  | 63 - 123     |
| Perfluorobutanesulfonic acid (PFBS)                        | 35.4        | 39.33      |               | ng/L |   | 111  | 79 - 139     |
| Perfluorohexanesulfonic acid (PFHxS)                       | 36.4        | 36.70      |               | ng/L |   | 101  | 77 - 137     |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 38.1        | 40.07      |               | ng/L |   | 105  | 83 - 143     |
| Perfluorooctanesulfonic acid (PFOS)                        | 37.1        | 39.14      |               | ng/L |   | 105  | 74 - 134     |
| Perfluorodecanesulfonic acid (PFDS)                        | 38.6        | 38.62      |               | ng/L |   | 100  | 75 - 135     |
| Perfluorooctane Sulfonamide (FOSA)                         | 40.0        | 43.35      |               | ng/L |   | 108  | 82 - 142     |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 40.0        | 38.20      |               | ng/L |   | 95   | 77 - 137     |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 40.0        | 39.43      |               | ng/L |   | 99   | 79 - 139     |
| 6:2FTS                                                     | 37.9        | 40.99      |               | ng/L |   | 108  | 82 - 142     |
| 8:2FTS                                                     | 38.3        | 39.40      |               | ng/L |   | 103  | 80 - 140     |

| Isotope Dilution | LCS %Recovery | LCS Qualifier | Limits   |
|------------------|---------------|---------------|----------|
| 13C4 PFBA        | 112           |               | 25 - 150 |
| 13C5 PFPeA       | 107           |               | 25 - 150 |
| 13C2 PFHxA       | 105           |               | 25 - 150 |
| 13C4-PFHpA       | 112           |               | 25 - 150 |
| 13C4 PFOA        | 105           |               | 25 - 150 |
| 13C5 PFNA        | 115           |               | 25 - 150 |
| 13C2 PFDA        | 111           |               | 25 - 150 |
| 13C2 PFUnA       | 105           |               | 25 - 150 |
| 13C2 PFDoA       | 104           |               | 25 - 150 |
| 13C2-PFTeA       | 117           |               | 25 - 150 |
| 13C3-PFBS        | 105           |               | 25 - 150 |
| 18O2 PFHxS       | 103           |               | 25 - 150 |
| 13C4 PFOS        | 109           |               | 25 - 150 |
| 13C8 FOSA        | 96            |               | 25 - 150 |

TestAmerica Sacramento



# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: LCS 320-200556/2-A

Matrix: Water

Analysis Batch: 201236

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 200556

| <i>Isotope Dilution</i> | <i>LCS %Recovery</i> | <i>LCS Qualifier</i> | <i>Limits</i> |
|-------------------------|----------------------|----------------------|---------------|
| d3-NMeFOSAA             | 103                  |                      | 25 - 150      |
| d5-NEtFOSAA             | 104                  |                      | 25 - 150      |
| M2-6:2FTS               | 54                   |                      | 25 - 150      |
| M2-8:2FTS               | 100                  |                      | 25 - 150      |

Lab Sample ID: 480-128901-E-19-B MS

Matrix: Water

Analysis Batch: 201236

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 200556

| <i>Analyte</i>                                             | <i>Sample Result</i> | <i>Sample Qualifier</i> | <i>Spike Added</i> | <i>MS Result</i> | <i>MS Qualifier</i> | <i>Unit</i> | <i>D</i> | <i>%Rec</i> | <i>%Rec. Limits</i> |
|------------------------------------------------------------|----------------------|-------------------------|--------------------|------------------|---------------------|-------------|----------|-------------|---------------------|
| Perfluorobutanoic acid (PFBA)                              | 5.04                 |                         | 40.1               | 45.19            |                     | ng/L        |          | 100         | 78 - 138            |
| Perfluoropentanoic acid (PFPeA)                            | 2.78                 |                         | 40.1               | 39.98            |                     | ng/L        |          | 93          | 66 - 136            |
| Perfluorohexanoic acid (PFHxA)                             | 2.75                 |                         | 40.1               | 41.65            |                     | ng/L        |          | 97          | 76 - 136            |
| Perfluoroheptanoic acid (PFHpA)                            | 1.78                 | J                       | 40.1               | 42.47            |                     | ng/L        |          | 102         | 78 - 138            |
| Perfluorooctanoic acid (PFOA)                              | 3.93                 |                         | 40.1               | 43.68            |                     | ng/L        |          | 99          | 70 - 130            |
| Perfluorononanoic acid (PFNA)                              | 0.39                 | J                       | 40.1               | 40.74            |                     | ng/L        |          | 101         | 77 - 137            |
| Perfluorodecanoic acid (PFDA)                              | 0.34                 | J                       | 40.1               | 40.52            |                     | ng/L        |          | 100         | 74 - 134            |
| Perfluoroundecanoic acid (PFUnA)                           | 1.08                 | U                       | 40.1               | 36.32            |                     | ng/L        |          | 91          | 68 - 128            |
| Perfluorododecanoic acid (PFDoA)                           | 0.54                 | U                       | 40.1               | 39.55            |                     | ng/L        |          | 99          | 72 - 132            |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.27                 | U                       | 40.1               | 44.60            |                     | ng/L        |          | 111         | 56 - 163            |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.28                 | U                       | 40.1               | 41.75            |                     | ng/L        |          | 104         | 63 - 123            |
| Perfluorobutanesulfonic acid (PFBS)                        | 1.59                 | J                       | 35.4               | 38.46            |                     | ng/L        |          | 104         | 79 - 139            |
| Perfluorohexanesulfonic acid (PFHxS)                       | 1.52                 | J B                     | 36.5               | 37.56            |                     | ng/L        |          | 99          | 77 - 137            |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.19                 | U                       | 38.2               | 40.35            |                     | ng/L        |          | 106         | 83 - 143            |
| Perfluorooctanesulfonic acid (PFOS)                        | 11.7                 |                         | 37.2               | 45.47            |                     | ng/L        |          | 91          | 74 - 134            |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.31                 | U                       | 38.6               | 36.66            |                     | ng/L        |          | 95          | 75 - 135            |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.34                 | U                       | 40.1               | 41.14            |                     | ng/L        |          | 103         | 82 - 142            |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 3.03                 | U                       | 40.1               | 37.60            |                     | ng/L        |          | 94          | 77 - 137            |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.86                 | U                       | 40.1               | 36.02            |                     | ng/L        |          | 90          | 79 - 139            |
| 6:2FTS                                                     | 5.58                 | J B F1                  | 38.0               | 39.62            |                     | ng/L        |          | 90          | 82 - 142            |
| 8:2FTS                                                     | 1.96                 | U                       | 38.4               | 36.28            |                     | ng/L        |          | 94          | 80 - 140            |

| <i>Isotope Dilution</i> | <i>MS %Recovery</i> | <i>MS Qualifier</i> | <i>Limits</i> |
|-------------------------|---------------------|---------------------|---------------|
| 13C4 PFBA               | 59                  |                     | 25 - 150      |
| 13C5 PFPeA              | 90                  |                     | 25 - 150      |
| 13C2 PFHxA              | 88                  |                     | 25 - 150      |
| 13C4-PFHpA              | 96                  |                     | 25 - 150      |
| 13C4 PFOA               | 96                  |                     | 25 - 150      |

TestAmerica Sacramento



# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: 480-128901-E-19-B MS

Matrix: Water

Analysis Batch: 201236

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 200556

| Isotope Dilution | MS<br>%Recovery | MS<br>Qualifier | Limits   |
|------------------|-----------------|-----------------|----------|
| 13C5 PFNA        | 102             |                 | 25 - 150 |
| 13C2 PFDA        | 104             |                 | 25 - 150 |
| 13C2 PFUnA       | 101             |                 | 25 - 150 |
| 13C2 PFDoA       | 95              |                 | 25 - 150 |
| 13C2-PFTeDA      | 109             |                 | 25 - 150 |
| 13C3-PFBS        | 96              |                 | 25 - 150 |
| 18O2 PFHxS       | 97              |                 | 25 - 150 |
| 13C4 PFOS        | 102             |                 | 25 - 150 |
| 13C8 FOSA        | 98              |                 | 25 - 150 |
| d3-NMeFOSAA      | 101             |                 | 25 - 150 |
| d5-NEtFOSAA      | 104             |                 | 25 - 150 |
| M2-6:2FTS        | 87              |                 | 25 - 150 |
| M2-8:2FTS        | 111             |                 | 25 - 150 |

Lab Sample ID: 480-128901-E-19-C MSD

Matrix: Water

Analysis Batch: 201236

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 200556

| Analyte                                                    | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MSD<br>Result | MSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|------------------------------------------------------------|------------------|---------------------|----------------|---------------|------------------|------|---|------|-----------------|-----|--------------|
| Perfluorobutanoic acid (PFBA)                              | 5.04             |                     | 39.7           | 44.69         |                  | ng/L |   | 100  | 78 - 138        | 1   | 30           |
| Perfluoropentanoic acid (PFPeA)                            | 2.78             |                     | 39.7           | 40.62         |                  | ng/L |   | 95   | 66 - 136        | 2   | 30           |
| Perfluorohexanoic acid (PFHxA)                             | 2.75             |                     | 39.7           | 40.98         |                  | ng/L |   | 96   | 76 - 136        | 2   | 30           |
| Perfluoroheptanoic acid (PFHpA)                            | 1.78             | J                   | 39.7           | 44.77         |                  | ng/L |   | 108  | 78 - 138        | 5   | 30           |
| Perfluorooctanoic acid (PFOA)                              | 3.93             |                     | 39.7           | 41.36         |                  | ng/L |   | 94   | 70 - 130        | 5   | 30           |
| Perfluorononanoic acid (PFNA)                              | 0.39             | J                   | 39.7           | 39.30         |                  | ng/L |   | 98   | 77 - 137        | 4   | 30           |
| Perfluorodecanoic acid (PFDA)                              | 0.34             | J                   | 39.7           | 39.02         |                  | ng/L |   | 97   | 74 - 134        | 4   | 30           |
| Perfluoroundecanoic acid (PFUnA)                           | 1.08             | U                   | 39.7           | 36.30         |                  | ng/L |   | 91   | 68 - 128        | 0   | 30           |
| Perfluorododecanoic acid (PFDoA)                           | 0.54             | U                   | 39.7           | 38.60         |                  | ng/L |   | 97   | 72 - 132        | 2   | 30           |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.27             | U                   | 39.7           | 42.01         |                  | ng/L |   | 106  | 56 - 163        | 6   | 30           |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.28             | U                   | 39.7           | 40.18         |                  | ng/L |   | 101  | 63 - 123        | 4   | 30           |
| Perfluorobutanesulfonic acid (PFBS)                        | 1.59             | J                   | 35.1           | 40.11         |                  | ng/L |   | 110  | 79 - 139        | 4   | 30           |
| Perfluorohexanesulfonic acid (PFHxS)                       | 1.52             | J B                 | 36.1           | 35.92         |                  | ng/L |   | 95   | 77 - 137        | 4   | 30           |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.19             | U                   | 37.8           | 38.62         |                  | ng/L |   | 102  | 83 - 143        | 4   | 30           |
| Perfluorooctanesulfonic acid (PFOS)                        | 11.7             |                     | 36.9           | 46.19         |                  | ng/L |   | 93   | 74 - 134        | 2   | 30           |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.31             | U                   | 38.3           | 34.31         |                  | ng/L |   | 90   | 75 - 135        | 7   | 30           |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.34             | U                   | 39.7           | 41.01         |                  | ng/L |   | 103  | 82 - 142        | 0   | 30           |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 3.03             | U                   | 39.7           | 37.49         |                  | ng/L |   | 94   | 77 - 137        | 0   | 30           |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.86             | U                   | 39.7           | 36.99         |                  | ng/L |   | 93   | 79 - 139        | 3   | 30           |

TestAmerica Sacramento

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: 480-128901-E-19-C MSD

Matrix: Water

Analysis Batch: 201236

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 200556

| Analyte          | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|------------------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| 6:2FTS           | 5.58          | J B F1           | 37.6        | 35.07      | F1            | ng/L |   | 78   | 82 - 142     | 12  | 30        |
| 8:2FTS           | 1.96          | U                | 38.0        | 35.57      |               | ng/L |   | 93   | 80 - 140     | 2   | 30        |
| MSD MSD          |               |                  |             |            |               |      |   |      |              |     |           |
| Isotope Dilution | %Recovery     | Qualifier        | Limits      |            |               |      |   |      |              |     |           |
| 13C4 PFBA        | 59            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C5 PFPeA       | 88            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C2 PFHxA       | 88            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C4-PFHpA       | 96            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C4 PFOA        | 100           |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C5 PFNA        | 103           |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C2 PFDA        | 103           |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C2 PFUnA       | 97            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C2 PFDoA       | 96            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C2-PFTeDA      | 103           |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C3-PFBS        | 92            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 18O2 PFHxS       | 99            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C4 PFOS        | 99            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| 13C8 FOSA        | 94            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| d3-NMeFOSAA      | 100           |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| d5-NEtFOSAA      | 101           |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| M2-6:2FTS        | 92            |                  | 25 - 150    |            |               |      |   |      |              |     |           |
| M2-8:2FTS        | 106           |                  | 25 - 150    |            |               |      |   |      |              |     |           |

Lab Sample ID: MB 320-201396/1-A

Matrix: Water

Analysis Batch: 201893

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 201396

| Analyte                                                    | MB Result | MB Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------------------------------|-----------|--------------|------|------|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA)                              | 0.423     | J            | 2.00 | 0.35 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluoropentanoic acid (PFPeA)                            | 0.49      | U            | 2.00 | 0.49 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorohexanoic acid (PFHxA)                             | 0.58      | U            | 2.00 | 0.58 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluoroheptanoic acid (PFHpA)                            | 0.25      | U            | 2.00 | 0.25 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorooctanoic acid (PFOA)                              | 0.85      | U            | 2.00 | 0.85 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorononanoic acid (PFNA)                              | 0.27      | U            | 2.00 | 0.27 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorodecanoic acid (PFDA)                              | 0.31      | U            | 2.00 | 0.31 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluoroundecanoic acid (PFUnA)                           | 1.10      | U            | 2.00 | 1.10 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorododecanoic acid (PFDoA)                           | 0.55      | U            | 2.00 | 0.55 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.30      | U            | 2.00 | 1.30 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.29      | U            | 2.00 | 0.29 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                        | 0.20      | U            | 2.00 | 0.20 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                       | 0.291     | J            | 2.00 | 0.17 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.19      | U            | 2.00 | 0.19 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                        | 0.54      | U            | 2.00 | 0.54 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.32      | U            | 2.00 | 0.32 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.35      | U            | 2.00 | 0.35 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 3.10      | U            | 20.0 | 3.10 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |

TestAmerica Sacramento

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: MB 320-201396/1-A

Matrix: Water

Analysis Batch: 201893

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 201396

| Analyte                           | MB Result    | MB Qualifier | RL       | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------|--------------|--------------|----------|------|------|---|----------------|----------------|---------|
| N-ethyl perfluorooctane           | 1.90         | U            | 20.0     | 1.90 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| sulfonamidoacetic acid (NEtFOSAA) |              |              |          |      |      |   |                |                |         |
| 6:2FTS                            | 2.00         | U            | 20.0     | 2.00 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 8:2FTS                            | 2.00         | U            | 20.0     | 2.00 | ng/L |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| Isotope Dilution                  | MB %Recovery | MB Qualifier | Limits   |      |      |   | Prepared       | Analyzed       | Dil Fac |
| 13C4 PFBA                         | 62           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C5 PFPeA                        | 65           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C2 PFHxA                        | 65           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C4-PFHpA                        | 66           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C4 PFOA                         | 72           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C5 PFNA                         | 65           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C2 PFDA                         | 63           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C2 PFUnA                        | 68           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C2 PFDoA                        | 62           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C2-PFTeDA                       | 76           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C3-PFBS                         | 65           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 18O2 PFHxS                        | 64           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C4 PFOS                         | 63           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| 13C8 FOSA                         | 56           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| d3-NMeFOSAA                       | 66           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| d5-NEtFOSAA                       | 65           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| M2-6:2FTS                         | 69           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |
| M2-8:2FTS                         | 67           |              | 25 - 150 |      |      |   | 12/26/17 18:34 | 12/29/17 07:47 | 1       |

Lab Sample ID: LCS 320-201396/2-A

Matrix: Water

Analysis Batch: 201893

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 201396

| Analyte                              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|--------------------------------------|-------------|------------|---------------|------|---|------|--------------|
| Perfluorobutanoic acid (PFBA)        | 40.0        | 39.45      |               | ng/L |   | 99   | 78 - 138     |
| Perfluoropentanoic acid (PFPeA)      | 40.0        | 39.17      |               | ng/L |   | 98   | 66 - 136     |
| Perfluorohexanoic acid (PFHxA)       | 40.0        | 37.38      |               | ng/L |   | 93   | 76 - 136     |
| Perfluoroheptanoic acid (PFHpA)      | 40.0        | 38.67      |               | ng/L |   | 97   | 78 - 138     |
| Perfluorooctanoic acid (PFOA)        | 40.0        | 34.50      |               | ng/L |   | 86   | 70 - 130     |
| Perfluorononanoic acid (PFNA)        | 40.0        | 39.66      |               | ng/L |   | 99   | 77 - 137     |
| Perfluorodecanoic acid (PFDA)        | 40.0        | 39.83      |               | ng/L |   | 100  | 74 - 134     |
| Perfluoroundecanoic acid (PFUnA)     | 40.0        | 35.18      |               | ng/L |   | 88   | 68 - 128     |
| Perfluorododecanoic acid (PFDoA)     | 40.0        | 38.97      |               | ng/L |   | 97   | 72 - 132     |
| Perfluorotridecanoic Acid (PFTriA)   | 40.0        | 39.82      |               | ng/L |   | 100  | 56 - 163     |
| Perfluorotetradecanoic acid (PFTeA)  | 40.0        | 34.97      |               | ng/L |   | 87   | 63 - 123     |
| Perfluorobutanesulfonic acid (PFBS)  | 35.4        | 35.75      |               | ng/L |   | 101  | 79 - 139     |
| Perfluorohexanesulfonic acid (PFHxS) | 36.4        | 32.81      |               | ng/L |   | 90   | 77 - 137     |

TestAmerica Sacramento

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: LCS 320-201396/2-A

Matrix: Water

Analysis Batch: 201893

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 201396

| Analyte                                                    | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------------------------------------------|-------------|------------|---------------|------|---|------|--------------|
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 38.1        | 40.08      |               | ng/L |   | 105  | 83 - 143     |
| Perfluorooctanesulfonic acid (PFOS)                        | 37.1        | 34.29      |               | ng/L |   | 92   | 74 - 134     |
| Perfluorodecanesulfonic acid (PFDS)                        | 38.6        | 38.32      |               | ng/L |   | 99   | 75 - 135     |
| Perfluorooctane Sulfonamide (FOSA)                         | 40.0        | 36.78      |               | ng/L |   | 92   | 82 - 142     |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 40.0        | 37.11      |               | ng/L |   | 93   | 77 - 137     |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 40.0        | 37.68      |               | ng/L |   | 94   | 79 - 139     |
| 6:2FTS                                                     | 37.9        | 34.72      |               | ng/L |   | 92   | 82 - 142     |
| 8:2FTS                                                     | 38.3        | 36.17      |               | ng/L |   | 94   | 80 - 140     |

| Isotope Dilution | LCS %Recovery | LCS Qualifier | Limits   |
|------------------|---------------|---------------|----------|
| 13C4 PFBA        | 78            |               | 25 - 150 |
| 13C5 PFPeA       | 81            |               | 25 - 150 |
| 13C2 PFHxA       | 81            |               | 25 - 150 |
| 13C4-PFHpA       | 82            |               | 25 - 150 |
| 13C4 PFOA        | 91            |               | 25 - 150 |
| 13C5 PFNA        | 82            |               | 25 - 150 |
| 13C2 PFDA        | 82            |               | 25 - 150 |
| 13C2 PFUnA       | 85            |               | 25 - 150 |
| 13C2 PFDoA       | 85            |               | 25 - 150 |
| 13C2-PFTeDA      | 101           |               | 25 - 150 |
| 13C3-PFBS        | 82            |               | 25 - 150 |
| 18O2 PFHxS       | 79            |               | 25 - 150 |
| 13C4 PFOS        | 81            |               | 25 - 150 |
| 13C8 FOSA        | 74            |               | 25 - 150 |
| d3-NMeFOSAA      | 85            |               | 25 - 150 |
| d5-NEtFOSAA      | 85            |               | 25 - 150 |
| M2-6:2FTS        | 89            |               | 25 - 150 |
| M2-8:2FTS        | 83            |               | 25 - 150 |

Lab Sample ID: 320-34293-2 MS

Matrix: Water

Analysis Batch: 201893

Client Sample ID: MW-6S

Prep Type: Total/NA

Prep Batch: 201396

| Analyte                         | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---------------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Perfluorobutanoic acid (PFBA)   | 7.88          | B                | 35.4        | 43.35     |              | ng/L |   | 100  | 78 - 138     |
| Perfluoropentanoic acid (PFPeA) | 7.58          |                  | 35.4        | 43.03     |              | ng/L |   | 100  | 66 - 136     |
| Perfluorohexanoic acid (PFHxA)  | 8.33          |                  | 35.4        | 43.49     |              | ng/L |   | 99   | 76 - 136     |
| Perfluoroheptanoic acid (PFHpA) | 7.16          |                  | 35.4        | 39.97     |              | ng/L |   | 93   | 78 - 138     |
| Perfluorooctanoic acid (PFOA)   | 19.9          |                  | 35.4        | 53.25     |              | ng/L |   | 94   | 70 - 130     |
| Perfluorononanoic acid (PFNA)   | 5.97          |                  | 35.4        | 42.27     |              | ng/L |   | 103  | 77 - 137     |
| Perfluorodecanoic acid (PFDA)   | 1.03          | J                | 35.4        | 35.97     |              | ng/L |   | 99   | 74 - 134     |

TestAmerica Sacramento

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: 320-34293-2 MS

Matrix: Water

Analysis Batch: 201893

Client Sample ID: MW-6S

Prep Type: Total/NA

Prep Batch: 201396

| Analyte                                                    | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------------------------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Perfluoroundecanoic acid (PFUnA)                           | 0.99          | U                | 35.4        | 33.36     |              | ng/L |   | 94   | 68 - 128     |
| Perfluorododecanoic acid (PFDoA)                           | 0.50          | U                | 35.4        | 37.91     |              | ng/L |   | 107  | 72 - 132     |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.17          | U                | 35.4        | 41.37     |              | ng/L |   | 117  | 56 - 163     |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.26          | U                | 35.4        | 36.21     |              | ng/L |   | 102  | 63 - 123     |
| Perfluorobutanesulfonic acid (PFBS)                        | 4.64          |                  | 31.3        | 36.05     |              | ng/L |   | 100  | 79 - 139     |
| Perfluorohexanesulfonic acid (PFHxS)                       | 2.17          | B                | 32.2        | 33.93     |              | ng/L |   | 99   | 77 - 137     |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 1.37          | J                | 33.7        | 36.90     |              | ng/L |   | 106  | 83 - 143     |
| Perfluorooctanesulfonic acid (PFOS)                        | 42.4          |                  | 32.8        | 74.16     |              | ng/L |   | 97   | 74 - 134     |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.29          | U                | 34.1        | 32.36     |              | ng/L |   | 95   | 75 - 135     |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.82          | J                | 35.4        | 36.45     |              | ng/L |   | 101  | 82 - 142     |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.79          | U                | 35.4        | 33.43     |              | ng/L |   | 95   | 77 - 137     |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.71          | U                | 35.4        | 33.86     |              | ng/L |   | 96   | 79 - 139     |
| 6:2FTS                                                     | 1.80          | U                | 33.5        | 29.33     |              | ng/L |   | 87   | 82 - 142     |
| 8:2FTS                                                     | 1.80          | U                | 33.9        | 30.83     |              | ng/L |   | 91   | 80 - 140     |

| Isotope Dilution | MS %Recovery | MS Qualifier | Limits   |
|------------------|--------------|--------------|----------|
| 13C4 PFBA        | 67           |              | 25 - 150 |
| 13C5 PFPeA       | 82           |              | 25 - 150 |
| 13C2 PFHxA       | 83           |              | 25 - 150 |
| 13C4-PFHpA       | 85           |              | 25 - 150 |
| 13C4 PFOA        | 91           |              | 25 - 150 |
| 13C5 PFNA        | 86           |              | 25 - 150 |
| 13C2 PFDA        | 86           |              | 25 - 150 |
| 13C2 PFUnA       | 83           |              | 25 - 150 |
| 13C2 PFDoA       | 80           |              | 25 - 150 |
| 13C2-PFTeDA      | 91           |              | 25 - 150 |
| 13C3-PFBS        | 86           |              | 25 - 150 |
| 18O2 PFHxS       | 82           |              | 25 - 150 |
| 13C4 PFOS        | 84           |              | 25 - 150 |
| 13C8 FOSA        | 74           |              | 25 - 150 |
| d3-NMeFOSAA      | 85           |              | 25 - 150 |
| d5-NEtFOSAA      | 82           |              | 25 - 150 |
| M2-6:2FTS        | 106          |              | 25 - 150 |
| M2-8:2FTS        | 90           |              | 25 - 150 |

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: 320-34293-2 MSD

Matrix: Water

Analysis Batch: 201893

Client Sample ID: MW-6S

Prep Type: Total/NA

Prep Batch: 201396

| Analyte                                                    | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|------------------------------------------------------------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| Perfluorobutanoic acid (PFBA)                              | 7.88          | B                | 35.7        | 42.63      |               | ng/L |   | 97   | 78 - 138     | 2   | 30        |
| Perfluoropentanoic acid (PFPeA)                            | 7.58          |                  | 35.7        | 42.64      |               | ng/L |   | 98   | 66 - 136     | 1   | 30        |
| Perfluorohexanoic acid (PFHxA)                             | 8.33          |                  | 35.7        | 41.47      |               | ng/L |   | 93   | 76 - 136     | 5   | 30        |
| Perfluoroheptanoic acid (PFHpA)                            | 7.16          |                  | 35.7        | 41.08      |               | ng/L |   | 95   | 78 - 138     | 3   | 30        |
| Perfluorooctanoic acid (PFOA)                              | 19.9          |                  | 35.7        | 50.64      |               | ng/L |   | 86   | 70 - 130     | 5   | 30        |
| Perfluorononanoic acid (PFNA)                              | 5.97          |                  | 35.7        | 40.57      |               | ng/L |   | 97   | 77 - 137     | 4   | 30        |
| Perfluorodecanoic acid (PFDA)                              | 1.03          | J                | 35.7        | 37.88      |               | ng/L |   | 103  | 74 - 134     | 5   | 30        |
| Perfluoroundecanoic acid (PFUnA)                           | 0.99          | U                | 35.7        | 31.01      |               | ng/L |   | 87   | 68 - 128     | 7   | 30        |
| Perfluorododecanoic acid (PFDoA)                           | 0.50          | U                | 35.7        | 36.76      |               | ng/L |   | 103  | 72 - 132     | 3   | 30        |
| Perfluorotridecanoic Acid (PFTriA)                         | 1.17          | U                | 35.7        | 40.10      |               | ng/L |   | 112  | 56 - 163     | 3   | 30        |
| Perfluorotetradecanoic acid (PFTeA)                        | 0.26          | U                | 35.7        | 33.92      |               | ng/L |   | 95   | 63 - 123     | 7   | 30        |
| Perfluorobutanesulfonic acid (PFBS)                        | 4.64          |                  | 31.5        | 36.53      |               | ng/L |   | 101  | 79 - 139     | 1   | 30        |
| Perfluorohexanesulfonic acid (PFHxS)                       | 2.17          | B                | 32.4        | 33.05      |               | ng/L |   | 95   | 77 - 137     | 3   | 30        |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 1.37          | J                | 33.9        | 38.51      |               | ng/L |   | 109  | 83 - 143     | 4   | 30        |
| Perfluorooctanesulfonic acid (PFOS)                        | 42.4          |                  | 33.1        | 76.84      |               | ng/L |   | 104  | 74 - 134     | 4   | 30        |
| Perfluorodecanesulfonic acid (PFDS)                        | 0.29          | U                | 34.4        | 31.93      |               | ng/L |   | 93   | 75 - 135     | 1   | 30        |
| Perfluorooctane Sulfonamide (FOSA)                         | 0.82          | J                | 35.7        | 35.72      |               | ng/L |   | 98   | 82 - 142     | 2   | 30        |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.79          | U                | 35.7        | 34.30      |               | ng/L |   | 96   | 77 - 137     | 3   | 30        |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.71          | U                | 35.7        | 35.22      |               | ng/L |   | 99   | 79 - 139     | 4   | 30        |
| 6:2FTS                                                     | 1.80          | U                | 33.8        | 33.03      |               | ng/L |   | 98   | 82 - 142     | 12  | 30        |
| 8:2FTS                                                     | 1.80          | U                | 34.2        | 31.02      |               | ng/L |   | 91   | 80 - 140     | 1   | 30        |

| Isotope Dilution | MSD %Recovery | MSD Qualifier | Limits   |
|------------------|---------------|---------------|----------|
| 13C4 PFBA        | 71            |               | 25 - 150 |
| 13C5 PFPeA       | 88            |               | 25 - 150 |
| 13C2 PFHxA       | 89            |               | 25 - 150 |
| 13C4-PFHpA       | 90            |               | 25 - 150 |
| 13C4 PFOA        | 92            |               | 25 - 150 |
| 13C5 PFNA        | 90            |               | 25 - 150 |
| 13C2 PFDA        | 88            |               | 25 - 150 |
| 13C2 PFUnA       | 86            |               | 25 - 150 |
| 13C2 PFDoA       | 83            |               | 25 - 150 |
| 13C2-PFTeDA      | 92            |               | 25 - 150 |
| 13C3-PFBS        | 86            |               | 25 - 150 |
| 18O2 PFHxS       | 86            |               | 25 - 150 |
| 13C4 PFOS        | 85            |               | 25 - 150 |
| 13C8 FOSA        | 78            |               | 25 - 150 |

TestAmerica Sacramento

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

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

Lab Sample ID: 320-34293-2 MSD

Matrix: Water

Analysis Batch: 201893

Client Sample ID: MW-6S

Prep Type: Total/NA

Prep Batch: 201396

| <i>Isotope Dilution</i> | <i>MSD MSD</i>   |                  | <i>Limits</i> |
|-------------------------|------------------|------------------|---------------|
|                         | <i>%Recovery</i> | <i>Qualifier</i> |               |
| <i>d3-NMeFOSAA</i>      | 90               |                  | 25 - 150      |
| <i>d5-NEtFOSAA</i>      | 86               |                  | 25 - 150      |
| <i>M2-6:2FTS</i>        | 105              |                  | 25 - 150      |
| <i>M2-8:2FTS</i>        | 100              |                  | 25 - 150      |

# Definitions/Glossary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

## Qualifiers

### LCMS

| Qualifier | Qualifier Description                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------|
| U         | Indicates the analyte was analyzed for but not detected.                                                       |
| 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. |
| *         | Isotope Dilution analyte is outside acceptance limits.                                                         |
| F1        | MS and/or MSD Recovery is outside acceptance limits.                                                           |

## Glossary

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



# QC Association Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

## LCMS

### Prep Batch: 200556

| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-----------------------|------------------------|-----------|--------|--------|------------|
| 320-34293-11          | MW-X                   | Total/NA  | Water  | 3535   |            |
| MB 320-200556/1-A     | Method Blank           | Total/NA  | Water  | 3535   |            |
| LCS 320-200556/2-A    | Lab Control Sample     | Total/NA  | Water  | 3535   |            |
| 480-128901-E-19-B MS  | Matrix Spike           | Total/NA  | Water  | 3535   |            |
| 480-128901-E-19-C MSD | Matrix Spike Duplicate | Total/NA  | Water  | 3535   |            |

### Analysis Batch: 201236

| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method         | Prep Batch |
|-----------------------|------------------------|-----------|--------|----------------|------------|
| MB 320-200556/1-A     | Method Blank           | Total/NA  | Water  | 537 (modified) | 200556     |
| LCS 320-200556/2-A    | Lab Control Sample     | Total/NA  | Water  | 537 (modified) | 200556     |
| 480-128901-E-19-B MS  | Matrix Spike           | Total/NA  | Water  | 537 (modified) | 200556     |
| 480-128901-E-19-C MSD | Matrix Spike Duplicate | Total/NA  | Water  | 537 (modified) | 200556     |

### Prep Batch: 201396

| Lab Sample ID      | Client Sample ID         | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------|-----------|--------|--------|------------|
| 320-34293-1        | Equipment Blank 12-12-17 | Total/NA  | Water  | 3535   |            |
| 320-34293-2        | MW-6S                    | Total/NA  | Water  | 3535   |            |
| 320-34293-3        | MW-6I                    | Total/NA  | Water  | 3535   |            |
| 320-34293-4        | MW-10S                   | Total/NA  | Water  | 3535   |            |
| 320-34293-5        | MW-10I                   | Total/NA  | Water  | 3535   |            |
| 320-34293-6        | MW-1I                    | Total/NA  | Water  | 3535   |            |
| 320-34293-7        | MW-1S                    | Total/NA  | Water  | 3535   |            |
| 320-34293-8        | MW-9D                    | Total/NA  | Water  | 3535   |            |
| 320-34293-9        | MW-9I                    | Total/NA  | Water  | 3535   |            |
| 320-34293-10       | MW-9S                    | Total/NA  | Water  | 3535   |            |
| MB 320-201396/1-A  | Method Blank             | Total/NA  | Water  | 3535   |            |
| LCS 320-201396/2-A | Lab Control Sample       | Total/NA  | Water  | 3535   |            |
| 320-34293-2 MS     | MW-6S                    | Total/NA  | Water  | 3535   |            |
| 320-34293-2 MSD    | MW-6S                    | Total/NA  | Water  | 3535   |            |

### Analysis Batch: 201601

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method         | Prep Batch |
|---------------|------------------|-----------|--------|----------------|------------|
| 320-34293-11  | MW-X             | Total/NA  | Water  | 537 (modified) | 200556     |

### Analysis Batch: 201893

| Lab Sample ID      | Client Sample ID         | Prep Type | Matrix | Method         | Prep Batch |
|--------------------|--------------------------|-----------|--------|----------------|------------|
| 320-34293-1        | Equipment Blank 12-12-17 | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-2        | MW-6S                    | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-3        | MW-6I                    | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-4        | MW-10S                   | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-5        | MW-10I                   | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-6        | MW-1I                    | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-7        | MW-1S                    | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-8        | MW-9D                    | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-9        | MW-9I                    | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-10       | MW-9S                    | Total/NA  | Water  | 537 (modified) | 201396     |
| MB 320-201396/1-A  | Method Blank             | Total/NA  | Water  | 537 (modified) | 201396     |
| LCS 320-201396/2-A | Lab Control Sample       | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-2 MS     | MW-6S                    | Total/NA  | Water  | 537 (modified) | 201396     |
| 320-34293-2 MSD    | MW-6S                    | Total/NA  | Water  | 537 (modified) | 201396     |

TestAmerica Sacramento

# Lab Chronicle

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

## Client Sample ID: Equipment Blank 12-12-17

Date Collected: 12/12/17 08:24

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-1

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 08:02       | ABH     | TAL SAC |

## Client Sample ID: MW-6S

Date Collected: 12/12/17 08:56

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-2

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 08:10       | ABH     | TAL SAC |

## Client Sample ID: MW-6I

Date Collected: 12/12/17 09:50

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-3

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 08:34       | ABH     | TAL SAC |

## Client Sample ID: MW-10S

Date Collected: 12/12/17 11:06

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-4

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 08:41       | ABH     | TAL SAC |

## Client Sample ID: MW-10I

Date Collected: 12/12/17 11:51

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-5

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 08:49       | ABH     | TAL SAC |

## Client Sample ID: MW-1I

Date Collected: 12/12/17 12:54

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-6

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 08:57       | ABH     | TAL SAC |

TestAmerica Sacramento

# Lab Chronicle

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

## Client Sample ID: MW-1S

Date Collected: 12/12/17 13:36

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-7

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 09:13       | ABH     | TAL SAC |

## Client Sample ID: MW-9D

Date Collected: 12/12/17 15:03

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-8

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 09:20       | ABH     | TAL SAC |

## Client Sample ID: MW-9I

Date Collected: 12/12/17 16:00

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-9

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 09:28       | ABH     | TAL SAC |

## Client Sample ID: MW-9S

Date Collected: 12/12/17 15:12

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-10

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 201396       | 12/26/17 18:34       | JER     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201893       | 12/29/17 09:36       | ABH     | TAL SAC |

## Client Sample ID: MW-X

Date Collected: 12/12/17 00:00

Date Received: 12/14/17 10:30

## Lab Sample ID: 320-34293-11

Matrix: Water

| Prep Type | Batch Type | Batch Method   | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3535           |     |                 | 200556       | 12/19/17 15:25       | KMK     | TAL SAC |
| Total/NA  | Analysis   | 537 (modified) |     | 1               | 201601       | 12/27/17 19:57       | ABH     | TAL SAC |

### Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

# Accreditation/Certification Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 320-34293-1

## Laboratory: TestAmerica Sacramento

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

| Authority          | Program       | EPA Region | Identification Number | Expiration Date |
|--------------------|---------------|------------|-----------------------|-----------------|
| Alaska (UST)       | State Program | 10         | UST-055               | 01-31-18        |
| Arizona            | State Program | 9          | AZ0708                | 08-11-18        |
| Arkansas DEQ       | State Program | 6          | 88-0691               | 06-17-18        |
| California         | State Program | 9          | 2897                  | 01-31-18        |
| Colorado           | State Program | 8          | CA00044               | 08-31-18        |
| Connecticut        | State Program | 1          | PH-0691               | 06-30-19        |
| Florida            | NELAP         | 4          | E87570                | 06-30-18        |
| Georgia            | State Program | 4          | N/A                   | 01-28-19        |
| Hawaii             | State Program | 9          | N/A                   | 01-29-18        |
| Illinois           | NELAP         | 5          | 200060                | 03-17-18        |
| Kansas             | NELAP         | 7          | E-10375               | 12-31-17 *      |
| L-A-B              | DoD ELAP      |            | L2468                 | 01-20-18        |
| Louisiana          | NELAP         | 6          | 30612                 | 06-30-18        |
| Maine              | State Program | 1          | CA0004                | 04-18-18        |
| Michigan           | State Program | 5          | 9947                  | 01-31-18        |
| Nevada             | State Program | 9          | CA00044               | 07-31-18        |
| New Hampshire      | NELAP         | 1          | 2997                  | 04-18-18        |
| New Jersey         | NELAP         | 2          | CA005                 | 06-30-18        |
| New York           | NELAP         | 2          | 11666                 | 04-01-18        |
| Oregon             | NELAP         | 10         | 4040                  | 01-28-18        |
| Pennsylvania       | NELAP         | 3          | 68-01272              | 03-31-18        |
| Texas              | NELAP         | 6          | T104704399            | 05-31-18        |
| US Fish & Wildlife | Federal       |            | LE148388-0            | 07-31-18        |
| USDA               | Federal       |            | P330-11-00436         | 12-30-17 *      |
| USEPA UCMR         | Federal       | 1          | CA00044               | 11-06-18        |
| Utah               | NELAP         | 8          | CA00044               | 02-28-18        |
| Virginia           | NELAP         | 3          | 460278                | 03-14-18        |
| Washington         | State Program | 10         | C581                  | 05-05-18        |
| West Virginia (DW) | State Program | 3          | 9930C                 | 12-31-17        |
| Wyoming            | State Program | 8          | 8TMS-L                | 01-28-19        |

## Laboratory: TestAmerica Edison

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

| Authority                         | Program       | EPA Region | Identification Number | Expiration Date |
|-----------------------------------|---------------|------------|-----------------------|-----------------|
| Connecticut                       | State Program | 1          | PH-0200               | 09-30-18        |
| DE Haz. Subst. Cleanup Act (HSCA) | State Program | 3          | N/A                   | 12-31-18        |
| New Jersey                        | NELAP         | 2          | 12028                 | 06-30-18        |
| New York                          | NELAP         | 2          | 11452                 | 04-01-18        |
| Pennsylvania                      | NELAP         | 3          | 68-00522              | 02-28-18        |
| Rhode Island                      | State Program | 1          | LAO00132              | 12-30-17 *      |
| USDA                              | Federal       |            | NJCA-003-08           | 06-13-20        |

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

TestAmerica Sacramento

# Method PFC IDA

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Fluorinated Hydrocarbons by Method  
PFAS IDA

FORM II  
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

| Client Sample ID            | Lab Sample ID         | PFBA # | PFPeA # | PFBS # | PFHxA # | PFHpA # | PFHxS # | M262FTS # | PFOA # |
|-----------------------------|-----------------------|--------|---------|--------|---------|---------|---------|-----------|--------|
| Equipment Blank<br>12-12-17 | 320-34293-1           | 72     | 74      | 74     | 75      | 76      | 76      | 87        | 84     |
| MW-6S                       | 320-34293-2           | 62     | 76      | 74     | 72      | 76      | 78      | 116       | 84     |
| MW-6I                       | 320-34293-3           | 69     | 83      | 76     | 82      | 84      | 81      | 95        | 90     |
| MW-10S                      | 320-34293-4           | 58     | 77      | 81     | 80      | 86      | 85      | 123       | 92     |
| MW-10I                      | 320-34293-5           | 74     | 84      | 91     | 84      | 90      | 85      | 112       | 97     |
| MW-1I                       | 320-34293-6           | 70     | 82      | 80     | 75      | 80      | 77      | 128       | 85     |
| MW-1S                       | 320-34293-7           | 51     | 74      | 81     | 80      | 85      | 84      | 133       | 93     |
| MW-9D                       | 320-34293-8           | 61     | 72      | 78     | 72      | 82      | 79      | 150       | 87     |
| MW-9I                       | 320-34293-9           | 51     | 70      | 70     | 70      | 76      | 76      | 179 *     | 86     |
| MW-9S                       | 320-34293-10          | 56     | 74      | 75     | 69      | 74      | 78      | 99        | 84     |
| MW-X                        | 320-34293-11          | 78     | 93      | 92     | 87      | 92      | 85      | 129       | 99     |
|                             | MB<br>320-200556/1-A  | 109    | 105     | 101    | 105     | 108     | 100     | 52        | 106    |
|                             | MB<br>320-201396/1-A  | 62     | 65      | 65     | 65      | 66      | 64      | 69        | 72     |
|                             | LCS<br>320-200556/2-A | 112    | 107     | 105    | 105     | 112     | 103     | 54        | 105    |
|                             | LCS<br>320-201396/2-A | 78     | 81      | 82     | 81      | 82      | 79      | 89        | 91     |
| MW-6S MS                    | 320-34293-2 MS        | 67     | 82      | 86     | 83      | 85      | 82      | 106       | 91     |
|                             | 480-128901-E-19-B MS  | 59     | 90      | 96     | 88      | 96      | 97      | 87        | 96     |
| MW-6S MSD                   | 320-34293-2 MSD       | 71     | 88      | 86     | 89      | 90      | 86      | 105       | 92     |
|                             | 480-128901-E-19-C MSD | 59     | 88      | 92     | 88      | 96      | 99      | 92        | 100    |

QC LIMITS

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

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM II  
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

| Client Sample ID            | Lab Sample ID         | PFNA # | PFOS # | PFOSA # | M282FTS # | PFDA # | d3NMFOS # | d5NEFOS # | PFUnA # |
|-----------------------------|-----------------------|--------|--------|---------|-----------|--------|-----------|-----------|---------|
| Equipment Blank<br>12-12-17 | 320-34293-1           | 75     | 75     | 68      | 77        | 78     | 84        | 78        | 77      |
| MW-6S                       | 320-34293-2           | 79     | 77     | 69      | 94        | 85     | 78        | 85        | 82      |
| MW-6I                       | 320-34293-3           | 81     | 78     | 71      | 79        | 82     | 79        | 77        | 81      |
| MW-10S                      | 320-34293-4           | 88     | 82     | 75      | 94        | 88     | 92        | 86        | 90      |
| MW-10I                      | 320-34293-5           | 87     | 86     | 79      | 94        | 89     | 87        | 88        | 87      |
| MW-1I                       | 320-34293-6           | 81     | 80     | 72      | 103       | 83     | 88        | 84        | 82      |
| MW-1S                       | 320-34293-7           | 92     | 84     | 75      | 98        | 86     | 87        | 84        | 84      |
| MW-9D                       | 320-34293-8           | 81     | 79     | 74      | 123       | 83     | 113       | 91        | 83      |
| MW-9I                       | 320-34293-9           | 82     | 79     | 73      | 150       | 87     | 101       | 96        | 91      |
| MW-9S                       | 320-34293-10          | 75     | 71     | 67      | 76        | 76     | 76        | 74        | 73      |
| MW-X                        | 320-34293-11          | 93     | 87     | 80      | 115       | 96     | 93        | 96        | 93      |
|                             | MB<br>320-200556/1-A  | 111    | 105    | 95      | 95        | 106    | 95        | 98        | 102     |
|                             | MB<br>320-201396/1-A  | 65     | 63     | 56      | 67        | 63     | 66        | 65        | 68      |
|                             | LCS<br>320-200556/2-A | 115    | 109    | 96      | 100       | 111    | 103       | 104       | 105     |
|                             | LCS<br>320-201396/2-A | 82     | 81     | 74      | 83        | 82     | 85        | 85        | 85      |
| MW-6S MS                    | 320-34293-2 MS        | 86     | 84     | 74      | 90        | 86     | 85        | 82        | 83      |
|                             | 480-128901-E-19-B MS  | 102    | 102    | 98      | 111       | 104    | 101       | 104       | 101     |
| MW-6S MSD                   | 320-34293-2 MSD       | 90     | 85     | 78      | 100       | 88     | 90        | 86        | 86      |
|                             | 480-128901-E-19-C MSD | 103    | 99     | 94      | 106       | 103    | 100       | 101       | 97      |

QC LIMITS

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

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM II  
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

| Client Sample ID            | Lab Sample ID         | PFD <sub>o</sub> A # | PFTDA # |
|-----------------------------|-----------------------|----------------------|---------|
| Equipment Blank<br>12-12-17 | 320-34293-1           | 79                   | 91      |
| MW-6S                       | 320-34293-2           | 81                   | 85      |
| MW-6I                       | 320-34293-3           | 75                   | 89      |
| MW-10S                      | 320-34293-4           | 84                   | 91      |
| MW-10I                      | 320-34293-5           | 88                   | 96      |
| MW-1I                       | 320-34293-6           | 78                   | 89      |
| MW-1S                       | 320-34293-7           | 77                   | 82      |
| MW-9D                       | 320-34293-8           | 78                   | 87      |
| MW-9I                       | 320-34293-9           | 85                   | 79      |
| MW-9S                       | 320-34293-10          | 74                   | 86      |
| MW-X                        | 320-34293-11          | 95                   | 114     |
|                             | MB<br>320-200556/1-A  | 97                   | 107     |
|                             | MB<br>320-201396/1-A  | 62                   | 76      |
|                             | LCS<br>320-200556/2-A | 104                  | 117     |
|                             | LCS<br>320-201396/2-A | 85                   | 101     |
| MW-6S MS                    | 320-34293-2 MS        | 80                   | 91      |
|                             | 480-128901-E-19-B MS  | 95                   | 109     |
| MW-6S MSD                   | 320-34293-2 MSD       | 83                   | 92      |
|                             | 480-128901-E-19-C MSD | 96                   | 103     |

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

QC LIMITS  
25-150  
25-150

# Column to be used to flag recovery values

FORM II 537 (modified)



FORM III  
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.23LLBxB\_003.d  
 Lab ID: LCS 320-200556/2-A Client ID: \_\_\_\_\_

| COMPOUND                                                         | SPIKE<br>ADDED<br>(ng/L) | LCS<br>CONCENTRATION<br>(ng/L) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|------------------------------------------------------------------|--------------------------|--------------------------------|-----------------|---------------------|---|
| Perfluorobutanoic acid (PFBA)                                    | 40.0                     | 42.07                          | 105             | 78-138              |   |
| Perfluoropentanoic acid<br>(PFPeA)                               | 40.0                     | 40.62                          | 102             | 66-136              |   |
| Perfluorohexanoic acid (PFHxA)                                   | 40.0                     | 41.43                          | 104             | 76-136              |   |
| Perfluoroheptanoic acid<br>(PFHpA)                               | 40.0                     | 39.47                          | 99              | 78-138              |   |
| Perfluorooctanoic acid (PFOA)                                    | 40.0                     | 37.93                          | 95              | 70-130              |   |
| Perfluorononanoic acid (PFNA)                                    | 40.0                     | 40.54                          | 101             | 77-137              |   |
| Perfluorodecanoic acid (PFDA)                                    | 40.0                     | 41.73                          | 104             | 74-134              |   |
| Perfluoroundecanoic acid<br>(PFUnA)                              | 40.0                     | 37.59                          | 94              | 68-128              |   |
| Perfluorododecanoic acid<br>(PFDoA)                              | 40.0                     | 41.06                          | 103             | 72-132              |   |
| Perfluorotridecanoic Acid<br>(PFTriA)                            | 40.0                     | 45.35                          | 113             | 56-163              |   |
| Perfluorotetradecanoic acid<br>(PFTeA)                           | 40.0                     | 42.59                          | 106             | 63-123              |   |
| Perfluorobutanesulfonic acid<br>(PFBS)                           | 35.4                     | 39.33                          | 111             | 79-139              |   |
| Perfluorohexanesulfonic acid<br>(PFHxS)                          | 36.4                     | 36.70                          | 101             | 77-137              |   |
| Perfluoroheptanesulfonic Acid<br>(PFHpS)                         | 38.1                     | 40.07                          | 105             | 83-143              |   |
| Perfluorooctanesulfonic acid<br>(PFOS)                           | 37.1                     | 39.14                          | 105             | 74-134              |   |
| Perfluorodecanesulfonic acid<br>(PFDS)                           | 38.6                     | 38.62                          | 100             | 75-135              |   |
| Perfluorooctane Sulfonamide<br>(FOSA)                            | 40.0                     | 43.35                          | 108             | 82-142              |   |
| N-methyl perfluorooctane<br>sulfonamidoacetic acid<br>(NMeFOSAA) | 40.0                     | 38.20                          | 95              | 77-137              |   |
| N-ethyl perfluorooctane<br>sulfonamidoacetic acid<br>(NEtFOSAA)  | 40.0                     | 39.43                          | 99              | 79-139              |   |
| 6:2FTS                                                           | 37.9                     | 40.99                          | 108             | 82-142              |   |
| 8:2FTS                                                           | 38.3                     | 39.40                          | 103             | 80-140              |   |
| 13C4 PFBA                                                        | 100                      | 111.9                          | 112             | 25-150              |   |
| 13C5 PFPeA                                                       | 100                      | 106.5                          | 107             | 25-150              |   |
| 13C2 PFHxA                                                       | 100                      | 105.0                          | 105             | 25-150              |   |
| 13C4-PFHpA                                                       | 100                      | 111.7                          | 112             | 25-150              |   |
| 13C4 PFOA                                                        | 100                      | 105.0                          | 105             | 25-150              |   |
| 13C5 PFNA                                                        | 100                      | 114.9                          | 115             | 25-150              |   |
| 13C2 PFDA                                                        | 100                      | 110.8                          | 111             | 25-150              |   |
| 13C2 PFUnA                                                       | 100                      | 105.1                          | 105             | 25-150              |   |
| 13C2 PFDoA                                                       | 100                      | 104.3                          | 104             | 25-150              |   |

# Column to be used to flag recovery and RPD values

FORM III  
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.23LLBxB\_003.d  
 Lab ID: LCS 320-200556/2-A Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ng/L) | LCS<br>CONCENTRATION<br>(ng/L) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|-------------|--------------------------|--------------------------------|-----------------|---------------------|---|
| 13C2-PFTeDA | 100                      | 117.2                          | 117             | 25-150              |   |
| 13C3-PFBS   | 93.0                     | 97.26                          | 105             | 25-150              |   |
| 18O2 PFHxS  | 94.6                     | 97.90                          | 103             | 25-150              |   |
| 13C4 PFOS   | 95.6                     | 103.8                          | 109             | 25-150              |   |
| 13C8 FOSA   | 100                      | 96.46                          | 96              | 25-150              |   |
| d3-NMeFOSAA | 100                      | 103.4                          | 103             | 25-150              |   |
| d5-NEtFOSAA | 100                      | 103.9                          | 104             | 25-150              |   |
| M2-6:2FTS   | 95.0                     | 51.41                          | 54              | 25-150              |   |
| M2-8:2FTS   | 95.8                     | 95.57                          | 100             | 25-150              |   |

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

FORM III  
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.28LLD\_003.d  
 Lab ID: LCS 320-201396/2-A Client ID: \_\_\_\_\_

| COMPOUND                                                         | SPIKE<br>ADDED<br>(ng/L) | LCS<br>CONCENTRATION<br>(ng/L) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|------------------------------------------------------------------|--------------------------|--------------------------------|-----------------|---------------------|---|
| Perfluorobutanoic acid (PFBA)                                    | 40.0                     | 39.45                          | 99              | 78-138              |   |
| Perfluoropentanoic acid<br>(PFPeA)                               | 40.0                     | 39.17                          | 98              | 66-136              |   |
| Perfluorohexanoic acid (PFHxA)                                   | 40.0                     | 37.38                          | 93              | 76-136              |   |
| Perfluoroheptanoic acid<br>(PFHpA)                               | 40.0                     | 38.67                          | 97              | 78-138              |   |
| Perfluorooctanoic acid (PFOA)                                    | 40.0                     | 34.50                          | 86              | 70-130              |   |
| Perfluorononanoic acid (PFNA)                                    | 40.0                     | 39.66                          | 99              | 77-137              |   |
| Perfluorodecanoic acid (PFDA)                                    | 40.0                     | 39.83                          | 100             | 74-134              |   |
| Perfluoroundecanoic acid<br>(PFUnA)                              | 40.0                     | 35.18                          | 88              | 68-128              |   |
| Perfluorododecanoic acid<br>(PFDoA)                              | 40.0                     | 38.97                          | 97              | 72-132              |   |
| Perfluorotridecanoic Acid<br>(PFTriA)                            | 40.0                     | 39.82                          | 100             | 56-163              |   |
| Perfluorotetradecanoic acid<br>(PFTeA)                           | 40.0                     | 34.97                          | 87              | 63-123              |   |
| Perfluorobutanesulfonic acid<br>(PFBS)                           | 35.4                     | 35.75                          | 101             | 79-139              |   |
| Perfluorohexanesulfonic acid<br>(PFHxS)                          | 36.4                     | 32.81                          | 90              | 77-137              |   |
| Perfluoroheptanesulfonic Acid<br>(PFHpS)                         | 38.1                     | 40.08                          | 105             | 83-143              |   |
| Perfluorooctanesulfonic acid<br>(PFOS)                           | 37.1                     | 34.29                          | 92              | 74-134              |   |
| Perfluorodecanesulfonic acid<br>(PFDS)                           | 38.6                     | 38.32                          | 99              | 75-135              |   |
| Perfluorooctane Sulfonamide<br>(FOSA)                            | 40.0                     | 36.78                          | 92              | 82-142              |   |
| N-methyl perfluorooctane<br>sulfonamidoacetic acid<br>(NMeFOSAA) | 40.0                     | 37.11                          | 93              | 77-137              |   |
| N-ethyl perfluorooctane<br>sulfonamidoacetic acid<br>(NEtFOSAA)  | 40.0                     | 37.68                          | 94              | 79-139              |   |
| 6:2FTS                                                           | 37.9                     | 34.72                          | 92              | 82-142              |   |
| 8:2FTS                                                           | 38.3                     | 36.17                          | 94              | 80-140              |   |
| 13C4 PFBA                                                        | 100                      | 78.40                          | 78              | 25-150              |   |
| 13C5 PFPeA                                                       | 100                      | 80.68                          | 81              | 25-150              |   |
| 13C2 PFHxA                                                       | 100                      | 81.26                          | 81              | 25-150              |   |
| 13C4-PFHpA                                                       | 100                      | 81.97                          | 82              | 25-150              |   |
| 13C4 PFOA                                                        | 100                      | 90.66                          | 91              | 25-150              |   |
| 13C5 PFNA                                                        | 100                      | 81.85                          | 82              | 25-150              |   |
| 13C2 PFDA                                                        | 100                      | 82.11                          | 82              | 25-150              |   |
| 13C2 PFUnA                                                       | 100                      | 84.67                          | 85              | 25-150              |   |
| 13C2 PFDoA                                                       | 100                      | 84.83                          | 85              | 25-150              |   |

# Column to be used to flag recovery and RPD values

FORM III  
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.28LLD\_003.d  
 Lab ID: LCS 320-201396/2-A Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ng/L) | LCS<br>CONCENTRATION<br>(ng/L) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|-------------|--------------------------|--------------------------------|-----------------|---------------------|---|
| 13C2-PFTeDA | 100                      | 100.6                          | 101             | 25-150              |   |
| 13C3-PFBS   | 93.0                     | 76.30                          | 82              | 25-150              |   |
| 18O2 PFHxS  | 94.6                     | 75.00                          | 79              | 25-150              |   |
| 13C4 PFOS   | 95.6                     | 77.63                          | 81              | 25-150              |   |
| 13C8 FOSA   | 100                      | 73.88                          | 74              | 25-150              |   |
| d3-NMeFOSAA | 100                      | 85.25                          | 85              | 25-150              |   |
| d5-NEtFOSAA | 100                      | 84.61                          | 85              | 25-150              |   |
| M2-6:2FTS   | 95.0                     | 84.31                          | 89              | 25-150              |   |
| M2-8:2FTS   | 95.8                     | 79.74                          | 83              | 25-150              |   |

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

FORM III  
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento

Job No.: 320-34293-1

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

Matrix: Water Level: Low

Lab File ID: 2017.12.28LLD\_006.d

Lab ID: 320-34293-2 MS

Client ID: MW-6S MS

| COMPOUND                                                   | SPIKE<br>ADDED<br>(ng/L) | SAMPLE<br>CONCENTRATION<br>(ng/L) | MS<br>CONCENTRATION<br>(ng/L) | MS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|------------------------------------------------------------|--------------------------|-----------------------------------|-------------------------------|----------------|---------------------|---|
| Perfluorobutanoic acid (PFBA)                              | 35.4                     | 7.88                              | 43.35                         | 100            | 78-138              |   |
| Perfluoropentanoic acid (PFPeA)                            | 35.4                     | 7.58                              | 43.03                         | 100            | 66-136              |   |
| Perfluorohexanoic acid (PFHxA)                             | 35.4                     | 8.33                              | 43.49                         | 99             | 76-136              |   |
| Perfluoroheptanoic acid (PFHpA)                            | 35.4                     | 7.16                              | 39.97                         | 93             | 78-138              |   |
| Perfluorooctanoic acid (PFOA)                              | 35.4                     | 19.9                              | 53.25                         | 94             | 70-130              |   |
| Perfluorononanoic acid (PFNA)                              | 35.4                     | 5.97                              | 42.27                         | 103            | 77-137              |   |
| Perfluorodecanoic acid (PFDA)                              | 35.4                     | 1.03 J                            | 35.97                         | 99             | 74-134              |   |
| Perfluoroundecanoic acid (PFUnA)                           | 35.4                     | 0.99 U                            | 33.36                         | 94             | 68-128              |   |
| Perfluorododecanoic acid (PFDoA)                           | 35.4                     | 0.50 U                            | 37.91                         | 107            | 72-132              |   |
| Perfluorotridecanoic Acid (PFTriA)                         | 35.4                     | 1.17 U                            | 41.37                         | 117            | 56-163              |   |
| Perfluorotetradecanoic acid (PFTeA)                        | 35.4                     | 0.26 U                            | 36.21                         | 102            | 63-123              |   |
| Perfluorobutanesulfonic acid (PFBS)                        | 31.3                     | 4.64                              | 36.05                         | 100            | 79-139              |   |
| Perfluorohexanesulfonic acid (PFHxS)                       | 32.2                     | 2.17                              | 33.93                         | 99             | 77-137              |   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 33.7                     | 1.37 J                            | 36.90                         | 106            | 83-143              |   |
| Perfluorooctanesulfonic acid (PFOS)                        | 32.8                     | 42.4                              | 74.16                         | 97             | 74-134              |   |
| Perfluorodecanesulfonic acid (PFDS)                        | 34.1                     | 0.29 U                            | 32.36                         | 95             | 75-135              |   |
| Perfluorooctane Sulfonamide (FOSA)                         | 35.4                     | 0.82 J                            | 36.45                         | 101            | 82-142              |   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 35.4                     | 2.79 U                            | 33.43                         | 95             | 77-137              |   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 35.4                     | 1.71 U                            | 33.86                         | 96             | 79-139              |   |
| 6:2FTS                                                     | 33.5                     | 1.80 U                            | 29.33                         | 87             | 82-142              |   |
| 8:2FTS                                                     | 33.9                     | 1.80 U                            | 30.83                         | 91             | 80-140              |   |
| 13C4 PFBA                                                  | 88.4                     | 55.6                              | 59.29                         | 67             | 25-150              |   |
| 13C5 PFPeA                                                 | 88.4                     | 68.6                              | 72.67                         | 82             | 25-150              |   |
| 13C2 PFHxA                                                 | 88.4                     | 64.7                              | 73.02                         | 83             | 25-150              |   |
| 13C4-PFHpA                                                 | 88.4                     | 68.8                              | 74.85                         | 85             | 25-150              |   |
| 13C4 PFOA                                                  | 88.4                     | 75.9                              | 80.38                         | 91             | 25-150              |   |
| 13C5 PFNA                                                  | 88.4                     | 70.9                              | 76.47                         | 86             | 25-150              |   |
| 13C2 PFDA                                                  | 88.4                     | 76.4                              | 76.41                         | 86             | 25-150              |   |
| 13C2 PFUnA                                                 | 88.4                     | 73.8                              | 73.26                         | 83             | 25-150              |   |
| 13C2 PFDoA                                                 | 88.4                     | 72.7                              | 70.63                         | 80             | 25-150              |   |

# Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III  
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.28LLD\_006.d  
 Lab ID: 320-34293-2 MS Client ID: MW-6S MS

| COMPOUND    | SPIKE<br>ADDED<br>(ng/L) | SAMPLE<br>CONCENTRATION<br>(ng/L) | MS<br>CONCENTRATION<br>(ng/L) | MS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|-------------|--------------------------|-----------------------------------|-------------------------------|----------------|---------------------|---|
| 13C2-PFTeDA | 88.4                     | 76.3                              | 80.36                         | 91             | 25-150              |   |
| 13C3-PFBS   | 82.2                     | 62.0                              | 70.55                         | 86             | 25-150              |   |
| 18O2 PFHxS  | 83.6                     | 66.4                              | 68.19                         | 82             | 25-150              |   |
| 13C4 PFOS   | 84.5                     | 66.6                              | 70.94                         | 84             | 25-150              |   |
| 13C8 FOSA   | 88.4                     | 62.1                              | 65.01                         | 74             | 25-150              |   |
| d3-NMeFOSAA | 88.4                     | 70.0                              | 75.34                         | 85             | 25-150              |   |
| d5-NEtFOSAA | 88.4                     | 76.5                              | 72.45                         | 82             | 25-150              |   |
| M2-6:2FTS   | 84.0                     | 99.3                              | 89.35                         | 106            | 25-150              |   |
| M2-8:2FTS   | 84.7                     | 81.2                              | 76.04                         | 90             | 25-150              |   |

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

FORM III  
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.23LLBxB\_009.d  
 Lab ID: 480-128901-E-19-B MS Client ID: \_\_\_\_\_

| COMPOUND                                                   | SPIKE<br>ADDED<br>(ng/L) | SAMPLE<br>CONCENTRATION<br>(ng/L) | MS<br>CONCENTRATION<br>(ng/L) | MS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|------------------------------------------------------------|--------------------------|-----------------------------------|-------------------------------|----------------|---------------------|---|
| Perfluorobutanoic acid (PFBA)                              | 40.1                     | 5.04                              | 45.19                         | 100            | 78-138              |   |
| Perfluoropentanoic acid (PFPeA)                            | 40.1                     | 2.78                              | 39.98                         | 93             | 66-136              |   |
| Perfluorohexanoic acid (PFHxA)                             | 40.1                     | 2.75                              | 41.65                         | 97             | 76-136              |   |
| Perfluoroheptanoic acid (PFHpA)                            | 40.1                     | 1.78 J                            | 42.47                         | 102            | 78-138              |   |
| Perfluorooctanoic acid (PFOA)                              | 40.1                     | 3.93                              | 43.68                         | 99             | 70-130              |   |
| Perfluorononanoic acid (PFNA)                              | 40.1                     | 0.39 J                            | 40.74                         | 101            | 77-137              |   |
| Perfluorodecanoic acid (PFDA)                              | 40.1                     | 0.34 J                            | 40.52                         | 100            | 74-134              |   |
| Perfluoroundecanoic acid (PFUnA)                           | 40.1                     | 1.08 U                            | 36.32                         | 91             | 68-128              |   |
| Perfluorododecanoic acid (PFDoA)                           | 40.1                     | 0.54 U                            | 39.55                         | 99             | 72-132              |   |
| Perfluorotridecanoic Acid (PFTriA)                         | 40.1                     | 1.27 U                            | 44.60                         | 111            | 56-163              |   |
| Perfluorotetradecanoic acid (PFTeA)                        | 40.1                     | 0.28 U                            | 41.75                         | 104            | 63-123              |   |
| Perfluorobutanesulfonic acid (PFBS)                        | 35.4                     | 1.59 J                            | 38.46                         | 104            | 79-139              |   |
| Perfluorohexanesulfonic acid (PFHxS)                       | 36.5                     | 1.52 J                            | 37.56                         | 99             | 77-137              |   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 38.2                     | 0.19 U                            | 40.35                         | 106            | 83-143              |   |
| Perfluorooctanesulfonic acid (PFOS)                        | 37.2                     | 11.7                              | 45.47                         | 91             | 74-134              |   |
| Perfluorodecanesulfonic acid (PFDS)                        | 38.6                     | 0.31 U                            | 36.66                         | 95             | 75-135              |   |
| Perfluorooctane Sulfonamide (FOSA)                         | 40.1                     | 0.34 U                            | 41.14                         | 103            | 82-142              |   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 40.1                     | 3.03 U                            | 37.60                         | 94             | 77-137              |   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 40.1                     | 1.86 U                            | 36.02                         | 90             | 79-139              |   |
| 6:2FTS                                                     | 38.0                     | 5.58 J                            | 39.62                         | 90             | 82-142              |   |
| 8:2FTS                                                     | 38.4                     | 1.96 U                            | 36.28                         | 94             | 80-140              |   |
| 13C4 PFBA                                                  | 100                      | 62.0                              | 58.97                         | 59             | 25-150              |   |
| 13C5 PFPeA                                                 | 100                      | 94.5                              | 90.18                         | 90             | 25-150              |   |
| 13C2 PFHxA                                                 | 100                      | 95.7                              | 87.95                         | 88             | 25-150              |   |
| 13C4-PFHpA                                                 | 100                      | 104                               | 96.31                         | 96             | 25-150              |   |
| 13C4 PFOA                                                  | 100                      | 103                               | 96.09                         | 96             | 25-150              |   |
| 13C5 PFNA                                                  | 100                      | 110                               | 102.3                         | 102            | 25-150              |   |
| 13C2 PFDA                                                  | 100                      | 111                               | 104.4                         | 104            | 25-150              |   |
| 13C2 PFUnA                                                 | 100                      | 111                               | 101.6                         | 101            | 25-150              |   |
| 13C2 PFDoA                                                 | 100                      | 103                               | 95.34                         | 95             | 25-150              |   |

# Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III  
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.23LLBxB\_009.d  
 Lab ID: 480-128901-E-19-B MS Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ng/L) | SAMPLE<br>CONCENTRATION<br>(ng/L) | MS<br>CONCENTRATION<br>(ng/L) | MS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|-------------|--------------------------|-----------------------------------|-------------------------------|----------------|---------------------|---|
| 13C2-PFTeDA | 100                      | 119                               | 108.8                         | 109            | 25-150              |   |
| 13C3-PFBS   | 93.2                     | 96.3                              | 89.51                         | 96             | 25-150              |   |
| 18O2 PFHxS  | 94.8                     | 98.0                              | 91.89                         | 97             | 25-150              |   |
| 13C4 PFOS   | 95.8                     | 104                               | 97.26                         | 102            | 25-150              |   |
| 13C8 FOSA   | 100                      | 107                               | 97.74                         | 98             | 25-150              |   |
| d3-NMeFOSAA | 100                      | 115                               | 101.3                         | 101            | 25-150              |   |
| d5-NEtFOSAA | 100                      | 115                               | 104.0                         | 104            | 25-150              |   |
| M2-6:2FTS   | 95.2                     | 91.3                              | 83.18                         | 87             | 25-150              |   |
| M2-8:2FTS   | 96.0                     | 127                               | 106.4                         | 111            | 25-150              |   |

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



FORM III  
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento

Job No.: 320-34293-1

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

Matrix: Water Level: Low

Lab File ID: 2017.12.28LLD\_007.d

Lab ID: 320-34293-2 MSD

Client ID: MW-6S MSD

| COMPOUND                                                   | SPIKE<br>ADDED<br>(ng/L) | MSD<br>CONCENTRATION<br>(ng/L) | MSD<br>%<br>REC | %<br>RPD | QC LIMITS |        | # |
|------------------------------------------------------------|--------------------------|--------------------------------|-----------------|----------|-----------|--------|---|
|                                                            |                          |                                |                 |          | RPD       | REC    |   |
| Perfluorobutanoic acid (PFBA)                              | 35.7                     | 42.63                          | 97              | 2        | 30        | 78-138 |   |
| Perfluoropentanoic acid (PFPeA)                            | 35.7                     | 42.64                          | 98              | 1        | 30        | 66-136 |   |
| Perfluorohexanoic acid (PFHxA)                             | 35.7                     | 41.47                          | 93              | 5        | 30        | 76-136 |   |
| Perfluoroheptanoic acid (PFHpA)                            | 35.7                     | 41.08                          | 95              | 3        | 30        | 78-138 |   |
| Perfluorooctanoic acid (PFOA)                              | 35.7                     | 50.64                          | 86              | 5        | 30        | 70-130 |   |
| Perfluorononanoic acid (PFNA)                              | 35.7                     | 40.57                          | 97              | 4        | 30        | 77-137 |   |
| Perfluorodecanoic acid (PFDA)                              | 35.7                     | 37.88                          | 103             | 5        | 30        | 74-134 |   |
| Perfluoroundecanoic acid (PFUnA)                           | 35.7                     | 31.01                          | 87              | 7        | 30        | 68-128 |   |
| Perfluorododecanoic acid (PFDoA)                           | 35.7                     | 36.76                          | 103             | 3        | 30        | 72-132 |   |
| Perfluorotridecanoic Acid (PFTriA)                         | 35.7                     | 40.10                          | 112             | 3        | 30        | 56-163 |   |
| Perfluorotetradecanoic acid (PFTeA)                        | 35.7                     | 33.92                          | 95              | 7        | 30        | 63-123 |   |
| Perfluorobutanesulfonic acid (PFBS)                        | 31.5                     | 36.53                          | 101             | 1        | 30        | 79-139 |   |
| Perfluorohexanesulfonic acid (PFHxS)                       | 32.4                     | 33.05                          | 95              | 3        | 30        | 77-137 |   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 33.9                     | 38.51                          | 109             | 4        | 30        | 83-143 |   |
| Perfluorooctanesulfonic acid (PFOS)                        | 33.1                     | 76.84                          | 104             | 4        | 30        | 74-134 |   |
| Perfluorodecanesulfonic acid (PFDS)                        | 34.4                     | 31.93                          | 93              | 1        | 30        | 75-135 |   |
| Perfluorooctane Sulfonamide (FOSA)                         | 35.7                     | 35.72                          | 98              | 2        | 30        | 82-142 |   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 35.7                     | 34.30                          | 96              | 3        | 30        | 77-137 |   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 35.7                     | 35.22                          | 99              | 4        | 30        | 79-139 |   |
| 6:2FTS                                                     | 33.8                     | 33.03                          | 98              | 12       | 30        | 82-142 |   |
| 8:2FTS                                                     | 34.2                     | 31.02                          | 91              | 1        | 30        | 80-140 |   |
| 13C4 PFBA                                                  | 89.1                     | 63.26                          | 71              |          |           | 25-150 |   |
| 13C5 PFPeA                                                 | 89.1                     | 78.13                          | 88              |          |           | 25-150 |   |
| 13C2 PFHxA                                                 | 89.1                     | 79.16                          | 89              |          |           | 25-150 |   |
| 13C4-PFHpA                                                 | 89.1                     | 80.30                          | 90              |          |           | 25-150 |   |
| 13C4 PFOA                                                  | 89.1                     | 82.20                          | 92              |          |           | 25-150 |   |
| 13C5 PFNA                                                  | 89.1                     | 80.55                          | 90              |          |           | 25-150 |   |
| 13C2 PFDA                                                  | 89.1                     | 78.03                          | 88              |          |           | 25-150 |   |
| 13C2 PFUnA                                                 | 89.1                     | 76.36                          | 86              |          |           | 25-150 |   |
| 13C2 PFDoA                                                 | 89.1                     | 74.20                          | 83              |          |           | 25-150 |   |

# Column to be used to flag recovery and RPD values

FORM III 537 (modified)

FORM III  
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.28LLD\_007.d  
 Lab ID: 320-34293-2 MSD Client ID: MW-6S MSD

| COMPOUND    | SPIKE<br>ADDED<br>(ng/L) | MSD<br>CONCENTRATION<br>(ng/L) | MSD<br>%<br>REC | %<br>RPD | QC LIMITS |        | # |
|-------------|--------------------------|--------------------------------|-----------------|----------|-----------|--------|---|
|             |                          |                                |                 |          | RPD       | REC    |   |
| 13C2-PFTeDA | 89.1                     | 82.19                          | 92              |          |           | 25-150 |   |
| 13C3-PFBS   | 82.9                     | 71.29                          | 86              |          |           | 25-150 |   |
| 18O2 PFHxS  | 84.3                     | 72.34                          | 86              |          |           | 25-150 |   |
| 13C4 PFOS   | 85.2                     | 72.42                          | 85              |          |           | 25-150 |   |
| 13C8 FOSA   | 89.1                     | 69.59                          | 78              |          |           | 25-150 |   |
| d3-NMeFOSAA | 89.1                     | 80.08                          | 90              |          |           | 25-150 |   |
| d5-NEtFOSAA | 89.1                     | 76.30                          | 86              |          |           | 25-150 |   |
| M2-6:2FTS   | 84.7                     | 89.11                          | 105             |          |           | 25-150 |   |
| M2-8:2FTS   | 85.4                     | 85.20                          | 100             |          |           | 25-150 |   |

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

FORM III  
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.23LLBxB\_010.d  
 Lab ID: 480-128901-E-19-C MSD Client ID: \_\_\_\_\_

| COMPOUND                                                   | SPIKE<br>ADDED<br>(ng/L) | MSD<br>CONCENTRATION<br>(ng/L) | MSD<br>%<br>REC | %<br>RPD | QC LIMITS |        | #  |
|------------------------------------------------------------|--------------------------|--------------------------------|-----------------|----------|-----------|--------|----|
|                                                            |                          |                                |                 |          | RPD       | REC    |    |
| Perfluorobutanoic acid (PFBA)                              | 39.7                     | 44.69                          | 100             | 1        | 30        | 78-138 |    |
| Perfluoropentanoic acid (PFPeA)                            | 39.7                     | 40.62                          | 95              | 2        | 30        | 66-136 |    |
| Perfluorohexanoic acid (PFHxA)                             | 39.7                     | 40.98                          | 96              | 2        | 30        | 76-136 |    |
| Perfluoroheptanoic acid (PFHpA)                            | 39.7                     | 44.77                          | 108             | 5        | 30        | 78-138 |    |
| Perfluorooctanoic acid (PFOA)                              | 39.7                     | 41.36                          | 94              | 5        | 30        | 70-130 |    |
| Perfluorononanoic acid (PFNA)                              | 39.7                     | 39.30                          | 98              | 4        | 30        | 77-137 |    |
| Perfluorodecanoic acid (PFDA)                              | 39.7                     | 39.02                          | 97              | 4        | 30        | 74-134 |    |
| Perfluoroundecanoic acid (PFUnA)                           | 39.7                     | 36.30                          | 91              | 0        | 30        | 68-128 |    |
| Perfluorododecanoic acid (PFDoA)                           | 39.7                     | 38.60                          | 97              | 2        | 30        | 72-132 |    |
| Perfluorotridecanoic Acid (PFTriA)                         | 39.7                     | 42.01                          | 106             | 6        | 30        | 56-163 |    |
| Perfluorotetradecanoic acid (PFTeA)                        | 39.7                     | 40.18                          | 101             | 4        | 30        | 63-123 |    |
| Perfluorobutanesulfonic acid (PFBS)                        | 35.1                     | 40.11                          | 110             | 4        | 30        | 79-139 |    |
| Perfluorohexanesulfonic acid (PFHxS)                       | 36.1                     | 35.92                          | 95              | 4        | 30        | 77-137 |    |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | 37.8                     | 38.62                          | 102             | 4        | 30        | 83-143 |    |
| Perfluorooctanesulfonic acid (PFOS)                        | 36.9                     | 46.19                          | 93              | 2        | 30        | 74-134 |    |
| Perfluorodecanesulfonic acid (PFDS)                        | 38.3                     | 34.31                          | 90              | 7        | 30        | 75-135 |    |
| Perfluorooctane Sulfonamide (FOSA)                         | 39.7                     | 41.01                          | 103             | 0        | 30        | 82-142 |    |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 39.7                     | 37.49                          | 94              | 0        | 30        | 77-137 |    |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 39.7                     | 36.99                          | 93              | 3        | 30        | 79-139 |    |
| 6:2FTS                                                     | 37.6                     | 35.07                          | 78              | 12       | 30        | 82-142 | F1 |
| 8:2FTS                                                     | 38.0                     | 35.57                          | 93              | 2        | 30        | 80-140 |    |
| 13C4 PFBA                                                  | 99.3                     | 58.63                          | 59              |          |           | 25-150 |    |
| 13C5 PFPeA                                                 | 99.3                     | 86.89                          | 88              |          |           | 25-150 |    |
| 13C2 PFHxA                                                 | 99.3                     | 87.45                          | 88              |          |           | 25-150 |    |
| 13C4-PFHpA                                                 | 99.3                     | 95.04                          | 96              |          |           | 25-150 |    |
| 13C4 PFOA                                                  | 99.3                     | 99.05                          | 100             |          |           | 25-150 |    |
| 13C5 PFNA                                                  | 99.3                     | 102.3                          | 103             |          |           | 25-150 |    |
| 13C2 PFDA                                                  | 99.3                     | 102.6                          | 103             |          |           | 25-150 |    |
| 13C2 PFUnA                                                 | 99.3                     | 96.56                          | 97              |          |           | 25-150 |    |
| 13C2 PFDoA                                                 | 99.3                     | 95.49                          | 96              |          |           | 25-150 |    |

# Column to be used to flag recovery and RPD values

FORM III  
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 2017.12.23LLBxB\_010.d  
 Lab ID: 480-128901-E-19-C MSD Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ng/L) | MSD<br>CONCENTRATION<br>(ng/L) | MSD<br>%<br>REC | %<br>RPD | QC LIMITS |        | # |
|-------------|--------------------------|--------------------------------|-----------------|----------|-----------|--------|---|
|             |                          |                                |                 |          | RPD       | REC    |   |
| 13C2-PFTeDA | 99.3                     | 102.1                          | 103             |          |           | 25-150 |   |
| 13C3-PFBS   | 92.3                     | 84.59                          | 92              |          |           | 25-150 |   |
| 18O2 PFHxS  | 93.9                     | 93.19                          | 99              |          |           | 25-150 |   |
| 13C4 PFOS   | 94.9                     | 93.80                          | 99              |          |           | 25-150 |   |
| 13C8 FOSA   | 99.3                     | 93.16                          | 94              |          |           | 25-150 |   |
| d3-NMeFOSAA | 99.3                     | 99.76                          | 100             |          |           | 25-150 |   |
| d5-NEtFOSAA | 99.3                     | 100.7                          | 101             |          |           | 25-150 |   |
| M2-6:2FTS   | 94.3                     | 87.20                          | 92              |          |           | 25-150 |   |
| M2-8:2FTS   | 95.1                     | 100.8                          | 106             |          |           | 25-150 |   |

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

FORM IV  
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
SDG No.: \_\_\_\_\_  
Lab File ID: 2017.12.23LLBXB\_002.d Lab Sample ID: MB 320-200556/1-A  
Matrix: Water Date Extracted: 12/19/2017 15:25  
Instrument ID: A8\_N Date Analyzed: 12/23/2017 14:41  
Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

| CLIENT SAMPLE ID | LAB SAMPLE ID         | LAB<br>FILE ID            | DATE ANALYZED    |
|------------------|-----------------------|---------------------------|------------------|
|                  | LCS 320-200556/2-A    | 2017.12.23L<br>LBXB 003.d | 12/23/2017 14:49 |
|                  | 480-128901-E-19-B MS  | 2017.12.23L<br>LBXB 009.d | 12/23/2017 15:36 |
|                  | 480-128901-E-19-C MSD | 2017.12.23L<br>LBXB 010.d | 12/23/2017 15:44 |
| MW-X             | 320-34293-11          | 2017.12.27L<br>LA 052.d   | 12/27/2017 19:57 |

FORM IV  
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: 2017.12.28LLD\_002.d Lab Sample ID: MB 320-201396/1-A  
 Matrix: Water Date Extracted: 12/26/2017 18:34  
 Instrument ID: A8\_N Date Analyzed: 12/29/2017 07:47  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

| CLIENT SAMPLE ID         | LAB SAMPLE ID      | LAB<br>FILE ID          | DATE ANALYZED    |
|--------------------------|--------------------|-------------------------|------------------|
|                          | LCS 320-201396/2-A | 2017.12.28L<br>LD 003.d | 12/29/2017 07:54 |
| Equipment Blank 12-12-17 | 320-34293-1        | 2017.12.28L<br>LD 004.d | 12/29/2017 08:02 |
| MW-6S                    | 320-34293-2        | 2017.12.28L<br>LD 005.d | 12/29/2017 08:10 |
| MW-6S MS                 | 320-34293-2 MS     | 2017.12.28L<br>LD 006.d | 12/29/2017 08:18 |
| MW-6S MSD                | 320-34293-2 MSD    | 2017.12.28L<br>LD 007.d | 12/29/2017 08:26 |
| MW-6I                    | 320-34293-3        | 2017.12.28L<br>LD 008.d | 12/29/2017 08:34 |
| MW-10S                   | 320-34293-4        | 2017.12.28L<br>LD 009.d | 12/29/2017 08:41 |
| MW-10I                   | 320-34293-5        | 2017.12.28L<br>LD 010.d | 12/29/2017 08:49 |
| MW-1I                    | 320-34293-6        | 2017.12.28L<br>LD 011.d | 12/29/2017 08:57 |
| MW-1S                    | 320-34293-7        | 2017.12.28L<br>LD 013.d | 12/29/2017 09:13 |
| MW-9D                    | 320-34293-8        | 2017.12.28L<br>LD 014.d | 12/29/2017 09:20 |
| MW-9I                    | 320-34293-9        | 2017.12.28L<br>LD 015.d | 12/29/2017 09:28 |
| MW-9S                    | 320-34293-10       | 2017.12.28L<br>LD 016.d | 12/29/2017 09:36 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                                   |                                              |
|---------------------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u>           | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                                    |                                              |
| Client Sample ID: <u>Equipment Blank 12-12-17</u> | Lab Sample ID: <u>320-34293-1</u>            |
| Matrix: <u>Water</u>                              | Lab File ID: <u>2017.12.28LLD_004.d</u>      |
| Analysis Method: <u>537 (modified)</u>            | Date Collected: <u>12/12/2017 08:24</u>      |
| Extraction Method: <u>3535</u>                    | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>298.4 (mL)</u>                  | Date Analyzed: <u>12/29/2017 08:02</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>              | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>                   | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                                 | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>                 | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q   | RL   | MDL  |
|------------|------------------------------------------------------------|--------|-----|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 0.29   | J B | 1.68 | 0.29 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 0.41   | U   | 1.68 | 0.41 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 0.49   | U   | 1.68 | 0.49 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 0.21   | U   | 1.68 | 0.21 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 0.71   | U   | 1.68 | 0.71 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 0.23   | U   | 1.68 | 0.23 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 0.26   | U   | 1.68 | 0.26 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 0.92   | U   | 1.68 | 0.92 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.46   | U   | 1.68 | 0.46 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.09   | U   | 1.68 | 1.09 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.24   | U   | 1.68 | 0.24 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 0.17   | U   | 1.68 | 0.17 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 0.25   | J B | 1.68 | 0.14 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.16   | U   | 1.68 | 0.16 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 0.62   | J   | 1.68 | 0.45 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.27   | U   | 1.68 | 0.27 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 0.29   | U   | 1.68 | 0.29 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.60   | U   | 16.8 | 2.60 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.59   | U   | 16.8 | 1.59 |
| 27619-97-2 | 6:2FTS                                                     | 1.68   | U   | 16.8 | 1.68 |
| 39108-34-4 | 8:2FTS                                                     | 1.68   | U   | 16.8 | 1.68 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                                   |                                                     |
|---------------------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u>           | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                                    |                                                     |
| Client Sample ID: <u>Equipment Blank 12-12-17</u> | Lab Sample ID: <u>320-34293-1</u>                   |
| Matrix: <u>Water</u>                              | Lab File ID: <u>2017.12.28LLD_004.d</u>             |
| Analysis Method: <u>537 (modified)</u>            | Date Collected: <u>12/12/2017 08:24</u>             |
| Extraction Method: <u>3535</u>                    | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>298.4 (mL)</u>                  | Date Analyzed: <u>12/29/2017 08:02</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>              | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>                   | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                                 | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>                 | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 72   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 74   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 75   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 76   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 84   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 75   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 78   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 77   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 79   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 91   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 74   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 76   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 75   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 68   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 84   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 78   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 87   |   | 25-150 |
| STL02280 | M2-8:2FTS        | 77   |   | 25-150 |



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_004.d  
 Lims ID: 320-34293-A-1-A  
 Client ID: Equipment Blank 12-12-17  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 08:02:47 ALS Bottle#: 3 Worklist Smp#: 4  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-1-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:14:51 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:14:51

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|

## D 1 13C4 PFBA

217.00 &gt; 172.00 1.432 1.433 -0.001 0.539 6640488 1.81 72.4 18348

## 2 Perfluorobutyric acid

212.90 &gt; 169.00 1.432 1.434 -0.002 1.000 21194 0.008734 2.5

## 4 Perfluoropentanoic acid

262.90 &gt; 219.00 1.681 1.691 -0.010 1.000 13418 0.007522 7.6

## D 3 13C5-PFPeA

267.90 &gt; 223.00 1.681 1.692 -0.011 0.632 3975489 1.86 74.3 61406

## D 47 13C3-PFBS

301.90 &gt; 83.00 1.716 1.725 -0.009 0.646 79745 1.72 74.0 2518

## D 7 13C2 PFHxA

315.00 &gt; 270.00 1.966 1.976 -0.010 0.739 4323138 1.88 75.2 33067

## D 9 13C4-PFHpA

367.00 &gt; 322.00 2.306 2.311 -0.005 0.867 4077423 1.91 76.4 24652

## 8 Perfluorohexanesulfonic acid

399.00 &gt; 80.00 2.319 2.324 -0.005 1.000 16992 0.007594 80.1

399.00 &gt; 99.00 2.319 2.324 -0.005 1.000 3949 4.30(1.50-4.49) 25.4

## D 11 18O2 PFHxS

403.00 &gt; 84.00 2.319 2.328 -0.009 0.872 4842817 1.79 75.5 54885

## D 12 M2-6:2FTS

429.00 &gt; 81.00 2.637 2.649 -0.012 0.992 840934 2.08 87.4 19571

## 13 Sodium 1H,1H,2H,2H-perfluorooctane

427.00 &gt; 407.00 2.630 2.651 -0.021 0.997 6058 0.0102 315

## D 14 13C4 PFOA

417.00 &gt; 372.00 2.659 2.674 -0.015 1.000 4566302 2.10 83.8 46524

## \* 62 13C2-PFOA

415.00 &gt; 370.00 2.659 2.676 -0.017 5301077 2.50 43829

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)    | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|------------------|------|-------|-------|
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                  |      |       |       |
| 413.00 > 369.00                       | 2.666 | 2.677     | -0.011    | 1.003     | 10354    | 0.005355        |                  |      | 6.9   |       |
| 413.00 > 169.00                       | 2.666 | 2.677     | -0.011    | 1.003     | 4697     |                 | 2.20(0.84-2.52)  |      | 36.6  |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                  |      |       |       |
| 503.00 > 80.00                        | 3.032 | 3.048     | -0.016    | 1.140     | 3214682  | 1.79            |                  | 74.8 | 34725 |       |
| 17 Perfluorooctane sulfonic acid      |       |           |           |           |          |                 |                  |      |       |       |
| 499.00 > 80.00                        | 3.017 | 3.050     | -0.033    | 0.995     | 26622    | 0.0184          |                  |      | 2.8   | M     |
| 499.00 > 99.00                        | 3.032 | 3.050     | -0.018    | 1.000     | 1792     |                 | 14.86(2.31-6.93) |      | 2.7   | M     |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                  |      |       |       |
| 468.00 > 423.00                       | 3.032 | 3.051     | -0.019    | 1.140     | 3277094  | 1.88            |                  | 75.3 | 40547 |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                  |      |       |       |
| 506.00 > 78.00                        | 3.378 | 3.377     | 0.001     | 1.270     | 4141631  | 1.70            |                  | 68.2 | 26413 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                  |      |       |       |
| 498.00 > 78.00                        | 3.385 | 3.378     | 0.007     | 1.002     | 2538     | 0.001614        |                  |      | 98.7  |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                  |      |       |       |
| 529.00 > 81.00                        | 3.385 | 3.403     | -0.018    | 1.273     | 818160   | 1.84            |                  | 76.8 | 13977 |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                  |      |       |       |
| 515.00 > 470.00                       | 3.393 | 3.414     | -0.021    | 1.276     | 2752430  | 1.95            |                  | 77.8 | 30856 |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                  |      |       |       |
| 573.00 > 419.00                       | 3.551 | 3.569     | -0.018    | 1.336     | 1527396  | 2.09            |                  | 83.5 | 19189 |       |
| 28 N-methyl perfluorooctane sulfonami |       |           |           |           |          |                 |                  |      |       |       |
| 570.00 > 419.00                       | 3.551 | 3.574     | -0.023    | 1.000     | 3196     | 0.004941        |                  |      | 33.5  |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                  |      |       |       |
| 589.00 > 419.00                       | 3.723 | 3.740     | -0.017    | 1.400     | 1456697  | 1.95            |                  | 78.2 | 12613 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                  |      |       |       |
| 565.00 > 520.00                       | 3.723 | 3.747     | -0.024    | 1.400     | 2066841  | 1.93            |                  | 77.2 | 35494 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                  |      |       |       |
| 584.00 > 419.00                       | 3.723 | 3.747     | -0.024    | 1.000     | 3202     | 0.005693        |                  |      | 131   |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                  |      |       |       |
| 615.00 > 570.00                       | 4.020 | 4.045     | -0.025    | 1.512     | 2307047  | 1.98            |                  | 79.3 | 36421 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                  |      |       |       |
| 715.00 > 670.00                       | 4.527 | 4.557     | -0.030    | 1.703     | 2867442  | 2.27            |                  | 90.6 | 27650 |       |

## QC Flag Legend

Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_004.d

Injection Date: 29-Dec-2017 08:02:47

Instrument ID: A8\_N

Lims ID: 320-34293-A-1-A

Lab Sample ID: 320-34293-1

Client ID: Equipment Blank 12-12-17

Operator ID: SACINSTLCMS01

ALS Bottle#: 3

Worklist Smp#: 4

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

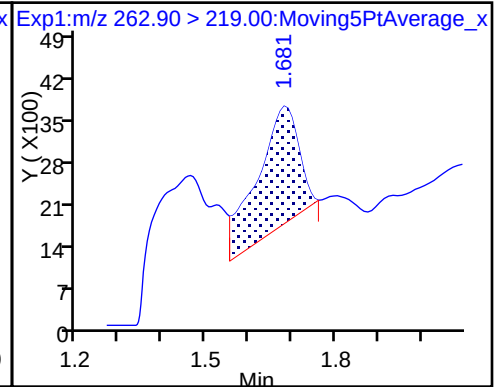
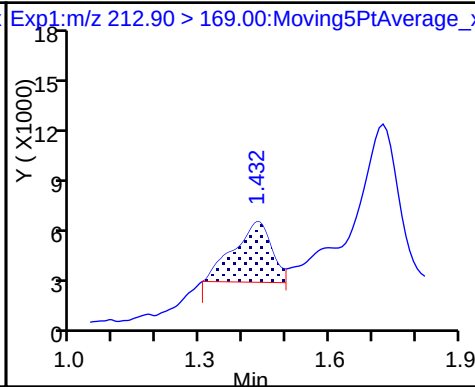
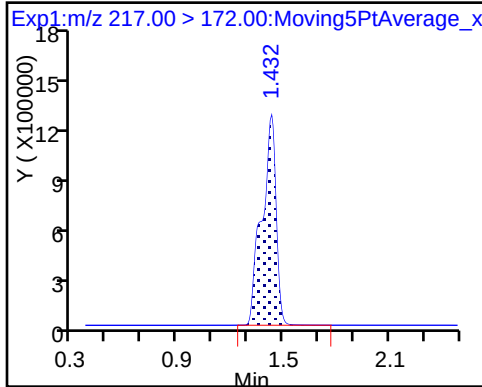
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

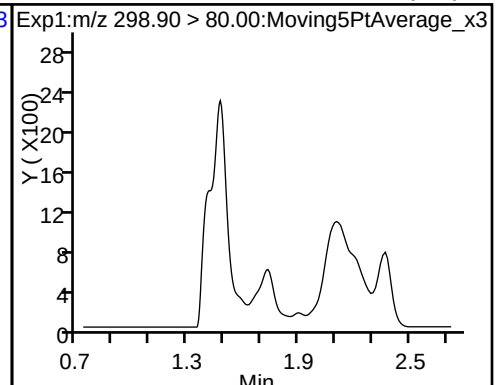
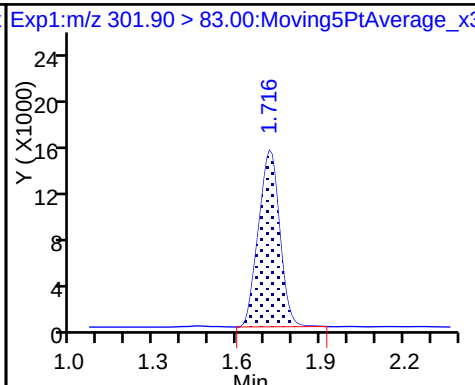
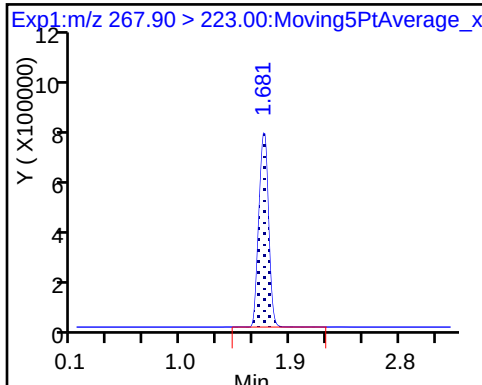
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

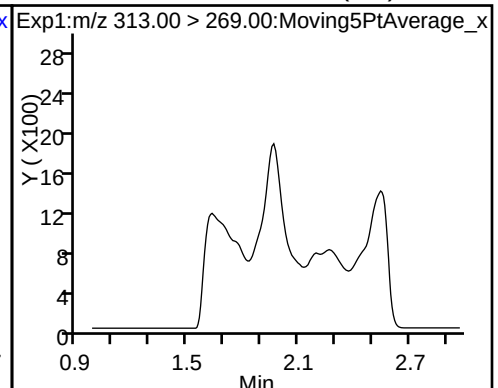
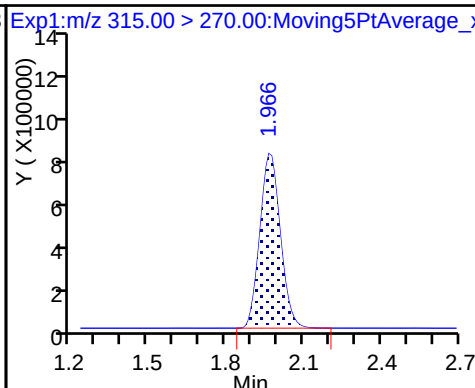
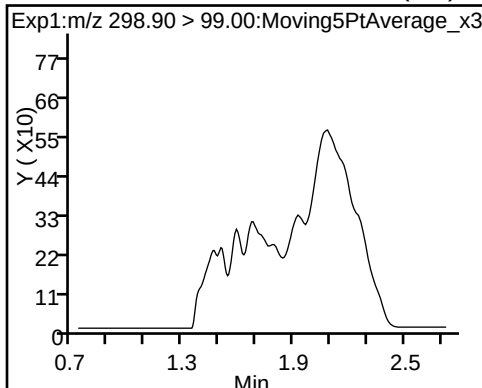
5 Perfluorobutanesulfonic acid (ND)



5 Perfluorobutanesulfonic acid (ND)

D 7 13C2 PFHxA

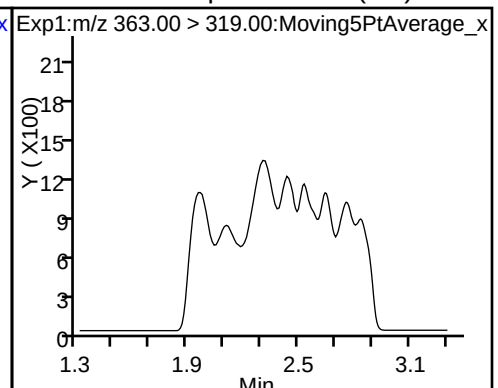
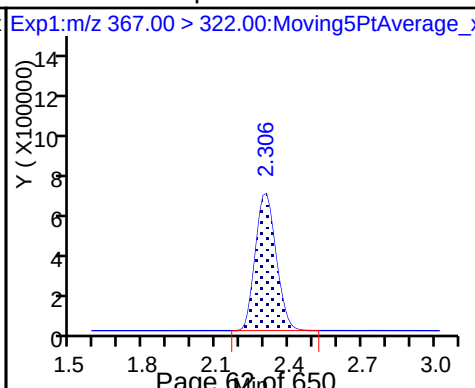
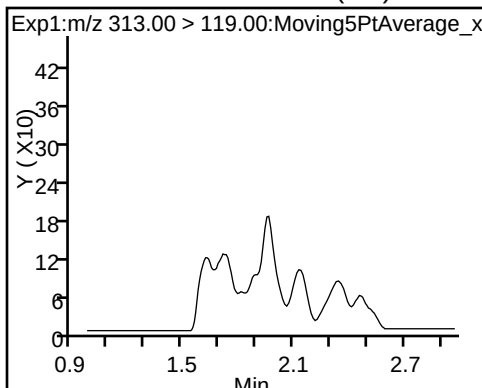
6 Perfluorohexanoic acid (ND)



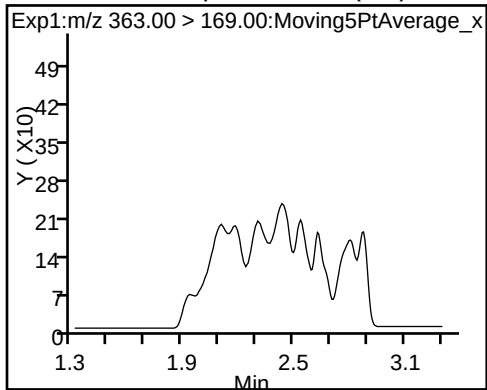
6 Perfluorohexanoic acid (ND)

D 9 13C4-PFHpA

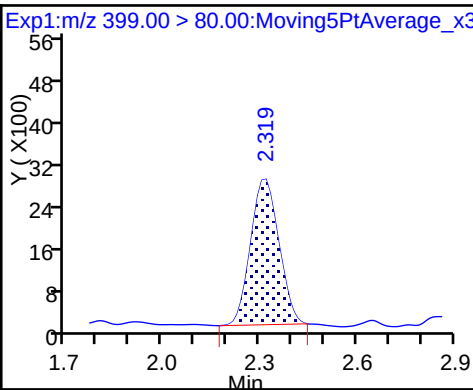
10 Perfluoroheptanoic acid (ND)



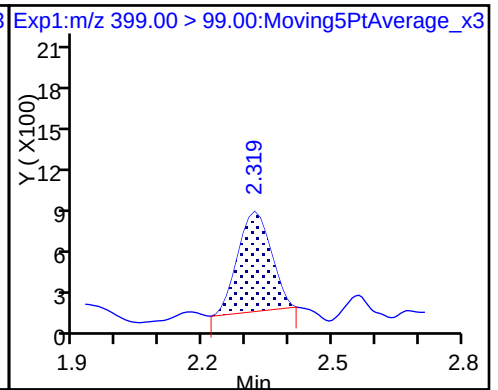
## 10 Perfluoroheptanoic acid (ND)



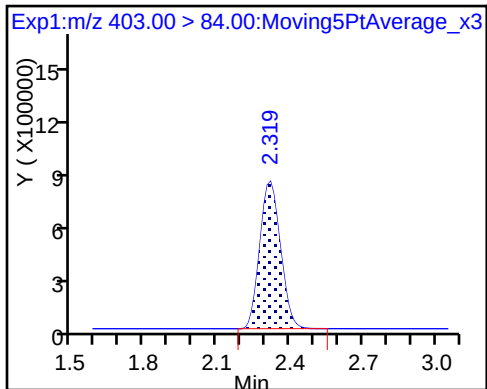
## 8 Perfluorohexanesulfonic acid



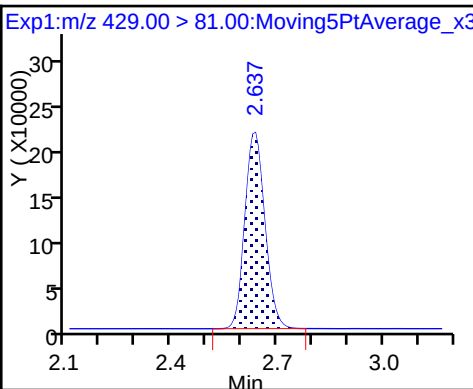
## 8 Perfluorohexanesulfonic acid



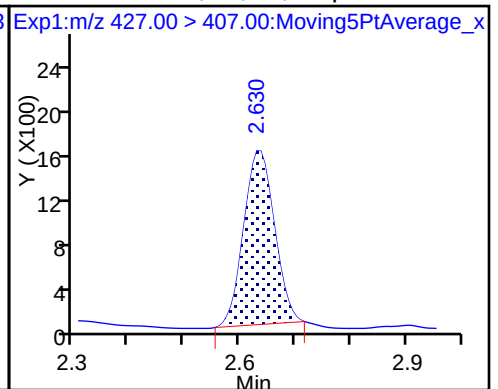
## D 11 18O2 PFHxS



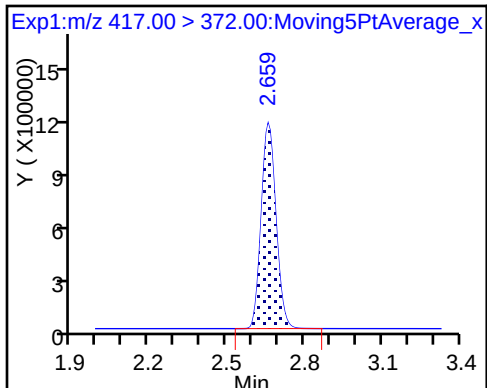
## D 12 M2-6:2FTS



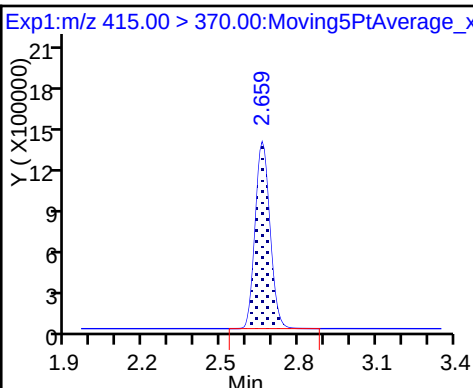
## 13 Sodium 1H,1H,2H,2H-perfluorooctane



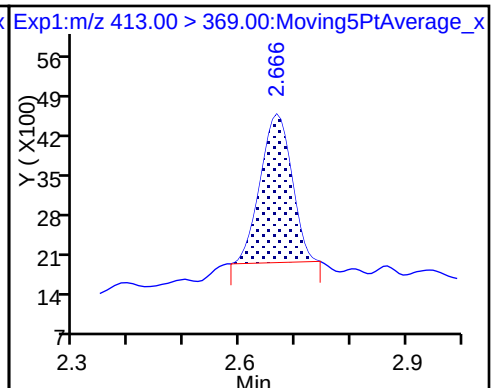
## D 14 13C4 PFOA



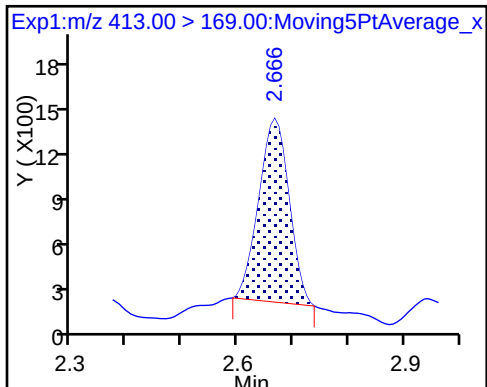
## \* 62 13C2-PFOA



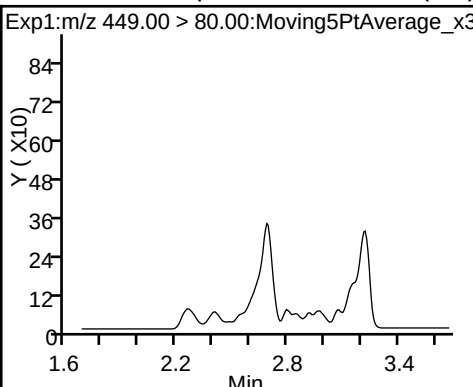
## 15 Perfluorooctanoic acid



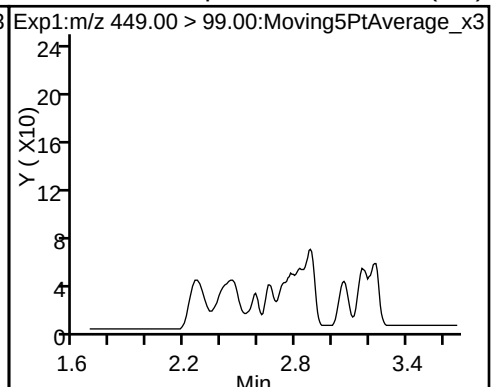
## 15 Perfluorooctanoic acid



## 16 Perfluoroheptanesulfonic Acid (ND)



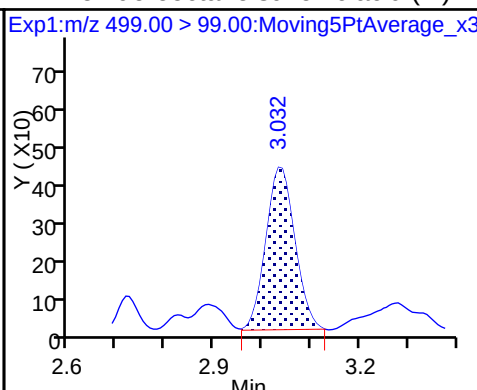
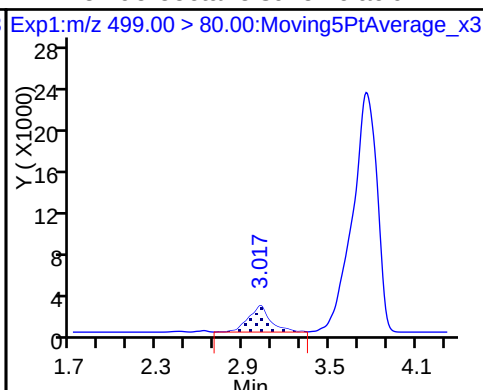
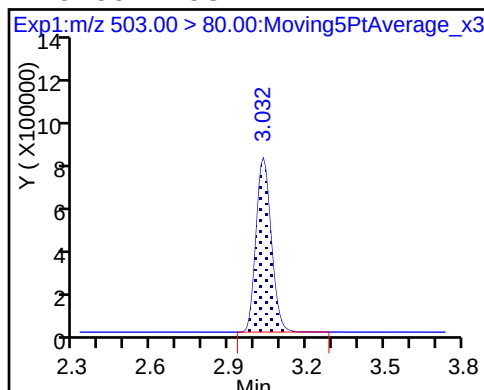
## 16 Perfluoroheptanesulfonic Acid (ND)



## D 18 13C4 PFOS

## 17 Perfluorooctane sulfonic acid

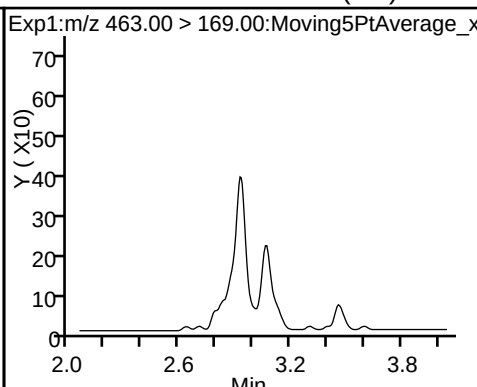
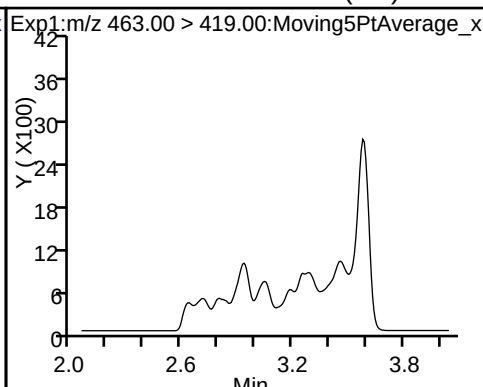
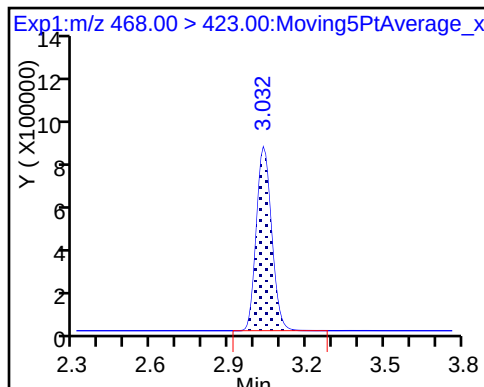
## 17 Perfluorooctane sulfonic acid (M)



## D 19 13C5 PFNA

## 20 Perfluorononanoic acid (ND)

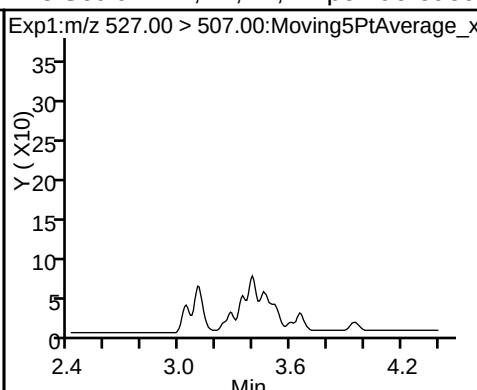
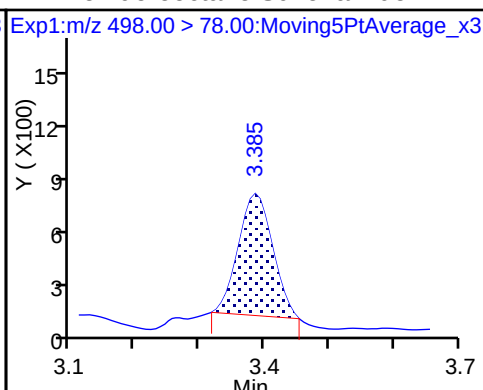
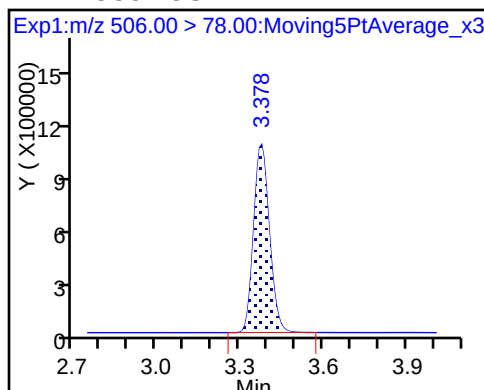
## 20 Perfluorononanoic acid (ND)



## D 21 13C8 FOSA

## 22 Perfluorooctane Sulfonamide

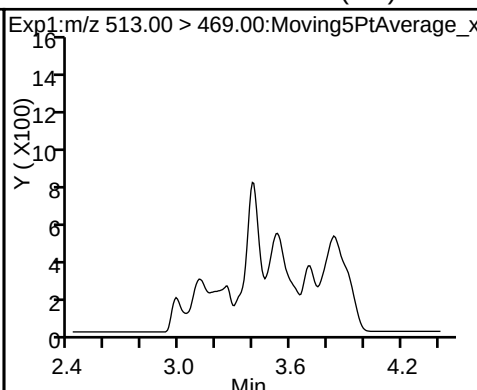
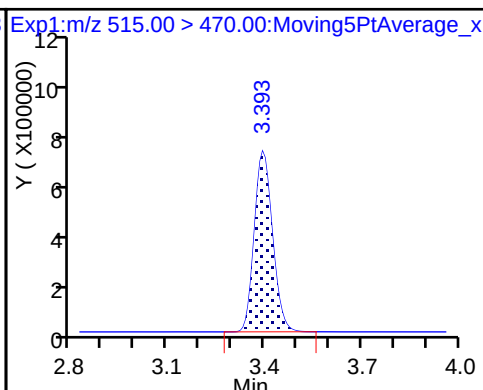
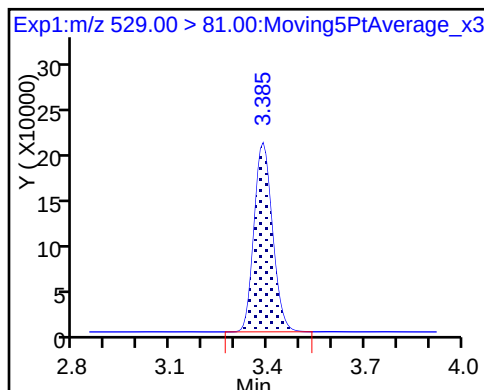
## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



## D 26 M2-8:2FTS

## D 23 13C2 PFDA

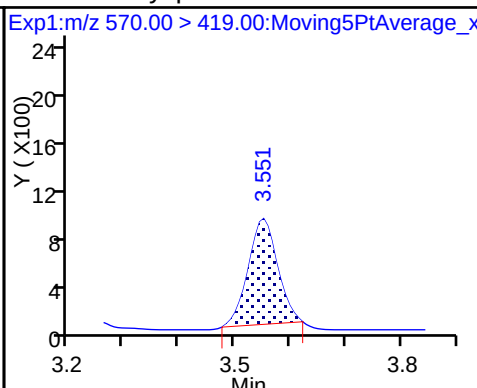
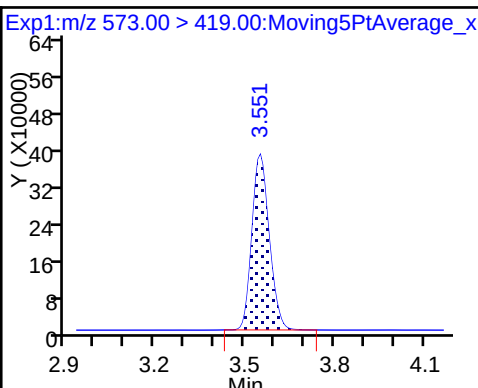
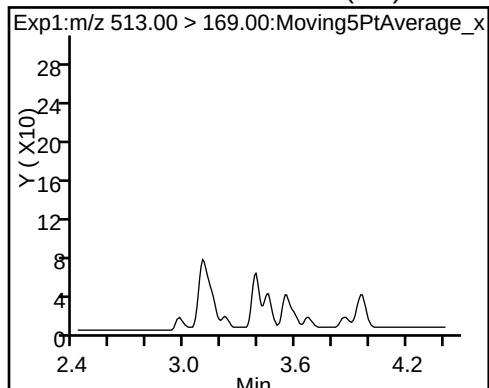
## 24 Perfluorodecanoic acid (ND)



## 24 Perfluorodecanoic acid (ND)

## D 27 d3-NMeFOSAA

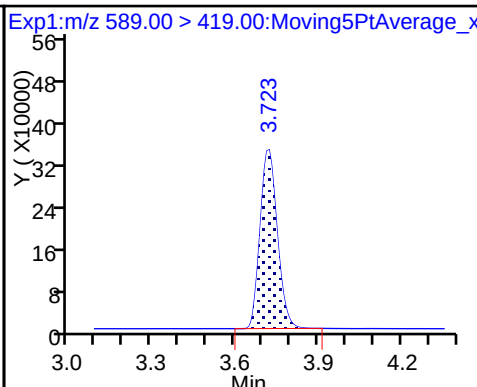
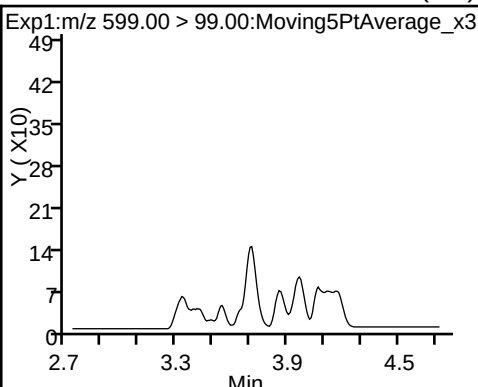
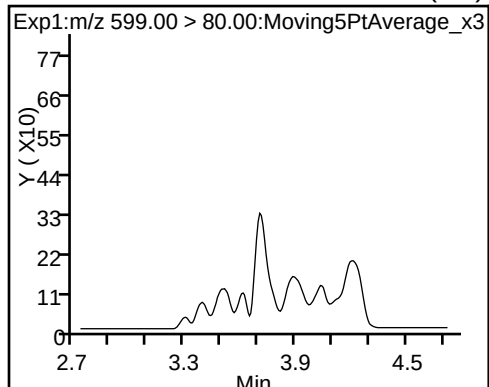
## 28 N-methyl perfluorooctane sulfonami



## 29 Perfluorodecane Sulfonic acid (ND)

## 29 Perfluorodecane Sulfonic acid (ND)

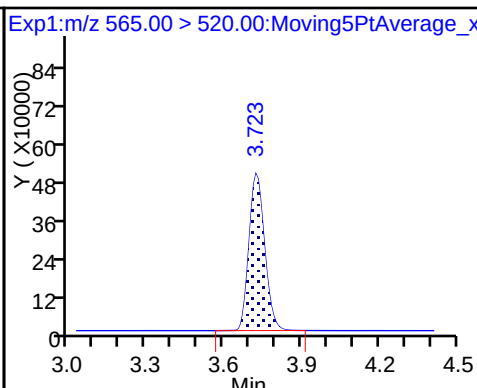
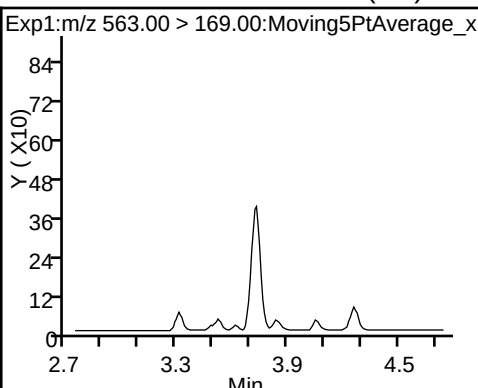
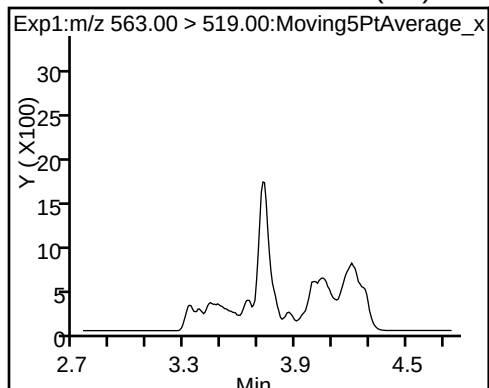
## D 32 d5-NEtFOSAA



## 31 Perfluoroundecanoic acid (ND)

## 31 Perfluoroundecanoic acid (ND)

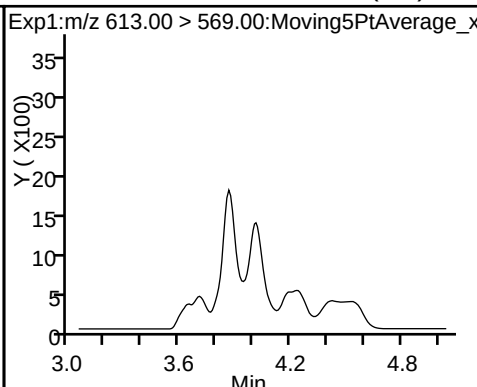
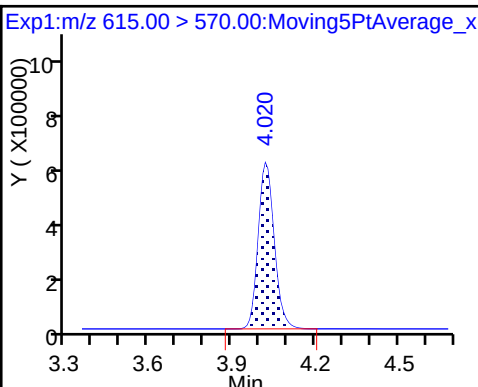
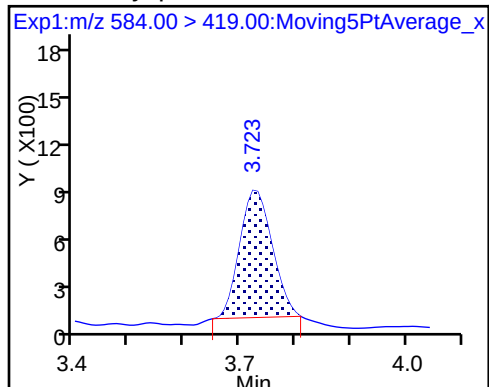
## D 30 13C2 PFUnA



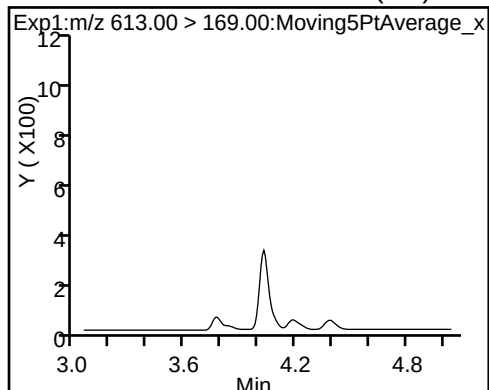
## 33 N-ethyl perfluorooctane sulfonamid

## D 36 13C2 PFDaA

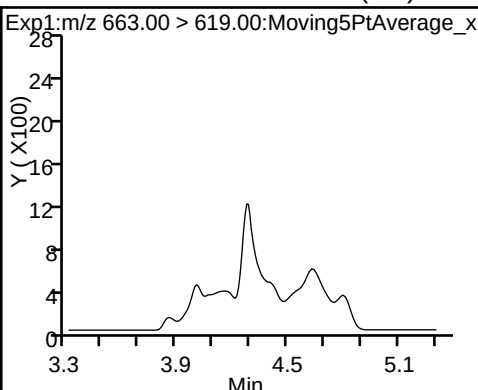
## 37 Perfluorododecanoic acid (ND)



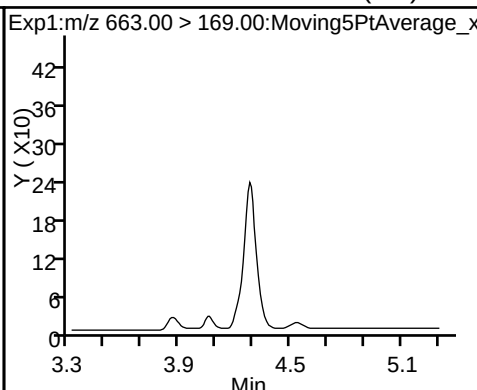
37 Perfluorododecanoic acid (ND)



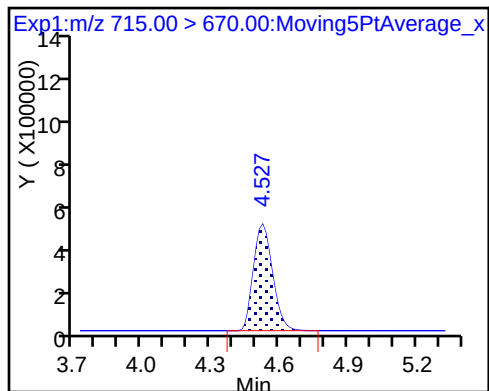
41 Perfluorotridecanoic acid (ND)



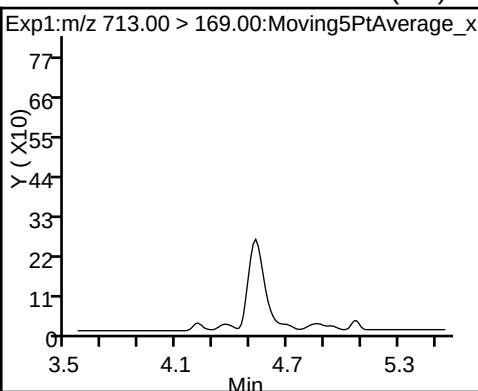
41 Perfluorotridecanoic acid (ND)



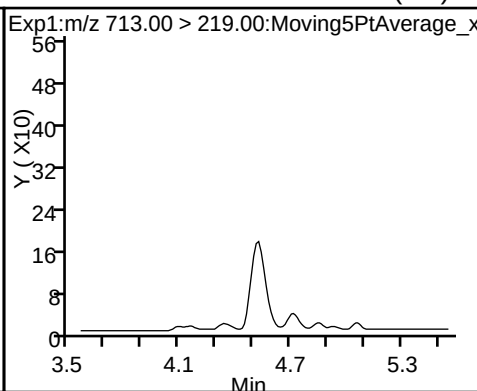
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



## TestAmerica Sacramento

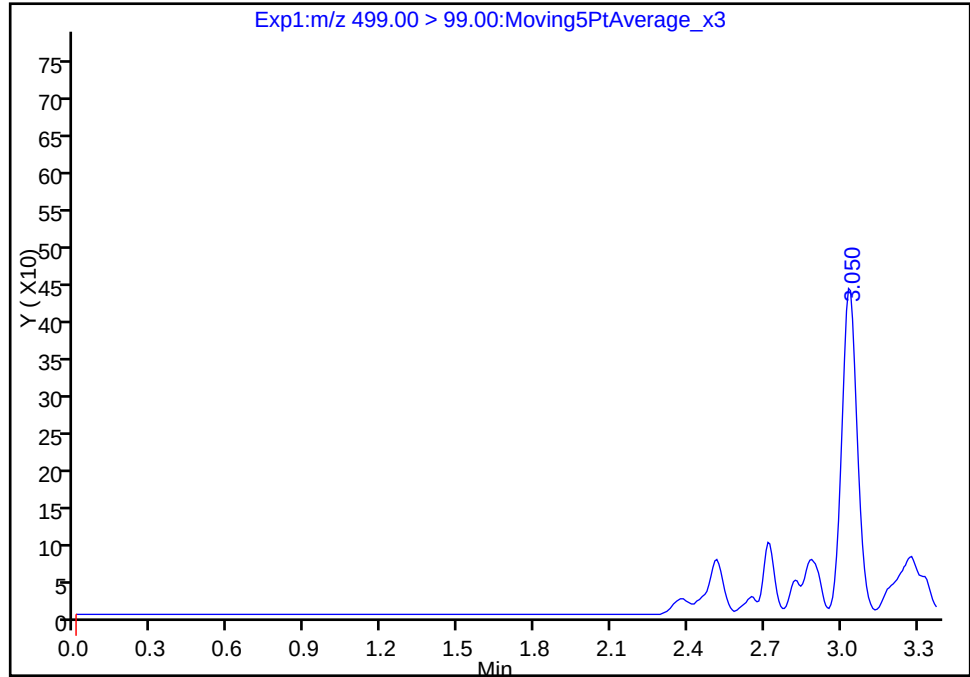
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_004.d  
Injection Date: 29-Dec-2017 08:02:47 Instrument ID: A8\_N  
Lims ID: 320-34293-A-1-A Lab Sample ID: 320-34293-1  
Client ID: Equipment Blank 12-12-17  
Operator ID: SACINSTLCMS01 ALS Bottle#: 3 Worklist Smp#: 4  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**17 Perfluorooctane sulfonic acid, CAS: 1763-23-1**

Signal: 2

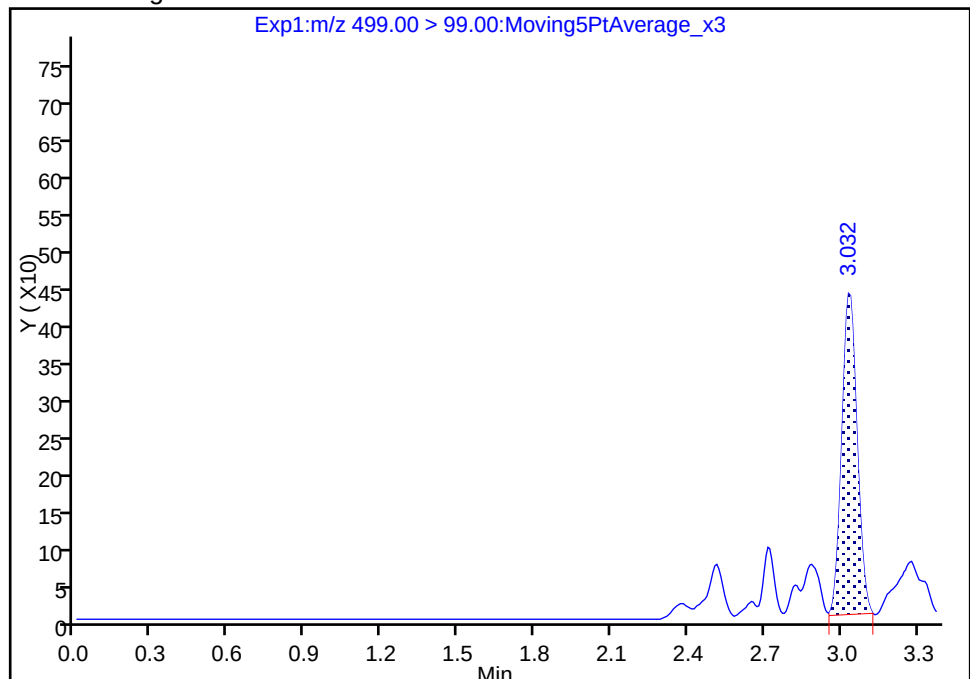
RT: 3.05  
Area: 0  
Amount: 0.018443  
Amount Units: ng/ml

## Processing Integration Results



RT: 3.03  
Area: 1792  
Amount: 0.018443  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:14:41  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-6S</u>          | Lab Sample ID: <u>320-34293-2</u>            |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_005.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 08:56</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>277.4 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:10</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 7.88   | B | 1.80 | 0.32 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 7.58   |   | 1.80 | 0.44 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 8.33   |   | 1.80 | 0.52 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 7.16   |   | 1.80 | 0.23 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 19.9   |   | 1.80 | 0.77 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 5.97   |   | 1.80 | 0.24 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 1.03   | J | 1.80 | 0.28 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 0.99   | U | 1.80 | 0.99 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.50   | U | 1.80 | 0.50 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.17   | U | 1.80 | 1.17 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.26   | U | 1.80 | 0.26 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 4.64   |   | 1.80 | 0.18 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 2.17   | B | 1.80 | 0.15 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 1.37   | J | 1.80 | 0.17 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 42.4   |   | 1.80 | 0.49 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.29   | U | 1.80 | 0.29 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 0.82   | J | 1.80 | 0.32 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.79   | U | 18.0 | 2.79 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.71   | U | 18.0 | 1.71 |
| 27619-97-2 | 6:2FTS                                                     | 1.80   | U | 18.0 | 1.80 |
| 39108-34-4 | 8:2FTS                                                     | 1.80   | U | 18.0 | 1.80 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-6S</u>          | Lab Sample ID: <u>320-34293-2</u>                   |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_005.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 08:56</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>277.4 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:10</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 62   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 76   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 72   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 76   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 84   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 79   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 85   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 82   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 81   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 85   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 74   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 78   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 77   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 69   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 78   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 85   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 116  |   | 25-150 |
| STL02280 | M2-8:2FTS        | 94   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_005.d  
 Lims ID: 320-34293-A-2-A  
 Client ID: MW-6S  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 08:10:36 ALS Bottle#: 4 Worklist Smp#: 5  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-2-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:16:27 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:16:27

| Signal                         | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|--------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                  |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                | 1.427 | 1.433  | -0.006 | 0.537  | 5978464  | 1.54         |                   | 61.7 | 17532 |       |
| 2 Perfluorobutyric acid        |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                | 1.427 | 1.434  | -0.007 | 1.000  | 477769   | 0.2187       |                   |      | 69.1  |       |
| 4 Perfluoropentanoic acid      |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                | 1.681 | 1.691  | -0.010 | 1.000  | 405554   | 0.2103       |                   |      | 105   |       |
| D 3 13C5-PFPeA                 |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                | 1.681 | 1.692  | -0.011 | 0.632  | 4298800  | 1.90         |                   | 76.1 | 25193 |       |
| D 47 13C3-PFBS                 |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                 | 1.717 | 1.725  | -0.008 | 0.646  | 84230    | 1.72         |                   | 74.0 | 1121  |       |
| 5 Perfluorobutanesulfonic acid |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                 | 1.717 | 1.730  | -0.013 | 1.000  | 349150   | 0.1288       |                   |      | 187   |       |
| 298.90 > 99.00                 | 1.717 | 1.730  | -0.013 | 1.000  | 128904   |              | 2.71(1.25-3.74)   |      | 217   |       |
| D 60 M2-4:2FTS                 |       |        |        |        |          |              |                   |      |       |       |
| 329.00 > 81.00                 | 1.935 | 1.955  | -0.020 | 0.728  | 3718     | 0.0202       |                   | 0.0  | 20.9  |       |
| D 7 13C2 PFHxA                 |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                | 1.966 | 1.976  | -0.010 | 0.739  | 4357531  | 1.79         |                   | 71.8 | 35924 |       |
| 6 Perfluorohexanoic acid       |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                | 1.966 | 1.979  | -0.013 | 1.000  | 402344   | 0.2311       |                   |      | 229   |       |
| 313.00 > 119.00                | 1.966 | 1.979  | -0.013 | 1.000  | 37345    |              | 10.77(5.03-15.10) |      | 503   |       |
| D 9 13C4-PFHpA                 |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                | 2.306 | 2.311  | -0.005 | 0.867  | 4303026  | 1.91         |                   | 76.3 | 31182 |       |
| 10 Perfluoroheptanoic acid     |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                | 2.306 | 2.311  | -0.005 | 1.000  | 357749   | 0.1988       |                   |      | 208   |       |
| 363.00 > 169.00                | 2.306 | 2.311  | -0.005 | 1.000  | 136671   |              | 2.62(1.13-3.40)   |      | 767   |       |
| 8 Perfluorohexanesulfonic acid |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                 | 2.320 | 2.324  | -0.004 | 1.000  | 146824   | 0.0603       |                   |      | 117   |       |
| 399.00 > 99.00                 | 2.320 | 2.324  | -0.004 | 1.000  | 48492    |              | 3.03(1.50-4.49)   |      | 134   |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.320 | 2.328  | -0.008 | 0.872  | 5269077  | 1.84         |                 | 77.8 | 38435 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649  | -0.011 | 0.992  | 1178406  | 2.76         |                 | 116  | 8371  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.638 | 2.651  | -0.013 | 1.000  | 11340    | 0.0136       |                 |      | 354   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.659 | 2.674  | -0.015 | 1.000  | 4848253  | 2.11         |                 | 84.3 | 52983 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.659 | 2.676  | -0.017 |        | 5598146  | 2.50         |                 |      | 42345 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       | M     |
| 413.00 > 369.00                       | 2.659 | 2.677  | -0.018 | 1.000  | 1133788  | 0.5523       |                 |      | 641   | M     |
| 413.00 > 169.00                       | 2.659 | 2.677  | -0.018 | 1.000  | 655299   |              | 1.73(0.84-2.52) |      | 3752  | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.702 | 2.683  | 0.019  | 1.000  | 68318    | 0.0379       |                 |      | 111   |       |
| 449.00 > 99.00                        | 2.688 | 2.683  | 0.005  | 0.995  | 13404    |              | 5.10(1.94-5.82) |      | 81.0  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.033 | 3.048  | -0.015 | 1.140  | 3508276  | 1.85         |                 | 77.3 | 24124 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.033 | 3.050  | -0.017 | 1.000  | 1852762  | 1.18         |                 |      | 258   |       |
| 499.00 > 99.00                        | 3.033 | 3.050  | -0.017 | 1.000  | 324016   |              | 5.72(2.31-6.93) |      | 328   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.033 | 3.051  | -0.018 | 1.140  | 3613707  | 1.97         |                 | 78.6 | 38011 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.033 | 3.052  | -0.019 | 1.000  | 233079   | 0.1655       |                 |      | 390   |       |
| 463.00 > 169.00                       | 3.033 | 3.052  | -0.019 | 1.000  | 59646    |              | 3.91(1.90-5.69) |      | 517   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.371 | 3.377  | -0.006 | 1.268  | 4423378  | 1.72         |                 | 68.9 | 25382 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.371 | 3.378  | -0.007 | 1.000  | 38206    | 0.0227       |                 |      | 27.0  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.386 | 3.403  | -0.017 | 1.273  | 1056961  | 2.25         |                 | 94.0 | 8226  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.394 | 3.414  | -0.020 | 1.276  | 3167195  | 2.12         |                 | 84.8 | 31773 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       | R     |
| 513.00 > 469.00                       | 3.394 | 3.414  | -0.020 | 1.000  | 35666    | 0.0286       |                 |      | 112   | R     |
| 513.00 > 169.00                       | 3.394 | 3.414  | -0.020 | 1.000  | 4925     |              | 7.24(2.36-7.09) |      | 98.9  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.545 | 3.569  | -0.024 | 1.333  | 1500071  | 1.94         |                 | 77.7 | 15169 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.716 | 3.740  | -0.024 | 1.397  | 1671645  | 2.12         |                 | 84.9 | 9856  |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.724 | 3.746  | -0.022 | 1.000  | 8972     | 0.0103       |                 |      | 34.8  |       |
| 563.00 > 169.00                       | 3.724 | 3.746  | -0.022 | 1.000  | 2622     |              | 3.42(0.00-0.00) |      | 43.2  |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.724 | 3.747  | -0.023 | 1.400  | 2317013  | 2.05         |                 | 81.9 | 39297 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.724 | 3.747  | -0.023 | 1.002  | 1584     | 0.002454     |                 |      | 15.8  |       |

| Signal                        | RT              | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|-------------------------------|-----------------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 34 d-N-MeFOSA-M             | 515.00 > 169.00 | 3.866     | 3.867     | -0.001    | 1.454    | 727062          | 1.00            | 39.9 | 1991  |       |
| D 36 13C2 PFDaA               | 615.00 > 570.00 | 4.014     | 4.045     | -0.031    | 1.509    | 2478564         | 2.02            | 80.7 | 36693 |       |
| D 38 d-N-EtFOSA-M             | 531.00 > 169.00 | 4.053     | 4.058     | -0.005    | 1.524    | 579067          | 0.8343          | 33.4 | 1262  |       |
| D 43 13C2-PFTeDA              | 715.00 > 670.00 | 4.528     | 4.557     | -0.029    | 1.703    | 2828617         | 2.12            | 84.7 | 25546 |       |
| D 44 13C2-PFHxDA              | 815.00 > 770.00 | 4.940     | 4.984     | -0.044    | 1.858    | 4638198         | 1.89            | 75.7 | 18988 |       |
| 45 Perfluorohexadecanoic acid | 813.00 > 769.00 | 4.940     | 4.984     | -0.044    | 1.000    | 42987           | 0.003887        |      | 32.1  |       |
|                               | 813.00 > 169.00 | 4.940     | 4.984     | -0.044    | 1.000    | 7679            | 5.60(2.86-8.58) |      | 231   |       |

**QC Flag Legend**

## Processing Flags

R - Failed Signal Ratio Test

## Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_005.d

Injection Date: 29-Dec-2017 08:10:36

Instrument ID: A8\_N

Lims ID: 320-34293-A-2-A

Lab Sample ID: 320-34293-2

Client ID: MW-6S

Operator ID: SACINSTLCMS01

ALS Bottle#: 4

Worklist Smp#: 5

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

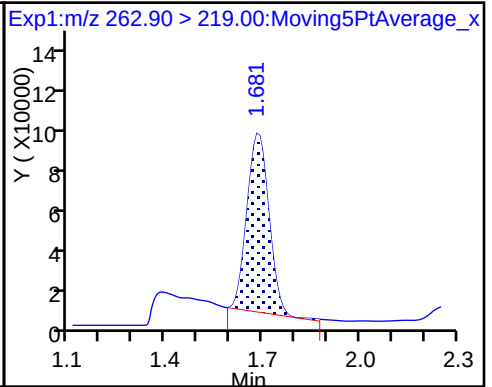
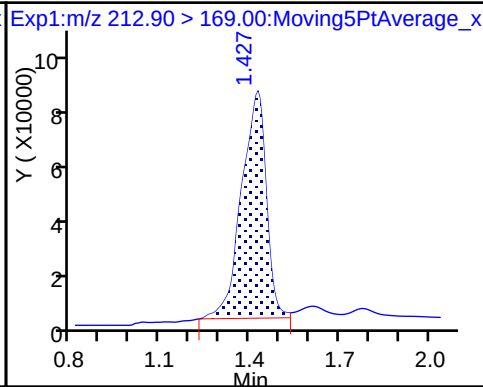
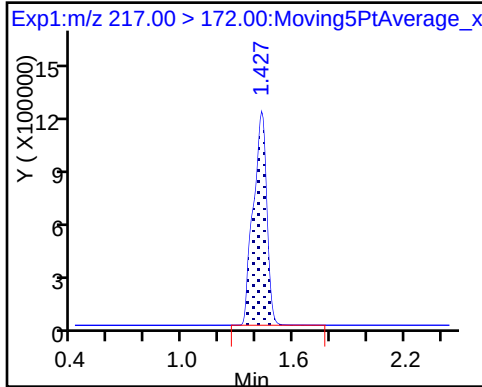
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

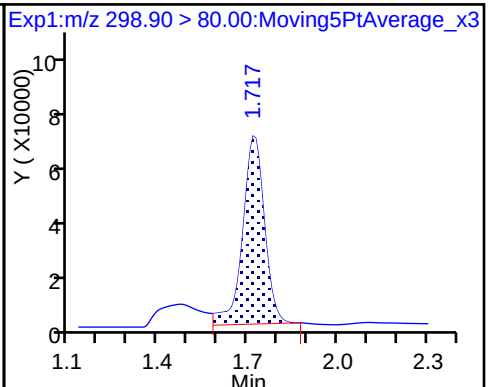
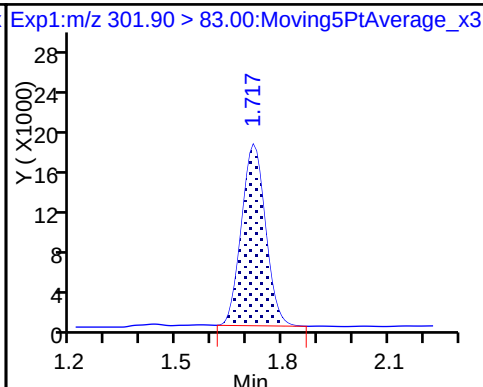
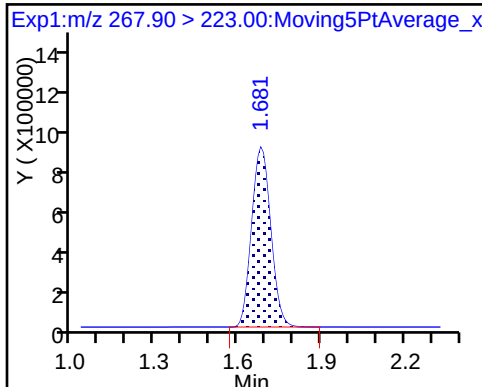
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

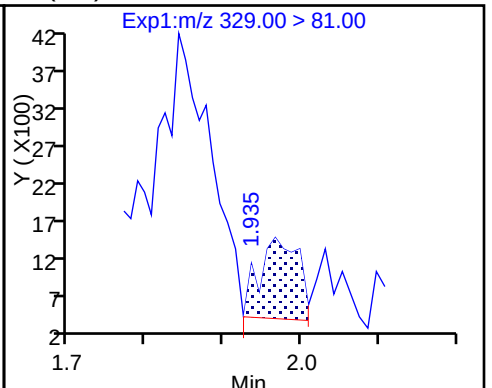
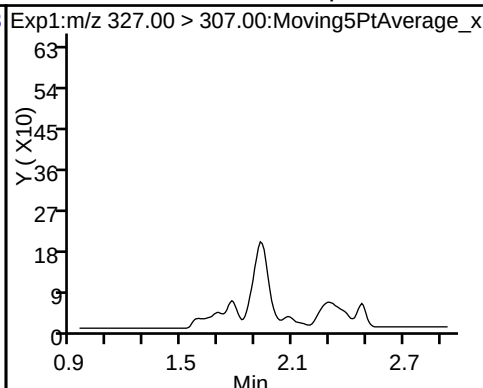
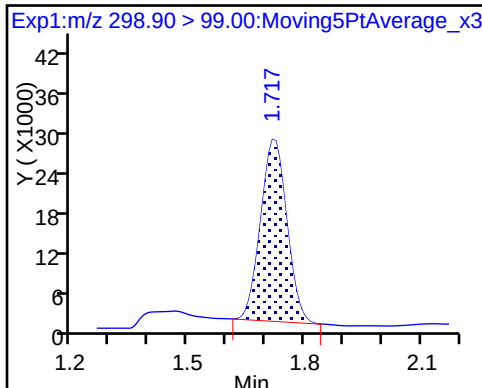
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexanoate

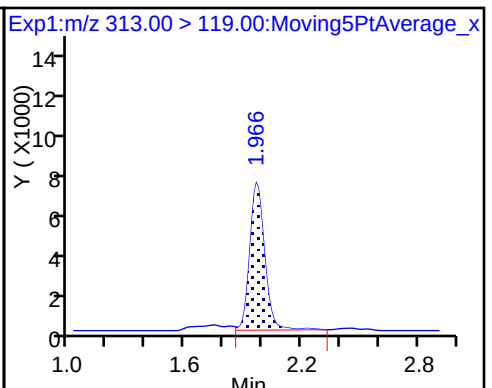
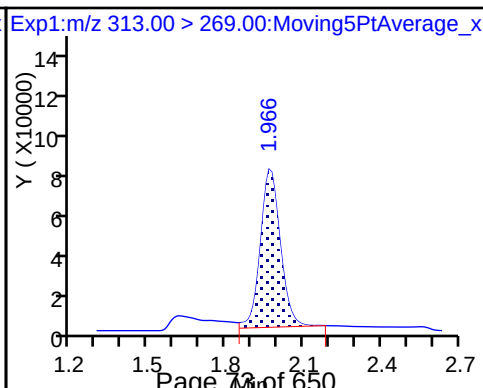
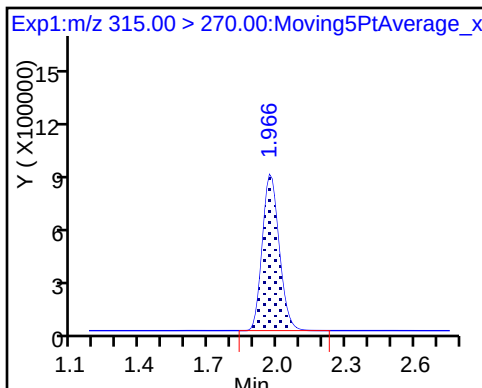
Dec 01 2017



D 7 13C2 PFHxA

6 Perfluorohexanoic acid

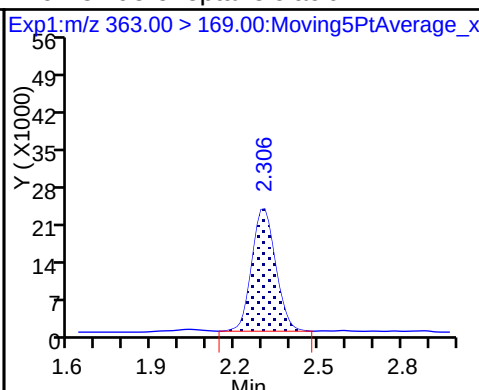
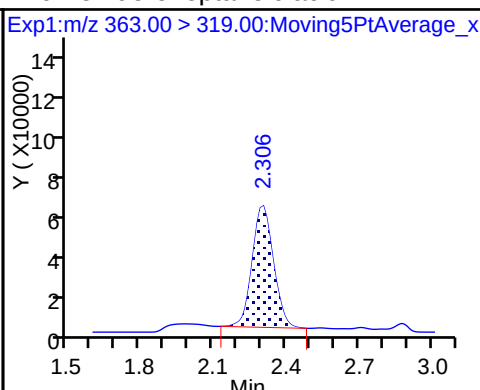
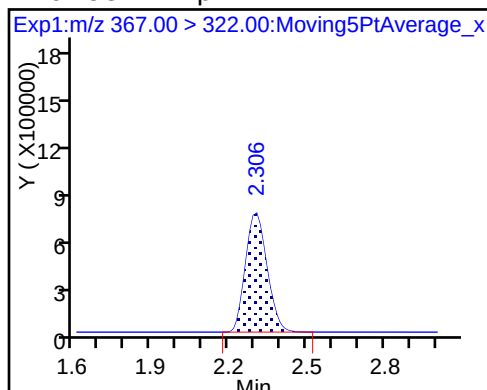
6 Perfluorohexanoic acid



D 9 13C4-PFHpA

10 Perfluoroheptanoic acid

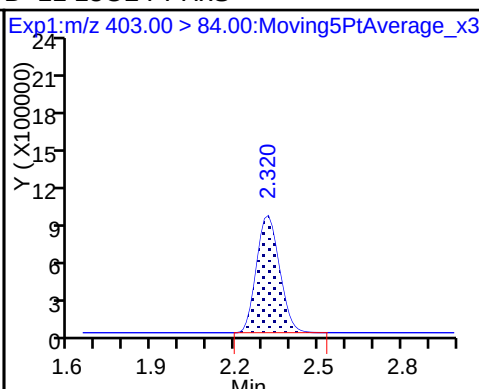
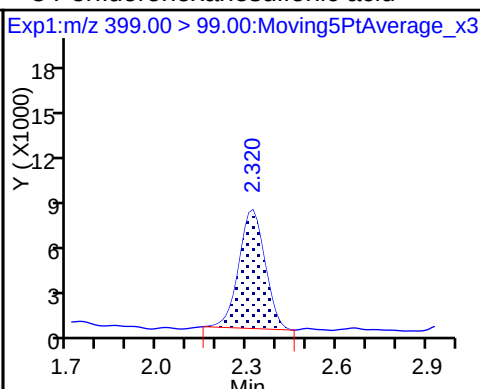
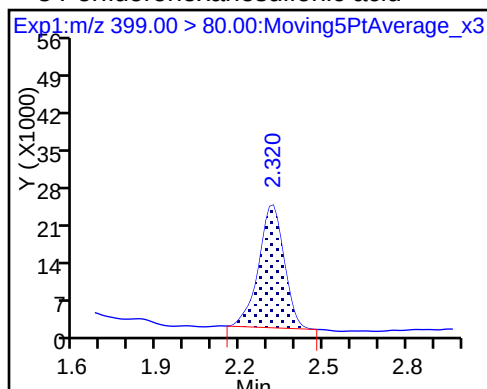
10 Perfluoroheptanoic acid



8 Perfluorohexanesulfonic acid

8 Perfluorohexanesulfonic acid

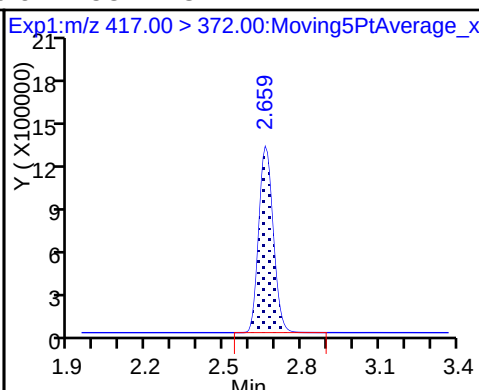
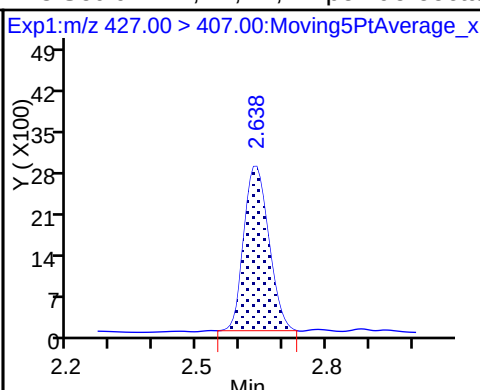
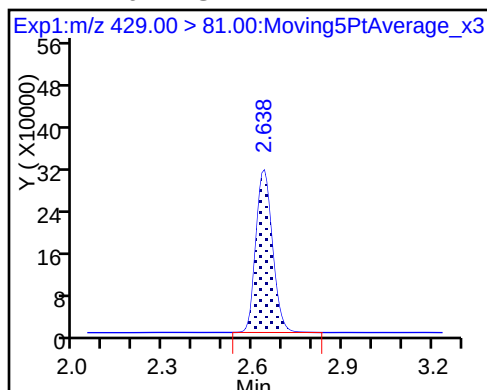
D 11 18O2 PFHxS



D 12 M2-6:2FTS

13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

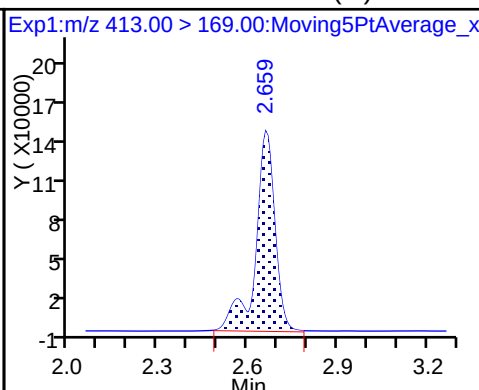
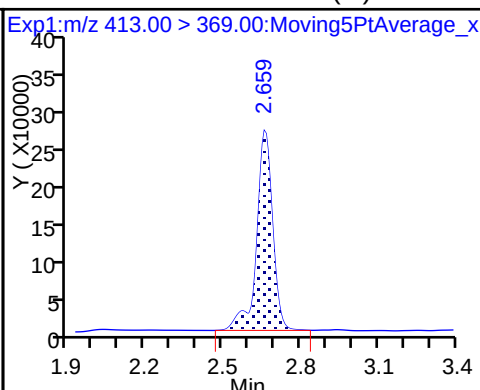
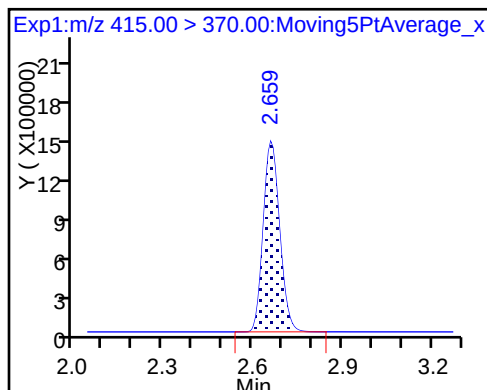
De 14 13C4 PFOA



\* 62 13C2-PFOA

15 Perfluorooctanoic acid (M)

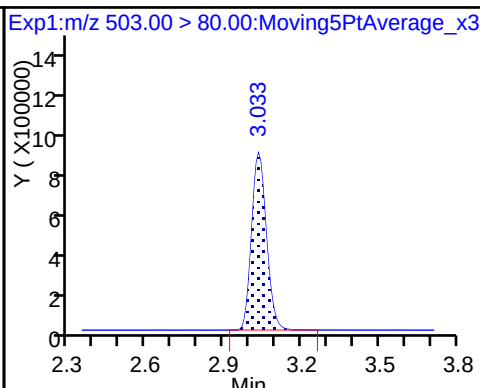
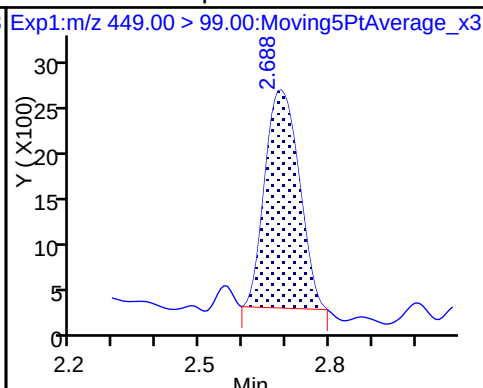
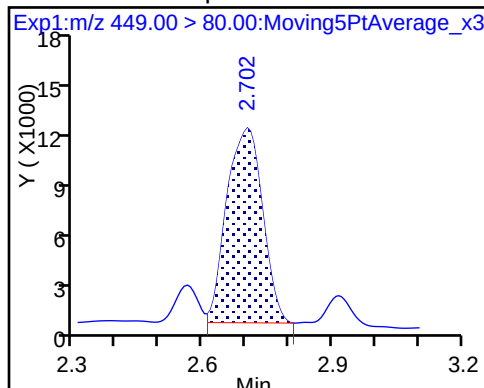
15 Perfluorooctanoic acid (M)



## 16 Perfluoroheptanesulfonic Acid

## 16 Perfluoroheptanesulfonic Acid

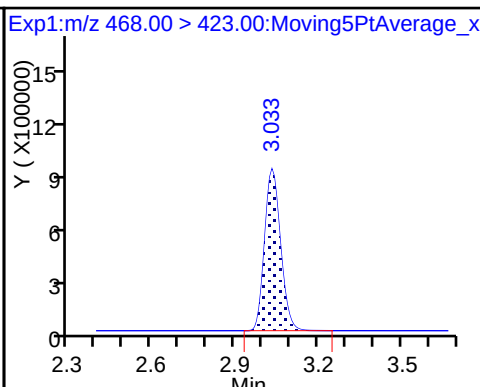
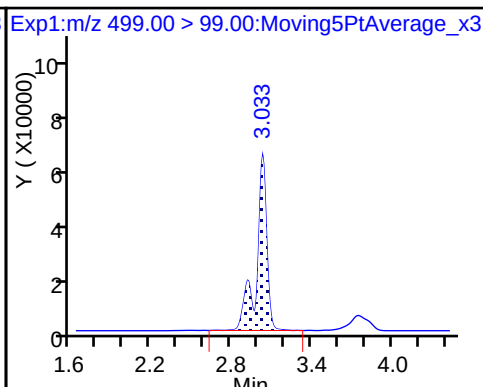
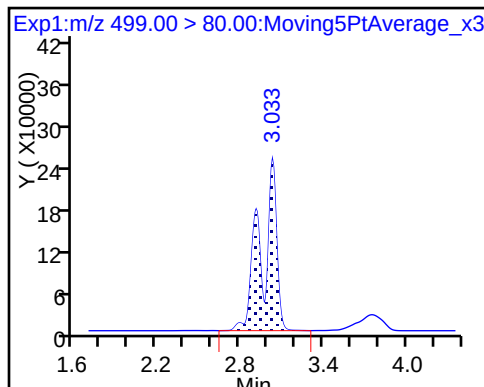
## D 18 13C4 PFOS



## 17 Perfluorooctane sulfonic acid

## 17 Perfluorooctane sulfonic acid

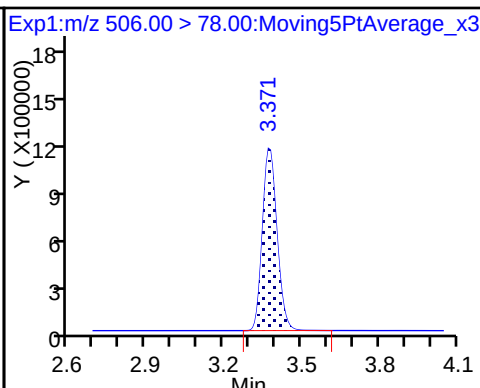
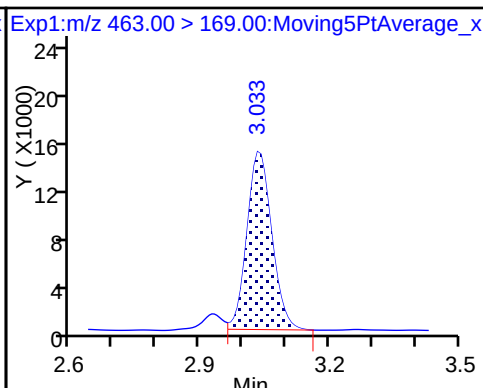
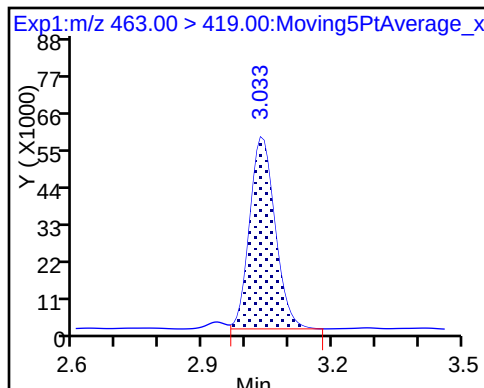
## D 19 13C5 PFNA



## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

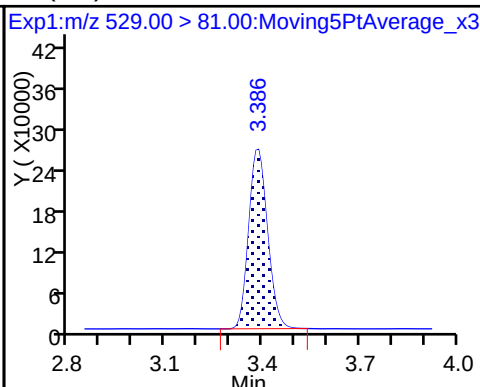
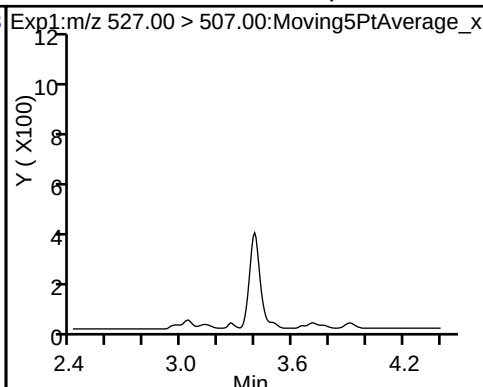
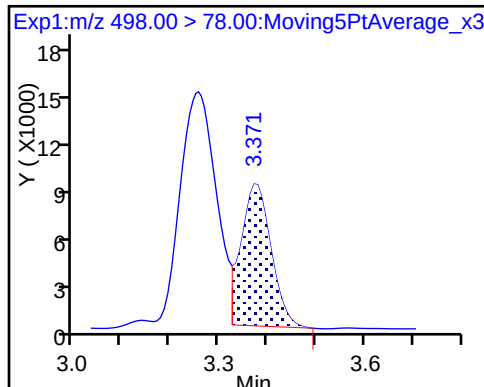
## D 21 13C8 FOSA



## 22 Perfluorooctane Sulfonamide

## 25 Sodium 1H,1H,2H,2H-perfluorodecane-1,1,2,2-tetracarboxylate

## D 26 13C12 PFOS

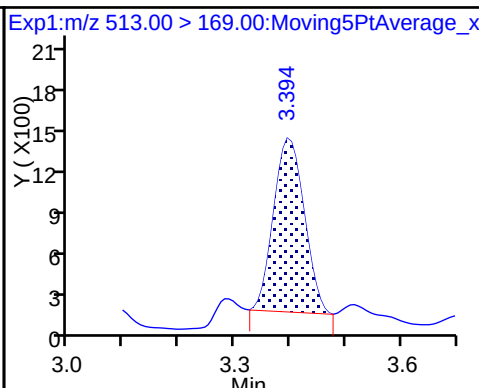
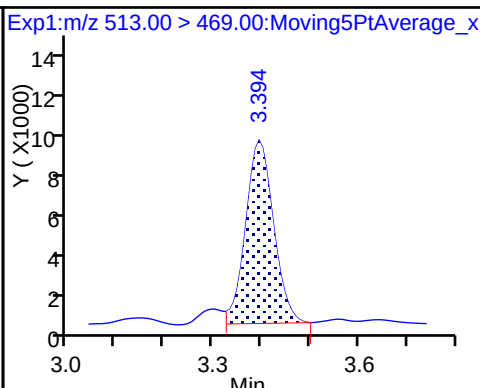
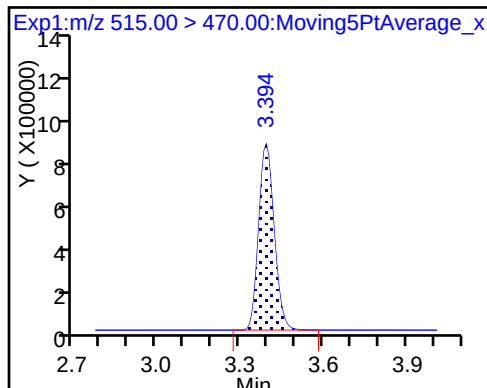




## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

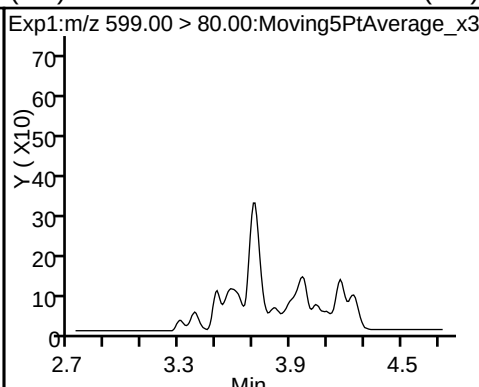
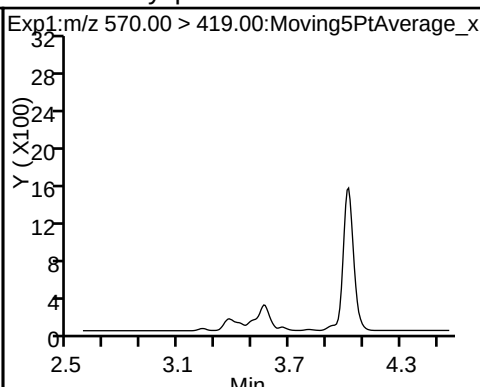
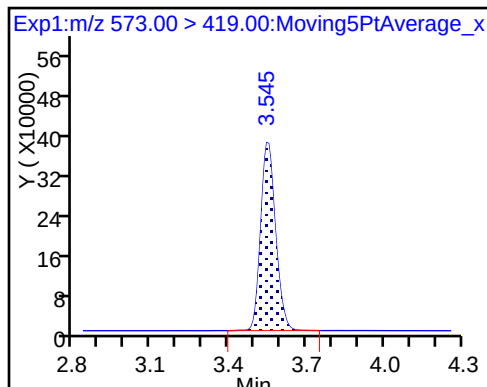
## 24 Perfluorodecanoic acid



## D 27 d3-NMeFOSAA

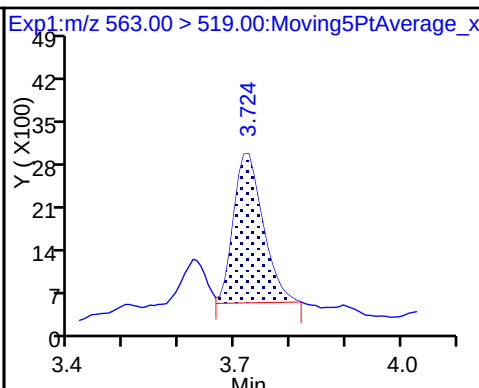
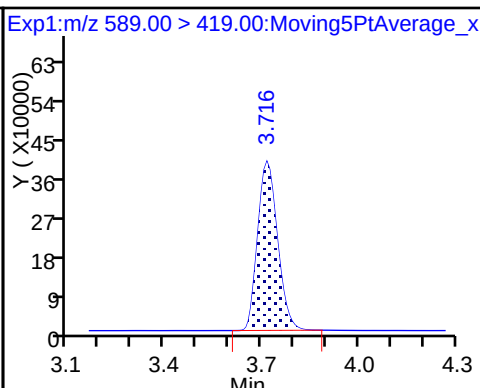
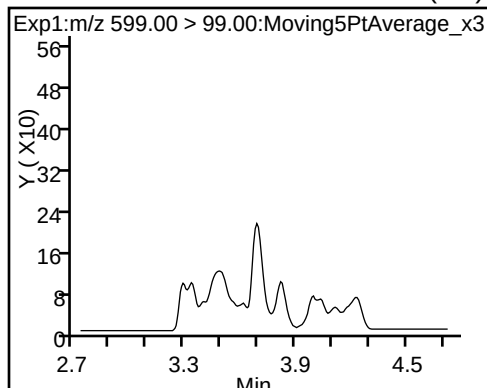
## 28 N-methyl perfluorooctane sulfonami (ND)

## 29 Perfluorodecane Sulfonic acid (ND)



## 29 Perfluorodecane Sulfonic acid (ND) D 32 d5-NEtFOSAA

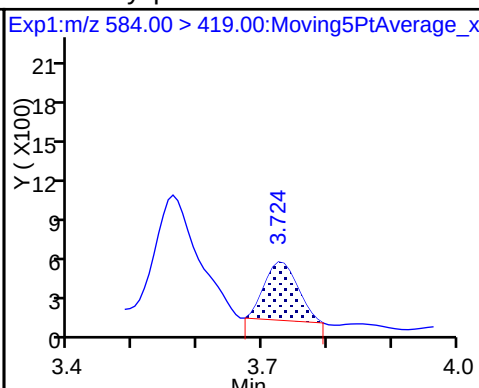
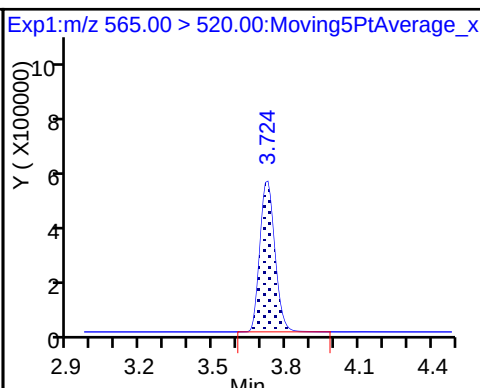
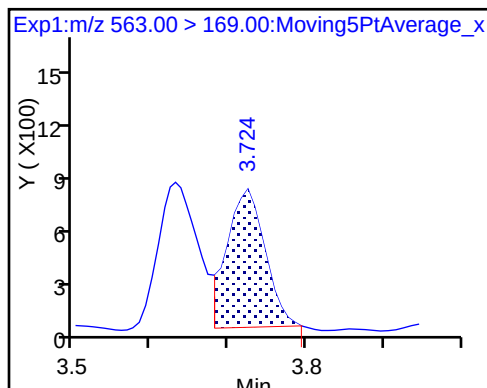
## 31 Perfluoroundecanoic acid



## 31 Perfluoroundecanoic acid

## D 30 13C2 PFUnA

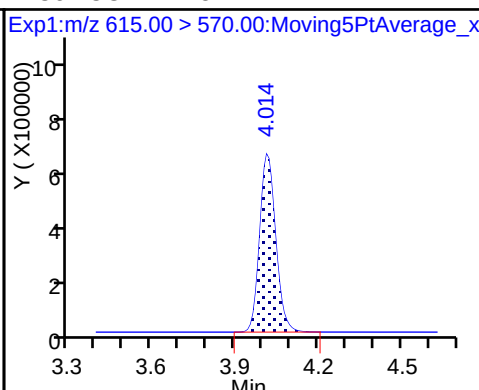
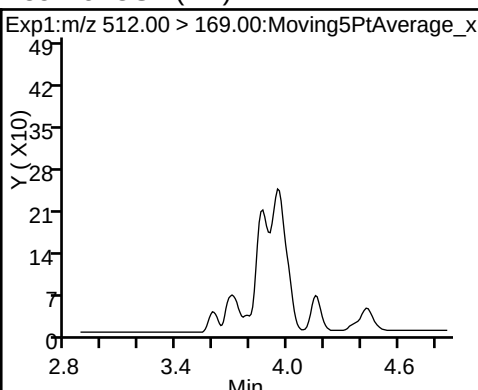
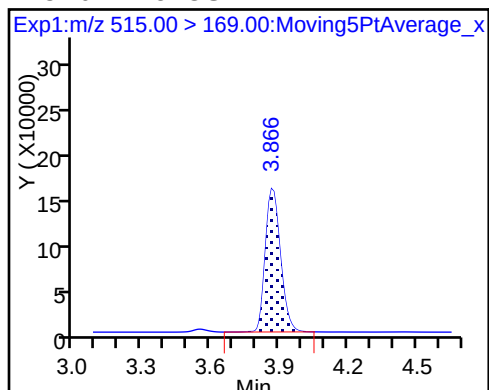
## 33 N-ethyl perfluorooctane sulfonamid



## D 34 d-N-MeFOSA-M

## 35 MeFOSA (ND)

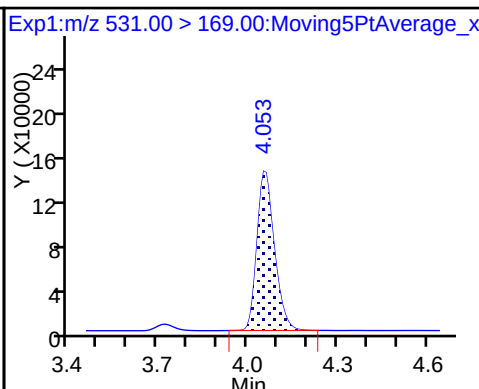
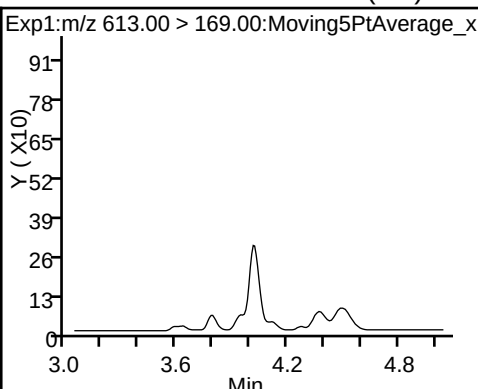
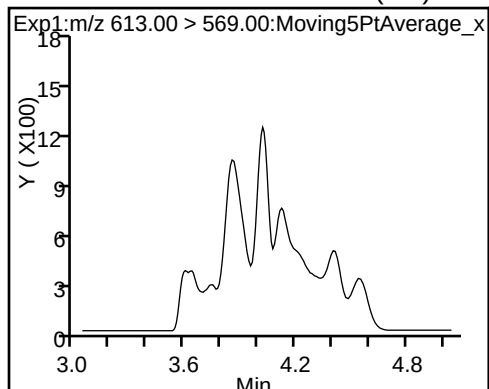
## D 36 13C2 PFDaA



## 37 Perfluorododecanoic acid (ND)

## 37 Perfluorododecanoic acid (ND)

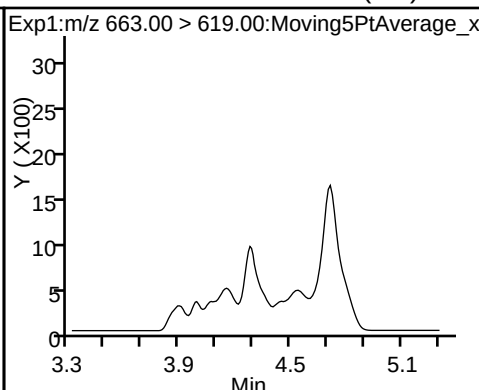
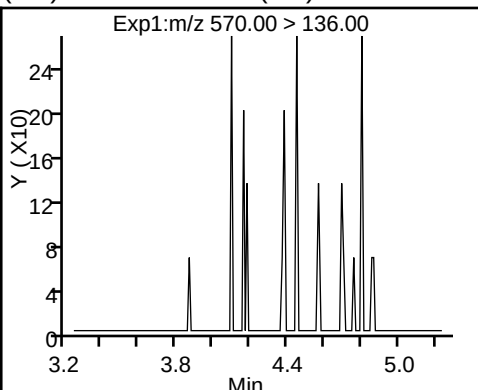
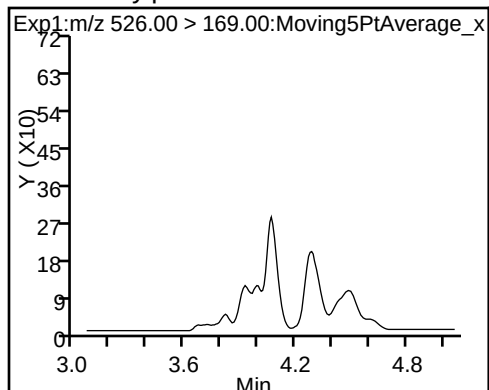
## D 38 d-N-EtFOSA-M



## 39 N-ethylperfluoro-1-octanesulfonami (ND)

## D 40 d-N-EtFOSE-M (ND)

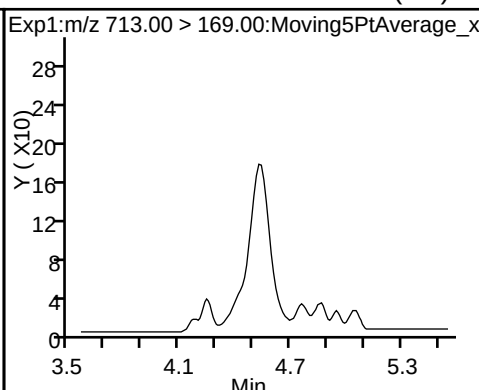
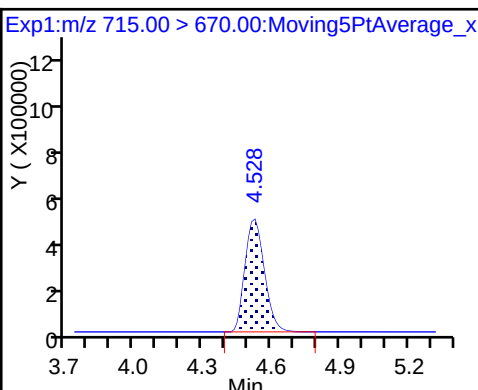
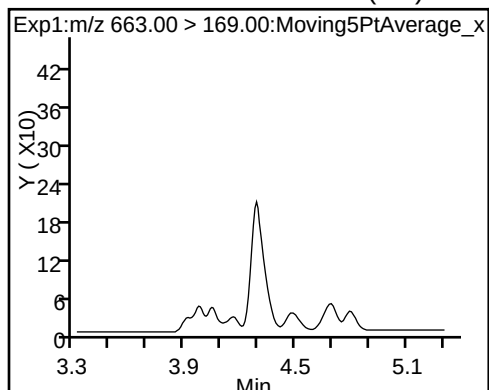
## 41 Perfluorotridecanoic acid (ND)



## 41 Perfluorotridecanoic acid (ND)

## D 43 13C2-PFTeDA

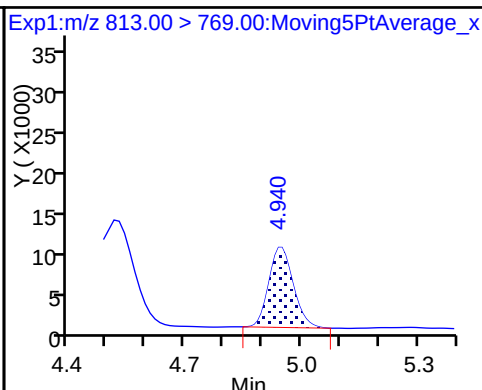
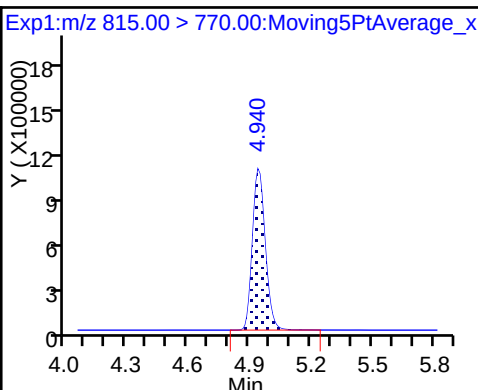
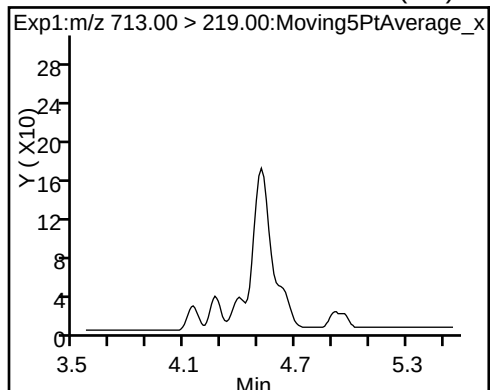
## 42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)

D 44 13C2-PFHxDA

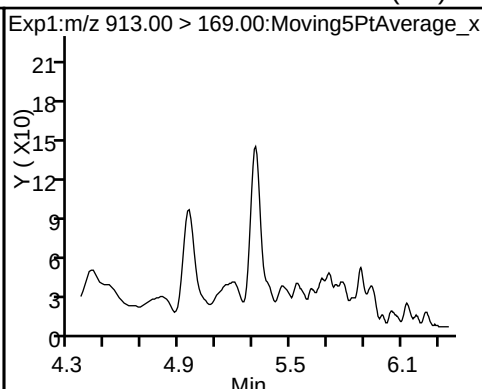
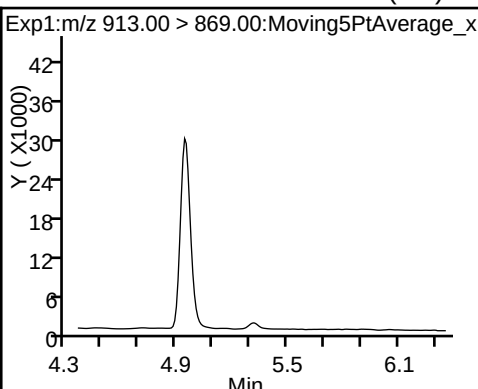
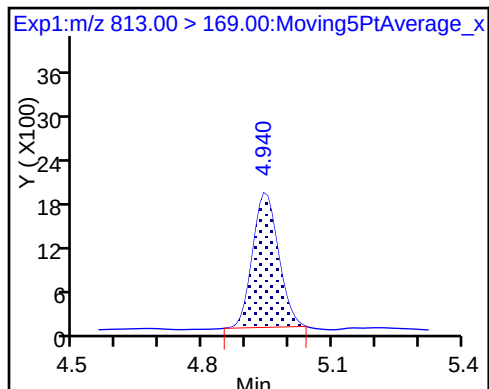
45 Perfluorohexadecanoic acid



45 Perfluorohexadecanoic acid

46 Perfluorooctadecanoic acid (ND)

46 Perfluorooctadecanoic acid (ND)



## TestAmerica Sacramento

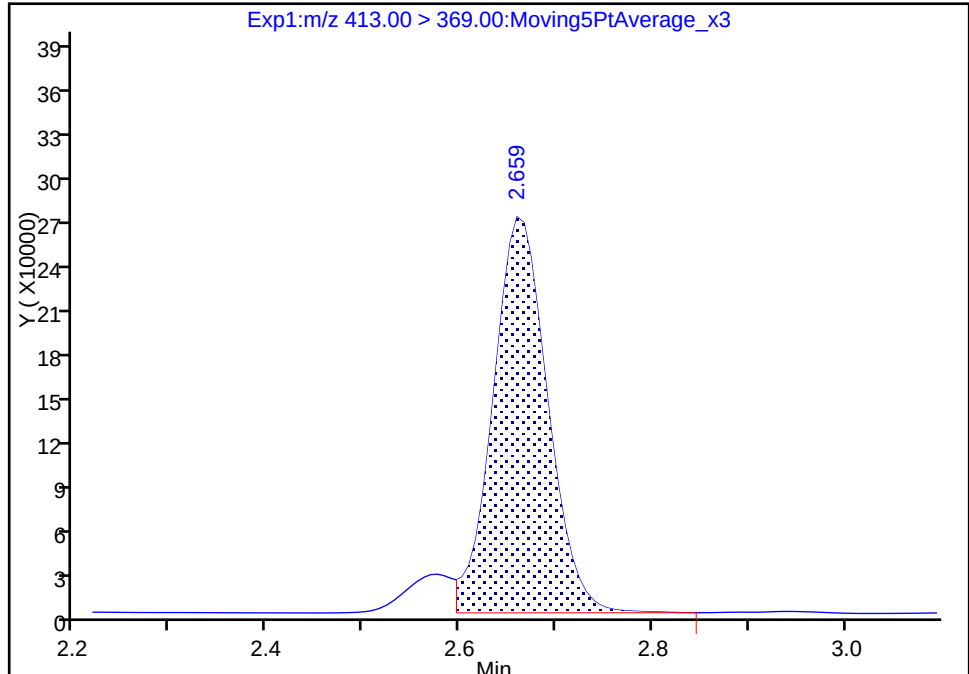
|                 |                                                                          |                |             |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_005.d |                |             |                |   |
| Injection Date: | 29-Dec-2017 08:10:36                                                     | Instrument ID: | A8_N        |                |   |
| Lims ID:        | 320-34293-A-2-A                                                          | Lab Sample ID: | 320-34293-2 |                |   |
| Client ID:      | MW-6S                                                                    |                |             |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 4           | Worklist Smp#: | 5 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |   |
| Column:         |                                                                          | Detector       | EXP1        |                |   |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 1

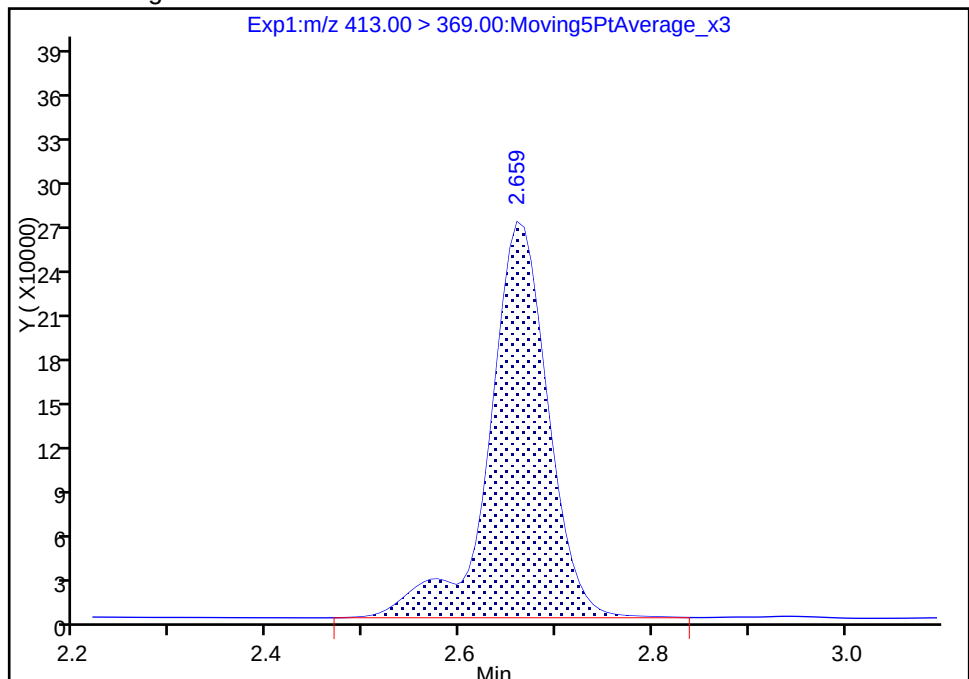
RT: 2.66  
Area: 1045146  
Amount: 0.509098  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.66  
Area: 1133788  
Amount: 0.552276  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:15:43

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

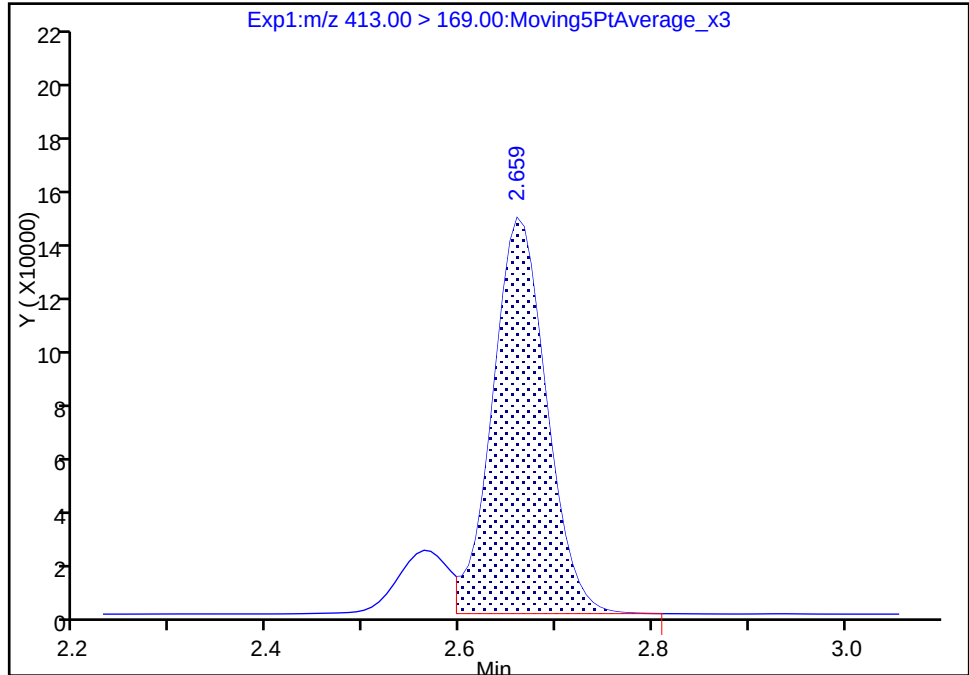
|                 |                                                                          |                |             |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_005.d |                |             |                |   |
| Injection Date: | 29-Dec-2017 08:10:36                                                     | Instrument ID: | A8_N        |                |   |
| Lims ID:        | 320-34293-A-2-A                                                          | Lab Sample ID: | 320-34293-2 |                |   |
| Client ID:      | MW-6S                                                                    |                |             |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 4           | Worklist Smp#: | 5 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |   |
| Column:         |                                                                          | Detector       | EXP1        |                |   |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

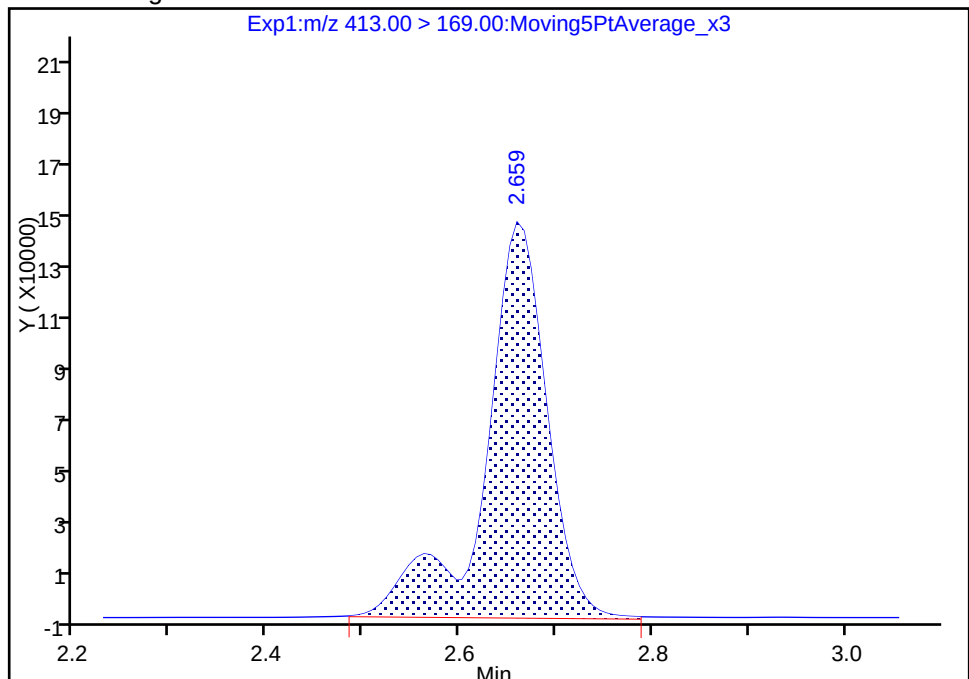
RT: 2.66  
Area: 565672  
Amount: 0.509098  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.66  
Area: 655299  
Amount: 0.552276  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:15:48

Audit Action: Manually Integrated

Audit Reason: Isomers

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                 |
| SDG No.: _____                          |                                             |
| Client Sample ID: <u>MW-6I</u>          | Lab Sample ID: <u>320-34293-3</u>           |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_008.d</u>     |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 09:50</u>     |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>     |
| Sample wt/vol: <u>289(mL)</u>           | Date Analyzed: <u>12/29/2017 08:34</u>      |
| Con. Extract Vol.: <u>10.00(mL)</u>     | Dilution Factor: <u>1</u>                   |
| Injection Volume: <u>2(uL)</u>          | GC Column: <u>GeminiC18 3x100 ID: 3(mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                 |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                          |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 8.16   | B | 1.73 | 0.30 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 13.5   |   | 1.73 | 0.42 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 11.7   |   | 1.73 | 0.50 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 10.7   |   | 1.73 | 0.22 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 24.2   |   | 1.73 | 0.74 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 4.00   |   | 1.73 | 0.23 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 1.06   | J | 1.73 | 0.27 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 1.36   | J | 1.73 | 0.95 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.48   | U | 1.73 | 0.48 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.12   | U | 1.73 | 1.12 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.25   | U | 1.73 | 0.25 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 6.40   |   | 1.73 | 0.17 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 4.39   | B | 1.73 | 0.15 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.67   | J | 1.73 | 0.16 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 21.8   |   | 1.73 | 0.47 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.28   | U | 1.73 | 0.28 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 0.31   | J | 1.73 | 0.30 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.68   | U | 17.3 | 2.68 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.64   | U | 17.3 | 1.64 |
| 27619-97-2 | 6:2FTS                                                     | 1.73   | U | 17.3 | 1.73 |
| 39108-34-4 | 8:2FTS                                                     | 1.73   | U | 17.3 | 1.73 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                    |
|-----------------------------------------|----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                        |
| SDG No.: _____                          |                                                    |
| Client Sample ID: <u>MW-6I</u>          | Lab Sample ID: <u>320-34293-3</u>                  |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_008.d</u>            |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 09:50</u>            |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>            |
| Sample wt/vol: <u>289(mL)</u>           | Date Analyzed: <u>12/29/2017 08:34</u>             |
| Con. Extract Vol.: <u>10.00(mL)</u>     | Dilution Factor: <u>1</u>                          |
| Injection Volume: <u>2(uL)</u>          | GC Column: <u>GeminiC18 3x100</u> ID: <u>3(mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                        |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                 |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 69   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 83   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 82   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 84   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 90   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 81   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 82   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 81   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 75   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 89   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 76   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 81   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 78   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 71   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 79   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 77   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 95   |   | 25-150 |
| STL02280 | M2-8:2FTS        | 79   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_008.d  
 Lims ID: 320-34293-A-3-A  
 Client ID: MW-6I  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 08:34:04 ALS Bottle#: 7 Worklist Smp#: 8  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-3-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:32:30 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:32:30

| Signal                         | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|--------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                  |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                | 1.432 | 1.433  | -0.001 | 0.537  | 5966918  | 1.73         |                   | 69.2 | 16699 |       |
| 2 Perfluorobutyric acid        |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                | 1.432 | 1.434  | -0.002 | 1.000  | 514375   | 0.2359       |                   |      | 89.5  |       |
| 4 Perfluoropentanoic acid      |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                | 1.689 | 1.691  | -0.002 | 1.000  | 729640   | 0.3900       |                   |      | 192   |       |
| D 3 13C5-PFPeA                 |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                | 1.689 | 1.692  | -0.003 | 0.633  | 4169878  | 2.07         |                   | 83.0 | 28193 |       |
| D 47 13C3-PFBS                 |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                 | 1.725 | 1.725  | 0.0    | 0.647  | 77359    | 1.78         |                   | 76.4 | 1146  |       |
| 5 Perfluorobutanesulfonic acid |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                 | 1.725 | 1.730  | -0.005 | 1.000  | 460522   | 0.1849       |                   |      | 214   |       |
| 298.90 > 99.00                 | 1.725 | 1.730  | -0.005 | 1.000  | 169605   |              | 2.72(1.25-3.74)   |      | 280   |       |
| D 7 13C2 PFHxA                 |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                | 1.975 | 1.976  | -0.001 | 0.741  | 4411779  | 2.04         |                   | 81.7 | 31834 |       |
| 6 Perfluorohexanoic acid       |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                | 1.975 | 1.979  | -0.004 | 1.000  | 595007   | 0.3376       |                   |      | 384   |       |
| 313.00 > 119.00                | 1.975 | 1.979  | -0.004 | 1.000  | 54500    |              | 10.92(5.03-15.10) |      | 514   |       |
| D 9 13C4-PFHpA                 |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                | 2.305 | 2.311  | -0.006 | 0.865  | 4223237  | 2.10         |                   | 84.2 | 31799 |       |
| 10 Perfluoroheptanoic acid     |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                | 2.305 | 2.311  | -0.006 | 1.000  | 544400   | 0.3082       |                   |      | 485   |       |
| 363.00 > 169.00                | 2.305 | 2.311  | -0.006 | 1.000  | 206618   |              | 2.63(1.13-3.40)   |      | 1522  |       |
| 8 Perfluorohexanesulfonic acid |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                 | 2.318 | 2.324  | -0.006 | 1.000  | 285747   | 0.1269       |                   |      | 294   |       |
| 399.00 > 99.00                 | 2.318 | 2.324  | -0.006 | 1.000  | 89743    |              | 3.18(1.50-4.49)   |      | 241   |       |
| D 11 18O2 PFHxS                |       |        |        |        |          |              |                   |      |       |       |
| 403.00 > 84.00                 | 2.318 | 2.328  | -0.010 | 0.869  | 4873638  | 1.91         |                   | 80.9 | 50026 |       |



| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649  | -0.011 | 0.989  | 862304   | 2.27         |                 | 95.4 | 8700  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.638 | 2.651  | -0.013 | 1.000  | 19509    | 0.0320       |                 |      | 645   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.659 | 2.674  | -0.015 | 0.997  | 4589444  | 2.24         |                 | 89.6 | 36967 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.666 | 2.676  | -0.010 |        | 4981254  | 2.50         |                 |      | 43307 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       | M     |
| 413.00 > 369.00                       | 2.666 | 2.677  | -0.011 | 1.003  | 1360062  | 0.6999       |                 |      | 936   | M     |
| 413.00 > 169.00                       | 2.666 | 2.677  | -0.011 | 1.003  | 766638   |              | 1.77(0.84-2.52) |      | 4348  | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.681 | 2.683  | -0.002 | 1.000  | 31307    | 0.0194       |                 |      | 91.6  |       |
| 449.00 > 99.00                        | 2.674 | 2.683  | -0.009 | 0.997  | 6428     |              | 4.87(1.94-5.82) |      | 66.0  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.033 | 3.048  | -0.015 | 1.137  | 3139372  | 1.86         |                 | 77.8 | 19524 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       | M     |
| 499.00 > 80.00                        | 3.041 | 3.050  | -0.009 | 1.003  | 887165   | 0.6293       |                 |      | 141   | M     |
| 499.00 > 99.00                        | 3.033 | 3.050  | -0.017 | 1.000  | 153168   |              | 5.79(2.31-6.93) |      | 134   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.041 | 3.051  | -0.010 | 1.140  | 3298337  | 2.02         |                 | 80.6 | 33529 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.041 | 3.052  | -0.011 | 1.000  | 148701   | 0.1157       |                 |      | 304   |       |
| 463.00 > 169.00                       | 3.041 | 3.052  | -0.011 | 1.000  | 40511    |              | 3.67(1.90-5.69) |      | 375   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.379 | 3.377  | 0.002  | 1.267  | 4043754  | 1.77         |                 | 70.8 | 23907 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.379 | 3.378  | 0.001  | 1.000  | 13784    | 0.008978     |                 |      | 190   |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.386 | 3.403  | -0.017 | 1.270  | 792518   | 1.90         |                 | 79.2 | 10072 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.394 | 3.414  | -0.020 | 1.273  | 2727529  | 2.05         |                 | 82.0 | 27188 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.394 | 3.414  | -0.020 | 1.000  | 33012    | 0.0307       |                 |      | 131   |       |
| 513.00 > 169.00                       | 3.402 | 3.414  | -0.012 | 1.002  | 6472     |              | 5.10(2.36-7.09) |      | 338   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.553 | 3.569  | -0.016 | 1.332  | 1357069  | 1.97         |                 | 79.0 | 17242 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.716 | 3.740  | -0.024 | 1.393  | 1353046  | 1.93         |                 | 77.3 | 8583  |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.724 | 3.746  | -0.022 | 1.000  | 30027    | 0.0394       |                 |      | 145   |       |
| 563.00 > 169.00                       | 3.733 | 3.746  | -0.013 | 1.002  | 7240     |              | 4.15(0.00-0.00) |      | 203   |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.724 | 3.747  | -0.023 | 1.397  | 2031800  | 2.02         |                 | 80.7 | 28770 |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.022 | 4.045  | -0.023 | 1.508  | 2052920  | 1.88         |                 | 75.1 | 32306 |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.528 | 4.557  | -0.029 | 1.698  | 2639761  | 2.22         |                 | 88.8 | 23927 |       |

## QC Flag Legend

### Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_008.d

Injection Date: 29-Dec-2017 08:34:04

Instrument ID: A8\_N

Lims ID: 320-34293-A-3-A

Lab Sample ID: 320-34293-3

Client ID: MW-6I

Operator ID: SACINSTLCMS01

ALS Bottle#: 7

Worklist Smp#: 8

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

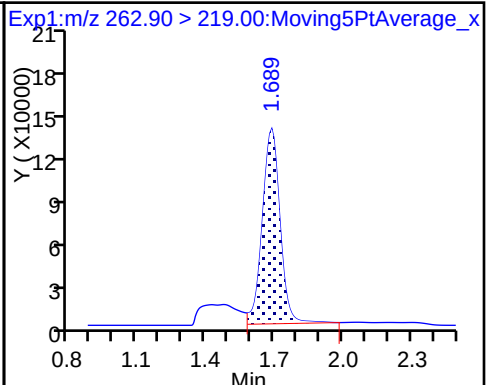
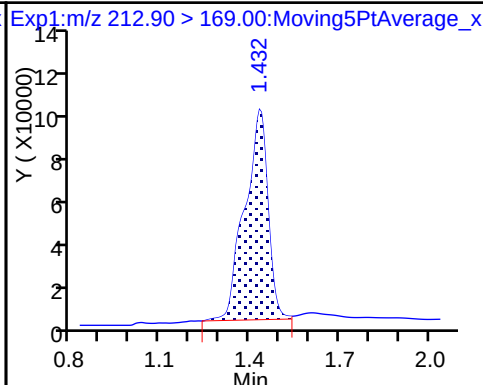
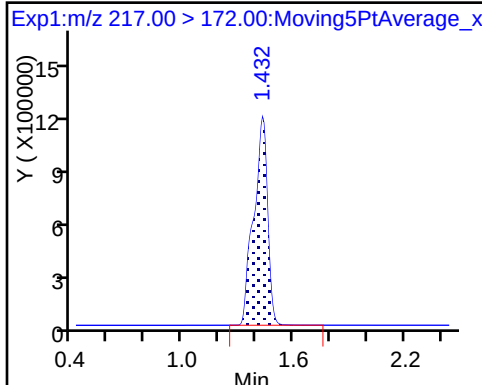
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

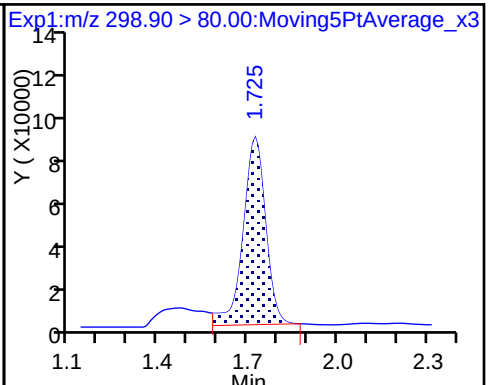
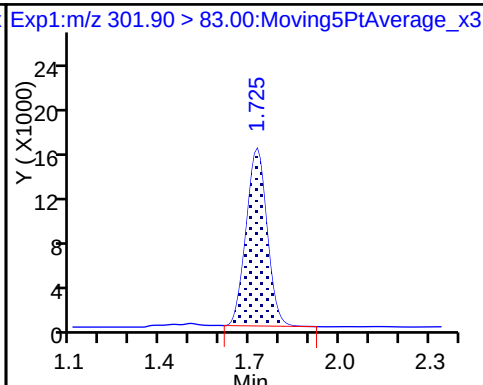
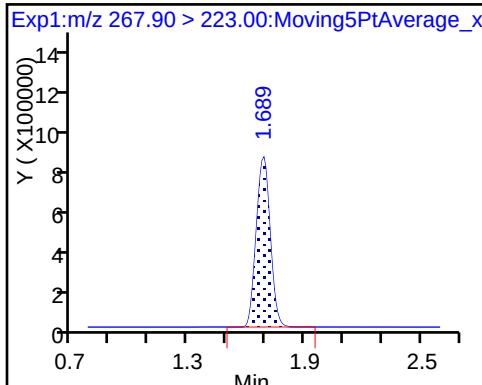
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

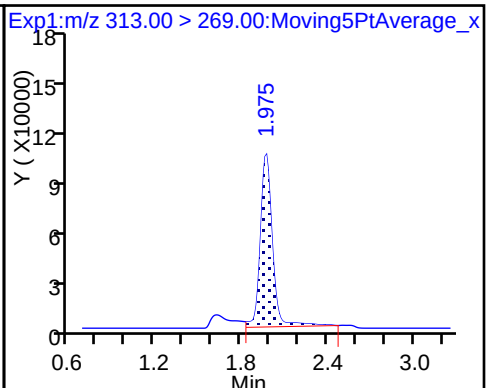
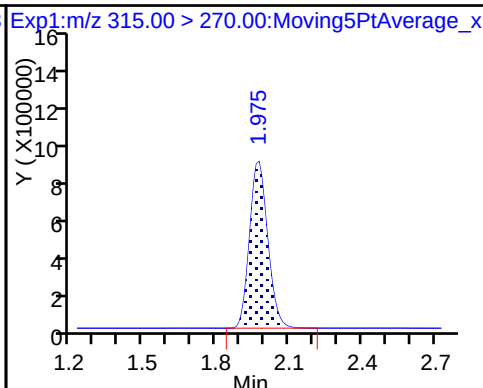
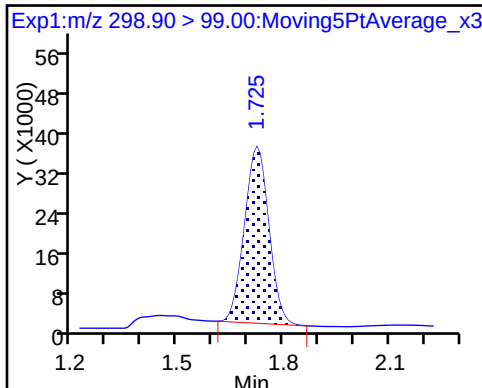
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

D 7 13C2 PFHxA

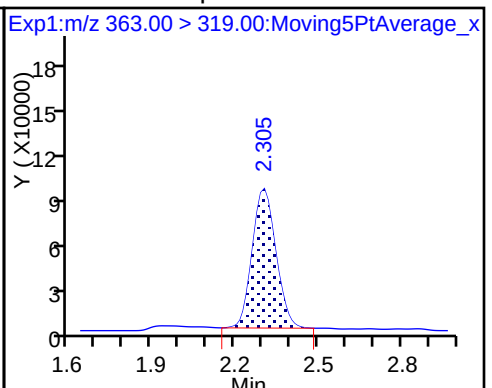
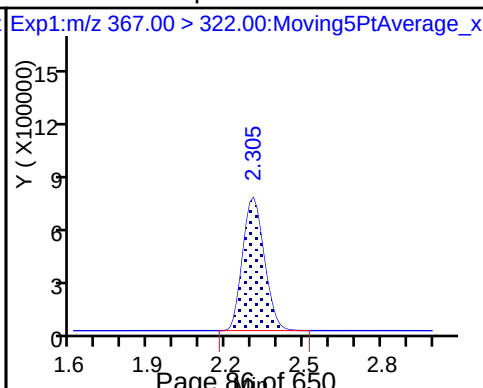
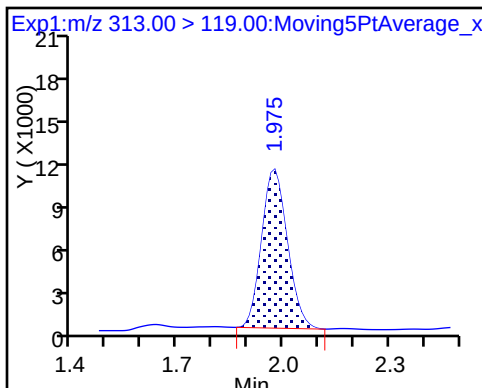
6 Perfluorohexanoic acid



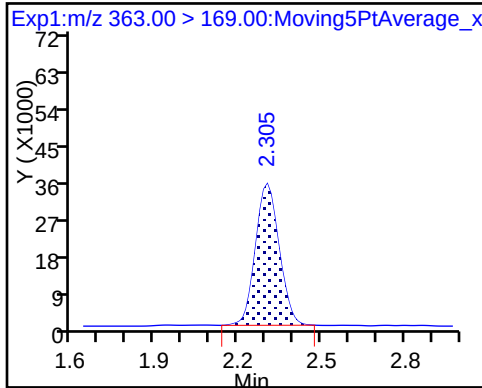
6 Perfluorohexanoic acid

D 9 13C4-PFHpA

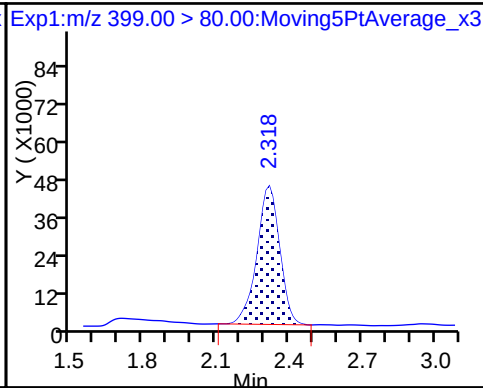
10 Perfluoroheptanoic acid



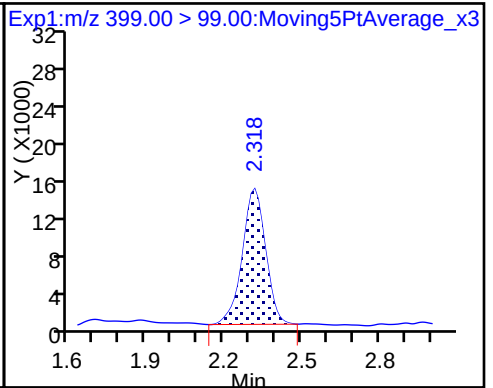
10 Perfluoroheptanoic acid



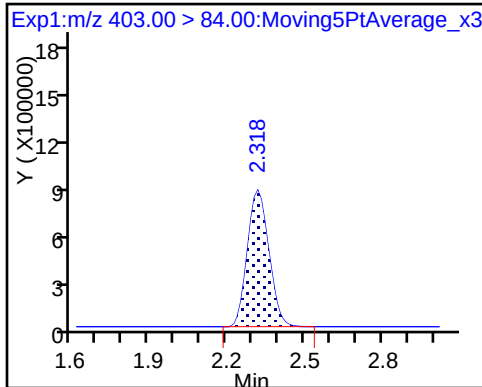
8 Perfluorohexanesulfonic acid



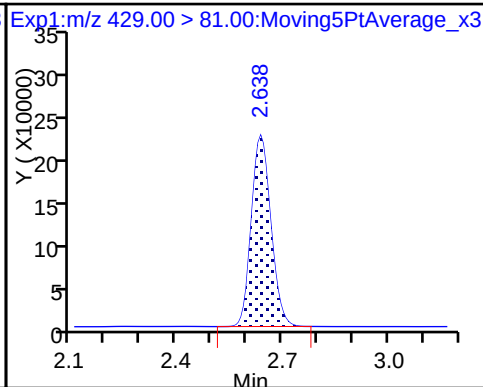
8 Perfluorohexanesulfonic acid



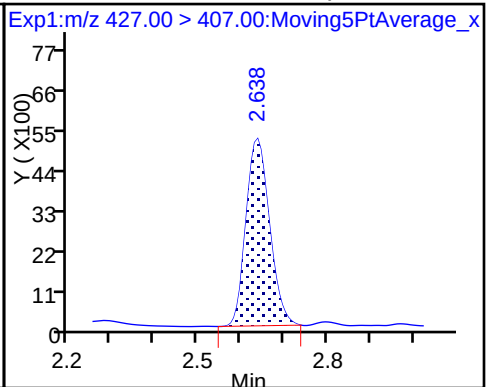
D 11 18O2 PFHxS



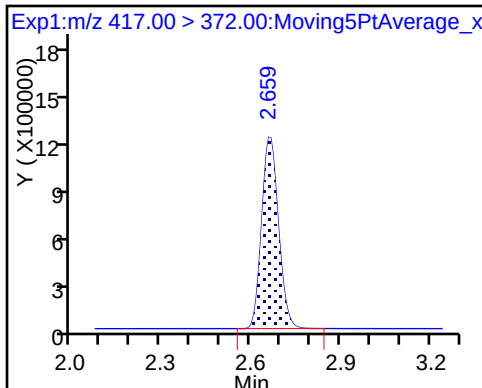
D 12 M2-6:2FTS



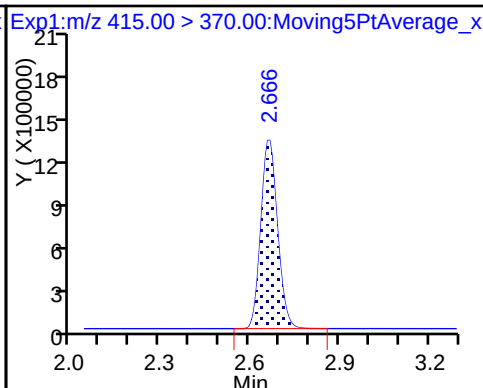
13 Sodium 1H,1H,2H,2H-perfluorooctane



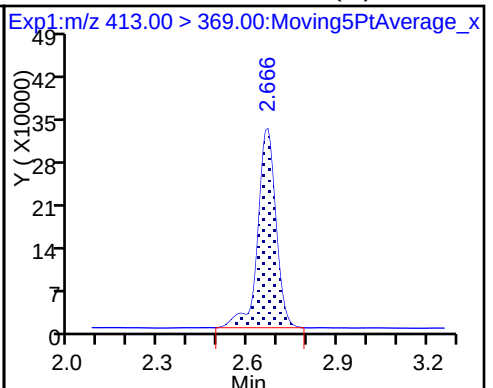
D 14 13C4 PFOA



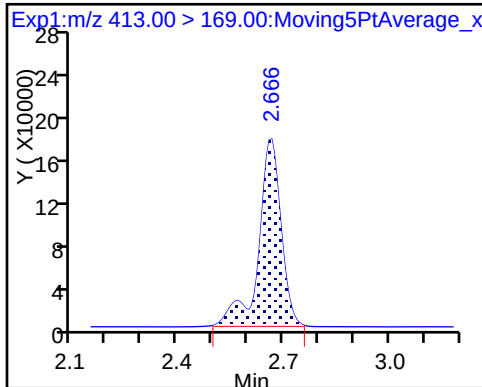
\* 62 13C2-PFOA



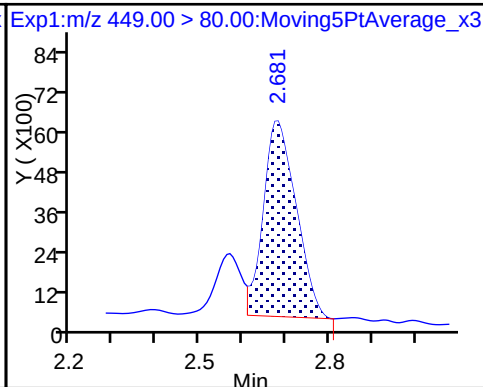
15 Perfluorooctanoic acid (M)



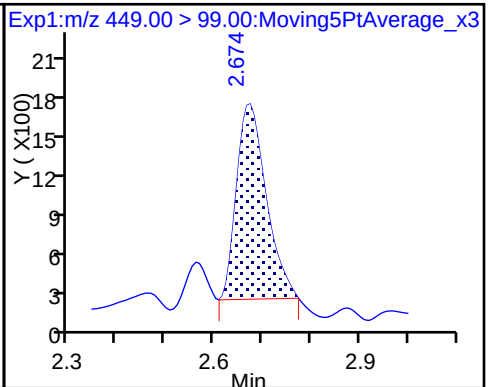
15 Perfluorooctanoic acid (M)



16 Perfluoroheptanesulfonic Acid



16 Perfluoroheptanesulfonic Acid

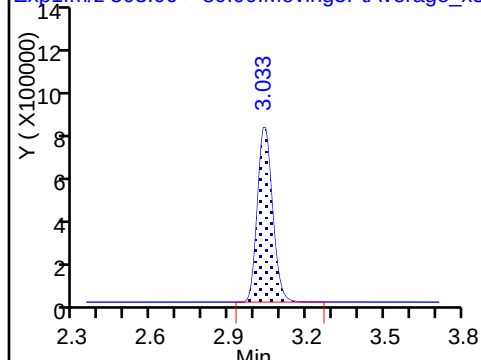


## D 18 13C4 PFOS

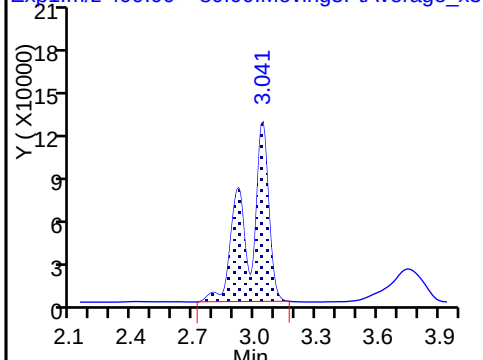
## 17 Perfluorooctane sulfonic acid (M)

## 17 Perfluorooctane sulfonic acid

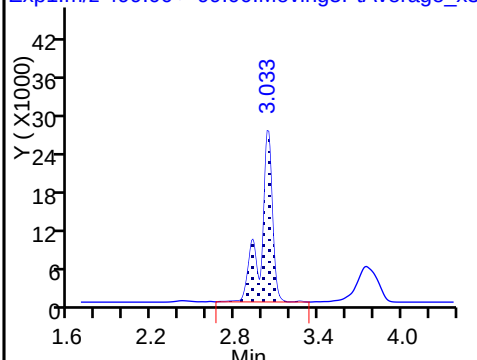
Exp1:m/z 503.00 &gt; 80.00:Moving5PtAverage\_x3



Exp1:m/z 499.00 &gt; 80.00:Moving5PtAverage\_x3



Exp1:m/z 499.00 &gt; 99.00:Moving5PtAverage\_x3

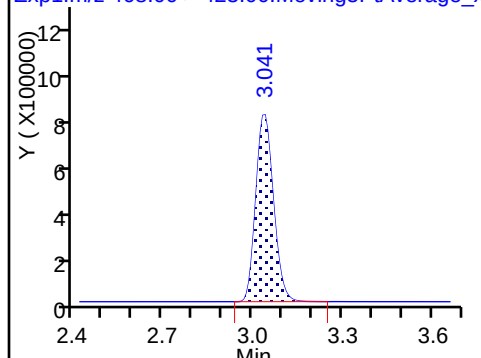


## D 19 13C5 PFNA

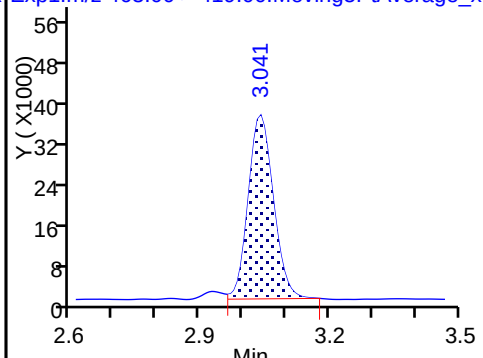
## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

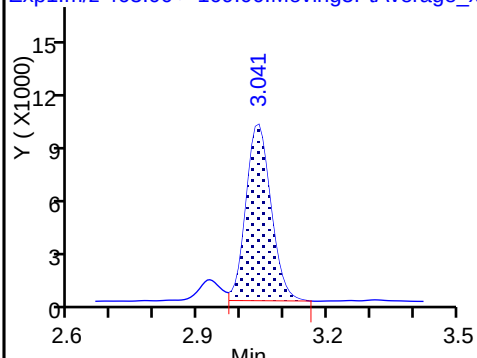
Exp1:m/z 468.00 &gt; 423.00:Moving5PtAverage\_x3



Exp1:m/z 463.00 &gt; 419.00:Moving5PtAverage\_x3



Exp1:m/z 463.00 &gt; 169.00:Moving5PtAverage\_x3

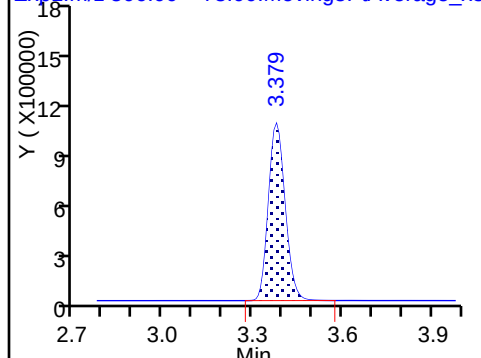


## D 21 13C8 FOSA

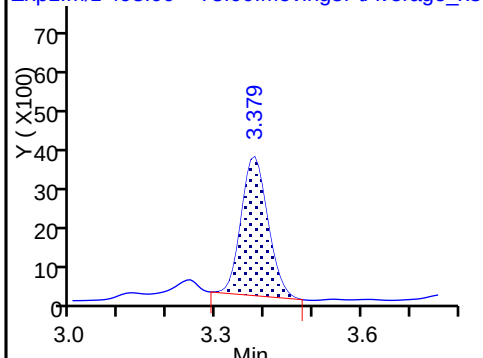
## 22 Perfluorooctane Sulfonamide

## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)

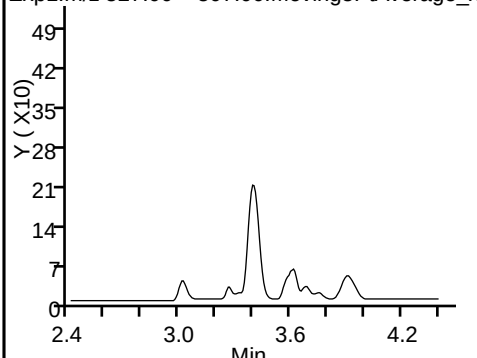
Exp1:m/z 506.00 &gt; 78.00:Moving5PtAverage\_x3



Exp1:m/z 498.00 &gt; 78.00:Moving5PtAverage\_x3



Exp1:m/z 527.00 &gt; 507.00:Moving5PtAverage\_x3

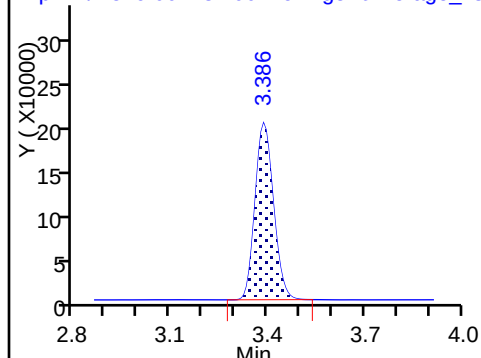


## D 26 M2-8:2FTS

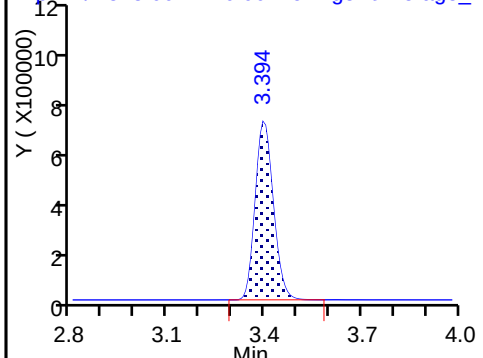
## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

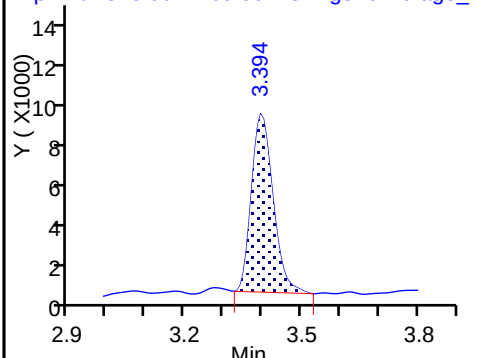
Exp1:m/z 529.00 &gt; 81.00:Moving5PtAverage\_x3



Exp1:m/z 515.00 &gt; 470.00:Moving5PtAverage\_x3



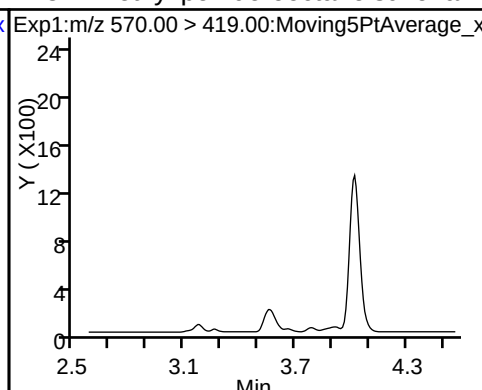
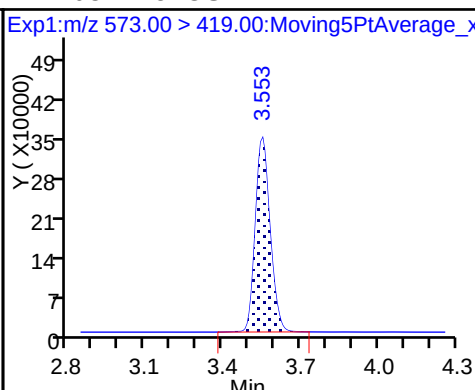
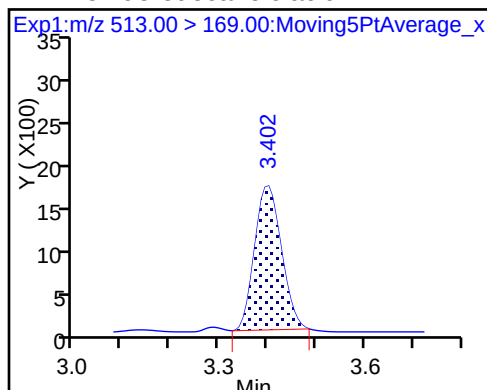
Exp1:m/z 513.00 &gt; 469.00:Moving5PtAverage\_x3



24 Perfluorodecanoic acid

D 27 d3-NMeFOSAA

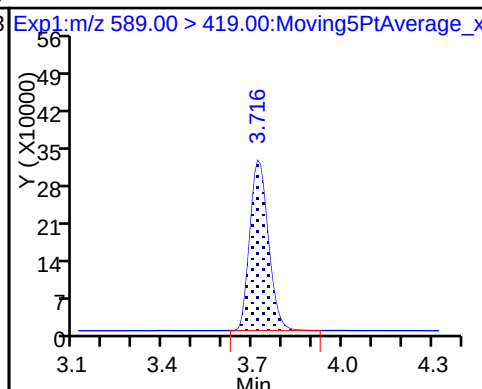
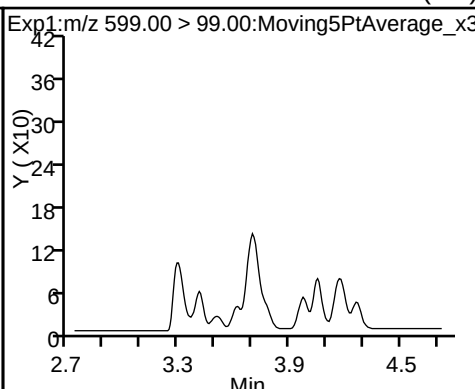
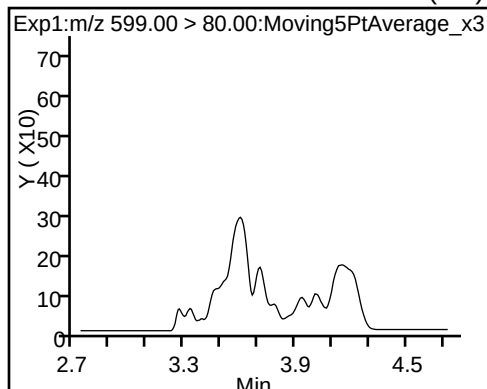
28 N-methyl perfluorooctane sulfonami (ND)



29 Perfluorodecane Sulfonic acid (ND)

29 Perfluorodecane Sulfonic acid (ND)

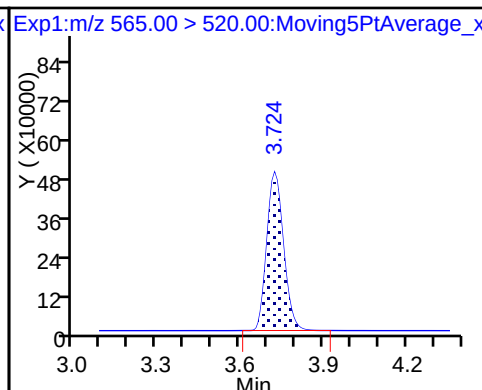
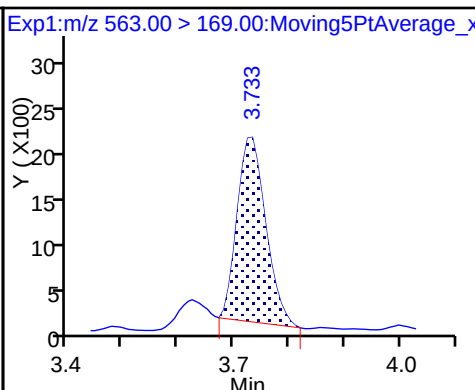
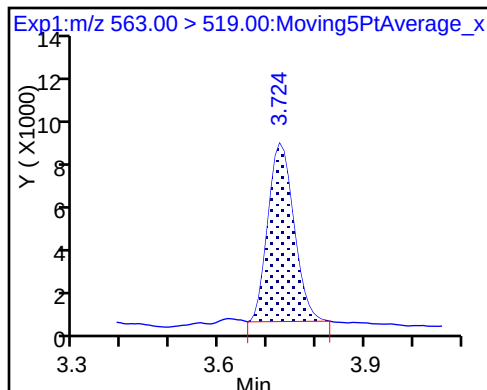
D 32 d5-NEtFOSAA



31 Perfluoroundecanoic acid

31 Perfluoroundecanoic acid

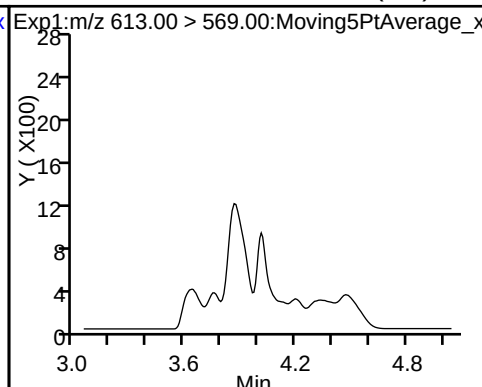
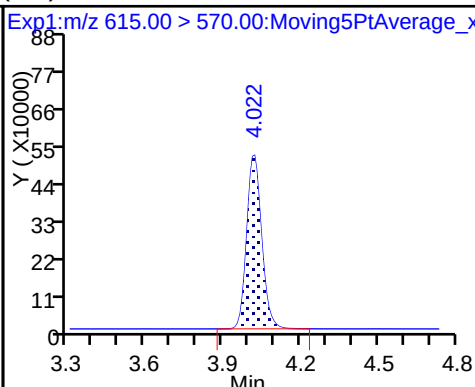
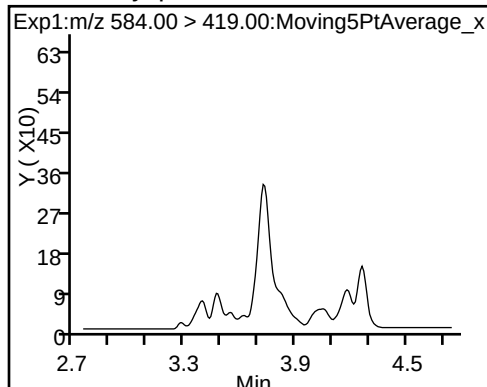
D 30 13C2 PFUnA



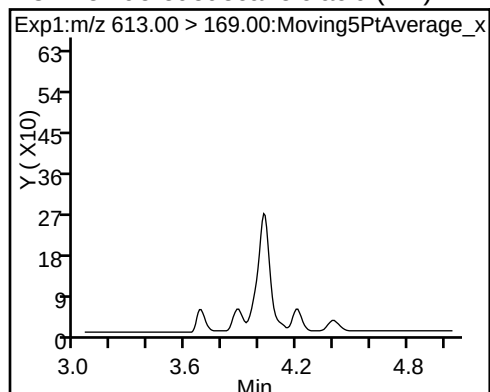
33 N-ethyl perfluorooctane sulfonamid (ND)

D 36 13C2 PFDaA

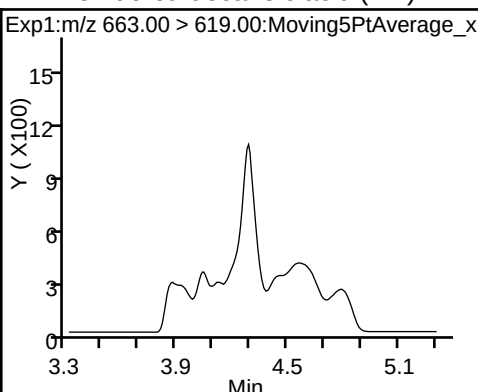
37 Perfluorododecanoic acid (ND)



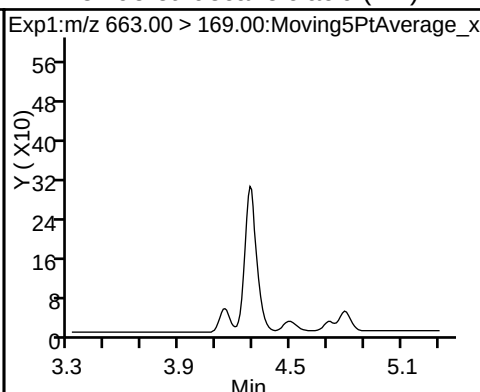
37 Perfluorododecanoic acid (ND)



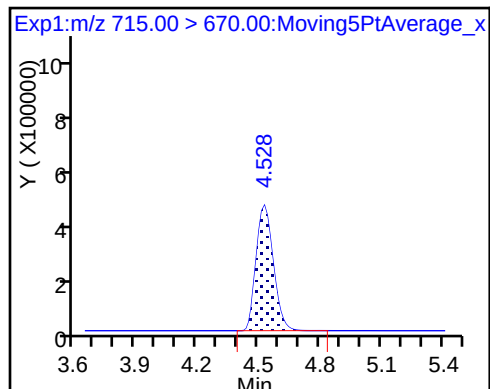
41 Perfluorotridecanoic acid (ND)



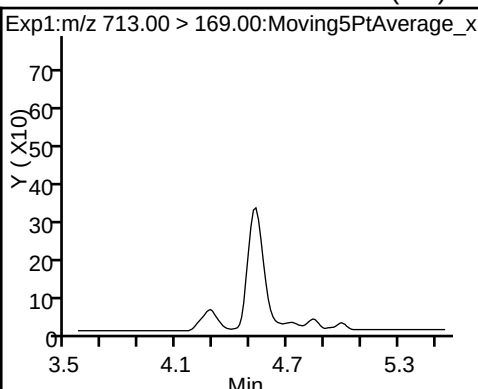
41 Perfluorotridecanoic acid (ND)



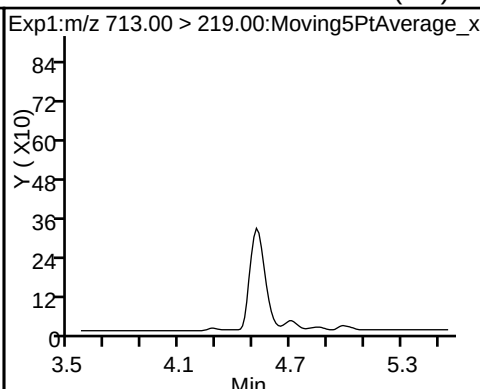
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_008.d

Injection Date: 29-Dec-2017 08:34:04

Instrument ID: A8\_N

Lims ID: 320-34293-A-3-A

Lab Sample ID: 320-34293-3

Client ID: MW-6I

Operator ID: SACINSTLCMS01

ALS Bottle#: 7 Worklist Smp#: 8

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

Column:

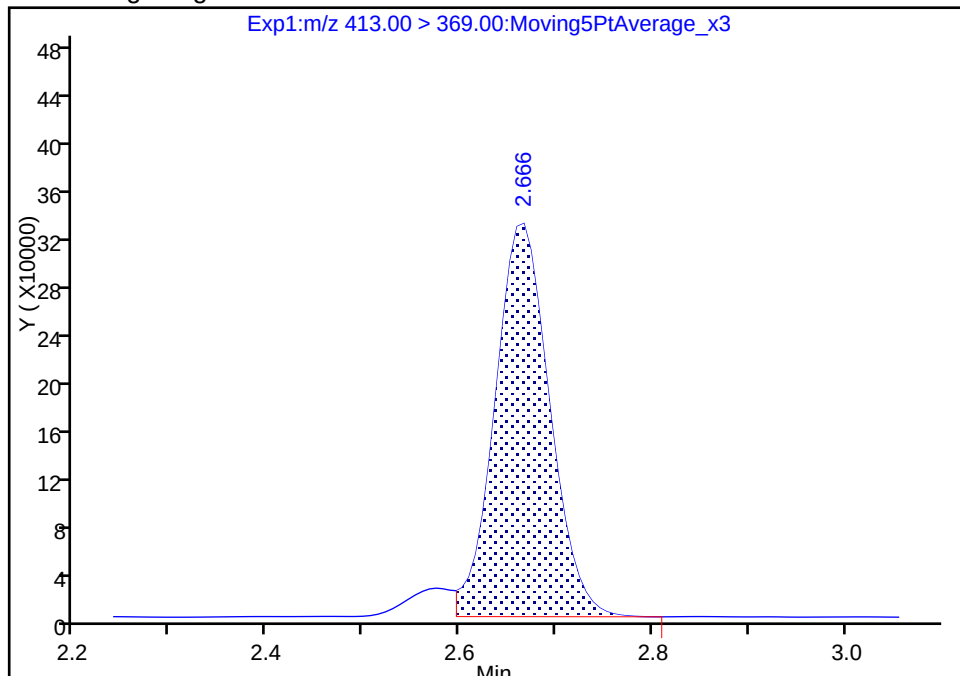
Detector: EXP1

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 1

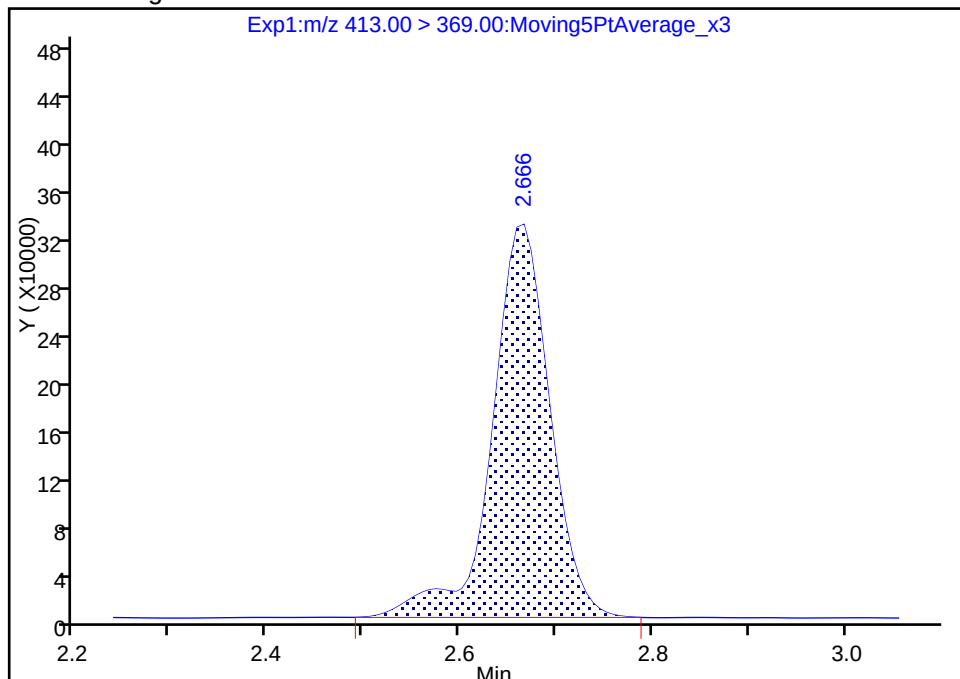
RT: 2.67  
Area: 1284061  
Amount: 0.660747  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 1360062  
Amount: 0.699855  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:23:52

Audit Action: Manually Integrated

Audit Reason: Isomers



## TestAmerica Sacramento

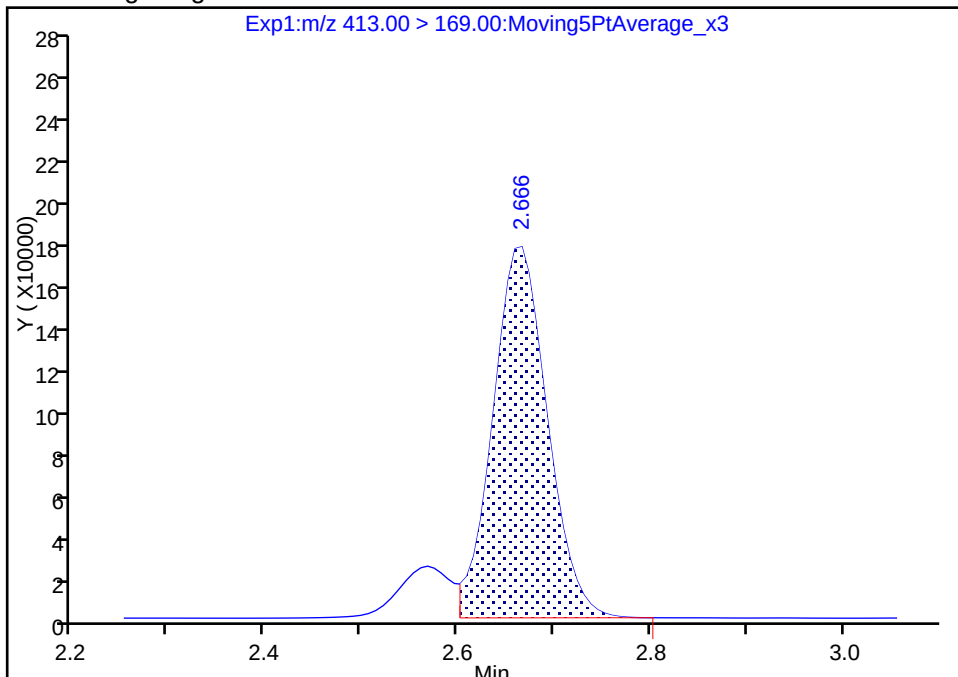
|                 |                                                                          |                |             |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_008.d |                |             |                |   |
| Injection Date: | 29-Dec-2017 08:34:04                                                     | Instrument ID: | A8_N        |                |   |
| Lims ID:        | 320-34293-A-3-A                                                          | Lab Sample ID: | 320-34293-3 |                |   |
| Client ID:      | MW-6I                                                                    |                |             |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 7           | Worklist Smp#: | 8 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |   |
| Column:         |                                                                          | Detector       | EXP1        |                |   |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

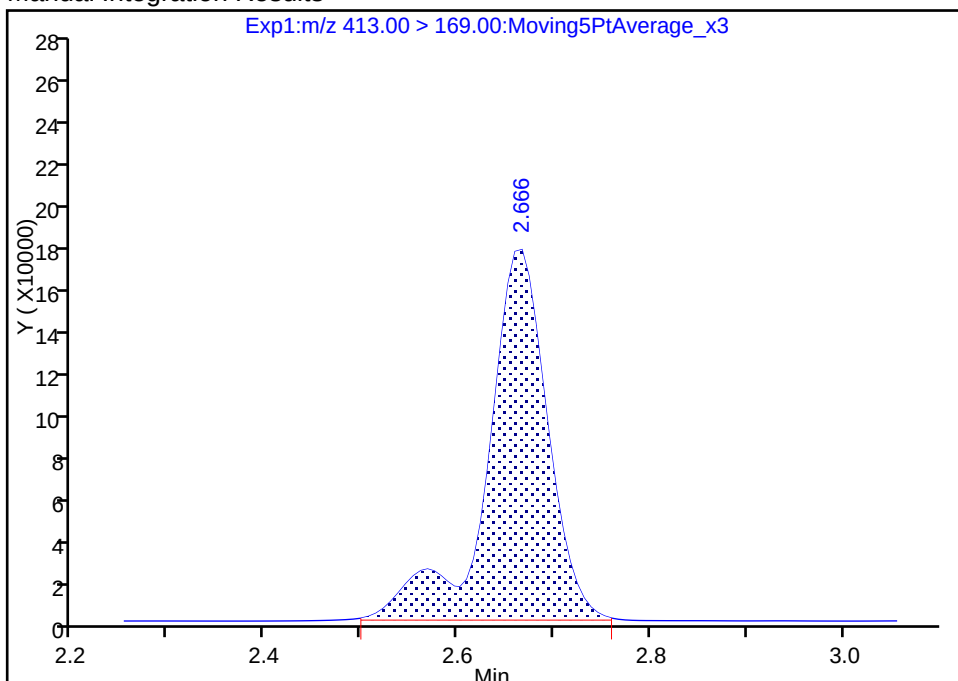
RT: 2.67  
Area: 681942  
Amount: 0.660747  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 766638  
Amount: 0.699855  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:23:56

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

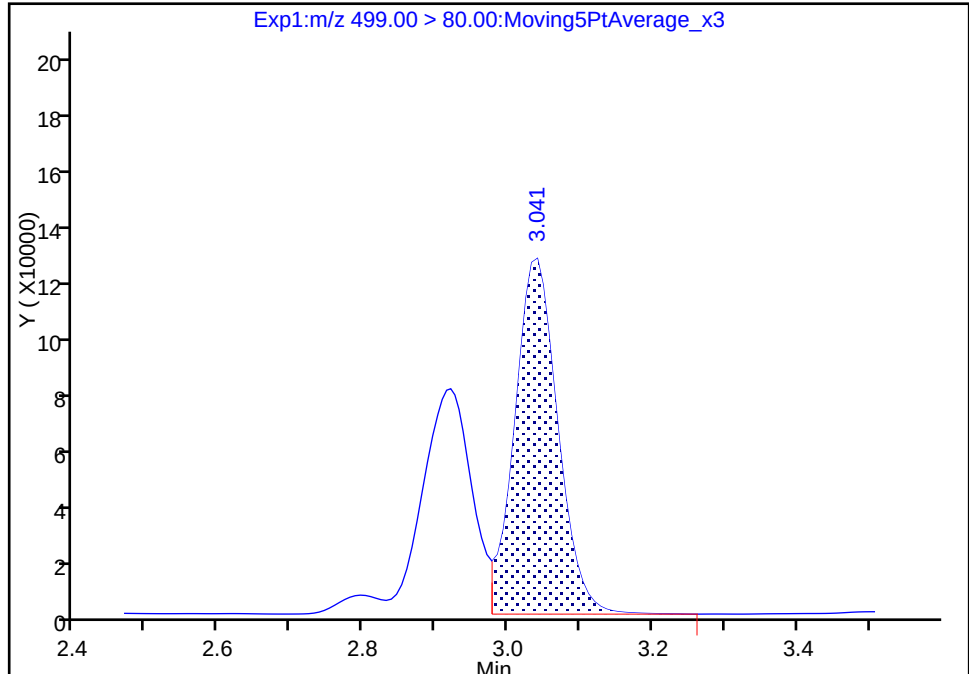
|                 |                                                                          |                |             |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_008.d |                |             |                |   |
| Injection Date: | 29-Dec-2017 08:34:04                                                     | Instrument ID: | A8_N        |                |   |
| Lims ID:        | 320-34293-A-3-A                                                          | Lab Sample ID: | 320-34293-3 |                |   |
| Client ID:      | MW-6I                                                                    |                |             |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 7           | Worklist Smp#: | 8 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |   |
| Column:         |                                                                          | Detector       | EXP1        |                |   |

**17 Perfluorooctane sulfonic acid, CAS: 1763-23-1**

Signal: 1

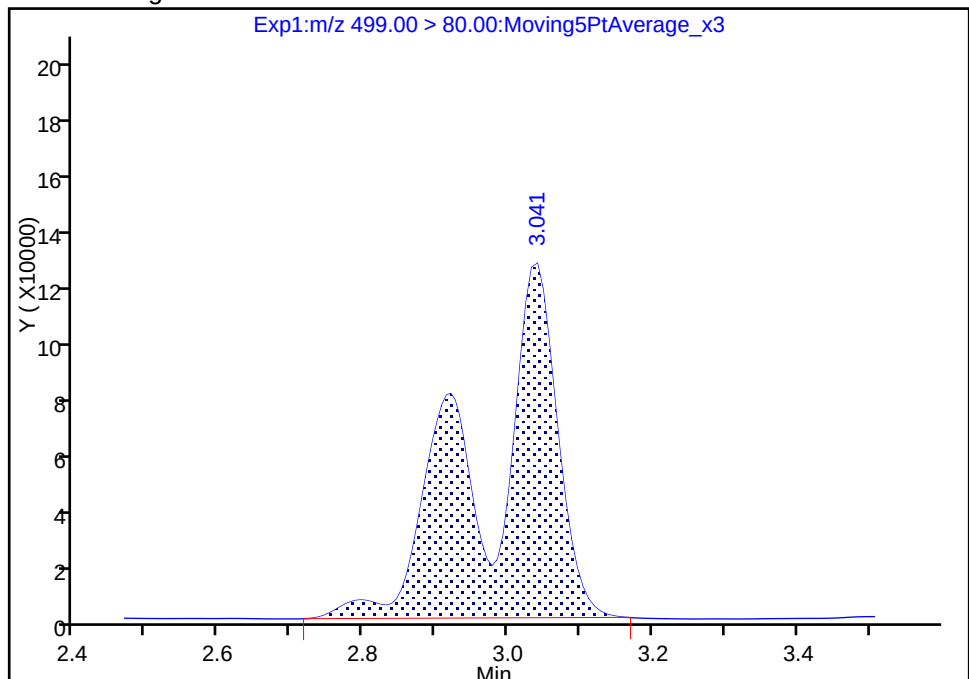
RT: 3.04  
Area: 507348  
Amount: 0.359904  
Amount Units: ng/ml

## Processing Integration Results



RT: 3.04  
Area: 887165  
Amount: 0.629340  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:31:56

Audit Action: Manually Integrated

Audit Reason: Isomers

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-10S</u>         | Lab Sample ID: <u>320-34293-4</u>            |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_009.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 11:06</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>291.7 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:41</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 7.48   | B | 1.71 | 0.30 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 13.4   |   | 1.71 | 0.42 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 13.2   |   | 1.71 | 0.50 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 12.1   |   | 1.71 | 0.21 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 24.2   |   | 1.71 | 0.73 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 3.74   |   | 1.71 | 0.23 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 1.07   | J | 1.71 | 0.27 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 0.94   | U | 1.71 | 0.94 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.47   | U | 1.71 | 0.47 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.11   | U | 1.71 | 1.11 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.25   | U | 1.71 | 0.25 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 3.19   |   | 1.71 | 0.17 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 3.49   | B | 1.71 | 0.15 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.56   | J | 1.71 | 0.16 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 23.4   |   | 1.71 | 0.46 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.27   | U | 1.71 | 0.27 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 1.85   |   | 1.71 | 0.30 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.66   | U | 17.1 | 2.66 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.63   | U | 17.1 | 1.63 |
| 27619-97-2 | 6:2FTS                                                     | 1.71   | U | 17.1 | 1.71 |
| 39108-34-4 | 8:2FTS                                                     | 1.71   | U | 17.1 | 1.71 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-10S</u>         | Lab Sample ID: <u>320-34293-4</u>                   |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_009.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 11:06</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>291.7 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:41</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 58   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 77   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 80   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 86   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 92   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 88   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 88   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 90   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 84   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 91   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 81   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 85   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 82   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 75   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 92   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 86   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 123  |   | 25-150 |
| STL02280 | M2-8:2FTS        | 94   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_009.d  
 Lims ID: 320-34293-A-4-A  
 Client ID: MW-10S  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 08:41:53 ALS Bottle#: 8 Worklist Smp#: 9  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-4-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:35:54 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:35:54

| Signal                         | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|--------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                  |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                | 1.439 | 1.433  | 0.006  | 0.540  | 5070760  | 1.46         |                   | 58.4 | 14793 |       |
| 2 Perfluorobutyric acid        |       |        |        |        |          |              |                   |      |       | M     |
| 212.90 > 169.00                | 1.439 | 1.434  | 0.005  | 1.000  | 404195   | 0.2181       |                   |      | 48.7  | M     |
| 4 Perfluoropentanoic acid      |       |        |        |        |          |              |                   |      |       | M     |
| 262.90 > 219.00                | 1.690 | 1.691  | -0.001 | 1.000  | 685501   | 0.3921       |                   |      | 91.1  | M     |
| D 3 13C5-PFPeA                 |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                | 1.690 | 1.692  | -0.002 | 0.634  | 3896033  | 1.92         |                   | 77.0 | 22262 |       |
| D 47 13C3-PFBS                 |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                 | 1.725 | 1.725  | 0.0    | 0.647  | 82715    | 1.89         |                   | 81.1 | 721   |       |
| 5 Perfluorobutanesulfonic acid |       |        |        |        |          |              |                   |      |       | M     |
| 298.90 > 80.00                 | 1.725 | 1.730  | -0.005 | 1.000  | 247388   | 0.0929       |                   |      | 39.8  | M     |
| 298.90 > 99.00                 | 1.725 | 1.730  | -0.005 | 1.000  | 123418   |              | 2.00(1.25-3.74)   |      | 112   | M     |
| D 7 13C2 PFHxA                 |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                | 1.976 | 1.976  | 0.0    | 0.741  | 4327975  | 1.99         |                   | 79.5 | 35770 |       |
| 6 Perfluorohexanoic acid       |       |        |        |        |          |              |                   |      |       | M     |
| 313.00 > 269.00                | 1.976 | 1.979  | -0.003 | 1.000  | 665182   | 0.3848       |                   |      | 161   | M     |
| 313.00 > 119.00                | 1.976 | 1.979  | -0.003 | 1.000  | 63682    |              | 10.45(5.03-15.10) |      | 397   |       |
| D 9 13C4-PFHpA                 |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                | 2.306 | 2.311  | -0.005 | 0.865  | 4326454  | 2.14         |                   | 85.7 | 33908 |       |
| 10 Perfluoroheptanoic acid     |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                | 2.306 | 2.311  | -0.005 | 1.000  | 640163   | 0.3537       |                   |      | 344   |       |
| 363.00 > 169.00                | 2.306 | 2.311  | -0.005 | 1.000  | 259409   |              | 2.47(1.13-3.40)   |      | 1755  |       |
| 8 Perfluorohexanesulfonic acid |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                 | 2.319 | 2.324  | -0.005 | 1.000  | 243212   | 0.1017       |                   |      | 88.9  |       |
| 399.00 > 99.00                 | 2.319 | 2.324  | -0.005 | 1.000  | 76810    |              | 3.17(1.50-4.49)   |      | 131   |       |
| D 11 18O2 PFHxS                |       |        |        |        |          |              |                   |      |       |       |
| 403.00 > 84.00                 | 2.319 | 2.328  | -0.009 | 0.870  | 5175203  | 2.02         |                   | 85.3 | 47175 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 12 M2-6:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649     | -0.011    | 0.989     | 1117101  | 2.92            |                 | 123  | 3511  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |           |           |           |          |                 |                 |      |       |       |
| 427.00 > 407.00                       | 2.638 | 2.651     | -0.013    | 1.000     | 11339    | 0.0144          |                 |      | 519   |       |
| D 14 13C4 PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 417.00 > 372.00                       | 2.659 | 2.674     | -0.015    | 0.997     | 4739391  | 2.30            |                 | 91.9 | 38183 |       |
| * 62 13C2-PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 415.00 > 370.00                       | 2.666 | 2.676     | -0.010    |           | 5016160  | 2.50            |                 |      | 34410 |       |
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |      |       | M     |
| 413.00 > 369.00                       | 2.659 | 2.677     | -0.018    | 1.000     | 1417987  | 0.7066          |                 |      | 686   | M     |
| 413.00 > 169.00                       | 2.666 | 2.677     | -0.011    | 1.003     | 808710   |                 | 1.75(0.84-2.52) |      | 4119  | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |           |           |           |          |                 |                 |      |       | RM    |
| 449.00 > 80.00                        | 2.688 | 2.683     | 0.005     | 1.000     | 27745    | 0.0162          |                 |      | 32.3  | RM    |
| 449.00 > 99.00                        | 2.688 | 2.683     | 0.005     | 1.000     | 3865     |                 | 7.18(1.94-5.82) |      | 18.8  |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |      |       |       |
| 503.00 > 80.00                        | 3.033 | 3.048     | -0.015    | 1.137     | 3329263  | 1.96            |                 | 81.9 | 11247 |       |
| 17 Perfluorooctane sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 499.00 > 80.00                        | 3.033 | 3.050     | -0.017    | 1.000     | 1019120  | 0.6817          |                 |      | 158   |       |
| 499.00 > 99.00                        | 3.033 | 3.050     | -0.017    | 1.000     | 193606   |                 | 5.26(2.31-6.93) |      | 187   |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |      |       |       |
| 468.00 > 423.00                       | 3.033 | 3.051     | -0.018    | 1.137     | 3640486  | 2.21            |                 | 88.4 | 37163 |       |
| 20 Perfluorononanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 463.00 > 419.00                       | 3.040 | 3.052     | -0.012    | 1.003     | 154888   | 0.1092          |                 |      | 234   |       |
| 463.00 > 169.00                       | 3.040 | 3.052     | -0.012    | 1.003     | 36486    |                 | 4.25(1.90-5.69) |      | 438   |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |      |       |       |
| 506.00 > 78.00                        | 3.385 | 3.377     | 0.008     | 1.270     | 4283917  | 1.86            |                 | 74.5 | 23850 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |      |       |       |
| 498.00 > 78.00                        | 3.385 | 3.378     | 0.007     | 1.000     | 87931    | 0.0541          |                 |      | 91.4  |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 529.00 > 81.00                        | 3.393 | 3.403     | -0.010    | 1.273     | 951275   | 2.26            |                 | 94.4 | 8085  |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 470.00                       | 3.401 | 3.414     | -0.013    | 1.275     | 2929904  | 2.19            |                 | 87.5 | 33216 |       |
| 24 Perfluorodecanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 513.00 > 469.00                       | 3.401 | 3.414     | -0.013    | 1.000     | 35946    | 0.0311          |                 |      | 109   |       |
| 513.00 > 169.00                       | 3.401 | 3.414     | -0.013    | 1.000     | 6652     |                 | 5.40(2.36-7.09) |      | 252   |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 573.00 > 419.00                       | 3.559 | 3.569     | -0.010    | 1.335     | 1599713  | 2.31            |                 | 92.4 | 14419 |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.723 | 3.740     | -0.017    | 1.396     | 1521248  | 2.16            |                 | 86.3 | 10486 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.732 | 3.747     | -0.015    | 1.400     | 2281298  | 2.25            |                 | 90.0 | 27398 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.732 | 3.747     | -0.015    | 1.002     | 26462    | 0.0451          |                 |      | 63.6  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.028 | 4.045     | -0.017    | 1.511     | 2316260  | 2.10            |                 | 84.1 | 53150 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.527 | 4.557     | -0.030    | 1.698     | 2736333  | 2.28            |                 | 91.4 | 25996 |       |

## QC Flag Legend

### Processing Flags

R - Failed Signal Ratio Test

### Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_009.d

Injection Date: 29-Dec-2017 08:41:53

Instrument ID: A8\_N

Lims ID: 320-34293-A-4-A

Lab Sample ID: 320-34293-4

Client ID: MW-10S

Operator ID: SACINSTLCMS01

ALS Bottle#: 8

Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

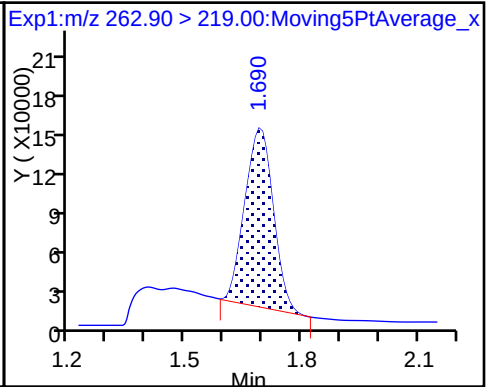
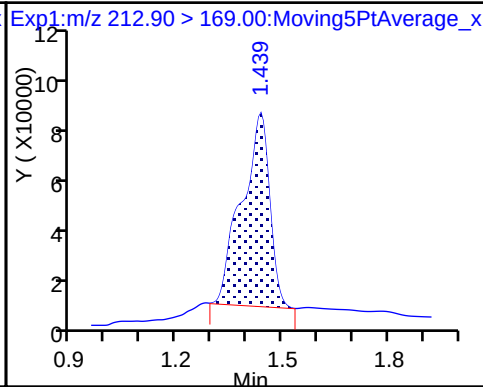
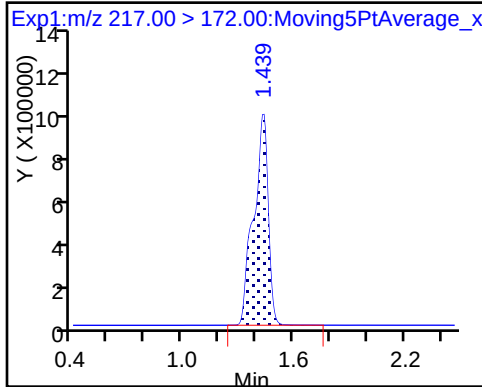
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid (M)

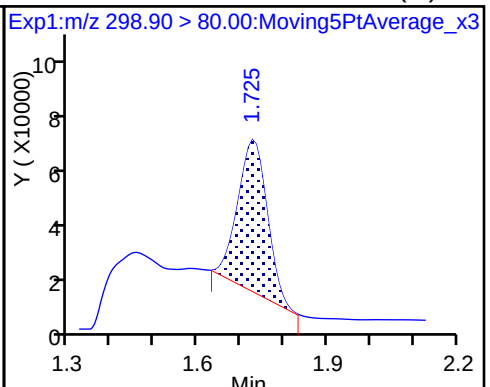
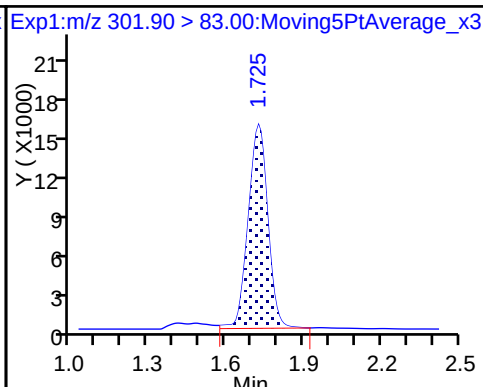
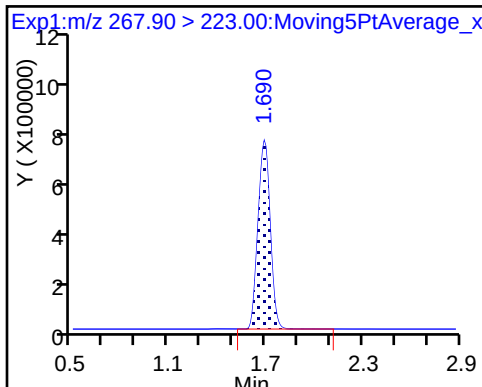
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

D 47 13C3-PFBS

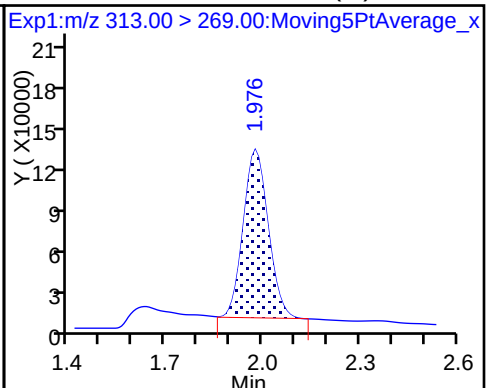
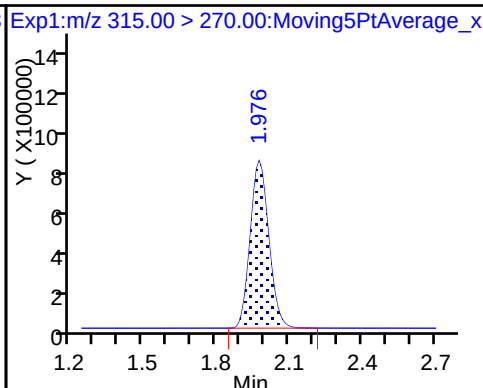
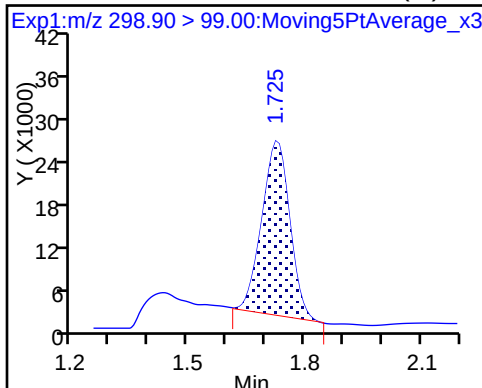
5 Perfluorobutanesulfonic acid (M)



5 Perfluorobutanesulfonic acid (M)

D 7 13C2 PFHxA

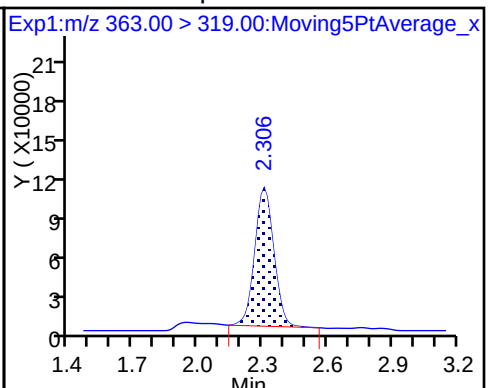
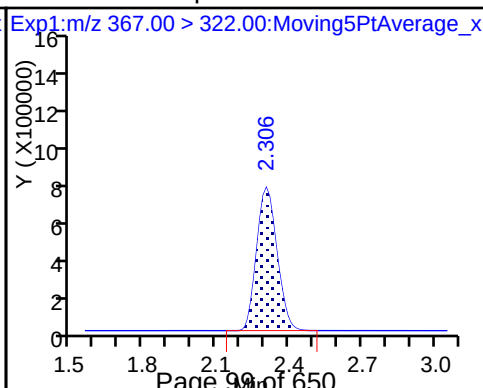
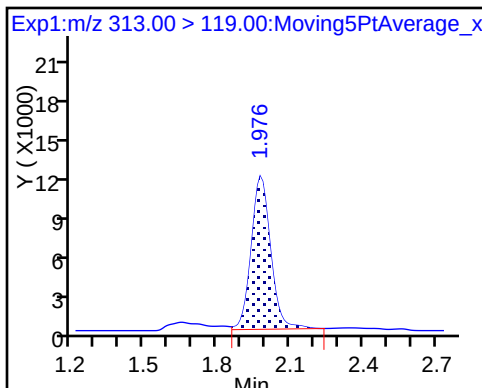
6 Perfluorohexanoic acid (M)



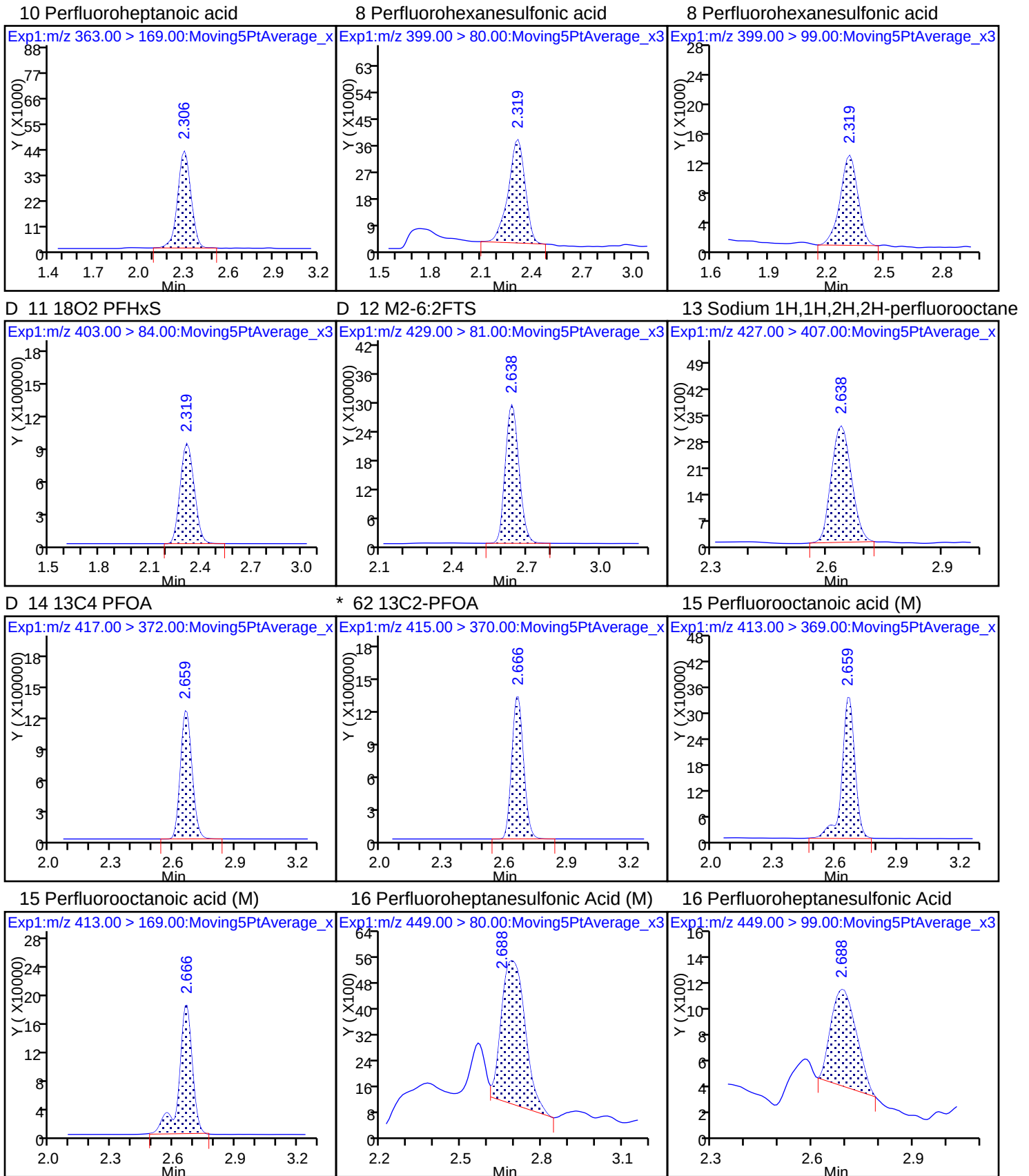
6 Perfluorohexanoic acid

D 9 13C4-PFHpA

10 Perfluoroheptanoic acid



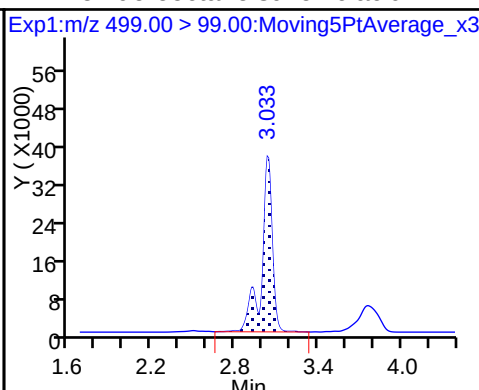
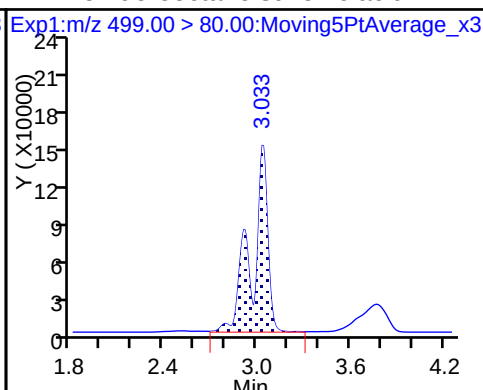
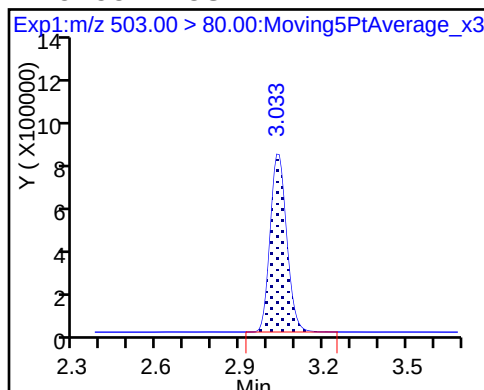




## D 18 13C4 PFOS

## 17 Perfluorooctane sulfonic acid

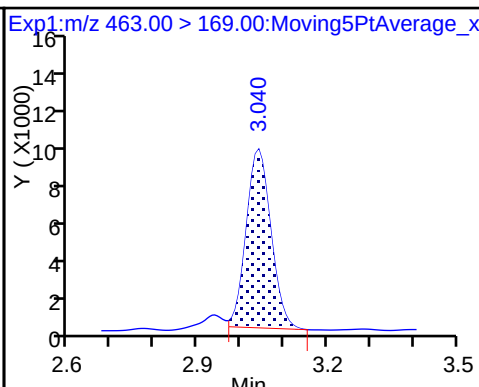
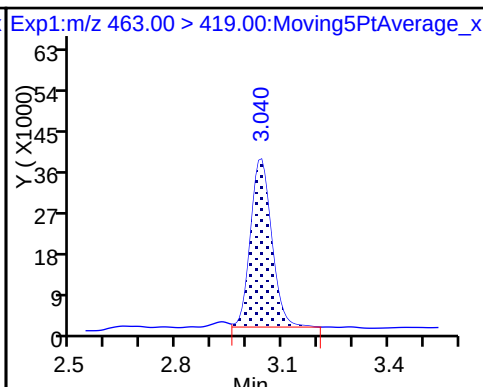
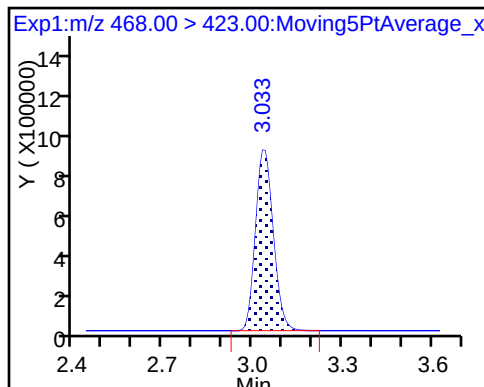
## 17 Perfluorooctane sulfonic acid



## D 19 13C5 PFNA

## 20 Perfluorononanoic acid

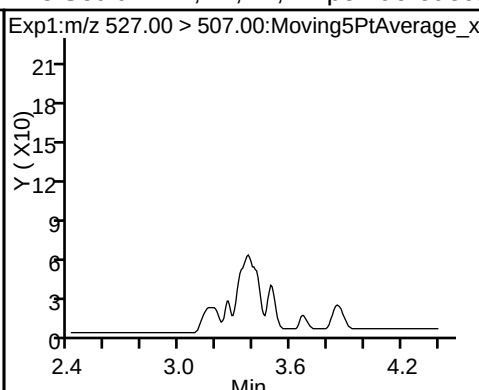
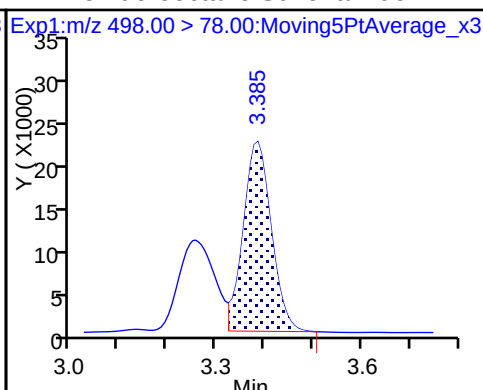
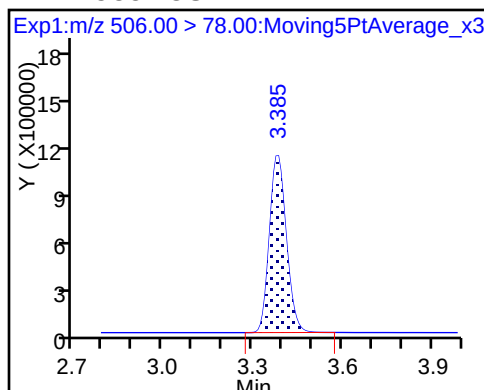
## 20 Perfluorononanoic acid



## D 21 13C8 FOSA

## 22 Perfluorooctane Sulfonamide

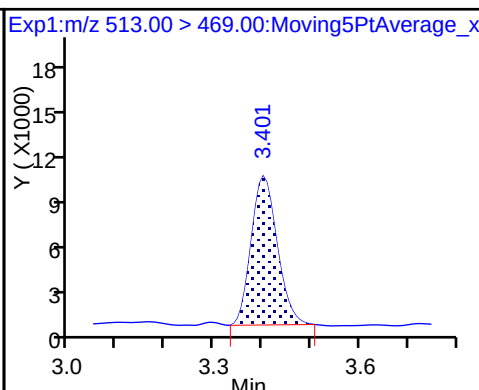
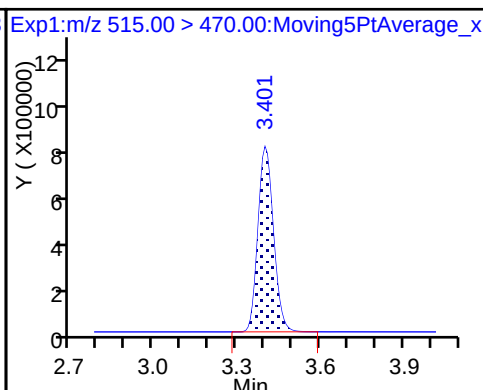
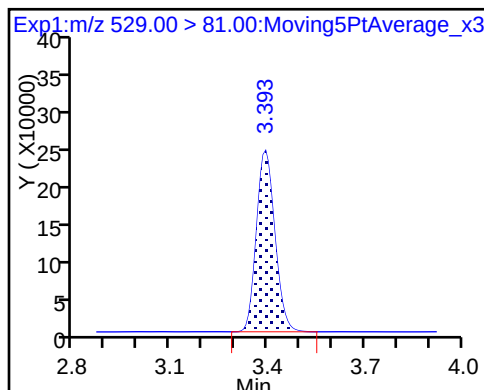
## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)



## D 26 M2-8:2FTS

## D 23 13C2 PFDA

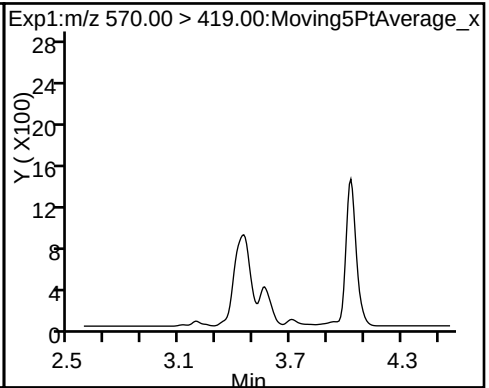
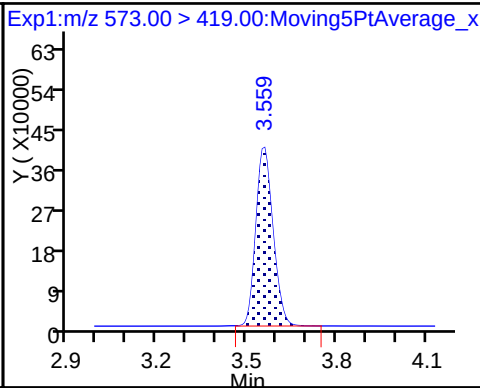
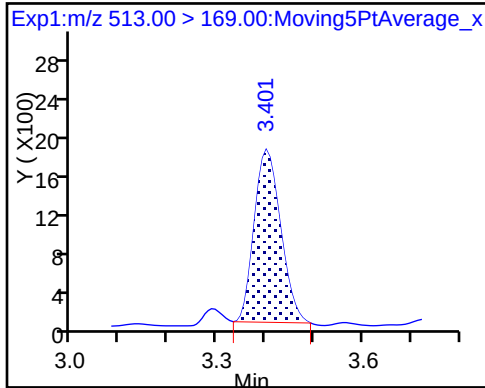
## 24 Perfluorodecanoic acid



24 Perfluorodecanoic acid

D 27 d3-NMeFOSAA

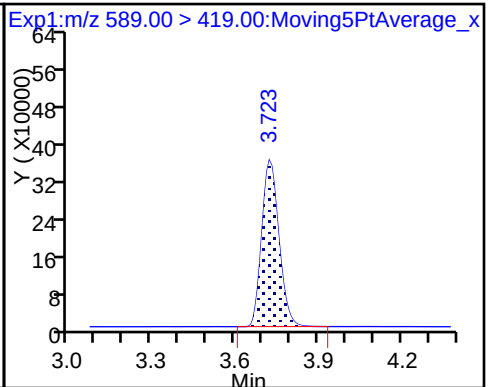
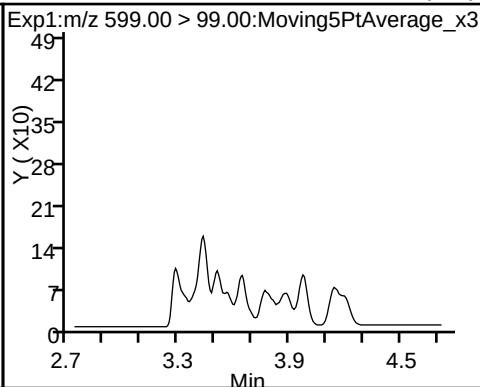
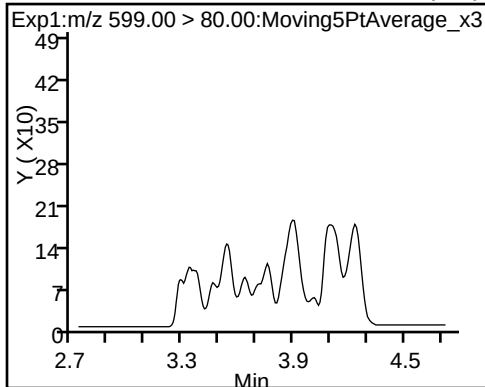
28 N-methyl perfluorooctane sulfonami (ND)



29 Perfluorodecane Sulfonic acid (ND)

29 Perfluorodecane Sulfonic acid (ND)

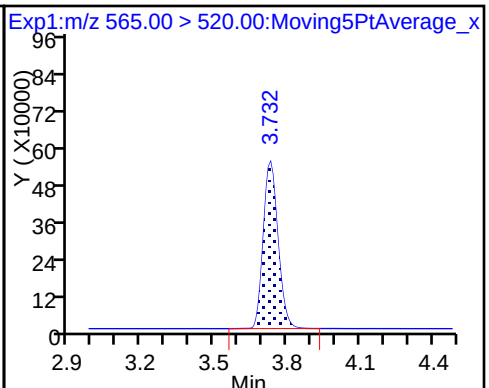
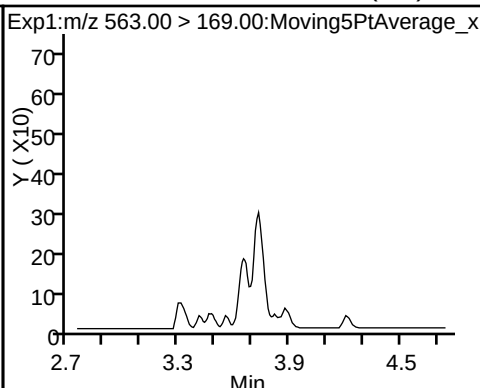
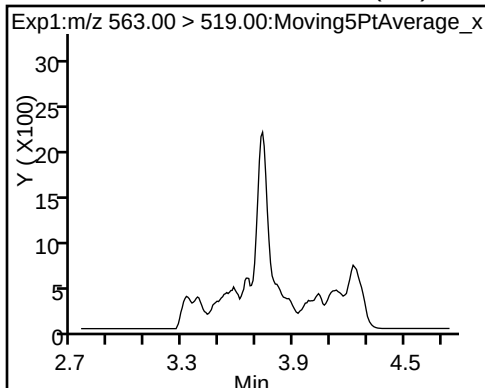
D 32 d5-NEtFOSAA



31 Perfluoroundecanoic acid (ND)

31 Perfluoroundecanoic acid (ND)

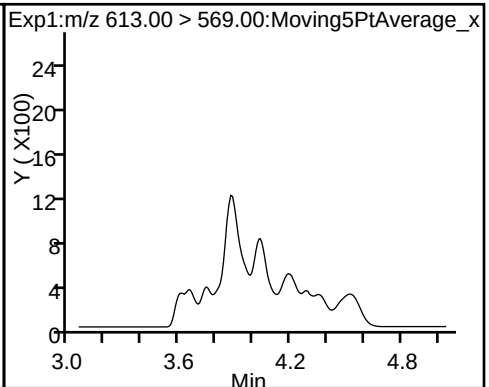
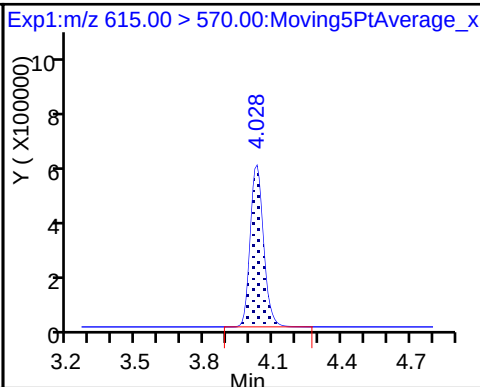
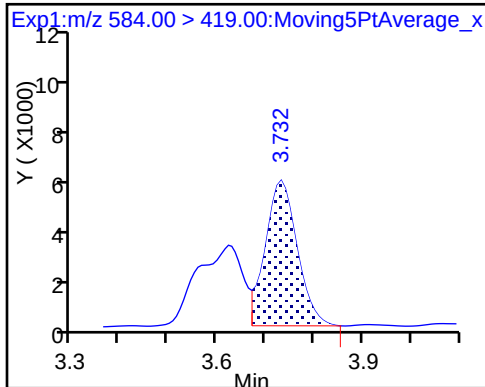
D 30 13C2 PFUnA



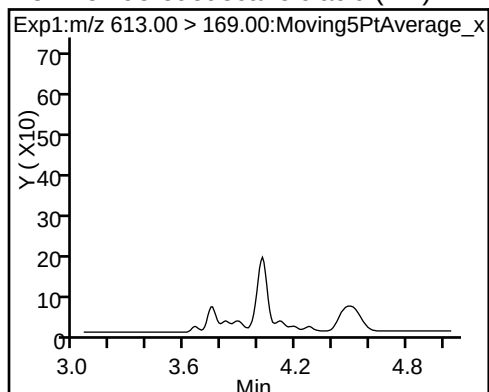
33 N-ethyl perfluorooctane sulfonamid

D 36 13C2 PFDaA

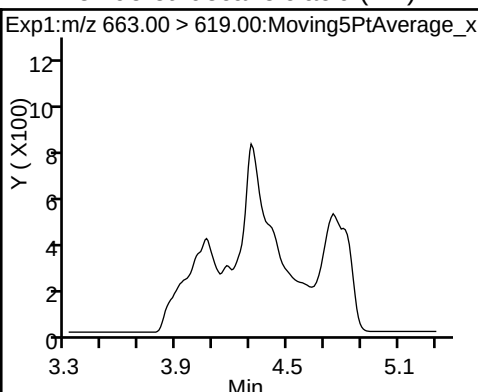
37 Perfluorododecanoic acid (ND)



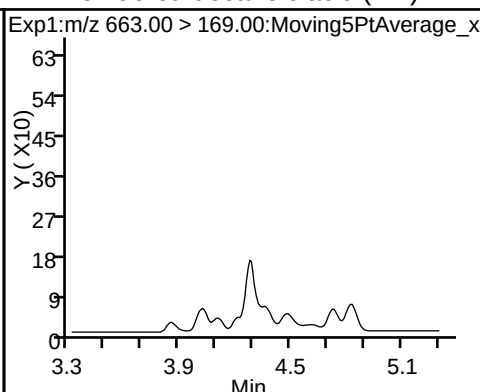
37 Perfluorododecanoic acid (ND)



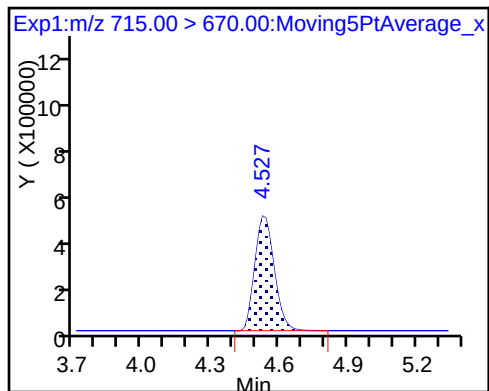
41 Perfluorotridecanoic acid (ND)



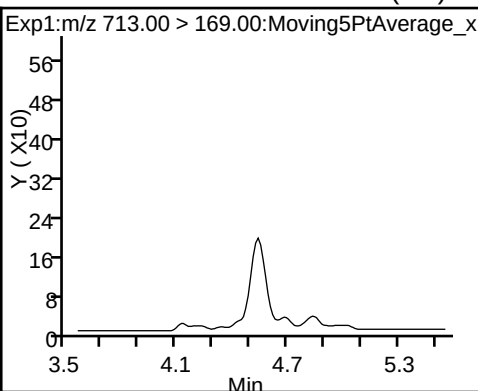
41 Perfluorotridecanoic acid (ND)



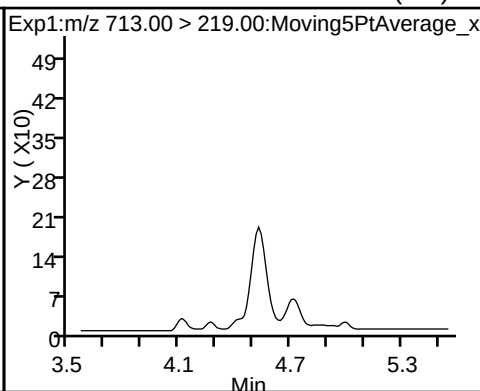
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



## TestAmerica Sacramento

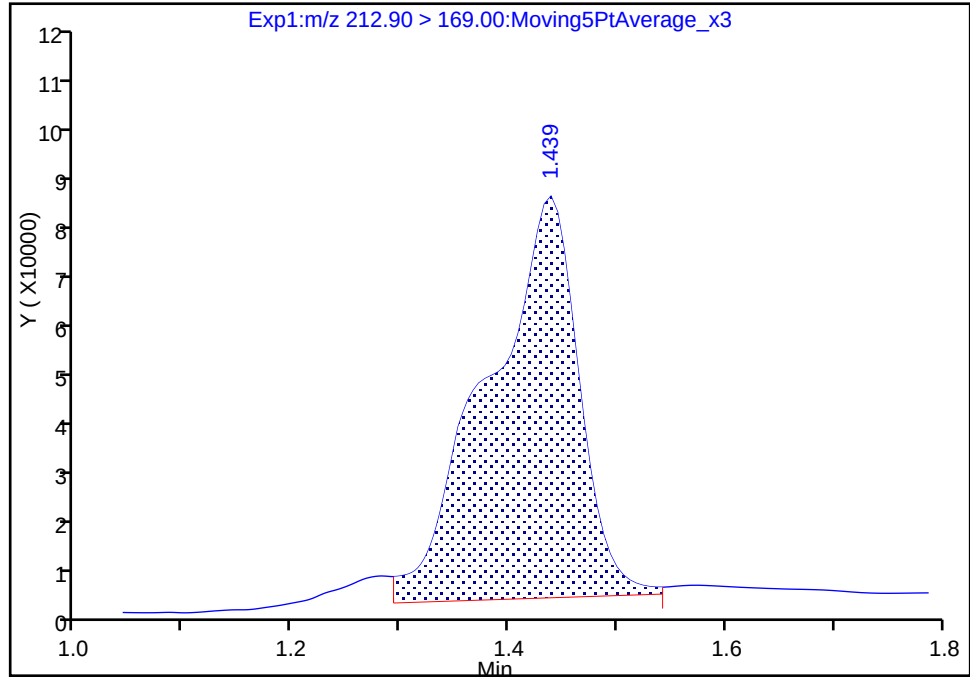
|                 |                                                                          |                |             |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_009.d |                |             |                |   |
| Injection Date: | 29-Dec-2017 08:41:53                                                     | Instrument ID: | A8_N        |                |   |
| Lims ID:        | 320-34293-A-4-A                                                          | Lab Sample ID: | 320-34293-4 |                |   |
| Client ID:      | MW-10S                                                                   |                |             |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 8           | Worklist Smp#: | 9 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |   |
| Column:         |                                                                          | Detector:      | EXP1        |                |   |

**2 Perfluorobutyric acid, CAS: 375-22-4**

Signal: 1

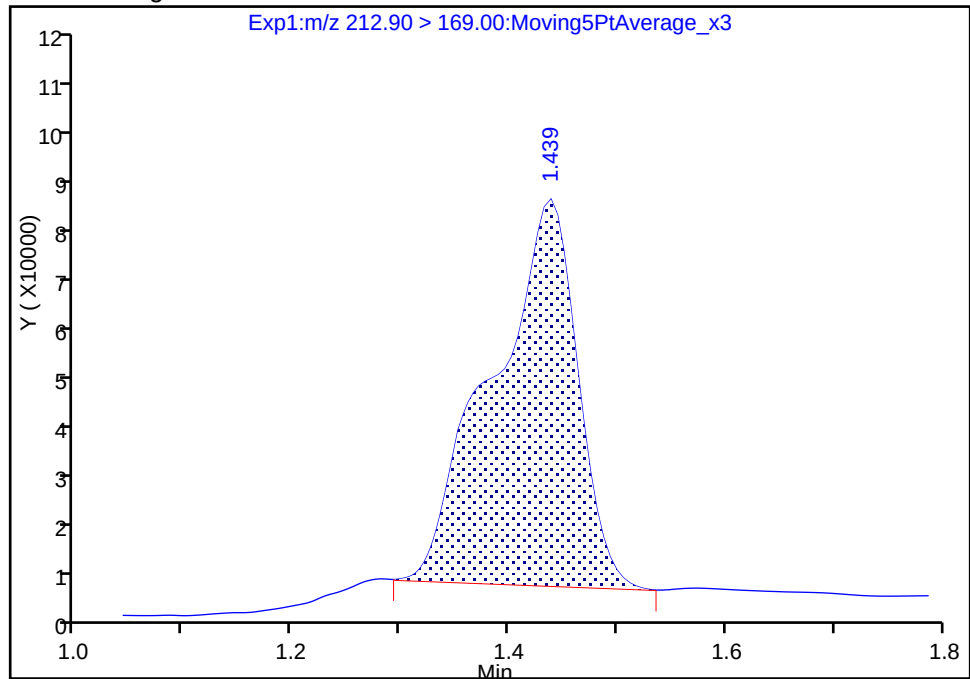
RT: 1.44  
Area: 449458  
Amount: 0.242570  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.44  
Area: 404195  
Amount: 0.218142  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:33:08

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

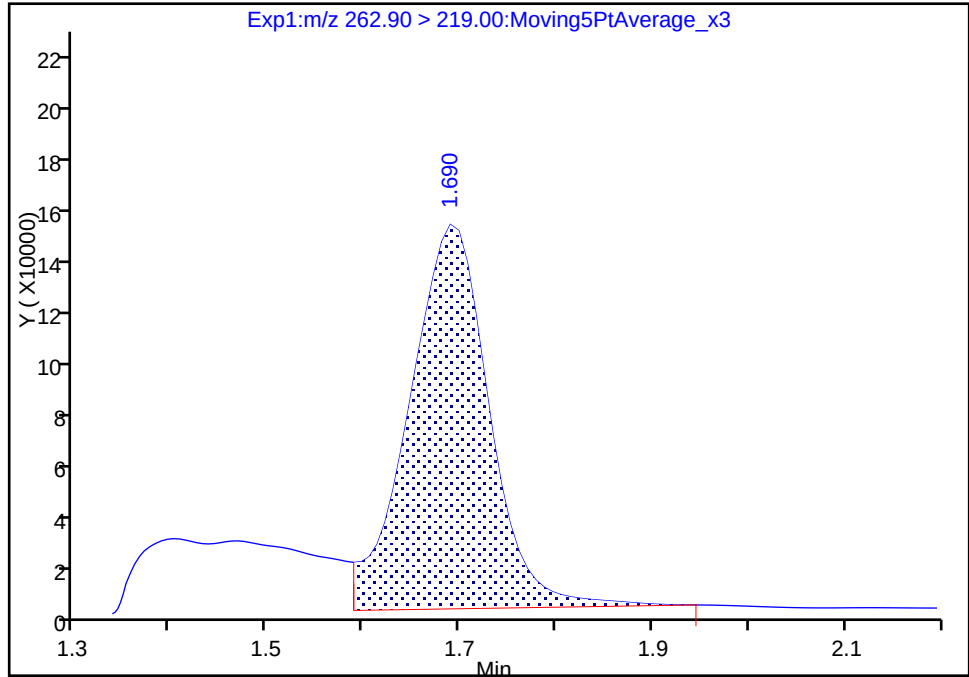
|                 |                                                                          |                |             |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_009.d |                |             |                |   |
| Injection Date: | 29-Dec-2017 08:41:53                                                     | Instrument ID: | A8_N        |                |   |
| Lims ID:        | 320-34293-A-4-A                                                          | Lab Sample ID: | 320-34293-4 |                |   |
| Client ID:      | MW-10S                                                                   |                |             |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 8           | Worklist Smp#: | 9 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |   |
| Column:         |                                                                          | Detector       | EXP1        |                |   |

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

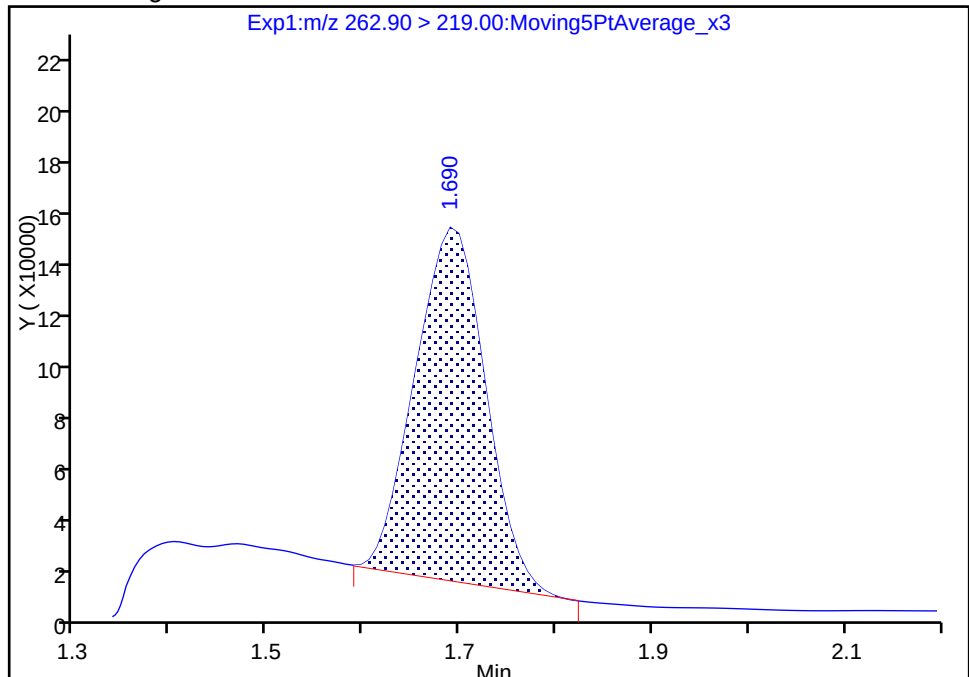
RT: 1.69  
Area: 845804  
Amount: 0.483839  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.69  
Area: 685501  
Amount: 0.392138  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:33:20  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_009.d

Injection Date: 29-Dec-2017 08:41:53

Instrument ID: A8\_N

Lims ID: 320-34293-A-4-A

Lab Sample ID: 320-34293-4

Client ID: MW-10S

Operator ID: SACINSTLCMS01

ALS Bottle#: 8 Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

Column:

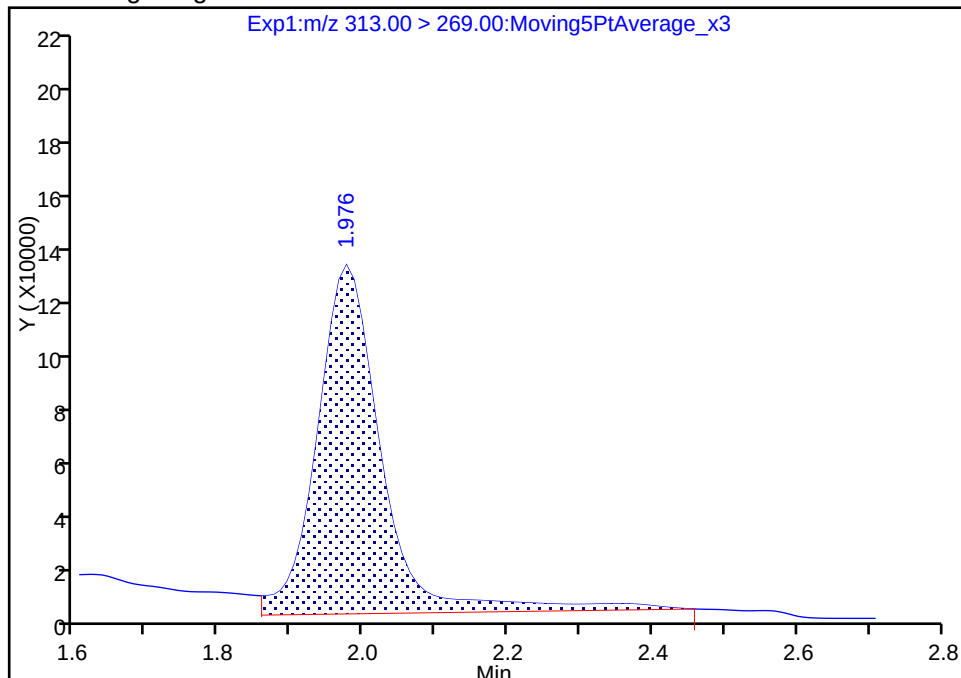
Detector: EXP1

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 1

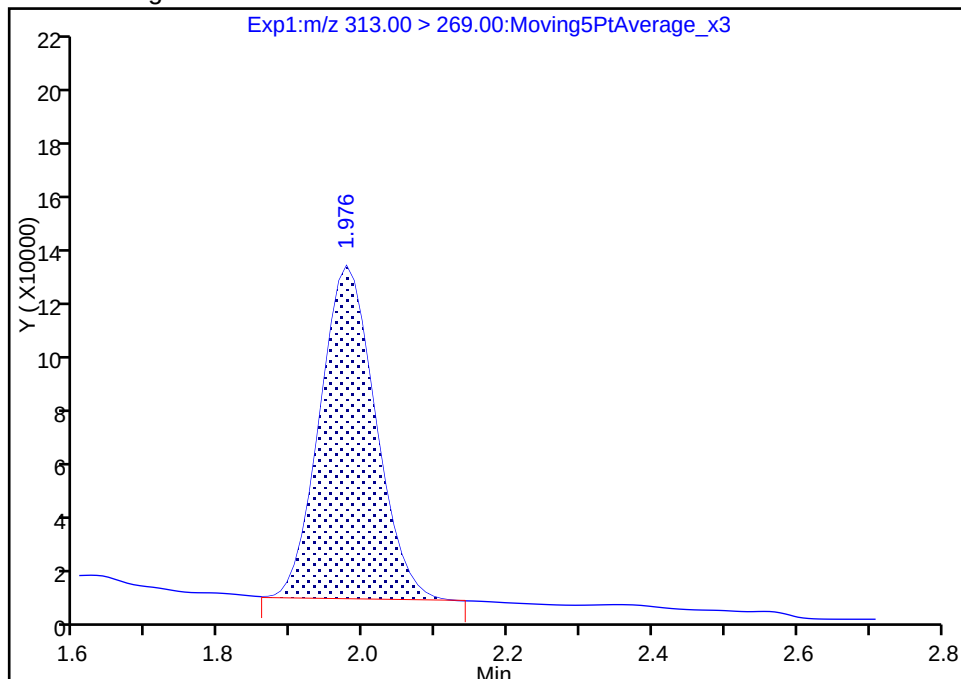
RT: 1.98  
Area: 811494  
Amount: 0.469380  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.98  
Area: 665182  
Amount: 0.384751  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:33:45

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

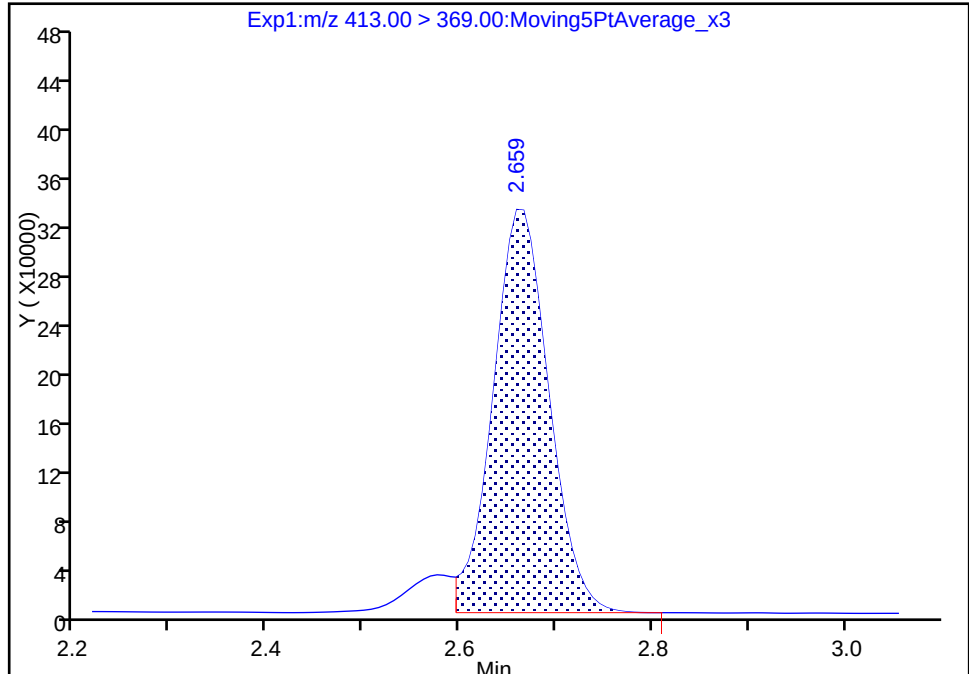
|                 |                                                                          |                |             |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_009.d |                |             |                |   |
| Injection Date: | 29-Dec-2017 08:41:53                                                     | Instrument ID: | A8_N        |                |   |
| Lims ID:        | 320-34293-A-4-A                                                          | Lab Sample ID: | 320-34293-4 |                |   |
| Client ID:      | MW-10S                                                                   |                |             |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 8           | Worklist Smp#: | 9 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |   |
| Column:         |                                                                          | Detector:      | EXP1        |                |   |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 1

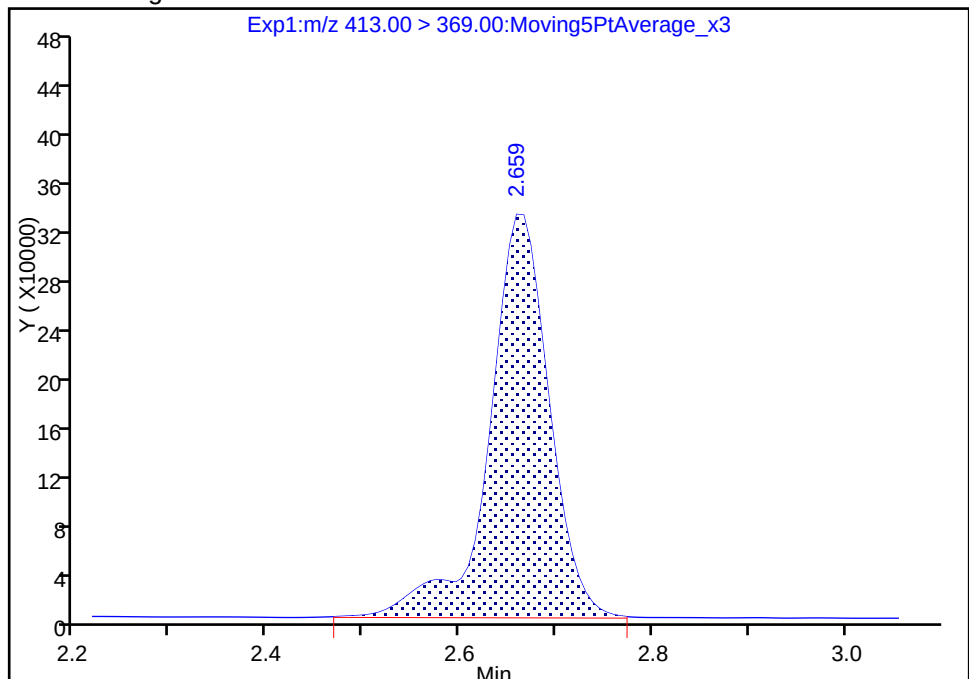
RT: 2.66  
Area: 1309614  
Amount: 0.652575  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.66  
Area: 1417987  
Amount: 0.706576  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:34:19  
Audit Action: Manually Integrated

Audit Reason: Isomers  
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## TestAmerica Sacramento

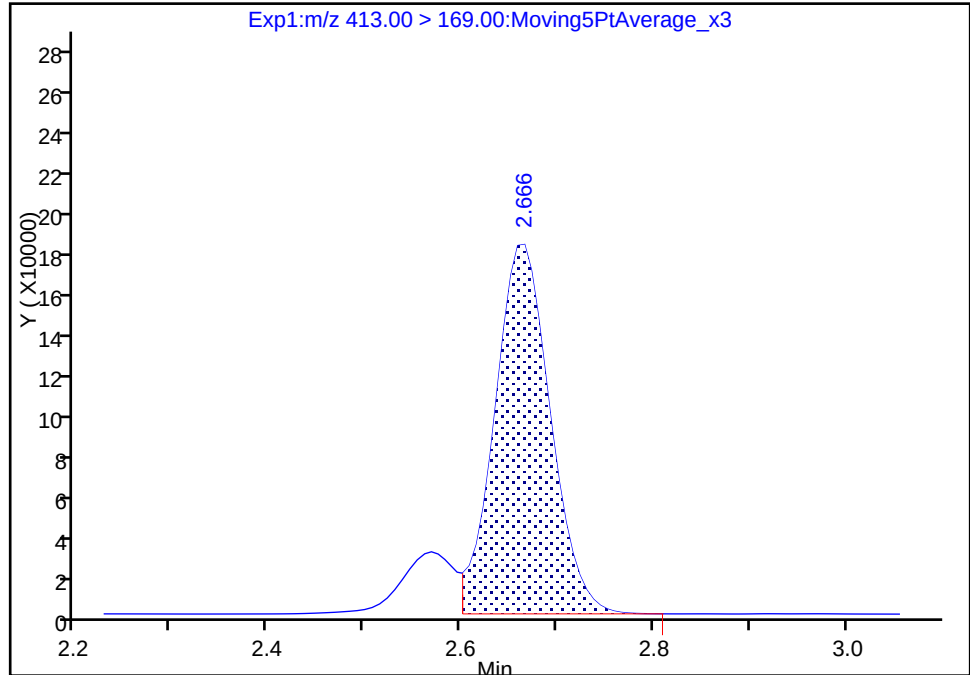
|                 |                                                                          |                |                    |
|-----------------|--------------------------------------------------------------------------|----------------|--------------------|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_009.d |                |                    |
| Injection Date: | 29-Dec-2017 08:41:53                                                     | Instrument ID: | A8_N               |
| Lims ID:        | 320-34293-A-4-A                                                          | Lab Sample ID: | 320-34293-4        |
| Client ID:      | MW-10S                                                                   |                |                    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 8 Worklist Smp#: 9 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000             |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL        |
| Column:         |                                                                          | Detector       | EXP1               |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

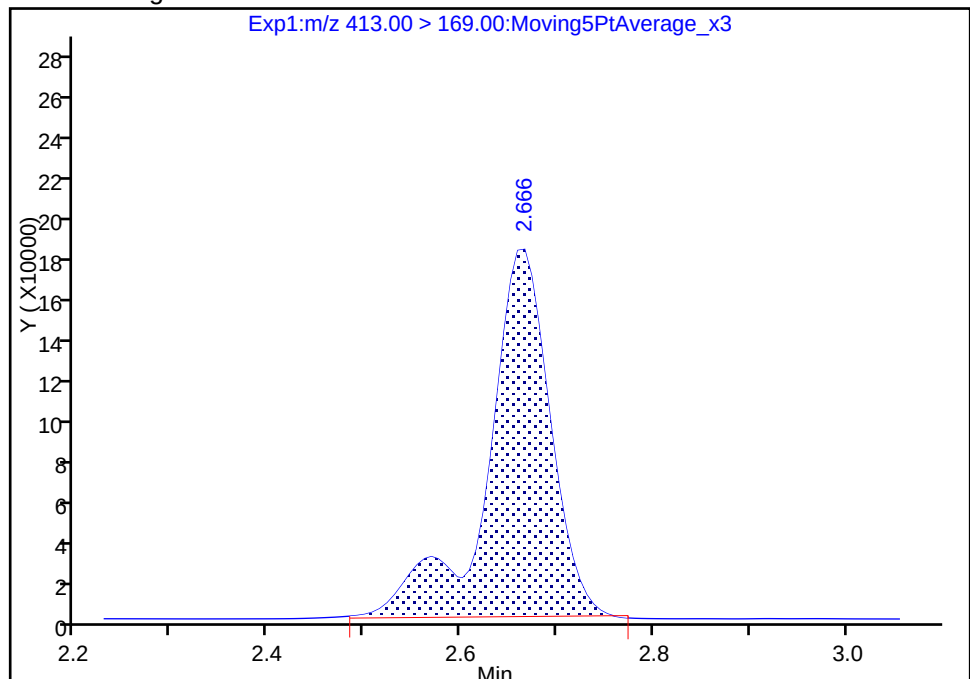
RT: 2.67  
Area: 712289  
Amount: 0.652575  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 808710  
Amount: 0.706576  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:34:24

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

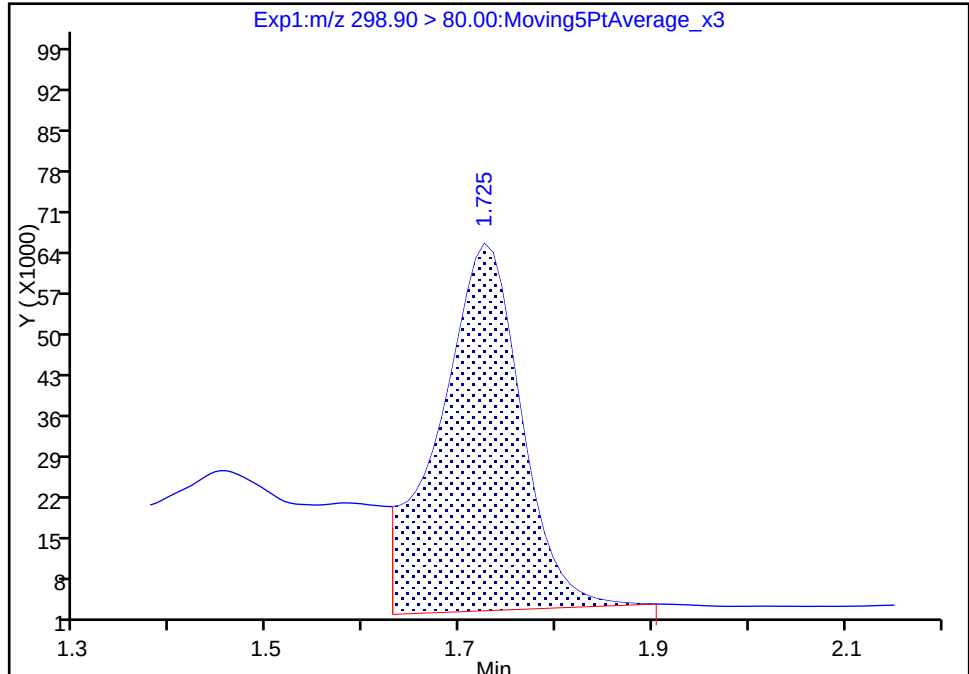
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_009.d  
Injection Date: 29-Dec-2017 08:41:53 Instrument ID: A8\_N  
Lims ID: 320-34293-A-4-A Lab Sample ID: 320-34293-4  
Client ID: MW-10S  
Operator ID: SACINSTLCMS01 ALS Bottle#: 8 Worklist Smp#: 9  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**5 Perfluorobutanesulfonic acid, CAS: 375-73-5**

Signal: 1

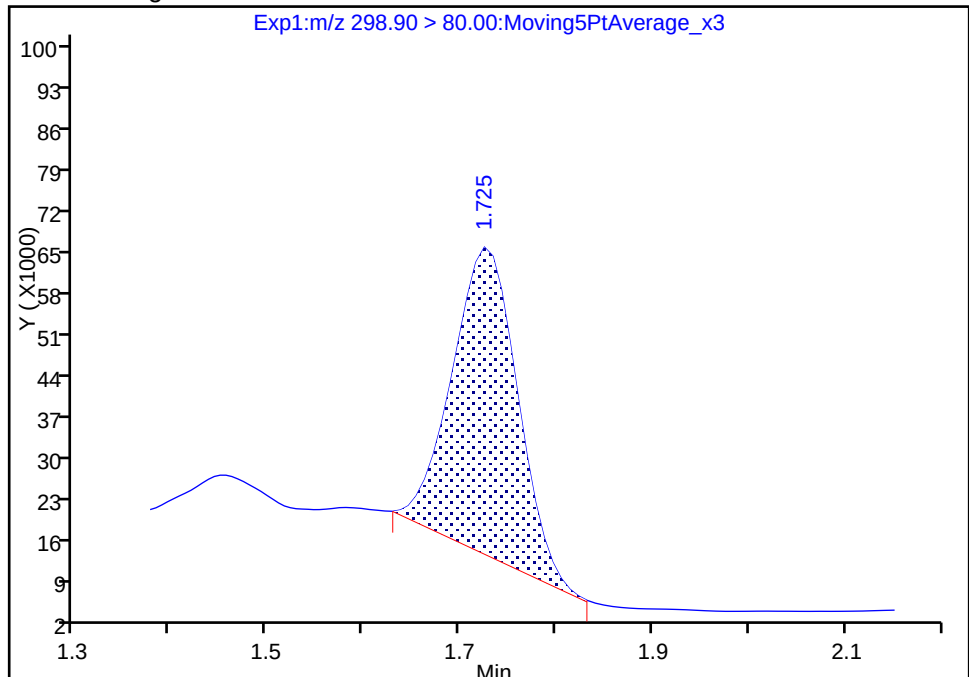
RT: 1.73  
Area: 371432  
Amount: 0.139501  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.73  
Area: 247388  
Amount: 0.092913  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:33:29  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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## TestAmerica Sacramento

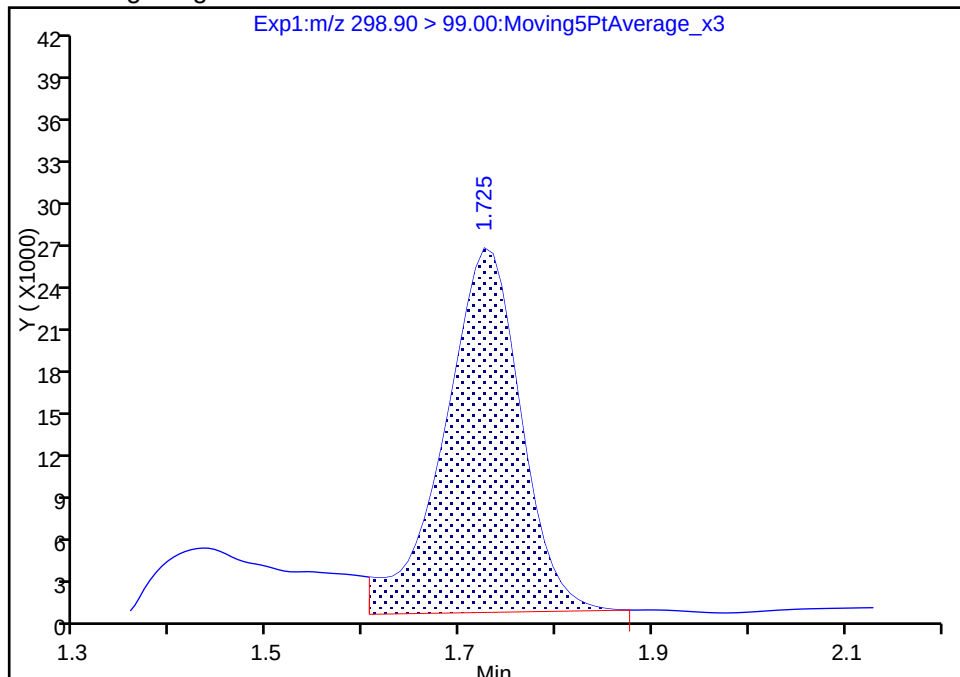
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_009.d  
Injection Date: 29-Dec-2017 08:41:53 Instrument ID: A8\_N  
Lims ID: 320-34293-A-4-A Lab Sample ID: 320-34293-4  
Client ID: MW-10S  
Operator ID: SACINSTLCMS01 ALS Bottle#: 8 Worklist Smp#: 9  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**5 Perfluorobutanesulfonic acid, CAS: 375-73-5**

Signal: 2

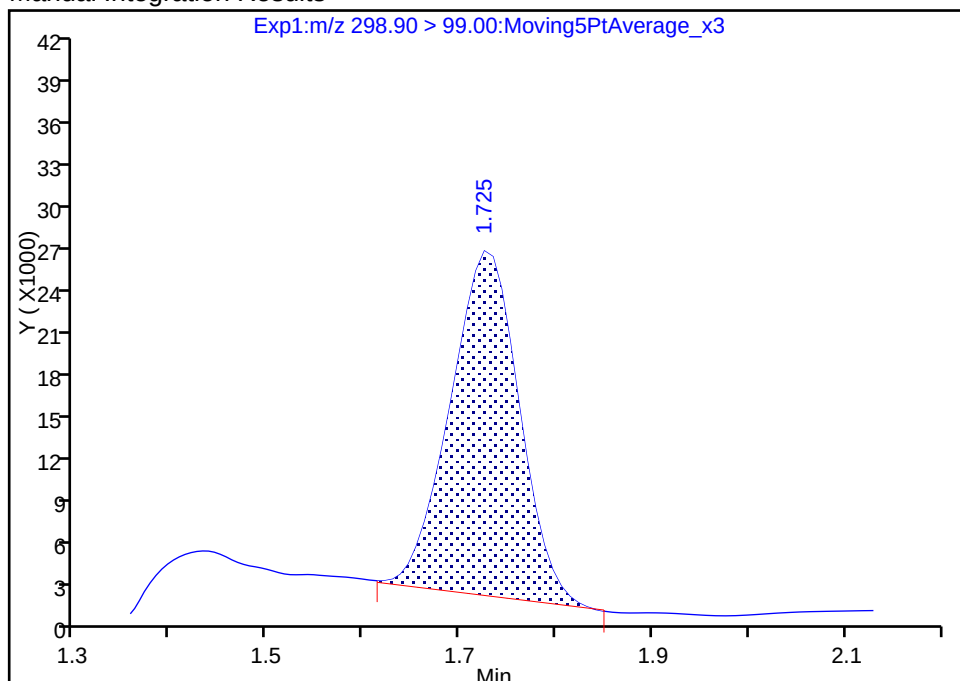
RT: 1.73  
Area: 144143  
Amount: 0.139501  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.73  
Area: 123418  
Amount: 0.092913  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:33:34

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

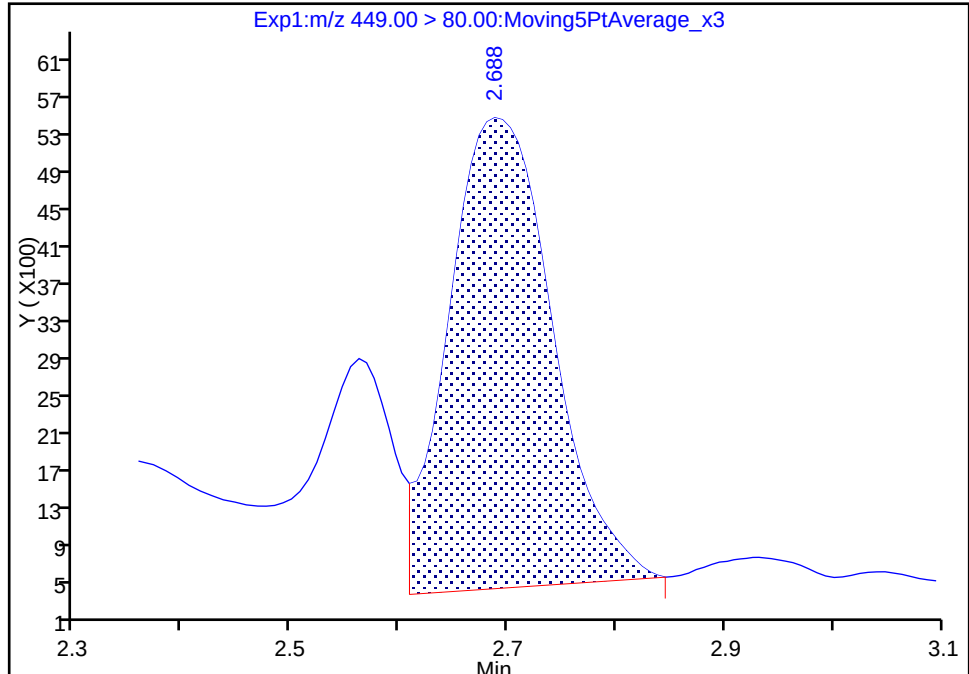
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_009.d  
Injection Date: 29-Dec-2017 08:41:53 Instrument ID: A8\_N  
Lims ID: 320-34293-A-4-A Lab Sample ID: 320-34293-4  
Client ID: MW-10S  
Operator ID: SACINSTLCMS01 ALS Bottle#: 8 Worklist Smp#: 9  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**16 Perfluoroheptanesulfonic Acid, CAS: 375-92-8**

Signal: 1

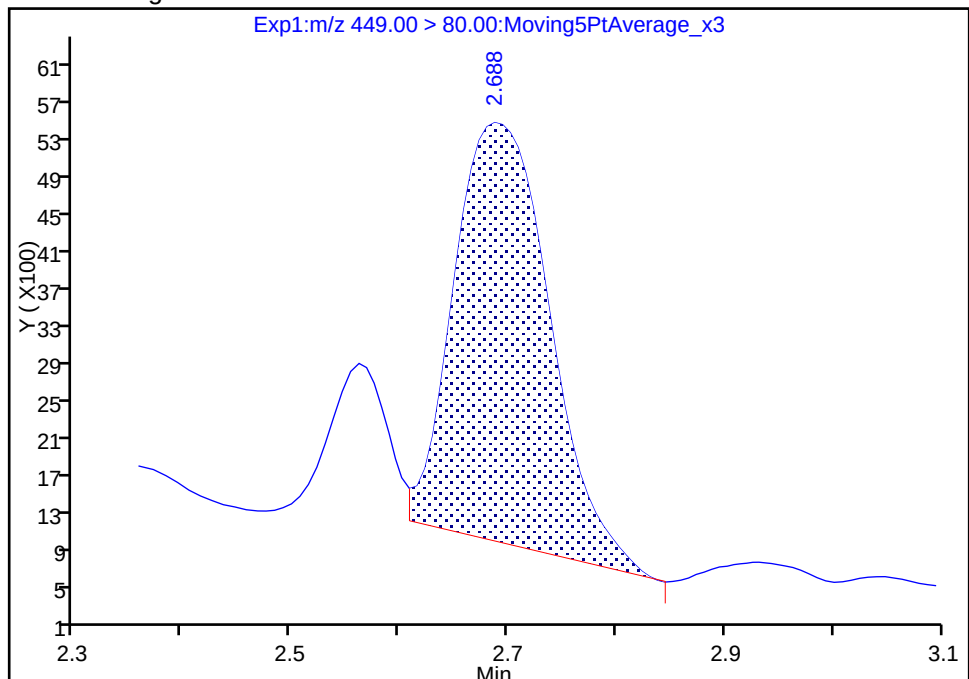
RT: 2.69  
Area: 33769  
Amount: 0.019757  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.69  
Area: 27745  
Amount: 0.016232  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:34:44  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-10I</u>         | Lab Sample ID: <u>320-34293-5</u>            |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_010.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 11:51</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>273.5 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:49</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 69.7   | B | 1.83 | 0.32 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 279    |   | 1.83 | 0.45 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 123    |   | 1.83 | 0.53 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 63.7   |   | 1.83 | 0.23 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 40.5   |   | 1.83 | 0.78 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 7.83   |   | 1.83 | 0.25 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 2.73   |   | 1.83 | 0.28 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 1.10   | J | 1.83 | 1.01 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.50   | U | 1.83 | 0.50 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.19   | U | 1.83 | 1.19 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.27   | U | 1.83 | 0.27 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 4.59   |   | 1.83 | 0.18 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 8.03   | B | 1.83 | 0.16 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.52   | J | 1.83 | 0.17 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 28.8   |   | 1.83 | 0.49 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.29   | U | 1.83 | 0.29 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 0.32   | U | 1.83 | 0.32 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.83   | U | 18.3 | 2.83 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.74   | U | 18.3 | 1.74 |
| 27619-97-2 | 6:2FTS                                                     | 1.83   | U | 18.3 | 1.83 |
| 39108-34-4 | 8:2FTS                                                     | 1.83   | U | 18.3 | 1.83 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-10I</u>         | Lab Sample ID: <u>320-34293-5</u>                   |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_010.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 11:51</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>273.5 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:49</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 74   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 84   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 84   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 90   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 97   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 87   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 89   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 87   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 88   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 96   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 91   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 85   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 86   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 79   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 87   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 88   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 112  |   | 25-150 |
| STL02280 | M2-8:2FTS        | 94   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_010.d  
 Lims ID: 320-34293-A-5-A  
 Client ID: MW-10I  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 08:49:42 ALS Bottle#: 9 Worklist Smp#: 10  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-5-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:37:03 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:37:03

| Signal                         | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|--------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                  |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                | 1.432 | 1.433  | -0.001 | 0.538  | 6041655  | 1.84         |                   | 73.5 | 20013 |       |
| 2 Perfluorobutyric acid        |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                | 1.432 | 1.434  | -0.002 | 1.000  | 4208505  | 1.91         |                   |      | 568   |       |
| 4 Perfluoropentanoic acid      |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                | 1.690 | 1.691  | -0.001 | 1.000  | 13826578 | 7.64         |                   |      | 3110  |       |
| D 3 13C5-PFPeA                 |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                | 1.690 | 1.692  | -0.002 | 0.635  | 4035403  | 2.11         |                   | 84.3 | 21570 |       |
| D 47 13C3-PFBS                 |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                 | 1.725 | 1.725  | 0.0    | 0.649  | 87473    | 2.11         |                   | 90.6 | 1276  |       |
| 5 Perfluorobutanesulfonic acid |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                 | 1.725 | 1.730  | -0.005 | 1.000  | 353614   | 0.1256       |                   |      | 134   |       |
| 298.90 > 99.00                 | 1.725 | 1.730  | -0.005 | 1.000  | 133266   |              | 2.65(1.25-3.74)   |      | 201   |       |
| D 7 13C2 PFHxA                 |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                | 1.976 | 1.976  | 0.0    | 0.743  | 4301522  | 2.09         |                   | 83.6 | 35084 |       |
| 6 Perfluorohexanoic acid       |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                | 1.976 | 1.979  | -0.003 | 1.000  | 5774371  | 3.36         |                   |      | 3027  |       |
| 313.00 > 119.00                | 1.976 | 1.979  | -0.003 | 1.000  | 541204   |              | 10.67(5.03-15.10) |      | 5323  |       |
| D 9 13C4-PFHpA                 |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                | 2.306 | 2.311  | -0.005 | 0.867  | 4290344  | 2.24         |                   | 89.8 | 28212 |       |
| 10 Perfluoroheptanoic acid     |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                | 2.306 | 2.311  | -0.005 | 1.000  | 3124680  | 1.74         |                   |      | 2897  |       |
| 363.00 > 169.00                | 2.306 | 2.311  | -0.005 | 1.000  | 1205534  |              | 2.59(1.13-3.40)   |      | 8563  |       |
| 8 Perfluorohexanesulfonic acid |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                 | 2.319 | 2.324  | -0.005 | 1.000  | 495805   | 0.2197       |                   |      | 453   |       |
| 399.00 > 99.00                 | 2.319 | 2.324  | -0.005 | 1.000  | 154822   |              | 3.20(1.50-4.49)   |      | 399   |       |
| D 11 18O2 PFHxS                |       |        |        |        |          |              |                   |      |       |       |
| 403.00 > 84.00                 | 2.319 | 2.328  | -0.009 | 0.872  | 4883186  | 2.01         |                   | 85.1 | 38131 |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649  | -0.011 | 0.992  | 962522   | 2.65         |                 | 112  | 6869  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.638 | 2.651  | -0.013 | 1.000  | 12748    | 0.0188       |                 |      | 503   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.660 | 2.674  | -0.014 | 1.000  | 4716603  | 2.42         |                 | 96.7 | 39621 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.660 | 2.676  | -0.016 |        | 4745732  | 2.50         |                 |      | 42256 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.660 | 2.677  | -0.017 | 1.000  | 2211554  | 1.11         |                 |      | 1491  | M     |
| 413.00 > 169.00                       | 2.660 | 2.677  | -0.017 | 1.000  | 1234495  |              | 1.79(0.84-2.52) |      | 7203  | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.667 | 2.683  | -0.016 | 1.000  | 24110    | 0.0142       |                 |      | 73.1  |       |
| 449.00 > 99.00                        | 2.674 | 2.683  | -0.009 | 1.003  | 5611     |              | 4.30(1.94-5.82) |      | 50.8  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.033 | 3.048  | -0.015 | 1.140  | 3301028  | 2.05         |                 | 85.8 | 18298 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.033 | 3.050  | -0.017 | 1.000  | 1168236  | 0.7881       |                 |      | 209   |       |
| 499.00 > 99.00                        | 3.033 | 3.050  | -0.017 | 1.000  | 225245   |              | 5.19(2.31-6.93) |      | 238   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.033 | 3.051  | -0.018 | 1.140  | 3389176  | 2.17         |                 | 87.0 | 33220 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.033 | 3.052  | -0.019 | 1.000  | 282876   | 0.2142       |                 |      | 500   |       |
| 463.00 > 169.00                       | 3.033 | 3.052  | -0.019 | 1.000  | 66998    |              | 4.22(1.90-5.69) |      | 790   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.380 | 3.377  | 0.003  | 1.271  | 4294556  | 1.97         |                 | 78.9 | 30737 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378  | 0.002  | 1.000  | 4924     | 0.003020     |                 |      | 46.8  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.387 | 3.402  | -0.015 | 1.000  | 2138     | 0.004549     |                 |      | 109   |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.387 | 3.403  | -0.016 | 1.273  | 896564   | 2.25         |                 | 94.1 | 9232  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.402 | 3.414  | -0.012 | 1.279  | 2806549  | 2.22         |                 | 88.6 | 24973 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.402 | 3.414  | -0.012 | 1.000  | 82480    | 0.0745       |                 |      | 305   |       |
| 513.00 > 169.00                       | 3.402 | 3.414  | -0.012 | 1.000  | 15105    |              | 5.46(2.36-7.09) |      | 826   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.553 | 3.569  | -0.016 | 1.336  | 1426953  | 2.18         |                 | 87.2 | 17119 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.725 | 3.740  | -0.015 | 1.400  | 1475321  | 2.21         |                 | 88.4 | 10855 |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.733 | 3.746  | -0.013 | 1.002  | 23459    | 0.0301       |                 |      | 103   |       |
| 563.00 > 169.00                       | 3.725 | 3.746  | -0.021 | 1.000  | 3686     |              | 6.36(0.00-0.00) |      | 181   |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.725 | 3.747  | -0.022 | 1.400  | 2077010  | 2.17         |                 | 86.6 | 22535 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.725 | 3.747  | -0.022 | 1.000  | 2166     | 0.003803     |                 |      | 59.0  |       |



| Signal           | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits) | %Rec | S/N   | Flags |
|------------------|-------|-----------|-----------|-----------|----------|-----------------|---------------|------|-------|-------|
| D 36 13C2 PFDaA  |       |           |           |           |          |                 |               |      |       |       |
| 615.00 > 570.00  | 4.022 | 4.045     | -0.023    | 1.512     | 2281282  | 2.19            |               | 87.6 | 27644 |       |
| D 43 13C2-PFTeDA |       |           |           |           |          |                 |               |      |       |       |
| 715.00 > 670.00  | 4.528 | 4.557     | -0.029    | 1.703     | 2730922  | 2.41            |               | 96.4 | 23560 |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_010.d

Injection Date: 29-Dec-2017 08:49:42

Instrument ID: A8\_N

Lims ID: 320-34293-A-5-A

Lab Sample ID: 320-34293-5

Client ID: MW-10I

Operator ID: SACINSTLCMS01

ALS Bottle#: 9

Worklist Smp#: 10

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

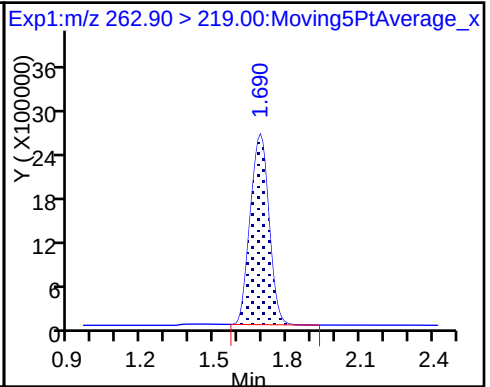
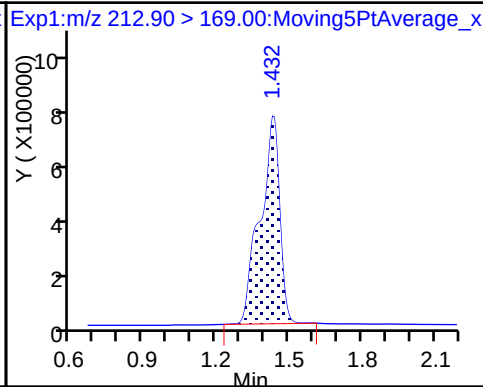
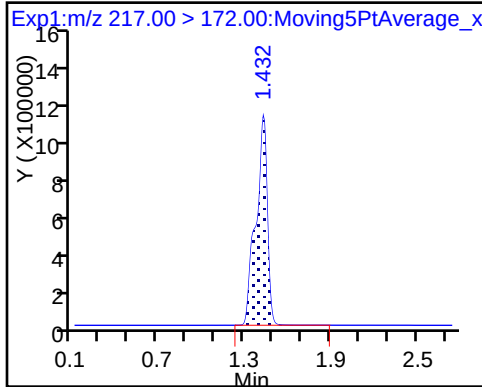
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

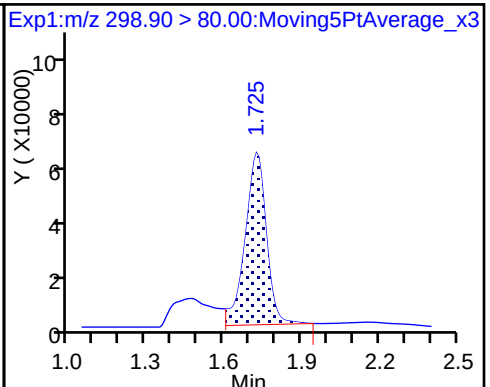
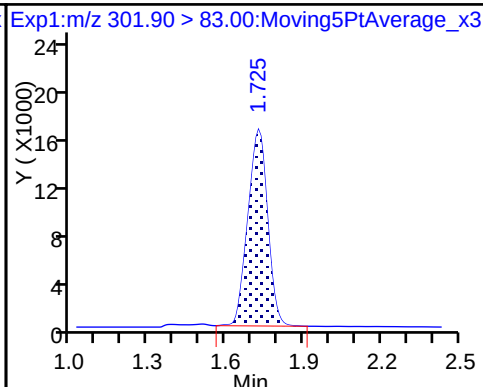
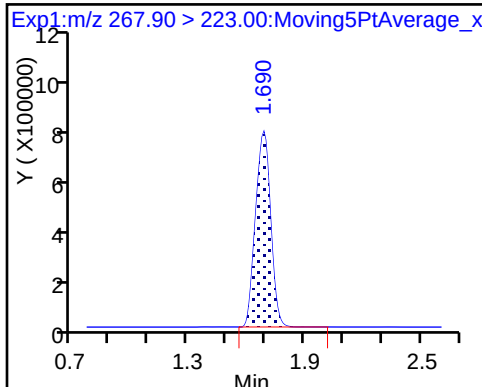
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

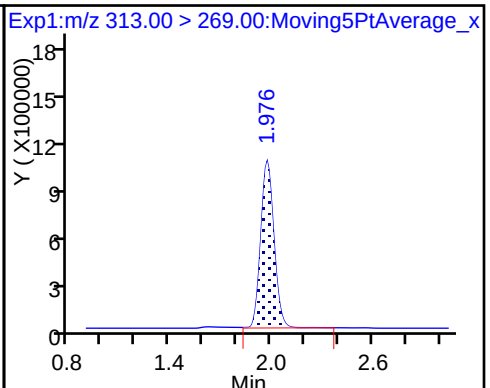
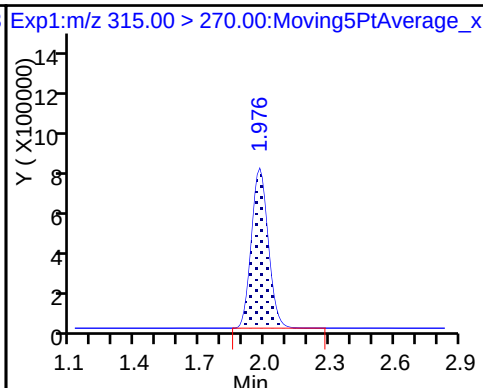
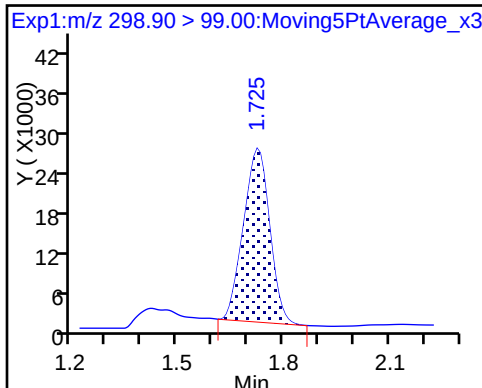
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

D 7 13C2 PFHxA

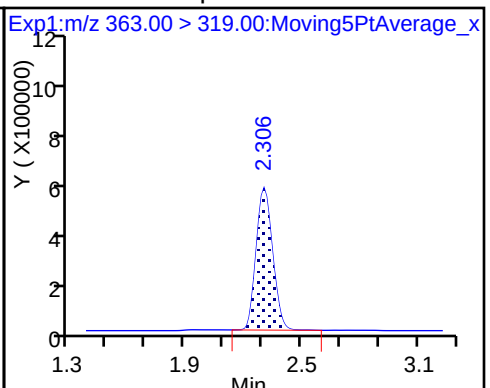
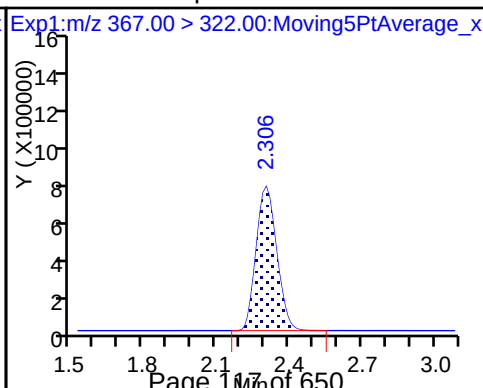
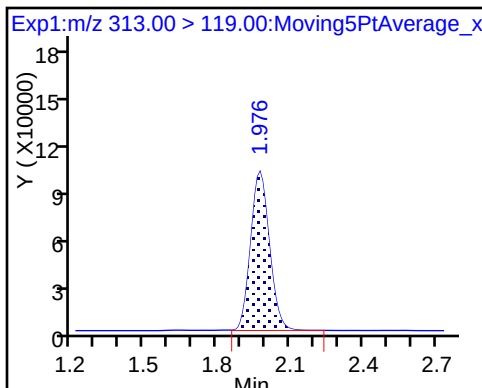
6 Perfluorohexanoic acid



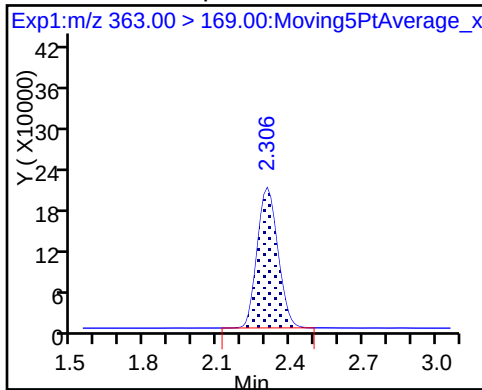
6 Perfluorohexanoic acid

D 9 13C4-PFHpA

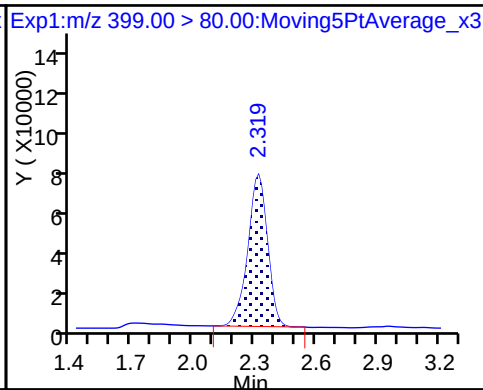
10 Perfluoroheptanoic acid



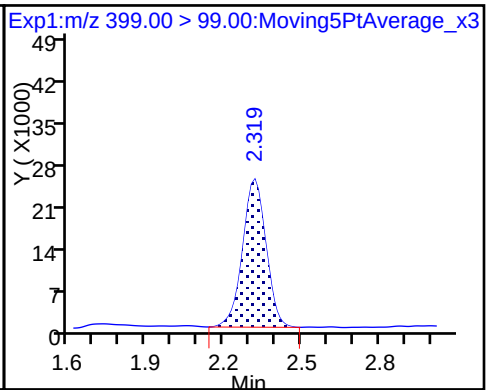
10 Perfluoroheptanoic acid



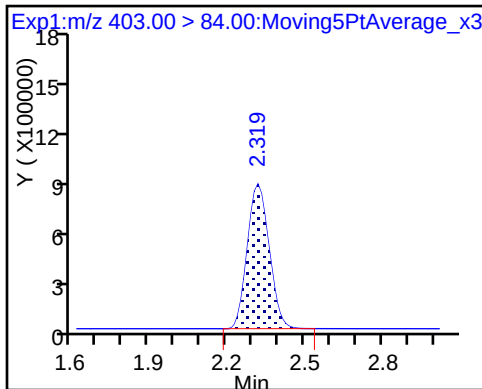
8 Perfluorohexanesulfonic acid



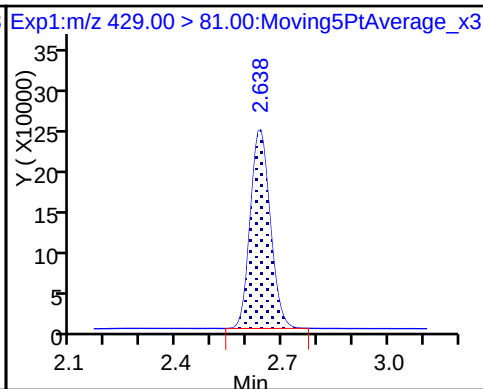
8 Perfluorohexanesulfonic acid



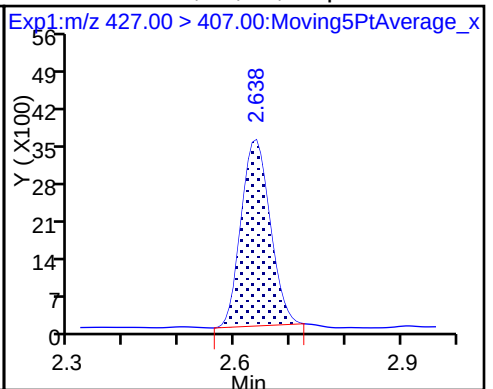
D 11 18O2 PFHxS



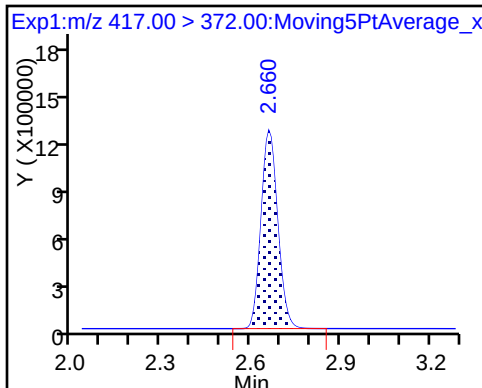
D 12 M2-6:2FTS



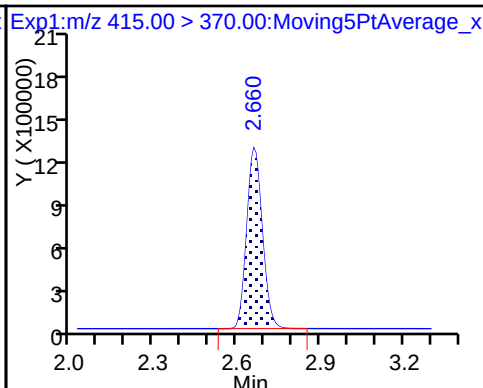
13 Sodium 1H,1H,2H,2H-perfluorooctane



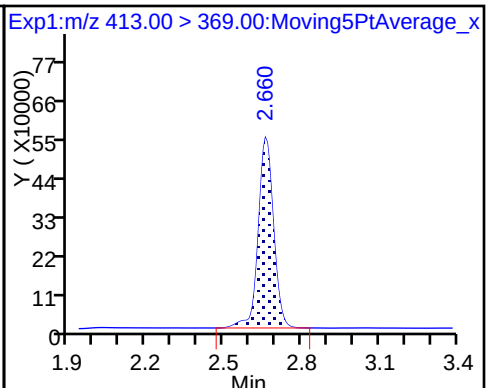
D 14 13C4 PFOA



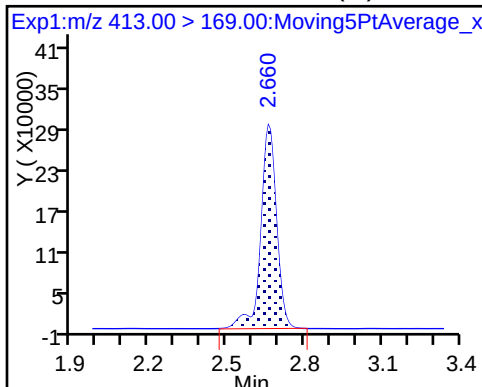
\* 62 13C2-PFOA



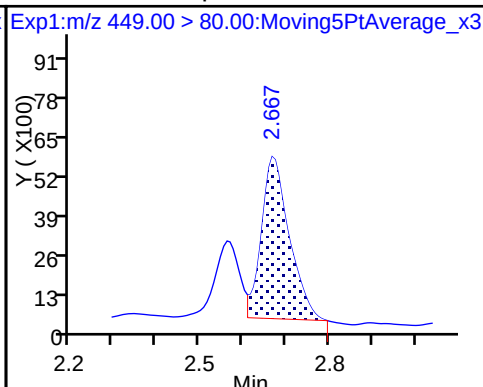
15 Perfluorooctanoic acid



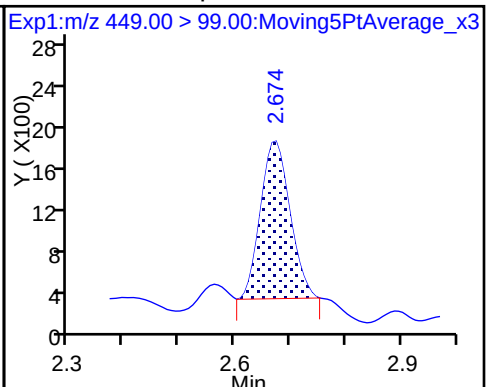
15 Perfluorooctanoic acid (M)



16 Perfluoroheptanesulfonic Acid



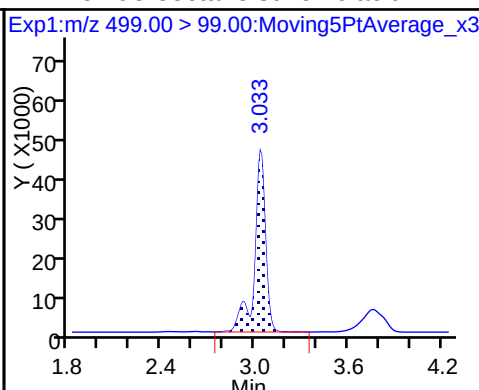
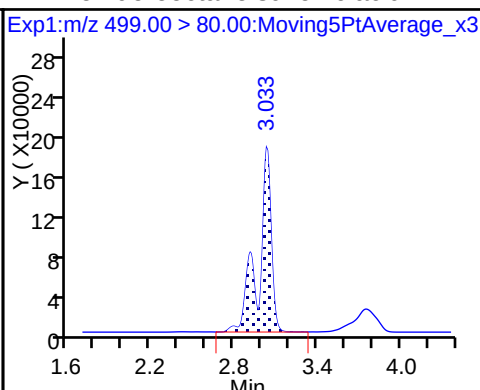
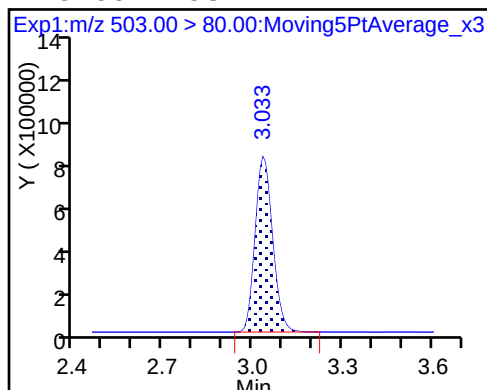
16 Perfluoroheptanesulfonic Acid



## D 18 13C4 PFOS

## 17 Perfluorooctane sulfonic acid

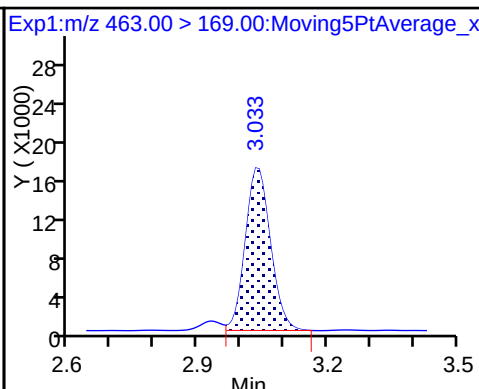
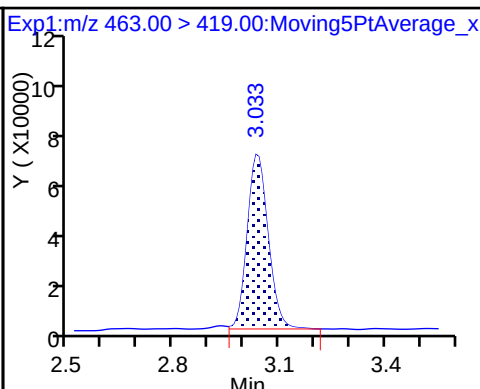
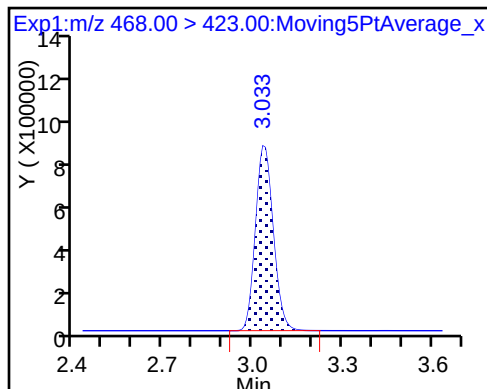
## 17 Perfluorooctane sulfonic acid



## D 19 13C5 PFNA

## 20 Perfluorononanoic acid

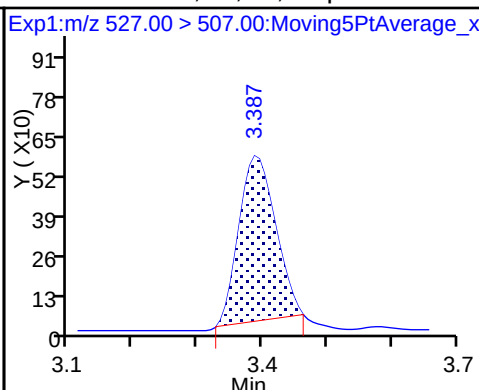
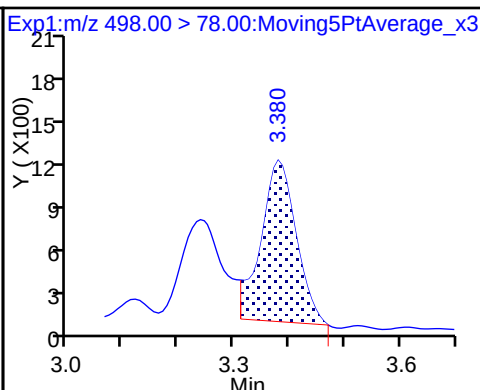
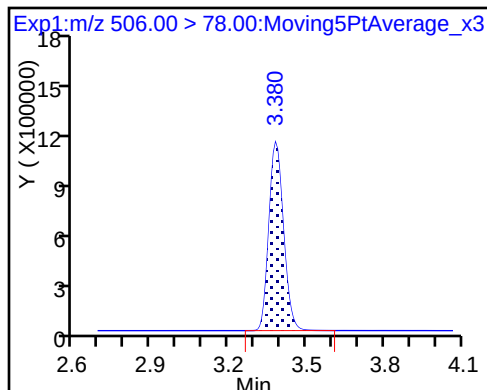
## 20 Perfluorononanoic acid



## D 21 13C8 FOSA

## 22 Perfluorooctane Sulfonamide

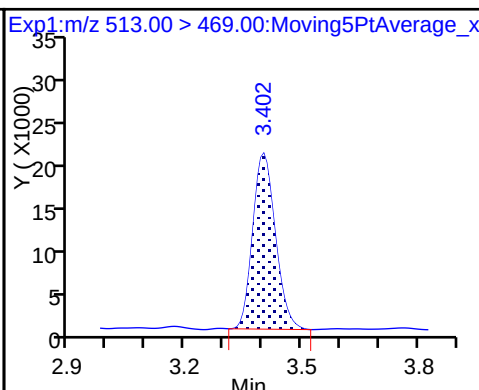
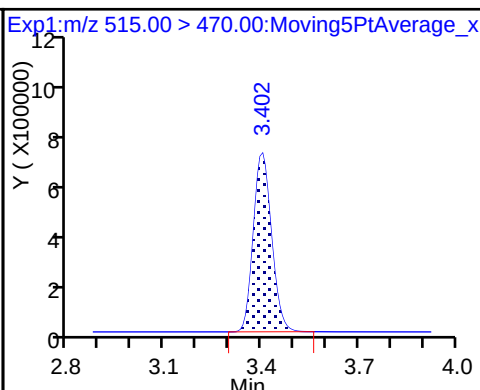
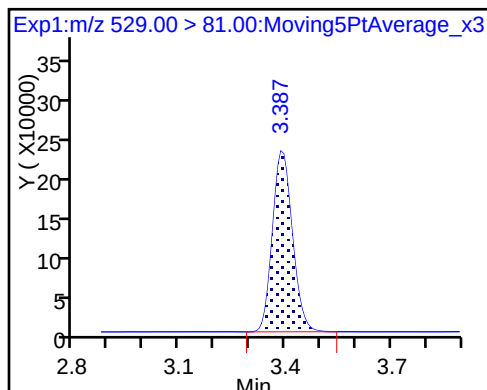
## 25 Sodium 1H,1H,2H,2H-perfluorodecane



## D 26 M2-8:2FTS

## D 23 13C2 PFDA

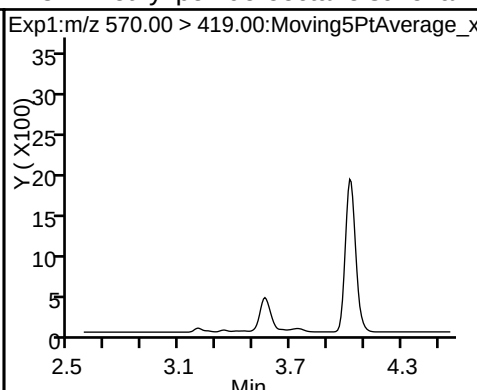
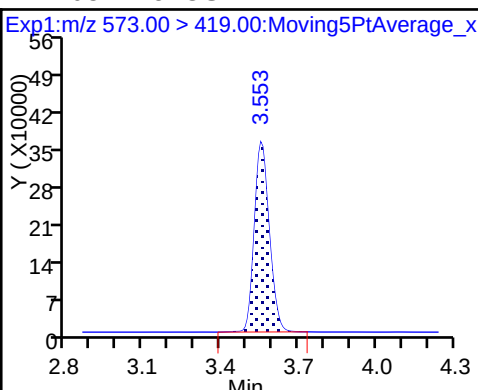
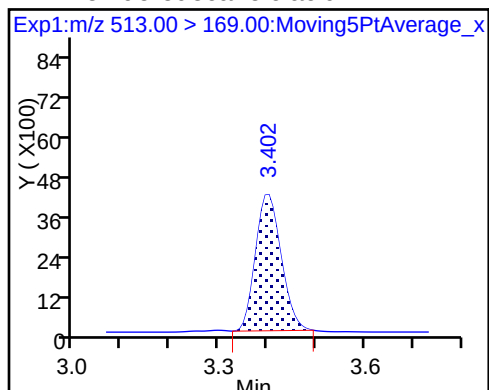
## 24 Perfluorodecanoic acid



24 Perfluorodecanoic acid

D 27 d3-NMeFOSAA

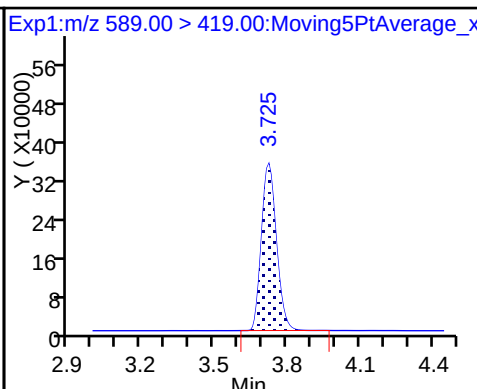
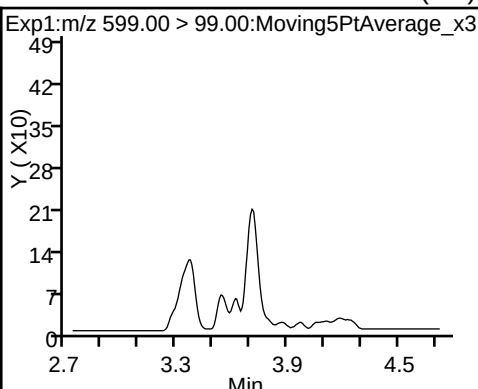
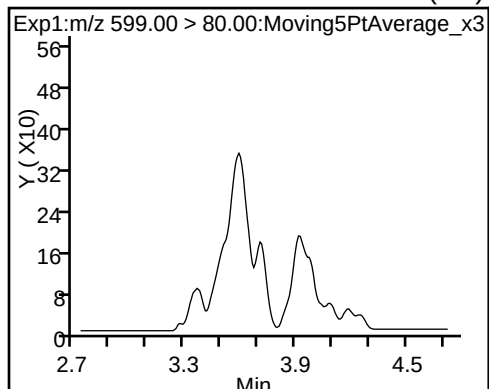
28 N-methyl perfluorooctane sulfonami (ND)



29 Perfluorodecane Sulfonic acid (ND)

29 Perfluorodecane Sulfonic acid (ND)

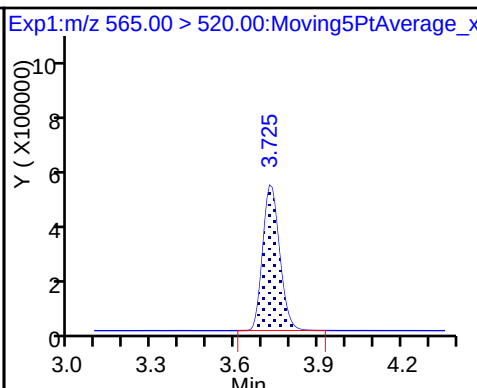
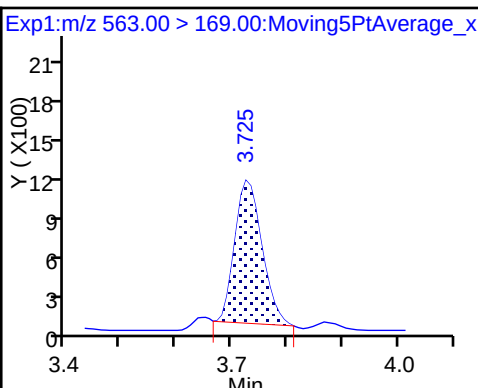
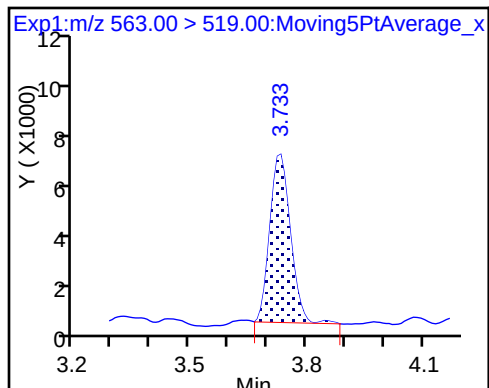
D 32 d5-NEtFOSAA



31 Perfluoroundecanoic acid

31 Perfluoroundecanoic acid

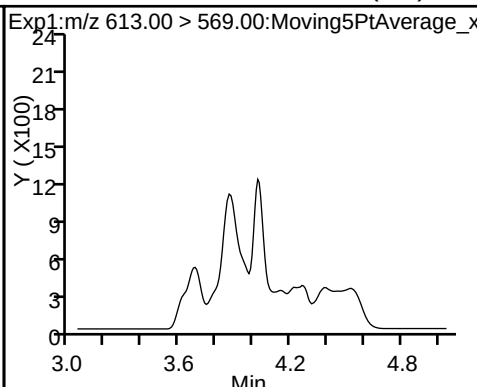
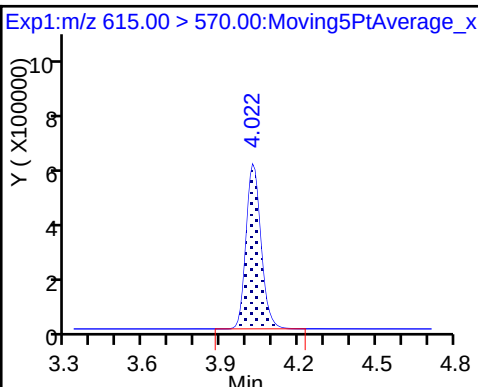
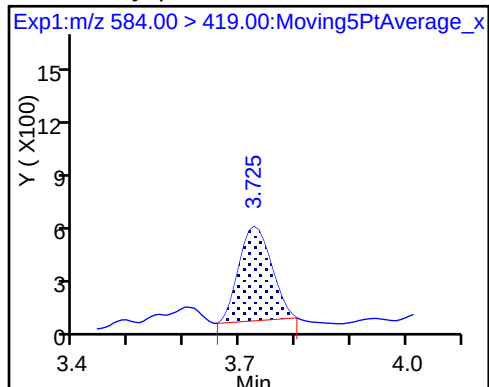
D 30 13C2 PFUnA



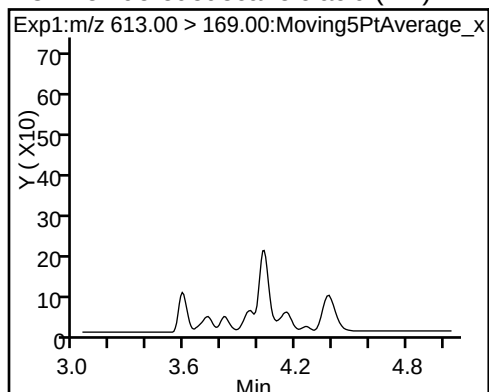
33 N-ethyl perfluorooctane sulfonamid

D 36 13C2 PFDaA

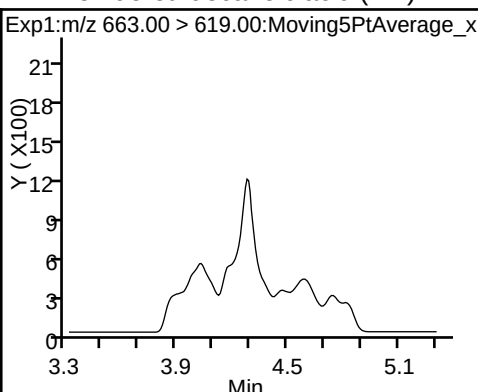
37 Perfluorododecanoic acid (ND)



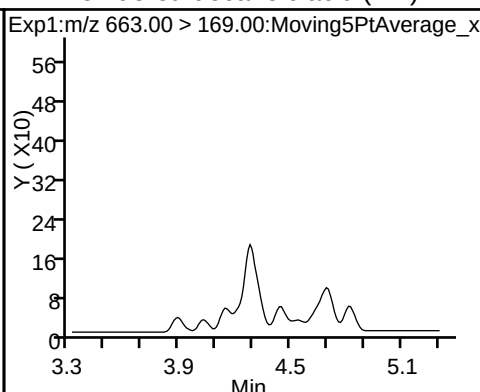
## 37 Perfluorododecanoic acid (ND)



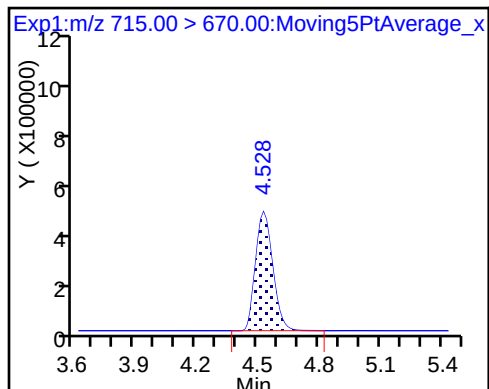
## 41 Perfluorotridecanoic acid (ND)



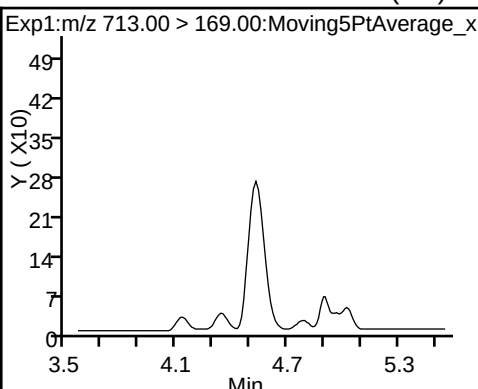
## 41 Perfluorotridecanoic acid (ND)



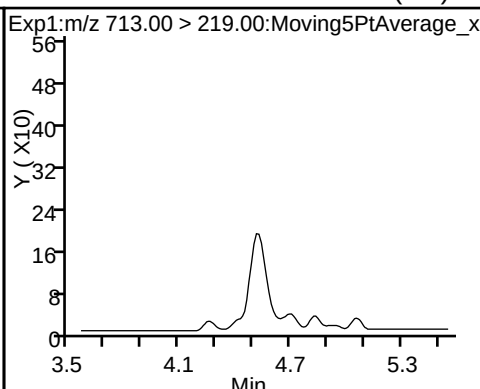
## D 43 13C2-PFTeDA



## 42 Perfluorotetradecanoic acid (ND)



## 42 Perfluorotetradecanoic acid (ND)



## TestAmerica Sacramento

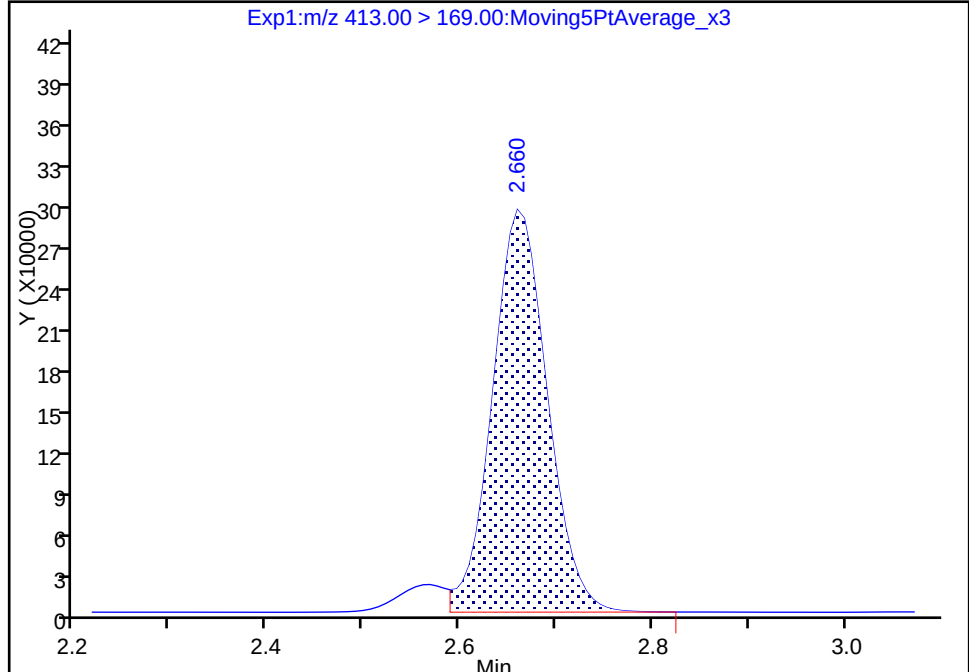
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_010.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 08:49:42                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-5-A                                                          | Lab Sample ID: | 320-34293-5 |                |    |
| Client ID:      | MW-10I                                                                   |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 9           | Worklist Smp#: | 10 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

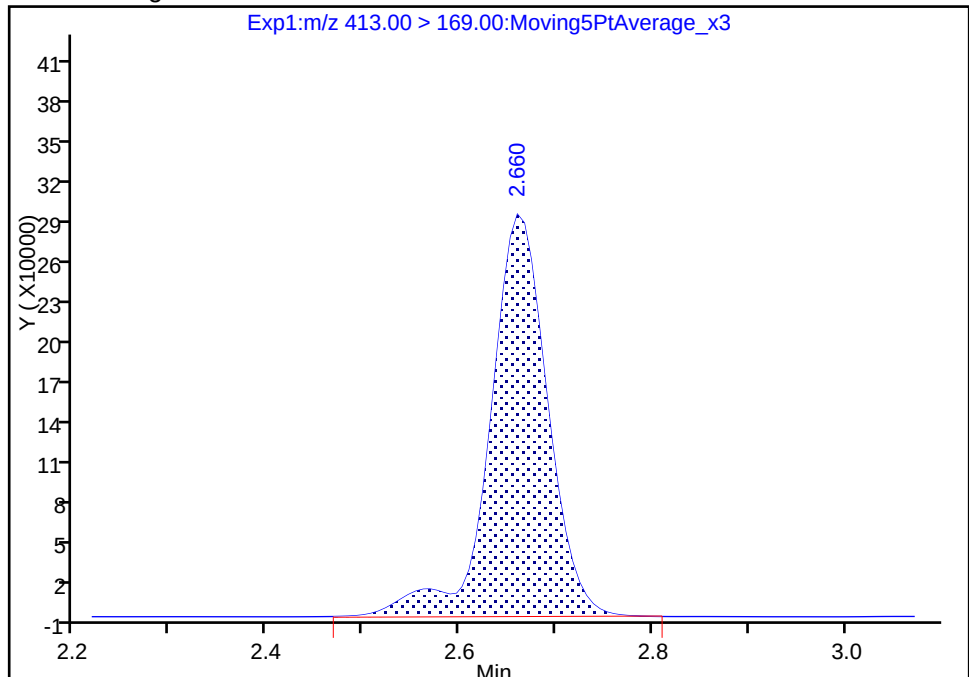
RT: 2.66  
Area: 1164702  
Amount: 1.107331  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.66  
Area: 1234495  
Amount: 1.107331  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:36:35

Audit Action: Manually Integrated

Audit Reason: Isomers

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-1I</u>          | Lab Sample ID: <u>320-34293-6</u>            |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_011.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 12:54</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>266.8 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:57</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q   | RL   | MDL  |
|------------|------------------------------------------------------------|--------|-----|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 8.41   | B   | 1.87 | 0.33 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 8.24   |     | 1.87 | 0.46 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 5.04   |     | 1.87 | 0.54 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 1.42   | J   | 1.87 | 0.23 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 1.41   | J   | 1.87 | 0.80 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 0.73   | J   | 1.87 | 0.25 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 0.55   | J   | 1.87 | 0.29 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 1.03   | U   | 1.87 | 1.03 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.52   | U   | 1.87 | 0.52 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.22   | U   | 1.87 | 1.22 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.27   | U   | 1.87 | 0.27 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 0.51   | J   | 1.87 | 0.19 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 0.40   | J B | 1.87 | 0.16 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.18   | U   | 1.87 | 0.18 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 1.16   | J   | 1.87 | 0.51 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.30   | U   | 1.87 | 0.30 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 0.33   | U   | 1.87 | 0.33 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.90   | U   | 18.7 | 2.90 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.78   | U   | 18.7 | 1.78 |
| 27619-97-2 | 6:2FTS                                                     | 1.87   | U   | 18.7 | 1.87 |
| 39108-34-4 | 8:2FTS                                                     | 1.87   | U   | 18.7 | 1.87 |



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-1I</u>          | Lab Sample ID: <u>320-34293-6</u>                   |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_011.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 12:54</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>266.8 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:57</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 70   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 82   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 75   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 80   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 85   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 81   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 83   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 82   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 78   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 89   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 80   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 77   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 80   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 72   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 88   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 84   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 128  |   | 25-150 |
| STL02280 | M2-8:2FTS        | 103  |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_011.d  
 Lims ID: 320-34293-A-6-A  
 Client ID: MW-1I  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 08:57:31 ALS Bottle#: 10 Worklist Smp#: 11  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-6-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:41:01 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:41:01

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|

## D 1 13C4 PFBA

217.00 &gt; 172.00 1.426 1.433 -0.007 0.536 6390191 1.75 70.1 18789

## 2 Perfluorobutyric acid

212.90 &gt; 169.00 1.426 1.434 -0.008 1.000 524108 0.2245 27.2

## 4 Perfluoropentanoic acid

262.90 &gt; 219.00 1.681 1.691 -0.010 1.000 430845 0.2198 43.1 M

## D 3 13C5-PFPeA

267.90 &gt; 223.00 1.681 1.692 -0.011 0.632 4367792 2.05 82.2 23853

## D 47 13C3-PFBS

301.90 &gt; 83.00 1.716 1.725 -0.009 0.645 85258 1.85 79.6 908

## 5 Perfluorobutanesulfonic acid

298.90 &gt; 80.00 1.716 1.730 -0.014 1.000 37510 0.0137 16.4

298.90 &gt; 99.00 1.716 1.730 -0.014 1.000 13565 2.77(1.25-3.74) 16.8

## D 7 13C2 PFHxA

315.00 &gt; 270.00 1.965 1.976 -0.011 0.739 4277428 1.87 74.9 28980

## 6 Perfluorohexanoic acid

313.00 &gt; 269.00 1.965 1.979 -0.014 1.000 229602 0.1344 53.2 M

313.00 &gt; 119.00 1.965 1.979 -0.014 1.000 19638 11.69(5.03-15.10) 84.4 M

## D 9 13C4-PFHpA

367.00 &gt; 322.00 2.293 2.311 -0.018 0.862 4248875 2.00 80.1 34215

## 10 Perfluoroheptanoic acid

363.00 &gt; 319.00 2.293 2.311 -0.018 1.000 67225 0.0378 26.3

363.00 &gt; 169.00 2.293 2.311 -0.018 1.000 28695 2.34(1.13-3.40) 145

## 8 Perfluorohexanesulfonic acid

399.00 &gt; 80.00 2.319 2.324 -0.005 1.000 23998 0.0106 18.9

399.00 &gt; 99.00 2.319 2.324 -0.005 1.000 8223 2.92(1.50-4.49) 17.1

## D 11 18O2 PFHxS

403.00 &gt; 84.00 2.319 2.328 -0.009 0.872 4896882 1.82 76.9 36355

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 12 M2-6:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 429.00 > 81.00                        | 2.631 | 2.649     | -0.018    | 0.989     | 1218652  | 3.03            |                 | 128  | 5836  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |           |           |           |          |                 |                 |      |       |       |
| 427.00 > 407.00                       | 2.631 | 2.651     | -0.020    | 1.000     | 8249     | 0.009587        |                 |      | 326   |       |
| D 14 13C4 PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 417.00 > 372.00                       | 2.660 | 2.674     | -0.014    | 1.000     | 4627448  | 2.14            |                 | 85.5 | 41117 |       |
| * 62 13C2-PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 415.00 > 370.00                       | 2.660 | 2.676     | -0.016    |           | 5267567  | 2.50            |                 |      | 41568 |       |
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 413.00 > 369.00                       | 2.660 | 2.677     | -0.017    | 1.000     | 73910    | 0.0377          |                 |      | 35.9  |       |
| 413.00 > 169.00                       | 2.660 | 2.677     | -0.017    | 1.000     | 36258    |                 | 2.04(0.84-2.52) |      | 207   |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |      |       |       |
| 503.00 > 80.00                        | 3.034 | 3.048     | -0.014    | 1.141     | 3412029  | 1.91            |                 | 79.9 | 12142 |       |
| 17 Perfluorooctane sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 499.00 > 80.00                        | 3.034 | 3.050     | -0.016    | 1.000     | 47395    | 0.0309          |                 |      | 7.9   |       |
| 499.00 > 99.00                        | 3.034 | 3.050     | -0.016    | 1.000     | 11238    |                 | 4.22(2.31-6.93) |      | 9.6   |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |      |       |       |
| 468.00 > 423.00                       | 3.034 | 3.051     | -0.017    | 1.141     | 3509336  | 2.03            |                 | 81.1 | 26403 |       |
| 20 Perfluorononanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 463.00 > 419.00                       | 3.034 | 3.052     | -0.018    | 1.000     | 26799    | 0.0196          |                 |      | 37.5  |       |
| 463.00 > 169.00                       | 3.034 | 3.052     | -0.018    | 1.000     | 5589     |                 | 4.79(1.90-5.69) |      | 85.6  |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |      |       |       |
| 506.00 > 78.00                        | 3.380 | 3.377     | 0.003     | 1.271     | 4372596  | 1.81            |                 | 72.4 | 29664 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378     | 0.002     | 1.000     | 13471    | 0.008114        |                 |      | 302   |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 529.00 > 81.00                        | 3.387 | 3.403     | -0.016    | 1.274     | 1087776  | 2.46            |                 | 103  | 7173  |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 470.00                       | 3.395 | 3.414     | -0.019    | 1.276     | 2932350  | 2.09            |                 | 83.4 | 31877 |       |
| 24 Perfluorodecanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 513.00 > 469.00                       | 3.395 | 3.414     | -0.019    | 1.000     | 17065    | 0.0148          |                 |      | 45.7  |       |
| 513.00 > 169.00                       | 3.395 | 3.414     | -0.019    | 1.000     | 3093     |                 | 5.52(2.36-7.09) |      | 89.2  |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 573.00 > 419.00                       | 3.554 | 3.569     | -0.015    | 1.336     | 1607935  | 2.21            |                 | 88.5 | 17825 |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.717 | 3.740     | -0.023    | 1.397     | 1559409  | 2.11            |                 | 84.2 | 11032 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.725 | 3.747     | -0.022    | 1.401     | 2183763  | 2.05            |                 | 82.1 | 32736 |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.022 | 4.045     | -0.023    | 1.512     | 2265939  | 1.96            |                 | 78.4 | 47648 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.528 | 4.557     | -0.029    | 1.703     | 2812831  | 2.24            |                 | 89.5 | 20167 |       |

## QC Flag Legend

### Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_011.d

Injection Date: 29-Dec-2017 08:57:31

Instrument ID: A8\_N

Lims ID: 320-34293-A-6-A

Lab Sample ID: 320-34293-6

Client ID: MW-11

Operator ID: SACINSTLCMS01

ALS Bottle#: 10

Worklist Smp#: 11

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

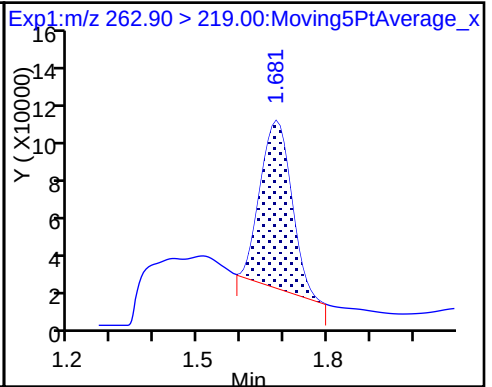
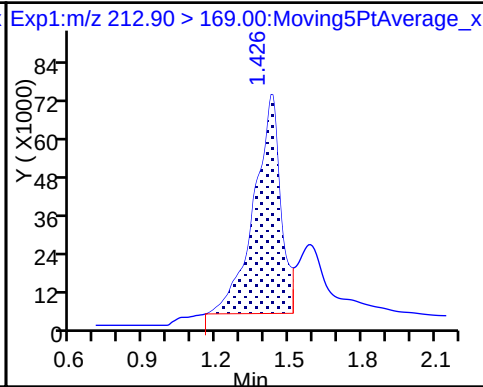
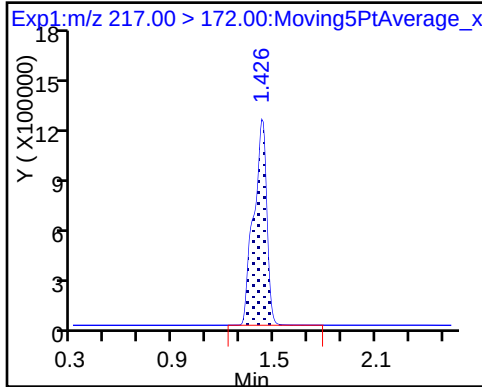
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

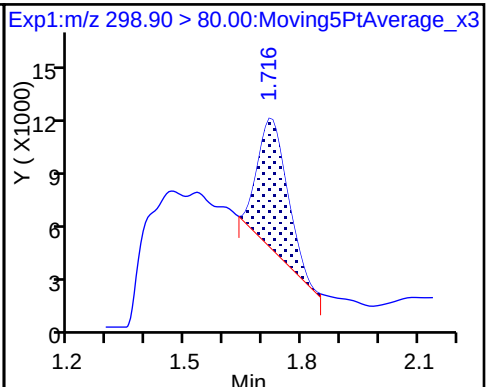
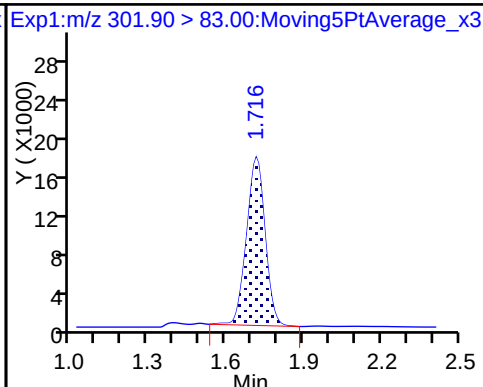
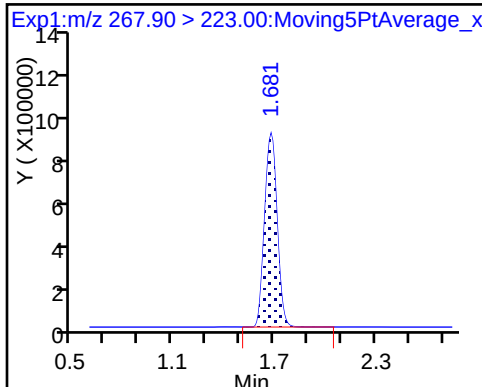
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

D 47 13C3-PFBS

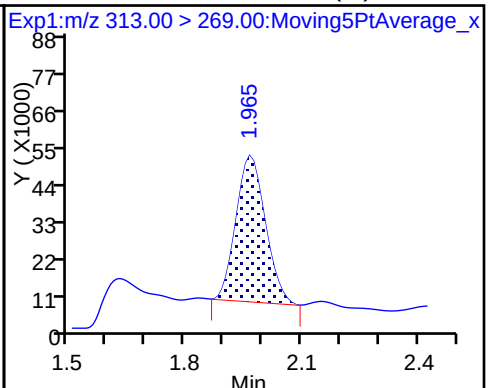
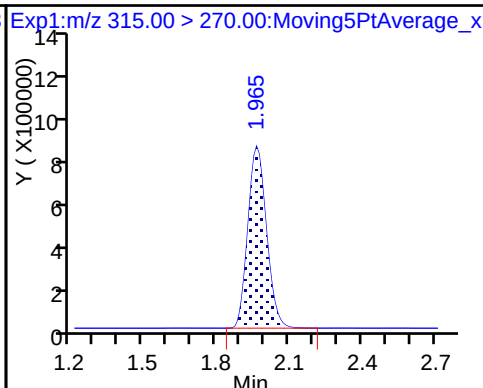
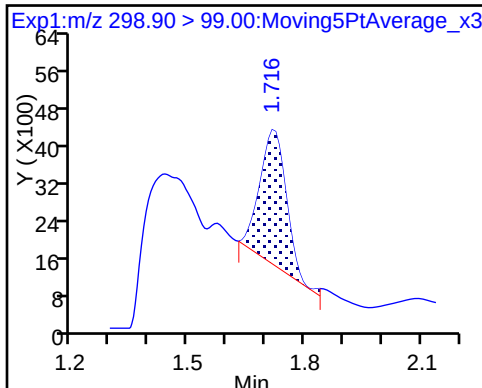
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

D 7 13C2 PFHxA

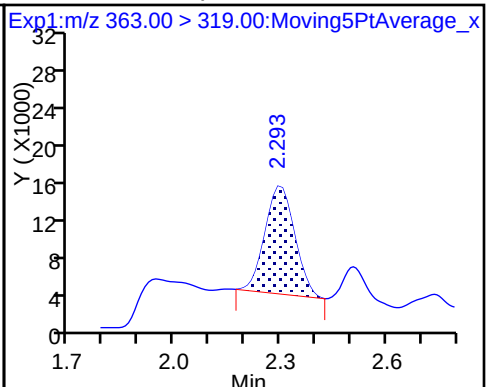
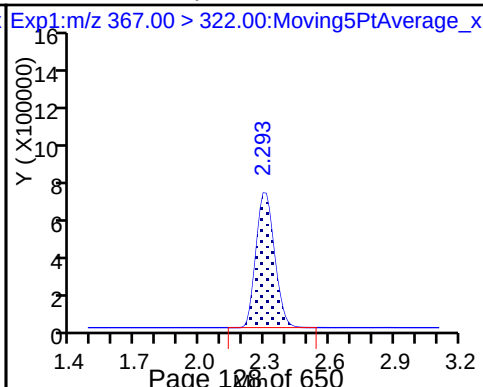
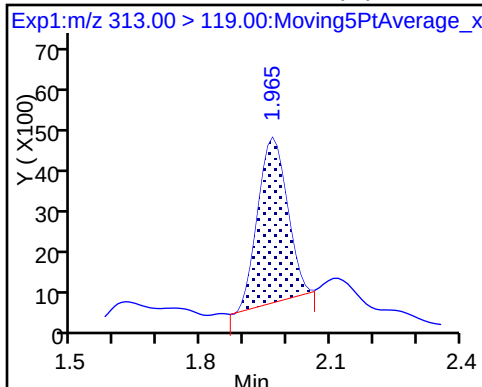
6 Perfluorohexanoic acid (M)

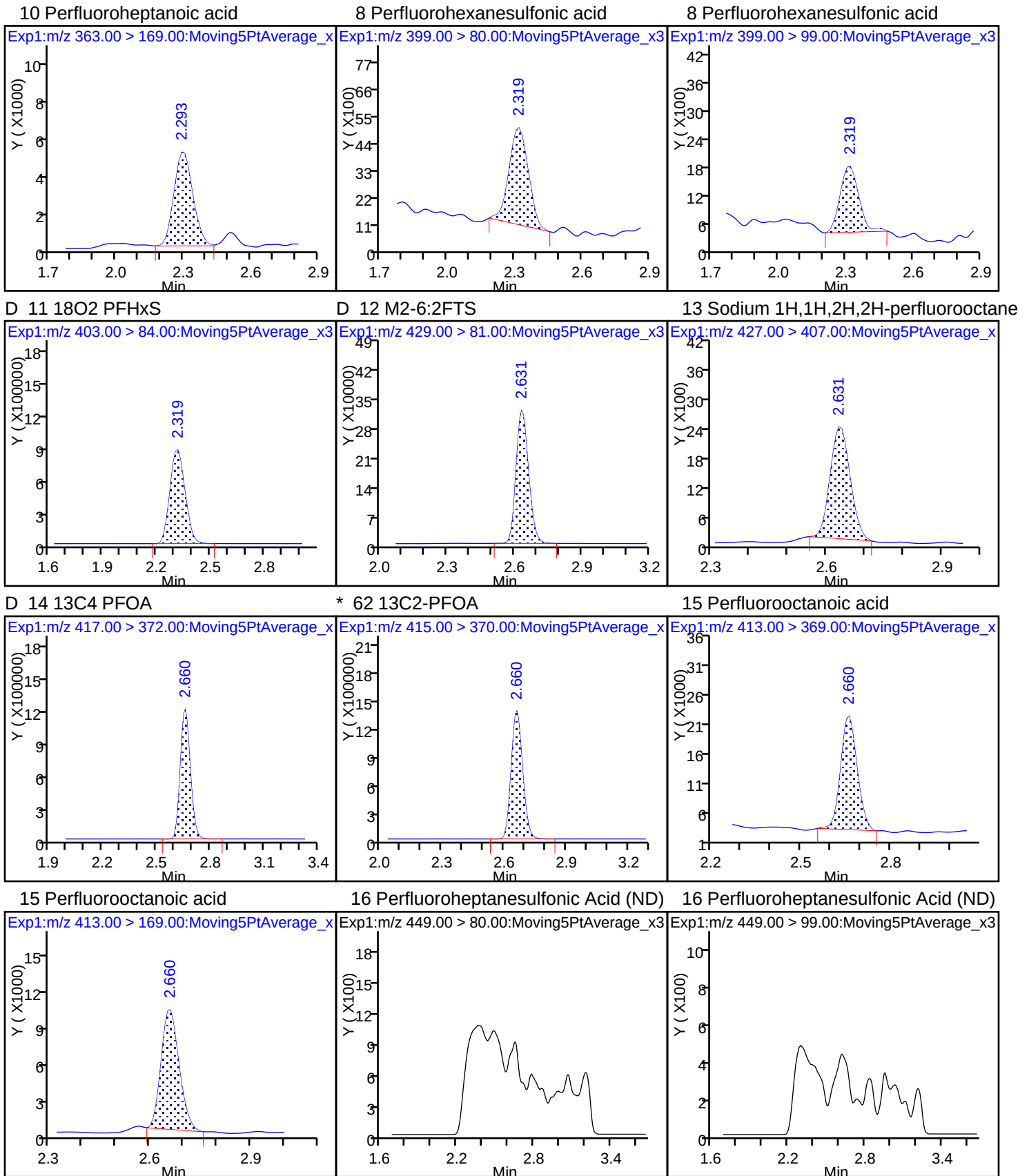


6 Perfluorohexanoic acid (M)

D 9 13C4-PFHpA

10 Perfluoroheptanoic acid



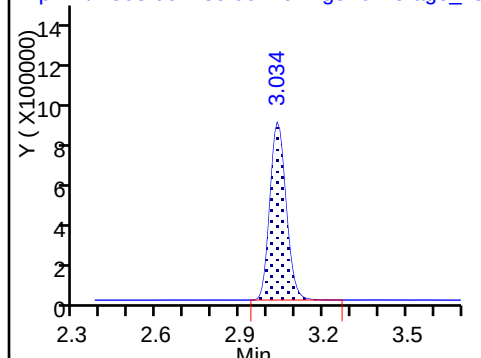


## D 18 13C4 PFOS

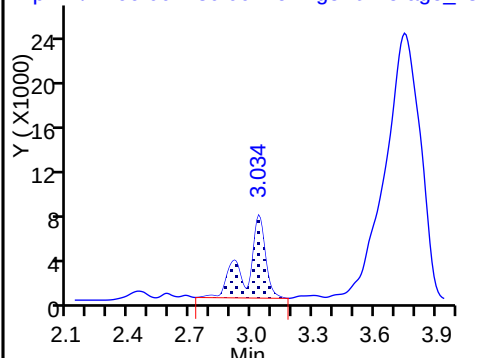
## 17 Perfluorooctane sulfonic acid

## 17 Perfluorooctane sulfonic acid

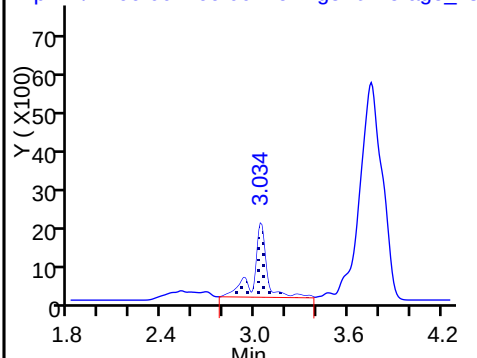
Exp1:m/z 503.00 &gt; 80.00:Moving5PtAverage\_x3



Exp1:m/z 499.00 &gt; 80.00:Moving5PtAverage\_x3



Exp1:m/z 499.00 &gt; 99.00:Moving5PtAverage\_x3

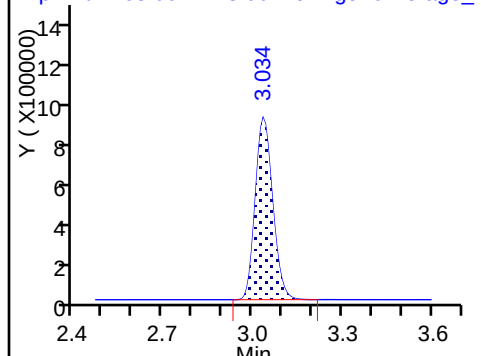


## D 19 13C5 PFNA

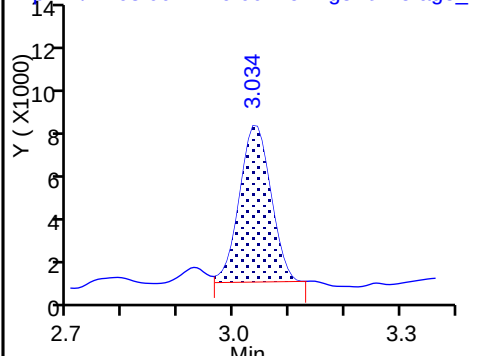
## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

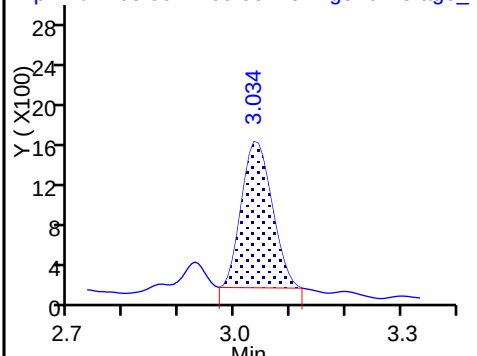
Exp1:m/z 468.00 &gt; 423.00:Moving5PtAverage\_x3



Exp1:m/z 463.00 &gt; 419.00:Moving5PtAverage\_x3



Exp1:m/z 463.00 &gt; 169.00:Moving5PtAverage\_x3

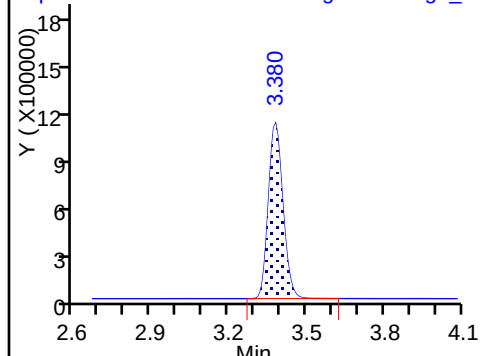


## D 21 13C8 FOSA

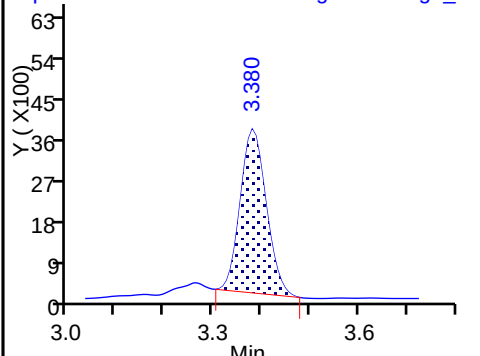
## 22 Perfluorooctane Sulfonamide

## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)

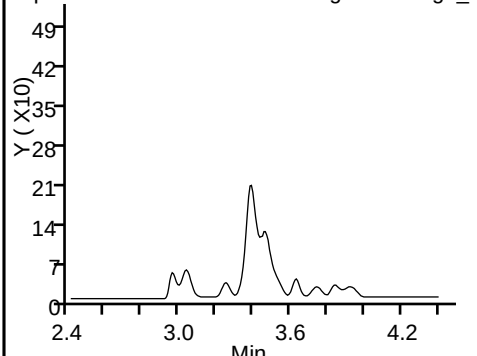
Exp1:m/z 506.00 &gt; 78.00:Moving5PtAverage\_x3



Exp1:m/z 498.00 &gt; 78.00:Moving5PtAverage\_x3



Exp1:m/z 527.00 &gt; 507.00:Moving5PtAverage\_x3

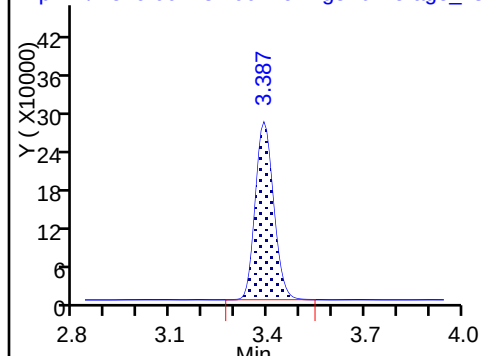


## D 26 M2-8:2FTS

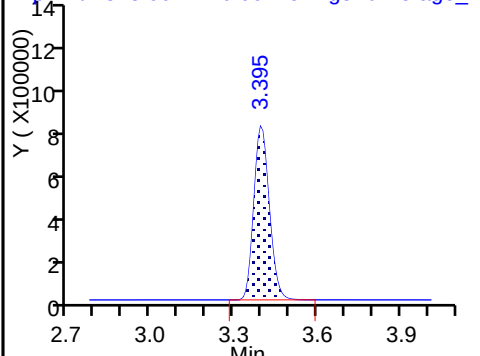
## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

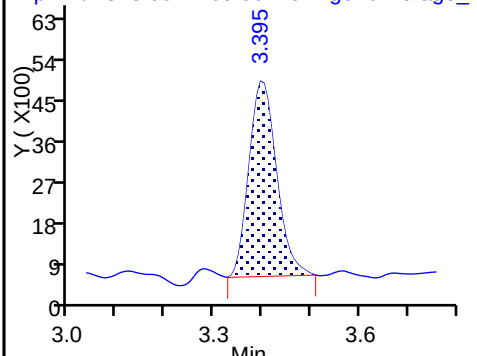
Exp1:m/z 529.00 &gt; 81.00:Moving5PtAverage\_x3



Exp1:m/z 515.00 &gt; 470.00:Moving5PtAverage\_x3



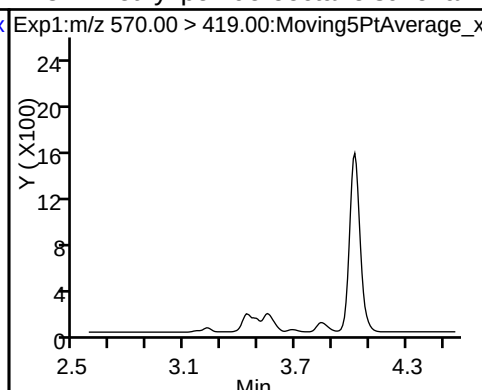
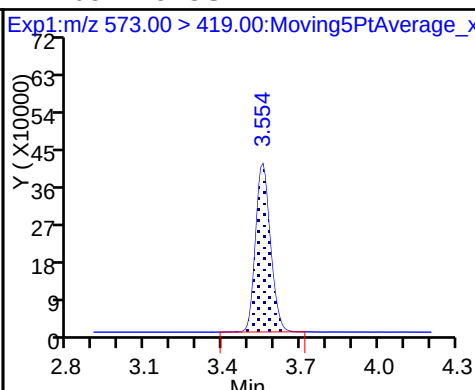
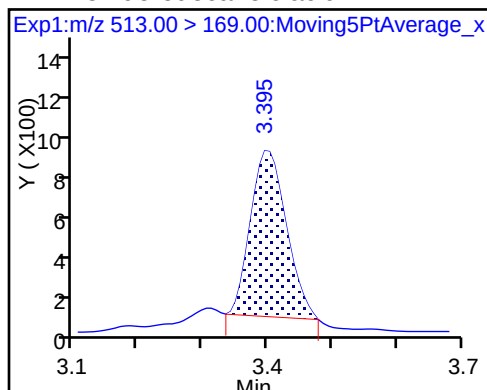
Exp1:m/z 513.00 &gt; 469.00:Moving5PtAverage\_x3



24 Perfluorodecanoic acid

D 27 d3-NMeFOSAA

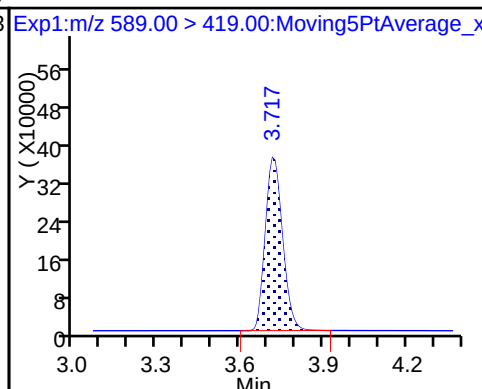
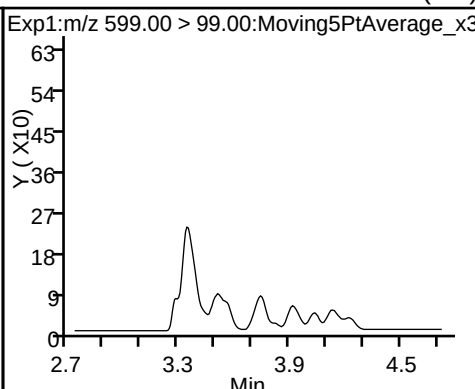
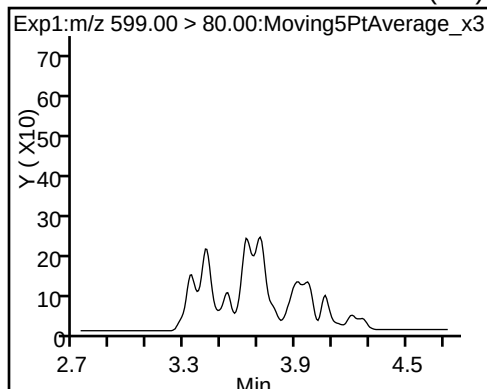
28 N-methyl perfluorooctane sulfonami (ND)



29 Perfluorodecane Sulfonic acid (ND)

29 Perfluorodecane Sulfonic acid (ND)

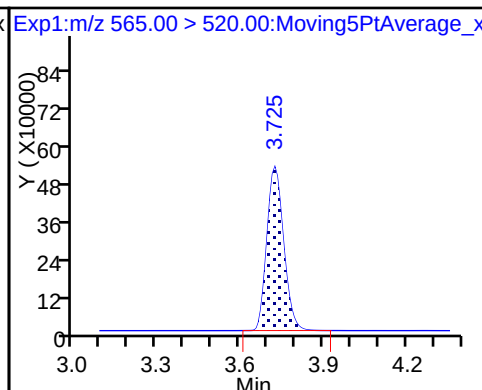
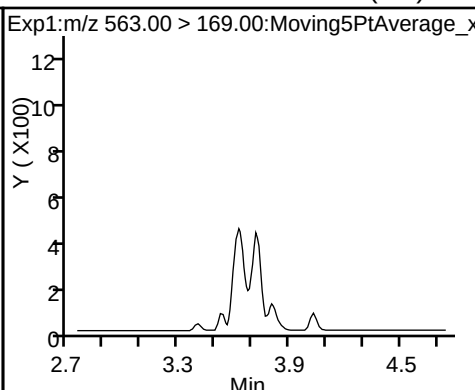
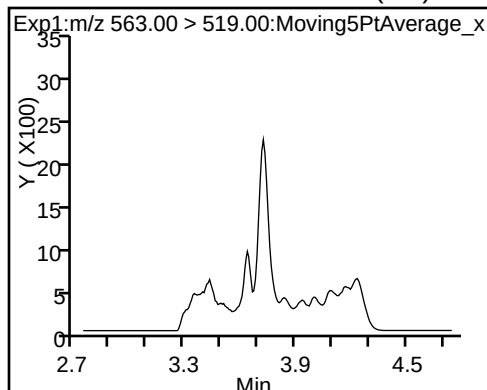
D 32 d5-NEtFOSAA



31 Perfluoroundecanoic acid (ND)

31 Perfluoroundecanoic acid (ND)

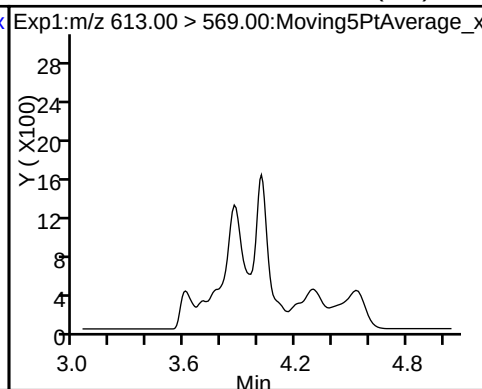
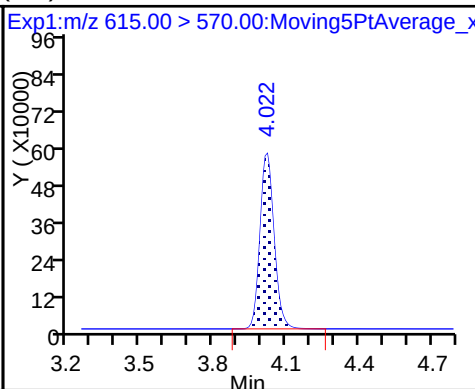
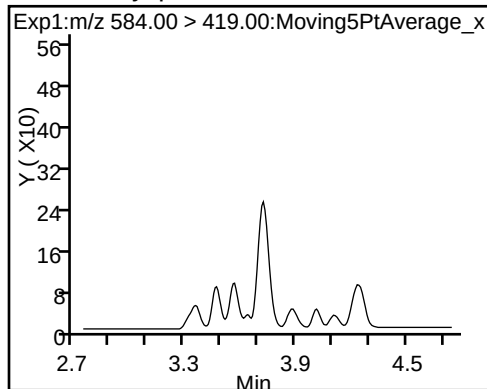
D 30 13C2 PFUnA



33 N-ethyl perfluorooctane sulfonamid (ND)

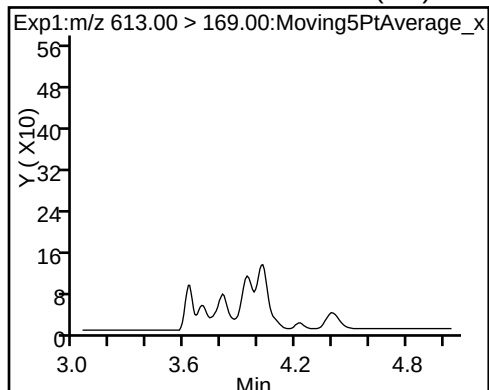
D 36 13C2 PFDaA

37 Perfluorododecanoic acid (ND)

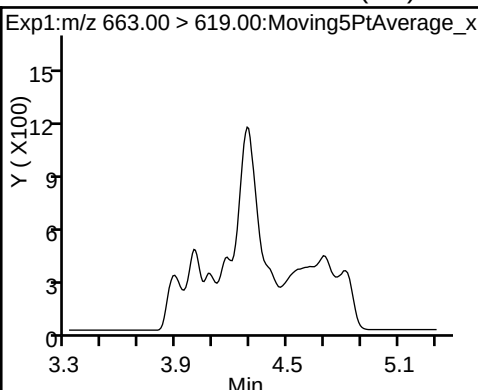




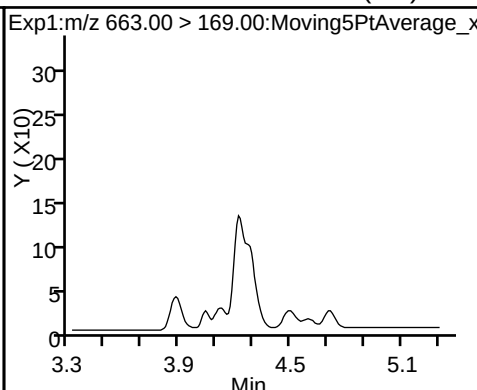
## 37 Perfluorododecanoic acid (ND)



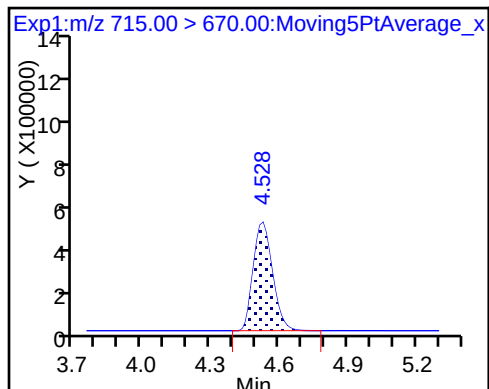
## 41 Perfluorotridecanoic acid (ND)



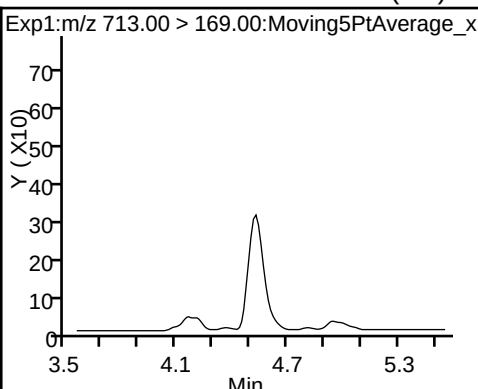
## 41 Perfluorotridecanoic acid (ND)



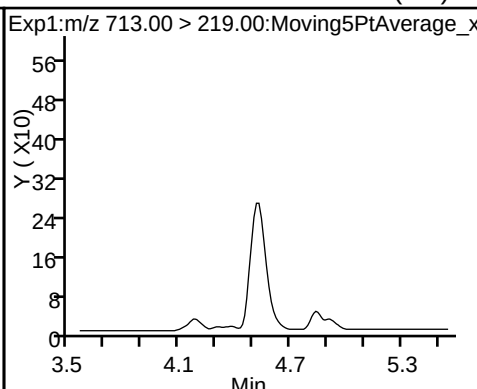
## D 43 13C2-PFTeDA



## 42 Perfluorotetradecanoic acid (ND)



## 42 Perfluorotetradecanoic acid (ND)



## TestAmerica Sacramento

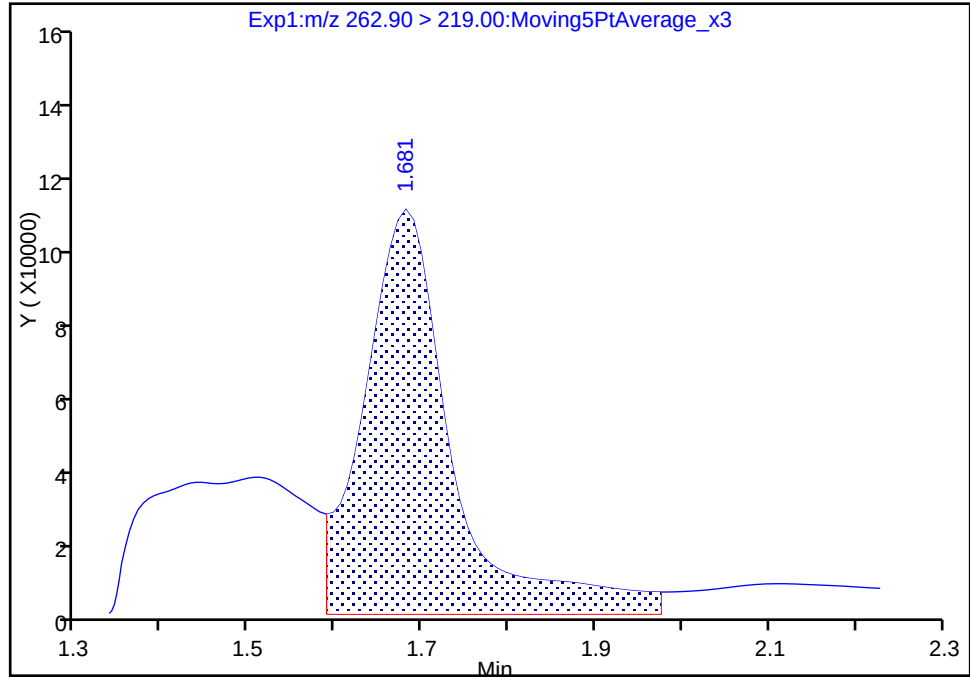
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_011.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 08:57:31                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-6-A                                                          | Lab Sample ID: | 320-34293-6 |                |    |
| Client ID:      | MW-1I                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 10          | Worklist Smp#: | 11 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

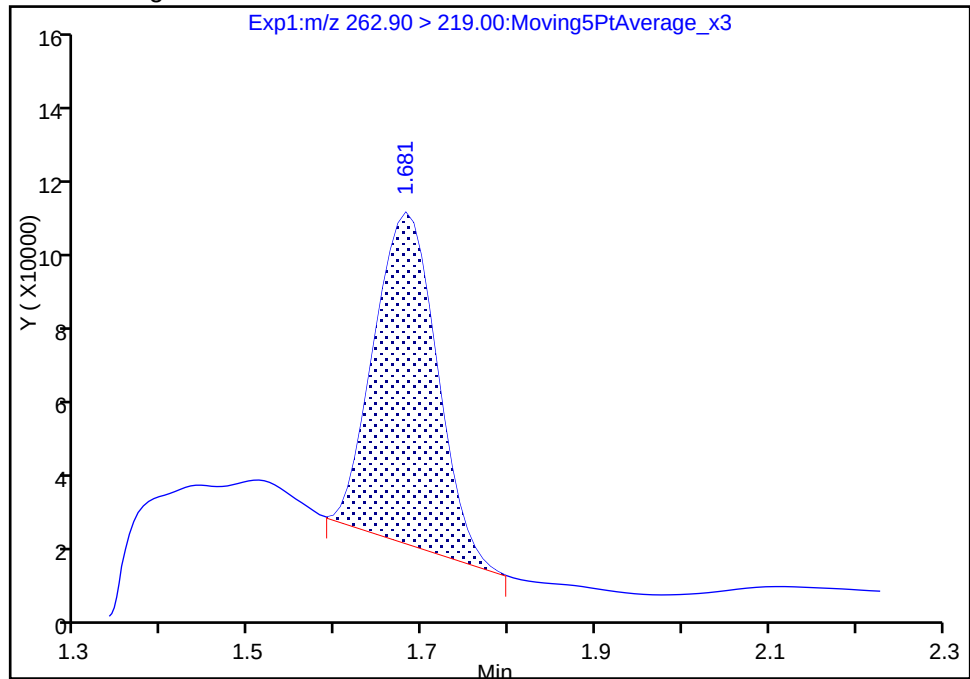
RT: 1.68  
Area: 739059  
Amount: 0.377112  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.68  
Area: 430845  
Amount: 0.219843  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:39:59

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

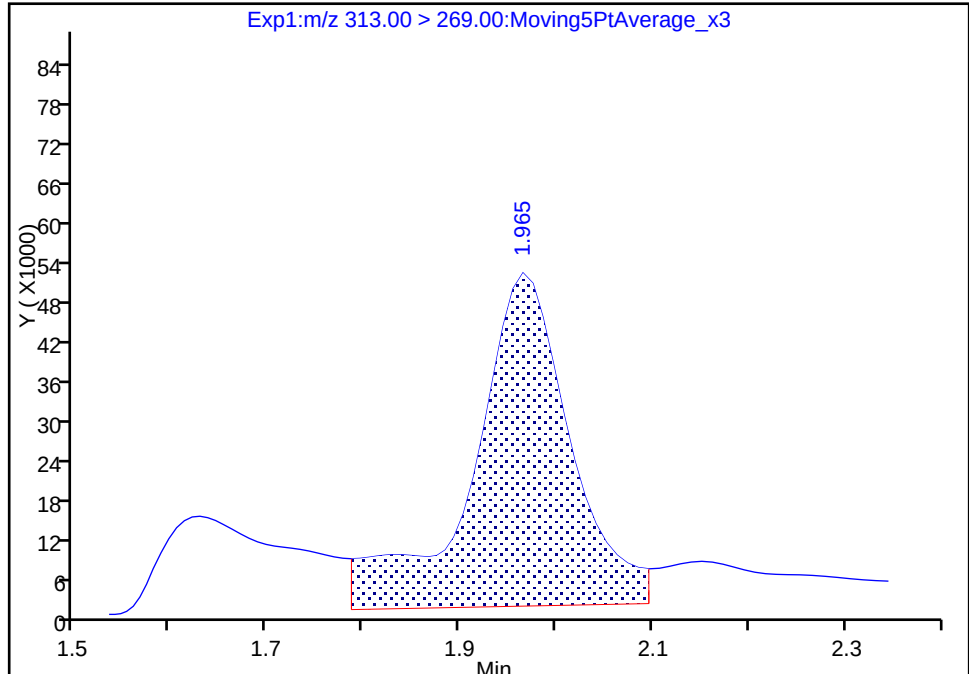
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_011.d  
Injection Date: 29-Dec-2017 08:57:31 Instrument ID: A8\_N  
Lims ID: 320-34293-A-6-A Lab Sample ID: 320-34293-6  
Client ID: MW-11  
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 11  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 1

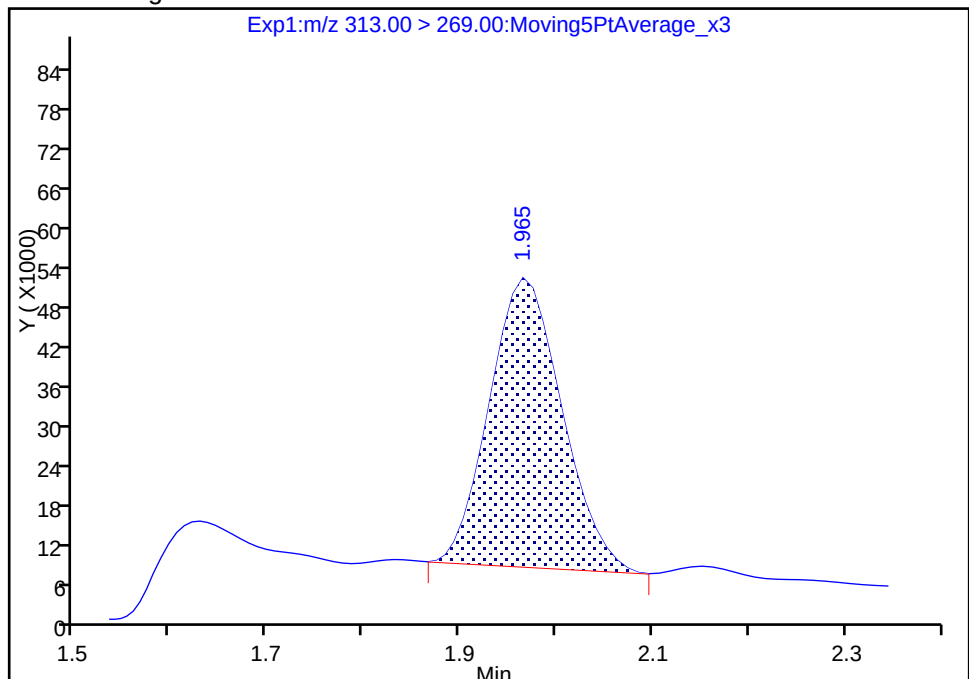
RT: 1.97  
Area: 356453  
Amount: 0.208614  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.97  
Area: 229602  
Amount: 0.134374  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:40:10

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

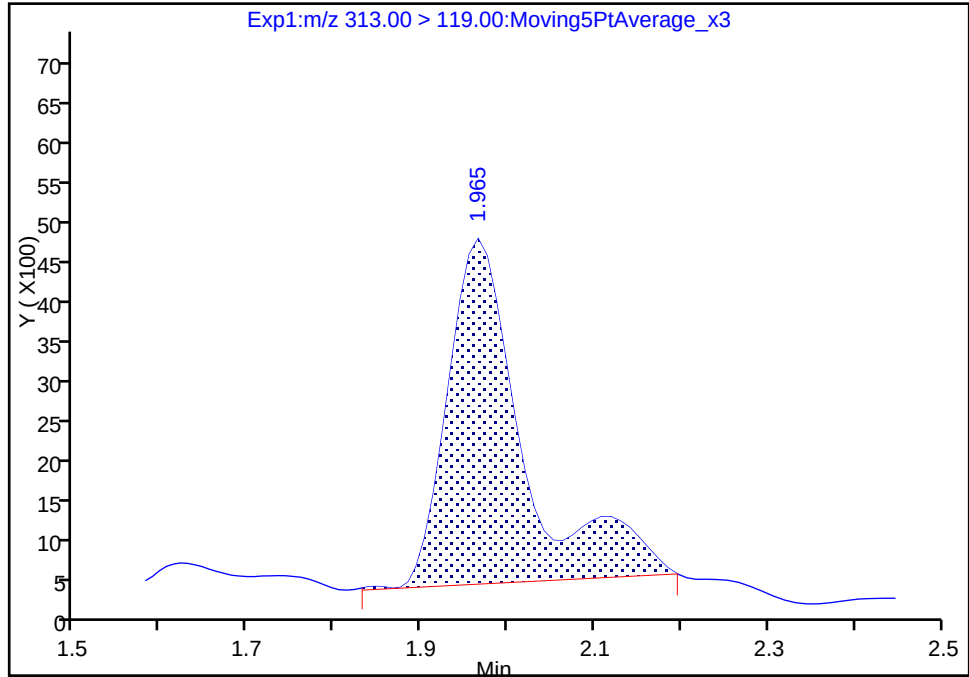
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_011.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 08:57:31                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-6-A                                                          | Lab Sample ID: | 320-34293-6 |                |    |
| Client ID:      | MW-1I                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 10          | Worklist Smp#: | 11 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 2

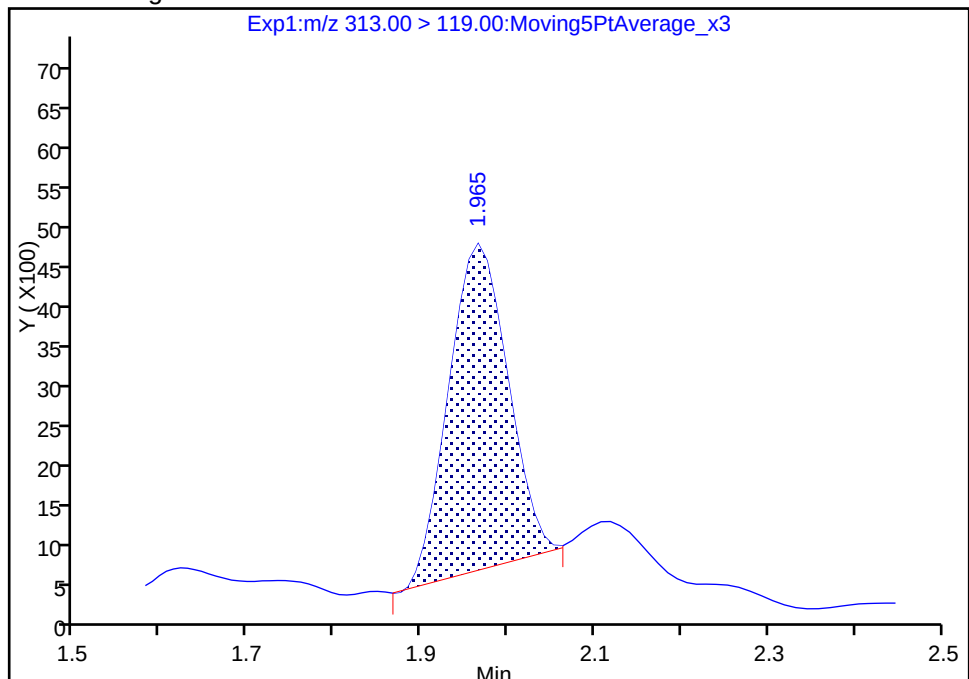
RT: 1.97  
Area: 26580  
Amount: 0.208614  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.97  
Area: 19638  
Amount: 0.134374  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:40:16

Audit Action: Manually Integrated

Audit Reason: Baseline

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-1S</u>          | Lab Sample ID: <u>320-34293-7</u>            |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_013.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 13:36</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>272.6 (mL)</u>        | Date Analyzed: <u>12/29/2017 09:13</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 8.61   | B | 1.83 | 0.32 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 11.5   |   | 1.83 | 0.45 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 14.3   |   | 1.83 | 0.53 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 25.1   |   | 1.83 | 0.23 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 234    |   | 1.83 | 0.78 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 5.92   |   | 1.83 | 0.25 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 1.24   | J | 1.83 | 0.28 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 1.01   | U | 1.83 | 1.01 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.50   | U | 1.83 | 0.50 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.19   | U | 1.83 | 1.19 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.27   | U | 1.83 | 0.27 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 6.38   |   | 1.83 | 0.18 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 27.2   | B | 1.83 | 0.16 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 5.82   |   | 1.83 | 0.17 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 157    |   | 1.83 | 0.50 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.29   | U | 1.83 | 0.29 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 1.68   | J | 1.83 | 0.32 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.84   | U | 18.3 | 2.84 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.74   | U | 18.3 | 1.74 |
| 27619-97-2 | 6:2FTS                                                     | 1.83   | U | 18.3 | 1.83 |
| 39108-34-4 | 8:2FTS                                                     | 1.83   | U | 18.3 | 1.83 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                    |
|-----------------------------------------|----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                        |
| SDG No.: _____                          |                                                    |
| Client Sample ID: <u>MW-1S</u>          | Lab Sample ID: <u>320-34293-7</u>                  |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_013.d</u>            |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 13:36</u>            |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>            |
| Sample wt/vol: <u>272.6(mL)</u>         | Date Analyzed: <u>12/29/2017 09:13</u>             |
| Con. Extract Vol.: <u>10.00(mL)</u>     | Dilution Factor: <u>1</u>                          |
| Injection Volume: <u>2(uL)</u>          | GC Column: <u>GeminiC18 3x100</u> ID: <u>3(mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                        |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                 |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 51   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 74   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 80   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 85   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 93   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 92   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 86   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 84   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 77   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 82   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 81   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 84   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 84   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 75   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 87   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 84   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 133  |   | 25-150 |
| STL02280 | M2-8:2FTS        | 98   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_013.d  
 Lims ID: 320-34293-A-7-A  
 Client ID: MW-1S  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 09:13:08 ALS Bottle#: 11 Worklist Smp#: 13  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-7-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:49:01 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:49:00

| Signal                         | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|--------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                  |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                | 1.432 | 1.433  | -0.001 | 0.538  | 4308256  | 1.27         |                   | 51.0 | 12024 |       |
| 2 Perfluorobutyric acid        |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                | 1.432 | 1.434  | -0.002 | 1.000  | 369433   | 0.2347       |                   |      | 56.0  |       |
| 4 Perfluoropentanoic acid      |       |        |        |        |          |              |                   |      |       | M     |
| 262.90 > 219.00                | 1.689 | 1.691  | -0.002 | 1.000  | 512801   | 0.3144       |                   |      | 73.2  | M     |
| D 3 13C5-PFPeA                 |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                | 1.689 | 1.692  | -0.003 | 0.635  | 3635158  | 1.84         |                   | 73.8 | 15347 |       |
| D 47 13C3-PFBS                 |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                 | 1.725 | 1.725  | 0.0    | 0.649  | 80788    | 1.89         |                   | 81.4 | 738   |       |
| 5 Perfluorobutanesulfonic acid |       |        |        |        |          |              |                   |      |       | M     |
| 298.90 > 80.00                 | 1.725 | 1.730  | -0.005 | 1.000  | 452180   | 0.1739       |                   |      | 70.2  | M     |
| 298.90 > 99.00                 | 1.725 | 1.730  | -0.005 | 1.000  | 204838   |              | 2.21(1.25-3.74)   |      | 183   |       |
| D 7 13C2 PFHxA                 |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                | 1.975 | 1.976  | -0.001 | 0.743  | 4221762  | 1.99         |                   | 79.7 | 32714 |       |
| 6 Perfluorohexanoic acid       |       |        |        |        |          |              |                   |      |       | M     |
| 313.00 > 269.00                | 1.975 | 1.979  | -0.004 | 1.000  | 657361   | 0.3898       |                   |      | 122   | M     |
| 313.00 > 119.00                | 1.975 | 1.979  | -0.004 | 1.000  | 55943    |              | 11.75(5.03-15.10) |      | 293   | M     |
| D 9 13C4-PFHpA                 |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                | 2.305 | 2.311  | -0.006 | 0.867  | 4188689  | 2.13         |                   | 85.2 | 29408 |       |
| 10 Perfluoroheptanoic acid     |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                | 2.305 | 2.311  | -0.006 | 1.000  | 1197896  | 0.6837       |                   |      | 507   |       |
| 363.00 > 169.00                | 2.305 | 2.311  | -0.006 | 1.000  | 443007   |              | 2.70(1.13-3.40)   |      | 2690  |       |
| 8 Perfluorohexanesulfonic acid |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                 | 2.319 | 2.324  | -0.005 | 1.000  | 1697612  | 0.7404       |                   |      | 576   |       |
| 399.00 > 99.00                 | 2.319 | 2.324  | -0.005 | 1.000  | 557050   |              | 3.05(1.50-4.49)   |      | 958   |       |
| D 11 18O2 PFHxS                |       |        |        |        |          |              |                   |      |       |       |
| 403.00 > 84.00                 | 2.319 | 2.328  | -0.009 | 0.872  | 4962150  | 1.99         |                   | 84.0 | 41776 |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649  | -0.011 | 0.992  | 1178224  | 3.16         |                 | 133  | 3925  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.638 | 2.651  | -0.013 | 1.000  | 12747    | 0.0153       |                 |      | 494   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.659 | 2.674  | -0.015 | 1.000  | 4651866  | 2.32         |                 | 92.7 | 47547 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.659 | 2.676  | -0.017 |        | 4883685  | 2.50         |                 |      | 43206 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.667 | 2.677  | -0.010 | 1.003  | 12552669 | 6.37         |                 |      | 5346  | M     |
| 413.00 > 169.00                       | 2.659 | 2.677  | -0.018 | 1.000  | 7824505  |              | 1.60(0.84-2.52) |      | 17800 | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.667 | 2.683  | -0.016 | 1.000  | 271303   | 0.1586       |                 |      | 77.5  |       |
| 449.00 > 99.00                        | 2.667 | 2.683  | -0.016 | 1.000  | 76853    |              | 3.53(1.94-5.82) |      | 164   |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.034 | 3.048  | -0.014 | 1.141  | 3331298  | 2.01         |                 | 84.2 | 7449  |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.034 | 3.050  | -0.016 | 1.000  | 6411470  | 4.29         |                 |      | 926   |       |
| 499.00 > 99.00                        | 3.034 | 3.050  | -0.016 | 1.000  | 1144319  |              | 5.60(2.31-6.93) |      | 1137  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.034 | 3.051  | -0.017 | 1.141  | 3674106  | 2.29         |                 | 91.6 | 33200 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.034 | 3.052  | -0.018 | 1.000  | 231254   | 0.1615       |                 |      | 262   |       |
| 463.00 > 169.00                       | 3.034 | 3.052  | -0.018 | 1.000  | 56144    |              | 4.12(1.90-5.69) |      | 200   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.380 | 3.377  | 0.003  | 1.271  | 4192071  | 1.87         |                 | 74.9 | 23977 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378  | 0.002  | 1.000  | 73080    | 0.0459       |                 |      | 84.4  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.387 | 3.403  | -0.016 | 1.274  | 960885   | 2.35         |                 | 98.0 | 7449  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.395 | 3.414  | -0.019 | 1.277  | 2797572  | 2.15         |                 | 85.8 | 25851 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.395 | 3.414  | -0.019 | 1.000  | 37148    | 0.0337       |                 |      | 103   |       |
| 513.00 > 169.00                       | 3.395 | 3.414  | -0.019 | 1.000  | 6238     |              | 5.96(2.36-7.09) |      | 141   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.554 | 3.569  | -0.015 | 1.336  | 1461201  | 2.17         |                 | 86.7 | 17598 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.554 | 3.574  | -0.020 | 1.000  | 2399     | 0.003877     |                 |      | 26.8  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.716 | 3.740  | -0.024 | 1.397  | 1445781  | 2.11         |                 | 84.2 | 8836  |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.725 | 3.746  | -0.021 | 1.000  | 12002    | 0.0155       |                 |      | 44.5  |       |
| 563.00 > 169.00                       | 3.725 | 3.746  | -0.021 | 1.000  | 2594     |              | 4.63(0.00-0.00) |      | 51.3  |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.725 | 3.747  | -0.022 | 1.401  | 2064133  | 2.09         |                 | 83.7 | 24533 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.725 | 3.747  | -0.022 | 1.002  | 3866     | 0.006926     |                 |      | 91.1  |       |



| Signal           | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits) | %Rec | S/N   | Flags |
|------------------|-------|-----------|-----------|-----------|----------|-----------------|---------------|------|-------|-------|
| D 36 13C2 PFDaA  |       |           |           |           |          |                 |               |      |       |       |
| 615.00 > 570.00  | 4.022 | 4.045     | -0.023    | 1.512     | 2074512  | 1.93            |               | 77.4 | 31010 |       |
| D 43 13C2-PFTeDA |       |           |           |           |          |                 |               |      |       |       |
| 715.00 > 670.00  | 4.528 | 4.557     | -0.029    | 1.703     | 2380141  | 2.04            |               | 81.7 | 21649 |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_013.d

Injection Date: 29-Dec-2017 09:13:08

Instrument ID: A8\_N

Lims ID: 320-34293-A-7-A

Lab Sample ID: 320-34293-7

Client ID: MW-1S

Operator ID: SACINSTLCMS01

ALS Bottle#: 11

Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

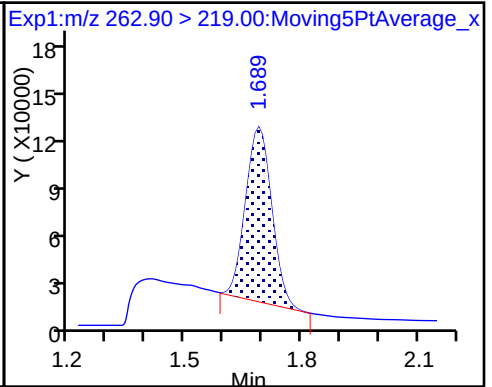
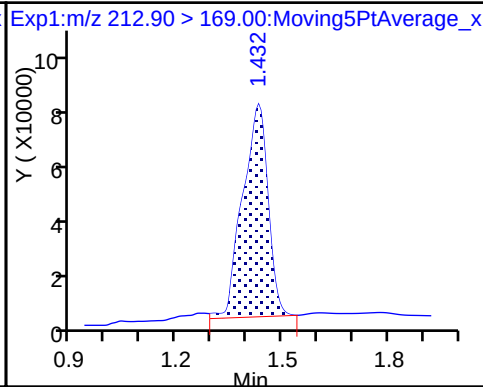
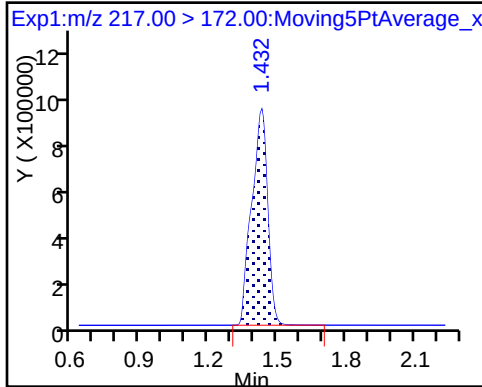
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

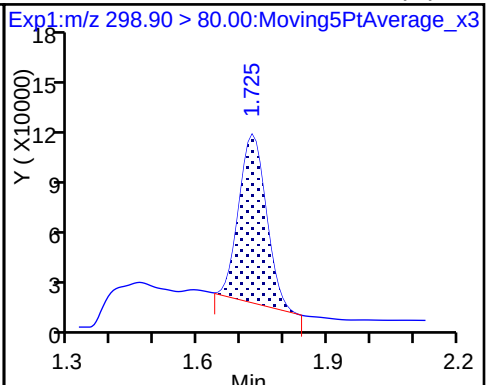
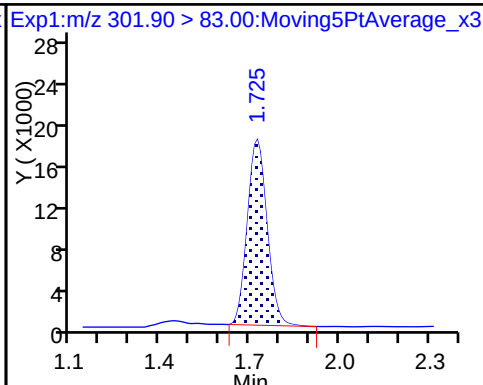
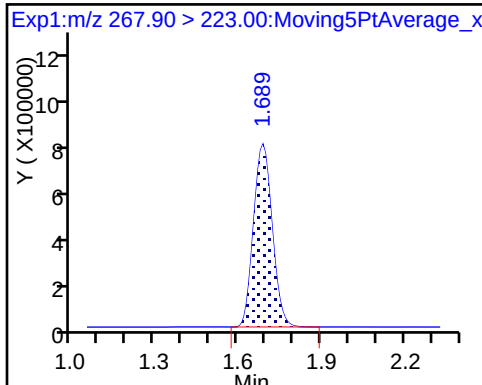
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

D 47 13C3-PFBS

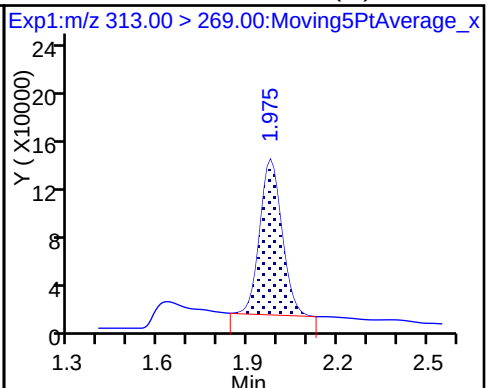
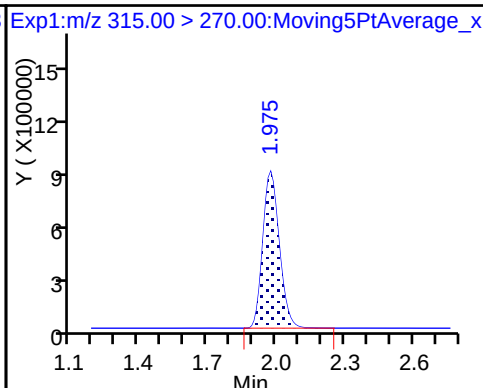
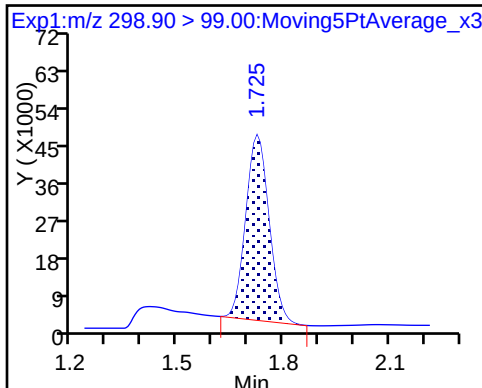
5 Perfluorobutanesulfonic acid (M)



5 Perfluorobutanesulfonic acid

D 7 13C2 PFHxA

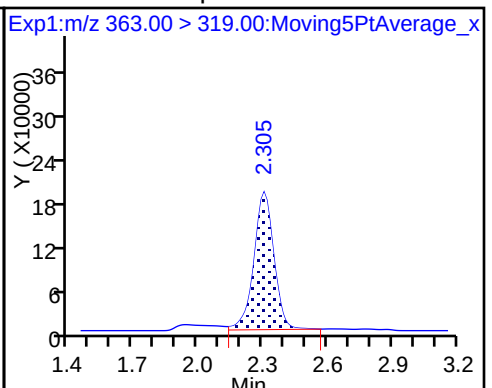
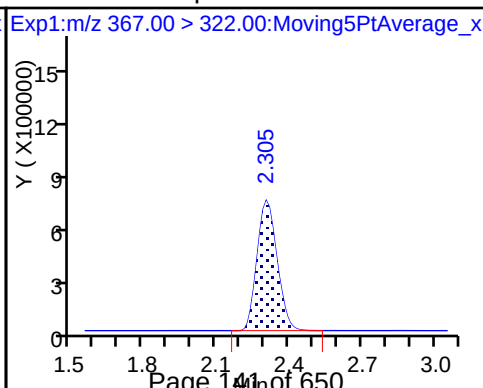
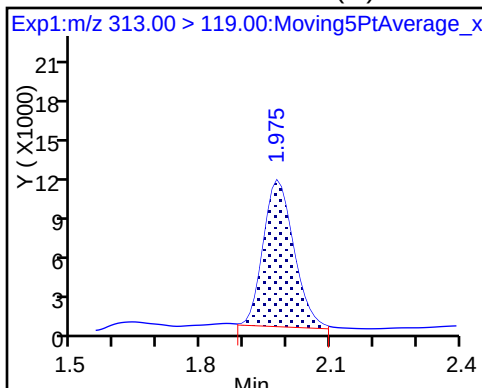
6 Perfluorohexanoic acid (M)



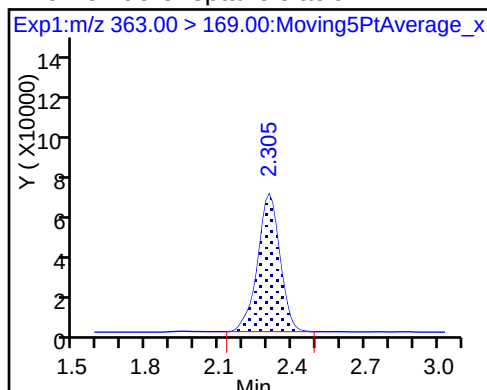
6 Perfluorohexanoic acid (M)

D 9 13C4-PFHpA

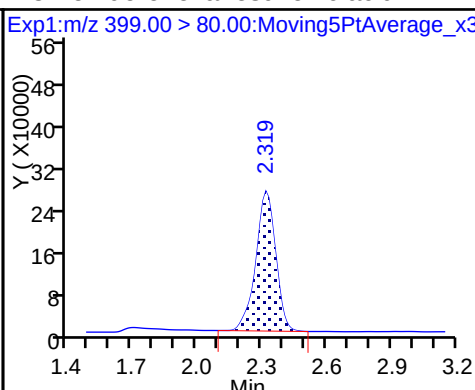
10 Perfluoroheptanoic acid



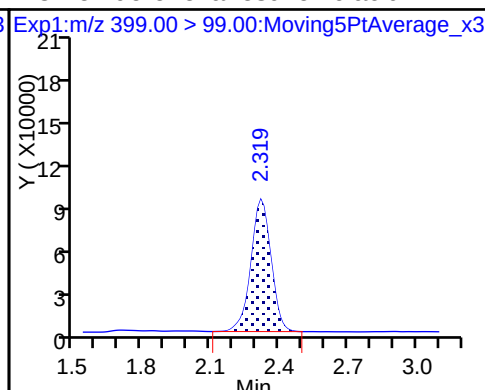
10 Perfluoroheptanoic acid



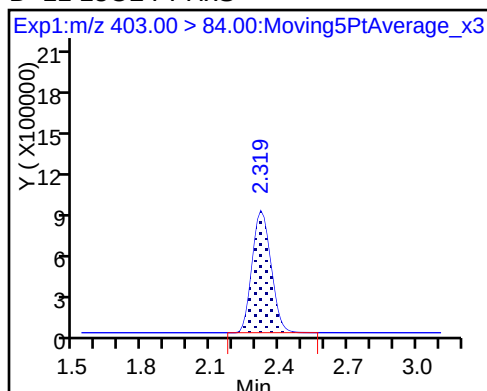
8 Perfluorohexanesulfonic acid



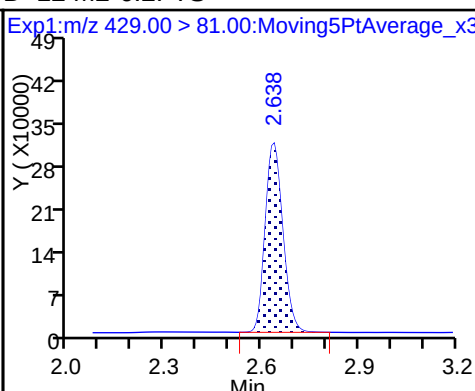
8 Perfluorohexanesulfonic acid



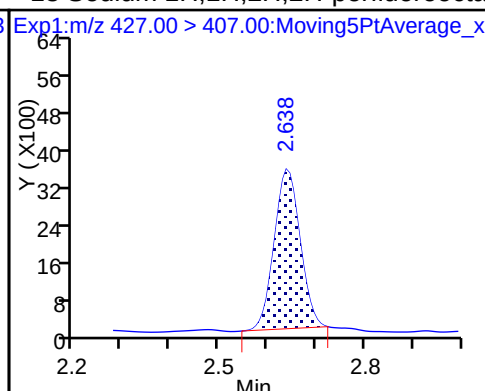
D 11 18O2 PFHxS



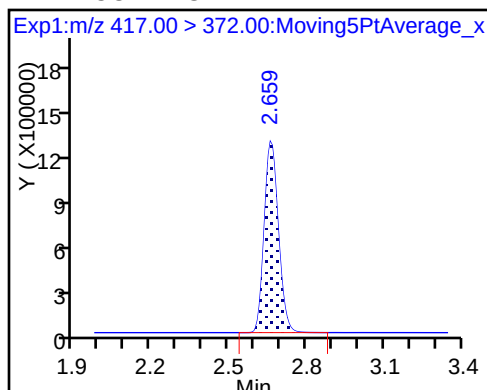
D 12 M2-6:2FTS



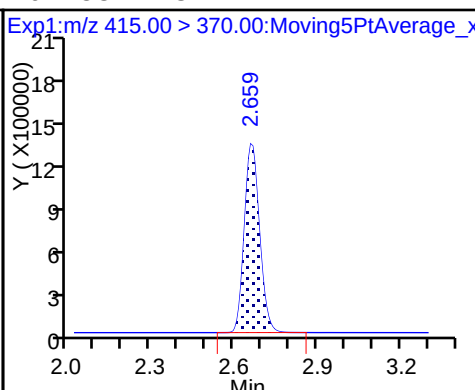
13 Sodium 1H,1H,2H,2H-perfluorooctane



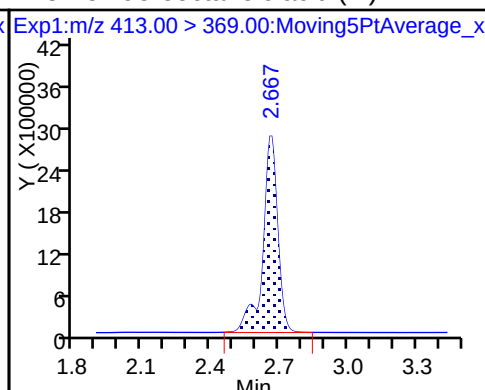
D 14 13C4 PFOA



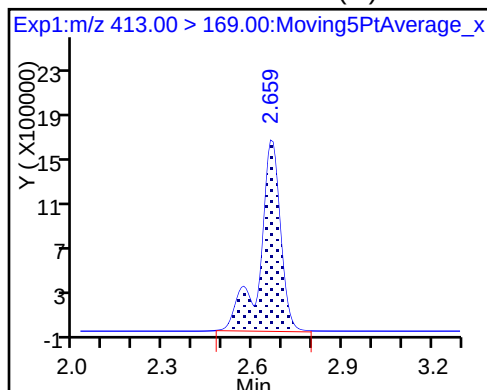
\* 62 13C2-PFOA



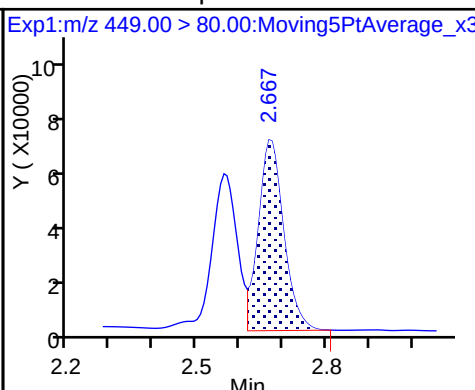
15 Perfluorooctanoic acid (M)



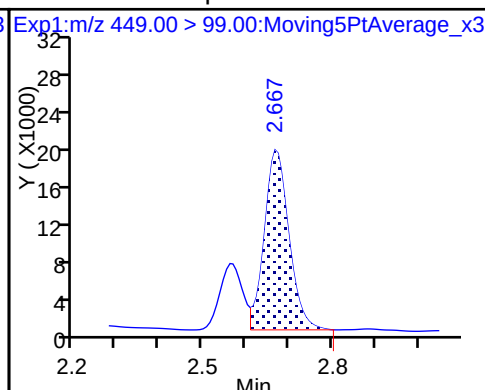
15 Perfluorooctanoic acid (M)



16 Perfluoroheptanesulfonic Acid



16 Perfluoroheptanesulfonic Acid



## D 18 13C4 PFOS

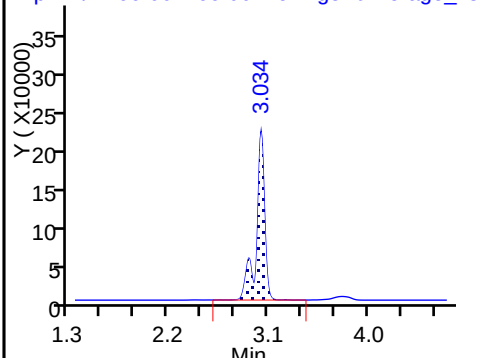
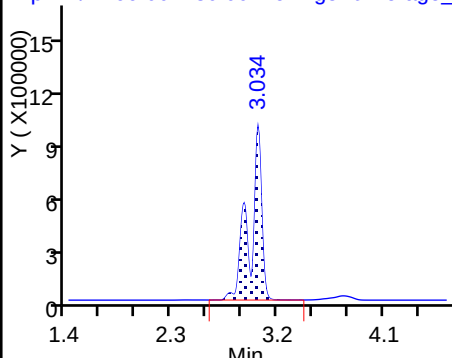
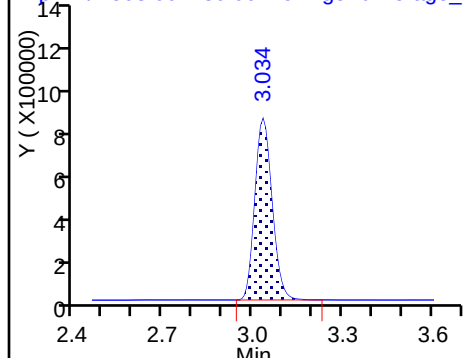
## 17 Perfluorooctane sulfonic acid

## 17 Perfluorooctane sulfonic acid

Exp1:m/z 503.00 &gt; 80.00:Moving5PtAverage\_x3

Exp1:m/z 499.00 &gt; 80.00:Moving5PtAverage\_x3

Exp1:m/z 499.00 &gt; 99.00:Moving5PtAverage\_x3



## D 19 13C5 PFNA

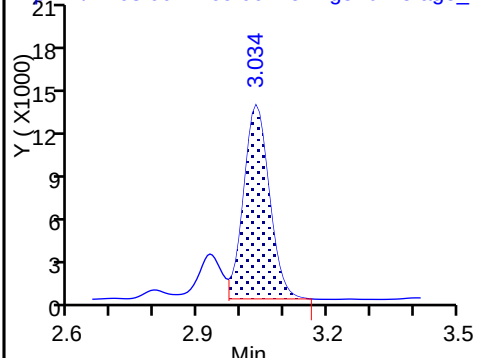
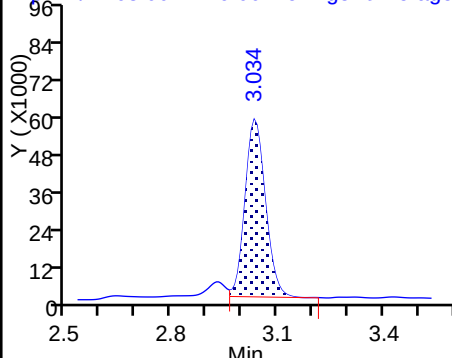
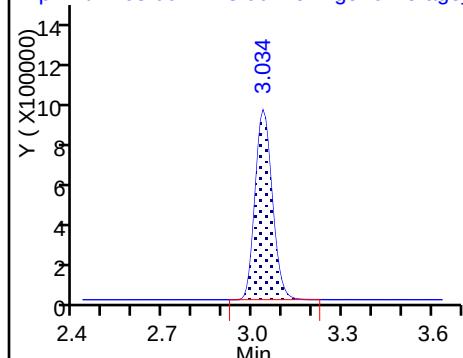
## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

Exp1:m/z 468.00 &gt; 423.00:Moving5PtAverage\_x3

Exp1:m/z 463.00 &gt; 419.00:Moving5PtAverage\_x3

Exp1:m/z 463.00 &gt; 169.00:Moving5PtAverage\_x3



## D 21 13C8 FOSA

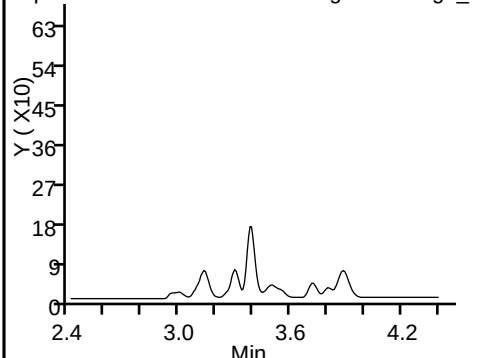
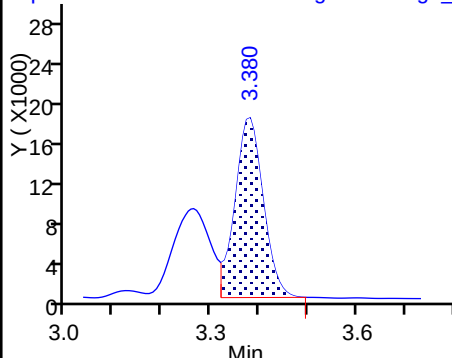
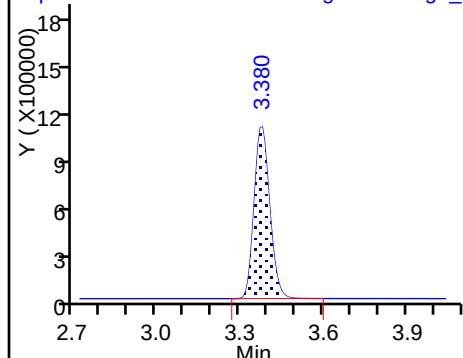
## 22 Perfluorooctane Sulfonamide

## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)

Exp1:m/z 506.00 &gt; 78.00:Moving5PtAverage\_x3

Exp1:m/z 498.00 &gt; 78.00:Moving5PtAverage\_x3

Exp1:m/z 527.00 &gt; 507.00:Moving5PtAverage\_x3



## D 26 M2-8:2FTS

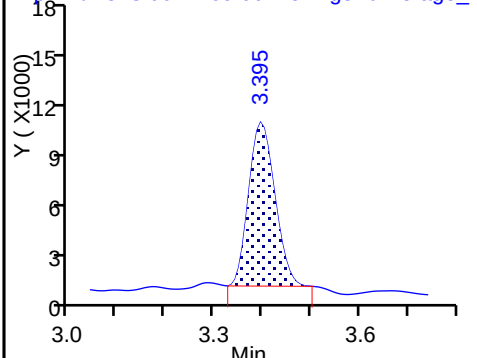
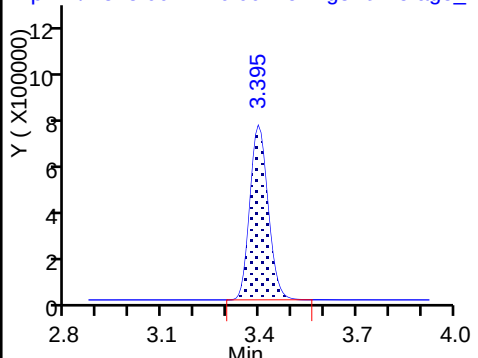
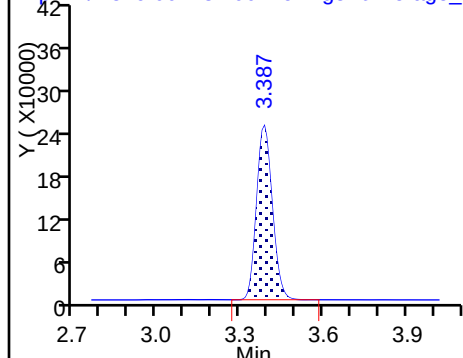
## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

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Exp1:m/z 515.00 &gt; 470.00:Moving5PtAverage\_x3

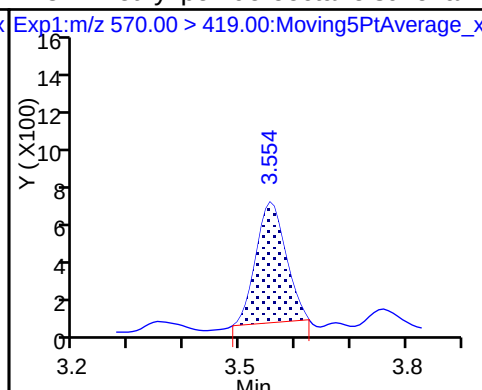
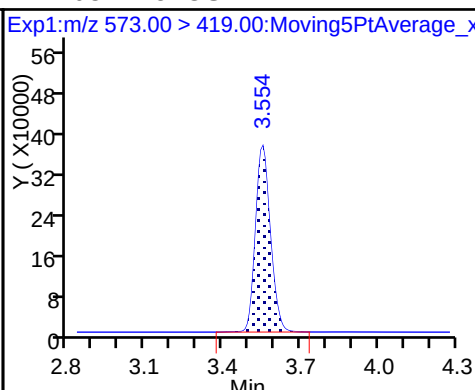
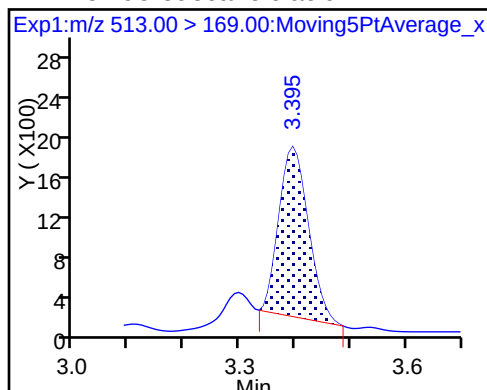
Exp1:m/z 513.00 &gt; 469.00:Moving5PtAverage\_x3



24 Perfluorodecanoic acid

D 27 d3-NMeFOSAA

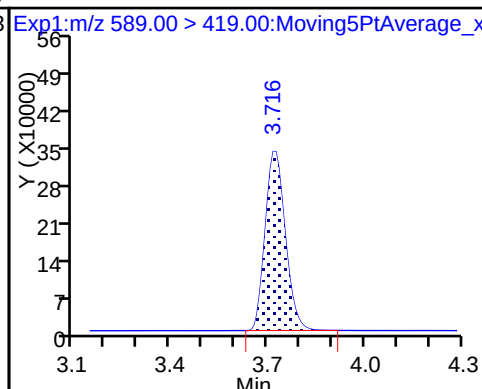
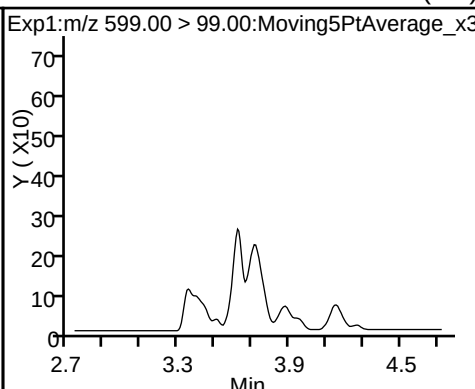
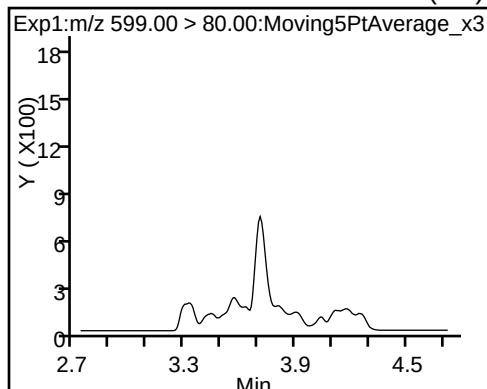
28 N-methyl perfluorooctane sulfonami



29 Perfluorodecane Sulfonic acid (ND)

29 Perfluorodecane Sulfonic acid (ND)

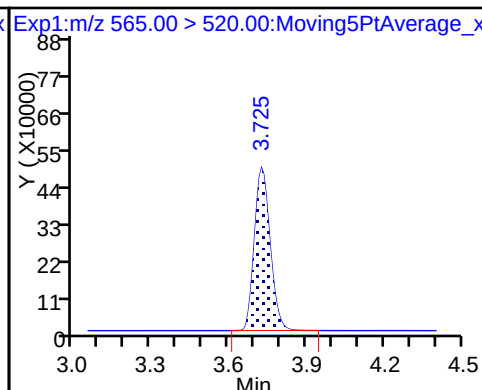
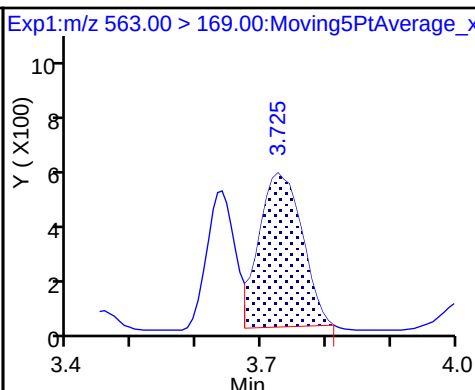
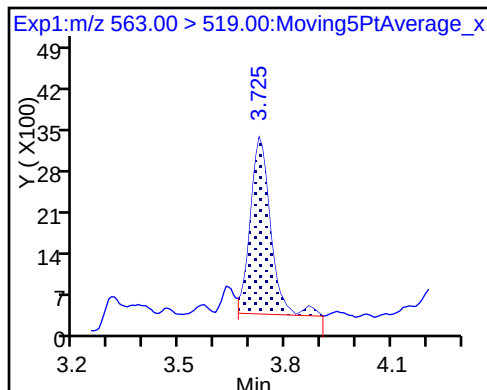
D 32 d5-NEtFOSAA



31 Perfluoroundecanoic acid

31 Perfluoroundecanoic acid

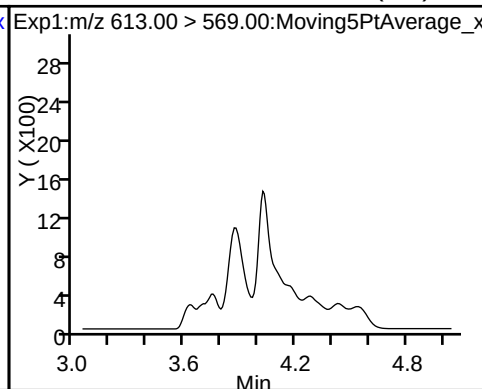
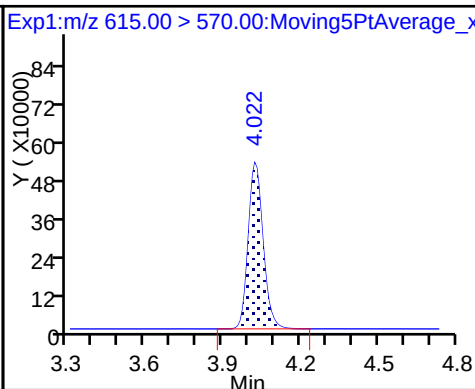
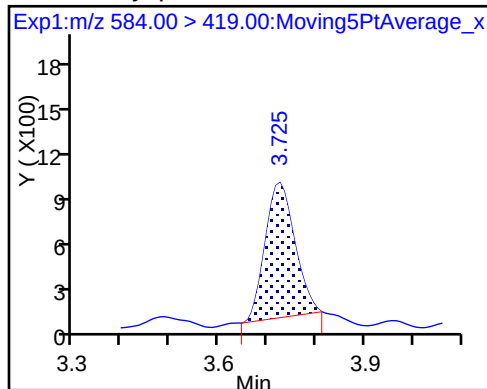
D 30 13C2 PFUnA



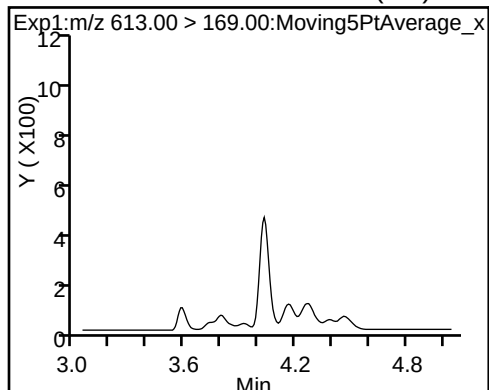
33 N-ethyl perfluorooctane sulfonamid

D 36 13C2 PFDaA

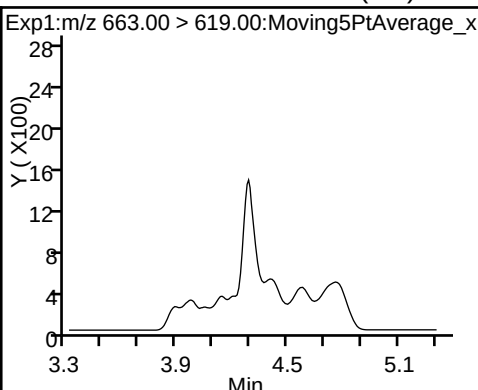
37 Perfluorododecanoic acid (ND)



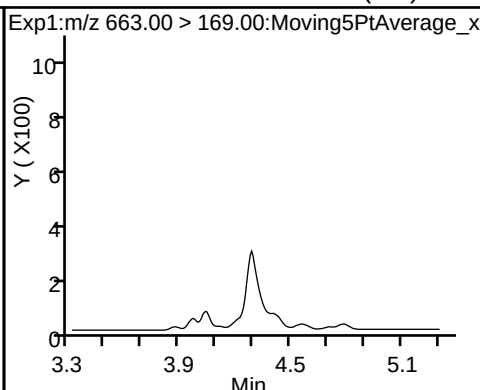
37 Perfluorododecanoic acid (ND)



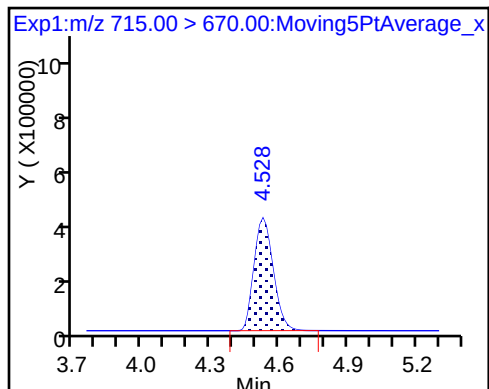
41 Perfluorotridecanoic acid (ND)



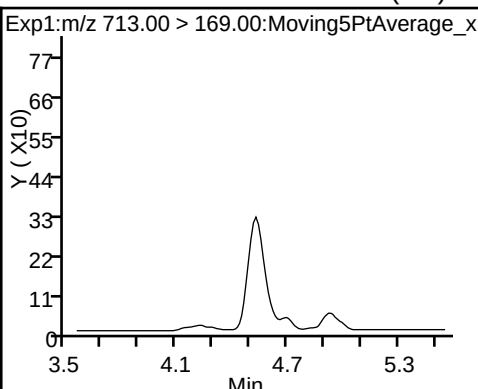
41 Perfluorotridecanoic acid (ND)



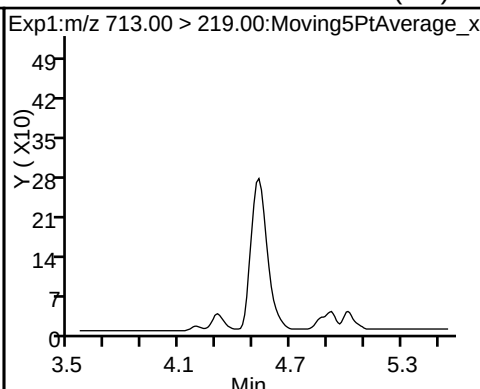
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



## TestAmerica Sacramento

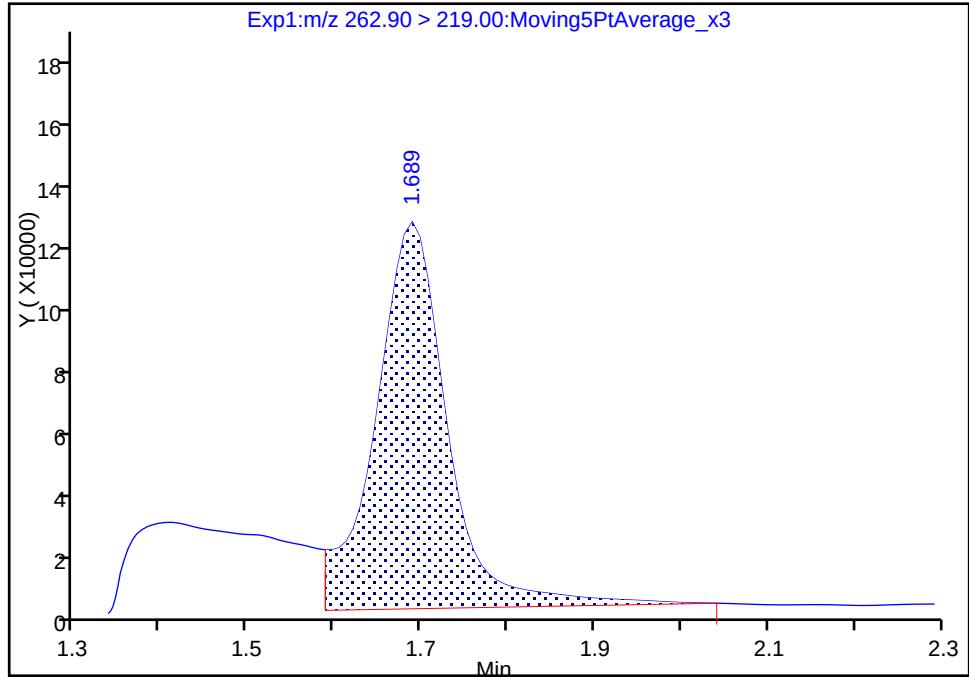
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_013.d  
Injection Date: 29-Dec-2017 09:13:08 Instrument ID: A8\_N  
Lims ID: 320-34293-A-7-A Lab Sample ID: 320-34293-7  
Client ID: MW-1S  
Operator ID: SACINSTLCMS01 ALS Bottle#: 11 Worklist Smp#: 13  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

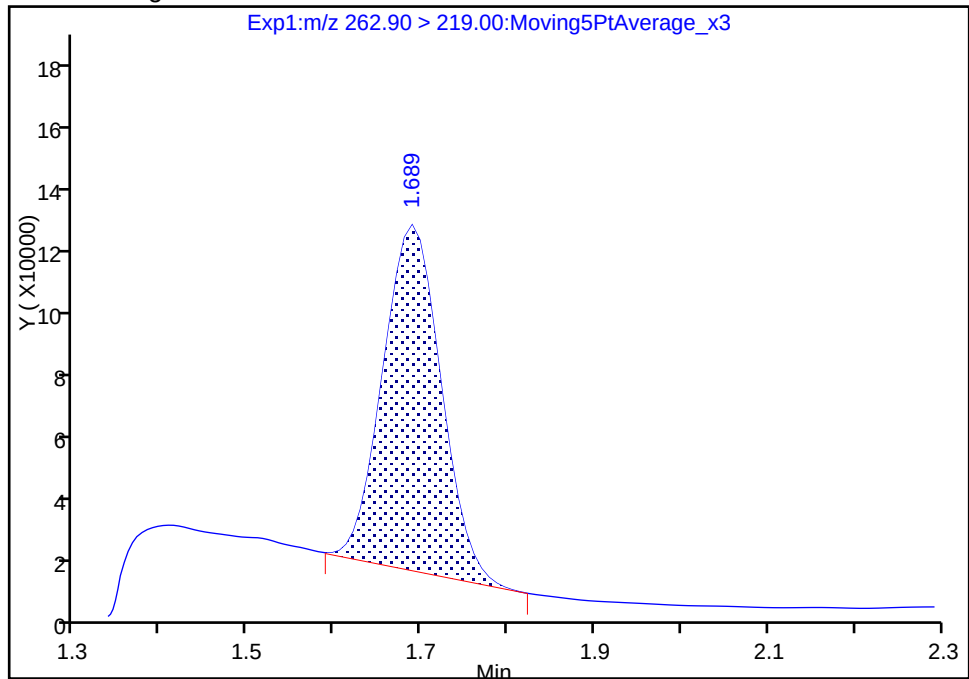
RT: 1.69  
Area: 706040  
Amount: 0.432872  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.69  
Area: 512801  
Amount: 0.314398  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:47:10

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

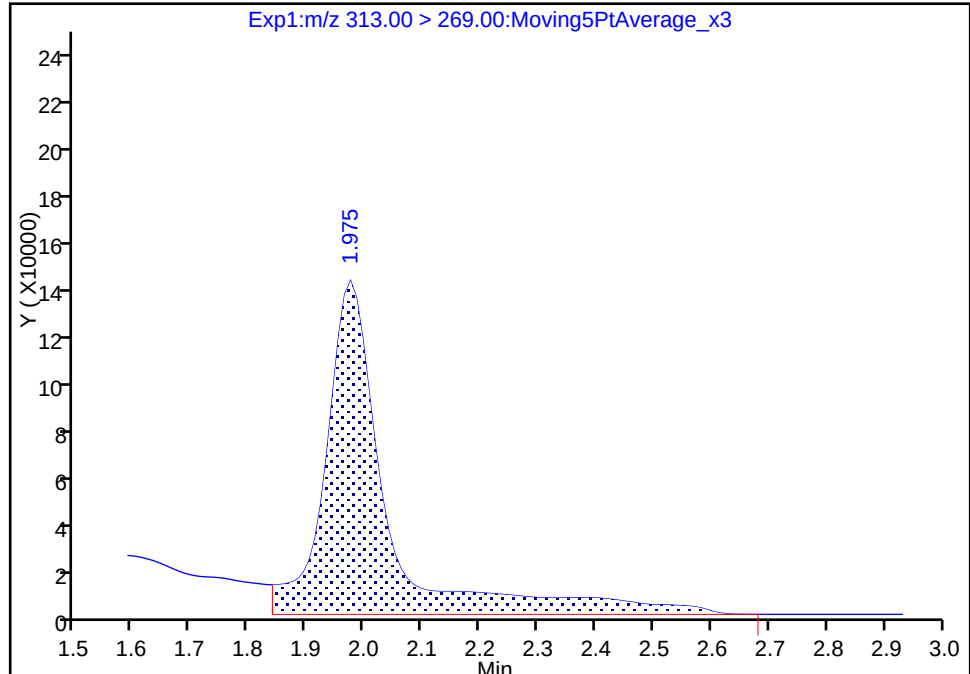
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_013.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:13:08                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-7-A                                                          | Lab Sample ID: | 320-34293-7 |                |    |
| Client ID:      | MW-1S                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 11          | Worklist Smp#: | 13 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector:      | EXP1        |                |    |

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 1

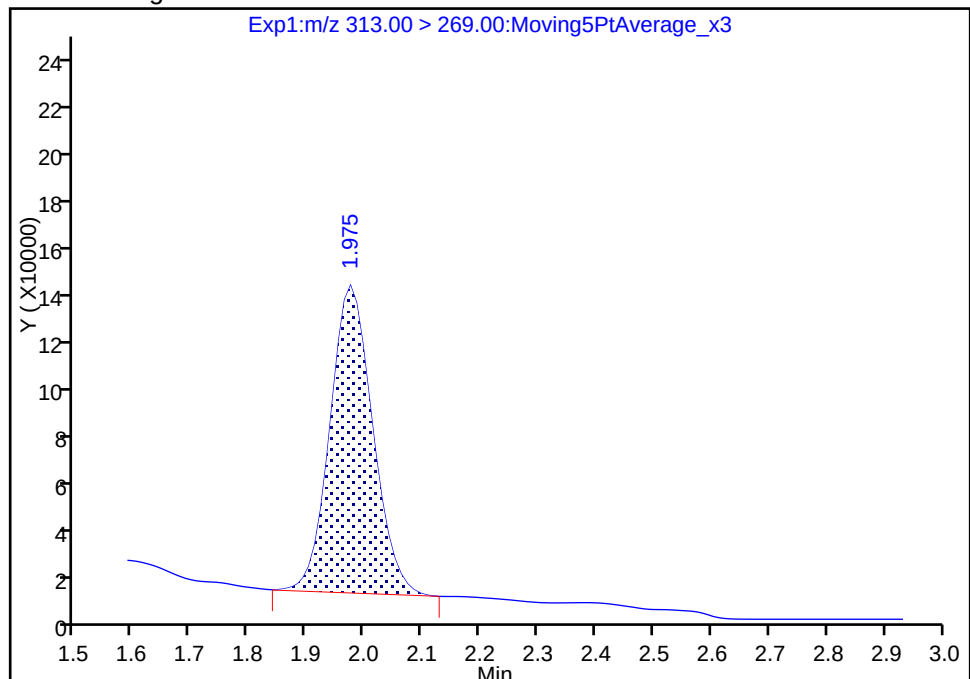
RT: 1.98  
Area: 1030525  
Amount: 0.611067  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.98  
Area: 657361  
Amount: 0.389793  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:47:33

Audit Action: Manually Integrated

Audit Reason: Baseline



## TestAmerica Sacramento

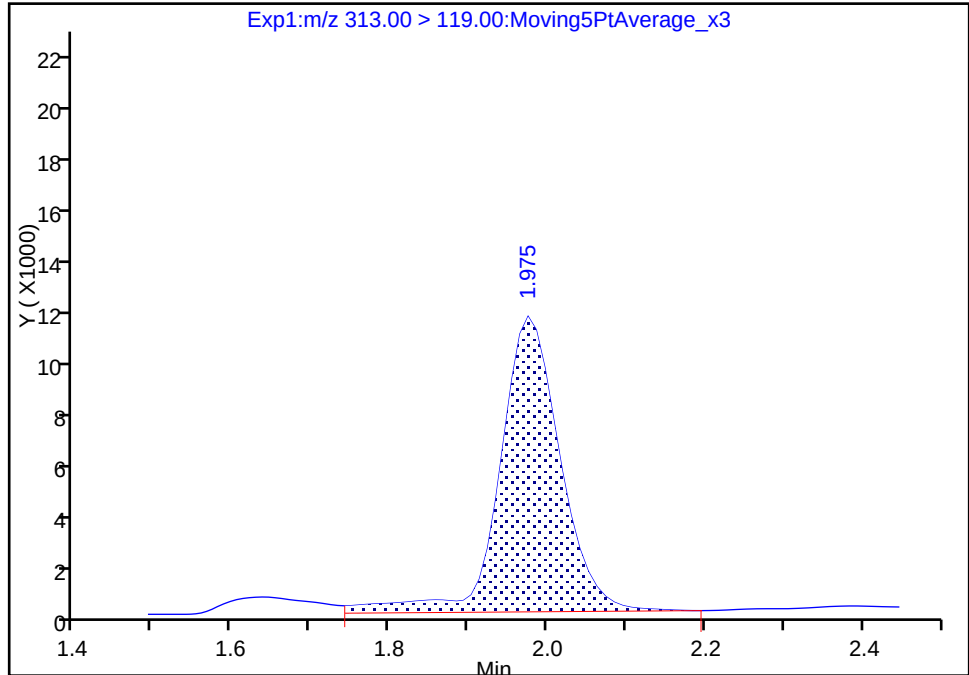
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_013.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:13:08                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-7-A                                                          | Lab Sample ID: | 320-34293-7 |                |    |
| Client ID:      | MW-1S                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 11          | Worklist Smp#: | 13 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 2

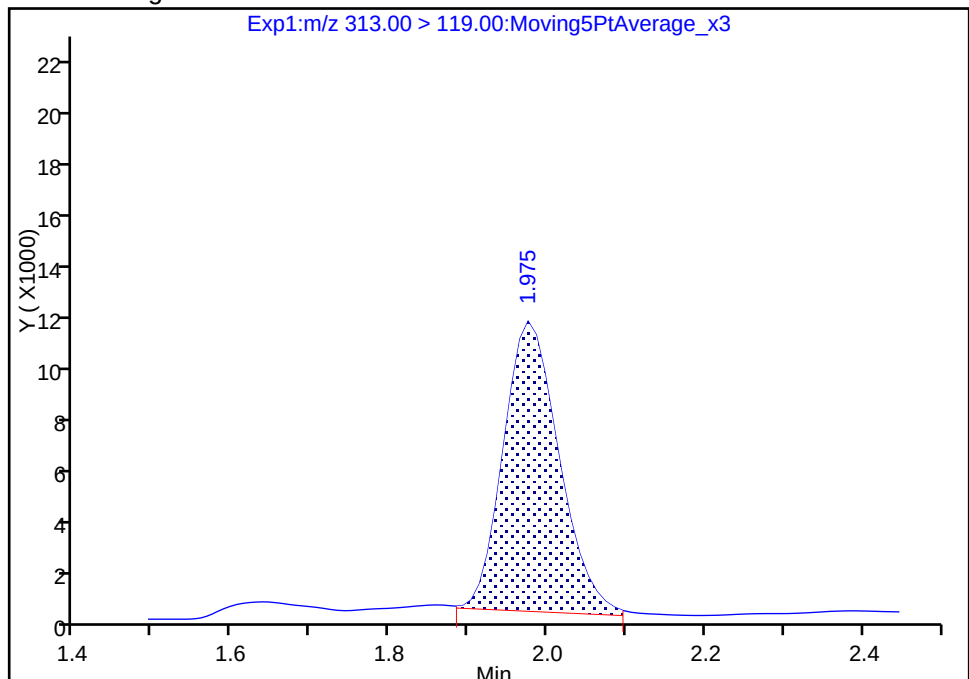
RT: 1.98  
Area: 62157  
Amount: 0.611067  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.98  
Area: 55943  
Amount: 0.389793  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:47:40

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_013.d

Injection Date: 29-Dec-2017 09:13:08

Instrument ID: A8\_N

Lims ID: 320-34293-A-7-A

Lab Sample ID: 320-34293-7

Client ID: MW-1S

Operator ID: SACINSTLCMS01

ALS Bottle#: 11 Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

Column:

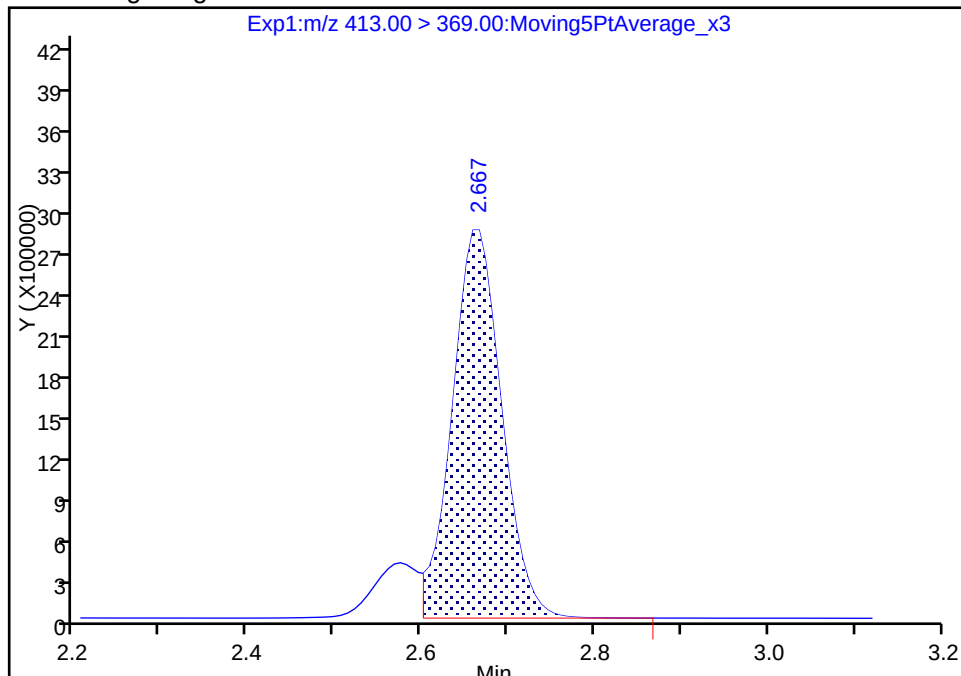
Detector: EXP1

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 1

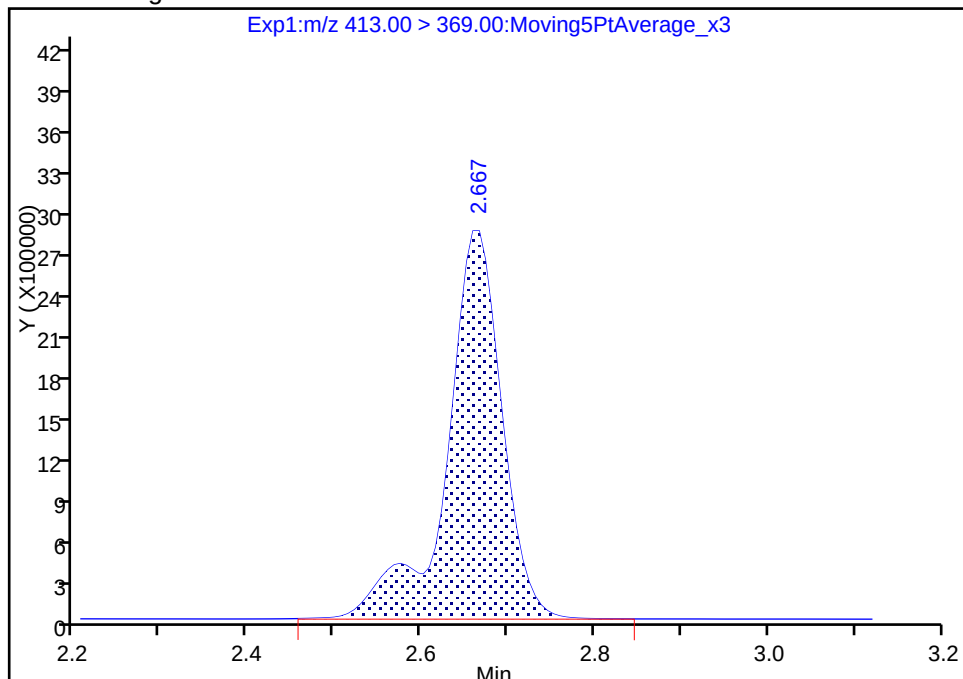
RT: 2.67  
Area: 11073187  
Amount: 5.621533  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 12552669  
Amount: 6.372623  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:48:02

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

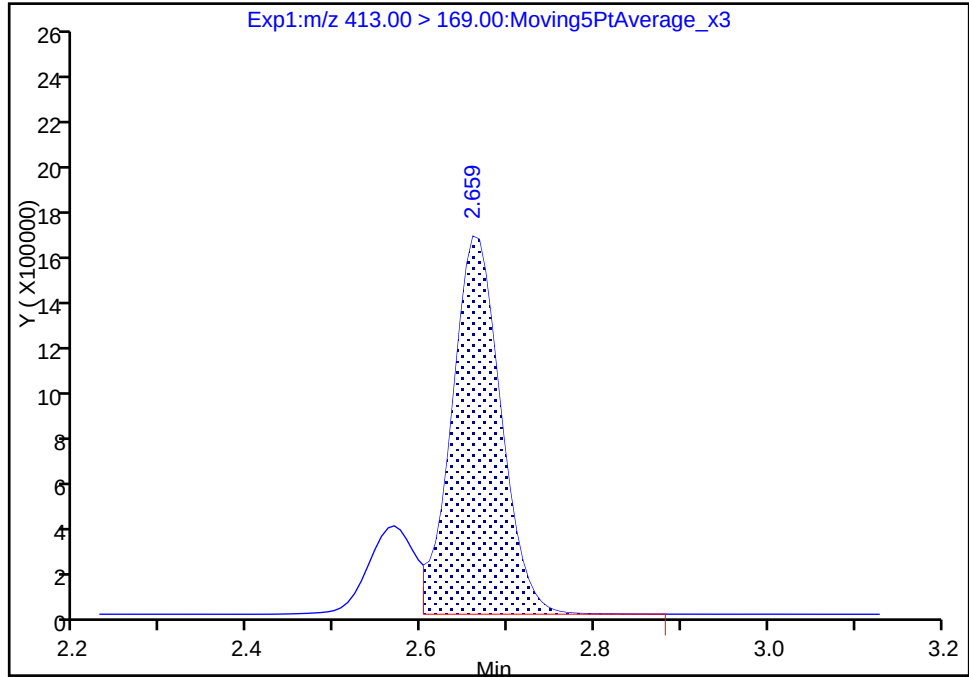
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_013.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:13:08                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-7-A                                                          | Lab Sample ID: | 320-34293-7 |                |    |
| Client ID:      | MW-1S                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 11          | Worklist Smp#: | 13 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

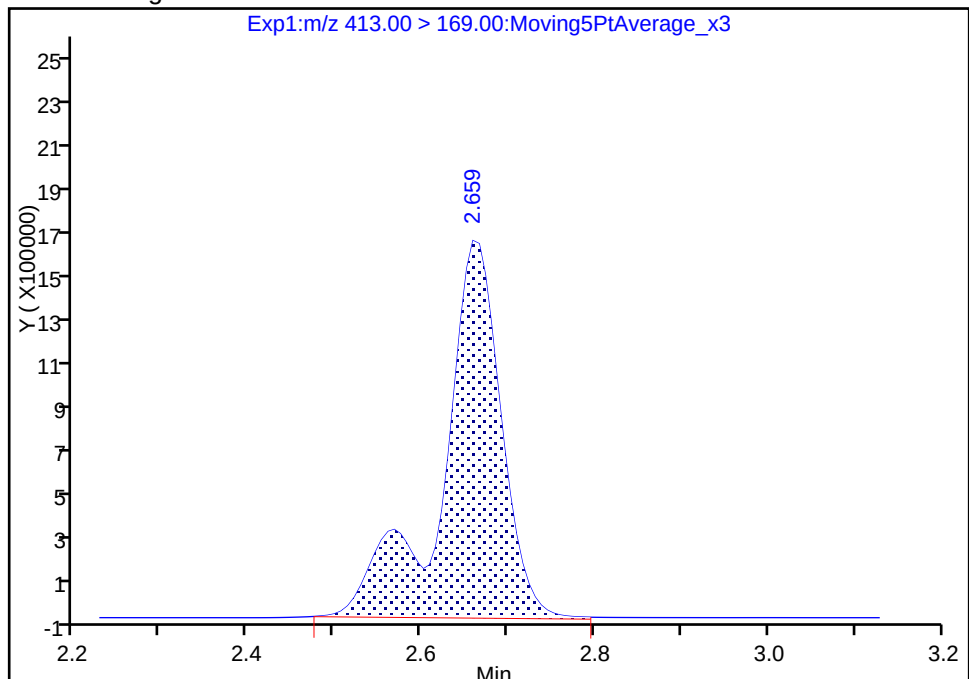
RT: 2.66  
Area: 6395028  
Amount: 5.621533  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.66  
Area: 7824505  
Amount: 6.372623  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:48:08

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

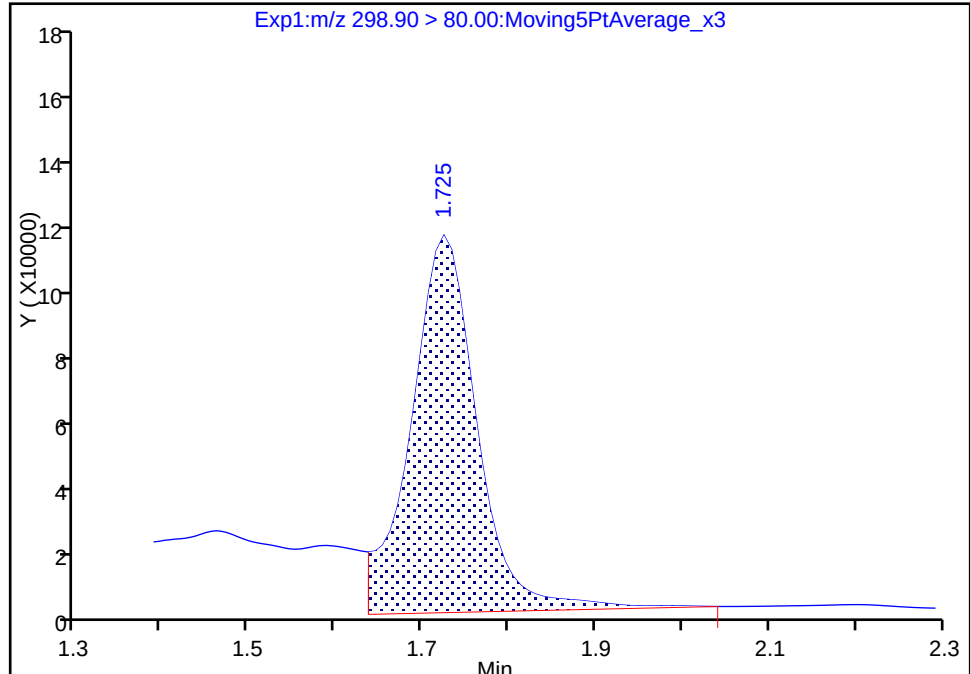
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_013.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:13:08                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-7-A                                                          | Lab Sample ID: | 320-34293-7 |                |    |
| Client ID:      | MW-1S                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 11          | Worklist Smp#: | 13 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**5 Perfluorobutanesulfonic acid, CAS: 375-73-5**

Signal: 1

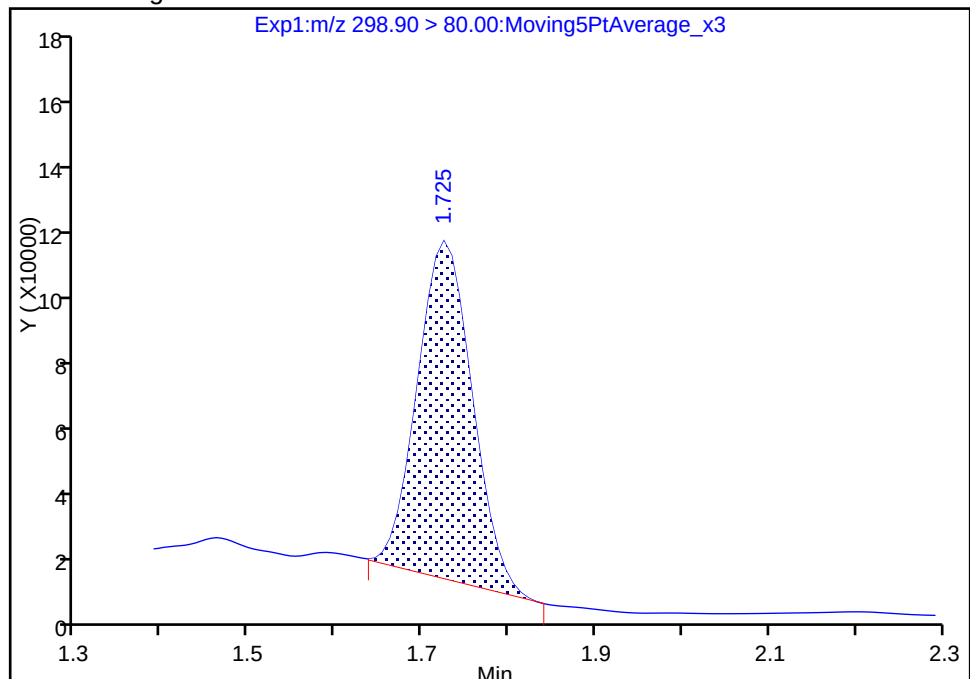
RT: 1.72  
Area: 609956  
Amount: 0.234548  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.72  
Area: 452180  
Amount: 0.173878  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:47:20

Audit Action: Manually Integrated

Audit Reason: Baseline

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-9D</u>          | Lab Sample ID: <u>320-34293-8</u>            |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_014.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 15:03</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>279.7 (mL)</u>        | Date Analyzed: <u>12/29/2017 09:20</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q   | RL   | MDL  |
|------------|------------------------------------------------------------|--------|-----|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 48.6   | B   | 1.79 | 0.31 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 186    |     | 1.79 | 0.44 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 79.9   |     | 1.79 | 0.52 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 13.9   |     | 1.79 | 0.22 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 5.54   |     | 1.79 | 0.76 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 2.47   |     | 1.79 | 0.24 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 2.15   |     | 1.79 | 0.28 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 0.98   | U   | 1.79 | 0.98 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.59   | J   | 1.79 | 0.49 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.16   | U   | 1.79 | 1.16 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.51   | J   | 1.79 | 0.26 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 2.47   |     | 1.79 | 0.18 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 0.62   | J B | 1.79 | 0.15 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.17   | U   | 1.79 | 0.17 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 6.01   |     | 1.79 | 0.48 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.29   | U   | 1.79 | 0.29 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 1.79   |     | 1.79 | 0.31 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.77   | U   | 17.9 | 2.77 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.70   | U   | 17.9 | 1.70 |
| 27619-97-2 | 6:2FTS                                                     | 1.79   | U   | 17.9 | 1.79 |
| 39108-34-4 | 8:2FTS                                                     | 1.79   | U   | 17.9 | 1.79 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-9D</u>          | Lab Sample ID: <u>320-34293-8</u>                   |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_014.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 15:03</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>279.7 (mL)</u>        | Date Analyzed: <u>12/29/2017 09:20</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 61   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 72   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 72   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 82   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 87   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 81   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 83   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 83   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 78   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 87   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 78   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 79   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 79   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 74   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 113  |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 91   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 150  |   | 25-150 |
| STL02280 | M2-8:2FTS        | 123  |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_014.d  
 Lims ID: 320-34293-A-8-A  
 Client ID: MW-9D  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 09:20:58 ALS Bottle#: 12 Worklist Smp#: 14  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-8-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:51:11 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:51:11

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|

## D 1 13C4 PFBA

|                 |       |       |        |       |         |      |  |      |       |  |
|-----------------|-------|-------|--------|-------|---------|------|--|------|-------|--|
| 217.00 > 172.00 | 1.432 | 1.433 | -0.001 | 0.537 | 5406332 | 1.52 |  | 60.8 | 15031 |  |
|-----------------|-------|-------|--------|-------|---------|------|--|------|-------|--|

## 2 Perfluorobutyric acid

|                 |       |       |        |       |         |      |  |  |     |  |
|-----------------|-------|-------|--------|-------|---------|------|--|--|-----|--|
| 212.90 > 169.00 | 1.432 | 1.434 | -0.002 | 1.000 | 2685808 | 1.36 |  |  | 110 |  |
|-----------------|-------|-------|--------|-------|---------|------|--|--|-----|--|

## 4 Perfluoropentanoic acid

|                 |       |       |        |       |         |      |  |  |     |  |
|-----------------|-------|-------|--------|-------|---------|------|--|--|-----|--|
| 262.90 > 219.00 | 1.690 | 1.691 | -0.001 | 1.000 | 8725648 | 5.20 |  |  | 632 |  |
|-----------------|-------|-------|--------|-------|---------|------|--|--|-----|--|

## D 3 13C5-PFPeA

|                 |       |       |        |       |         |      |  |      |       |  |
|-----------------|-------|-------|--------|-------|---------|------|--|------|-------|--|
| 267.90 > 223.00 | 1.690 | 1.692 | -0.002 | 0.634 | 3737691 | 1.80 |  | 72.1 | 15572 |  |
|-----------------|-------|-------|--------|-------|---------|------|--|------|-------|--|

## D 47 13C3-PFBS

|                |       |       |     |       |       |      |  |      |     |  |
|----------------|-------|-------|-----|-------|-------|------|--|------|-----|--|
| 301.90 > 83.00 | 1.725 | 1.725 | 0.0 | 0.647 | 81183 | 1.81 |  | 77.7 | 750 |  |
|----------------|-------|-------|-----|-------|-------|------|--|------|-----|--|

## 5 Perfluorobutanesulfonic acid

|                |       |       |        |       |        |        |  |  |      |   |
|----------------|-------|-------|--------|-------|--------|--------|--|--|------|---|
| 298.90 > 80.00 | 1.725 | 1.730 | -0.005 | 1.000 | 180761 | 0.0692 |  |  | 36.9 | M |
|----------------|-------|-------|--------|-------|--------|--------|--|--|------|---|

|                |       |       |        |       |       |  |                 |  |      |   |
|----------------|-------|-------|--------|-------|-------|--|-----------------|--|------|---|
| 298.90 > 99.00 | 1.725 | 1.730 | -0.005 | 1.000 | 70742 |  | 2.56(1.25-3.74) |  | 69.1 | M |
|----------------|-------|-------|--------|-------|-------|--|-----------------|--|------|---|

## D 7 13C2 PFHxA

|                 |       |       |     |       |         |      |  |      |       |  |
|-----------------|-------|-------|-----|-------|---------|------|--|------|-------|--|
| 315.00 > 270.00 | 1.976 | 1.976 | 0.0 | 0.741 | 3988923 | 1.79 |  | 71.6 | 25169 |  |
|-----------------|-------|-------|-----|-------|---------|------|--|------|-------|--|

## 6 Perfluorohexanoic acid

|                 |       |       |        |       |         |      |  |  |     |  |
|-----------------|-------|-------|--------|-------|---------|------|--|--|-----|--|
| 313.00 > 269.00 | 1.976 | 1.979 | -0.003 | 1.000 | 3561416 | 2.24 |  |  | 433 |  |
|-----------------|-------|-------|--------|-------|---------|------|--|--|-----|--|

|                 |       |       |        |       |        |  |                   |  |     |  |
|-----------------|-------|-------|--------|-------|--------|--|-------------------|--|-----|--|
| 313.00 > 119.00 | 1.976 | 1.979 | -0.003 | 1.000 | 287725 |  | 12.38(5.03-15.10) |  | 542 |  |
|-----------------|-------|-------|--------|-------|--------|--|-------------------|--|-----|--|

## D 9 13C4-PFHpA

|                 |       |       |        |       |         |      |  |      |       |  |
|-----------------|-------|-------|--------|-------|---------|------|--|------|-------|--|
| 367.00 > 322.00 | 2.306 | 2.311 | -0.005 | 0.865 | 4236148 | 2.05 |  | 81.9 | 30893 |  |
|-----------------|-------|-------|--------|-------|---------|------|--|------|-------|--|

## 10 Perfluoroheptanoic acid

|                 |       |       |        |       |        |        |  |  |     |  |
|-----------------|-------|-------|--------|-------|--------|--------|--|--|-----|--|
| 363.00 > 319.00 | 2.306 | 2.311 | -0.005 | 1.000 | 690362 | 0.3896 |  |  | 164 |  |
|-----------------|-------|-------|--------|-------|--------|--------|--|--|-----|--|

|                 |       |       |        |       |        |  |                 |  |     |  |
|-----------------|-------|-------|--------|-------|--------|--|-----------------|--|-----|--|
| 363.00 > 169.00 | 2.306 | 2.311 | -0.005 | 1.000 | 240661 |  | 2.87(1.13-3.40) |  | 700 |  |
|-----------------|-------|-------|--------|-------|--------|--|-----------------|--|-----|--|

## 8 Perfluorohexanesulfonic acid

|                |       |       |        |       |       |        |  |  |      |   |
|----------------|-------|-------|--------|-------|-------|--------|--|--|------|---|
| 399.00 > 80.00 | 2.319 | 2.324 | -0.005 | 1.000 | 39599 | 0.0175 |  |  | 16.7 | R |
|----------------|-------|-------|--------|-------|-------|--------|--|--|------|---|

|                |       |       |        |       |      |  |                 |  |      |   |
|----------------|-------|-------|--------|-------|------|--|-----------------|--|------|---|
| 399.00 > 99.00 | 2.319 | 2.324 | -0.005 | 1.000 | 8638 |  | 4.58(1.50-4.49) |  | 13.5 | R |
|----------------|-------|-------|--------|-------|------|--|-----------------|--|------|---|

## D 11 18O2 PFHxS

|                |       |       |        |       |         |      |  |      |       |  |
|----------------|-------|-------|--------|-------|---------|------|--|------|-------|--|
| 403.00 > 84.00 | 2.319 | 2.328 | -0.009 | 0.869 | 4906062 | 1.87 |  | 79.0 | 37392 |  |
|----------------|-------|-------|--------|-------|---------|------|--|------|-------|--|

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649  | -0.011 | 0.989  | 1395002  | 3.55         |                 | 150  | 3233  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.638 | 2.651  | -0.013 | 1.000  | 22018    | 0.0224       |                 |      | 738   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.667 | 2.674  | -0.007 | 1.000  | 4569149  | 2.16         |                 | 86.5 | 38592 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.667 | 2.676  | -0.009 |        | 5138903  | 2.50         |                 |      | 53905 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       | M     |
| 413.00 > 369.00                       | 2.667 | 2.677  | -0.010 | 1.000  | 299607   | 0.1549       |                 |      | 103   |       |
| 413.00 > 169.00                       | 2.667 | 2.677  | -0.010 | 1.000  | 174029   |              | 1.72(0.84-2.52) |      | 897   | M     |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.042 | 3.048  | -0.006 | 1.141  | 3283234  | 1.88         |                 | 78.8 | 6973  |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.042 | 3.050  | -0.008 | 1.000  | 247748   | 0.1680       |                 |      | 44.0  |       |
| 499.00 > 99.00                        | 3.042 | 3.050  | -0.008 | 1.000  | 55742    |              | 4.44(2.31-6.93) |      | 54.2  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.042 | 3.051  | -0.009 | 1.141  | 3409286  | 2.02         |                 | 80.8 | 32767 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.042 | 3.052  | -0.010 | 1.000  | 91623    | 0.0690       |                 |      | 91.6  |       |
| 463.00 > 169.00                       | 3.042 | 3.052  | -0.010 | 1.000  | 22493    |              | 4.07(1.90-5.69) |      | 326   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.388 | 3.377  | 0.011  | 1.270  | 4332267  | 1.84         |                 | 73.5 | 24462 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.388 | 3.378  | 0.010  | 1.000  | 82168    | 0.0500       |                 |      | 736   |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.395 | 3.403  | -0.008 | 1.273  | 1270901  | 2.95         |                 | 123  | 3328  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.403 | 3.414  | -0.011 | 1.276  | 2846617  | 2.08         |                 | 83.0 | 28366 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.403 | 3.414  | -0.011 | 1.000  | 67413    | 0.0601       |                 |      | 133   |       |
| 513.00 > 169.00                       | 3.403 | 3.414  | -0.011 | 1.000  | 11399    |              | 5.91(2.36-7.09) |      | 296   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.561 | 3.569  | -0.008 | 1.335  | 2011414  | 2.84         |                 | 113  | 27191 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.561 | 3.574  | -0.013 | 1.000  | 2413     | 0.002833     |                 |      | 20.9  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.725 | 3.740  | -0.015 | 1.397  | 1638210  | 2.27         |                 | 90.7 | 11436 |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.725 | 3.746  | -0.021 | 0.998  | 16549    | 0.0206       |                 |      | 58.2  |       |
| 563.00 > 169.00                       | 3.725 | 3.746  | -0.021 | 0.998  | 2759     |              | 6.00(0.00-0.00) |      | 83.9  |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.734 | 3.747  | -0.013 | 1.400  | 2145043  | 2.07         |                 | 82.6 | 26839 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.725 | 3.747  | -0.022 | 1.000  | 3370     | 0.005328     |                 |      | 78.1  |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.023 | 4.045  | -0.022 | 1.508  | 2194060  | 1.94         |                 | 77.8 | 30364 |       |



| Signal                         | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|--------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 37 Perfluorododecanoic acid    |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                | 4.023 | 4.045     | -0.022    | 1.000     | 14381    | 0.0165          |                 |      | 47.6  |       |
| 613.00 > 169.00                | 4.023 | 4.045     | -0.022    | 1.000     | 3512     |                 | 4.09(2.13-6.40) |      | 92.1  |       |
| 41 Perfluorotridecanoic acid   |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                | 4.289 | 4.312     | -0.023    | 1.000     | 6193     | 0.006549        |                 |      | 24.0  |       |
| 663.00 > 169.00                | 4.297 | 4.312     | -0.015    | 1.002     | 2783     |                 | 2.23(1.25-3.76) |      | 122   |       |
| D 43 13C2-PFTeDA               |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                | 4.529 | 4.557     | -0.028    | 1.698     | 2661031  | 2.17            |                 | 86.8 | 23003 |       |
| 42 Perfluorotetradecanoic acid |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                | 4.529 | 4.557     | -0.028    | 1.000     | 3895     | 0.0144          |                 |      | 104   |       |
| 713.00 > 219.00                | 4.529 | 4.557     | -0.028    | 1.000     | 3127     |                 | 1.25(0.71-2.13) |      | 96.2  |       |

**QC Flag Legend**

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_014.d

Injection Date: 29-Dec-2017 09:20:58

Instrument ID: A8\_N

Lims ID: 320-34293-A-8-A

Lab Sample ID: 320-34293-8

Client ID: MW-9D

Operator ID: SACINSTLCMS01

ALS Bottle#: 12

Worklist Smp#: 14

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

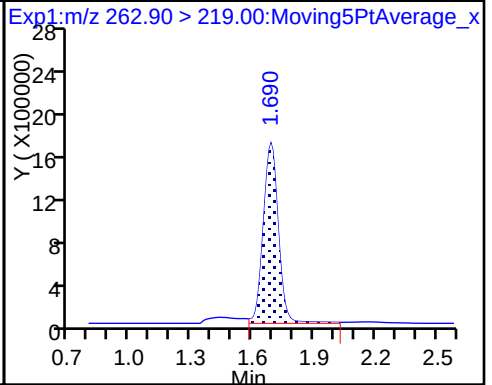
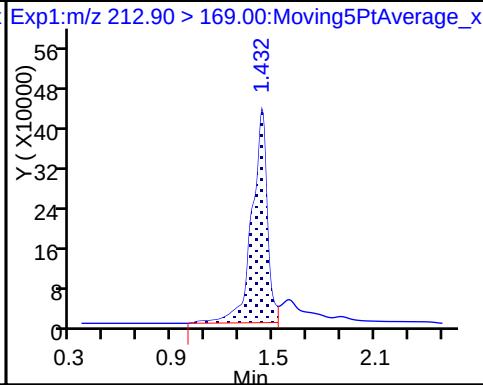
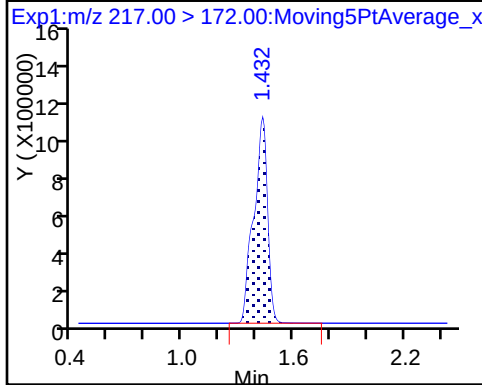
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

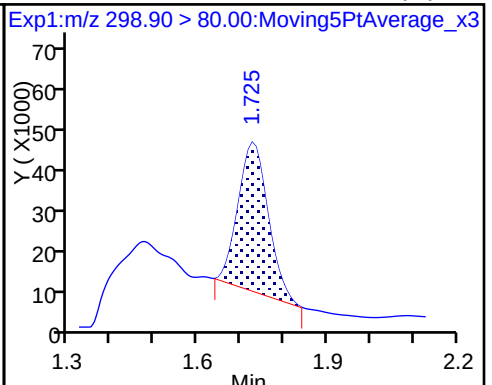
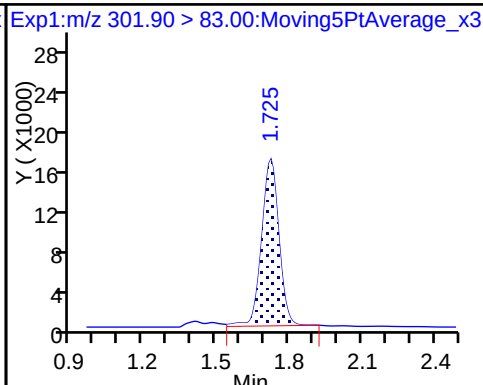
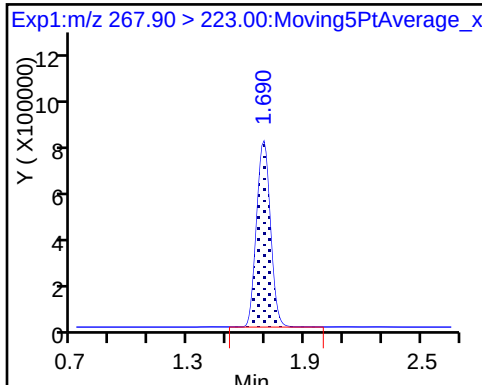
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

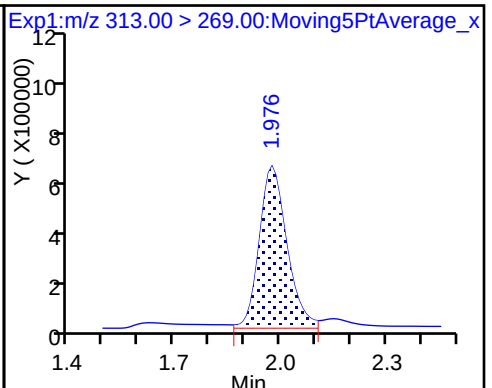
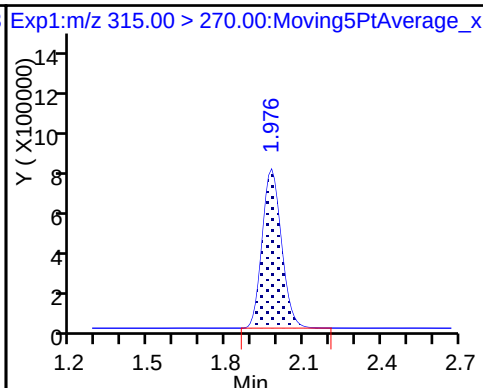
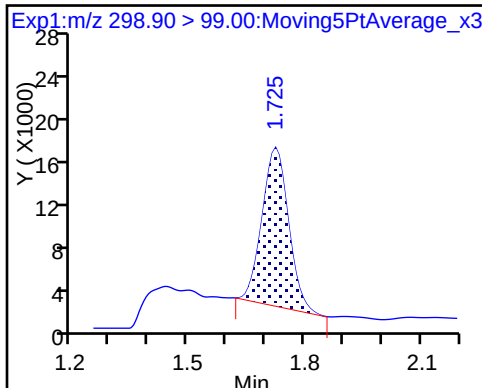
5 Perfluorobutanesulfonic acid (M)



5 Perfluorobutanesulfonic acid

D 7 13C2 PFHxA

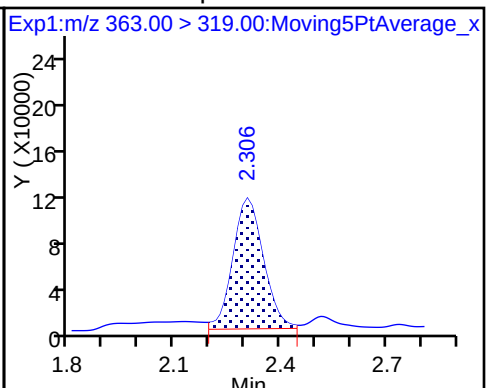
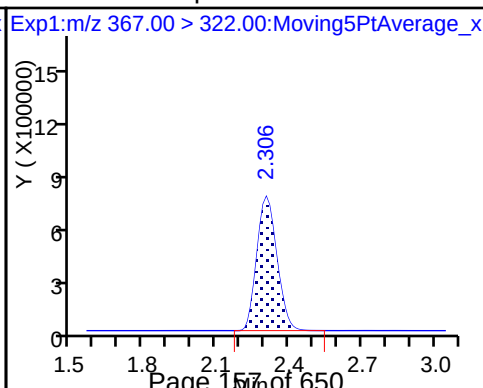
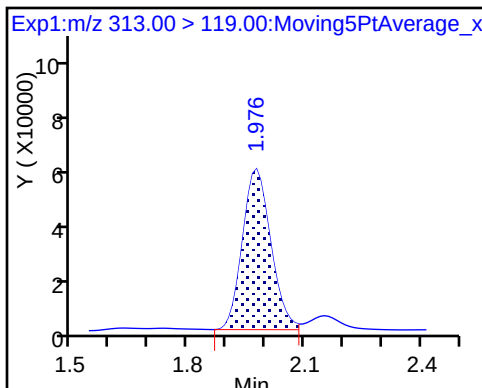
6 Perfluorohexanoic acid



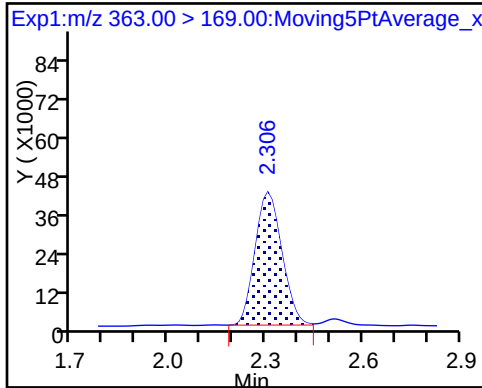
6 Perfluorohexanoic acid

D 9 13C4-PFHpA

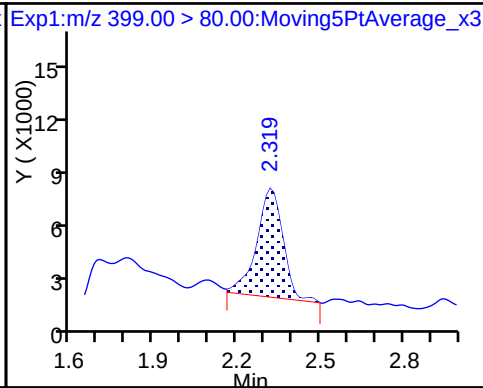
10 Perfluoroheptanoic acid



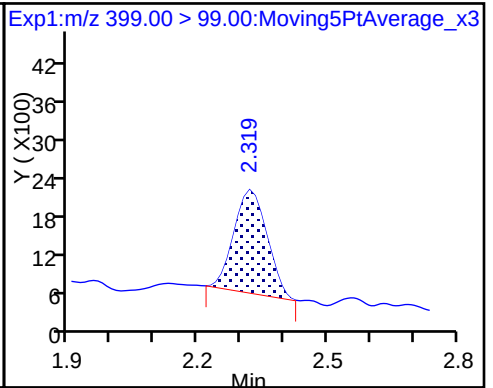
10 Perfluoroheptanoic acid



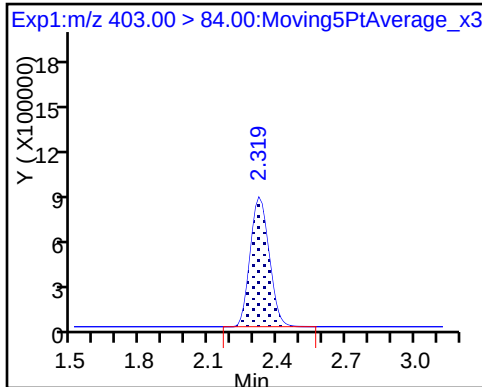
8 Perfluorohexanesulfonic acid



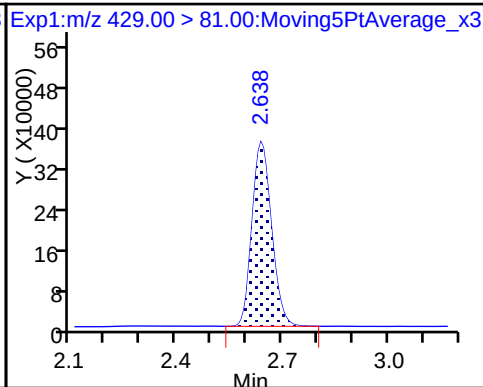
8 Perfluorohexanesulfonic acid



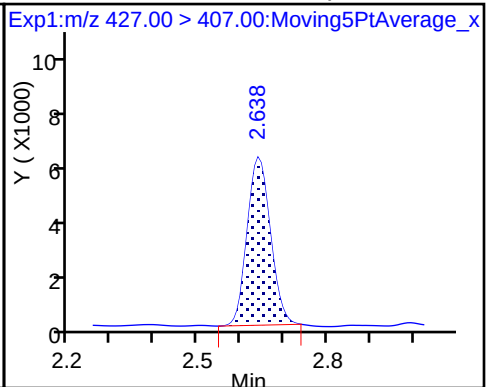
D 11 18O2 PFHxS



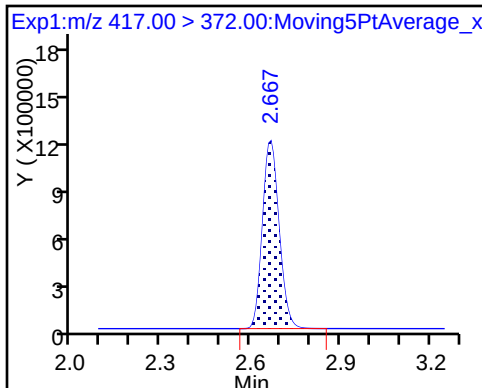
D 12 M2-6:2FTS



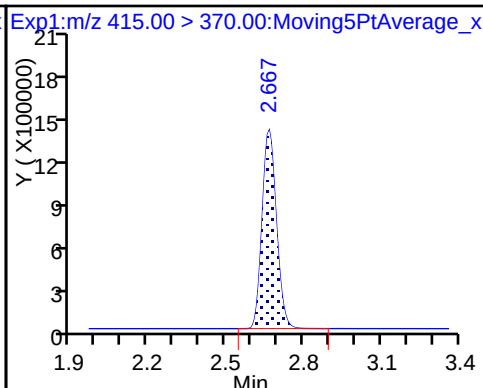
13 Sodium 1H,1H,2H,2H-perfluorooctane



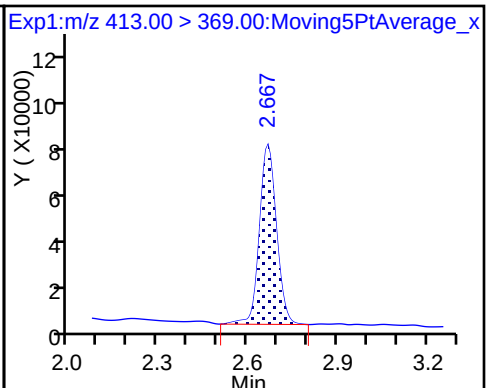
D 14 13C4 PFOA



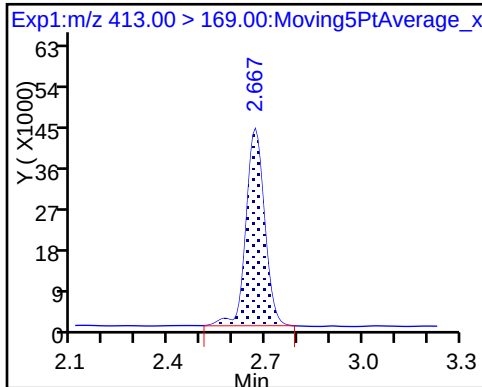
\* 62 13C2-PFOA



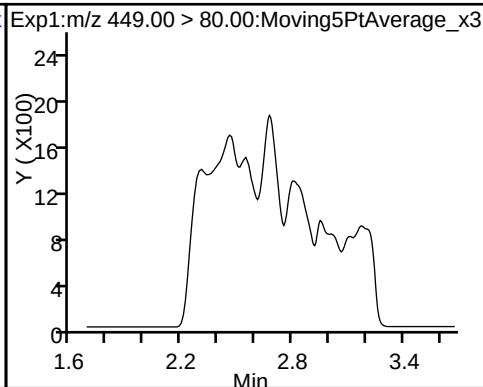
15 Perfluorooctanoic acid



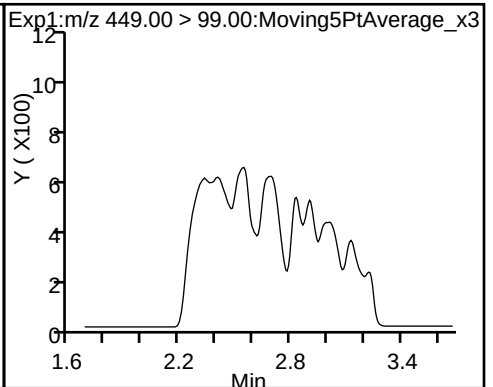
15 Perfluorooctanoic acid (M)



16 Perfluoroheptanesulfonic Acid (ND)



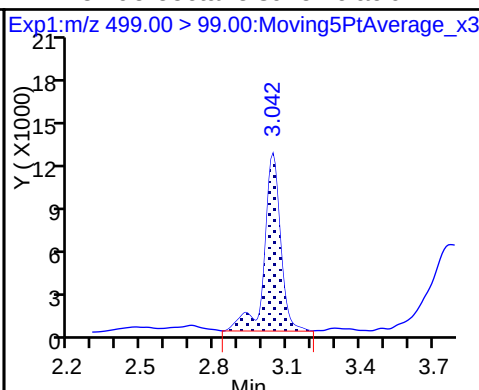
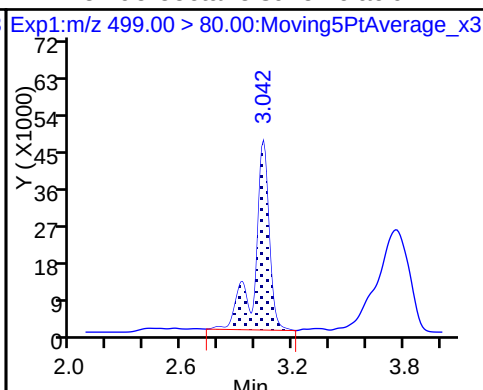
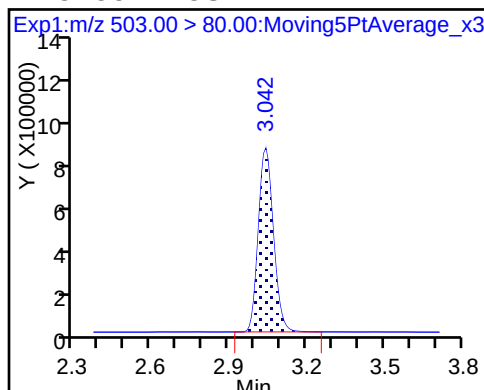
16 Perfluoroheptanesulfonic Acid (ND)



## D 18 13C4 PFOS

## 17 Perfluorooctane sulfonic acid

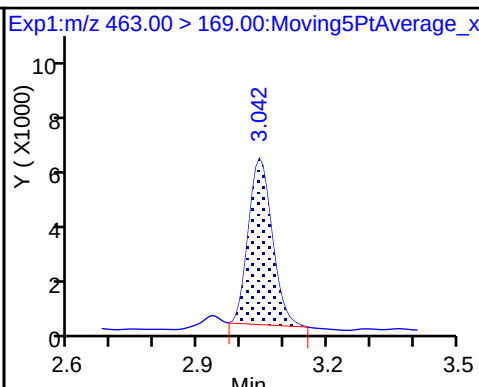
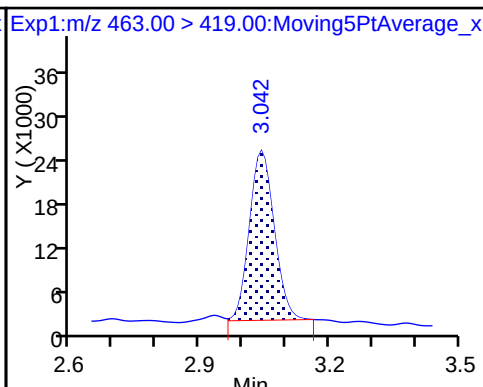
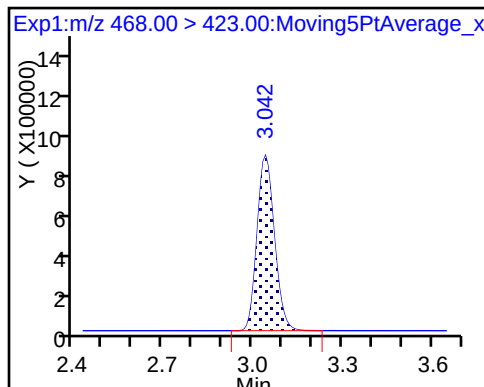
## 17 Perfluorooctane sulfonic acid



## D 19 13C5 PFNA

## 20 Perfluorononanoic acid

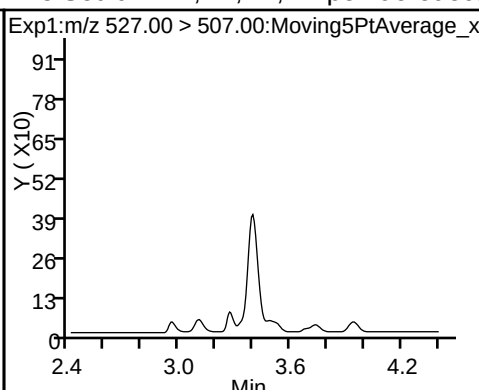
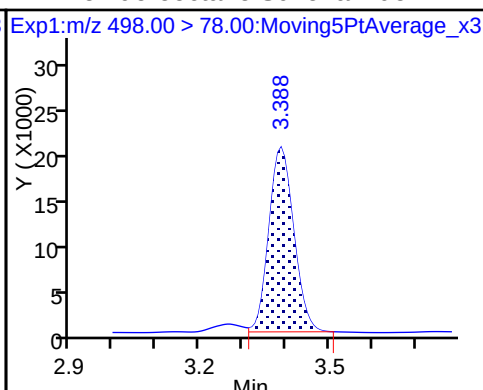
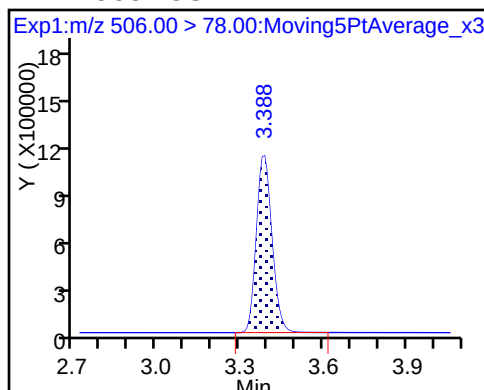
## 20 Perfluorononanoic acid



## D 21 13C8 FOSA

## 22 Perfluorooctane Sulfonamide

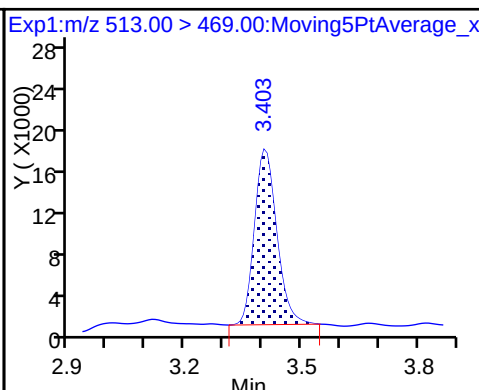
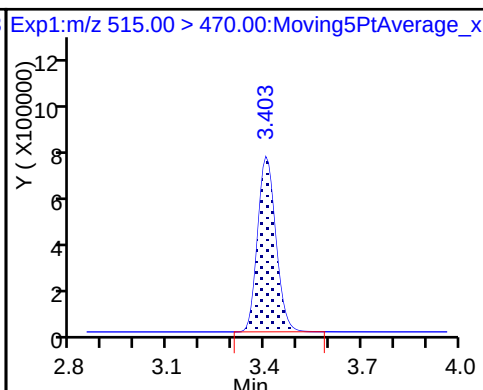
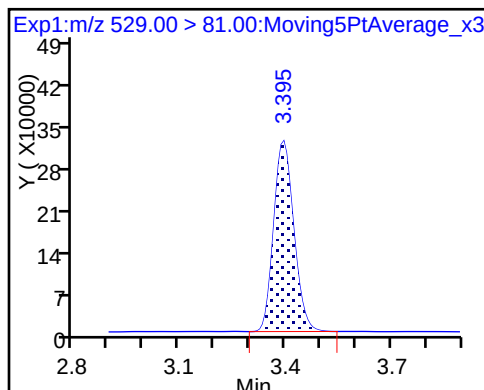
## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)

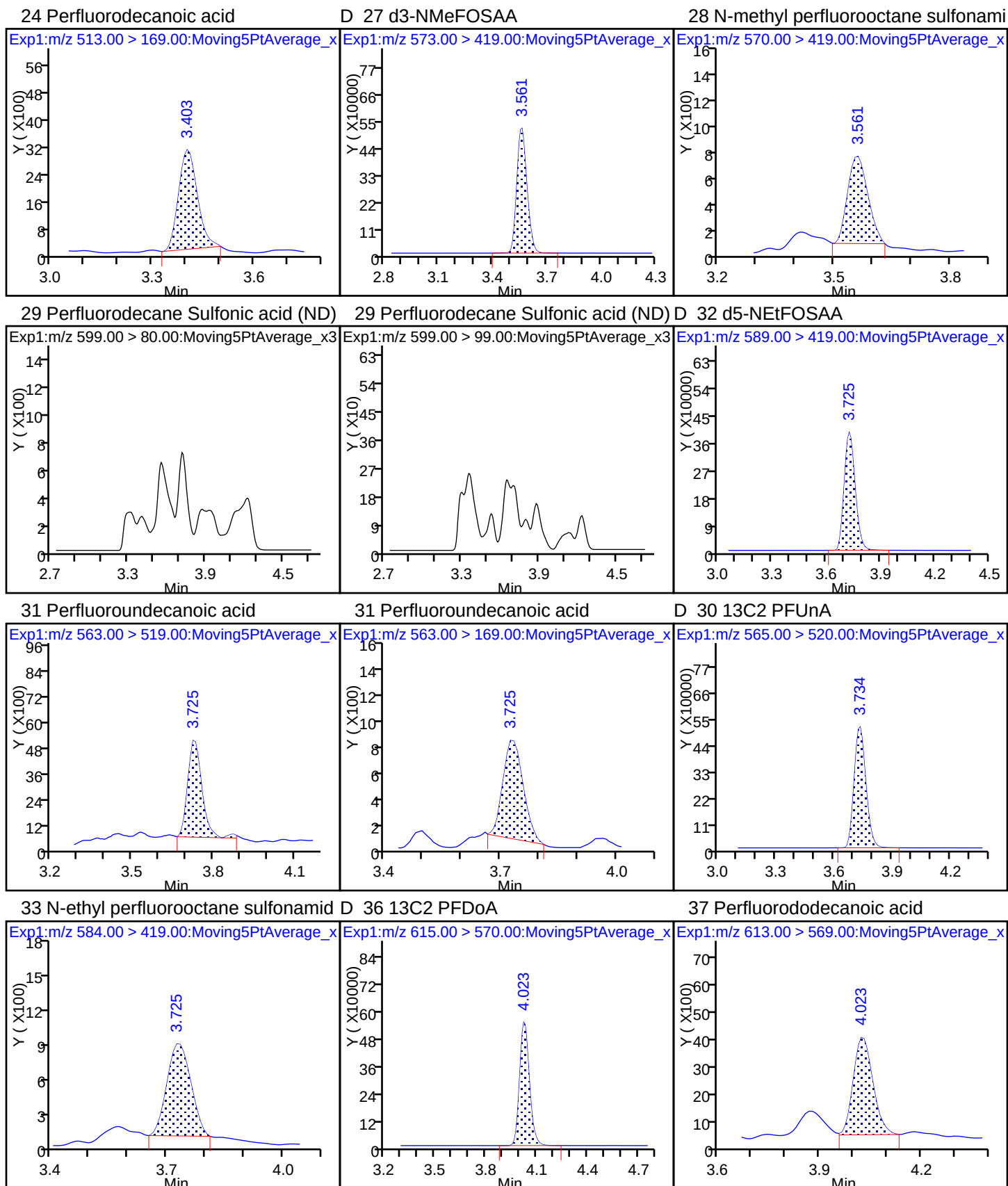


## D 26 M2-8:2FTS

## D 23 13C2 PFDA

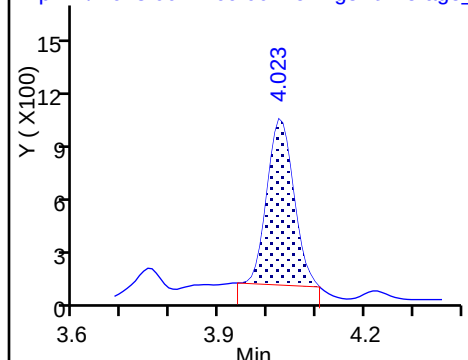
## 24 Perfluorodecanoic acid





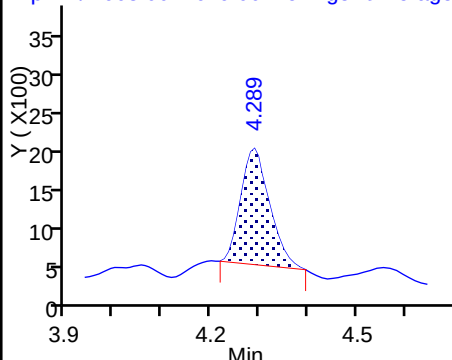
37 Perfluorododecanoic acid

Exp1:m/z 613.00 &gt; 169.00:Moving5PtAverage\_x



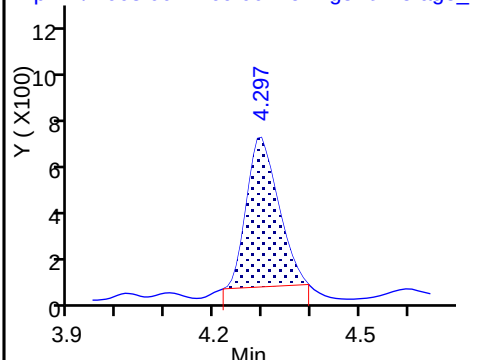
41 Perfluorotridecanoic acid

Exp1:m/z 663.00 &gt; 619.00:Moving5PtAverage\_x



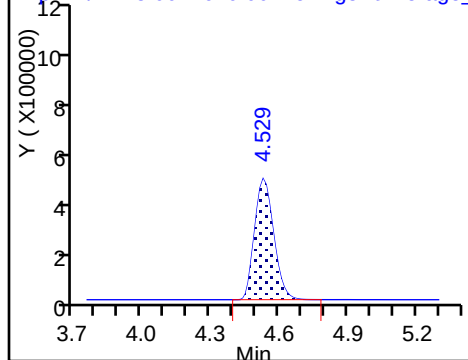
41 Perfluorotridecanoic acid

Exp1:m/z 663.00 &gt; 169.00:Moving5PtAverage\_x



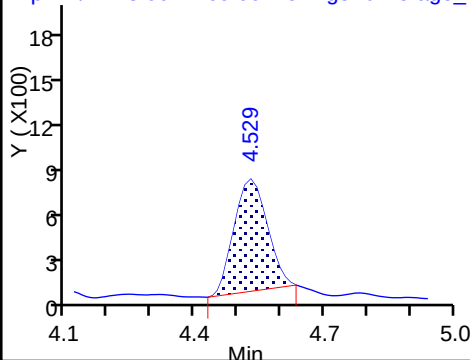
D 43 13C2-PFTeDA

Exp1:m/z 715.00 &gt; 670.00:Moving5PtAverage\_x



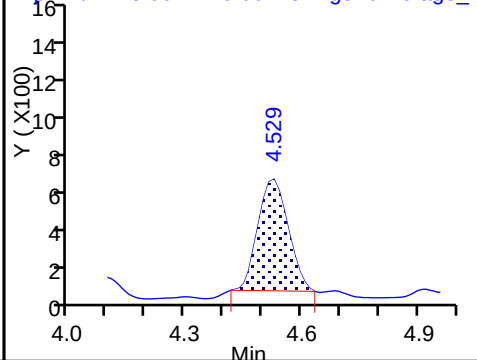
42 Perfluorotetradecanoic acid

Exp1:m/z 713.00 &gt; 169.00:Moving5PtAverage\_x



42 Perfluorotetradecanoic acid

Exp1:m/z 713.00 &gt; 219.00:Moving5PtAverage\_x



## TestAmerica Sacramento

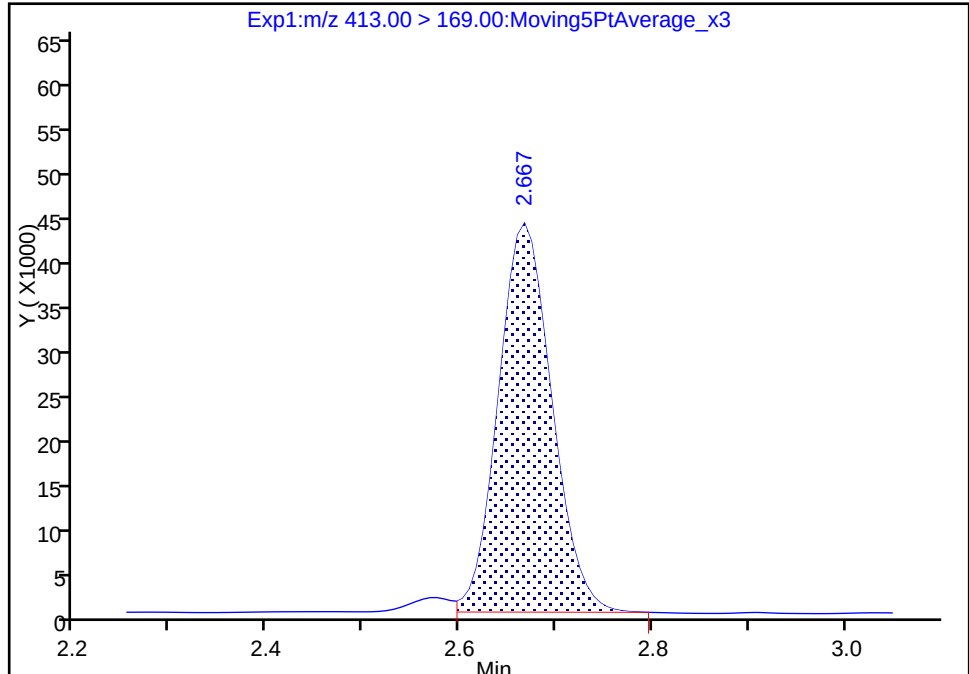
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_014.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:20:58                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-8-A                                                          | Lab Sample ID: | 320-34293-8 |                |    |
| Client ID:      | MW-9D                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 12          | Worklist Smp#: | 14 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

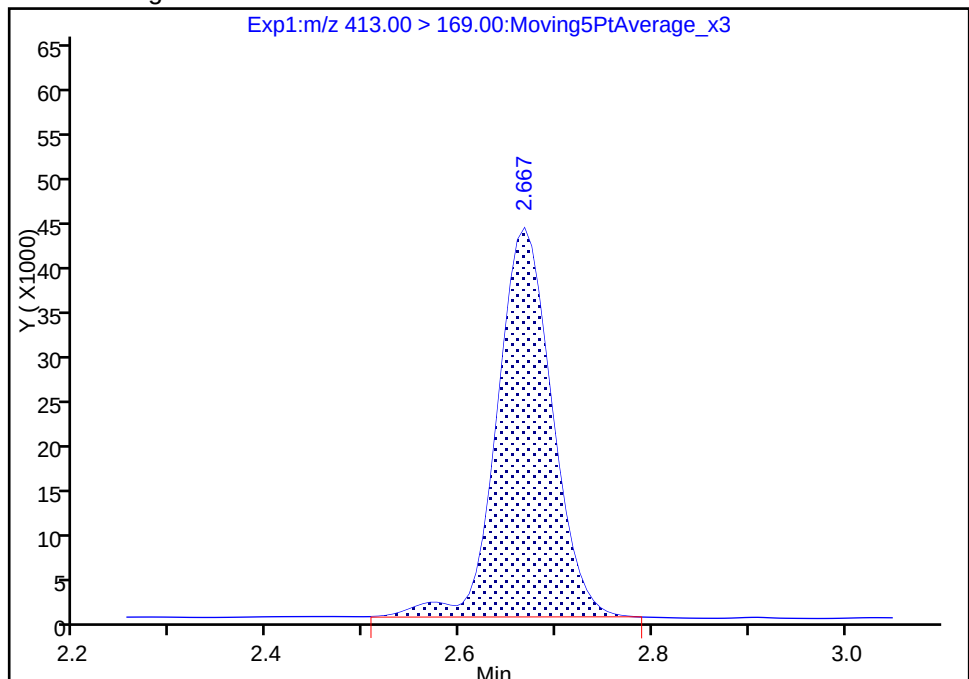
RT: 2.67  
Area: 169222  
Amount: 0.154855  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 174029  
Amount: 0.154855  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:50:10  
Audit Action: Manually Integrated

Audit Reason: Isomers  
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## TestAmerica Sacramento

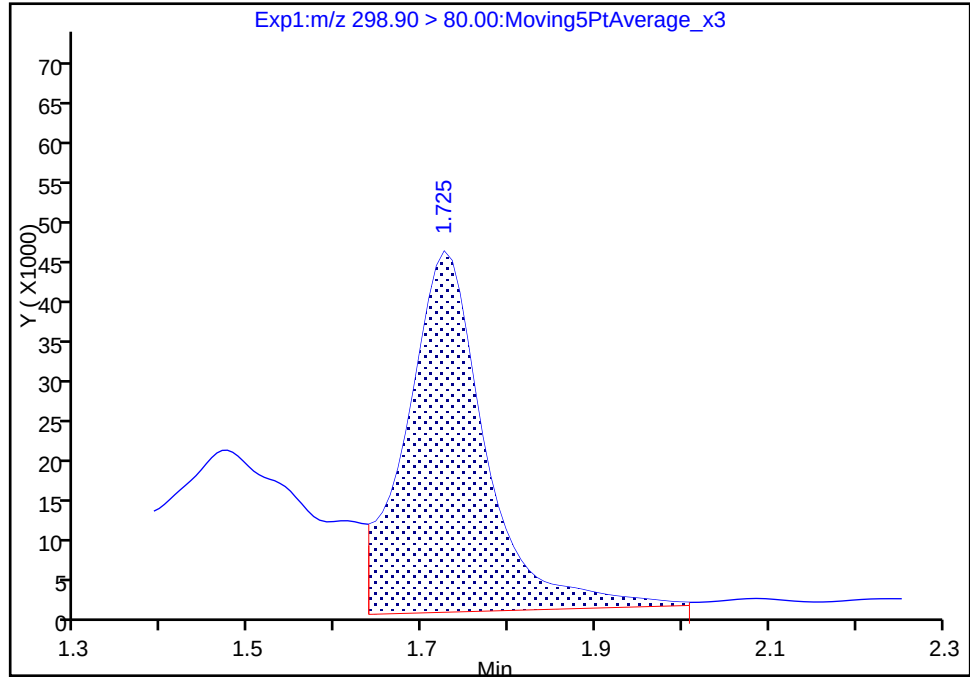
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_014.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:20:58                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-8-A                                                          | Lab Sample ID: | 320-34293-8 |                |    |
| Client ID:      | MW-9D                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 12          | Worklist Smp#: | 14 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**5 Perfluorobutanesulfonic acid, CAS: 375-73-5**

Signal: 1

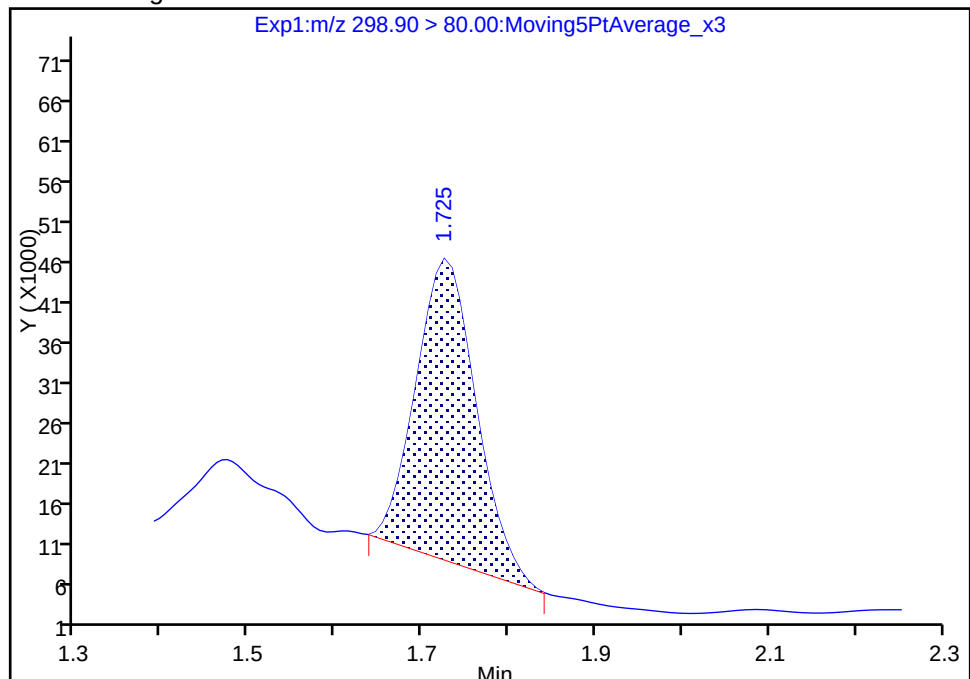
RT: 1.73  
Area: 285894  
Amount: 0.109401  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.73  
Area: 180761  
Amount: 0.069170  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:49:48  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-9I</u>          | Lab Sample ID: <u>320-34293-9</u>            |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_015.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 16:00</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>279.3 (mL)</u>        | Date Analyzed: <u>12/29/2017 09:28</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 50.4   | B | 1.79 | 0.31 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 126    |   | 1.79 | 0.44 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 65.4   |   | 1.79 | 0.52 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 11.7   |   | 1.79 | 0.22 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 14.4   |   | 1.79 | 0.76 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 2.84   |   | 1.79 | 0.24 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 1.79   |   | 1.79 | 0.28 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 0.98   | U | 1.79 | 0.98 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.49   | U | 1.79 | 0.49 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.16   | U | 1.79 | 1.16 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.26   | U | 1.79 | 0.26 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 5.48   |   | 1.79 | 0.18 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 2.72   | B | 1.79 | 0.15 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.39   | J | 1.79 | 0.17 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 11.2   |   | 1.79 | 0.48 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.29   | U | 1.79 | 0.29 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 1.15   | J | 1.79 | 0.31 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.77   | U | 17.9 | 2.77 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.70   | U | 17.9 | 1.70 |
| 27619-97-2 | 6:2FTS                                                     | 1.79   | U | 17.9 | 1.79 |
| 39108-34-4 | 8:2FTS                                                     | 1.79   | U | 17.9 | 1.79 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-9I</u>          | Lab Sample ID: <u>320-34293-9</u>                   |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_015.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 16:00</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>279.3 (mL)</u>        | Date Analyzed: <u>12/29/2017 09:28</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 51   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 70   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 70   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 76   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 86   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 82   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 87   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 91   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 85   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 79   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 70   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 76   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 79   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 73   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 101  |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 96   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 179  | * | 25-150 |
| STL02280 | M2-8:2FTS        | 150  |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_015.d  
 Lims ID: 320-34293-A-9-A  
 Client ID: MW-9I  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 09:28:47 ALS Bottle#: 13 Worklist Smp#: 15  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-9-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:56:22 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:56:22

| Signal                         | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|--------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                  |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                | 1.426 | 1.433  | -0.007 | 0.535  | 4656187  | 1.27         |                   | 51.0 | 13907 |       |
| 2 Perfluorobutyric acid        |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                | 1.426 | 1.434  | -0.008 | 1.000  | 2395647  | 1.41         |                   |      | 53.6  |       |
| 4 Perfluoropentanoic acid      |       |        |        |        |          |              |                   |      |       | M     |
| 262.90 > 219.00                | 1.690 | 1.691  | -0.001 | 1.005  | 5897904  | 3.52         |                   |      | 328   | M     |
| D 3 13C5-PFPeA                 |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                | 1.681 | 1.692  | -0.011 | 0.630  | 3732612  | 1.75         |                   | 70.1 | 13323 |       |
| D 47 13C3-PFBS                 |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                 | 1.717 | 1.725  | -0.009 | 0.644  | 74889    | 1.62         |                   | 69.8 | 436   |       |
| 5 Perfluorobutanesulfonic acid |       |        |        |        |          |              |                   |      |       | M     |
| 298.90 > 80.00                 | 1.725 | 1.730  | -0.005 | 1.005  | 369057   | 0.1531       |                   |      | 41.5  | M     |
| 298.90 > 99.00                 | 1.725 | 1.730  | -0.005 | 1.005  | 162662   |              | 2.27(1.25-3.74)   |      | 105   |       |
| D 7 13C2 PFHxA                 |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                | 1.976 | 1.976  | 0.0    | 0.741  | 4009439  | 1.75         |                   | 70.0 | 28567 |       |
| 6 Perfluorohexanoic acid       |       |        |        |        |          |              |                   |      |       | M     |
| 313.00 > 269.00                | 1.976 | 1.979  | -0.003 | 1.000  | 2925520  | 1.83         |                   |      | 320   | M     |
| 313.00 > 119.00                | 1.976 | 1.979  | -0.003 | 1.000  | 278440   |              | 10.51(5.03-15.10) |      | 962   |       |
| D 9 13C4-PFHpA                 |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                | 2.306 | 2.311  | -0.005 | 0.865  | 4021326  | 1.89         |                   | 75.7 | 26125 |       |
| 10 Perfluoroheptanoic acid     |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                | 2.306 | 2.311  | -0.005 | 1.000  | 549603   | 0.3267       |                   |      | 118   |       |
| 363.00 > 169.00                | 2.306 | 2.311  | -0.005 | 1.000  | 220430   |              | 2.49(1.13-3.40)   |      | 623   |       |
| 8 Perfluorohexanesulfonic acid |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                 | 2.319 | 2.324  | -0.005 | 1.000  | 170790   | 0.0761       |                   |      | 31.4  |       |
| 399.00 > 99.00                 | 2.319 | 2.324  | -0.005 | 1.000  | 50445    |              | 3.39(1.50-4.49)   |      | 44.4  |       |
| D 11 18O2 PFHxS                |       |        |        |        |          |              |                   |      |       |       |
| 403.00 > 84.00                 | 2.319 | 2.328  | -0.009 | 0.870  | 4857127  | 1.80         |                   | 76.1 | 37147 |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.639 | 2.649  | -0.010 | 0.989  | 1717419  | 4.26         |                 | 179  | 1985  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.639 | 2.651  | -0.012 | 1.000  | 27193    | 0.0224       |                 |      | 595   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.660 | 2.674  | -0.014 | 0.997  | 4665040  | 2.15         |                 | 86.0 | 41252 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.667 | 2.676  | -0.009 |        | 5277468  | 2.50         |                 |      | 49647 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.667 | 2.677  | -0.010 | 1.003  | 796434   | 0.4032       |                 |      | 223   | M     |
| 413.00 > 169.00                       | 2.667 | 2.677  | -0.010 | 1.003  | 436103   |              | 1.83(0.84-2.52) |      | 1614  | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.682 | 2.683  | -0.001 | 1.000  | 18659    | 0.0108       |                 |      | 7.9   |       |
| 449.00 > 99.00                        | 2.682 | 2.683  | -0.001 | 1.000  | 3508     |              | 5.32(1.94-5.82) |      | 8.3   |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.042 | 3.048  | -0.006 | 1.140  | 3359143  | 1.88         |                 | 78.6 | 3282  |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.042 | 3.050  | -0.008 | 1.000  | 470925   | 0.3122       |                 |      | 52.8  | M     |
| 499.00 > 99.00                        | 3.042 | 3.050  | -0.008 | 1.000  | 85944    |              | 5.48(2.31-6.93) |      | 62.7  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.042 | 3.051  | -0.009 | 1.140  | 3557041  | 2.05         |                 | 82.1 | 32925 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.042 | 3.052  | -0.010 | 1.000  | 110054   | 0.0794       |                 |      | 84.2  |       |
| 463.00 > 169.00                       | 3.042 | 3.052  | -0.010 | 1.000  | 28203    |              | 3.90(1.90-5.69) |      | 242   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.380 | 3.377  | 0.003  | 1.267  | 4404806  | 1.82         |                 | 72.8 | 26821 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378  | 0.002  | 1.000  | 53581    | 0.0320       |                 |      | 361   |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.388 | 3.403  | -0.015 | 1.270  | 1588588  | 3.59         |                 | 150  | 2959  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.403 | 3.414  | -0.011 | 1.276  | 3048537  | 2.16         |                 | 86.6 | 33059 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.403 | 3.414  | -0.011 | 1.000  | 60252    | 0.0501       |                 |      | 96.9  |       |
| 513.00 > 169.00                       | 3.403 | 3.414  | -0.011 | 1.000  | 9888     |              | 6.09(2.36-7.09) |      | 196   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.554 | 3.569  | -0.015 | 1.332  | 1834965  | 2.52         |                 | 101  | 17561 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.561 | 3.574  | -0.013 | 1.002  | 2758     | 0.003549     |                 |      | 25.9  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.717 | 3.740  | -0.023 | 1.393  | 1777197  | 2.39         |                 | 95.8 | 12255 |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.725 | 3.746  | -0.021 | 1.000  | 13839    | 0.0153       |                 |      | 39.7  |       |
| 563.00 > 169.00                       | 3.734 | 3.746  | -0.012 | 1.002  | 2629     |              | 5.26(0.00-0.00) |      | 73.6  |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.725 | 3.747  | -0.022 | 1.397  | 2413531  | 2.26         |                 | 90.5 | 30694 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.725 | 3.747  | -0.022 | 1.002  | 3738     | 0.005448     |                 |      | 68.9  |       |

| Signal                      | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|-----------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 36 13C2 PFDaA             |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00             | 4.023 | 4.045     | -0.022    | 1.508     | 2457008  | 2.12            |                 | 84.8 | 44712 |       |
| 37 Perfluorododecanoic acid |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00             | 4.015 | 4.045     | -0.030    | 0.998     | 8578     | 0.008790        |                 |      | 23.8  |       |
| 613.00 > 169.00             | 4.023 | 4.045     | -0.022    | 1.000     | 2279     |                 | 3.76(2.13-6.40) |      | 73.5  |       |
| D 43 13C2-PFTeDA            |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00             | 4.529 | 4.557     | -0.028    | 1.698     | 2503399  | 1.99            |                 | 79.5 | 25437 |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_015.d

Injection Date: 29-Dec-2017 09:28:47

Instrument ID: A8\_N

Lims ID: 320-34293-A-9-A

Lab Sample ID: 320-34293-9

Client ID: MW-9I

Operator ID: SACINSTLCMS01

ALS Bottle#: 13

Worklist Smp#: 15

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

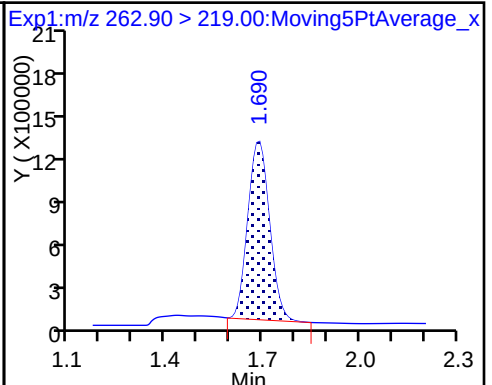
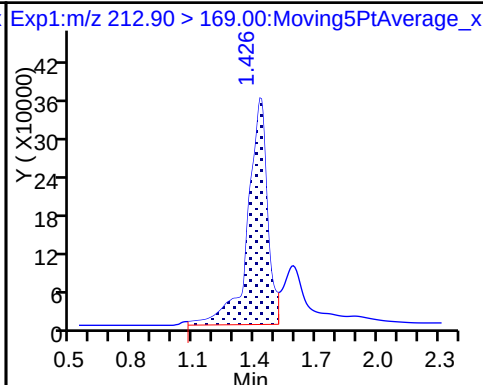
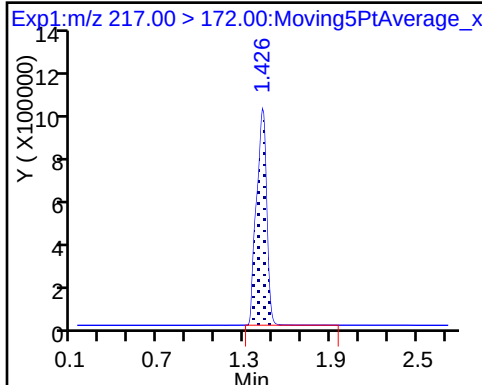
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

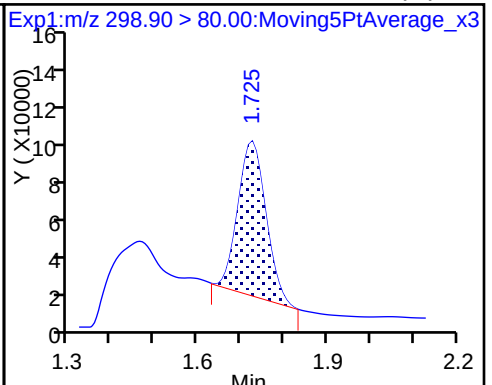
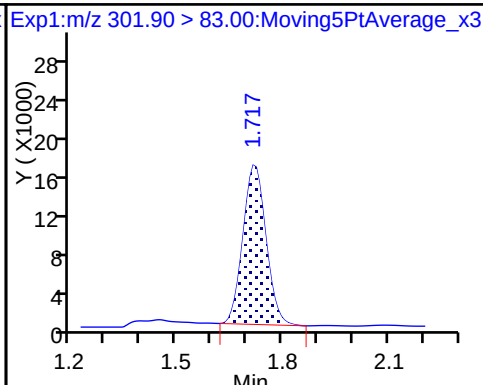
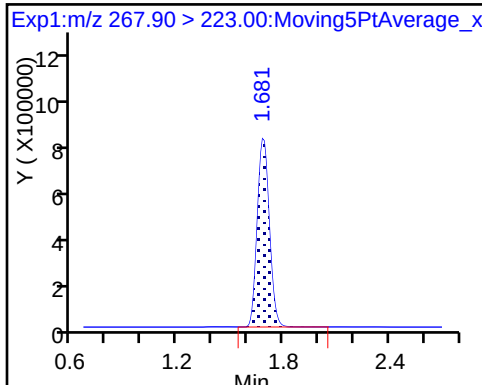
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

D 47 13C3-PFBS

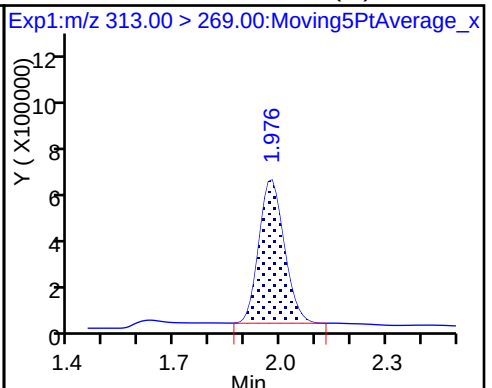
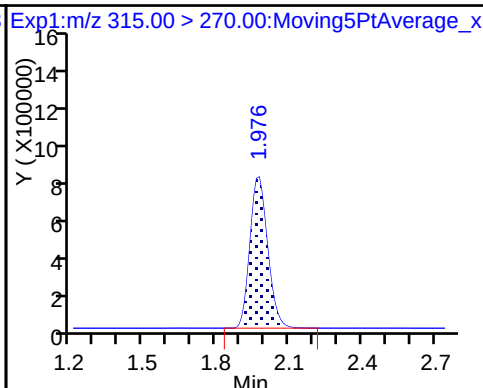
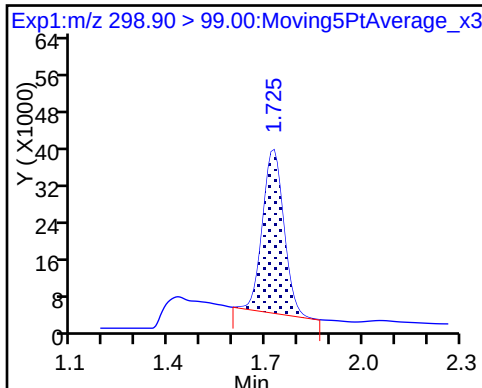
5 Perfluorobutanesulfonic acid (M)



5 Perfluorobutanesulfonic acid

D 7 13C2 PFHxA

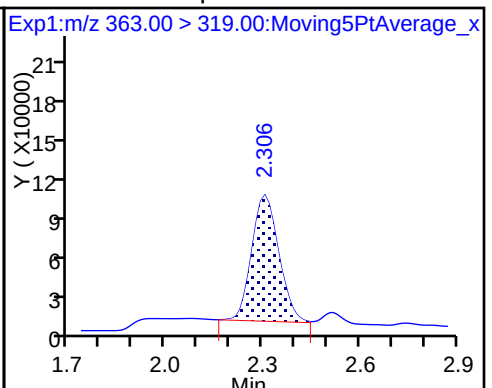
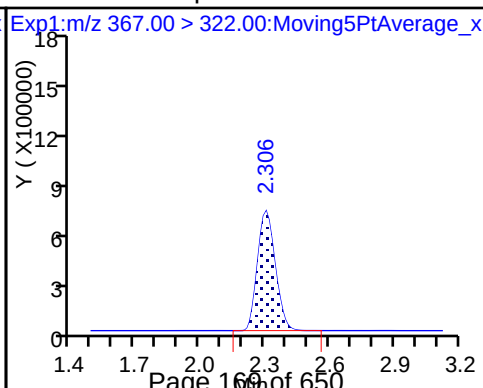
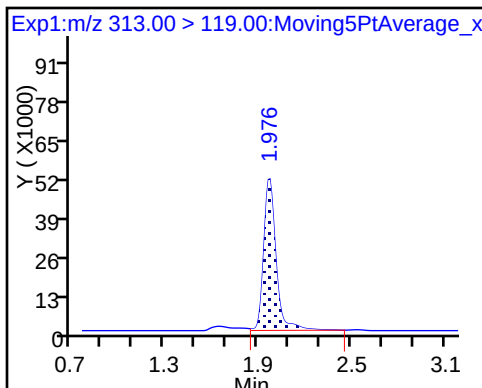
6 Perfluorohexanoic acid (M)

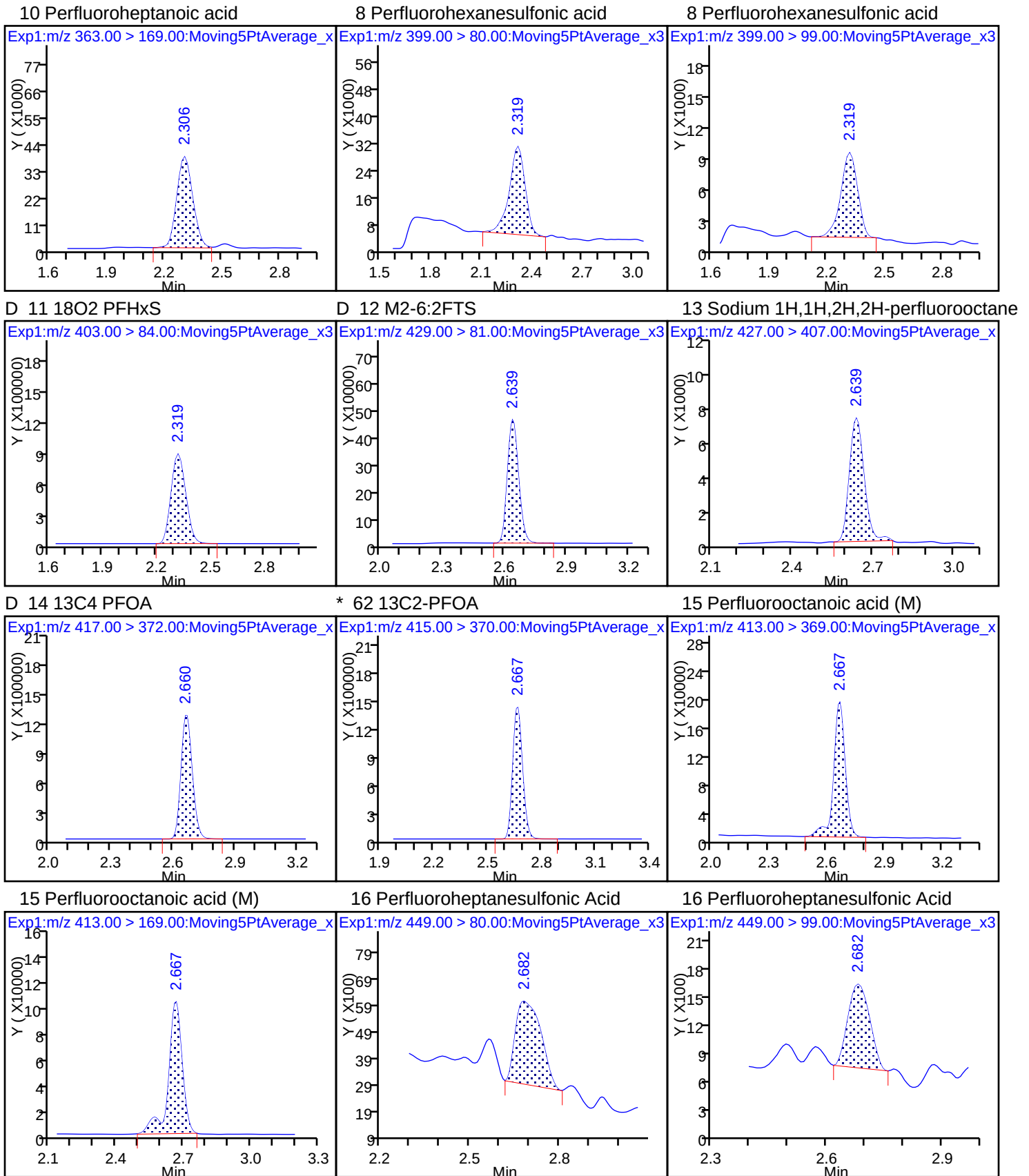


6 Perfluorohexanoic acid

D 9 13C4-PFHpA

10 Perfluoroheptanoic acid





## D 18 13C4 PFOS

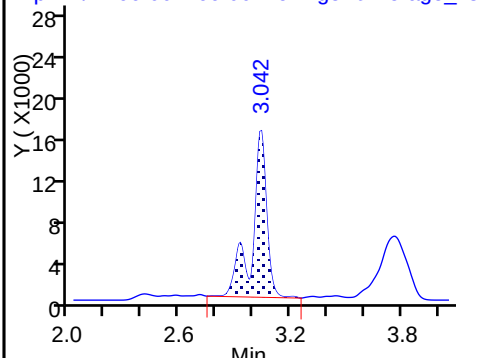
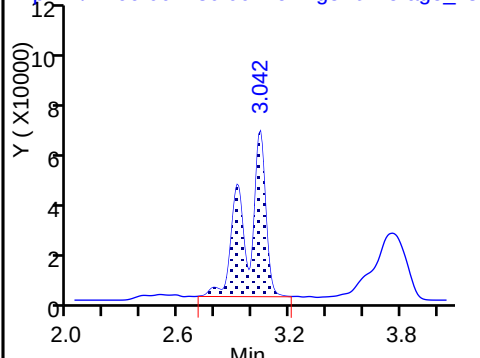
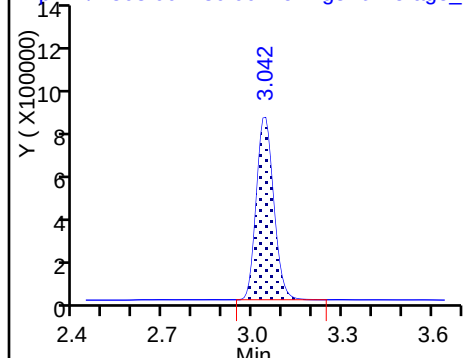
## 17 Perfluorooctane sulfonic acid (M)

## 17 Perfluorooctane sulfonic acid

Exp1:m/z 503.00 &gt; 80.00:Moving5PtAverage\_x3

Exp1:m/z 499.00 &gt; 80.00:Moving5PtAverage\_x3

Exp1:m/z 499.00 &gt; 99.00:Moving5PtAverage\_x3



## D 19 13C5 PFNA

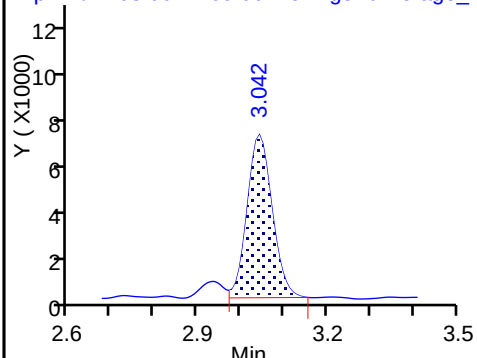
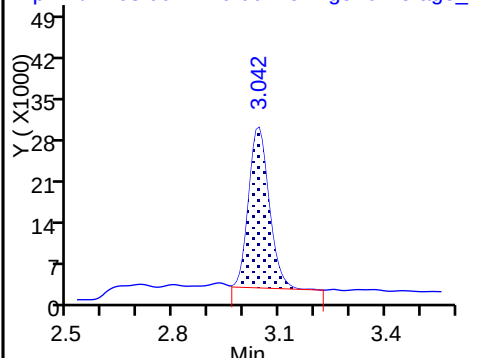
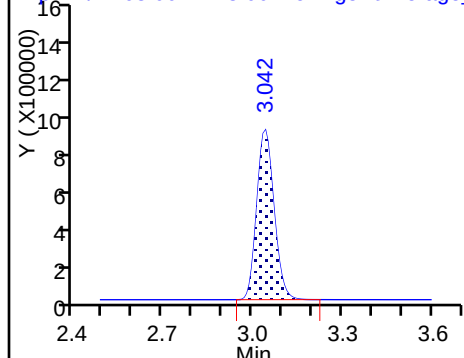
## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

Exp1:m/z 468.00 &gt; 423.00:Moving5PtAverage\_x3

Exp1:m/z 463.00 &gt; 419.00:Moving5PtAverage\_x3

Exp1:m/z 463.00 &gt; 169.00:Moving5PtAverage\_x3



## D 21 13C8 FOSA

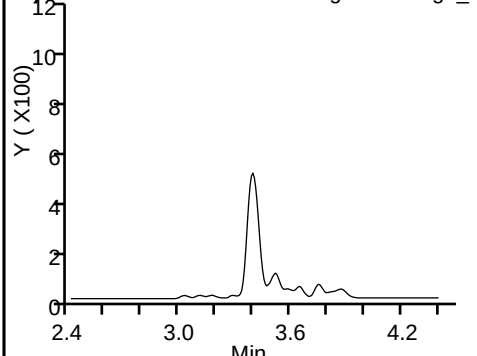
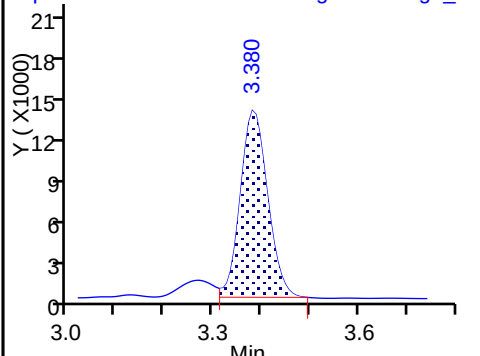
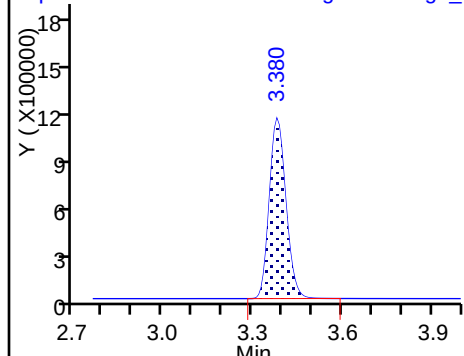
## 22 Perfluorooctane Sulfonamide

## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)

Exp1:m/z 506.00 &gt; 78.00:Moving5PtAverage\_x3

Exp1:m/z 498.00 &gt; 78.00:Moving5PtAverage\_x3

Exp1:m/z 527.00 &gt; 507.00:Moving5PtAverage\_x3



## D 26 M2-8:2FTS

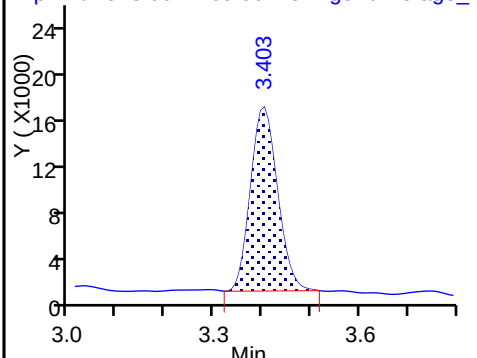
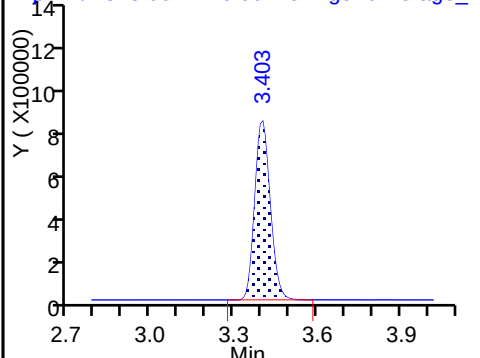
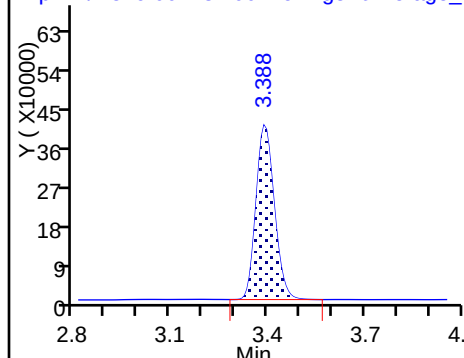
## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

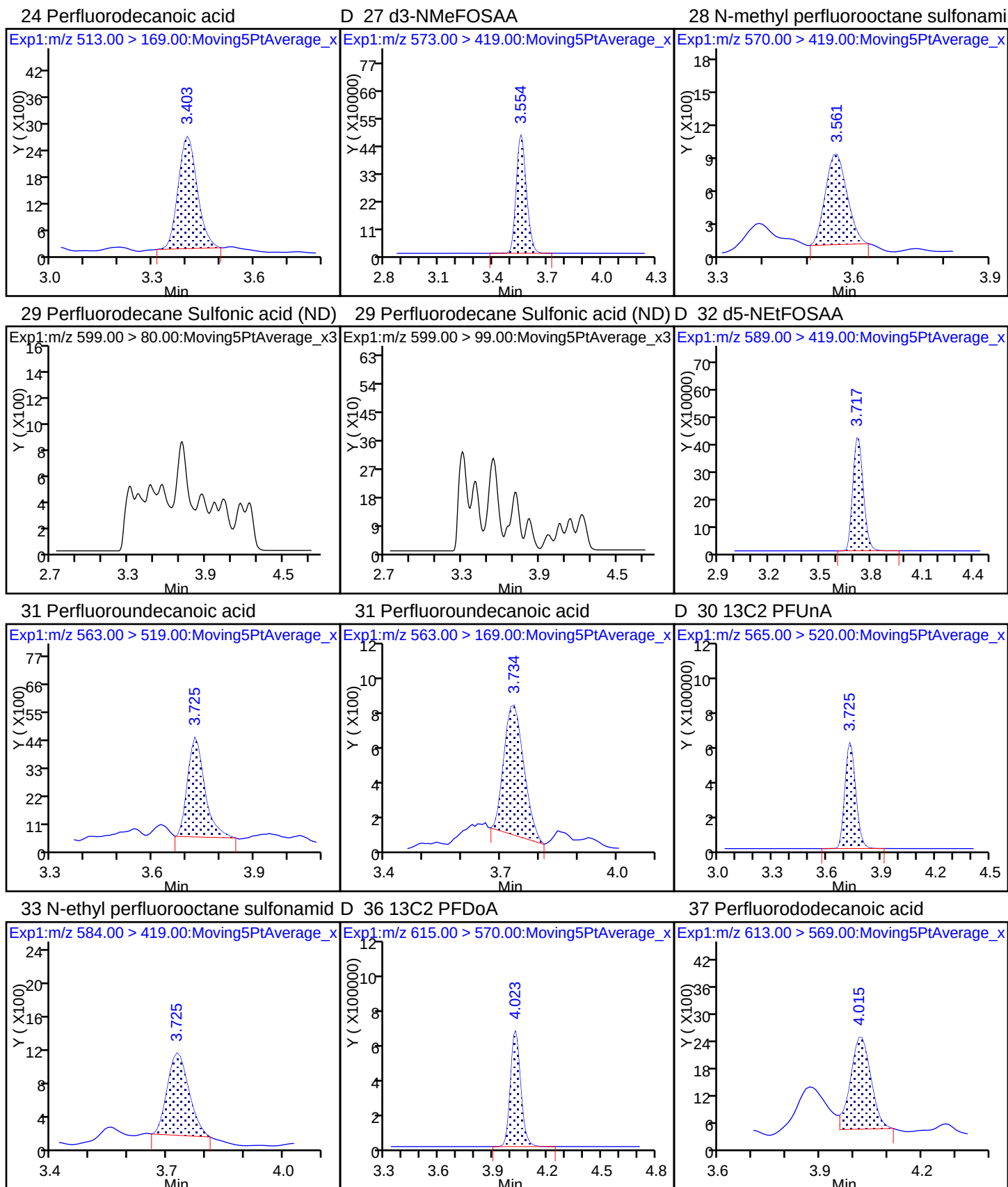
Exp1:m/z 529.00 &gt; 81.00:Moving5PtAverage\_x3

Exp1:m/z 515.00 &gt; 470.00:Moving5PtAverage\_x3

Exp1:m/z 513.00 &gt; 469.00:Moving5PtAverage\_x3

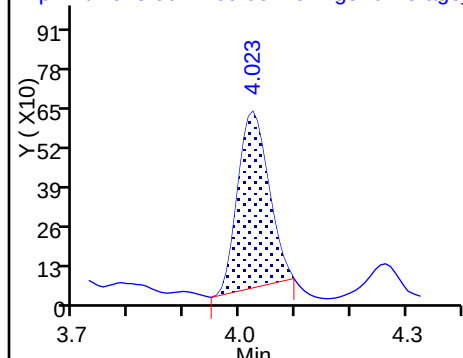






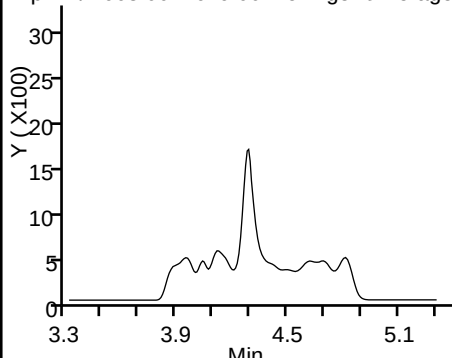
37 Perfluorododecanoic acid

Exp1:m/z 613.00 &gt; 169.00:Moving5PtAverage\_x



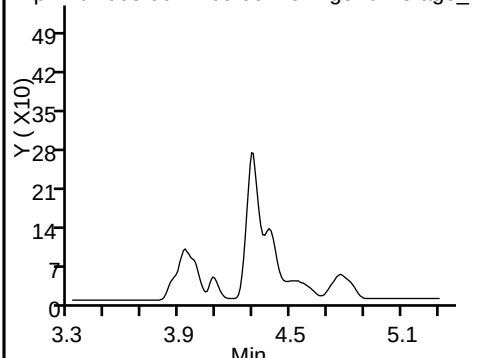
41 Perfluorotridecanoic acid (ND)

Exp1:m/z 663.00 &gt; 619.00:Moving5PtAverage\_x



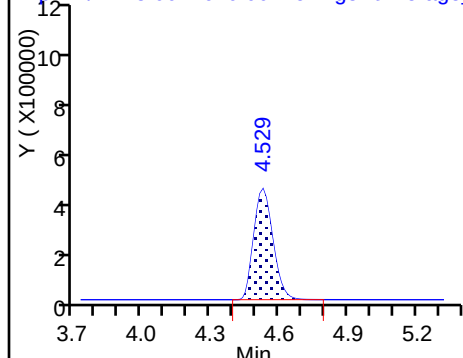
41 Perfluorotridecanoic acid (ND)

Exp1:m/z 663.00 &gt; 169.00:Moving5PtAverage\_x



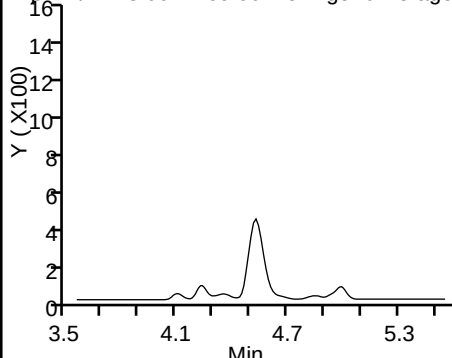
D 43 13C2-PFTeDA

Exp1:m/z 715.00 &gt; 670.00:Moving5PtAverage\_x



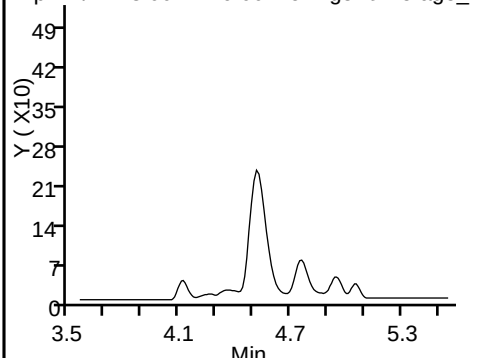
42 Perfluorotetradecanoic acid (ND)

Exp1:m/z 713.00 &gt; 169.00:Moving5PtAverage\_x



42 Perfluorotetradecanoic acid (ND)

Exp1:m/z 713.00 &gt; 219.00:Moving5PtAverage\_x



## TestAmerica Sacramento

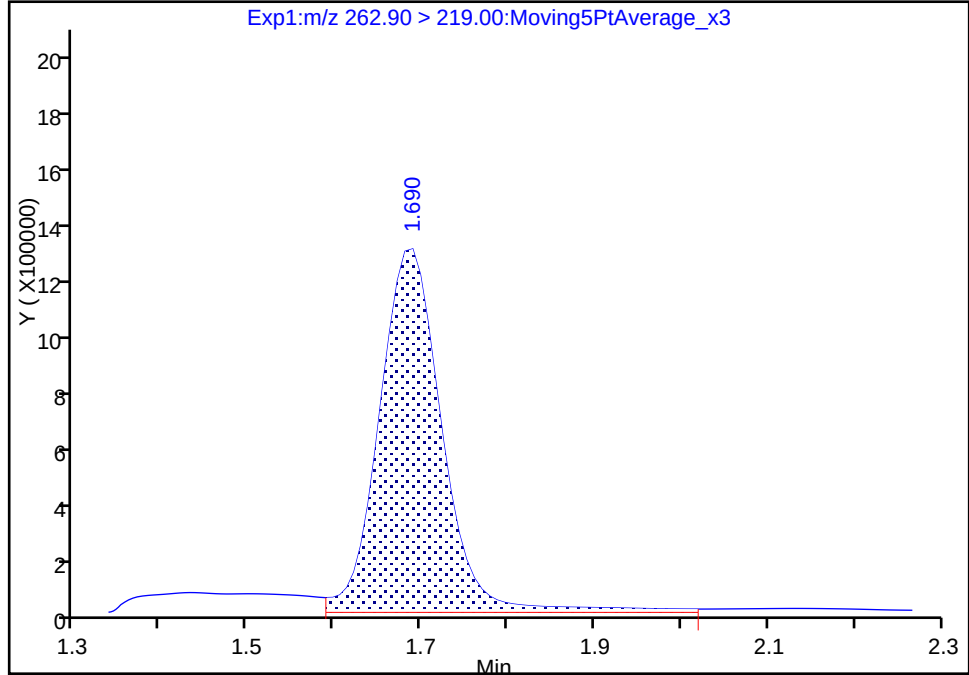
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_015.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:28:47                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-9-A                                                          | Lab Sample ID: | 320-34293-9 |                |    |
| Client ID:      | MW-9I                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 13          | Worklist Smp#: | 15 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

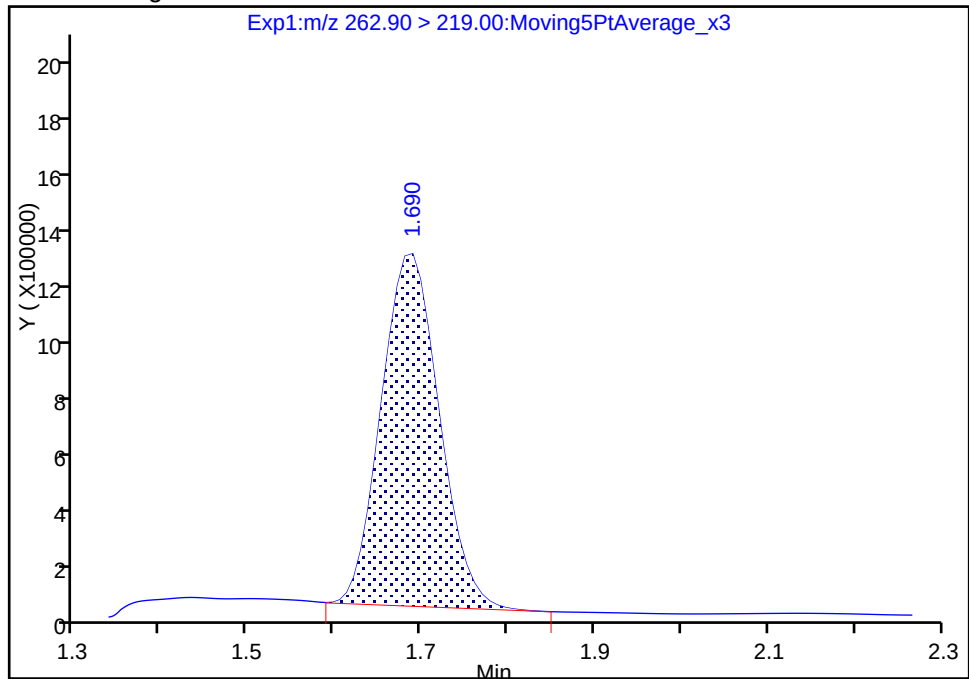
RT: 1.69  
Area: 6610433  
Amount: 3.947032  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.69  
Area: 5897904  
Amount: 3.521587  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:51:46

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

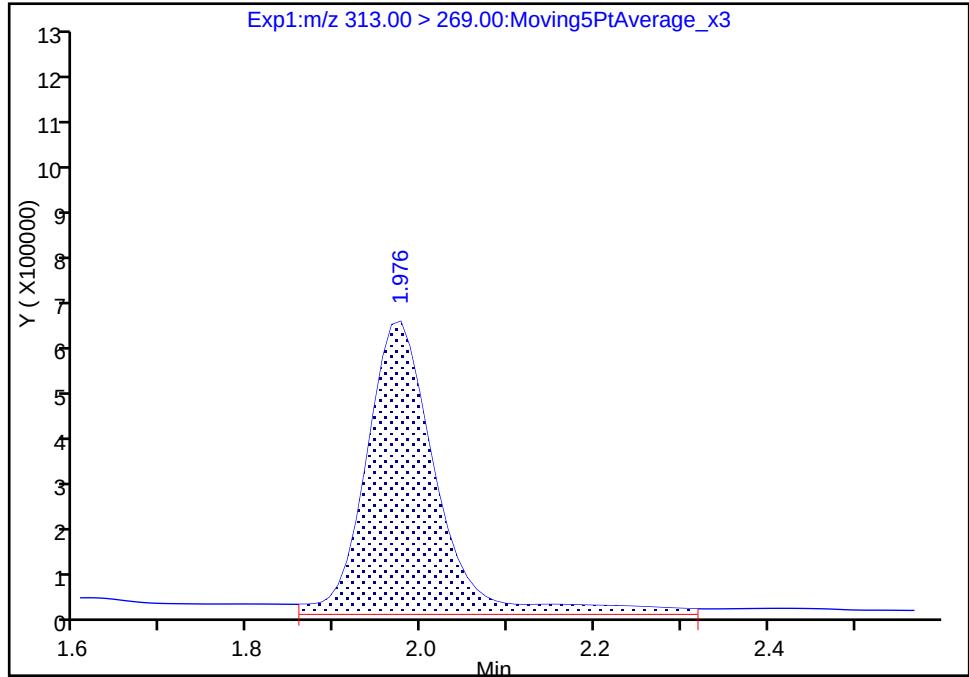
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_015.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:28:47                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-9-A                                                          | Lab Sample ID: | 320-34293-9 |                |    |
| Client ID:      | MW-9I                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 13          | Worklist Smp#: | 15 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 1

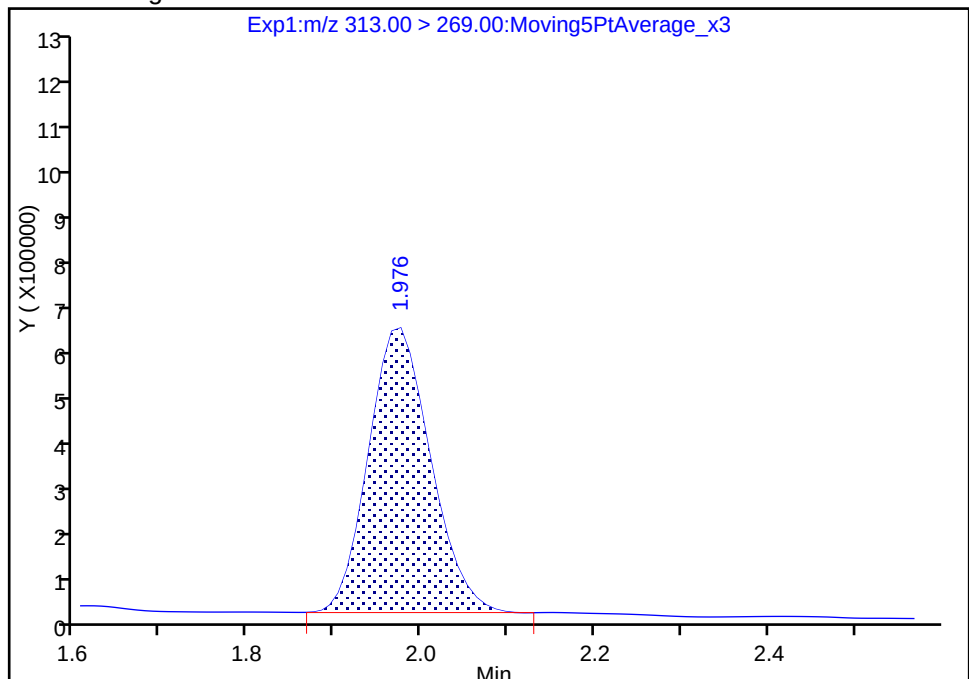
RT: 1.98  
Area: 3453959  
Amount: 2.156540  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.98  
Area: 2925520  
Amount: 1.826599  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:52:10

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

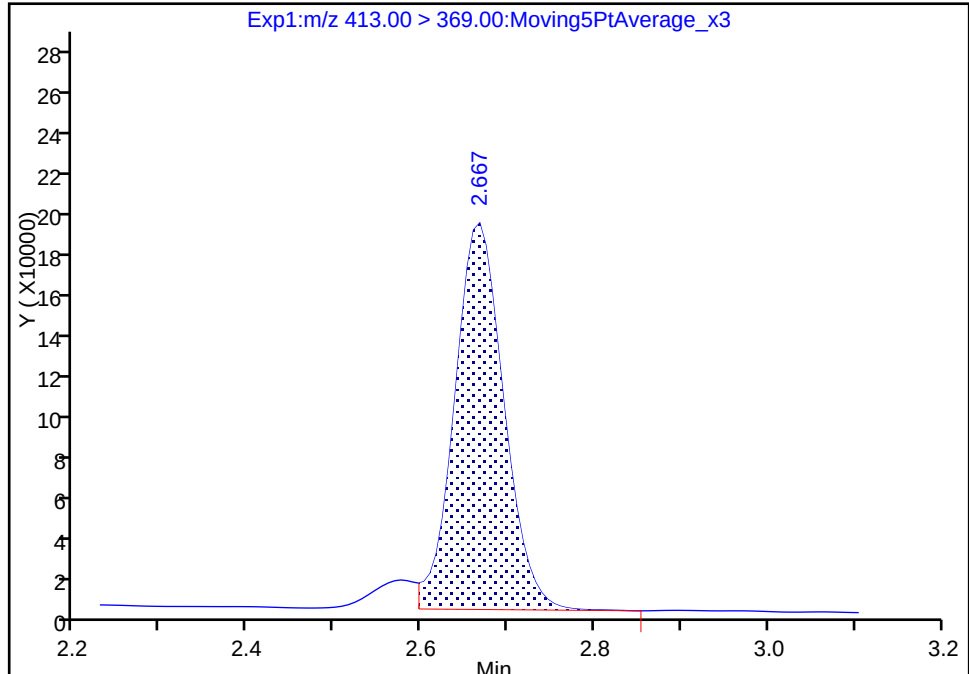
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_015.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:28:47                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-9-A                                                          | Lab Sample ID: | 320-34293-9 |                |    |
| Client ID:      | MW-9I                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 13          | Worklist Smp#: | 15 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 1

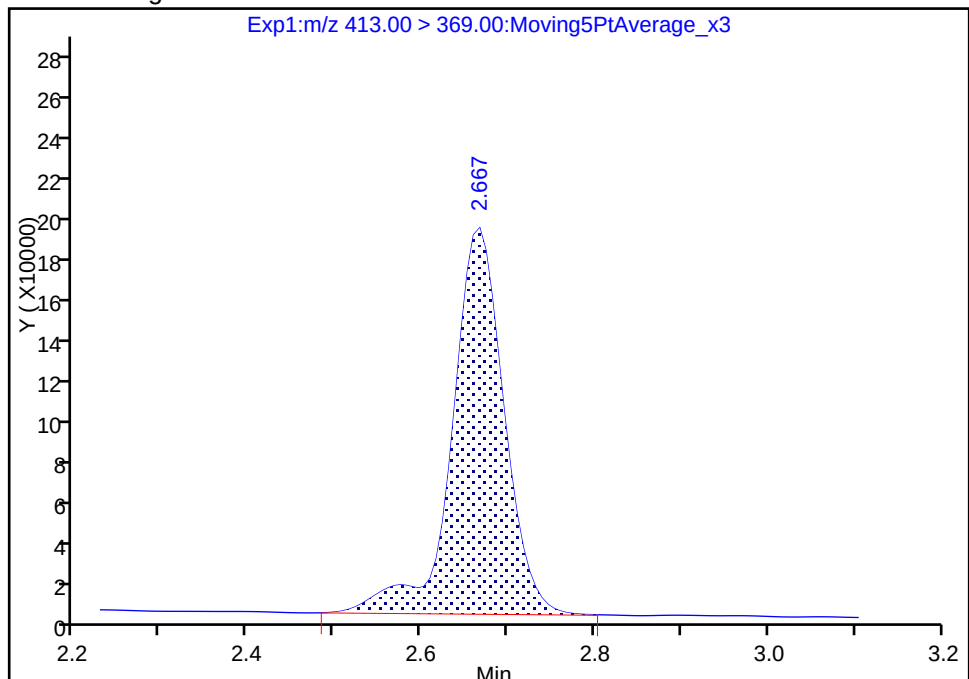
RT: 2.67  
Area: 748698  
Amount: 0.379019  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 796434  
Amount: 0.403184  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:52:46  
Audit Action: Manually Integrated

Audit Reason: Isomers  
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## TestAmerica Sacramento

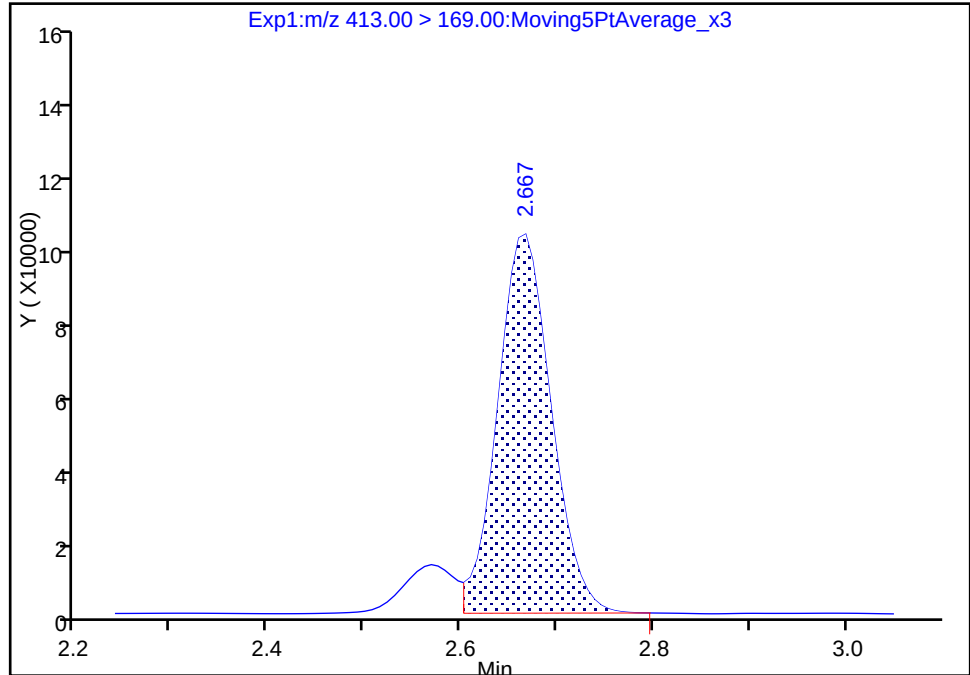
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_015.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:28:47                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-9-A                                                          | Lab Sample ID: | 320-34293-9 |                |    |
| Client ID:      | MW-9I                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 13          | Worklist Smp#: | 15 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

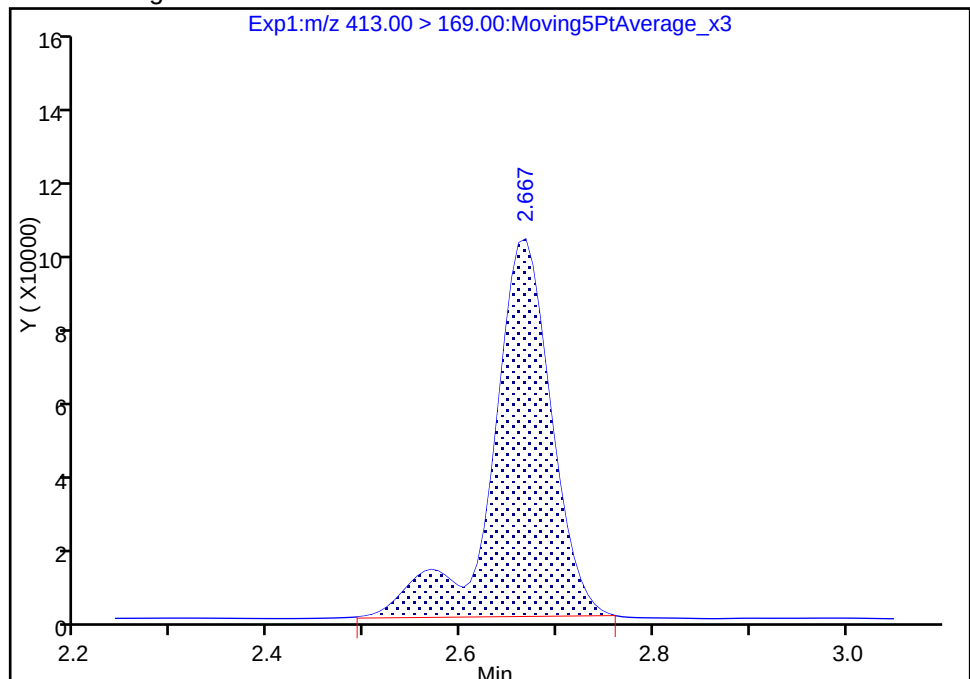
RT: 2.67  
Area: 393279  
Amount: 0.379019  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 436103  
Amount: 0.403184  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:52:51

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

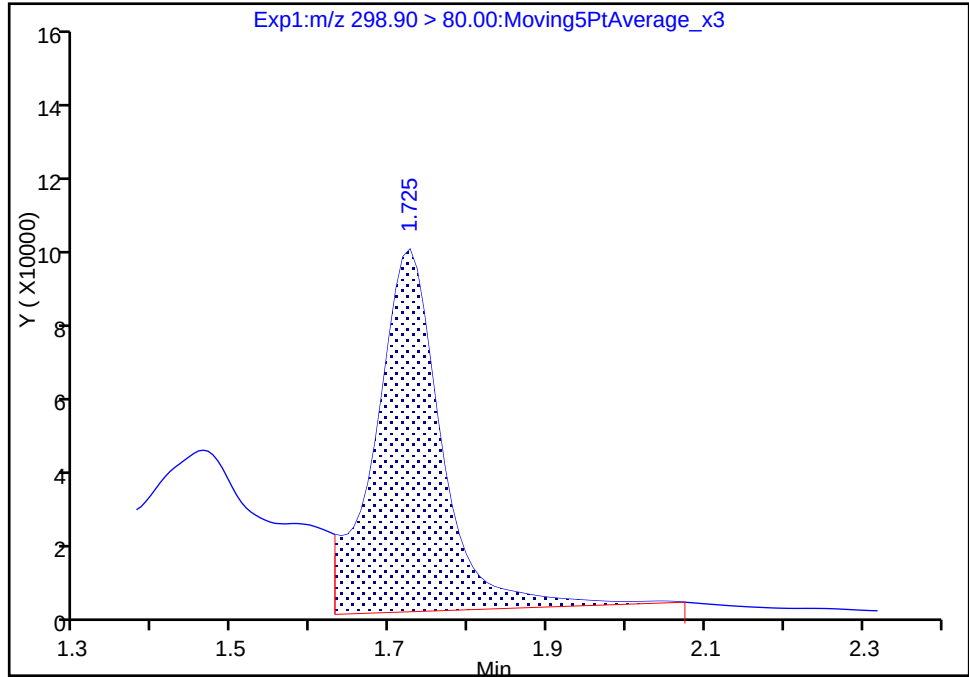
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_015.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:28:47                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-9-A                                                          | Lab Sample ID: | 320-34293-9 |                |    |
| Client ID:      | MW-9I                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 13          | Worklist Smp#: | 15 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**5 Perfluorobutanesulfonic acid, CAS: 375-73-5**

Signal: 1

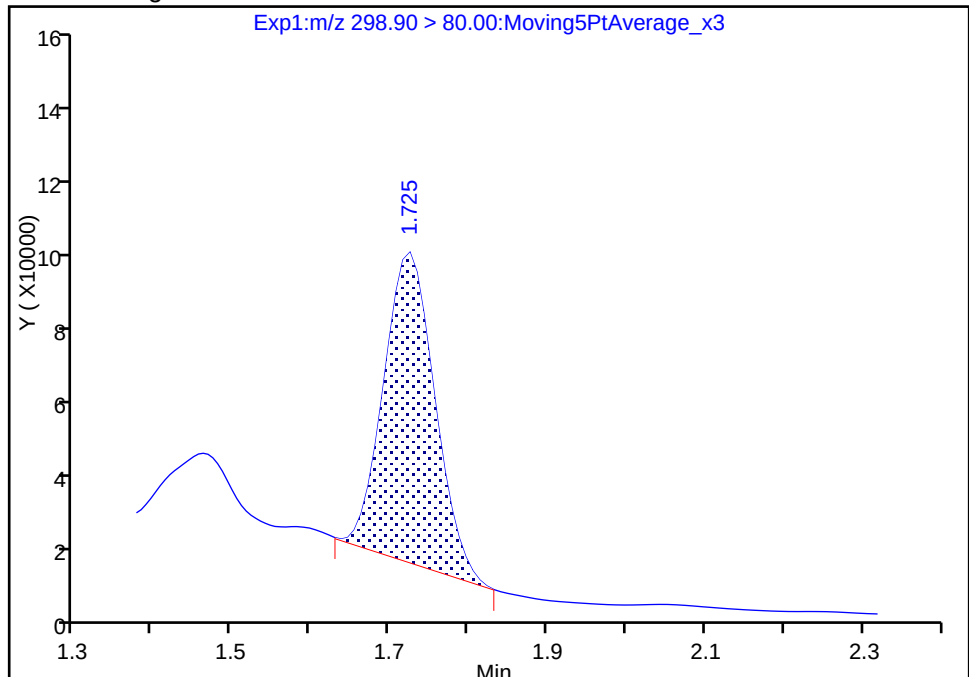
RT: 1.73  
Area: 557056  
Amount: 0.231080  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.73  
Area: 369057  
Amount: 0.153093  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:51:59  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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## TestAmerica Sacramento

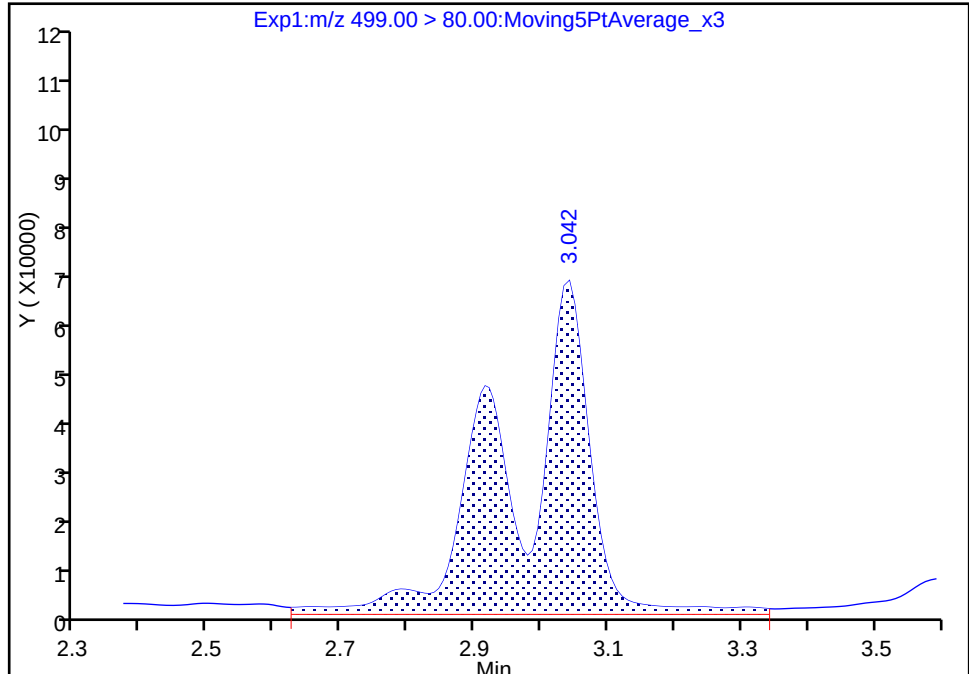
|                 |                                                                          |                |             |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|-------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_015.d |                |             |                |    |
| Injection Date: | 29-Dec-2017 09:28:47                                                     | Instrument ID: | A8_N        |                |    |
| Lims ID:        | 320-34293-A-9-A                                                          | Lab Sample ID: | 320-34293-9 |                |    |
| Client ID:      | MW-9I                                                                    |                |             |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 13          | Worklist Smp#: | 15 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |    |
| Column:         |                                                                          | Detector       | EXP1        |                |    |

**17 Perfluorooctane sulfonic acid, CAS: 1763-23-1**

Signal: 1

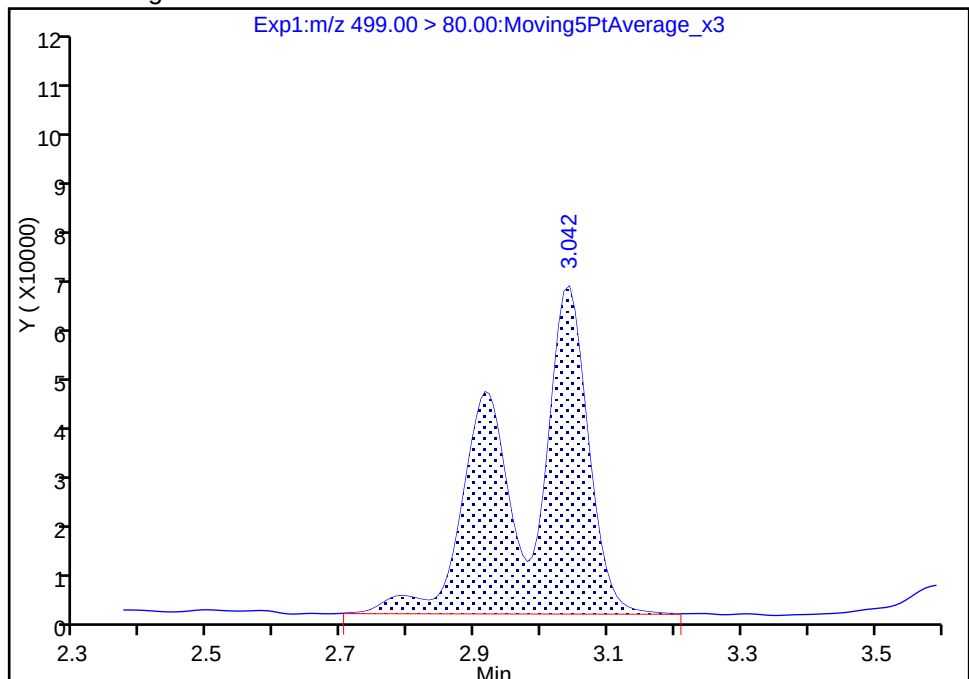
RT: 3.04  
Area: 528827  
Amount: 0.350598  
Amount Units: ng/ml

## Processing Integration Results



RT: 3.04  
Area: 470925  
Amount: 0.312210  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:53:03

Audit Action: Manually Integrated

Audit Reason: Baseline



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-9S</u>          | Lab Sample ID: <u>320-34293-10</u>           |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_016.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 15:12</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>276.5 (mL)</u>        | Date Analyzed: <u>12/29/2017 09:36</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 9.68   | B | 1.81 | 0.32 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 22.2   |   | 1.81 | 0.44 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 15.1   |   | 1.81 | 0.52 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 9.92   |   | 1.81 | 0.23 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 12.8   |   | 1.81 | 0.77 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 2.57   |   | 1.81 | 0.24 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 2.15   |   | 1.81 | 0.28 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 1.02   | J | 1.81 | 0.99 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.50   | U | 1.81 | 0.50 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.18   | U | 1.81 | 1.18 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.26   | U | 1.81 | 0.26 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 18.2   |   | 1.81 | 0.18 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 2.43   | B | 1.81 | 0.15 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.17   | U | 1.81 | 0.17 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 11.1   |   | 1.81 | 0.49 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.30   | J | 1.81 | 0.29 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 0.32   | U | 1.81 | 0.32 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 2.80   | U | 18.1 | 2.80 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.72   | U | 18.1 | 1.72 |
| 27619-97-2 | 6:2FTS                                                     | 1.81   | U | 18.1 | 1.81 |
| 39108-34-4 | 8:2FTS                                                     | 1.81   | U | 18.1 | 1.81 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-9S</u>          | Lab Sample ID: <u>320-34293-10</u>                  |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_016.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 15:12</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>276.5 (mL)</u>        | Date Analyzed: <u>12/29/2017 09:36</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 56   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 74   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 69   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 74   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 84   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 75   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 76   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 73   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 74   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 86   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 75   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 78   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 71   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 67   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 76   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 74   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 99   |   | 25-150 |
| STL02280 | M2-8:2FTS        | 76   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_016.d  
 Lims ID: 320-34293-A-10-A  
 Client ID: MW-9S  
 Sample Type: Client  
 Inject. Date: 29-Dec-2017 09:36:36 ALS Bottle#: 14 Worklist Smp#: 16  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-10-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 16:01:47 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 16:01:46

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|

## D 1 13C4 PFBA

217.00 &gt; 172.00 1.432 1.433 -0.001 0.537 5175703 1.40 55.9 15285

## 2 Perfluorobutyric acid

212.90 &gt; 169.00 1.438 1.434 0.004 1.004 505981 0.2675 76.4

## 4 Perfluoropentanoic acid

262.90 &gt; 219.00 1.690 1.691 -0.001 1.000 1097885 0.6150 164 M

## D 3 13C5-PFPeA

267.90 &gt; 223.00 1.690 1.692 -0.002 0.634 3978630 1.84 73.7 19768

## D 47 13C3-PFBS

301.90 &gt; 83.00 1.725 1.725 0.0 0.647 82075 1.75 75.5 705

## 5 Perfluorobutanesulfonic acid

298.90 &gt; 80.00 1.725 1.730 -0.005 1.000 1330714 0.5037 200

298.90 &gt; 99.00 1.725 1.730 -0.005 1.000 498606 2.67(1.25-3.74) 524

## D 7 13C2 PFHxA

315.00 &gt; 270.00 1.976 1.976 0.0 0.741 4000316 1.72 69.0 27630

## 6 Perfluorohexanoic acid

313.00 &gt; 269.00 1.976 1.979 -0.003 1.000 667148 0.4175 130 M

313.00 &gt; 119.00 1.976 1.979 -0.003 1.000 72710 9.18(5.03-15.10) 448

## D 9 13C4-PFHpA

367.00 &gt; 322.00 2.306 2.311 -0.005 0.865 3961687 1.84 73.6 27624

## 10 Perfluoroheptanoic acid

363.00 &gt; 319.00 2.306 2.311 -0.005 1.000 454432 0.2742 230

363.00 &gt; 169.00 2.306 2.311 -0.005 1.000 175080 2.60(1.13-3.40) 1008

## 8 Perfluorohexanesulfonic acid

399.00 &gt; 80.00 2.319 2.324 -0.005 1.000 156620 0.0673 64.0

399.00 &gt; 99.00 2.319 2.324 -0.005 1.000 53188 2.94(1.50-4.49) 116

## D 11 18O2 PFHxS

403.00 &gt; 84.00 2.319 2.328 -0.009 0.869 5039681 1.84 77.9 42627

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649  | -0.011 | 0.989  | 956329   | 2.34         |                 | 98.6 | 3903  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.638 | 2.651  | -0.013 | 1.000  | 9149     | 0.0135       |                 |      | 334   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.667 | 2.674  | -0.007 | 1.000  | 4597574  | 2.09         |                 | 83.6 | 38705 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.667 | 2.676  | -0.009 |        | 5348047  | 2.50         |                 |      | 34842 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       | M     |
| 413.00 > 369.00                       | 2.667 | 2.677  | -0.010 | 1.000  | 686484   | 0.3526       |                 |      | 366   | M     |
| 413.00 > 169.00                       | 2.667 | 2.677  | -0.010 | 1.000  | 332656   |              | 2.06(0.84-2.52) |      | 421   |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.034 | 3.048  | -0.014 | 1.138  | 3091914  | 1.71         |                 | 71.3 | 13127 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.034 | 3.050  | -0.016 | 1.000  | 426124   | 0.3069       |                 |      | 71.3  |       |
| 499.00 > 99.00                        | 3.034 | 3.050  | -0.016 | 1.000  | 86685    |              | 4.92(2.31-6.93) |      | 94.8  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.042 | 3.051  | -0.009 | 1.141  | 3303144  | 1.88         |                 | 75.2 | 35108 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.042 | 3.052  | -0.010 | 1.000  | 91592    | 0.0712       |                 |      | 176   |       |
| 463.00 > 169.00                       | 3.042 | 3.052  | -0.010 | 1.000  | 22610    |              | 4.05(1.90-5.69) |      | 340   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.380 | 3.377  | 0.003  | 1.267  | 4118583  | 1.68         |                 | 67.2 | 27837 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378  | 0.002  | 1.000  | 5393     | 0.003449     |                 |      | 125   |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.388 | 3.403  | -0.015 | 1.270  | 820762   | 1.83         |                 | 76.4 | 7242  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.395 | 3.414  | -0.019 | 1.273  | 2706296  | 1.90         |                 | 75.8 | 36834 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.403 | 3.414  | -0.011 | 1.002  | 63523    | 0.0595       |                 |      | 248   |       |
| 513.00 > 169.00                       | 3.395 | 3.414  | -0.019 | 1.000  | 12184    |              | 5.21(2.36-7.09) |      | 406   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.554 | 3.569  | -0.015 | 1.333  | 1399635  | 1.90         |                 | 75.9 | 12225 |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.708 | 3.730  | -0.022 | 1.000  | 6410     | 0.008368     |                 |      | 54.8  |       |
| 599.00 > 99.00                        | 3.708 | 3.730  | -0.022 | 1.000  | 1700     |              | 3.77(1.39-4.16) |      | 43.1  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.725 | 3.740  | -0.015 | 1.397  | 1400326  | 1.86         |                 | 74.5 | 9089  |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.725 | 3.746  | -0.021 | 1.000  | 20796    | 0.0281       |                 |      | 103   |       |
| 563.00 > 169.00                       | 3.734 | 3.746  | -0.012 | 1.002  | 4887     |              | 4.26(0.00-0.00) |      | 225   |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.725 | 3.747  | -0.022 | 1.397  | 1976879  | 1.83         |                 | 73.2 | 29123 |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.022 | 4.045  | -0.023 | 1.508  | 2184608  | 1.86         |                 | 74.4 | 36877 |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.529 | 4.557  | -0.028 | 1.698  | 2745236  | 2.15         |                 | 86.0 | 23571 |       |

## QC Flag Legend

### Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_016.d

Injection Date: 29-Dec-2017 09:36:36

Instrument ID: A8\_N

Lims ID: 320-34293-A-10-A

Lab Sample ID: 320-34293-10

Client ID: MW-9S

Operator ID: SACINSTLCMS01

ALS Bottle#: 14

Worklist Smp#: 16

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

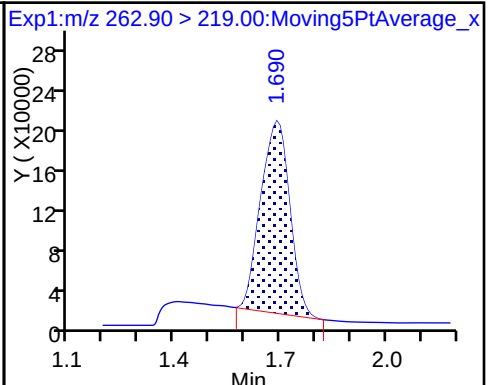
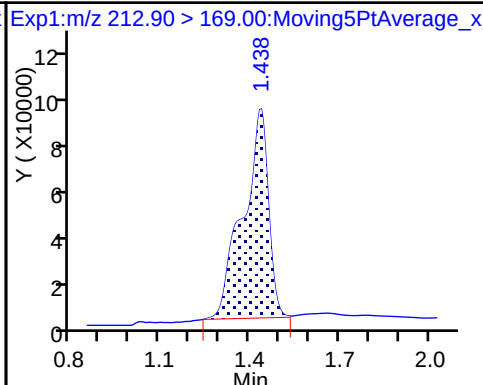
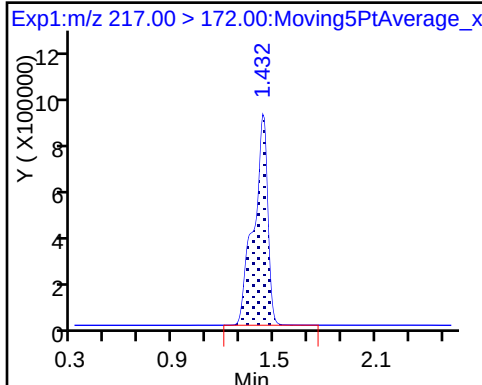
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

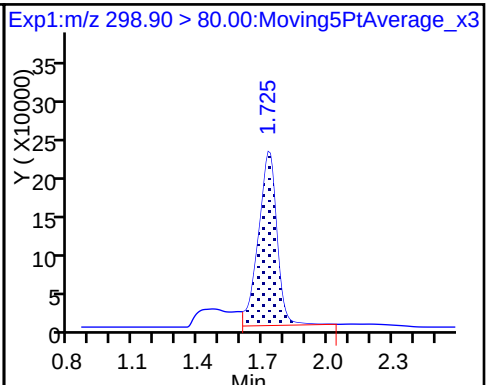
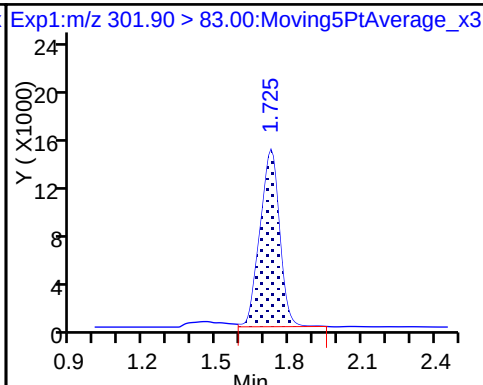
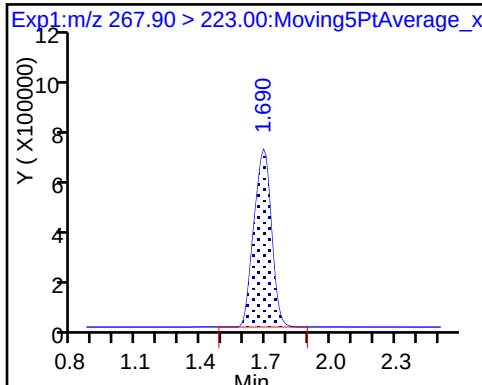
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

D 47 13C3-PFBS

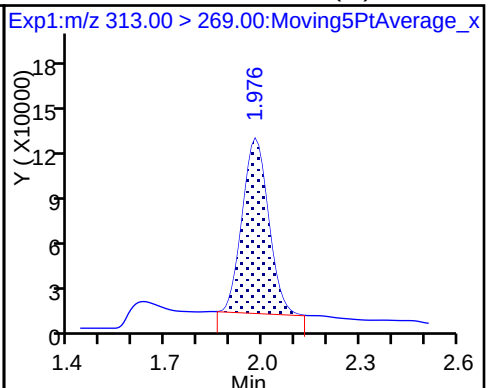
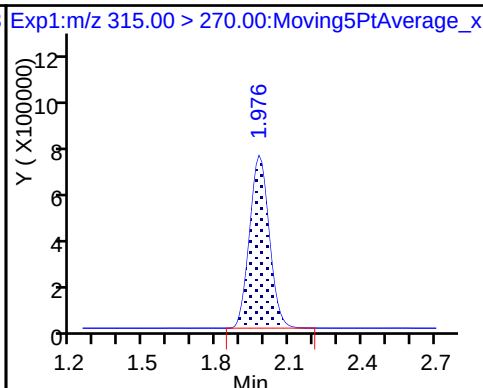
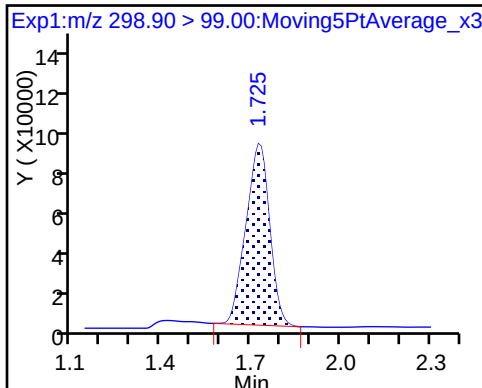
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

D 7 13C2 PFHxA

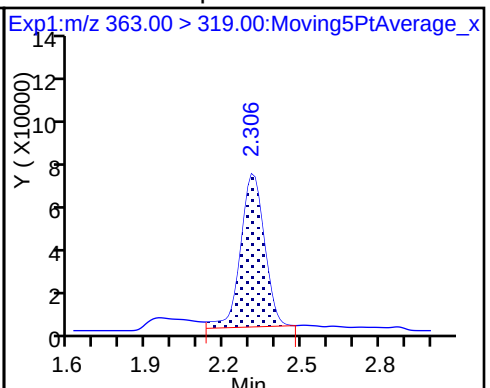
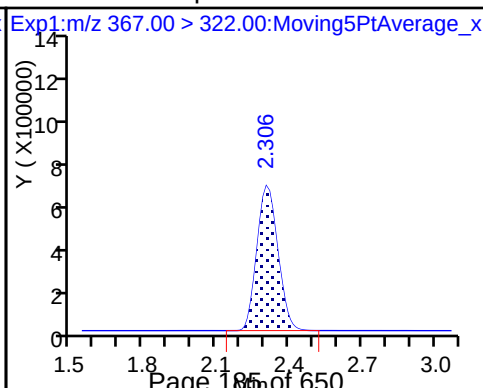
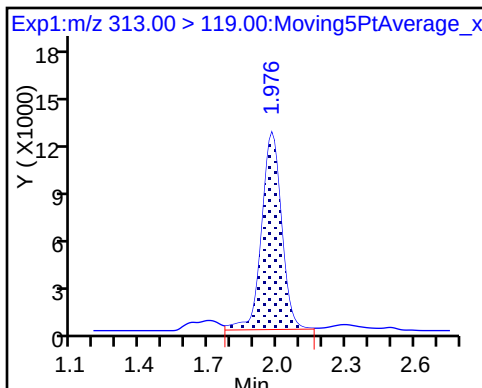
6 Perfluorohexanoic acid (M)



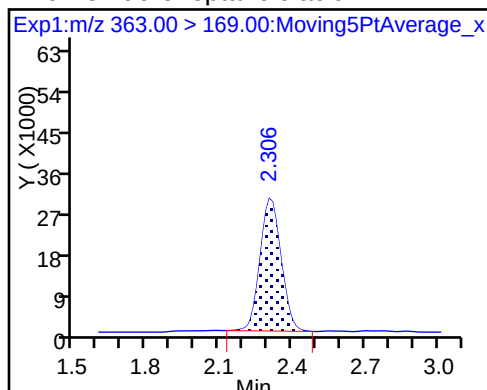
6 Perfluorohexanoic acid

D 9 13C4-PFHpA

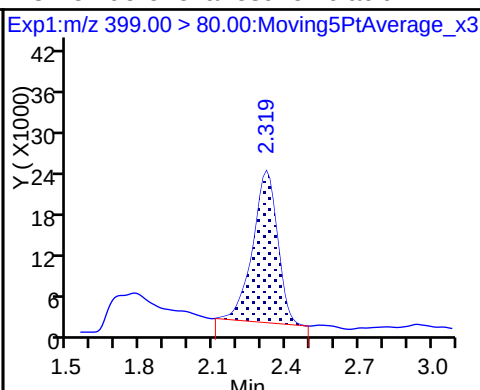
10 Perfluoroheptanoic acid



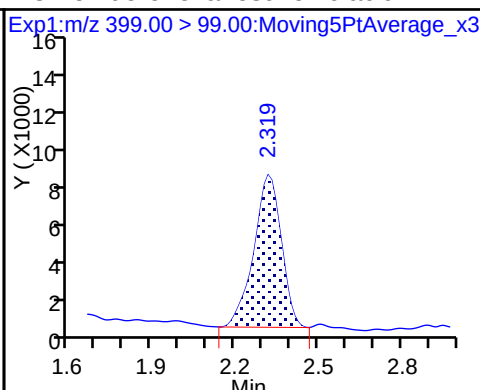
10 Perfluoroheptanoic acid



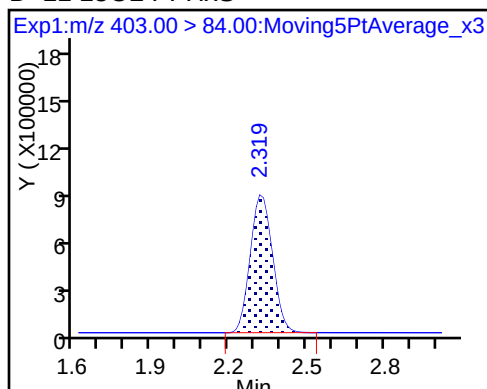
8 Perfluorohexanesulfonic acid



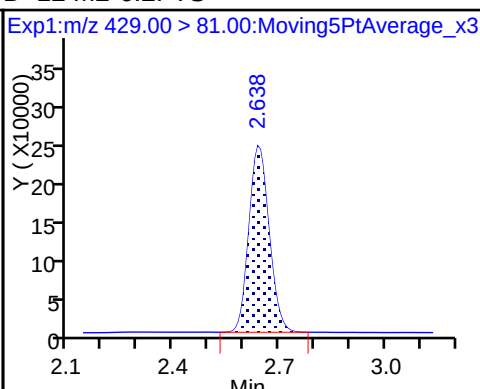
8 Perfluorohexanesulfonic acid



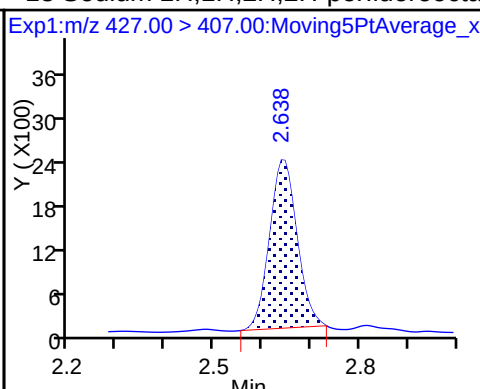
D 11 18O2 PFHxS



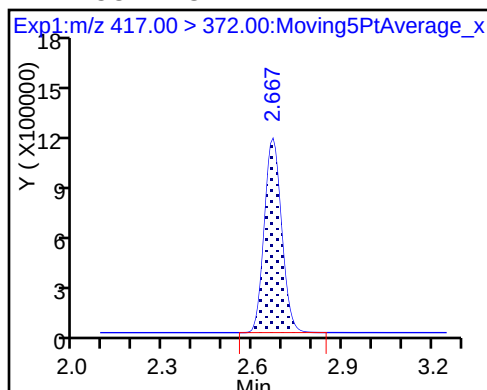
D 12 M2-6:2FTS



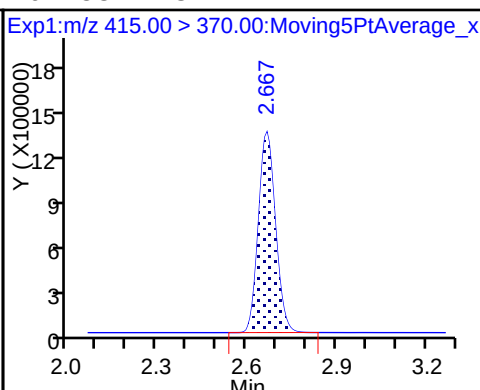
13 Sodium 1H,1H,2H,2H-perfluorooctane



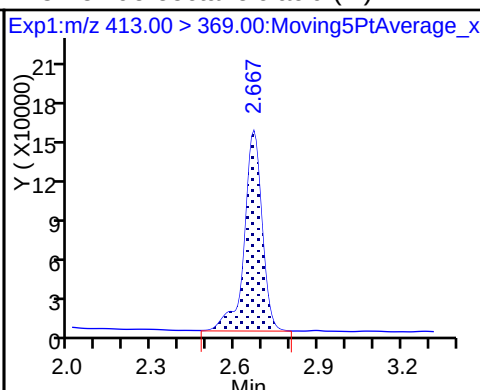
D 14 13C4 PFOA



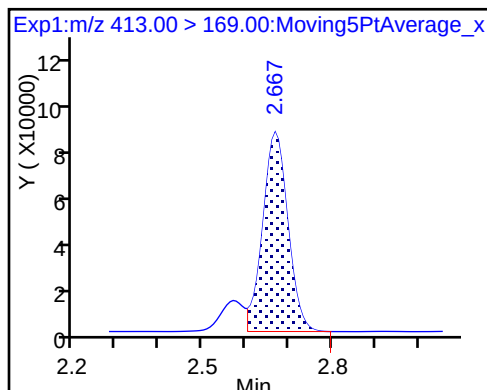
\* 62 13C2-PFOA



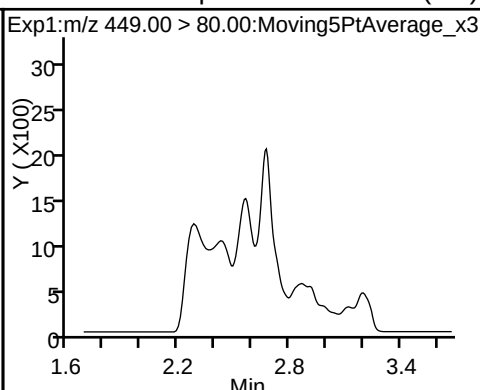
15 Perfluorooctanoic acid (M)



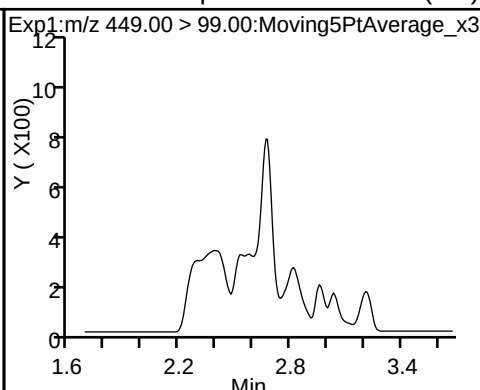
15 Perfluorooctanoic acid



16 Perfluoroheptanesulfonic Acid (ND)



16 Perfluoroheptanesulfonic Acid (ND)

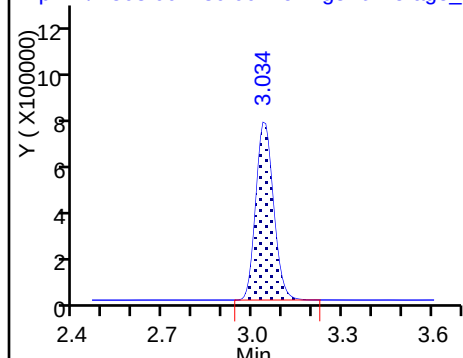


## D 18 13C4 PFOS

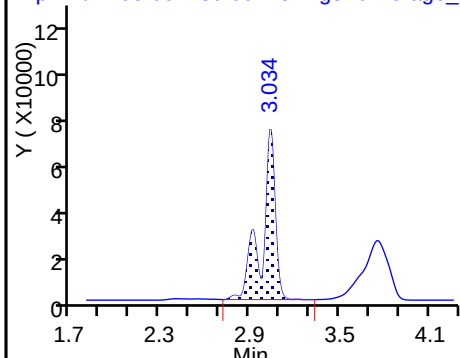
## 17 Perfluorooctane sulfonic acid

## 17 Perfluorooctane sulfonic acid

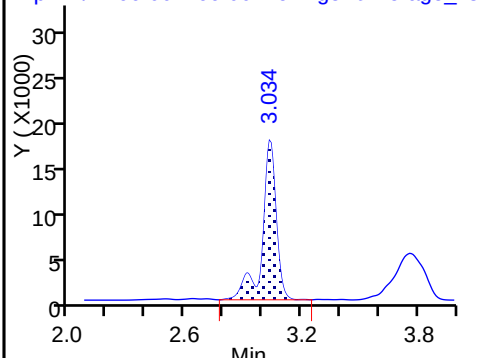
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Exp1:m/z 499.00 &gt; 80.00:Moving5PtAverage\_x3



Exp1:m/z 499.00 &gt; 99.00:Moving5PtAverage\_x3

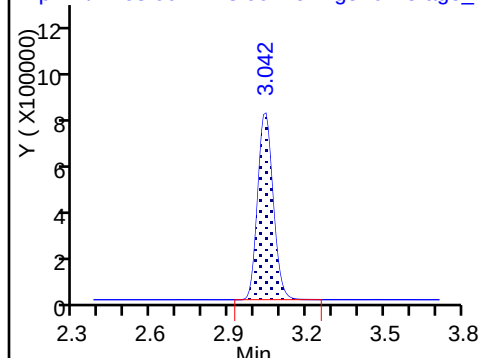


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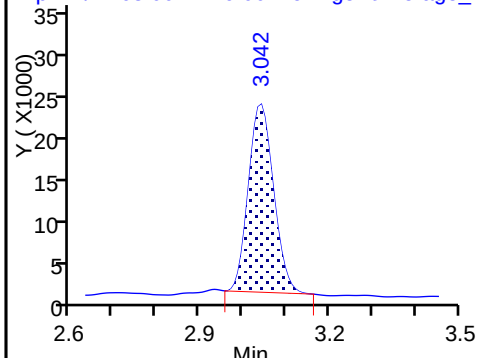
## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

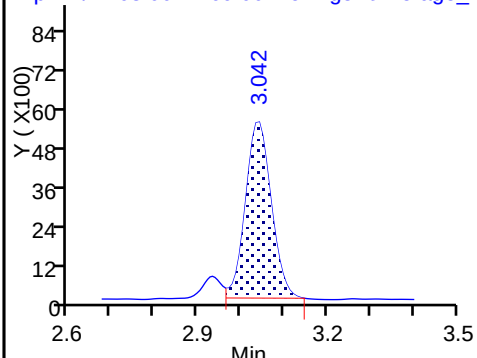
Exp1:m/z 468.00 &gt; 423.00:Moving5PtAverage\_x3



Exp1:m/z 463.00 &gt; 419.00:Moving5PtAverage\_x3



Exp1:m/z 463.00 &gt; 169.00:Moving5PtAverage\_x3

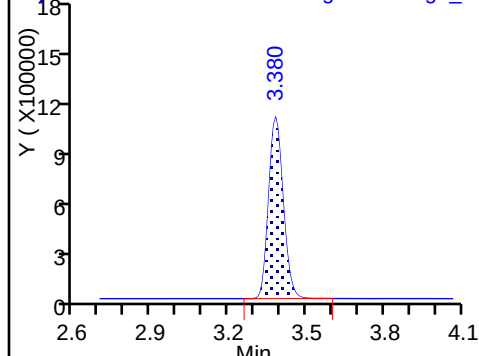


## D 21 13C8 FOSA

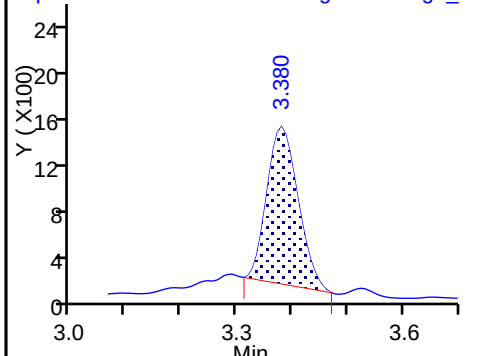
## 22 Perfluorooctane Sulfonamide

## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)

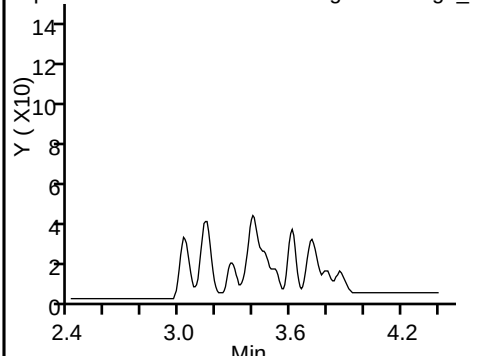
Exp1:m/z 506.00 &gt; 78.00:Moving5PtAverage\_x3



Exp1:m/z 498.00 &gt; 78.00:Moving5PtAverage\_x3



Exp1:m/z 527.00 &gt; 507.00:Moving5PtAverage\_x3

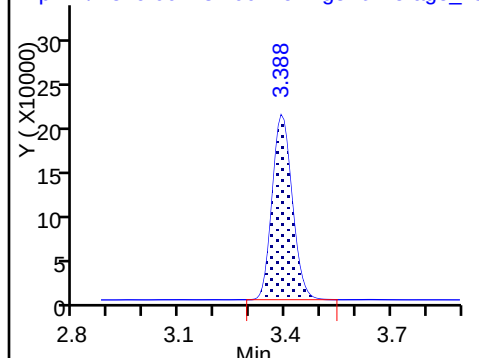


## D 26 M2-8:2FTS

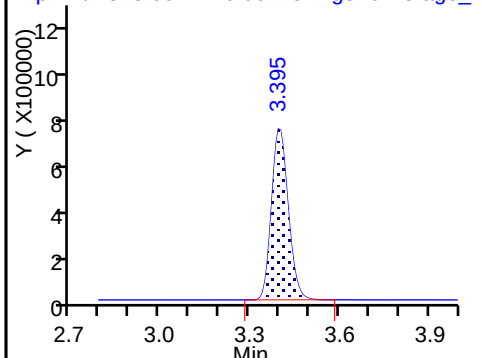
## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

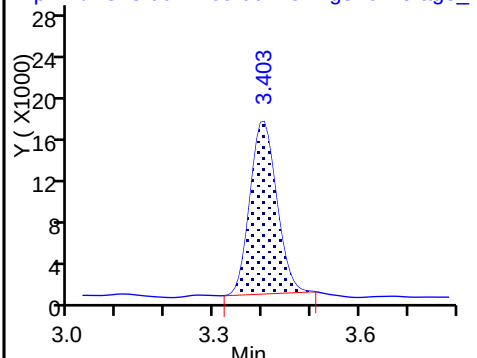
Exp1:m/z 529.00 &gt; 81.00:Moving5PtAverage\_x3



Exp1:m/z 515.00 &gt; 470.00:Moving5PtAverage\_x3



Exp1:m/z 513.00 &gt; 469.00:Moving5PtAverage\_x3

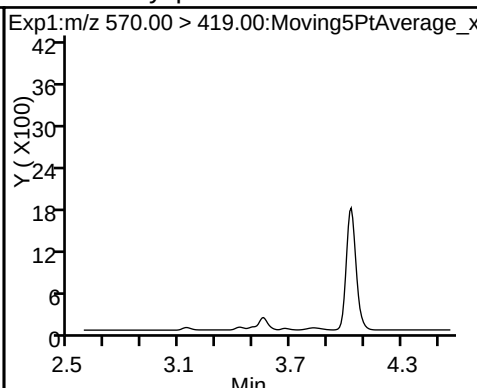
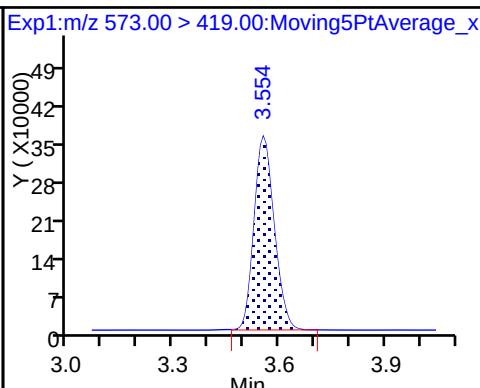
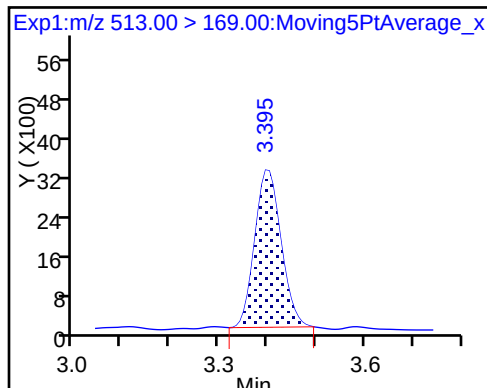




24 Perfluorodecanoic acid

D 27 d3-NMeFOSAA

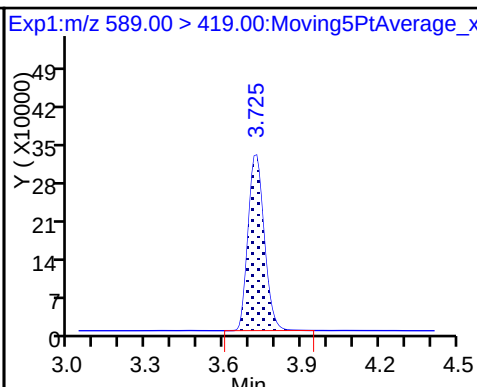
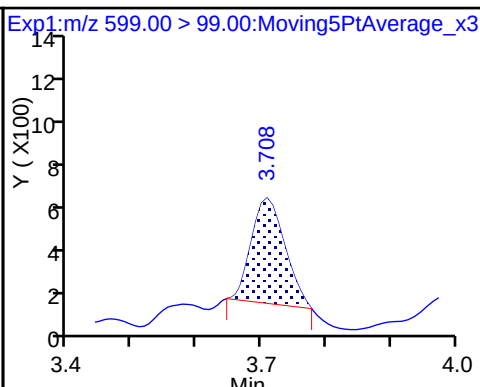
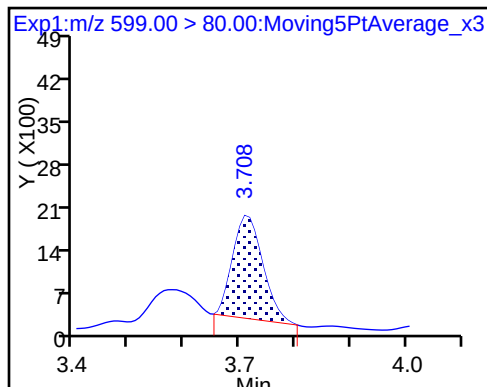
28 N-methyl perfluorooctane sulfonami (ND)



29 Perfluorodecane Sulfonic acid

29 Perfluorodecane Sulfonic acid

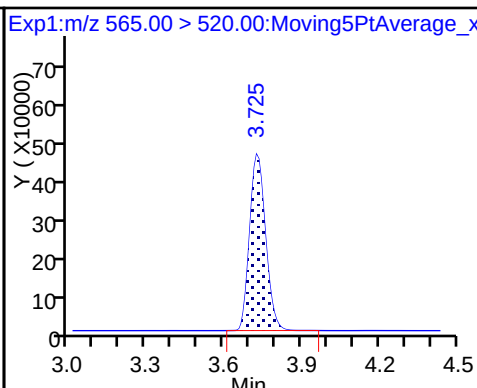
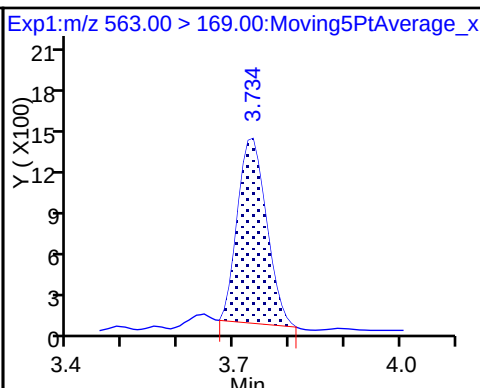
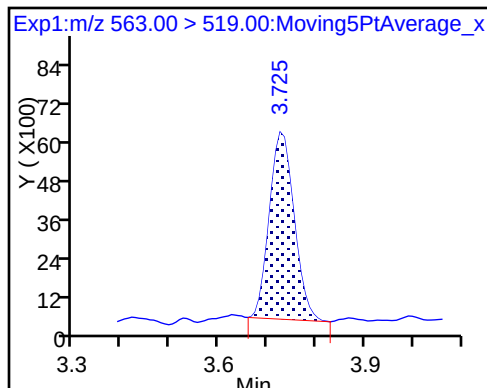
D 32 d5-NEtFOSAA



31 Perfluoroundecanoic acid

31 Perfluoroundecanoic acid

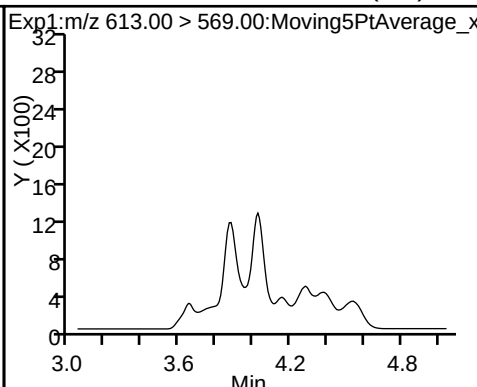
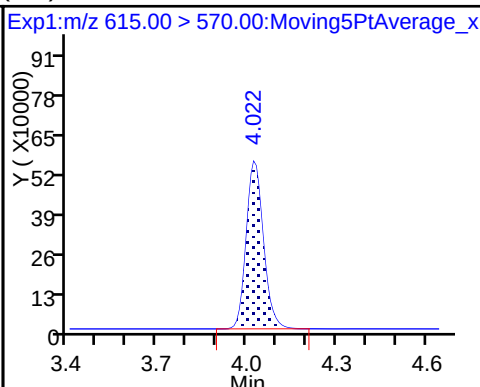
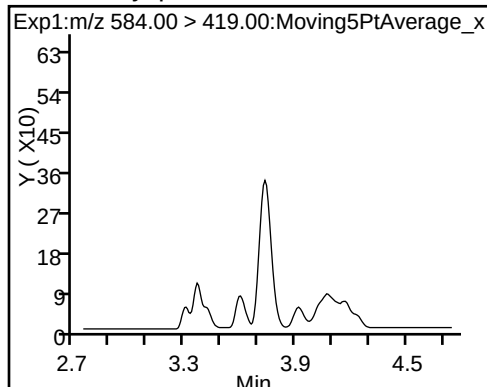
D 30 13C2 PFUnA



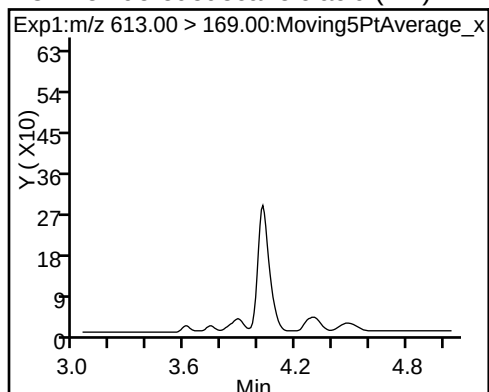
33 N-ethyl perfluorooctane sulfonamid

D 36 13C2 PFDoA

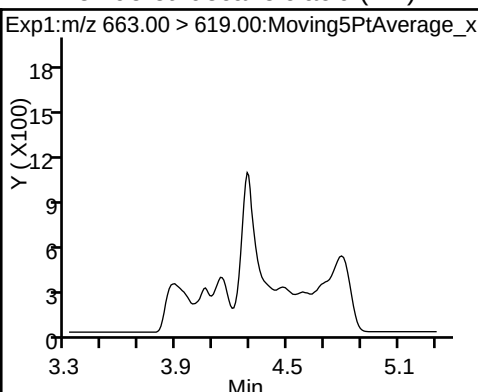
37 Perfluorododecanoic acid (ND)



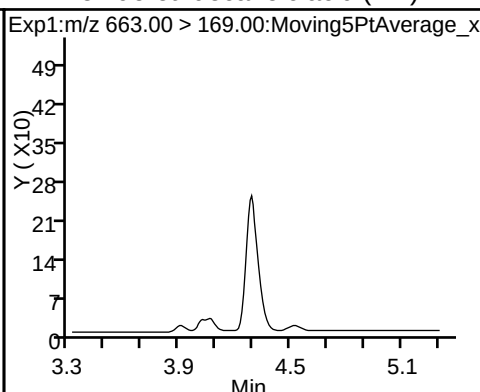
## 37 Perfluorododecanoic acid (ND)



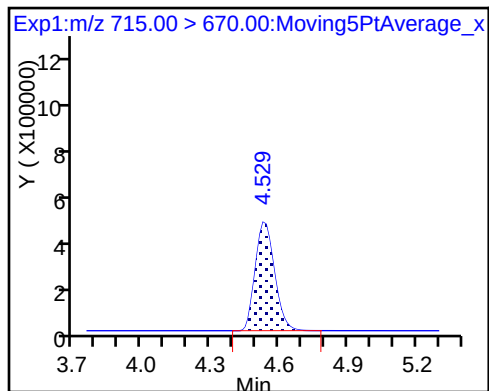
## 41 Perfluorotridecanoic acid (ND)



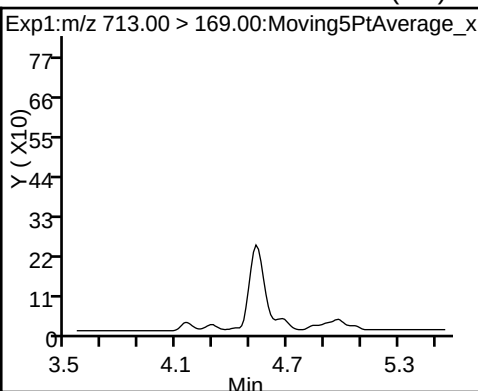
## 41 Perfluorotridecanoic acid (ND)



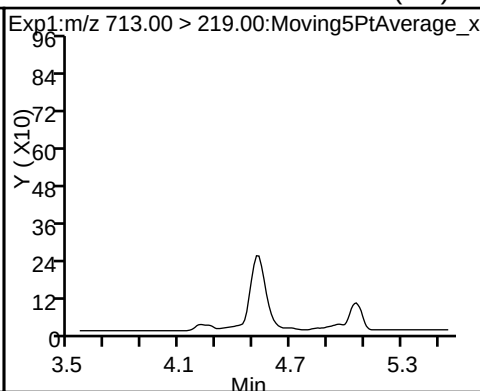
## D 43 13C2-PFTeDA



## 42 Perfluorotetradecanoic acid (ND)



## 42 Perfluorotetradecanoic acid (ND)



## TestAmerica Sacramento

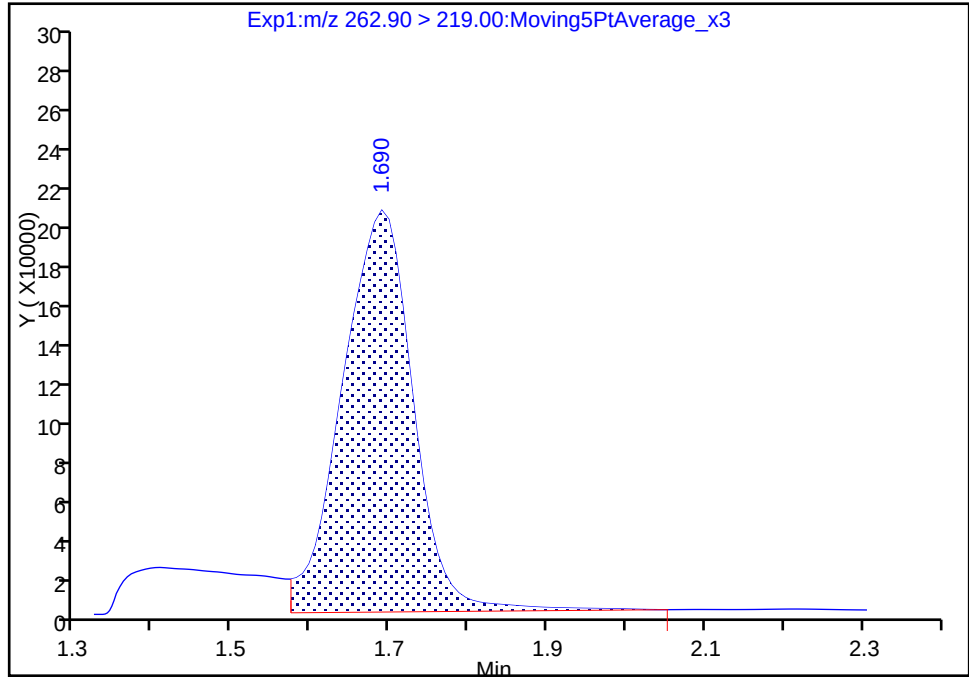
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_016.d  
Injection Date: 29-Dec-2017 09:36:36 Instrument ID: A8\_N  
Lims ID: 320-34293-A-10-A Lab Sample ID: 320-34293-10  
Client ID: MW-9S  
Operator ID: SACINSTLCMS01 ALS Bottle#: 14 Worklist Smp#: 16  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

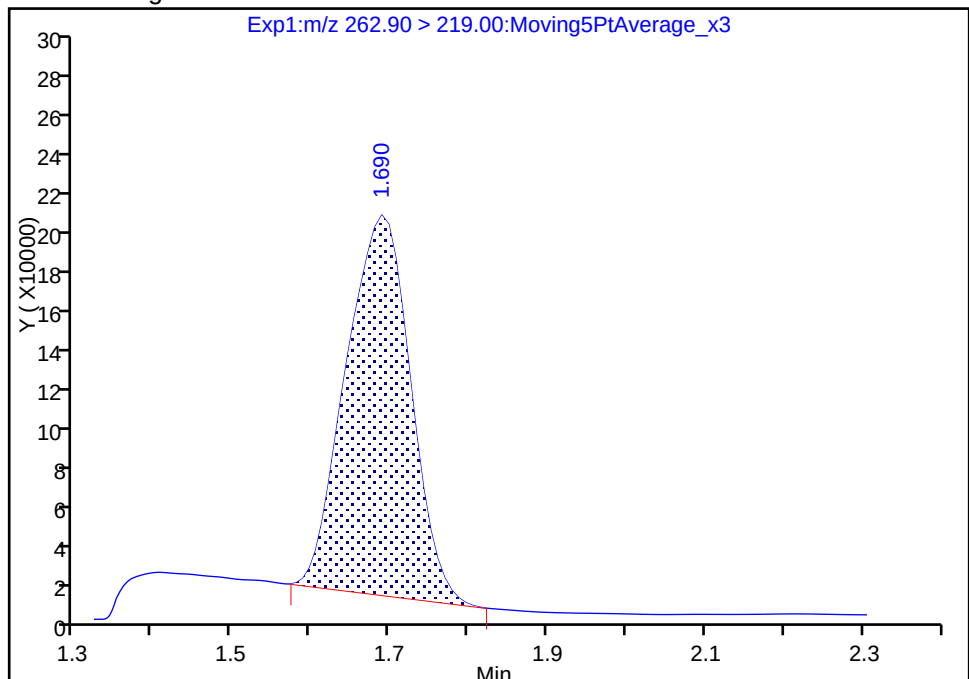
RT: 1.69  
Area: 1271158  
Amount: 0.712065  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.69  
Area: 1097885  
Amount: 0.615002  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:57:13

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

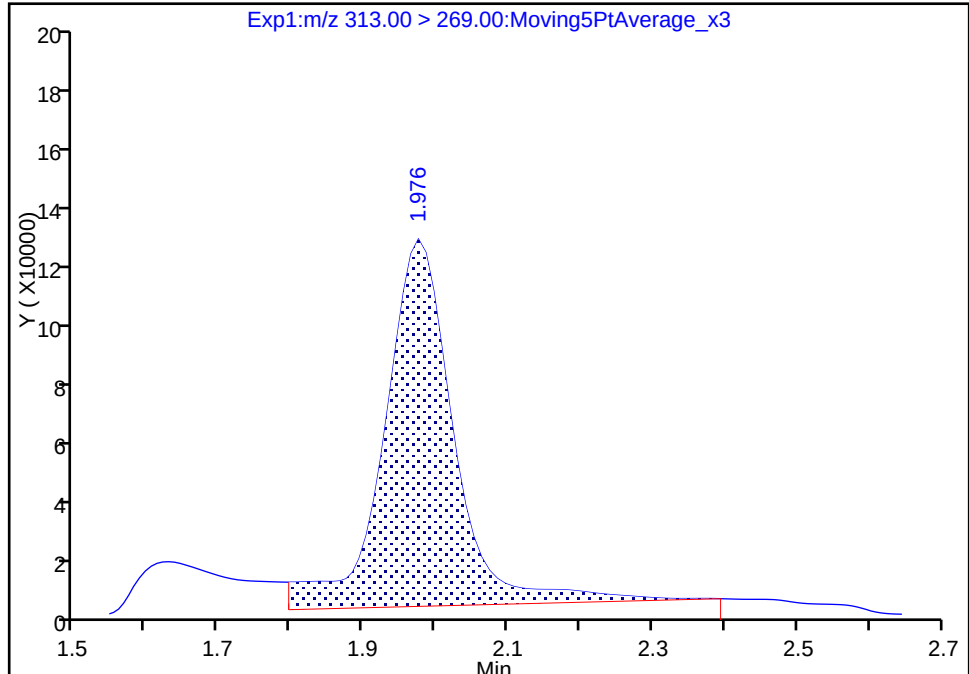
|                 |                                                                          |                |              |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|--------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_016.d |                |              |                |    |
| Injection Date: | 29-Dec-2017 09:36:36                                                     | Instrument ID: | A8_N         |                |    |
| Lims ID:        | 320-34293-A-10-A                                                         | Lab Sample ID: | 320-34293-10 |                |    |
| Client ID:      | MW-9S                                                                    |                |              |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 14           | Worklist Smp#: | 16 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000       |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL  |                |    |
| Column:         |                                                                          | Detector       | EXP1         |                |    |

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 1

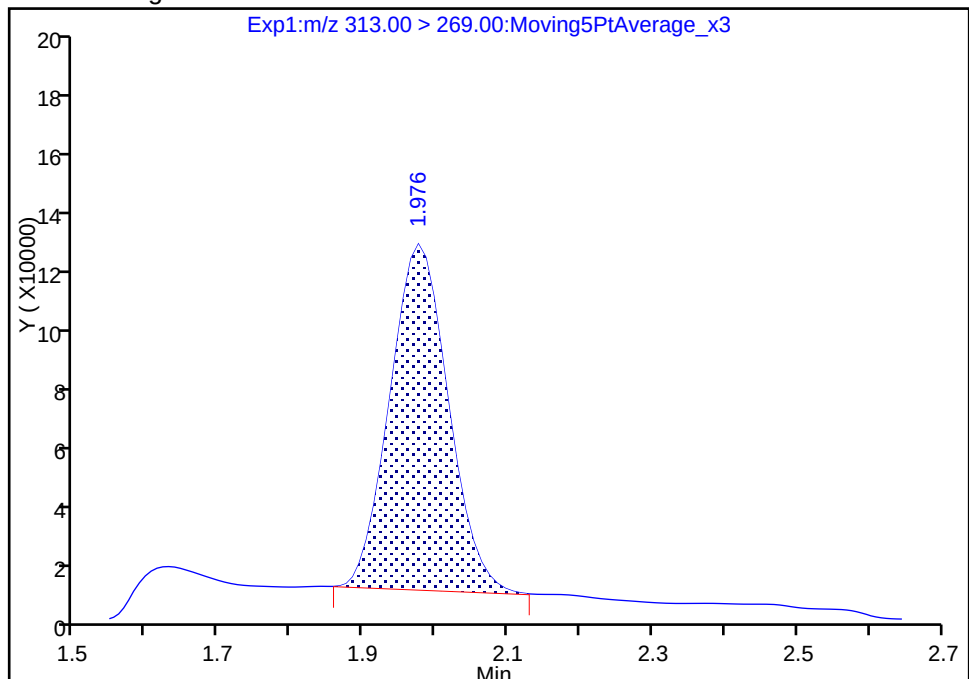
RT: 1.98  
Area: 849540  
Amount: 0.531635  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.98  
Area: 667148  
Amount: 0.417495  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:57:22

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

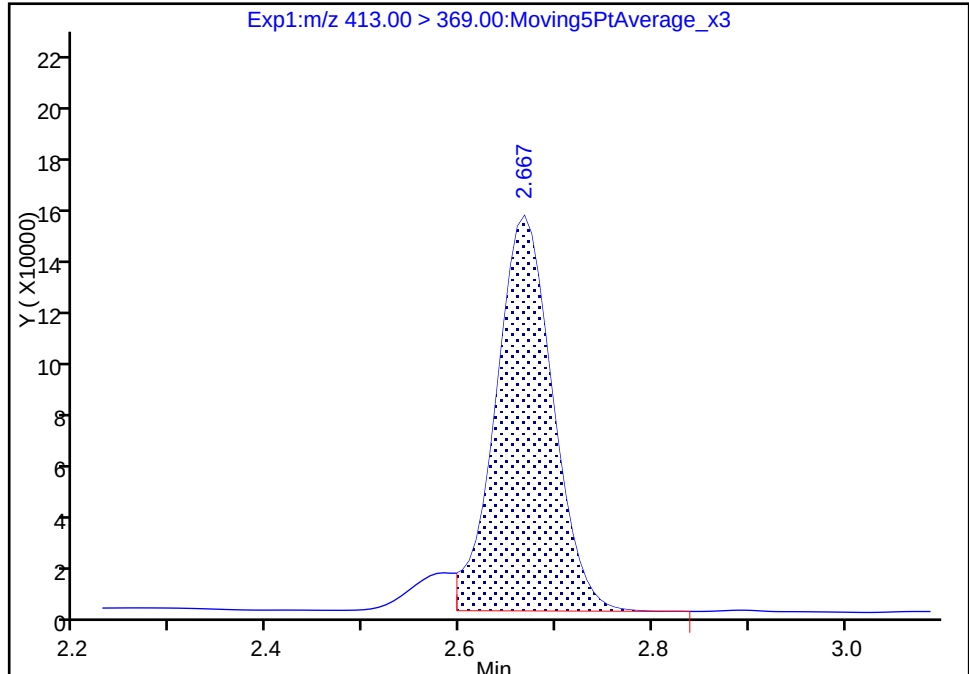
|                 |                                                                          |                |              |                |    |
|-----------------|--------------------------------------------------------------------------|----------------|--------------|----------------|----|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171229-52289.b\2017.12.28LLD_016.d |                |              |                |    |
| Injection Date: | 29-Dec-2017 09:36:36                                                     | Instrument ID: | A8_N         |                |    |
| Lims ID:        | 320-34293-A-10-A                                                         | Lab Sample ID: | 320-34293-10 |                |    |
| Client ID:      | MW-9S                                                                    |                |              |                |    |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 14           | Worklist Smp#: | 16 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000       |                |    |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL  |                |    |
| Column:         |                                                                          | Detector       | EXP1         |                |    |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 1

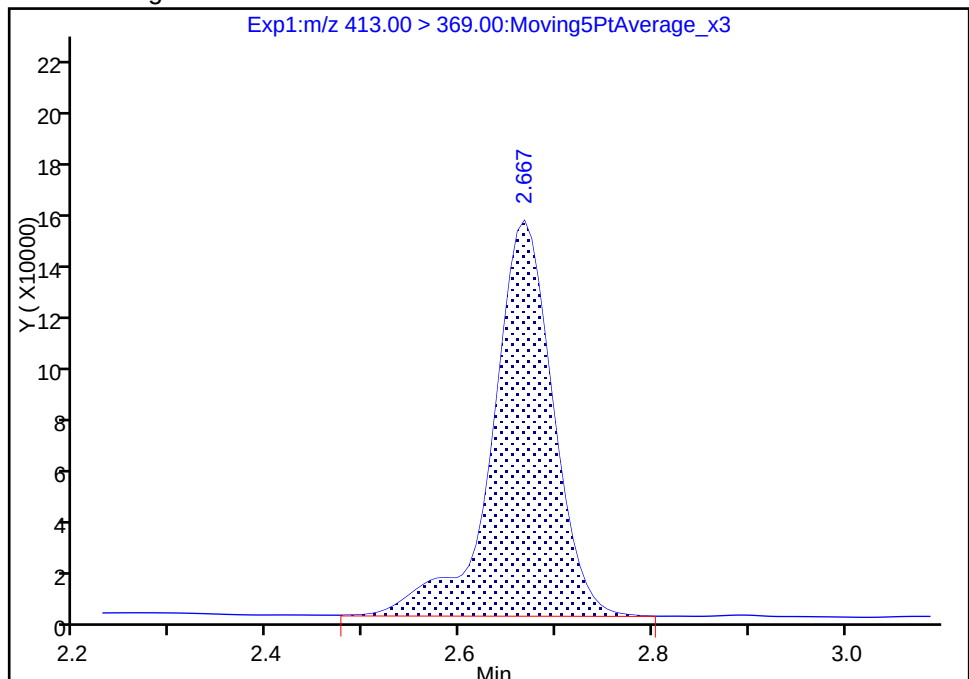
RT: 2.67  
Area: 635626  
Amount: 0.326499  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 686484  
Amount: 0.352623  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:57:52

Audit Action: Manually Integrated

Audit Reason: Isomers

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-X</u>           | Lab Sample ID: <u>320-34293-11</u>           |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.27LLA_052.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 00:00</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>      |
| Sample wt/vol: <u>247.4 (mL)</u>        | Date Analyzed: <u>12/27/2017 19:57</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201601</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q   | RL   | MDL  |
|------------|------------------------------------------------------------|--------|-----|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 7.97   |     | 2.02 | 0.35 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 7.62   |     | 2.02 | 0.50 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 8.12   |     | 2.02 | 0.59 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 6.83   |     | 2.02 | 0.25 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 20.6   |     | 2.02 | 0.86 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 6.13   |     | 2.02 | 0.27 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 0.85   | J   | 2.02 | 0.31 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 1.11   | U   | 2.02 | 1.11 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.56   | U   | 2.02 | 0.56 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.31   | U   | 2.02 | 1.31 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.29   | U   | 2.02 | 0.29 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 3.93   |     | 2.02 | 0.20 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 2.39   | B   | 2.02 | 0.17 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 1.50   | J   | 2.02 | 0.19 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 43.5   |     | 2.02 | 0.55 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.32   | U   | 2.02 | 0.32 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 0.97   | J B | 2.02 | 0.35 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 3.13   | U   | 20.2 | 3.13 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.92   | U   | 20.2 | 1.92 |
| 27619-97-2 | 6:2FTS                                                     | 2.02   | U   | 20.2 | 2.02 |
| 39108-34-4 | 8:2FTS                                                     | 2.02   | U   | 20.2 | 2.02 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-X</u>           | Lab Sample ID: <u>320-34293-11</u>                  |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.27LLA_052.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 00:00</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>             |
| Sample wt/vol: <u>247.4 (mL)</u>        | Date Analyzed: <u>12/27/2017 19:57</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201601</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 78   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 93   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 87   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 92   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 99   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 93   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 96   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 93   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 95   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 114  |   | 25-150 |
| STL02337 | 13C3-PFBS        | 92   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 85   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 87   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 80   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 93   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 96   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 129  |   | 25-150 |
| STL02280 | M2-8:2FTS        | 115  |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\2017.12.27LLA\_052.d  
 Lims ID: 320-34293-A-11-A  
 Client ID: MW-X  
 Sample Type: Client  
 Inject. Date: 27-Dec-2017 19:57:43 ALS Bottle#: 33 Worklist Smp#: 2  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-11-a  
 Misc. Info.: Plate: 1 Rack: 3  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 28-Dec-2017 08:57:42 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK055

First Level Reviewer: hannigana

Date: 28-Dec-2017 08:57:11

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|

## D 1 13C4 PFBA

217.00 &gt; 172.00 1.425 1.433 -0.008 0.535 6630998 1.94 77.8 20514

## 2 Perfluorobutyric acid

212.90 &gt; 169.00 1.425 1.434 -0.009 1.000 477961 0.1973 62.7

## 4 Perfluoropentanoic acid

262.90 &gt; 219.00 1.679 1.691 -0.012 1.000 390850 0.1884 93.5 M

## D 3 13C5-PFPeA

267.90 &gt; 223.00 1.679 1.692 -0.013 0.630 4622886 2.33 93.1 34313

## D 47 13C3-PFBS

301.90 &gt; 83.00 1.714 1.725 -0.011 0.643 92029 2.14 91.9 1530

## 5 Perfluorobutanesulfonic acid

298.90 &gt; 80.00 1.714 1.730 -0.016 1.000 287993 0.0972 157

298.90 &gt; 99.00 1.714 1.730 -0.016 1.000 121867 2.36(1.25-3.74) 187

## D 7 13C2 PFHxA

315.00 &gt; 270.00 1.963 1.976 -0.013 0.737 4621208 2.16 86.5 37882

## 6 Perfluorohexanoic acid

313.00 &gt; 269.00 1.963 1.979 -0.016 1.000 370924 0.2009 214 M

313.00 &gt; 119.00 1.963 1.979 -0.016 1.000 34777 10.67(5.03-15.10) 420

## D 9 13C4-PFHpA

367.00 &gt; 322.00 2.304 2.311 -0.007 0.864 4541515 2.29 91.6 33625

## 10 Perfluoroheptanoic acid

363.00 &gt; 319.00 2.304 2.311 -0.007 1.000 321139 0.1690 276

363.00 &gt; 169.00 2.304 2.311 -0.007 1.000 126646 2.54(1.13-3.40) 978

## 8 Perfluorohexanesulfonic acid

399.00 &gt; 80.00 2.317 2.324 -0.007 1.000 138354 0.0592 124

399.00 &gt; 99.00 2.317 2.324 -0.007 1.000 43808 3.16(1.50-4.49) 115

## D 11 18O2 PFHxS

403.00 &gt; 84.00 2.317 2.328 -0.011 0.869 5056385 2.01 84.9 45684



| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.637 | 2.649  | -0.012 | 0.989  | 1154922  | 3.07         |                 | 129  | 6973  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.637 | 2.651  | -0.014 | 1.000  | 22984    | 0.0282       |                 |      | 855   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.659 | 2.674  | -0.015 | 0.997  | 4986110  | 2.46         |                 | 98.5 | 43420 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.666 | 2.676  | -0.010 |        | 4923702  | 2.50         |                 |      | 40961 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.666 | 2.677  | -0.011 | 1.003  | 1078473  | 0.5108       |                 |      | 612   | M     |
| 413.00 > 169.00                       | 2.666 | 2.677  | -0.011 | 1.003  | 626966   |              | 1.72(0.84-2.52) |      | 3952  | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.709 | 2.683  | 0.026  | 1.000  | 66293    | 0.0372       |                 |      | 113   |       |
| 449.00 > 99.00                        | 2.673 | 2.683  | -0.010 | 0.987  | 12309    |              | 5.39(1.94-5.82) |      | 131   |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.040 | 3.048  | -0.008 | 1.140  | 3471473  | 2.08         |                 | 87.0 | 17986 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.040 | 3.050  | -0.010 | 1.000  | 1676692  | 1.08         |                 |      | 397   | M     |
| 499.00 > 99.00                        | 3.040 | 3.050  | -0.010 | 1.000  | 290806   |              | 5.77(2.31-6.93) |      | 458   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.040 | 3.051  | -0.011 | 1.140  | 3757545  | 2.32         |                 | 92.9 | 32208 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.040 | 3.052  | -0.012 | 1.000  | 222070   | 0.1516       |                 |      | 294   |       |
| 463.00 > 169.00                       | 3.040 | 3.052  | -0.012 | 1.000  | 55627    |              | 3.99(1.90-5.69) |      | 472   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.370 | 3.377  | -0.007 | 1.264  | 4497982  | 1.99         |                 | 79.7 | 27872 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.370 | 3.378  | -0.008 | 1.000  | 40774    | 0.0239       |                 |      | 35.9  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.393 | 3.403  | -0.010 | 1.273  | 1134823  | 2.75         |                 | 115  | 11670 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.400 | 3.414  | -0.014 | 1.275  | 3164960  | 2.41         |                 | 96.3 | 41422 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.400 | 3.414  | -0.014 | 1.000  | 26115    | 0.0209       |                 |      | 103   |       |
| 513.00 > 169.00                       | 3.400 | 3.414  | -0.014 | 1.000  | 4090     |              | 6.39(2.36-7.09) |      | 141   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.559 | 3.569  | -0.010 | 1.335  | 1579466  | 2.32         |                 | 93.0 | 17115 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.559 | 3.574  | -0.015 | 1.000  | 1748     | 0.002613     |                 |      | 17.2  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.721 | 3.740  | -0.019 | 1.396  | 1662252  | 2.40         |                 | 96.0 | 12324 |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.730 | 3.746  | -0.016 | 1.000  | 10265    | 0.0118       |                 |      | 36.7  |       |
| 563.00 > 169.00                       | 3.730 | 3.746  | -0.016 | 1.000  | 1736     |              | 5.91(0.00-0.00) |      | 36.1  |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.730 | 3.747  | -0.017 | 1.399  | 2314801  | 2.33         |                 | 93.1 | 29169 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.739 | 3.747  | -0.008 | 1.005  | 5932     | 0.009243     |                 |      | 49.4  |       |

| Signal           | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits) | %Rec | S/N   | Flags |
|------------------|-------|-----------|-----------|-----------|----------|-----------------|---------------|------|-------|-------|
| D 36 13C2 PFDaA  |       |           |           |           |          |                 |               |      |       |       |
| 615.00 > 570.00  | 4.027 | 4.045     | -0.018    | 1.511     | 2557913  | 2.37            |               | 94.7 | 29589 |       |
| D 43 13C2-PFTeDA |       |           |           |           |          |                 |               |      |       |       |
| 715.00 > 670.00  | 4.540 | 4.557     | -0.017    | 1.703     | 3336197  | 2.84            |               | 114  | 24954 |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\2017.12.27LLA\_052.d

Injection Date: 27-Dec-2017 19:57:43

Instrument ID: A8\_N

Lims ID: 320-34293-A-11-A

Lab Sample ID: 320-34293-11

Client ID: MW-X

Operator ID: SACINSTLCMS01

ALS Bottle#: 33

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

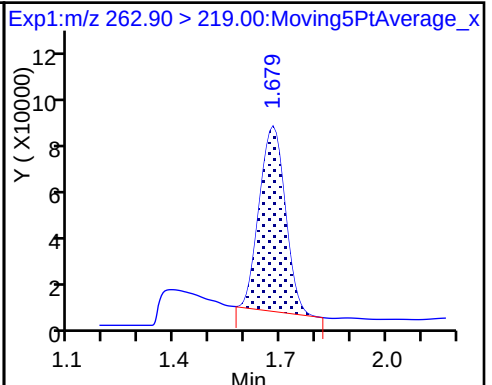
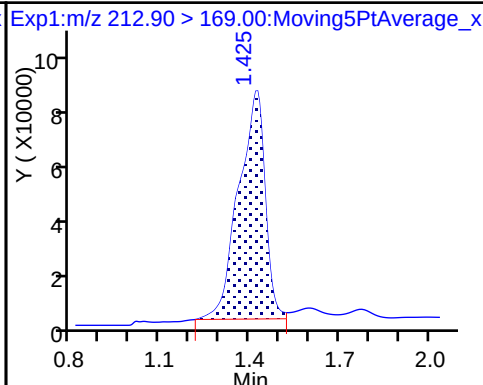
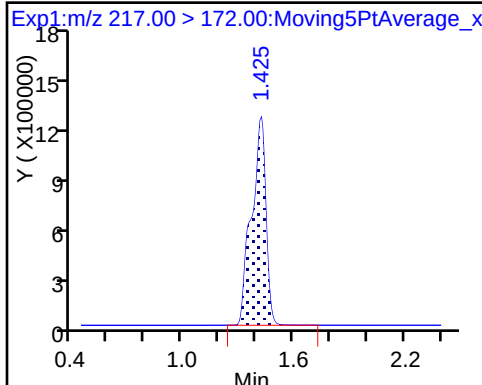
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

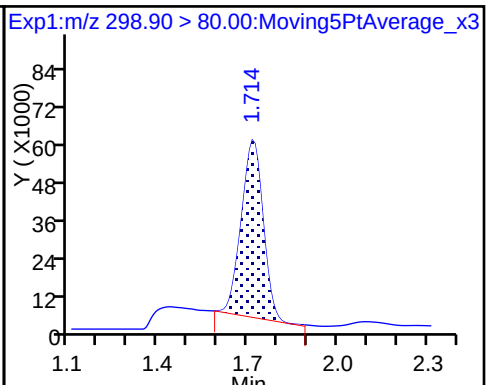
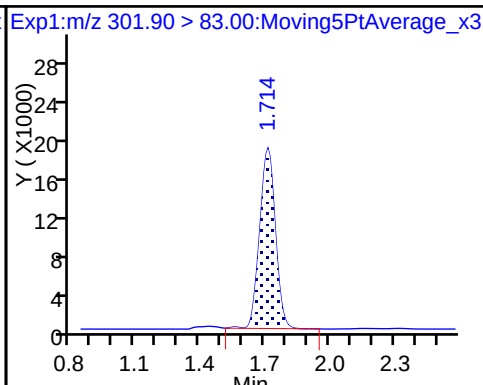
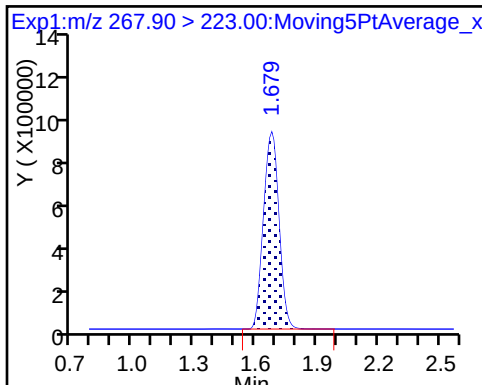
4 Perfluoropentanoic acid (M)



D 3 13C5-PFPeA

D 47 13C3-PFBS

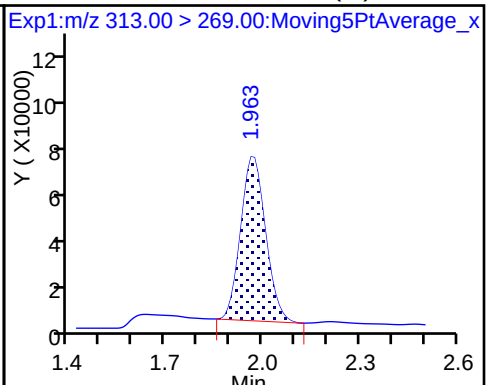
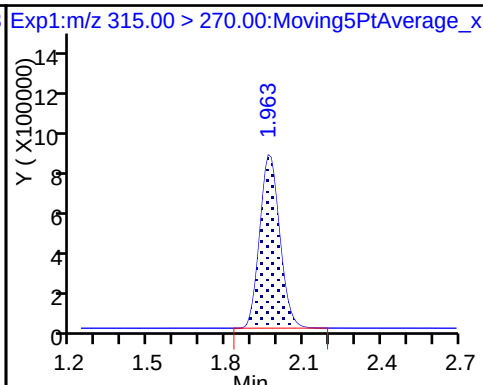
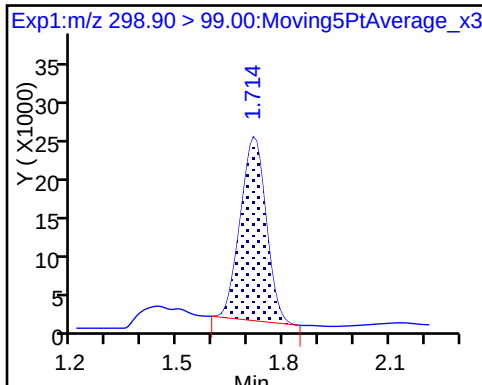
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

D 7 13C2 PFHxA

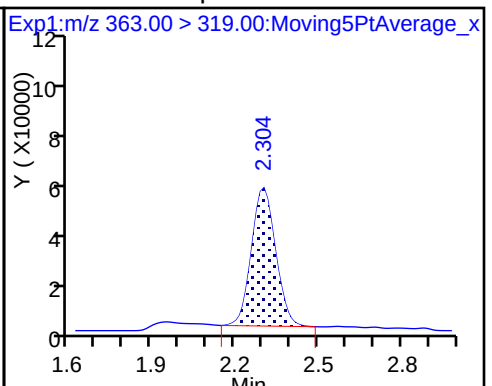
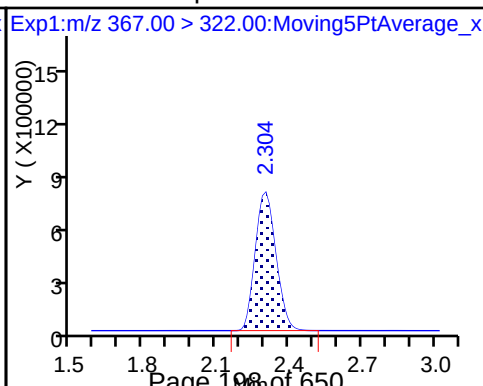
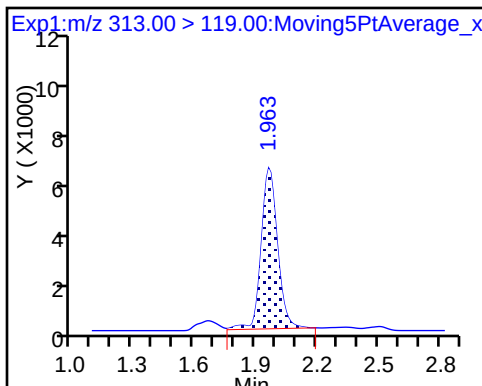
6 Perfluorohexanoic acid (M)

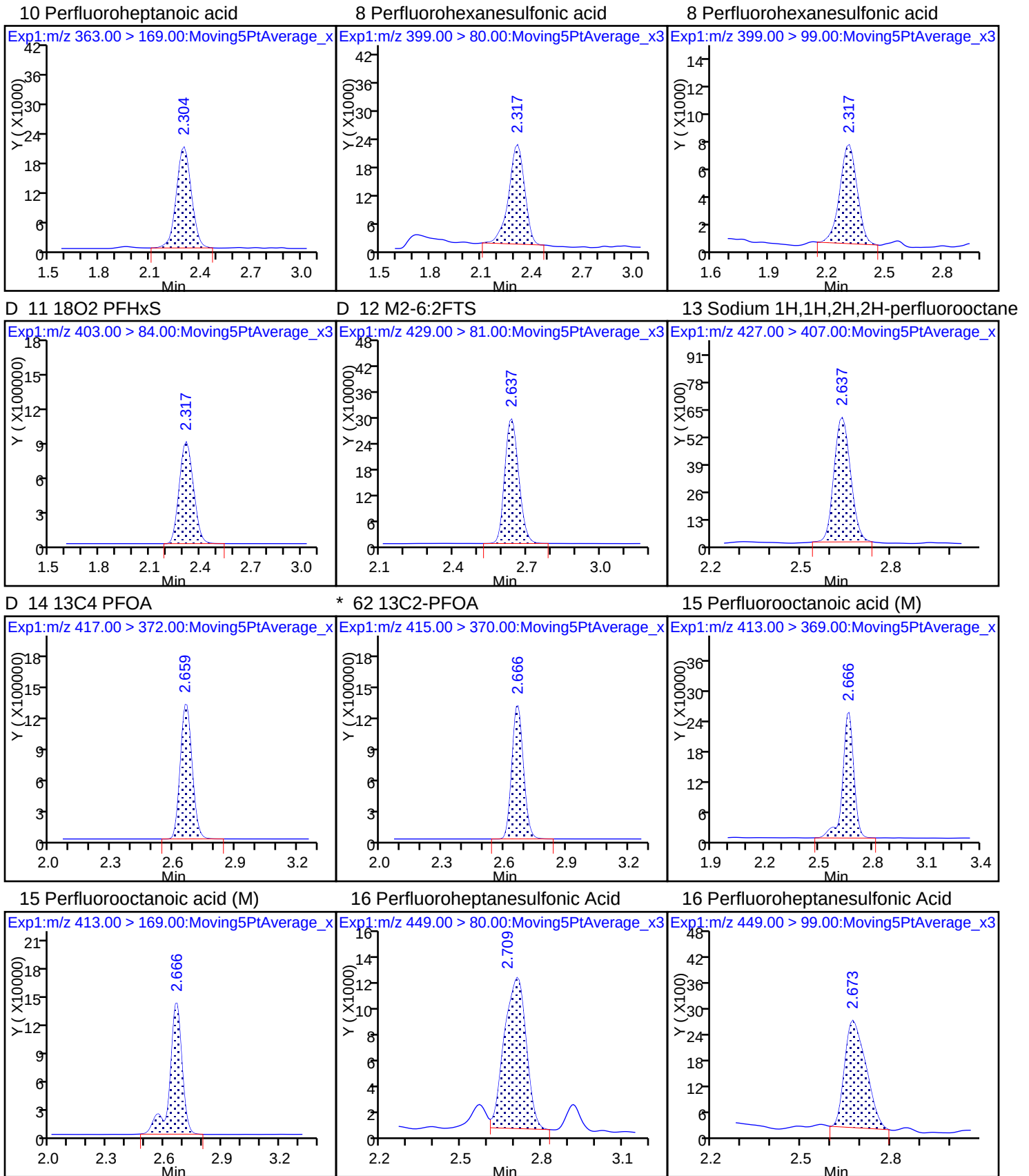


6 Perfluorohexanoic acid

D 9 13C4-PFHpA

10 Perfluoroheptanoic acid



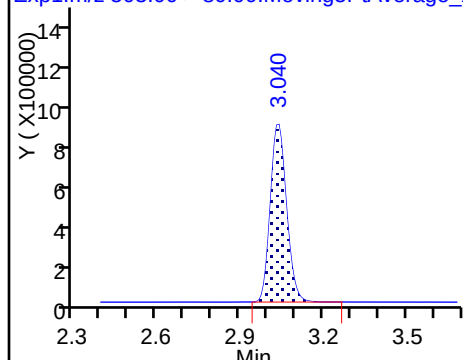


## D 18 13C4 PFOS

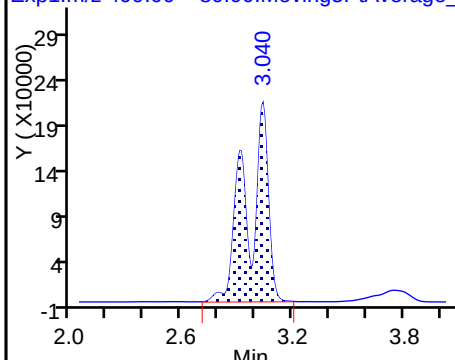
## 17 Perfluorooctane sulfonic acid (M)

## 17 Perfluorooctane sulfonic acid

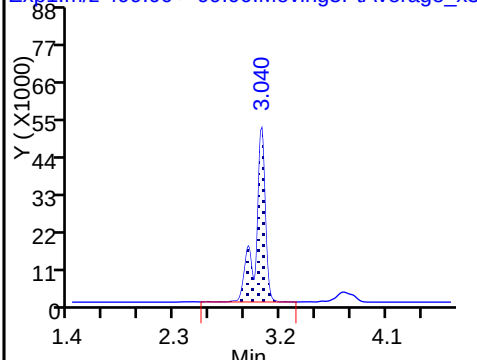
Exp1:m/z 503.00 &gt; 80.00:Moving5PtAverage\_x3



Exp1:m/z 499.00 &gt; 80.00:Moving5PtAverage\_x3



Exp1:m/z 499.00 &gt; 99.00:Moving5PtAverage\_x3

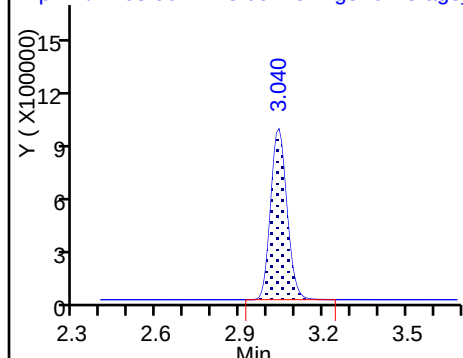


## D 19 13C5 PFNA

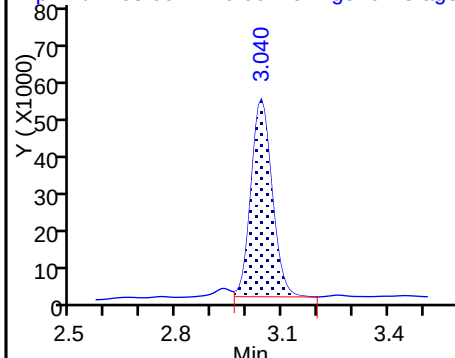
## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

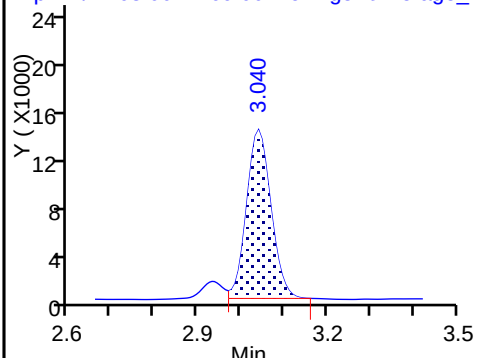
Exp1:m/z 468.00 &gt; 423.00:Moving5PtAverage\_x3



Exp1:m/z 463.00 &gt; 419.00:Moving5PtAverage\_x3



Exp1:m/z 463.00 &gt; 169.00:Moving5PtAverage\_x3

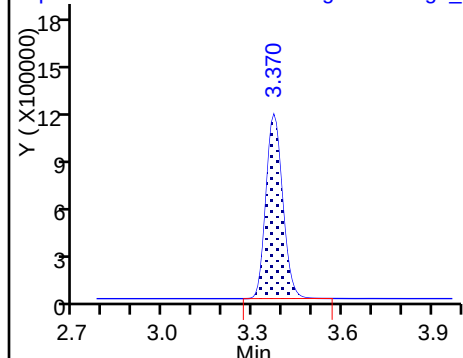


## D 21 13C8 FOSA

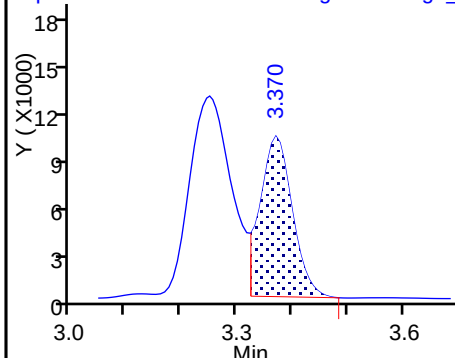
## 22 Perfluorooctane Sulfonamide

## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)

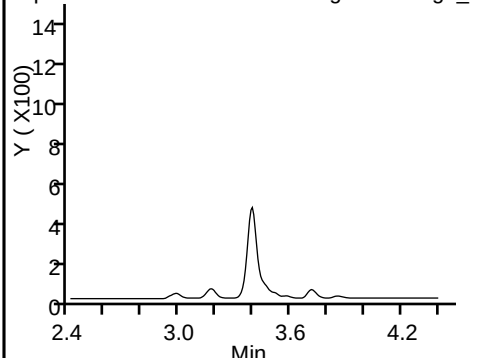
Exp1:m/z 506.00 &gt; 78.00:Moving5PtAverage\_x3



Exp1:m/z 498.00 &gt; 78.00:Moving5PtAverage\_x3



Exp1:m/z 527.00 &gt; 507.00:Moving5PtAverage\_x3

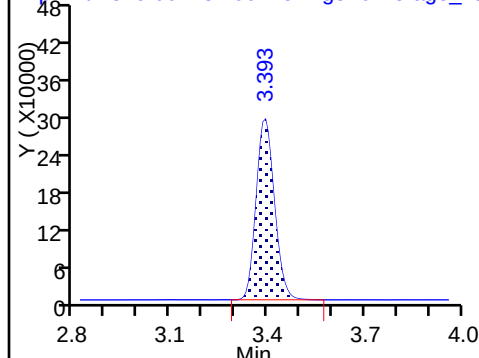


## D 26 M2-8:2FTS

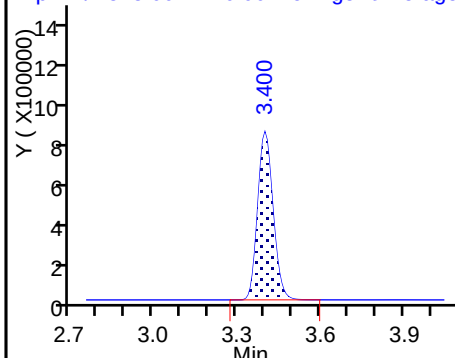
## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

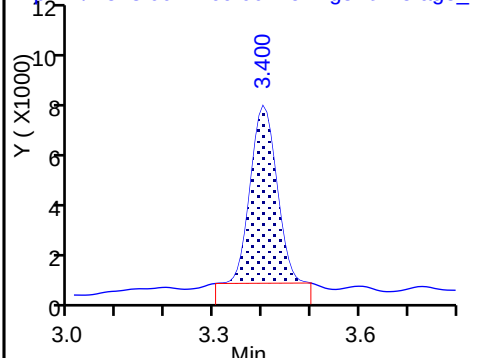
Exp1:m/z 529.00 &gt; 81.00:Moving5PtAverage\_x3

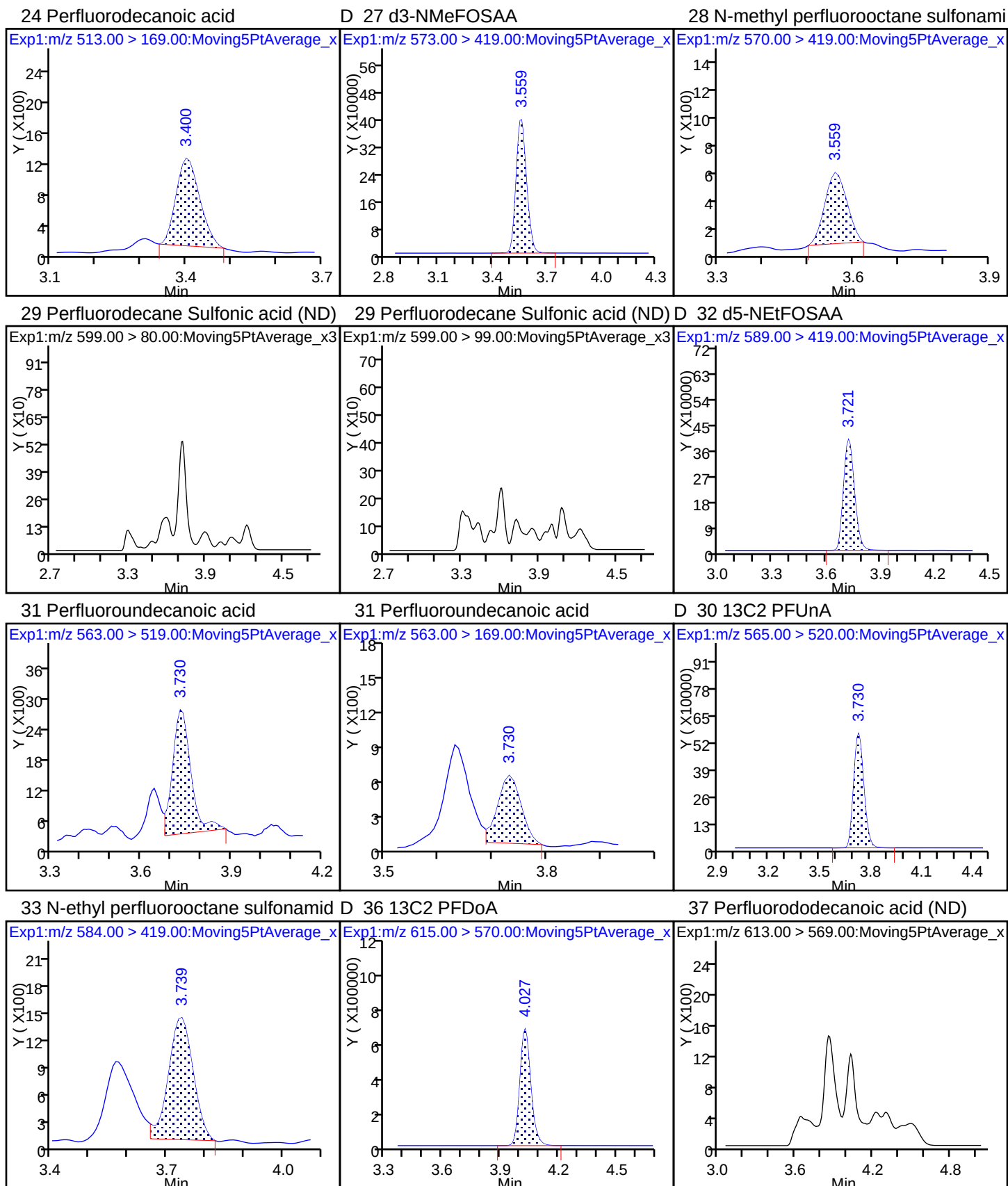


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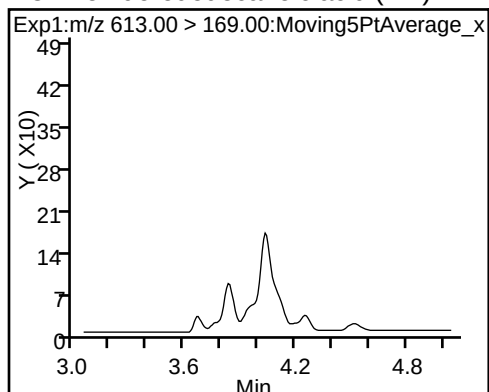


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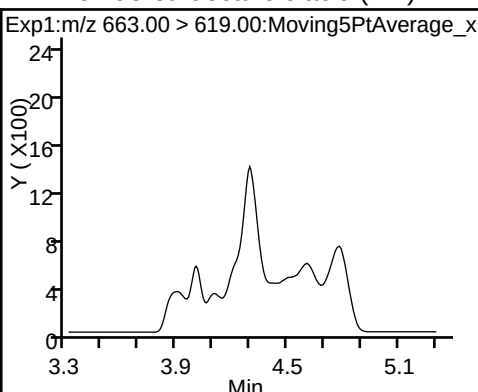




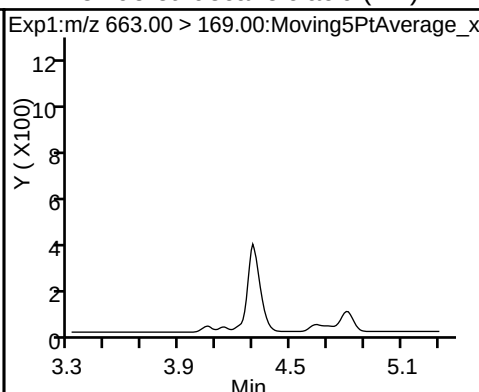
37 Perfluorododecanoic acid (ND)



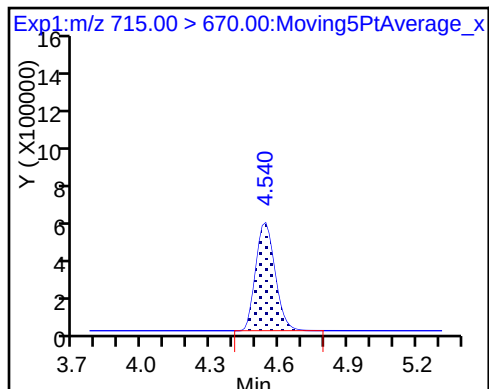
41 Perfluorotridecanoic acid (ND)



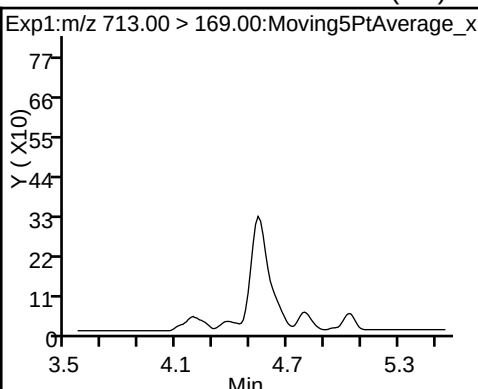
41 Perfluorotridecanoic acid (ND)



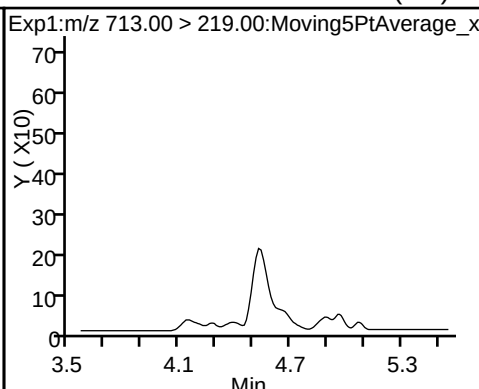
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND)



## TestAmerica Sacramento

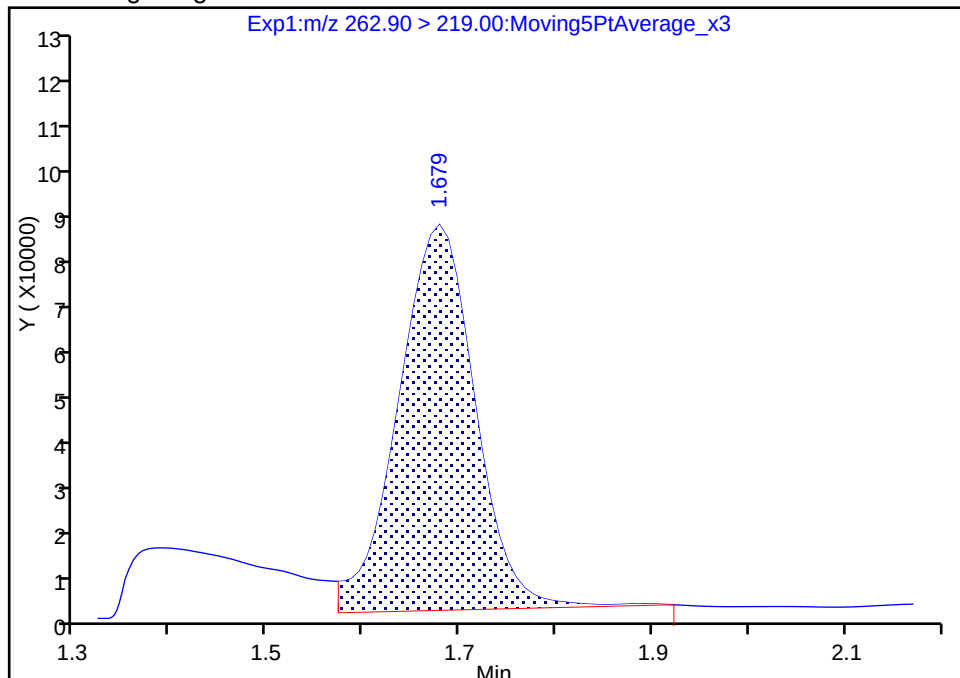
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\2017.12.27LLA\_052.d  
Injection Date: 27-Dec-2017 19:57:43 Instrument ID: A8\_N  
Lims ID: 320-34293-A-11-A Lab Sample ID: 320-34293-11  
Client ID: MW-X  
Operator ID: SACINSTLCMS01 ALS Bottle#: 33 Worklist Smp#: 2  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

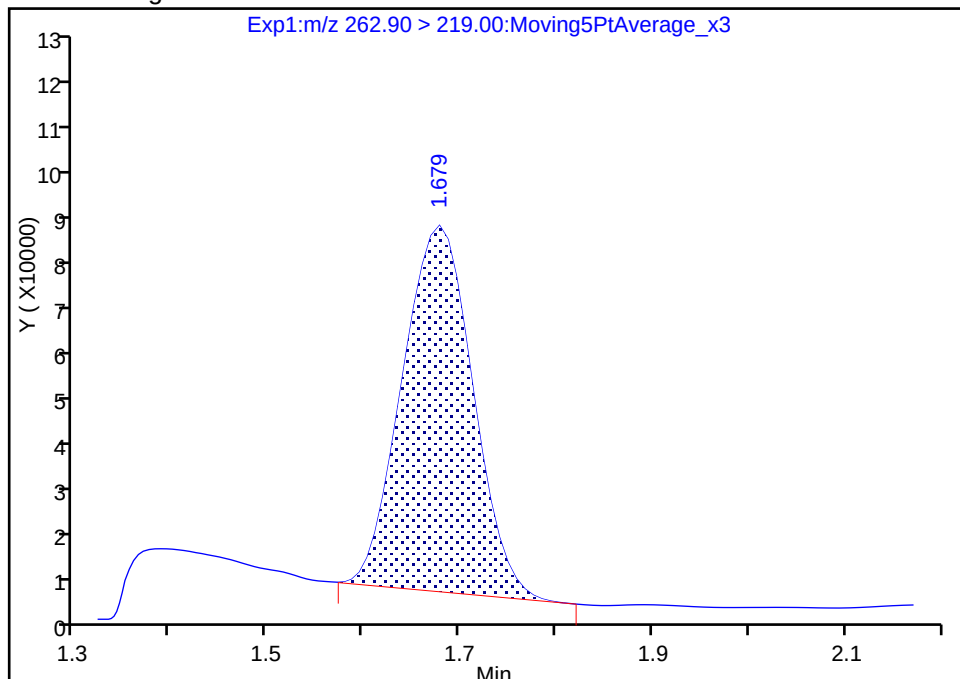
RT: 1.68  
Area: 447217  
Amount: 0.215605  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.68  
Area: 390850  
Amount: 0.188430  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 28-Dec-2017 08:55:47

Audit Action: Manually Integrated

Audit Reason: Baseline



## TestAmerica Sacramento

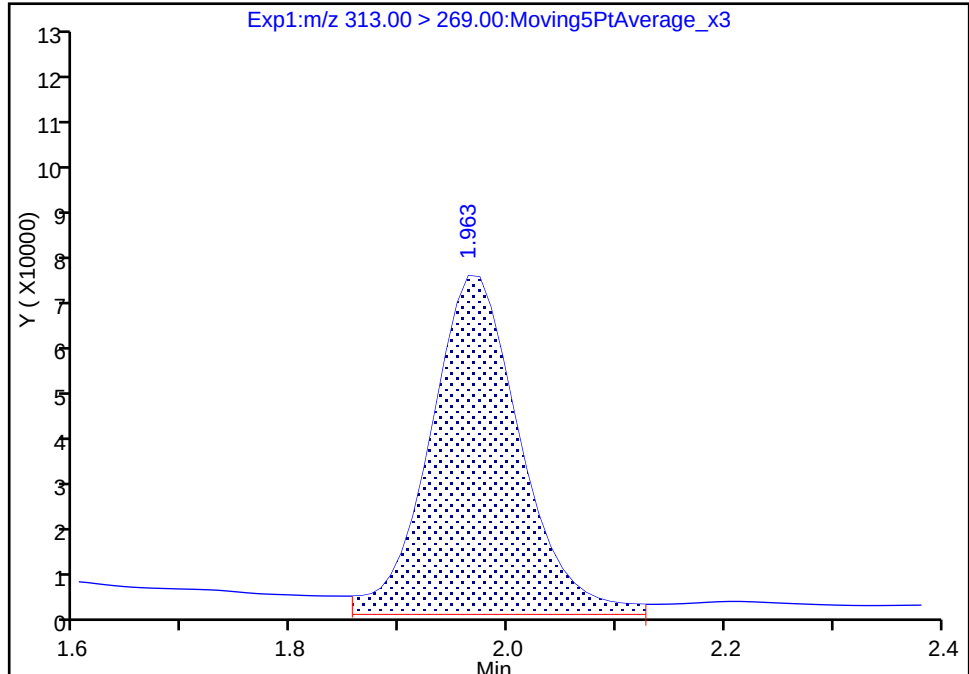
|                 |                                                                          |                |              |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|--------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171228-52207.b\2017.12.27LLA_052.d |                |              |                |   |
| Injection Date: | 27-Dec-2017 19:57:43                                                     | Instrument ID: | A8_N         |                |   |
| Lims ID:        | 320-34293-A-11-A                                                         | Lab Sample ID: | 320-34293-11 |                |   |
| Client ID:      | MW-X                                                                     |                |              |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 33           | Worklist Smp#: | 2 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000       |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL  |                |   |
| Column:         |                                                                          | Detector       | EXP1         |                |   |

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 1

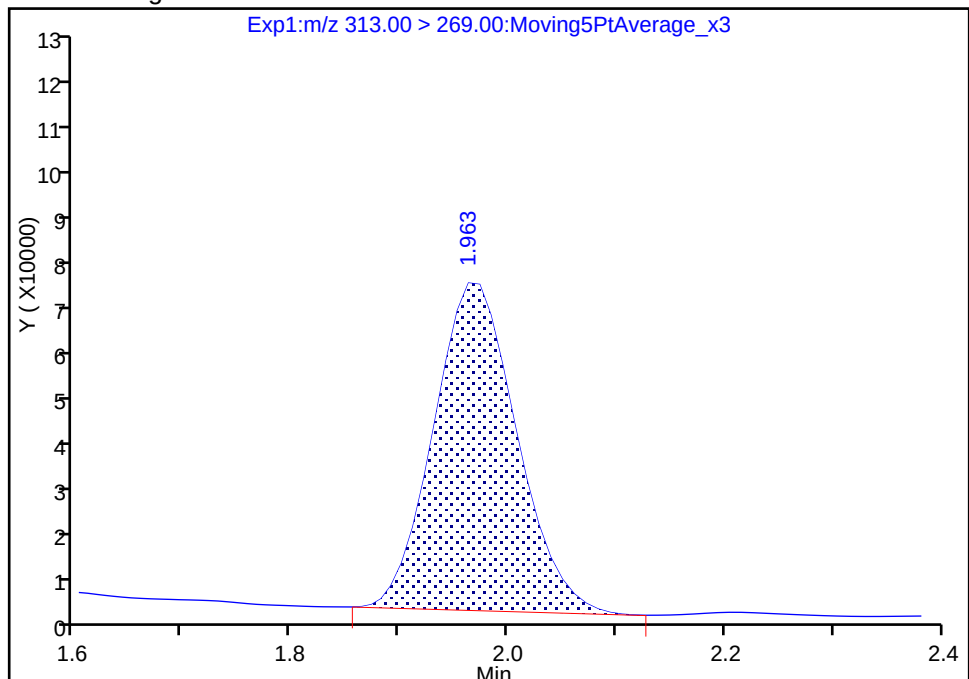
RT: 1.96  
Area: 419511  
Amount: 0.227254  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.96  
Area: 370924  
Amount: 0.200934  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 28-Dec-2017 08:56:10

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

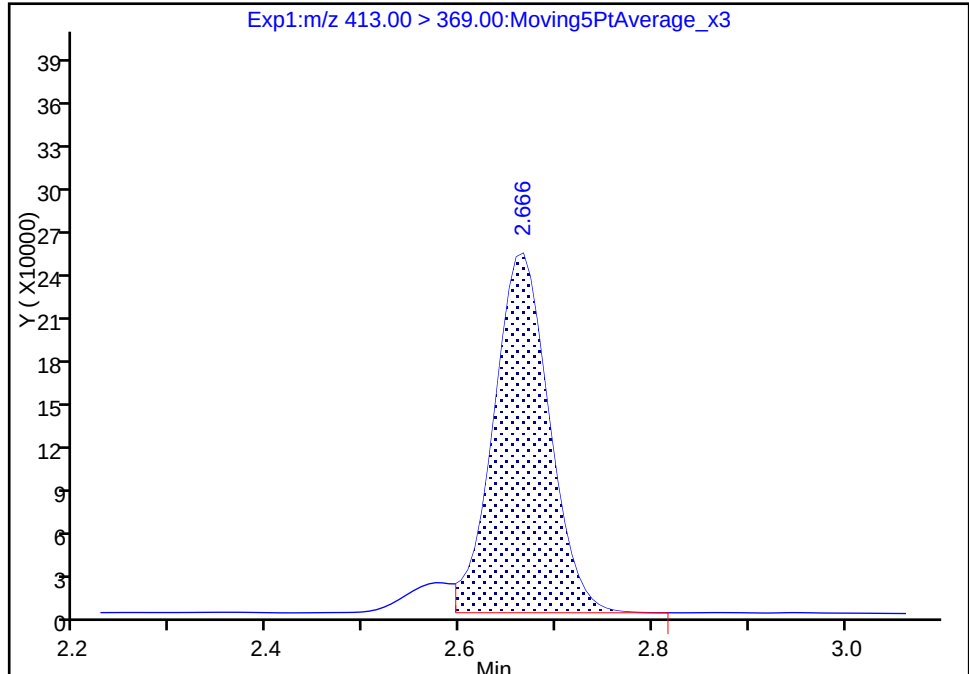
|                 |                                                                          |                |              |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|--------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171228-52207.b\2017.12.27LLA_052.d |                |              |                |   |
| Injection Date: | 27-Dec-2017 19:57:43                                                     | Instrument ID: | A8_N         |                |   |
| Lims ID:        | 320-34293-A-11-A                                                         | Lab Sample ID: | 320-34293-11 |                |   |
| Client ID:      | MW-X                                                                     |                |              |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 33           | Worklist Smp#: | 2 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000       |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL  |                |   |
| Column:         |                                                                          | Detector       | EXP1         |                |   |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 1

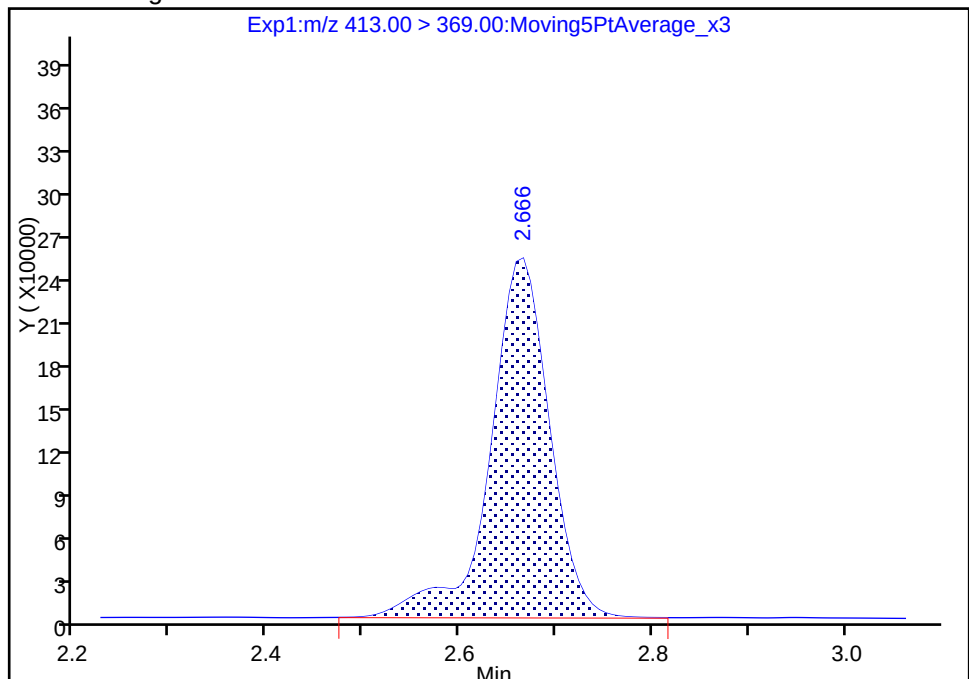
RT: 2.67  
Area: 1003006  
Amount: 0.475063  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 1078473  
Amount: 0.510807  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 28-Dec-2017 08:56:25  
Audit Action: Manually Integrated

Audit Reason: Isomers  
Page 205 of 650

## TestAmerica Sacramento

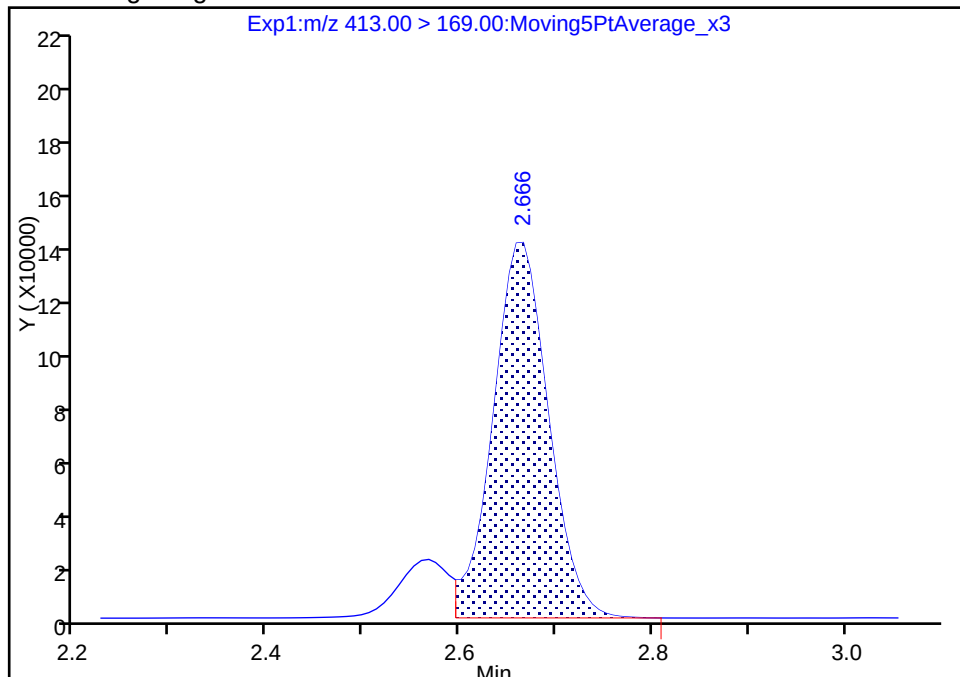
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|-----------------|--------------------------------------------------------------------------|----------------|--------------|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171228-52207.b\2017.12.27LLA_052.d |                |              |
| Injection Date: | 27-Dec-2017 19:57:43                                                     | Instrument ID: | A8_N         |
| Lims ID:        | 320-34293-A-11-A                                                         | Lab Sample ID: | 320-34293-11 |
| Client ID:      | MW-X                                                                     |                |              |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 33           |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000       |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL  |
| Column:         |                                                                          | Detector       | EXP1         |
|                 |                                                                          | Worklist Smp#: | 2            |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

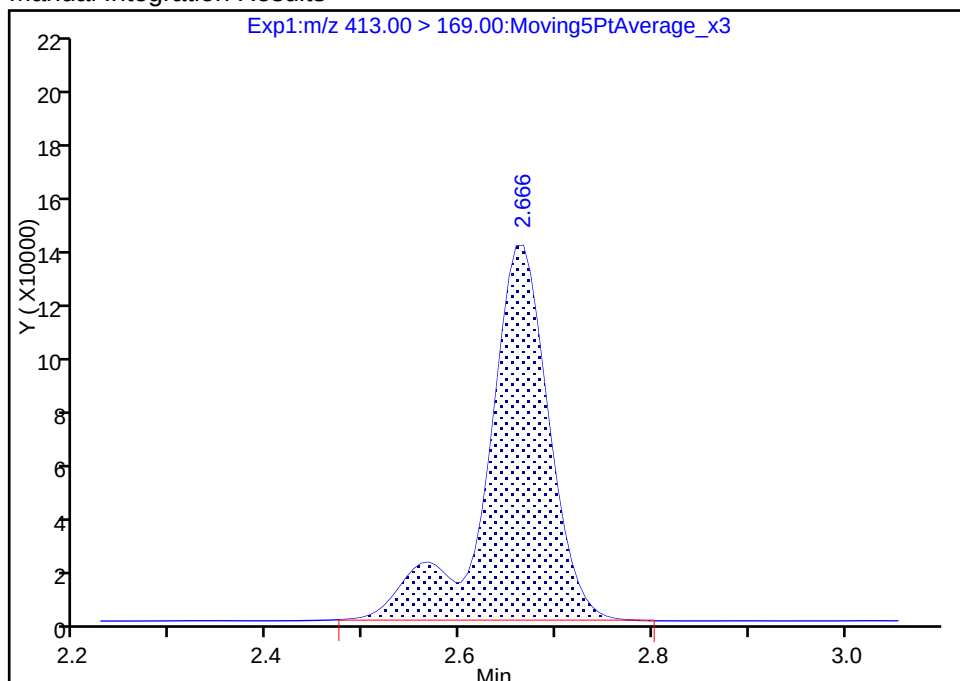
RT: 2.67  
Area: 554693  
Amount: 0.475063  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 626966  
Amount: 0.510807  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 28-Dec-2017 08:56:29

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

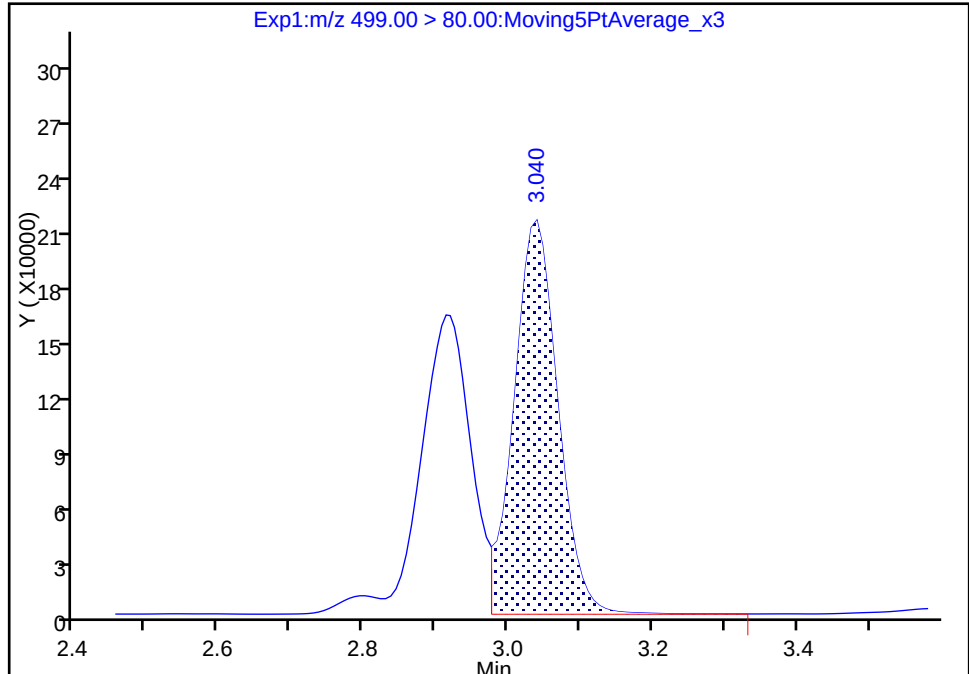
|                 |                                                                          |                |              |                |   |
|-----------------|--------------------------------------------------------------------------|----------------|--------------|----------------|---|
| Data File:      | \\ChromNa\Sacramento\ChromData\A8_N\20171228-52207.b\2017.12.27LLA_052.d |                |              |                |   |
| Injection Date: | 27-Dec-2017 19:57:43                                                     | Instrument ID: | A8_N         |                |   |
| Lims ID:        | 320-34293-A-11-A                                                         | Lab Sample ID: | 320-34293-11 |                |   |
| Client ID:      | MW-X                                                                     |                |              |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 33           | Worklist Smp#: | 2 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000       |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL  |                |   |
| Column:         |                                                                          | Detector       | EXP1         |                |   |

**17 Perfluorooctane sulfonic acid, CAS: 1763-23-1**

Signal: 1

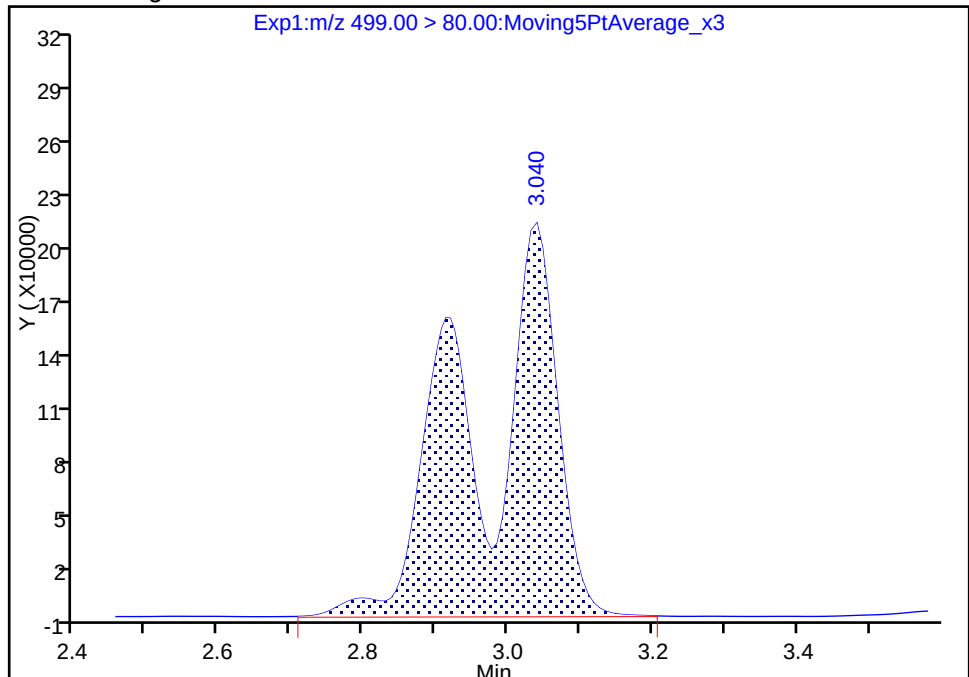
RT: 3.04  
Area: 890735  
Amount: 0.571424  
Amount Units: ng/ml

## Processing Integration Results



RT: 3.04  
Area: 1676692  
Amount: 1.075631  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 28-Dec-2017 08:56:39

Audit Action: Manually Integrated

Audit Reason: Isomers

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201053

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

Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID:          |
|---------|------------------|-----------------------|
| Level 1 | IC 320-201053/2  | 2017.12.21ICALX_002.d |
| Level 2 | IC 320-201053/3  | 2017.12.21ICALX_003.d |
| Level 3 | IC 320-201053/4  | 2017.12.21ICALX_004.d |
| Level 4 | IC 320-201053/5  | 2017.12.21ICALX_005.d |
| Level 5 | IC 320-201053/10 | 2017.12.21ICALX_010.d |
| Level 6 | IC 320-201053/6  | 2017.12.21ICALX_006.d |
| Level 7 | IC 320-201053/7  | 2017.12.21ICALX_007.d |
| Level 8 | IC 320-201053/8  | 2017.12.21ICALX_008.d |
| Level 9 | IC 320-201053/9  | 2017.12.21ICALX_009.d |

| ANALYTE                               | RRF              |                  |                  |                  |       | CURVE TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|---------------------------------------|------------------|------------------|------------------|------------------|-------|------------|-------------|--------|----|---|---------|------|---|----------|------------|---|----------------|
|                                       | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4<br>LVL 9   | LVL 5 |            | B           | M1     | M2 |   |         |      |   |          |            |   |                |
| Perfluorobutanoic acid (PFBA)         | 0.9003<br>0.9467 | 0.9368<br>0.9340 | 0.9437<br>0.9131 | 0.9353<br>0.8203 |       | AveID      |             | 0.9163 |    |   |         | 4.6  |   | 35.0     |            |   |                |
| Perfluoropentanoic acid (PFPeA)       | 1.2025<br>1.1603 | 1.1422<br>1.1115 | 1.1255<br>1.0864 | 1.1013<br>1.0002 |       | AveID      |             | 1.1162 |    |   |         | 5.3  |   | 35.0     |            |   |                |
| Perfluorobutanesulfonic acid (PFBS)   | 73.943<br>78.032 | 84.038<br>74.052 | 76.255<br>74.268 | 78.685<br>62.503 |       | AveID      |             | 75.222 |    |   |         | 8.2  |   | 50.0     |            |   |                |
| 4:2 FTS                               | 0.7014<br>0.7380 | 0.8198<br>0.9102 | 0.7745<br>1.0048 | 0.8058<br>+++++  |       | AveID      |             | 0.8220 |    |   |         | 12.7 |   | 50.0     |            |   |                |
| Perfluorohexanoic acid (PFHxA)        | 1.0736<br>1.0008 | 1.0442<br>1.0007 | 0.9660<br>0.9779 | 0.9988<br>0.9475 |       | AveID      |             | 1.0012 |    |   |         | 4.1  |   | 35.0     |            |   |                |
| Perfluoroheptanoic acid (PFHpA)       | 1.1965<br>1.0422 | 1.0338<br>1.0219 | 1.0205<br>1.0138 | 1.0747<br>0.9654 |       | AveID      |             | 1.0461 |    |   |         | 6.5  |   | 35.0     |            |   |                |
| Perfluorohexanesulfonic acid (PFHxS)  | 1.2485<br>0.9910 | 1.1645<br>1.0861 | 1.0325<br>1.0520 | 1.0635<br>0.9733 |       | AveID      |             | 1.0764 |    |   |         | 8.5  |   | 35.0     |            |   |                |
| 6:2FTS                                | 1.3999<br>1.5240 | 1.6502<br>1.5625 | 1.5816<br>1.6661 | 1.4652<br>+++++  |       | AveID      |             | 1.5499 |    |   |         | 6.2  |   | 35.0     |            |   |                |
| Perfluorooctanoic acid (PFOA)         | 1.1593<br>1.0298 | 1.1005<br>1.0237 | 1.0761<br>1.0358 | 1.0635<br>0.9242 |       | AveID      |             | 1.0516 |    |   |         | 6.5  |   | 35.0     |            |   |                |
| Perfluoroheptanesulfonic Acid (PFHpS) | 1.2178<br>1.3740 | 1.2977<br>1.3900 | 1.3218<br>1.2844 | 1.4069<br>1.1832 |       | AveID      |             | 1.3095 |    |   |         | 6.1  |   | 50.0     |            |   |                |
| Perfluorooctanesulfonic acid (PFOS)   | 0.9495<br>1.0782 | 1.0557<br>1.0776 | 1.0718<br>1.0736 | 1.1067<br>1.0674 |       | AveID      |             | 1.0601 |    |   |         | 4.4  |   | 35.0     |            |   |                |
| Perfluorononanoic acid (PFNA)         | 1.1716<br>1.0242 | 0.9948<br>1.0109 | 0.9350<br>1.0132 | 0.9850<br>0.9151 |       | AveID      |             | 1.0062 |    |   |         | 7.7  |   | 35.0     |            |   |                |
| Perfluorooctane Sulfonamide (FOSA)    | 0.9748<br>0.9762 | 0.9899<br>0.9971 | 1.0267<br>0.8886 | 1.0169<br>0.8033 |       | AveID      |             | 0.9592 |    |   |         | 7.9  |   | 35.0     |            |   |                |

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201053  
SDG No.: \_\_\_\_\_  
Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N  
Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

| ANALYTE                                                       | RRF              |                  |                  |                  |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|---------------------------------------------------------------|------------------|------------------|------------------|------------------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                                                               | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4<br>LVL 9   | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| 8:2FTS                                                        | 1.2362<br>1.2396 | 1.3038<br>1.1854 | 1.2189<br>1.2091 | 1.1622<br>1.1697 |        | AveID         |             | 1.2156 |    |   |         | 3.8  |   | 35.0        |               |   |                   |
| Perfluorodecanoic acid (PFDA)                                 | 0.9253<br>0.9464 | 0.9562<br>1.0412 | 0.9476<br>1.0104 | 1.0059<br>0.9055 |        | AveID         |             | 0.9673 |    |   |         | 4.8  |   | 35.0        |               |   |                   |
| N-methyl perfluorooctane<br>sulfonamidoacetic acid (NMeFOSAA) | 1.1808<br>1.0781 | 1.0022<br>1.0612 | 1.0721<br>1.0953 | 1.0639<br>1.0348 |        | AveID         |             | 1.0736 |    |   |         | 4.8  |   | 35.0        |               |   |                   |
| Perfluorodecanesulfonic acid (PFDS)                           | 0.5605<br>0.6326 | 0.6633<br>0.6466 | 0.6164<br>0.6053 | 0.6446<br>0.5717 |        | AveID         |             | 0.6176 |    |   |         | 5.9  |   | 50.0        |               |   |                   |
| Perfluoroundecanoic acid (PFUnA)                              | 1.0770<br>0.9173 | 0.8643<br>0.8919 | 0.9060<br>0.9081 | 0.8984<br>0.8651 |        | AveID         |             | 0.9160 |    |   |         | 7.4  |   | 35.0        |               |   |                   |
| N-ethyl perfluorooctane<br>sulfonamidoacetic acid (NEtFOSAA)  | 1.1064<br>0.9180 | 0.9277<br>0.9565 | 1.0752<br>0.9710 | 1.0088<br>0.9851 |        | AveID         |             | 0.9936 |    |   |         | 6.8  |   | 35.0        |               |   |                   |
| Perfluorododecanoic acid (PFDoA)                              | 1.0766<br>0.9594 | 0.9404<br>1.0076 | 1.0077<br>0.9755 | 1.0438<br>0.9291 |        | AveID         |             | 0.9925 |    |   |         | 5.1  |   | 35.0        |               |   |                   |
| Perfluorotridecanoic Acid (PFTriA)                            | 1.1493<br>1.1027 | 1.2560<br>1.1658 | 1.2253<br>1.1435 | 1.1794<br>1.0550 |        | AveID         |             | 1.1596 |    |   |         | 5.5  |   | 50.0        |               |   |                   |
| Perfluorotetradecanoic acid (PFTeA)                           | 0.2651<br>0.2557 | 0.2466<br>0.2480 | 0.2777<br>0.2617 | 0.2302<br>0.2767 |        | AveID         |             | 0.2577 |    |   |         | 6.2  |   | 50.0        |               |   |                   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                        | 1.6463<br>0.9083 | 1.3211<br>0.8731 | 0.9375<br>0.8489 | 0.8936<br>0.7571 |        | L2ID          | 0.0205      | 0.8546 |    |   |         |      |   |             | 0.9960        |   | 0.9900            |
| Perfluoro-n-octadecanoic acid (PFODA)                         | 0.9497<br>1.0637 | 1.1372<br>1.1131 | 1.0660<br>0.9621 | 1.0306<br>0.9127 |        | AveID         |             | 1.0294 |    |   |         | 7.8  |   | 50.0        |               |   |                   |
| 13C4 PFBA                                                     | 1.4965<br>1.4602 | 1.4201<br>1.5593 | 1.4546<br>1.5264 | 1.5376<br>1.7001 |        | Ave           |             | 1.5193 |    |   |         | 5.7  |   | 50.0        |               |   |                   |
| 13C5 PFPeA                                                    | 0.9283<br>0.8707 | 0.8770<br>0.9013 | 0.9113<br>0.8837 | 0.9093<br>0.9948 |        | Ave           |             | 0.9096 |    |   |         | 4.3  |   | 50.0        |               |   |                   |
| 13C3-PFBS                                                     | 0.0193<br>0.0190 | 0.0173<br>0.0207 | 0.0190<br>0.0191 | 0.0191<br>0.0216 |        | Ave           |             | 0.0194 |    |   |         | 6.5  |   | 50.0        |               |   |                   |
| M2-4:2FTS                                                     |                  |                  |                  |                  | 0.1046 | Ave           |             | 0.1046 |    |   |         |      |   | 50.0        |               |   |                   |
| 13C2 PFHxA                                                    | 0.9787<br>0.9554 | 0.9368<br>0.9708 | 0.9603<br>0.9525 | 0.9799<br>1.0329 |        | Ave           |             | 0.9709 |    |   |         | 3.0  |   | 50.0        |               |   |                   |
| 13C4-PFHpA                                                    | 0.9061<br>0.8823 | 0.8553<br>0.9352 | 0.8904<br>0.8854 | 0.9200<br>0.9131 |        | Ave           |             | 0.8985 |    |   |         | 2.8  |   | 50.0        |               |   |                   |
| 18O2 PFHxS                                                    | 1.1486<br>1.1349 | 1.0942<br>1.1193 | 1.1336<br>1.0960 | 1.1581<br>1.1888 |        | Ave           |             | 1.1342 |    |   |         | 2.8  |   | 50.0        |               |   |                   |
| M2-6:2FTS                                                     | 0.4830<br>0.4537 | 0.3943<br>0.3765 | 0.4418<br>0.3330 | 0.4471<br>+++++  |        | Ave           |             | 0.4185 |    |   |         | 12.5 |   | 50.0        |               |   |                   |
| 13C4 PFOA                                                     | 1.0534<br>1.0461 | 1.0254<br>1.0470 | 1.0450<br>0.9719 | 1.0585<br>1.0168 |        | Ave           |             | 1.0330 |    |   |         | 2.7  |   | 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: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201053  
SDG No.: \_\_\_\_\_  
Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N  
Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

| ANALYTE     | RRF              |                  |                  |                  |       | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-------------|------------------|------------------|------------------|------------------|-------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|             | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4<br>LVL 9   | LVL 5 |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| 13C4 PFOS   | 0.7673<br>0.7304 | 0.7140<br>0.7634 | 0.7459<br>0.7353 | 0.7488<br>0.7846 |       | Ave           |             | 0.7487 |    |   |         | 3.0  |   | 50.0        |               |   |                   |
| 13C5 PFNA   | 0.7584<br>0.7167 | 0.7106<br>0.7395 | 0.7301<br>0.7111 | 0.7485<br>0.7562 |       | Ave           |             | 0.7339 |    |   |         | 2.7  |   | 50.0        |               |   |                   |
| 13C8 FOSA   | 1.0547<br>0.9998 | 0.9868<br>1.0250 | 0.9728<br>1.0214 | 1.0052<br>1.0869 |       | Ave           |             | 1.0191 |    |   |         | 3.6  |   | 50.0        |               |   |                   |
| M2-8:2FTS   | 0.2267<br>0.2170 | 0.2261<br>0.2435 | 0.2300<br>0.2292 | 0.2398<br>0.2583 |       | Ave           |             | 0.2338 |    |   |         | 5.5  |   | 50.0        |               |   |                   |
| 13C2 PFDA   | 0.6241<br>0.5919 | 0.5891<br>0.5998 | 0.6050<br>0.5745 | 0.6154<br>0.6434 |       | Ave           |             | 0.6054 |    |   |         | 3.6  |   | 50.0        |               |   |                   |
| d3-NMeFOSAA | 0.3283<br>0.3112 | 0.3125<br>0.3235 | 0.3123<br>0.3232 | 0.3322<br>0.3559 |       | Ave           |             | 0.3249 |    |   |         | 4.5  |   | 50.0        |               |   |                   |
| d5-NEtFOSAA | 0.3326<br>0.3224 | 0.3177<br>0.3207 | 0.3107<br>0.3049 | 0.3281<br>0.3016 |       | Ave           |             | 0.3173 |    |   |         | 3.4  |   | 50.0        |               |   |                   |
| 13C2 PFUnA  | 0.4758<br>0.4342 | 0.4645<br>0.4568 | 0.4774<br>0.4375 | 0.4645<br>0.4767 |       | Ave           |             | 0.4609 |    |   |         | 3.7  |   | 50.0        |               |   |                   |
| 13C2 PFDoA  | 0.4990<br>0.4998 | 0.4740<br>0.5000 | 0.4857<br>0.4834 | 0.4942<br>0.5400 |       | Ave           |             | 0.4970 |    |   |         | 4.0  |   | 50.0        |               |   |                   |
| 13C2-PFTeDA | 0.5600<br>0.5351 | 0.5405<br>0.5694 | 0.5542<br>0.5497 | 0.5764<br>0.5578 |       | Ave           |             | 0.5554 |    |   |         | 2.5  |   | 50.0        |               |   |                   |
| 13C2-PFHxDA | 1.1083<br>0.9487 | 0.9653<br>0.9584 | 1.0328<br>0.9758 | 1.0611<br>1.0380 |       | Ave           |             | 1.0110 |    |   |         | 5.7  |   | 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  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201053

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

Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID:          |
|---------|------------------|-----------------------|
| Level 1 | IC 320-201053/2  | 2017.12.21ICALX_002.d |
| Level 2 | IC 320-201053/3  | 2017.12.21ICALX_003.d |
| Level 3 | IC 320-201053/4  | 2017.12.21ICALX_004.d |
| Level 4 | IC 320-201053/5  | 2017.12.21ICALX_005.d |
| Level 5 | IC 320-201053/10 | 2017.12.21ICALX_010.d |
| Level 6 | IC 320-201053/6  | 2017.12.21ICALX_006.d |
| Level 7 | IC 320-201053/7  | 2017.12.21ICALX_007.d |
| Level 8 | IC 320-201053/8  | 2017.12.21ICALX_008.d |
| Level 9 | IC 320-201053/9  | 2017.12.21ICALX_009.d |

| ANALYTE                               | IS REF | CURVE TYPE | RESPONSE         |                    |                    |                     |       | CONCENTRATION (NG/ML) |                |                |                |       |
|---------------------------------------|--------|------------|------------------|--------------------|--------------------|---------------------|-------|-----------------------|----------------|----------------|----------------|-------|
|                                       |        |            | LVL 1<br>LVL 6   | LVL 2<br>LVL 7     | LVL 3<br>LVL 8     | LVL 4<br>LVL 9      | LVL 5 | LVL 1<br>LVL 6        | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4<br>LVL 9 | LVL 5 |
| Perfluorobutanoic acid (PFBA)         |        | AveID      | 70439<br>7285711 | 149609<br>14649125 | 750051<br>27682152 | 2959580<br>47047864 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoropentanoic acid (PFPeA)       |        | AveID      | 58359<br>5324778 | 112651<br>10076106 | 560389<br>19070831 | 2060919<br>33568726 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorobutanesulfonic acid (PFBS)   |        | AveID      | 65867<br>6917510 | 144831<br>13621865 | 700583<br>24884595 | 2736616<br>40269625 |       | 0.0221<br>2.21        | 0.0442<br>4.42 | 0.221<br>8.84  | 0.884<br>17.7  |       |
| 4:2 FTS                               |        | AveID      | 16542<br>1648248 | 33949<br>3219671   | 174598<br>6206525  | 692506<br>+++++     |       | 0.0234<br>2.34        | 0.0467<br>4.67 | 0.234<br>9.34  | 0.934<br>+++++ |       |
| Perfluorohexanoic acid (PFHxA)        |        | AveID      | 54930<br>5039492 | 110008<br>9771131  | 506862<br>18501936 | 2014119<br>33018394 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoroheptanoic acid (PFHpA)       |        | AveID      | 56679<br>4846589 | 99436<br>9612665   | 496497<br>17828937 | 2034903<br>29737938 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorohexanesulfonic acid (PFHxS)  |        | AveID      | 68223<br>5394708 | 130412<br>11127318 | 581986<br>20840256 | 2306702<br>35522645 |       | 0.0228<br>2.28        | 0.0455<br>4.55 | 0.228<br>9.10  | 0.910<br>18.2  |       |
| 6:2FTS                                |        | AveID      | 33513<br>3454700 | 69364<br>5609893   | 361912<br>10445701 | 1278132<br>+++++    |       | 0.0237<br>2.37        | 0.0474<br>4.74 | 0.237<br>9.48  | 0.948<br>+++++ |       |
| Perfluorooctanoic acid (PFOA)         |        | AveID      | 63848<br>5678071 | 126908<br>10780791 | 614438<br>19995182 | 2316692<br>31704557 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoroheptanesulfonic Acid (PFHpS) |        | AveID      | 46506<br>5035921 | 99194<br>10159580  | 512839<br>17858719 | 2063948<br>29818123 |       | 0.0238<br>2.38        | 0.0476<br>4.76 | 0.238<br>9.52  | 0.952<br>19.0  |       |
| Perfluorooctanesulfonic acid (PFOS)   |        | AveID      | 35345<br>3852088 | 78661<br>7678011   | 405361<br>14551225 | 1582639<br>26220642 |       | 0.0232<br>2.32        | 0.0464<br>4.64 | 0.232<br>9.28  | 0.928<br>18.6  |       |
| Perfluorononanoic acid (PFNA)         |        | AveID      | 46456<br>3868757 | 79498<br>7519039   | 373010<br>14310135 | 1517301<br>23346321 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorooctane Sulfonamide (FOSA)    |        | AveID      | 53752<br>5144163 | 109865<br>10279855 | 545722<br>18027750 | 2103527<br>29455119 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| 8:2FTS                                |        | AveID      | 14036<br>1357996 | 31765<br>2781160   | 146774<br>5272516  | 549454<br>9766222   |       | 0.0240<br>2.40        | 0.0479<br>4.79 | 0.240<br>9.58  | 0.958<br>19.2  |       |



FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201053

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

Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

| ANALYTE                                                       | IS<br>REF  | CURVE<br>TYPE | RESPONSE           |                    |                    |                     |        | CONCENTRATION (NG/ML) |                |                |                |       |
|---------------------------------------------------------------|------------|---------------|--------------------|--------------------|--------------------|---------------------|--------|-----------------------|----------------|----------------|----------------|-------|
|                                                               |            |               | LVL 1<br>LVL 6     | LVL 2<br>LVL 7     | LVL 3<br>LVL 8     | LVL 4<br>LVL 9      | LVL 5  | LVL 1<br>LVL 6        | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4<br>LVL 9 | LVL 5 |
| Perfluorodecanoic acid (PFDA)                                 |            | AveID         | 30192<br>2952794   | 63350<br>6280843   | 313237<br>11530530 | 1273852<br>19652616 |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| N-methyl perfluorooctane<br>sulfonamidoacetic acid (NMeFOSAA) |            | AveID         | 20264<br>1768335   | 35218<br>3453343   | 182960<br>7032734  | 727385<br>12424122  |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorodecanesulfonic acid (PFDS)                           |            | AveID         | 21674<br>2347758   | 51344<br>4785400   | 242152<br>8522065  | 957540<br>14589155  |        | 0.0241<br>2.41        | 0.0482<br>4.82 | 0.241<br>9.64  | 0.964<br>19.3  |       |
| Perfluoroundecanoic acid (PFUnA)                              |            | AveID         | 26791<br>2099347   | 45145<br>4098143   | 236349<br>7892336  | 858830<br>13914565  |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| N-ethyl perfluorooctane<br>sulfonamidoacetic acid (NEtFOSAA)  |            | AveID         | 19242<br>1559830   | 33144<br>3085854   | 182516<br>5880293  | 681119<br>10022668  |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorododecanoic acid (PFDoA)                              |            | AveID         | 28086<br>2527004   | 50136<br>5067646   | 267420<br>9365176  | 1061502<br>16925951 |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorotridecanoic Acid (PFTriA)                            |            | AveID         | 29984<br>2904461   | 66960<br>5863317   | 325173<br>10978736 | 1199386<br>19218577 |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorotetradecanoic acid (PFTeA)                           |            | AveID         | 7762<br>721103     | 14992<br>1420222   | 84101<br>2857131   | 273069<br>5208229   |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoro-n-hexadecanoic acid<br>(PFHxDA)                     |            | L2ID          | 95391<br>4541602   | 143410<br>8416392  | 529034<br>16452280 | 1951502<br>26511774 |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoro-n-octadecanoic acid<br>(PFODA)                      |            | AveID         | 55027<br>5318805   | 123452<br>10730387 | 601525<br>18646888 | 2250667<br>31961699 |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| 13C4 PFBA                                                     | 13PF<br>OA | Ave           | 7823763<br>7696270 | 7985484<br>7841844 | 7947697<br>7579367 | 7910765<br>7169568  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C5 PFPeA                                                    | 13PF<br>OA | Ave           | 4853161<br>4589173 | 4931418<br>4532696 | 4979129<br>4388357 | 4678298<br>4195411  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C3-PFBS                                                     | 13PF<br>OA | Ave           | 93713<br>93263     | 90654<br>96761     | 96655<br>88125     | 91473<br>84726      |        | 2.33<br>2.33          | 2.33<br>2.33   | 2.33<br>2.33   | 2.33<br>2.33   |       |
| M2-4:2FTS                                                     | 13PF<br>OA | Ave           |                    |                    |                    |                     | 518429 |                       |                |                |                | 2.34  |
| 13C2 PFHxA                                                    | 13PF<br>OA | Ave           | 5116525<br>5035421 | 5267753<br>4882103 | 5246790<br>4729842 | 5041504<br>4355951  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C4-PFHpA                                                    | 13PF<br>OA | Ave           | 4737172<br>4650286 | 4809471<br>4703159 | 4865147<br>4396642 | 4733493<br>3850620  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 18O2 PFHxS                                                    | 13PF<br>OA | Ave           | 5680736<br>5658825 | 5820783<br>5325222 | 5859680<br>5148564 | 5636753<br>4742553  |        | 2.37<br>2.37          | 2.37<br>2.37   | 2.37<br>2.37   | 2.37<br>2.37   |       |
| M2-6:2FTS                                                     | 13PF<br>OA | Ave           | 2398948<br>2271698 | 2106131<br>1798987 | 2293081<br>1570687 | 2185400<br>+++++    |        | 2.38<br>2.38          | 2.38<br>2.38   | 2.38<br>2.38   | 2.38<br>+++++  |       |
| 13C4 PFOA                                                     | 13PF<br>OA | Ave           | 5507369<br>5513652 | 5766084<br>5265565 | 5709764<br>4825928 | 5445865<br>4287955  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C4 PFOS                                                     | 13PF<br>OA | Ave           | 3834788<br>3680461 | 3838031<br>3669982 | 3896182<br>3490587 | 3682923<br>3163280  |        | 2.39<br>2.39          | 2.39<br>2.39   | 2.39<br>2.39   | 2.39<br>2.39   |       |
| 13C5 PFNA                                                     | 13PF<br>OA | Ave           | 3965069<br>3777358 | 3995865<br>3719043 | 3989341<br>3530948 | 3850882<br>3189147  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201053

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

Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/21/2017 15:05 Calibration End Date: 12/21/2017 16:08 Calibration ID: 36940

| ANALYTE     | IS<br>REF  | CURVE<br>TYPE | RESPONSE           |                    |                    |                    |       | CONCENTRATION (NG/ML) |                |                |                |       |
|-------------|------------|---------------|--------------------|--------------------|--------------------|--------------------|-------|-----------------------|----------------|----------------|----------------|-------|
|             |            |               | LVL 1<br>LVL 6     | LVL 2<br>LVL 7     | LVL 3<br>LVL 8     | LVL 4<br>LVL 9     | LVL 5 | LVL 1<br>LVL 6        | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4<br>LVL 9 | LVL 5 |
| 13C8 FOSA   | 13PF<br>OA | Ave           | 5513920<br>5269550 | 5549186<br>5154664 | 5315226<br>5072077 | 5171390<br>4583649 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| M2-8:2FTS   | 13PF<br>OA | Ave           | 1135429<br>1095511 | 1218144<br>1173108 | 1204160<br>1090140 | 1181970<br>1043626 |       | 2.40<br>2.40          | 2.40<br>2.40   | 2.40<br>2.40   | 2.40<br>2.40   |       |
| 13C2 PFDA   | 13PF<br>OA | Ave           | 3263075<br>3119915 | 3312504<br>3016260 | 3305746<br>2852827 | 3165987<br>2713099 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| d3-NMeFOSAA | 13PF<br>OA | Ave           | 1716131<br>1640210 | 1757055<br>1627104 | 1706528<br>1605143 | 1709219<br>1500795 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| d5-NEtFOSAA | 13PF<br>OA | Ave           | 1739091<br>1699098 | 1786420<br>1613051 | 1697550<br>1513961 | 1687944<br>1271751 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C2 PFUnA  | 13PF<br>OA | Ave           | 2487500<br>2288504 | 2611796<br>2297307 | 2608579<br>2172683 | 2389837<br>2010505 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C2 PFDoA  | 13PF<br>OA | Ave           | 2608856<br>2634039 | 2665544<br>2514667 | 2653771<br>2400181 | 2542417<br>2277087 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C2-PFTeDA | 13PF<br>OA | Ave           | 2927702<br>2820137 | 3039455<br>2863496 | 3027973<br>2729477 | 2965610<br>2352410 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C2-PFHxDA | 13PF<br>OA | Ave           | 5794363<br>5000280 | 5427780<br>4819897 | 5642954<br>4845252 | 5459382<br>4377373 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |

Curve Type Legend:

Ave = Average ISTD  
AveID = Average isotope dilution  
L2ID = Linear 1/conc^2 IsoDil

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_002.d  
 Lims ID: IC L1 Full  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 21-Dec-2017 15:05:59 ALS Bottle#: 10 Worklist Smp#: 2  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L1-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:26:55 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

First Level Reviewer: hannigana

Date: 22-Dec-2017 09:03:30

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.419 | 1.419  | 0.0    | 1.000  | 70439    | 0.0246       |                   | 98.3 | 26.4  |       |
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.419 | 1.419  | 0.0    | 0.534  | 7823763  | 2.46         |                   | 98.5 | 26658 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       | M     |
| 262.90 > 219.00                       | 1.669 | 1.670  | -0.001 | 1.000  | 58359    | 0.0269       |                   | 108  | 32.1  | M     |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.669 | 1.670  | -0.001 | 0.628  | 4853161  | 2.55         |                   | 102  | 49366 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.705 | 1.705  | 0.0    | 0.642  | 93713    | 2.31         |                   | 99.4 | 2845  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.705 | 1.707  | -0.002 | 1.000  | 65867    | 0.0217       |                   | 98.3 | 413   |       |
| 298.90 > 99.00                        | 1.705 | 1.707  | -0.002 | 1.000  | 24592    |              | 2.68(1.25-3.74)   | 98.3 | 266   |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.920 | 1.920  | 0.0    | 1.000  | 16542    | 0.0199       |                   | 85.3 | 994   |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.951 | 1.953  | -0.002 | 0.734  | 5116525  | 2.52         |                   | 101  | 51786 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.961 | 1.956  | 0.005  | 1.005  | 54930    | 0.0268       |                   | 107  | 129   |       |
| 313.00 > 119.00                       | 1.951 | 1.956  | -0.005 | 1.000  | 5115     |              | 10.74(5.03-15.10) | 107  | 113   |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.288 | 2.291  | -0.003 | 1.000  | 56679    | 0.0286       |                   | 114  | 76.0  |       |
| 363.00 > 169.00                       | 2.288 | 2.291  | -0.003 | 1.000  | 21472    |              | 2.64(1.13-3.40)   | 114  | 222   |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.288 | 2.291  | -0.003 | 0.861  | 4737172  | 2.52         |                   | 101  | 26325 |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                   |      |       |       |
| 403.00 > 84.00                        | 2.302 | 2.304  | -0.002 | 0.866  | 5680736  | 2.40         |                   | 101  | 27582 |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |      |       |       |
| 399.00 > 80.00                        | 2.302 | 2.304  | -0.002 | 1.000  | 68223    | 0.0264       |                 | 116  | 183   |       |
| 399.00 > 99.00                        | 2.302 | 2.304  | -0.002 | 1.000  | 24286    |              | 2.81(1.50-4.49) | 116  | 133   |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.642 | 2.642  | 0.0    | 1.000  | 33513    | 0.0214       |                 | 90.3 | 2056  |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.642 | 2.642  | 0.0    | 0.995  | 2398948  | 2.74         |                 | 115  | 54165 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.657 | 2.654  | 0.003  | 1.000  | 5507369  | 2.55         |                 | 102  | 45131 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.657 | 2.656  | 0.001  |        | 5228072  | 2.50         |                 |      | 48085 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.657 | 2.656  | 0.001  | 1.000  | 63848    | 0.0276       |                 | 110  | 24.2  |       |
| 413.00 > 169.00                       | 2.657 | 2.656  | 0.001  | 1.000  | 40055    |              | 1.59(0.84-2.52) | 110  | 361   |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.664 | 2.662  | 0.002  | 1.000  | 46506    | 0.0221       |                 | 93.0 | 643   |       |
| 449.00 > 99.00                        | 2.657 | 2.662  | -0.005 | 0.997  | 12142    |              | 3.83(1.94-5.82) | 93.0 | 284   |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.023 | 3.025  | -0.002 | 1.138  | 3834788  | 2.45         |                 | 102  | 27448 |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.023 | 3.028  | -0.005 | 1.138  | 3965069  | 2.58         |                 | 103  | 34859 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.023 | 3.028  | -0.005 | 1.000  | 35345    | 0.0208       |                 | 89.6 | 3.8   |       |
| 499.00 > 99.00                        | 3.023 | 3.028  | -0.005 | 1.000  | 10193    |              | 3.47(2.31-6.93) | 89.6 | 5.9   |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.031 | 3.029  | 0.002  | 1.003  | 46456    | 0.0291       |                 | 116  | 60.5  | R     |
| 463.00 > 169.00                       | 3.023 | 3.029  | -0.006 | 1.000  | 7274     |              | 6.39(1.90-5.69) | 116  | 224   | R     |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.370 | 3.370  | 0.0    | 1.269  | 5513920  | 2.59         |                 | 103  | 30029 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.370 | 3.372  | -0.002 | 1.000  | 53752    | 0.0254       |                 | 102  | 1205  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.377 | 3.377  | 0.0    | 1.000  | 14036    | 0.0244       |                 | 102  | 419   |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.377 | 3.377  | 0.0    | 1.271  | 1135429  | 2.32         |                 | 97.0 | 16649 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.385 | 3.389  | -0.004 | 1.274  | 3263075  | 2.58         |                 | 103  | 29744 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.385 | 3.390  | -0.005 | 1.000  | 30192    | 0.0239       |                 | 95.7 | 126   |       |
| 513.00 > 169.00                       | 3.385 | 3.390  | -0.005 | 1.000  | 5538     |              | 5.45(2.36-7.09) | 95.7 | 250   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.544 | 3.543  | 0.001  | 1.334  | 1716131  | 2.53         |                 | 101  | 22471 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.544 | 3.548  | -0.004 | 1.000  | 20264    | 0.0275       |                 | 110  | 176   |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.704 | 3.703  | 0.001  | 1.000  | 21674    | 0.0219       |                 | 90.8 | 872   |       |
| 599.00 > 99.00                        | 3.704 | 3.703  | 0.001  | 1.000  | 8449     |              | 2.57(1.39-4.16) | 90.8 | 346   |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.713 | 3.712  | 0.001  | 1.398  | 1739091  | 2.62         |                 | 105  | 9441  |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.713 | 3.717  | -0.004 | 1.398  | 2487500  | 2.58         |                 | 103  | 36619 |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.713 | 3.718  | -0.005 | 1.000  | 26791    | 0.0294       |                 | 118  | 117   |       |
| 563.00 > 169.00                       | 3.722 | 3.718  | 0.004  | 1.002  | 5338     |              | 5.02(0.00-0.00) | 118  | 204   |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.722 | 3.720  | 0.002  | 1.002  | 19242    | 0.0278       |                 | 111  | 314   |       |
| D 34 d-N-MeFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 169.00                       | 3.863 | 3.862  | 0.001  | 1.454  | 1493599  | 2.46         |                 | 98.4 | 3543  |       |
| 35 MeFOSA                             |       |        |        |        |          |              |                 |      |       |       |
| 512.00 > 169.00                       | 3.873 | 3.872  | 0.001  | 1.003  | 12580    | 0.0215       |                 | 86.1 | 348   |       |
| 37 Perfluorododecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 613.00 > 569.00                       | 4.011 | 4.011  | 0.0    | 1.000  | 28086    | 0.0271       |                 | 108  | 63.6  |       |
| 613.00 > 169.00                       | 4.011 | 4.011  | 0.0    | 1.000  | 5995     |              | 4.68(2.13-6.40) | 108  | 259   |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.011 | 4.011  | 0.0    | 1.510  | 2608856  | 2.51         |                 | 100  | 19779 |       |
| D 38 d-N-EtFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 531.00 > 169.00                       | 4.051 | 4.052  | -0.001 | 1.525  | 1437133  | 2.47         |                 | 98.6 | 3067  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |        |        |        |          |              |                 |      |       |       |
| 526.00 > 169.00                       | 4.059 | 4.058  | 0.001  | 1.002  | 16025    | 0.0262       |                 | 105  | 563   |       |
| 41 Perfluorotridecanoic acid          |       |        |        |        |          |              |                 |      |       |       |
| 663.00 > 619.00                       | 4.278 | 4.277  | 0.001  | 1.000  | 29984    | 0.0248       |                 | 99.1 | 68.1  |       |
| 663.00 > 169.00                       | 4.278 | 4.277  | 0.001  | 1.000  | 9595     |              | 3.12(1.25-3.76) | 99.1 | 308   |       |
| 42 Perfluorotetradecanoic acid        |       |        |        |        |          |              |                 |      |       |       |
| 713.00 > 169.00                       | 4.513 | 4.518  | -0.005 | 1.000  | 7762     | 0.0257       |                 | 103  | 265   |       |
| 713.00 > 219.00                       | 4.513 | 4.518  | -0.005 | 1.000  | 5305     |              | 1.46(0.71-2.13) | 103  | 317   |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.513 | 4.518  | -0.005 | 1.699  | 2927702  | 2.52         |                 | 101  | 16250 |       |
| 45 Perfluorohexadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 813.00 > 769.00                       | 4.940 | 4.939  | 0.001  | 1.000  | 95391    | 0.0242       |                 | 96.6 | 49.6  |       |
| 813.00 > 169.00                       | 4.940 | 4.939  | 0.001  | 1.000  | 18866    |              | 5.06(2.86-8.58) | 96.6 | 491   |       |
| D 44 13C2-PFHxDA                      |       |        |        |        |          |              |                 |      |       |       |
| 815.00 > 770.00                       | 4.940 | 4.939  | 0.001  | 1.859  | 5794363  | 2.74         |                 | 110  | 17108 |       |
| 46 Perfluorooctadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 913.00 > 869.00                       | 5.303 | 5.306  | -0.003 | 1.000  | 55027    | 0.0231       |                 | 92.3 | 12.7  |       |
| 913.00 > 169.00                       | 5.303 | 5.306  | -0.003 | 1.000  | 7184     |              | 7.66(0.00-0.00) | 92.3 | 110   |       |

**QC Flag Legend**

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

**Reagents:**

LCPFC\_LL1\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_002.d

Injection Date: 21-Dec-2017 15:05:59

Instrument ID: A8\_N

Lims ID: IC L1 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 10

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

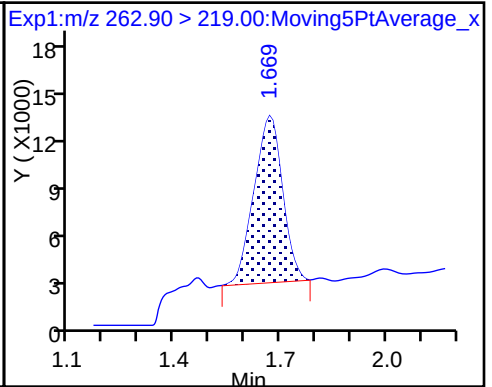
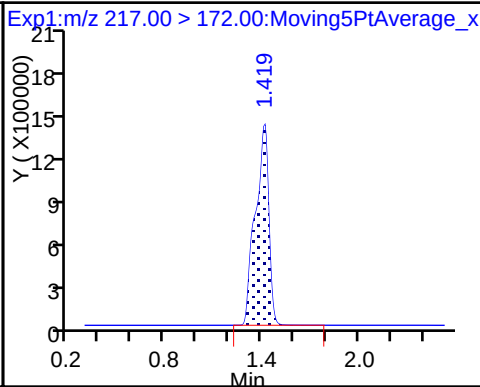
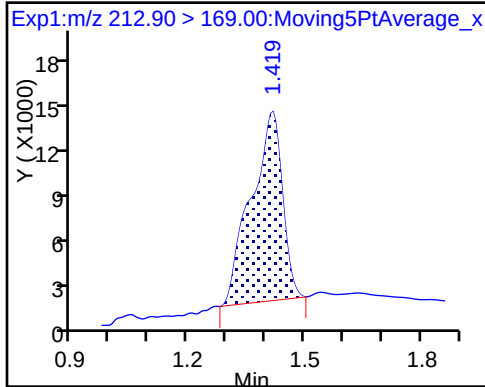
Method: A8\_N

Limit Group: LC PFC ICAL

## 2 Perfluorobutyric acid

## D 1 13C4 PFBA

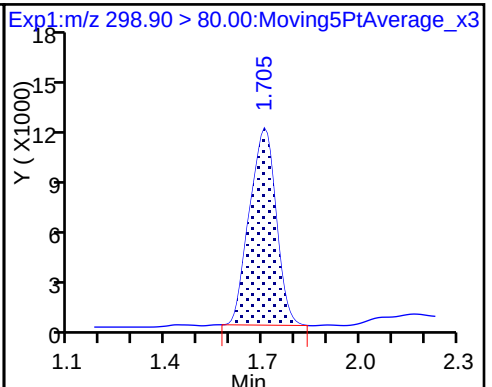
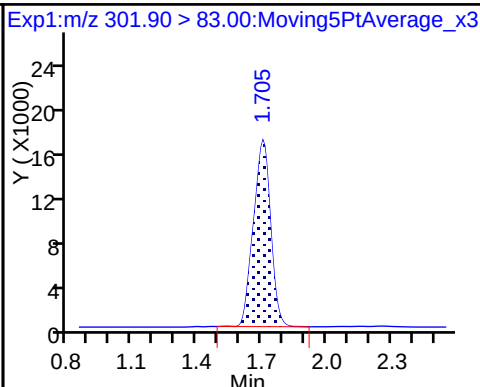
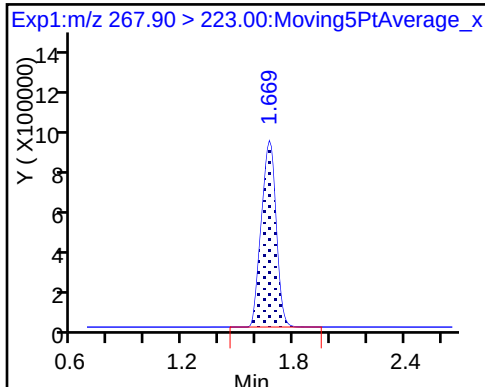
## 4 Perfluoropentanoic acid (M)



## D 3 13C5-PFPeA

## D 47 13C3-PFBS

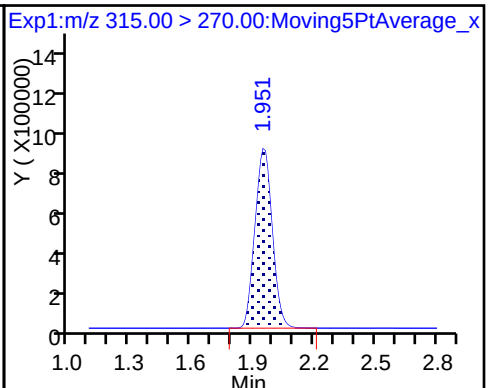
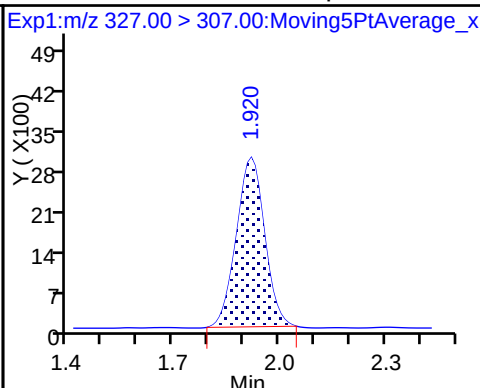
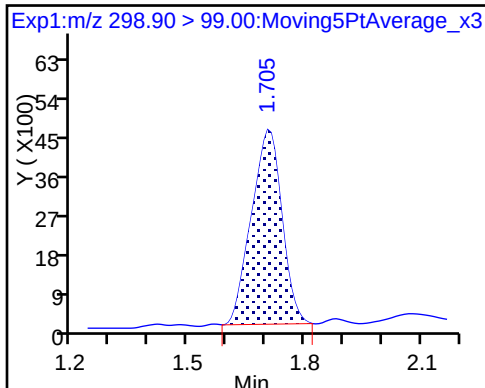
## 5 Perfluorobutanesulfonic acid



## 5 Perfluorobutanesulfonic acid

## 61 Sodium 1H,1H,2H,2H-perfluorohexa

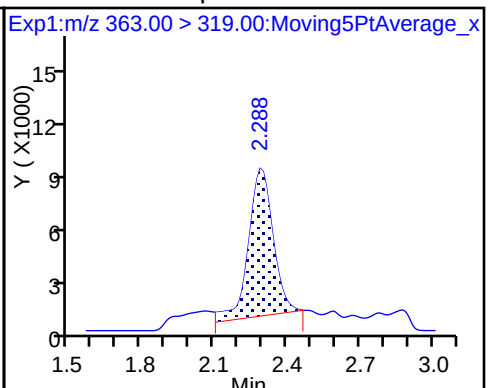
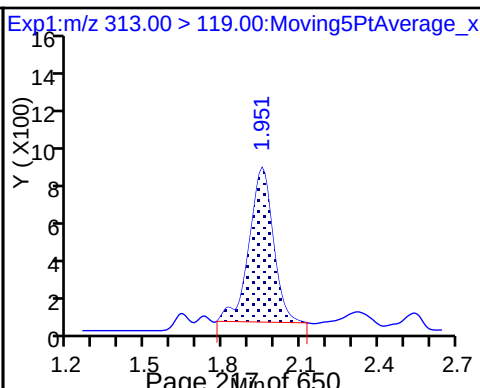
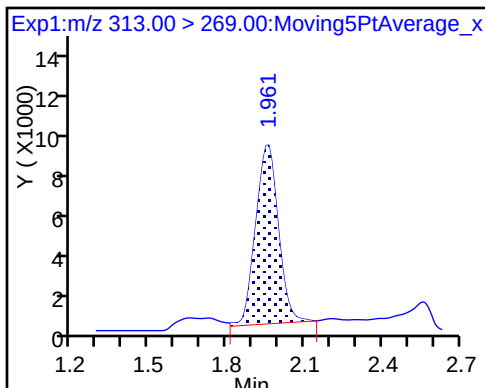
## De 7 13C2 PFHxA

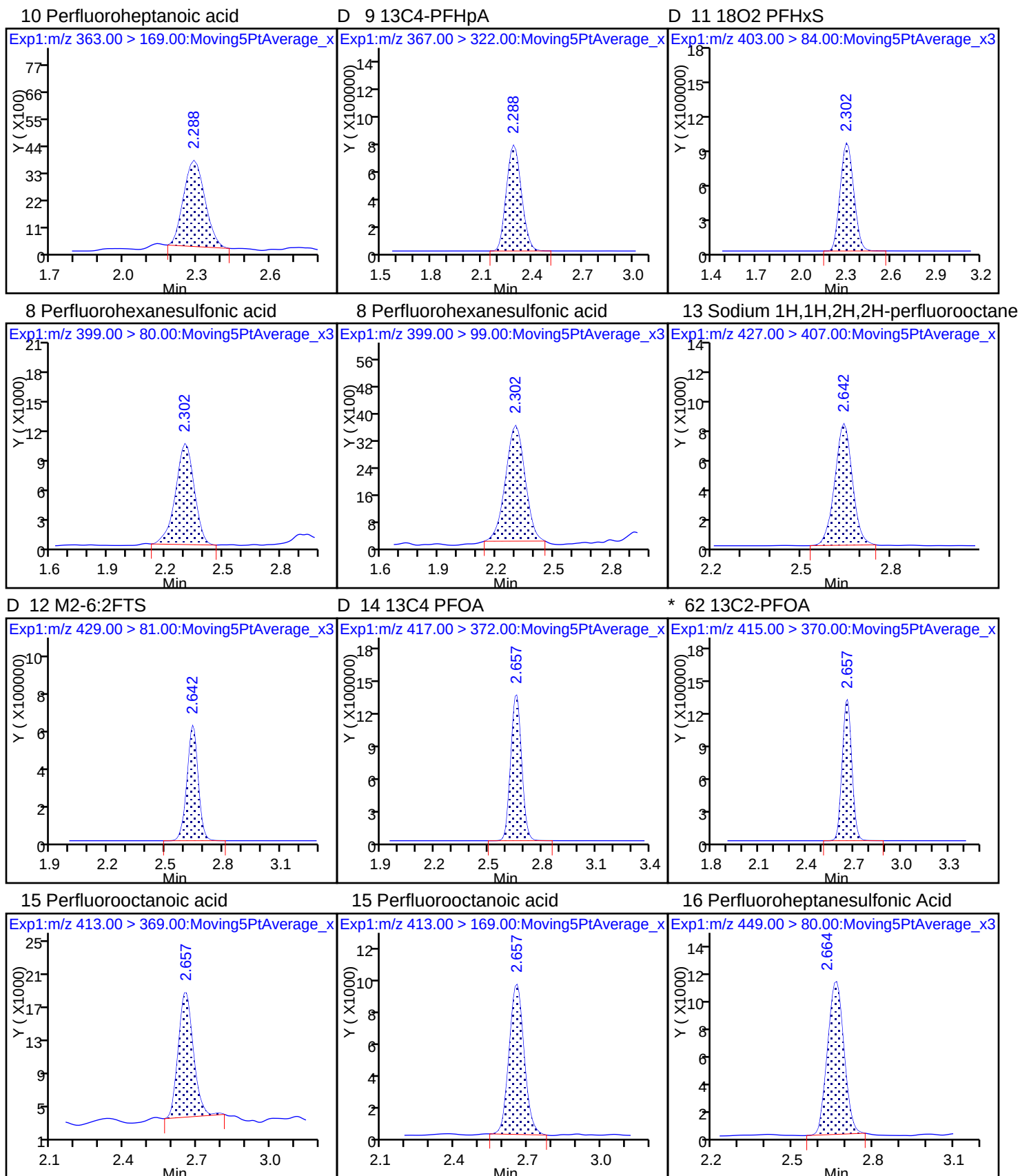


## 6 Perfluorohexanoic acid

## 6 Perfluorohexanoic acid

## 10 Perfluoroheptanoic acid

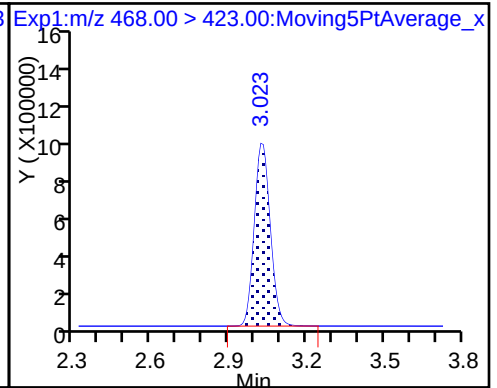
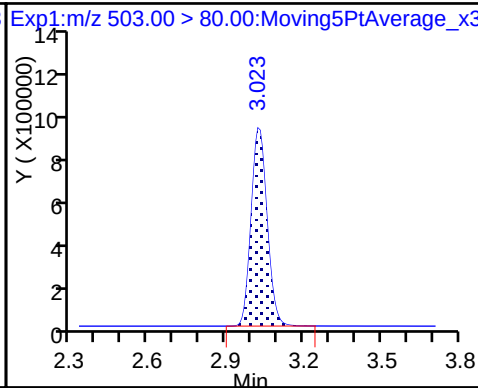
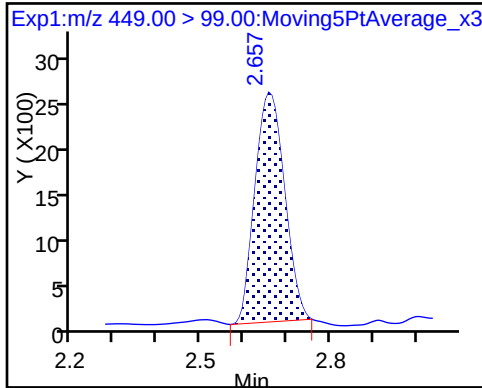




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

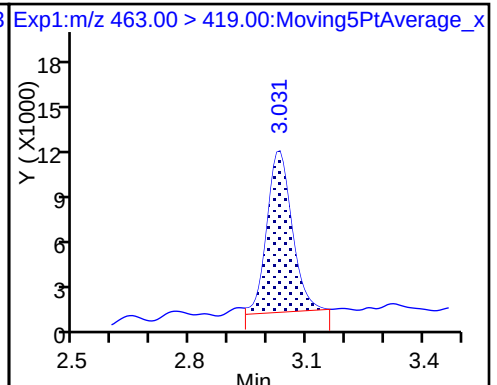
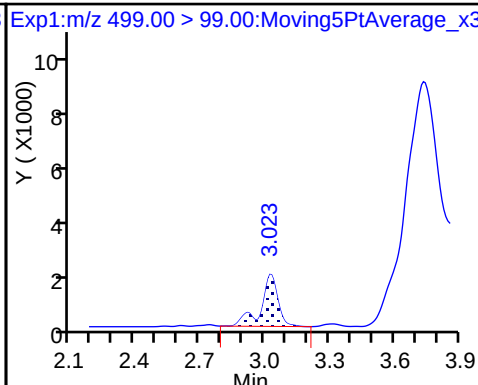
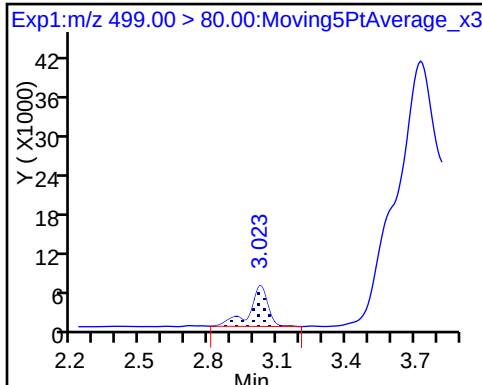
D 19 13C5 PFNA



17 Perfluorooctane sulfonic acid

17 Perfluorooctane sulfonic acid

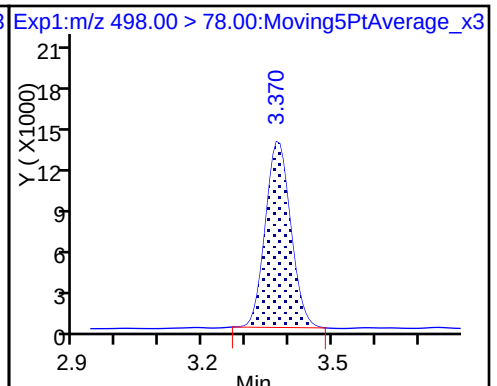
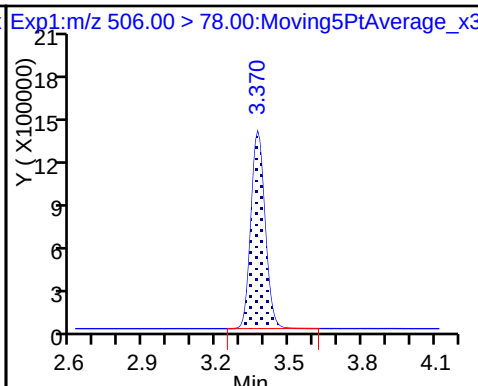
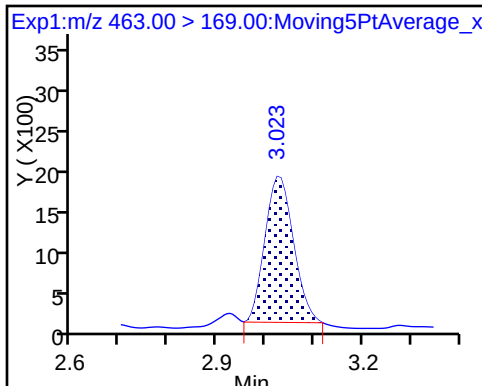
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

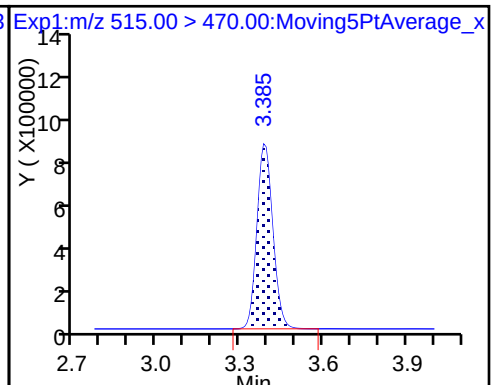
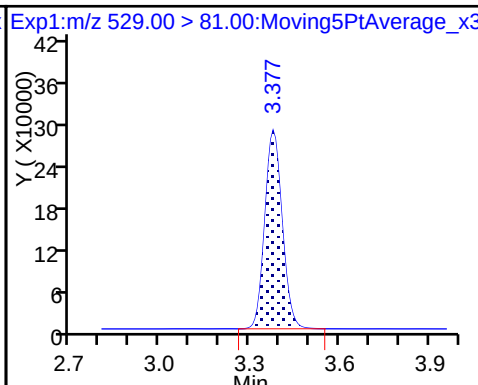
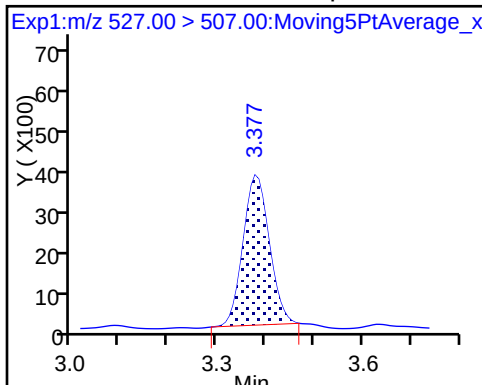
22 Perfluorooctane Sulfonamide



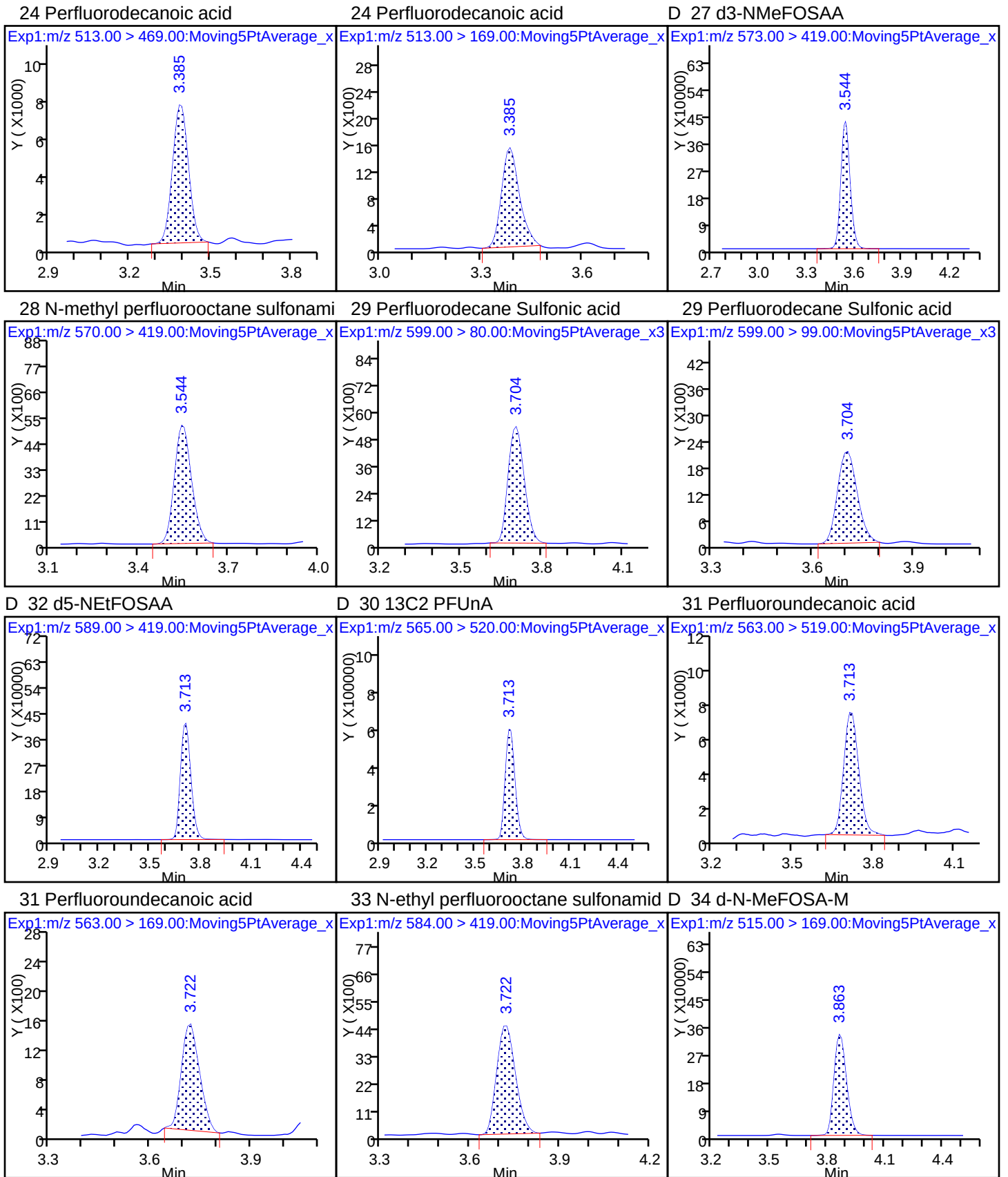
25 Sodium 1H,1H,2H,2H-perfluorodecanoate

De26 M2-8:2FTS

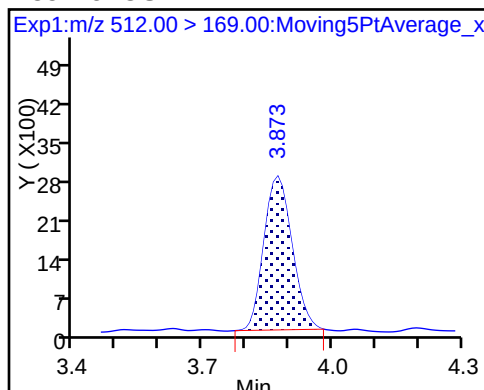
D 23 13C2 PFDA



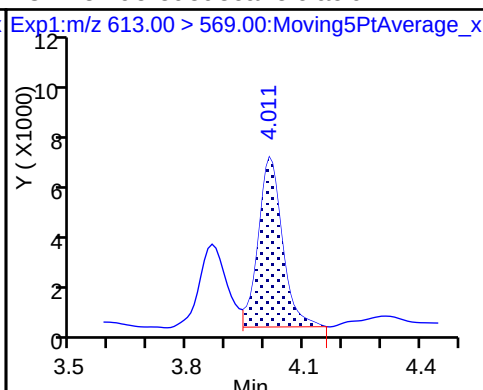




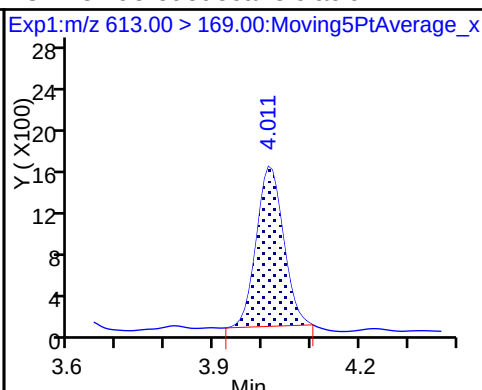
35 MeFOSA



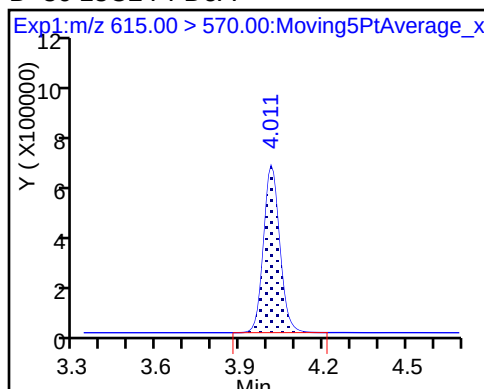
37 Perfluorododecanoic acid



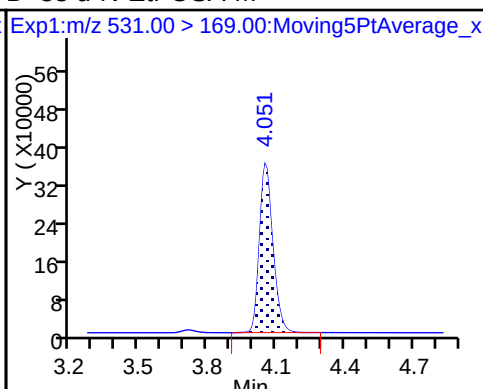
37 Perfluorododecanoic acid



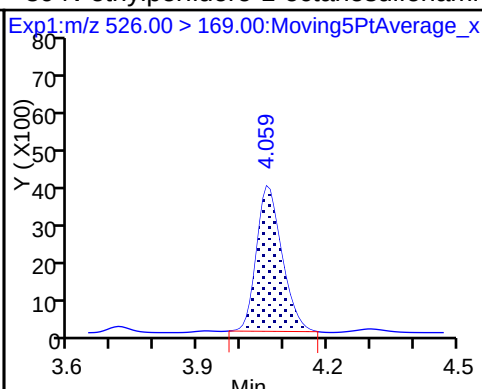
D 36 13C2 PFDaA



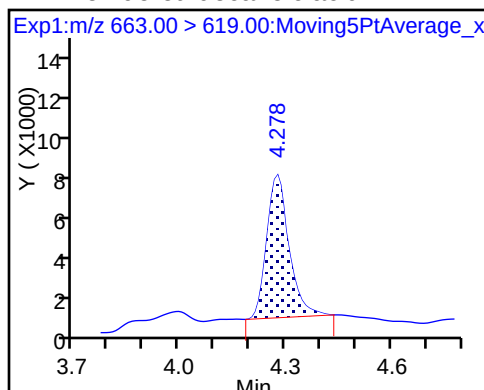
D 38 d-N-EtFOSA-M



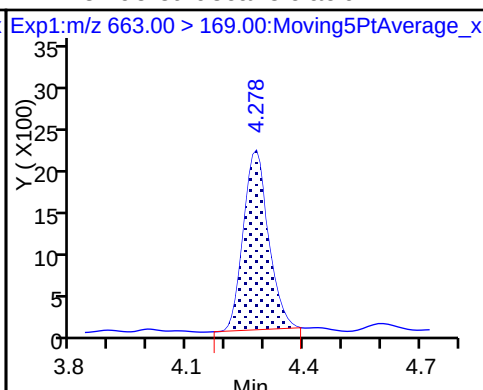
39 N-ethylperfluoro-1-octanesulfonami



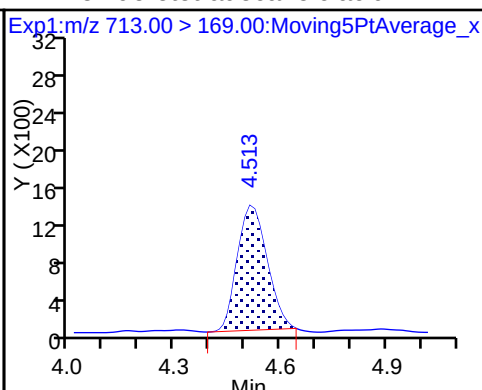
41 Perfluorotridecanoic acid



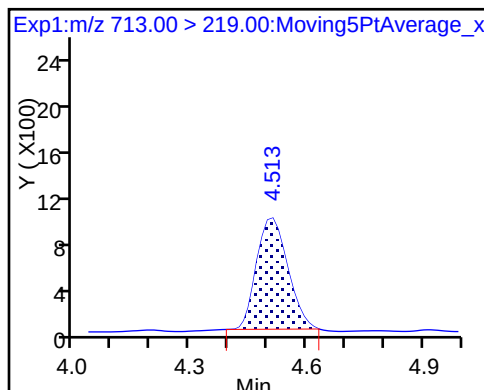
41 Perfluorotridecanoic acid



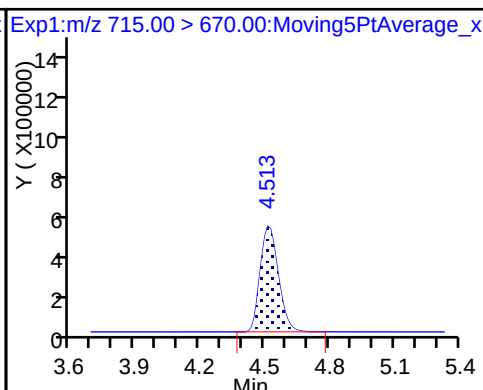
42 Perfluorotetradecanoic acid



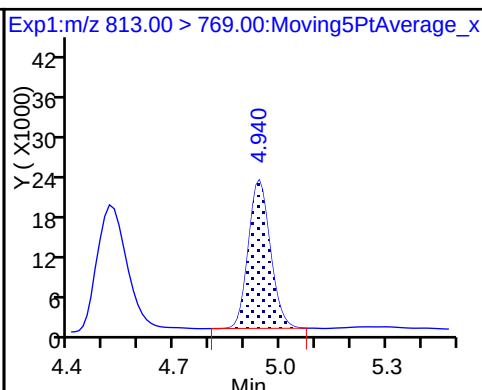
42 Perfluorotetradecanoic acid



D 43 13C2-PFTeDA



45 Perfluorohexadecanoic acid

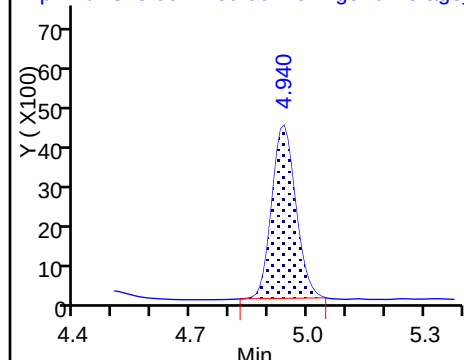


45 Perfluorohexadecanoic acid

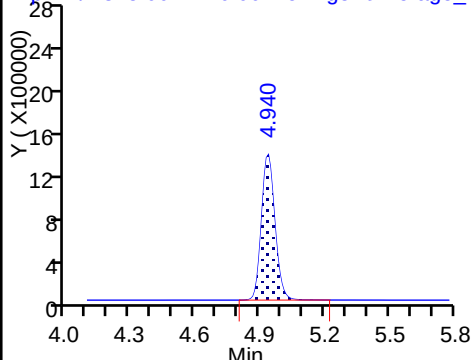
D 44 13C2-PFHxDA

46 Perfluorooctadecanoic acid

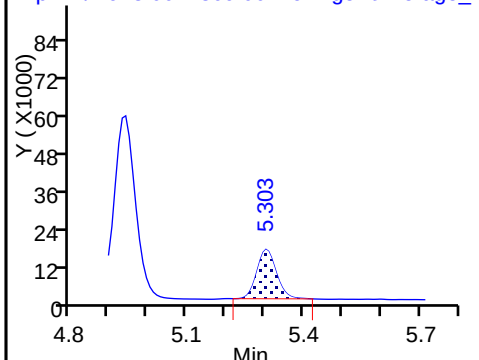
Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x



Exp1:m/z 815.00 &gt; 770.00:Moving5PtAverage\_x

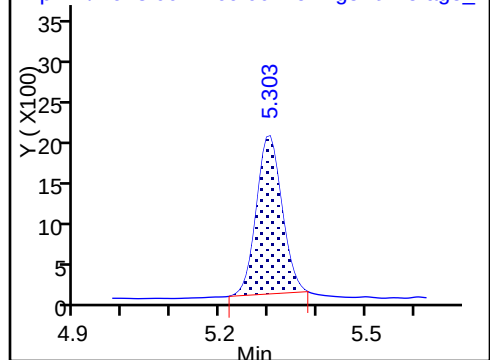


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\CALX\_002.d

Injection Date: 21-Dec-2017 15:05:59

Instrument ID: A8\_N

Lims ID: IC L1 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 10

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

Column:

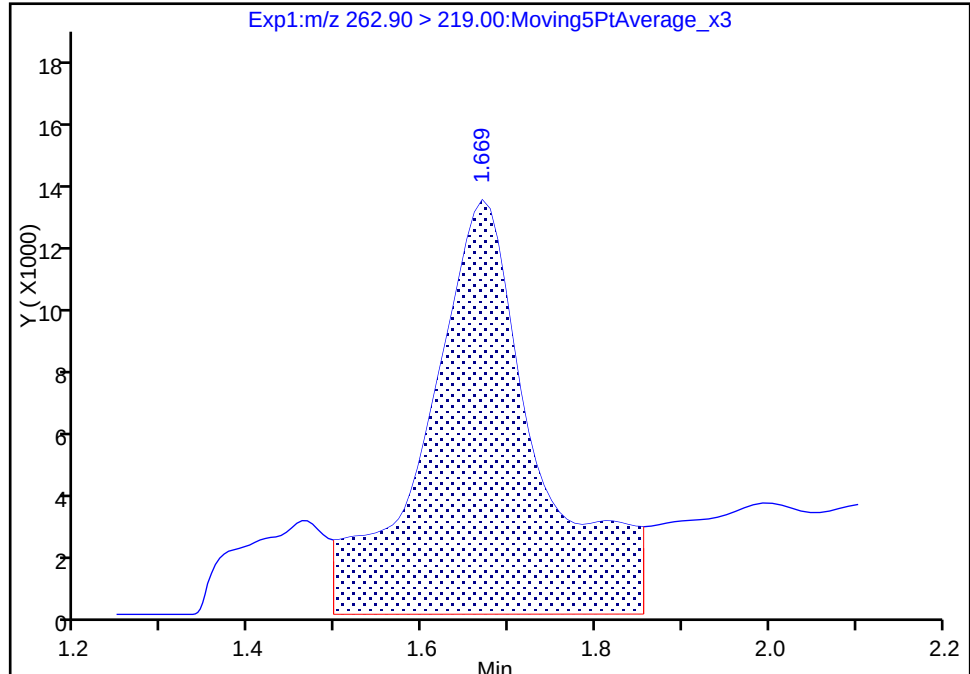
Detector: EXP1

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

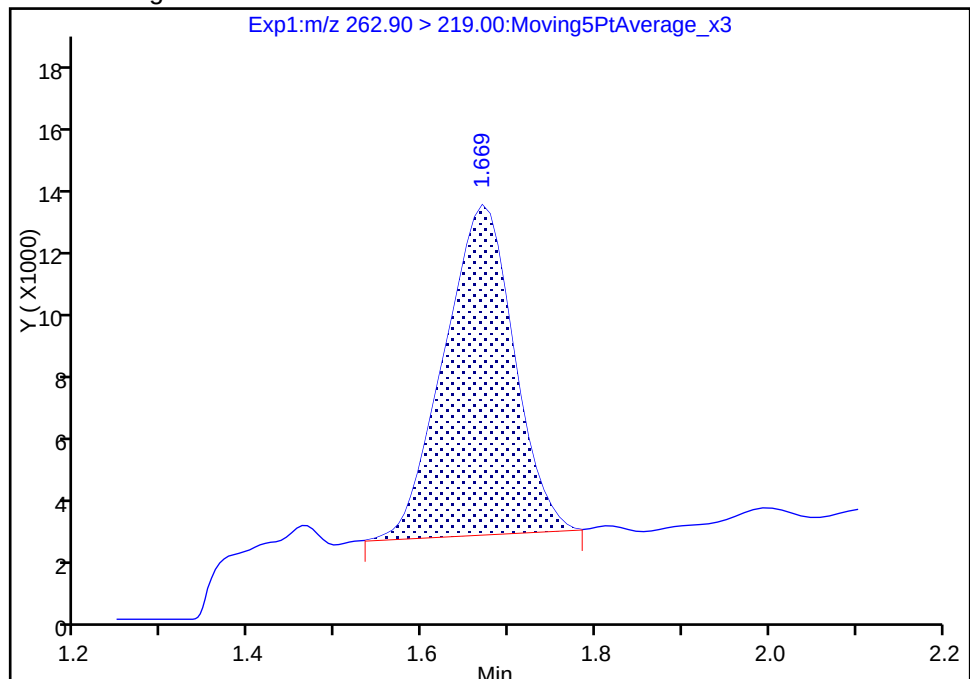
RT: 1.67  
Area: 115534  
Amount: 0.046512  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.67  
Area: 58359  
Amount: 0.026932  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 22-Dec-2017 09:02:38

Audit Action: Manually Integrated

Audit Reason: Baseline

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_003.d  
 Lims ID: IC L2 Full  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 21-Dec-2017 15:13:51 ALS Bottle#: 11 Worklist Smp#: 3  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L2-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:26:58 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

First Level Reviewer: hannigana

Date: 22-Dec-2017 09:04:28

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.420 | 1.419  | 0.001  | 0.535  | 7985484  | 2.34         |                   | 93.5 | 27763 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.420 | 1.419  | 0.001  | 1.000  | 149609   | 0.0511       |                   | 102  | 51.3  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.670 | 1.670  | 0.0    | 0.630  | 4931418  | 2.41         |                   | 96.4 | 54938 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       | M     |
| 262.90 > 219.00                       | 1.670 | 1.670  | 0.0    | 1.000  | 112651   | 0.0512       |                   | 102  | 65.9  | M     |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.706 | 1.705  | 0.001  | 0.643  | 90654    | 2.08         |                   | 89.4 | 2773  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.706 | 1.707  | -0.001 | 1.000  | 144831   | 0.0494       |                   | 112  | 991   |       |
| 298.90 > 99.00                        | 1.706 | 1.707  | -0.001 | 1.000  | 59023    |              | 2.45(1.25-3.74)   | 112  | 782   |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.922 | 1.920  | 0.002  | 1.000  | 33949    | 0.0466       |                   | 99.7 | 1554  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.953 | 1.953  | 0.0    | 0.737  | 5267753  | 2.41         |                   | 96.5 | 54914 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.953 | 1.956  | -0.003 | 1.000  | 110008   | 0.0521       |                   | 104  | 324   |       |
| 313.00 > 119.00                       | 1.953 | 1.956  | -0.003 | 1.000  | 10337    |              | 10.64(5.03-15.10) | 104  | 160   |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.291 | 2.291  | 0.0    | 0.864  | 4809471  | 2.38         |                   | 95.2 | 31470 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 99436    | 0.0494       |                   | 98.8 | 134   |       |
| 363.00 > 169.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 41272    |              | 2.41(1.13-3.40)   | 98.8 | 361   |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 130412   | 0.0492       |                   | 108  | 393   |       |
| 399.00 > 99.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 39276    |              | 3.32(1.50-4.49)   | 108  | 233   |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.304 | 2.304  | 0.0    | 0.869  | 5820783  | 2.28         |                 | 96.5 | 39640 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.644 | 2.642  | 0.002  | 1.000  | 69364    | 0.0505       |                 | 106  | 3253  |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.644 | 2.642  | 0.002  | 0.997  | 2106131  | 2.24         |                 | 94.2 | 39480 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.651 | 2.654  | -0.003 | 1.000  | 5766084  | 2.48         |                 | 99.3 | 45716 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.651 | 2.656  | -0.005 |        | 5623140  | 2.50         |                 |      | 52590 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.658 | 2.656  | 0.002  | 1.003  | 126908   | 0.0523       |                 | 105  | 50.2  |       |
| 413.00 > 169.00                       | 2.651 | 2.656  | -0.005 | 1.000  | 69741    |              | 1.82(0.84-2.52) | 105  | 651   |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.658 | 2.662  | -0.004 | 1.000  | 99194    | 0.0472       |                 | 99.1 | 1348  |       |
| 449.00 > 99.00                        | 2.658 | 2.662  | -0.004 | 1.000  | 27853    |              | 3.56(1.94-5.82) | 99.1 | 953   |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.024 | 3.025  | -0.001 | 1.141  | 3838031  | 2.28         |                 | 95.4 | 27081 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.032 | 3.028  | 0.004  | 1.003  | 78661    | 0.0462       |                 | 99.6 | 8.0   |       |
| 499.00 > 99.00                        | 3.024 | 3.028  | -0.004 | 1.000  | 19602    |              | 4.01(2.31-6.93) | 99.6 | 12.6  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.032 | 3.028  | 0.004  | 1.144  | 3995865  | 2.42         |                 | 96.8 | 41492 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.032 | 3.029  | 0.003  | 1.000  | 79498    | 0.0494       |                 | 98.9 | 106   |       |
| 463.00 > 169.00                       | 3.032 | 3.029  | 0.003  | 1.000  | 18338    |              | 4.34(1.90-5.69) | 98.9 | 454   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.369 | 3.370  | -0.001 | 1.271  | 5549186  | 2.42         |                 | 96.8 | 27997 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.376 | 3.372  | 0.004  | 1.002  | 109865   | 0.0516       |                 | 103  | 3465  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.376 | 3.377  | -0.001 | 1.274  | 1218144  | 2.32         |                 | 96.7 | 18816 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.376 | 3.377  | -0.001 | 1.000  | 31765    | 0.0514       |                 | 107  | 877   |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.392 | 3.389  | 0.003  | 1.279  | 3312504  | 2.43         |                 | 97.3 | 46567 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.392 | 3.390  | 0.002  | 1.000  | 63350    | 0.0494       |                 | 98.9 | 245   |       |
| 513.00 > 169.00                       | 3.392 | 3.390  | 0.002  | 1.000  | 12301    |              | 5.15(2.36-7.09) | 98.9 | 404   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.543 | 3.543  | 0.0    | 1.336  | 1757055  | 2.40         |                 | 96.2 | 20153 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.550 | 3.548  | 0.002  | 1.002  | 35218    | 0.0467       |                 | 93.4 | 272   |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.703 | 3.703  | 0.0    | 1.000  | 51344    | 0.0518       |                 | 107  | 2125  |       |
| 599.00 > 99.00                        | 3.703 | 3.703  | 0.0    | 1.000  | 15896    |              | 3.23(1.39-4.16) | 107  | 449   |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.712 | 3.712  | 0.0    | 1.400  | 1786420  | 2.50         |                 | 100  | 8374  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.721 | 3.717  | 0.004  | 1.403  | 2611796  | 2.52         |                 | 101  | 28239 |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.721 | 3.718  | 0.003  | 1.000  | 45145    | 0.0472       |                 | 94.3 | 203   |       |
| 563.00 > 169.00                       | 3.721 | 3.718  | 0.003  | 1.000  | 12542    |              | 3.60(0.00-0.00) | 94.3 | 573   |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.721 | 3.720  | 0.001  | 1.002  | 33144    | 0.0467       |                 | 93.4 | 518   |       |
| D 34 d-N-MeFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 169.00                       | 3.862 | 3.862  | 0.0    | 1.457  | 1500641  | 2.30         |                 | 92.0 | 3292  |       |
| 35 MeFOSA                             |       |        |        |        |          |              |                 |      |       |       |
| 512.00 > 169.00                       | 3.872 | 3.872  | 0.0    | 1.003  | 30226    | 0.0514       |                 | 103  | 1357  |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.010 | 4.011  | -0.001 | 1.513  | 2665544  | 2.38         |                 | 95.4 | 27699 |       |
| 37 Perfluorododecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 613.00 > 569.00                       | 4.010 | 4.011  | -0.001 | 1.000  | 50136    | 0.0474       |                 | 94.8 | 120   |       |
| 613.00 > 169.00                       | 4.010 | 4.011  | -0.001 | 1.000  | 16128    |              | 3.11(2.13-6.40) | 94.8 | 825   |       |
| D 38 d-N-EtFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 531.00 > 169.00                       | 4.050 | 4.052  | -0.002 | 1.528  | 1451263  | 2.31         |                 | 92.6 | 2684  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |        |        |        |          |              |                 |      |       |       |
| 526.00 > 169.00                       | 4.058 | 4.058  | 0.0    | 1.002  | 29858    | 0.0483       |                 | 96.6 | 1053  |       |
| 41 Perfluorotridecanoic acid          |       |        |        |        |          |              |                 |      |       |       |
| 663.00 > 619.00                       | 4.277 | 4.277  | 0.0    | 1.000  | 66960    | 0.0542       |                 | 108  | 154   |       |
| 663.00 > 169.00                       | 4.277 | 4.277  | 0.0    | 1.000  | 19151    |              | 3.50(1.25-3.76) | 108  | 708   |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.523 | 4.518  | 0.005  | 1.706  | 3039455  | 2.43         |                 | 97.3 | 15904 |       |
| 42 Perfluorotetradecanoic acid        |       |        |        |        |          |              |                 |      |       |       |
| 713.00 > 169.00                       | 4.523 | 4.518  | 0.005  | 1.000  | 14992    | 0.0478       |                 | 95.7 | 510   |       |
| 713.00 > 219.00                       | 4.509 | 4.518  | -0.009 | 0.997  | 12150    |              | 1.23(0.71-2.13) | 95.7 | 534   |       |
| D 44 13C2-PFHxDA                      |       |        |        |        |          |              |                 |      |       |       |
| 815.00 > 770.00                       | 4.938 | 4.939  | -0.001 | 1.863  | 5427780  | 2.39         |                 | 95.5 | 19477 |       |
| 45 Perfluorohexadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 813.00 > 769.00                       | 4.938 | 4.939  | -0.001 | 1.000  | 143410   | 0.0533       |                 | 107  | 72.6  |       |
| 813.00 > 169.00                       | 4.938 | 4.939  | -0.001 | 1.000  | 26375    |              | 5.44(2.86-8.58) | 107  | 768   |       |
| 46 Perfluorooctadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 913.00 > 869.00                       | 5.308 | 5.306  | 0.002  | 1.000  | 123452   | 0.0552       |                 | 110  | 27.8  |       |
| 913.00 > 169.00                       | 5.301 | 5.306  | -0.005 | 0.999  | 15403    |              | 8.01(0.00-0.00) | 110  | 234   |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

LCPFC\_LL2\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_003.d

Injection Date: 21-Dec-2017 15:13:51

Instrument ID: A8\_N

Lims ID: IC L2 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 11

Worklist Smp#: 3

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

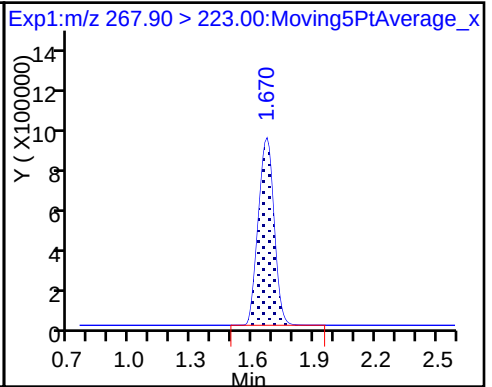
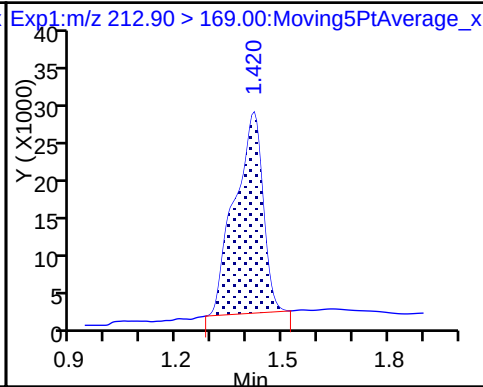
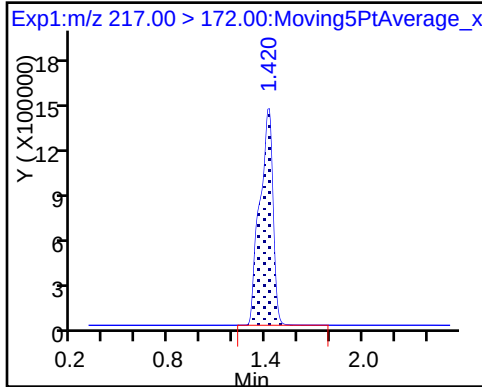
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

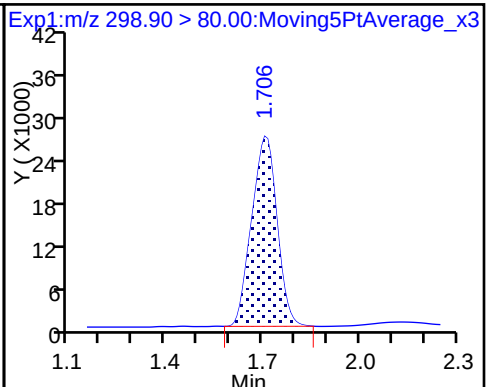
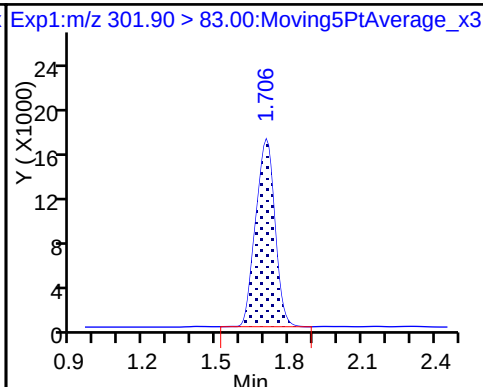
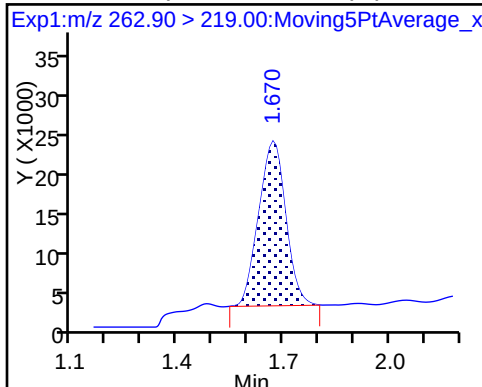
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 47 13C3-PFBS

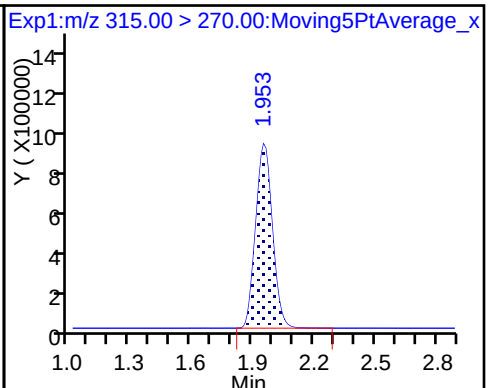
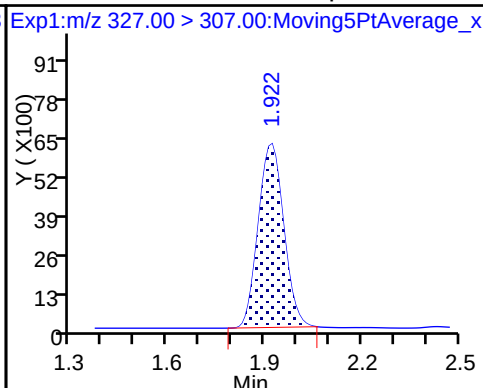
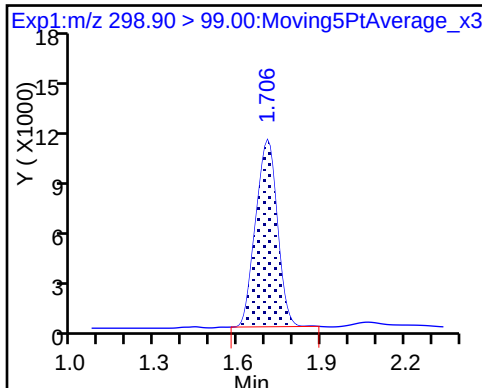
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

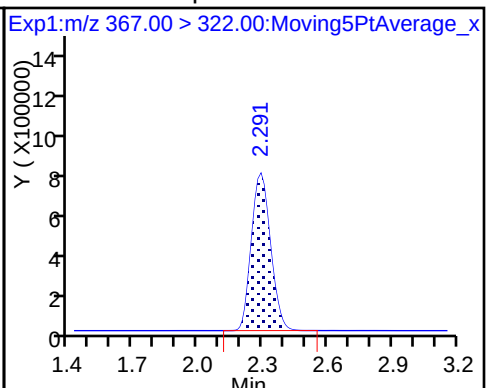
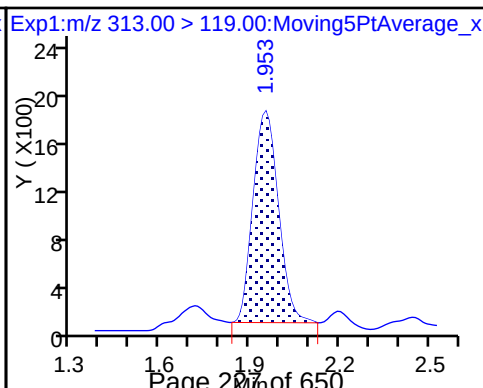
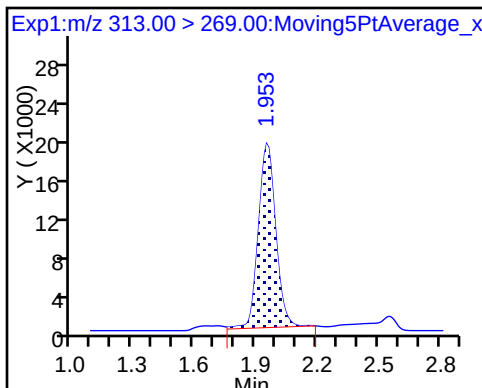
De 7 13C2 PFHxA



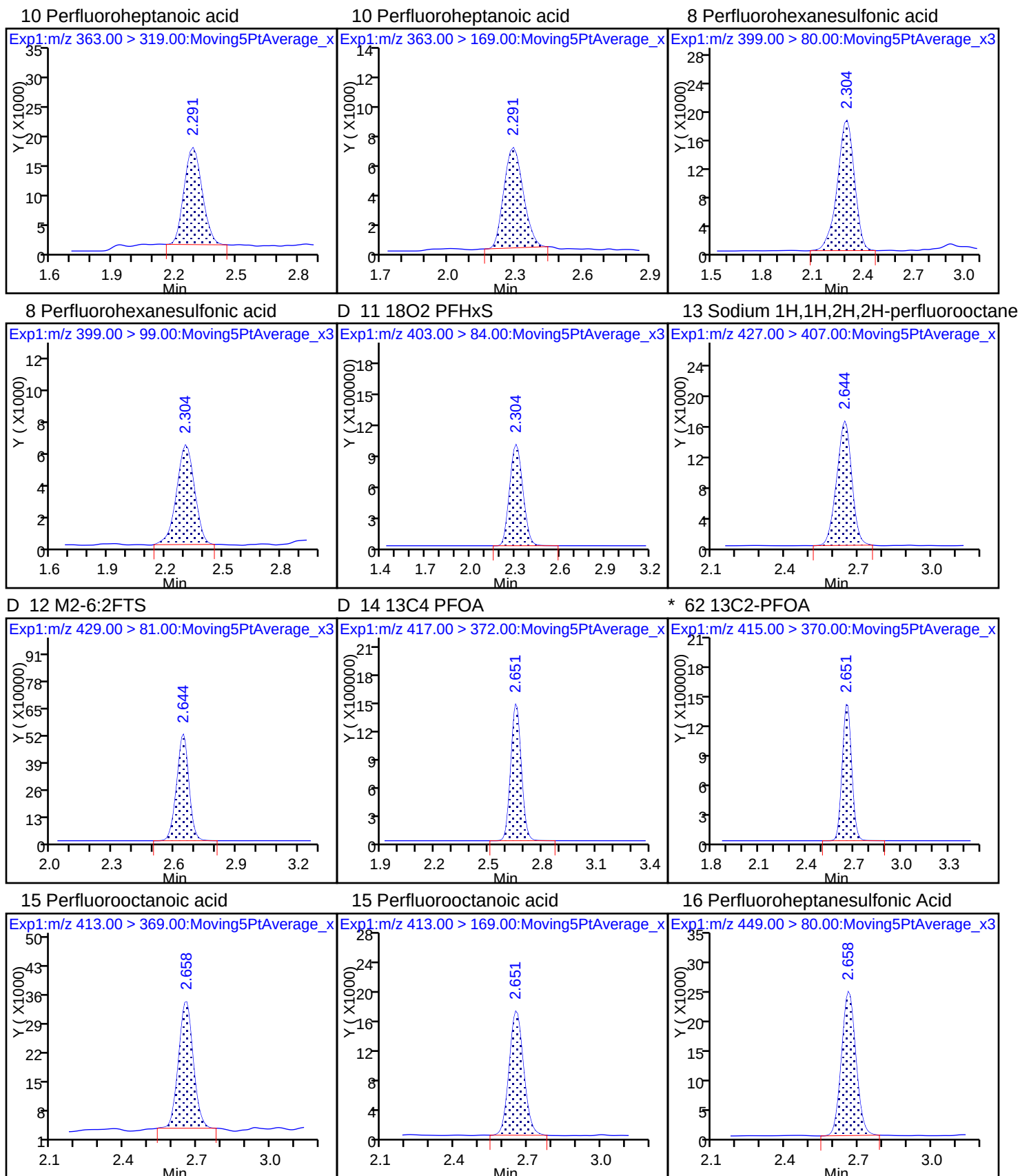
6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA



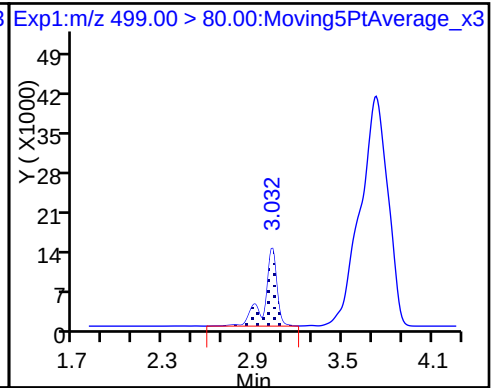
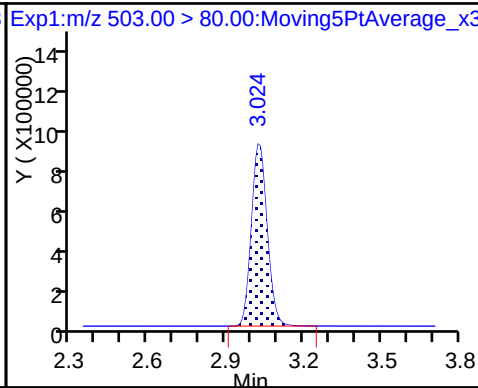
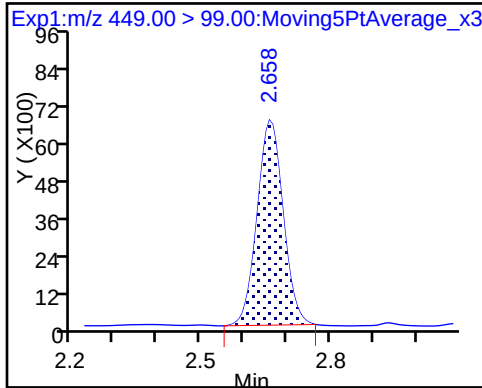




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

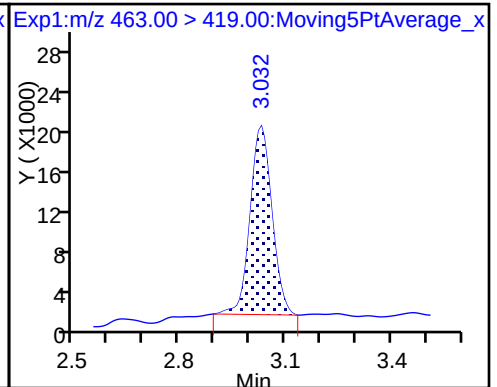
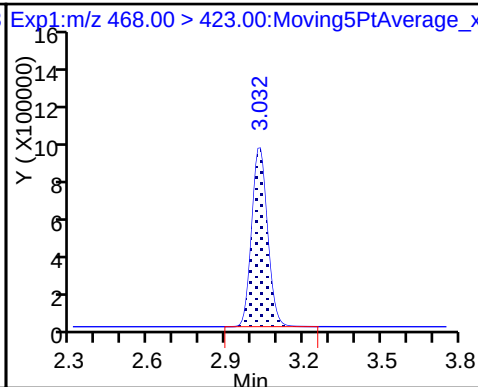
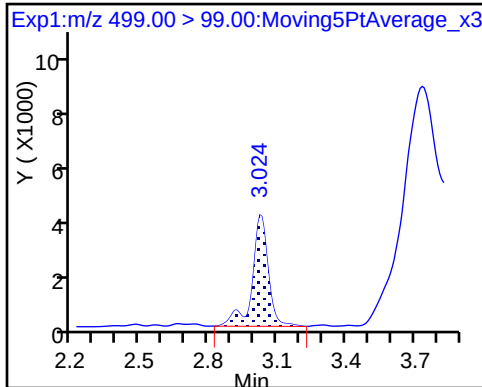
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

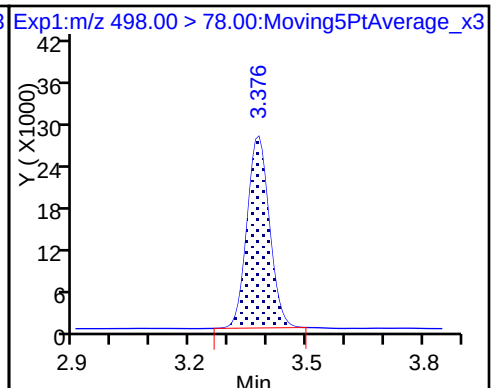
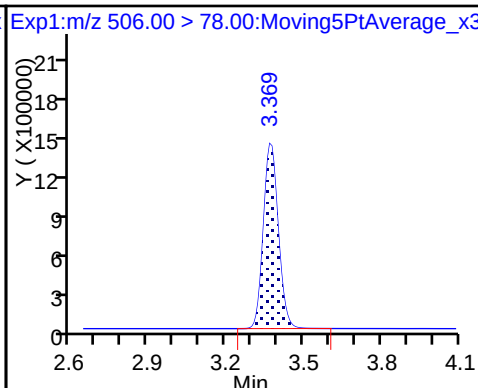
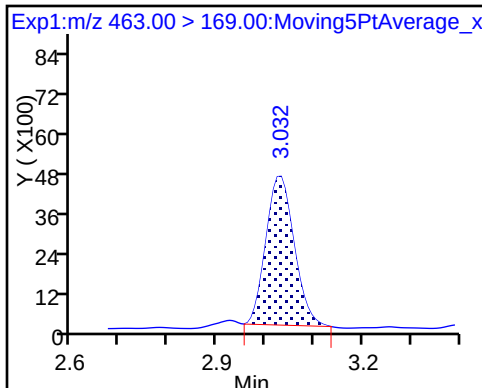
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

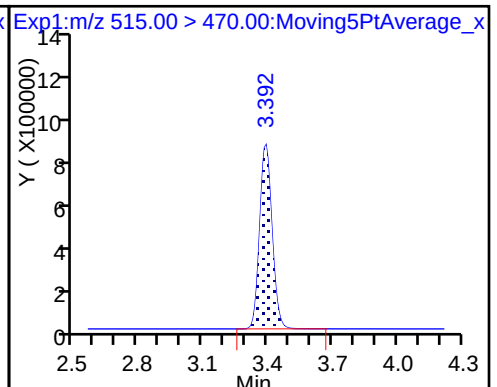
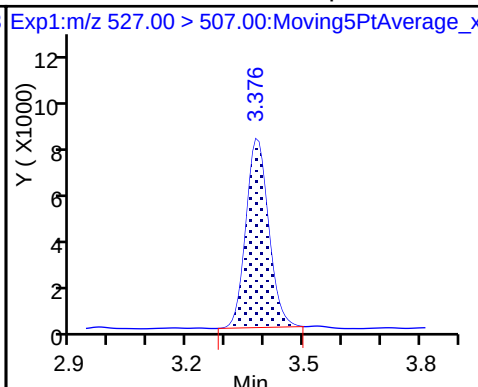
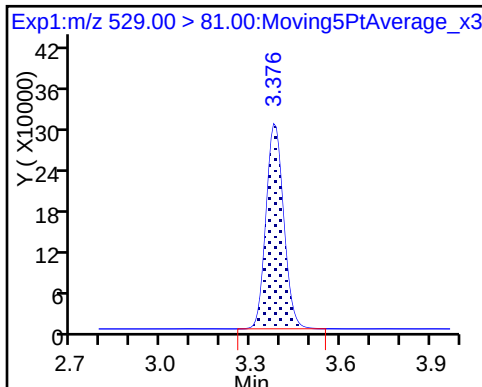
22 Perfluorooctane Sulfonamide

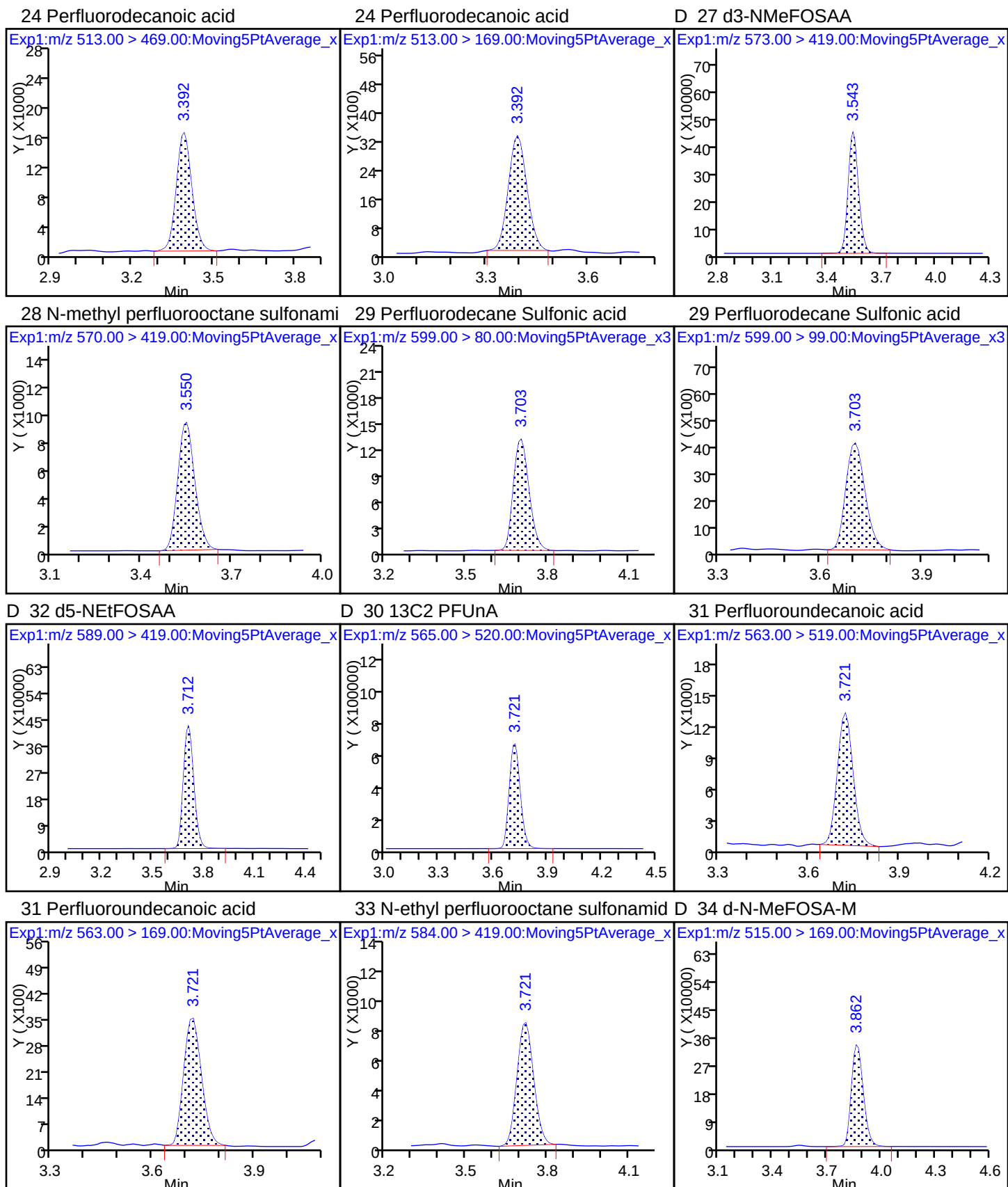


D 26 M2-8:2FTS

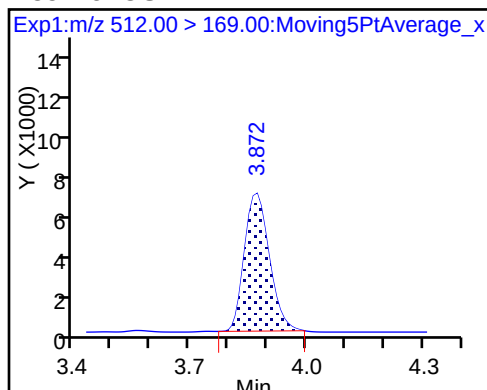
25 Sodium 1H,1H,2H,2H-perfluorodeca

De23 13C2 PFDA

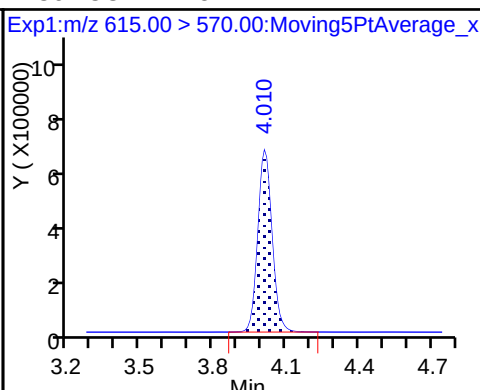




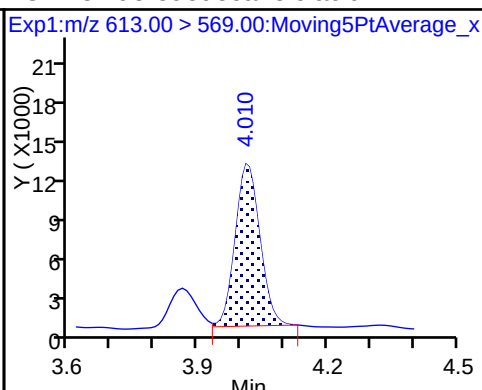
35 MeFOSA



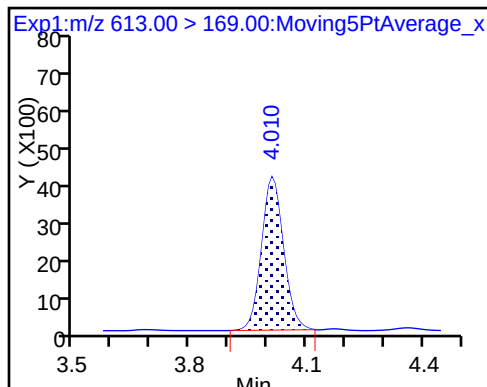
D 36 13C2 PFDaA



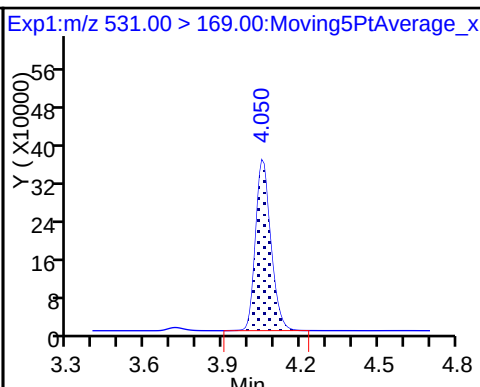
37 Perfluorododecanoic acid



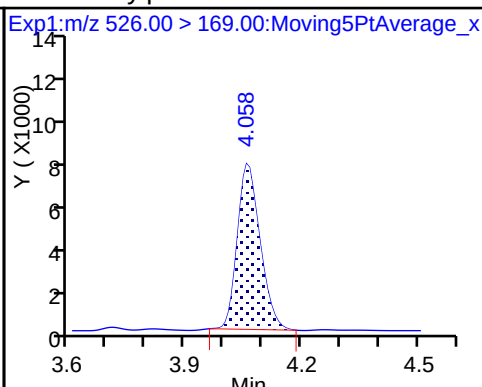
37 Perfluorododecanoic acid



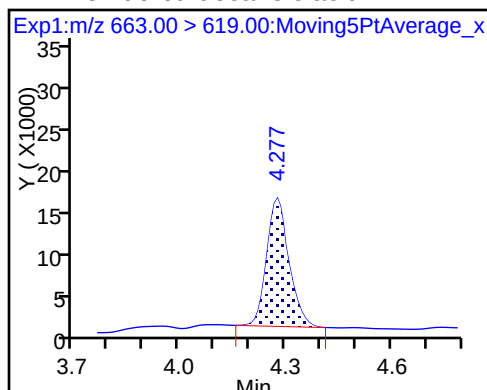
D 38 d-N-EtFOSA-M



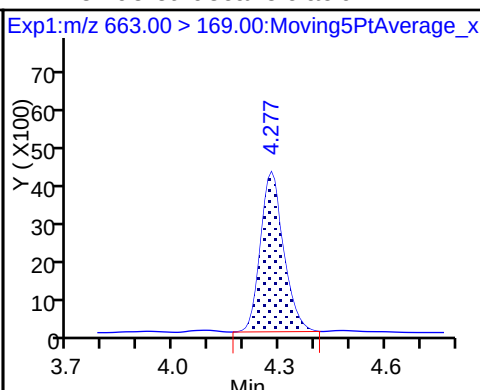
39 N-ethylperfluoro-1-octanesulfonami



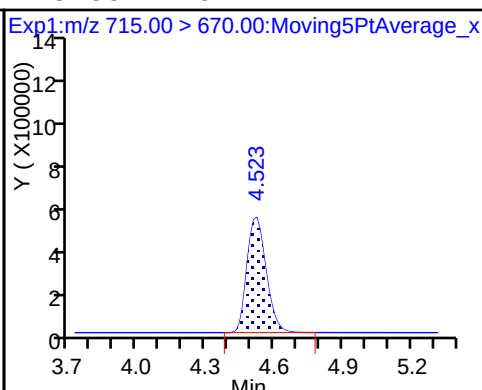
41 Perfluorotridecanoic acid



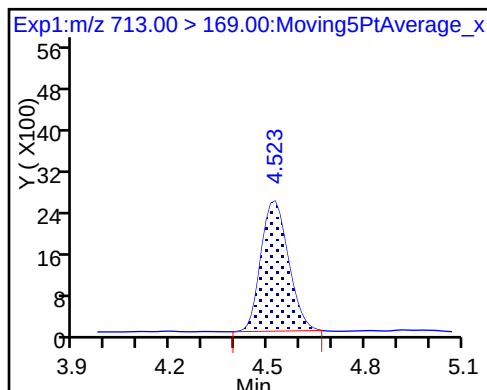
41 Perfluorotridecanoic acid



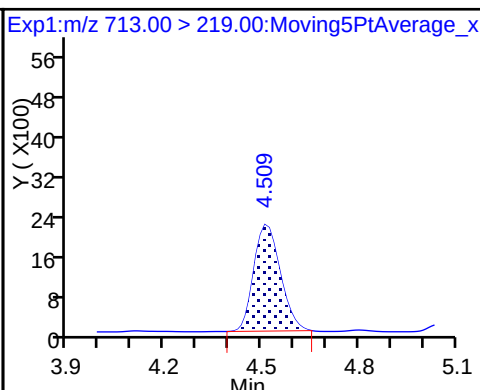
D 43 13C2-PFTeDA



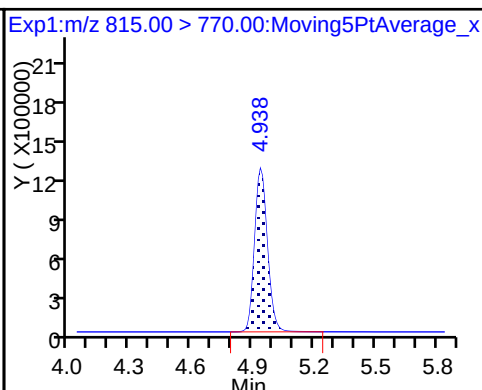
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



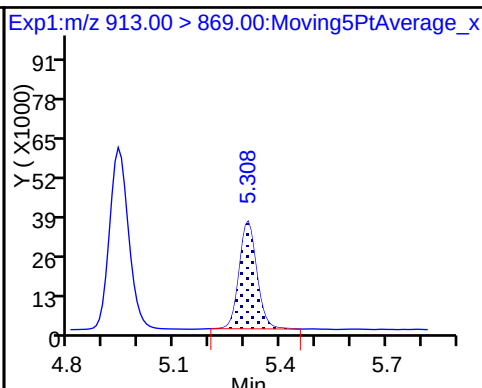
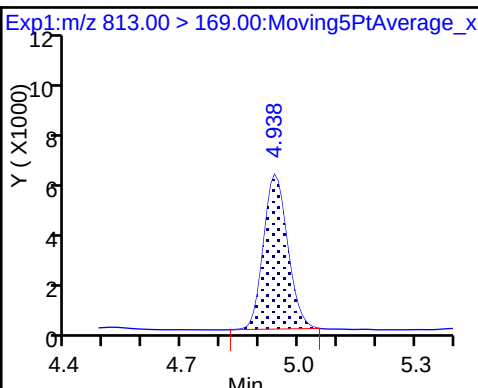
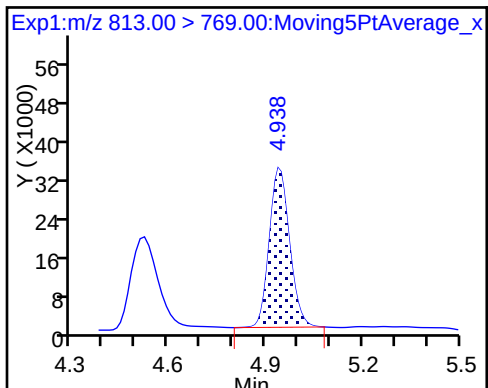
D 44 13C2-PFHxDA



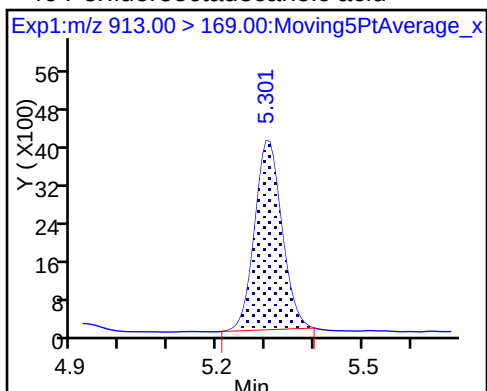
## 45 Perfluorohexadecanoic acid

## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid



## 46 Perfluorooctadecanoic acid



## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_003.d

Injection Date: 21-Dec-2017 15:13:51

Instrument ID: A8\_N

Lims ID: IC L2 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 11 Worklist Smp#: 3

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

Column:

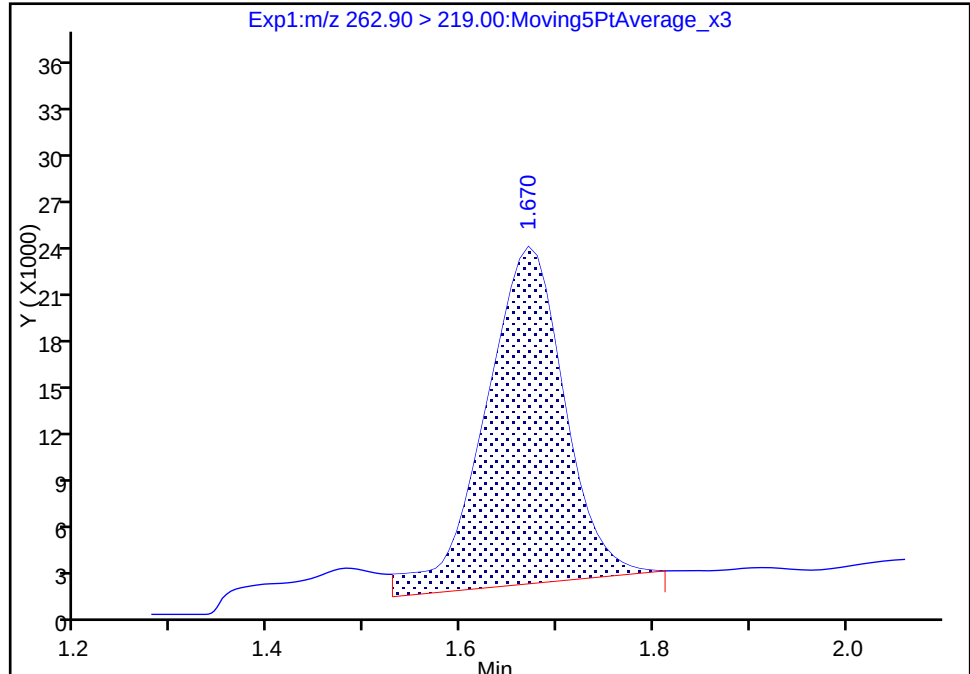
Detector: EXP1

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

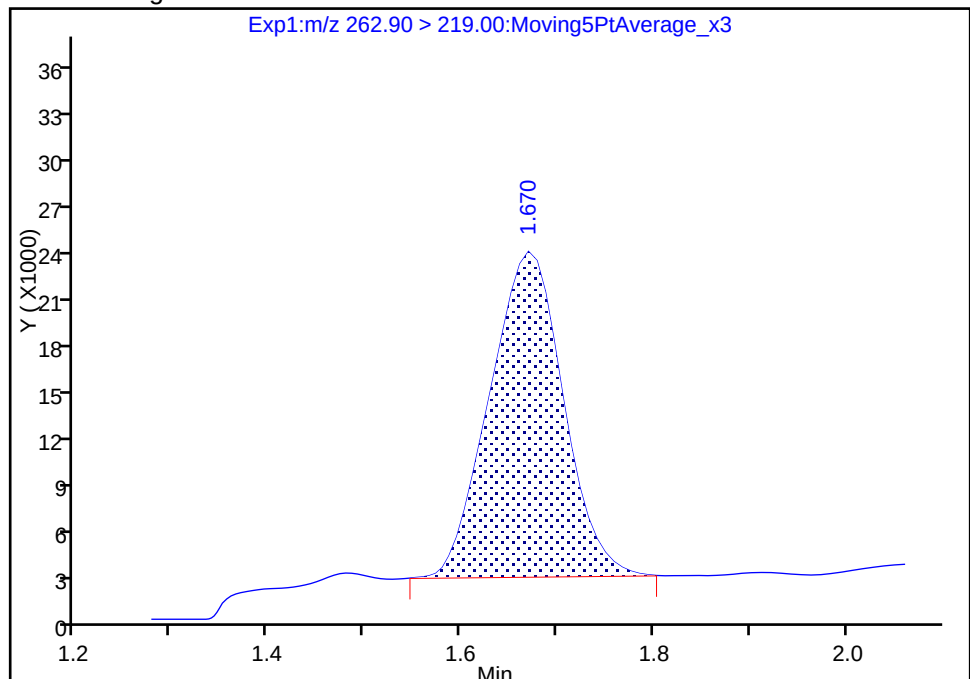
RT: 1.67  
Area: 125317  
Amount: 0.056108  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.67  
Area: 112651  
Amount: 0.051162  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 22-Dec-2017 09:04:02

Audit Action: Manually Integrated

Audit Reason: Baseline

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_004.d  
 Lims ID: IC L3 Full  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 21-Dec-2017 15:21:39 ALS Bottle#: 12 Worklist Smp#: 4  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L3-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:27:01 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

First Level Reviewer: hannigana

Date: 22-Dec-2017 09:05:05

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.420 | 1.419  | 0.001  | 1.000  | 750051   | 0.2575       |                   | 103  | 222   |       |
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.420 | 1.419  | 0.001  | 0.534  | 7947697  | 2.39         |                   | 95.7 | 30491 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.670 | 1.670  | 0.0    | 1.000  | 560389   | 0.2521       |                   | 101  | 360   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.670 | 1.670  | 0.0    | 0.628  | 4979129  | 2.50         |                   | 100  | 92577 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.706 | 1.705  | 0.001  | 0.642  | 96655    | 2.28         |                   | 98.1 | 3011  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.706 | 1.707  | -0.001 | 1.000  | 700583   | 0.2240       |                   | 101  | 4354  |       |
| 298.90 > 99.00                        | 1.706 | 1.707  | -0.001 | 1.000  | 294665   |              | 2.38(1.25-3.74)   | 101  | 3321  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.923 | 1.920  | 0.003  | 1.000  | 174598   | 0.2200       |                   | 94.2 | 7930  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.954 | 1.953  | 0.001  | 0.735  | 5246790  | 2.47         |                   | 98.9 | 39838 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.954 | 1.956  | -0.002 | 1.000  | 506862   | 0.2412       |                   | 96.5 | 1291  |       |
| 313.00 > 119.00                       | 1.954 | 1.956  | -0.002 | 1.000  | 49198    |              | 10.30(5.03-15.10) | 96.5 | 1221  |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 496497   | 0.2439       |                   | 97.6 | 790   |       |
| 363.00 > 169.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 204430   |              | 2.43(1.13-3.40)   | 97.6 | 1953  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.291 | 2.291  | 0.0    | 0.862  | 4865147  | 2.48         |                   | 99.1 | 34517 |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                   |      |       |       |
| 403.00 > 84.00                        | 2.304 | 2.304  | 0.0    | 0.867  | 5859680  | 2.36         |                   | 99.9 | 29770 |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |      |       |       |
| 399.00 > 80.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 581986   | 0.2182       |                 | 95.9 | 1498  |       |
| 399.00 > 99.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 198038   |              | 2.94(1.50-4.49) | 95.9 | 1037  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.644 | 2.642  | 0.002  | 1.000  | 361912   | 0.2418       |                 | 102  | 17487 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.644 | 2.642  | 0.002  | 0.995  | 2293081  | 2.51         |                 | 106  | 47398 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.658 | 2.654  | 0.004  | 1.000  | 5709764  | 2.53         |                 | 101  | 47697 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.658 | 2.656  | 0.002  |        | 5463968  | 2.50         |                 |      | 43910 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.658 | 2.656  | 0.002  | 1.000  | 614438   | 0.2558       |                 | 102  | 249   |       |
| 413.00 > 169.00                       | 2.658 | 2.656  | 0.002  | 1.000  | 331348   |              | 1.85(0.84-2.52) | 102  | 3124  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.666 | 2.662  | 0.004  | 1.000  | 512839   | 0.2402       |                 | 101  | 5792  |       |
| 449.00 > 99.00                        | 2.666 | 2.662  | 0.004  | 1.000  | 140266   |              | 3.66(1.94-5.82) | 101  | 3367  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.032 | 3.025  | 0.007  | 1.140  | 3896182  | 2.38         |                 | 99.6 | 25177 |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.032 | 3.028  | 0.004  | 1.140  | 3989341  | 2.49         |                 | 99.5 | 39663 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.032 | 3.028  | 0.004  | 1.000  | 405361   | 0.2346       |                 | 101  | 41.6  |       |
| 499.00 > 99.00                        | 3.032 | 3.028  | 0.004  | 1.000  | 88049    |              | 4.60(2.31-6.93) | 101  | 52.3  |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.032 | 3.029  | 0.003  | 1.000  | 373010   | 0.2323       |                 | 92.9 | 496   |       |
| 463.00 > 169.00                       | 3.032 | 3.029  | 0.003  | 1.000  | 98395    |              | 3.79(1.90-5.69) | 92.9 | 2602  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.370 | 3.370  | 0.0    | 1.268  | 5315226  | 2.39         |                 | 95.5 | 28372 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.377 | 3.372  | 0.005  | 1.002  | 545722   | 0.2676       |                 | 107  | 9071  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.377 | 3.377  | 0.0    | 1.000  | 146774   | 0.2401       |                 | 100  | 4052  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.377 | 3.377  | 0.0    | 1.270  | 1204160  | 2.36         |                 | 98.4 | 19096 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.392 | 3.389  | 0.003  | 1.276  | 3305746  | 2.50         |                 | 99.9 | 34848 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.392 | 3.390  | 0.002  | 1.000  | 313237   | 0.2449       |                 | 98.0 | 1540  |       |
| 513.00 > 169.00                       | 3.392 | 3.390  | 0.002  | 1.000  | 60137    |              | 5.21(2.36-7.09) | 98.0 | 1362  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.544 | 3.543  | 0.001  | 1.333  | 1706528  | 2.40         |                 | 96.1 | 22435 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.551 | 3.548  | 0.003  | 1.002  | 182960   | 0.2497       |                 | 99.9 | 1458  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.704 | 3.703  | 0.001  | 1.000  | 242152   | 0.2405       |                 | 99.8 | 6462  |       |
| 599.00 > 99.00                        | 3.695 | 3.703  | -0.008 | 0.998  | 80881    |              | 2.99(1.39-4.16) | 99.8 | 2447  |       |



| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.713 | 3.712     | 0.001     | 1.397     | 1697550  | 2.45            |                 | 97.9 | 9413  |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.713 | 3.717     | -0.004    | 1.397     | 2608579  | 2.59            |                 | 104  | 28242 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.713 | 3.718     | -0.005    | 1.000     | 236349   | 0.2473          |                 | 98.9 | 1097  |       |
| 563.00 > 169.00                       | 3.713 | 3.718     | -0.005    | 1.000     | 48613    |                 | 4.86(0.00-0.00) | 98.9 | 2570  |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.721 | 3.720     | 0.001     | 1.002     | 182516   | 0.2705          |                 | 108  | 3508  |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.863 | 3.862     | 0.001     | 1.453     | 1467756  | 2.31            |                 | 92.6 | 3302  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.873 | 3.872     | 0.001     | 1.003     | 154270   | 0.2685          |                 | 107  | 2408  |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.011 | 4.011     | 0.0       | 1.000     | 267420   | 0.2538          |                 | 102  | 713   |       |
| 613.00 > 169.00                       | 4.011 | 4.011     | 0.0       | 1.000     | 66078    |                 | 4.05(2.13-6.40) | 102  | 2763  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.011 | 4.011     | 0.0       | 1.509     | 2653771  | 2.44            |                 | 97.7 | 22168 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.050 | 4.052     | -0.002    | 1.524     | 1440997  | 2.37            |                 | 94.6 | 2816  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.058 | 4.058     | 0.0       | 1.002     | 151307   | 0.2466          |                 | 98.6 | 1942  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.278 | 4.277     | 0.001     | 1.000     | 325173   | 0.2642          |                 | 106  | 744   |       |
| 663.00 > 169.00                       | 4.278 | 4.277     | 0.001     | 1.000     | 101894   |                 | 3.19(1.25-3.76) | 106  | 4619  |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.513 | 4.518     | -0.005    | 1.000     | 84101    | 0.2694          |                 | 108  | 2390  |       |
| 713.00 > 219.00                       | 4.513 | 4.518     | -0.005    | 1.000     | 51931    |                 | 1.62(0.71-2.13) | 108  | 1489  |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.513 | 4.518     | -0.005    | 1.698     | 3027973  | 2.49            |                 | 99.8 | 19113 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.939 | 4.939     | 0.0       | 1.000     | 529034   | 0.2502          |                 | 100  | 255   |       |
| 813.00 > 169.00                       | 4.939 | 4.939     | 0.0       | 1.000     | 103975   |                 | 5.09(2.86-8.58) | 100  | 2702  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.939 | 4.939     | 0.0       | 1.858     | 5642954  | 2.55            |                 | 102  | 20536 |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.302 | 5.306     | -0.004    | 1.000     | 601525   | 0.2589          |                 | 104  | 129   |       |
| 913.00 > 169.00                       | 5.302 | 5.306     | -0.004    | 1.000     | 79681    |                 | 7.55(0.00-0.00) | 104  | 901   |       |

## Reagents:

LCPFC\_LL3\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_004.d

Injection Date: 21-Dec-2017 15:21:39

Instrument ID: A8\_N

Lims ID: IC L3 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 12

Worklist Smp#: 4

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

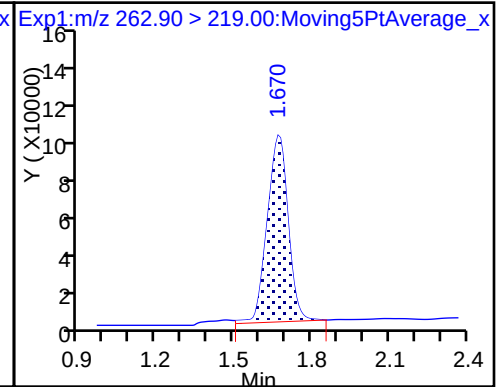
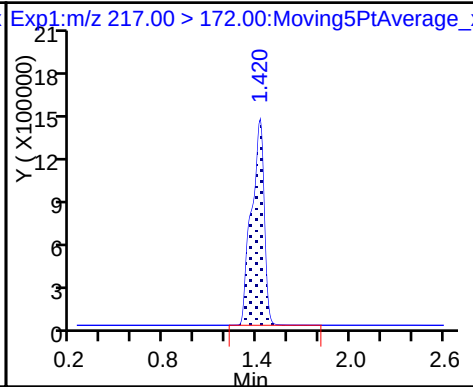
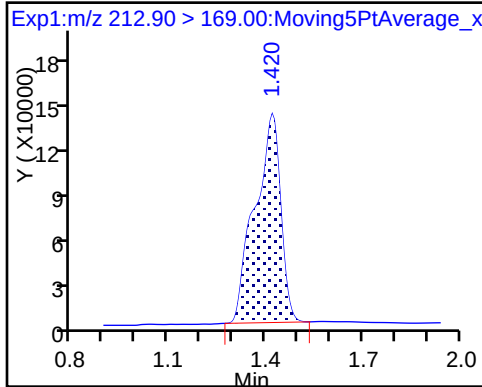
Method: A8\_N

Limit Group: LC PFC ICAL

2 Perfluorobutyric acid

D 1 13C4 PFBA

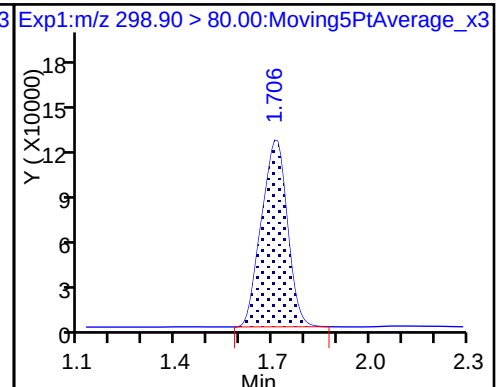
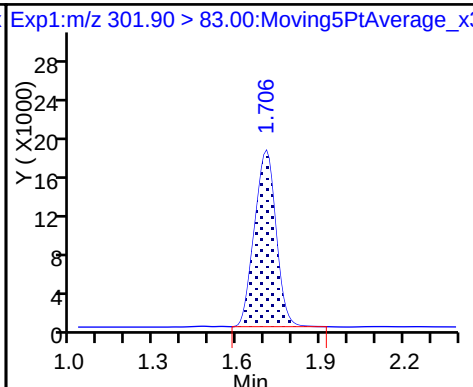
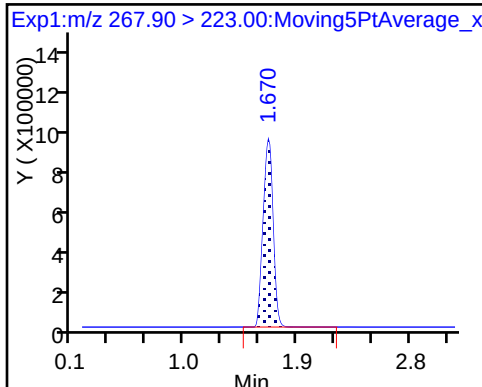
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

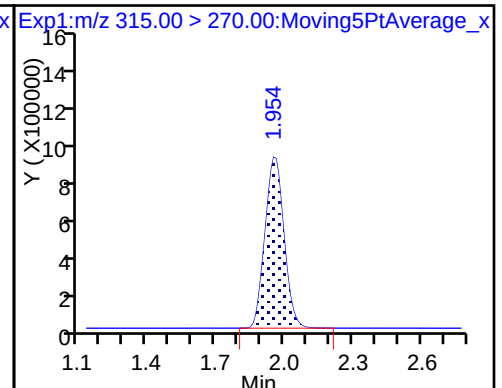
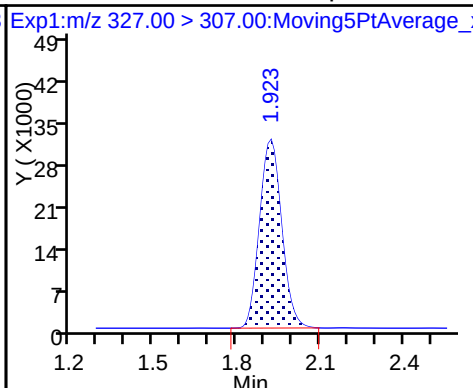
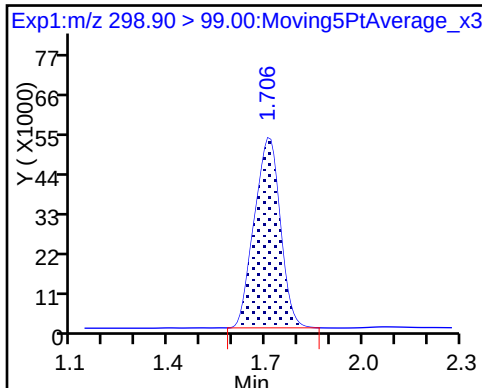
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

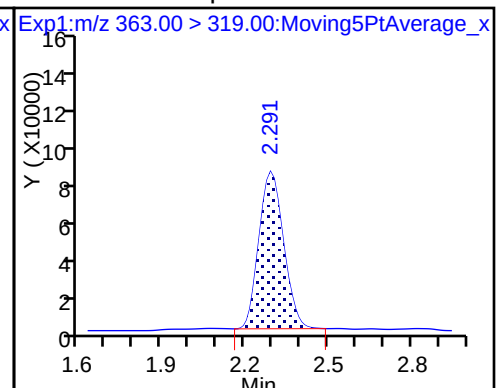
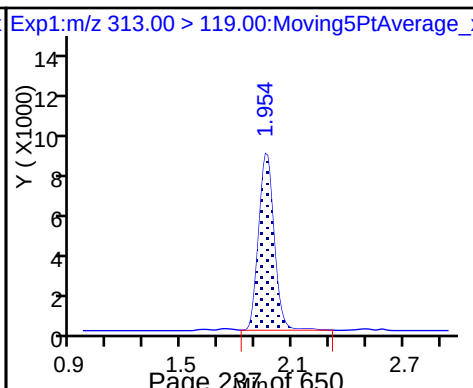
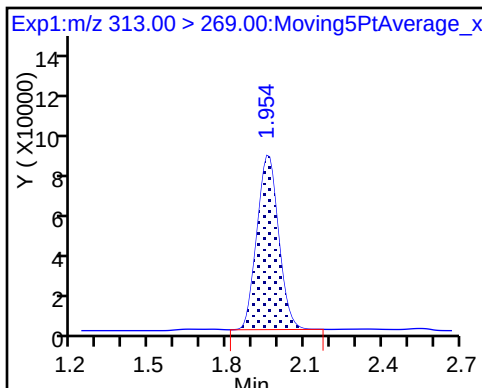
De 7 13C2 PFHxA

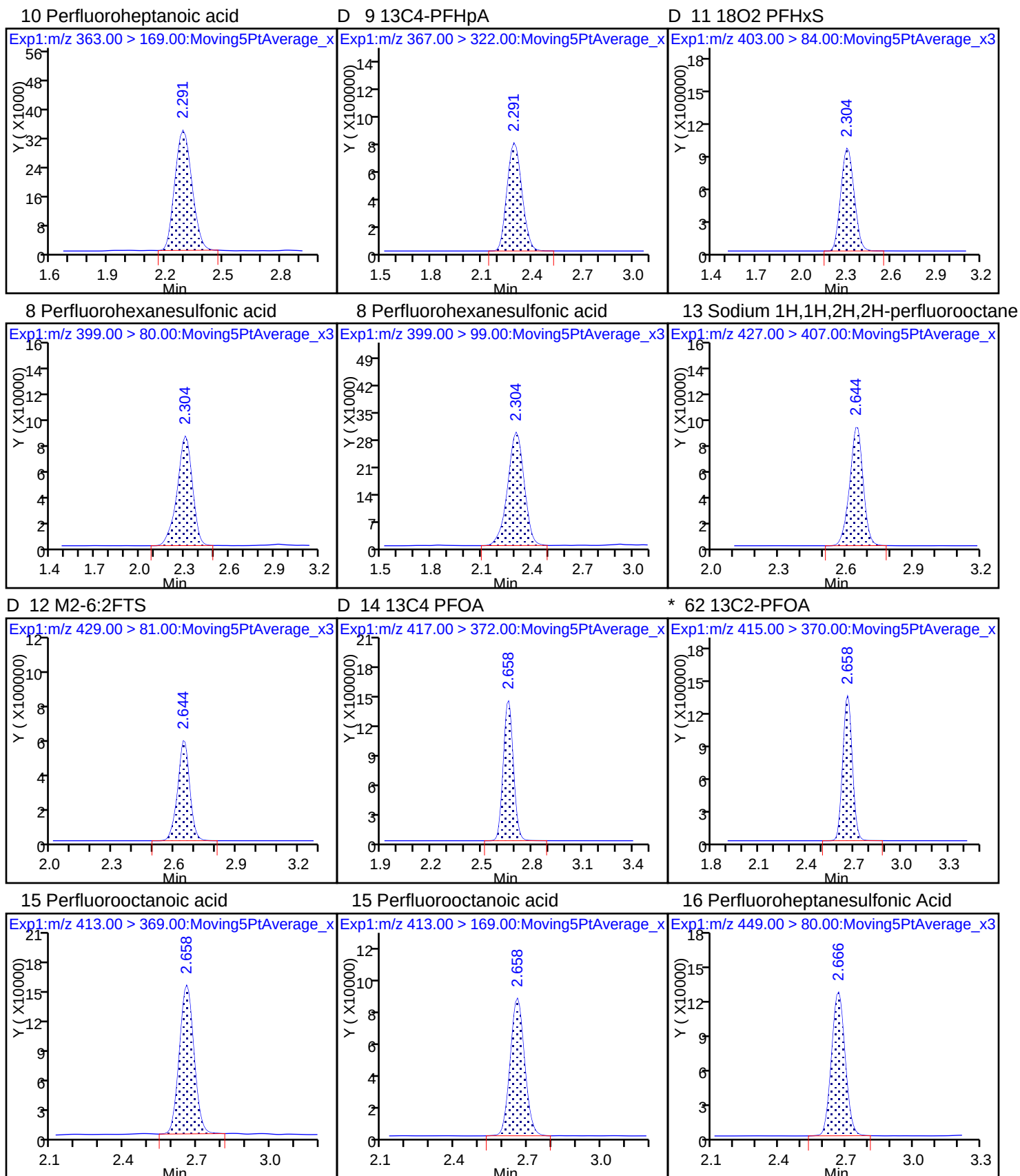


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

10 Perfluoroheptanoic acid

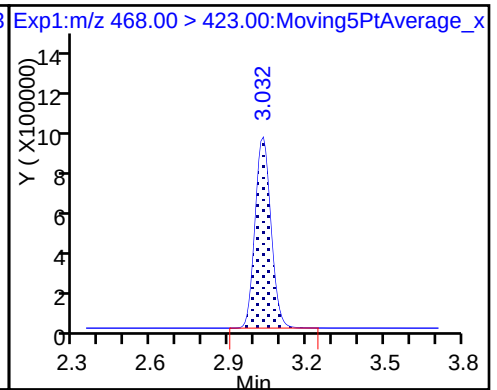
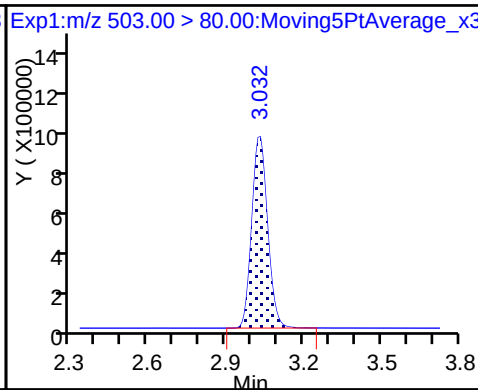
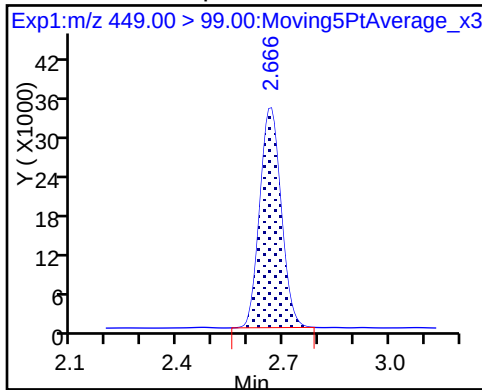




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

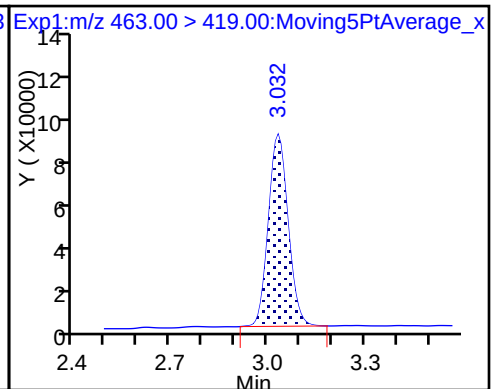
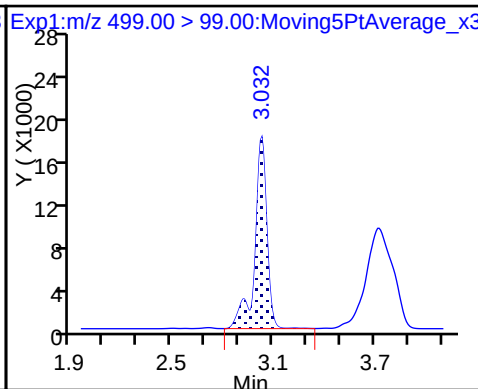
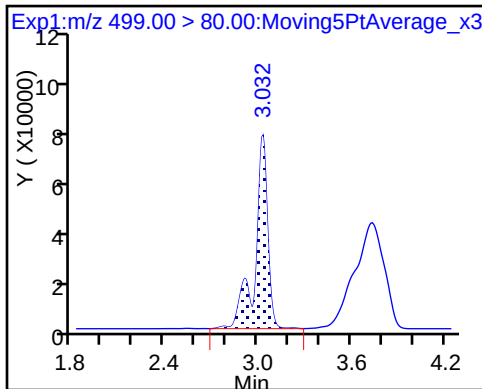
D 19 13C5 PFNA



17 Perfluorooctane sulfonic acid

17 Perfluorooctane sulfonic acid

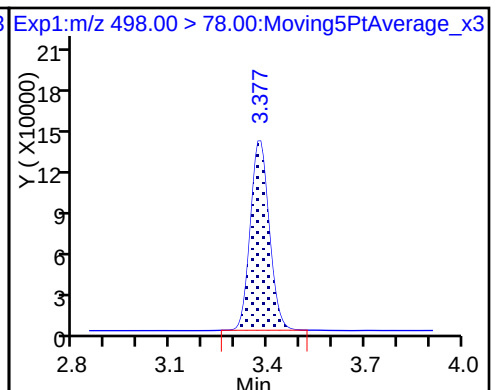
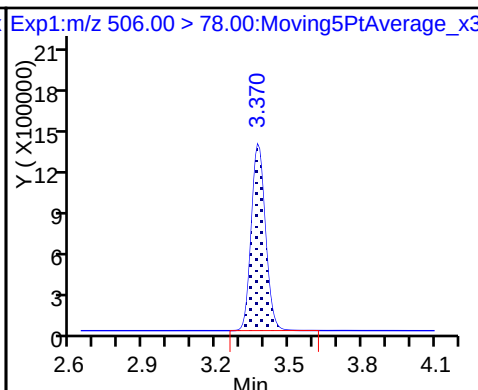
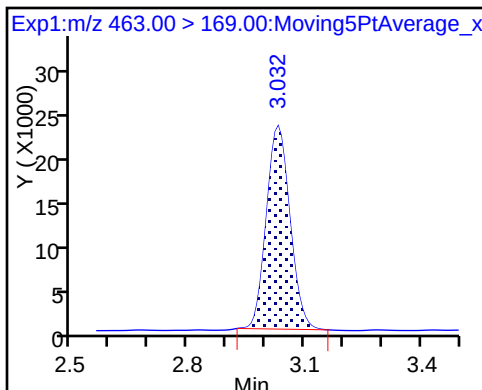
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

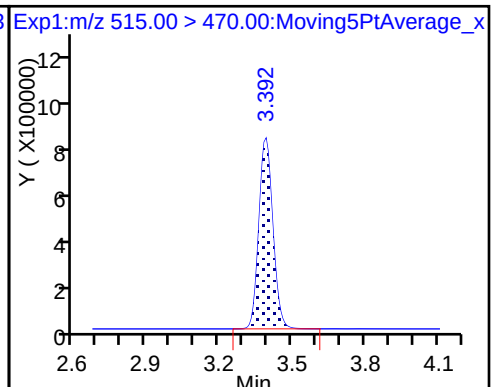
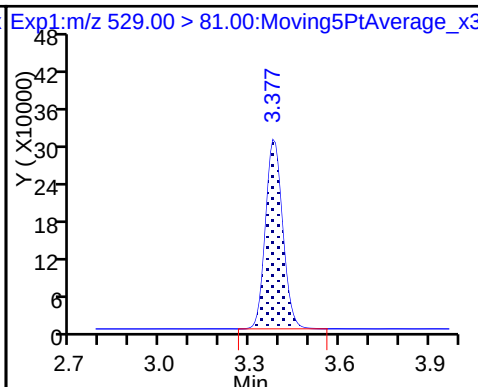
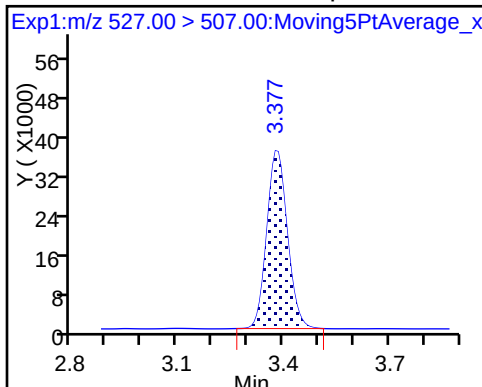
22 Perfluorooctane Sulfonamide

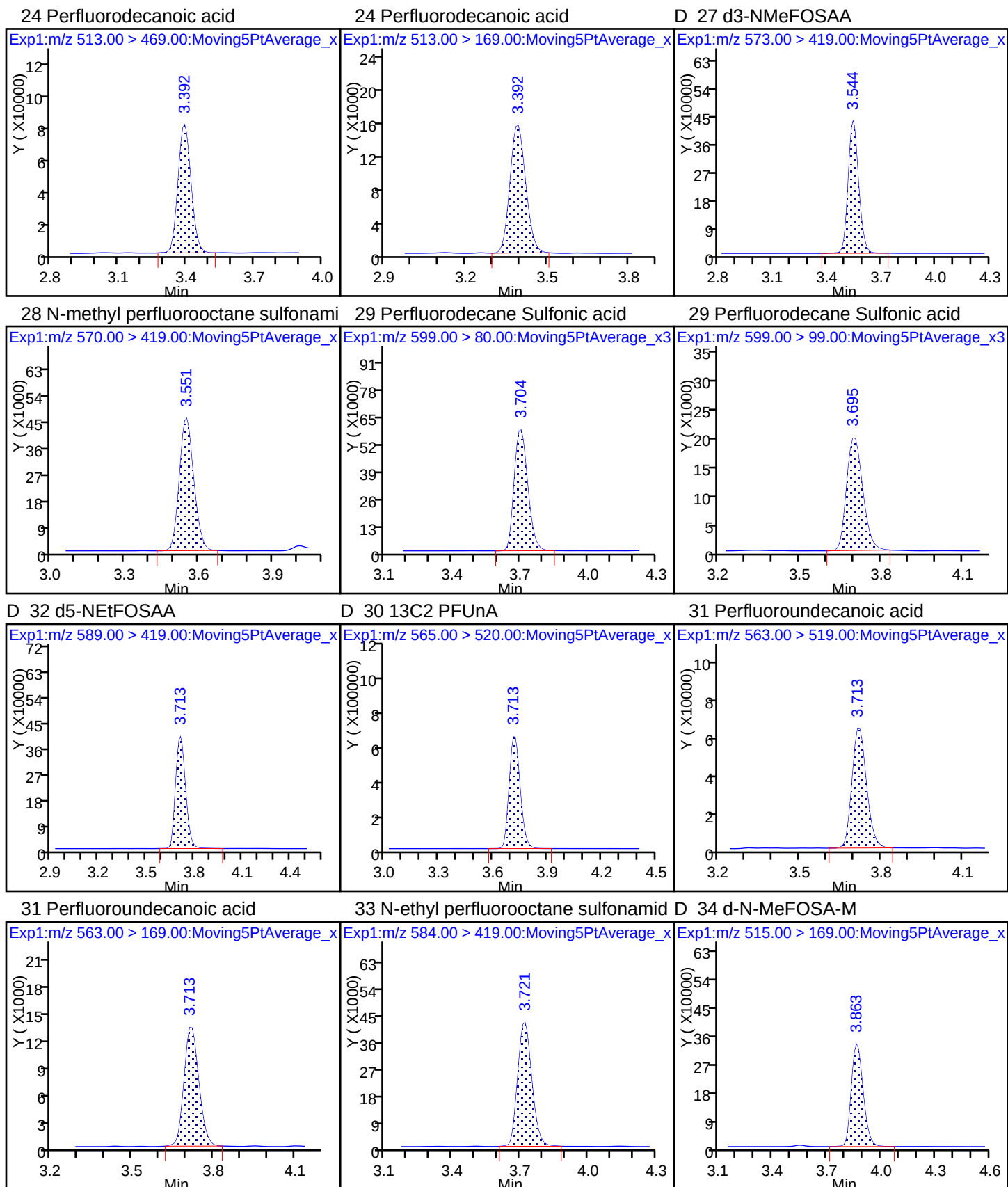


25 Sodium 1H,1H,2H,2H-perfluorodeca

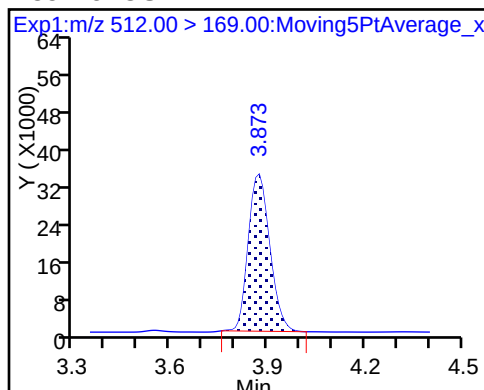
De26 M2-8:2FTS

D 23 13C2 PFDA

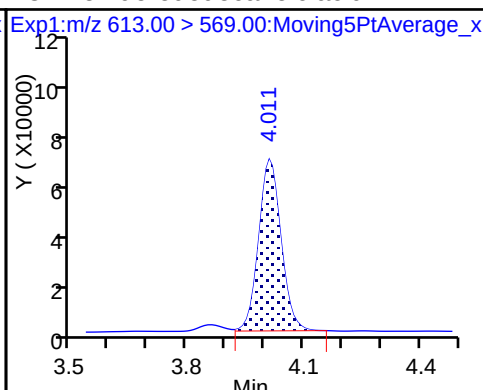




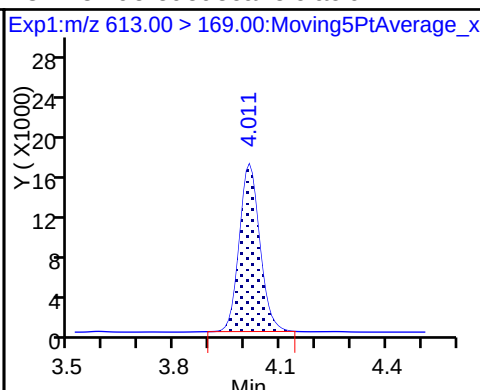
35 MeFOSA



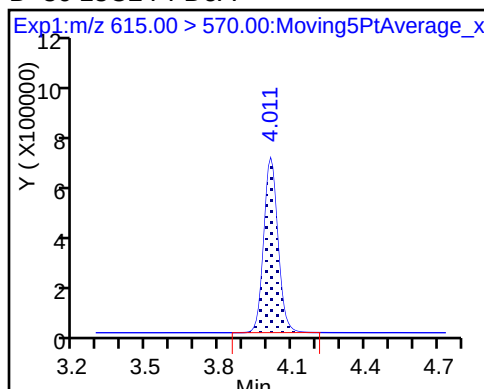
37 Perfluorododecanoic acid



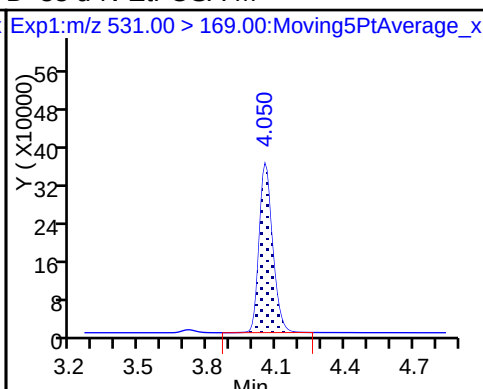
37 Perfluorododecanoic acid



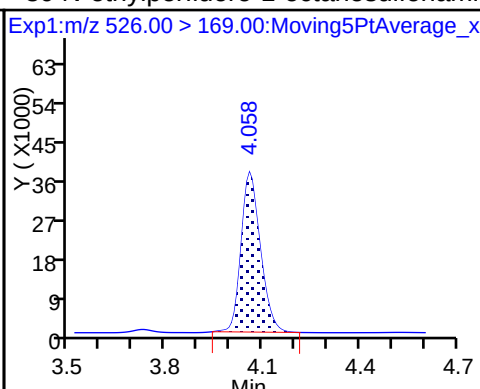
D 36 13C2 PFDaA



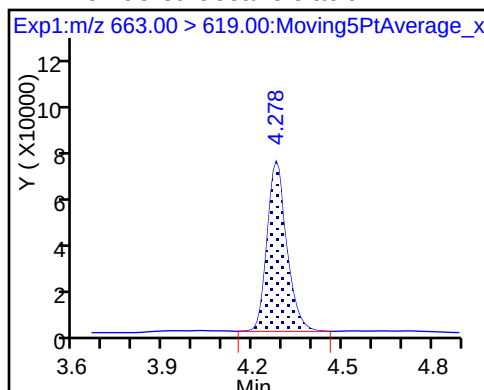
D 38 d-N-EtFOSA-M



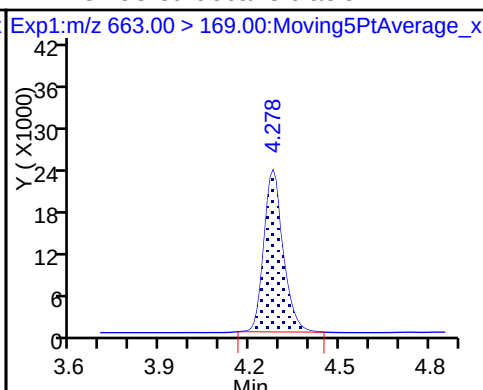
39 N-ethylperfluoro-1-octanesulfonami



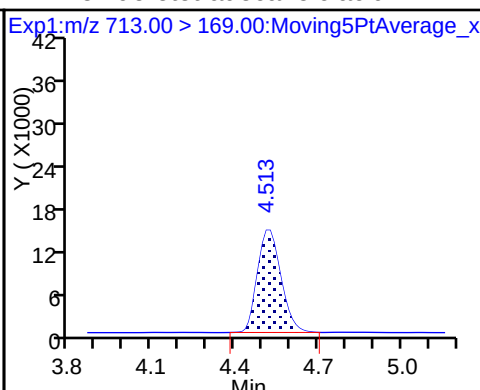
41 Perfluorotridecanoic acid



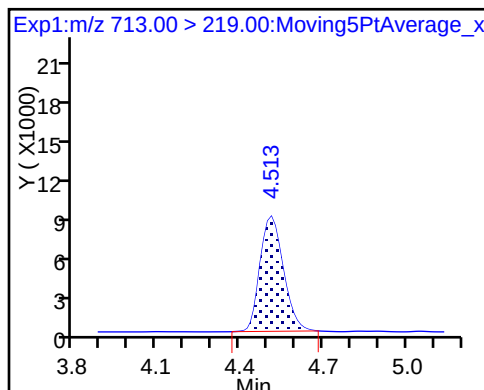
41 Perfluorotridecanoic acid



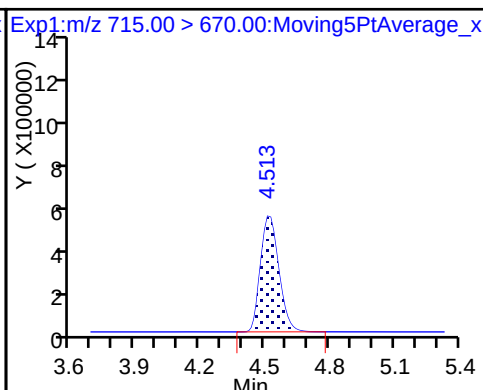
42 Perfluorotetradecanoic acid



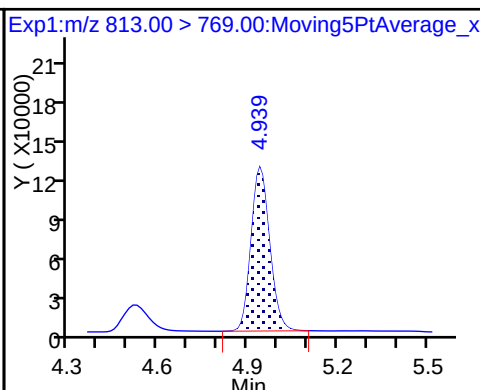
42 Perfluorotetradecanoic acid



D 43 13C2-PFTeDA



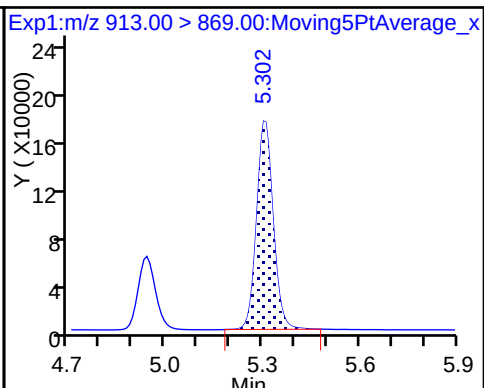
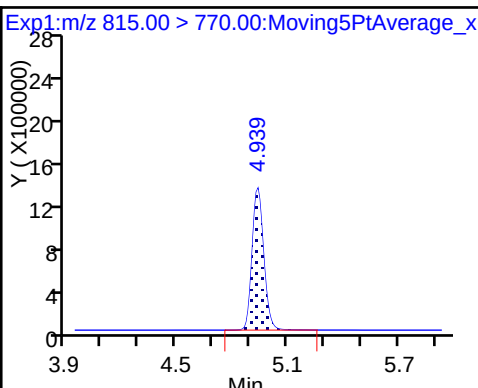
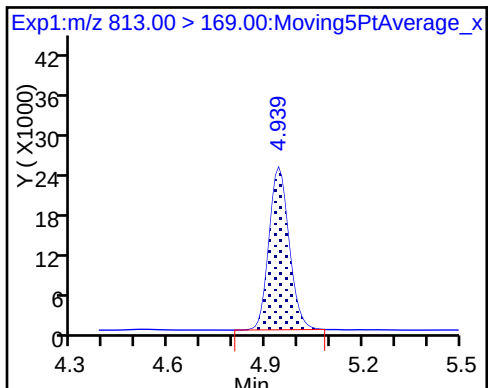
45 Perfluorohexadecanoic acid



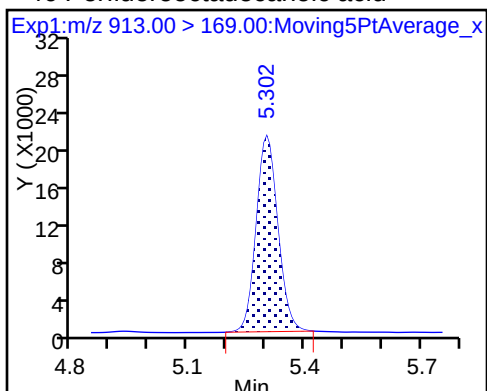
45 Perfluorohexadecanoic acid

D 44 13C2-PFHxDA

46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_005.d  
 Lims ID: IC L4 Full  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 21-Dec-2017 15:29:28 ALS Bottle#: 13 Worklist Smp#: 5  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L4-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:27:04 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

First Level Reviewer: hannigana

Date: 22-Dec-2017 09:05:35

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec  | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|-------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |       |       |       |
| 217.00 > 172.00                       | 1.419 | 1.419  | 0.0    | 0.534  | 7910765  | 2.53         |                   | 101   | 24597 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |       |       |       |
| 212.90 > 169.00                       | 1.419 | 1.419  | 0.0    | 1.000  | 2959580  | 1.02         |                   | 102   | 851   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |       |       |       |
| 267.90 > 223.00                       | 1.670 | 1.670  | 0.0    | 0.629  | 4678298  | 2.50         |                   | 100.0 | 77580 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |       |       |       |
| 262.90 > 219.00                       | 1.670 | 1.670  | 0.0    | 1.000  | 2060919  | 0.9866       |                   | 98.7  | 1410  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |       |       |       |
| 301.90 > 83.00                        | 1.705 | 1.705  | 0.0    | 0.642  | 91473    | 2.29         |                   | 98.6  | 2338  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |       |       |       |
| 298.90 > 80.00                        | 1.705 | 1.707  | -0.002 | 1.000  | 2736616  | 0.9247       |                   | 105   | 17109 |       |
| 298.90 > 99.00                        | 1.705 | 1.707  | -0.002 | 1.000  | 1144018  |              | 2.39(1.25-3.74)   | 105   | 11483 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |       |       |       |
| 327.00 > 307.00                       | 1.922 | 1.920  | 0.002  | 1.000  | 692506   | 0.9155       |                   | 98.0  | 25168 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |       |       |       |
| 315.00 > 270.00                       | 1.953 | 1.953  | 0.0    | 0.735  | 5041504  | 2.52         |                   | 101   | 41831 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |       |       |       |
| 313.00 > 269.00                       | 1.953 | 1.956  | -0.003 | 1.000  | 2014119  | 1.00         |                   | 99.8  | 5314  |       |
| 313.00 > 119.00                       | 1.953 | 1.956  | -0.003 | 1.000  | 183488   |              | 10.98(5.03-15.10) | 99.8  | 3480  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |       |       |       |
| 367.00 > 322.00                       | 2.291 | 2.291  | 0.0    | 0.862  | 4733493  | 2.56         |                   | 102   | 28466 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |       |       |       |
| 363.00 > 319.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 2034903  | 1.03         |                   | 103   | 3238  |       |
| 363.00 > 169.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 786148   |              | 2.59(1.13-3.40)   | 103   | 6377  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |       |       |       |
| 399.00 > 80.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 2306702  | 0.8991       |                   | 98.8  | 4747  |       |
| 399.00 > 99.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 758825   |              | 3.04(1.50-4.49)   | 98.8  | 3704  |       |



| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.304 | 2.304  | 0.0    | 0.867  | 5636753  | 2.41         |                 | 102  | 25349 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.642 | 2.642  | 0.0    | 1.000  | 1278132  | 0.8962       |                 | 94.5 | 37698 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.642 | 2.642  | 0.0    | 0.995  | 2185400  | 2.54         |                 | 107  | 48400 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.656 | 2.654  | 0.002  | 1.000  | 5445865  | 2.56         |                 | 102  | 30387 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.656 | 2.656  | 0.0    |        | 5144869  | 2.50         |                 |      | 40787 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.656 | 2.656  | 0.0    | 1.000  | 2316692  | 1.01         |                 | 101  | 960   |       |
| 413.00 > 169.00                       | 2.656 | 2.656  | 0.0    | 1.000  | 1239745  |              | 1.87(0.84-2.52) | 101  | 10255 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.664 | 2.662  | 0.002  | 1.000  | 2063948  | 1.02         |                 | 107  | 16392 |       |
| 449.00 > 99.00                        | 2.664 | 2.662  | 0.002  | 1.000  | 537343   |              | 3.84(1.94-5.82) | 107  | 9799  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.022 | 3.025  | -0.003 | 1.138  | 3682923  | 2.39         |                 | 100  | 31211 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.030 | 3.028  | 0.002  | 1.003  | 1582639  | 0.9688       |                 | 104  | 151   |       |
| 499.00 > 99.00                        | 3.030 | 3.028  | 0.002  | 1.003  | 337241   |              | 4.69(2.31-6.93) | 104  | 201   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.030 | 3.028  | 0.002  | 1.141  | 3850882  | 2.55         |                 | 102  | 36756 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.030 | 3.029  | 0.001  | 1.000  | 1517301  | 0.9789       |                 | 97.9 | 2115  |       |
| 463.00 > 169.00                       | 3.030 | 3.029  | 0.001  | 1.000  | 392029   |              | 3.87(1.90-5.69) | 97.9 | 8518  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.368 | 3.370  | -0.002 | 1.268  | 5171390  | 2.47         |                 | 98.6 | 26492 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.368 | 3.372  | -0.004 | 1.000  | 2103527  | 1.06         |                 | 106  | 16908 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.376 | 3.377  | -0.001 | 1.271  | 1181970  | 2.46         |                 | 103  | 16416 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.376 | 3.377  | -0.001 | 1.000  | 549454   | 0.9159       |                 | 95.6 | 10571 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.391 | 3.389  | 0.002  | 1.276  | 3165987  | 2.54         |                 | 102  | 32940 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.391 | 3.390  | 0.001  | 1.000  | 1273852  | 1.04         |                 | 104  | 5585  |       |
| 513.00 > 169.00                       | 3.391 | 3.390  | 0.001  | 1.000  | 230406   |              | 5.53(2.36-7.09) | 104  | 2159  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.542 | 3.543  | -0.001 | 1.333  | 1709219  | 2.56         |                 | 102  | 21223 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.550 | 3.548  | 0.002  | 1.002  | 727385   | 0.99         |                 | 99.1 | 4758  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.702 | 3.703  | -0.001 | 1.000  | 957540   | 1.01         |                 | 104  | 16616 |       |
| 599.00 > 99.00                        | 3.702 | 3.703  | -0.001 | 1.000  | 316860   |              | 3.02(1.39-4.16) | 104  | 8447  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.711 | 3.712  | -0.001 | 1.397  | 1687944  | 2.58         |                 | 103  | 7998  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.720 | 3.717     | 0.003     | 1.400     | 2389837  | 2.52            |                 | 101  | 29666 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.720 | 3.718     | 0.002     | 1.000     | 858830   | 0.9808          |                 | 98.1 | 3975  |       |
| 563.00 > 169.00                       | 3.720 | 3.718     | 0.002     | 1.000     | 206937   |                 | 4.15(0.00-0.00) | 98.1 | 9276  |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.720 | 3.720     | 0.0       | 1.002     | 681119   | 1.02            |                 | 102  | 9897  |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.861 | 3.862     | -0.001    | 1.454     | 1436923  | 2.41            |                 | 96.2 | 3199  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.871 | 3.872     | -0.001    | 1.003     | 571619   | 1.02            |                 | 102  | 3103  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.010 | 4.011     | -0.001    | 1.509     | 2542417  | 2.49            |                 | 99.4 | 24329 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.010 | 4.011     | -0.001    | 1.000     | 1061502  | 1.05            |                 | 105  | 2893  |       |
| 613.00 > 169.00                       | 4.010 | 4.011     | -0.001    | 1.000     | 258493   |                 | 4.11(2.13-6.40) | 105  | 12814 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.049 | 4.052     | -0.003    | 1.524     | 1411807  | 2.46            |                 | 98.4 | 2827  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.057 | 4.058     | -0.001    | 1.002     | 603432   | 1.00            |                 | 100  | 2679  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.276 | 4.277     | -0.001    | 1.000     | 1199386  | 1.02            |                 | 102  | 3241  |       |
| 663.00 > 169.00                       | 4.276 | 4.277     | -0.001    | 1.000     | 390569   |                 | 3.07(1.25-3.76) | 102  | 15035 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.518 | 4.518     | 0.0       | 1.701     | 2965610  | 2.59            |                 | 104  | 22263 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.518 | 4.518     | 0.0       | 1.000     | 273069   | 0.8932          |                 | 89.3 | 7841  |       |
| 713.00 > 219.00                       | 4.518 | 4.518     | 0.0       | 1.000     | 215892   |                 | 1.26(0.71-2.13) | 89.3 | 7373  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.942 | 4.939     | 0.003     | 1.860     | 5459382  | 2.62            |                 | 105  | 14407 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.942 | 4.939     | 0.003     | 1.000     | 1951502  | 1.02            |                 | 102  | 949   |       |
| 813.00 > 169.00                       | 4.942 | 4.939     | 0.003     | 1.000     | 338269   |                 | 5.77(2.86-8.58) | 102  | 5263  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.305 | 5.306     | -0.001    | 1.000     | 2250667  | 1.00            |                 | 100  | 458   |       |
| 913.00 > 169.00                       | 5.305 | 5.306     | -0.001    | 1.000     | 297680   |                 | 7.56(0.00-0.00) | 100  | 2074  |       |

## Reagents:

LCPFC\_LL4\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_005.d

Injection Date: 21-Dec-2017 15:29:28

Instrument ID: A8\_N

Lims ID: IC L4 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 13

Worklist Smp#: 5

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

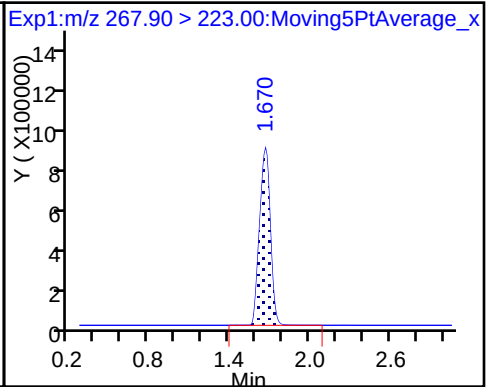
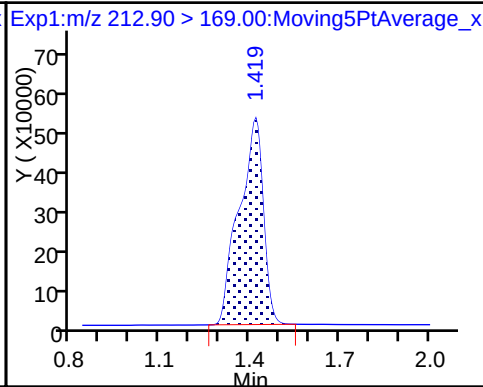
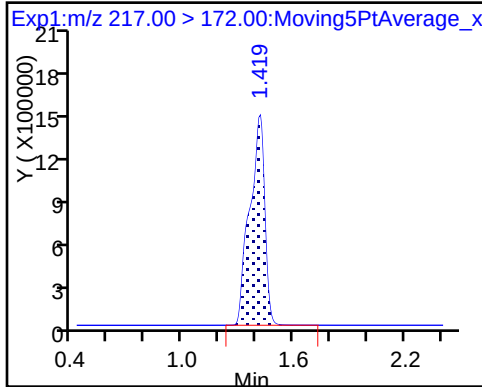
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

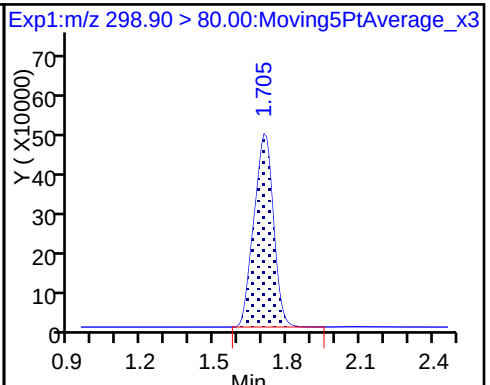
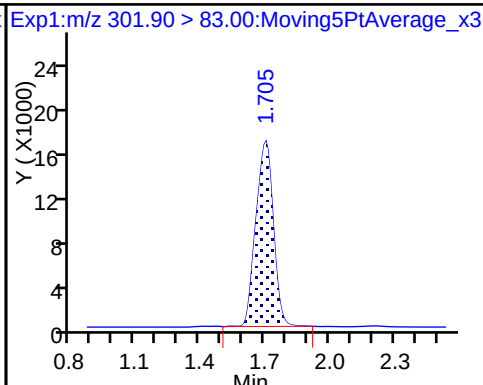
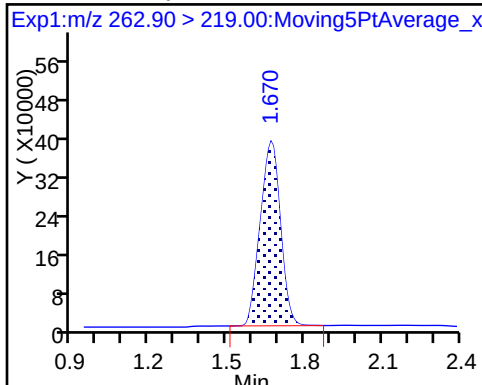
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 47 13C3-PFBS

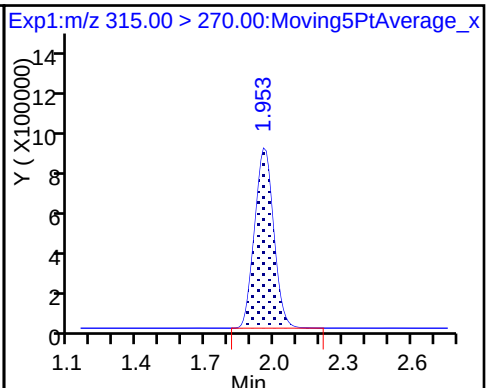
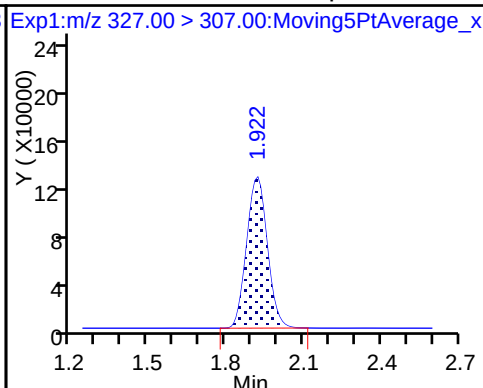
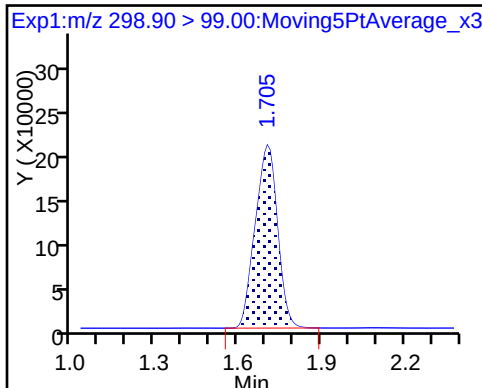
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

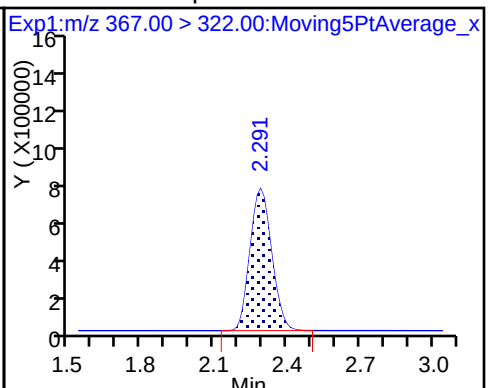
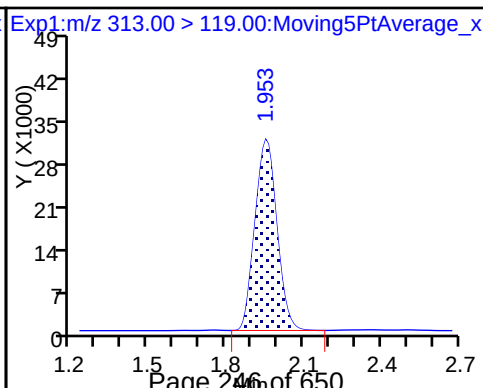
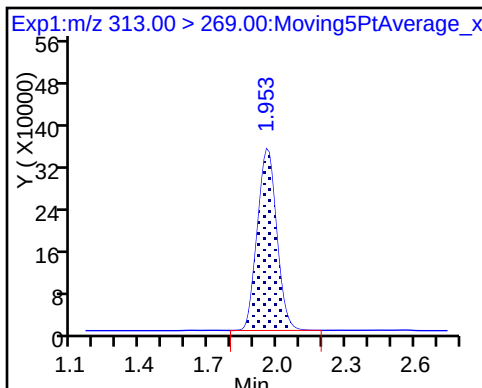
De 7 13C2 PFHxA

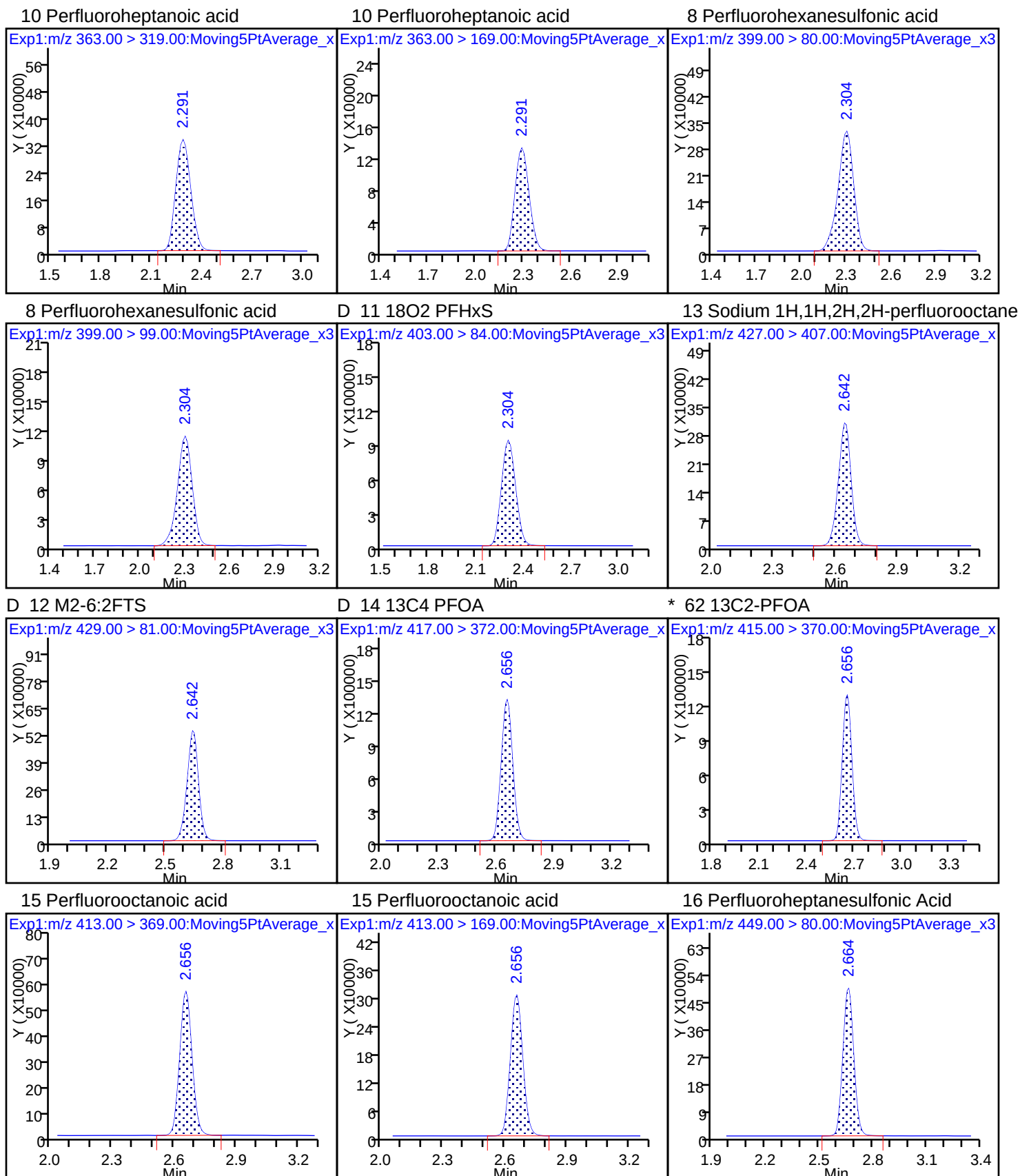


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

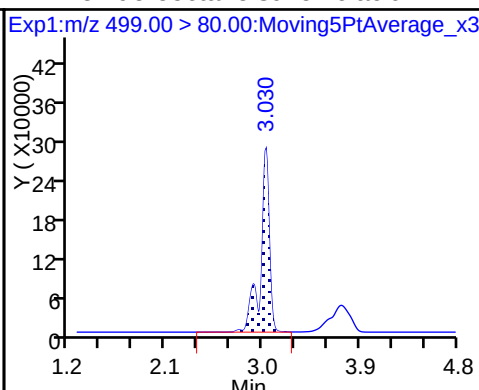
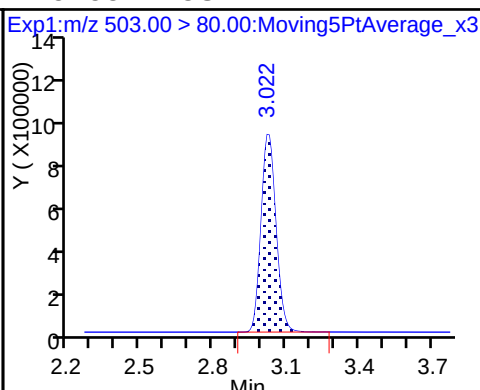
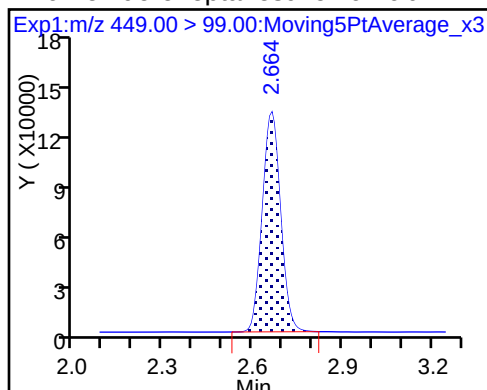




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

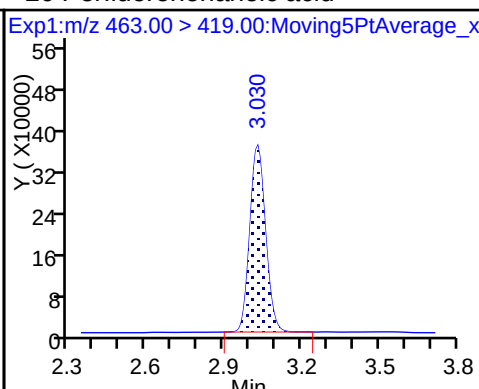
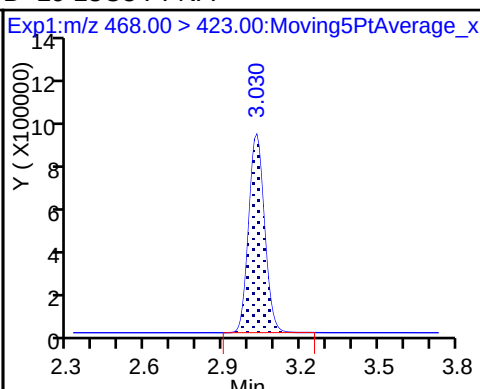
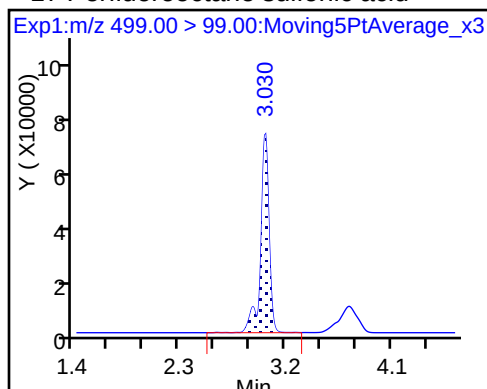
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

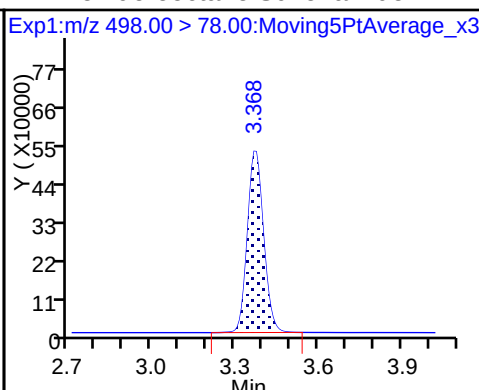
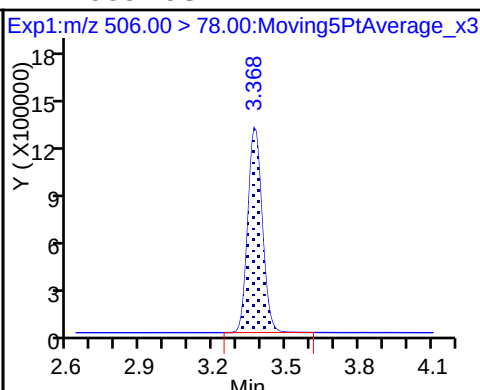
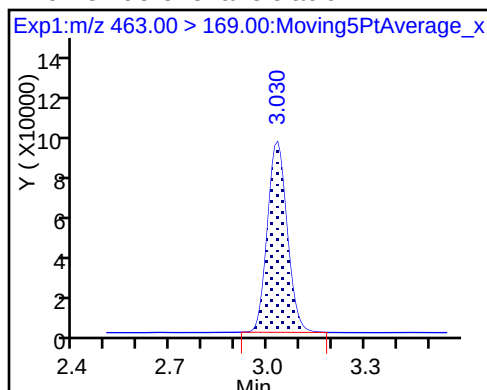
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

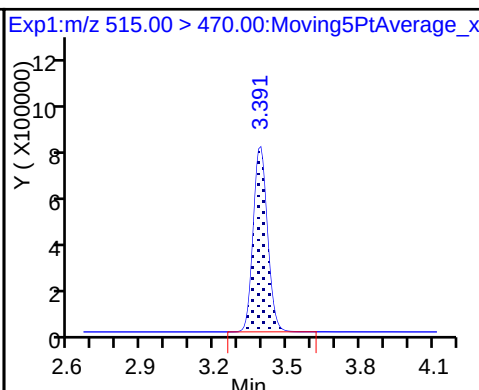
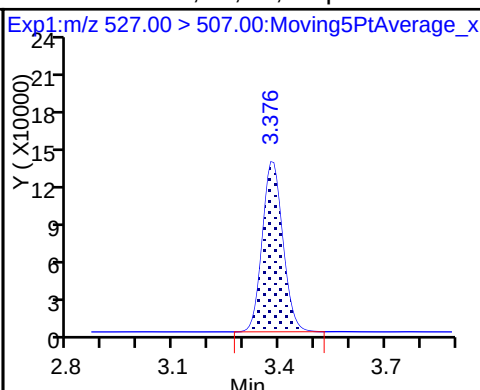
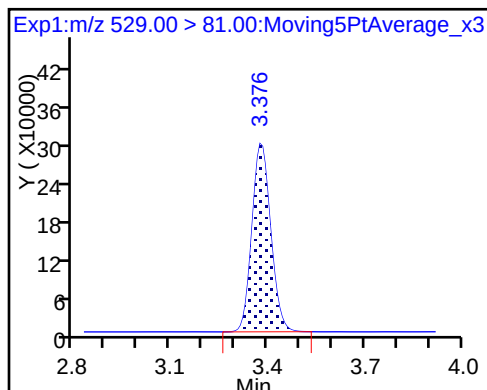
22 Perfluorooctane Sulfonamide

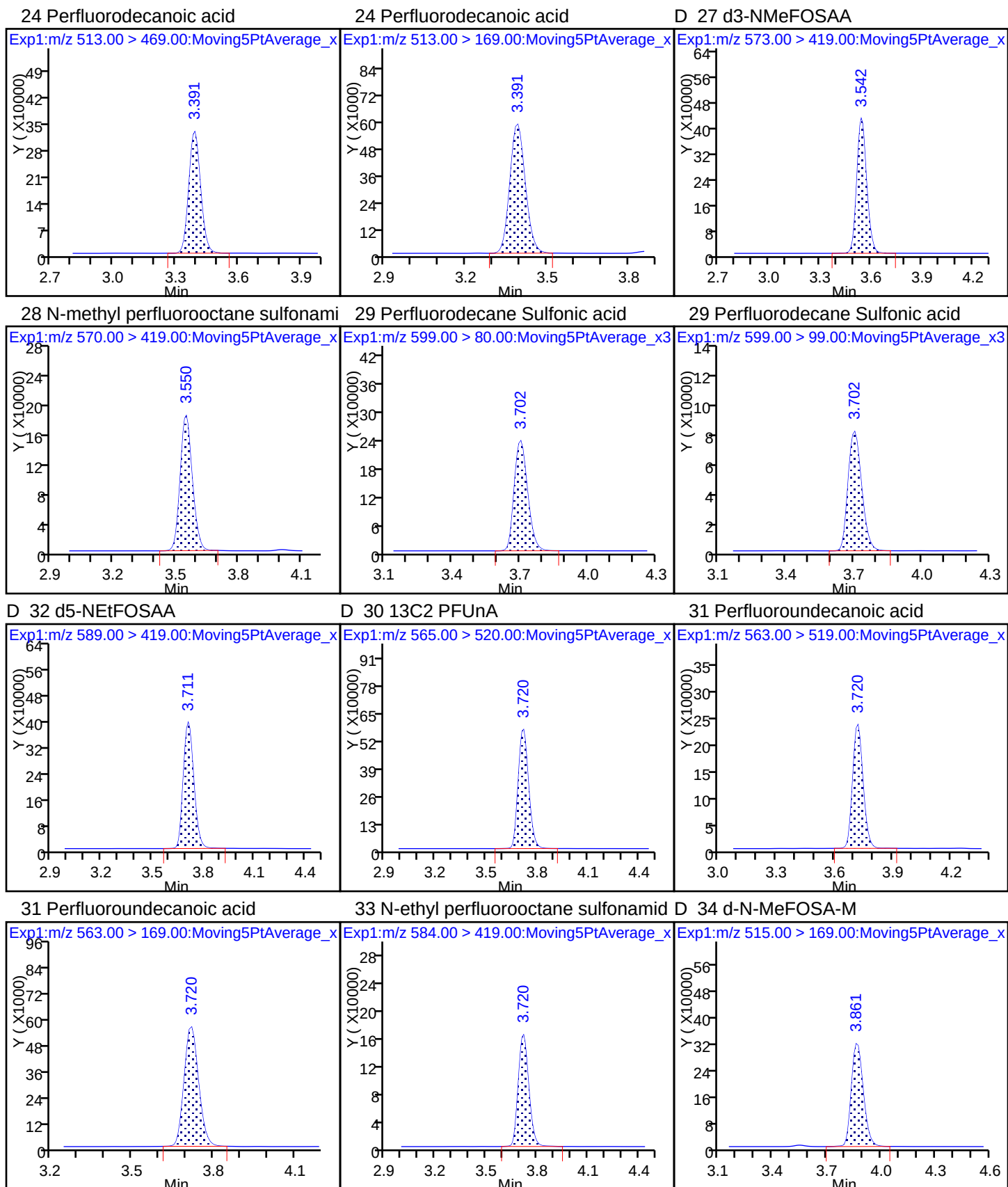


D 26 M2-8:2FTS

25 Sodium 1H,1H,2H,2H-perfluorodeca

De23 13C2 PFDA

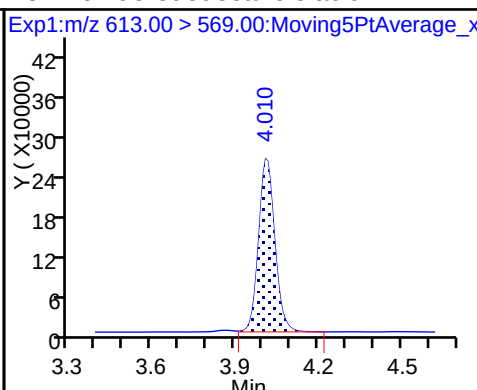
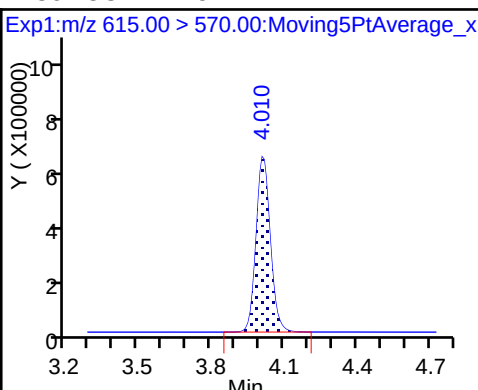
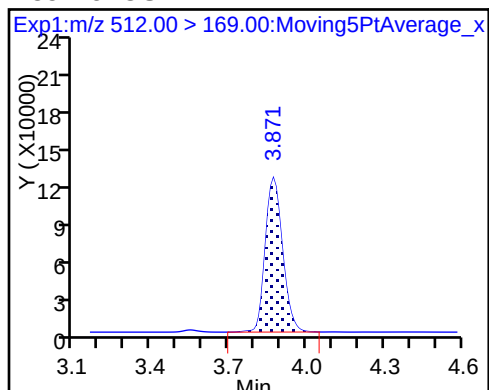




35 MeFOSA

D 36 13C2 PFDaA

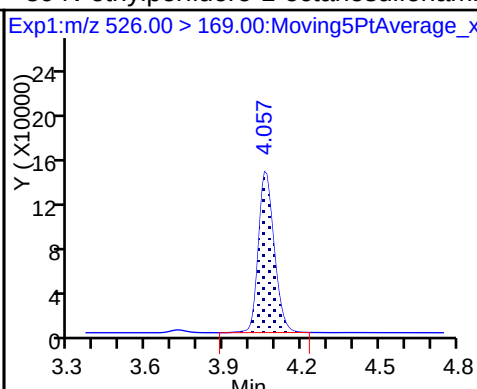
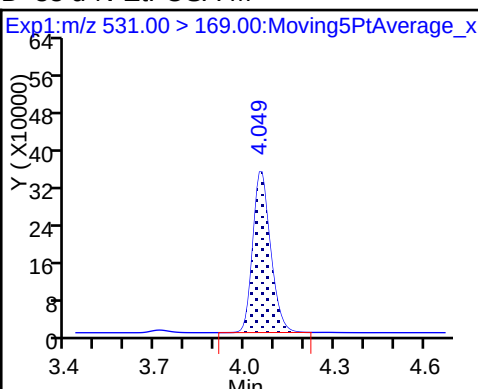
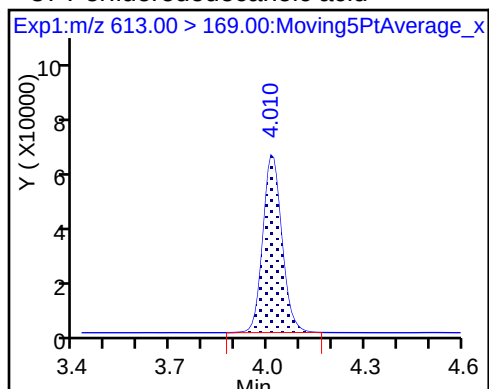
37 Perfluorododecanoic acid



37 Perfluorododecanoic acid

D 38 d-N-EtFOSA-M

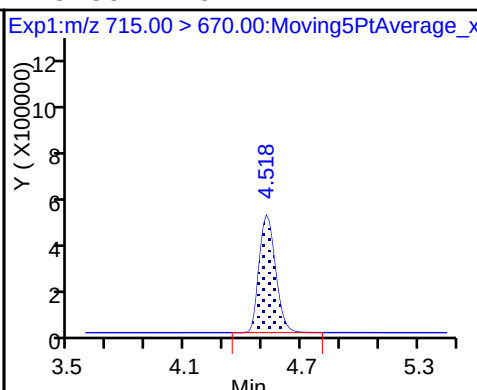
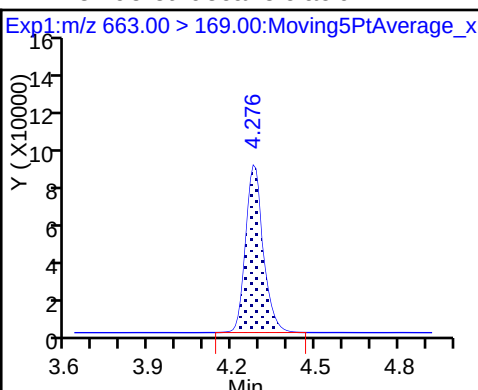
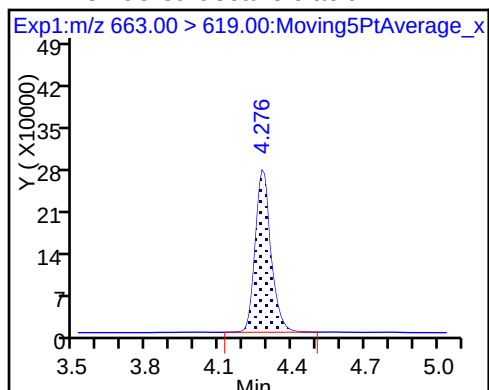
39 N-ethylperfluoro-1-octanesulfonami



41 Perfluorotridecanoic acid

41 Perfluorotridecanoic acid

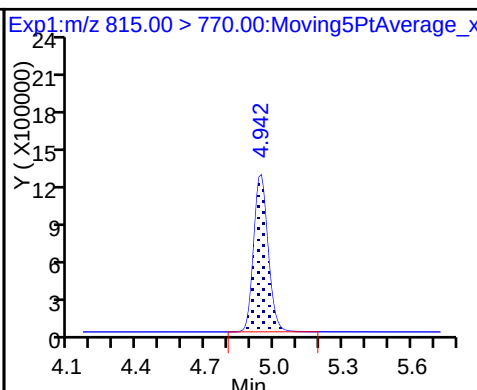
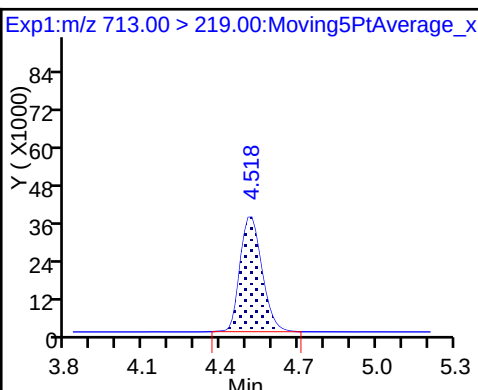
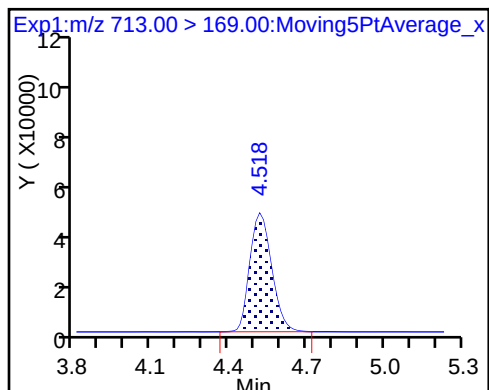
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid

42 Perfluorotetradecanoic acid

D 44 13C2-PFHxDA

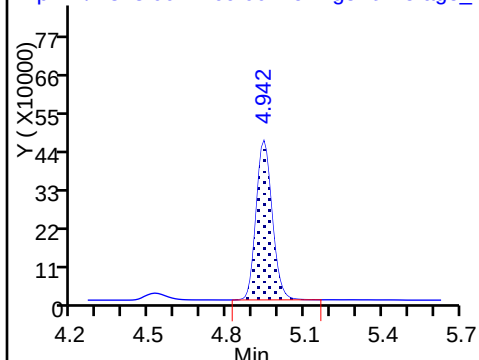


## 45 Perfluorohexadecanoic acid

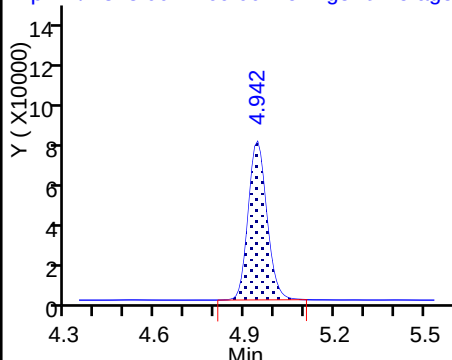
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

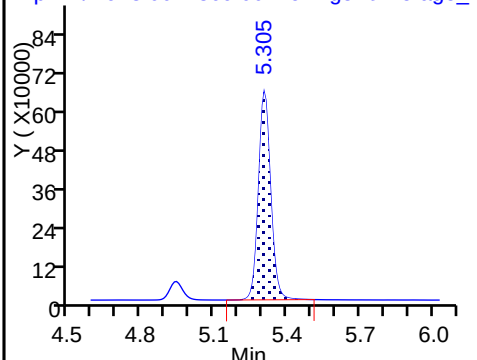
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

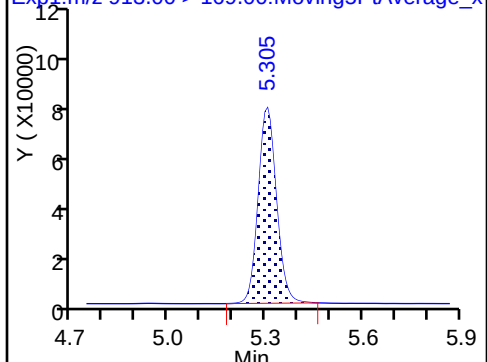


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x





TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_006.d  
 Lims ID: IC L5 Full  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 21-Dec-2017 15:37:18 ALS Bottle#: 14 Worklist Smp#: 6  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L5-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:27:07 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

First Level Reviewer: hannigana

Date: 22-Dec-2017 09:06:04

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec  | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|-------|-------|-------|
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |       |       |       |
| 212.90 > 169.00                       | 1.419 | 1.419  | 0.0    | 1.000  | 7285711  | 2.58         |                   | 103   | 2132  |       |
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |       |       |       |
| 217.00 > 172.00                       | 1.419 | 1.419  | 0.0    | 0.535  | 7696270  | 2.40         |                   | 96.1  | 25569 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |       |       |       |
| 262.90 > 219.00                       | 1.670 | 1.670  | 0.0    | 1.000  | 5324778  | 2.60         |                   | 104   | 3370  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |       |       |       |
| 267.90 > 223.00                       | 1.670 | 1.670  | 0.0    | 0.630  | 4589173  | 2.39         |                   | 95.7  | 76399 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |       |       |       |
| 301.90 > 83.00                        | 1.705 | 1.705  | 0.0    | 0.643  | 93263    | 2.28         |                   | 98.1  | 2847  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |       |       |       |
| 298.90 > 80.00                        | 1.714 | 1.707  | 0.007  | 1.005  | 6917510  | 2.29         |                   | 104   | 32378 |       |
| 298.90 > 99.00                        | 1.714 | 1.707  | 0.007  | 1.005  | 2866535  |              | 2.41(1.25-3.74)   | 104   | 29960 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |       |       |       |
| 327.00 > 307.00                       | 1.922 | 1.920  | 0.002  | 1.000  | 1648248  | 2.10         |                   | 89.8  | 58780 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |       |       |       |
| 315.00 > 270.00                       | 1.953 | 1.953  | 0.0    | 0.737  | 5035421  | 2.46         |                   | 98.4  | 54148 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |       |       |       |
| 313.00 > 269.00                       | 1.964 | 1.956  | 0.008  | 1.005  | 5039492  | 2.50         |                   | 100.0 | 16046 |       |
| 313.00 > 119.00                       | 1.964 | 1.956  | 0.008  | 1.005  | 463459   |              | 10.87(5.03-15.10) | 100.0 | 8825  |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |       |       |       |
| 363.00 > 319.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 4846589  | 2.49         |                   | 99.6  | 7059  |       |
| 363.00 > 169.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 1972538  |              | 2.46(1.13-3.40)   | 99.6  | 13957 |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |       |       |       |
| 367.00 > 322.00                       | 2.291 | 2.291  | 0.0    | 0.864  | 4650286  | 2.45         |                   | 98.2  | 31463 |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                   |       |       |       |
| 403.00 > 84.00                        | 2.304 | 2.304  | 0.0    | 0.869  | 5658825  | 2.37         |                   | 100   | 33723 |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |      |       |       |
| 399.00 > 80.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 5394708  | 2.09         |                 | 92.1 | 9295  |       |
| 399.00 > 99.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 1764165  |              | 3.06(1.50-4.49) | 92.1 | 6585  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.644 | 2.642  | 0.002  | 1.000  | 3454700  | 2.33         |                 | 98.3 | 78211 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.644 | 2.642  | 0.002  | 0.997  | 2271698  | 2.57         |                 | 108  | 56762 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.652 | 2.654  | -0.002 | 1.000  | 5513652  | 2.53         |                 | 101  | 57563 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.652 | 2.656  | -0.004 |        | 5270580  | 2.50         |                 |      | 50361 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.659 | 2.656  | 0.003  | 1.003  | 5678071  | 2.45         |                 | 97.9 | 2399  |       |
| 413.00 > 169.00                       | 2.659 | 2.656  | 0.003  | 1.003  | 3005406  |              | 1.89(0.84-2.52) | 97.9 | 21778 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.659 | 2.662  | -0.003 | 1.000  | 5035921  | 2.50         |                 | 105  | 28404 |       |
| 449.00 > 99.00                        | 2.659 | 2.662  | -0.003 | 1.000  | 1319380  |              | 3.82(1.94-5.82) | 105  | 18200 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.024 | 3.025  | -0.001 | 1.141  | 3680461  | 2.33         |                 | 97.6 | 24548 |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.024 | 3.028  | -0.004 | 1.141  | 3777358  | 2.44         |                 | 97.7 | 30713 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.024 | 3.028  | -0.004 | 1.000  | 3852088  | 2.36         |                 | 102  | 370   |       |
| 499.00 > 99.00                        | 3.024 | 3.028  | -0.004 | 1.000  | 848667   |              | 4.54(2.31-6.93) | 102  | 507   |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.024 | 3.029  | -0.005 | 1.000  | 3868757  | 2.54         |                 | 102  | 5640  |       |
| 463.00 > 169.00                       | 3.024 | 3.029  | -0.005 | 1.000  | 949695   |              | 4.07(1.90-5.69) | 102  | 17506 |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.370 | 3.370  | 0.0    | 1.271  | 5269550  | 2.45         |                 | 98.1 | 29400 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.370 | 3.372  | -0.002 | 1.000  | 5144163  | 2.54         |                 | 102  | 37712 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.378 | 3.377  | 0.001  | 1.000  | 1357996  | 2.44         |                 | 102  | 20160 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.378 | 3.377  | 0.001  | 1.274  | 1095511  | 2.22         |                 | 92.8 | 14481 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.385 | 3.389  | -0.004 | 1.277  | 3119915  | 2.44         |                 | 97.8 | 43688 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.385 | 3.390  | -0.005 | 1.000  | 2952794  | 2.45         |                 | 97.8 | 10163 |       |
| 513.00 > 169.00                       | 3.385 | 3.390  | -0.005 | 1.000  | 544027   |              | 5.43(2.36-7.09) | 97.8 | 2193  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.544 | 3.543  | 0.001  | 1.337  | 1640210  | 2.39         |                 | 95.8 | 21573 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.544 | 3.548  | -0.004 | 1.000  | 1768335  | 2.51         |                 | 100  | 9422  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.697 | 3.703  | -0.006 | 1.000  | 2347758  | 2.47         |                 | 102  | 37814 |       |
| 599.00 > 99.00                        | 3.697 | 3.703  | -0.006 | 1.000  | 766429   |              | 3.06(1.39-4.16) | 102  | 14051 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.714 | 3.712     | 0.002     | 1.401     | 1699098  | 2.54            |                 | 102  | 7205  |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.714 | 3.717     | -0.003    | 1.401     | 2288504  | 2.36            |                 | 94.2 | 23656 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.714 | 3.718     | -0.004    | 1.000     | 2099347  | 2.50            |                 | 100  | 9456  |       |
| 563.00 > 169.00                       | 3.714 | 3.718     | -0.004    | 1.000     | 488797   |                 | 4.29(0.00-0.00) | 100  | 18856 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.714 | 3.720     | -0.006    | 1.000     | 1559830  | 2.31            |                 | 92.4 | 13922 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.864 | 3.862     | 0.002     | 1.457     | 1480334  | 2.42            |                 | 96.8 | 3457  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.874 | 3.872     | 0.002     | 1.003     | 1431311  | 2.47            |                 | 98.8 | 2826  |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.012 | 4.011     | 0.001     | 1.000     | 2527004  | 2.42            |                 | 96.7 | 6553  |       |
| 613.00 > 169.00                       | 4.012 | 4.011     | 0.001     | 1.000     | 625753   |                 | 4.04(2.13-6.40) | 96.7 | 15493 |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.012 | 4.011     | 0.001     | 1.513     | 2634039  | 2.51            |                 | 101  | 19977 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.051 | 4.052     | -0.001    | 1.528     | 1404385  | 2.39            |                 | 95.6 | 2659  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.059 | 4.058     | 0.001     | 1.002     | 1541778  | 2.58            |                 | 103  | 2756  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.279 | 4.277     | 0.002     | 1.000     | 2904461  | 2.38            |                 | 95.1 | 6752  |       |
| 663.00 > 169.00                       | 4.279 | 4.277     | 0.002     | 1.000     | 957216   |                 | 3.03(1.25-3.76) | 95.1 | 21345 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.514 | 4.518     | -0.004    | 1.000     | 721103   | 2.48            |                 | 99.2 | 15278 |       |
| 713.00 > 219.00                       | 4.514 | 4.518     | -0.004    | 1.000     | 507624   |                 | 1.42(0.71-2.13) | 99.2 | 14614 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.514 | 4.518     | -0.004    | 1.702     | 2820137  | 2.41            |                 | 96.3 | 16567 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.940 | 4.939     | 0.001     | 1.000     | 4541602  | 2.63            |                 | 105  | 2087  |       |
| 813.00 > 169.00                       | 4.940 | 4.939     | 0.001     | 1.000     | 830764   |                 | 5.47(2.86-8.58) | 105  | 8752  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.940 | 4.939     | 0.001     | 1.863     | 5000280  | 2.35            |                 | 93.8 | 13981 |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.310 | 5.306     | 0.004     | 1.000     | 5318805  | 2.58            |                 | 103  | 922   |       |
| 913.00 > 169.00                       | 5.303 | 5.306     | -0.003    | 0.999     | 693627   |                 | 7.67(0.00-0.00) | 103  | 2568  |       |

## Reagents:

LCPFC\_LL5\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_006.d

Injection Date: 21-Dec-2017 15:37:18

Instrument ID: A8\_N

Lims ID: IC L5 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 14

Worklist Smp#: 6

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

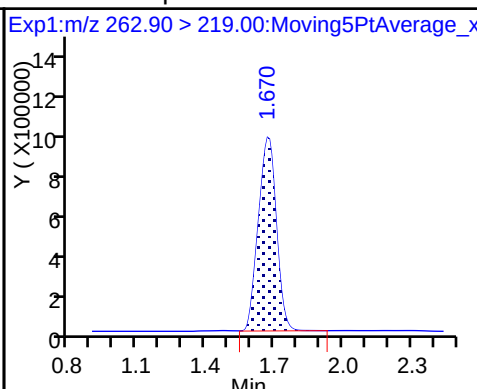
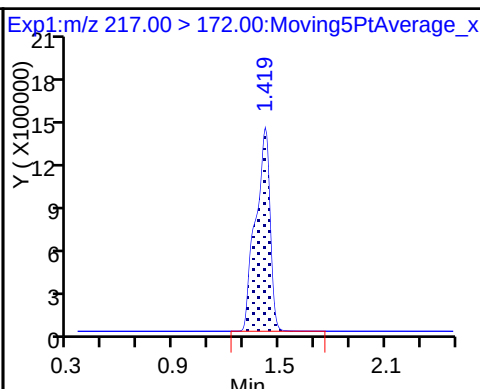
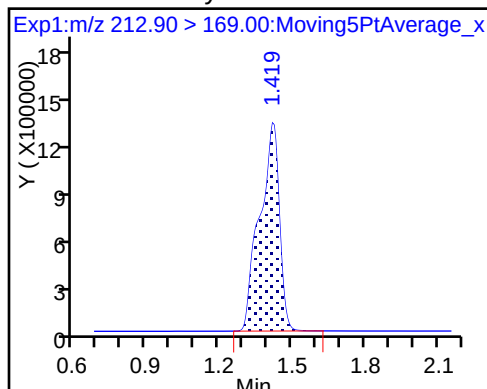
Method: A8\_N

Limit Group: LC PFC ICAL

2 Perfluorobutyric acid

D 1 13C4 PFBA

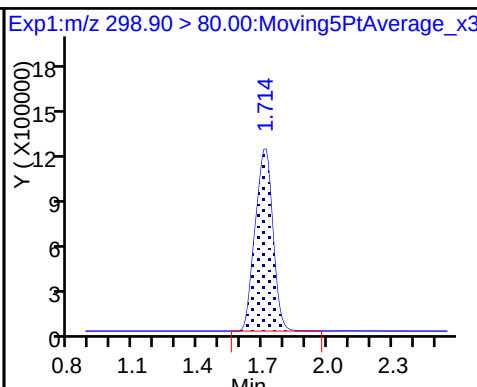
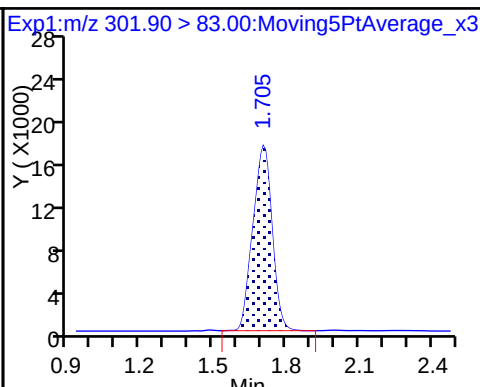
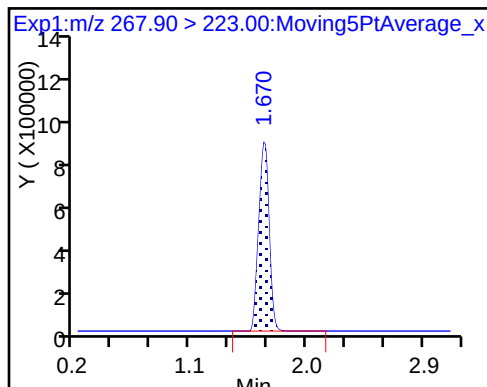
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

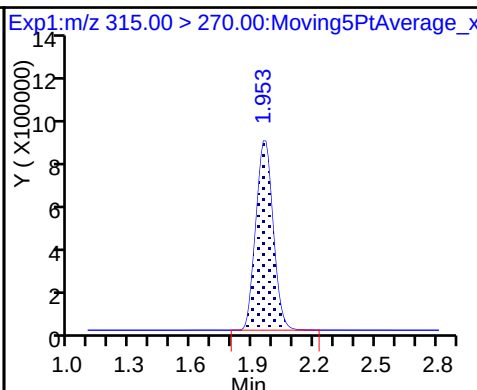
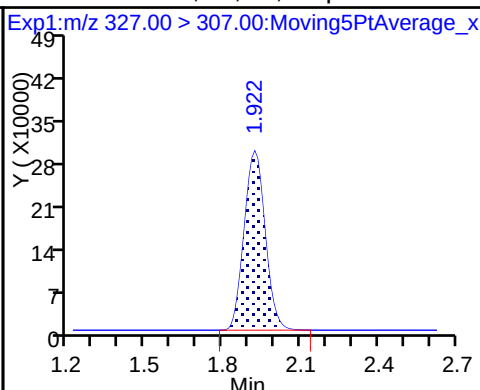
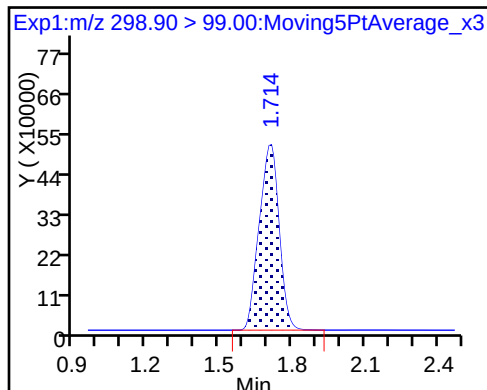
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

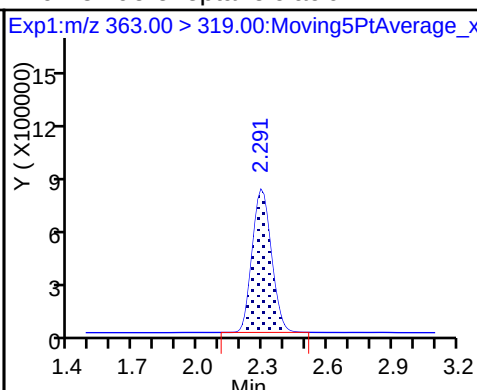
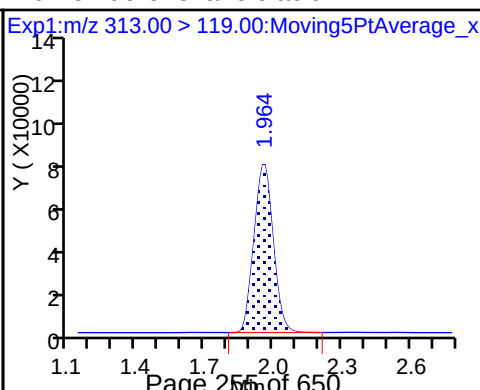
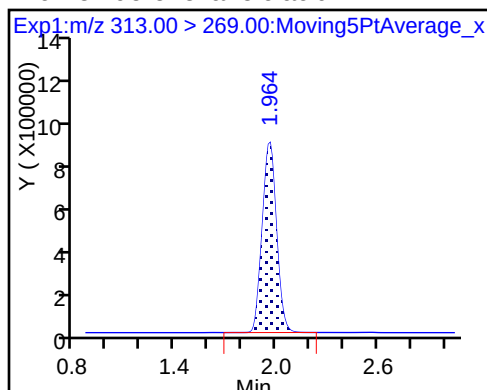
De 7 13C2 PFHxA



6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

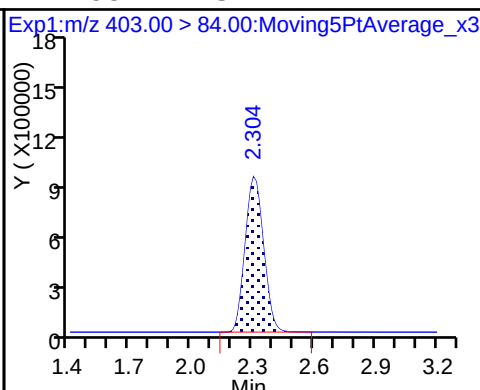
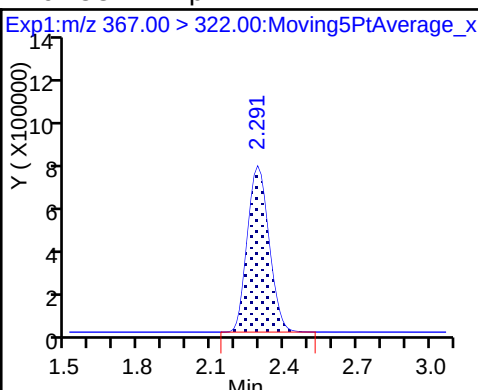
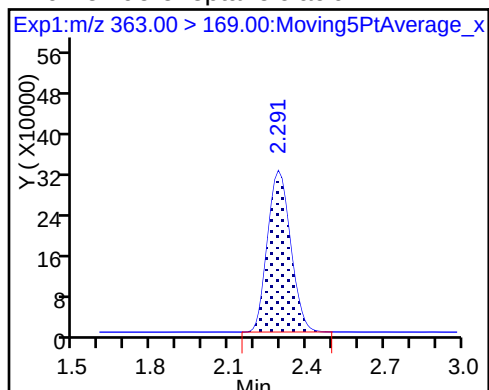
10 Perfluoroheptanoic acid



10 Perfluoroheptanoic acid

D 9 13C4-PFHpA

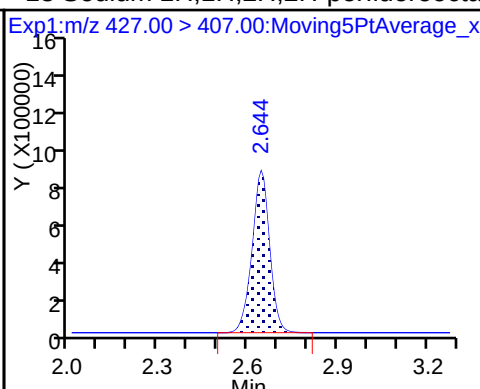
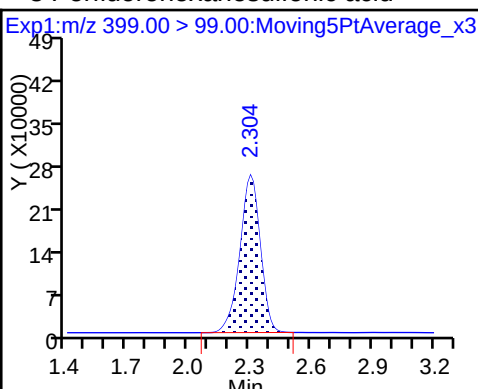
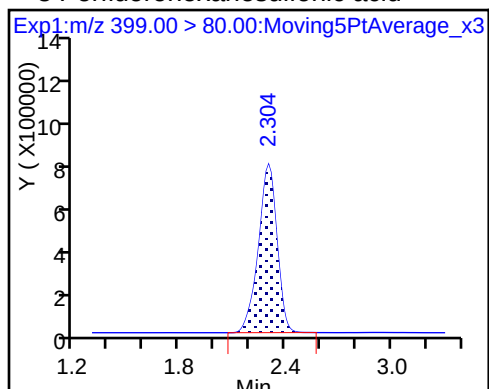
D 11 18O2 PFHxS



8 Perfluorohexanesulfonic acid

8 Perfluorohexanesulfonic acid

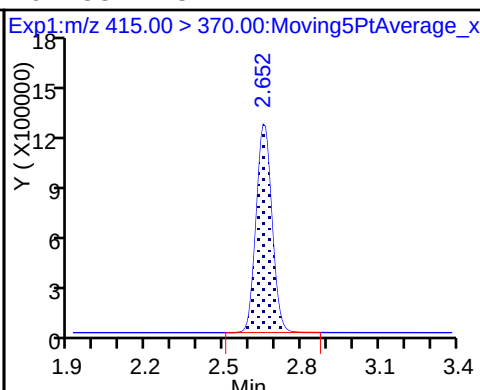
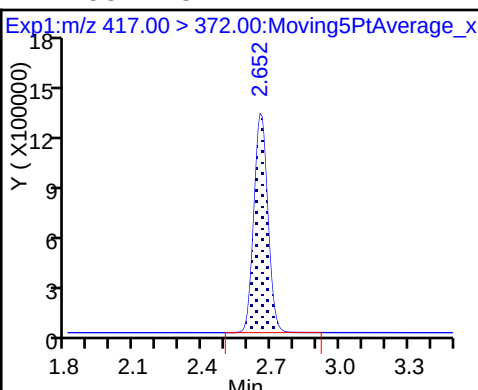
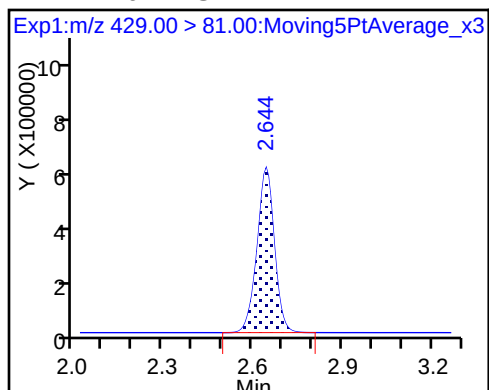
13 Sodium 1H,1H,2H,2H-perfluorooctane



D 12 M2-6:2FTS

D 14 13C4 PFOA

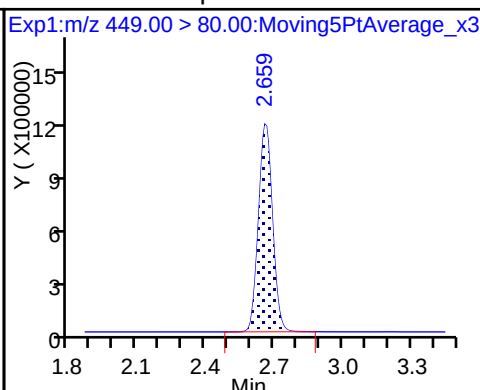
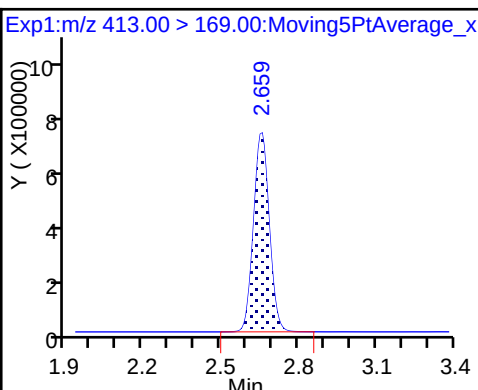
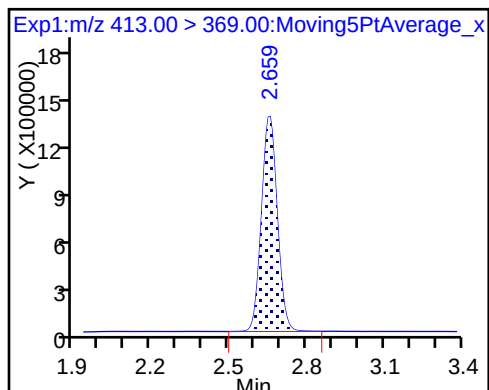
\* 62 13C2-PFOA



15 Perfluorooctanoic acid

15 Perfluorooctanoic acid

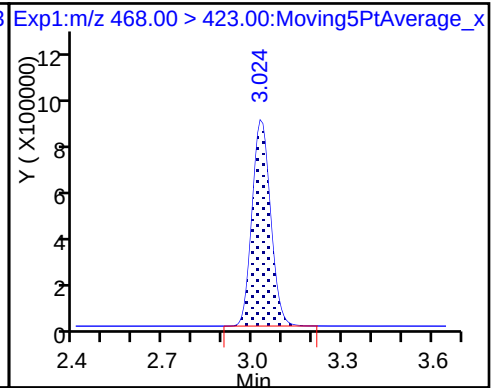
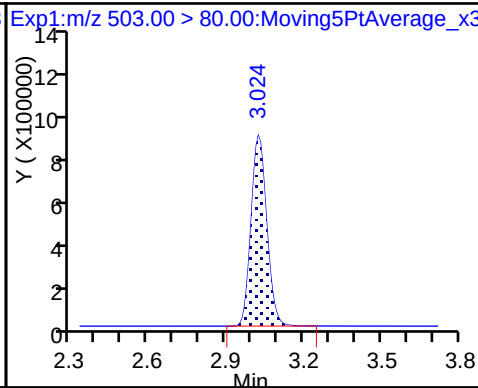
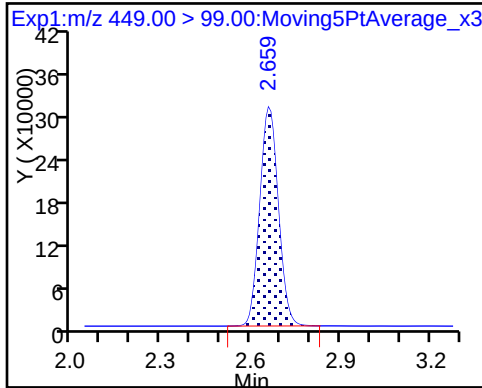
16 Perfluoroheptanesulfonic Acid



16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

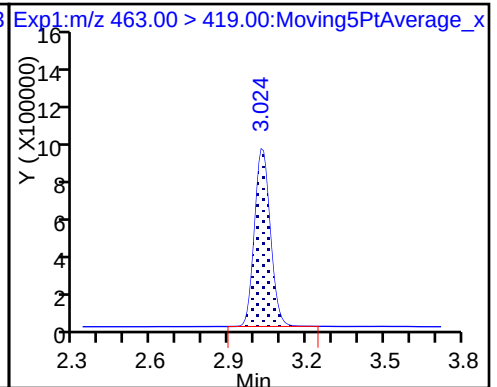
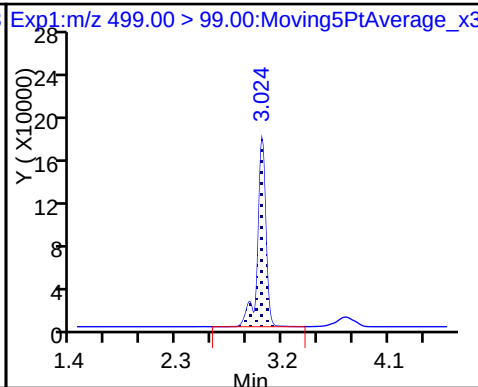
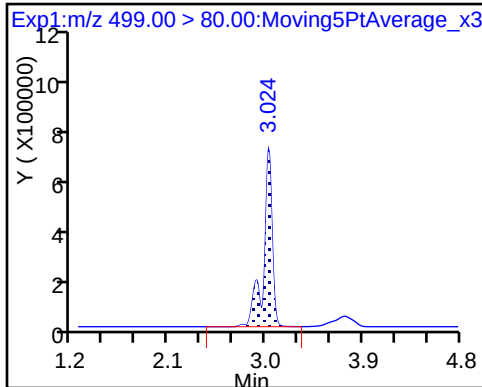
D 19 13C5 PFNA



17 Perfluorooctane sulfonic acid

17 Perfluorooctane sulfonic acid

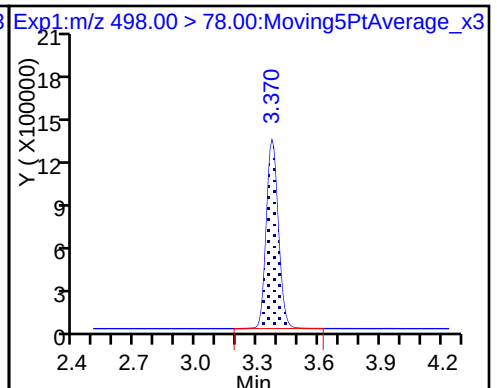
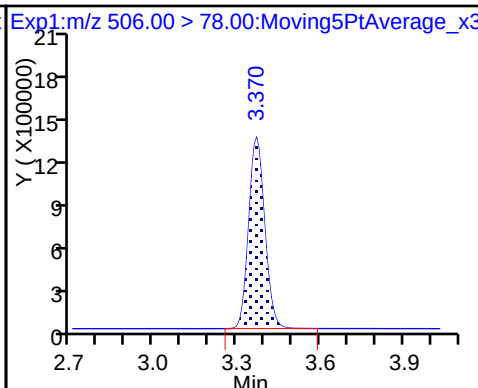
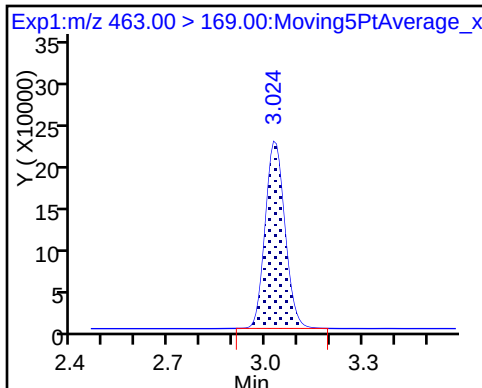
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

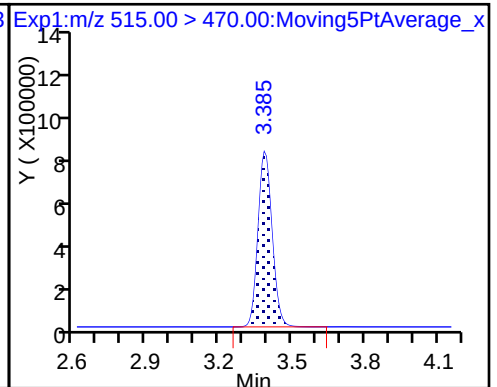
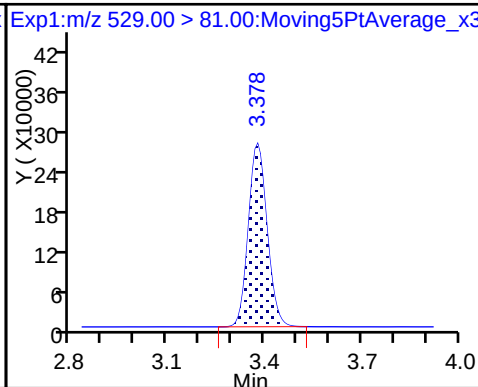
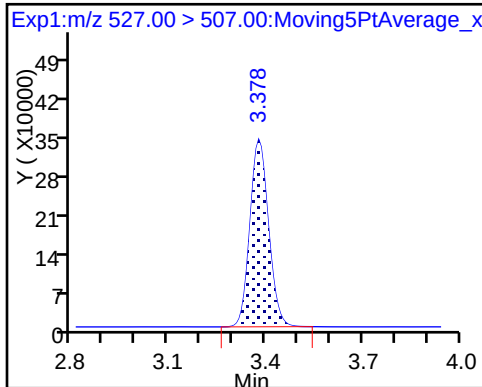
22 Perfluorooctane Sulfonamide

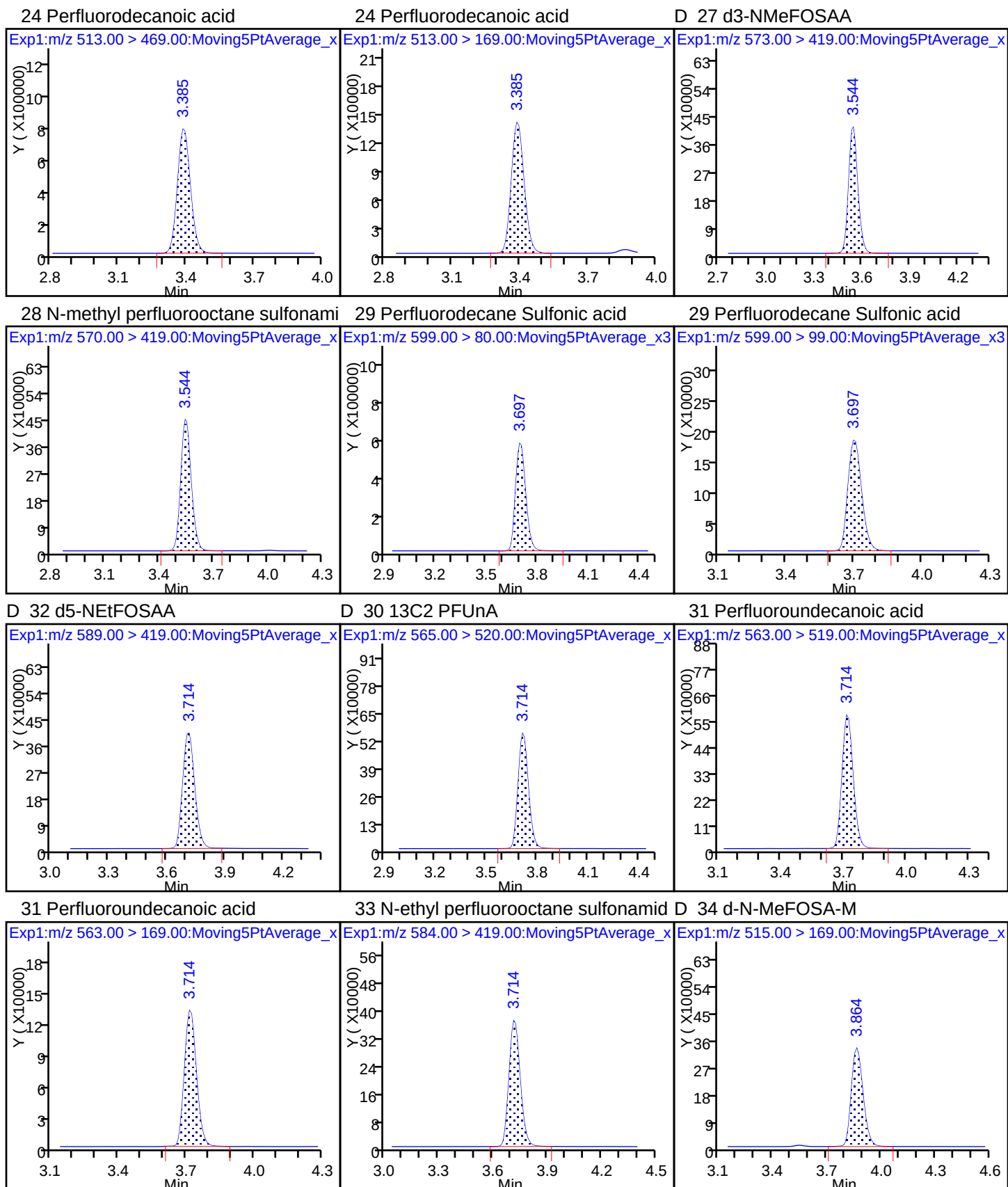


25 Sodium 1H,1H,2H,2H-perfluorodeca

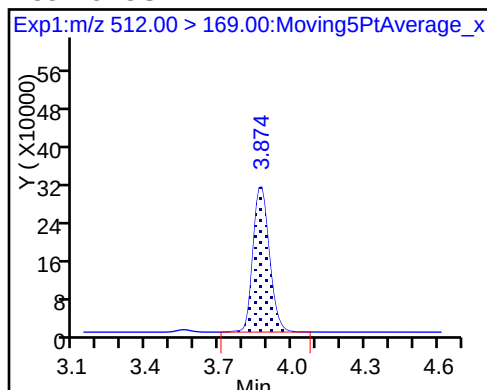
De26 M2-8:2FTS

D 23 13C2 PFDA

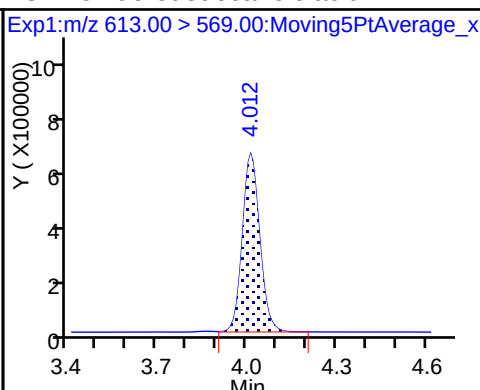




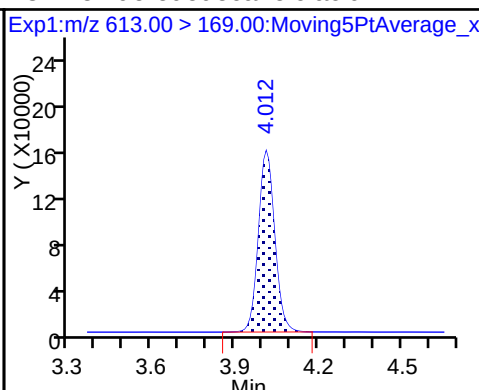
35 MeFOSA



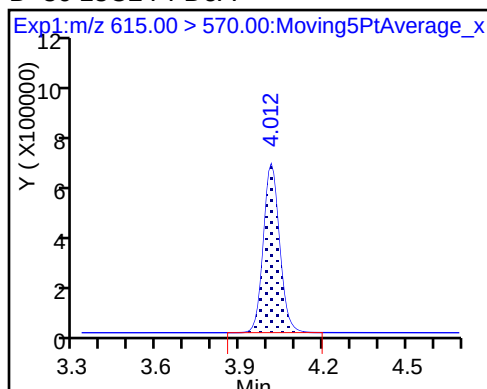
37 Perfluorododecanoic acid



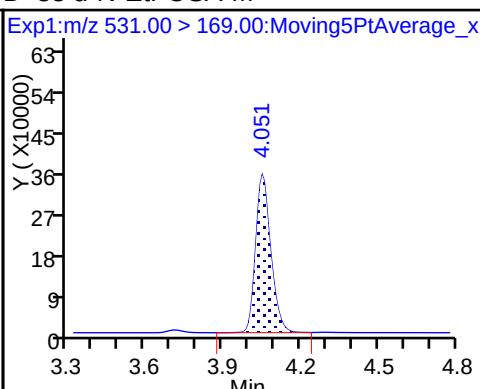
37 Perfluorododecanoic acid



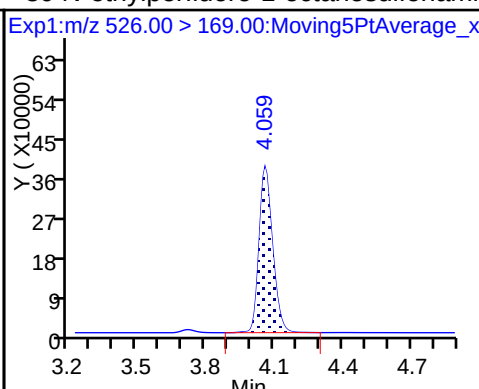
D 36 13C2 PFDaA



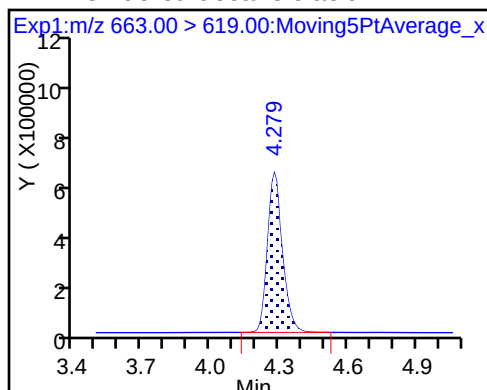
D 38 d-N-EtFOSA-M



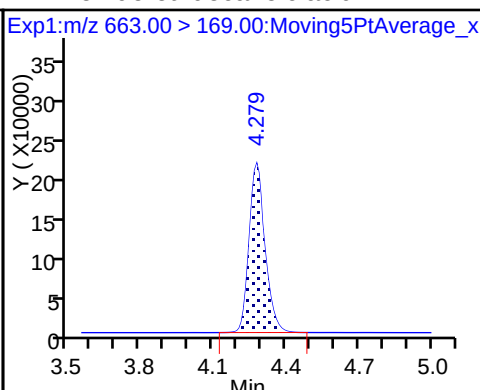
39 N-ethylperfluoro-1-octanesulfonami



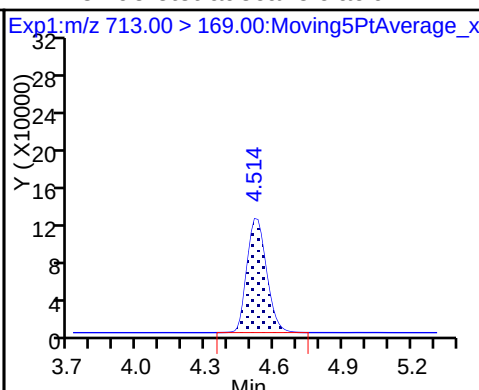
41 Perfluorotridecanoic acid



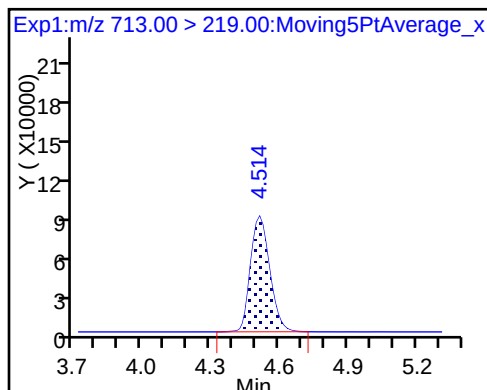
41 Perfluorotridecanoic acid



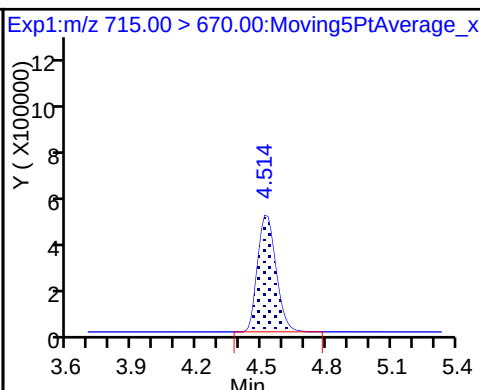
42 Perfluorotetradecanoic acid



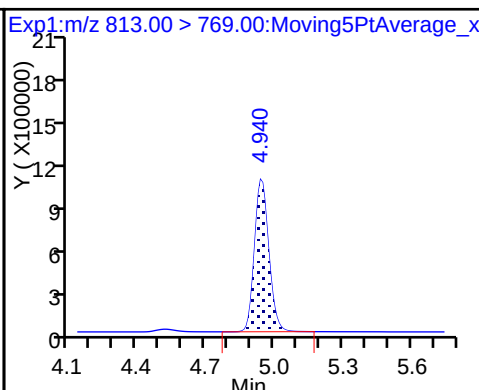
42 Perfluorotetradecanoic acid



D 43 13C2-PFTeDA



45 Perfluorohexadecanoic acid

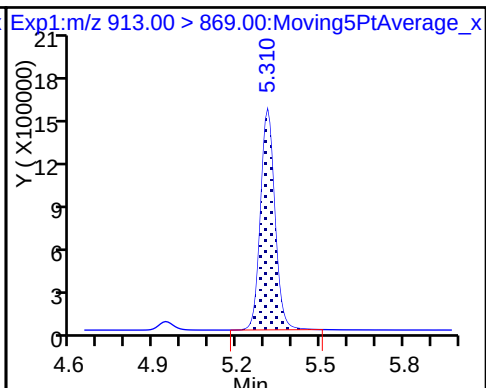
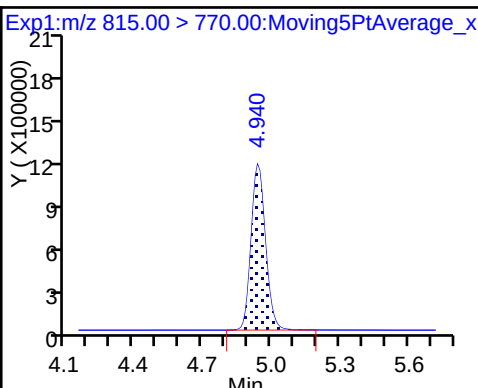
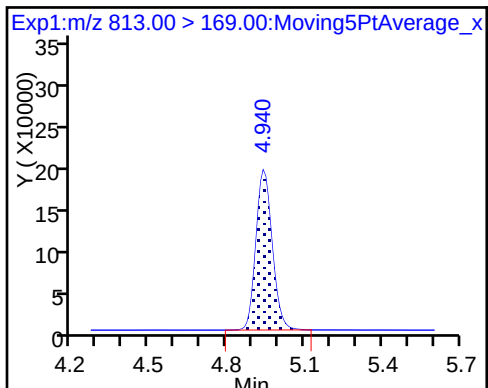




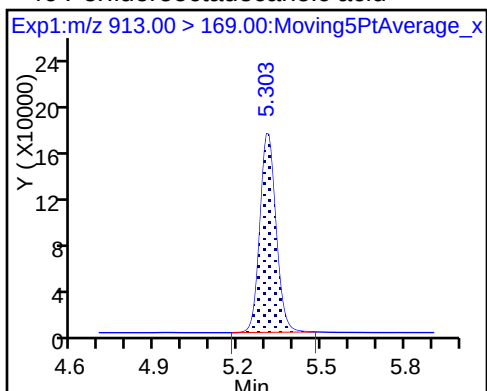
45 Perfluorohexadecanoic acid

D 44 13C2-PFHxDA

46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_007.d  
 Lims ID: IC L6 Full  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 21-Dec-2017 15:45:07 ALS Bottle#: 15 Worklist Smp#: 7  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L6-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:27:10 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

First Level Reviewer: hannigana

Date: 22-Dec-2017 09:06:28

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec  | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|-------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |       |       |       |
| 217.00 > 172.00                       | 1.420 | 1.419  | 0.001  | 0.536  | 7841844  | 2.57         |                   | 103   | 24796 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |       |       |       |
| 212.90 > 169.00                       | 1.420 | 1.419  | 0.001  | 1.000  | 14649125 | 5.10         |                   | 102   | 5974  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |       |       |       |
| 267.90 > 223.00                       | 1.670 | 1.670  | 0.0    | 0.630  | 4532696  | 2.48         |                   | 99.1  | 52359 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |       |       |       |
| 262.90 > 219.00                       | 1.670 | 1.670  | 0.0    | 1.000  | 10076106 | 4.98         |                   | 99.6  | 6660  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |       |       |       |
| 301.90 > 83.00                        | 1.706 | 1.705  | 0.001  | 0.643  | 96761    | 2.48         |                   | 107   | 2966  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |       |       |       |
| 298.90 > 80.00                        | 1.706 | 1.707  | -0.001 | 1.000  | 13621865 | 4.35         |                   | 98.4  | 58732 |       |
| 298.90 > 99.00                        | 1.706 | 1.707  | -0.001 | 1.000  | 5757272  |              | 2.37(1.25-3.74)   | 98.4  | 48360 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |       |       |       |
| 327.00 > 307.00                       | 1.923 | 1.920  | 0.003  | 1.000  | 3219671  | 5.17         |                   | 111   | 82821 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |       |       |       |
| 315.00 > 270.00                       | 1.953 | 1.953  | 0.0    | 0.737  | 4882103  | 2.50         |                   | 100.0 | 50527 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |       |       |       |
| 313.00 > 269.00                       | 1.953 | 1.956  | -0.003 | 1.000  | 9771131  | 5.00         |                   | 100.0 | 31473 |       |
| 313.00 > 119.00                       | 1.953 | 1.956  | -0.003 | 1.000  | 857398   |              | 11.40(5.03-15.10) | 100.0 | 16595 |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |       |       |       |
| 367.00 > 322.00                       | 2.291 | 2.291  | 0.0    | 0.864  | 4703159  | 2.60         |                   | 104   | 31967 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |       |       |       |
| 363.00 > 319.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 9612665  | 4.88         |                   | 97.7  | 13163 |       |
| 363.00 > 169.00                       | 2.291 | 2.291  | 0.0    | 1.000  | 3811986  |              | 2.52(1.13-3.40)   | 97.7  | 22811 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |       |       |       |
| 399.00 > 80.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 11127318 | 4.59         |                   | 101   | 16262 |       |
| 399.00 > 99.00                        | 2.304 | 2.304  | 0.0    | 1.000  | 3740149  |              | 2.98(1.50-4.49)   | 101   | 11808 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |           |           |           |          |                 |                 |      |       |       |
| 403.00 > 84.00                        | 2.304 | 2.304     | 0.0       | 0.869     | 5325222  | 2.33            |                 | 98.7 | 29654 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |           |           |           |          |                 |                 |      |       |       |
| 427.00 > 407.00                       | 2.637 | 2.642     | -0.005    | 0.997     | 5609893  | 4.78            |                 | 101  | 80023 |       |
| D 12 M2-6:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 429.00 > 81.00                        | 2.644 | 2.642     | 0.002     | 0.997     | 1798987  | 2.14            |                 | 90.0 | 32441 |       |
| D 14 13C4 PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 417.00 > 372.00                       | 2.651 | 2.654     | -0.003    | 1.000     | 5265565  | 2.53            |                 | 101  | 41292 |       |
| * 62 13C2-PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 415.00 > 370.00                       | 2.651 | 2.656     | -0.005    |           | 5029007  | 2.50            |                 |      | 50103 |       |
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 413.00 > 369.00                       | 2.651 | 2.656     | -0.005    | 1.000     | 10780791 | 4.87            |                 | 97.3 | 4785  |       |
| 413.00 > 169.00                       | 2.651 | 2.656     | -0.005    | 1.000     | 5972560  |                 | 1.81(0.84-2.52) | 97.3 | 28569 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |           |           |           |          |                 |                 |      |       |       |
| 449.00 > 80.00                        | 2.658 | 2.662     | -0.004    | 1.000     | 10159580 | 5.05            |                 | 106  | 41594 |       |
| 449.00 > 99.00                        | 2.658 | 2.662     | -0.004    | 1.000     | 2634258  |                 | 3.86(1.94-5.82) | 106  | 24083 |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |      |       |       |
| 503.00 > 80.00                        | 3.024 | 3.025     | -0.001    | 1.141     | 3669982  | 2.44            |                 | 102  | 20457 |       |
| 17 Perfluorooctane sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 499.00 > 80.00                        | 3.024 | 3.028     | -0.004    | 1.000     | 7678011  | 4.72            |                 | 102  | 742   |       |
| 499.00 > 99.00                        | 3.024 | 3.028     | -0.004    | 1.000     | 1664992  |                 | 4.61(2.31-6.93) | 102  | 980   |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |      |       |       |
| 468.00 > 423.00                       | 3.024 | 3.028     | -0.004    | 1.141     | 3719043  | 2.52            |                 | 101  | 36796 |       |
| 20 Perfluorononanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 463.00 > 419.00                       | 3.024 | 3.029     | -0.005    | 1.000     | 7519039  | 5.02            |                 | 100  | 8995  |       |
| 463.00 > 169.00                       | 3.024 | 3.029     | -0.005    | 1.000     | 1865641  |                 | 4.03(1.90-5.69) | 100  | 21886 |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |      |       |       |
| 506.00 > 78.00                        | 3.369 | 3.370     | -0.001    | 1.271     | 5154664  | 2.51            |                 | 101  | 26007 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |      |       |       |
| 498.00 > 78.00                        | 3.369 | 3.372     | -0.003    | 1.000     | 10279855 | 5.20            |                 | 104  | 47329 |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 529.00 > 81.00                        | 3.376 | 3.377     | -0.001    | 1.274     | 1173108  | 2.49            |                 | 104  | 18586 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |           |           |           |          |                 |                 |      |       |       |
| 527.00 > 507.00                       | 3.376 | 3.377     | -0.001    | 1.000     | 2781160  | 4.67            |                 | 97.5 | 41094 |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 470.00                       | 3.384 | 3.389     | -0.005    | 1.277     | 3016260  | 2.48            |                 | 99.1 | 28933 |       |
| 24 Perfluorodecanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 513.00 > 469.00                       | 3.392 | 3.390     | 0.002     | 1.002     | 6280843  | 5.38            |                 | 108  | 22790 |       |
| 513.00 > 169.00                       | 3.392 | 3.390     | 0.002     | 1.002     | 1142483  |                 | 5.50(2.36-7.09) | 108  | 2251  |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 573.00 > 419.00                       | 3.543 | 3.543     | 0.0       | 1.336     | 1627104  | 2.49            |                 | 99.6 | 16143 |       |
| 28 N-methyl perfluorooctane sulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 570.00 > 419.00                       | 3.543 | 3.548     | -0.005    | 1.000     | 3453343  | 4.94            |                 | 98.8 | 12208 |       |
| 29 Perfluorodecane Sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 599.00 > 80.00                        | 3.703 | 3.703     | 0.0       | 1.000     | 4785400  | 5.05            |                 | 105  | 54760 |       |
| 599.00 > 99.00                        | 3.703 | 3.703     | 0.0       | 1.000     | 1552383  |                 | 3.08(1.39-4.16) | 105  | 25006 |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.712 | 3.712     | 0.0       | 1.400     | 1613051  | 2.53            |                 | 101  | 8976  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.712 | 3.717     | -0.005    | 1.400     | 2297307  | 2.48            |                 | 99.1 | 23431 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.721 | 3.718     | 0.003     | 1.002     | 4098143  | 4.87            |                 | 97.4 | 13080 |       |
| 563.00 > 169.00                       | 3.721 | 3.718     | 0.003     | 1.002     | 903981   |                 | 4.53(0.00-0.00) | 97.4 | 15077 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.721 | 3.720     | 0.001     | 1.002     | 3085854  | 4.81            |                 | 96.3 | 19678 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.862 | 3.862     | 0.0       | 1.457     | 1488562  | 2.55            |                 | 102  | 3404  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.872 | 3.872     | 0.0       | 1.003     | 2961869  | 5.08            |                 | 102  | 3551  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.010 | 4.011     | -0.001    | 1.513     | 2514667  | 2.52            |                 | 101  | 31218 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.010 | 4.011     | -0.001    | 1.000     | 5067646  | 5.08            |                 | 102  | 14390 |       |
| 613.00 > 169.00                       | 4.010 | 4.011     | -0.001    | 1.000     | 1243219  |                 | 4.08(2.13-6.40) | 102  | 28040 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.050 | 4.052     | -0.002    | 1.528     | 1419551  | 2.53            |                 | 101  | 2385  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.058 | 4.058     | 0.0       | 1.002     | 2970918  | 4.91            |                 | 98.3 | 2987  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.277 | 4.277     | 0.0       | 1.000     | 5863317  | 5.03            |                 | 101  | 14478 |       |
| 663.00 > 169.00                       | 4.277 | 4.277     | 0.0       | 1.000     | 1953926  |                 | 3.00(1.25-3.76) | 101  | 43741 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.523 | 4.518     | 0.005     | 1.706     | 2863496  | 2.56            |                 | 103  | 18356 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.523 | 4.518     | 0.005     | 1.000     | 1420222  | 4.81            |                 | 96.2 | 20340 |       |
| 713.00 > 219.00                       | 4.509 | 4.518     | -0.009    | 0.997     | 930796   |                 | 1.53(0.71-2.13) | 96.2 | 14727 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.937 | 4.939     | -0.002    | 1.862     | 4819897  | 2.37            |                 | 94.8 | 17646 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.937 | 4.939     | -0.002    | 1.000     | 8416392  | 5.08            |                 | 102  | 3545  |       |
| 813.00 > 169.00                       | 4.937 | 4.939     | -0.002    | 1.000     | 1599807  |                 | 5.26(2.86-8.58) | 102  | 12630 |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.308 | 5.306     | 0.002     | 1.000     | 10730387 | 5.41            |                 | 108  | 1733  |       |
| 913.00 > 169.00                       | 5.301 | 5.306     | -0.005    | 0.999     | 1375203  |                 | 7.80(0.00-0.00) | 108  | 3579  |       |

## Reagents:

LCPFC\_LL6\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_007.d

Injection Date: 21-Dec-2017 15:45:07

Instrument ID: A8\_N

Lims ID: IC L6 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 15

Worklist Smp#: 7

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

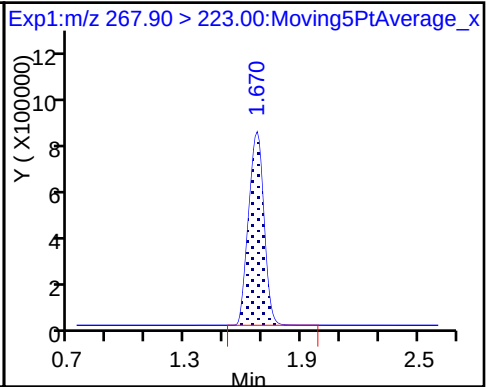
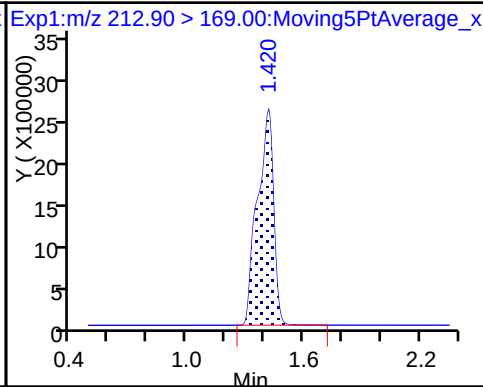
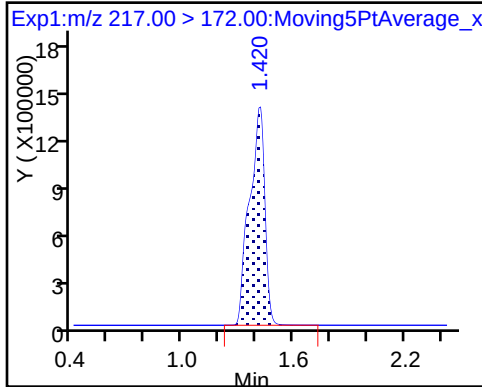
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

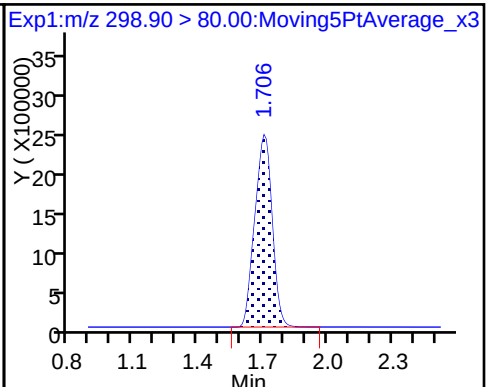
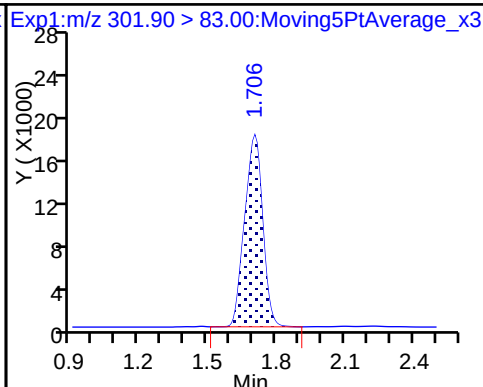
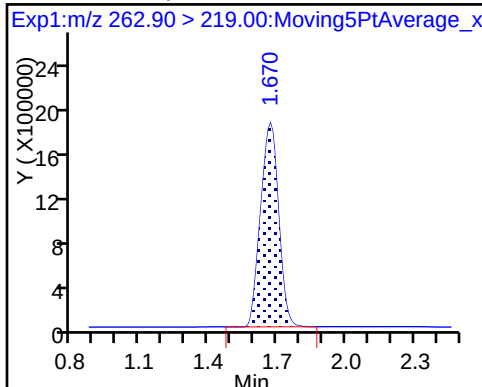
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 47 13C3-PFBS

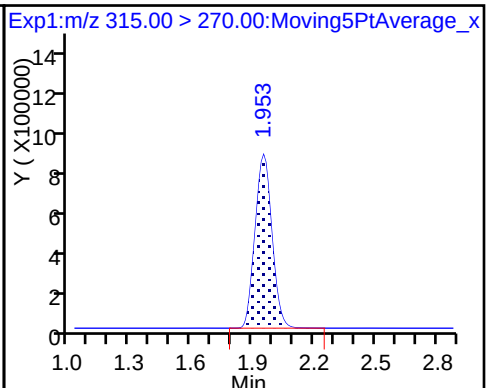
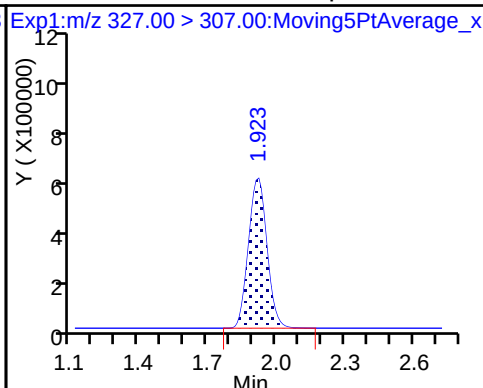
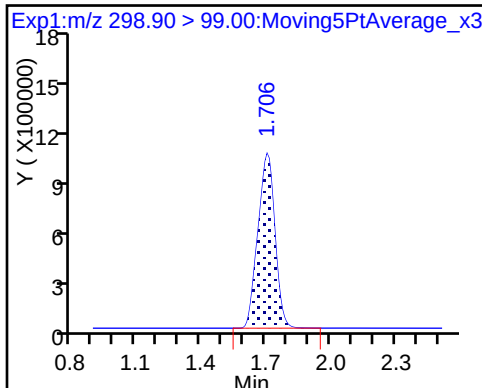
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

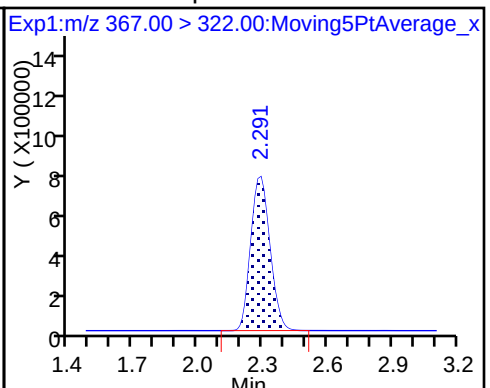
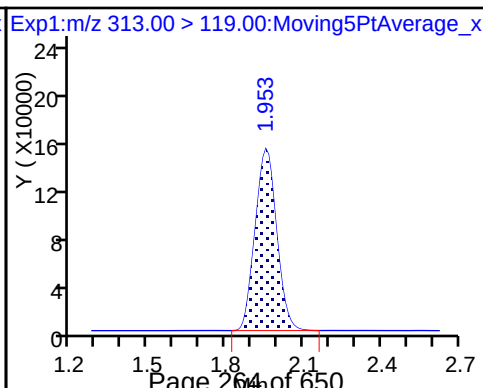
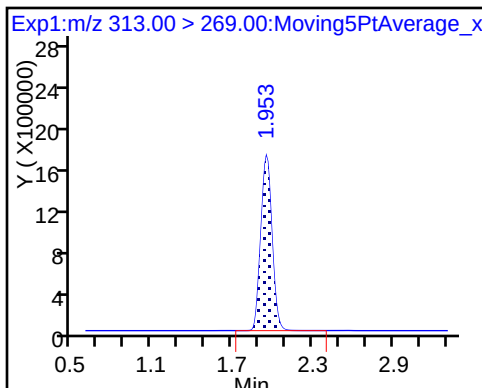
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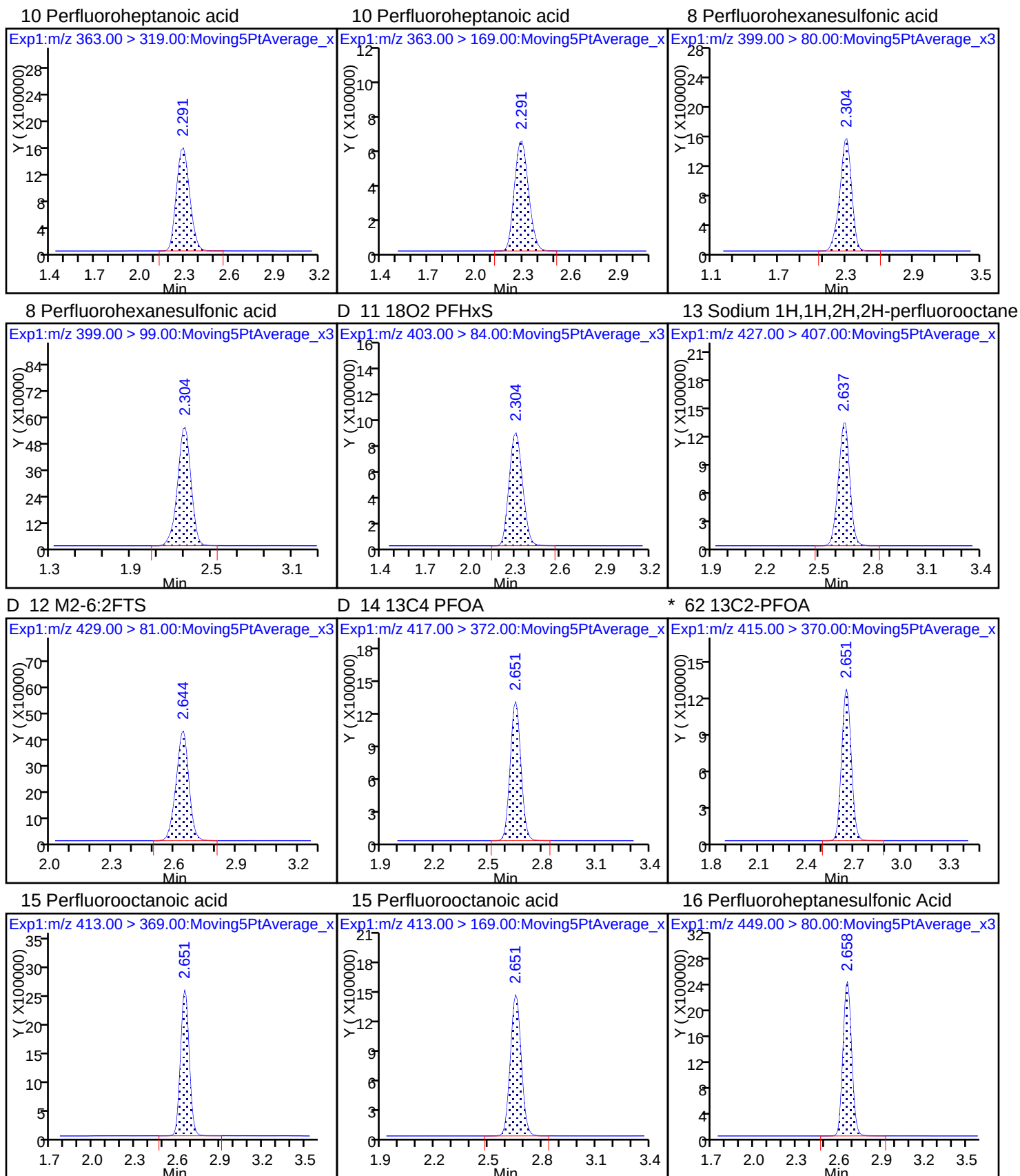


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

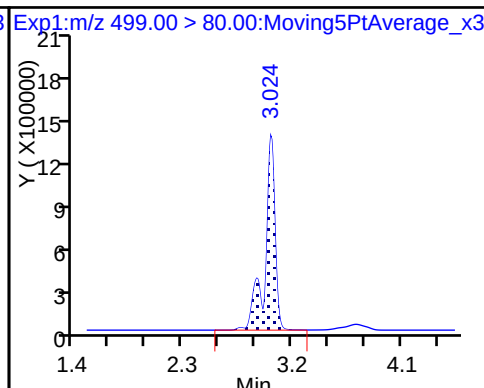
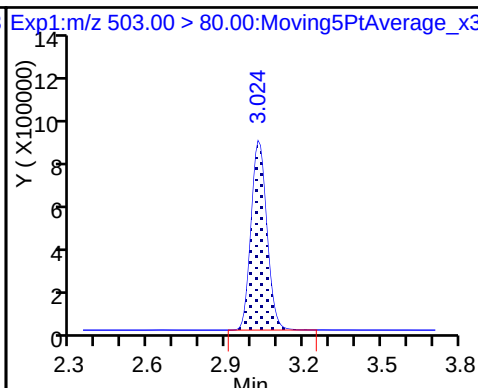
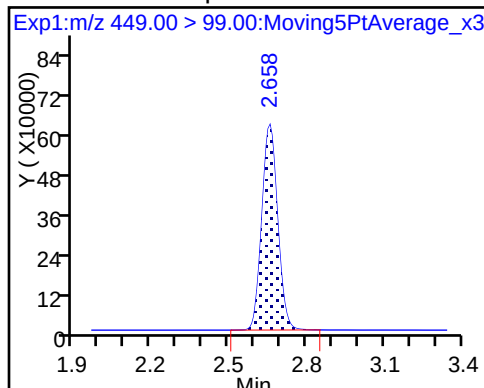




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

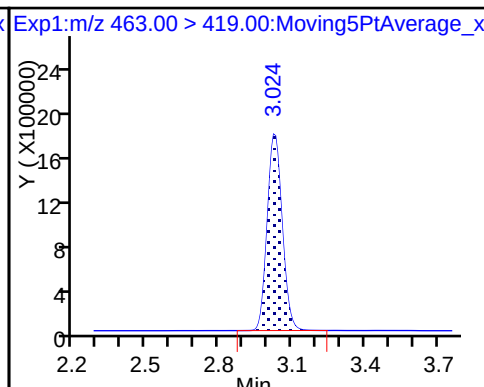
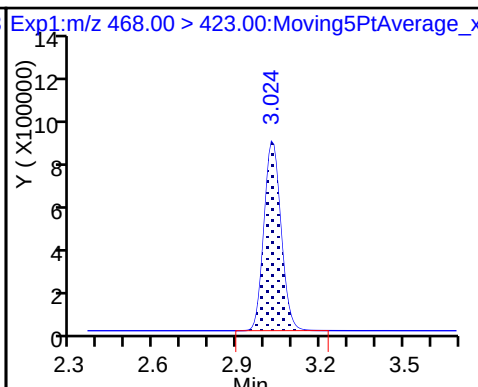
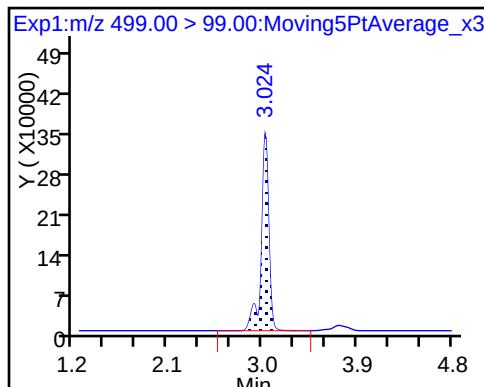
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

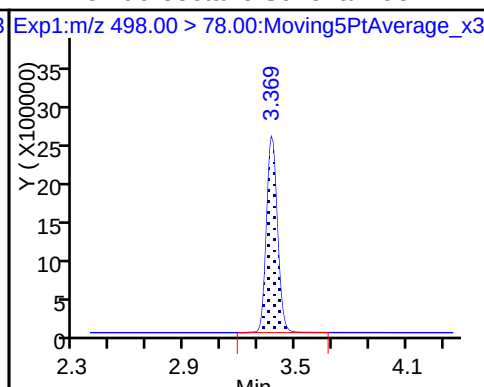
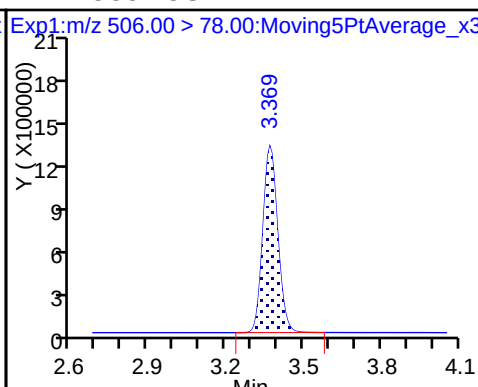
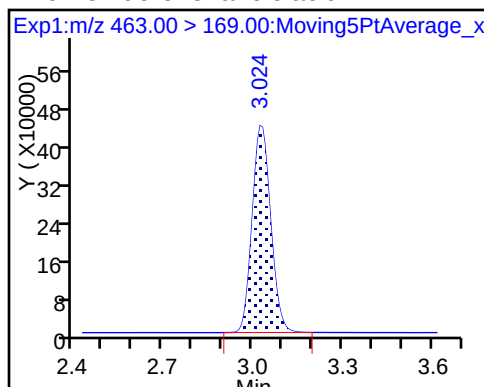
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

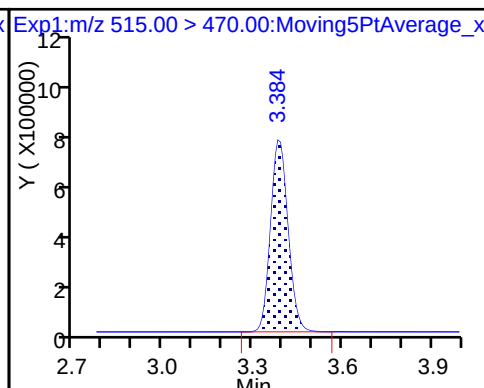
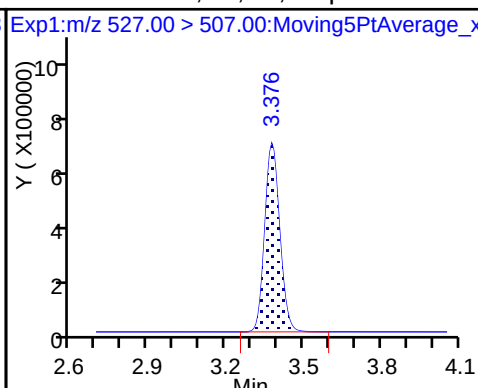
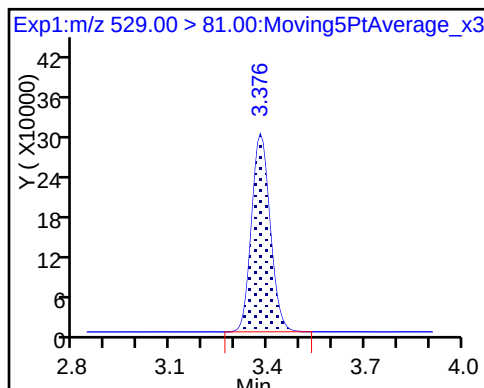
22 Perfluorooctane Sulfonamide

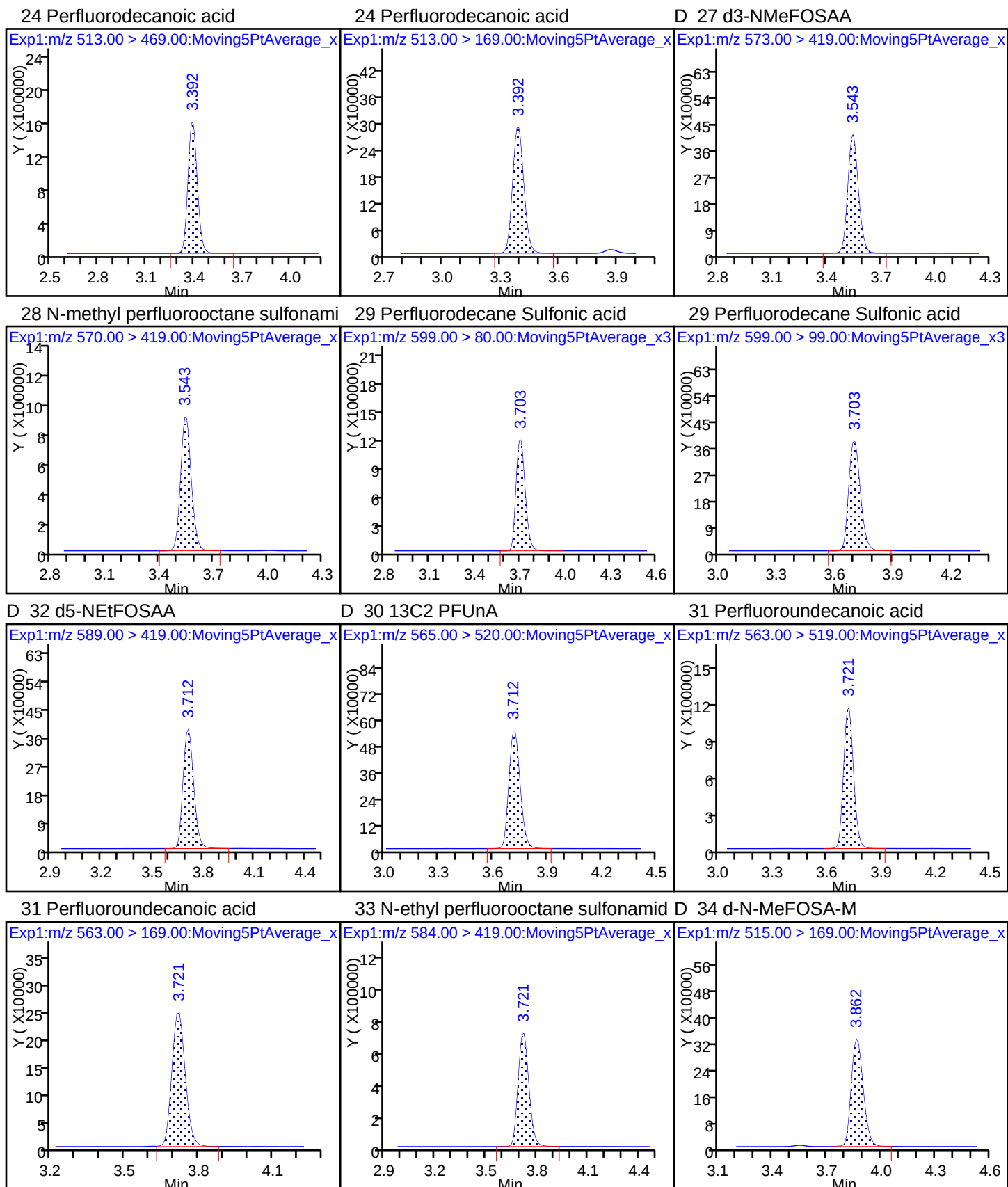


D 26 M2-8:2FTS

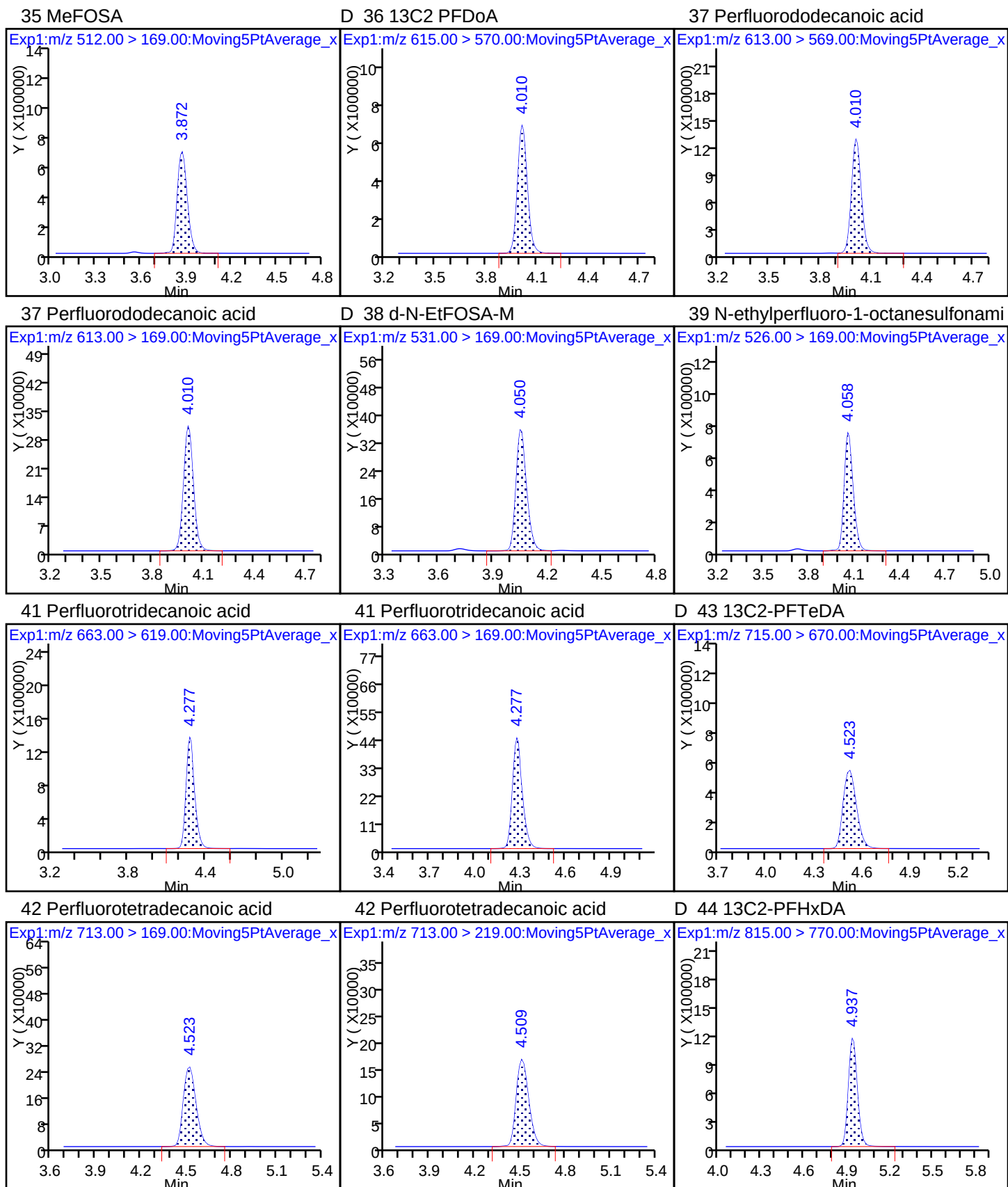
25 Sodium 1H,1H,2H,2H-perfluorodeca

De23 13C2 PFDA

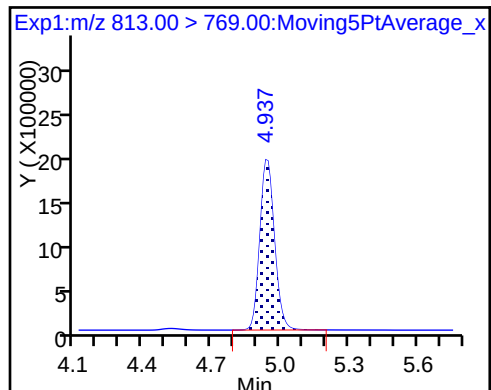




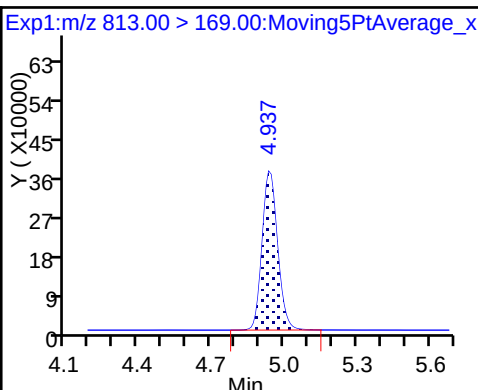




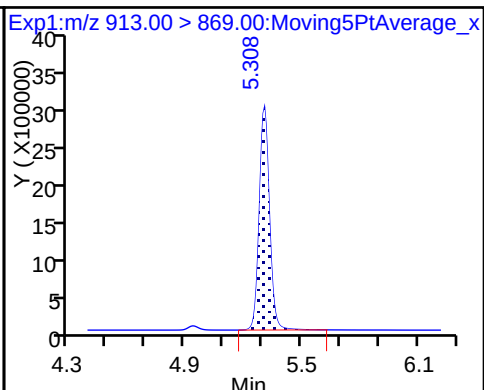
## 45 Perfluorohexadecanoic acid



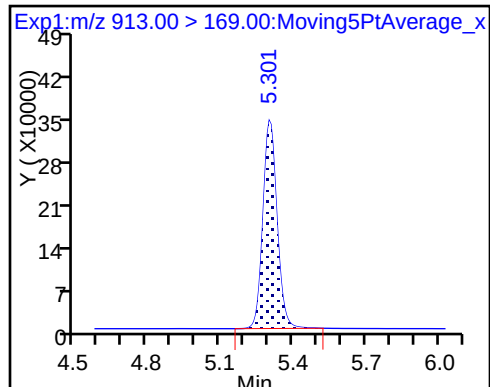
## 45 Perfluorohexadecanoic acid



## 46 Perfluorooctadecanoic acid



## 46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_008.d  
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 Client ID:  
 Sample Type: IC Calib Level: 7  
 Inject. Date: 21-Dec-2017 15:52:54 ALS Bottle#: 16 Worklist Smp#: 8  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L7-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:27:13 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

First Level Reviewer: hannigana

Date: 22-Dec-2017 09:06:54

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N    | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|--------|-------|
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |        |       |
| 212.90 > 169.00                       | 1.414 | 1.419  | -0.005 | 1.000  | 27682152 | 9.97         |                   | 99.7 | 9277   |       |
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |        |       |
| 217.00 > 172.00                       | 1.414 | 1.419  | -0.005 | 0.533  | 7579367  | 2.51         |                   | 100  | 26449  |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |        |       |
| 262.90 > 219.00                       | 1.672 | 1.670  | 0.002  | 1.000  | 19070831 | 9.73         |                   | 97.3 | 13421  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |        |       |
| 267.90 > 223.00                       | 1.672 | 1.670  | 0.002  | 0.630  | 4388357  | 2.43         |                   | 97.2 | 42212  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |        |       |
| 301.90 > 83.00                        | 1.698 | 1.705  | -0.007 | 0.640  | 88125    | 2.29         |                   | 98.4 | 2664   |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |        |       |
| 298.90 > 80.00                        | 1.707 | 1.707  | 0.0    | 1.005  | 24884595 | 8.73         |                   | 98.7 | 92705  |       |
| 298.90 > 99.00                        | 1.707 | 1.707  | 0.0    | 1.005  | 10967988 |              | 2.27(1.25-3.74)   | 98.7 | 78306  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |        |       |
| 327.00 > 307.00                       | 1.914 | 1.920  | -0.006 | 1.000  | 6206525  | 11.4         |                   | 122  | 121900 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |        |       |
| 315.00 > 270.00                       | 1.955 | 1.953  | 0.002  | 0.737  | 4729842  | 2.45         |                   | 98.1 | 50978  |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |        |       |
| 313.00 > 269.00                       | 1.955 | 1.956  | -0.001 | 1.000  | 18501936 | 9.77         |                   | 97.7 | 73249  |       |
| 313.00 > 119.00                       | 1.955 | 1.956  | -0.001 | 1.000  | 1820465  |              | 10.16(5.03-15.10) | 97.7 | 39569  |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |        |       |
| 363.00 > 319.00                       | 2.292 | 2.291  | 0.001  | 1.000  | 17828937 | 9.69         |                   | 96.9 | 25090  |       |
| 363.00 > 169.00                       | 2.292 | 2.291  | 0.001  | 1.000  | 7822044  |              | 2.28(1.13-3.40)   | 96.9 | 42019  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |        |       |
| 367.00 > 322.00                       | 2.292 | 2.291  | 0.001  | 0.864  | 4396642  | 2.46         |                   | 98.5 | 32086  |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                   |      |        |       |
| 403.00 > 84.00                        | 2.306 | 2.304  | 0.002  | 0.869  | 5148564  | 2.29         |                   | 96.6 | 30538  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N    | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|--------|-------|
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |      |        |       |
| 399.00 > 80.00                        | 2.306 | 2.304  | 0.002  | 1.000  | 20840256 | 8.89         |                 | 97.7 | 17915  |       |
| 399.00 > 99.00                        | 2.306 | 2.304  | 0.002  | 1.000  | 7269446  |              | 2.87(1.50-4.49) | 97.7 | 14870  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |        |       |
| 427.00 > 407.00                       | 2.645 | 2.642  | 0.003  | 1.000  | 10445701 | 10.2         |                 | 107  | 89302  |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |        |       |
| 429.00 > 81.00                        | 2.645 | 2.642  | 0.003  | 0.997  | 1570687  | 1.89         |                 | 79.6 | 26790  |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |        |       |
| 417.00 > 372.00                       | 2.652 | 2.654  | -0.002 | 1.000  | 4825928  | 2.35         |                 | 94.1 | 35526  |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |        |       |
| 415.00 > 370.00                       | 2.652 | 2.656  | -0.004 |        | 4965647  | 2.50         |                 |      | 34768  |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |        |       |
| 413.00 > 369.00                       | 2.652 | 2.656  | -0.004 | 1.000  | 19995182 | 9.85         |                 | 98.5 | 8445   |       |
| 413.00 > 169.00                       | 2.652 | 2.656  | -0.004 | 1.000  | 11507868 |              | 1.74(0.84-2.52) | 98.5 | 32191  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |        |       |
| 449.00 > 80.00                        | 2.660 | 2.662  | -0.002 | 1.000  | 17858719 | 9.34         |                 | 98.1 | 73197  |       |
| 449.00 > 99.00                        | 2.660 | 2.662  | -0.002 | 1.000  | 5345781  |              | 3.34(1.94-5.82) | 98.1 | 25487  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |        |       |
| 503.00 > 80.00                        | 3.025 | 3.025  | 0.0    | 1.141  | 3490587  | 2.35         |                 | 98.2 | 18199  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |        |       |
| 468.00 > 423.00                       | 3.025 | 3.028  | -0.003 | 1.141  | 3530948  | 2.42         |                 | 96.9 | 32424  |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |        |       |
| 499.00 > 80.00                        | 3.025 | 3.028  | -0.003 | 1.000  | 14551225 | 9.40         |                 | 101  | 1264   |       |
| 499.00 > 99.00                        | 3.025 | 3.028  | -0.003 | 1.000  | 3243497  |              | 4.49(2.31-6.93) | 101  | 1895   |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |        |       |
| 463.00 > 419.00                       | 3.025 | 3.029  | -0.004 | 1.000  | 14310135 | 10.1         |                 | 101  | 23004  |       |
| 463.00 > 169.00                       | 3.025 | 3.029  | -0.004 | 1.000  | 3669361  |              | 3.90(1.90-5.69) | 101  | 32102  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |        |       |
| 506.00 > 78.00                        | 3.372 | 3.370  | 0.002  | 1.271  | 5072077  | 2.51         |                 | 100  | 20556  |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |        |       |
| 498.00 > 78.00                        | 3.372 | 3.372  | 0.0    | 1.000  | 18027750 | 9.26         |                 | 92.6 | 118488 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |        |       |
| 527.00 > 507.00                       | 3.379 | 3.377  | 0.002  | 1.000  | 5272516  | 9.53         |                 | 99.5 | 66077  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |        |       |
| 529.00 > 81.00                        | 3.379 | 3.377  | 0.002  | 1.274  | 1090140  | 2.35         |                 | 98.0 | 14062  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |        |       |
| 515.00 > 470.00                       | 3.387 | 3.389  | -0.002 | 1.277  | 2852827  | 2.37         |                 | 94.9 | 25421  |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |        |       |
| 513.00 > 469.00                       | 3.387 | 3.390  | -0.003 | 1.000  | 11530530 | 10.4         |                 | 104  | 34694  |       |
| 513.00 > 169.00                       | 3.387 | 3.390  | -0.003 | 1.000  | 2192686  |              | 5.26(2.36-7.09) | 104  | 2262   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |        |       |
| 573.00 > 419.00                       | 3.538 | 3.543  | -0.005 | 1.334  | 1605143  | 2.49         |                 | 99.5 | 15133  |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |        |       |
| 570.00 > 419.00                       | 3.546 | 3.548  | -0.002 | 1.002  | 7032734  | 10.2         |                 | 102  | 25169  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |        |       |
| 599.00 > 80.00                        | 3.699 | 3.703  | -0.004 | 1.000  | 8522065  | 9.45         |                 | 98.0 | 37891  |       |
| 599.00 > 99.00                        | 3.699 | 3.703  | -0.004 | 1.000  | 2851346  |              | 2.99(1.39-4.16) | 98.0 | 34323  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.707 | 3.712     | -0.005    | 1.398     | 1513961  | 2.40            |                 | 96.1 | 6548  |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.716 | 3.717     | -0.001    | 1.401     | 2172683  | 2.37            |                 | 94.9 | 19610 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.716 | 3.718     | -0.002    | 1.000     | 7892336  | 9.91            |                 | 99.1 | 24898 |       |
| 563.00 > 169.00                       | 3.716 | 3.718     | -0.002    | 1.000     | 1802446  |                 | 4.38(0.00-0.00) | 99.1 | 28429 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.716 | 3.720     | -0.004    | 1.002     | 5880293  | 9.77            |                 | 97.7 | 30311 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.856 | 3.862     | -0.006    | 1.454     | 1455164  | 2.52            |                 | 101  | 3686  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.866 | 3.872     | -0.006    | 1.003     | 5888998  | 10.3            |                 | 103  | 3473  |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.006 | 4.011     | -0.005    | 1.000     | 9365176  | 9.83            |                 | 98.3 | 26806 |       |
| 613.00 > 169.00                       | 4.006 | 4.011     | -0.005    | 1.000     | 2496338  |                 | 3.75(2.13-6.40) | 98.3 | 47677 |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.006 | 4.011     | -0.005    | 1.510     | 2400181  | 2.43            |                 | 97.3 | 21115 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.053 | 4.052     | 0.001     | 1.528     | 1414354  | 2.55            |                 | 102  | 2447  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.053 | 4.058     | -0.005    | 1.000     | 6071711  | 10.1            |                 | 101  | 3426  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.271 | 4.277     | -0.006    | 1.000     | 10978736 | 9.86            |                 | 98.6 | 20112 |       |
| 663.00 > 169.00                       | 4.271 | 4.277     | -0.006    | 1.000     | 3595856  |                 | 3.05(1.25-3.76) | 98.6 | 44653 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.514 | 4.518     | -0.004    | 1.000     | 2857131  | 10.2            |                 | 102  | 40845 |       |
| 713.00 > 219.00                       | 4.514 | 4.518     | -0.004    | 1.000     | 1907030  |                 | 1.50(0.71-2.13) | 102  | 27002 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.514 | 4.518     | -0.004    | 1.702     | 2729477  | 2.47            |                 | 99.0 | 17357 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.940 | 4.939     | 0.001     | 1.000     | 16452280 | 9.91            |                 | 99.1 | 6739  |       |
| 813.00 > 169.00                       | 4.940 | 4.939     | 0.001     | 1.000     | 3109663  |                 | 5.29(2.86-8.58) | 99.1 | 12978 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.940 | 4.939     | 0.001     | 1.863     | 4845252  | 2.41            |                 | 96.5 | 13392 |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.303 | 5.306     | -0.003    | 1.000     | 18646888 | 9.35            |                 | 93.5 | 2699  |       |
| 913.00 > 169.00                       | 5.296 | 5.306     | -0.010    | 0.999     | 2544434  |                 | 7.33(0.00-0.00) | 93.5 | 3467  |       |

## Reagents:

LCPFC\_LL7\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_008.d

Injection Date: 21-Dec-2017 15:52:54

Instrument ID: A8\_N

Lims ID: IC L7 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 16

Worklist Smp#: 8

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

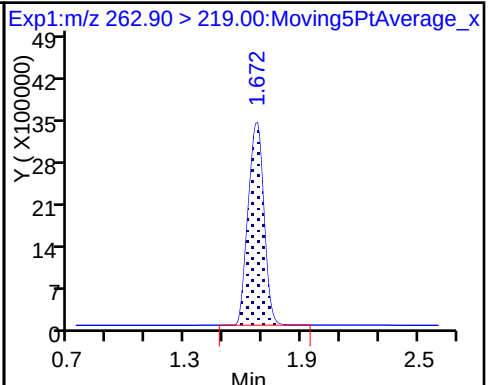
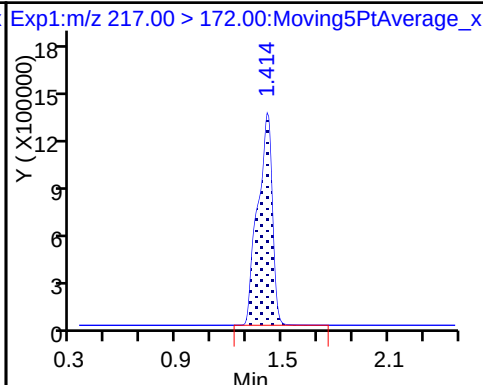
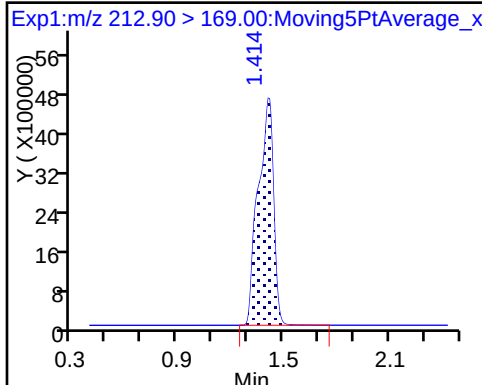
Method: A8\_N

Limit Group: LC PFC ICAL

2 Perfluorobutyric acid

D 1 13C4 PFBA

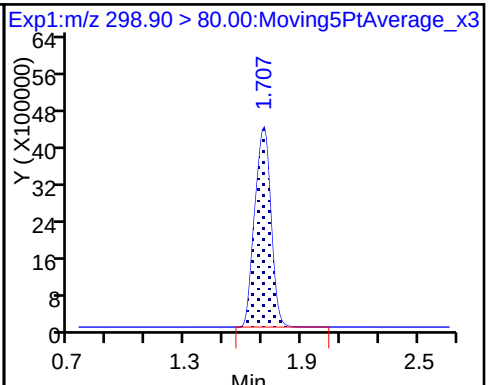
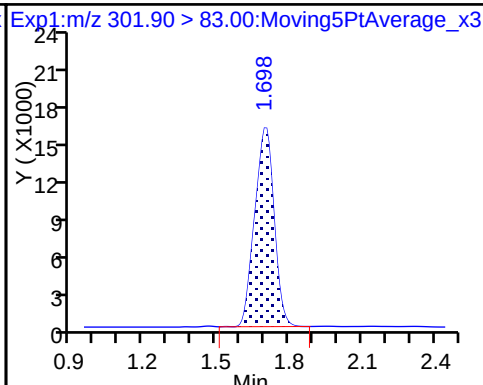
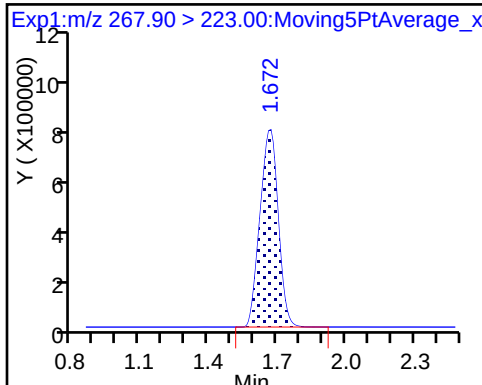
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

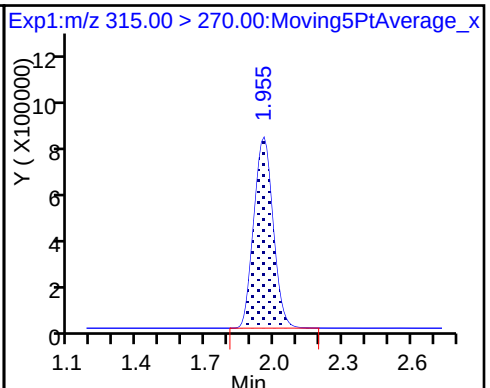
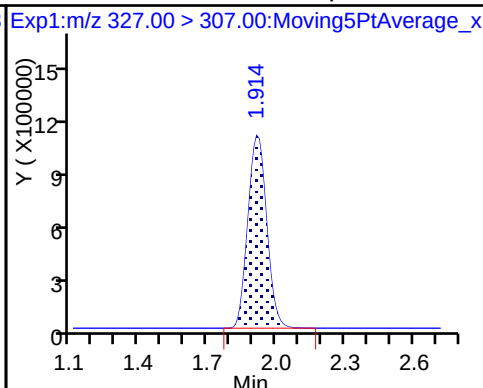
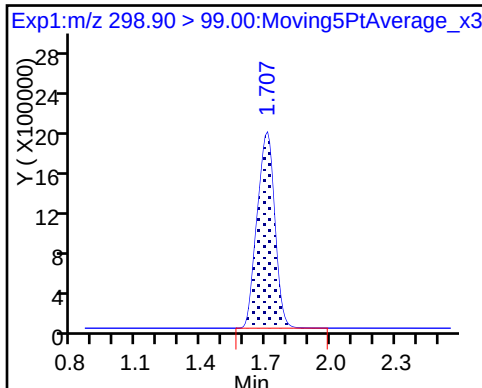
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

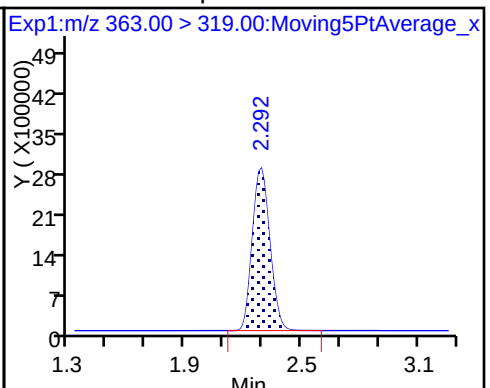
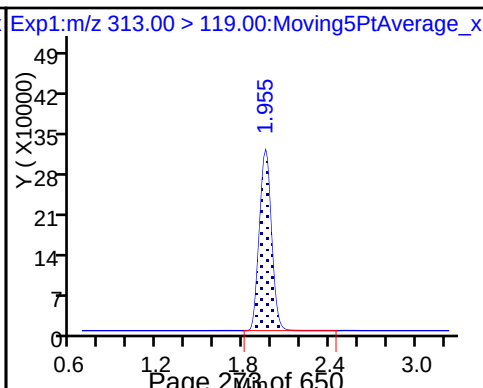
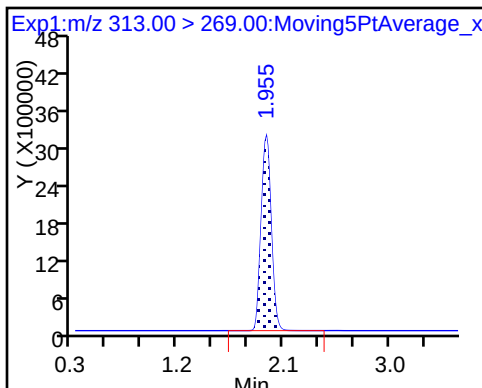
De 7 13C2 PFHxA



6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

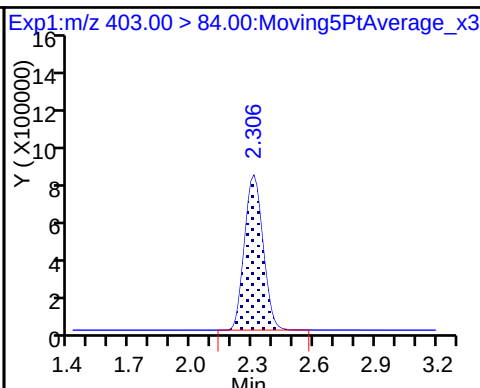
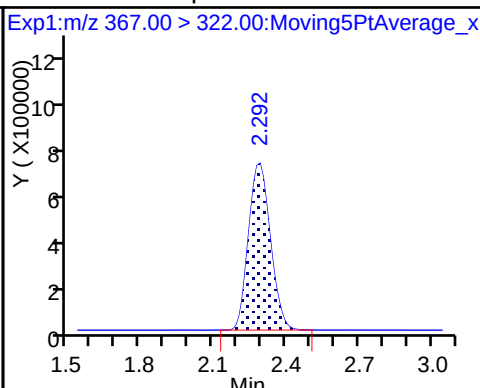
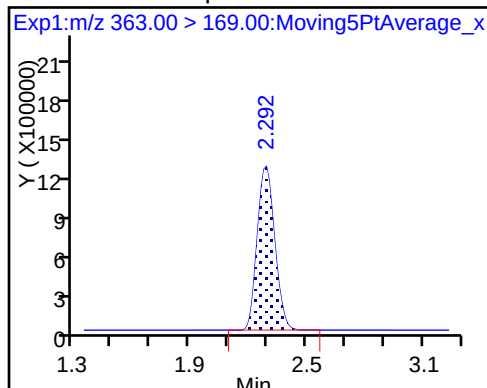
10 Perfluoroheptanoic acid



10 Perfluoroheptanoic acid

D 9 13C4-PFHpA

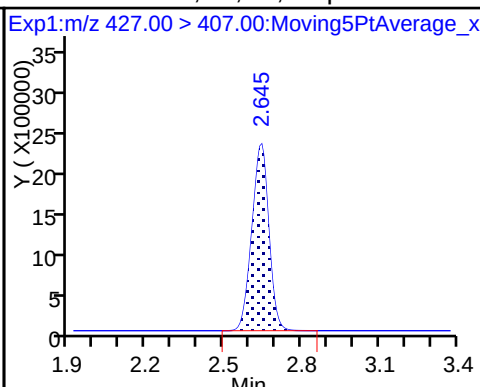
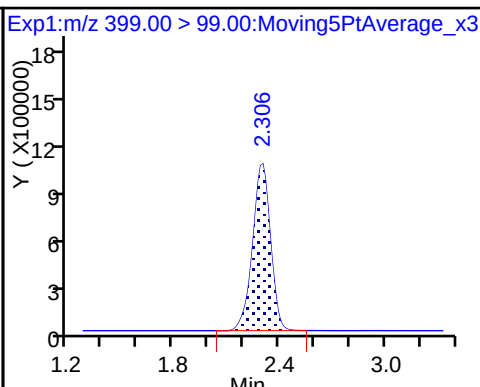
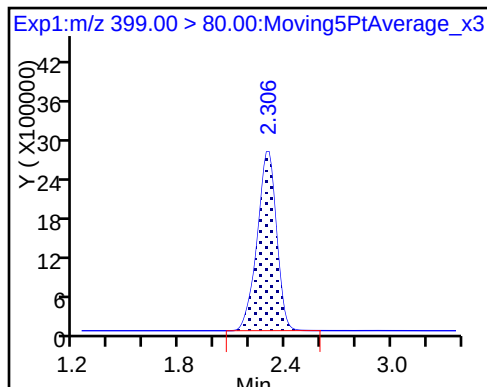
D 11 18O2 PFHxS



8 Perfluorohexanesulfonic acid

8 Perfluorohexanesulfonic acid

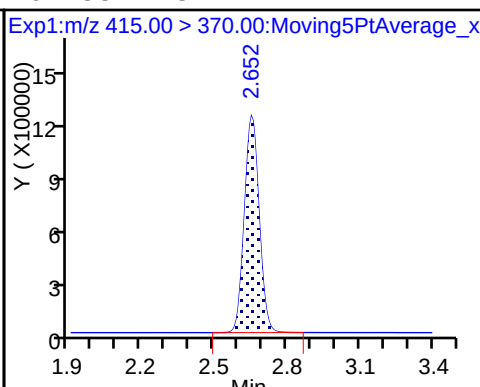
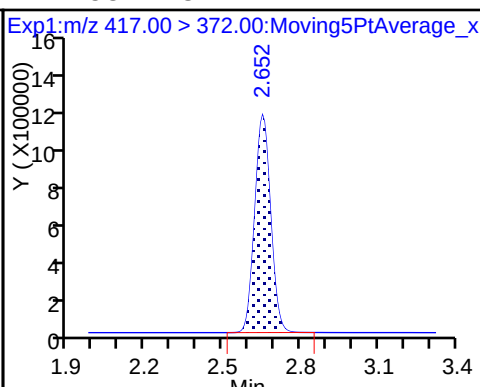
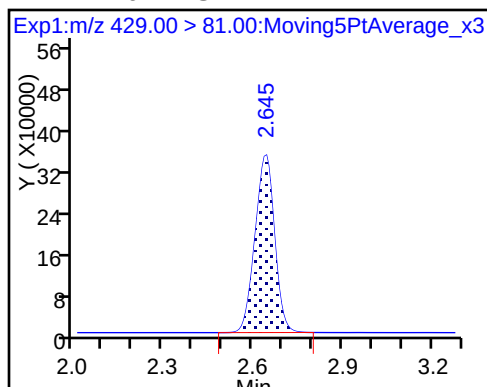
13 Sodium 1H,1H,2H,2H-perfluorooctane



D 12 M2-6:2FTS

D 14 13C4 PFOA

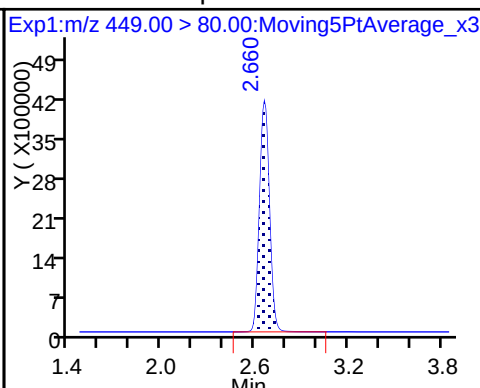
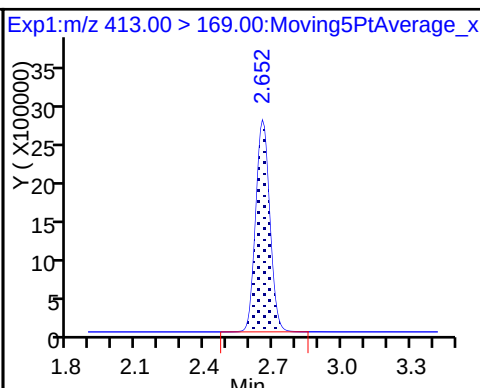
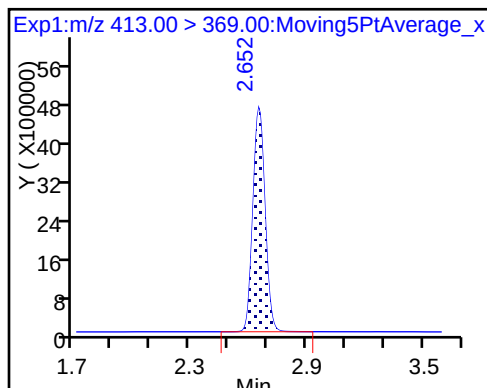
\* 62 13C2-PFOA



15 Perfluorooctanoic acid

15 Perfluorooctanoic acid

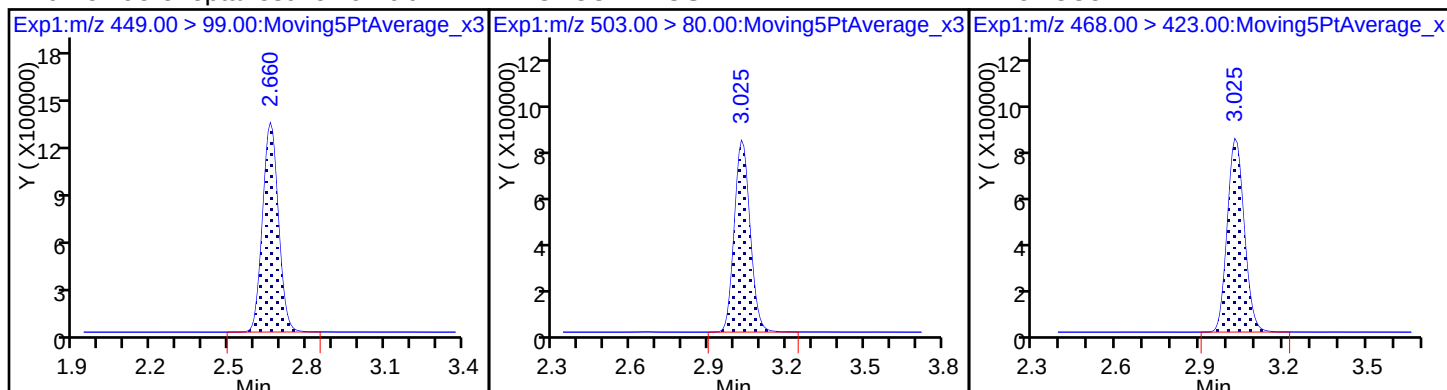
16 Perfluoroheptanesulfonic Acid



16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

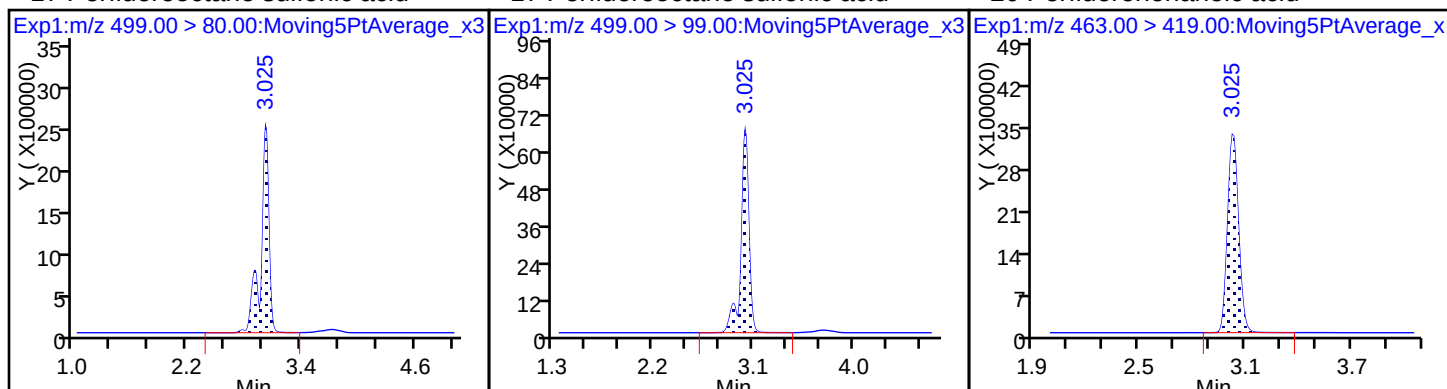
D 19 13C5 PFNA



17 Perfluorooctane sulfonic acid

17 Perfluorooctane sulfonic acid

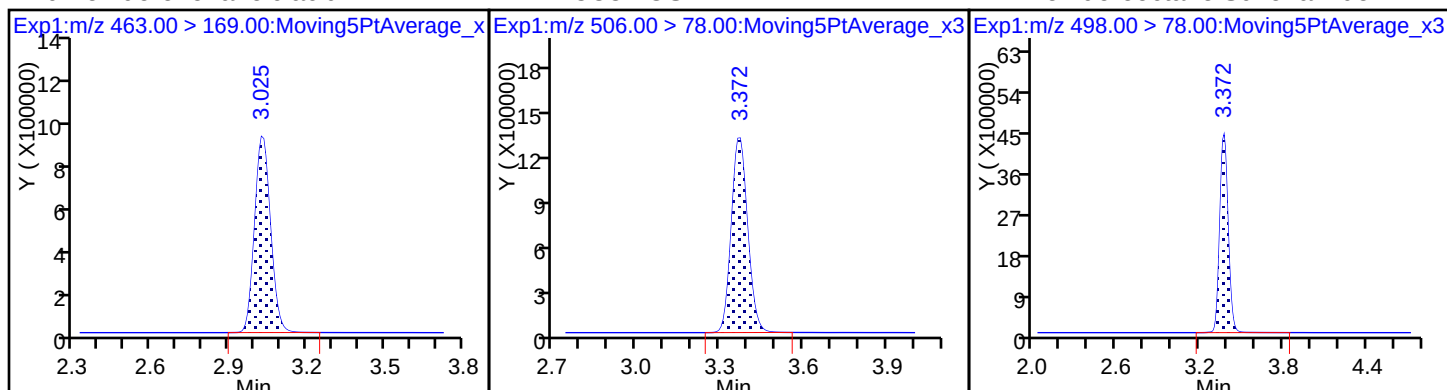
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

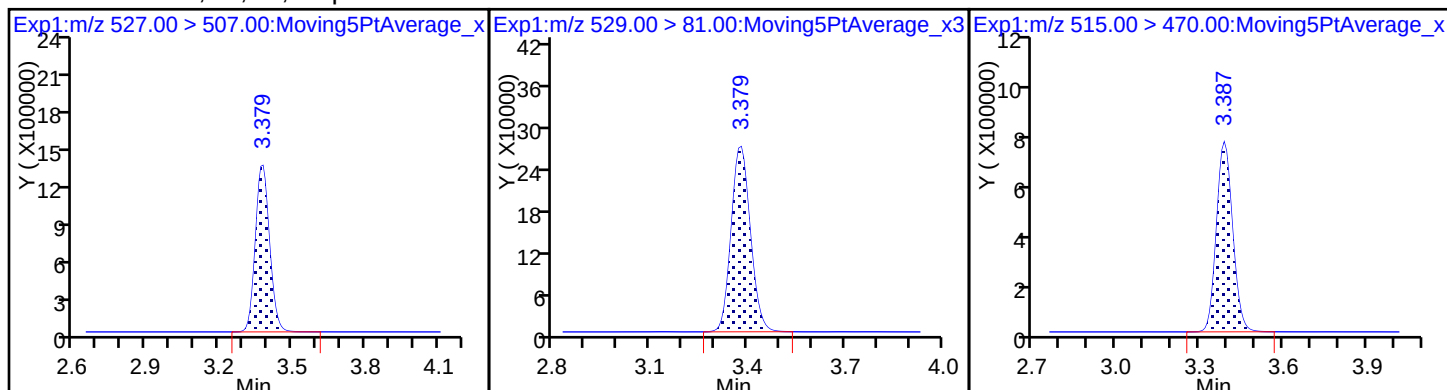
22 Perfluorooctane Sulfonamide



25 Sodium 1H,1H,2H,2H-perfluorodecanoate

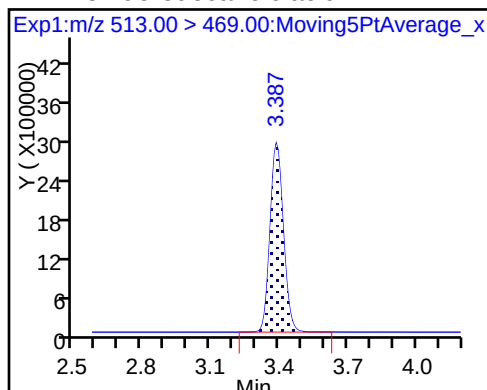
De26 M2-8:2FTS

D 23 13C2 PFDA

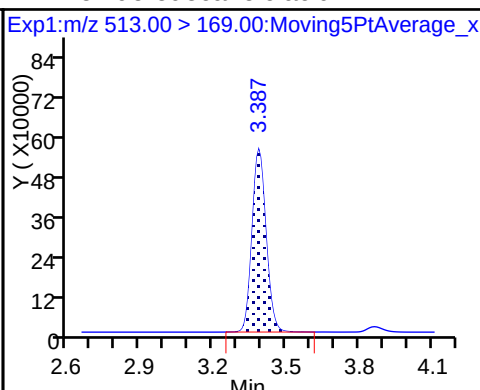




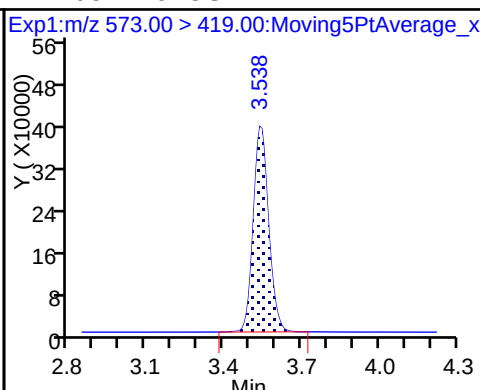
24 Perfluorodecanoic acid



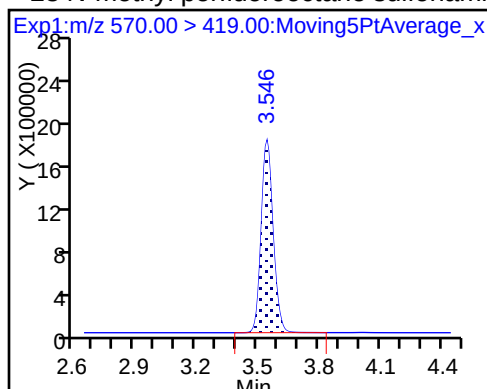
24 Perfluorodecanoic acid



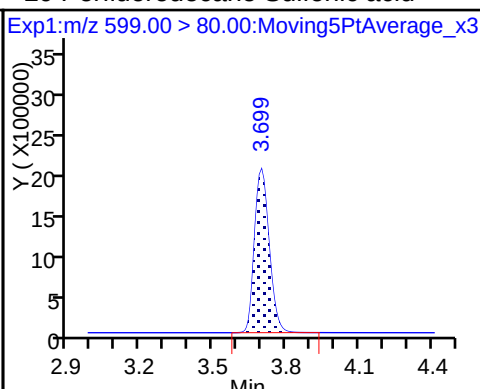
D 27 d3-NMeFOSAA



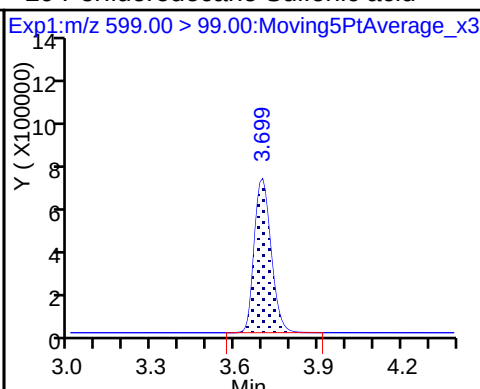
28 N-methyl perfluorooctane sulfonami



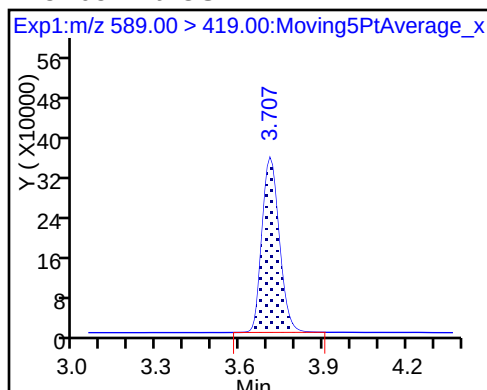
29 Perfluorodecane Sulfonic acid



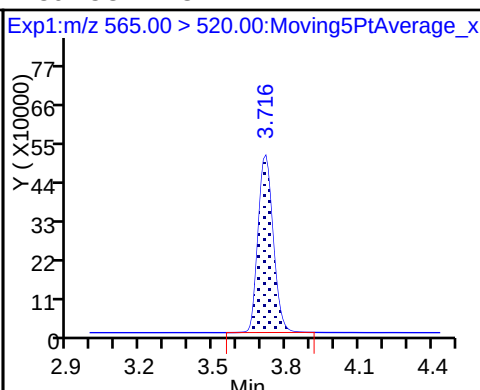
29 Perfluorodecane Sulfonic acid



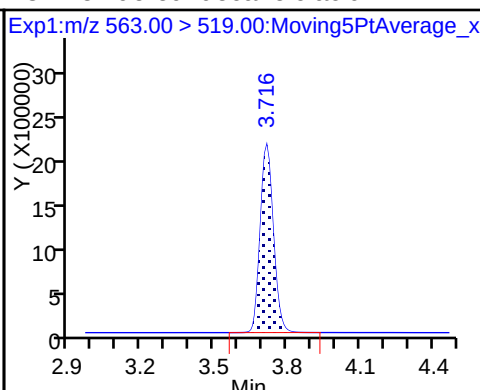
D 32 d5-NEtFOSAA



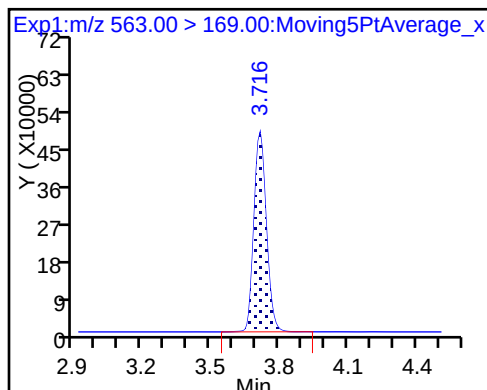
D 30 13C2 PFUnA



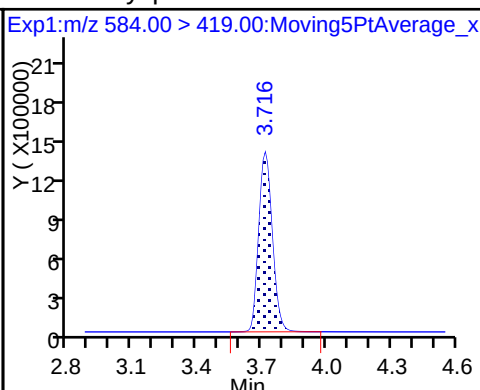
31 Perfluoroundecanoic acid



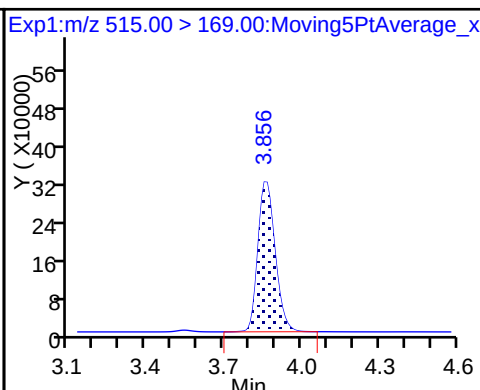
31 Perfluoroundecanoic acid



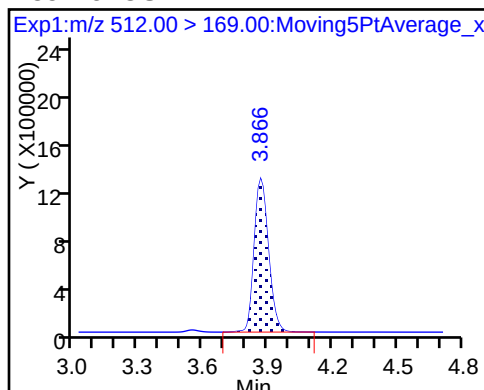
33 N-ethyl perfluorooctane sulfonamid



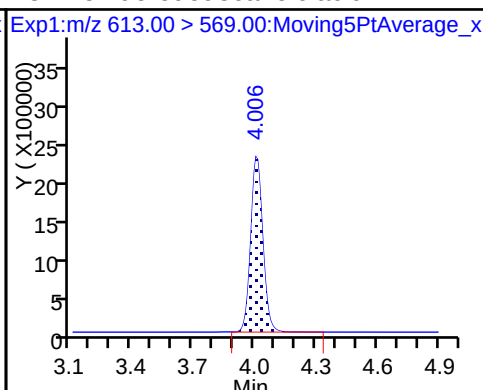
D 34 d-N-MeFOSA-M



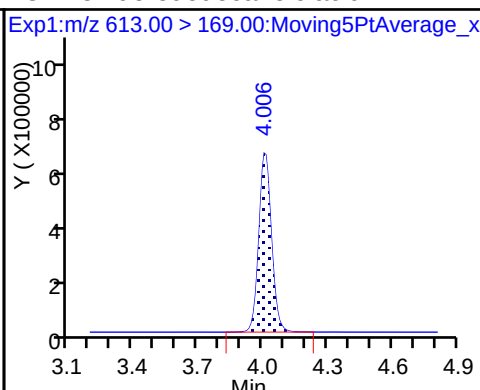
35 MeFOSA



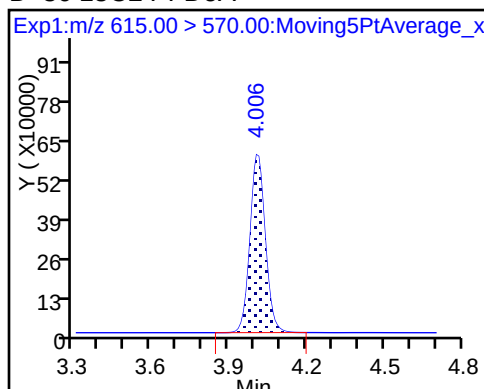
37 Perfluorododecanoic acid



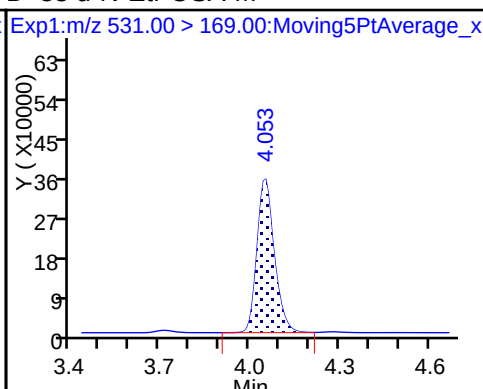
37 Perfluorododecanoic acid



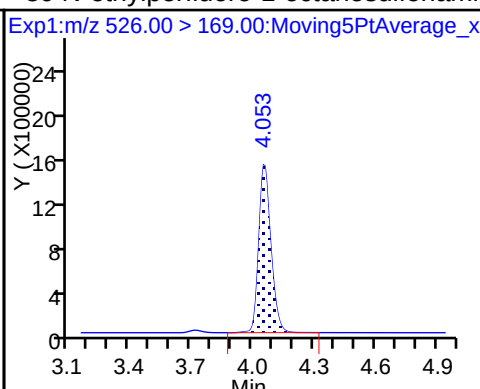
D 36 13C2 PFDaA



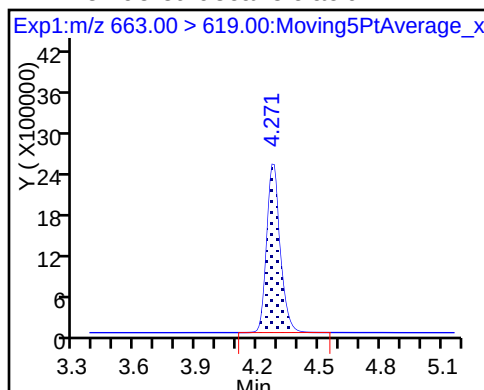
D 38 d-N-EtFOSA-M



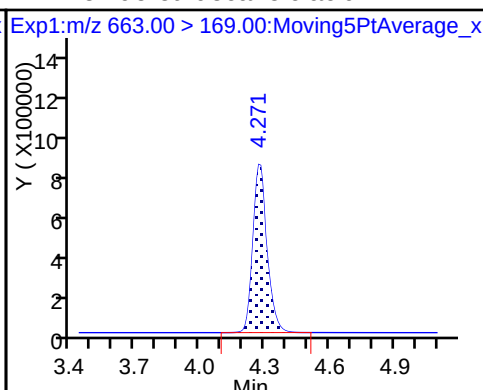
39 N-ethylperfluoro-1-octanesulfonami



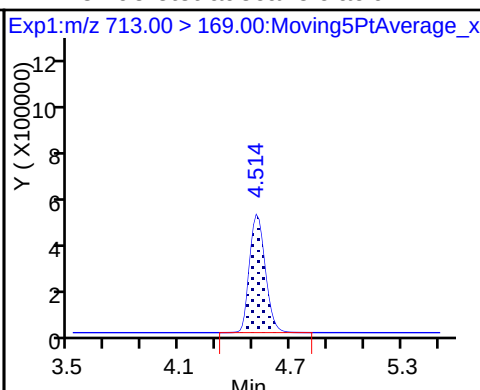
41 Perfluorotridecanoic acid



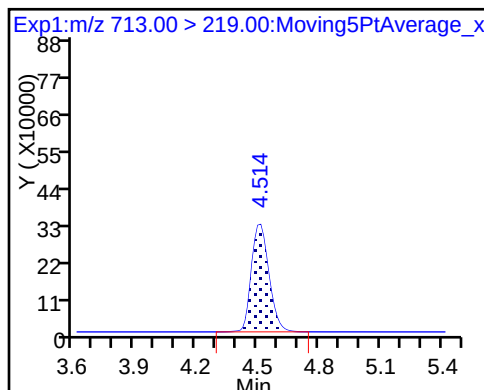
41 Perfluorotridecanoic acid



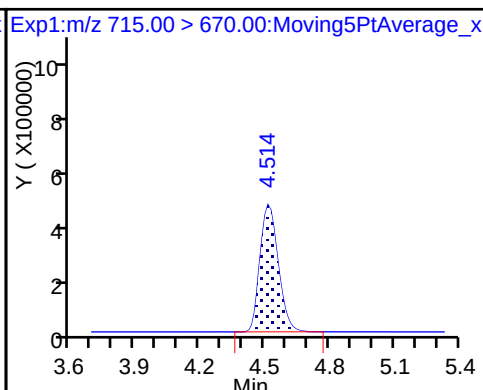
42 Perfluorotetradecanoic acid



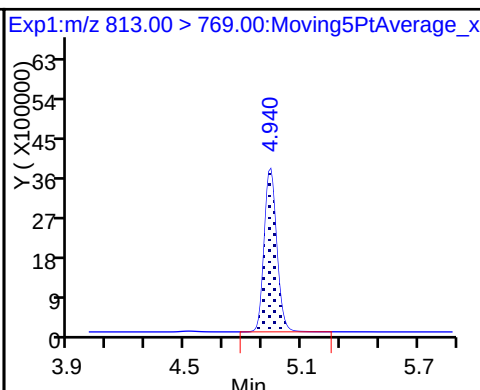
42 Perfluorotetradecanoic acid



D 43 13C2-PFTeDA



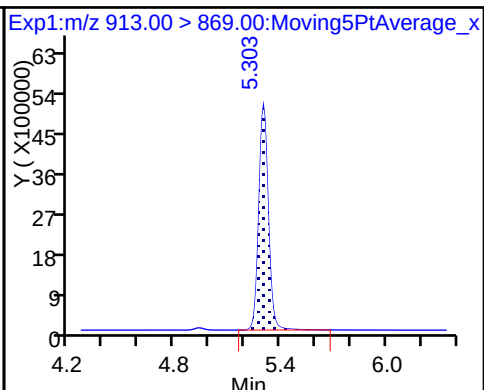
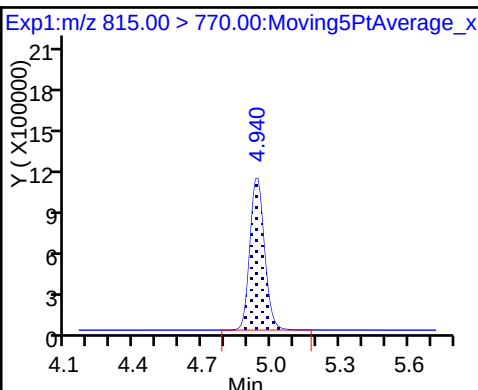
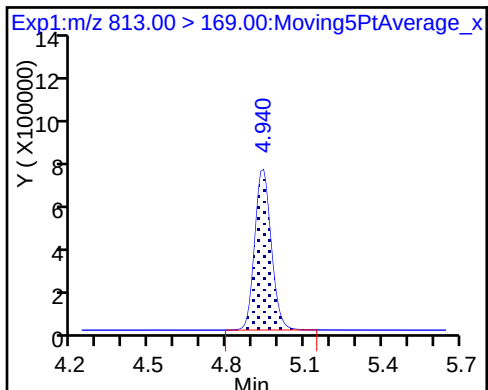
45 Perfluorohexadecanoic acid



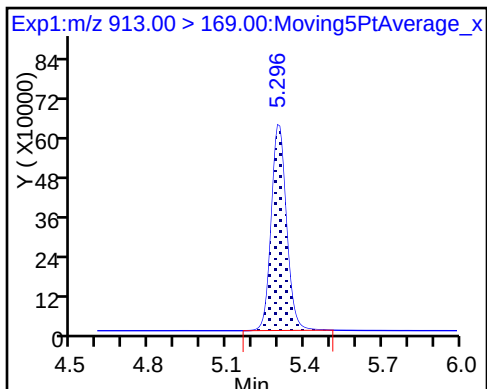
45 Perfluorohexadecanoic acid

D 44 13C2-PFHxDA

46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_009.d  
 Lims ID: IC L8 Full  
 Client ID:  
 Sample Type: IC Calib Level: 8  
 Inject. Date: 21-Dec-2017 16:00:42 ALS Bottle#: 17 Worklist Smp#: 9  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L8-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:27:16 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

First Level Reviewer: hannigana

Date: 22-Dec-2017 09:08:48

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)    | %Rec | S/N    | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|--------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                  |      |        |       |
| 217.00 > 172.00                       | 1.420 | 1.419  | 0.001  | 0.534  | 7169568  | 2.80         |                  | 112  | 29929  |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                  |      |        |       |
| 212.90 > 169.00                       | 1.420 | 1.419  | 0.001  | 1.000  | 47047864 | 17.9         |                  | 89.5 | 14587  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                  |      |        |       |
| 267.90 > 223.00                       | 1.672 | 1.670  | 0.002  | 0.629  | 4195411  | 2.73         |                  | 109  | 36075  |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                  |      |        |       |
| 262.90 > 219.00                       | 1.672 | 1.670  | 0.002  | 1.000  | 33568726 | 17.9         |                  | 89.6 | 29021  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                  |      |        |       |
| 301.90 > 83.00                        | 1.707 | 1.705  | 0.002  | 0.642  | 84726    | 2.59         |                  | 111  | 2122   |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                  |      |        |       |
| 298.90 > 80.00                        | 1.707 | 1.707  | 0.0    | 1.000  | 40269625 | 14.7         |                  | 83.1 | 138562 |       |
| 298.90 > 99.00                        | 1.707 | 1.707  | 0.0    | 1.000  | 19757606 |              | 2.04(1.25-3.74)  | 83.1 | 93514  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                  |      |        |       |
| 327.00 > 307.00                       | 1.914 | 1.920  | -0.006 | 1.000  | 11146039 | 30.8         |                  | 165  | 176975 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                  |      |        |       |
| 315.00 > 270.00                       | 1.955 | 1.953  | 0.002  | 0.735  | 4355951  | 2.66         |                  | 106  | 39376  |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                  |      |        |       |
| 313.00 > 269.00                       | 1.955 | 1.956  | -0.001 | 1.000  | 33018394 | 18.9         |                  | 94.6 | 72733  |       |
| 313.00 > 119.00                       | 1.955 | 1.956  | -0.001 | 1.000  | 3313924  |              | 9.96(5.03-15.10) | 94.6 | 70904  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                  |      |        |       |
| 367.00 > 322.00                       | 2.292 | 2.291  | 0.001  | 0.862  | 3850620  | 2.54         |                  | 102  | 29343  |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                  |      |        |       |
| 363.00 > 319.00                       | 2.292 | 2.291  | 0.001  | 1.000  | 29737938 | 18.5         |                  | 92.3 | 23212  |       |
| 363.00 > 169.00                       | 2.292 | 2.291  | 0.001  | 1.000  | 13475687 |              | 2.21(1.13-3.40)  | 92.3 | 39828  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                  |      |        |       |
| 399.00 > 80.00                        | 2.306 | 2.304  | 0.002  | 1.000  | 35522645 | 16.5         |                  | 90.4 | 25149  |       |
| 399.00 > 99.00                        | 2.306 | 2.304  | 0.002  | 1.000  | 12802493 |              | 2.77(1.50-4.49)  | 90.4 | 18670  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N    | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|--------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |        |       |
| 403.00 > 84.00                        | 2.306 | 2.304  | 0.002  | 0.867  | 4742553  | 2.48         |                 | 105  | 23665  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |        |       |
| 427.00 > 407.00                       | 2.638 | 2.642  | -0.004 | 1.003  | 14144250 | 20.7         |                 | 109  | 73813  |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |        |       |
| 429.00 > 81.00                        | 2.631 | 2.642  | -0.011 | 0.989  | 1046570  | 1.48         |                 | 62.4 | 26448  |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |        |       |
| 417.00 > 372.00                       | 2.652 | 2.654  | -0.002 | 0.997  | 4287955  | 2.46         |                 | 98.4 | 29089  |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |        |       |
| 415.00 > 370.00                       | 2.660 | 2.656  | 0.004  |        | 4217141  | 2.50         |                 |      | 26782  |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |        |       |
| 413.00 > 369.00                       | 2.660 | 2.656  | 0.004  | 1.003  | 31704557 | 17.6         |                 | 87.9 | 13904  |       |
| 413.00 > 169.00                       | 2.660 | 2.656  | 0.004  | 1.003  | 18875605 |              | 1.68(0.84-2.52) | 87.9 | 37559  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |        |       |
| 449.00 > 80.00                        | 2.667 | 2.662  | 0.005  | 1.000  | 29818123 | 17.2         |                 | 90.4 | 100084 |       |
| 449.00 > 99.00                        | 2.667 | 2.662  | 0.005  | 1.000  | 9484144  |              | 3.14(1.94-5.82) | 90.4 | 64113  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |        |       |
| 503.00 > 80.00                        | 3.026 | 3.025  | 0.001  | 1.138  | 3163280  | 2.50         |                 | 105  | 11619  |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |        |       |
| 499.00 > 80.00                        | 3.034 | 3.028  | 0.006  | 1.003  | 26220642 | 18.7         |                 | 101  | 2141   |       |
| 499.00 > 99.00                        | 3.026 | 3.028  | -0.002 | 1.000  | 6089359  |              | 4.31(2.31-6.93) | 101  | 3368   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |        |       |
| 468.00 > 423.00                       | 3.034 | 3.028  | 0.006  | 1.141  | 3189147  | 2.58         |                 | 103  | 33742  |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |        |       |
| 463.00 > 419.00                       | 3.034 | 3.029  | 0.005  | 1.000  | 23346321 | 18.2         |                 | 90.9 | 24614  |       |
| 463.00 > 169.00                       | 3.034 | 3.029  | 0.005  | 1.000  | 6602218  |              | 3.54(1.90-5.69) | 90.9 | 50995  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |        |       |
| 506.00 > 78.00                        | 3.372 | 3.370  | 0.002  | 1.268  | 4583649  | 2.67         |                 | 107  | 19223  |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |        |       |
| 498.00 > 78.00                        | 3.372 | 3.372  | 0.0    | 1.000  | 29455119 | 16.7         |                 | 83.7 | 62068  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |        |       |
| 529.00 > 81.00                        | 3.380 | 3.377  | 0.003  | 1.271  | 1043626  | 2.65         |                 | 110  | 18387  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |        |       |
| 527.00 > 507.00                       | 3.380 | 3.377  | 0.003  | 1.000  | 9766222  | 18.4         |                 | 96.2 | 61048  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |        |       |
| 515.00 > 470.00                       | 3.395 | 3.389  | 0.006  | 1.276  | 2713099  | 2.66         |                 | 106  | 19730  |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |        |       |
| 513.00 > 469.00                       | 3.395 | 3.390  | 0.005  | 1.000  | 19652616 | 18.7         |                 | 93.6 | 58865  |       |
| 513.00 > 169.00                       | 3.395 | 3.390  | 0.005  | 1.000  | 4029167  |              | 4.88(2.36-7.09) | 93.6 | 1984   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |        |       |
| 573.00 > 419.00                       | 3.546 | 3.543  | 0.003  | 1.333  | 1500795  | 2.74         |                 | 110  | 16773  |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |        |       |
| 570.00 > 419.00                       | 3.554 | 3.548  | 0.006  | 1.002  | 12424122 | 19.3         |                 | 96.4 | 27496  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |        |       |
| 599.00 > 80.00                        | 3.708 | 3.703  | 0.005  | 1.000  | 14589155 | 17.8         |                 | 92.6 | 37877  |       |
| 599.00 > 99.00                        | 3.708 | 3.703  | 0.005  | 1.000  | 5197467  |              | 2.81(1.39-4.16) | 92.6 | 51117  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |        |       |
| 589.00 > 419.00                       | 3.716 | 3.712  | 0.004  | 1.397  | 1271751  | 2.38         |                 | 95.0 | 6049   |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.725 | 3.717     | 0.008     | 1.401     | 2010505  | 2.59            |                 | 103  | 22201 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.725 | 3.718     | 0.007     | 1.000     | 13914565 | 18.9            |                 | 94.4 | 38367 |       |
| 563.00 > 169.00                       | 3.725 | 3.718     | 0.007     | 1.000     | 3305040  |                 | 4.21(0.00-0.00) | 94.4 | 39856 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.725 | 3.720     | 0.005     | 1.002     | 10022668 | 19.8            |                 | 99.1 | 59664 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.867 | 3.862     | 0.005     | 1.454     | 1481991  | 3.03            |                 | 121  | 3442  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.872     | 0.005     | 1.003     | 11398323 | 19.6            |                 | 98.2 | 3708  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.014 | 4.011     | 0.003     | 1.509     | 2277087  | 2.72            |                 | 109  | 25521 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.014 | 4.011     | 0.003     | 1.000     | 16925951 | 18.7            |                 | 93.6 | 70497 |       |
| 613.00 > 169.00                       | 4.014 | 4.011     | 0.003     | 1.000     | 4661644  |                 | 3.63(2.13-6.40) | 93.6 | 47720 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.061 | 4.052     | 0.009     | 1.527     | 1372131  | 2.92            |                 | 117  | 1575  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.061 | 4.058     | 0.003     | 1.000     | 11387431 | 19.5            |                 | 97.4 | 3531  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.280 | 4.277     | 0.003     | 1.000     | 19218577 | 18.2            |                 | 91.0 | 36183 |       |
| 663.00 > 169.00                       | 4.280 | 4.277     | 0.003     | 1.000     | 6813687  |                 | 2.82(1.25-3.76) | 91.0 | 68644 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.528 | 4.518     | 0.010     | 1.703     | 2352410  | 2.51            |                 | 100  | 13718 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.528 | 4.518     | 0.010     | 1.000     | 5208229  | 21.5            |                 | 107  | 36715 |       |
| 713.00 > 219.00                       | 4.515 | 4.518     | -0.003    | 0.997     | 3438501  |                 | 1.51(0.71-2.13) | 107  | 27760 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.941 | 4.939     | 0.002     | 1.858     | 4377373  | 2.57            |                 | 103  | 15022 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.941 | 4.939     | 0.002     | 1.000     | 26511774 | 17.7            |                 | 88.5 | 11472 |       |
| 813.00 > 169.00                       | 4.941 | 4.939     | 0.002     | 1.000     | 5534972  |                 | 4.79(2.86-8.58) | 88.5 | 19179 |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.311 | 5.306     | 0.005     | 1.000     | 31961699 | 17.7            |                 | 88.7 | 4234  |       |
| 913.00 > 169.00                       | 5.304 | 5.306     | -0.002    | 0.999     | 4659307  |                 | 6.86(0.00-0.00) | 88.7 | 4073  |       |

## Reagents:

LCPFC\_LL8\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_009.d

Injection Date: 21-Dec-2017 16:00:42

Instrument ID: A8\_N

Lims ID: IC L8 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 17

Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

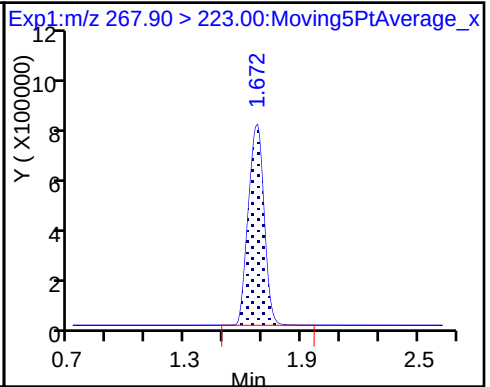
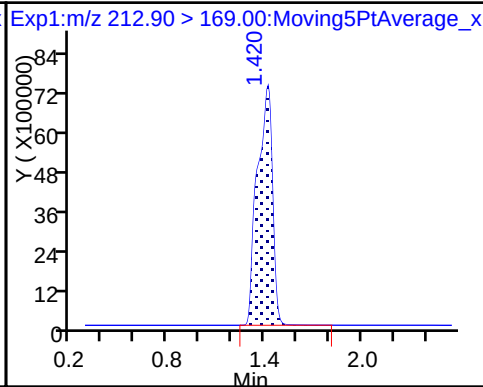
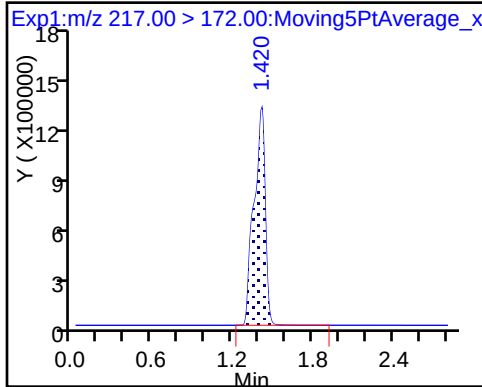
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

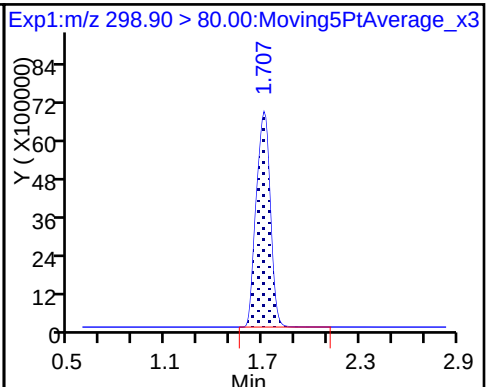
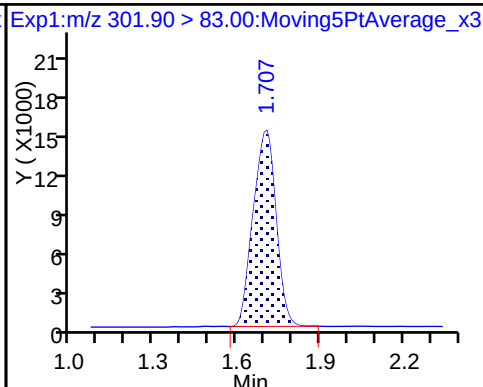
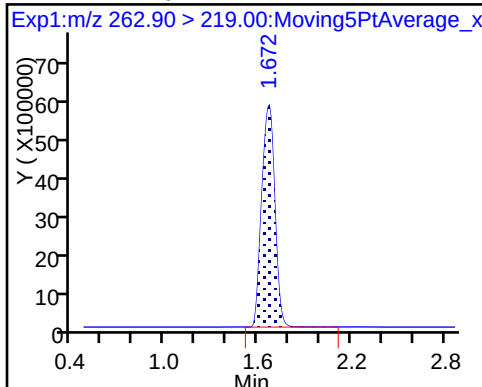
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 47 13C3-PFBS

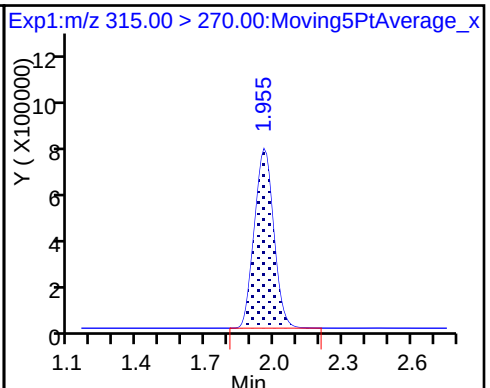
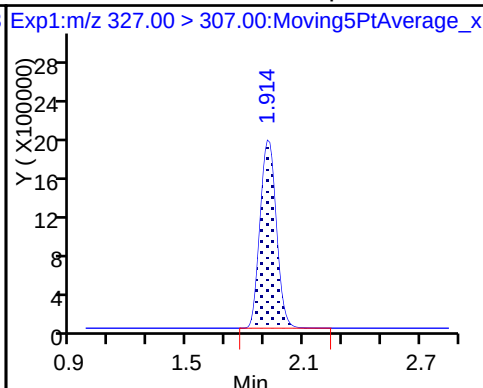
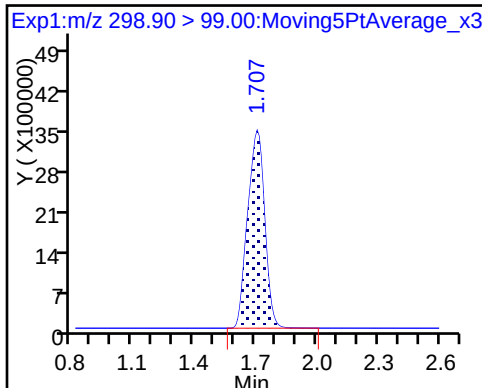
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

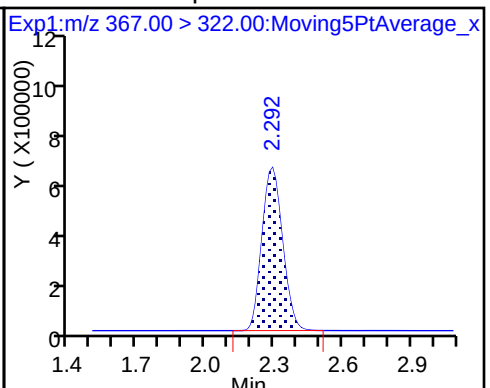
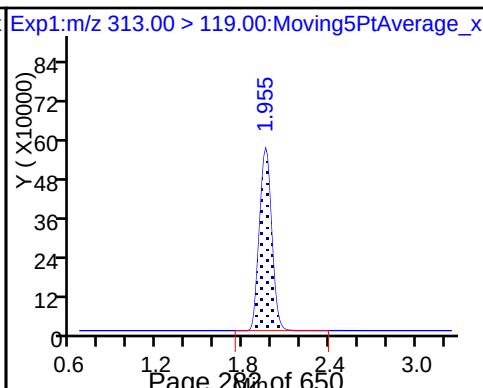
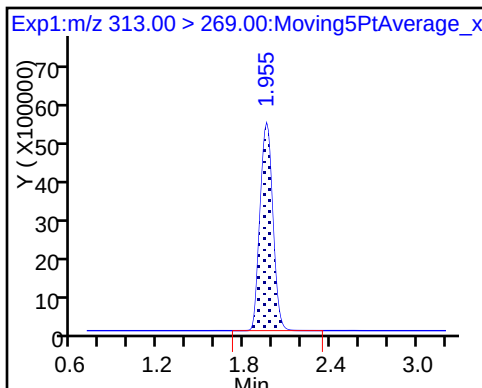
De 7 13C2 PFHxA

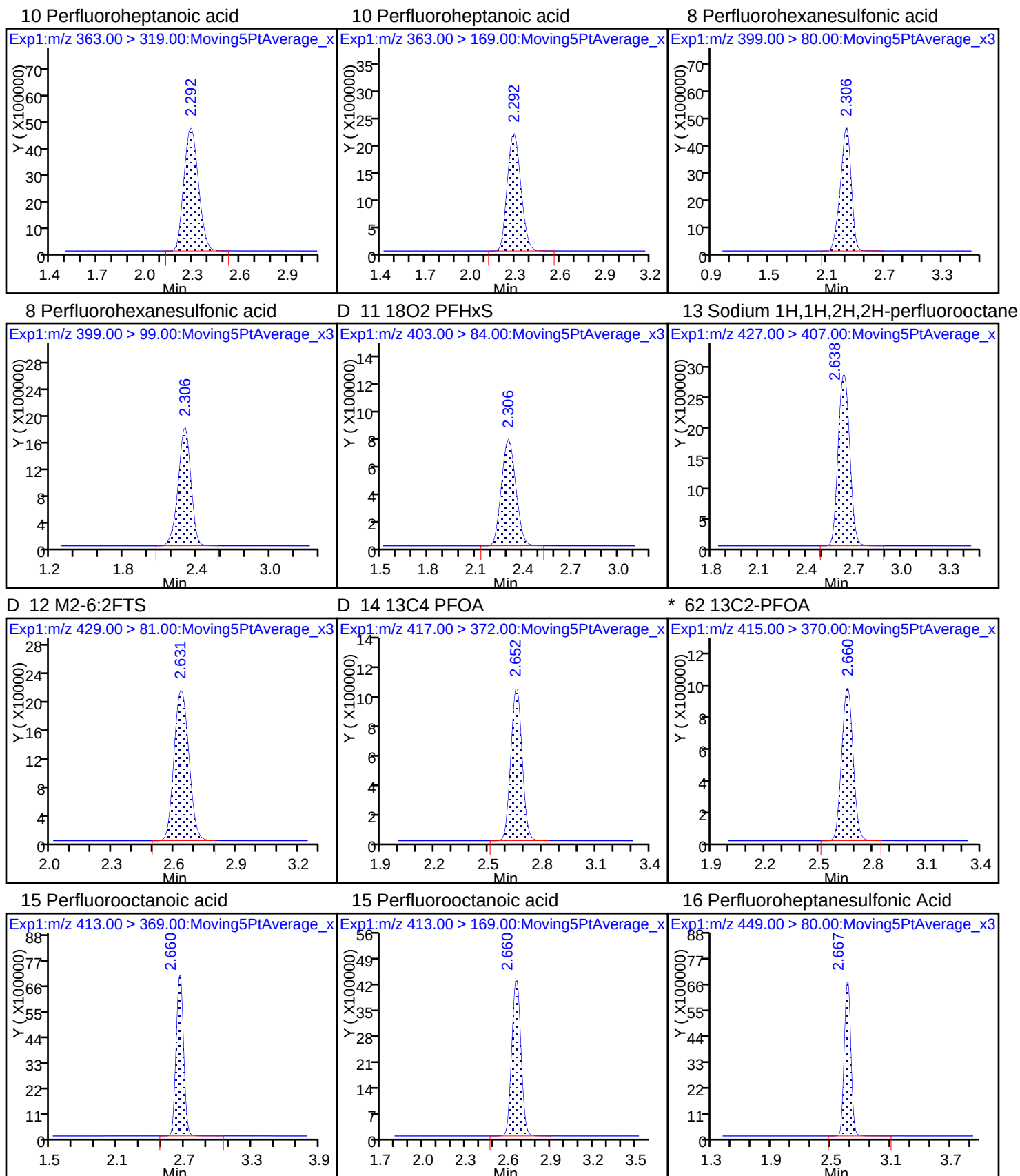


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA



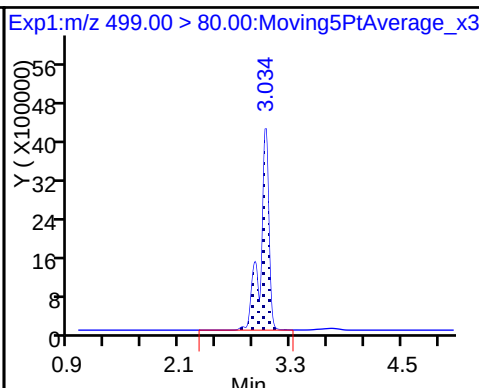
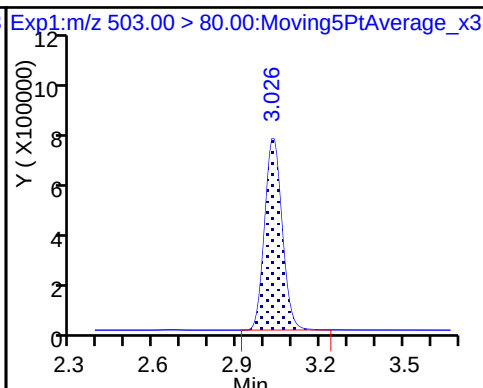
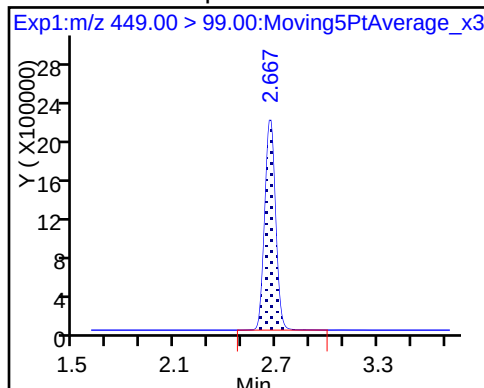




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

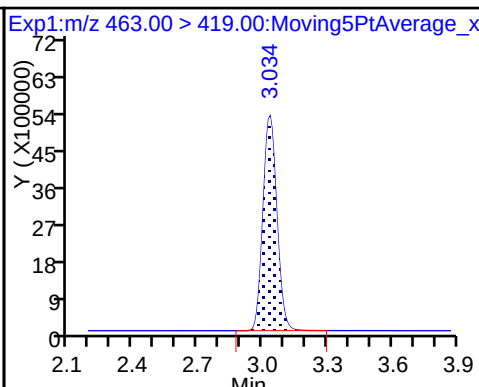
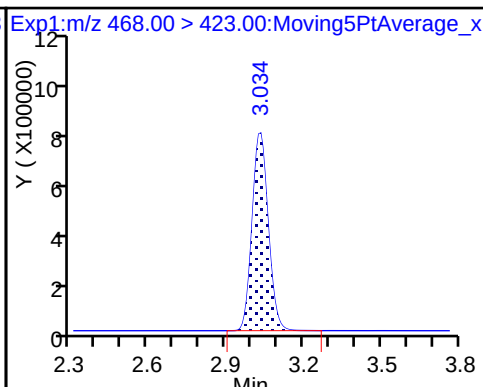
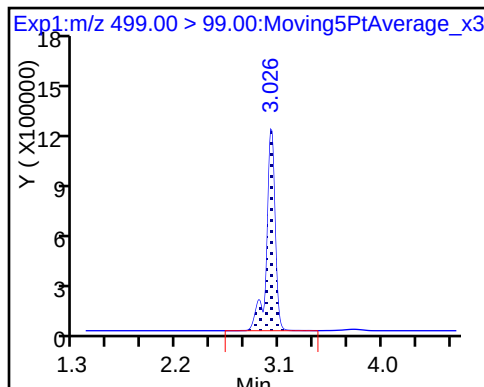
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

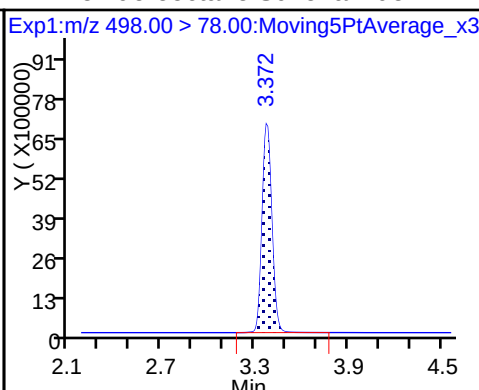
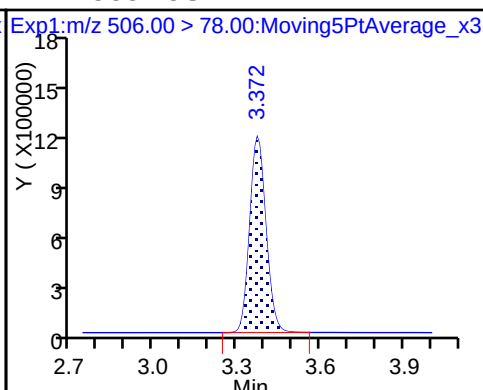
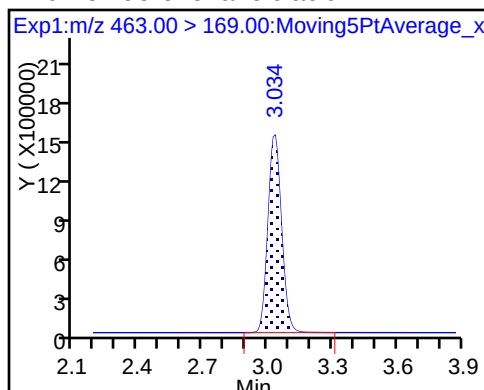
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

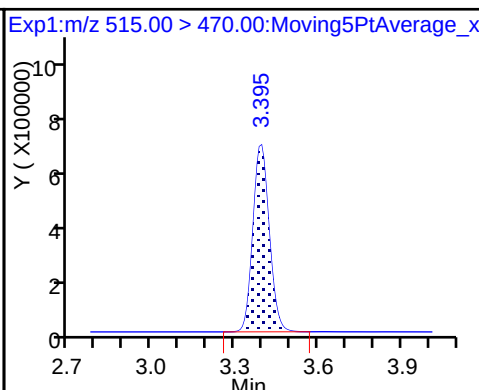
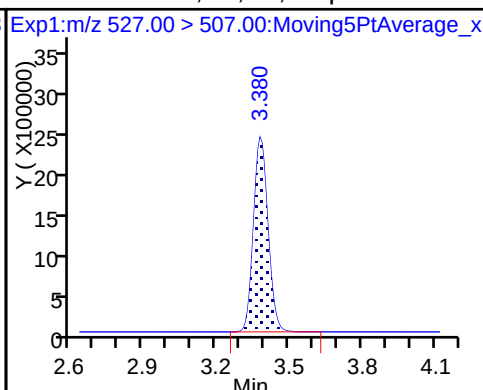
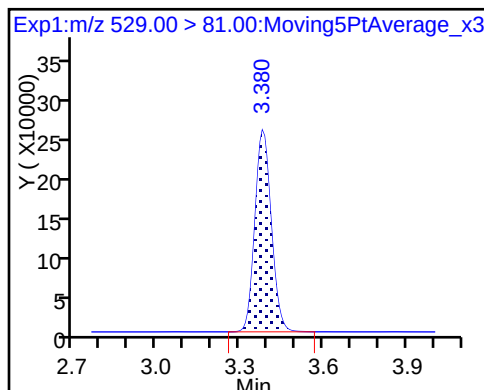
22 Perfluorooctane Sulfonamide

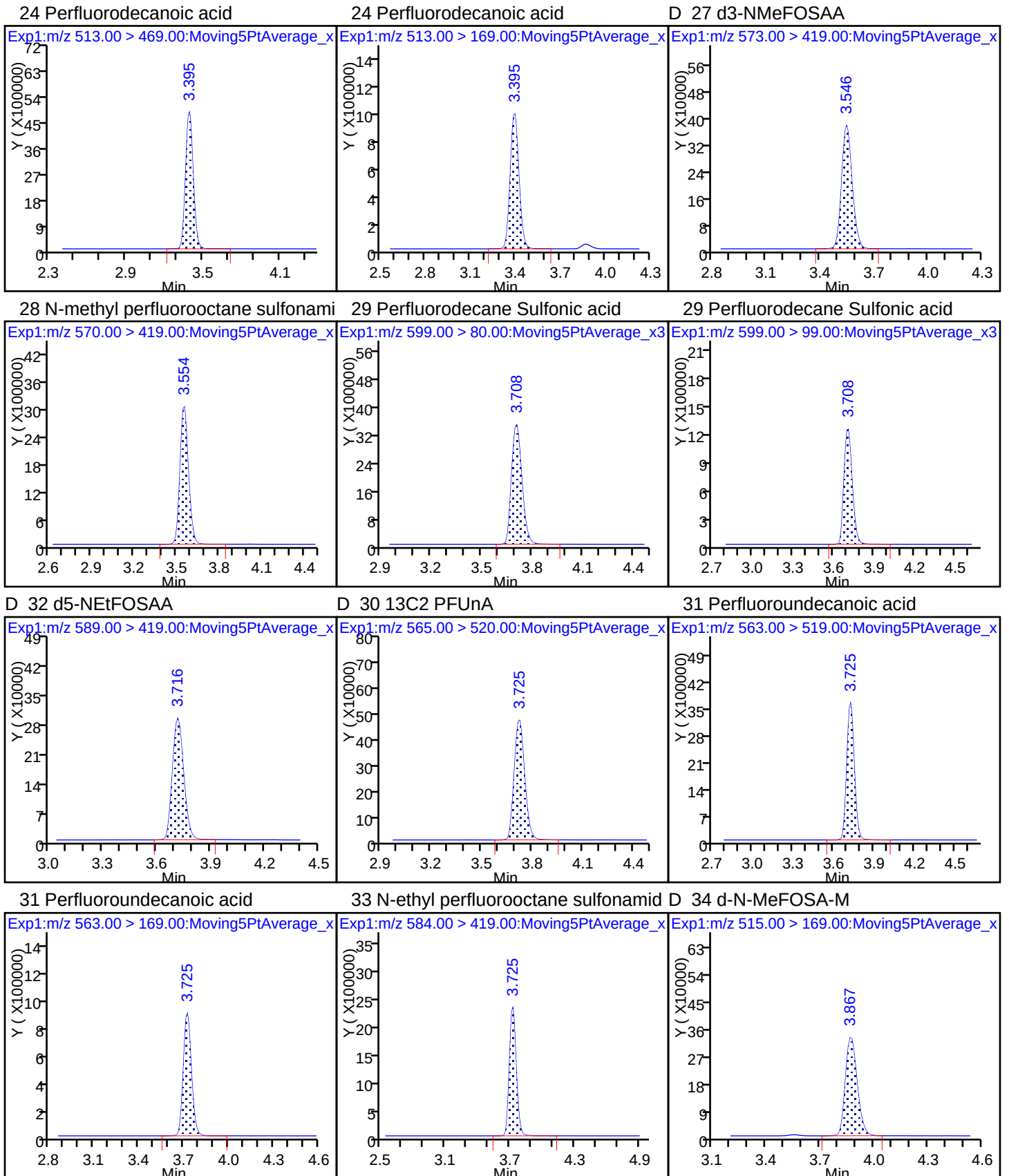


D 26 M2-8:2FTS

25 Sodium 1H,1H,2H,2H-perfluorodeca

De23 13C2 PFDA

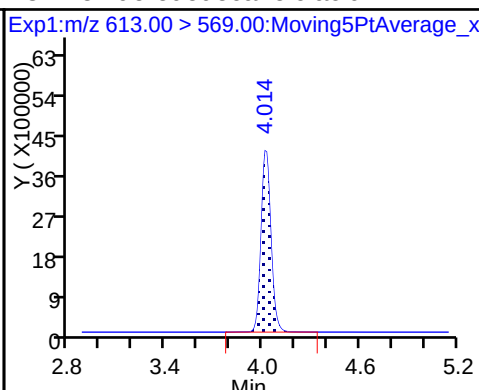
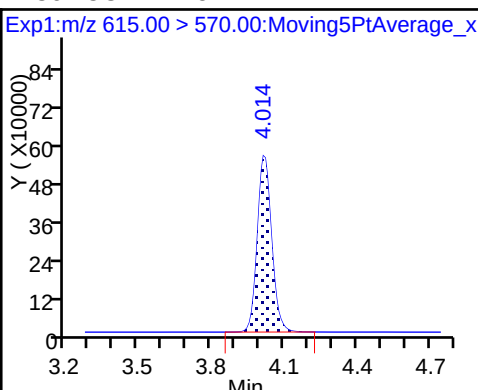
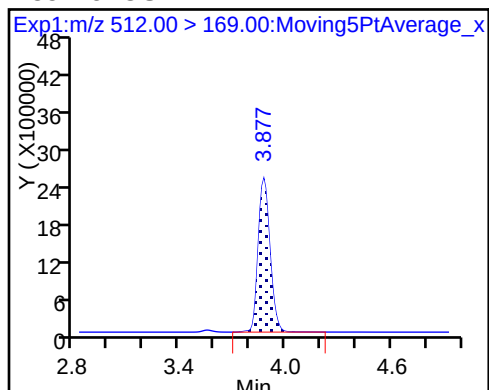




35 MeFOSA

D 36 13C2 PFDaA

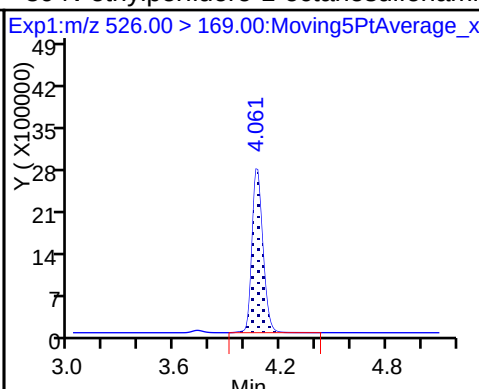
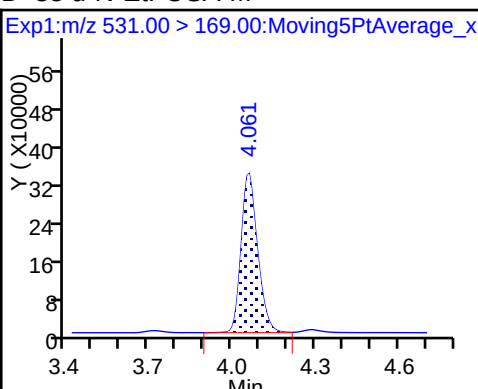
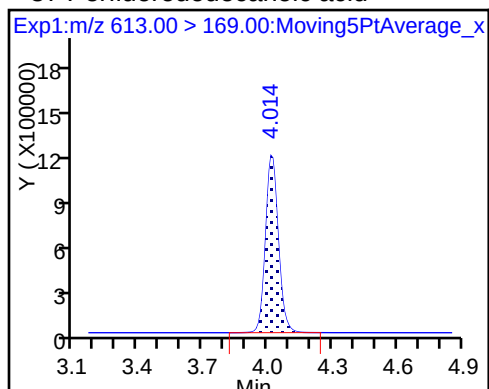
37 Perfluorododecanoic acid



37 Perfluorododecanoic acid

D 38 d-N-EtFOSA-M

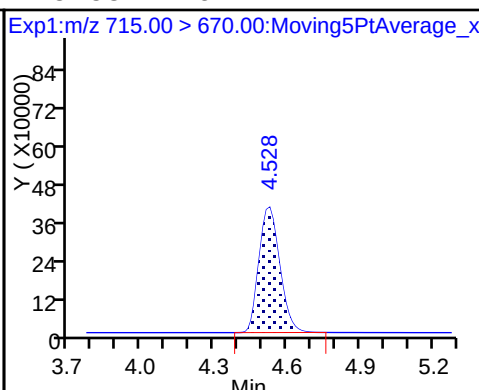
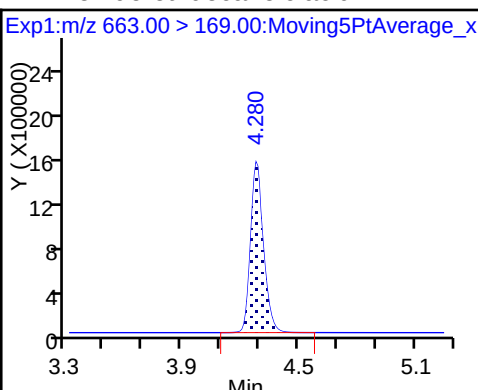
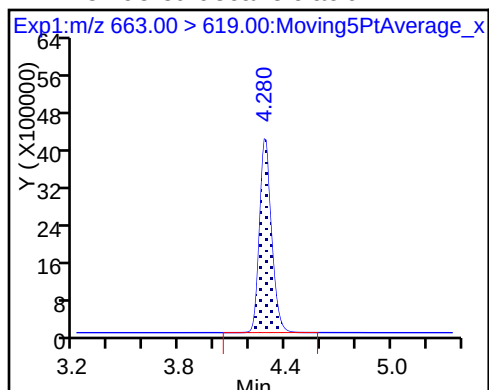
39 N-ethylperfluoro-1-octanesulfonami



41 Perfluorotridecanoic acid

41 Perfluorotridecanoic acid

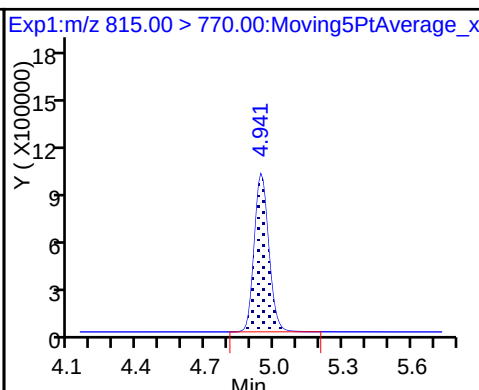
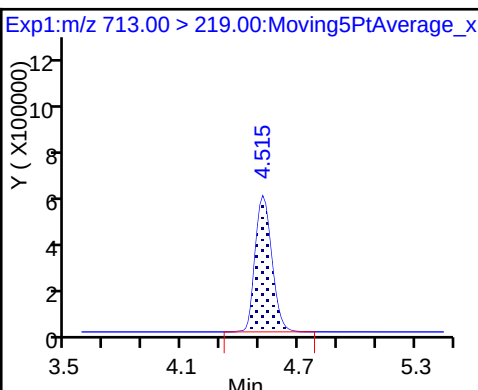
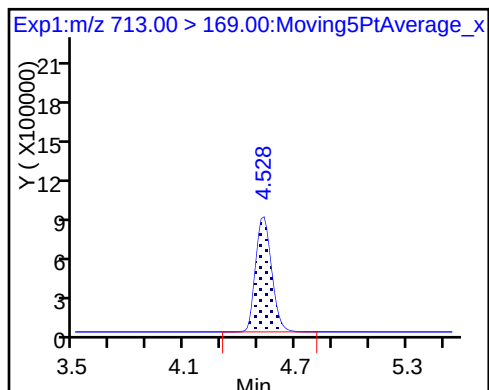
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid

42 Perfluorotetradecanoic acid

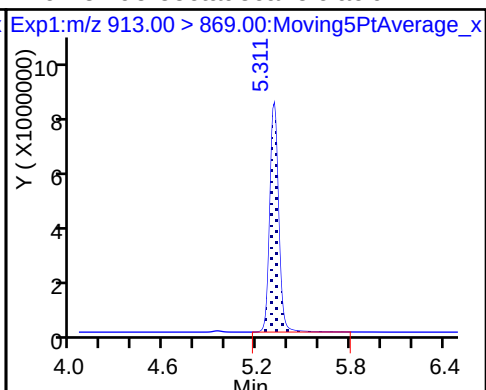
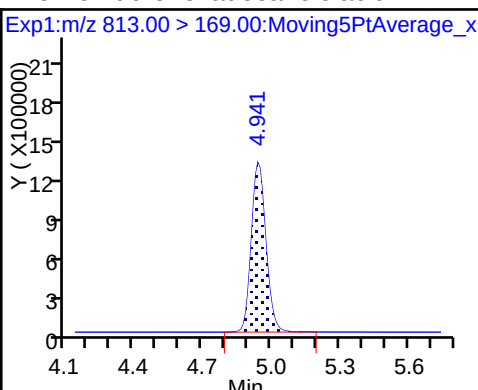
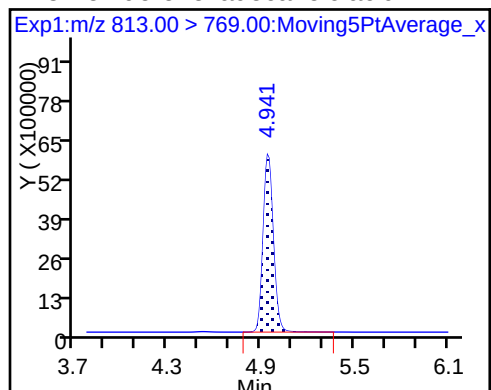
D 44 13C2-PFHxDA



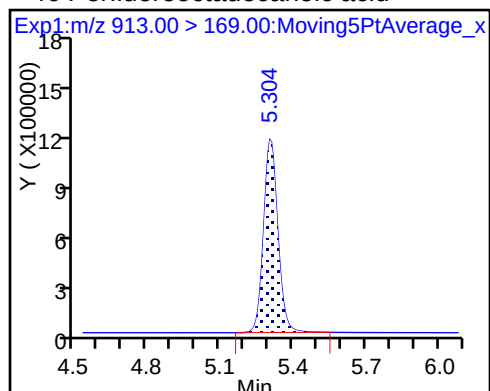
## 45 Perfluorohexadecanoic acid

## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid



## 46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_010.d  
 Lims ID: IC M2-4:2FTS  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 21-Dec-2017 16:08:29 ALS Bottle#: 22 Worklist Smp#: 10  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: M2:4-2FTS Calibration Std  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:32:46 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

| Signal | RT | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------|----|-----------|-----------|-----------|----------|-----------------|---------------|------|-----|-------|
|--------|----|-----------|-----------|-----------|----------|-----------------|---------------|------|-----|-------|

D 60 M2-4:2FTS

329.00 > 81.00 1.943 1.943 0.0 0.729 518429 2.34 100 21583

\* 62 13C2-PFOA

415.00 > 370.00 2.664 2.656 0.008 5308381 2.50 45939

### Reagents:

LCM2-4:2LLIC\_00002 Amount Added: 1.00 Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_010.d

Injection Date: 21-Dec-2017 16:08:29

Instrument ID: A8\_N

Lims ID: IC M2-4:2FTS

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 22

Worklist Smp#: 10

Injection Vol: 2.0 ul

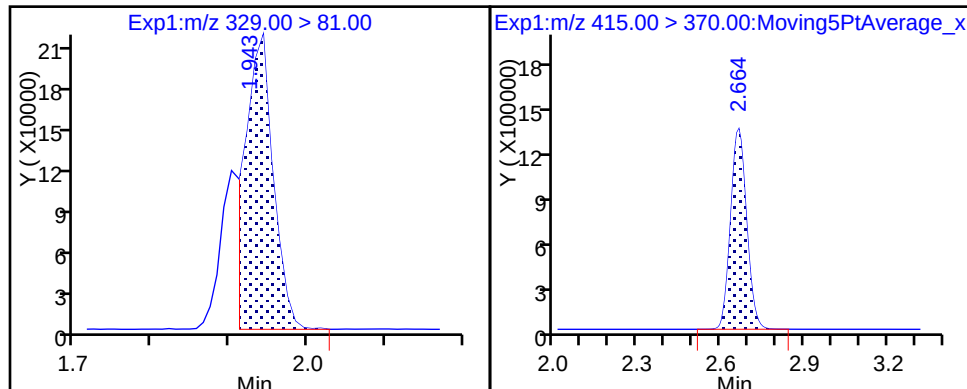
Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

D 60 M2-4:2FTS

\* 62 13C2-PFOA



FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201411

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

Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID:          |
|---------|------------------|-----------------------|
| Level 1 | IC 320-201411/2  | 2017.12.26ICALA_002.d |
| Level 2 | IC 320-201411/3  | 2017.12.26ICALA_003.d |
| Level 3 | IC 320-201411/4  | 2017.12.26ICALA_004.d |
| Level 4 | IC 320-201411/5  | 2017.12.26ICALA_005.d |
| Level 5 | IC 320-201411/10 | 2017.12.26ICALA_010.d |
| Level 6 | IC 320-201411/6  | 2017.12.26ICALA_006.d |
| Level 7 | IC 320-201411/7  | 2017.12.26ICALA_007.d |
| Level 8 | IC 320-201411/8  | 2017.12.26ICALA_008.d |
| Level 9 | IC 320-201411/9  | 2017.12.26ICALA_009.d |

| ANALYTE                               | RRF              |                  |                  |                  |       | CURVE TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|---------------------------------------|------------------|------------------|------------------|------------------|-------|------------|-------------|--------|----|---|---------|------|---|----------|------------|---|----------------|
|                                       | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4<br>LVL 9   | LVL 5 |            | B           | M1     | M2 |   |         |      |   |          |            |   |                |
| Perfluorobutanoic acid (PFBA)         | 0.9134<br>0.9503 | 0.8944<br>0.9454 | 0.9421<br>0.9124 | 0.9483<br>0.8018 |       | AveID      |             | 0.9135 |    |   |         | 5.4  |   | 35.0     |            |   |                |
| Perfluoropentanoic acid (PFPeA)       | 1.2450<br>1.1208 | 1.0855<br>1.1450 | 1.1377<br>1.0999 | 1.1314<br>1.0087 |       | AveID      |             | 1.1217 |    |   |         | 5.9  |   | 35.0     |            |   |                |
| Perfluorobutanesulfonic acid (PFBS)   | 72.525<br>76.427 | 76.773<br>78.664 | 79.059<br>74.165 | 78.952<br>62.166 |       | AveID      |             | 74.841 |    |   |         | 7.5  |   | 50.0     |            |   |                |
| 4:2 FTS                               | 2.0301<br>1.6269 | 1.5174<br>1.6651 | 1.7221<br>1.8296 | 1.6529<br>1.7496 |       | AveID      |             | 1.7242 |    |   |         | 8.9  |   | 50.0     |            |   |                |
| Perfluorohexanoic acid (PFHxA)        | 0.9685<br>1.0140 | 1.0150<br>1.0221 | 1.0399<br>0.9970 | 1.0218<br>0.9110 |       | AveID      |             | 0.9987 |    |   |         | 4.1  |   | 35.0     |            |   |                |
| Perfluoroheptanoic acid (PFHpA)       | 1.0086<br>1.0670 | 1.0958<br>1.0906 | 1.0259<br>1.0622 | 1.1000<br>0.9159 |       | AveID      |             | 1.0457 |    |   |         | 5.9  |   | 35.0     |            |   |                |
| Perfluorohexanesulfonic acid (PFHxS)  | 1.4035<br>1.0087 | 1.1270<br>1.0552 | 1.0909<br>0.9977 | 1.0602<br>0.9991 |       | AveID      |             | 1.0928 |    |   |         | 12.2 |   | 35.0     |            |   |                |
| 6:2FTS                                | 1.9005<br>1.5428 | 1.6874<br>1.6860 | 1.6301<br>1.7162 | 1.6663<br>1.5854 |       | AveID      |             | 1.6768 |    |   |         | 6.4  |   | 35.0     |            |   |                |
| Perfluorooctanoic acid (PFOA)         | 1.1431<br>1.0465 | 1.1199<br>1.0293 | 1.0640<br>1.0636 | 1.0549<br>0.9475 |       | AveID      |             | 1.0586 |    |   |         | 5.6  |   | 35.0     |            |   |                |
| Perfluoroheptanesulfonic Acid (PFHpS) | 1.2482<br>1.2410 | 1.2261<br>1.2736 | 1.2877<br>1.2514 | 1.2289<br>1.0592 |       | AveID      |             | 1.2270 |    |   |         | 5.8  |   | 50.0     |            |   |                |
| Perfluorooctanesulfonic acid (PFOS)   | 1.1030<br>1.0482 | 1.0898<br>1.0637 | 1.0700<br>1.1034 | 1.0834<br>1.0240 |       | AveID      |             | 1.0732 |    |   |         | 2.6  |   | 35.0     |            |   |                |
| Perfluorononanoic acid (PFNA)         | 1.0159<br>0.9376 | 0.9128<br>0.9739 | 1.0487<br>0.9972 | 0.9890<br>0.9192 |       | AveID      |             | 0.9743 |    |   |         | 4.9  |   | 35.0     |            |   |                |
| Perfluorooctane Sulfonamide (FOSA)    | 0.9439<br>1.0153 | 0.9709<br>0.9462 | 1.0351<br>0.9136 | 0.9899<br>0.7786 |       | AveID      |             | 0.9492 |    |   |         | 8.4  |   | 35.0     |            |   |                |

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201411  
SDG No.: \_\_\_\_\_  
Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N  
Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

| ANALYTE                                                       | RRF              |                  |                  |                  |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|---------------------------------------------------------------|------------------|------------------|------------------|------------------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                                                               | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4<br>LVL 9   | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| 8:2FTS                                                        | 1.2045<br>1.2493 | 1.3005<br>1.1615 | 1.3246<br>1.2465 | 1.3223<br>1.2351 |        | AveID         |             | 1.2555 |    |   |         | 4.6  |   | 35.0        |               |   |                   |
| Perfluorodecanoic acid (PFDA)                                 | 1.1067<br>1.0060 | 1.0406<br>1.0089 | 0.9008<br>0.9639 | 0.9806<br>0.8787 |        | AveID         |             | 0.9858 |    |   |         | 7.5  |   | 35.0        |               |   |                   |
| N-methyl perfluorooctane<br>sulfonamidoacetic acid (NMeFOSAA) | 0.9102<br>1.1022 | 1.1239<br>1.1118 | 1.0841<br>1.0822 | 1.0384<br>1.0163 |        | AveID         |             | 1.0587 |    |   |         | 6.6  |   | 35.0        |               |   |                   |
| Perfluorodecanesulfonic acid (PFDS)                           | 0.5517<br>0.5984 | 0.5417<br>0.6365 | 0.6371<br>0.6256 | 0.5825<br>0.5631 |        | AveID         |             | 0.5921 |    |   |         | 6.5  |   | 50.0        |               |   |                   |
| Perfluoroundecanoic acid (PFUnA)                              | 1.0710<br>0.9142 | 0.9738<br>0.9052 | 0.8666<br>0.9215 | 0.9127<br>0.9300 |        | AveID         |             | 0.9369 |    |   |         | 6.6  |   | 35.0        |               |   |                   |
| N-ethyl perfluorooctane<br>sulfonamidoacetic acid (NEtFOSAA)  | 0.8775<br>1.0332 | 0.9119<br>0.9981 | 0.9798<br>0.9820 | 0.9370<br>1.0025 |        | AveID         |             | 0.9653 |    |   |         | 5.4  |   | 35.0        |               |   |                   |
| Perfluorododecanoic acid (PFDoA)                              | 1.0396<br>0.9460 | 0.9763<br>1.0608 | 1.0257<br>0.9872 | 0.9702<br>0.9376 |        | AveID         |             | 0.9929 |    |   |         | 4.5  |   | 35.0        |               |   |                   |
| Perfluorotridecanoic Acid (PFTriA)                            | 0.9831<br>1.0652 | 1.1332<br>1.0918 | 1.1359<br>1.0562 | 1.0695<br>1.0852 |        | AveID         |             | 1.0775 |    |   |         | 4.5  |   | 50.0        |               |   |                   |
| Perfluorotetradecanoic acid (PFTeA)                           | 0.2718<br>0.2575 | 0.2543<br>0.2461 | 0.2447<br>0.2659 | 0.2472<br>0.2482 |        | AveID         |             | 0.2545 |    |   |         | 3.9  |   | 50.0        |               |   |                   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                        | 1.6200<br>0.8800 | 1.3074<br>0.8637 | 0.9136<br>0.8794 | 0.9154<br>0.7545 |        | L2ID          | 0.0199      | 0.8536 |    |   |         |      |   |             | 0.9960        |   | 0.9900            |
| Perfluoro-n-octadecanoic acid (PFODA)                         | 1.0880<br>1.1215 | 1.0633<br>1.1005 | 1.1379<br>1.0474 | 1.0804<br>0.9574 |        | AveID         |             | 1.0745 |    |   |         | 5.2  |   | 50.0        |               |   |                   |
| 13C4 PFBA                                                     | 1.7444<br>1.6691 | 1.7046<br>1.6942 | 1.6398<br>1.7979 | 1.7421<br>1.8566 |        | Ave           |             | 1.7311 |    |   |         | 4.1  |   | 50.0        |               |   |                   |
| 13C5 PFPeA                                                    | 1.0255<br>0.9921 | 1.0016<br>0.9968 | 0.9580<br>1.0280 | 1.0324<br>1.0379 |        | Ave           |             | 1.0090 |    |   |         | 2.7  |   | 50.0        |               |   |                   |
| 13C3-PFBS                                                     | 0.0222<br>0.0223 | 0.0208<br>0.0212 | 0.0209<br>0.0224 | 0.0221<br>0.0230 |        | Ave           |             | 0.0219 |    |   |         | 3.6  |   | 50.0        |               |   |                   |
| M2-4:2FTS                                                     |                  |                  |                  |                  | 0.0821 | Ave           |             | 0.0821 |    |   |         |      |   | 50.0        |               |   |                   |
| 13C2 PFHxA                                                    | 1.1170<br>1.0438 | 1.0617<br>1.0584 | 1.0530<br>1.1279 | 1.0892<br>1.1267 |        | Ave           |             | 1.0847 |    |   |         | 3.2  |   | 50.0        |               |   |                   |
| 13C4-PFHpA                                                    | 1.0478<br>0.9643 | 1.0119<br>0.9829 | 1.0037<br>1.0123 | 1.0079<br>1.0245 |        | Ave           |             | 1.0069 |    |   |         | 2.5  |   | 50.0        |               |   |                   |
| 18O2 PFHxS                                                    | 1.2951<br>1.2465 | 1.3123<br>1.2397 | 1.2586<br>1.3247 | 1.3075<br>1.2415 |        | Ave           |             | 1.2782 |    |   |         | 2.8  |   | 50.0        |               |   |                   |
| M2-6:2FTS                                                     | 0.1859<br>0.1944 | 0.1924<br>0.1896 | 0.1846<br>0.1900 | 0.1976<br>0.1934 |        | Ave           |             | 0.1910 |    |   |         | 2.3  |   | 50.0        |               |   |                   |
| 13C4 PFOA                                                     | 1.0616<br>1.0182 | 1.0189<br>1.0212 | 1.0235<br>1.0072 | 1.0759<br>0.9957 |        | Ave           |             | 1.0278 |    |   |         | 2.6  |   | 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: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201411  
SDG No.: \_\_\_\_\_  
Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N  
Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

| ANALYTE     | RRF              |                  |                  |                  |       | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-------------|------------------|------------------|------------------|------------------|-------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|             | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4<br>LVL 9   | LVL 5 |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| 13C4 PFOS   | 0.8595<br>0.8479 | 0.8570<br>0.8220 | 0.8264<br>0.8301 | 0.8831<br>0.8549 |       | Ave           |             | 0.8476 |    |   |         | 2.4  |   | 50.0        |               |   |                   |
| 13C5 PFNA   | 0.8370<br>0.8356 | 0.8371<br>0.8234 | 0.7819<br>0.8053 | 0.8357<br>0.8125 |       | Ave           |             | 0.8211 |    |   |         | 2.4  |   | 50.0        |               |   |                   |
| 13C8 FOSA   | 1.1813<br>1.1155 | 1.1015<br>1.1491 | 1.0782<br>1.1829 | 1.1575<br>1.2040 |       | Ave           |             | 1.1463 |    |   |         | 3.8  |   | 50.0        |               |   |                   |
| M2-8:2FTS   | 0.2108<br>0.2041 | 0.1952<br>0.2196 | 0.2004<br>0.2192 | 0.2034<br>0.2247 |       | Ave           |             | 0.2097 |    |   |         | 5.0  |   | 50.0        |               |   |                   |
| 13C2 PFDA   | 0.6673<br>0.6407 | 0.6508<br>0.6573 | 0.6440<br>0.6856 | 0.6811<br>0.7119 |       | Ave           |             | 0.6674 |    |   |         | 3.6  |   | 50.0        |               |   |                   |
| d3-NMeFOSAA | 0.3516<br>0.3360 | 0.3205<br>0.3385 | 0.3358<br>0.3633 | 0.3523<br>0.3617 |       | Ave           |             | 0.3450 |    |   |         | 4.3  |   | 50.0        |               |   |                   |
| d5-NEtFOSAA | 0.3811<br>0.3293 | 0.3573<br>0.3414 | 0.3446<br>0.3551 | 0.3741<br>0.3294 |       | Ave           |             | 0.3516 |    |   |         | 5.4  |   | 50.0        |               |   |                   |
| 13C2 PFUnA  | 0.5269<br>0.4782 | 0.4905<br>0.5066 | 0.5212<br>0.5158 | 0.5165<br>0.4860 |       | Ave           |             | 0.5052 |    |   |         | 3.6  |   | 50.0        |               |   |                   |
| 13C2 PFDoA  | 0.5832<br>0.5477 | 0.5423<br>0.5282 | 0.5370<br>0.5464 | 0.5541<br>0.5518 |       | Ave           |             | 0.5489 |    |   |         | 2.9  |   | 50.0        |               |   |                   |
| 13C2-PFTeDA | 0.6183<br>0.5552 | 0.5855<br>0.6048 | 0.6256<br>0.5853 | 0.6095<br>0.5907 |       | Ave           |             | 0.5969 |    |   |         | 3.8  |   | 50.0        |               |   |                   |
| 13C2-PFHxDA | 1.1498<br>1.0704 | 1.1077<br>1.0859 | 1.0899<br>1.0657 | 1.1193<br>1.0634 |       | Ave           |             | 1.0940 |    |   |         | 2.7  |   | 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  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201411

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

Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID:          |
|---------|------------------|-----------------------|
| Level 1 | IC 320-201411/2  | 2017.12.26ICALA_002.d |
| Level 2 | IC 320-201411/3  | 2017.12.26ICALA_003.d |
| Level 3 | IC 320-201411/4  | 2017.12.26ICALA_004.d |
| Level 4 | IC 320-201411/5  | 2017.12.26ICALA_005.d |
| Level 5 | IC 320-201411/10 | 2017.12.26ICALA_010.d |
| Level 6 | IC 320-201411/6  | 2017.12.26ICALA_006.d |
| Level 7 | IC 320-201411/7  | 2017.12.26ICALA_007.d |
| Level 8 | IC 320-201411/8  | 2017.12.26ICALA_008.d |
| Level 9 | IC 320-201411/9  | 2017.12.26ICALA_009.d |

| ANALYTE                               | IS REF | CURVE TYPE | RESPONSE         |                    |                    |                     |       | CONCENTRATION (NG/ML) |                |                |                |       |
|---------------------------------------|--------|------------|------------------|--------------------|--------------------|---------------------|-------|-----------------------|----------------|----------------|----------------|-------|
|                                       |        |            | LVL 1<br>LVL 6   | LVL 2<br>LVL 7     | LVL 3<br>LVL 8     | LVL 4<br>LVL 9      | LVL 5 | LVL 1<br>LVL 6        | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4<br>LVL 9 | LVL 5 |
| Perfluorobutanoic acid (PFBA)         |        | AveID      | 71156<br>7215132 | 144778<br>14203669 | 737647<br>27172681 | 2950135<br>46354837 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoropentanoic acid (PFPeA)       |        | AveID      | 57018<br>5057994 | 103239<br>10121089 | 520370<br>18729644 | 2085741<br>32601407 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorobutanesulfonic acid (PFBS)   |        | AveID      | 63473<br>6842853 | 133946<br>13087862 | 697674<br>24367996 | 2759873<br>39328701 |       | 0.0221<br>2.21        | 0.0442<br>4.42 | 0.221<br>8.84  | 0.884<br>17.7  |       |
| 4:2 FTS                               |        | AveID      | 15741<br>1343497 | 25890<br>2614250   | 141774<br>5379700  | 544834<br>9840365   |       | 0.0234<br>2.34        | 0.0467<br>4.67 | 0.234<br>9.34  | 0.934<br>18.7  |       |
| Perfluorohexanoic acid (PFHxA)        |        | AveID      | 48315<br>4814503 | 102335<br>9593038  | 522846<br>18626791 | 1987330<br>31962029 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoroheptanoic acid (PFHpA)       |        | AveID      | 47197<br>4680522 | 105299<br>9505442  | 491641<br>17812933 | 1979668<br>29220142 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorohexanesulfonic acid (PFHxS)  |        | AveID      | 73869<br>5204397 | 127811<br>10555612 | 596575<br>19924018 | 2252723<br>35148833 |       | 0.0228<br>2.28        | 0.0455<br>4.55 | 0.228<br>9.10  | 0.910<br>18.2  |       |
| 6:2FTS                                |        | AveID      | 14957<br>1293133 | 29222<br>2686799   | 136209<br>5122011  | 557497<br>9050597   |       | 0.0237<br>2.37        | 0.0474<br>4.74 | 0.237<br>9.48  | 0.948<br>19.0  |       |
| Perfluorooctanoic acid (PFOA)         |        | AveID      | 54194<br>4846761 | 108356<br>9320979  | 519951<br>17746633 | 2026680<br>29376734 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoroheptanesulfonic Acid (PFHpS) |        | AveID      | 45610<br>4556633 | 94992<br>8838018   | 483689<br>16381911 | 1844898<br>26846157 |       | 0.0238<br>2.38        | 0.0476<br>4.76 | 0.238<br>9.52  | 0.952<br>19.0  |       |
| Perfluorooctanesulfonic acid (PFOS)   |        | AveID      | 39288<br>3751539 | 82304<br>7195168   | 391800<br>14080471 | 1585381<br>25298467 |       | 0.0232<br>2.32        | 0.0464<br>4.64 | 0.232<br>9.28  | 0.928<br>18.6  |       |
| Perfluorononanoic acid (PFNA)         |        | AveID      | 37975<br>3563925 | 72562<br>7111284   | 391513<br>13302133 | 1475904<br>23256124 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorooctane Sulfonamide (FOSA)    |        | AveID      | 49798<br>5151365 | 101559<br>9642474  | 532911<br>17901266 | 2046159<br>29190141 |       | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| 8:2FTS                                |        | AveID      | 10862<br>1111148 | 23092<br>2167139   | 121442<br>4336415  | 460111<br>8278171   |       | 0.0240<br>2.40        | 0.0479<br>4.79 | 0.240<br>9.58  | 0.958<br>19.2  |       |

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201411

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

Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

| ANALYTE                                                       | IS<br>REF  | CURVE<br>TYPE | RESPONSE           |                    |                    |                     |        | CONCENTRATION (NG/ML) |                |                |                |       |
|---------------------------------------------------------------|------------|---------------|--------------------|--------------------|--------------------|---------------------|--------|-----------------------|----------------|----------------|----------------|-------|
|                                                               |            |               | LVL 1<br>LVL 6     | LVL 2<br>LVL 7     | LVL 3<br>LVL 8     | LVL 4<br>LVL 9      | LVL 5  | LVL 1<br>LVL 6        | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4<br>LVL 9 | LVL 5 |
| Perfluorodecanoic acid (PFDA)                                 |            | AveID         | 32982<br>2932219   | 64313<br>5881010   | 277028<br>10946670 | 1192652<br>19481461 |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| N-methyl perfluorooctane<br>sulfonamidoacetic acid (NMeFOSAA) |            | AveID         | 14294<br>1684592   | 34208<br>3336986   | 173841<br>6513260  | 653198<br>11447795  |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorodecanesulfonic acid (PFDS)                           |            | AveID         | 20413<br>2224619   | 42501<br>4472709   | 242327<br>8292975  | 885572<br>14451481  |        | 0.0241<br>2.41        | 0.0482<br>4.82 | 0.241<br>9.64  | 0.964<br>19.3  |       |
| Perfluoroundecanoic acid (PFUnA)                              |            | AveID         | 25200<br>1988655   | 45365<br>4066019   | 215650<br>7873695  | 841868<br>14075331  |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| N-ethyl perfluorooctane<br>sulfonamidoacetic acid (NEtFOSAA)  |            | AveID         | 14934<br>1547839   | 30941<br>3021821   | 161240<br>5776426  | 625935<br>10284337  |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorododecanoic acid (PFDoA)                              |            | AveID         | 27076<br>2356820   | 50283<br>4968481   | 263014<br>8935107  | 959989<br>16112569  |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorotridecanoic Acid (PFTriA)                            |            | AveID         | 25605<br>2653986   | 58362<br>5113548   | 291263<br>9560205  | 1058292<br>18648248 |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluorotetradecanoic acid (PFTeA)                           |            | AveID         | 7505<br>650265     | 14138<br>1319883   | 73103<br>2578342   | 269030<br>4566597   |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoro-n-hexadecanoic acid<br>(PFHxDA)                     |            | L2ID          | 83186<br>4284648   | 137526<br>8316601  | 475445<br>15523204 | 1829712<br>24984763 |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| Perfluoro-n-octadecanoic acid<br>(PFODA)                      |            | AveID         | 55865<br>5460461   | 111852<br>10596626 | 592170<br>18489170 | 2159431<br>31703202 |        | 0.0250<br>2.50        | 0.0500<br>5.00 | 0.250<br>10.0  | 1.00<br>20.0   |       |
| 13C4 PFBA                                                     | 13PF<br>OA | Ave           | 7790251<br>7592270 | 8093540<br>7511739 | 7829693<br>7445728 | 7777171<br>7226697  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C5 PFPeA                                                    | 13PF<br>OA | Ave           | 4579937<br>4512747 | 4755578<br>4419838 | 4574035<br>4257151 | 4608857<br>4040100  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C3-PFBS                                                     | 13PF<br>OA | Ave           | 92073<br>94194     | 91775<br>87517     | 92839<br>86415     | 91938<br>83195      |        | 2.33<br>2.33          | 2.33<br>2.33   | 2.33<br>2.33   | 2.33<br>2.33   |       |
| M2-4:2FTS                                                     | 13PF<br>OA | Ave           |                    |                    |                    |                     | 413908 |                       |                |                |                | 2.34  |
| 13C2 PFHxA                                                    | 13PF<br>OA | Ave           | 4988429<br>4748192 | 5041052<br>4692826 | 5027849<br>4670780 | 4862371<br>4385774  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C4-PFHpA                                                    | 13PF<br>OA | Ave           | 4679529<br>4386447 | 4804811<br>4358026 | 4792396<br>4192372 | 4499410<br>3987961  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 18O2 PFHxS                                                    | 13PF<br>OA | Ave           | 5471562<br>5363875 | 5894550<br>5199716 | 5685104<br>5189898 | 5521966<br>4571610  |        | 2.37<br>2.37          | 2.37<br>2.37   | 2.37<br>2.37   | 2.37<br>2.37   |       |
| M2-6:2FTS                                                     | 13PF<br>OA | Ave           | 788666<br>839958   | 867710<br>798471   | 837345<br>747693   | 738193<br>715095    |        | 2.38<br>2.38          | 2.38<br>2.38   | 2.38<br>2.38   | 2.38<br>2.38   |       |
| 13C4 PFOA                                                     | 13PF<br>OA | Ave           | 4740795<br>4631352 | 4837751<br>4527981 | 4886883<br>4171184 | 4803148<br>3875680  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C4 PFOS                                                     | 13PF<br>OA | Ave           | 3669348<br>3687036 | 3890029<br>3484225 | 3772073<br>3286507 | 3768876<br>3181407  |        | 2.39<br>2.39          | 2.39<br>2.39   | 2.39<br>2.39   | 2.39<br>2.39   |       |
| 13C5 PFNA                                                     | 13PF<br>OA | Ave           | 3738079<br>3801137 | 3974719<br>3650887 | 3733459<br>3334889 | 3730637<br>3162653  |        | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |

FORM VI  
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1 Analy Batch No.: 201411

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

Instrument ID: A8\_N GC Column: GeminiC18 3 ID: 3(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/26/2017 16:55 Calibration End Date: 12/26/2017 17:58 Calibration ID: 37004

| ANALYTE     | IS<br>REF  | CURVE<br>TYPE | RESPONSE           |                    |                    |                    |       | CONCENTRATION (NG/ML) |                |                |                |       |
|-------------|------------|---------------|--------------------|--------------------|--------------------|--------------------|-------|-----------------------|----------------|----------------|----------------|-------|
|             |            |               | LVL 1<br>LVL 6     | LVL 2<br>LVL 7     | LVL 3<br>LVL 8     | LVL 4<br>LVL 9     | LVL 5 | LVL 1<br>LVL 6        | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4<br>LVL 9 | LVL 5 |
| 13C8 FOSA   | 13PF<br>OA | Ave           | 5275735<br>5073935 | 5229999<br>5095113 | 5148264<br>4898779 | 5167594<br>4686465 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| M2-8:2FTS   | 13PF<br>OA | Ave           | 901815<br>889422   | 887779<br>932907   | 916789<br>869684   | 869900<br>837806   |       | 2.40<br>2.40          | 2.40<br>2.40   | 2.40<br>2.40   | 2.40<br>2.40   |       |
| 13C2 PFDA   | 13PF<br>OA | Ave           | 2980117<br>2914623 | 3090301<br>2914567 | 3075185<br>2839256 | 3040696<br>2771267 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| d3-NMeFOSAA | 13PF<br>OA | Ave           | 1570357<br>1528404 | 1521826<br>1500701 | 1603494<br>1504595 | 1572643<br>1407992 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| d5-NEtFOSAA | 13PF<br>OA | Ave           | 1701808<br>1498056 | 1696531<br>1513745 | 1645600<br>1470594 | 1670090<br>1282388 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C2 PFUnA  | 13PF<br>OA | Ave           | 2352995<br>2175375 | 2329187<br>2246031 | 2488514<br>2136125 | 2306014<br>1891947 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C2 PFDoA  | 13PF<br>OA | Ave           | 2604477<br>2491473 | 2575132<br>2341893 | 2564160<br>2262816 | 2473793<br>2148062 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C2-PFTeDA | 13PF<br>OA | Ave           | 2761267<br>2525276 | 2779842<br>2681614 | 2986990<br>2423995 | 2720794<br>2299500 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |
| 13C2-PFHxDA | 13PF<br>OA | Ave           | 5134808<br>4868961 | 5259637<br>4814545 | 5204116<br>4413224 | 4996906<br>4139140 |       | 2.50<br>2.50          | 2.50<br>2.50   | 2.50<br>2.50   | 2.50<br>2.50   |       |

Curve Type Legend:

Ave = Average ISTD  
AveID = Average isotope dilution  
L2ID = Linear 1/conc^2 IsoDil

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_002.d  
 Lims ID: IC L1 Full  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 26-Dec-2017 16:55:57 ALS Bottle#: 10 Worklist Smp#: 2  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L1-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 08:56:16 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 08:25:22

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec  | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|-------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |       |       |       |
| 217.00 > 172.00                       | 1.438 | 1.433  | 0.005  | 0.535  | 7790251  | 2.52         |                   | 101   | 21167 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |       |       |       |
| 212.90 > 169.00                       | 1.438 | 1.434  | 0.004  | 1.000  | 71156    | 0.0250       |                   | 100.0 | 14.6  |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |       |       |       |
| 262.90 > 219.00                       | 1.698 | 1.691  | 0.007  | 1.000  | 57018    | 0.0277       |                   | 111   | 49.6  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |       |       |       |
| 267.90 > 223.00                       | 1.698 | 1.692  | 0.006  | 0.632  | 4579937  | 2.54         |                   | 102   | 38143 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |       |       |       |
| 301.90 > 83.00                        | 1.734 | 1.725  | 0.009  | 0.645  | 92073    | 2.36         |                   | 101   | 2725  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |       |       |       |
| 298.90 > 80.00                        | 1.734 | 1.730  | 0.004  | 1.000  | 63473    | 0.0214       |                   | 96.9  | 304   |       |
| 298.90 > 99.00                        | 1.734 | 1.730  | 0.004  | 1.000  | 25814    |              | 2.46(1.25-3.74)   | 96.9  | 177   |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |       |       |       |
| 327.00 > 307.00                       | 1.945 | 1.941  | 0.004  | 1.000  | 15741    | 0.0275       |                   | 118   | 711   |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |       |       |       |
| 315.00 > 270.00                       | 1.986 | 1.976  | 0.010  | 0.739  | 4988429  | 2.57         |                   | 103   | 43084 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |       |       | M     |
| 313.00 > 269.00                       | 1.986 | 1.979  | 0.007  | 1.000  | 48315    | 0.0242       |                   | 97.0  | 102   | M     |
| 313.00 > 119.00                       | 1.986 | 1.979  | 0.007  | 1.000  | 3590     |              | 13.46(5.03-15.10) | 97.0  | 90.0  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |       |       |       |
| 367.00 > 322.00                       | 2.319 | 2.311  | 0.008  | 0.863  | 4679529  | 2.60         |                   | 104   | 30490 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |       |       | M     |
| 363.00 > 319.00                       | 2.319 | 2.311  | 0.008  | 1.000  | 47197    | 0.0241       |                   | 96.4  | 74.4  | M     |
| 363.00 > 169.00                       | 2.319 | 2.311  | 0.008  | 1.000  | 18894    |              | 2.50(1.13-3.40)   | 96.4  | 163   |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |       |       |       |
| 399.00 > 80.00                        | 2.332 | 2.324  | 0.008  | 1.000  | 73869    | 0.0292       |                   | 128   | 513   |       |
| 399.00 > 99.00                        | 2.332 | 2.324  | 0.008  | 1.000  | 20926    |              | 3.53(1.50-4.49)   | 128   | 196   |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.332 | 2.328  | 0.004  | 0.868  | 5471562  | 2.40         |                 | 101  | 28800 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.659 | 2.649  | 0.010  | 0.989  | 788666   | 2.31         |                 | 97.3 | 18455 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.666 | 2.651  | 0.015  | 1.003  | 14957    | 0.0269       |                 | 113  | 458   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.687 | 2.674  | 0.013  | 1.000  | 4740795  | 2.58         |                 | 103  | 34036 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.687 | 2.676  | 0.011  |        | 4465857  | 2.50         |                 |      | 42340 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.687 | 2.677  | 0.010  | 1.000  | 54194    | 0.0270       |                 | 108  | 32.6  |       |
| 413.00 > 169.00                       | 2.687 | 2.677  | 0.010  | 1.000  | 33131    |              | 1.64(0.84-2.52) | 108  | 266   |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.694 | 2.683  | 0.011  | 1.000  | 45610    | 0.0242       |                 | 102  | 1090  |       |
| 449.00 > 99.00                        | 2.694 | 2.683  | 0.011  | 1.000  | 10876    |              | 4.19(1.94-5.82) | 102  | 390   |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.064 | 3.048  | 0.016  | 1.140  | 3669348  | 2.42         |                 | 101  | 24866 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.064 | 3.050  | 0.014  | 1.000  | 39288    | 0.0238       |                 | 103  | 9.2   |       |
| 499.00 > 99.00                        | 3.056 | 3.050  | 0.006  | 0.997  | 9044     |              | 4.34(2.31-6.93) | 103  | 13.1  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.064 | 3.051  | 0.013  | 1.140  | 3738079  | 2.55         |                 | 102  | 29443 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.064 | 3.052  | 0.012  | 1.000  | 37975    | 0.0261       |                 | 104  | 91.4  |       |
| 463.00 > 169.00                       | 3.056 | 3.052  | 0.004  | 0.997  | 7880     |              | 4.82(1.90-5.69) | 104  | 208   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.385 | 3.377  | 0.008  | 1.260  | 5275735  | 2.58         |                 | 103  | 25897 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.385 | 3.378  | 0.007  | 1.000  | 49798    | 0.0249       |                 | 99.4 | 1244  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.415 | 3.402  | 0.013  | 1.000  | 10862    | 0.0230       |                 | 95.9 | 444   |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.415 | 3.403  | 0.012  | 1.271  | 901815   | 2.41         |                 | 101  | 16439 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.423 | 3.414  | 0.009  | 1.274  | 2980117  | 2.50         |                 | 100  | 24446 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       | R     |
| 513.00 > 469.00                       | 3.423 | 3.414  | 0.009  | 1.000  | 32982    | 0.0281       |                 | 112  | 194   | R     |
| 513.00 > 169.00                       | 3.423 | 3.414  | 0.009  | 1.000  | 3927     |              | 8.40(2.36-7.09) | 112  | 185   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.582 | 3.569  | 0.013  | 1.333  | 1570357  | 2.55         |                 | 102  | 18480 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.582 | 3.574  | 0.008  | 1.000  | 14294    | 0.0215       |                 | 86.0 | 123   |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.740 | 3.730  | 0.010  | 1.000  | 20413    | 0.0225       |                 | 93.2 | 1218  |       |
| 599.00 > 99.00                        | 3.731 | 3.730  | 0.001  | 0.998  | 6288     |              | 3.25(1.39-4.16) | 93.2 | 181   |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.749 | 3.740  | 0.009  | 1.395  | 1701808  | 2.71         |                 | 108  | 10189 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.749 | 3.746     | 0.003     | 0.998     | 25200    | 0.0286          |                 | 114  | 143   |       |
| 563.00 > 169.00                       | 3.757 | 3.746     | 0.011     | 1.000     | 5754     |                 | 4.38(0.00-0.00) | 114  | 398   |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.757 | 3.747     | 0.010     | 1.398     | 2352995  | 2.61            |                 | 104  | 30622 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.757 | 3.747     | 0.010     | 1.002     | 14934    | 0.0227          |                 | 90.9 | 385   |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.874 | 3.867     | 0.007     | 1.442     | 1424483  | 2.45            |                 | 98.0 | 3262  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.874 | 3.873     | 0.001     | 1.000     | 12503    | 0.0227          |                 | 90.9 | 550   |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.051 | 4.045     | 0.006     | 1.508     | 2604477  | 2.66            |                 | 106  | 35337 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.051 | 4.045     | 0.006     | 1.000     | 27076    | 0.0262          |                 | 105  | 84.9  |       |
| 613.00 > 169.00                       | 4.051 | 4.045     | 0.006     | 1.000     | 6504     |                 | 4.16(2.13-6.40) | 105  | 318   |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.059 | 4.058     | 0.001     | 1.510     | 1380945  | 2.49            |                 | 99.8 | 2682  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.067 | 4.065     | 0.002     | 1.002     | 15811    | 0.0264          |                 | 106  | 635   |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.325 | 4.312     | 0.013     | 1.000     | 25605    | 0.0228          |                 | 91.2 | 77.7  |       |
| 663.00 > 169.00                       | 4.314 | 4.312     | 0.002     | 0.997     | 7770     |                 | 3.30(1.25-3.76) | 91.2 | 414   |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.568 | 4.557     | 0.011     | 1.700     | 2761267  | 2.59            |                 | 104  | 19974 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.568 | 4.557     | 0.011     | 1.000     | 7505     | 0.0267          |                 | 107  | 322   |       |
| 713.00 > 219.00                       | 4.568 | 4.557     | 0.011     | 1.000     | 4805     |                 | 1.56(0.71-2.13) | 107  | 220   |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.993 | 4.984     | 0.009     | 1.858     | 5134808  | 2.63            |                 | 105  | 18857 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.993 | 4.984     | 0.009     | 1.000     | 83186    | 0.0242          |                 | 96.8 | 52.8  |       |
| 813.00 > 169.00                       | 4.993 | 4.984     | 0.009     | 1.000     | 14776    |                 | 5.63(2.86-8.58) | 96.8 | 439   |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.366 | 5.361     | 0.005     | 1.000     | 55865    | 0.0253          |                 | 101  | 15.7  |       |
| 913.00 > 169.00                       | 5.366 | 5.361     | 0.005     | 1.000     | 6426     |                 | 8.69(0.00-0.00) | 101  | 116   |       |

**QC Flag Legend**

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

**Reagents:**

LCPFC\_LL1\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26\ICALA\_002.d

Injection Date: 26-Dec-2017 16:55:57

Instrument ID: A8\_N

Lims ID: IC L1 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 10

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

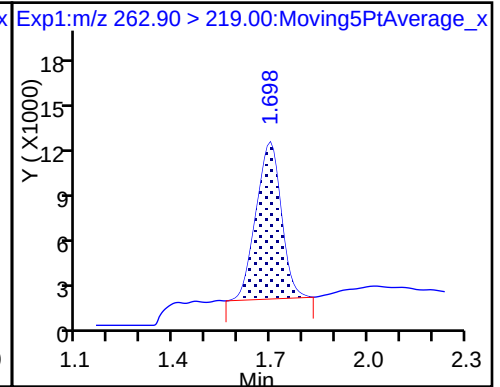
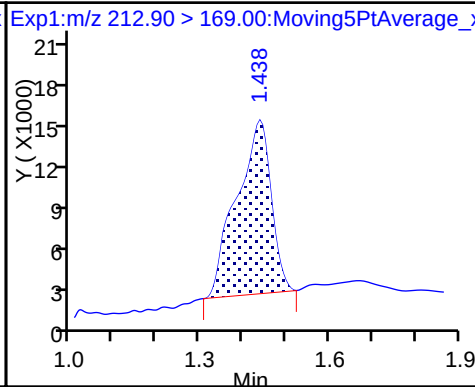
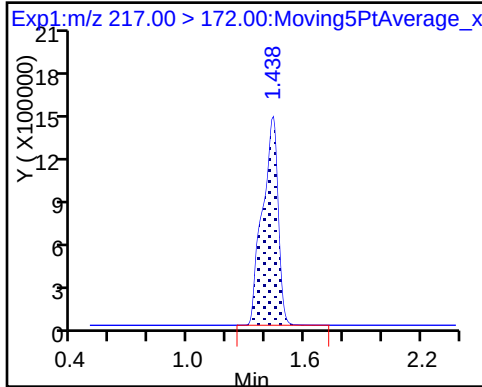
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

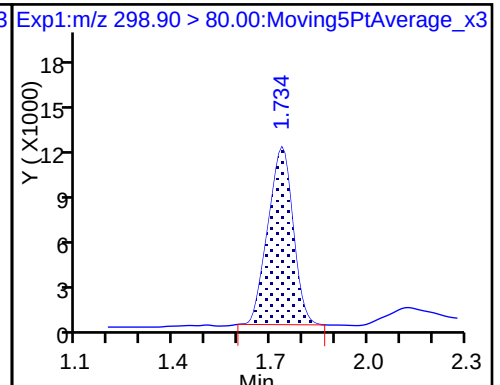
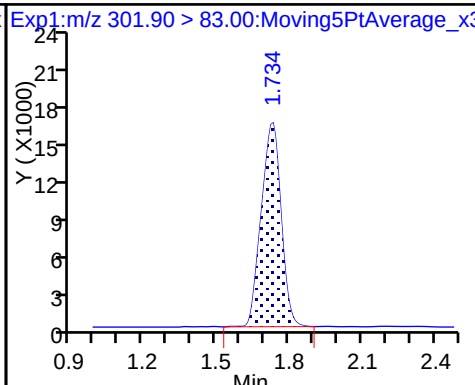
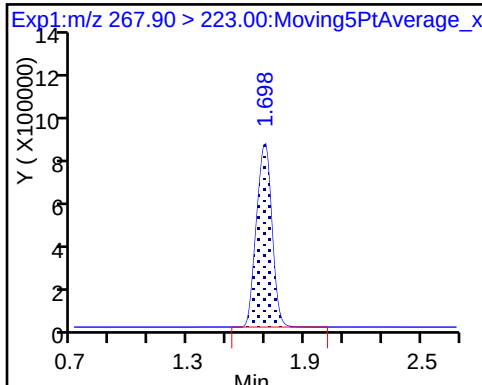
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

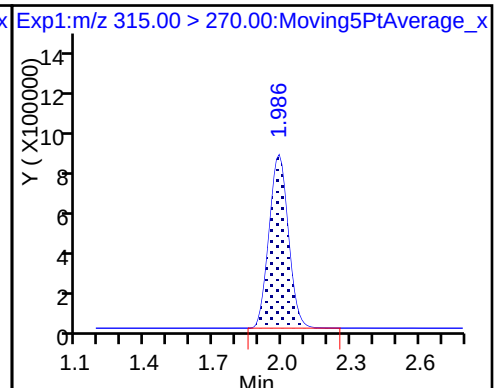
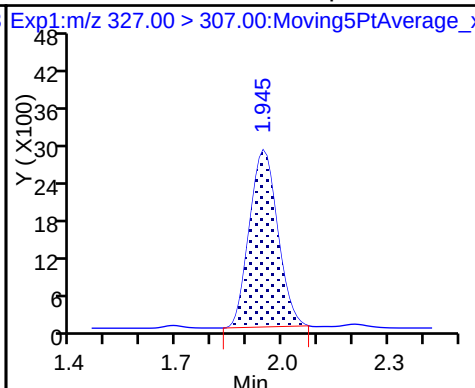
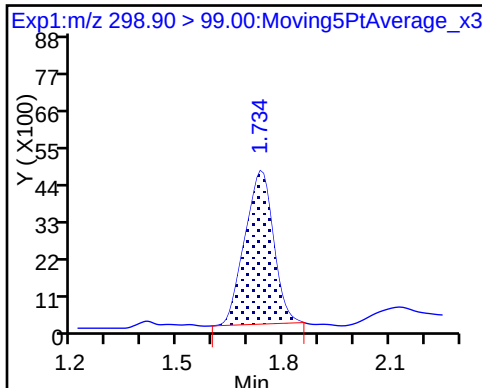
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

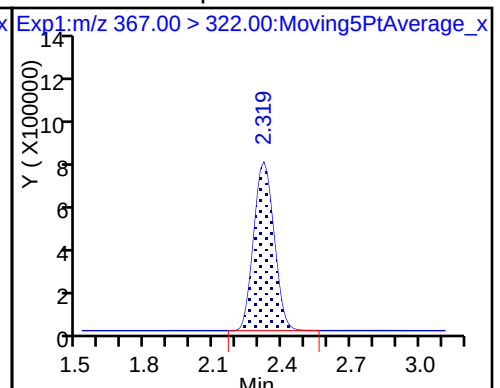
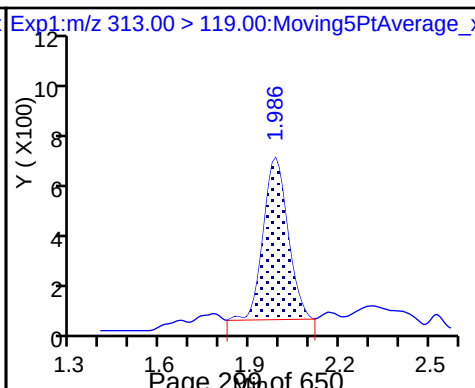
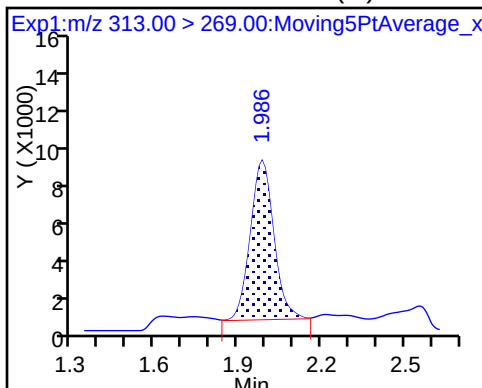
De 7 13C2 PFHxA



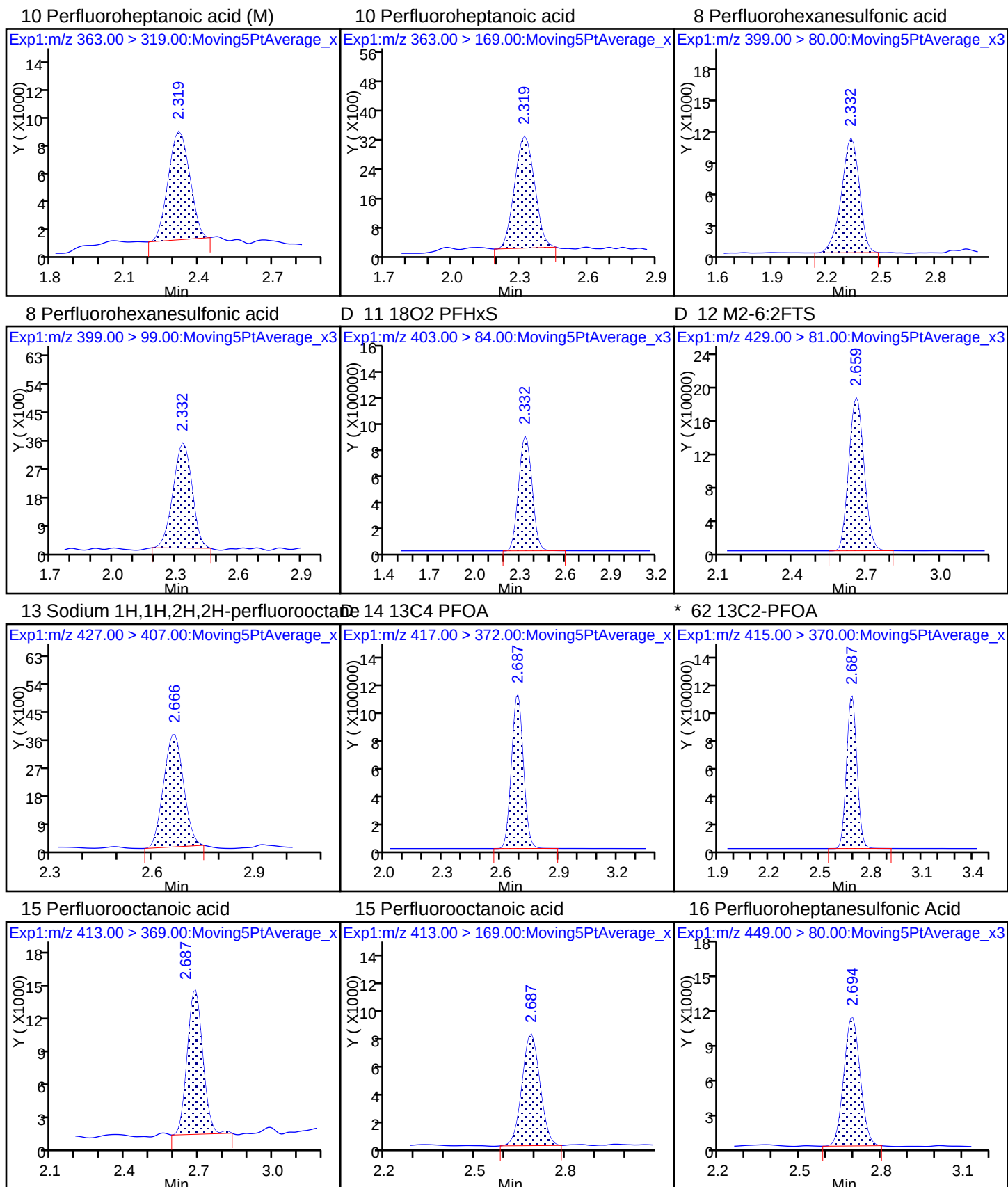
6 Perfluorohexanoic acid (M)

6 Perfluorohexanoic acid

D 9 13C4-PFHpA



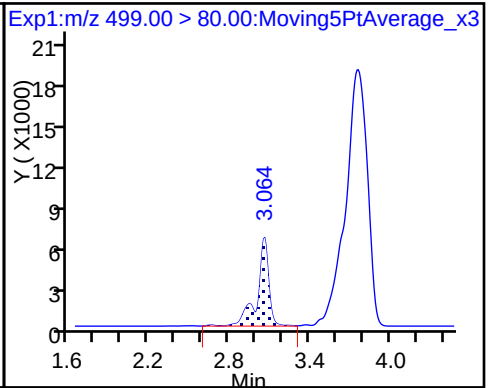
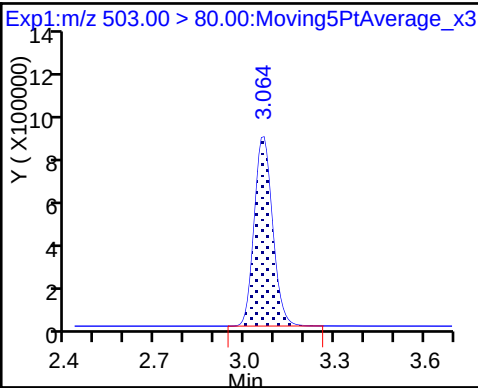
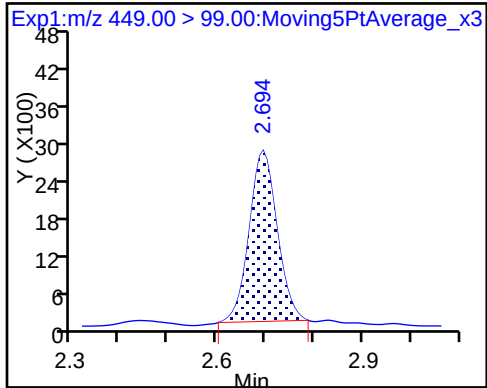




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

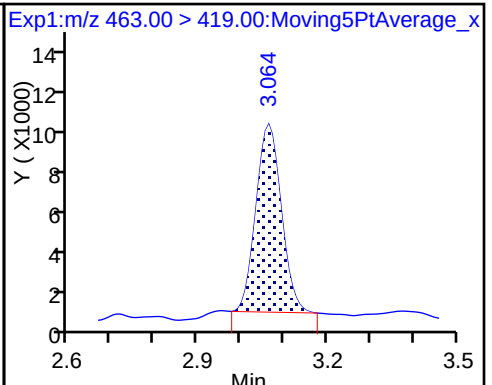
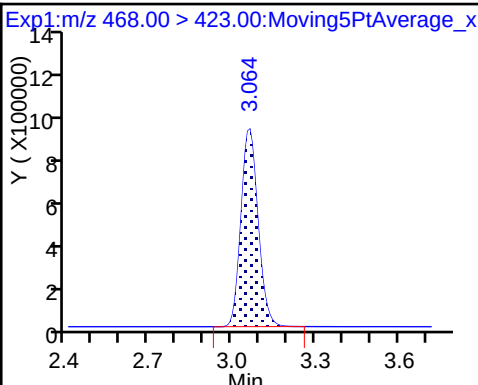
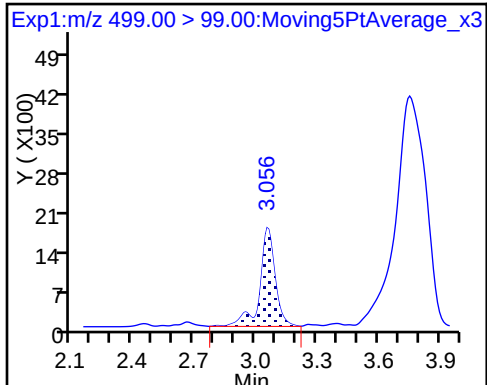
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

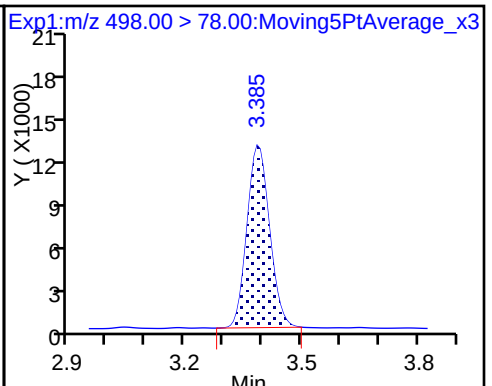
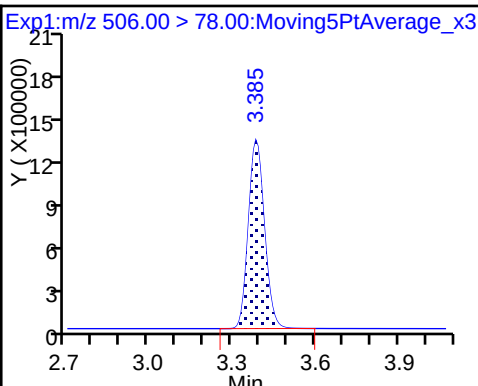
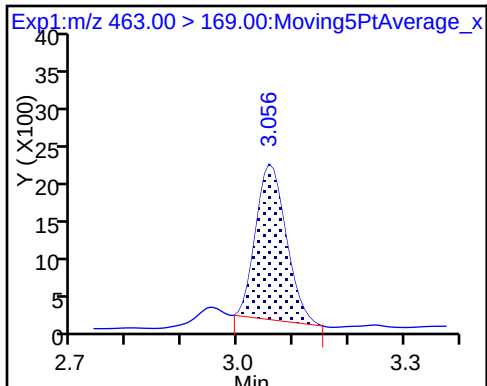
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

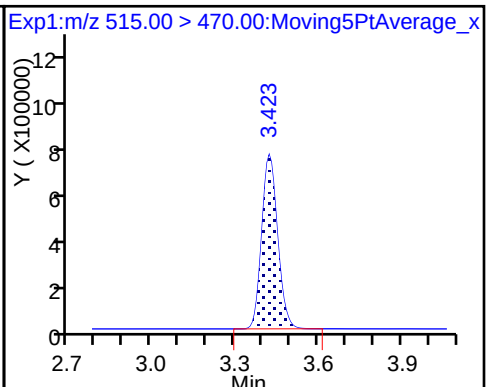
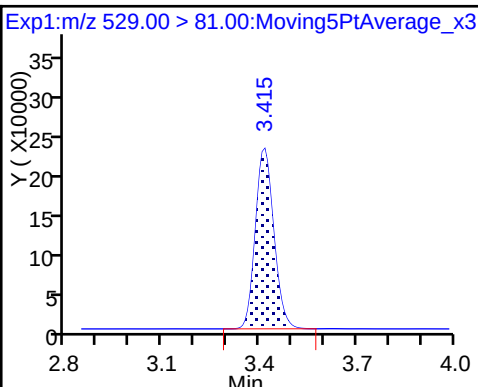
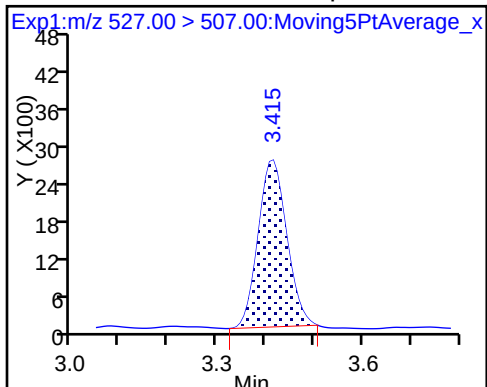
22 Perfluorooctane Sulfonamide

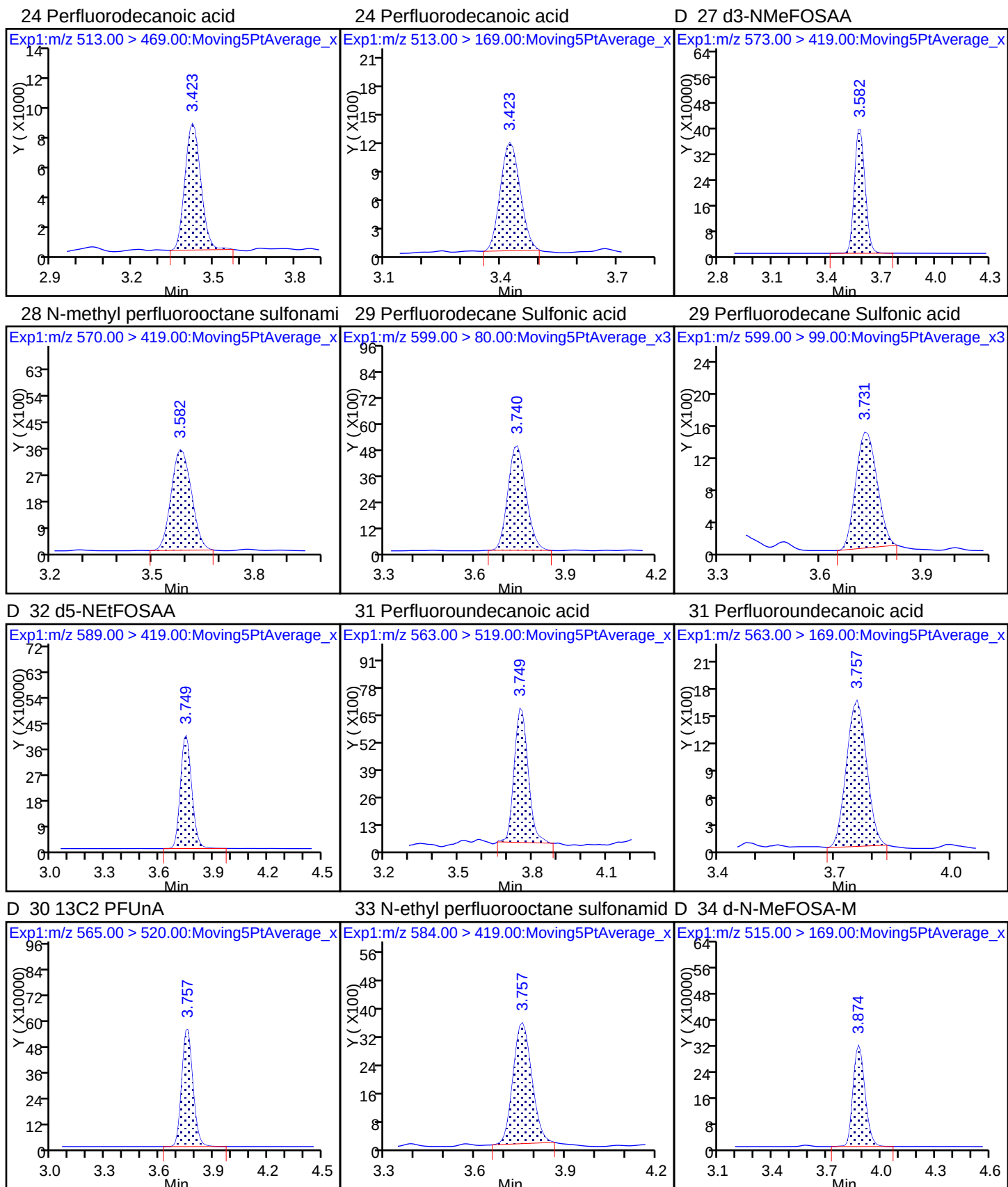


25 Sodium 1H,1H,2H,2H-perfluorodeca

De26 M2-8:2FTS

D 23 13C2 PFDA

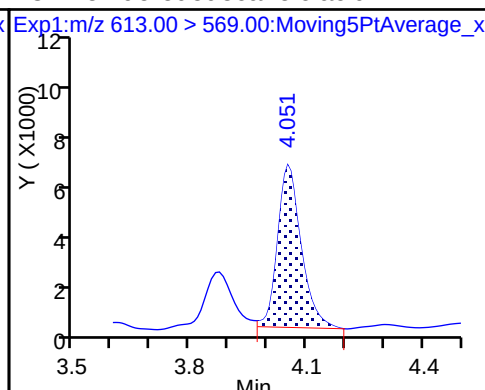
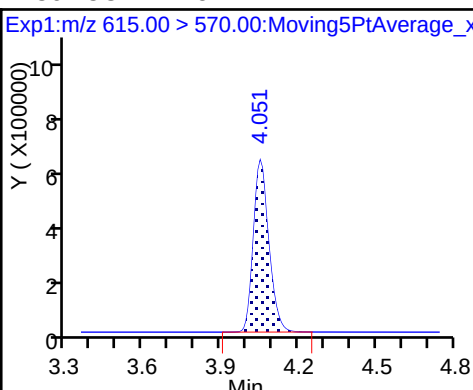
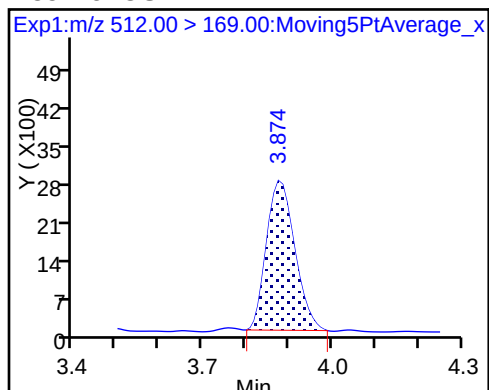




35 MeFOSA

D 36 13C2 PFDaA

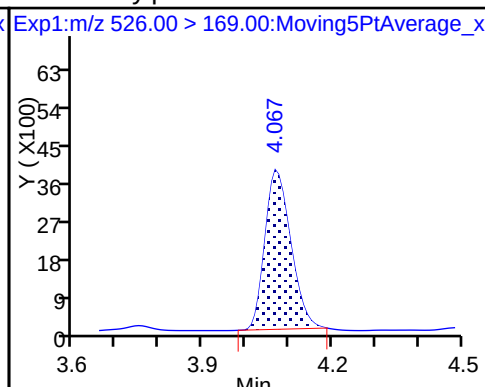
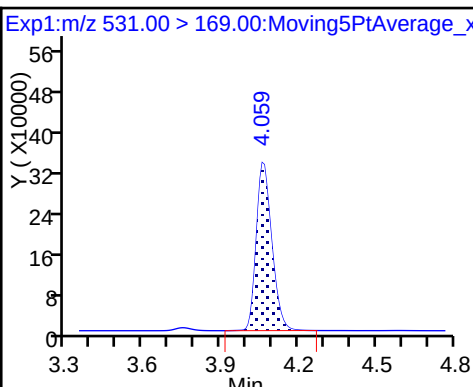
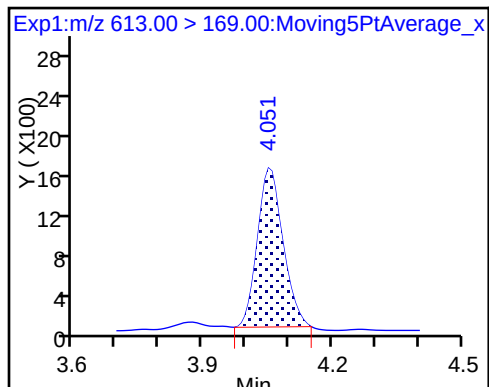
37 Perfluorododecanoic acid



37 Perfluorododecanoic acid

D 38 d-N-EtFOSA-M

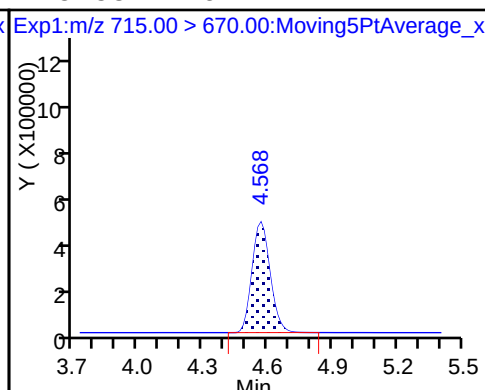
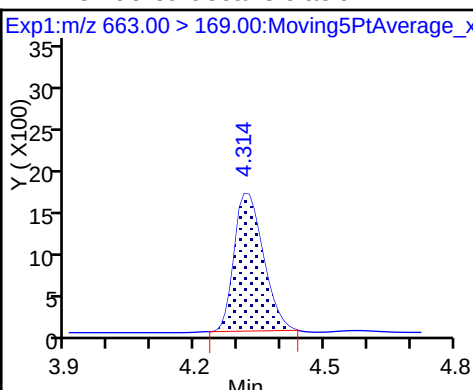
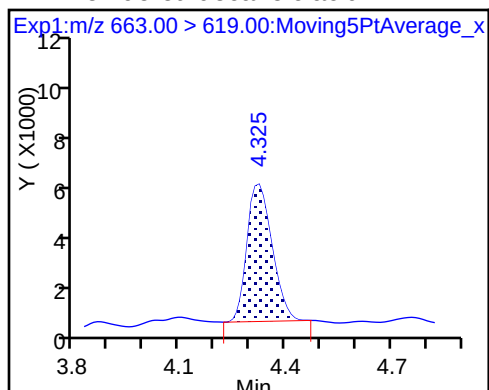
39 N-ethylperfluoro-1-octanesulfonami



41 Perfluorotridecanoic acid

41 Perfluorotridecanoic acid

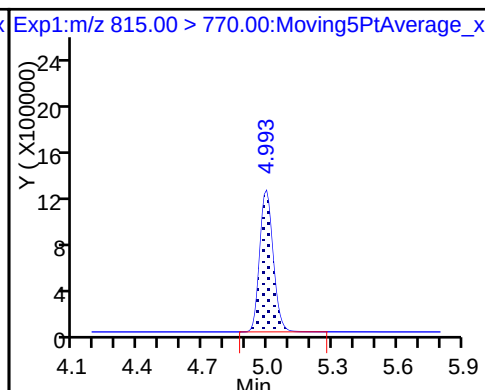
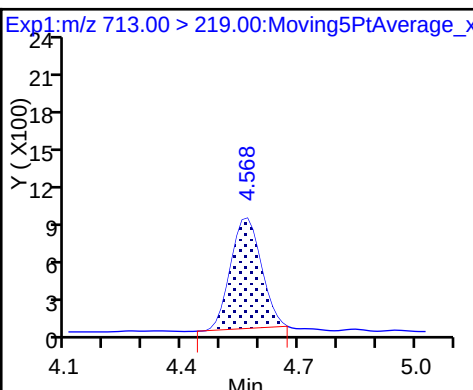
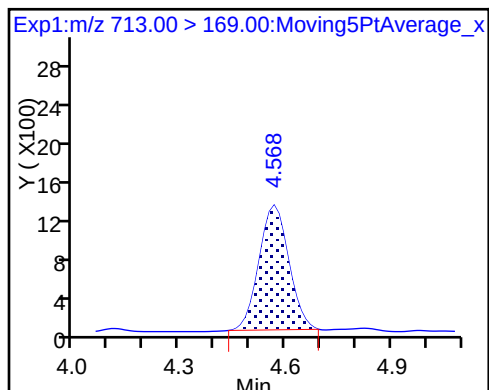
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid

42 Perfluorotetradecanoic acid

D 44 13C2-PFHxDA

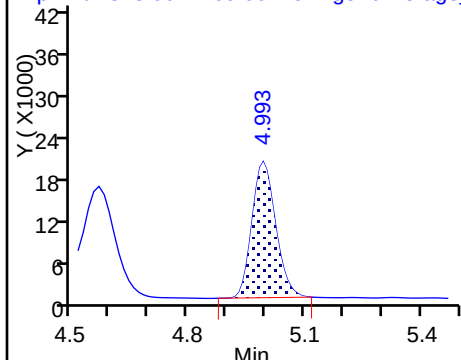


## 45 Perfluorohexadecanoic acid

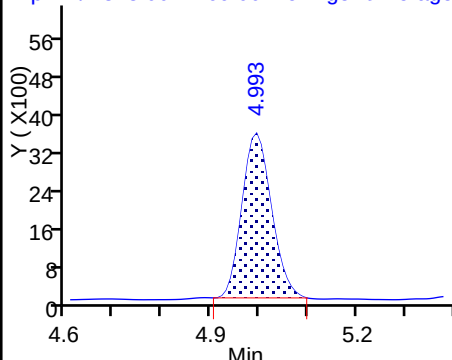
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

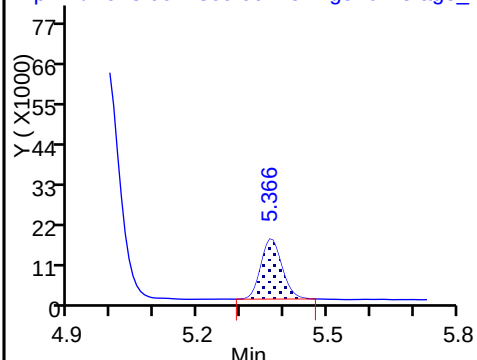
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

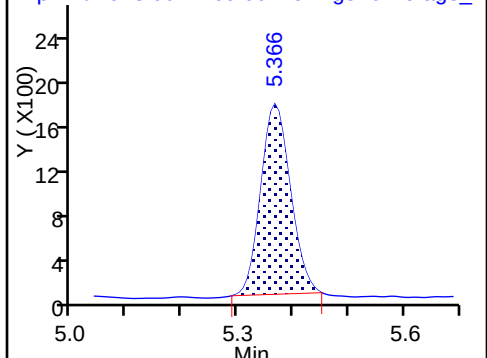


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



## TestAmerica Sacramento

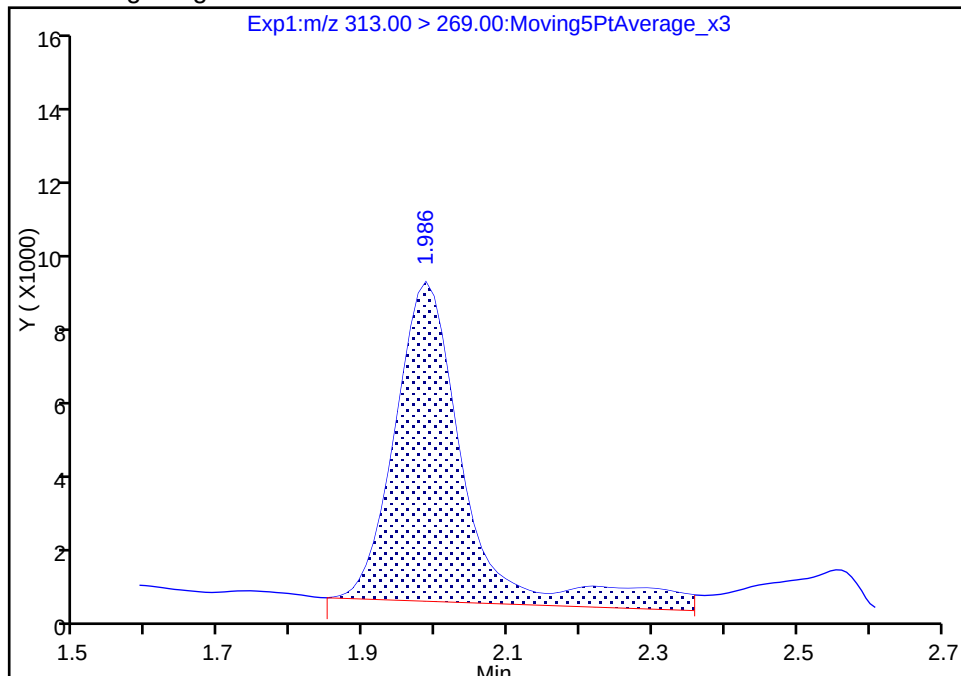
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26\ICALA\_002.d  
Injection Date: 26-Dec-2017 16:55:57 Instrument ID: A8\_N  
Lims ID: IC L1 Full  
Client ID:  
Operator ID: SACINSTLCMS01 ALS Bottle#: 10 Worklist Smp#: 2  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 1

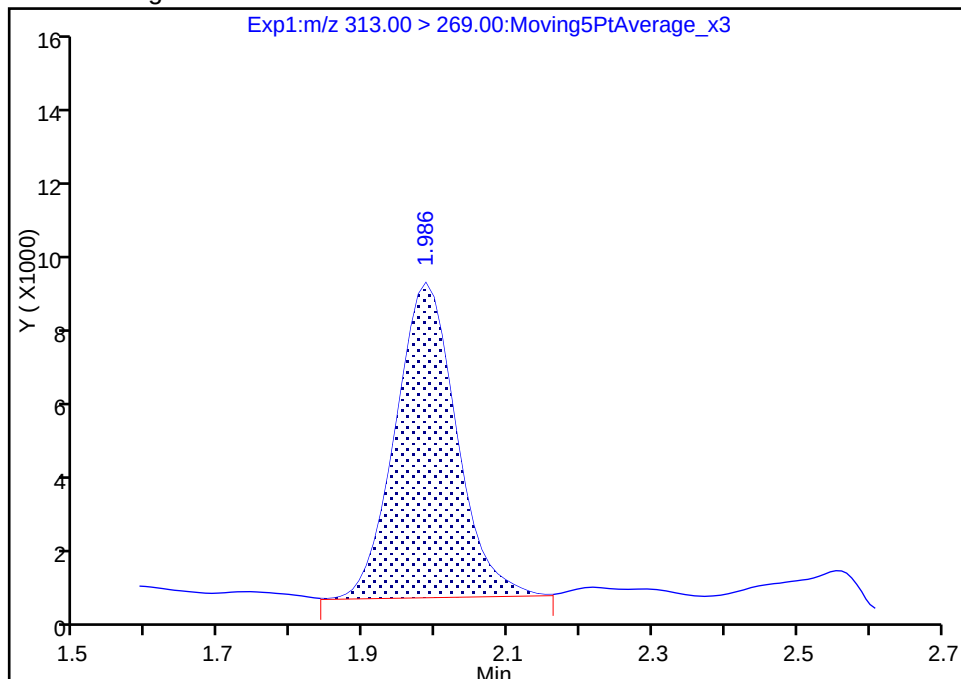
RT: 1.99  
Area: 56576  
Amount: 0.027815  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.99  
Area: 48315  
Amount: 0.024246  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: roycea, 27-Dec-2017 08:23:47

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26\ICALA\_002.d

Injection Date: 26-Dec-2017 16:55:57

Instrument ID: A8\_N

Lims ID: IC L1 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 10

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

Column:

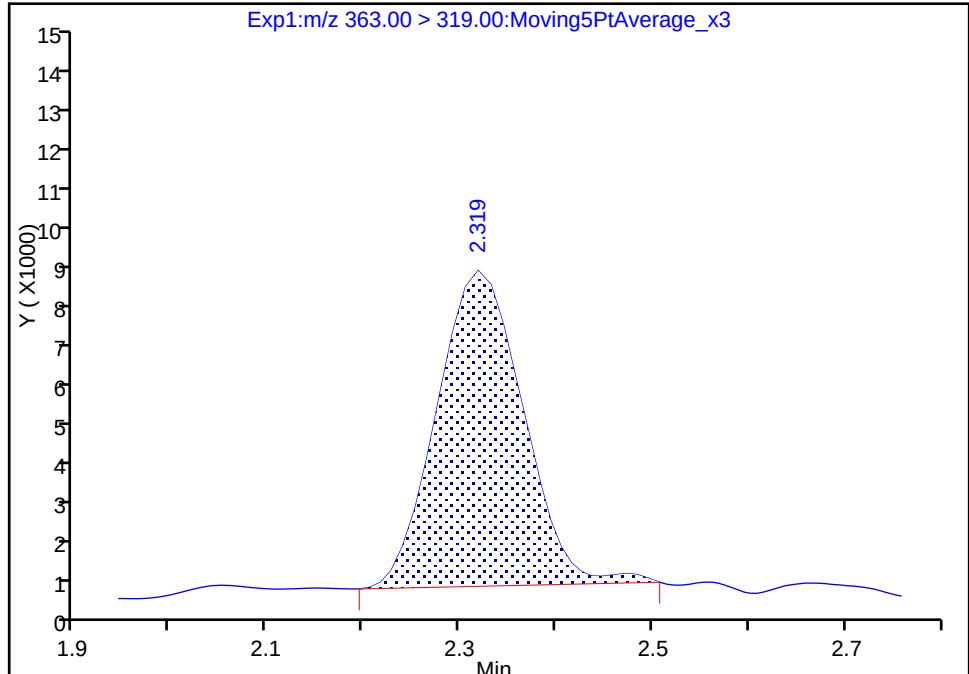
Detector: EXP1

**10 Perfluoroheptanoic acid, CAS: 375-85-9**

Signal: 1

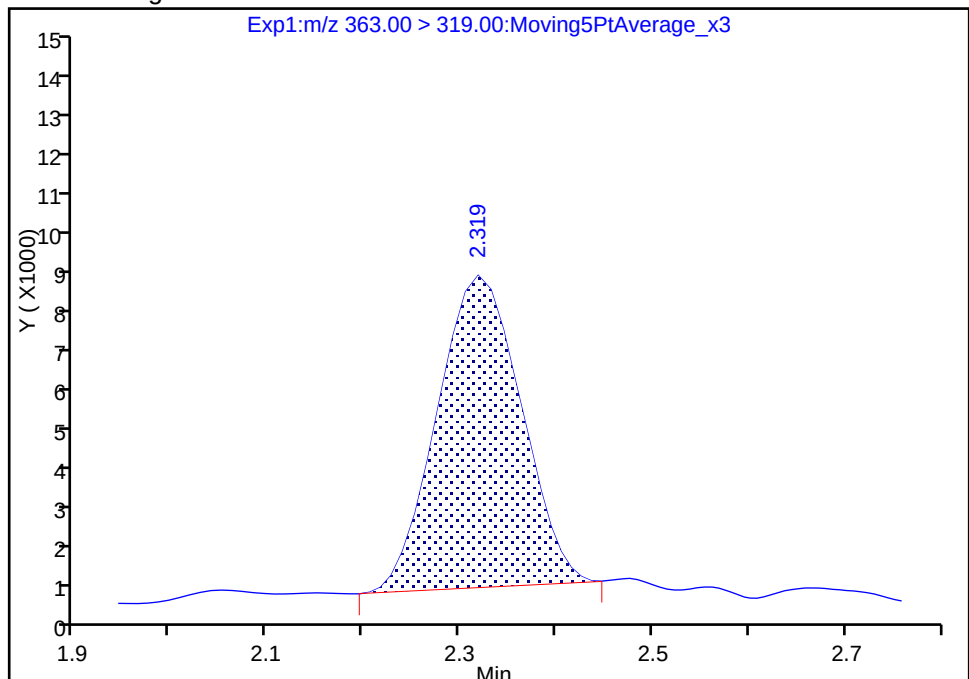
RT: 2.32  
Area: 49184  
Amount: 0.025000  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.32  
Area: 47197  
Amount: 0.024112  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: roycea, 27-Dec-2017 08:24:15

Audit Action: Manually Integrated

Audit Reason: Baseline

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_003.d  
 Lims ID: IC L2 Full  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 26-Dec-2017 17:03:44 ALS Bottle#: 11 Worklist Smp#: 3  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L2-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 08:56:21 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 08:26:51

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.430 | 1.433  | -0.003 | 0.534  | 8093540  | 2.46         |                   | 98.5 | 27173 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.430 | 1.434  | -0.004 | 1.000  | 144778   | 0.0490       |                   | 97.9 | 34.5  |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.687 | 1.691  | -0.005 | 1.000  | 103239   | 0.0484       |                   | 96.8 | 82.5  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.687 | 1.692  | -0.006 | 0.630  | 4755578  | 2.48         |                   | 99.3 | 38107 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.722 | 1.725  | -0.003 | 0.643  | 91775    | 2.21         |                   | 95.1 | 2857  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.722 | 1.730  | -0.008 | 1.000  | 133946   | 0.0453       |                   | 103  | 657   |       |
| 298.90 > 99.00                        | 1.722 | 1.730  | -0.008 | 1.000  | 57264    |              | 2.34(1.25-3.74)   | 103  | 426   |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.940 | 1.941  | -0.001 | 1.000  | 25890    | 0.0411       |                   | 88.0 | 1173  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.971 | 1.976  | -0.005 | 0.736  | 5041052  | 2.45         |                   | 97.9 | 51934 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.971 | 1.979  | -0.008 | 1.000  | 102335   | 0.0508       |                   | 102  | 257   |       |
| 313.00 > 119.00                       | 1.971 | 1.979  | -0.008 | 1.000  | 9090     |              | 11.26(5.03-15.10) | 102  | 178   |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.314 | 2.311  | 0.003  | 1.000  | 105299   | 0.0524       |                   | 105  | 183   |       |
| 363.00 > 169.00                       | 2.314 | 2.311  | 0.003  | 1.000  | 39708    |              | 2.65(1.13-3.40)   | 105  | 433   |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.314 | 2.311  | 0.003  | 0.864  | 4804811  | 2.51         |                   | 100  | 35881 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.328 | 2.324  | 0.004  | 1.000  | 127811   | 0.0469       |                   | 103  | 798   |       |
| 399.00 > 99.00                        | 2.328 | 2.324  | 0.004  | 1.000  | 38467    |              | 3.32(1.50-4.49)   | 103  | 304   |       |



| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.328 | 2.328  | 0.0    | 0.869  | 5894550  | 2.43         |                 | 103  | 35045 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.649 | 2.649  | 0.0    | 0.989  | 867710   | 2.39         |                 | 101  | 19171 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.649 | 2.651  | -0.002 | 1.000  | 29222    | 0.0477       |                 | 101  | 918   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.678 | 2.674  | 0.004  | 1.000  | 4837751  | 2.48         |                 | 99.1 | 27746 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.678 | 2.676  | 0.002  |        | 4748115  | 2.50         |                 |      | 42824 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.678 | 2.677  | 0.001  | 1.000  | 108356   | 0.0529       |                 | 106  | 62.6  |       |
| 413.00 > 169.00                       | 2.678 | 2.677  | 0.001  | 1.000  | 59877    |              | 1.81(0.84-2.52) | 106  | 513   |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.685 | 2.683  | 0.002  | 1.000  | 94992    | 0.0476       |                 | 99.9 | 2105  |       |
| 449.00 > 99.00                        | 2.685 | 2.683  | 0.002  | 1.000  | 28619    |              | 3.32(1.94-5.82) | 99.9 | 982   |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.047 | 3.048  | -0.001 | 1.138  | 3890029  | 2.42         |                 | 101  | 26139 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.054 | 3.050  | 0.004  | 1.003  | 82304    | 0.0471       |                 | 102  | 20.6  |       |
| 499.00 > 99.00                        | 3.054 | 3.050  | 0.004  | 1.003  | 19990    |              | 4.12(2.31-6.93) | 102  | 25.4  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.054 | 3.051  | 0.003  | 1.141  | 3974719  | 2.55         |                 | 102  | 26659 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.054 | 3.052  | 0.002  | 1.000  | 72562    | 0.0468       |                 | 93.7 | 174   |       |
| 463.00 > 169.00                       | 3.054 | 3.052  | 0.002  | 1.000  | 17272    |              | 4.20(1.90-5.69) | 93.7 | 441   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.376 | 3.377  | -0.001 | 1.261  | 5229999  | 2.40         |                 | 96.1 | 22874 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.376 | 3.378  | -0.002 | 1.000  | 101559   | 0.0511       |                 | 102  | 2852  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.399 | 3.402  | -0.003 | 0.998  | 23092    | 0.0496       |                 | 104  | 992   |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.407 | 3.403  | 0.004  | 1.272  | 887779   | 2.23         |                 | 93.1 | 14694 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.414 | 3.414  | 0.0    | 1.000  | 64313    | 0.0528       |                 | 106  | 316   |       |
| 513.00 > 169.00                       | 3.414 | 3.414  | 0.0    | 1.000  | 11769    |              | 5.46(2.36-7.09) | 106  | 439   |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.414 | 3.414  | 0.0    | 1.275  | 3090301  | 2.44         |                 | 97.5 | 30238 |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.565 | 3.569  | -0.004 | 1.331  | 1521826  | 2.32         |                 | 92.9 | 18055 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.573 | 3.574  | -0.001 | 1.002  | 34208    | 0.0531       |                 | 106  | 308   |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.729 | 3.730  | -0.001 | 1.000  | 42501    | 0.0441       |                 | 91.5 | 2055  |       |
| 599.00 > 99.00                        | 3.729 | 3.730  | -0.001 | 1.000  | 16157    |              | 2.63(1.39-4.16) | 91.5 | 647   |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.738 | 3.740  | -0.002 | 1.396  | 1696531  | 2.54         |                 | 102  | 10162 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.746 | 3.746     | 0.0       | 1.000     | 45365    | 0.0520          |                 | 104  | 269   |       |
| 563.00 > 169.00                       | 3.746 | 3.746     | 0.0       | 1.000     | 9983     |                 | 4.54(0.00-0.00) | 104  | 836   |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.746 | 3.747     | -0.001    | 1.002     | 30941    | 0.0472          |                 | 94.5 | 806   |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.746 | 3.747     | -0.001    | 1.399     | 2329187  | 2.43            |                 | 97.1 | 33988 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.862 | 3.867     | -0.005    | 1.442     | 1477752  | 2.39            |                 | 95.6 | 3267  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.872 | 3.873     | -0.001    | 1.003     | 25700    | 0.0450          |                 | 90.1 | 568   |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.042 | 4.045     | -0.003    | 1.000     | 50283    | 0.0492          |                 | 98.3 | 166   |       |
| 613.00 > 169.00                       | 4.042 | 4.045     | -0.003    | 1.000     | 11868    |                 | 4.24(2.13-6.40) | 98.3 | 732   |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.042 | 4.045     | -0.003    | 1.509     | 2575132  | 2.47            |                 | 98.8 | 33508 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.058 | 4.058     | 0.0       | 1.515     | 1395515  | 2.37            |                 | 94.8 | 3004  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.058 | 4.065     | -0.007    | 1.000     | 29885    | 0.0494          |                 | 98.8 | 905   |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.308 | 4.312     | -0.004    | 1.000     | 58362    | 0.0526          |                 | 105  | 198   |       |
| 663.00 > 169.00                       | 4.308 | 4.312     | -0.004    | 1.000     | 18920    |                 | 3.08(1.25-3.76) | 105  | 1050  |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.560 | 4.557     | 0.003     | 1.000     | 14138    | 0.0500          |                 | 99.9 | 631   |       |
| 713.00 > 219.00                       | 4.546 | 4.557     | -0.011    | 0.997     | 9550     |                 | 1.48(0.71-2.13) | 99.9 | 418   |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.560 | 4.557     | 0.003     | 1.703     | 2779842  | 2.45            |                 | 98.1 | 20812 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.979 | 4.984     | -0.005    | 1.000     | 137526   | 0.0533          |                 | 107  | 85.5  |       |
| 813.00 > 169.00                       | 4.979 | 4.984     | -0.005    | 1.000     | 23485    |                 | 5.86(2.86-8.58) | 107  | 610   |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.979 | 4.984     | -0.005    | 1.859     | 5259637  | 2.53            |                 | 101  | 14695 |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.363 | 5.361     | 0.002     | 1.000     | 111852   | 0.0495          |                 | 99.0 | 30.6  |       |
| 913.00 > 169.00                       | 5.356 | 5.361     | -0.005    | 0.999     | 14368    |                 | 7.78(0.00-0.00) | 99.0 | 273   |       |

**Reagents:**

LCPFC\_LL2\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_003.d

Injection Date: 26-Dec-2017 17:03:44

Instrument ID: A8\_N

Lims ID: IC L2 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 11

Worklist Smp#: 3

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

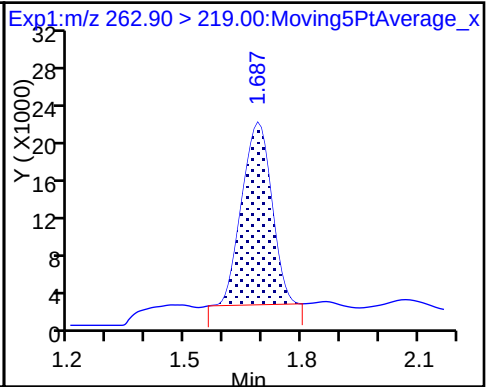
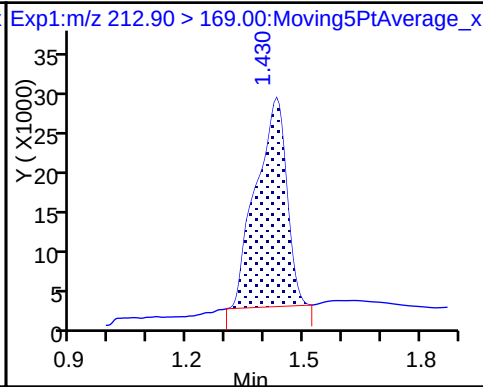
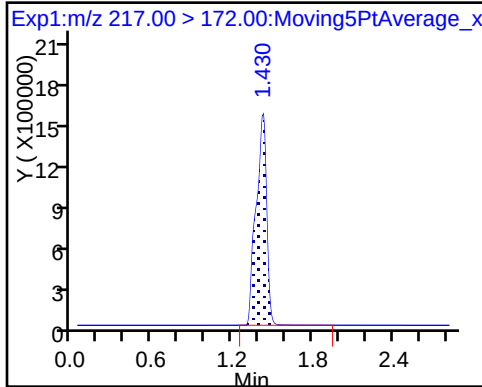
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

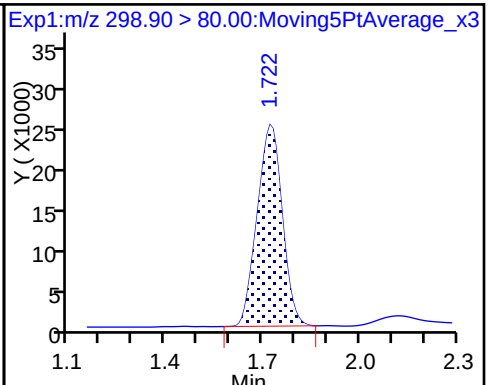
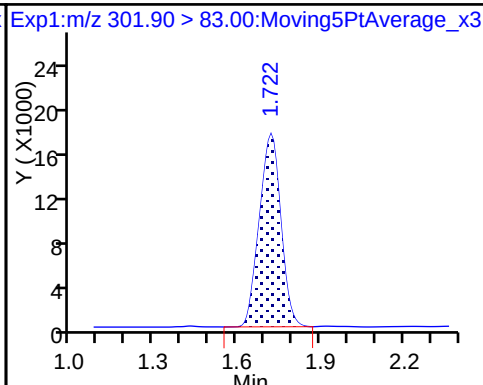
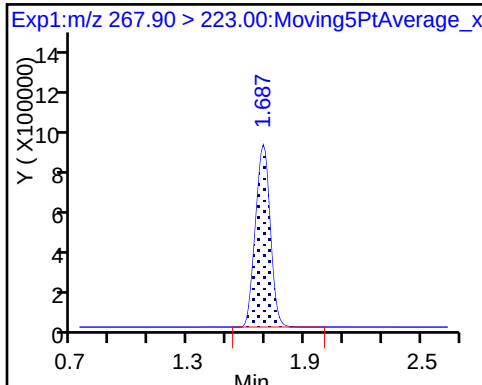
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

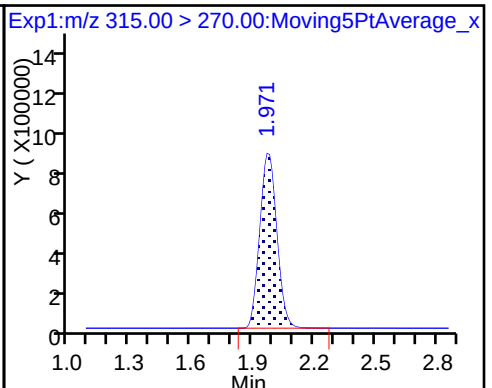
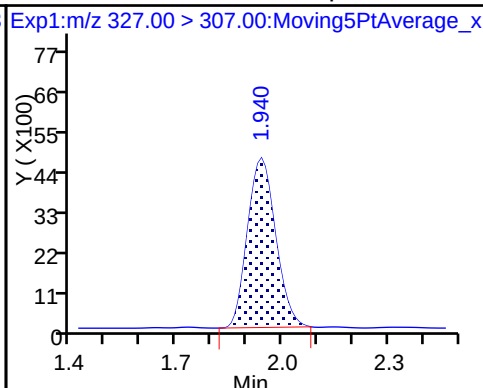
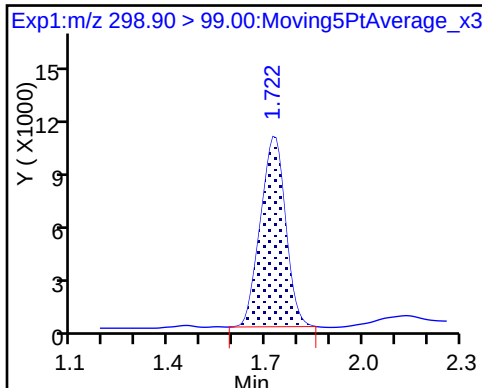
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

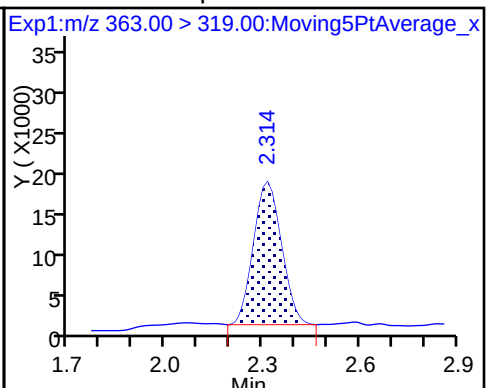
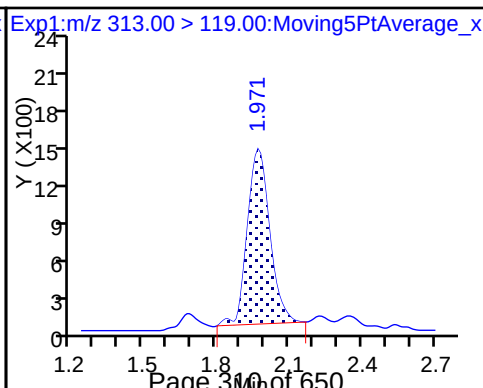
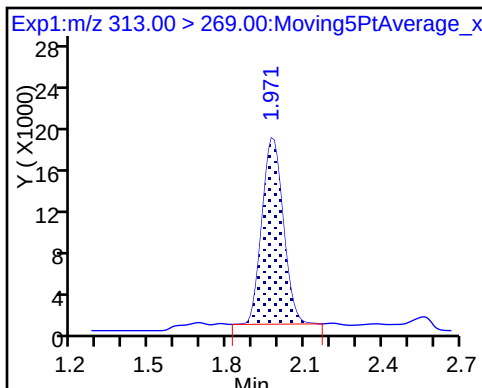
De 7 13C2 PFHxA

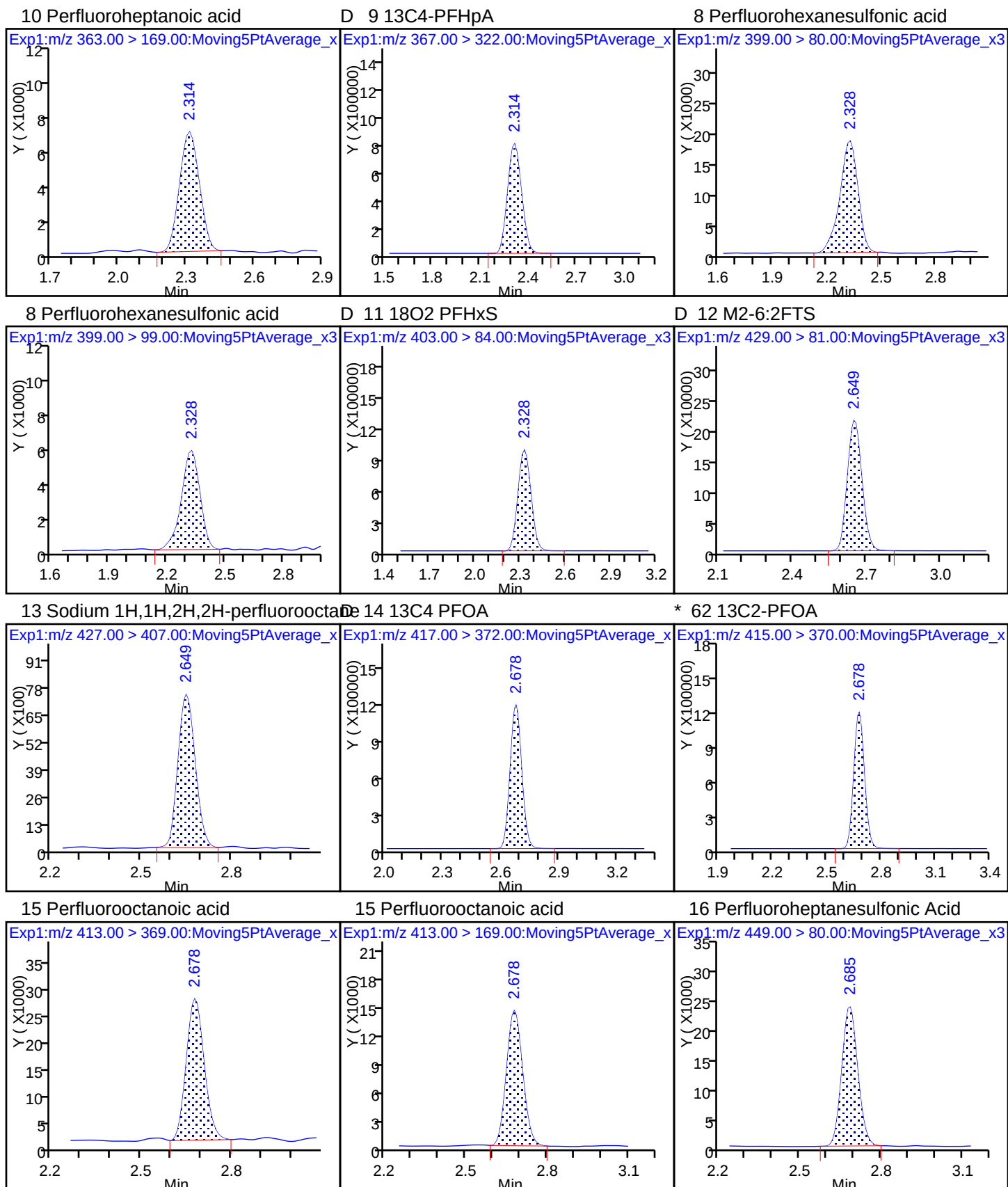


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

10 Perfluoroheptanoic acid

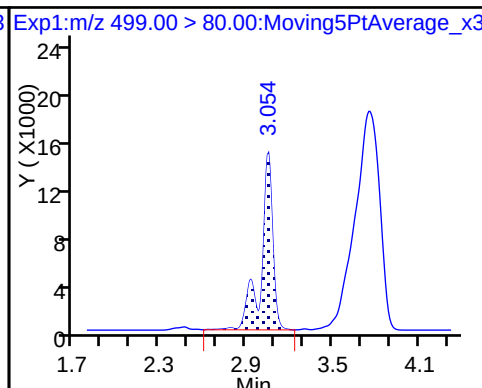
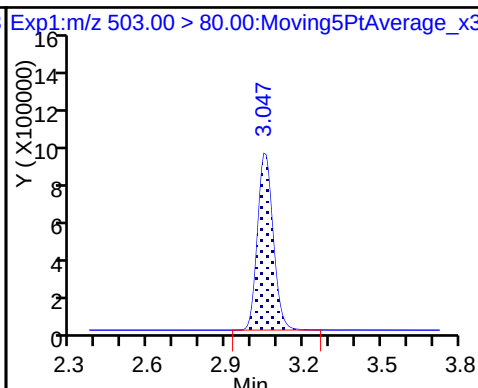
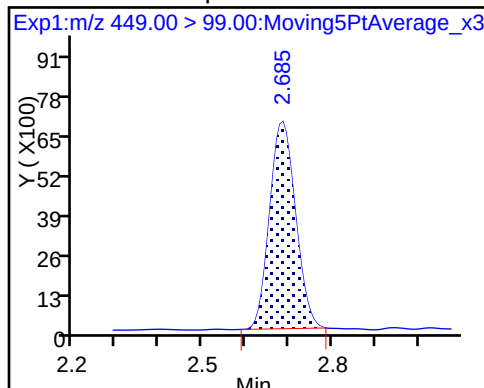




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

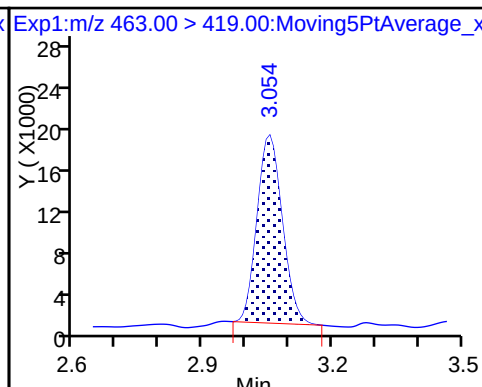
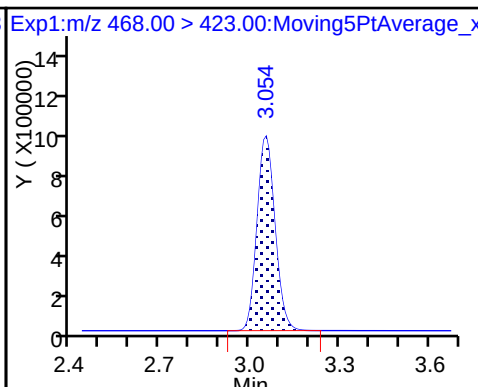
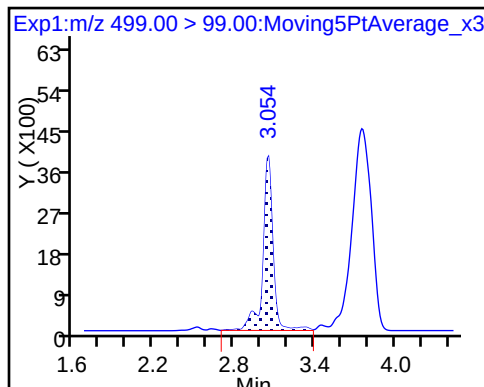
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

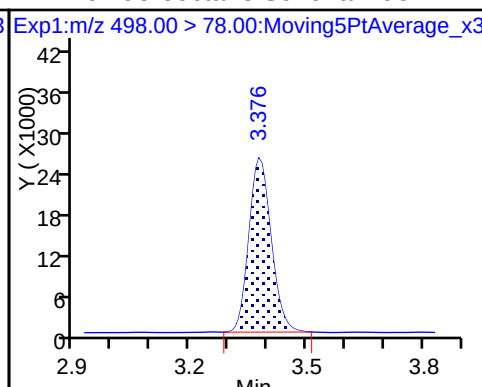
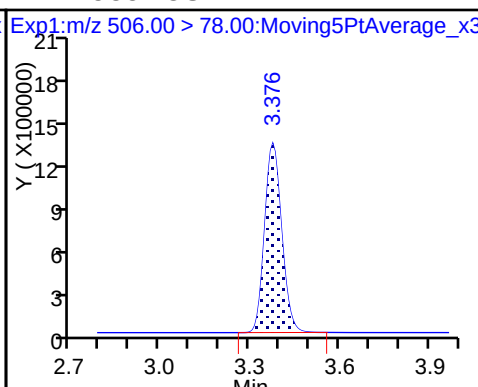
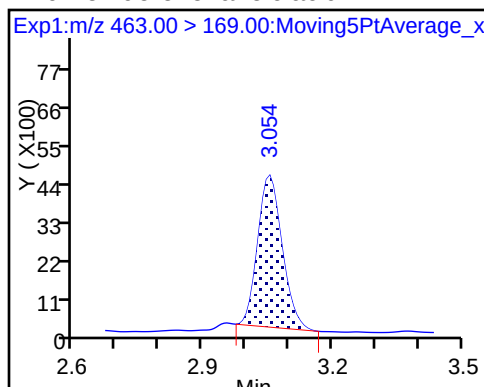
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

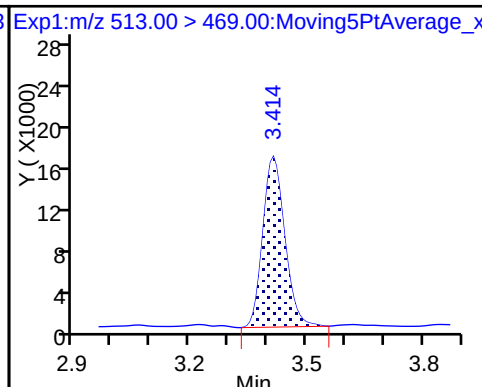
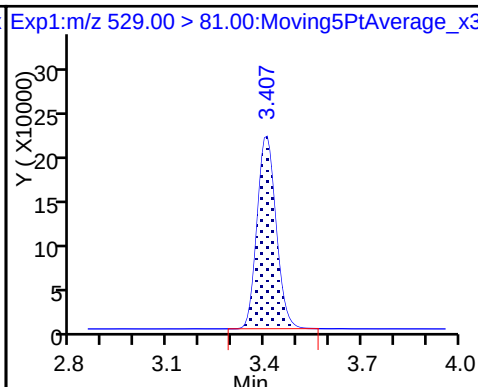
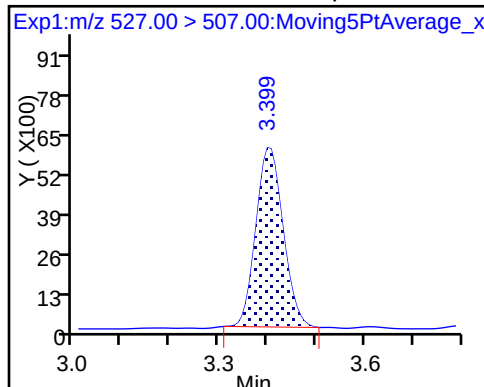
22 Perfluorooctane Sulfonamide



25 Sodium 1H,1H,2H,2H-perfluorodecanoate

De26 M2-8:2FTS

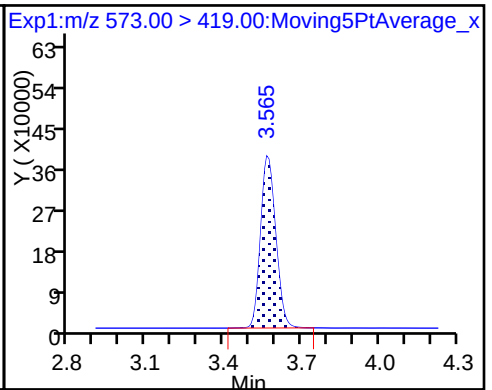
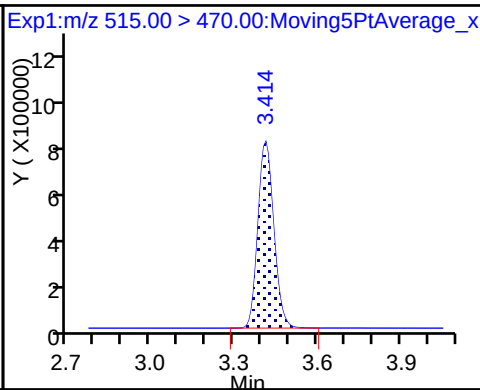
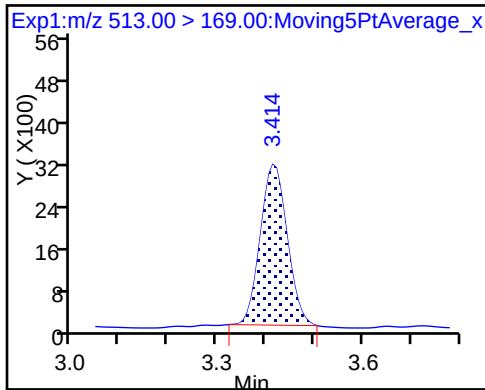
24 Perfluorodecanoic acid



24 Perfluorodecanoic acid

D 23 13C2 PFDA

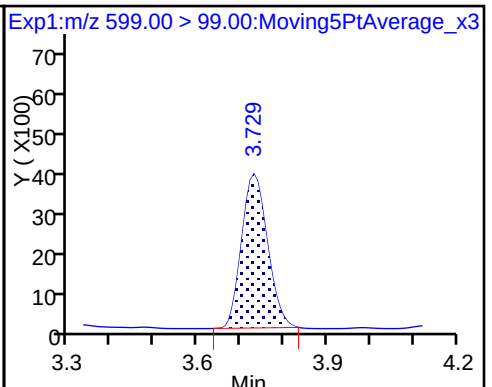
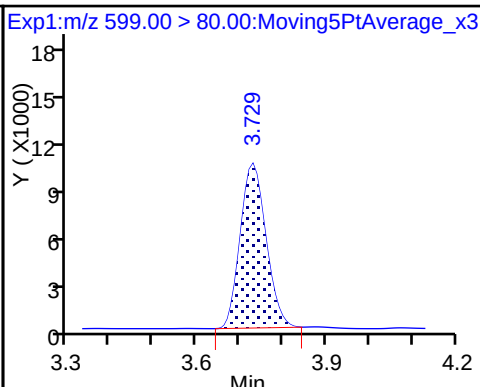
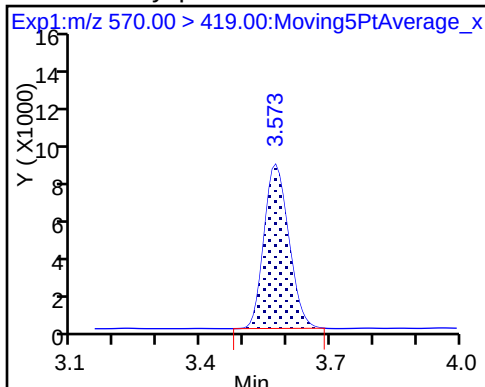
D 27 d3-NMeFOSAA



28 N-methyl perfluorooctane sulfonamid

29 Perfluorodecane Sulfonic acid

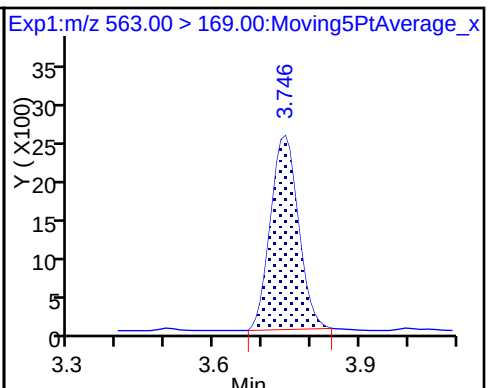
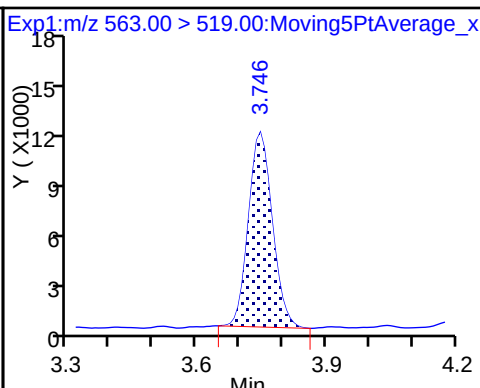
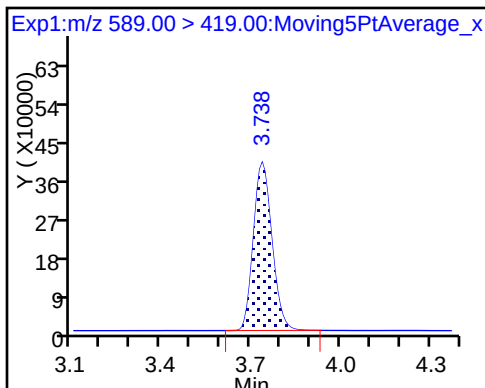
29 Perfluorodecane Sulfonic acid



D 32 d5-NEtFOSAA

31 Perfluoroundecanoic acid

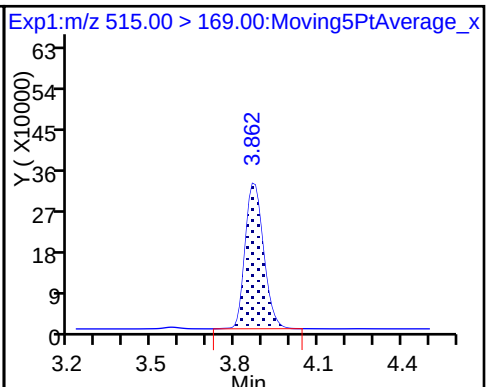
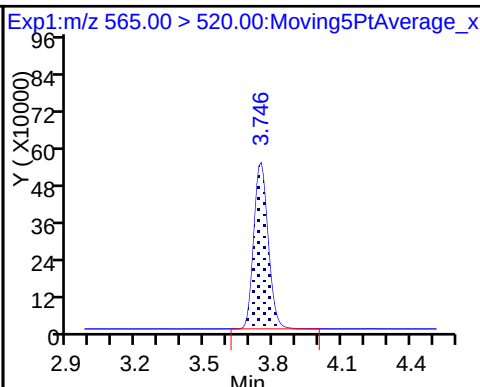
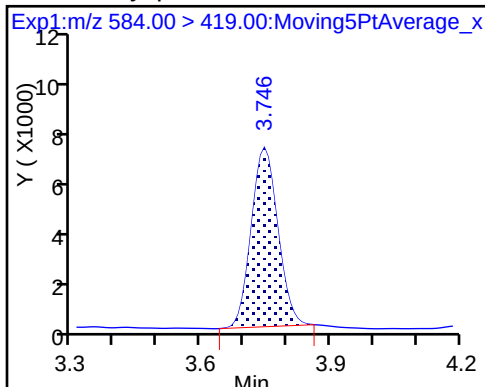
31 Perfluoroundecanoic acid

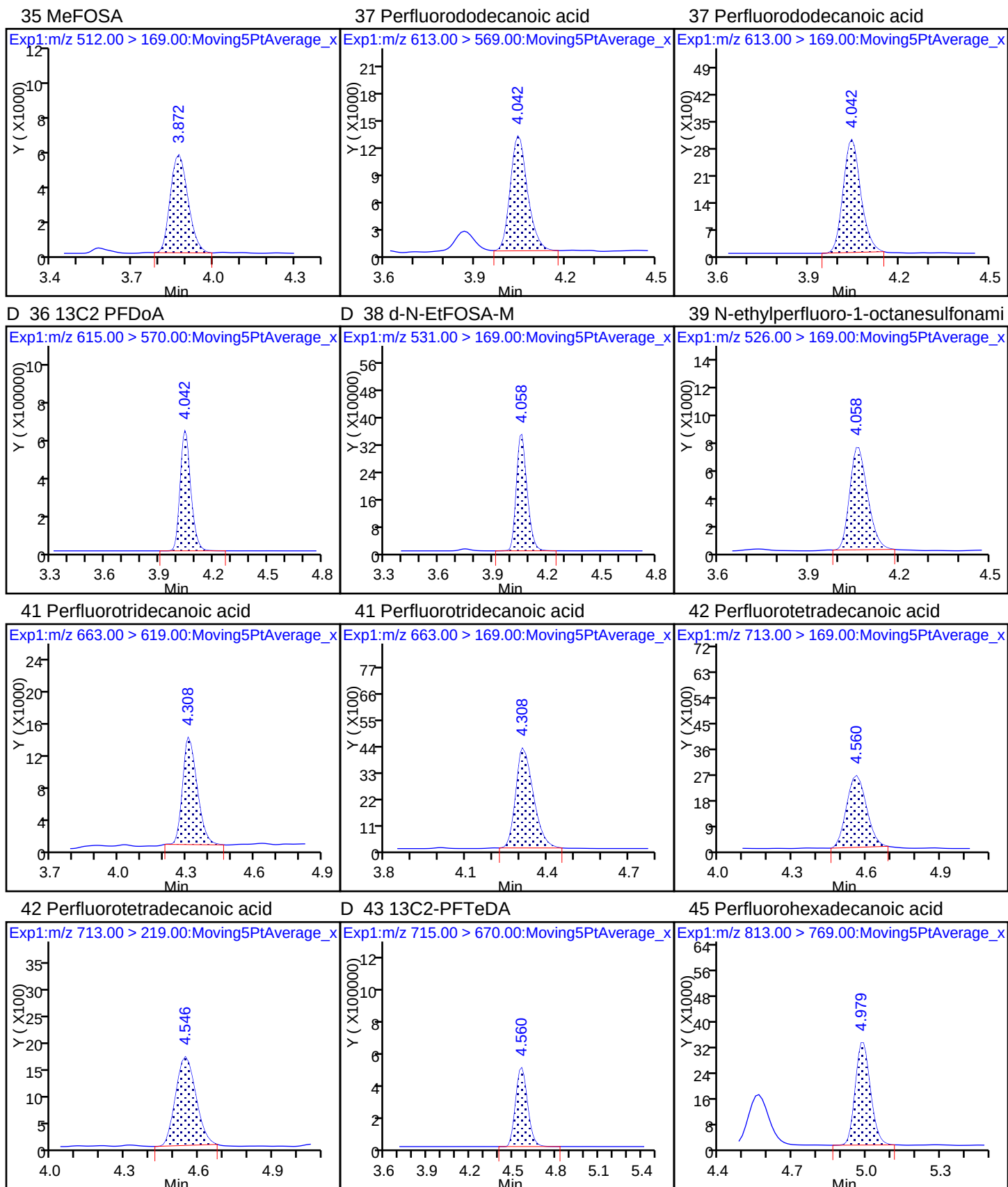


33 N-ethyl perfluorooctane sulfonamid

D 30 13C2 PFUnA

D 34 d-N-MeFOSA-M



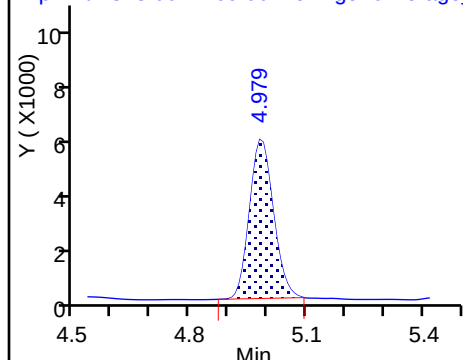


45 Perfluorohexadecanoic acid

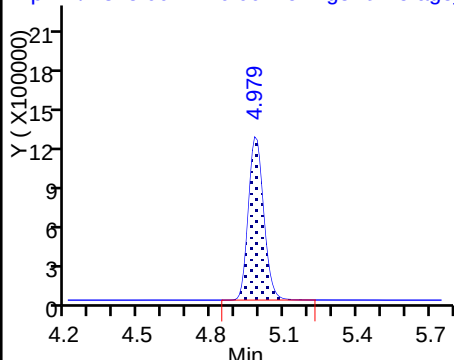
D 44 13C2-PFHxDA

46 Perfluorooctadecanoic acid

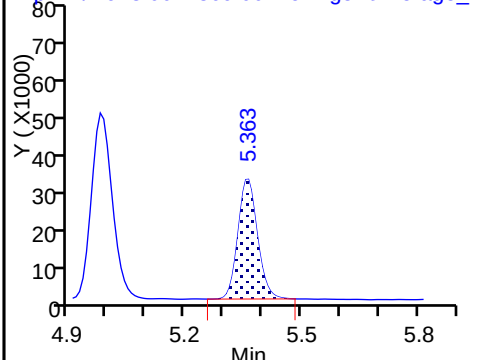
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Exp1:m/z 815.00 &gt; 770.00:Moving5PtAverage\_x

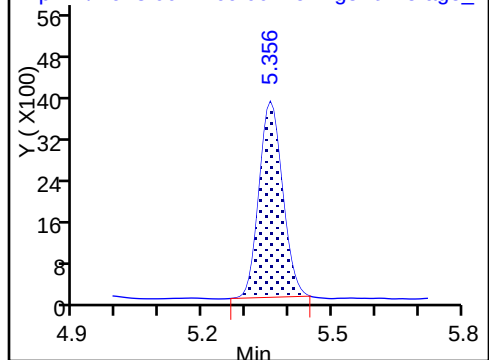


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x





TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_004.d  
 Lims ID: IC L3 Full  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 26-Dec-2017 17:11:33 ALS Bottle#: 12 Worklist Smp#: 4  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L3-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 08:56:25 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 08:32:21

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433  | -0.001 | 0.537  | 7829693  | 2.37         |                   | 94.7 | 20057 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.432 | 1.434  | -0.002 | 1.000  | 737647   | 0.2578       |                   | 103  | 164   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.689 | 1.691  | -0.002 | 1.000  | 520370   | 0.2536       |                   | 101  | 469   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.689 | 1.692  | -0.003 | 0.633  | 4574035  | 2.37         |                   | 94.9 | 44851 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.725 | 1.725  | 0.0    | 0.647  | 92839    | 2.22         |                   | 95.6 | 3419  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.725 | 1.730  | -0.005 | 1.000  | 697674   | 0.2335       |                   | 106  | 3145  |       |
| 298.90 > 99.00                        | 1.725 | 1.730  | -0.005 | 1.000  | 292036   |              | 2.39(1.25-3.74)   | 106  | 2245  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.934 | 1.941  | -0.007 | 1.000  | 141774   | 0.2332       |                   | 99.9 | 6493  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.975 | 1.976  | -0.001 | 0.741  | 5027849  | 2.43         |                   | 97.1 | 46885 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.975 | 1.979  | -0.004 | 1.000  | 522846   | 0.2603       |                   | 104  | 1427  |       |
| 313.00 > 119.00                       | 1.975 | 1.979  | -0.004 | 1.000  | 47985    |              | 10.90(5.03-15.10) | 104  | 1195  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.305 | 2.311  | -0.006 | 0.865  | 4792396  | 2.49         |                   | 99.7 | 30349 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.305 | 2.311  | -0.006 | 1.000  | 491641   | 0.2453       |                   | 98.1 | 869   |       |
| 363.00 > 169.00                       | 2.305 | 2.311  | -0.006 | 1.000  | 197717   |              | 2.49(1.13-3.40)   | 98.1 | 1608  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.318 | 2.324  | -0.006 | 1.000  | 596575   | 0.2271       |                   | 99.8 | 3254  |       |
| 399.00 > 99.00                        | 2.318 | 2.324  | -0.006 | 1.000  | 187550   |              | 3.18(1.50-4.49)   | 99.8 | 1460  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |           |           |           |          |                 |                 |      |       |       |
| 403.00 > 84.00                        | 2.318 | 2.328     | -0.010    | 0.869     | 5685104  | 2.33            |                 | 98.5 | 33230 |       |
| D 12 M2-6:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 429.00 > 81.00                        | 2.645 | 2.649     | -0.004    | 0.992     | 837345   | 2.30            |                 | 96.7 | 15750 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |           |           |           |          |                 |                 |      |       |       |
| 427.00 > 407.00                       | 2.645 | 2.651     | -0.006    | 1.000     | 136209   | 0.2304          |                 | 97.2 | 3736  |       |
| D 14 13C4 PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 417.00 > 372.00                       | 2.666 | 2.674     | -0.008    | 1.000     | 4886883  | 2.49            |                 | 99.6 | 45665 |       |
| * 62 13C2-PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 415.00 > 370.00                       | 2.666 | 2.676     | -0.010    |           | 4774787  | 2.50            |                 |      | 46430 |       |
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 413.00 > 369.00                       | 2.674 | 2.677     | -0.003    | 1.003     | 519951   | 0.2513          |                 | 101  | 320   |       |
| 413.00 > 169.00                       | 2.666 | 2.677     | -0.011    | 1.000     | 292109   |                 | 1.78(0.84-2.52) | 101  | 2064  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |           |           |           |          |                 |                 |      |       |       |
| 449.00 > 80.00                        | 2.674 | 2.683     | -0.009    | 1.000     | 483689   | 0.2498          |                 | 105  | 7735  |       |
| 449.00 > 99.00                        | 2.674 | 2.683     | -0.009    | 1.000     | 132872   |                 | 3.64(1.94-5.82) | 105  | 4556  |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |      |       |       |
| 503.00 > 80.00                        | 3.040 | 3.048     | -0.008    | 1.140     | 3772073  | 2.33            |                 | 97.5 | 22238 |       |
| 17 Perfluorooctane sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 499.00 > 80.00                        | 3.040 | 3.050     | -0.010    | 1.000     | 391800   | 0.2313          |                 | 99.7 | 105   |       |
| 499.00 > 99.00                        | 3.040 | 3.050     | -0.010    | 1.000     | 87153    |                 | 4.50(2.31-6.93) | 99.7 | 114   |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |      |       |       |
| 468.00 > 423.00                       | 3.048 | 3.051     | -0.003    | 1.143     | 3733459  | 2.38            |                 | 95.2 | 38737 |       |
| 20 Perfluorononanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 463.00 > 419.00                       | 3.048 | 3.052     | -0.004    | 1.000     | 391513   | 0.2691          |                 | 108  | 961   |       |
| 463.00 > 169.00                       | 3.048 | 3.052     | -0.004    | 1.000     | 92758    |                 | 4.22(1.90-5.69) | 108  | 2063  |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |      |       |       |
| 506.00 > 78.00                        | 3.370 | 3.377     | -0.007    | 1.264     | 5148264  | 2.35            |                 | 94.1 | 21204 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |      |       |       |
| 498.00 > 78.00                        | 3.378 | 3.378     | 0.0       | 1.002     | 532911   | 0.2726          |                 | 109  | 10318 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |           |           |           |          |                 |                 |      |       |       |
| 527.00 > 507.00                       | 3.401 | 3.402     | -0.001    | 1.000     | 121442   | 0.2527          |                 | 106  | 4483  |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 529.00 > 81.00                        | 3.401 | 3.403     | -0.002    | 1.275     | 916789   | 2.29            |                 | 95.6 | 13620 |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 470.00                       | 3.408 | 3.414     | -0.006    | 1.278     | 3075185  | 2.41            |                 | 96.5 | 29088 |       |
| 24 Perfluorodecanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 513.00 > 469.00                       | 3.408 | 3.414     | -0.006    | 1.000     | 277028   | 0.2285          |                 | 91.4 | 1235  |       |
| 513.00 > 169.00                       | 3.408 | 3.414     | -0.006    | 1.000     | 55091    |                 | 5.03(2.36-7.09) | 91.4 | 1417  |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 573.00 > 419.00                       | 3.567 | 3.569     | -0.002    | 1.338     | 1603494  | 2.43            |                 | 97.3 | 20022 |       |
| 28 N-methyl perfluorooctane sulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 570.00 > 419.00                       | 3.574 | 3.574     | 0.0       | 1.002     | 173841   | 0.2560          |                 | 102  | 1450  |       |
| 29 Perfluorodecane Sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 599.00 > 80.00                        | 3.723 | 3.730     | -0.007    | 1.000     | 242327   | 0.2593          |                 | 108  | 6362  |       |
| 599.00 > 99.00                        | 3.723 | 3.730     | -0.007    | 1.000     | 78845    |                 | 3.07(1.39-4.16) | 108  | 2063  |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.740 | 3.740     | 0.0       | 1.403     | 1645600  | 2.45            |                 | 98.0 | 10586 |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.740 | 3.746  | -0.006 | 1.000  | 215650   | 0.2312       |                 | 92.5 | 1260  |       |
| 563.00 > 169.00                       | 3.740 | 3.746  | -0.006 | 1.000  | 51272    |              | 4.21(0.00-0.00) | 92.5 | 2779  |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.740 | 3.747  | -0.007 | 1.403  | 2488514  | 2.58         |                 | 103  | 25565 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.740 | 3.747  | -0.007 | 1.000  | 161240   | 0.2538       |                 | 102  | 4096  |       |
| D 34 d-N-MeFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 169.00                       | 3.865 | 3.867  | -0.002 | 1.449  | 1434437  | 2.31         |                 | 92.3 | 3395  |       |
| 35 MeFOSA                             |       |        |        |        |          |              |                 |      |       |       |
| 512.00 > 169.00                       | 3.875 | 3.873  | 0.002  | 1.003  | 144476   | 0.2609       |                 | 104  | 1982  |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.044 | 4.045  | -0.001 | 1.517  | 2564160  | 2.45         |                 | 97.8 | 27821 |       |
| 37 Perfluorododecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 613.00 > 569.00                       | 4.044 | 4.045  | -0.001 | 1.000  | 263014   | 0.2583       |                 | 103  | 974   |       |
| 613.00 > 169.00                       | 4.044 | 4.045  | -0.001 | 1.000  | 63718    |              | 4.13(2.13-6.40) | 103  | 3151  |       |
| D 38 d-N-EtFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 531.00 > 169.00                       | 4.059 | 4.058  | 0.001  | 1.522  | 1387238  | 2.34         |                 | 93.7 | 3120  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |        |        |        |          |              |                 |      |       |       |
| 526.00 > 169.00                       | 4.067 | 4.065  | 0.002  | 1.002  | 158363   | 0.2633       |                 | 105  | 2260  |       |
| 41 Perfluorotridecanoic acid          |       |        |        |        |          |              |                 |      |       |       |
| 663.00 > 619.00                       | 4.313 | 4.312  | 0.001  | 1.000  | 291263   | 0.2635       |                 | 105  | 1030  |       |
| 663.00 > 169.00                       | 4.313 | 4.312  | 0.001  | 1.000  | 87311    |              | 3.34(1.25-3.76) | 105  | 3626  |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.554 | 4.557  | -0.003 | 1.708  | 2986990  | 2.62         |                 | 105  | 19238 |       |
| 42 Perfluorotetradecanoic acid        |       |        |        |        |          |              |                 |      |       |       |
| 713.00 > 169.00                       | 4.554 | 4.557  | -0.003 | 1.000  | 73103    | 0.2404       |                 | 96.2 | 3169  |       |
| 713.00 > 219.00                       | 4.554 | 4.557  | -0.003 | 1.000  | 49116    |              | 1.49(0.71-2.13) | 96.2 | 2105  |       |
| D 44 13C2-PFHxDA                      |       |        |        |        |          |              |                 |      |       |       |
| 815.00 > 770.00                       | 4.984 | 4.984  | 0.0    | 1.869  | 5204116  | 2.49         |                 | 99.6 | 17138 |       |
| 45 Perfluorohexadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 813.00 > 769.00                       | 4.984 | 4.984  | 0.0    | 1.000  | 475445   | 0.2443       |                 | 97.7 | 290   |       |
| 813.00 > 169.00                       | 4.984 | 4.984  | 0.0    | 1.000  | 92673    |              | 5.13(2.86-8.58) | 97.7 | 2410  |       |
| 46 Perfluorooctadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 913.00 > 869.00                       | 5.359 | 5.361  | -0.002 | 1.000  | 592170   | 0.2647       |                 | 106  | 157   |       |
| 913.00 > 169.00                       | 5.359 | 5.361  | -0.002 | 1.000  | 73825    |              | 8.02(0.00-0.00) | 106  | 872   |       |

## Reagents:

LCPFC\_LL3\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_004.d

Injection Date: 26-Dec-2017 17:11:33

Instrument ID: A8\_N

Lims ID: IC L3 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 12

Worklist Smp#: 4

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

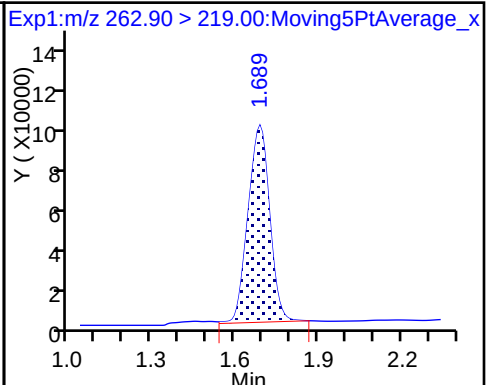
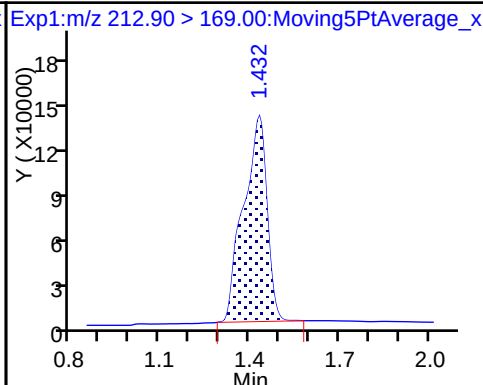
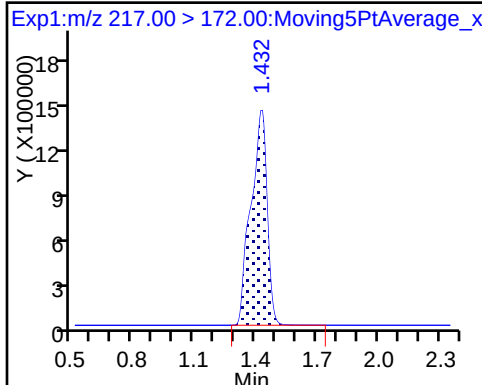
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

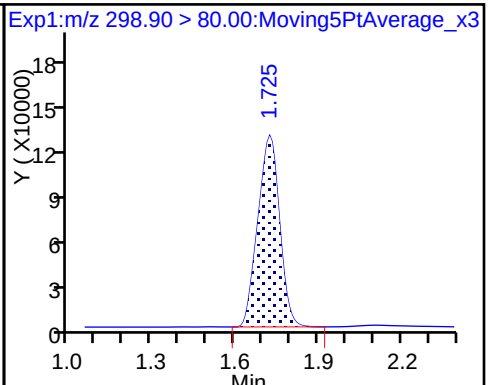
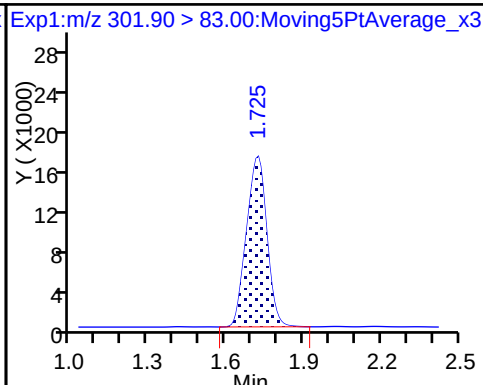
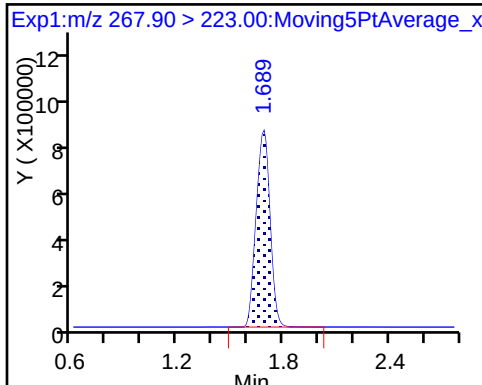
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

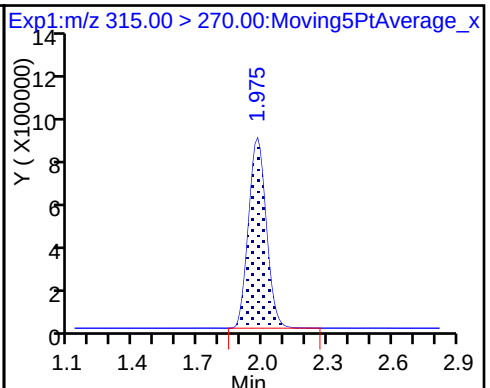
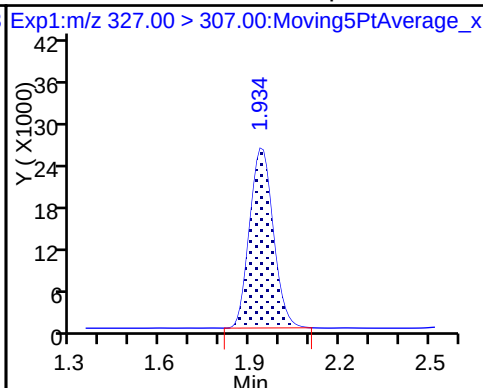
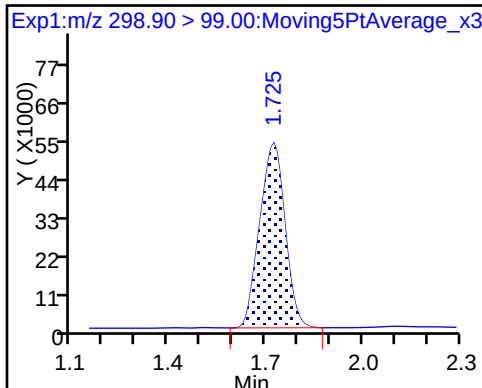
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

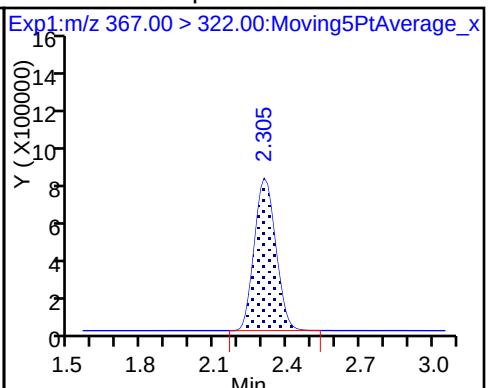
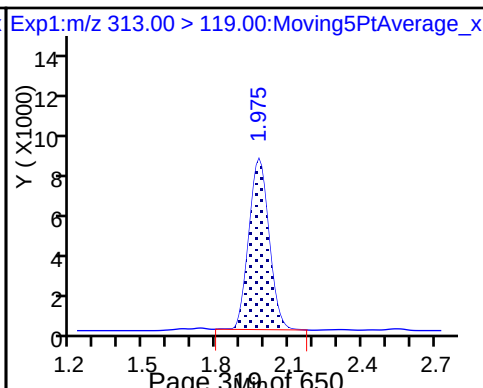
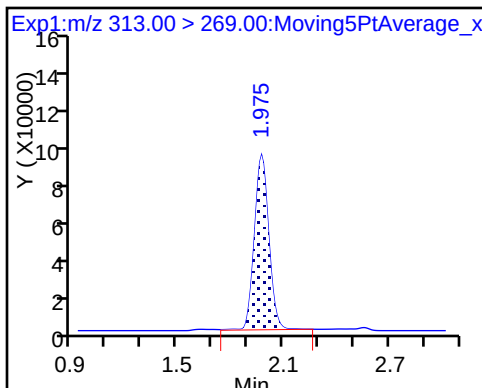
De 7 13C2 PFHxA

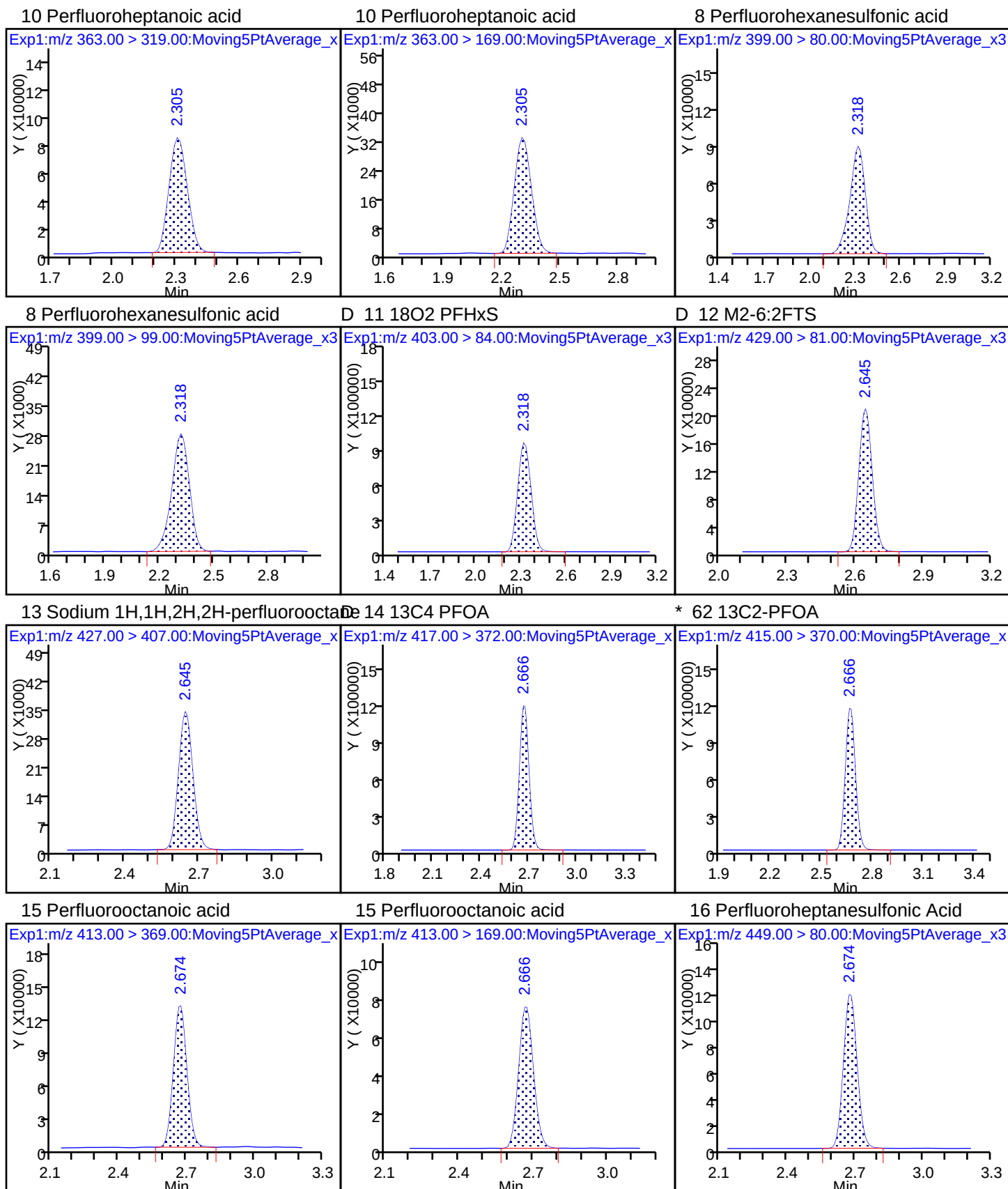


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

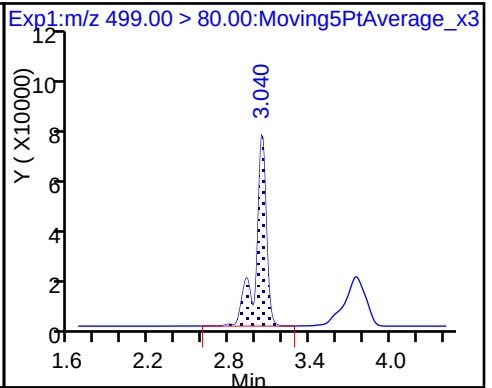
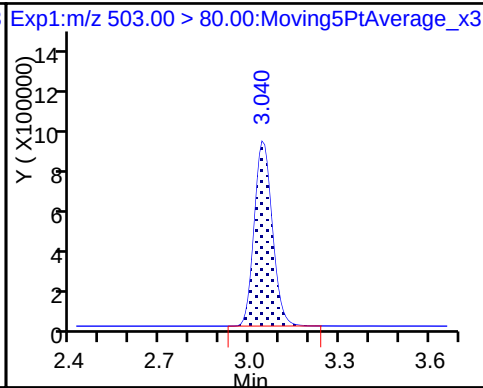
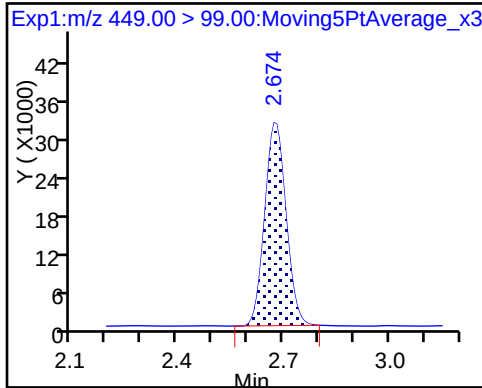




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

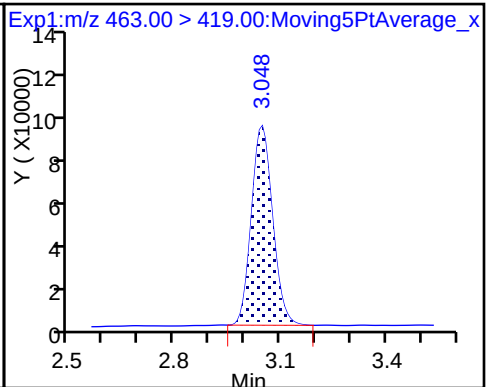
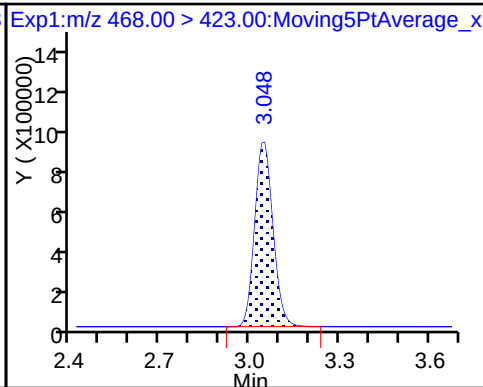
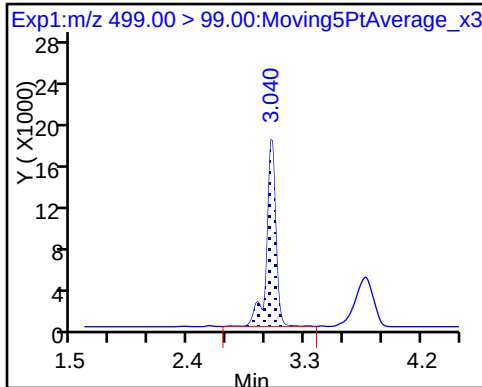
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

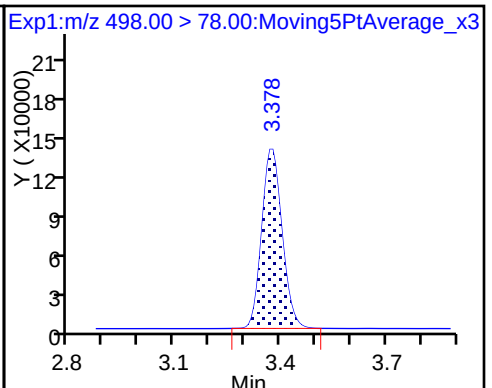
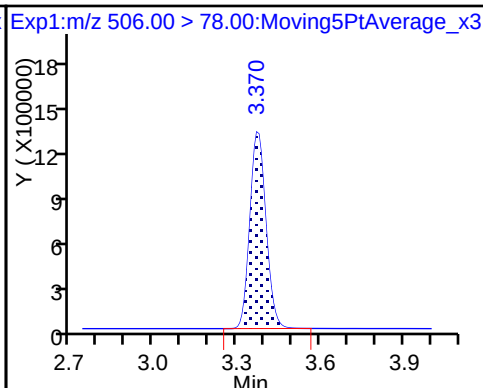
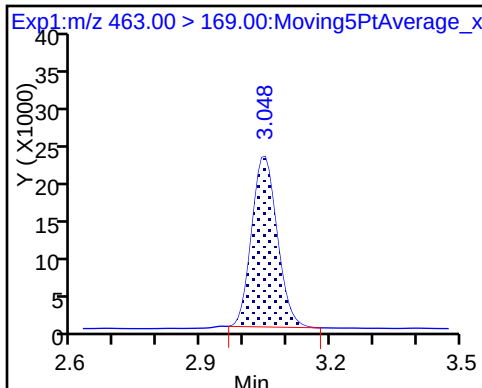
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

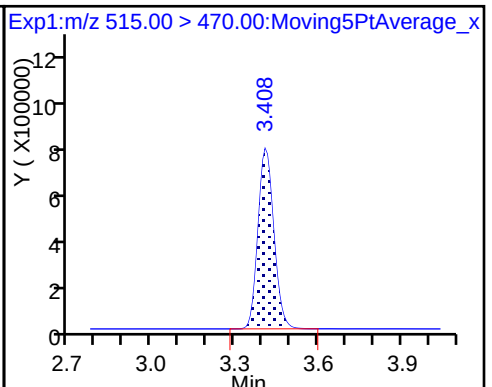
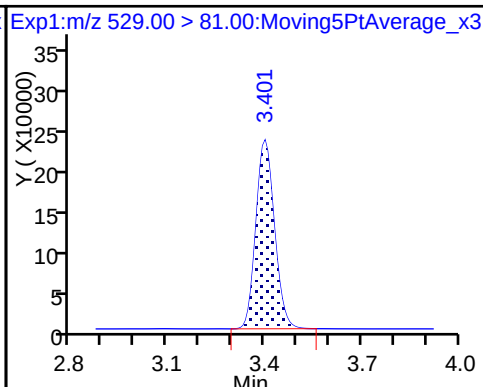
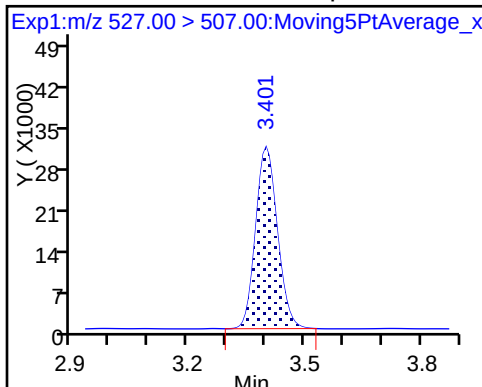
22 Perfluorooctane Sulfonamide

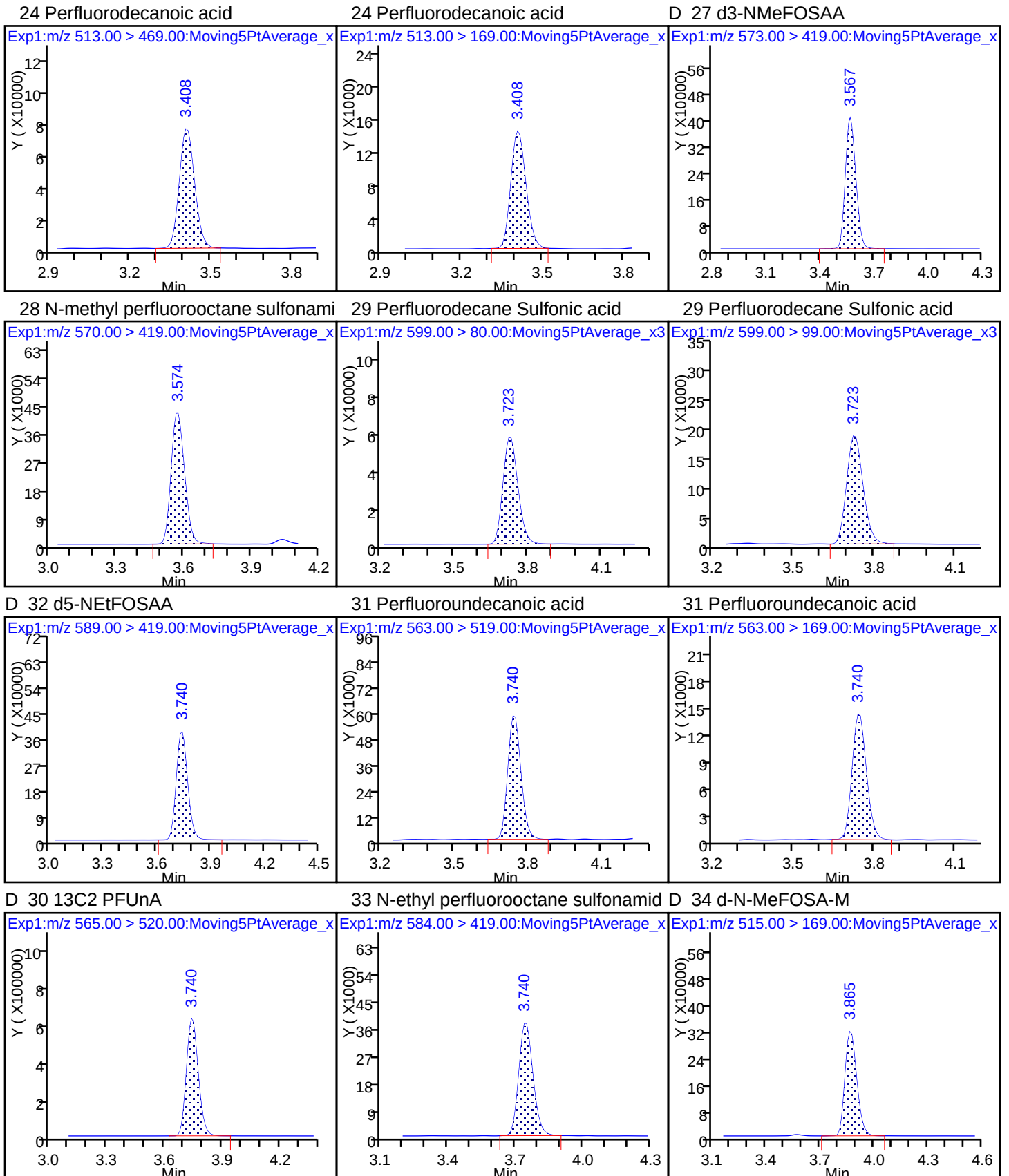


25 Sodium 1H,1H,2H,2H-perfluorodeca

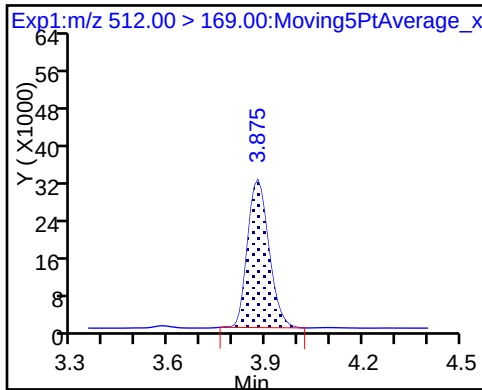
De26 M2-8:2FTS

D 23 13C2 PFDA

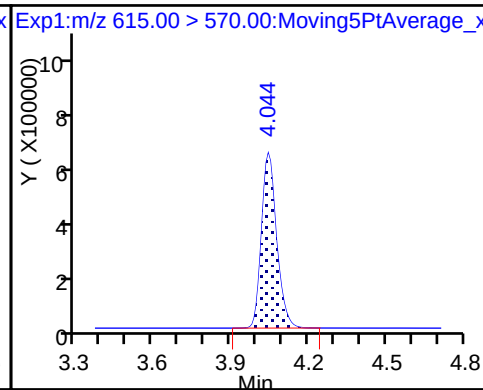




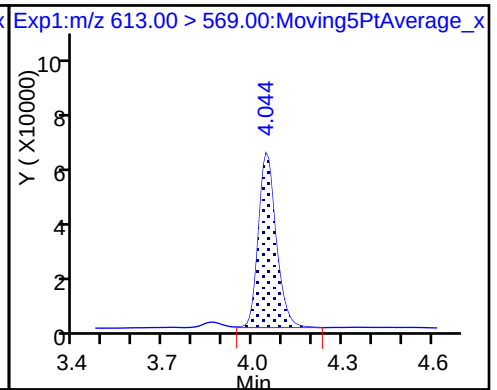
35 MeFOSA



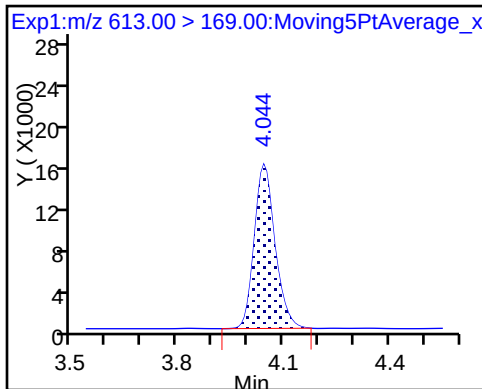
D 36 13C2 PFDaA



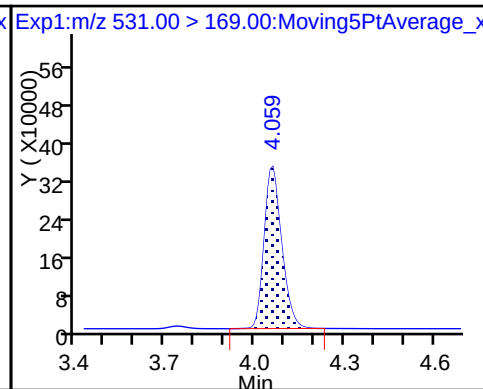
37 Perfluorododecanoic acid



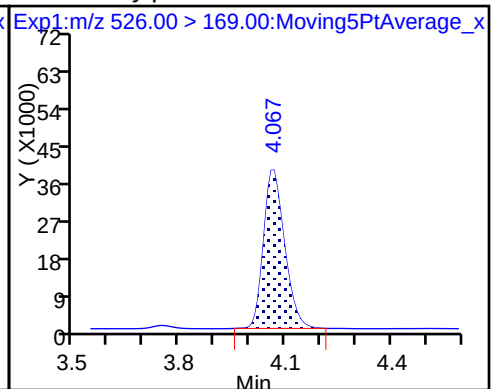
37 Perfluorododecanoic acid



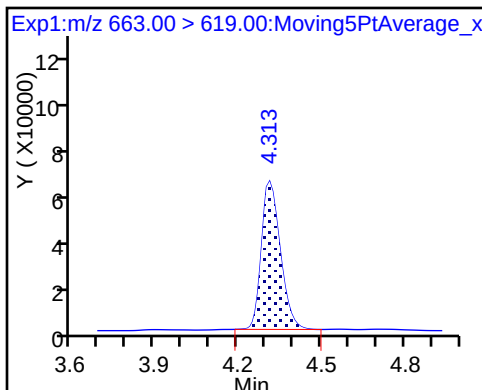
D 38 d-N-EtFOSA-M



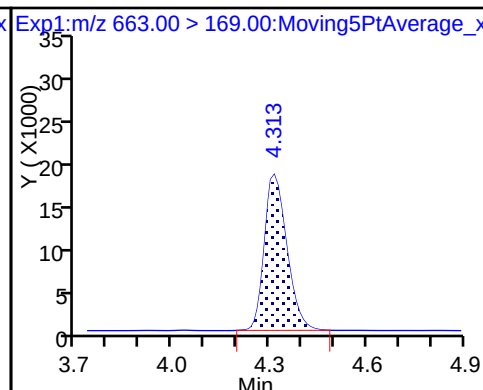
39 N-ethylperfluoro-1-octanesulfonami



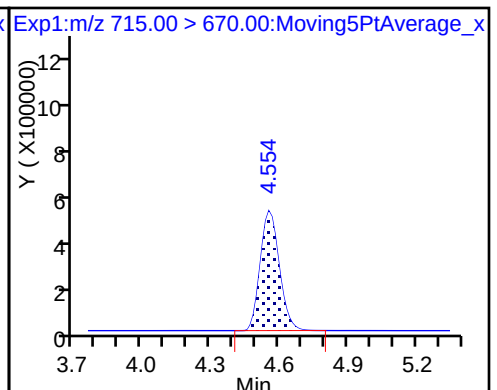
41 Perfluorotridecanoic acid



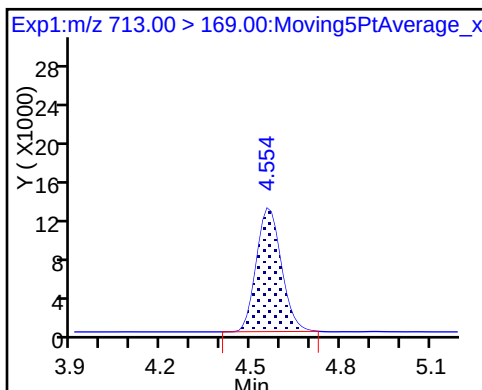
41 Perfluorotridecanoic acid



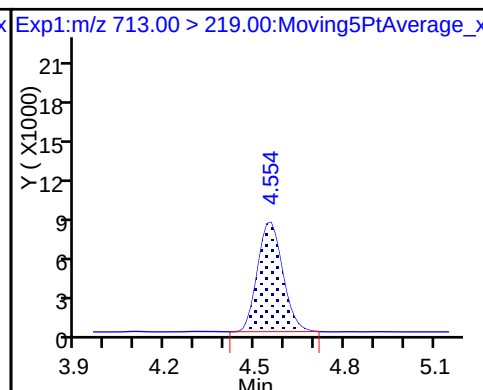
D 43 13C2-PFTeDA



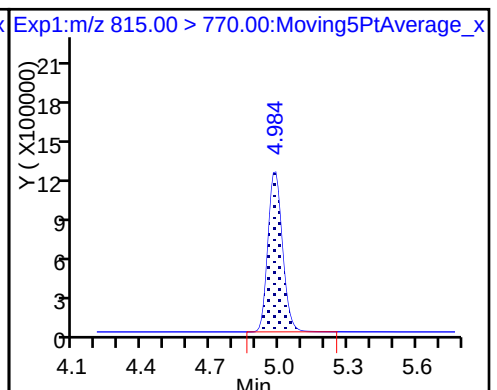
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



D 44 13C2-PFHxDA

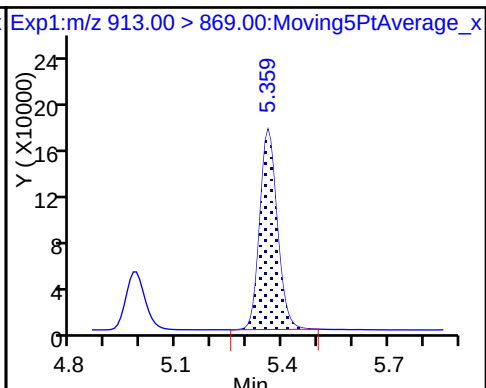
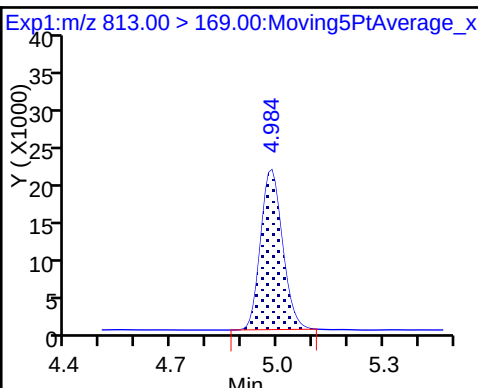
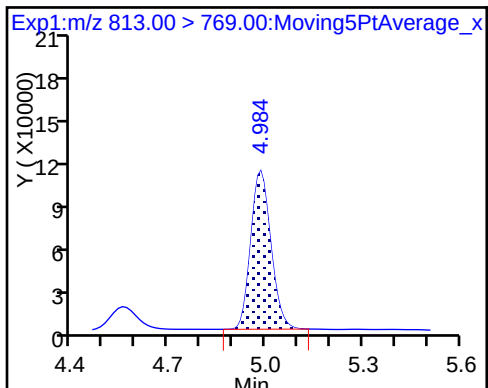




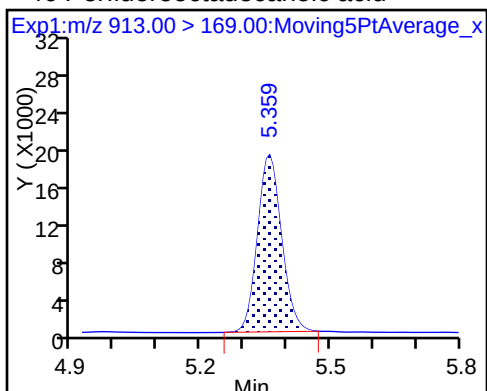
## 45 Perfluorohexadecanoic acid

## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid



## 46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_005.d  
 Lims ID: IC L4 Full  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 26-Dec-2017 17:19:20 ALS Bottle#: 13 Worklist Smp#: 5  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L4-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 08:56:32 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 08:33:19

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433  | -0.001 | 0.536  | 7777171  | 2.52         |                   | 101  | 22799 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.432 | 1.434  | -0.002 | 1.000  | 2950135  | 1.04         |                   | 104  | 660   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.690 | 1.691  | -0.001 | 1.000  | 2085741  | 1.01         |                   | 101  | 1874  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.690 | 1.692  | -0.002 | 0.632  | 4608857  | 2.56         |                   | 102  | 60828 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.725 | 1.725  | 0.0    | 0.645  | 91938    | 2.35         |                   | 101  | 3415  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.734 | 1.730  | 0.004  | 1.005  | 2759873  | 0.9326       |                   | 105  | 11394 |       |
| 298.90 > 99.00                        | 1.725 | 1.730  | -0.005 | 1.000  | 1125798  |              | 2.45(1.25-3.74)   | 105  | 7915  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.945 | 1.941  | 0.004  | 1.000  | 544834   | 0.8954       |                   | 95.9 | 19526 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.976 | 1.976  | 0.0    | 0.739  | 4862371  | 2.51         |                   | 100  | 42430 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.976 | 1.979  | -0.003 | 1.000  | 1987330  | 1.02         |                   | 102  | 6475  |       |
| 313.00 > 119.00                       | 1.976 | 1.979  | -0.003 | 1.000  | 188164   |              | 10.56(5.03-15.10) | 102  | 5478  |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.306 | 2.311  | -0.005 | 1.000  | 1979668  | 1.05         |                   | 105  | 3382  |       |
| 363.00 > 169.00                       | 2.306 | 2.311  | -0.005 | 1.000  | 751812   |              | 2.63(1.13-3.40)   | 105  | 5572  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.306 | 2.311  | -0.005 | 0.862  | 4499410  | 2.50         |                   | 100  | 34680 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.319 | 2.324  | -0.005 | 0.994  | 2252723  | 0.8829       |                   | 97.0 | 8874  |       |
| 399.00 > 99.00                        | 2.319 | 2.324  | -0.005 | 0.994  | 745132   |              | 3.02(1.50-4.49)   | 97.0 | 4981  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |           |           |           |          |                 |                 |      |       |       |
| 403.00 > 84.00                        | 2.332 | 2.328     | 0.004     | 0.872     | 5521966  | 2.42            |                 | 102  | 32866 |       |
| D 12 M2-6:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 429.00 > 81.00                        | 2.646 | 2.649     | -0.003    | 0.989     | 838193   | 2.46            |                 | 103  | 20294 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |           |           |           |          |                 |                 |      |       |       |
| 427.00 > 407.00                       | 2.646 | 2.651     | -0.005    | 1.000     | 557497   | 0.9420          |                 | 99.4 | 14742 |       |
| D 14 13C4 PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 417.00 > 372.00                       | 2.674 | 2.674     | 0.0       | 1.000     | 4803148  | 2.62            |                 | 105  | 38572 |       |
| * 62 13C2-PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 415.00 > 370.00                       | 2.674 | 2.676     | -0.002    |           | 4464319  | 2.50            |                 |      | 41230 |       |
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 413.00 > 369.00                       | 2.674 | 2.677     | -0.003    | 1.000     | 2026680  | 1.00            |                 | 99.6 | 1363  |       |
| 413.00 > 169.00                       | 2.674 | 2.677     | -0.003    | 1.000     | 1057501  |                 | 1.92(0.84-2.52) | 99.6 | 7660  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |           |           |           |          |                 |                 |      |       |       |
| 449.00 > 80.00                        | 2.681 | 2.683     | -0.002    | 1.000     | 1844898  | 0.9535          |                 | 100  | 17649 |       |
| 449.00 > 99.00                        | 2.681 | 2.683     | -0.002    | 1.000     | 520223   |                 | 3.55(1.94-5.82) | 100  | 13676 |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |      |       |       |
| 503.00 > 80.00                        | 3.050 | 3.048     | 0.002     | 1.140     | 3768876  | 2.49            |                 | 104  | 25234 |       |
| 17 Perfluorooctane sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 499.00 > 80.00                        | 3.050 | 3.050     | 0.0       | 1.000     | 1585381  | 0.9368          |                 | 101  | 402   |       |
| 499.00 > 99.00                        | 3.050 | 3.050     | 0.0       | 1.000     | 321908   |                 | 4.92(2.31-6.93) | 101  | 444   |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |      |       |       |
| 468.00 > 423.00                       | 3.050 | 3.051     | -0.001    | 1.140     | 3730637  | 2.54            |                 | 102  | 33169 |       |
| 20 Perfluorononanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 463.00 > 419.00                       | 3.050 | 3.052     | -0.002    | 1.000     | 1475904  | 1.02            |                 | 102  | 3191  |       |
| 463.00 > 169.00                       | 3.050 | 3.052     | -0.002    | 1.000     | 363728   |                 | 4.06(1.90-5.69) | 102  | 10961 |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |      |       |       |
| 506.00 > 78.00                        | 3.380 | 3.377     | 0.003     | 1.264     | 5167594  | 2.52            |                 | 101  | 29169 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378     | 0.002     | 1.000     | 2046159  | 1.04            |                 | 104  | 22356 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |           |           |           |          |                 |                 |      |       |       |
| 527.00 > 507.00                       | 3.403 | 3.402     | 0.001     | 1.000     | 460111   | 1.01            |                 | 105  | 12697 |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 529.00 > 81.00                        | 3.403 | 3.403     | 0.0       | 1.272     | 869900   | 2.32            |                 | 97.0 | 18317 |       |
| 24 Perfluorodecanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 513.00 > 469.00                       | 3.410 | 3.414     | -0.004    | 1.000     | 1192652  | 0.99            |                 | 99.5 | 6157  |       |
| 513.00 > 169.00                       | 3.410 | 3.414     | -0.004    | 1.000     | 222211   |                 | 5.37(2.36-7.09) | 99.5 | 2473  |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 470.00                       | 3.410 | 3.414     | -0.004    | 1.275     | 3040696  | 2.55            |                 | 102  | 28352 |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 573.00 > 419.00                       | 3.569 | 3.569     | 0.0       | 1.335     | 1572643  | 2.55            |                 | 102  | 17497 |       |
| 28 N-methyl perfluorooctane sulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 570.00 > 419.00                       | 3.576 | 3.574     | 0.002     | 1.002     | 653198   | 0.9808          |                 | 98.1 | 5203  |       |
| 29 Perfluorodecane Sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 599.00 > 80.00                        | 3.734 | 3.730     | 0.004     | 1.000     | 885572   | 0.9485          |                 | 98.4 | 18887 |       |
| 599.00 > 99.00                        | 3.734 | 3.730     | 0.004     | 1.000     | 307976   |                 | 2.88(1.39-4.16) | 98.4 | 7221  |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.743 | 3.740     | 0.003     | 1.400     | 1670090  | 2.66            |                 | 106  | 9985  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.751 | 3.746  | 0.005  | 1.000  | 841868   | 0.9742       |                 | 97.4 | 4290  |       |
| 563.00 > 169.00                       | 3.751 | 3.746  | 0.005  | 1.000  | 178596   |              | 4.71(0.00-0.00) | 97.4 | 9487  |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.751 | 3.747  | 0.004  | 1.002  | 625935   | 0.9707       |                 | 97.1 | 10428 |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.751 | 3.747  | 0.004  | 1.403  | 2306014  | 2.56         |                 | 102  | 25525 |       |
| D 34 d-N-MeFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 169.00                       | 3.867 | 3.867  | 0.0    | 1.446  | 1406560  | 2.42         |                 | 96.8 | 3269  |       |
| 35 MeFOSA                             |       |        |        |        |          |              |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.873  | 0.004  | 1.003  | 585874   | 1.08         |                 | 108  | 3190  |       |
| 37 Perfluorododecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 613.00 > 569.00                       | 4.046 | 4.045  | 0.001  | 1.000  | 959989   | 0.9771       |                 | 97.7 | 2911  |       |
| 613.00 > 169.00                       | 4.046 | 4.045  | 0.001  | 1.000  | 253954   |              | 3.78(2.13-6.40) | 97.7 | 15448 |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.046 | 4.045  | 0.001  | 1.513  | 2473793  | 2.52         |                 | 101  | 27540 |       |
| D 38 d-N-EtFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 531.00 > 169.00                       | 4.062 | 4.058  | 0.004  | 1.519  | 1375190  | 2.48         |                 | 99.4 | 2997  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |        |        |        |          |              |                 |      |       |       |
| 526.00 > 169.00                       | 4.070 | 4.065  | 0.005  | 1.002  | 578423   | 0.9703       |                 | 97.0 | 2896  |       |
| 41 Perfluorotridecanoic acid          |       |        |        |        |          |              |                 |      |       |       |
| 663.00 > 619.00                       | 4.315 | 4.312  | 0.003  | 1.000  | 1058292  | 0.99         |                 | 99.3 | 3565  |       |
| 663.00 > 169.00                       | 4.315 | 4.312  | 0.003  | 1.000  | 345329   |              | 3.06(1.25-3.76) | 99.3 | 14547 |       |
| 42 Perfluorotetradecanoic acid        |       |        |        |        |          |              |                 |      |       |       |
| 713.00 > 169.00                       | 4.556 | 4.557  | -0.001 | 1.000  | 269030   | 0.9714       |                 | 97.1 | 7679  |       |
| 713.00 > 219.00                       | 4.556 | 4.557  | -0.001 | 1.000  | 195112   |              | 1.38(0.71-2.13) | 97.1 | 8413  |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.556 | 4.557  | -0.001 | 1.704  | 2720794  | 2.55         |                 | 102  | 17950 |       |
| 45 Perfluorohexadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 813.00 > 769.00                       | 4.986 | 4.984  | 0.002  | 1.000  | 1829712  | 1.05         |                 | 105  | 1096  |       |
| 813.00 > 169.00                       | 4.986 | 4.984  | 0.002  | 1.000  | 317309   |              | 5.77(2.86-8.58) | 105  | 4933  |       |
| D 44 13C2-PFHxDA                      |       |        |        |        |          |              |                 |      |       |       |
| 815.00 > 770.00                       | 4.986 | 4.984  | 0.002  | 1.864  | 4996906  | 2.56         |                 | 102  | 13867 |       |
| 46 Perfluorooctadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 913.00 > 869.00                       | 5.360 | 5.361  | -0.001 | 1.000  | 2159431  | 1.01         |                 | 101  | 511   |       |
| 913.00 > 169.00                       | 5.360 | 5.361  | -0.001 | 1.000  | 277618   |              | 7.78(0.00-0.00) | 101  | 2191  |       |

## Reagents:

LCPFC\_LL4\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26\ICALA\_005.d

Injection Date: 26-Dec-2017 17:19:20

Instrument ID: A8\_N

Lims ID: IC L4 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 13

Worklist Smp#: 5

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

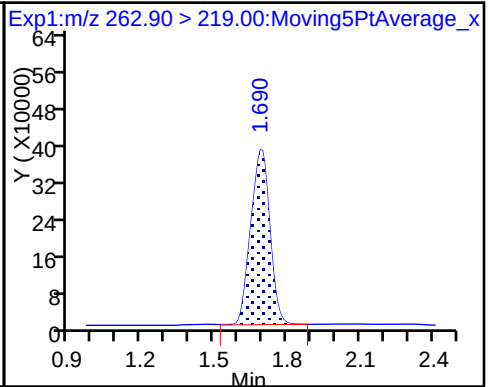
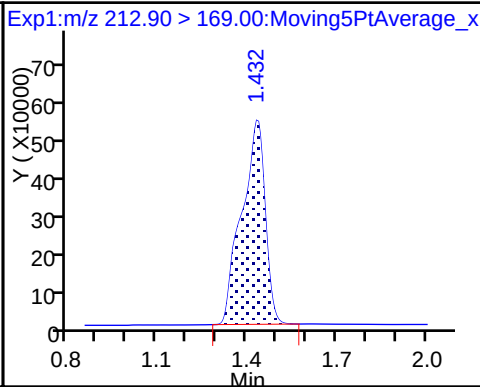
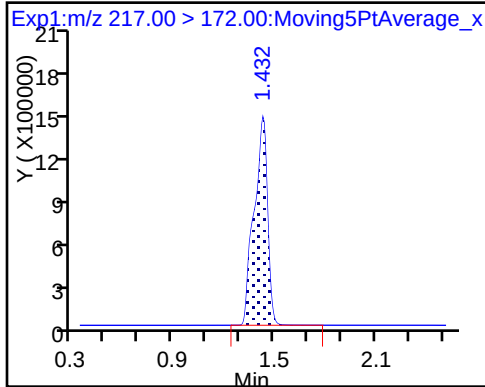
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

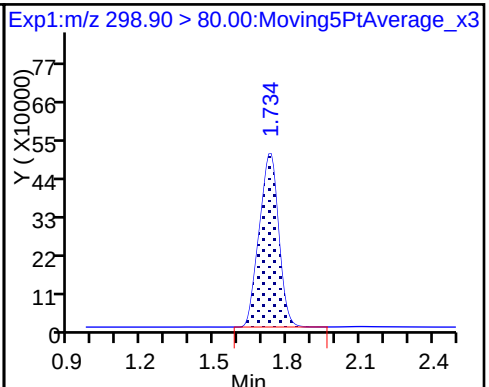
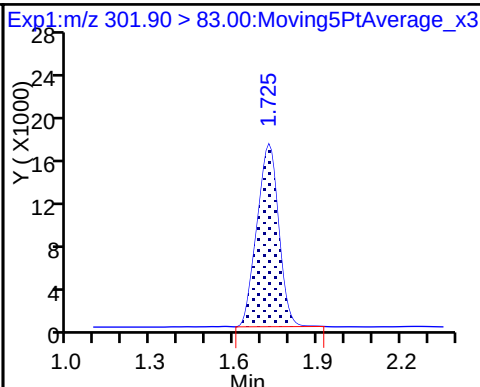
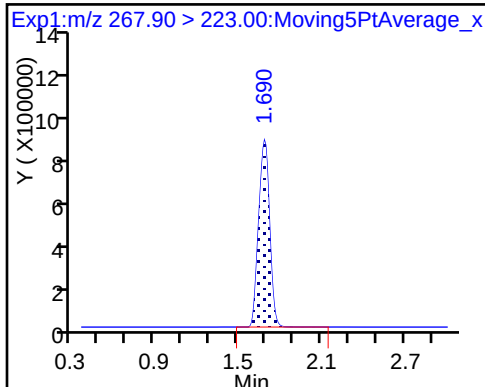
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

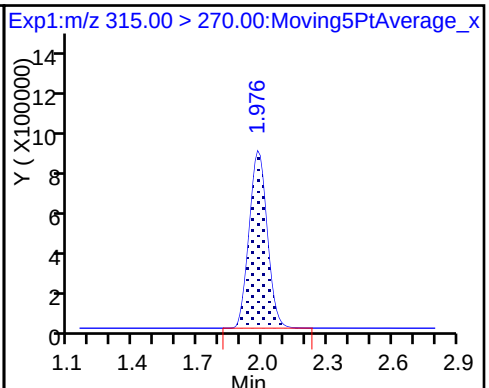
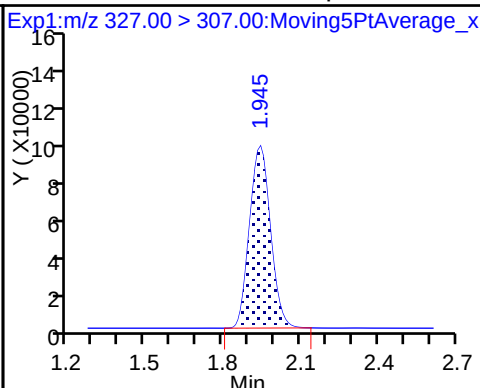
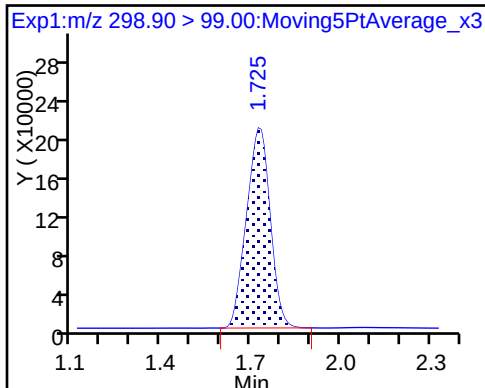
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

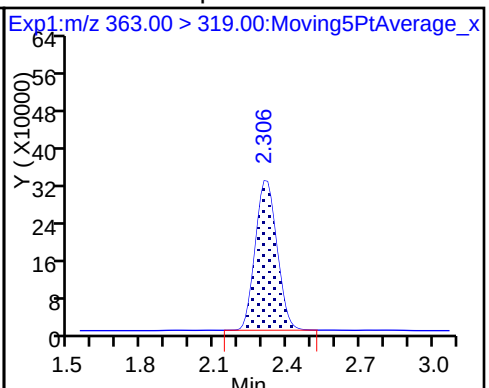
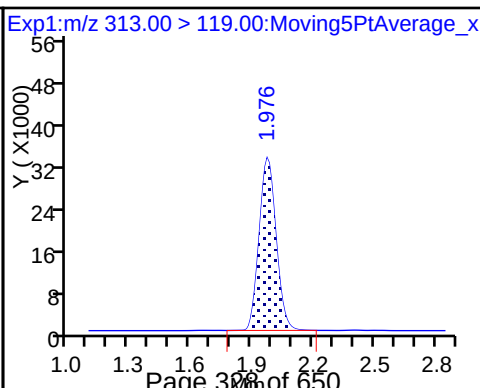
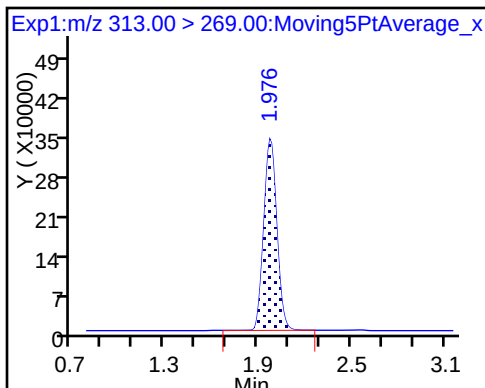
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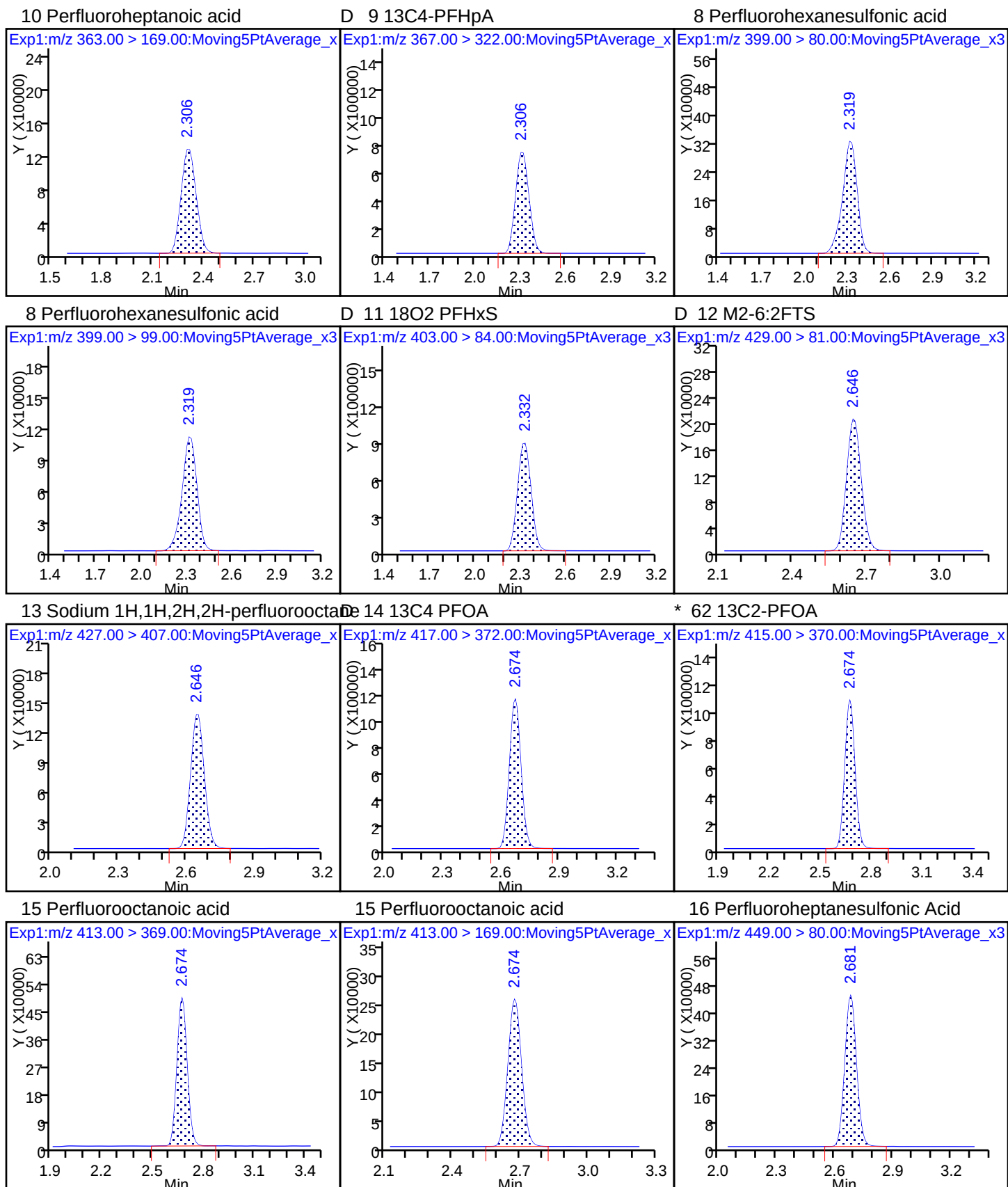


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

10 Perfluoroheptanoic acid

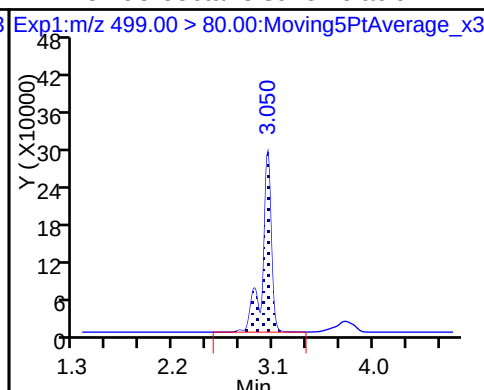
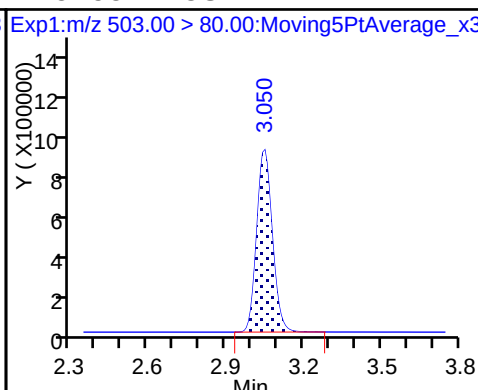
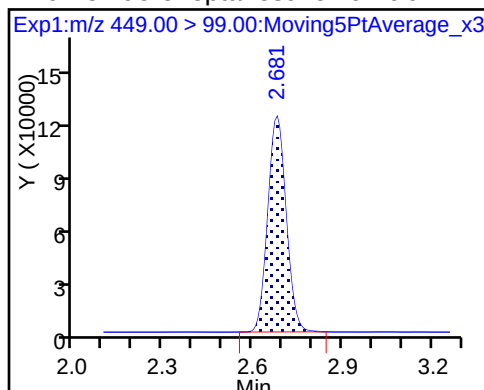




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

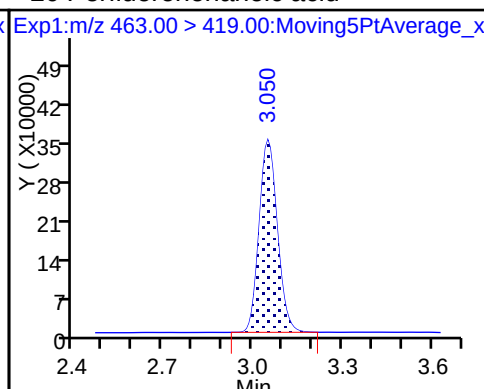
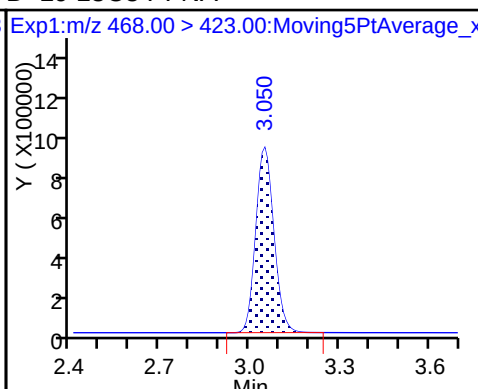
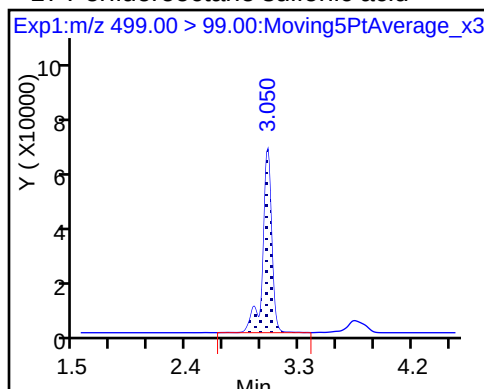
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

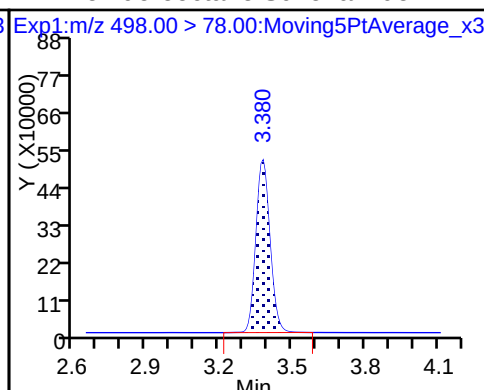
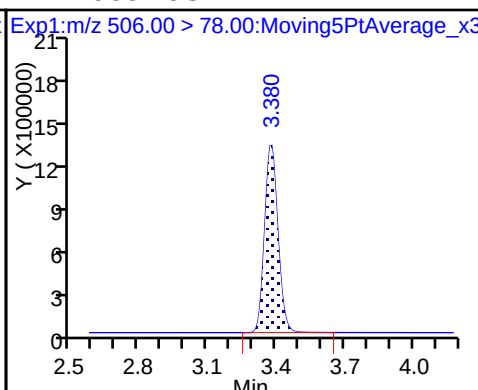
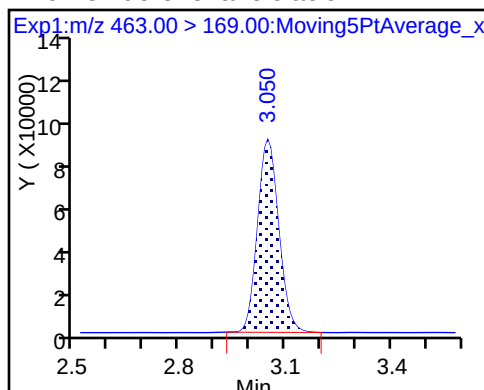
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

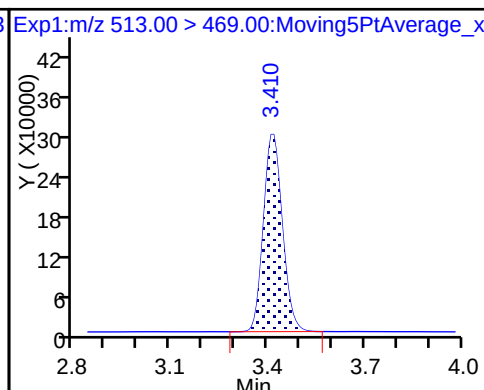
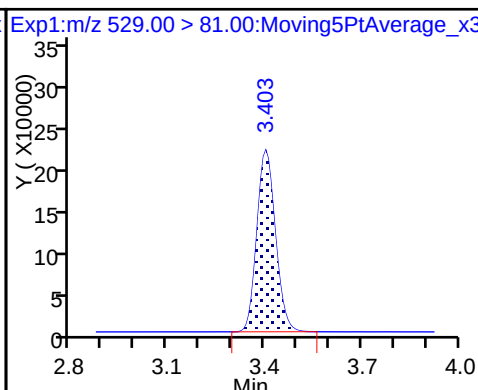
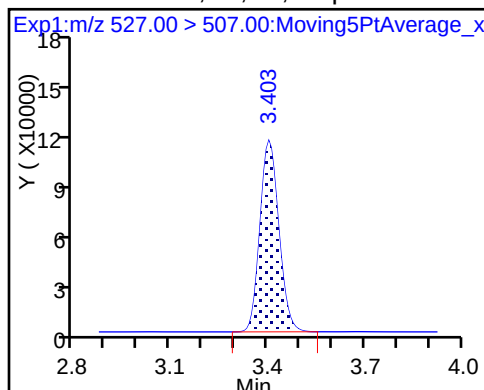
22 Perfluorooctane Sulfonamide

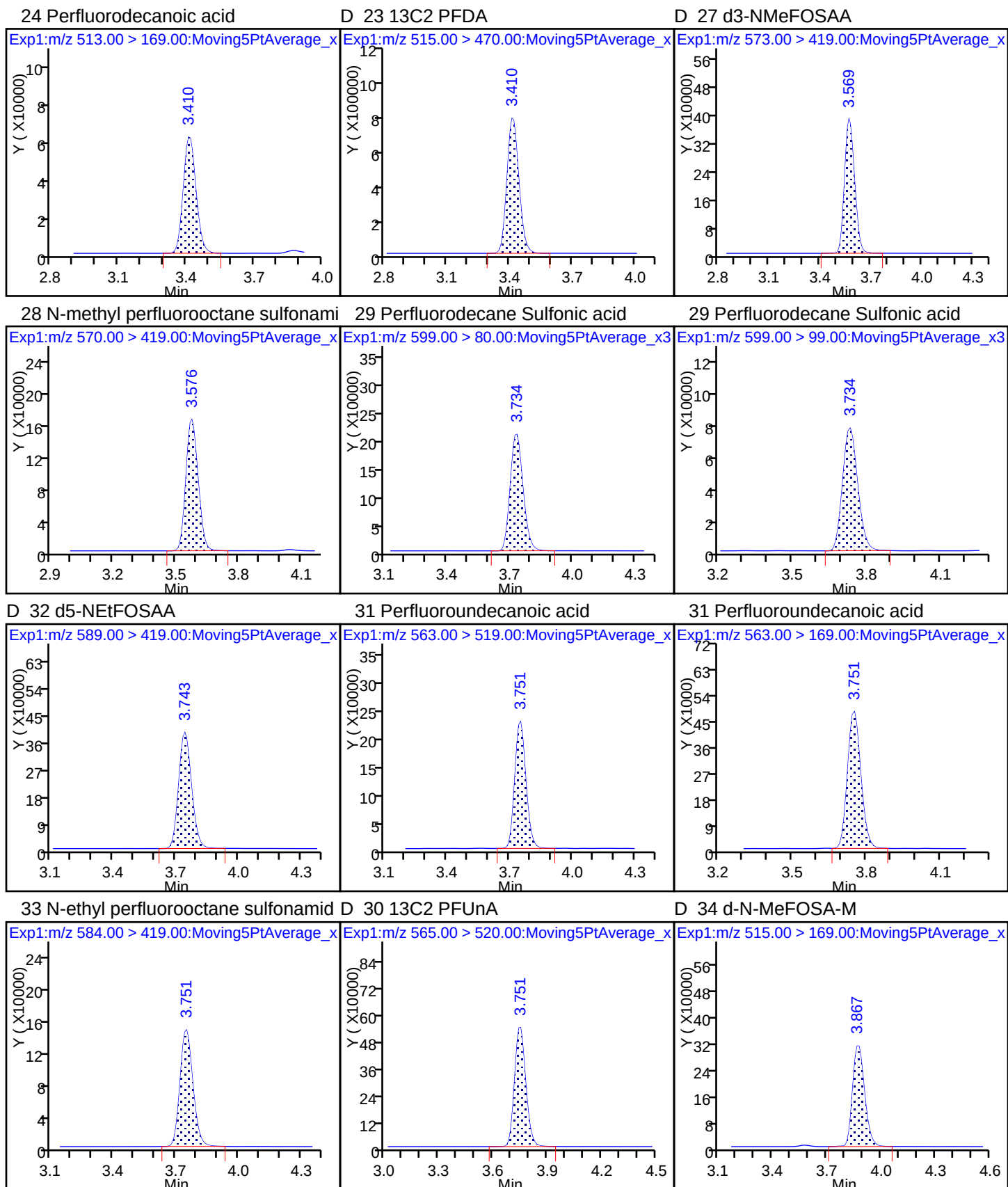


25 Sodium 1H,1H,2H,2H-perfluorodecanoate

De26 M2-8:2FTS

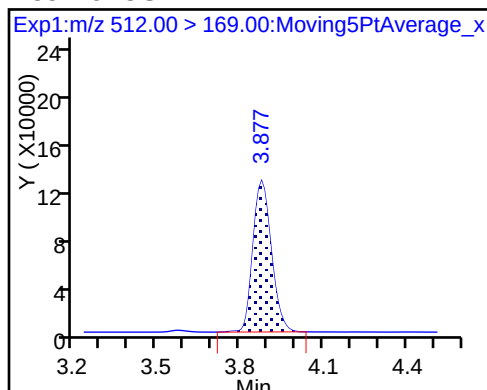
24 Perfluorodecanoic acid



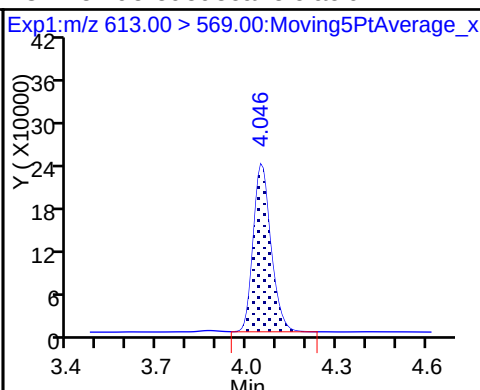




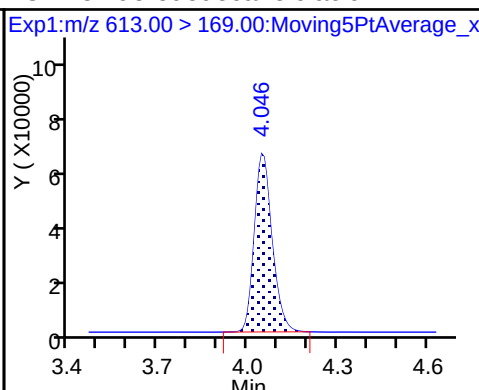
35 MeFOSA



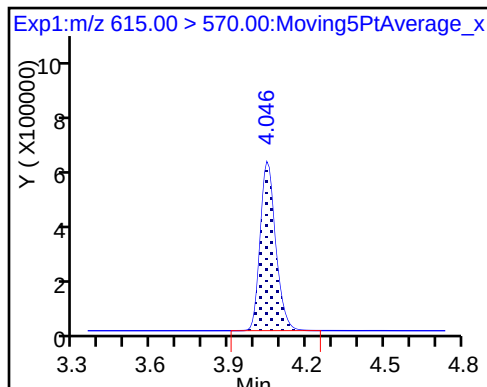
37 Perfluorododecanoic acid



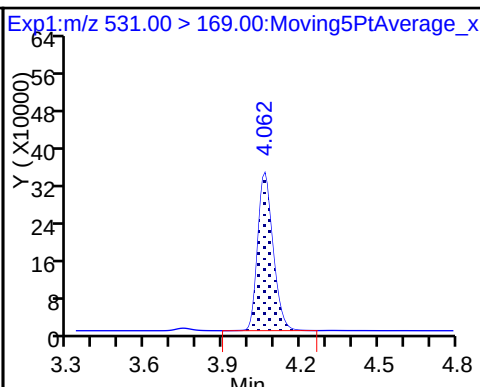
37 Perfluorododecanoic acid



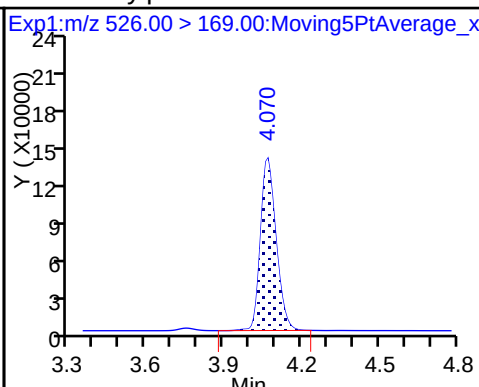
D 36 13C2 PFDaA



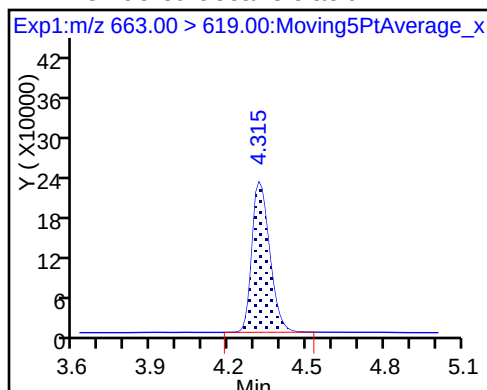
D 38 d-N-EtFOSA-M



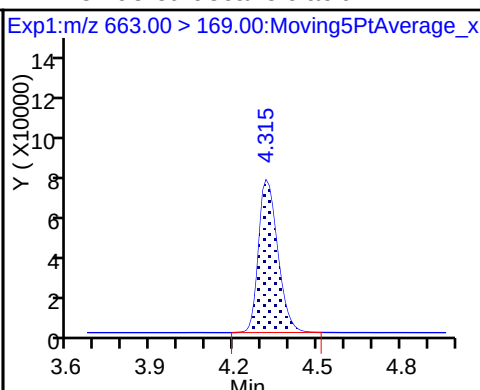
39 N-ethylperfluoro-1-octanesulfonami



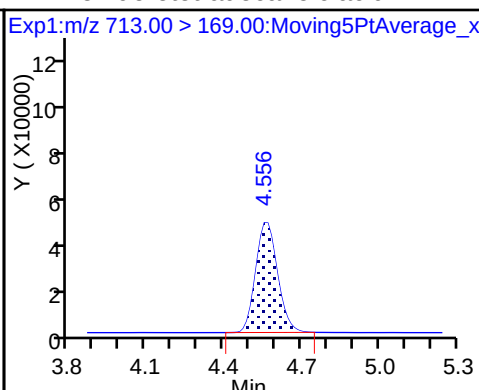
41 Perfluorotridecanoic acid



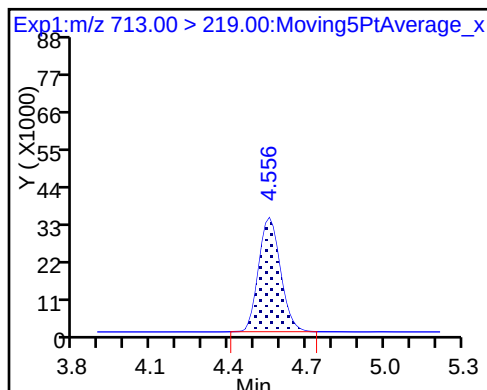
41 Perfluorotridecanoic acid



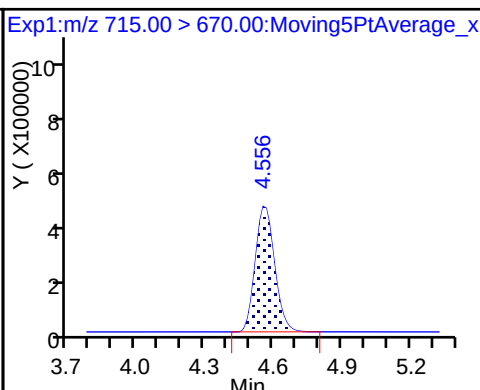
42 Perfluorotetradecanoic acid



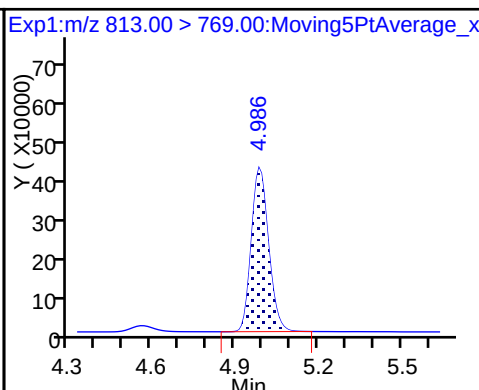
42 Perfluorotetradecanoic acid



D 43 13C2-PFTeDA



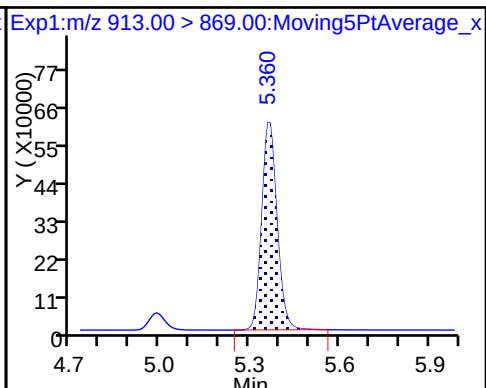
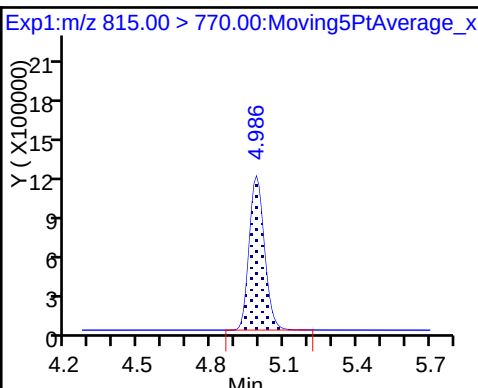
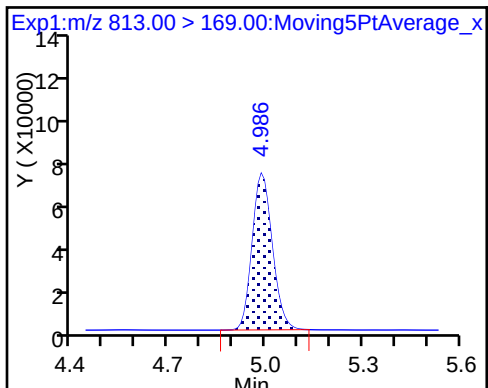
45 Perfluorohexadecanoic acid



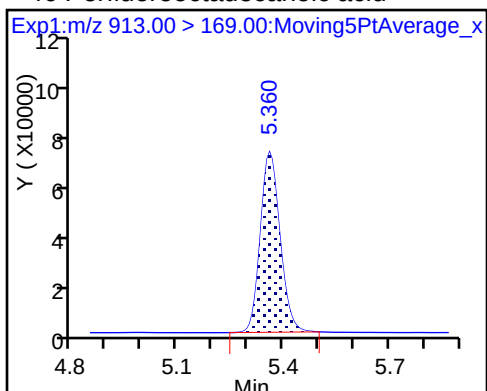
45 Perfluorohexadecanoic acid

D 44 13C2-PFHxDA

46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_006.d  
 Lims ID: IC L5 Full  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 26-Dec-2017 17:27:07 ALS Bottle#: 14 Worklist Smp#: 6  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L5-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 08:56:36 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 08:34:27

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433  | -0.001 | 0.536  | 7592270  | 2.41         |                   | 96.4 | 20813 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.438 | 1.434  | 0.004  | 1.004  | 7215132  | 2.60         |                   | 104  | 2105  |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.697 | 1.691  | 0.006  | 1.000  | 5057994  | 2.50         |                   | 99.9 | 4753  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.697 | 1.692  | 0.005  | 0.635  | 4512747  | 2.46         |                   | 98.3 | 43838 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.723 | 1.725  | -0.002 | 0.645  | 94194    | 2.37         |                   | 102  | 3443  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.732 | 1.730  | 0.002  | 1.005  | 6842853  | 2.26         |                   | 102  | 26134 |       |
| 298.90 > 99.00                        | 1.732 | 1.730  | 0.002  | 1.005  | 2815168  |              | 2.43(1.25-3.74)   | 102  | 19651 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.943 | 1.941  | 0.002  | 1.000  | 1343497  | 2.20         |                   | 94.4 | 60592 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.974 | 1.976  | -0.002 | 0.739  | 4748192  | 2.41         |                   | 96.2 | 41016 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.984 | 1.979  | 0.005  | 1.005  | 4814503  | 2.54         |                   | 102  | 10575 |       |
| 313.00 > 119.00                       | 1.984 | 1.979  | 0.005  | 1.005  | 447256   |              | 10.76(5.03-15.10) | 102  | 11086 |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.317 | 2.311  | 0.006  | 0.867  | 4386447  | 2.39         |                   | 95.8 | 26505 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.317 | 2.311  | 0.006  | 1.000  | 4680522  | 2.55         |                   | 102  | 8510  |       |
| 363.00 > 169.00                       | 2.317 | 2.311  | 0.006  | 1.000  | 1835748  |              | 2.55(1.13-3.40)   | 102  | 14189 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.330 | 2.324  | 0.006  | 1.000  | 5204397  | 2.10         |                   | 92.3 | 15735 |       |
| 399.00 > 99.00                        | 2.330 | 2.324  | 0.006  | 1.000  | 1751617  |              | 2.97(1.50-4.49)   | 92.3 | 8041  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.330 | 2.328  | 0.002  | 0.872  | 5363875  | 2.31         |                 | 97.5 | 35220 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.651 | 2.649  | 0.002  | 0.992  | 839958   | 2.42         |                 | 102  | 14359 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.651 | 2.651  | 0.0    | 1.000  | 1293133  | 2.18         |                 | 92.0 | 22082 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.673 | 2.674  | -0.002 | 1.000  | 4631352  | 2.48         |                 | 99.1 | 44809 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.673 | 2.676  | -0.004 |        | 4548772  | 2.50         |                 |      | 42176 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.673 | 2.677  | -0.005 | 1.000  | 4846761  | 2.47         |                 | 98.9 | 2973  |       |
| 413.00 > 169.00                       | 2.673 | 2.677  | -0.005 | 1.000  | 2601855  |              | 1.86(0.84-2.52) | 98.9 | 12623 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.680 | 2.683  | -0.003 | 1.000  | 4556633  | 2.41         |                 | 101  | 37329 |       |
| 449.00 > 99.00                        | 2.680 | 2.683  | -0.003 | 1.000  | 1221389  |              | 3.73(1.94-5.82) | 101  | 18124 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.047 | 3.048  | -0.001 | 1.140  | 3687036  | 2.39         |                 | 100  | 30435 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.047 | 3.050  | -0.003 | 1.000  | 3751539  | 2.27         |                 | 97.7 | 923   |       |
| 499.00 > 99.00                        | 3.047 | 3.050  | -0.003 | 1.000  | 816819   |              | 4.59(2.31-6.93) | 97.7 | 1163  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.047 | 3.051  | -0.004 | 1.140  | 3801137  | 2.54         |                 | 102  | 30588 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.047 | 3.052  | -0.005 | 1.000  | 3563925  | 2.41         |                 | 96.2 | 8064  |       |
| 463.00 > 169.00                       | 3.047 | 3.052  | -0.005 | 1.000  | 896497   |              | 3.98(1.90-5.69) | 96.2 | 17913 |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.376 | 3.377  | -0.001 | 1.263  | 5073935  | 2.43         |                 | 97.3 | 21699 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.376 | 3.378  | -0.002 | 1.000  | 5151365  | 2.67         |                 | 107  | 31556 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.399 | 3.402  | -0.003 | 1.000  | 1111148  | 2.38         |                 | 99.5 | 19889 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.399 | 3.403  | -0.004 | 1.272  | 889422   | 2.33         |                 | 97.3 | 14954 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.414 | 3.414  | 0.0    | 1.278  | 2914623  | 2.40         |                 | 96.0 | 29144 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.414 | 3.414  | 0.0    | 1.000  | 2932219  | 2.55         |                 | 102  | 13553 |       |
| 513.00 > 169.00                       | 3.414 | 3.414  | 0.0    | 1.000  | 514170   |              | 5.70(2.36-7.09) | 102  | 2167  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.572 | 3.569  | 0.003  | 1.337  | 1528404  | 2.44         |                 | 97.4 | 16269 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.572 | 3.574  | -0.002 | 1.000  | 1684592  | 2.60         |                 | 104  | 10710 |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.729 | 3.730  | -0.001 | 1.000  | 2224619  | 2.44         |                 | 101  | 33182 |       |
| 599.00 > 99.00                        | 3.729 | 3.730  | -0.001 | 1.000  | 709285   |              | 3.14(1.39-4.16) | 101  | 11220 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.738 | 3.740  | -0.002 | 1.399  | 1498056  | 2.34         |                 | 93.7 | 7917  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.746 | 3.746     | 0.0       | 1.000     | 1988655  | 2.44            |                 | 97.6 | 10151 |       |
| 563.00 > 169.00                       | 3.746 | 3.746     | 0.0       | 1.000     | 459156   |                 | 4.33(0.00-0.00) | 97.6 | 11247 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.746 | 3.747     | -0.001    | 1.402     | 2175375  | 2.37            |                 | 94.7 | 25597 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.746 | 3.747     | -0.001    | 1.002     | 1547839  | 2.68            |                 | 107  | 19854 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.872 | 3.867     | 0.005     | 1.449     | 1446301  | 2.44            |                 | 97.6 | 3727  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.872 | 3.873     | -0.001    | 1.000     | 1375295  | 2.46            |                 | 98.5 | 2935  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.050 | 4.045     | 0.005     | 1.515     | 2491473  | 2.49            |                 | 99.8 | 25392 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.050 | 4.045     | 0.005     | 1.000     | 2356820  | 2.38            |                 | 95.3 | 8201  |       |
| 613.00 > 169.00                       | 4.050 | 4.045     | 0.005     | 1.000     | 631409   |                 | 3.73(2.13-6.40) | 95.3 | 17068 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.057 | 4.058     | -0.001    | 1.518     | 1369301  | 2.43            |                 | 97.1 | 2573  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.065 | 4.065     | 0.0       | 1.002     | 1416206  | 2.39            |                 | 95.4 | 2677  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.308 | 4.312     | -0.004    | 1.000     | 2653986  | 2.47            |                 | 98.9 | 10197 |       |
| 663.00 > 169.00                       | 4.308 | 4.312     | -0.004    | 1.000     | 862685   |                 | 3.08(1.25-3.76) | 98.9 | 31127 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.560 | 4.557     | 0.003     | 1.706     | 2525276  | 2.33            |                 | 93.0 | 15515 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.560 | 4.557     | 0.003     | 1.000     | 650265   | 2.53            |                 | 101  | 15939 |       |
| 713.00 > 219.00                       | 4.546 | 4.557     | -0.011    | 0.997     | 466221   |                 | 1.39(0.71-2.13) | 101  | 13193 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.988 | 4.984     | 0.004     | 1.866     | 4868961  | 2.45            |                 | 97.8 | 14566 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.988 | 4.984     | 0.004     | 1.000     | 4284648  | 2.55            |                 | 102  | 2299  |       |
| 813.00 > 169.00                       | 4.988 | 4.984     | 0.004     | 1.000     | 769322   |                 | 5.57(2.86-8.58) | 102  | 7423  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.362 | 5.361     | 0.001     | 1.000     | 5460461  | 2.61            |                 | 104  | 1186  |       |
| 913.00 > 169.00                       | 5.362 | 5.361     | 0.001     | 1.000     | 662817   |                 | 8.24(0.00-0.00) | 104  | 2979  |       |

## Reagents:

LCPFC\_LL5\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26\ICALA\_006.d

Injection Date: 26-Dec-2017 17:27:07

Instrument ID: A8\_N

Lims ID: IC L5 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 14

Worklist Smp#: 6

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

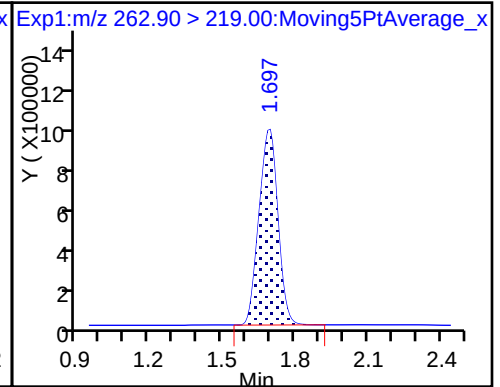
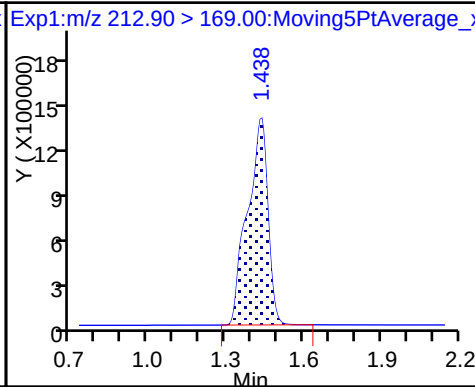
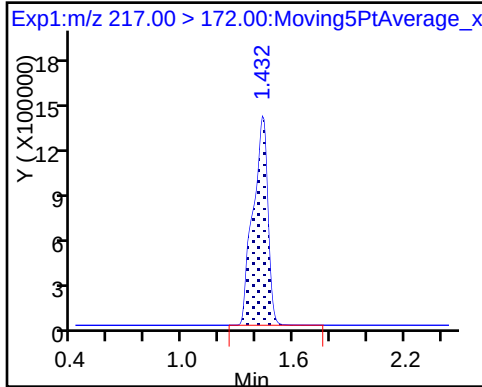
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

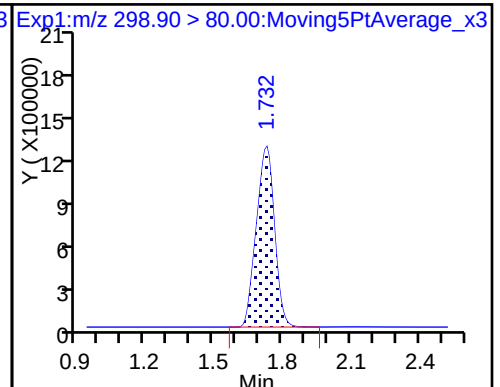
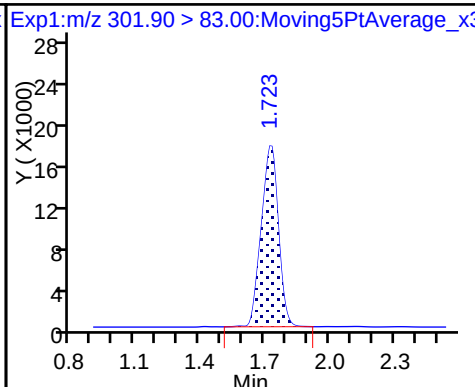
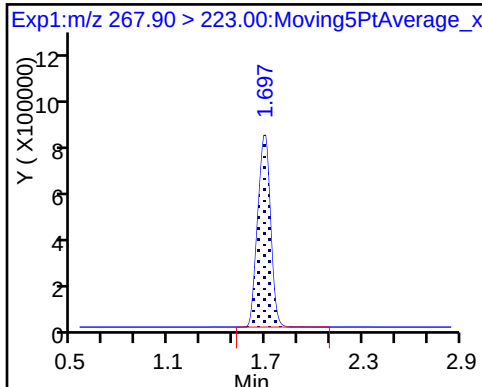
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

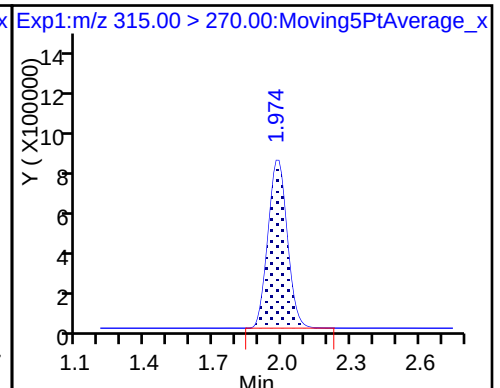
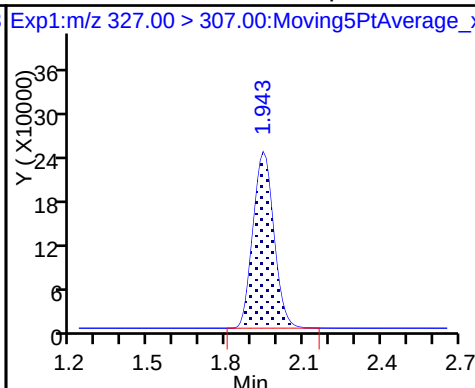
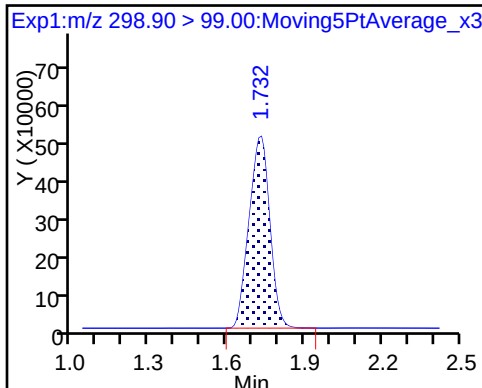
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexadecanoate

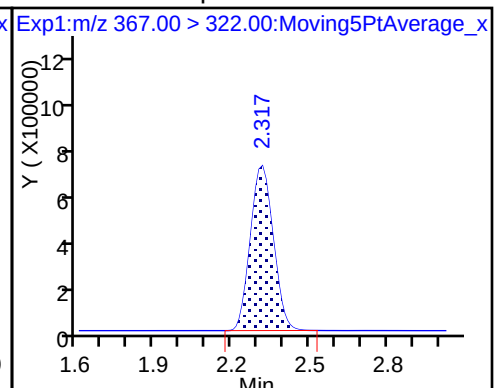
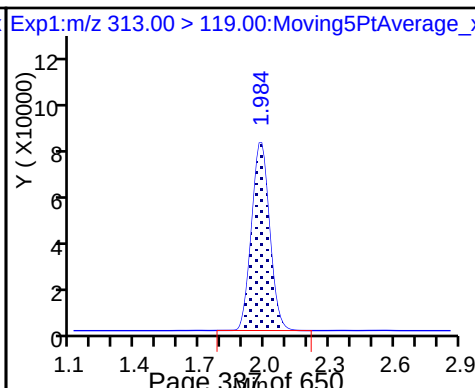
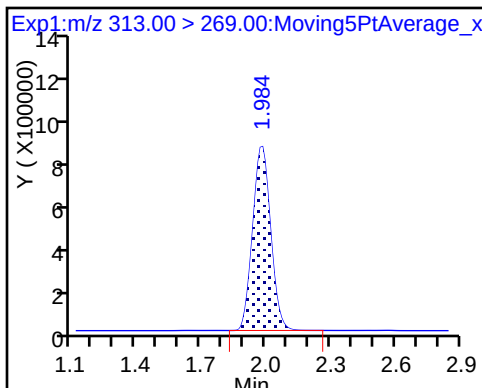
De 7 13C2 PFHxA

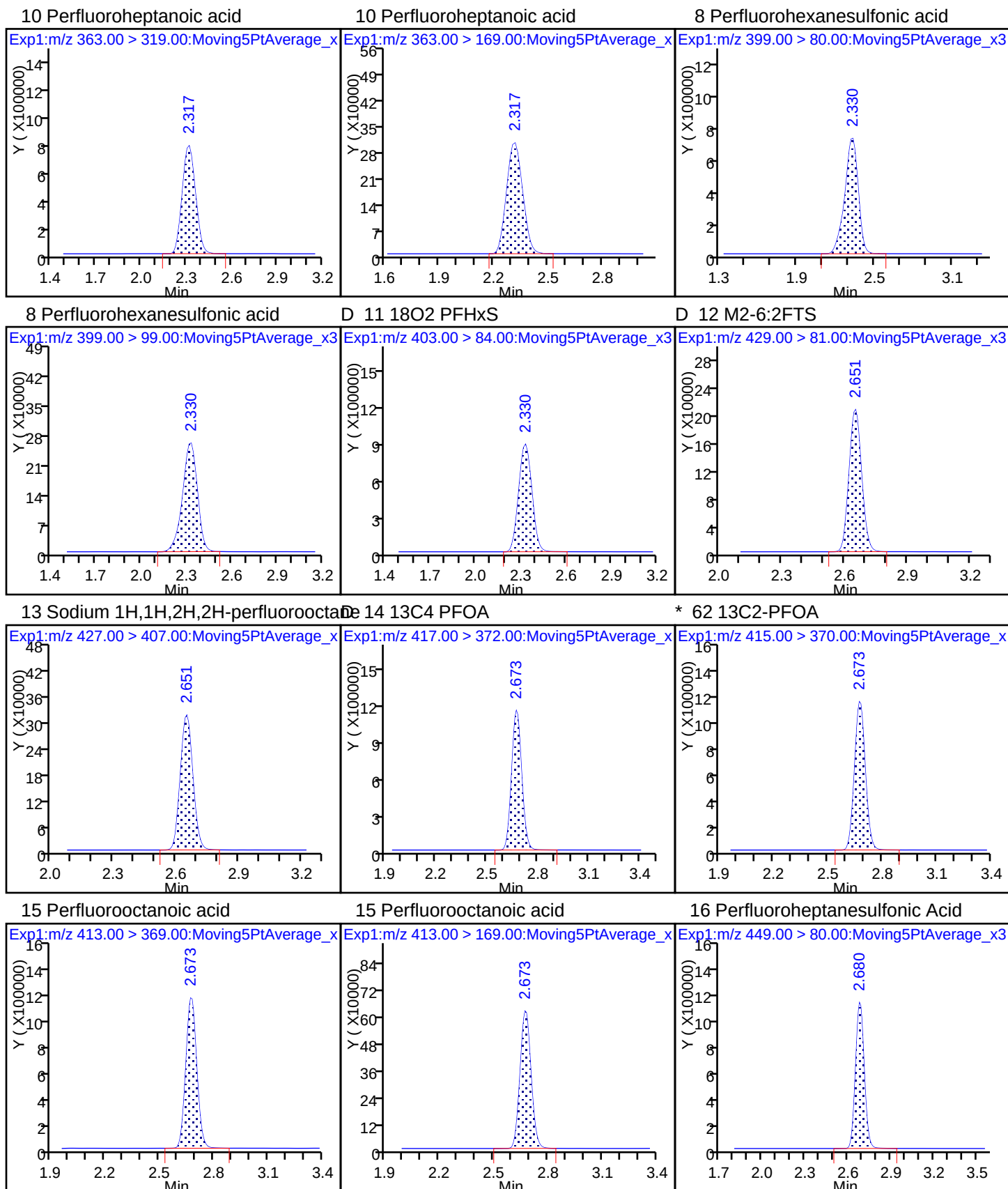


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

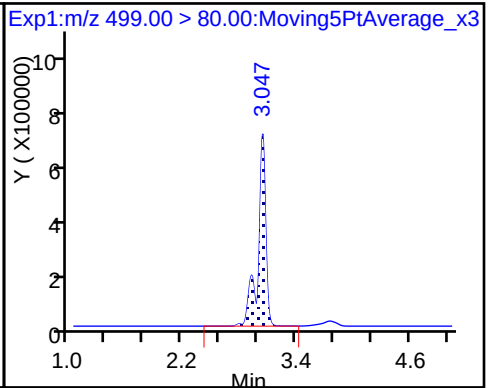
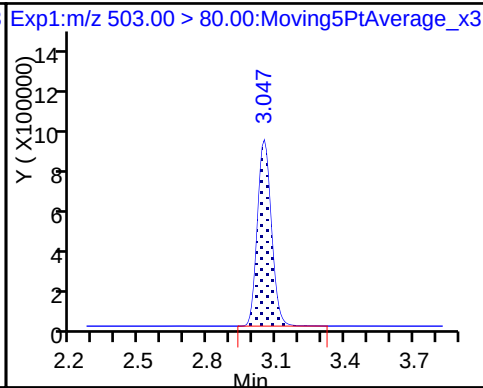
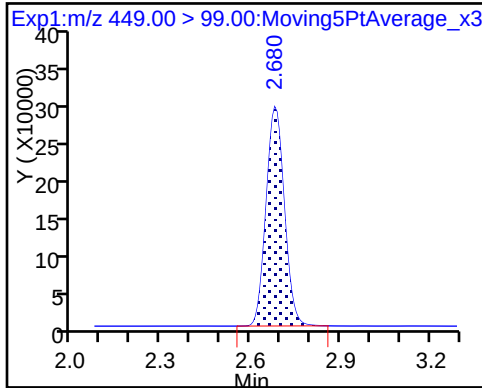




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

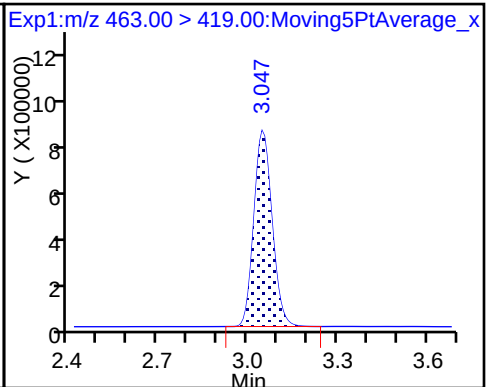
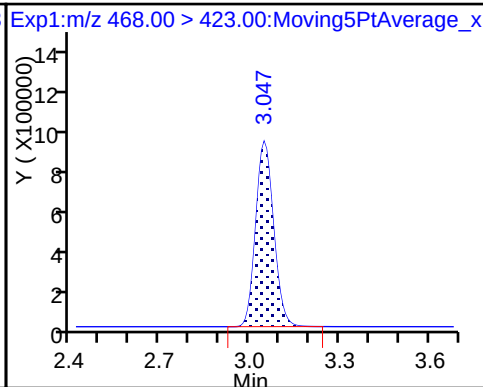
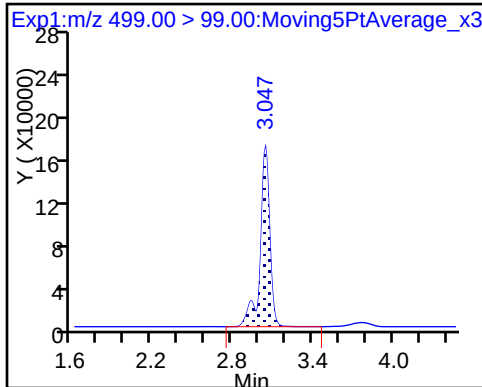
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

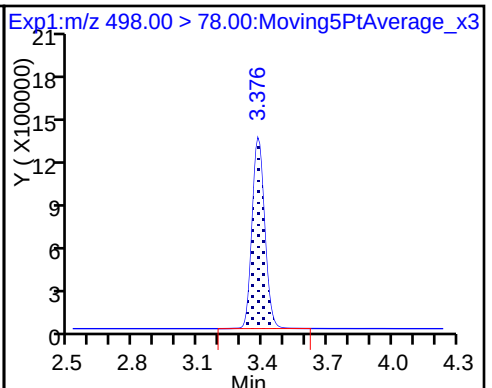
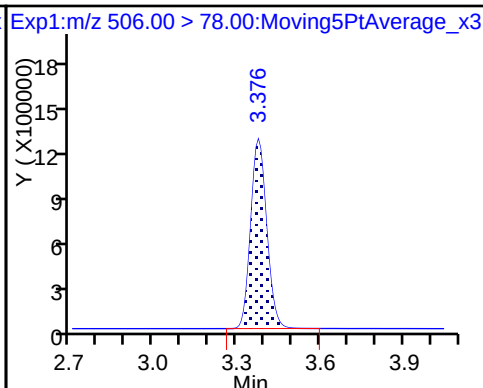
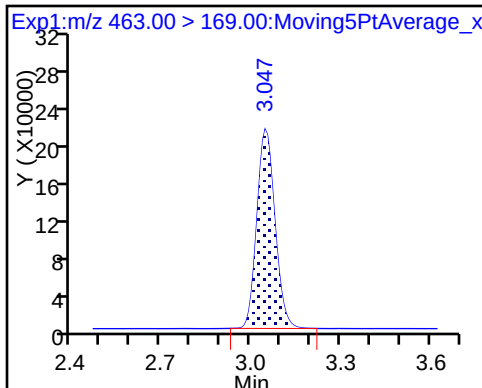
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

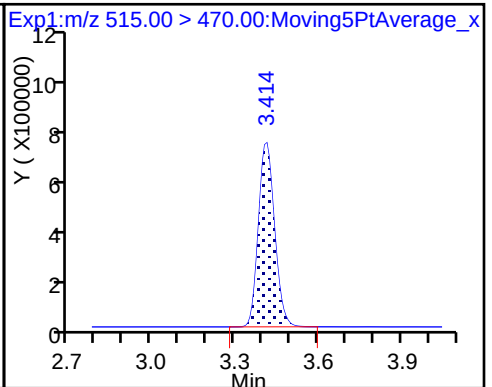
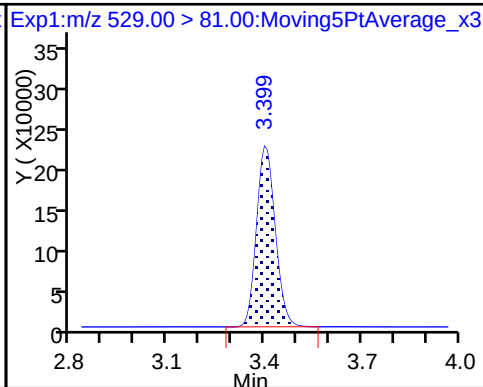
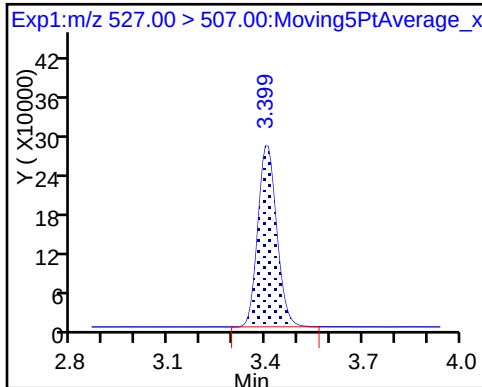
22 Perfluorooctane Sulfonamide



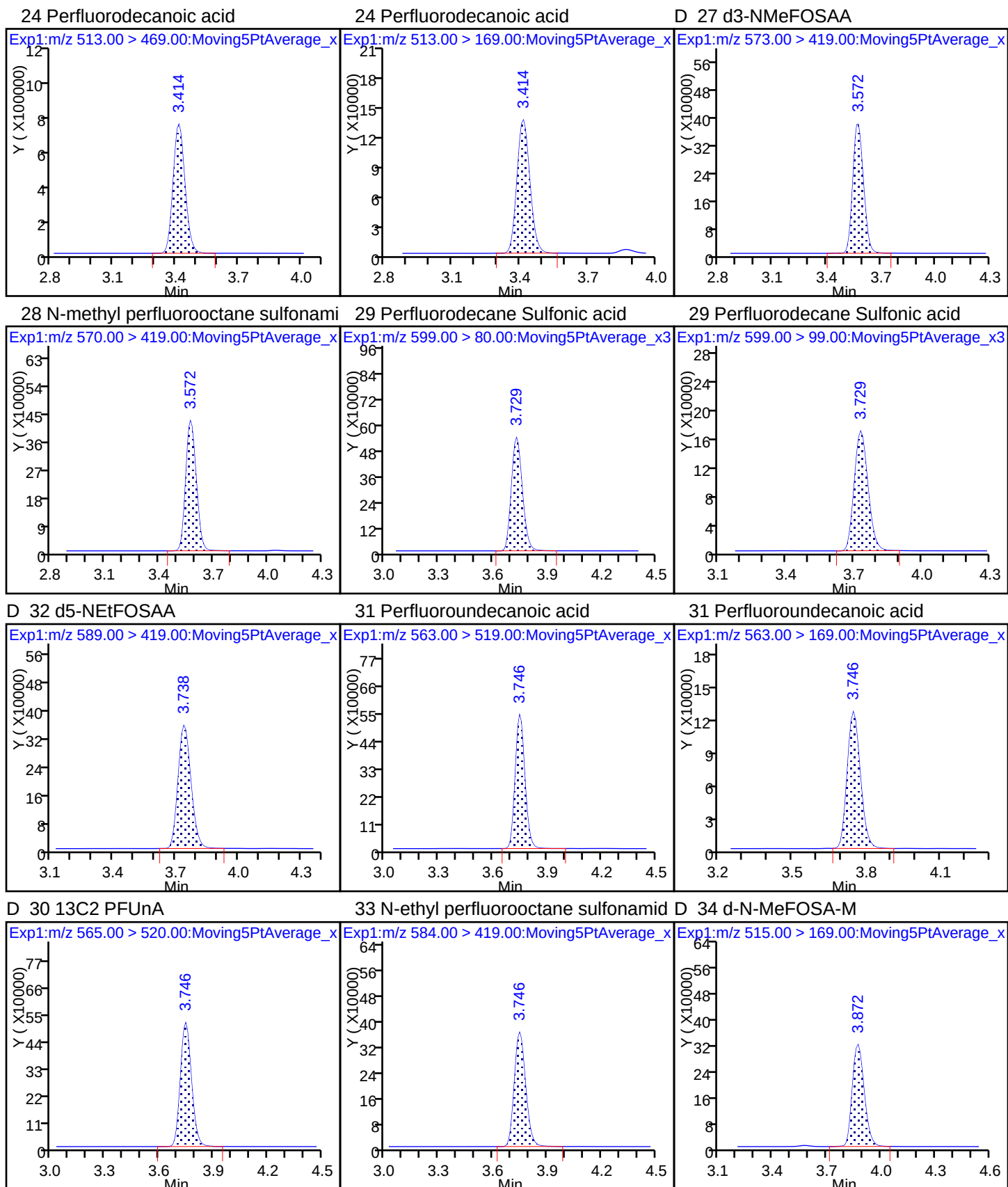
25 Sodium 1H,1H,2H,2H-perfluorodecane-1-sulfonate

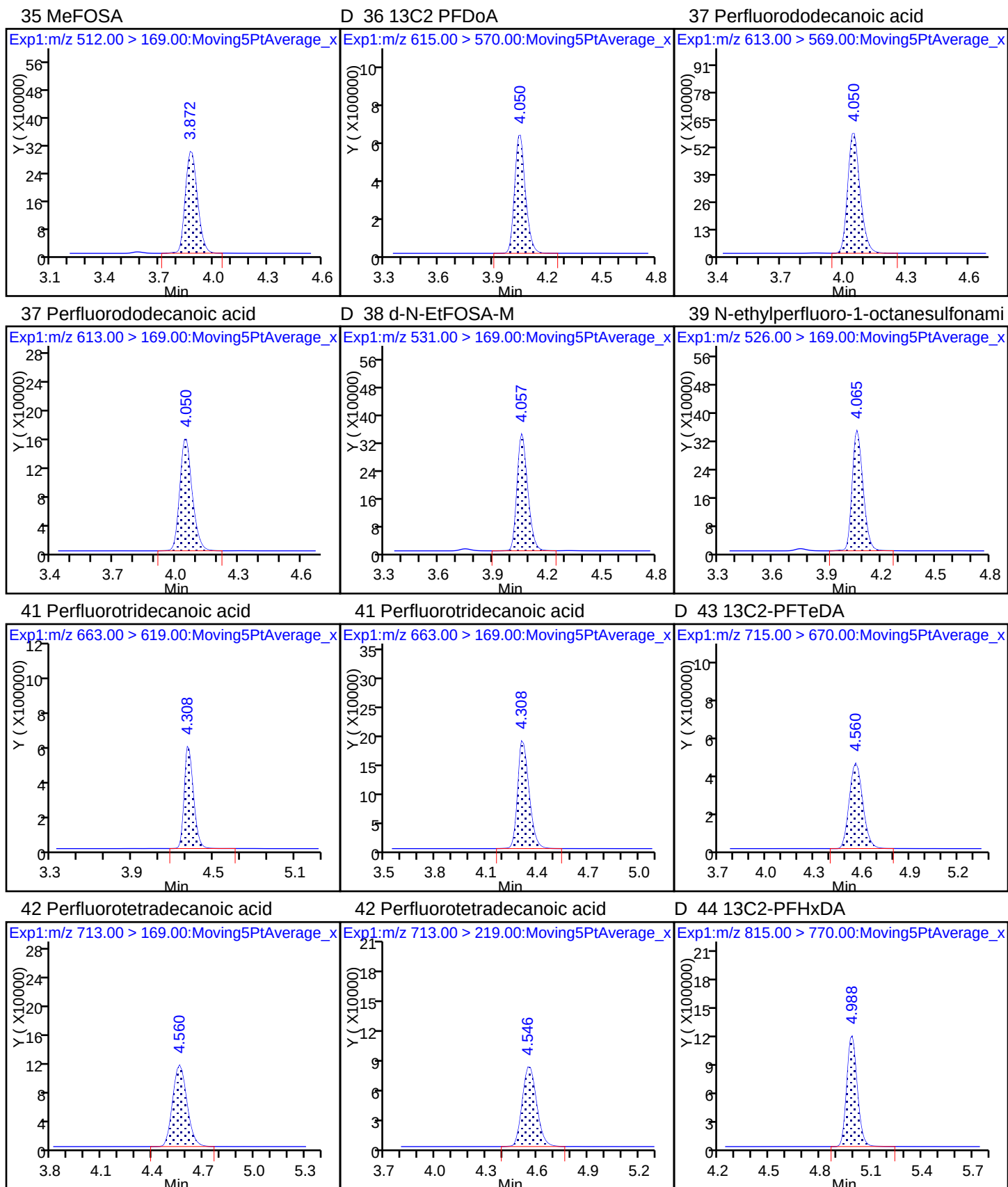
De26 M2-8:2FTS

D 23 13C2 PFDA







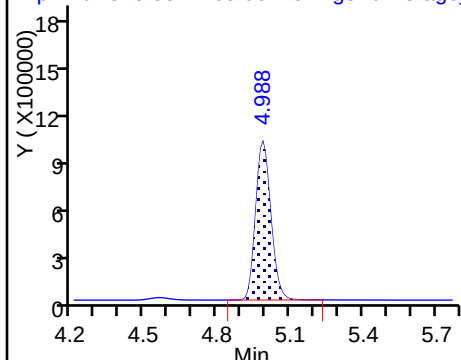


## 45 Perfluorohexadecanoic acid

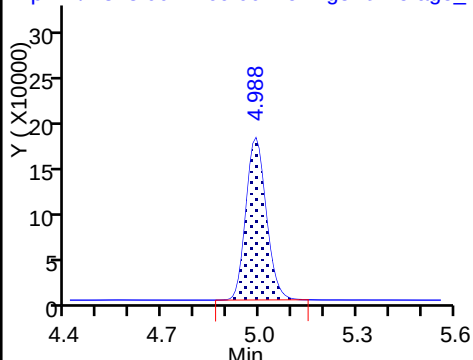
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

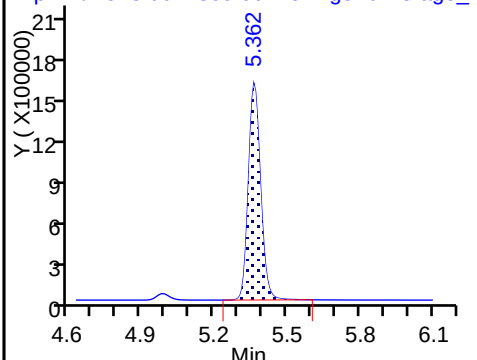
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

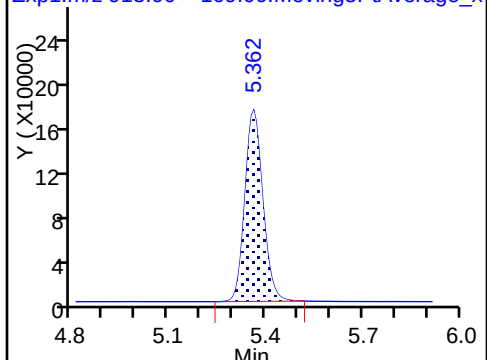


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_007.d  
 Lims ID: IC L6 Full  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 26-Dec-2017 17:34:55 ALS Bottle#: 15 Worklist Smp#: 7  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L6-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 08:56:41 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 08:36:06

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.438 | 1.433  | 0.005  | 0.536  | 7511739  | 2.45         |                   | 97.9 | 22344 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.438 | 1.434  | 0.004  | 1.000  | 14203669 | 5.17         |                   | 103  | 4279  |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.698 | 1.691  | 0.007  | 1.000  | 10121089 | 5.10         |                   | 102  | 9580  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.698 | 1.692  | 0.006  | 0.633  | 4419838  | 2.47         |                   | 98.8 | 58450 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.725 | 1.725  | 0.0    | 0.643  | 87517    | 2.26         |                   | 97.1 | 2228  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.734 | 1.730  | 0.004  | 1.005  | 13087862 | 4.65         |                   | 105  | 46401 |       |
| 298.90 > 99.00                        | 1.734 | 1.730  | 0.004  | 1.005  | 5556812  |              | 2.36(1.25-3.74)   | 105  | 33240 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.945 | 1.941  | 0.004  | 1.000  | 2614250  | 4.51         |                   | 96.6 | 79247 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.976 | 1.976  | 0.0    | 0.737  | 4692826  | 2.44         |                   | 97.6 | 34225 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.986 | 1.979  | 0.007  | 1.005  | 9593038  | 5.12         |                   | 102  | 21441 |       |
| 313.00 > 119.00                       | 1.986 | 1.979  | 0.007  | 1.005  | 882827   |              | 10.87(5.03-15.10) | 102  | 21917 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.319 | 2.311  | 0.008  | 1.000  | 9505442  | 5.21         |                   | 104  | 14155 |       |
| 363.00 > 169.00                       | 2.319 | 2.311  | 0.008  | 1.000  | 3629564  |              | 2.62(1.13-3.40)   | 104  | 22031 |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.319 | 2.311  | 0.008  | 0.865  | 4358026  | 2.44         |                   | 97.6 | 30871 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.332 | 2.324  | 0.008  | 1.000  | 10555612 | 4.39         |                   | 96.6 | 16761 |       |
| 399.00 > 99.00                        | 2.332 | 2.324  | 0.008  | 1.000  | 3571255  |              | 2.96(1.50-4.49)   | 96.6 | 14384 |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec  | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|-------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |       |       |       |
| 403.00 > 84.00                        | 2.332 | 2.328  | 0.004  | 0.870  | 5199716  | 2.29         |                 | 97.0  | 28546 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |       |       |       |
| 429.00 > 81.00                        | 2.652 | 2.649  | 0.003  | 0.989  | 798471   | 2.36         |                 | 99.3  | 16249 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |       |       |       |
| 427.00 > 407.00                       | 2.652 | 2.651  | 0.001  | 1.000  | 2686799  | 4.77         |                 | 101   | 32747 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |       |       |       |
| 417.00 > 372.00                       | 2.674 | 2.674  | 0.0    | 0.997  | 4527981  | 2.48         |                 | 99.4  | 36247 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |       |       |       |
| 415.00 > 370.00                       | 2.681 | 2.676  | 0.005  |        | 4433844  | 2.50         |                 |       | 32506 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |       |       |       |
| 413.00 > 369.00                       | 2.681 | 2.677  | 0.004  | 1.003  | 9320979  | 4.86         |                 | 97.2  | 5737  |       |
| 413.00 > 169.00                       | 2.681 | 2.677  | 0.004  | 1.003  | 5052632  |              | 1.84(0.84-2.52) | 97.2  | 22690 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |       |       |       |
| 449.00 > 80.00                        | 2.688 | 2.683  | 0.005  | 1.000  | 8838018  | 4.94         |                 | 104   | 48617 |       |
| 449.00 > 99.00                        | 2.688 | 2.683  | 0.005  | 1.000  | 2382151  |              | 3.71(1.94-5.82) | 104   | 21958 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |       |       |       |
| 503.00 > 80.00                        | 3.049 | 3.048  | 0.001  | 1.137  | 3484225  | 2.32         |                 | 97.0  | 16428 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |       |       |       |
| 499.00 > 80.00                        | 3.049 | 3.050  | -0.001 | 1.000  | 7195168  | 4.60         |                 | 99.1  | 1651  |       |
| 499.00 > 99.00                        | 3.049 | 3.050  | -0.001 | 1.000  | 1576347  |              | 4.56(2.31-6.93) | 99.1  | 2115  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |       |       |       |
| 468.00 > 423.00                       | 3.049 | 3.051  | -0.002 | 1.137  | 3650887  | 2.51         |                 | 100   | 27053 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |       |       |       |
| 463.00 > 419.00                       | 3.057 | 3.052  | 0.005  | 1.003  | 7111284  | 5.00         |                 | 100.0 | 15606 |       |
| 463.00 > 169.00                       | 3.057 | 3.052  | 0.005  | 1.003  | 1788508  |              | 3.98(1.90-5.69) | 100.0 | 26580 |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |       |       |       |
| 506.00 > 78.00                        | 3.380 | 3.377  | 0.003  | 1.261  | 5095113  | 2.51         |                 | 100   | 33145 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |       |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378  | 0.002  | 1.000  | 9642474  | 4.98         |                 | 99.7  | 29656 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |       |       |       |
| 527.00 > 507.00                       | 3.402 | 3.402  | 0.0    | 1.000  | 2167139  | 4.43         |                 | 92.5  | 29731 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |       |       |       |
| 529.00 > 81.00                        | 3.402 | 3.403  | -0.001 | 1.269  | 932907   | 2.51         |                 | 105   | 13712 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |       |       |       |
| 513.00 > 469.00                       | 3.418 | 3.414  | 0.004  | 1.000  | 5881010  | 5.12         |                 | 102   | 22200 |       |
| 513.00 > 169.00                       | 3.418 | 3.414  | 0.004  | 1.000  | 1022172  |              | 5.75(2.36-7.09) | 102   | 2412  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |       |       |       |
| 515.00 > 470.00                       | 3.418 | 3.414  | 0.004  | 1.275  | 2914567  | 2.46         |                 | 98.5  | 25428 |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |       |       |       |
| 573.00 > 419.00                       | 3.569 | 3.569  | 0.0    | 1.331  | 1500701  | 2.45         |                 | 98.1  | 20350 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |       |       |       |
| 570.00 > 419.00                       | 3.576 | 3.574  | 0.002  | 1.002  | 3336986  | 5.25         |                 | 105   | 19044 |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |       |       |       |
| 599.00 > 80.00                        | 3.734 | 3.730  | 0.004  | 1.000  | 4472709  | 5.18         |                 | 108   | 31176 |       |
| 599.00 > 99.00                        | 3.734 | 3.730  | 0.004  | 1.000  | 1393547  |              | 3.21(1.39-4.16) | 108   | 21841 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |       |       |       |
| 589.00 > 419.00                       | 3.742 | 3.740  | 0.002  | 1.396  | 1513745  | 2.43         |                 | 97.1  | 10618 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.751 | 3.746     | 0.005     | 1.000     | 4066019  | 4.83            |                 | 96.6 | 19942 |       |
| 563.00 > 169.00                       | 3.751 | 3.746     | 0.005     | 1.000     | 892562   |                 | 4.56(0.00-0.00) | 96.6 | 16878 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.751 | 3.747     | 0.004     | 1.002     | 3021821  | 5.17            |                 | 103  | 23940 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.751 | 3.747     | 0.004     | 1.399     | 2246031  | 2.51            |                 | 100  | 29162 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.867 | 3.867     | 0.0       | 1.442     | 1429812  | 2.48            |                 | 99.0 | 3277  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.873     | 0.004     | 1.003     | 2889157  | 5.23            |                 | 105  | 3534  |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.046 | 4.045     | 0.001     | 1.000     | 4968481  | 5.34            |                 | 107  | 13360 |       |
| 613.00 > 169.00                       | 4.046 | 4.045     | 0.001     | 1.000     | 1174384  |                 | 4.23(2.13-6.40) | 107  | 36312 |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.046 | 4.045     | 0.001     | 1.509     | 2341893  | 2.41            |                 | 96.2 | 28852 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.061 | 4.058     | 0.003     | 1.515     | 1368153  | 2.49            |                 | 99.6 | 2344  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.069 | 4.065     | 0.004     | 1.002     | 2991200  | 5.04            |                 | 101  | 3033  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.315 | 4.312     | 0.003     | 1.000     | 5113548  | 5.07            |                 | 101  | 16277 |       |
| 663.00 > 169.00                       | 4.315 | 4.312     | 0.003     | 1.000     | 1580679  |                 | 3.24(1.25-3.76) | 101  | 30267 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.555 | 4.557     | -0.002    | 1.000     | 1319883  | 4.84            |                 | 96.7 | 22658 |       |
| 713.00 > 219.00                       | 4.555 | 4.557     | -0.002    | 1.000     | 984677   |                 | 1.34(0.71-2.13) | 96.7 | 15201 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.555 | 4.557     | -0.002    | 1.699     | 2681614  | 2.53            |                 | 101  | 14962 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.985 | 4.984     | 0.001     | 1.000     | 8316601  | 5.04            |                 | 101  | 4317  |       |
| 813.00 > 169.00                       | 4.985 | 4.984     | 0.001     | 1.000     | 1557132  |                 | 5.34(2.86-8.58) | 101  | 11343 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.985 | 4.984     | 0.001     | 1.859     | 4814545  | 2.48            |                 | 99.3 | 17455 |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.360 | 5.361     | -0.001    | 1.000     | 10596626 | 5.12            |                 | 102  | 1973  |       |
| 913.00 > 169.00                       | 5.360 | 5.361     | -0.001    | 1.000     | 1260344  |                 | 8.41(0.00-0.00) | 102  | 3437  |       |

## Reagents:

LCPFC\_LL6\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_007.d

Injection Date: 26-Dec-2017 17:34:55

Instrument ID: A8\_N

Lims ID: IC L6 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 15

Worklist Smp#: 7

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

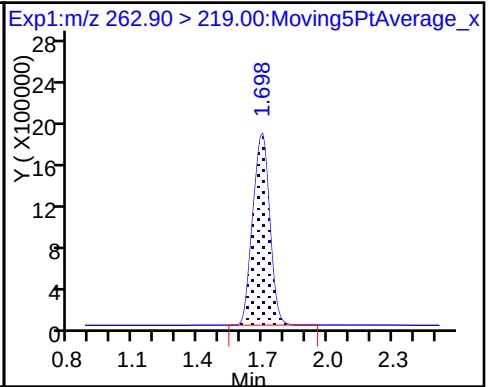
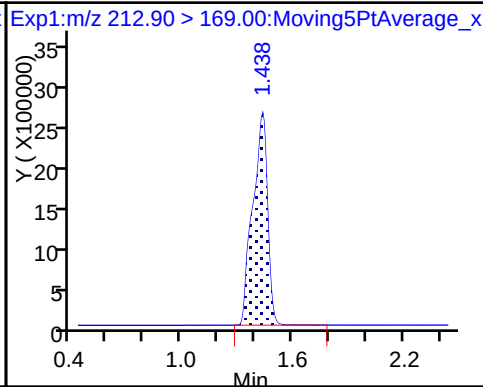
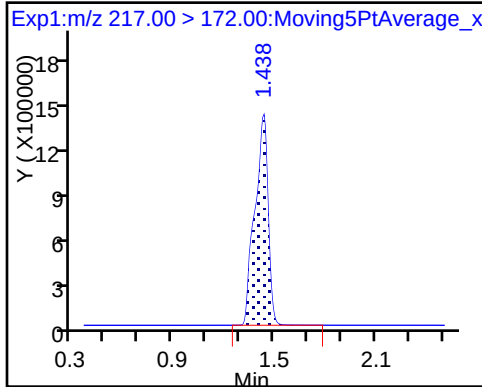
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

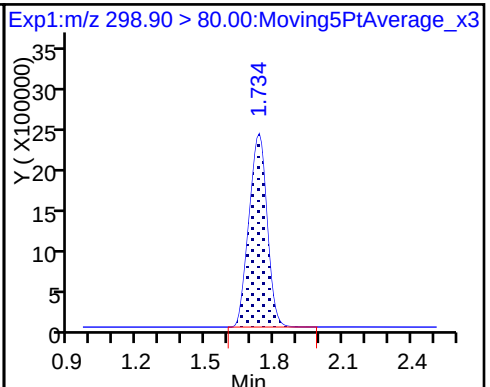
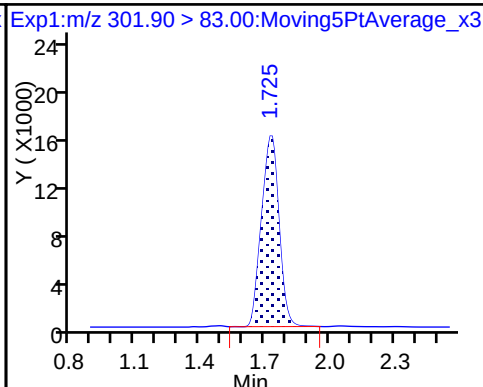
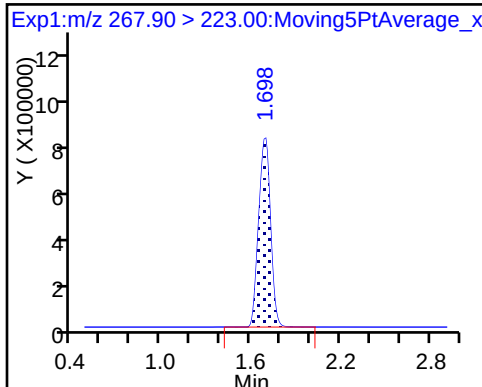
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

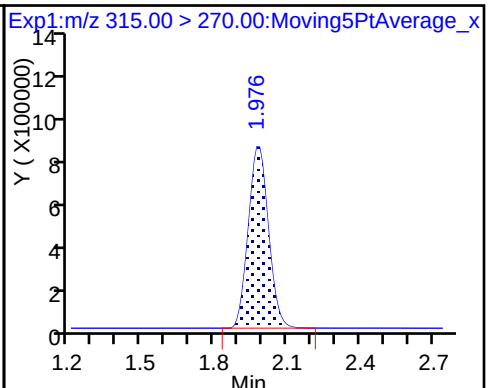
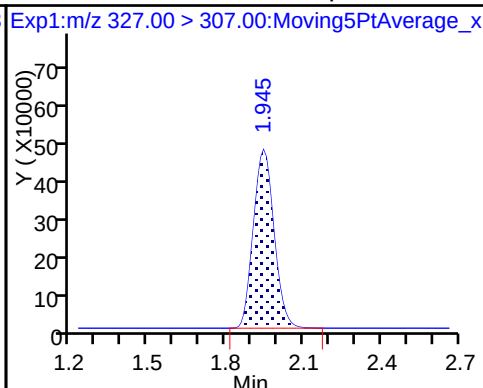
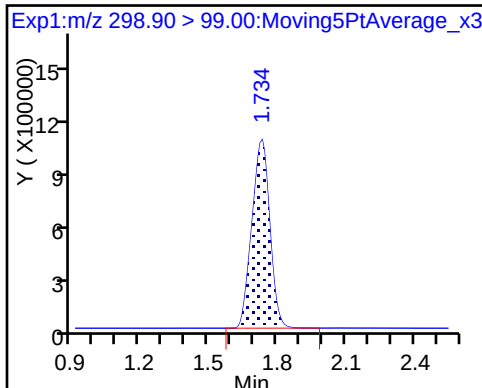
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

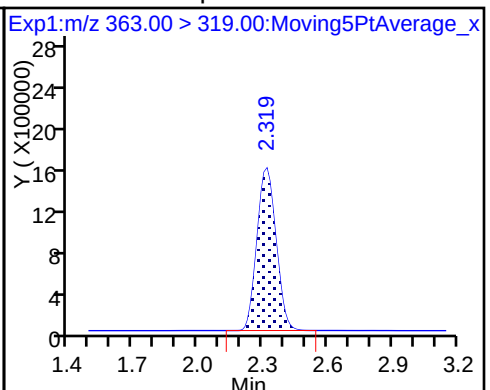
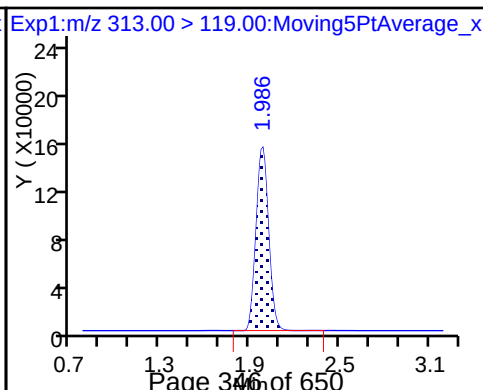
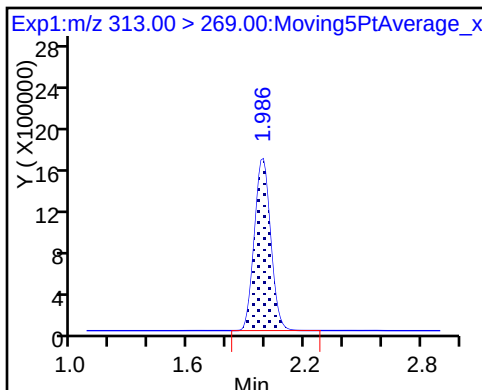
De 7 13C2 PFHxA

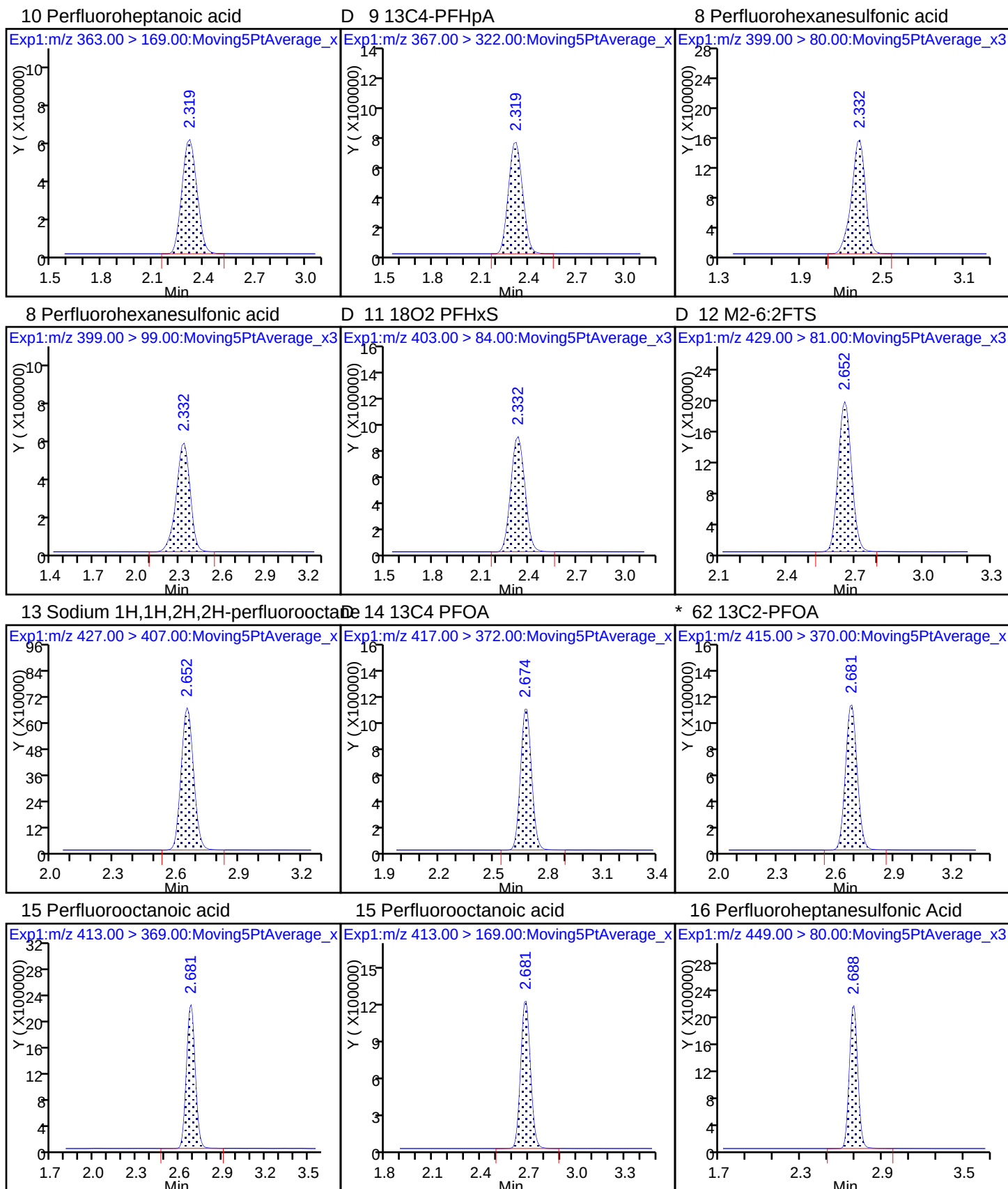


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

10 Perfluoroheptanoic acid



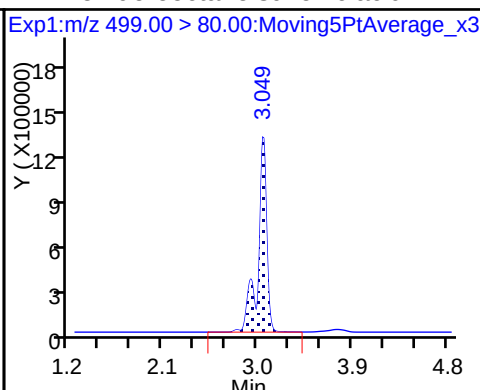
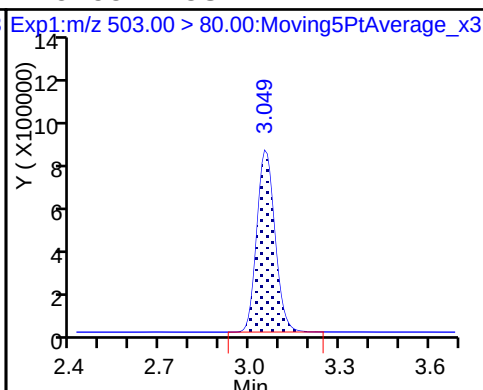
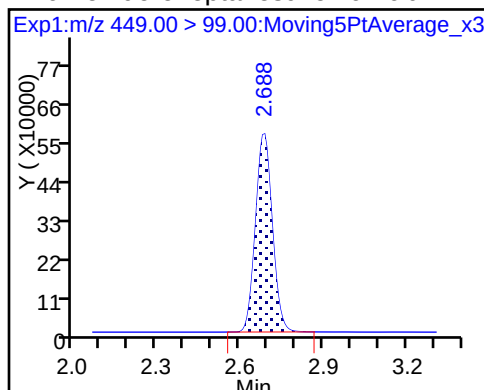




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

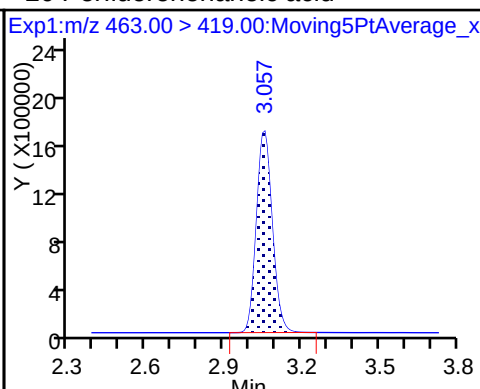
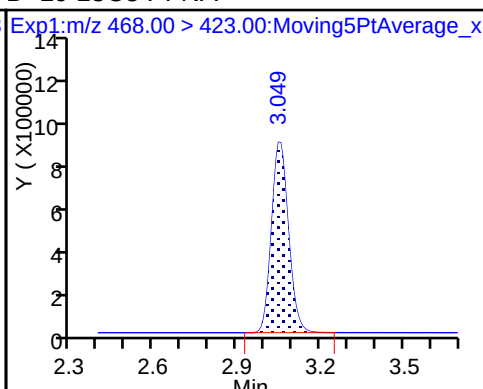
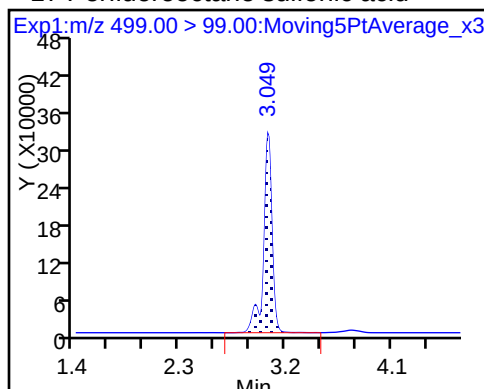
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

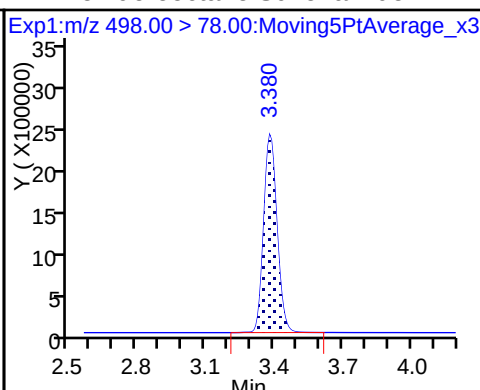
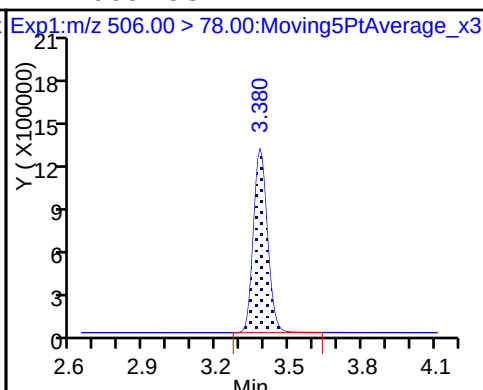
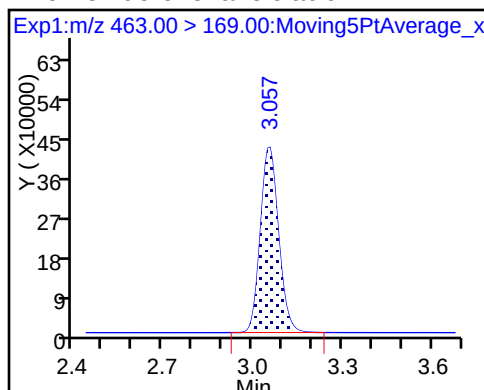
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

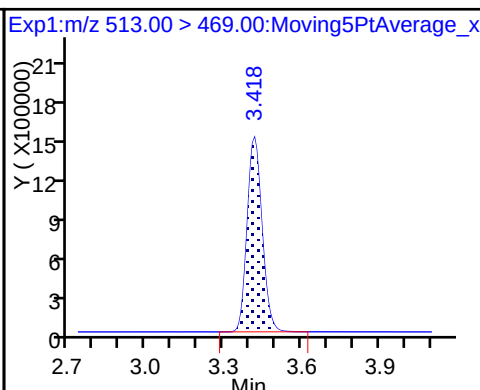
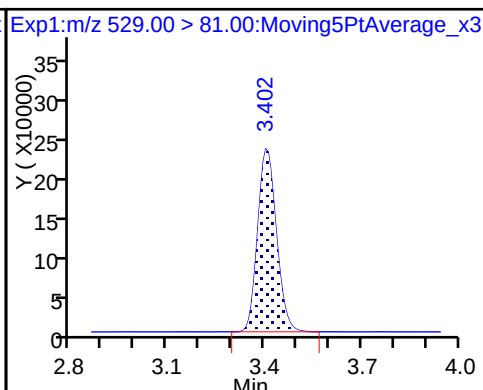
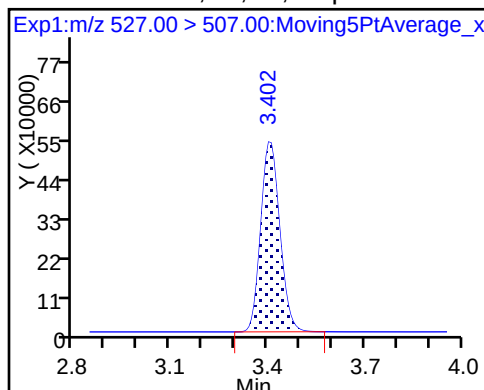
22 Perfluorooctane Sulfonamide

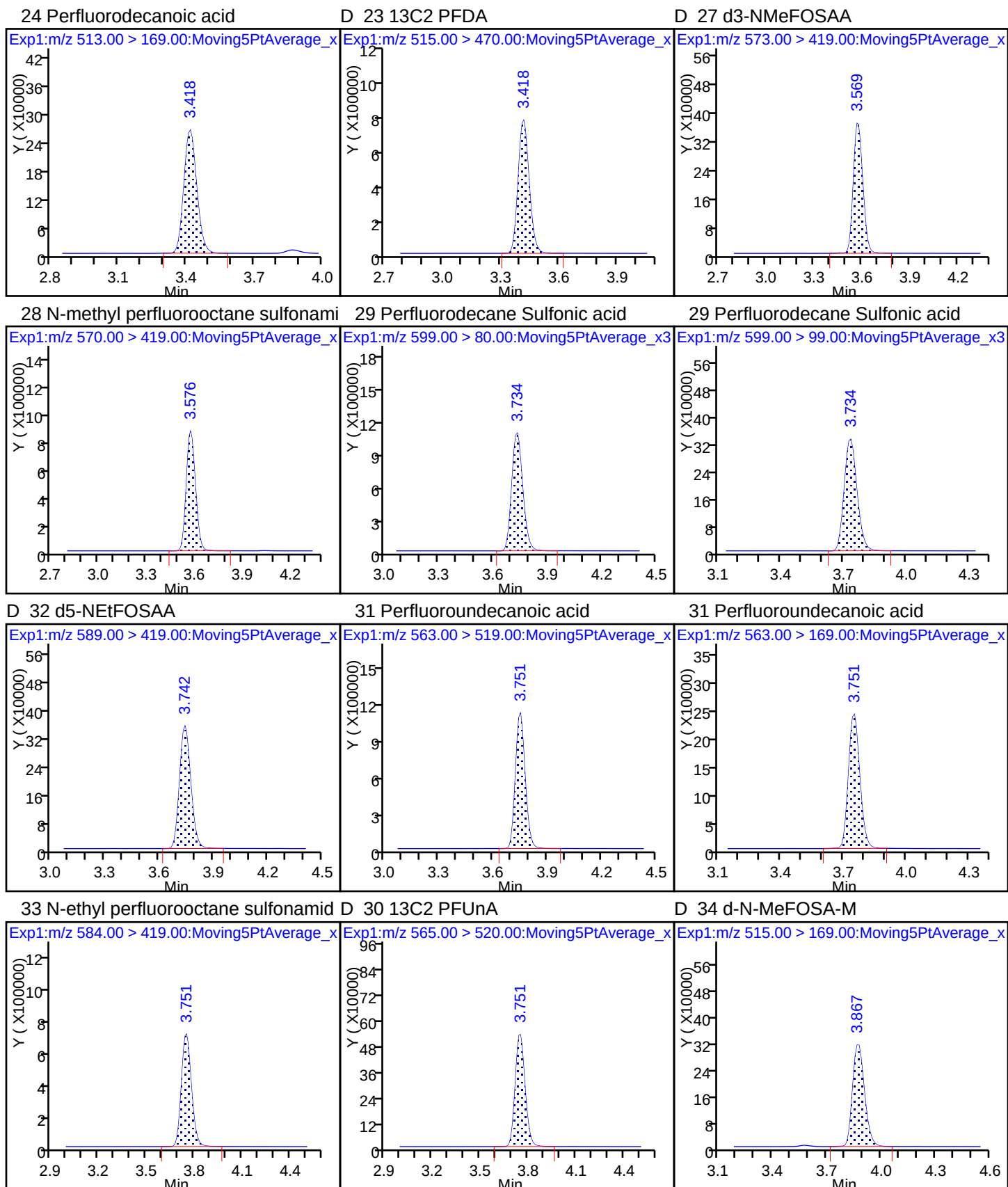


25 Sodium 1H,1H,2H,2H-perfluorodecanoate

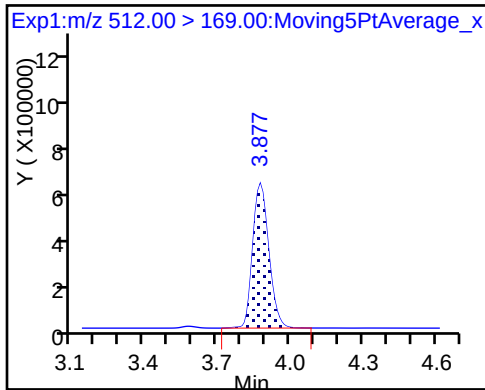
De26 M2-8:2FTS

24 Perfluorodecanoic acid

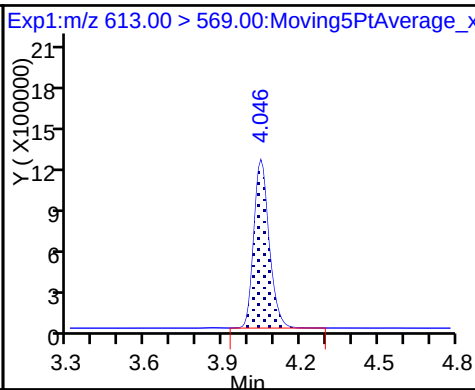




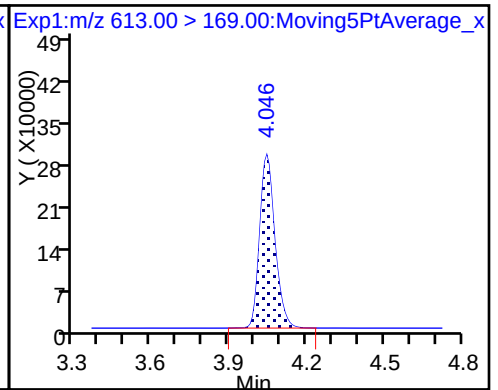
35 MeFOSA



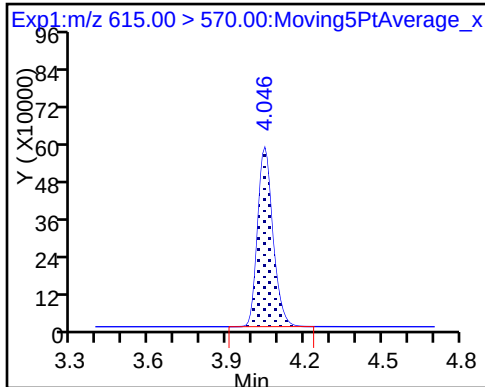
37 Perfluorododecanoic acid



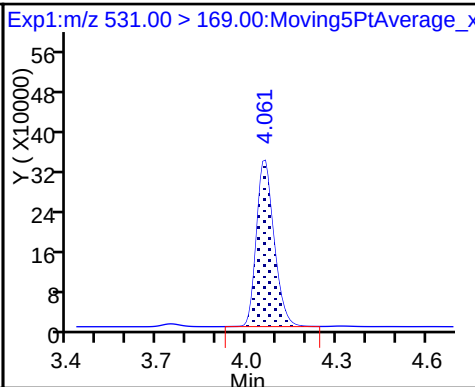
37 Perfluorododecanoic acid



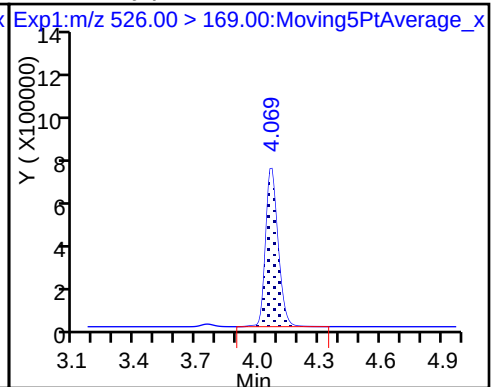
D 36 13C2 PFDaA



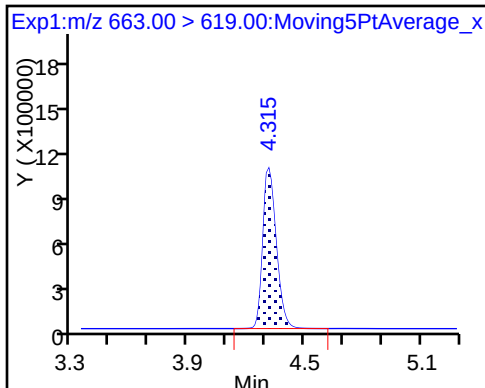
D 38 d-N-EtFOSA-M



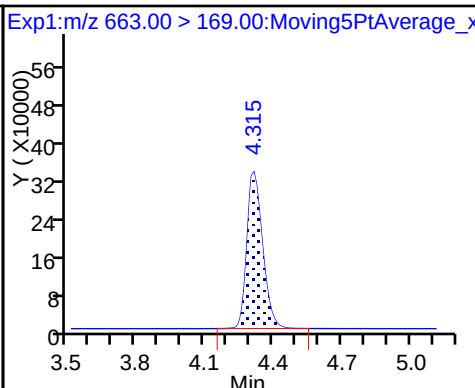
39 N-ethylperfluoro-1-octanesulfonami



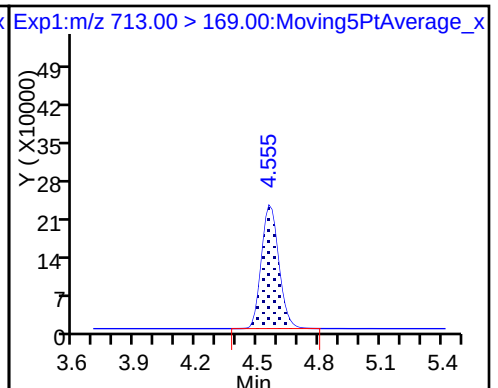
41 Perfluorotridecanoic acid



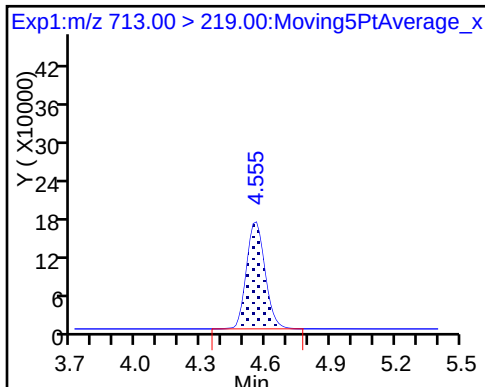
41 Perfluorotridecanoic acid



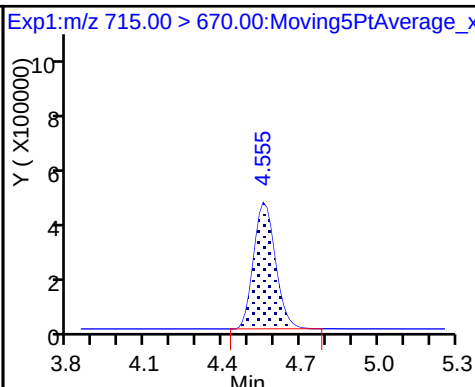
42 Perfluorotetradecanoic acid



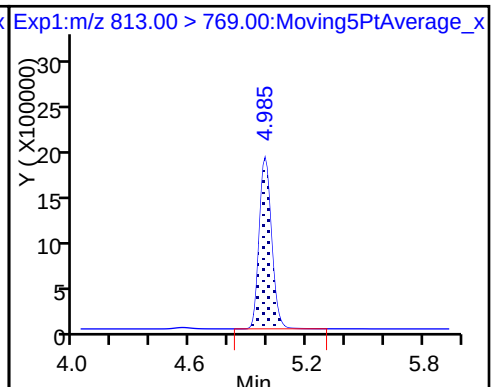
42 Perfluorotetradecanoic acid



D 43 13C2-PFTeDA



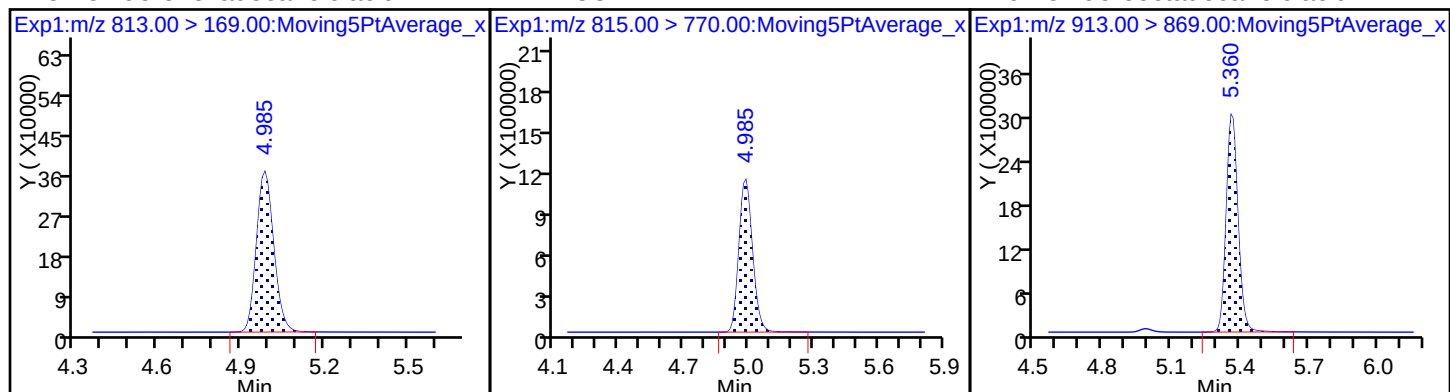
45 Perfluorohexadecanoic acid



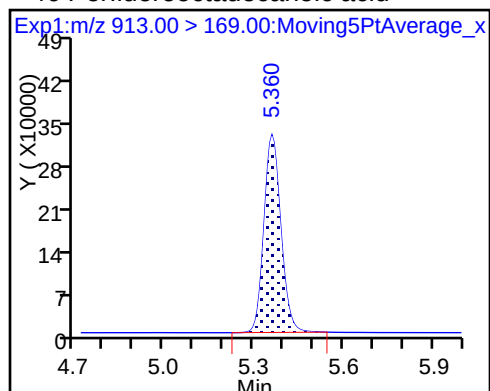
45 Perfluorohexadecanoic acid

D 44 13C2-PFHxDA

46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_008.d  
 Lims ID: IC L7 Full  
 Client ID:  
 Sample Type: IC Calib Level: 7  
 Inject. Date: 26-Dec-2017 17:42:43 ALS Bottle#: 16 Worklist Smp#: 8  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L7-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 08:56:46 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 08:36:49

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N    | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|--------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |        |       |
| 217.00 > 172.00                       | 1.433 | 1.433  | 0.0    | 0.536  | 7445728  | 2.60         |                   | 104  | 21011  |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |        |       |
| 212.90 > 169.00                       | 1.439 | 1.434  | 0.005  | 1.004  | 27172681 | 9.99         |                   | 99.9 | 6424   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |        |       |
| 262.90 > 219.00                       | 1.690 | 1.691  | -0.001 | 1.000  | 18729644 | 9.81         |                   | 98.1 | 18971  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |        |       |
| 267.90 > 223.00                       | 1.690 | 1.692  | -0.002 | 0.632  | 4257151  | 2.55         |                   | 102  | 41463  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |        |       |
| 301.90 > 83.00                        | 1.725 | 1.725  | 0.0    | 0.645  | 86415    | 2.39         |                   | 103  | 2598   |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |        |       |
| 298.90 > 80.00                        | 1.734 | 1.730  | 0.004  | 1.005  | 24367996 | 8.76         |                   | 99.1 | 62875  |       |
| 298.90 > 99.00                        | 1.734 | 1.730  | 0.004  | 1.005  | 10696312 |              | 2.28(1.25-3.74)   | 99.1 | 60923  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |        |       |
| 327.00 > 307.00                       | 1.945 | 1.941  | 0.004  | 1.000  | 5379700  | 9.91         |                   | 106  | 138906 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |        |       |
| 315.00 > 270.00                       | 1.976 | 1.976  | 0.0    | 0.739  | 4670780  | 2.60         |                   | 104  | 37047  |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |        |       |
| 313.00 > 269.00                       | 1.976 | 1.979  | -0.003 | 1.000  | 18626791 | 9.98         |                   | 99.8 | 81760  |       |
| 313.00 > 119.00                       | 1.976 | 1.979  | -0.003 | 1.000  | 1750607  |              | 10.64(5.03-15.10) | 99.8 | 33892  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |        |       |
| 367.00 > 322.00                       | 2.306 | 2.311  | -0.005 | 0.863  | 4192372  | 2.51         |                   | 101  | 29516  |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |        |       |
| 363.00 > 319.00                       | 2.306 | 2.311  | -0.005 | 1.000  | 17812933 | 10.2         |                   | 102  | 29608  |       |
| 363.00 > 169.00                       | 2.306 | 2.311  | -0.005 | 1.000  | 7407007  |              | 2.40(1.13-3.40)   | 102  | 42808  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |        |       |
| 399.00 > 80.00                        | 2.319 | 2.324  | -0.005 | 0.994  | 19924018 | 8.31         |                   | 91.3 | 28819  |       |
| 399.00 > 99.00                        | 2.319 | 2.324  | -0.005 | 0.994  | 7038929  |              | 2.83(1.50-4.49)   | 91.3 | 22320  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.332 | 2.328  | 0.004  | 0.872  | 5189898  | 2.45         |                 | 104  | 26346 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.645 | 2.649  | -0.004 | 0.989  | 747693   | 2.36         |                 | 99.5 | 12874 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.652 | 2.651  | 0.001  | 1.003  | 5122011  | 9.70         |                 | 102  | 61944 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.673 | 2.674  | -0.001 | 1.000  | 4171184  | 2.45         |                 | 98.0 | 28237 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.673 | 2.676  | -0.003 |        | 4141309  | 2.50         |                 |      | 32958 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.673 | 2.677  | -0.004 | 1.000  | 17746633 | 10.0         |                 | 100  | 10144 |       |
| 413.00 > 169.00                       | 2.673 | 2.677  | -0.004 | 1.000  | 9890524  |              | 1.79(0.84-2.52) | 100  | 27468 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.680 | 2.683  | -0.003 | 1.000  | 16381911 | 9.71         |                 | 102  | 39045 |       |
| 449.00 > 99.00                        | 2.680 | 2.683  | -0.003 | 1.000  | 4645115  |              | 3.53(1.94-5.82) | 102  | 34472 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.048 | 3.048  | 0.0    | 1.140  | 3286507  | 2.34         |                 | 97.9 | 19080 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.048 | 3.050  | -0.002 | 1.000  | 14080471 | 9.54         |                 | 103  | 3133  |       |
| 499.00 > 99.00                        | 3.048 | 3.050  | -0.002 | 1.000  | 3124070  |              | 4.51(2.31-6.93) | 103  | 4152  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.048 | 3.051  | -0.003 | 1.140  | 3334889  | 2.45         |                 | 98.1 | 39631 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.048 | 3.052  | -0.004 | 1.000  | 13302133 | 10.2         |                 | 102  | 26369 |       |
| 463.00 > 169.00                       | 3.048 | 3.052  | -0.004 | 1.000  | 3497622  |              | 3.80(1.90-5.69) | 102  | 41348 |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.378 | 3.377  | 0.001  | 1.263  | 4898779  | 2.58         |                 | 103  | 26857 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.378 | 3.378  | 0.0    | 1.000  | 17901266 | 9.62         |                 | 96.2 | 50507 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.400 | 3.402  | -0.002 | 1.000  | 4336415  | 9.51         |                 | 99.3 | 49066 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.400 | 3.403  | -0.003 | 1.272  | 869684   | 2.50         |                 | 105  | 14530 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.415 | 3.414  | 0.001  | 1.278  | 2839256  | 2.57         |                 | 103  | 37561 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.415 | 3.414  | 0.001  | 1.000  | 10946670 | 9.78         |                 | 97.8 | 35120 |       |
| 513.00 > 169.00                       | 3.415 | 3.414  | 0.001  | 1.000  | 1998874  |              | 5.48(2.36-7.09) | 97.8 | 2012  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.566 | 3.569  | -0.003 | 1.334  | 1504595  | 2.63         |                 | 105  | 18463 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.574 | 3.574  | 0.0    | 1.002  | 6513260  | 10.2         |                 | 102  | 23335 |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.731 | 3.730  | 0.001  | 1.000  | 8292975  | 10.2         |                 | 106  | 43669 |       |
| 599.00 > 99.00                        | 3.723 | 3.730  | -0.007 | 0.998  | 2709225  |              | 3.06(1.39-4.16) | 106  | 20476 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.740 | 3.740  | 0.0    | 1.399  | 1470594  | 2.53         |                 | 101  | 6939  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.749 | 3.746     | 0.003     | 1.000     | 7873695  | 9.84            |                 | 98.4 | 32613 |       |
| 563.00 > 169.00                       | 3.749 | 3.746     | 0.003     | 1.000     | 1731361  |                 | 4.55(0.00-0.00) | 98.4 | 32563 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.749 | 3.747     | 0.002     | 1.402     | 2136125  | 2.55            |                 | 102  | 22842 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.749 | 3.747     | 0.002     | 1.002     | 5776426  | 10.2            |                 | 102  | 30609 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.864 | 3.867     | -0.003    | 1.446     | 1429377  | 2.65            |                 | 106  | 3457  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.874 | 3.873     | 0.001     | 1.003     | 5759747  | 10.4            |                 | 104  | 3277  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.044 | 4.045     | -0.001    | 1.513     | 2262816  | 2.49            |                 | 99.6 | 36892 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.044 | 4.045     | -0.001    | 1.000     | 8935107  | 9.94            |                 | 99.4 | 26278 |       |
| 613.00 > 169.00                       | 4.044 | 4.045     | -0.001    | 1.000     | 2242324  |                 | 3.98(2.13-6.40) | 99.4 | 36761 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.059 | 4.058     | 0.001     | 1.519     | 1365210  | 2.66            |                 | 106  | 2090  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.067 | 4.065     | 0.002     | 1.002     | 5860552  | 9.90            |                 | 99.0 | 3126  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.314 | 4.312     | 0.002     | 1.000     | 9560205  | 9.80            |                 | 98.0 | 31725 |       |
| 663.00 > 169.00                       | 4.314 | 4.312     | 0.002     | 1.000     | 3352461  |                 | 2.85(1.25-3.76) | 98.0 | 47156 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.554 | 4.557     | -0.003    | 1.704     | 2423995  | 2.45            |                 | 98.1 | 12962 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.554 | 4.557     | -0.003    | 1.000     | 2578342  | 10.4            |                 | 104  | 27636 |       |
| 713.00 > 219.00                       | 4.554 | 4.557     | -0.003    | 1.000     | 1706191  |                 | 1.51(0.71-2.13) | 104  | 22393 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.984 | 4.984     | 0.0       | 1.865     | 4413224  | 2.44            |                 | 97.4 | 15585 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.984 | 4.984     | 0.0       | 1.000     | 15523204 | 10.3            |                 | 103  | 8073  |       |
| 813.00 > 169.00                       | 4.984 | 4.984     | 0.0       | 1.000     | 2747486  |                 | 5.65(2.86-8.58) | 103  | 14050 |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.367 | 5.361     | 0.006     | 1.000     | 18489170 | 9.75            |                 | 97.5 | 2953  |       |
| 913.00 > 169.00                       | 5.360 | 5.361     | -0.001    | 0.999     | 2389804  |                 | 7.74(0.00-0.00) | 97.5 | 4519  |       |

## Reagents:

LCPFC\_LL7\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_008.d

Injection Date: 26-Dec-2017 17:42:43

Instrument ID: A8\_N

Lims ID: IC L7 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 16

Worklist Smp#: 8

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

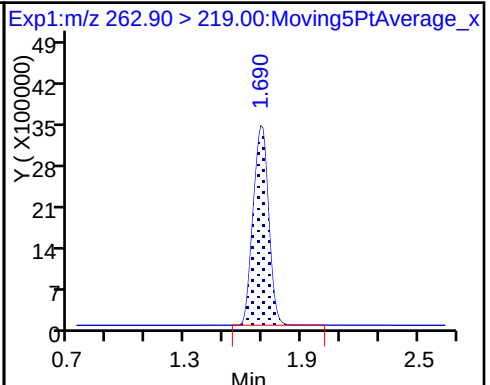
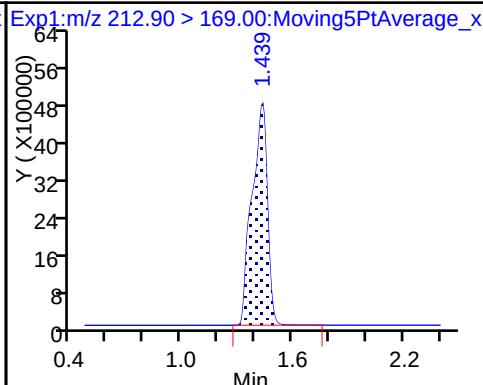
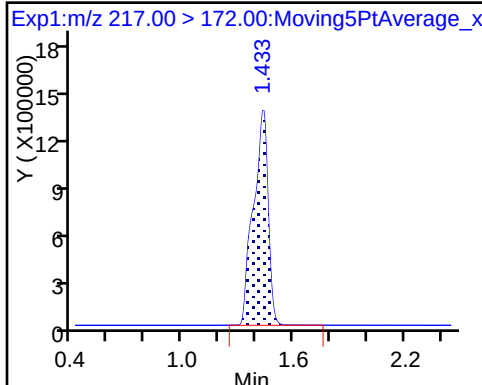
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

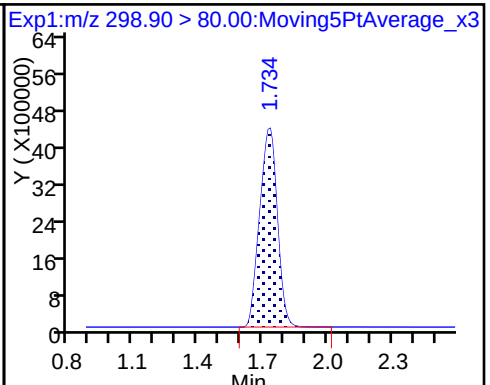
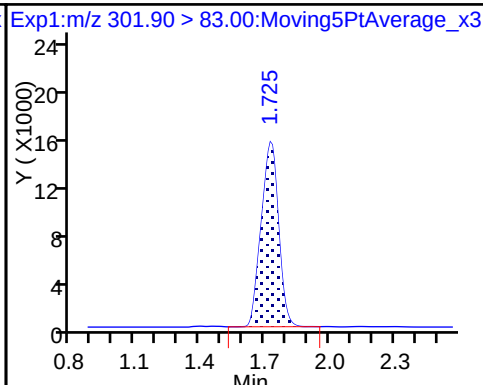
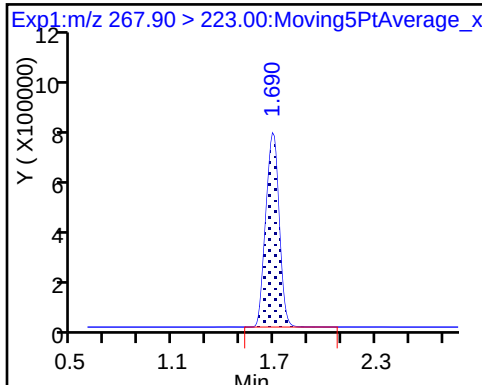
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

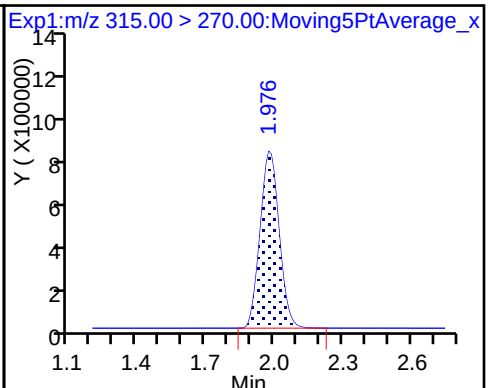
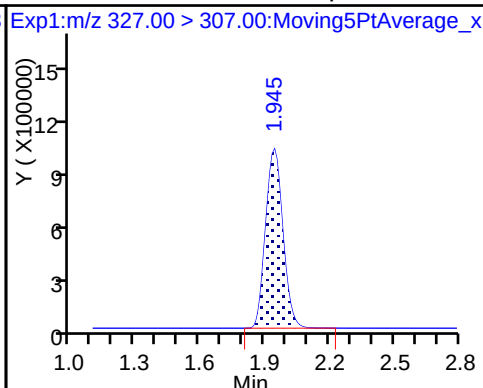
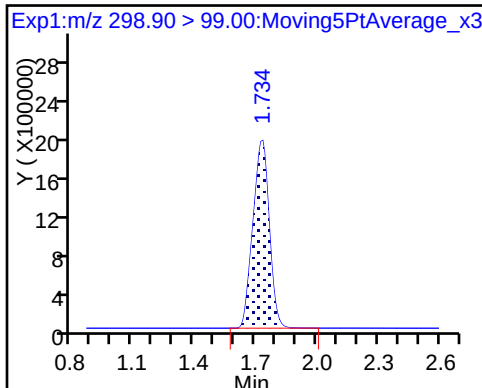
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

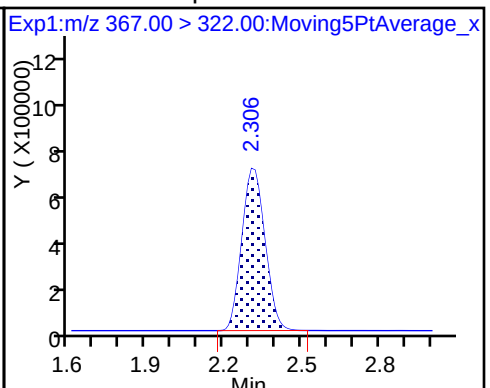
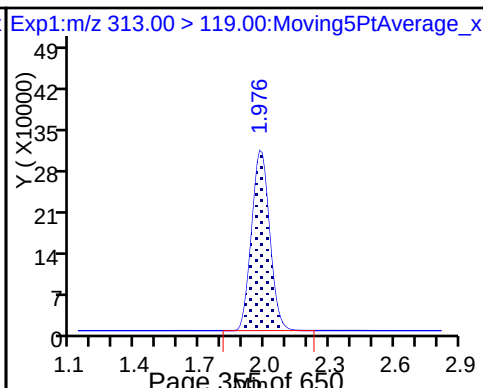
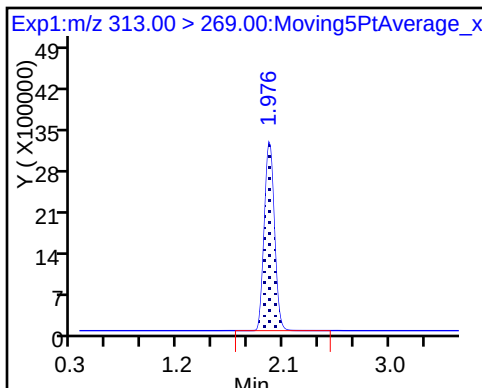
De 7 13C2 PFHxA



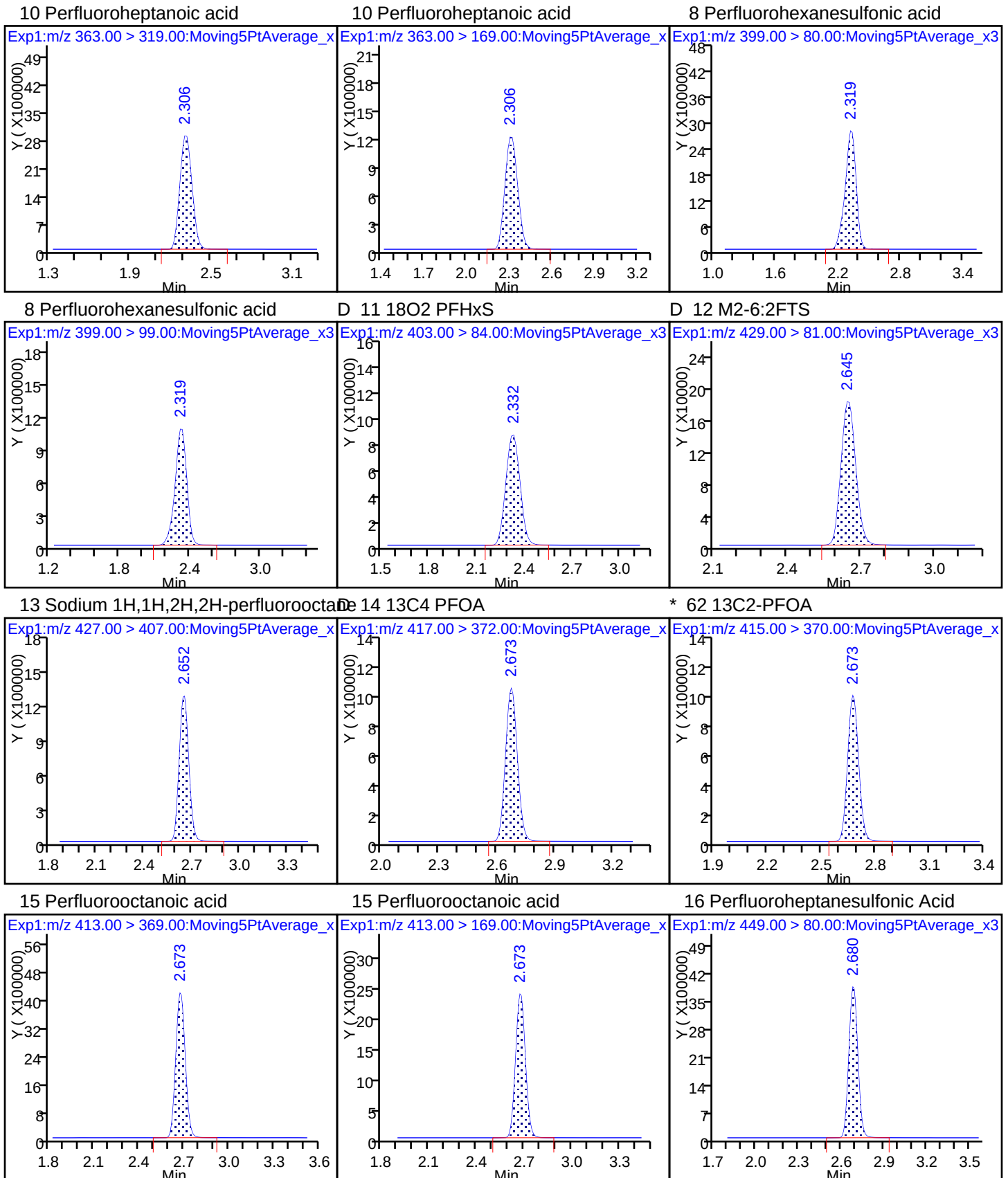
6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA



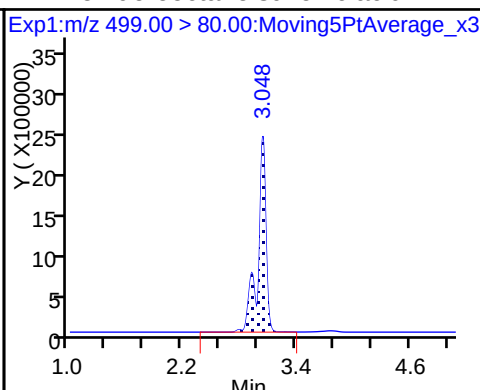
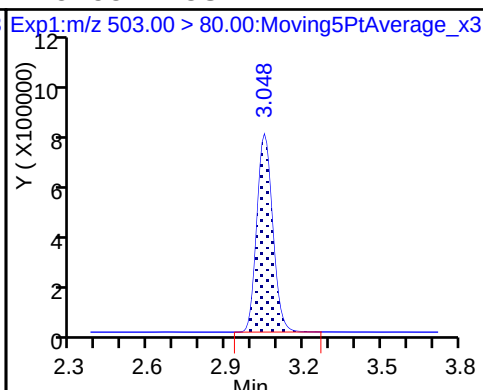
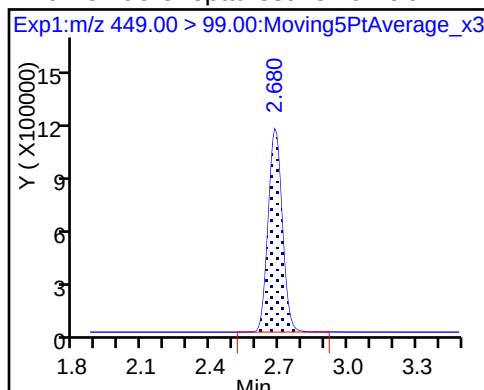




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

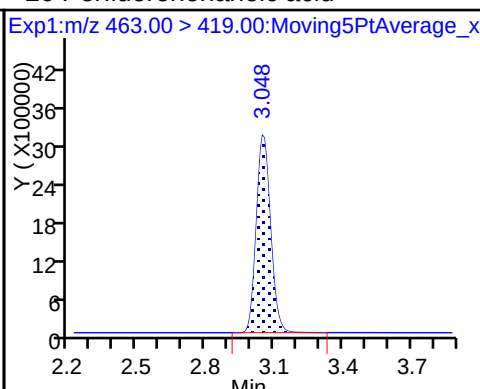
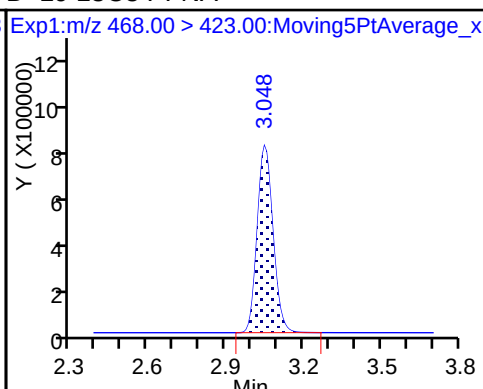
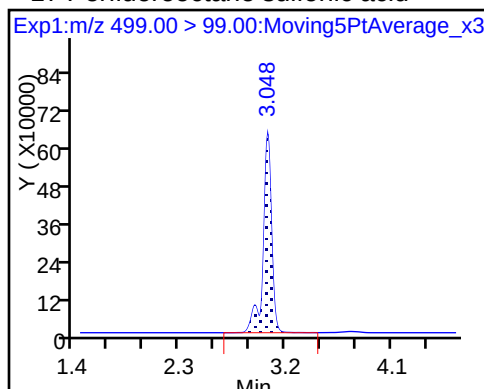
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

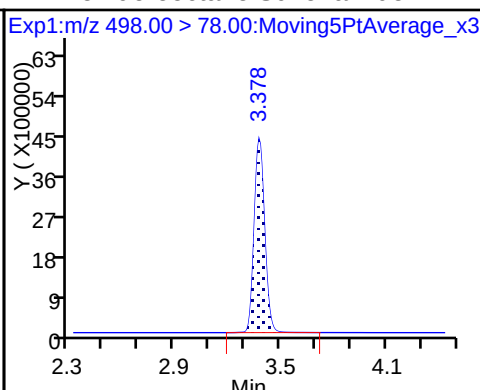
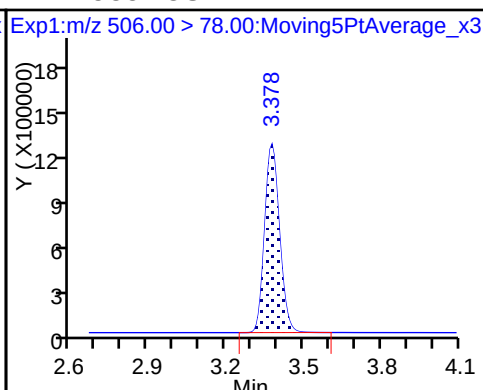
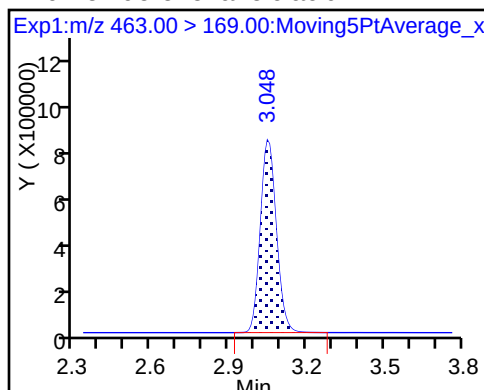
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

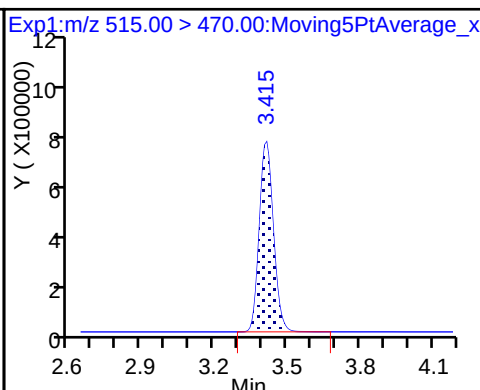
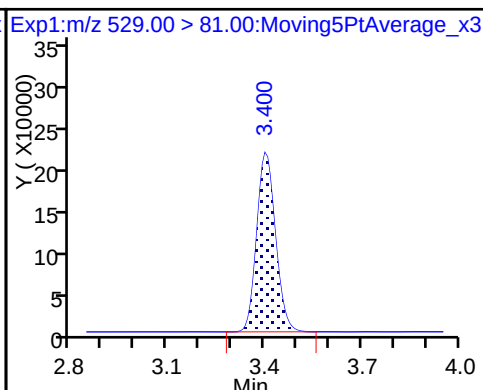
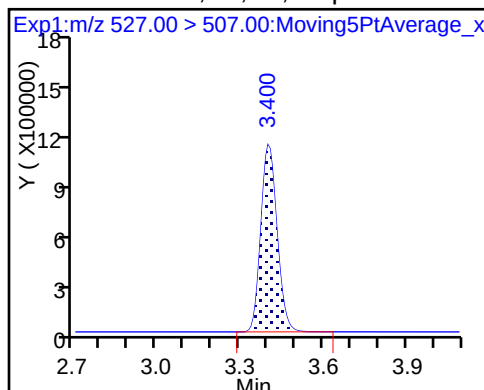
22 Perfluorooctane Sulfonamide

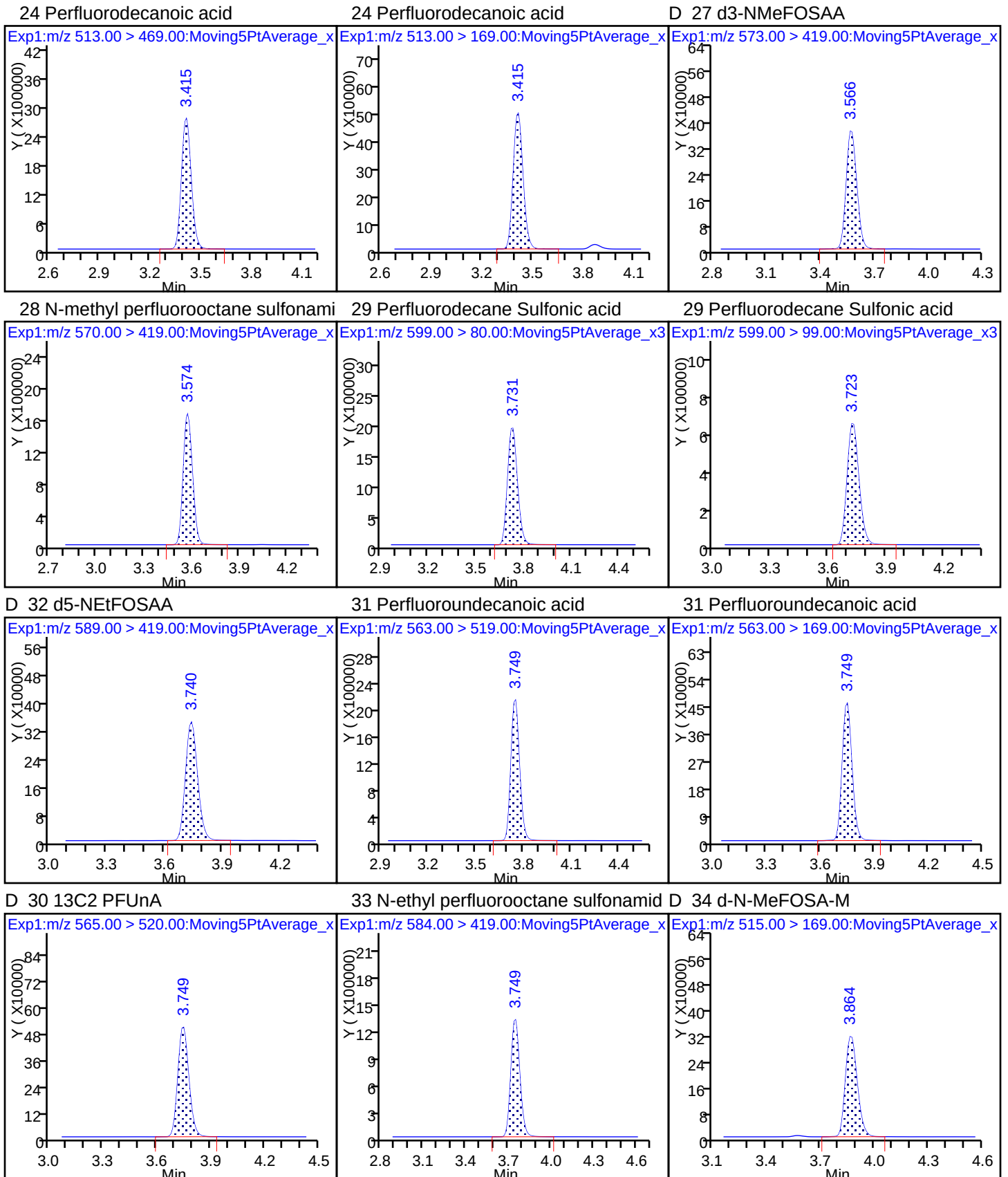


25 Sodium 1H,1H,2H,2H-perfluorodecanoate

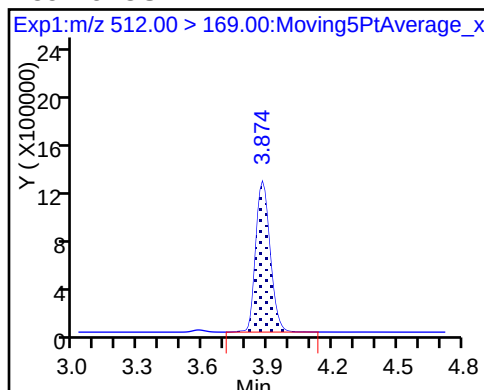
De26 M2-8:2FTS

D 23 13C2 PFDA

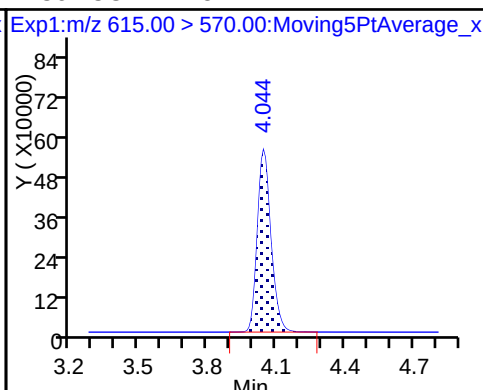




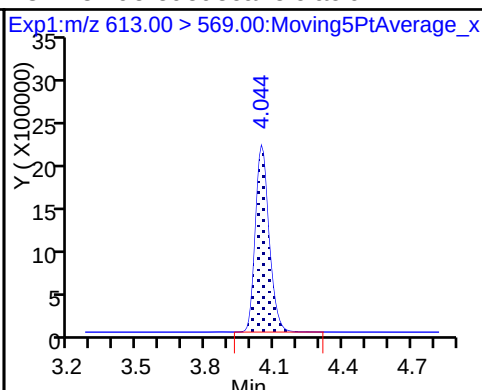
35 MeFOSA



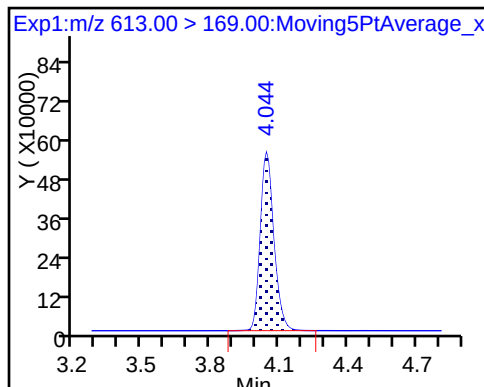
D 36 13C2 PFDaA



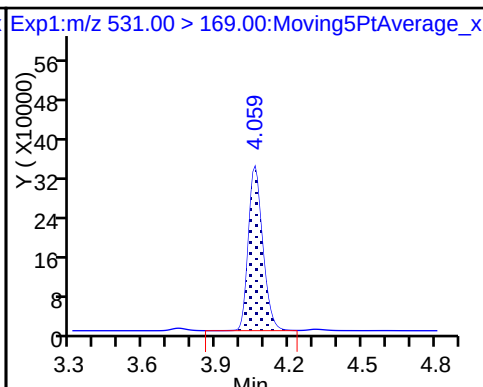
37 Perfluorododecanoic acid



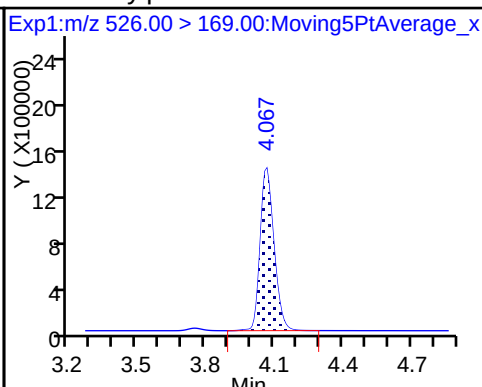
37 Perfluorododecanoic acid



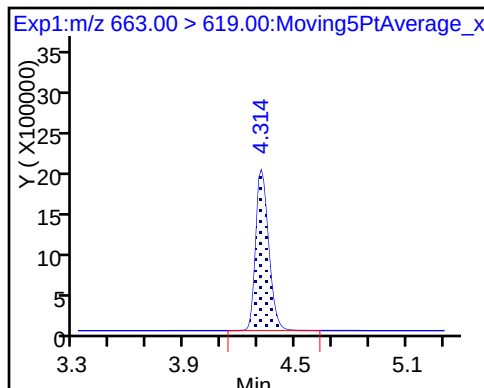
D 38 d-N-EtFOSA-M



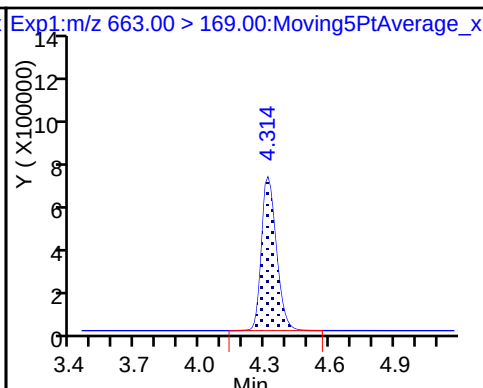
39 N-ethylperfluoro-1-octanesulfonami



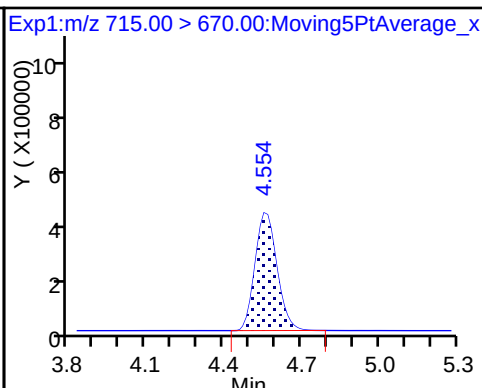
41 Perfluorotridecanoic acid



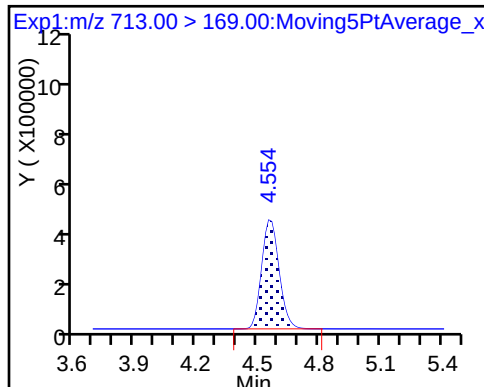
41 Perfluorotridecanoic acid



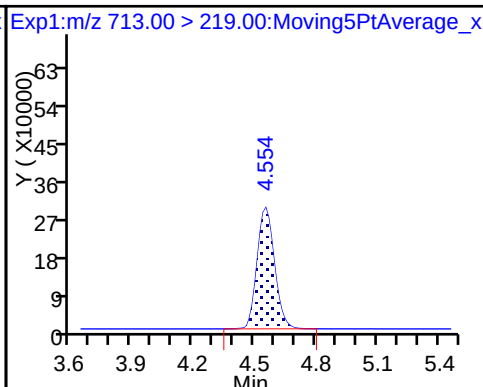
D 43 13C2-PFTeDA



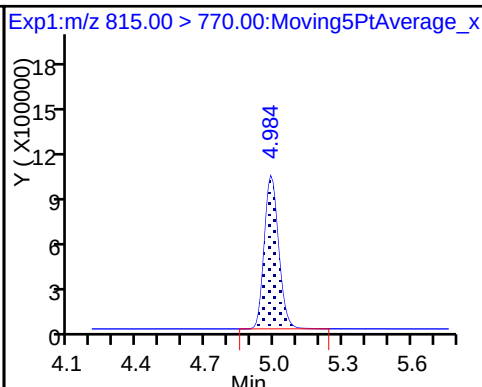
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



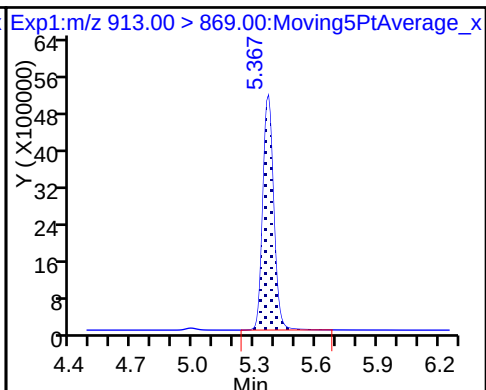
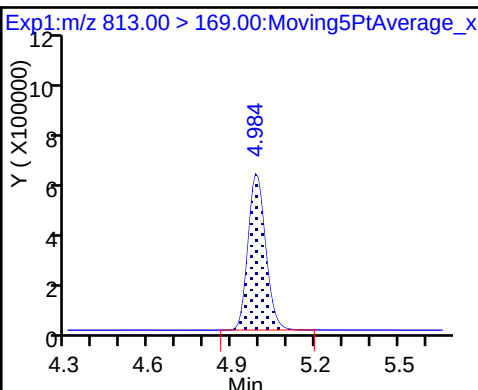
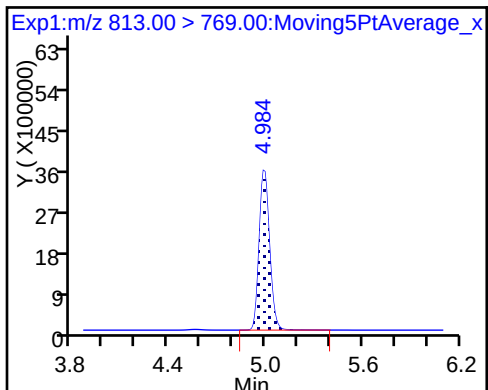
D 44 13C2-PFHxDA



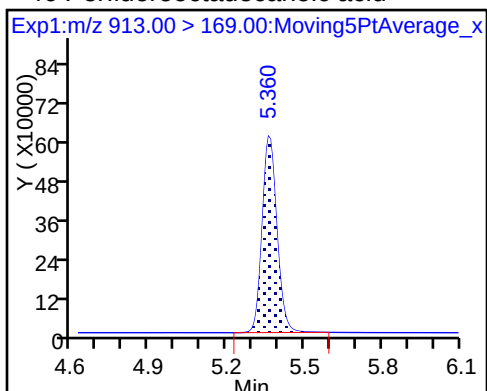
## 45 Perfluorohexadecanoic acid

## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid



## 46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_009.d  
 Lims ID: IC L8 Full  
 Client ID:  
 Sample Type: IC Calib Level: 8  
 Inject. Date: 26-Dec-2017 17:50:30 ALS Bottle#: 17 Worklist Smp#: 9  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: L8-FULL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 08:56:53 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 08:37:34

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)    | %Rec | S/N    | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|--------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                  |      |        |       |
| 217.00 > 172.00                       | 1.426 | 1.433  | -0.007 | 0.534  | 7226697  | 2.68         |                  | 107  | 19135  |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                  |      |        |       |
| 212.90 > 169.00                       | 1.426 | 1.434  | -0.008 | 1.000  | 46354837 | 17.6         |                  | 87.8 | 8872   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                  |      |        |       |
| 262.90 > 219.00                       | 1.679 | 1.691  | -0.012 | 0.995  | 32601407 | 18.0         |                  | 89.9 | 26591  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                  |      |        |       |
| 267.90 > 223.00                       | 1.688 | 1.692  | -0.004 | 0.632  | 4040100  | 2.57         |                  | 103  | 48904  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                  |      |        |       |
| 301.90 > 83.00                        | 1.724 | 1.725  | -0.001 | 0.645  | 83195    | 2.44         |                  | 105  | 3013   |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                  |      |        |       |
| 298.90 > 80.00                        | 1.724 | 1.730  | -0.006 | 1.000  | 39328701 | 14.7         |                  | 83.1 | 75629  |       |
| 298.90 > 99.00                        | 1.724 | 1.730  | -0.006 | 1.000  | 19460610 |              | 2.02(1.25-3.74)  | 83.1 | 83299  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                  |      |        |       |
| 327.00 > 307.00                       | 1.933 | 1.941  | -0.008 | 1.000  | 9840365  | 19.0         |                  | 101  | 124201 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                  |      |        |       |
| 315.00 > 270.00                       | 1.974 | 1.976  | -0.002 | 0.739  | 4385774  | 2.60         |                  | 104  | 33283  |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                  |      |        |       |
| 313.00 > 269.00                       | 1.974 | 1.979  | -0.005 | 1.000  | 31962029 | 18.2         |                  | 91.2 | 92173  |       |
| 313.00 > 119.00                       | 1.974 | 1.979  | -0.005 | 1.000  | 3236652  |              | 9.88(5.03-15.10) | 91.2 | 79384  |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                  |      |        |       |
| 363.00 > 319.00                       | 2.304 | 2.311  | -0.007 | 1.000  | 29220142 | 17.5         |                  | 87.6 | 39612  |       |
| 363.00 > 169.00                       | 2.304 | 2.311  | -0.007 | 1.000  | 13201244 |              | 2.21(1.13-3.40)  | 87.6 | 48598  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                  |      |        |       |
| 367.00 > 322.00                       | 2.304 | 2.311  | -0.007 | 0.862  | 3987961  | 2.54         |                  | 102  | 29396  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                  |      |        |       |
| 399.00 > 80.00                        | 2.317 | 2.324  | -0.007 | 1.000  | 35148833 | 16.6         |                  | 91.4 | 26000  |       |
| 399.00 > 99.00                        | 2.317 | 2.324  | -0.007 | 1.000  | 12545412 |              | 2.80(1.50-4.49)  | 91.4 | 24350  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N    | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|--------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |        |       |
| 403.00 > 84.00                        | 2.317 | 2.328  | -0.011 | 0.867  | 4571610  | 2.30         |                 | 97.1 | 25618  |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |        |       |
| 429.00 > 81.00                        | 2.644 | 2.649  | -0.005 | 0.989  | 715095   | 2.40         |                 | 101  | 14406  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |        |       |
| 427.00 > 407.00                       | 2.644 | 2.651  | -0.007 | 1.000  | 9050597  | 17.9         |                 | 94.5 | 69582  |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |        |       |
| 417.00 > 372.00                       | 2.666 | 2.674  | -0.008 | 0.997  | 3875680  | 2.42         |                 | 96.9 | 23268  |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |        |       |
| 415.00 > 370.00                       | 2.673 | 2.676  | -0.003 |        | 3892531  | 2.50         |                 |      | 33540  |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |        |       |
| 413.00 > 369.00                       | 2.673 | 2.677  | -0.004 | 1.003  | 29376734 | 17.9         |                 | 89.5 | 13029  |       |
| 413.00 > 169.00                       | 2.673 | 2.677  | -0.004 | 1.003  | 17004172 |              | 1.73(0.84-2.52) | 89.5 | 39852  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |        |       |
| 449.00 > 80.00                        | 2.680 | 2.683  | -0.003 | 1.000  | 26846157 | 16.4         |                 | 86.3 | 68858  |       |
| 449.00 > 99.00                        | 2.680 | 2.683  | -0.003 | 1.000  | 8422413  |              | 3.19(1.94-5.82) | 86.3 | 55773  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |        |       |
| 503.00 > 80.00                        | 3.040 | 3.048  | -0.008 | 1.137  | 3181407  | 2.41         |                 | 101  | 15830  |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |        |       |
| 499.00 > 80.00                        | 3.047 | 3.050  | -0.003 | 1.003  | 25298467 | 17.7         |                 | 95.4 | 5069   |       |
| 499.00 > 99.00                        | 3.040 | 3.050  | -0.010 | 1.000  | 5696686  |              | 4.44(2.31-6.93) | 95.4 | 280018 |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |        |       |
| 468.00 > 423.00                       | 3.047 | 3.051  | -0.004 | 1.140  | 3162653  | 2.47         |                 | 99.0 | 26666  |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |        |       |
| 463.00 > 419.00                       | 3.047 | 3.052  | -0.005 | 1.000  | 23256124 | 18.9         |                 | 94.3 | 28485  |       |
| 463.00 > 169.00                       | 3.047 | 3.052  | -0.005 | 1.000  | 6303733  |              | 3.69(1.90-5.69) | 94.3 | 33602  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |        |       |
| 506.00 > 78.00                        | 3.370 | 3.377  | -0.007 | 1.261  | 4686465  | 2.63         |                 | 105  | 21117  |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |        |       |
| 498.00 > 78.00                        | 3.370 | 3.378  | -0.008 | 1.000  | 29190141 | 16.4         |                 | 82.0 | 72920  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |        |       |
| 527.00 > 507.00                       | 3.400 | 3.402  | -0.002 | 1.000  | 8278171  | 18.8         |                 | 98.4 | 50011  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |        |       |
| 529.00 > 81.00                        | 3.400 | 3.403  | -0.003 | 1.272  | 837806   | 2.57         |                 | 107  | 12855  |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |        |       |
| 513.00 > 469.00                       | 3.407 | 3.414  | -0.007 | 1.000  | 19481461 | 17.8         |                 | 89.1 | 64389  |       |
| 513.00 > 169.00                       | 3.407 | 3.414  | -0.007 | 1.000  | 3900201  |              | 4.99(2.36-7.09) | 89.1 | 2003   |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |        |       |
| 515.00 > 470.00                       | 3.407 | 3.414  | -0.007 | 1.275  | 2771267  | 2.67         |                 | 107  | 30288  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |        |       |
| 573.00 > 419.00                       | 3.558 | 3.569  | -0.011 | 1.331  | 1407992  | 2.62         |                 | 105  | 15017  |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |        |       |
| 570.00 > 419.00                       | 3.566 | 3.574  | -0.008 | 1.002  | 11447795 | 19.2         |                 | 96.0 | 22667  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |        |       |
| 599.00 > 80.00                        | 3.721 | 3.730  | -0.009 | 1.000  | 14451481 | 18.3         |                 | 95.1 | 58012  |       |
| 599.00 > 99.00                        | 3.721 | 3.730  | -0.009 | 1.000  | 4902979  |              | 2.95(1.39-4.16) | 95.1 | 40924  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |        |       |
| 589.00 > 419.00                       | 3.730 | 3.740  | -0.010 | 1.396  | 1282388  | 2.34         |                 | 93.7 | 7305   |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N    | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|--------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |        |       |
| 563.00 > 519.00                       | 3.738 | 3.746     | -0.008    | 1.000     | 14075331 | 19.9            |                 | 99.3 | 53761  |       |
| 563.00 > 169.00                       | 3.738 | 3.746     | -0.008    | 1.000     | 3104755  |                 | 4.53(0.00-0.00) | 99.3 | 22821  |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |        |       |
| 584.00 > 419.00                       | 3.738 | 3.747     | -0.009    | 1.002     | 10284337 | 20.8            |                 | 104  | 30468  |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |        |       |
| 565.00 > 520.00                       | 3.738 | 3.747     | -0.009    | 1.399     | 1891947  | 2.41            |                 | 96.2 | 20035  |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |        |       |
| 515.00 > 169.00                       | 3.863 | 3.867     | -0.004    | 1.445     | 1454317  | 2.87            |                 | 115  | 3237   |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |        |       |
| 512.00 > 169.00                       | 3.863 | 3.873     | -0.010    | 1.000     | 11128006 | 19.8            |                 | 99.1 | 3612   |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |        |       |
| 613.00 > 569.00                       | 4.035 | 4.045     | -0.010    | 1.000     | 16112569 | 18.9            |                 | 94.4 | 52064  |       |
| 613.00 > 169.00                       | 4.035 | 4.045     | -0.010    | 1.000     | 4108901  |                 | 3.92(2.13-6.40) | 94.4 | 39851  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |        |       |
| 615.00 > 570.00                       | 4.035 | 4.045     | -0.010    | 1.510     | 2148062  | 2.51            |                 | 101  | 22730  |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |        |       |
| 531.00 > 169.00                       | 4.050 | 4.058     | -0.008    | 1.515     | 1318213  | 2.73            |                 | 109  | 1629   |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |        |       |
| 526.00 > 169.00                       | 4.058 | 4.065     | -0.007    | 1.002     | 11185811 | 19.6            |                 | 97.9 | 3524   |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |        |       |
| 663.00 > 619.00                       | 4.301 | 4.312     | -0.011    | 1.000     | 18648248 | 20.1            |                 | 101  | 43751  |       |
| 663.00 > 169.00                       | 4.301 | 4.312     | -0.011    | 1.000     | 6108083  |                 | 3.05(1.25-3.76) | 101  | 100211 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |        |       |
| 713.00 > 169.00                       | 4.553 | 4.557     | -0.004    | 1.000     | 4566597  | 19.5            |                 | 97.6 | 33616  |       |
| 713.00 > 219.00                       | 4.540 | 4.557     | -0.017    | 0.997     | 3287900  |                 | 1.39(0.71-2.13) | 97.6 | 31009  |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |        |       |
| 715.00 > 670.00                       | 4.553 | 4.557     | -0.004    | 1.704     | 2299500  | 2.47            |                 | 99.0 | 15057  |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |        |       |
| 813.00 > 769.00                       | 4.975 | 4.984     | -0.009    | 1.000     | 24984763 | 17.7            |                 | 88.3 | 11882  |       |
| 813.00 > 169.00                       | 4.975 | 4.984     | -0.009    | 1.000     | 5123043  |                 | 4.88(2.86-8.58) | 88.3 | 21302  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |        |       |
| 815.00 > 770.00                       | 4.975 | 4.984     | -0.009    | 1.861     | 4139140  | 2.43            |                 | 97.2 | 11388  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |        |       |
| 913.00 > 869.00                       | 5.353 | 5.361     | -0.008    | 1.000     | 31703202 | 17.8            |                 | 89.1 | 3799   |       |
| 913.00 > 169.00                       | 5.353 | 5.361     | -0.008    | 1.000     | 4538709  |                 | 6.99(0.00-0.00) | 89.1 | 4973   |       |

## Reagents:

LCPFC\_LL8\_00001

Amount Added: 1.00

Units: mL



## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_009.d

Injection Date: 26-Dec-2017 17:50:30

Instrument ID: A8\_N

Lims ID: IC L8 Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 17

Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

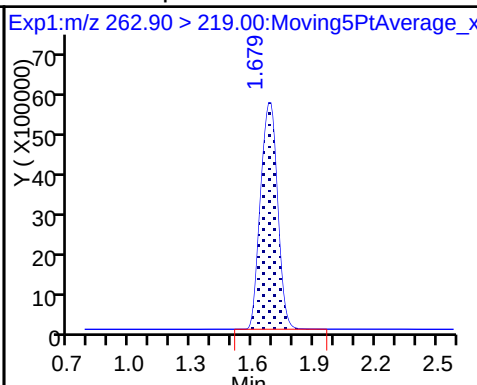
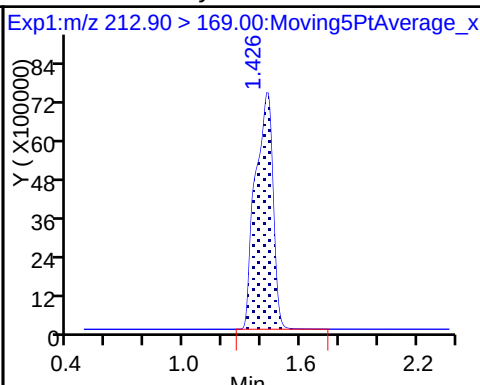
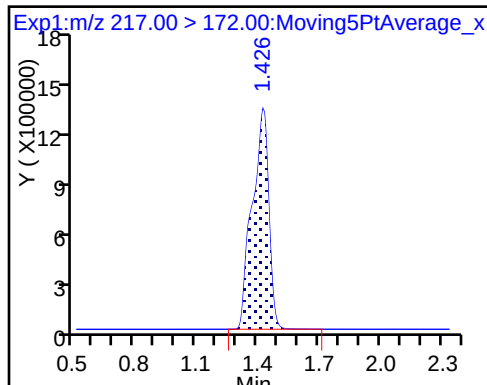
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

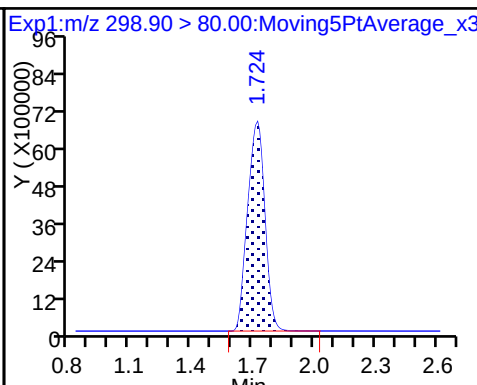
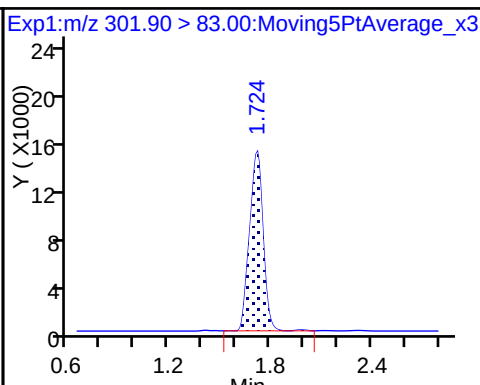
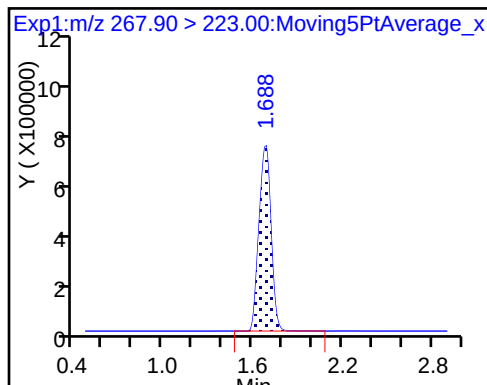
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

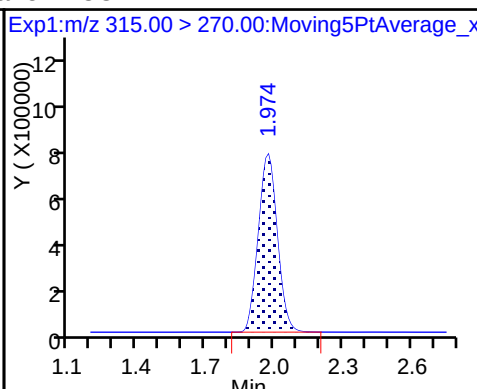
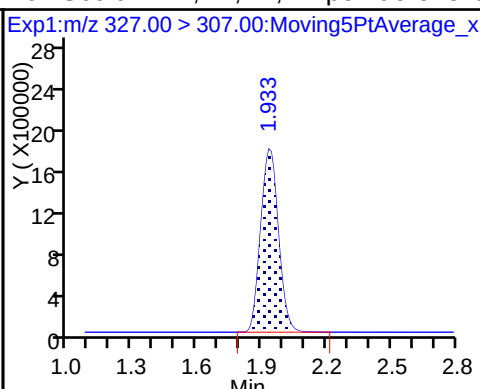
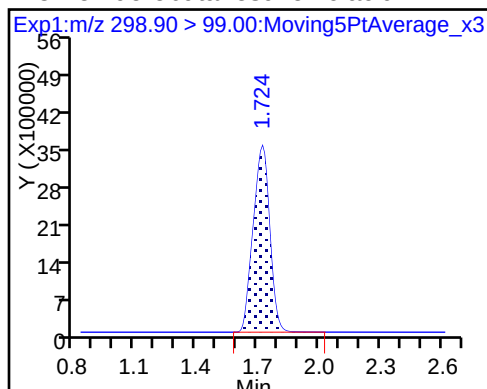
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

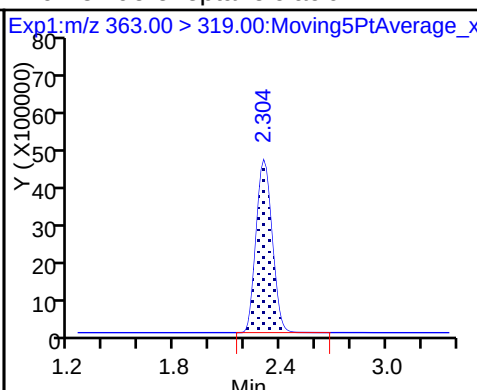
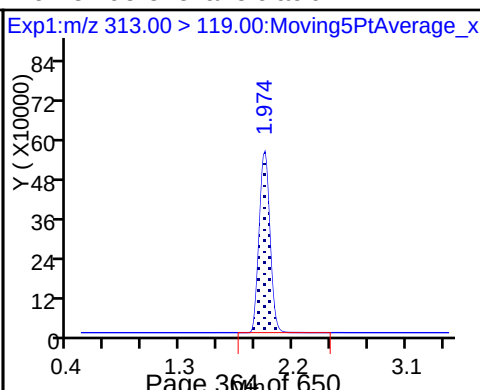
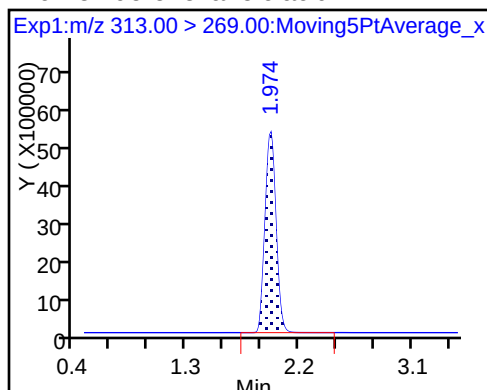
De 7 13C2 PFHxA

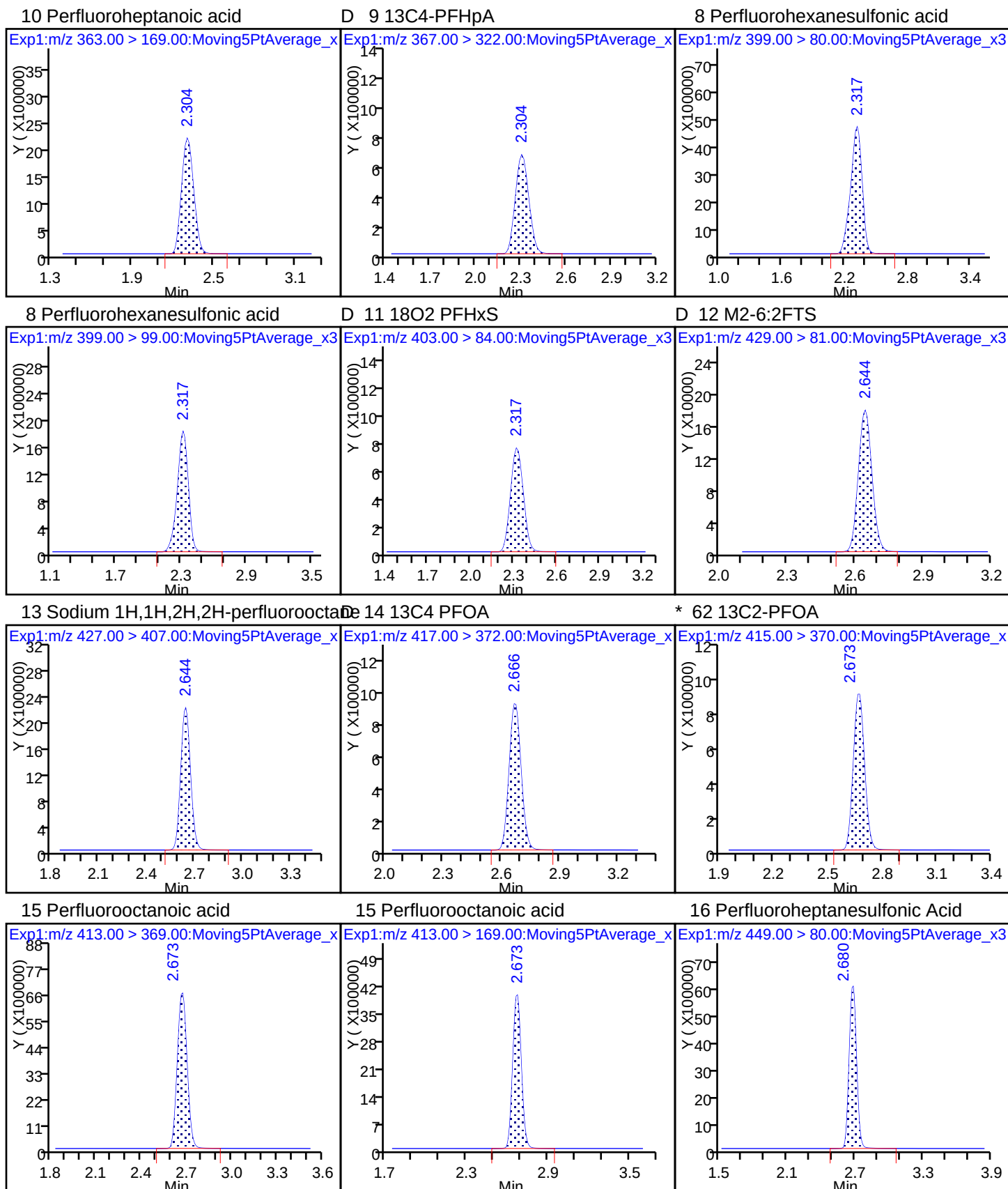


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

10 Perfluoroheptanoic acid

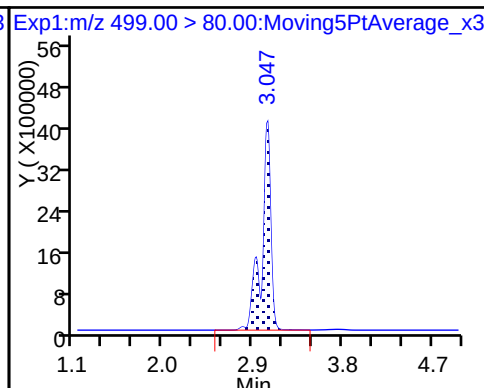
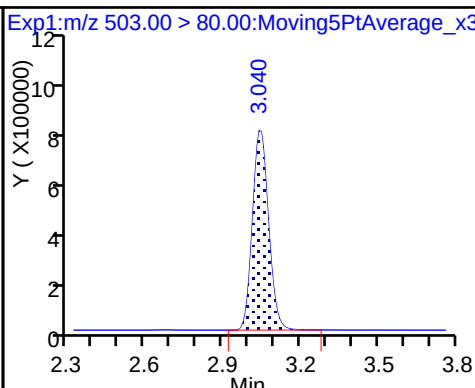
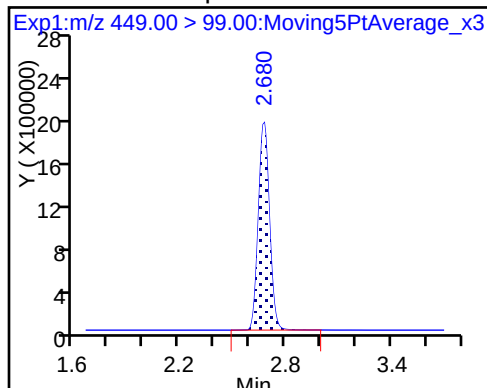




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

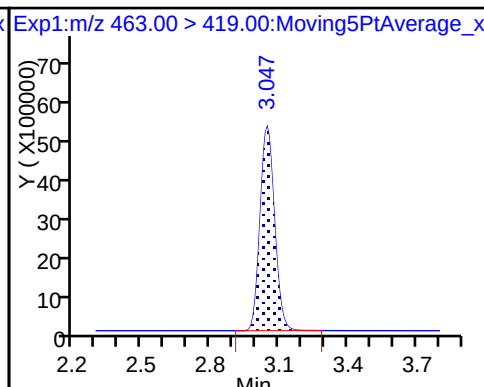
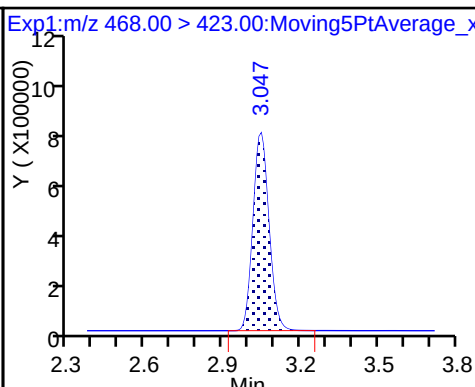
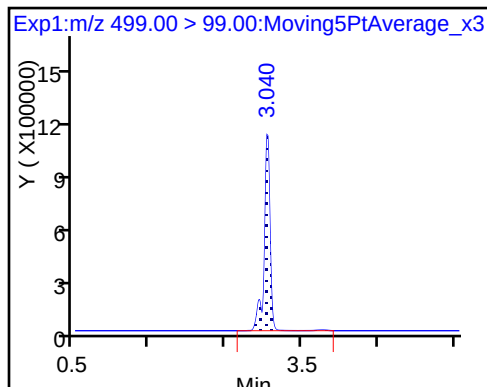
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

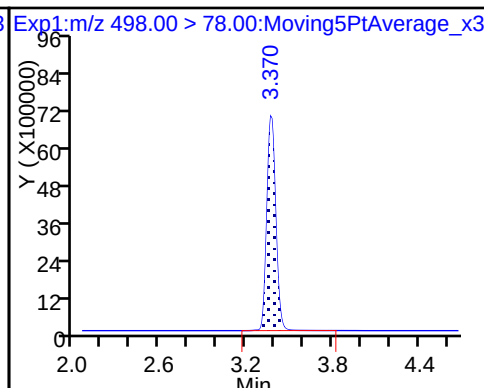
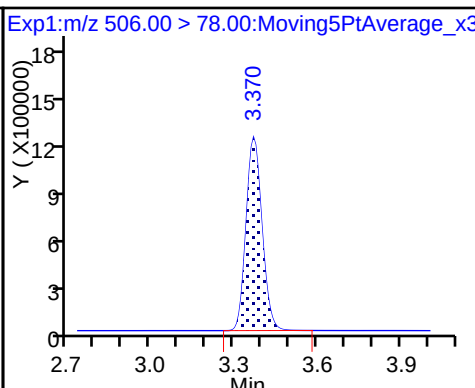
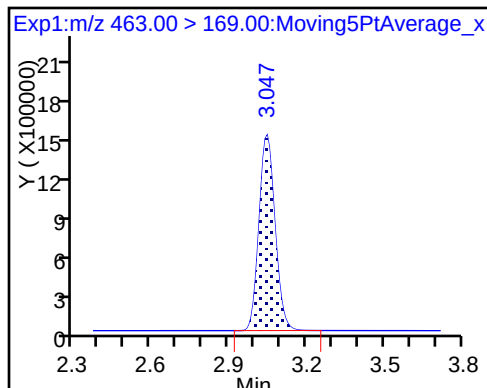
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

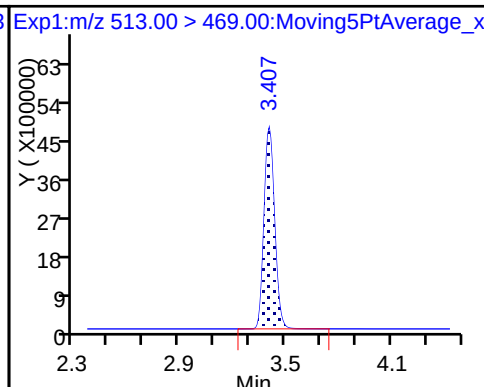
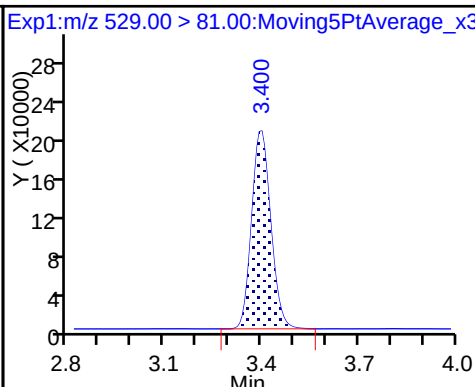
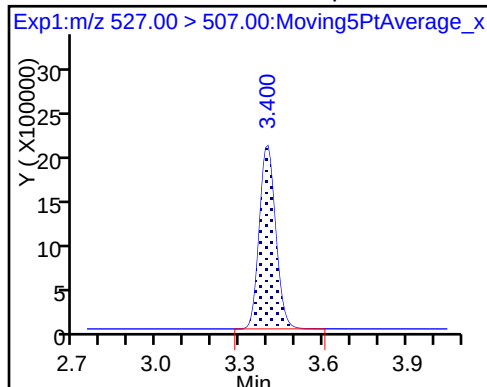
22 Perfluorooctane Sulfonamide



25 Sodium 1H,1H,2H,2H-perfluorodecanoate

De26 M2-8:2FTS

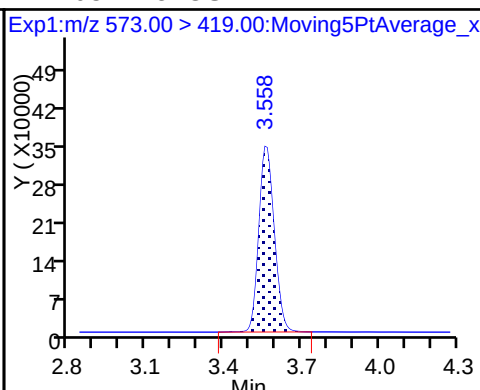
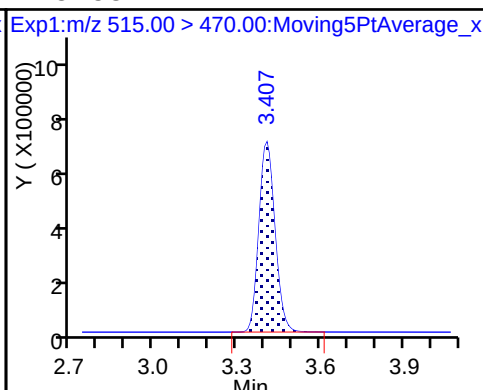
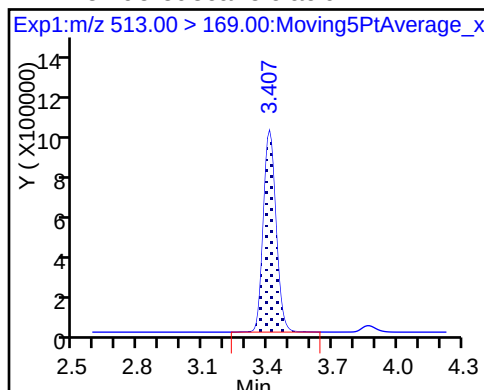
24 Perfluorodecanoic acid



24 Perfluorodecanoic acid

D 23 13C2 PFDA

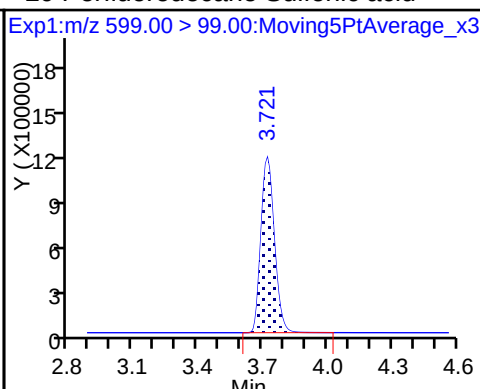
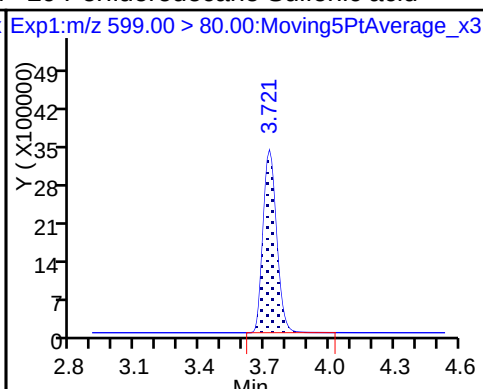
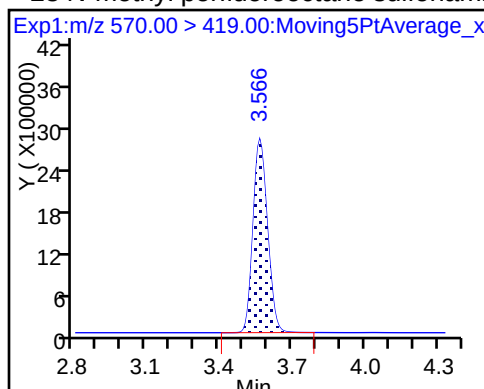
D 27 d3-NMeFOSAA



28 N-methyl perfluorooctane sulfonamid

29 Perfluorodecane Sulfonic acid

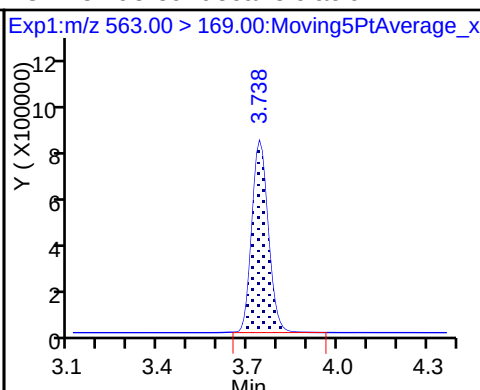
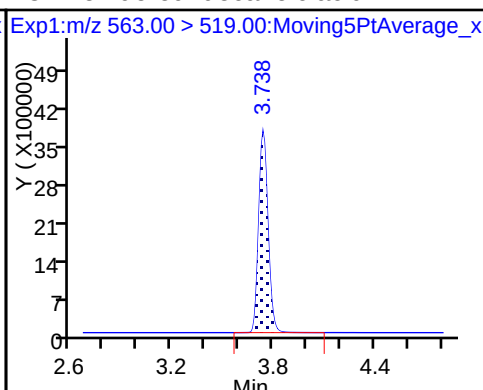
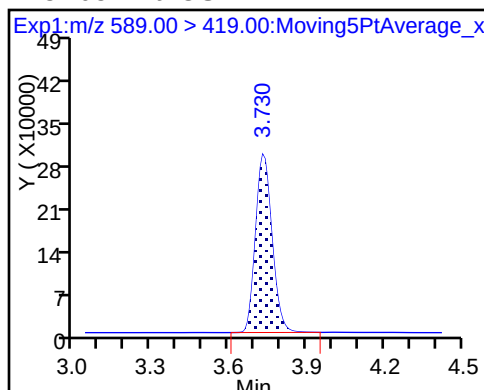
29 Perfluorodecane Sulfonic acid



D 32 d5-NEtFOSAA

31 Perfluoroundecanoic acid

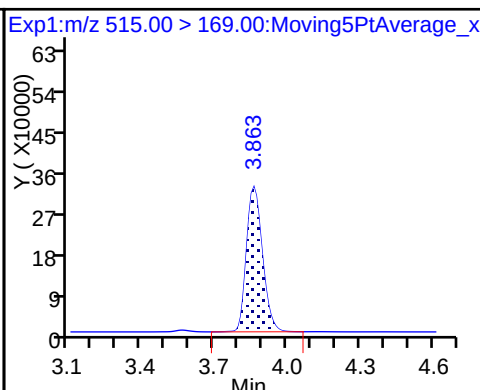
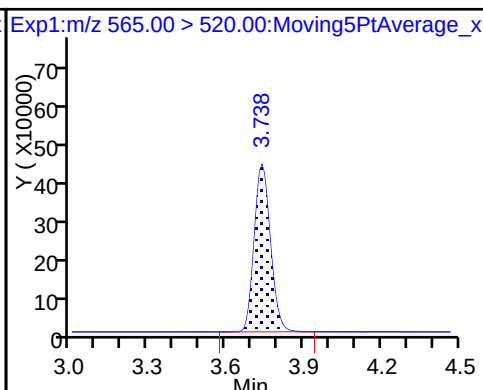
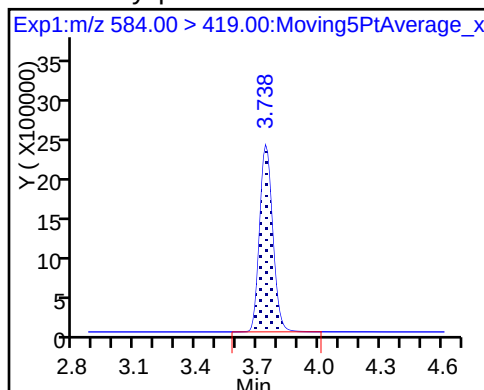
31 Perfluoroundecanoic acid



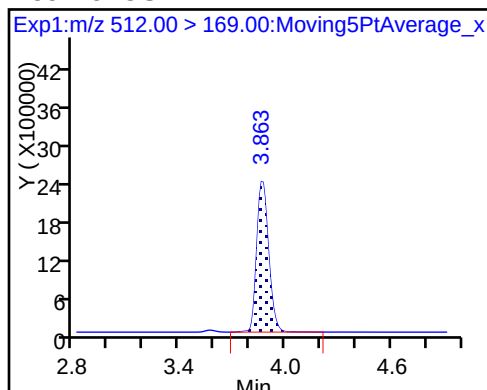
33 N-ethyl perfluorooctane sulfonamid

D 30 13C2 PFUnA

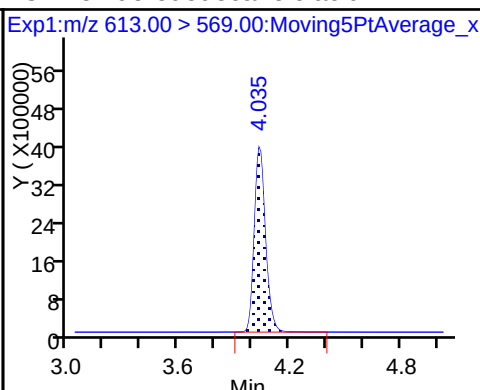
D 34 d-N-MeFOSA-M



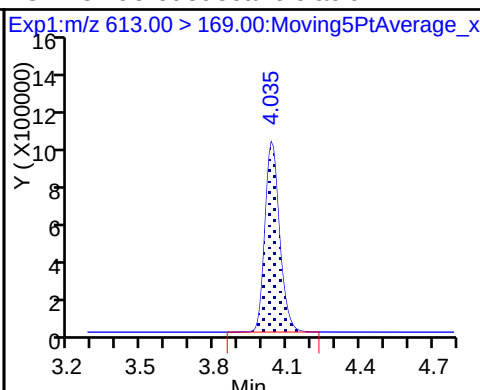
35 MeFOSA



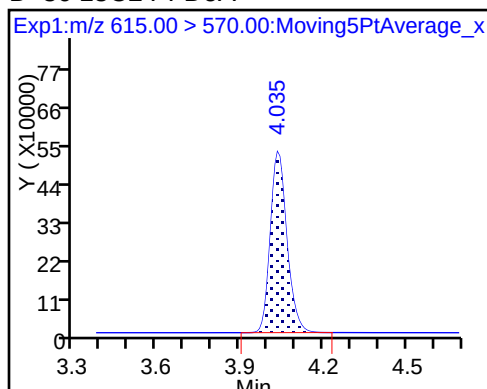
37 Perfluorododecanoic acid



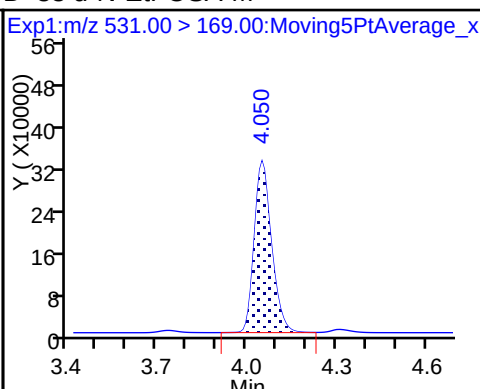
37 Perfluorododecanoic acid



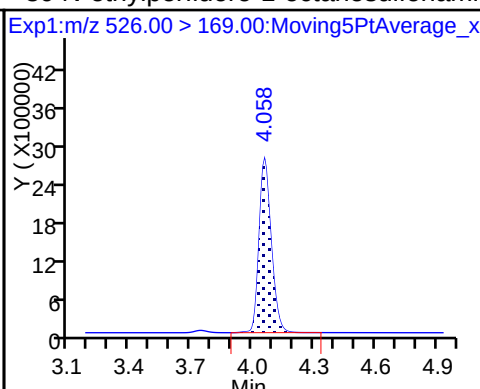
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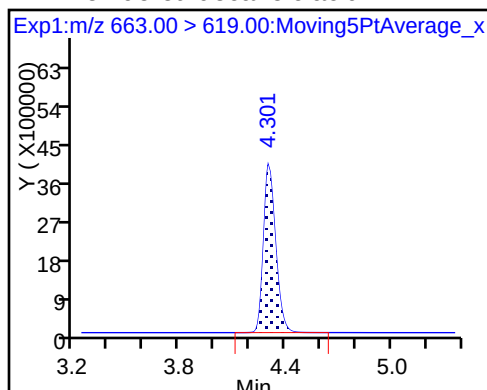
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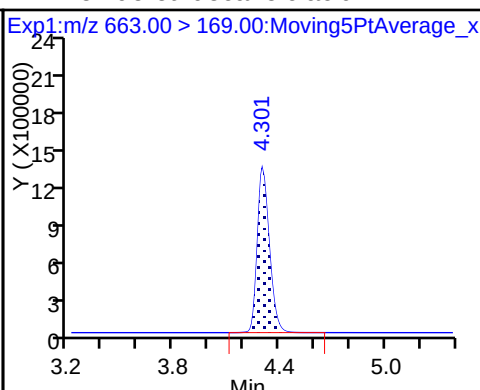
39 N-ethylperfluoro-1-octanesulfonami



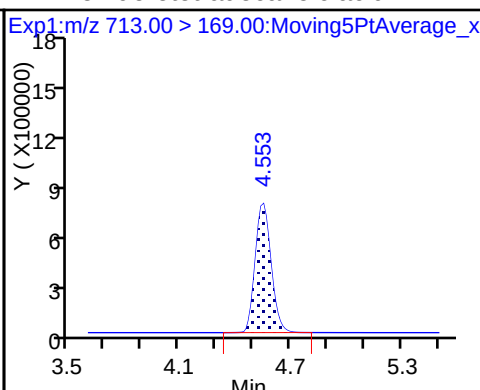
41 Perfluorotridecanoic acid



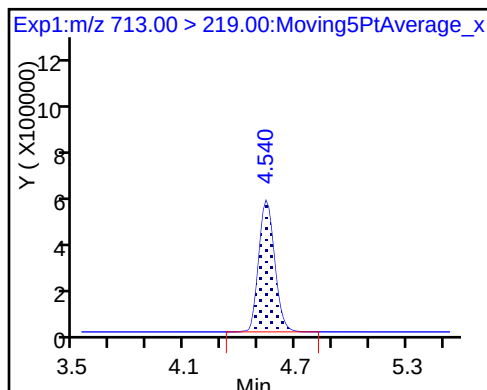
41 Perfluorotridecanoic acid



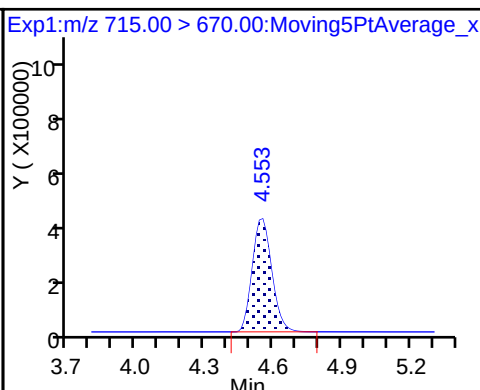
42 Perfluorotetradecanoic acid



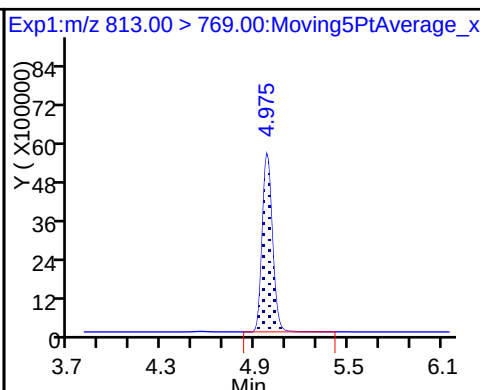
42 Perfluorotetradecanoic acid



D 43 13C2-PFTeDA



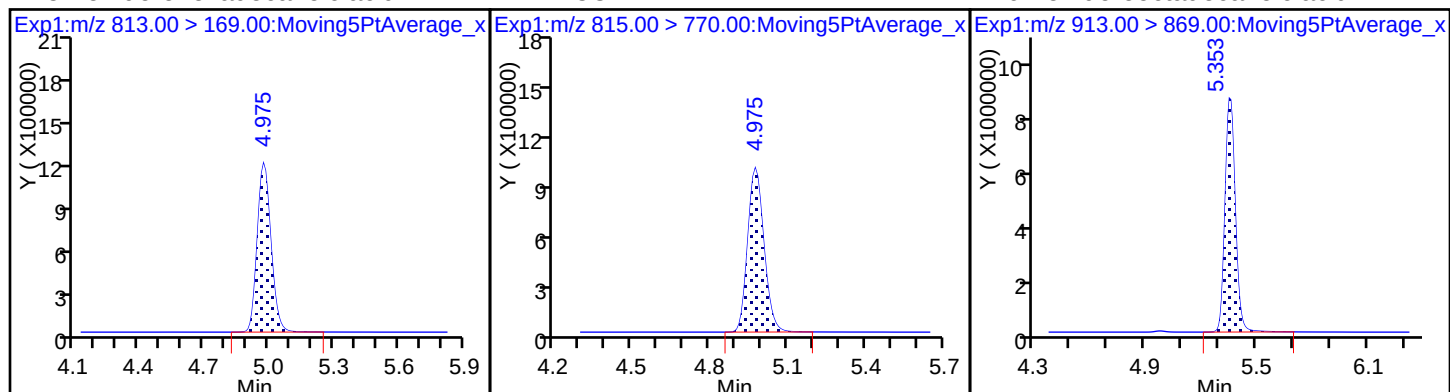
45 Perfluorohexadecanoic acid



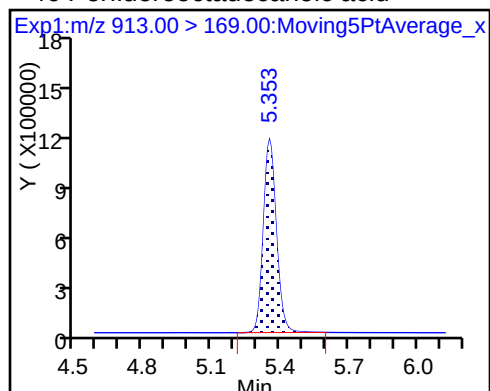
45 Perfluorohexadecanoic acid

D 44 13C2-PFHxDA

46 Perfluorooctadecanoic acid



46 Perfluorooctadecanoic acid



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Lims ID: IC M2-4:2FTS  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 26-Dec-2017 17:58:18 ALS Bottle#: 22 Worklist Smp#: 10  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: M2:4-2FTS Calibration Std  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub19  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 08:56:58 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 08:38:11

| Signal | RT | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits) | %Rec | S/N | Flags |
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|
|--------|----|--------|--------|--------|----------|--------------|---------------|------|-----|-------|

D 60 M2-4:2FTS

329.00 > 81.00 1.955 1.955 0.0 0.729 413908 2.34 100 18385

\* 62 13C2-PFOA

415.00 > 370.00 2.681 2.676 0.005 5396276 2.50 45732

### Reagents:

LCM2-4:2LLIC\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26\ICALA\_010.d

Injection Date: 26-Dec-2017 17:58:18

Instrument ID: A8\_N

Lims ID: IC M2-4:2FTS

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 22

Worklist Smp#: 10

Injection Vol: 2.0 ul

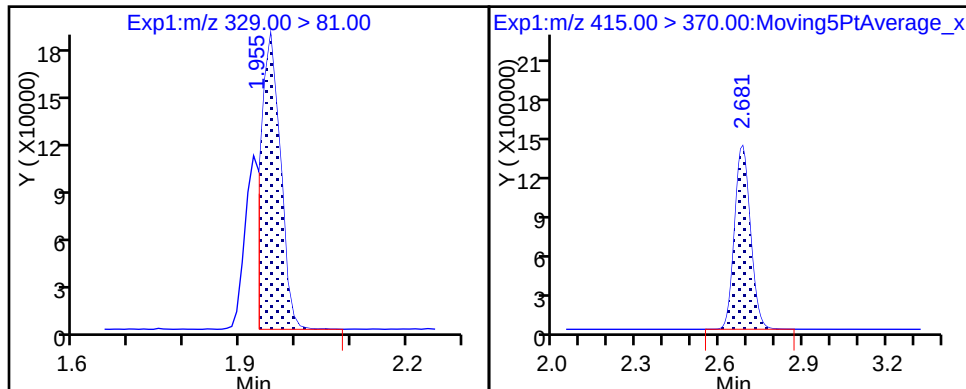
Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

D 60 M2-4:2FTS

\* 62 13C2-PFOA





FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: ICV 320-201053/12 Calibration Date: 12/21/2017 16:24

Instrument ID: A8\_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.21ICALX\_012.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D    | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9163  | 0.9072 |         | 2.48        | 2.50         | -1.0  | 40.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.116   | 1.089  |         | 2.44        | 2.50         | -2.4  | 40.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 75.22   | 76.53  |         | 2.25        | 2.21         | 1.7   | 50.0   |
| 4:2 FTS                                                    | AveID      | 0.8220  | 0.7359 |         | 2.09        | 2.34         | -10.5 | 50.0   |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 1.001   | 1.017  |         | 2.54        | 2.50         | 1.6   | 40.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 1.130  |         | 2.70        | 2.50         | 8.0   | 40.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.076   | 1.012  |         | 2.22        | 2.36         | -6.0  | 40.0   |
| 6:2FTS                                                     | AveID      | 1.550   | 1.461  |         | 2.23        | 2.37         | -5.7  | 40.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.052   | 1.070  |         | 2.54        | 2.50         | 1.7   | 40.0   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | AveID      | 1.309   | 1.312  |         | 2.38        | 2.38         | 0.2   | 50.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 1.006   | 1.028  |         | 2.55        | 2.50         | 2.2   | 40.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.060   | 1.096  |         | 2.47        | 2.39         | 3.4   | 40.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9592  | 0.9403 |         | 2.45        | 2.50         | -2.0  | 40.0   |
| 8:2FTS                                                     | AveID      | 1.216   | 1.220  |         | 2.40        | 2.40         | 0.4   | 40.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9673  | 1.028  |         | 2.66        | 2.50         | 6.3   | 40.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.074   | 0.9797 |         | 2.28        | 2.50         | -8.7  | 40.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.6176  | 0.6812 |         | 2.66        | 2.41         | 10.3  | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9936  | 0.9673 |         | 2.43        | 2.50         | -2.6  | 40.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9160  | 0.9407 |         | 2.57        | 2.50         | 2.7   | 40.0   |
| MeFOSA                                                     | AveID      | 0.9787  | 1.005  |         | 2.57        | 2.50         | 2.7   | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9925  | 1.038  |         | 2.61        | 2.50         | 4.5   | 40.0   |
| N-EtFOSA-M                                                 | AveID      | 1.065   | 1.004  |         | 2.36        | 2.50         | -5.7  | 40.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.160   | 1.238  |         | 2.67        | 2.50         | 6.8   | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2577  | 0.2500 |         | 2.43        | 2.50         | -3.0  | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 0.9528 |         | 2.76        | 2.50         | 10.5  | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.029   | 1.111  |         | 2.70        | 2.50         | 8.0   | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.519   | 1.468  |         | 2.42        | 2.50         | -3.4  | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 0.9096  | 0.8739 |         | 2.40        | 2.50         | -3.9  | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0194  | 0.0190 |         | 2.28        | 2.33         | -2.1  | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 0.9709  | 0.9254 |         | 2.38        | 2.50         | -4.7  | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 0.8985  | 0.8571 |         | 2.39        | 2.50         | -4.6  | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 320-201053/12 Calibration Date: 12/21/2017 16:24  
 Instrument ID: A8\_N Calib Start Date: 12/21/2017 15:05  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/21/2017 16:08  
 Lab File ID: 2017.12.21ICALX\_012.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|------|-----------|
| 18O2 PFHxS   | Ave           | 1.134   | 1.084  |         | 2.26           | 2.37            | -4.4 | 50.0      |
| M2-6:2FTS    | Ave           | 0.4185  | 0.4332 |         | 2.46           | 2.38            | 3.5  | 40.0      |
| 13C4 PFOA    | Ave           | 1.033   | 0.9730 |         | 2.36           | 2.50            | -5.8 | 50.0      |
| 13C4 PFOS    | Ave           | 0.7487  | 0.6756 |         | 2.16           | 2.39            | -9.8 | 50.0      |
| 13C5 PFNA    | Ave           | 0.7339  | 0.6885 |         | 2.35           | 2.50            | -6.2 | 50.0      |
| 13C8 FOSA    | Ave           | 1.019   | 0.9723 |         | 2.39           | 2.50            | -4.6 | 50.0      |
| M2-8:2FTS    | Ave           | 0.2338  | 0.2346 |         | 2.40           | 2.40            | 0.3  | 40.0      |
| 13C2 PFDA    | Ave           | 0.6054  | 0.5794 |         | 2.39           | 2.50            | -4.3 | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3249  | 0.3204 |         | 2.47           | 2.50            | -1.4 | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3173  | 0.3133 |         | 2.47           | 2.50            | -1.3 | 50.0      |
| 13C2 PFUnA   | Ave           | 0.4609  | 0.4259 |         | 2.31           | 2.50            | -7.6 | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.2902  | 0.2705 |         | 2.33           | 2.50            | -6.8 | 50.0      |
| 13C2 PFDoA   | Ave           | 0.4970  | 0.4706 |         | 2.37           | 2.50            | -5.3 | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.2788  | 0.2737 |         | 2.46           | 2.50            | -1.8 | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5554  | 0.5150 |         | 2.32           | 2.50            | -7.3 | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.011   | 0.9246 |         | 2.29           | 2.50            | -8.6 | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_012.d  
 Lims ID: ICV Full  
 Client ID:  
 Sample Type: ICV  
 Inject. Date: 21-Dec-2017 16:24:05 ALS Bottle#: 18 Worklist Smp#: 12  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: ICV  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist:  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 22-Dec-2017 09:32:52 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK052

First Level Reviewer: hannigana

Date: 22-Dec-2017 09:29:20

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.418 | 1.419  | -0.001 | 0.534  | 7689285  | 2.42         |                   | 96.6 | 26550 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.418 | 1.419  | -0.001 | 1.000  | 6975510  | 2.48         |                   |      | 2432  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.668 | 1.670  | -0.002 | 0.628  | 4576212  | 2.40         |                   | 96.1 | 50367 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.668 | 1.670  | -0.002 | 1.000  | 4983920  | 2.44         |                   |      | 3179  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.712 | 1.705  | 0.007  | 0.645  | 92474    | 2.28         |                   | 97.9 | 2500  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.712 | 1.707  | 0.005  | 1.000  | 6734643  | 2.25         |                   |      | 35046 |       |
| 298.90 > 99.00                        | 1.712 | 1.707  | 0.005  | 1.000  | 2794972  |              | 2.41(1.25-3.74)   |      | 28744 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.918 | 1.920  | -0.002 | 1.000  | 1559224  | 2.09         |                   |      | 57221 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.960 | 1.953  | 0.007  | 0.738  | 4845999  | 2.38         |                   | 95.3 | 45226 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.960 | 1.956  | 0.004  | 1.000  | 4929363  | 2.54         |                   |      | 16929 |       |
| 313.00 > 119.00                       | 1.960 | 1.956  | 0.004  | 1.000  | 449471   |              | 10.97(5.03-15.10) |      | 11225 |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.286 | 2.291  | -0.005 | 0.861  | 4488205  | 2.38         |                   | 95.4 | 31796 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.286 | 2.291  | -0.005 | 1.000  | 5071412  | 2.70         |                   |      | 6777  |       |
| 363.00 > 169.00                       | 2.286 | 2.291  | -0.005 | 1.000  | 1928917  |              | 2.63(1.13-3.40)   |      | 13633 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.299 | 2.304  | -0.005 | 1.000  | 5429616  | 2.22         |                   |      | 11136 |       |
| 399.00 > 99.00                        | 2.299 | 2.304  | -0.005 | 1.000  | 1776107  |              | 3.06(1.50-4.49)   |      | 8215  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.299 | 2.304  | -0.005 | 0.866  | 5372252  | 2.26         |                 | 95.6 | 36335 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.640 | 2.642  | -0.002 | 1.000  | 3142078  | 2.23         |                 |      | 85000 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.640 | 2.642  | -0.002 | 0.995  | 2155102  | 2.46         |                 | 104  | 47444 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.654 | 2.654  | 0.0    | 1.000  | 5095322  | 2.35         |                 | 94.2 | 46098 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.654 | 2.656  | -0.002 |        | 5236561  | 2.50         |                 |      | 45851 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.654 | 2.656  | -0.002 | 1.000  | 5449809  | 2.54         |                 |      | 2229  |       |
| 413.00 > 169.00                       | 2.654 | 2.656  | -0.002 | 1.000  | 2983371  |              | 1.83(0.84-2.52) |      | 17844 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.662 | 2.662  | 0.0    | 1.000  | 4417261  | 2.38         |                 |      | 27381 |       |
| 449.00 > 99.00                        | 2.662 | 2.662  | 0.0    | 1.000  | 1179325  |              | 3.75(1.94-5.82) |      | 16784 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.028 | 3.025  | 0.003  | 1.141  | 3382103  | 2.16         |                 | 90.2 | 23972 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.028 | 3.028  | 0.0    | 1.000  | 3703713  | 2.47         |                 |      | 508   |       |
| 499.00 > 99.00                        | 3.028 | 3.028  | 0.0    | 1.000  | 846507   |              | 4.38(2.31-6.93) |      | 625   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.028 | 3.028  | 0.0    | 1.141  | 3605091  | 2.35         |                 | 93.8 | 39412 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.028 | 3.029  | -0.001 | 1.000  | 3706043  | 2.55         |                 |      | 4879  |       |
| 463.00 > 169.00                       | 3.028 | 3.029  | -0.001 | 1.000  | 946252   |              | 3.92(1.90-5.69) |      | 16133 |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.366 | 3.370  | -0.004 | 1.268  | 5091272  | 2.39         |                 | 95.4 | 32151 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.373 | 3.372  | 0.001  | 1.002  | 4787541  | 2.45         |                 |      | 23278 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.381 | 3.377  | 0.004  | 1.274  | 1176711  | 2.40         |                 | 100  | 19622 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.381 | 3.377  | 0.004  | 1.000  | 1435533  | 2.40         |                 |      | 27864 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.388 | 3.389  | -0.001 | 1.277  | 3034127  | 2.39         |                 | 95.7 | 29780 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.388 | 3.390  | -0.002 | 1.000  | 3120202  | 2.66         |                 |      | 11817 |       |
| 513.00 > 169.00                       | 3.388 | 3.390  | -0.002 | 1.000  | 552111   |              | 5.65(2.36-7.09) |      | 2312  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.540 | 3.543  | -0.003 | 1.334  | 1677603  | 2.47         |                 | 98.6 | 23512 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.548 | 3.548  | 0.0    | 1.002  | 1643499  | 2.28         |                 |      | 9718  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.699 | 3.703  | -0.004 | 1.000  | 2325514  | 2.66         |                 |      | 31480 |       |
| 599.00 > 99.00                        | 3.699 | 3.703  | -0.004 | 1.000  | 757677   |              | 3.07(1.39-4.16) |      | 14093 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.708 | 3.712  | -0.004 | 1.397  | 1640693  | 2.47         |                 | 98.7 | 10406 |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.717 | 3.717  | 0.0    | 1.400  | 2230486  | 2.31         |                 | 92.4 | 24003 |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.717 | 3.718  | -0.001 | 1.000  | 2098273  | 2.57         |                 |      | 9645  |       |
| 563.00 > 169.00                       | 3.717 | 3.718  | -0.001 | 1.000  | 473435   |              | 4.43(0.00-0.00) |      | 12756 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.717 | 3.720  | -0.003 | 1.002  | 1587053  | 2.43         |                 |      | 14228 |       |
| D 34 d-N-MeFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 169.00                       | 3.867 | 3.862  | 0.005  | 1.457  | 1416464  | 2.33         |                 | 93.2 | 3263  |       |
| 35 MeFOSA                             |       |        |        |        |          |              |                 |      |       |       |
| 512.00 > 169.00                       | 3.867 | 3.872  | -0.005 | 1.000  | 1423728  | 2.57         |                 |      | 3013  |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.007 | 4.011  | -0.004 | 1.509  | 2464389  | 2.37         |                 | 94.7 | 21094 |       |
| 37 Perfluorododecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 613.00 > 569.00                       | 4.007 | 4.011  | -0.004 | 1.000  | 2557214  | 2.61         |                 |      | 6991  |       |
| 613.00 > 169.00                       | 4.007 | 4.011  | -0.004 | 1.000  | 645002   |              | 3.96(2.13-6.40) |      | 22973 |       |
| D 38 d-N-EtFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 531.00 > 169.00                       | 4.054 | 4.052  | 0.002  | 1.527  | 1433468  | 2.46         |                 | 98.2 | 2466  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |        |        |        |          |              |                 |      |       |       |
| 526.00 > 169.00                       | 4.054 | 4.058  | -0.004 | 1.000  | 1439179  | 2.36         |                 |      | 2893  |       |
| 41 Perfluorotridecanoic acid          |       |        |        |        |          |              |                 |      |       |       |
| 663.00 > 619.00                       | 4.272 | 4.277  | -0.005 | 1.000  | 3050820  | 2.67         |                 |      | 8038  |       |
| 663.00 > 169.00                       | 4.272 | 4.277  | -0.005 | 1.000  | 949654   |              | 3.21(1.25-3.76) |      | 26785 |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.515 | 4.518  | -0.003 | 1.701  | 2696793  | 2.32         |                 | 92.7 | 17833 |       |
| 42 Perfluorotetradecanoic acid        |       |        |        |        |          |              |                 |      |       |       |
| 713.00 > 169.00                       | 4.515 | 4.518  | -0.003 | 1.000  | 674290   | 2.43         |                 |      | 16396 |       |
| 713.00 > 219.00                       | 4.515 | 4.518  | -0.003 | 1.000  | 504751   |              | 1.34(0.71-2.13) |      | 14418 |       |
| D 44 13C2-PFHxDA                      |       |        |        |        |          |              |                 |      |       |       |
| 815.00 > 770.00                       | 4.932 | 4.939  | -0.007 | 1.858  | 4841597  | 2.29         |                 | 91.4 | 13502 |       |
| 45 Perfluorohexadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 813.00 > 769.00                       | 4.941 | 4.939  | 0.002  | 1.002  | 4612903  | 2.76         |                 |      | 2155  |       |
| 813.00 > 169.00                       | 4.941 | 4.939  | 0.002  | 1.002  | 838151   |              | 5.50(2.86-8.58) |      | 8849  |       |
| 46 Perfluorooctadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 913.00 > 869.00                       | 5.304 | 5.306  | -0.002 | 1.000  | 5381160  | 2.70         |                 |      | 1103  |       |
| 913.00 > 169.00                       | 5.304 | 5.306  | -0.002 | 1.000  | 671138   |              | 8.02(0.00-0.00) |      | 2519  |       |

## Reagents:

LCPFCIC\_FULL\_00007

Amount Added: 0.25

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21\ICALX\_012.d

Injection Date: 21-Dec-2017 16:24:05

Instrument ID: A8\_N

Lims ID: ICV Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 18

Worklist Smp#: 12

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

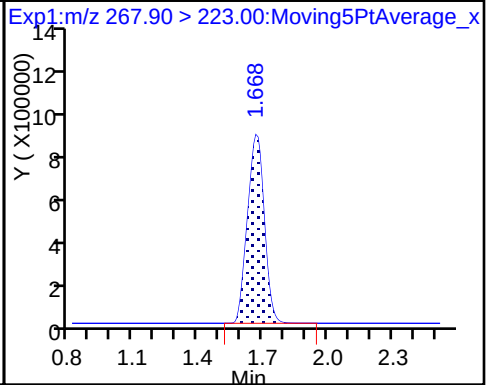
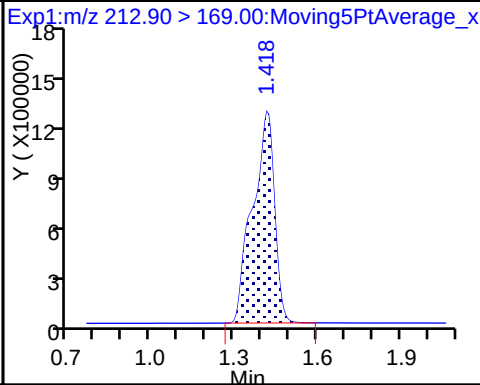
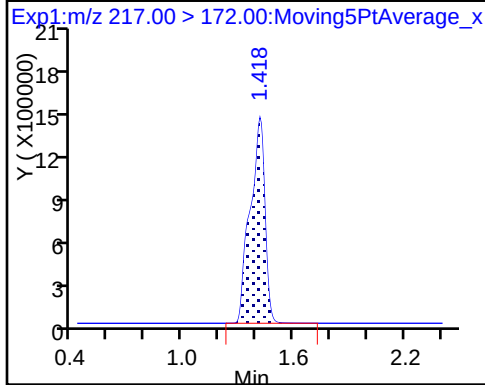
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

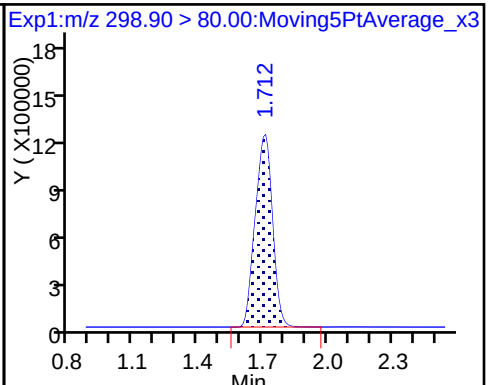
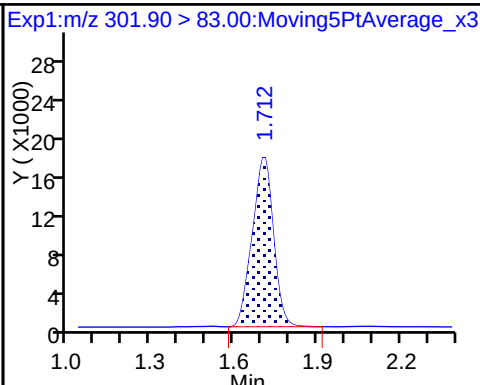
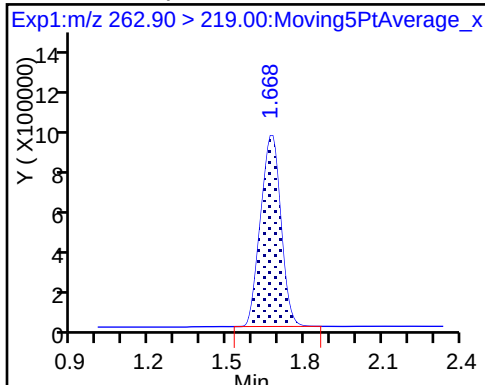
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 47 13C3-PFBS

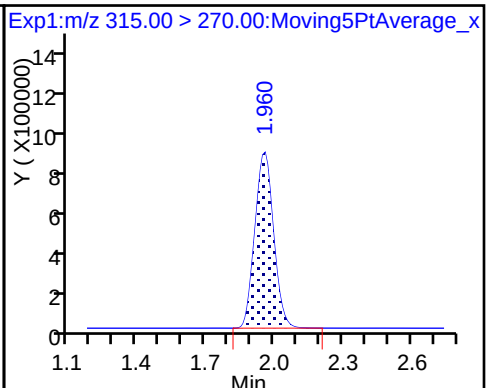
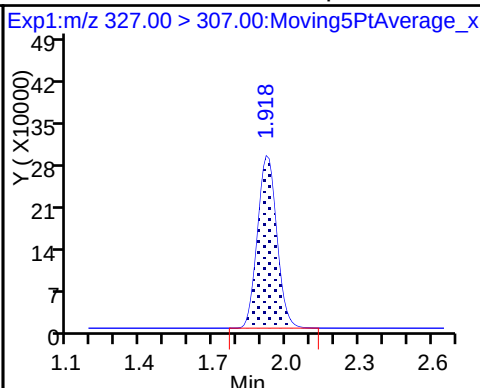
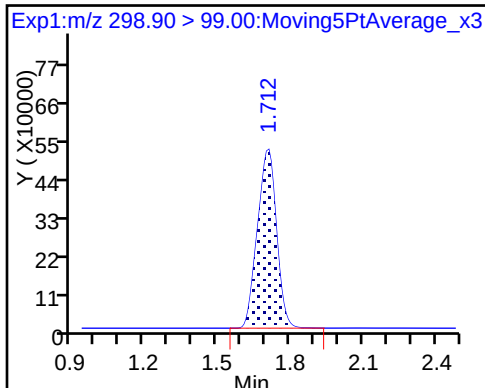
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

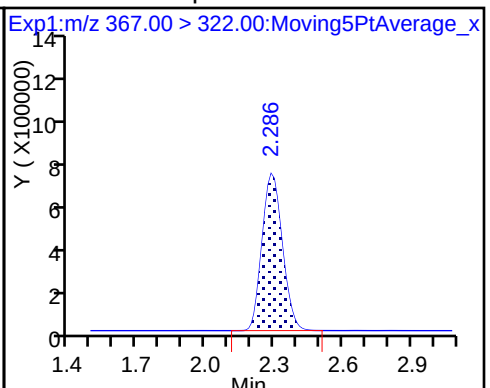
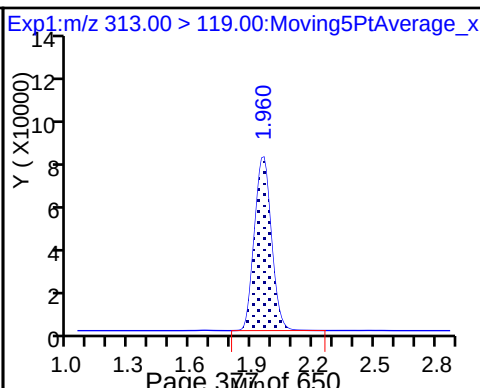
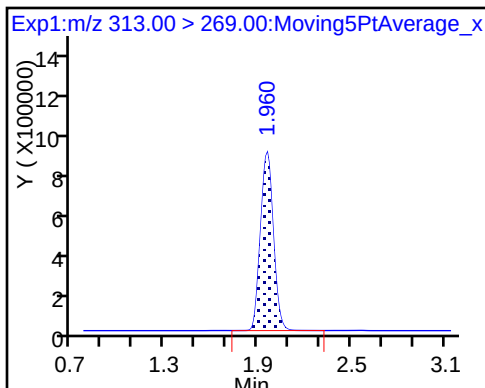
De 7 13C2 PFHxA

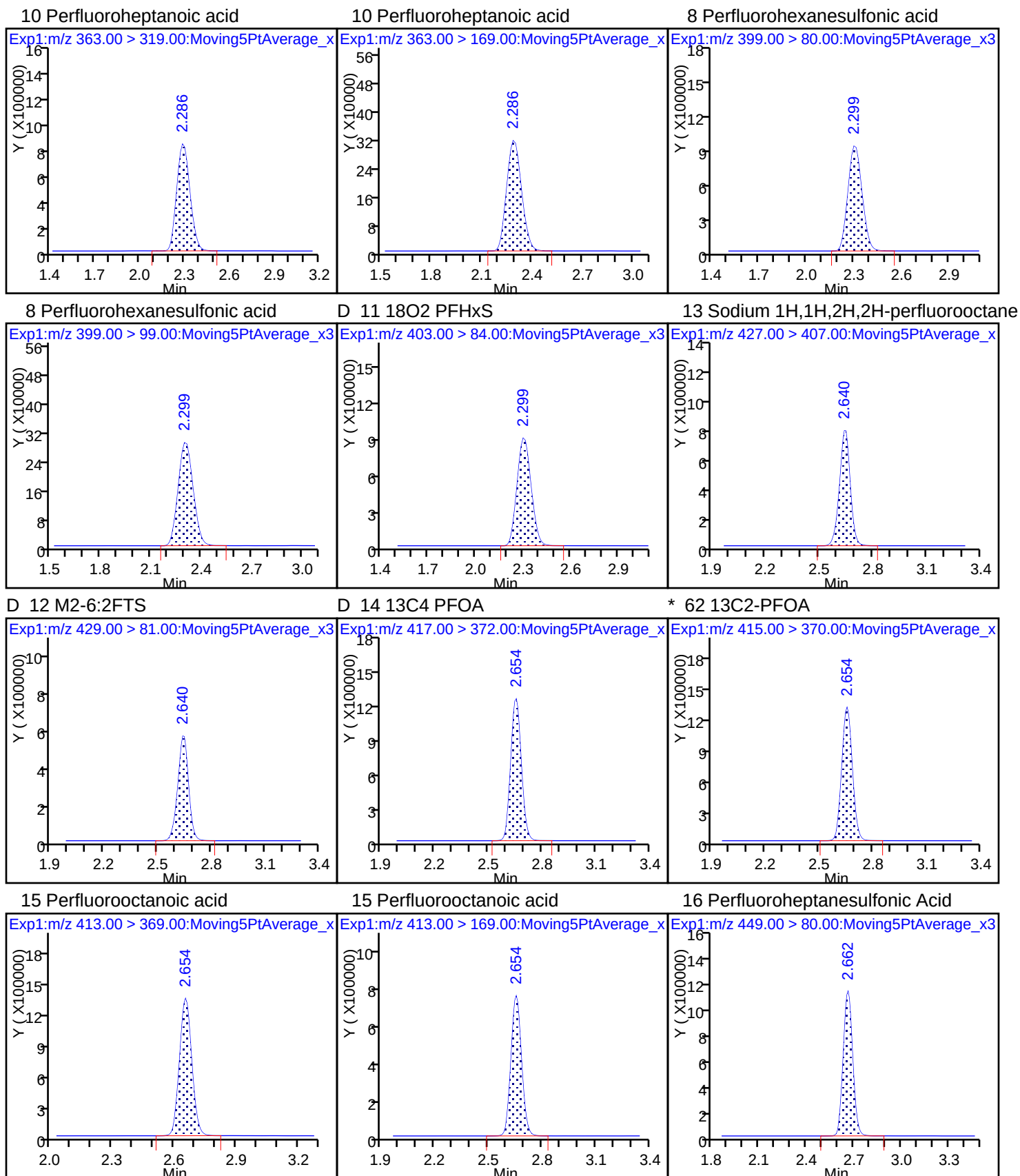


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

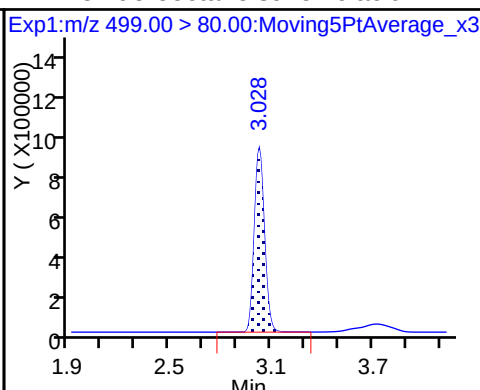
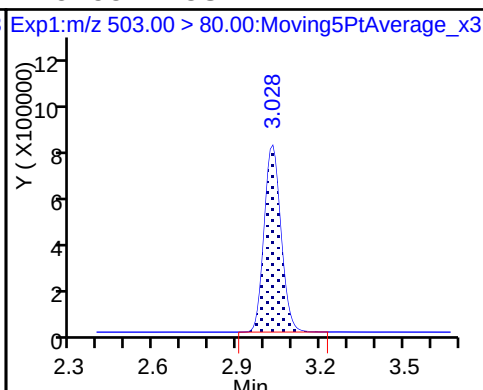
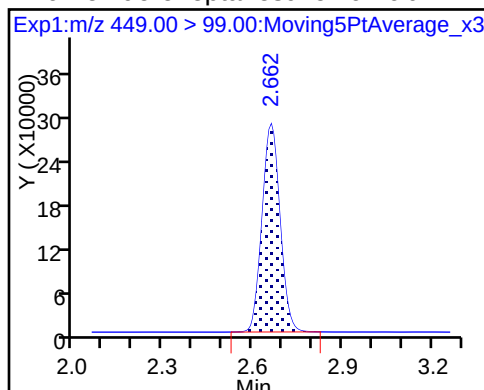




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

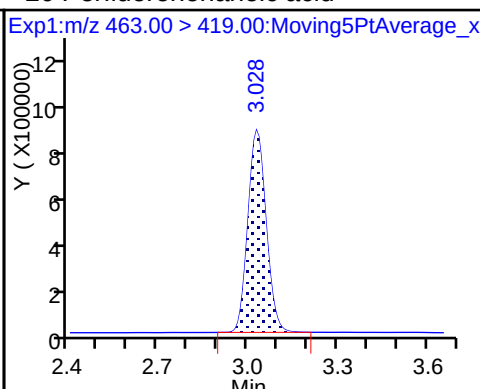
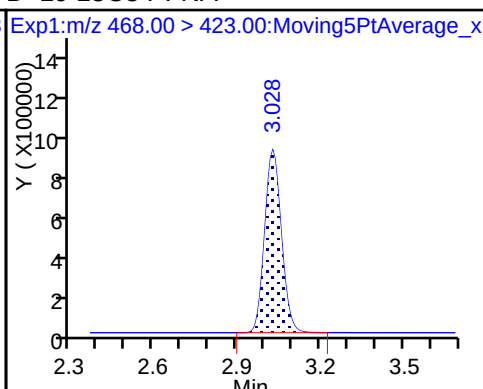
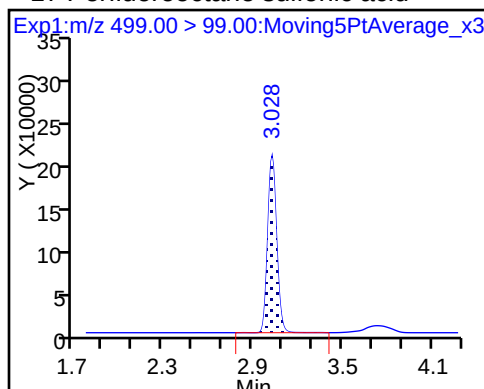
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

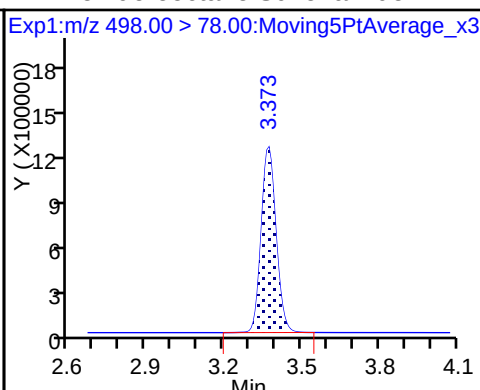
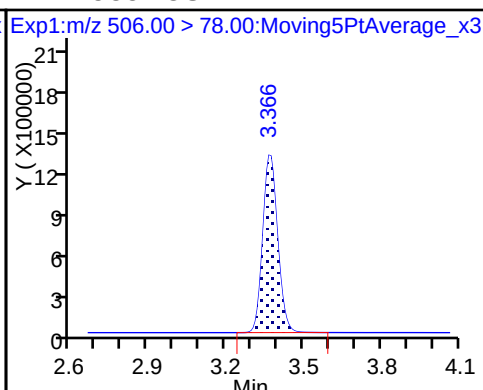
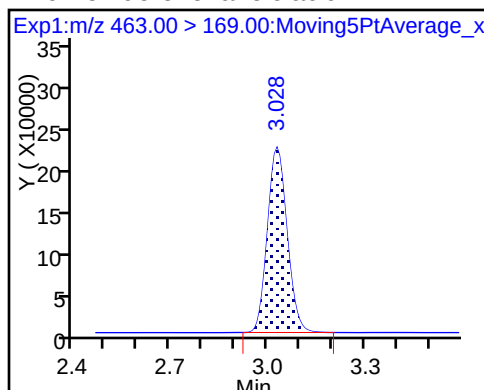
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

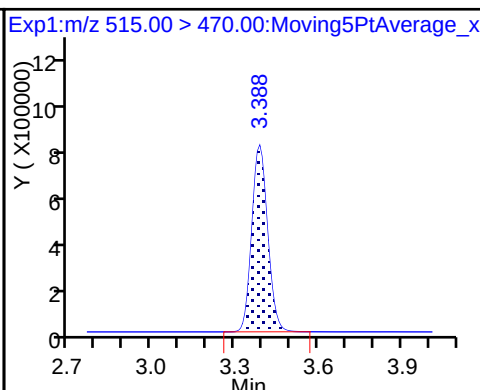
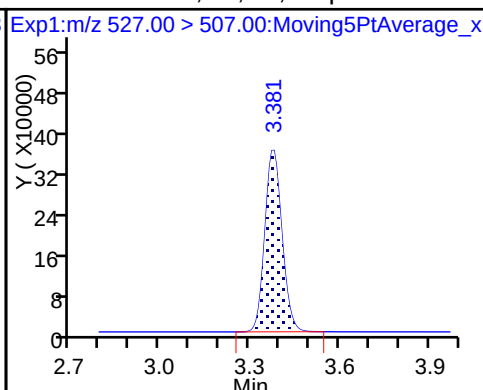
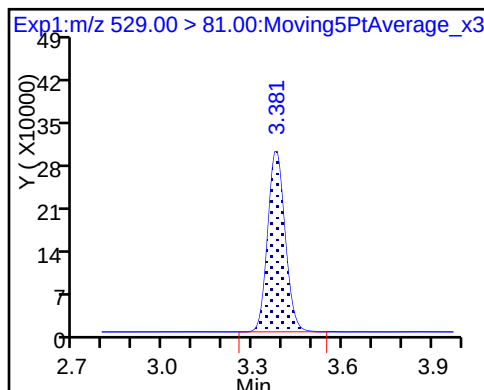
22 Perfluorooctane Sulfonamide



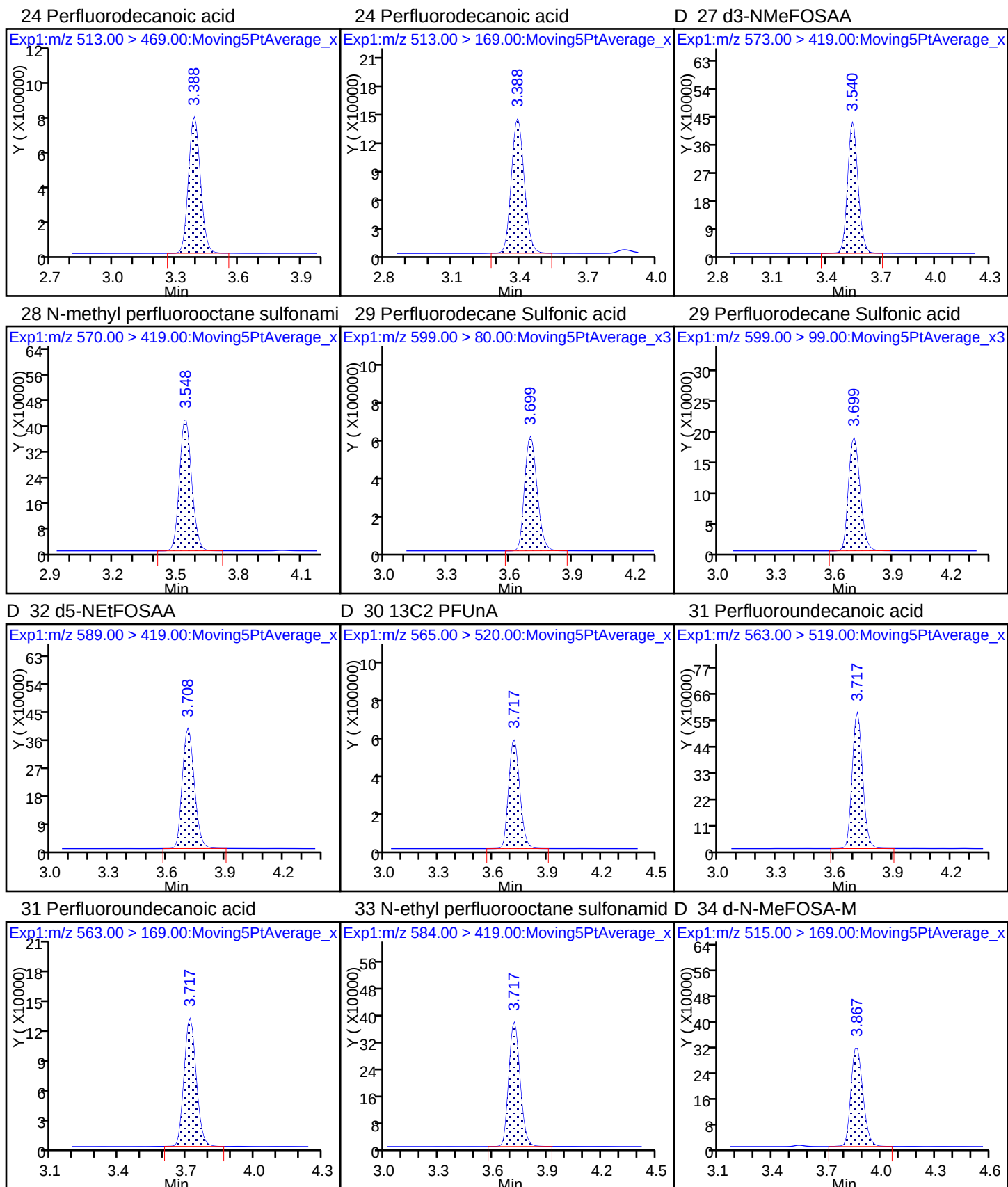
D 26 M2-8:2FTS

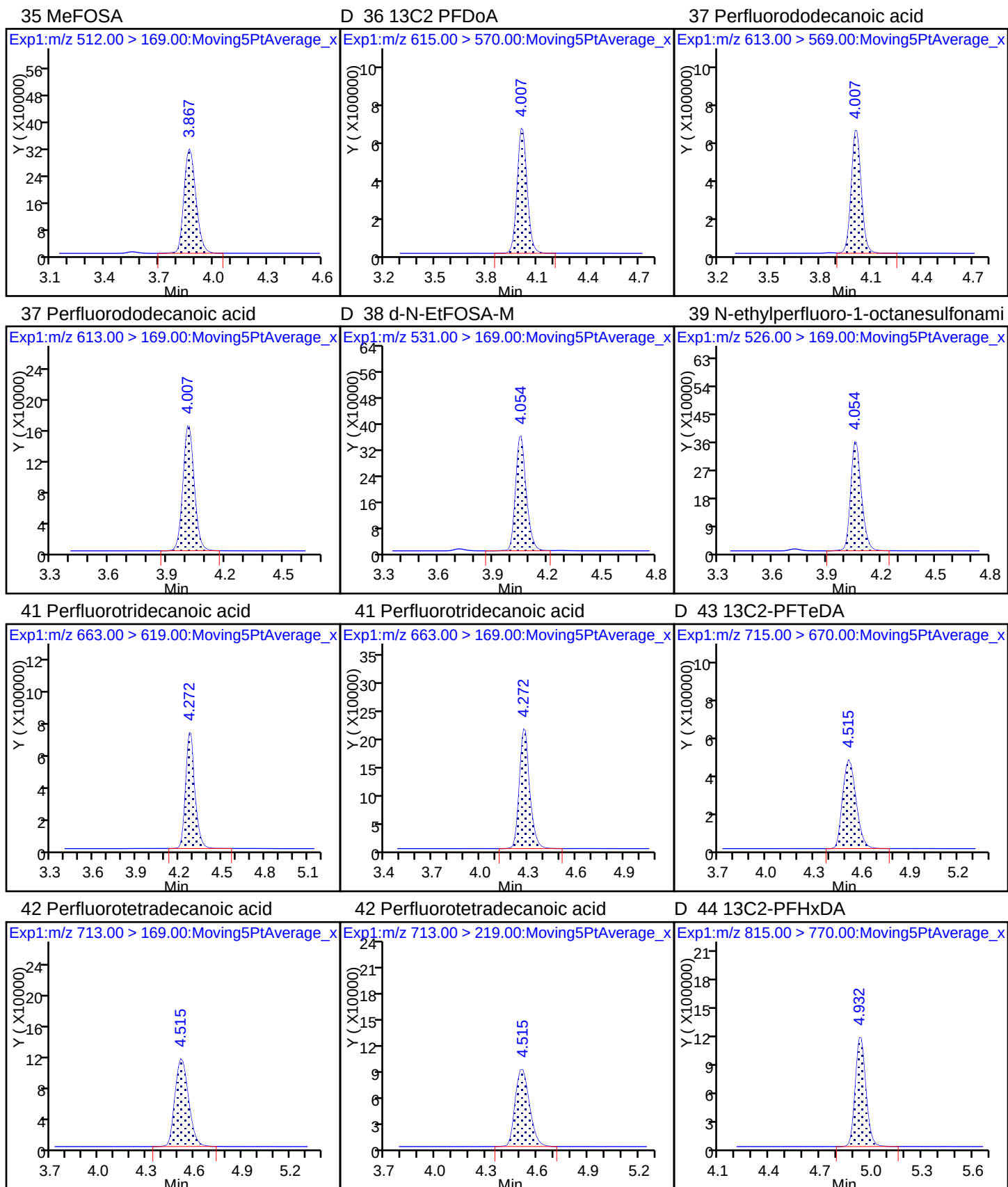
25 Sodium 1H,1H,2H,2H-perfluorodeca

De23 13C2 PFDA





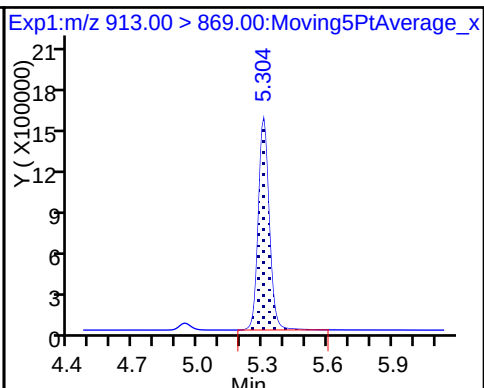
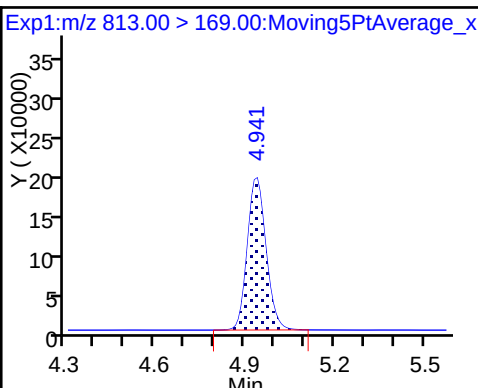
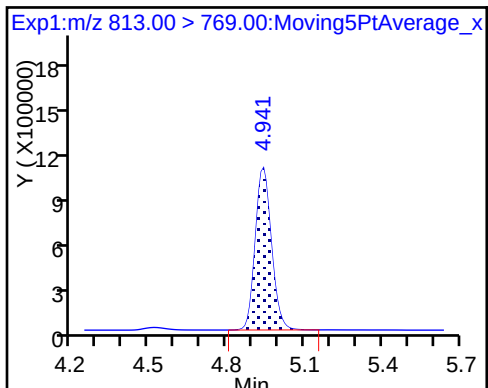




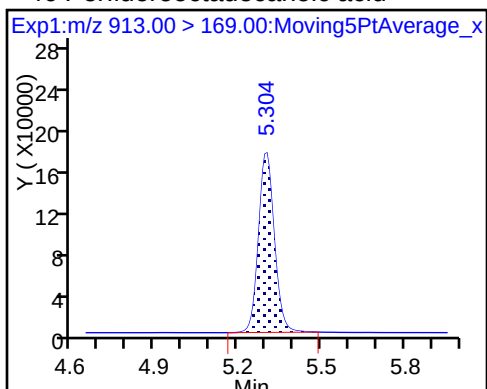
## 45 Perfluorohexadecanoic acid

## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid



## 46 Perfluorooctadecanoic acid



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCVL 320-201236/1 Calibration Date: 12/23/2017 14:09

Instrument ID: A8\_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.23LLAXA\_002.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D    | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9163  | 0.9287 |         | 0.0507      | 0.0500       | 1.4   | 50.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.116   | 1.231  |         | 0.0552      | 0.0500       | 10.3  | 50.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 75.22   | 77.53  |         | 0.0456      | 0.0442       | 3.1   | 50.0   |
| 4:2 FTS                                                    | AveID      | 0.8220  | 0.4868 |         | 0.277       | 0.467        | -40.8 |        |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 1.001   | 1.028  |         | 0.0514      | 0.0500       | 2.7   | 50.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 1.045  |         | 0.0500      | 0.0500       | -0.0  | 50.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.076   | 1.170  |         | 0.0494      | 0.0455       | 8.6   | 50.0   |
| 6:2FTS                                                     | AveID      | 1.550   | 1.629  |         | 0.498       | 0.474        | 5.1   | 50.0   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | AveID      | 1.309   | 1.281  |         | 0.0466      | 0.0476       | -2.1  | 50.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.052   | 1.169  |         | 0.0556      | 0.0500       | 11.2  | 50.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.060   | 1.103  |         | 0.0483      | 0.0464       | 4.1   | 50.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 1.006   | 1.035  |         | 0.0514      | 0.0500       | 2.8   | 50.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9592  | 1.002  |         | 0.0523      | 0.0500       | 4.5   | 50.0   |
| 8:2FTS                                                     | AveID      | 1.216   | 1.205  |         | 0.475       | 0.479        | -0.9  | 50.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9673  | 0.9777 |         | 0.0505      | 0.0500       | 1.1   | 50.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.074   | 1.053  |         | 0.490       | 0.500        | -1.9  | 50.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.6176  | 0.5908 |         | 0.0461      | 0.0482       | -4.4  | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9936  | 0.9827 |         | 0.495       | 0.500        | -1.1  | 50.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9160  | 0.8432 |         | 0.0460      | 0.0500       | -8.0  | 50.0   |
| MeFOSA                                                     | AveID      | 0.9787  | 1.019  |         | 0.750       | 0.500        | 4.1   | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9925  | 0.9391 |         | 0.0473      | 0.0500       | -5.4  | 50.0   |
| N-EtFOSA-M                                                 | AveID      | 1.065   | 1.084  |         | 1.00        | 0.500        | 1.9   | 50.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.160   | 1.144  |         | 0.0493      | 0.0500       | -1.4  | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2577  | 0.2832 |         | 0.0549      | 0.0500       | 9.9   | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 1.305  |         | 0.0523      | 0.0500       | 4.7   | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.029   | 1.023  |         | 0.0497      | 0.0500       | -0.6  | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.519   | 1.399  |         | 2.30        | 2.50         | -7.9  | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 0.9096  | 0.8409 |         | 2.31        | 2.50         | -7.5  | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0194  | 0.0185 |         | 2.21        | 2.33         | -4.9  | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 0.9709  | 0.9233 |         | 2.38        | 2.50         | -4.9  | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 0.8985  | 0.8699 |         | 2.42        | 2.50         | -3.2  | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 320-201236/1 Calibration Date: 12/23/2017 14:09  
 Instrument ID: A8\_N Calib Start Date: 12/21/2017 15:05  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/21/2017 16:08  
 Lab File ID: 2017.12.23LLAXA\_002.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 18O2 PFHxS   | Ave           | 1.134   | 1.079  |         | 2.25           | 2.37            | -4.9  | 50.0      |
| M2-6:2FTS    | Ave           | 0.4185  | 0.5485 |         | 3.11           | 2.38            | 31.1  | 50.0      |
| 13C4 PFOA    | Ave           | 1.033   | 1.038  |         | 2.51           | 2.50            | 0.4   | 50.0      |
| 13C4 PFOS    | Ave           | 0.7487  | 0.7343 |         | 2.34           | 2.39            | -1.9  | 50.0      |
| 13C5 PFNA    | Ave           | 0.7339  | 0.6947 |         | 2.37           | 2.50            | -5.3  | 50.0      |
| 13C8 FOSA    | Ave           | 1.019   | 0.9455 |         | 2.32           | 2.50            | -7.2  | 50.0      |
| M2-8:2FTS    | Ave           | 0.2338  | 0.1778 |         | 1.82           | 2.40            | -24.0 | 50.0      |
| 13C2 PFDA    | Ave           | 0.6054  | 0.5243 |         | 2.17           | 2.50            | -13.4 | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3249  | 0.2930 |         | 2.26           | 2.50            | -9.8  | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3173  | 0.3073 |         | 2.42           | 2.50            | -3.2  | 50.0      |
| 13C2 PFUnA   | Ave           | 0.4609  | 0.4339 |         | 2.35           | 2.50            | -5.9  | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.2902  | 0.2566 |         | 2.21           | 2.50            | -11.6 | 50.0      |
| 13C2 PFDoA   | Ave           | 0.4970  | 0.4697 |         | 2.36           | 2.50            | -5.5  | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.2788  | 0.2544 |         | 2.28           | 2.50            | -8.8  | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5554  | 0.5172 |         | 2.33           | 2.50            | -6.9  | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.011   | 0.8899 |         | 2.20           | 2.50            | -12.0 | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLAXA\_002.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 23-Dec-2017 14:09:53 ALS Bottle#: 21 Worklist Smp#: 1  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCVL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 26-Dec-2017 16:34:56 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK032

First Level Reviewer: phomsophat

Date: 23-Dec-2017 14:50:16

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.419  | 0.013  | 0.536  | 7559376  | 2.30         |                   | 92.1 | 25218 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.432 | 1.419  | 0.013  | 1.000  | 140400   | 0.0507       |                   | 101  | 31.2  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.690 | 1.670  | 0.020  | 0.632  | 4544725  | 2.31         |                   | 92.5 | 52073 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.690 | 1.670  | 0.020  | 1.000  | 111912   | 0.0552       |                   | 110  | 90.2  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.725 | 1.705  | 0.020  | 0.645  | 92736    | 2.21         |                   | 95.1 | 3436  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.725 | 1.707  | 0.018  | 1.000  | 136684   | 0.0456       |                   | 103  | 1030  |       |
| 298.90 > 99.00                        | 1.725 | 1.707  | 0.018  | 1.000  | 55513    |              | 2.46(1.25-3.74)   |      | 643   |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.945 | 1.920  | 0.025  | 1.000  | 269574   | 0.2766       |                   | 59.2 | 15948 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.976 | 1.953  | 0.023  | 0.739  | 4989944  | 2.38         |                   | 95.1 | 37752 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.976 | 1.956  | 0.020  | 1.000  | 102626   | 0.0514       |                   | 103  | 252   |       |
| 313.00 > 119.00                       | 1.976 | 1.956  | 0.020  | 1.000  | 9084     |              | 11.30(5.03-15.10) |      | 204   |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.306 | 2.291  | 0.015  | 0.862  | 4701486  | 2.42         |                   | 96.8 | 30924 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.306 | 2.291  | 0.015  | 1.000  | 98289    | 0.0500       |                   | 99.9 | 162   |       |
| 363.00 > 169.00                       | 2.306 | 2.291  | 0.015  | 1.000  | 40124    |              | 2.45(1.13-3.40)   |      | 373   |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.319 | 2.304  | 0.015  | 1.000  | 124081   | 0.0494       |                   | 109  | 596   |       |
| 399.00 > 99.00                        | 2.319 | 2.304  | 0.015  | 1.000  | 39444    |              | 3.15(1.50-4.49)   |      | 264   |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |           |           |           |          |                 |                 |      |       |       |
| 403.00 > 84.00                        | 2.319 | 2.304     | 0.015     | 0.867     | 5514708  | 2.25            |                 | 95.1 | 40736 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |           |           |           |          |                 |                 |      |       |       |
| 427.00 > 407.00                       | 2.660 | 2.642     | 0.018     | 1.000     | 915455   | 0.4981          |                 | 105  | 20501 |       |
| D 12 M2-6:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 429.00 > 81.00                        | 2.660 | 2.642     | 0.018     | 0.995     | 2816029  | 3.11            |                 | 131  | 63692 |       |
| D 14 13C4 PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 417.00 > 372.00                       | 2.667 | 2.654     | 0.013     | 0.997     | 5607503  | 2.51            |                 | 100  | 45312 |       |
| * 62 13C2-PFOA                        |       |           |           |           |          |                 |                 |      |       |       |
| 415.00 > 370.00                       | 2.674 | 2.656     | 0.018     |           | 5404536  | 2.50            |                 |      | 37238 |       |
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 413.00 > 369.00                       | 2.674 | 2.656     | 0.018     | 1.003     | 131111   | 0.0556          |                 | 111  | 83.7  |       |
| 413.00 > 169.00                       | 2.667 | 2.656     | 0.011     | 1.000     | 64909    |                 | 2.02(0.84-2.52) |      | 568   |       |
| 16 Perfluoroheptanesulfonic Acid      |       |           |           |           |          |                 |                 |      |       |       |
| 449.00 > 80.00                        | 2.674 | 2.662     | 0.012     | 1.000     | 96827    | 0.0466          |                 | 97.9 | 2134  |       |
| 449.00 > 99.00                        | 2.681 | 2.662     | 0.019     | 1.003     | 27472    |                 | 3.52(1.94-5.82) |      | 1079  |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |      |       |       |
| 503.00 > 80.00                        | 3.042 | 3.025     | 0.017     | 1.137     | 3793994  | 2.34            |                 | 98.1 | 31549 |       |
| 17 Perfluorooctane sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 499.00 > 80.00                        | 3.042 | 3.028     | 0.014     | 1.000     | 81278    | 0.0483          |                 | 104  | 8.4   |       |
| 499.00 > 99.00                        | 3.050 | 3.028     | 0.022     | 1.003     | 19263    |                 | 4.22(2.31-6.93) |      | 11.9  |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |      |       |       |
| 468.00 > 423.00                       | 3.042 | 3.028     | 0.014     | 1.137     | 3754371  | 2.37            |                 | 94.7 | 33194 |       |
| 20 Perfluorononanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 463.00 > 419.00                       | 3.050 | 3.029     | 0.021     | 1.003     | 77705    | 0.0514          |                 | 103  | 180   |       |
| 463.00 > 169.00                       | 3.050 | 3.029     | 0.021     | 1.003     | 16799    |                 | 4.63(1.90-5.69) |      | 460   |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |      |       |       |
| 506.00 > 78.00                        | 3.380 | 3.370     | 0.010     | 1.264     | 5109824  | 2.32            |                 | 92.8 | 30022 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.372     | 0.008     | 1.000     | 102448   | 0.0523          |                 | 105  | 5110  |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 529.00 > 81.00                        | 3.395 | 3.377     | 0.018     | 1.270     | 920477   | 1.82            |                 | 76.0 | 26110 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |           |           |           |          |                 |                 |      |       |       |
| 527.00 > 507.00                       | 3.395 | 3.377     | 0.018     | 1.000     | 221749   | 0.4746          |                 | 99.1 | 6251  |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 470.00                       | 3.410 | 3.389     | 0.021     | 1.275     | 2833522  | 2.17            |                 | 86.6 | 34342 |       |
| 24 Perfluorodecanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 513.00 > 469.00                       | 3.410 | 3.390     | 0.020     | 1.000     | 55404    | 0.0505          |                 | 101  | 306   |       |
| 513.00 > 169.00                       | 3.410 | 3.390     | 0.020     | 1.000     | 9769     |                 | 5.67(2.36-7.09) |      | 187   |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 573.00 > 419.00                       | 3.561 | 3.543     | 0.018     | 1.332     | 1583691  | 2.25            |                 | 90.2 | 22014 |       |
| 28 N-methyl perfluorooctane sulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 570.00 > 419.00                       | 3.569 | 3.548     | 0.021     | 1.002     | 333441   | 0.4903          |                 | 98.1 | 2532  |       |
| 29 Perfluorodecane Sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 599.00 > 80.00                        | 3.725 | 3.703     | 0.022     | 1.000     | 45201    | 0.0461          |                 | 95.6 | 1796  |       |
| 599.00 > 99.00                        | 3.725 | 3.703     | 0.022     | 1.000     | 15464    |                 | 2.92(1.39-4.16) |      | 474   |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.734 | 3.712     | 0.022     | 1.396     | 1660648  | 2.42            |                 | 96.8 | 9939  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.743 | 3.717     | 0.026     | 1.400     | 2345106  | 2.35            |                 | 94.1 | 30912 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.743 | 3.718     | 0.025     | 1.000     | 39547    | 0.0460          |                 | 92.0 | 232   |       |
| 563.00 > 169.00                       | 3.734 | 3.718     | 0.016     | 0.998     | 11507    |                 | 3.44(0.00-0.00) |      | 1050  |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.743 | 3.720     | 0.023     | 1.002     | 326376   | 0.4945          |                 | 98.9 | 5816  |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.877 | 3.862     | 0.015     | 1.450     | 1386838  | 2.21            |                 | 88.4 | 3134  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.872     | 0.005     | 1.000     | 282599   | 0.5205          |                 | 104  | 2573  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.038 | 4.011     | 0.027     | 1.510     | 2538700  | 2.36            |                 | 94.5 | 26783 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.038 | 4.011     | 0.027     | 1.000     | 47681    | 0.0473          |                 | 94.6 | 145   |       |
| 613.00 > 169.00                       | 4.038 | 4.011     | 0.027     | 1.000     | 12398    |                 | 3.85(2.13-6.40) |      | 806   |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.062 | 4.052     | 0.010     | 1.519     | 1374715  | 2.28            |                 | 91.2 | 3275  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.069 | 4.058     | 0.011     | 1.002     | 298138   | 0.5093          |                 | 102  | 2273  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.304 | 4.277     | 0.027     | 1.000     | 58083    | 0.0493          |                 | 98.6 | 193   |       |
| 663.00 > 169.00                       | 4.297 | 4.277     | 0.020     | 0.998     | 19369    |                 | 3.00(1.25-3.76) |      | 1088  |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.542 | 4.518     | 0.024     | 1.698     | 2795053  | 2.33            |                 | 93.1 | 17206 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.542 | 4.518     | 0.024     | 1.000     | 15832    | 0.0549          |                 | 110  | 551   |       |
| 713.00 > 219.00                       | 4.542 | 4.518     | 0.024     | 1.000     | 10301    |                 | 1.54(0.71-2.13) |      | 443   |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.968 | 4.939     | 0.029     | 1.858     | 4809670  | 2.20            |                 | 88.0 | 16804 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.968 | 4.939     | 0.029     | 1.000     | 125509   | 0.0523          |                 | 105  | 78.0  |       |
| 813.00 > 169.00                       | 4.968 | 4.939     | 0.029     | 1.000     | 23828    |                 | 5.27(2.86-8.58) |      | 816   |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.346 | 5.306     | 0.040     | 1.000     | 98399    | 0.0497          |                 | 99.4 | 27.1  |       |
| 913.00 > 169.00                       | 5.339 | 5.306     | 0.033     | 0.999     | 12697    |                 | 7.75(0.00-0.00) |      | 243   |       |

## Reagents:

LCPFC\_CCVL\_00001

Amount Added: 1.00

Units: mL



## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLAXA\_002.d

Injection Date: 23-Dec-2017 14:09:53

Instrument ID: A8\_N

Lims ID: CCVL

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 21

Worklist Smp#: 1

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

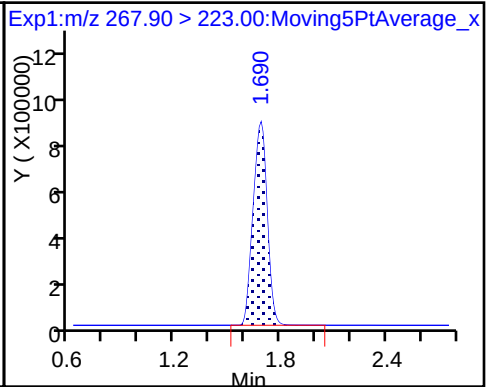
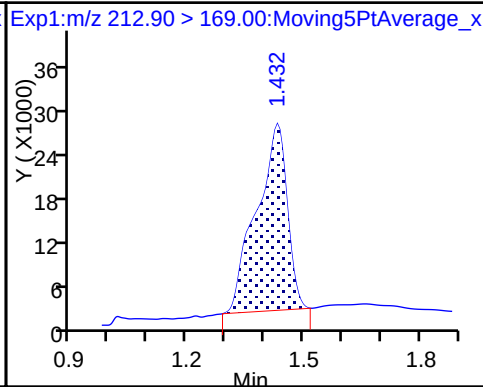
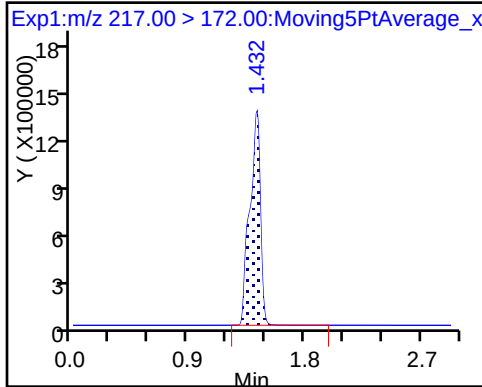
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

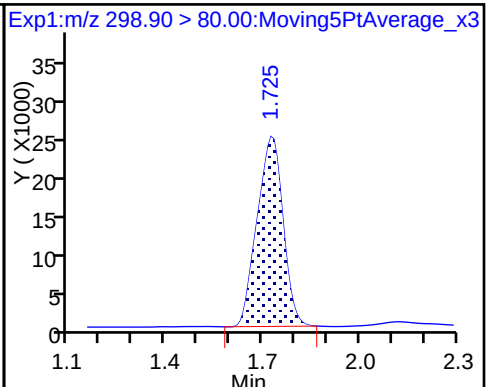
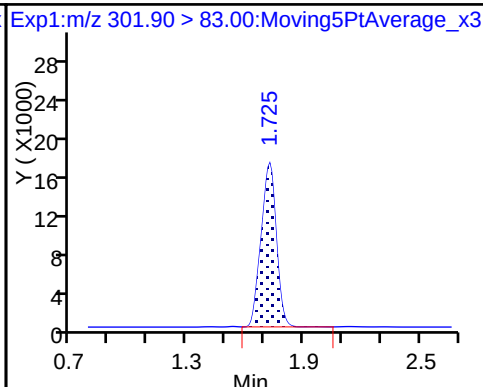
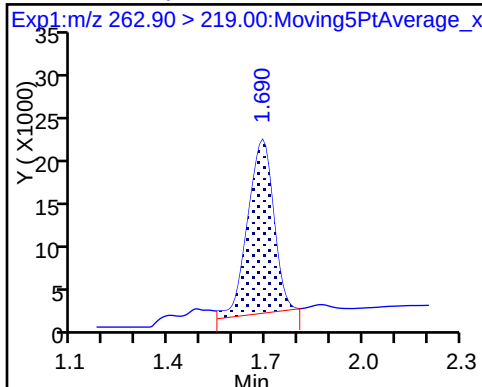
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 47 13C3-PFBS

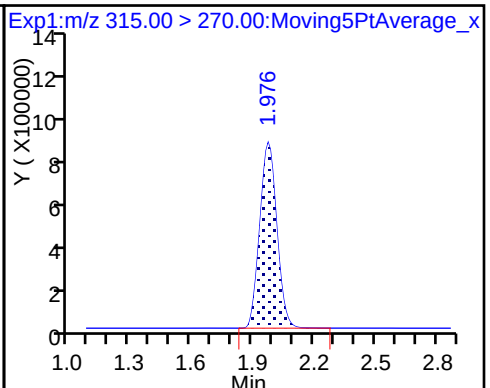
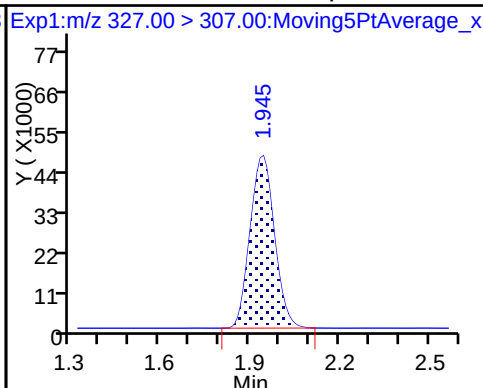
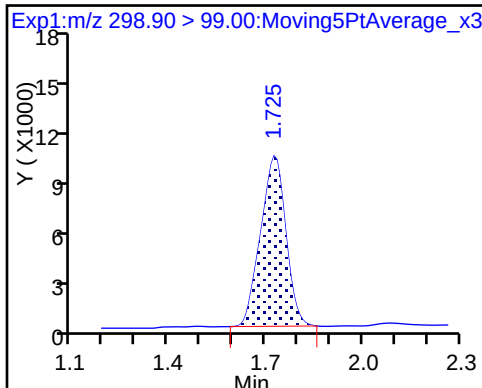
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

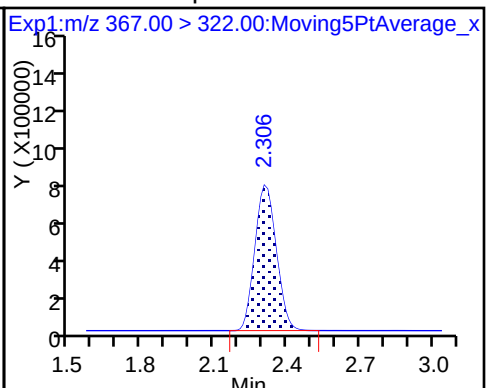
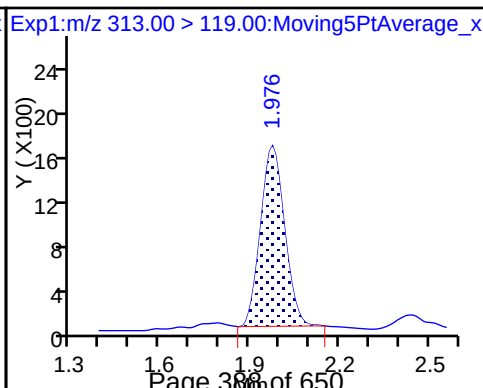
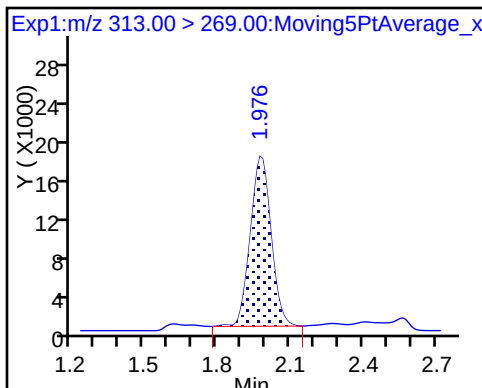
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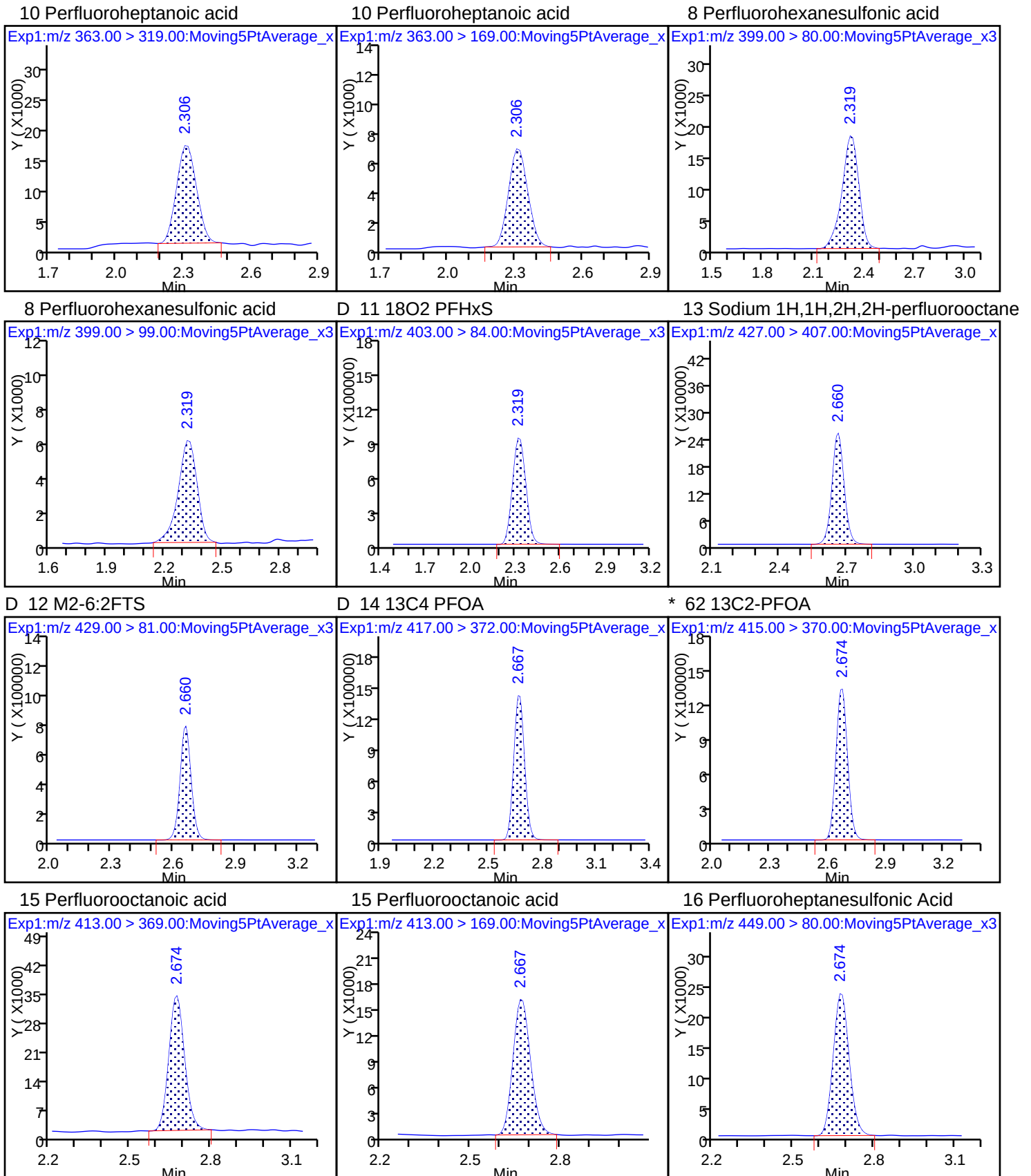


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

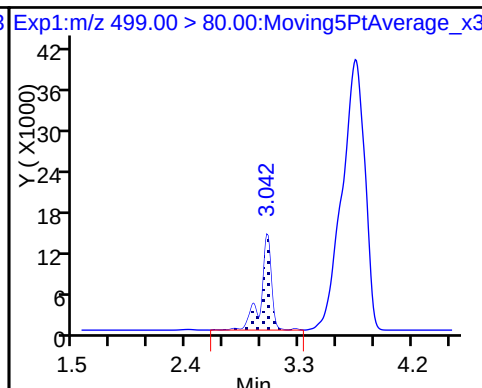
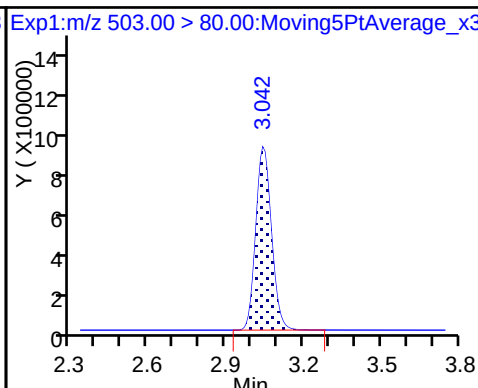
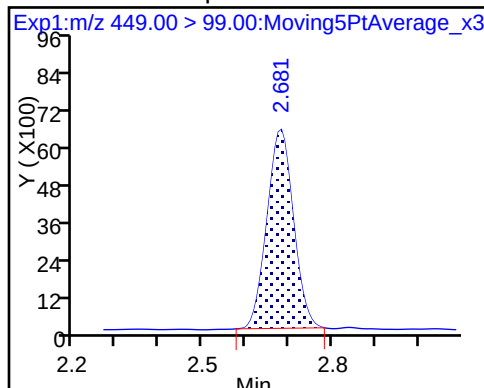




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

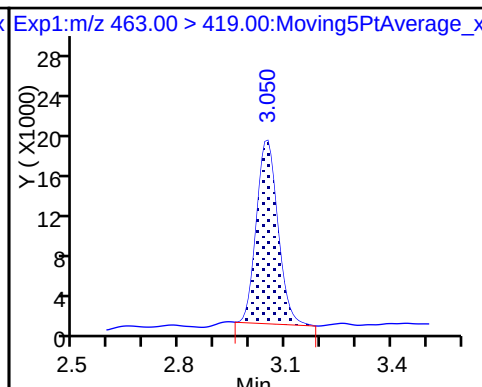
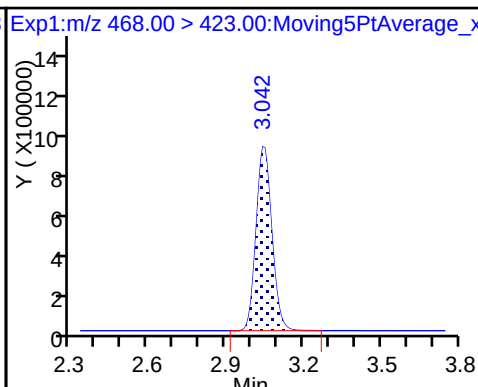
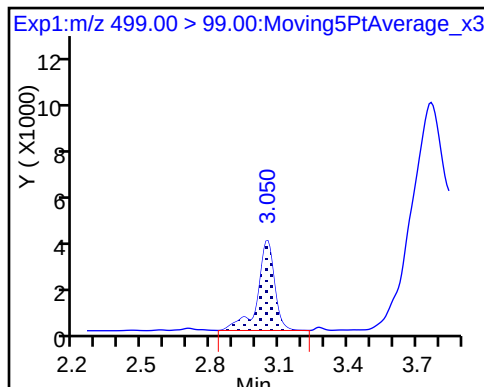
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

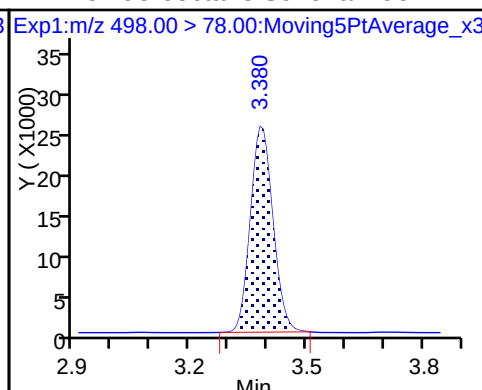
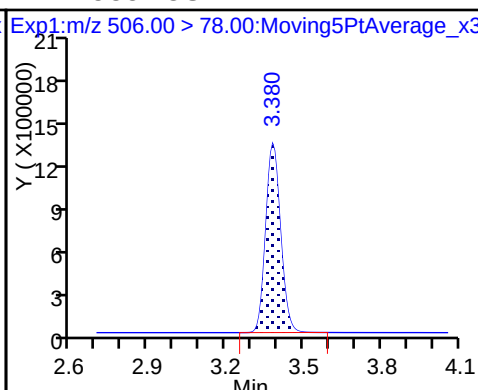
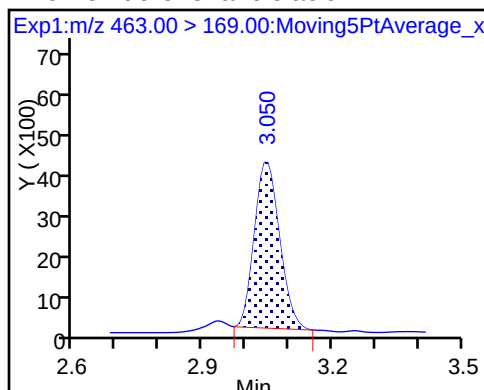
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

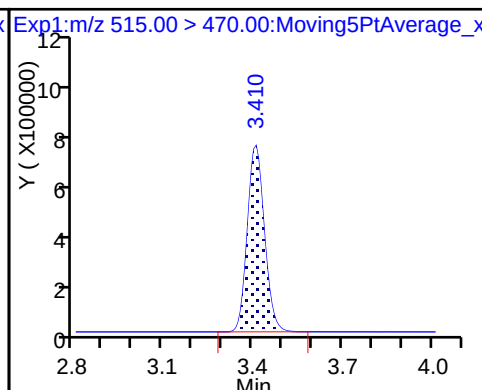
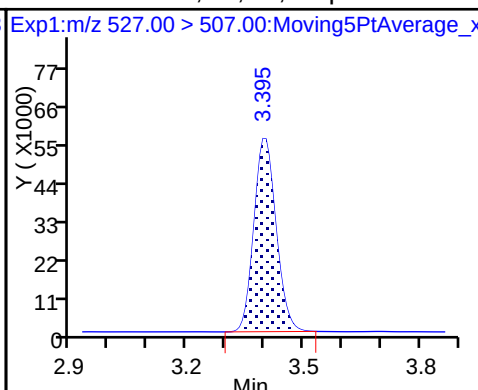
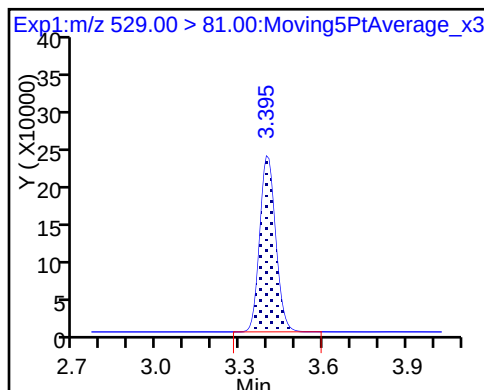
22 Perfluorooctane Sulfonamide

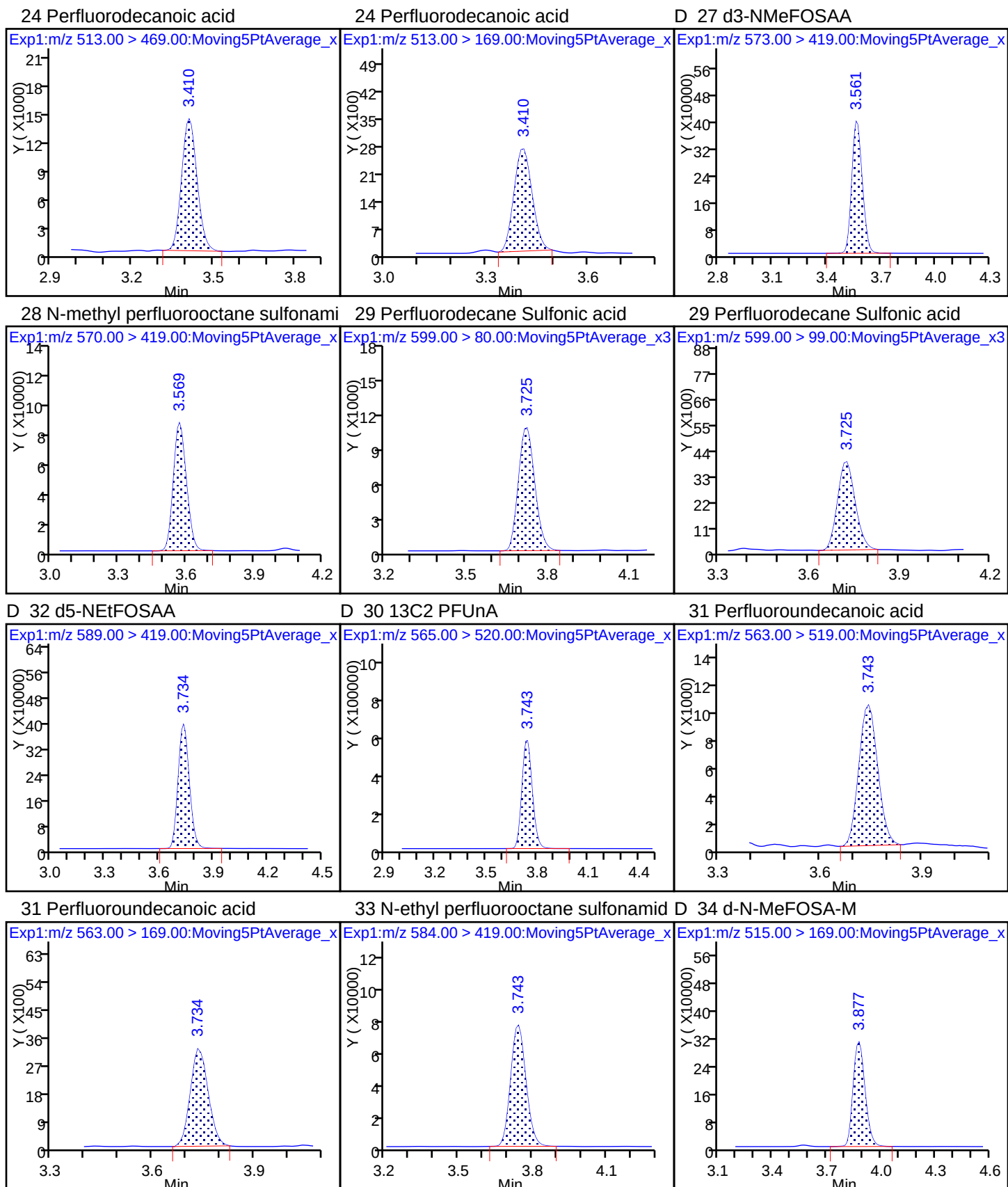


D 26 M2-8:2FTS

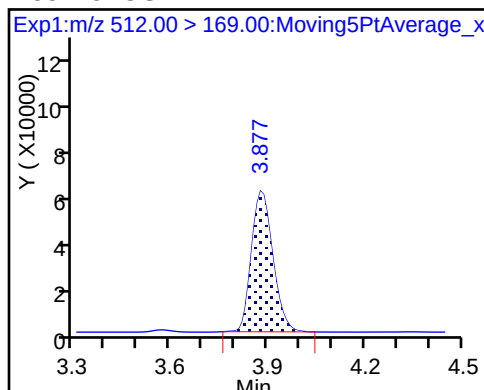
25 Sodium 1H,1H,2H,2H-perfluorodeca

De23 13C2 PFDA

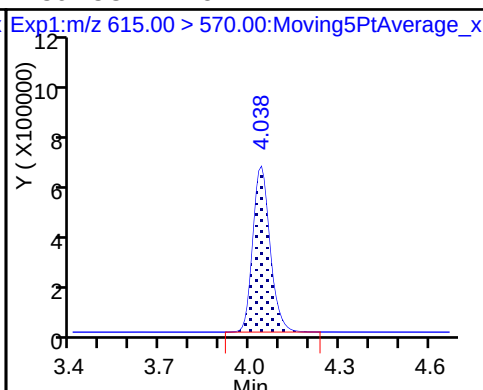




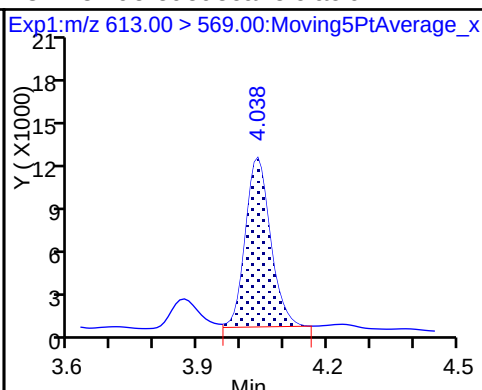
35 MeFOSA



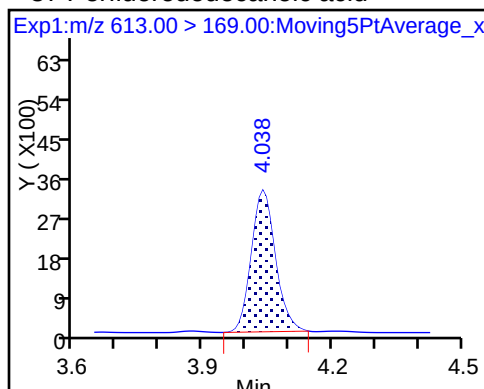
D 36 13C2 PFDaA



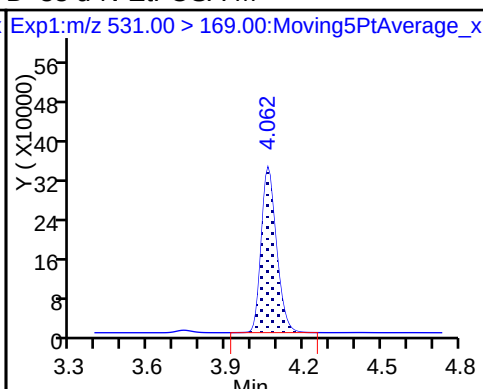
37 Perfluorododecanoic acid



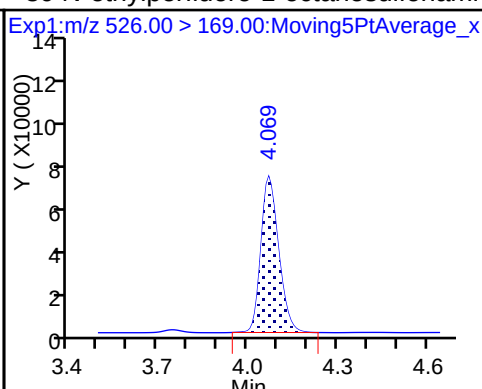
37 Perfluorododecanoic acid



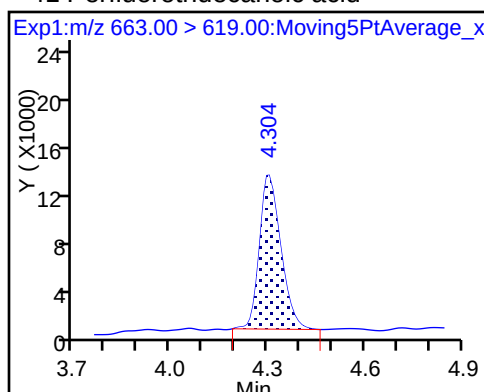
D 38 d-N-EtFOSA-M



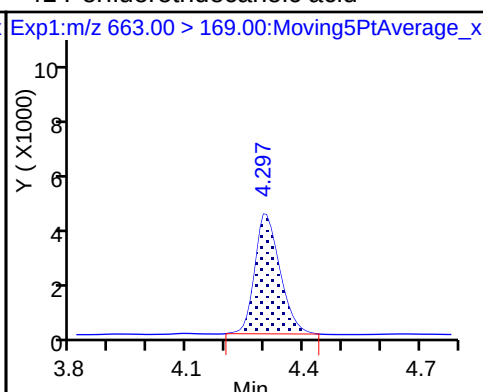
39 N-ethylperfluoro-1-octanesulfonami



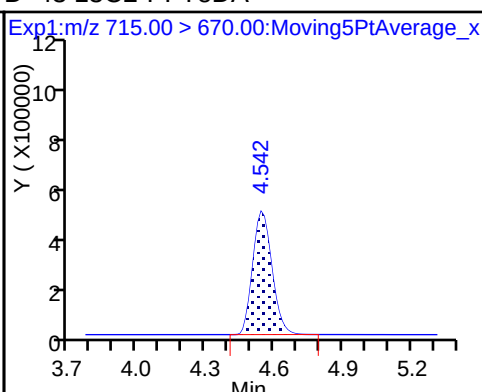
41 Perfluorotridecanoic acid



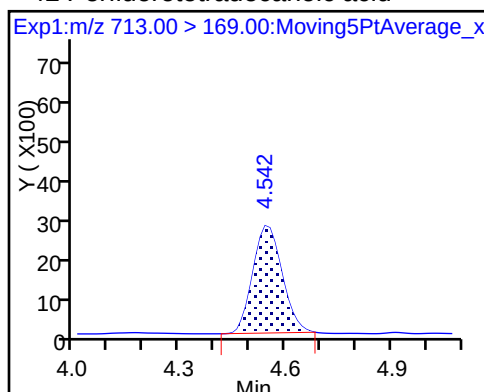
41 Perfluorotridecanoic acid



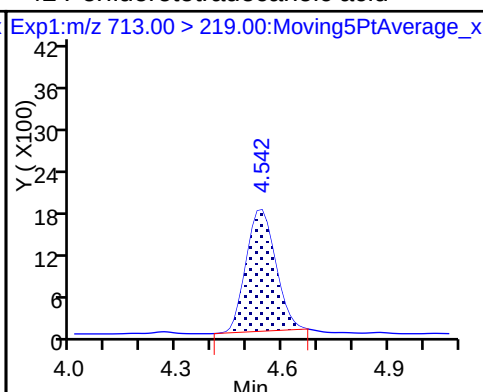
D 43 13C2-PFTeDA



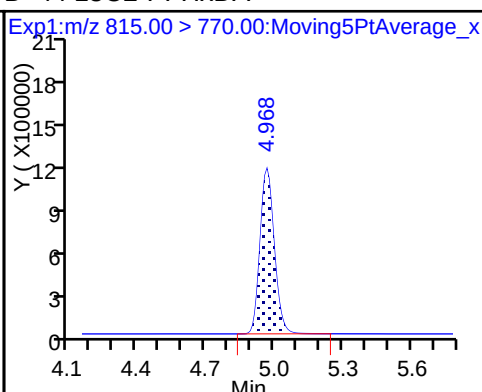
42 Perfluorotetradecanoic acid



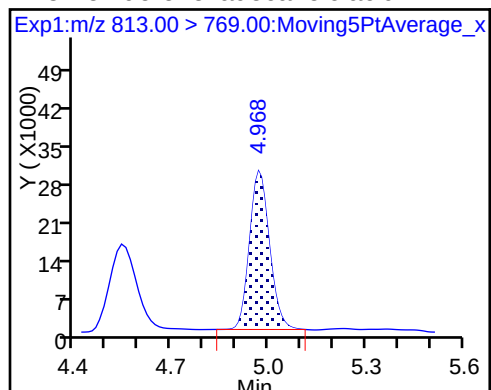
42 Perfluorotetradecanoic acid



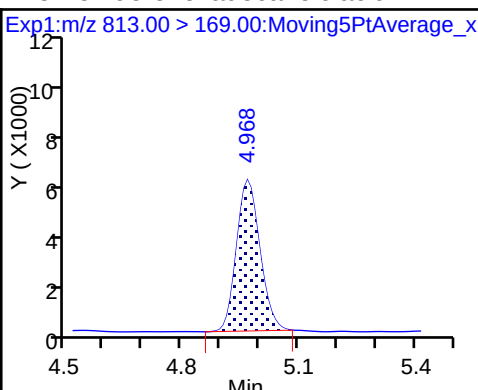
D 44 13C2-PFHxDA



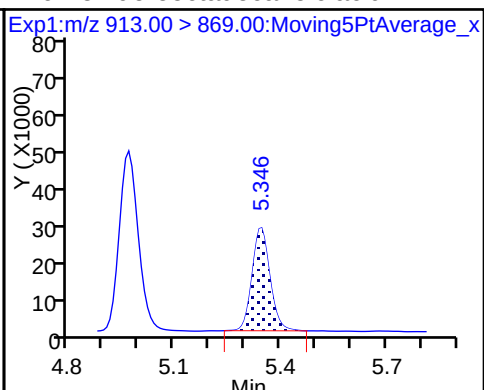
## 45 Perfluorohexadecanoic acid



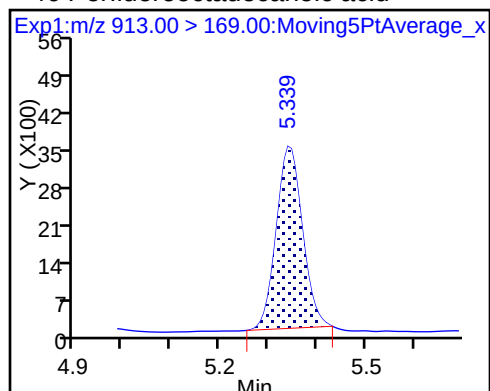
## 45 Perfluorohexadecanoic acid



## 46 Perfluorooctadecanoic acid



## 46 Perfluorooctadecanoic acid



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCV 320-201236/2 Calibration Date: 12/23/2017 14:17

Instrument ID: A8\_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.23LLAXA\_003.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D    | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9163  | 0.9367 |         | 1.02        | 1.00         | 2.2   | 40.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.116   | 1.105  |         | 0.990       | 1.00         | -1.0  | 40.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 75.22   | 78.10  |         | 0.918       | 0.884        | 3.8   | 50.0   |
| 4:2 FTS                                                    | AveID      | 0.8220  | 0.5486 |         | 0.623       | 0.934        | -33.3 | 50.0   |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 1.001   | 1.041  |         | 1.04        | 1.00         | 4.0   | 40.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 1.043  |         | 0.997       | 1.00         | -0.3  | 40.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.076   | 1.016  |         | 0.859       | 0.910        | -5.6  | 40.0   |
| 6:2FTS                                                     | AveID      | 1.550   | 1.749  |         | 1.07        | 0.948        | 12.8  | 40.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.052   | 1.006  |         | 0.956       | 1.00         | -4.4  | 40.0   |
| Perfluorooctanesulfonic Acid (PFHpS)                       | AveID      | 1.309   | 1.328  |         | 0.966       | 0.952        | 1.4   | 50.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 1.006   | 0.9872 |         | 0.981       | 1.00         | -1.9  | 40.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.060   | 1.052  |         | 0.921       | 0.928        | -0.8  | 40.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9592  | 0.9803 |         | 1.02        | 1.00         | 2.2   | 40.0   |
| 8:2FTS                                                     | AveID      | 1.216   | 1.237  |         | 0.975       | 0.958        | 1.8   | 40.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9673  | 1.015  |         | 1.05        | 1.00         | 4.9   | 40.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.074   | 1.021  |         | 0.951       | 1.00         | -4.9  | 40.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.6176  | 0.6098 |         | 0.952       | 0.964        | -1.3  | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9936  | 0.9692 |         | 0.975       | 1.00         | -2.5  | 40.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9160  | 0.8593 |         | 0.938       | 1.00         | -6.2  | 40.0   |
| MeFOSA                                                     | AveID      | 0.9787  | 1.031  |         | 1.05        | 1.00         | 5.3   | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9925  | 0.9773 |         | 0.985       | 1.00         | -1.5  | 40.0   |
| N-EtFOSA-M                                                 | AveID      | 1.065   | 1.045  |         | 1.00        | 1.00         | -1.8  | 40.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.160   | 1.225  |         | 1.06        | 1.00         | 5.7   | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2577  | 0.2226 |         | 0.864       | 1.00         | -13.6 | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 0.8587 |         | 0.981       | 1.00         | -1.9  | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.029   | 1.088  |         | 1.06        | 1.00         | 5.6   | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.519   | 1.465  |         | 2.41        | 2.50         | -3.6  | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 0.9096  | 0.8952 |         | 2.46        | 2.50         | -1.6  | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0194  | 0.0190 |         | 2.28        | 2.33         | -2.0  | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 0.9709  | 0.9098 |         | 2.34        | 2.50         | -6.3  | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 0.8985  | 0.8871 |         | 2.47        | 2.50         | -1.3  | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 320-201236/2 Calibration Date: 12/23/2017 14:17  
 Instrument ID: A8\_N Calib Start Date: 12/21/2017 15:05  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/21/2017 16:08  
 Lab File ID: 2017.12.23LLAXA\_003.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 18O2 PFHxS   | Ave           | 1.134   | 1.126  |         | 2.35           | 2.37            | -0.7  | 50.0      |
| M2-6:2FTS    | Ave           | 0.4185  | 0.4909 |         | 2.79           | 2.38            | 17.3  | 40.0      |
| 13C4 PFOA    | Ave           | 1.033   | 1.094  |         | 2.65           | 2.50            | 5.9   | 50.0      |
| 13C4 PFOS    | Ave           | 0.7487  | 0.7401 |         | 2.36           | 2.39            | -1.1  | 50.0      |
| 13C5 PFNA    | Ave           | 0.7339  | 0.7019 |         | 2.39           | 2.50            | -4.4  | 50.0      |
| 13C8 FOSA    | Ave           | 1.019   | 1.019  |         | 2.50           | 2.50            | -0.0  | 50.0      |
| M2-8:2FTS    | Ave           | 0.2338  | 0.1849 |         | 1.89           | 2.40            | -20.9 | 40.0      |
| 13C2 PFDA    | Ave           | 0.6054  | 0.5598 |         | 2.31           | 2.50            | -7.5  | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3249  | 0.3015 |         | 2.32           | 2.50            | -7.2  | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3173  | 0.3017 |         | 2.38           | 2.50            | -4.9  | 50.0      |
| 13C2 PFUnA   | Ave           | 0.4609  | 0.4615 |         | 2.50           | 2.50            | 0.1   | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.2902  | 0.2676 |         | 2.31           | 2.50            | -7.8  | 50.0      |
| 13C2 PFDoA   | Ave           | 0.4970  | 0.4686 |         | 2.36           | 2.50            | -5.7  | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.2788  | 0.2697 |         | 2.42           | 2.50            | -3.2  | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5554  | 0.5605 |         | 2.52           | 2.50            | 0.9   | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.011   | 0.9307 |         | 2.30           | 2.50            | -8.0  | 50.0      |



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLAXA\_003.d  
 Lims ID: CCV L4  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 23-Dec-2017 14:17:40 ALS Bottle#: 13 Worklist Smp#: 2  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCV L4  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 26-Dec-2017 16:35:01 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK032

First Level Reviewer: phomsophat

Date: 23-Dec-2017 14:50:31

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.426 | 1.419  | 0.007  | 0.534  | 7819254  | 2.41         |                   | 96.4 | 21815 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.426 | 1.419  | 0.007  | 1.000  | 2929553  | 1.02         |                   | 102  | 624   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.679 | 1.670  | 0.009  | 0.629  | 4778479  | 2.46         |                   | 98.4 | 66269 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.688 | 1.670  | 0.018  | 1.005  | 2112596  | 0.99         |                   | 99.0 | 1997  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.723 | 1.705  | 0.018  | 0.645  | 94372    | 2.28         |                   | 98.0 | 3407  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.723 | 1.707  | 0.016  | 1.000  | 2802274  | 0.9178       |                   | 104  | 20338 |       |
| 298.90 > 99.00                        | 1.723 | 1.707  | 0.016  | 1.000  | 1176744  |              | 2.38(1.25-3.74)   |      | 11741 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.933 | 1.920  | 0.013  | 1.000  | 536966   | 0.6233       |                   | 66.7 | 18768 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.974 | 1.953  | 0.021  | 0.739  | 4856544  | 2.34         |                   | 93.7 | 41466 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.974 | 1.956  | 0.018  | 1.000  | 2022178  | 1.04         |                   | 104  | 5665  |       |
| 313.00 > 119.00                       | 1.974 | 1.956  | 0.018  | 1.000  | 199074   |              | 10.16(5.03-15.10) |      | 4875  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.304 | 2.291  | 0.013  | 0.863  | 4734957  | 2.47         |                   | 98.7 | 33462 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.304 | 2.291  | 0.013  | 1.000  | 1975296  | 1.00         |                   | 99.7 | 3458  |       |
| 363.00 > 169.00                       | 2.304 | 2.291  | 0.013  | 1.000  | 778729   |              | 2.54(1.13-3.40)   |      | 6638  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.317 | 2.304  | 0.013  | 1.000  | 2223539  | 0.8589       |                   | 94.4 | 7208  |       |
| 399.00 > 99.00                        | 2.317 | 2.304  | 0.013  | 1.000  | 748052   |              | 2.97(1.50-4.49)   |      | 4398  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec  | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|-------|-------|-------|
| D 11 18O2 PFHxS                       |       |           |           |           |          |                 |                 |       |       |       |
| 403.00 > 84.00                        | 2.317 | 2.304     | 0.013     | 0.868     | 5687736  | 2.35            |                 | 99.3  | 34089 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |           |           |           |          |                 |                 |       |       |       |
| 427.00 > 407.00                       | 2.664 | 2.642     | 0.022     | 1.003     | 1737698  | 1.07            |                 | 113   | 41803 |       |
| D 12 M2-6:2FTS                        |       |           |           |           |          |                 |                 |       |       |       |
| 429.00 > 81.00                        | 2.657 | 2.642     | 0.015     | 0.995     | 2489094  | 2.79            |                 | 117   | 53863 |       |
| D 14 13C4 PFOA                        |       |           |           |           |          |                 |                 |       |       |       |
| 417.00 > 372.00                       | 2.671 | 2.654     | 0.017     | 1.000     | 5841604  | 2.65            |                 | 106   | 43210 |       |
| * 62 13C2-PFOA                        |       |           |           |           |          |                 |                 |       |       |       |
| 415.00 > 370.00                       | 2.671 | 2.656     | 0.015     |           | 5337838  | 2.50            |                 |       | 41571 |       |
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |       |       |       |
| 413.00 > 369.00                       | 2.671 | 2.656     | 0.015     | 1.000     | 2349808  | 0.9563          |                 | 95.6  | 1570  |       |
| 413.00 > 169.00                       | 2.671 | 2.656     | 0.015     | 1.000     | 1257838  |                 | 1.87(0.84-2.52) |       | 8961  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |           |           |           |          |                 |                 |       |       |       |
| 449.00 > 80.00                        | 2.678 | 2.662     | 0.016     | 1.000     | 1998288  | 0.9657          |                 | 101   | 18594 |       |
| 449.00 > 99.00                        | 2.678 | 2.662     | 0.016     | 1.000     | 552731   |                 | 3.62(1.94-5.82) |       | 12048 |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |       |       |       |
| 503.00 > 80.00                        | 3.047 | 3.025     | 0.022     | 1.141     | 3776740  | 2.36            |                 | 98.9  | 25967 |       |
| 17 Perfluorooctane sulfonic acid      |       |           |           |           |          |                 |                 |       |       |       |
| 499.00 > 80.00                        | 3.047 | 3.028     | 0.019     | 1.000     | 1542805  | 0.9210          |                 | 99.2  | 164   |       |
| 499.00 > 99.00                        | 3.047 | 3.028     | 0.019     | 1.000     | 350817   |                 | 4.40(2.31-6.93) |       | 219   |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |       |       |       |
| 468.00 > 423.00                       | 3.047 | 3.028     | 0.019     | 1.141     | 3746717  | 2.39            |                 | 95.6  | 28085 |       |
| 20 Perfluorononanoic acid             |       |           |           |           |          |                 |                 |       |       |       |
| 463.00 > 419.00                       | 3.047 | 3.029     | 0.018     | 1.000     | 1479426  | 0.9810          |                 | 98.1  | 3212  |       |
| 463.00 > 169.00                       | 3.047 | 3.029     | 0.018     | 1.000     | 368989   |                 | 4.01(1.90-5.69) |       | 9866  |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |       |       |       |
| 506.00 > 78.00                        | 3.377 | 3.370     | 0.007     | 1.264     | 5437931  | 2.50            |                 | 100.0 | 27031 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |       |       |       |
| 498.00 > 78.00                        | 3.377 | 3.372     | 0.005     | 1.000     | 2132253  | 1.02            |                 | 102   | 22606 |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |       |       |       |
| 529.00 > 81.00                        | 3.392 | 3.377     | 0.015     | 1.270     | 945716   | 1.89            |                 | 79.1  | 18419 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |           |           |           |          |                 |                 |       |       |       |
| 527.00 > 507.00                       | 3.392 | 3.377     | 0.015     | 1.000     | 468071   | 0.9751          |                 | 102   | 13134 |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |       |       |       |
| 515.00 > 470.00                       | 3.407 | 3.389     | 0.018     | 1.276     | 2988360  | 2.31            |                 | 92.5  | 34287 |       |
| 24 Perfluorodecanoic acid             |       |           |           |           |          |                 |                 |       |       |       |
| 513.00 > 469.00                       | 3.407 | 3.390     | 0.017     | 1.000     | 1213408  | 1.05            |                 | 105   | 5995  |       |
| 513.00 > 169.00                       | 3.407 | 3.390     | 0.017     | 1.000     | 217917   |                 | 5.57(2.36-7.09) |       | 1893  |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |       |       |       |
| 573.00 > 419.00                       | 3.558 | 3.543     | 0.015     | 1.332     | 1609379  | 2.32            |                 | 92.8  | 19115 |       |
| 28 N-methyl perfluorooctane sulfonami |       |           |           |           |          |                 |                 |       |       |       |
| 570.00 > 419.00                       | 3.565 | 3.548     | 0.017     | 1.002     | 657556   | 0.9515          |                 | 95.1  | 4804  |       |
| 29 Perfluorodecane Sulfonic acid      |       |           |           |           |          |                 |                 |       |       |       |
| 599.00 > 80.00                        | 3.721 | 3.703     | 0.018     | 1.000     | 928927   | 0.9518          |                 | 98.7  | 18403 |       |
| 599.00 > 99.00                        | 3.721 | 3.703     | 0.018     | 1.000     | 315493   |                 | 2.94(1.39-4.16) |       | 9426  |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |       |       |       |
| 589.00 > 419.00                       | 3.729 | 3.712     | 0.017     | 1.396     | 1610440  | 2.38            |                 | 95.1  | 11378 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.738 | 3.717     | 0.021     | 1.400     | 2463310  | 2.50            |                 | 100  | 34206 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.738 | 3.718     | 0.020     | 1.000     | 846672   | 0.9380          |                 | 93.8 | 5034  |       |
| 563.00 > 169.00                       | 3.738 | 3.718     | 0.020     | 1.000     | 186235   |                 | 4.55(0.00-0.00) |      | 10054 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.738 | 3.720     | 0.018     | 1.002     | 624342   | 0.9755          |                 | 97.5 | 10389 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.872 | 3.862     | 0.010     | 1.450     | 1428533  | 2.31            |                 | 92.2 | 3947  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.872 | 3.872     | 0.0       | 1.000     | 588988   | 1.05            |                 | 105  | 2932  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.034 | 4.011     | 0.023     | 1.510     | 2501142  | 2.36            |                 | 94.3 | 28190 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.034 | 4.011     | 0.023     | 1.000     | 977757   | 0.9847          |                 | 98.5 | 3128  |       |
| 613.00 > 169.00                       | 4.034 | 4.011     | 0.023     | 1.000     | 257456   |                 | 3.80(2.13-6.40) |      | 12729 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.058 | 4.052     | 0.006     | 1.519     | 1439665  | 2.42            |                 | 96.8 | 2744  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.066 | 4.058     | 0.008     | 1.002     | 601966   | 0.9818          |                 | 98.2 | 3258  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.301 | 4.277     | 0.024     | 1.000     | 1226013  | 1.06            |                 | 106  | 4745  |       |
| 663.00 > 169.00                       | 4.301 | 4.277     | 0.024     | 1.000     | 396853   |                 | 3.09(1.25-3.76) |      | 17773 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.546 | 4.518     | 0.028     | 1.702     | 2991974  | 2.52            |                 | 101  | 17717 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.546 | 4.518     | 0.028     | 1.000     | 266392   | 0.8637          |                 | 86.4 | 9138  |       |
| 713.00 > 219.00                       | 4.533 | 4.518     | 0.015     | 0.997     | 209040   |                 | 1.27(0.71-2.13) |      | 7167  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.970 | 4.939     | 0.031     | 1.861     | 4967651  | 2.30            |                 | 92.0 | 15240 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.970 | 4.939     | 0.031     | 1.000     | 1706306  | 0.9808          |                 | 98.1 | 945   |       |
| 813.00 > 169.00                       | 4.970 | 4.939     | 0.031     | 1.000     | 312956   |                 | 5.45(2.86-8.58) |      | 5636  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.349 | 5.306     | 0.043     | 1.000     | 2161025  | 1.06            |                 | 106  | 516   |       |
| 913.00 > 169.00                       | 5.349 | 5.306     | 0.043     | 1.000     | 278283   |                 | 7.77(0.00-0.00) |      | 2102  |       |

## Reagents:

LCPFC\_LL4\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLAXA\_003.d

Injection Date: 23-Dec-2017 14:17:40

Instrument ID: A8\_N

Lims ID: CCV L4

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 13

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

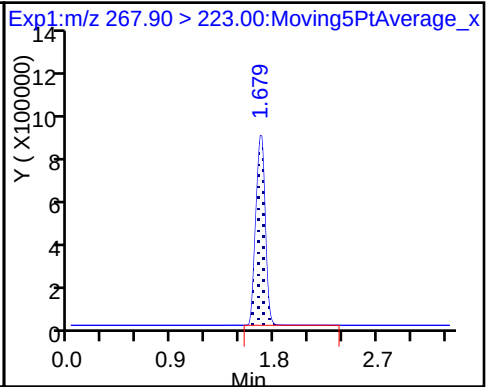
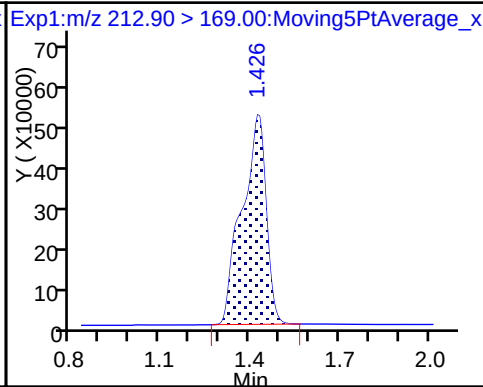
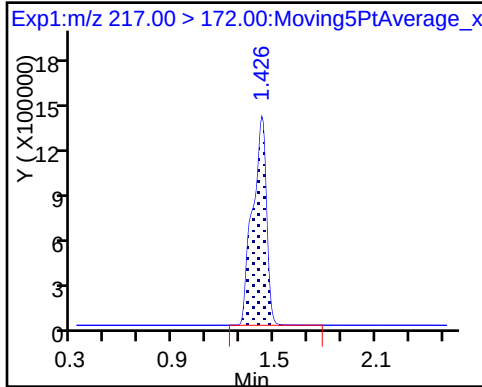
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

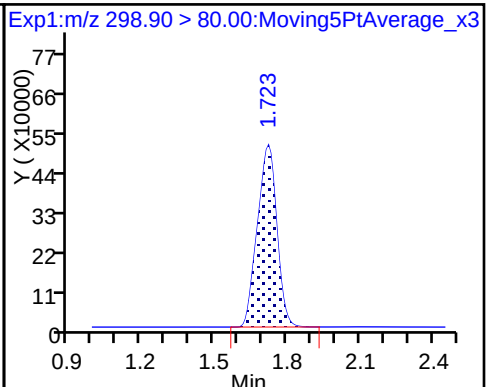
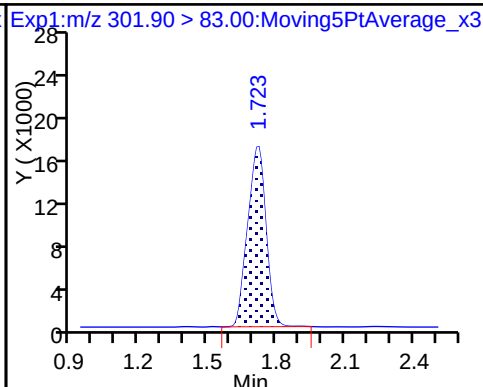
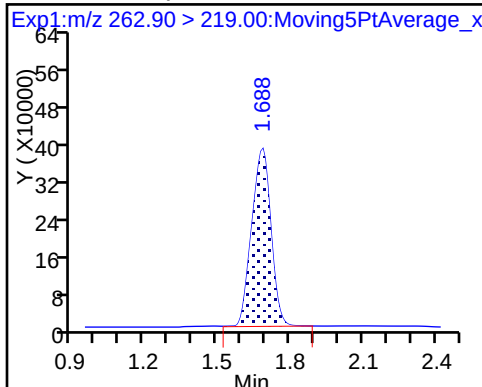
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 47 13C3-PFBS

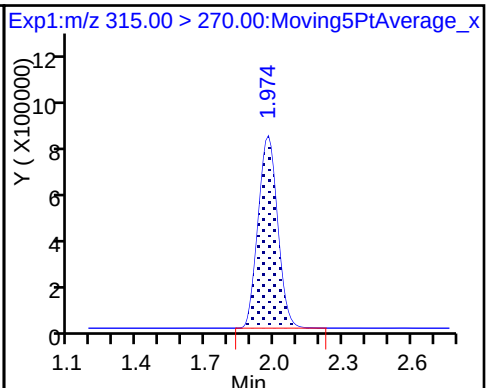
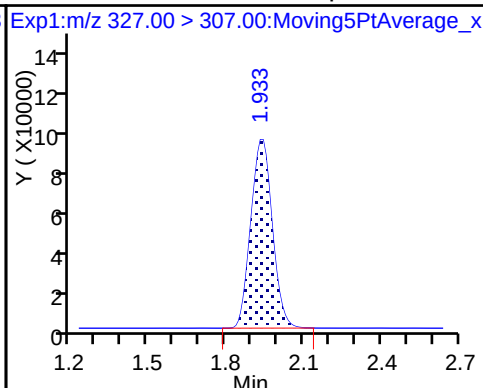
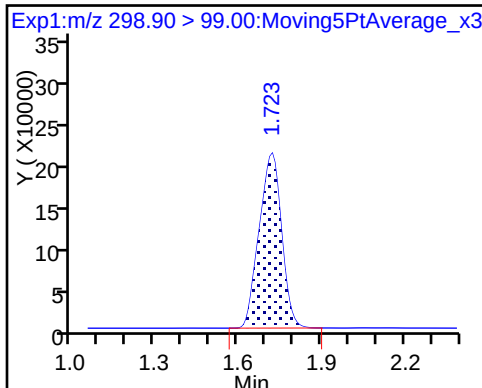
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

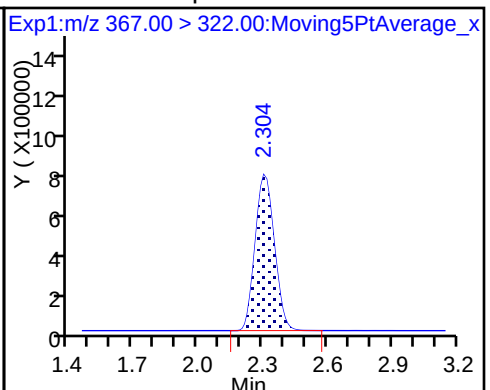
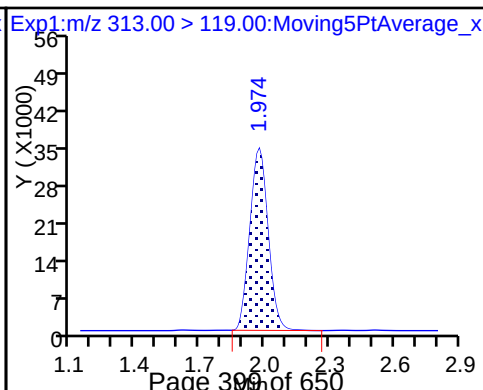
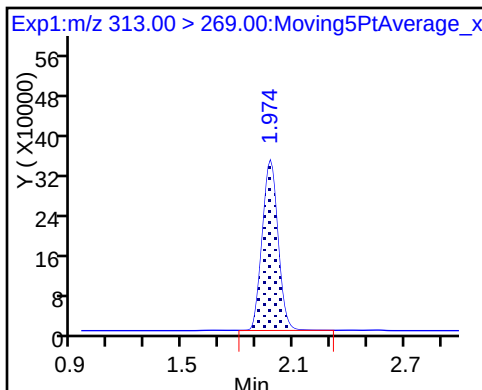
De 7 13C2 PFHxA

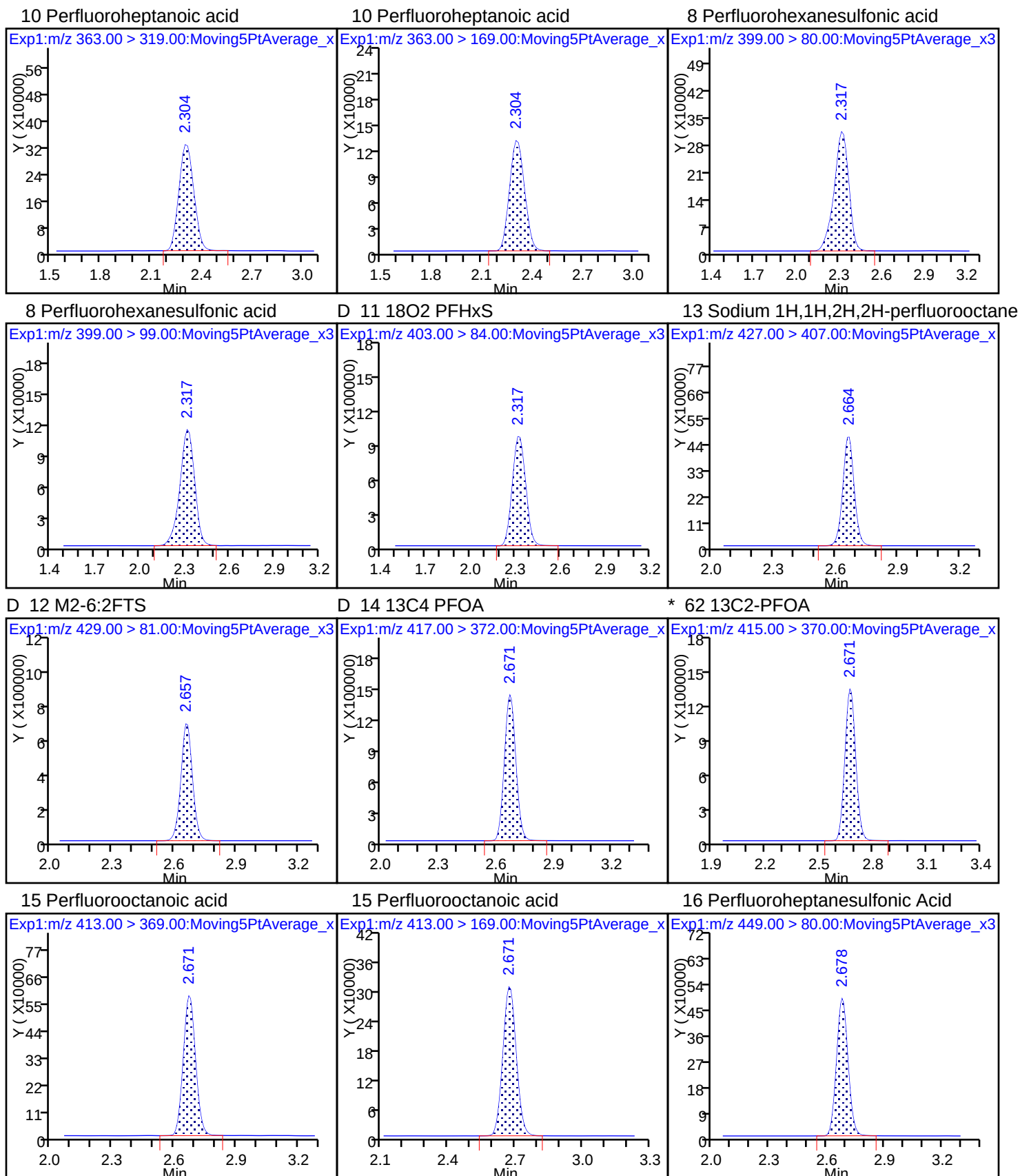


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

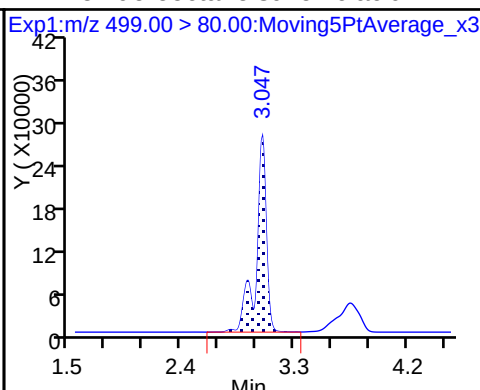
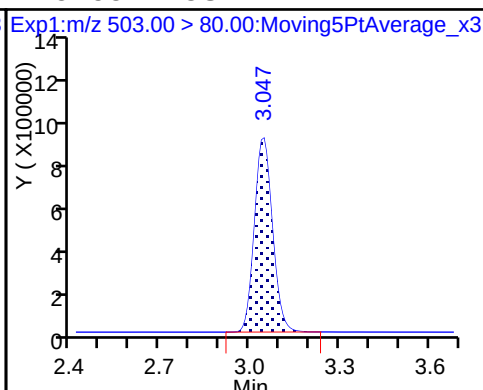
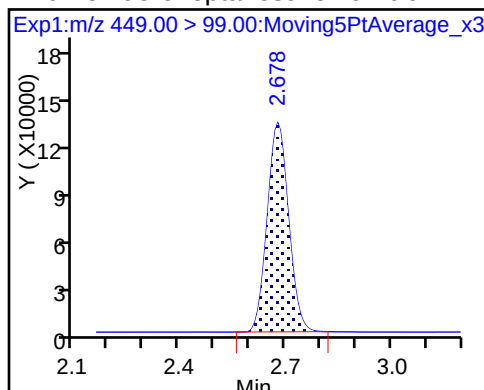




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

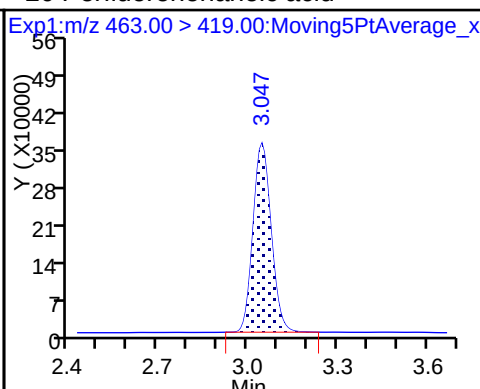
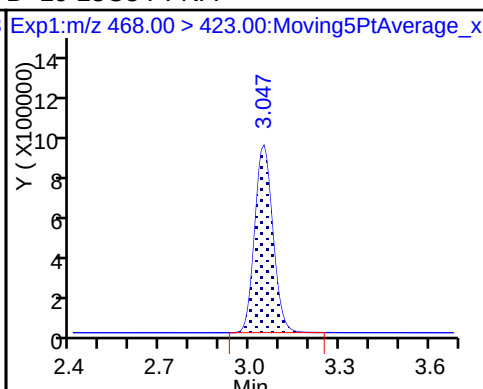
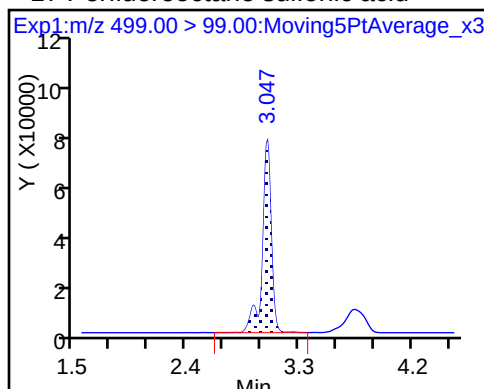
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

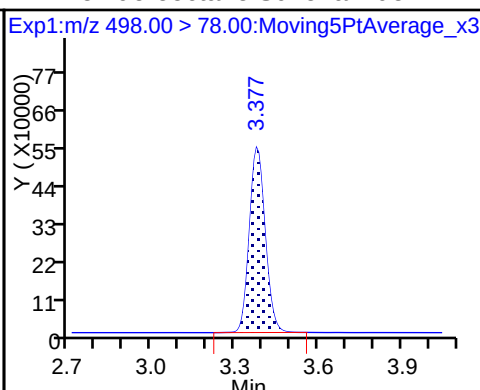
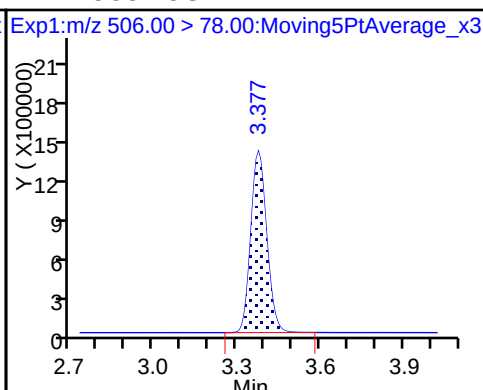
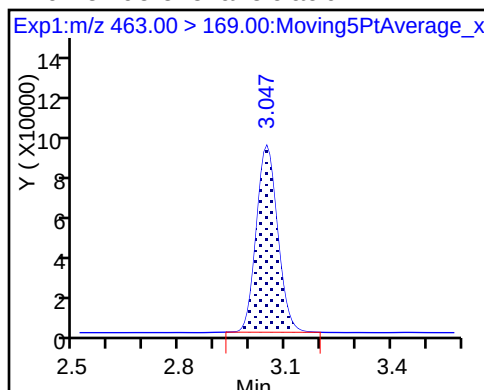
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

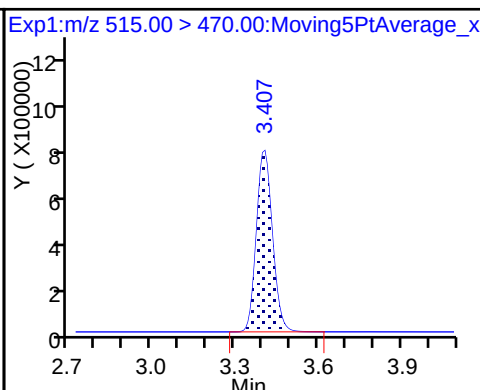
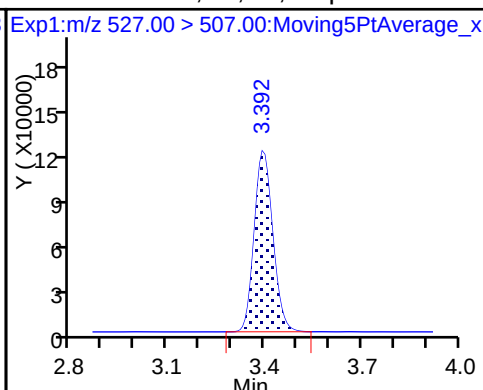
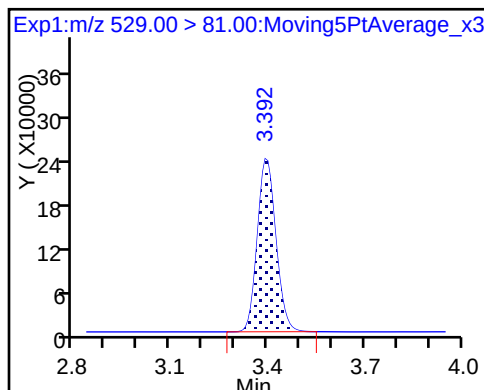
22 Perfluorooctane Sulfonamide



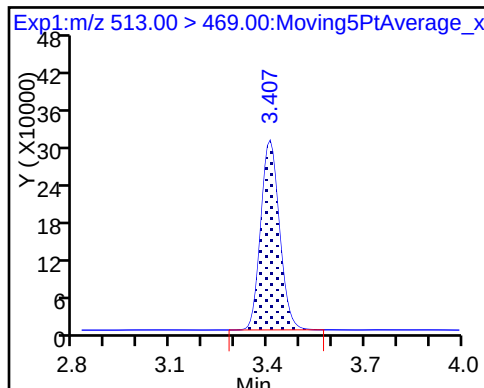
D 26 M2-8:2FTS

25 Sodium 1H,1H,2H,2H-perfluorodeca

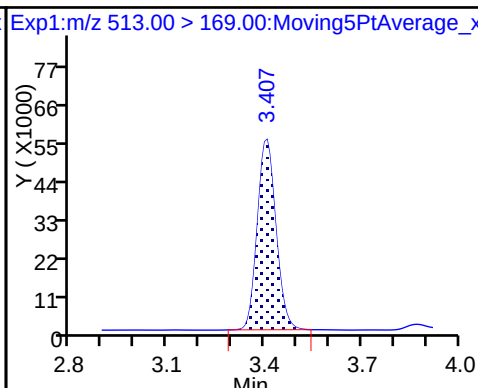
De23 13C2 PFDA



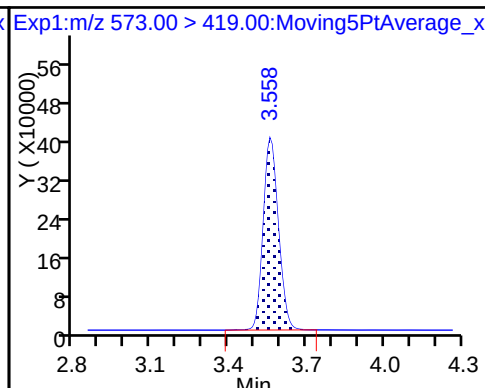
24 Perfluorodecanoic acid



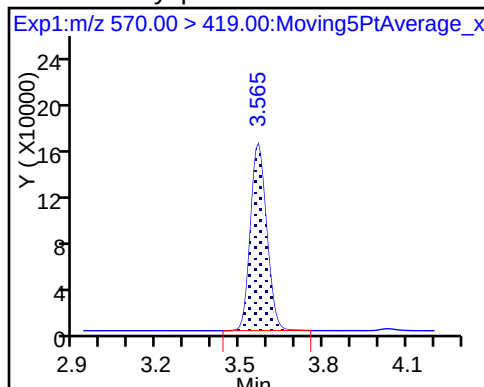
24 Perfluorodecanoic acid



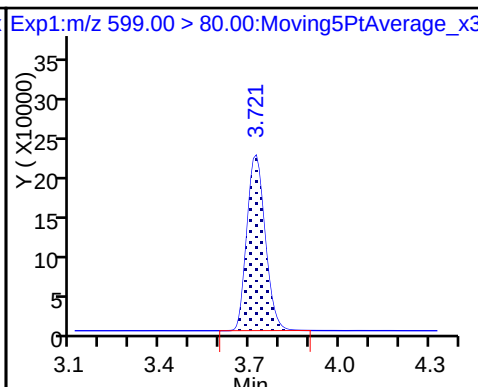
D 27 d3-NMeFOSAA



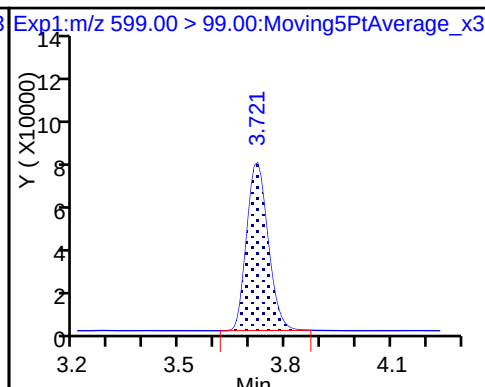
28 N-methyl perfluorooctane sulfonami



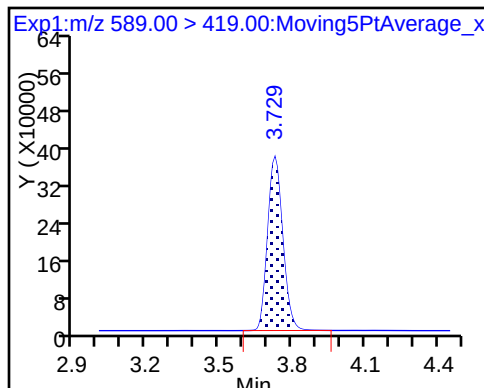
29 Perfluorodecane Sulfonic acid



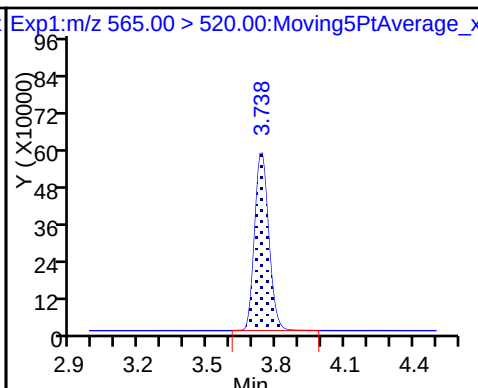
29 Perfluorodecane Sulfonic acid



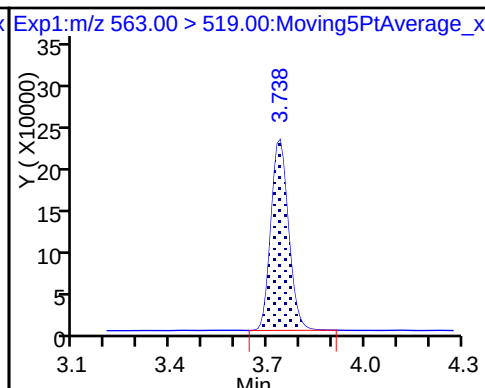
D 32 d5-NEtFOSAA



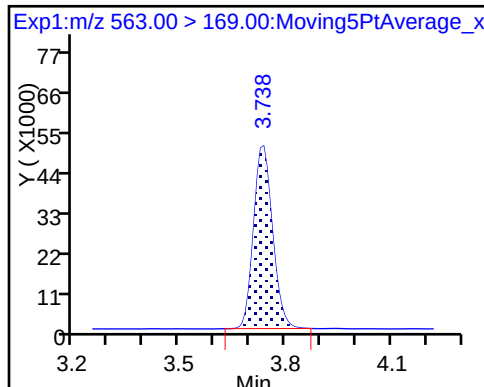
D 30 13C2 PFUnA



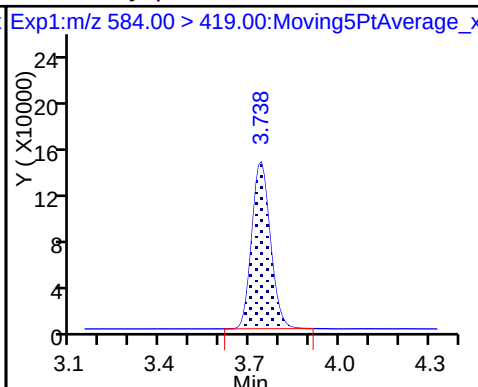
31 Perfluoroundecanoic acid



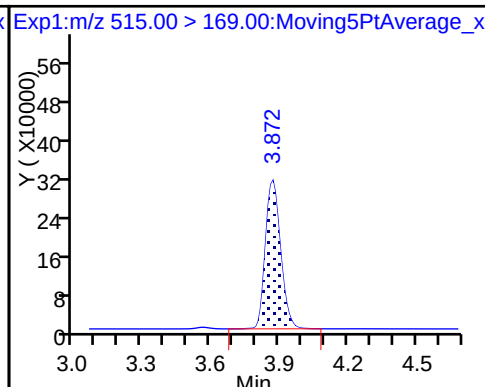
31 Perfluoroundecanoic acid



33 N-ethyl perfluorooctane sulfonamid



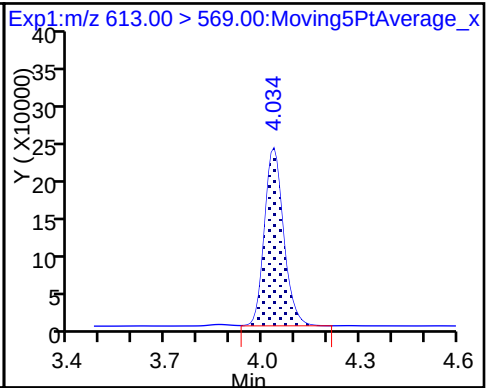
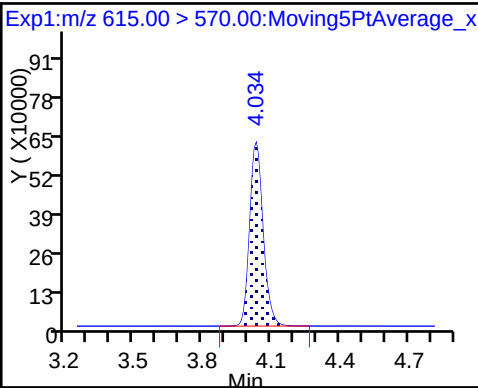
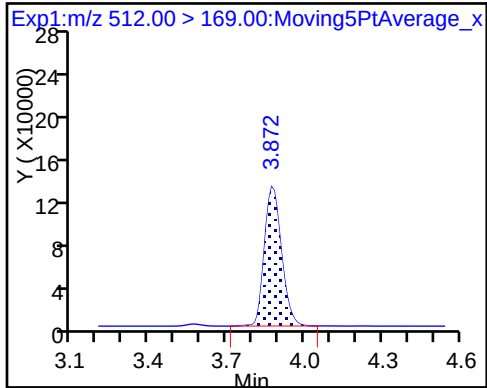
D 34 d-N-MeFOSA-M



35 MeFOSA

D 36 13C2 PFDaA

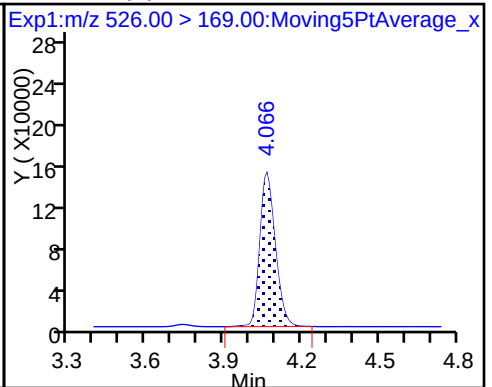
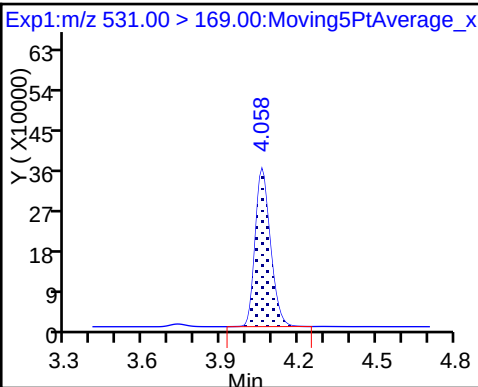
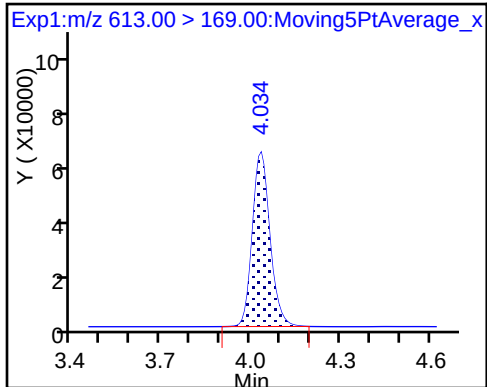
37 Perfluorododecanoic acid



37 Perfluorododecanoic acid

D 38 d-N-EtFOSA-M

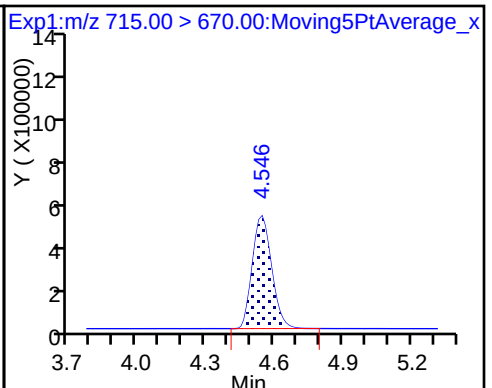
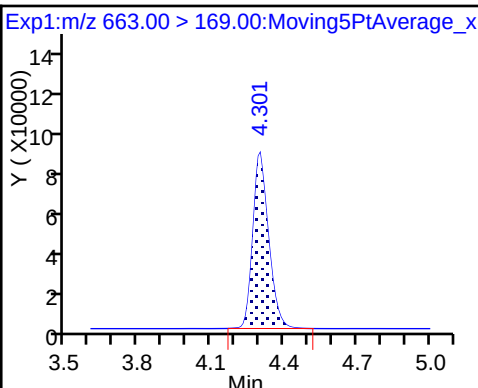
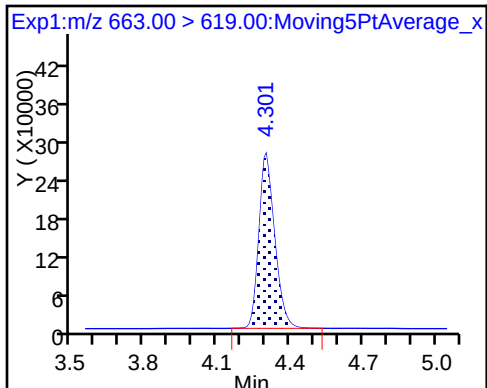
39 N-ethylperfluoro-1-octanesulfonami



41 Perfluorotridecanoic acid

41 Perfluorotridecanoic acid

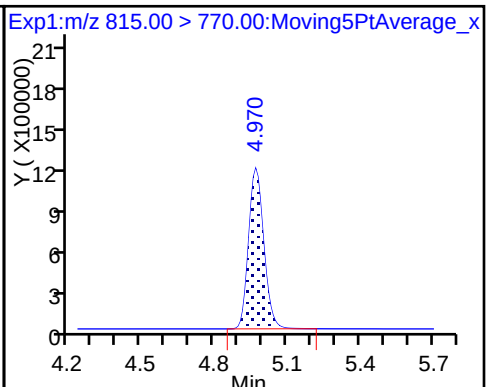
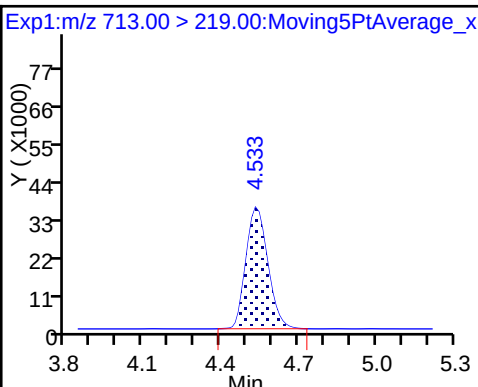
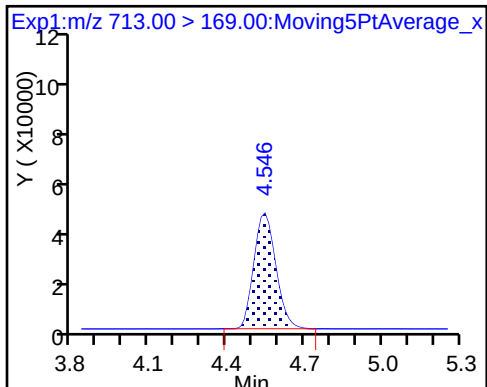
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid

42 Perfluorotetradecanoic acid

D 44 13C2-PFHxDA



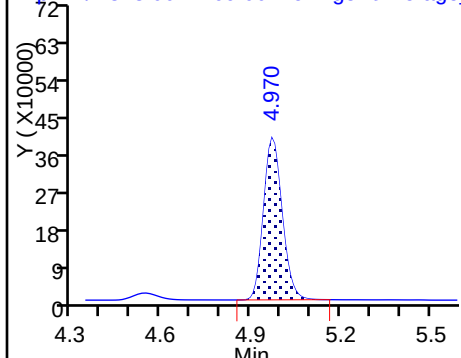


## 45 Perfluorohexadecanoic acid

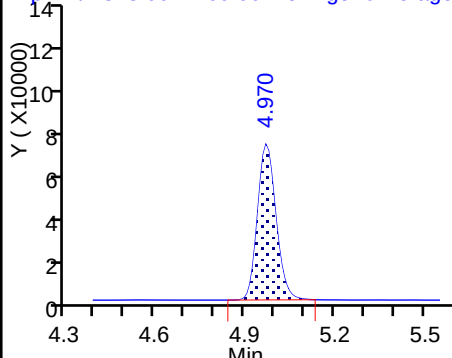
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

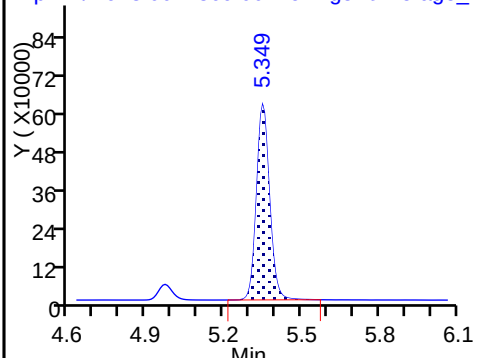
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Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

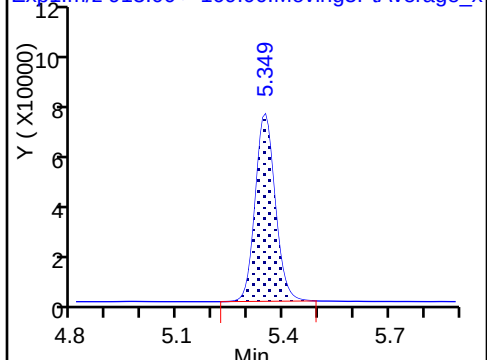


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCV 320-201236/13 Calibration Date: 12/23/2017 15:51

Instrument ID: A8\_N Calib Start Date: 12/21/2017 15:05

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/21/2017 16:08

Lab File ID: 2017.12.23LLBxB\_011.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D    | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9163  | 0.9351 |         | 2.55        | 2.50         | 2.1   | 40.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.116   | 1.113  |         | 2.49        | 2.50         | -0.3  | 40.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 75.22   | 78.20  |         | 2.30        | 2.21         | 4.0   | 50.0   |
| 4:2 FTS                                                    | AveID      | 0.8220  | 0.5627 |         | 1.60        | 2.34         | -31.5 | 50.0   |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 1.001   | 0.9911 |         | 2.48        | 2.50         | -1.0  | 40.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 1.040  |         | 2.49        | 2.50         | -0.6  | 40.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.076   | 1.003  |         | 2.12        | 2.28         | -6.8  | 40.0   |
| 6:2FTS                                                     | AveID      | 1.550   | 1.505  |         | 2.30        | 2.37         | -2.9  | 40.0   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | AveID      | 1.309   | 1.356  |         | 2.46        | 2.38         | 3.5   | 50.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.052   | 1.033  |         | 2.46        | 2.50         | -1.7  | 40.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.060   | 1.074  |         | 2.35        | 2.32         | 1.3   | 40.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 1.006   | 0.9711 |         | 2.41        | 2.50         | -3.5  | 40.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9592  | 1.011  |         | 2.64        | 2.50         | 5.4   | 40.0   |
| 8:2FTS                                                     | AveID      | 1.216   | 1.161  |         | 2.29        | 2.40         | -4.5  | 40.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9673  | 0.9716 |         | 2.51        | 2.50         | 0.4   | 40.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.074   | 1.027  |         | 2.39        | 2.50         | -4.3  | 40.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.6176  | 0.5986 |         | 2.34        | 2.41         | -3.1  | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9936  | 1.027  |         | 2.58        | 2.50         | 3.4   | 40.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9160  | 0.8168 |         | 2.23        | 2.50         | -10.8 | 40.0   |
| MeFOSA                                                     | AveID      | 0.9787  | 0.9914 |         | 2.53        | 2.50         | 1.3   | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9925  | 0.9836 |         | 2.48        | 2.50         | -0.9  | 40.0   |
| N-EtFOSA-M                                                 | AveID      | 1.065   | 1.039  |         | 2.44        | 2.50         | -2.4  | 40.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.160   | 1.151  |         | 2.48        | 2.50         | -0.7  | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2577  | 0.2626 |         | 2.55        | 2.50         | 1.9   | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 0.8967 |         | 2.60        | 2.50         | 4.0   | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.029   | 1.131  |         | 2.75        | 2.50         | 9.9   | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.519   | 1.472  |         | 2.42        | 2.50         | -3.1  | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 0.9096  | 0.8626 |         | 2.37        | 2.50         | -5.2  | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0194  | 0.0190 |         | 2.28        | 2.33         | -1.9  | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 0.9709  | 0.9379 |         | 2.42        | 2.50         | -3.4  | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 0.8985  | 0.8740 |         | 2.43        | 2.50         | -2.7  | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 320-201236/13 Calibration Date: 12/23/2017 15:51  
 Instrument ID: A8\_N Calib Start Date: 12/21/2017 15:05  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/21/2017 16:08  
 Lab File ID: 2017.12.23LLBxB\_011.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 18O2 PFHxS   | Ave           | 1.134   | 1.133  |         | 2.36           | 2.37            | -0.1  | 50.0      |
| M2-6:2FTS    | Ave           | 0.4185  | 0.5011 |         | 2.84           | 2.38            | 19.7  | 40.0      |
| 13C4 PFOA    | Ave           | 1.033   | 1.036  |         | 2.51           | 2.50            | 0.3   | 50.0      |
| 13C4 PFOS    | Ave           | 0.7487  | 0.7435 |         | 2.37           | 2.39            | -0.7  | 50.0      |
| 13C5 PFNA    | Ave           | 0.7339  | 0.7150 |         | 2.44           | 2.50            | -2.6  | 50.0      |
| 13C8 FOSA    | Ave           | 1.019   | 0.9934 |         | 2.44           | 2.50            | -2.5  | 50.0      |
| M2-8:2FTS    | Ave           | 0.2338  | 0.1886 |         | 1.93           | 2.40            | -19.3 | 40.0      |
| 13C2 PFDA    | Ave           | 0.6054  | 0.5772 |         | 2.38           | 2.50            | -4.7  | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3249  | 0.3052 |         | 2.35           | 2.50            | -6.1  | 50.0      |
| 13C2 PFUnA   | Ave           | 0.4609  | 0.4592 |         | 2.49           | 2.50            | -0.4  | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3173  | 0.2971 |         | 2.34           | 2.50            | -6.4  | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.2902  | 0.2740 |         | 2.36           | 2.50            | -5.6  | 50.0      |
| 13C2 PFDoA   | Ave           | 0.4970  | 0.4541 |         | 2.28           | 2.50            | -8.6  | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.2788  | 0.2672 |         | 2.40           | 2.50            | -4.1  | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5554  | 0.5008 |         | 2.25           | 2.50            | -9.8  | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.011   | 0.8674 |         | 2.15           | 2.50            | -14.2 | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_011.d  
 Lims ID: CCV L5  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 23-Dec-2017 15:51:55 ALS Bottle#: 14 Worklist Smp#: 13  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCV L5  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 26-Dec-2017 16:35:29 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 16:31:38

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |           |           |           |          |                 |                   |      |       |       |
| 217.00 > 172.00                       | 1.424 | 1.419     | 0.005     | 0.534     | 7760082  | 2.42            |                   | 96.9 | 22930 |       |
| 2 Perfluorobutyric acid               |       |           |           |           |          |                 |                   |      |       |       |
| 212.90 > 169.00                       | 1.424 | 1.419     | 0.005     | 1.000     | 7256226  | 2.55            |                   | 102  | 1834  |       |
| D 3 13C5-PFPeA                        |       |           |           |           |          |                 |                   |      |       |       |
| 267.90 > 223.00                       | 1.678 | 1.670     | 0.008     | 0.628     | 4548082  | 2.37            |                   | 94.8 | 45771 |       |
| 4 Perfluoropentanoic acid             |       |           |           |           |          |                 |                   |      |       |       |
| 262.90 > 219.00                       | 1.687 | 1.670     | 0.017     | 1.005     | 5060965  | 2.49            |                   | 99.7 | 4040  |       |
| D 47 13C3-PFBS                        |       |           |           |           |          |                 |                   |      |       |       |
| 301.90 > 83.00                        | 1.713 | 1.705     | 0.008     | 0.642     | 93274    | 2.28            |                   | 98.1 | 3359  |       |
| 5 Perfluorobutanesulfonic acid        |       |           |           |           |          |                 |                   |      |       |       |
| 298.90 > 80.00                        | 1.722 | 1.707     | 0.015     | 1.005     | 6933391  | 2.30            |                   | 104  | 34788 |       |
| 298.90 > 99.00                        | 1.722 | 1.707     | 0.015     | 1.005     | 2825622  |                 | 2.45(1.25-3.74)   |      | 25402 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |           |           |           |          |                 |                   |      |       |       |
| 327.00 > 307.00                       | 1.930 | 1.920     | 0.010     | 1.000     | 1388605  | 1.60            |                   | 68.5 | 40851 |       |
| D 7 13C2 PFHxA                        |       |           |           |           |          |                 |                   |      |       |       |
| 315.00 > 270.00                       | 1.971 | 1.953     | 0.018     | 0.738     | 4944996  | 2.41            |                   | 96.6 | 47570 |       |
| 6 Perfluorohexanoic acid              |       |           |           |           |          |                 |                   |      |       |       |
| 313.00 > 269.00                       | 1.971 | 1.956     | 0.015     | 1.000     | 4901184  | 2.47            |                   | 99.0 | 11975 |       |
| 313.00 > 119.00                       | 1.971 | 1.956     | 0.015     | 1.000     | 454414   |                 | 10.79(5.03-15.10) |      | 7781  |       |
| D 9 13C4-PFHpA                        |       |           |           |           |          |                 |                   |      |       |       |
| 367.00 > 322.00                       | 2.301 | 2.291     | 0.010     | 0.862     | 4607975  | 2.43            |                   | 97.3 | 31219 |       |
| 10 Perfluoroheptanoic acid            |       |           |           |           |          |                 |                   |      |       |       |
| 363.00 > 319.00                       | 2.301 | 2.291     | 0.010     | 1.000     | 4791811  | 2.49            |                   | 99.4 | 7128  |       |
| 363.00 > 169.00                       | 2.301 | 2.291     | 0.010     | 1.000     | 1873846  |                 | 2.56(1.13-3.40)   |      | 12173 |       |
| 8 Perfluorohexanesulfonic acid        |       |           |           |           |          |                 |                   |      |       |       |
| 399.00 > 80.00                        | 2.315 | 2.304     | 0.011     | 1.000     | 5453167  | 2.12            |                   | 93.2 | 12705 |       |
| 399.00 > 99.00                        | 2.315 | 2.304     | 0.011     | 1.000     | 1849921  |                 | 2.95(1.50-4.49)   |      | 8735  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.315 | 2.304  | 0.011  | 0.867  | 5649349  | 2.36         |                 | 99.9 | 33846 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.655 | 2.642  | 0.013  | 1.000  | 3770168  | 2.30         |                 | 97.1 | 66172 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.655 | 2.642  | 0.013  | 0.995  | 2509843  | 2.84         |                 | 120  | 60259 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.663 | 2.654  | 0.009  | 0.997  | 5464334  | 2.51         |                 | 100  | 33774 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.670 | 2.656  | 0.014  |        | 5272604  | 2.50         |                 |      | 46899 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.670 | 2.656  | 0.014  | 1.003  | 5646790  | 2.46         |                 | 98.3 | 3429  |       |
| 413.00 > 169.00                       | 2.670 | 2.656  | 0.014  | 1.003  | 3020271  |              | 1.87(0.84-2.52) |      | 15871 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.670 | 2.662  | 0.008  | 1.000  | 5059551  | 2.46         |                 | 104  | 31770 |       |
| 449.00 > 99.00                        | 2.670 | 2.662  | 0.008  | 1.000  | 1376994  |              | 3.67(1.94-5.82) |      | 18215 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.037 | 3.025  | 0.012  | 1.138  | 3747919  | 2.37         |                 | 99.3 | 23503 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.037 | 3.028  | 0.009  | 1.000  | 3908347  | 2.35         |                 | 101  | 449   |       |
| 499.00 > 99.00                        | 3.037 | 3.028  | 0.009  | 1.000  | 834074   |              | 4.69(2.31-6.93) |      | 535   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.037 | 3.028  | 0.009  | 1.138  | 3769982  | 2.44         |                 | 97.4 | 38926 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.045 | 3.029  | 0.016  | 1.003  | 3661118  | 2.41         |                 | 96.5 | 6490  |       |
| 463.00 > 169.00                       | 3.045 | 3.029  | 0.016  | 1.003  | 919325   |              | 3.98(1.90-5.69) |      | 16701 |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.375 | 3.370  | 0.005  | 1.264  | 5237569  | 2.44         |                 | 97.5 | 26370 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.375 | 3.372  | 0.003  | 1.000  | 5294628  | 2.63         |                 | 105  | 29732 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.390 | 3.377  | 0.013  | 1.270  | 952816   | 1.93         |                 | 80.7 | 13419 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.390 | 3.377  | 0.013  | 1.000  | 1106304  | 2.29         |                 | 95.5 | 23307 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.398 | 3.389  | 0.009  | 1.273  | 3043426  | 2.38         |                 | 95.3 | 31893 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.405 | 3.390  | 0.015  | 1.002  | 2956975  | 2.51         |                 | 100  | 17290 |       |
| 513.00 > 169.00                       | 3.405 | 3.390  | 0.015  | 1.002  | 543004   |              | 5.45(2.36-7.09) |      | 2007  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.557 | 3.543  | 0.014  | 1.332  | 1609215  | 2.35         |                 | 93.9 | 13914 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.564 | 3.548  | 0.016  | 1.002  | 1652936  | 2.39         |                 | 95.7 | 9948  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.720 | 3.703  | 0.017  | 1.000  | 2262079  | 2.34         |                 | 96.9 | 38474 |       |
| 599.00 > 99.00                        | 3.711 | 3.703  | 0.008  | 0.998  | 760241   |              | 2.98(1.39-4.16) |      | 11284 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.728 | 3.712  | 0.016  | 1.397  | 1566687  | 2.34         |                 | 93.6 | 9795  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.728 | 3.717     | 0.011     | 1.397     | 2420947  | 2.49            |                 | 99.6 | 25978 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.728 | 3.718     | 0.010     | 1.000     | 1977501  | 2.23            |                 | 89.2 | 8925  |       |
| 563.00 > 169.00                       | 3.728 | 3.718     | 0.010     | 1.000     | 487329   |                 | 4.06(0.00-0.00) |      | 12920 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.728 | 3.720     | 0.008     | 1.000     | 1608980  | 2.58            |                 | 103  | 16886 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.870 | 3.862     | 0.008     | 1.450     | 1444404  | 2.36            |                 | 94.4 | 3265  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.870 | 3.872     | -0.002    | 1.000     | 1431958  | 2.53            |                 | 101  | 2941  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.025 | 4.011     | 0.014     | 1.508     | 2394454  | 2.28            |                 | 91.4 | 24751 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.025 | 4.011     | 0.014     | 1.000     | 2355204  | 2.48            |                 | 99.1 | 6519  |       |
| 613.00 > 169.00                       | 4.025 | 4.011     | 0.014     | 1.000     | 593931   |                 | 3.97(2.13-6.40) |      | 24684 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.057 | 4.052     | 0.005     | 1.520     | 1408921  | 2.40            |                 | 95.9 | 2650  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.065 | 4.058     | 0.007     | 1.002     | 1463952  | 2.44            |                 | 97.6 | 2743  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.293 | 4.277     | 0.016     | 1.000     | 2756931  | 2.48            |                 | 99.3 | 9115  |       |
| 663.00 > 169.00                       | 4.293 | 4.277     | 0.016     | 1.000     | 972259   |                 | 2.84(1.25-3.76) |      | 24153 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.532 | 4.518     | 0.014     | 1.698     | 2640730  | 2.25            |                 | 90.2 | 18076 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.532 | 4.518     | 0.014     | 1.000     | 693468   | 2.55            |                 | 102  | 14705 |       |
| 713.00 > 219.00                       | 4.532 | 4.518     | 0.014     | 1.000     | 469833   |                 | 1.48(0.71-2.13) |      | 13333 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.960 | 4.939     | 0.021     | 1.858     | 4573179  | 2.14            |                 | 85.8 | 15034 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.960 | 4.939     | 0.021     | 1.000     | 4100620  | 2.60            |                 | 104  | 2272  |       |
| 813.00 > 169.00                       | 4.960 | 4.939     | 0.021     | 1.000     | 731381   |                 | 5.61(2.86-8.58) |      | 7040  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.334 | 5.306     | 0.028     | 1.000     | 5172792  | 2.75            |                 | 110  | 1153  |       |
| 913.00 > 169.00                       | 5.334 | 5.306     | 0.028     | 1.000     | 641482   |                 | 8.06(0.00-0.00) |      | 2732  |       |

## Reagents:

LCPFC\_LL5\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_011.d

Injection Date: 23-Dec-2017 15:51:55

Instrument ID: A8\_N

Lims ID: CCV L5

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 14

Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

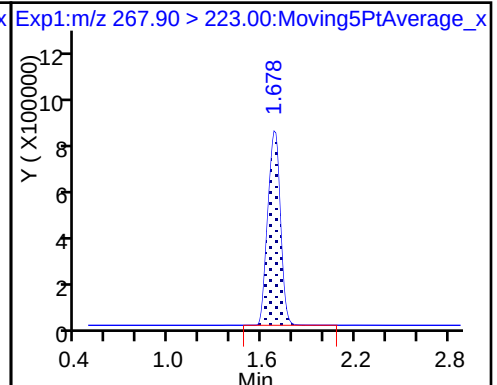
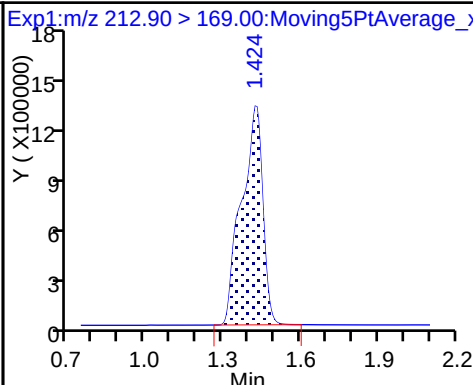
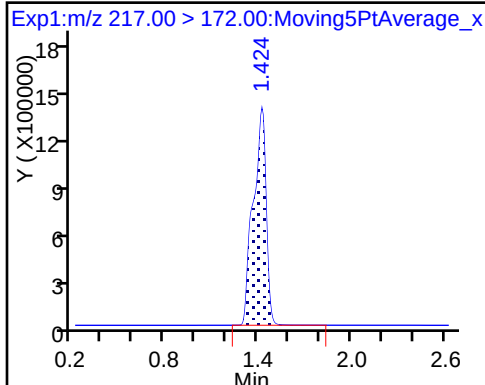
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

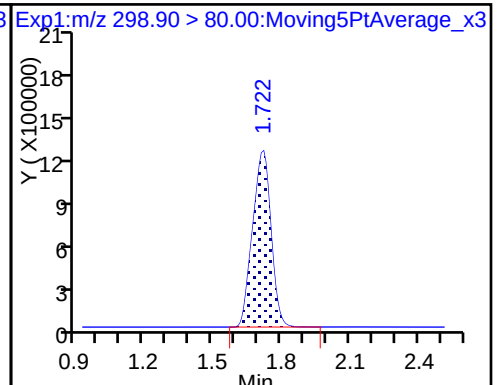
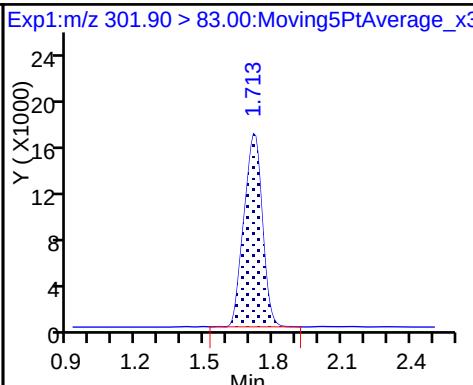
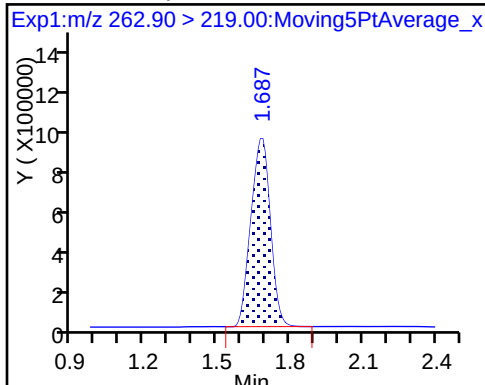
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 47 13C3-PFBS

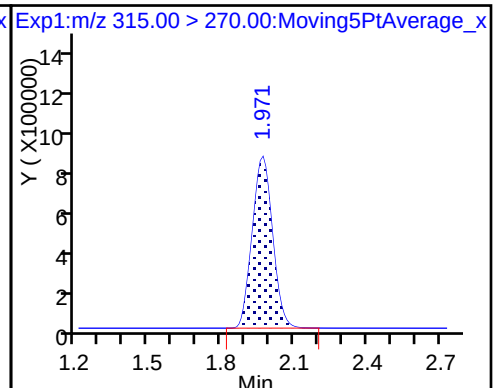
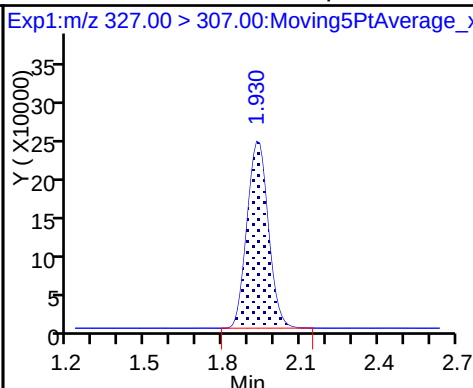
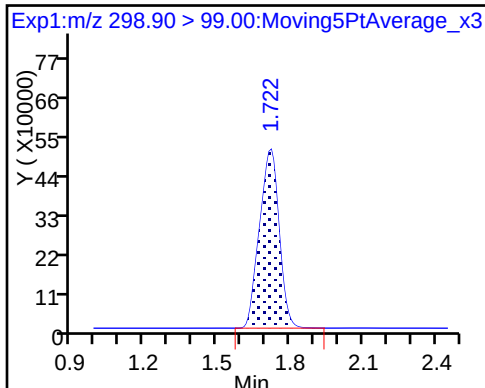
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

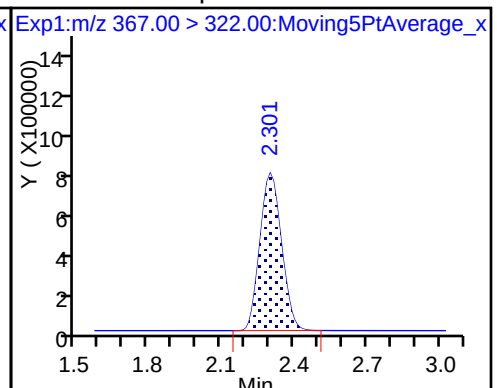
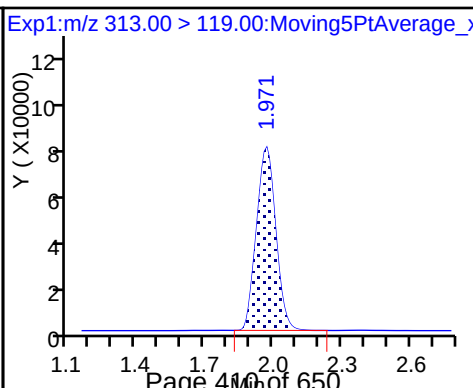
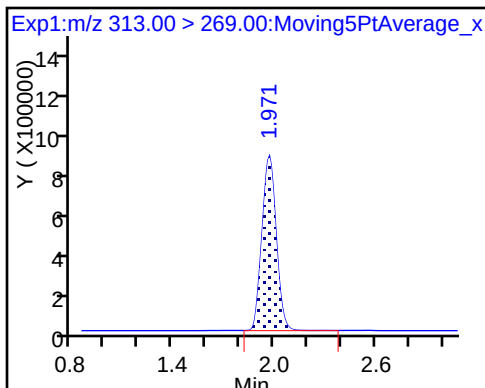
De 7 13C2 PFHxA



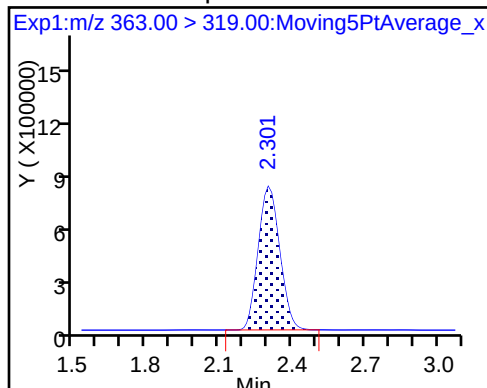
6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

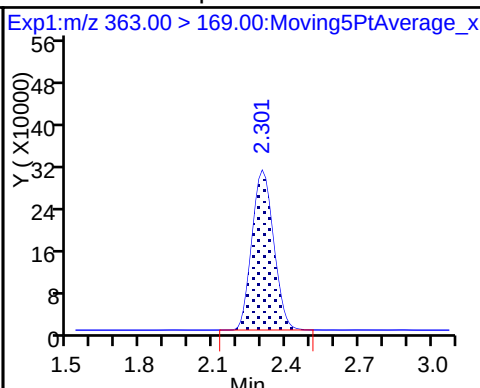
D 9 13C4-PFHpA



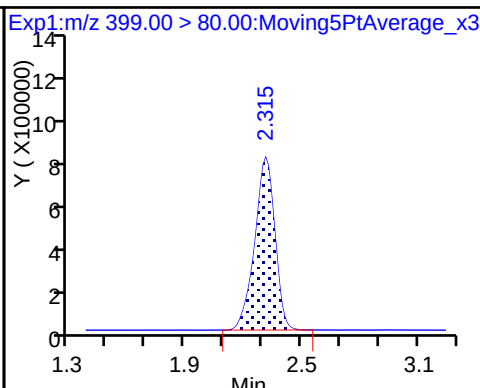
10 Perfluoroheptanoic acid



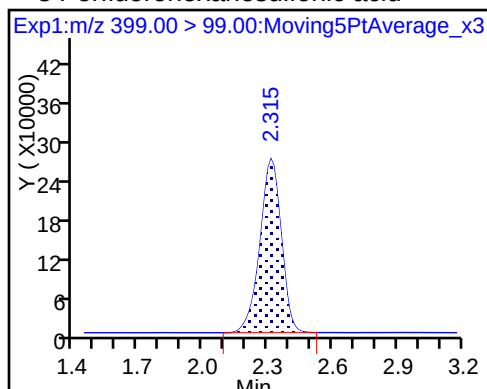
10 Perfluoroheptanoic acid



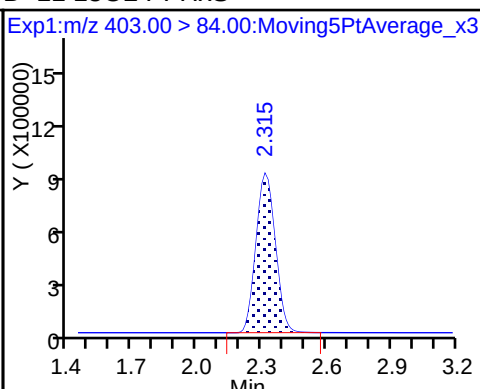
8 Perfluorohexanesulfonic acid



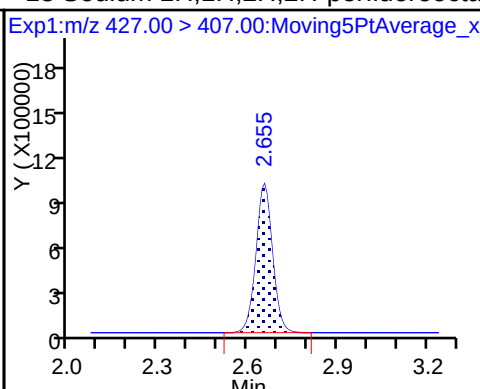
8 Perfluorohexanesulfonic acid



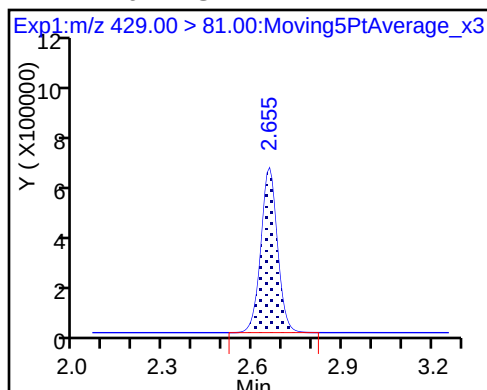
D 11 18O2 PFHxS



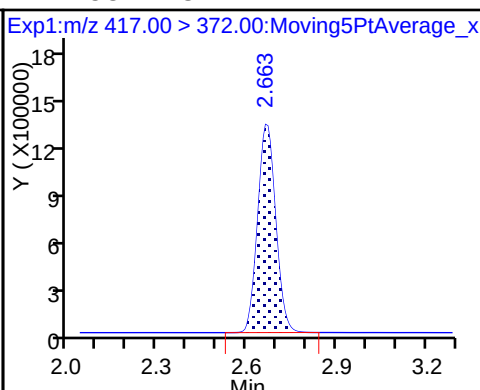
13 Sodium 1H,1H,2H,2H-perfluorooctane



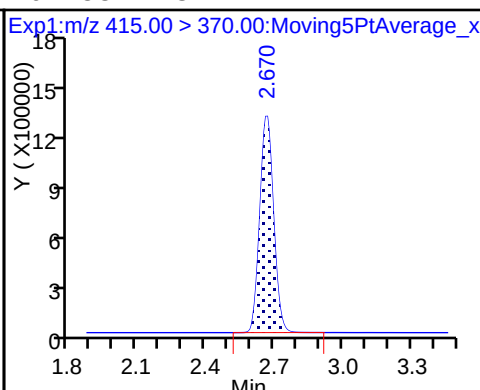
D 12 M2-6:2FTS



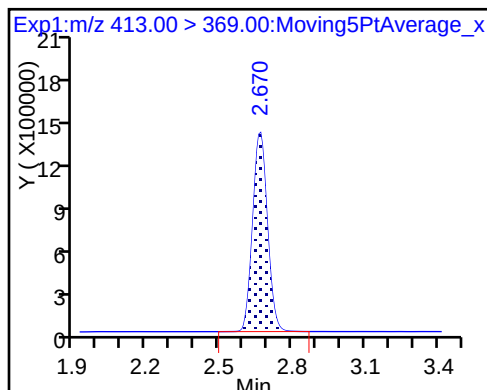
D 14 13C4 PFOA



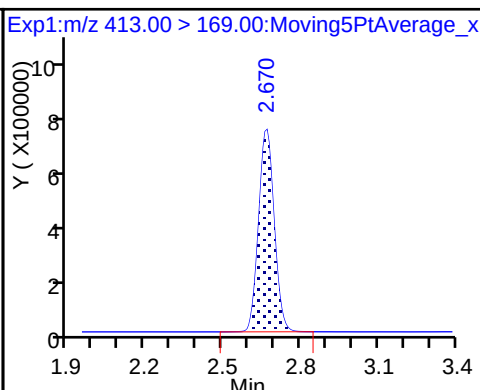
\* 62 13C2-PFOA



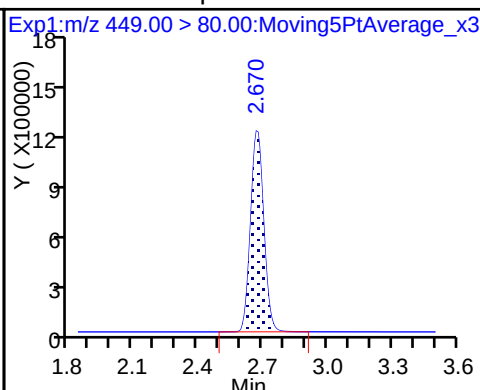
15 Perfluorooctanoic acid



15 Perfluorooctanoic acid



16 Perfluoroheptanesulfonic Acid

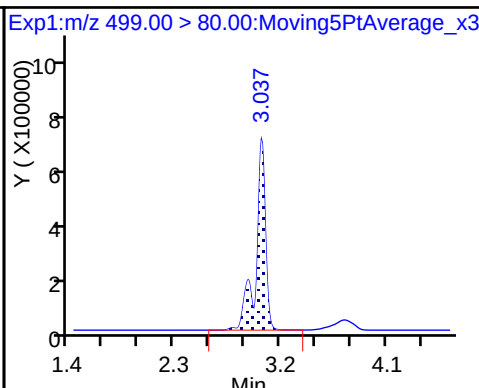
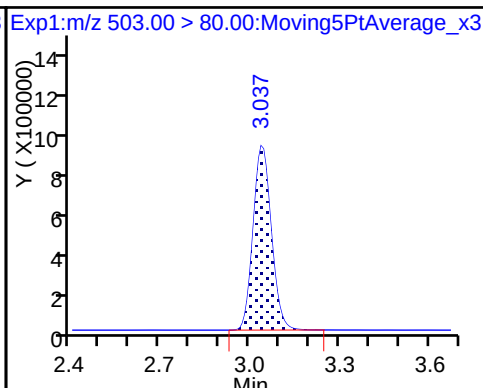
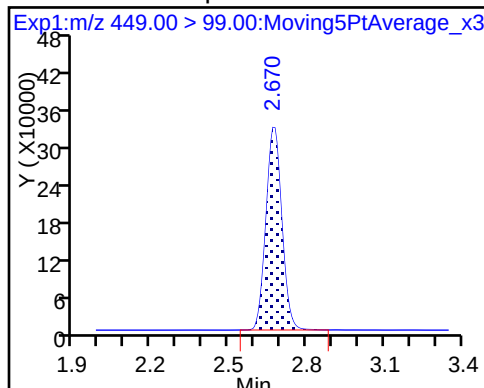




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

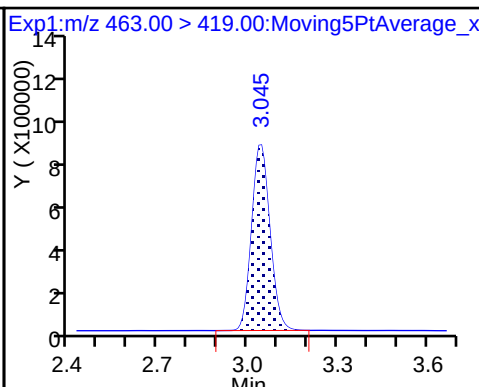
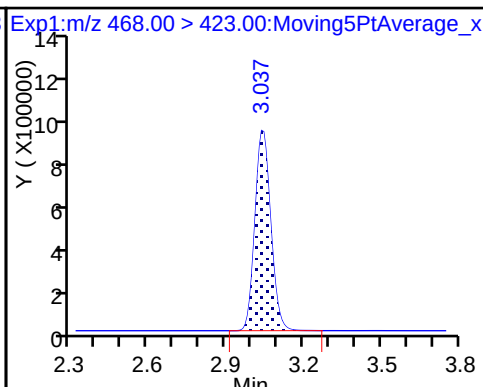
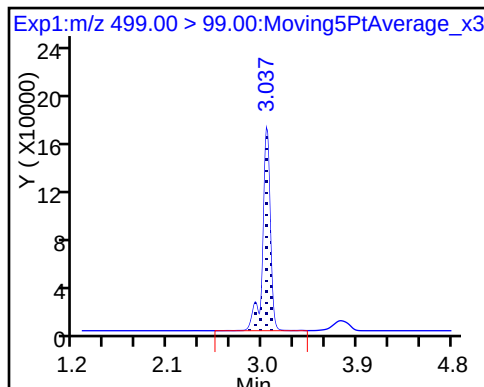
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

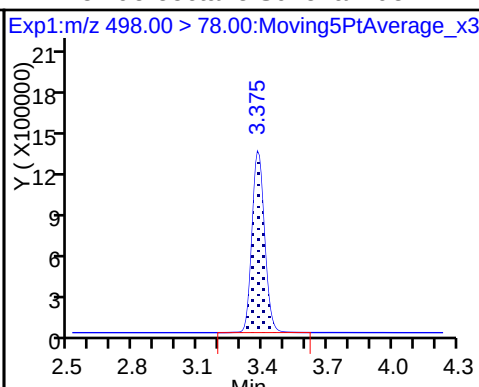
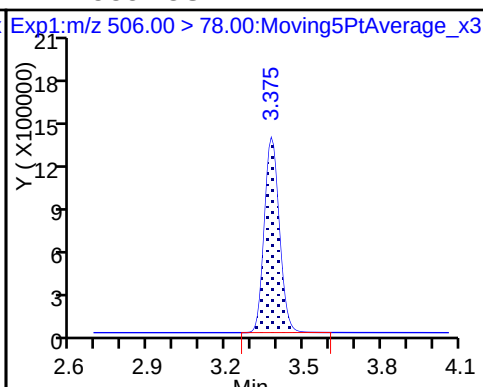
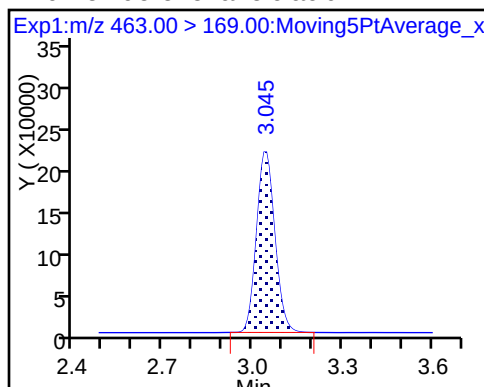
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

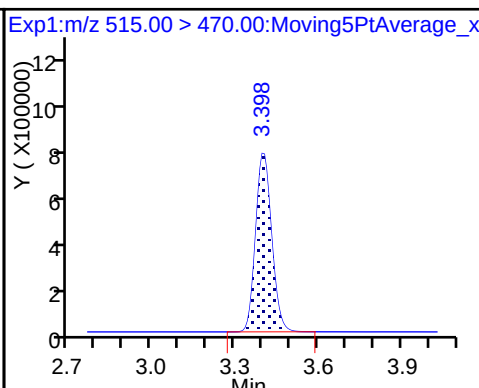
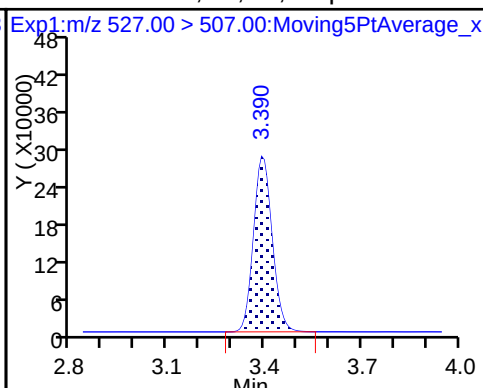
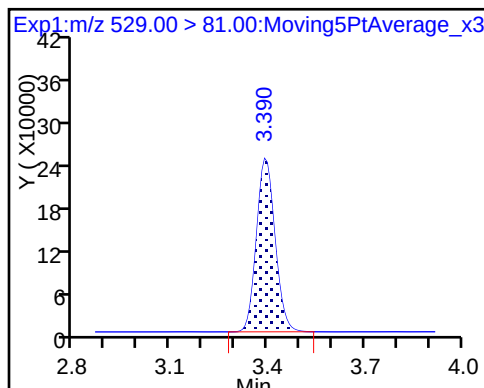
22 Perfluorooctane Sulfonamide



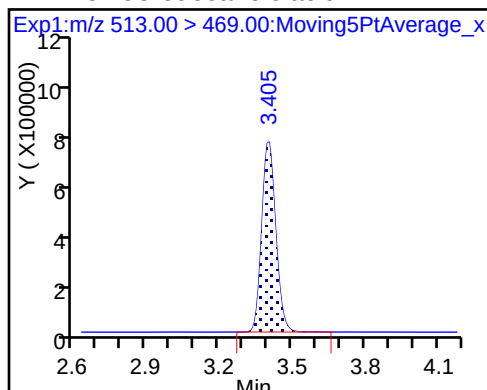
D 26 M2-8:2FTS

25 Sodium 1H,1H,2H,2H-perfluorodeca

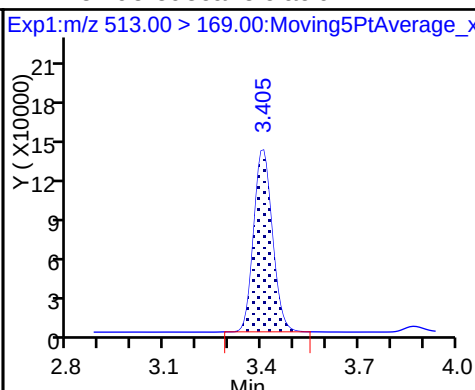
De23 13C2 PFDA



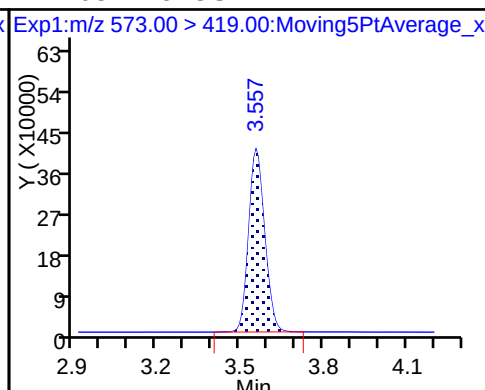
24 Perfluorodecanoic acid



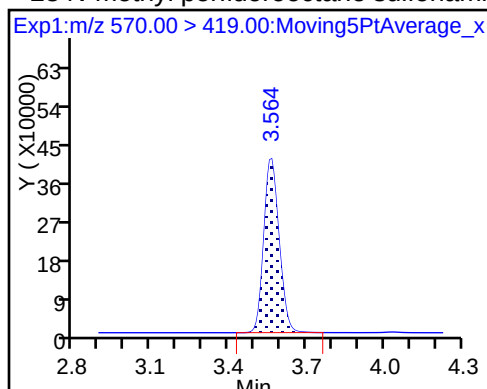
24 Perfluorodecanoic acid



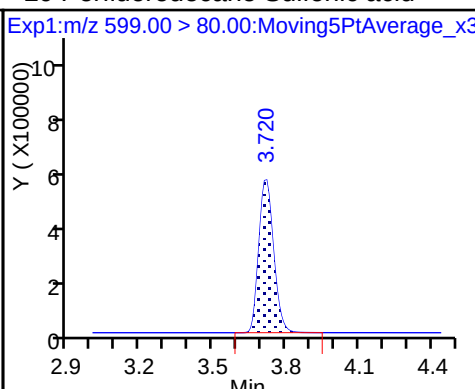
D 27 d3-NMeFOSAA



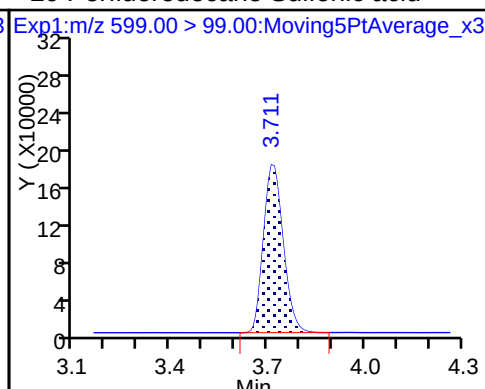
28 N-methyl perfluorooctane sulfonami



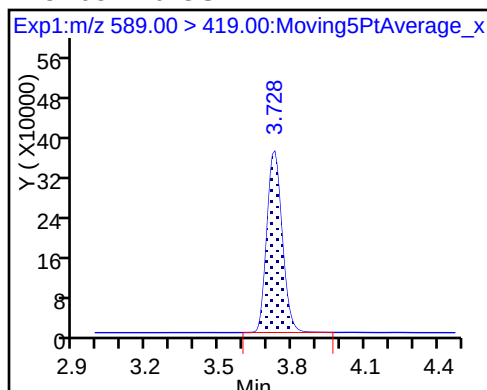
29 Perfluorodecane Sulfonic acid



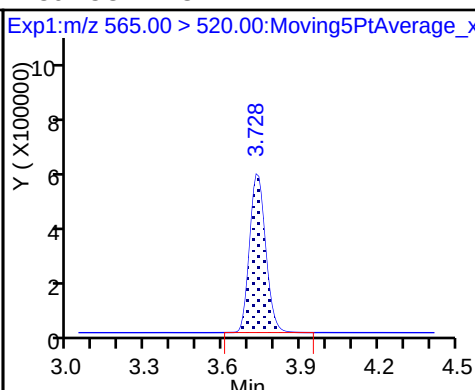
29 Perfluorodecane Sulfonic acid



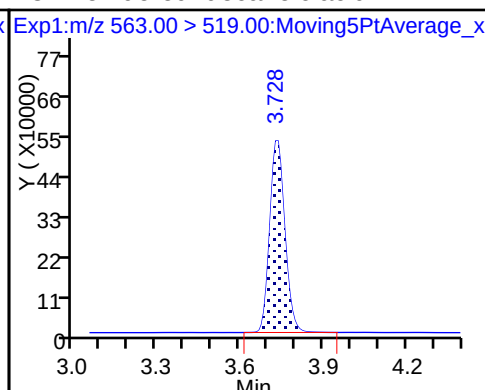
D 32 d5-NEtFOSAA



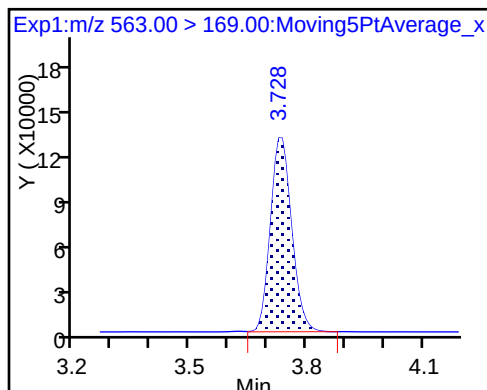
D 30 13C2 PFUnA



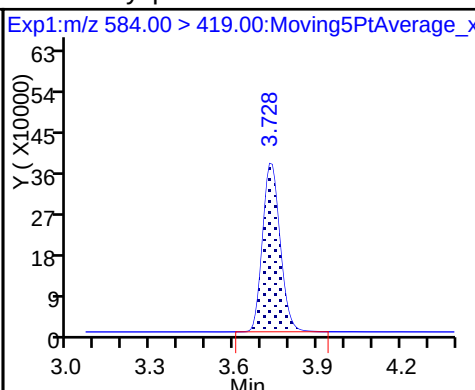
31 Perfluoroundecanoic acid



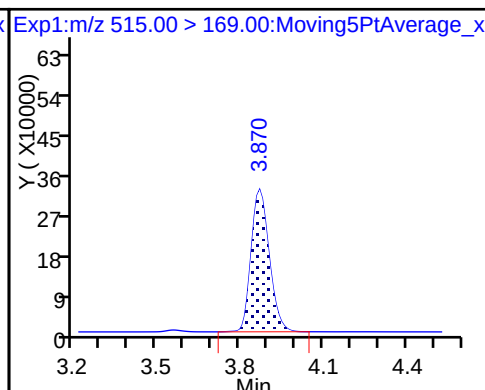
31 Perfluoroundecanoic acid



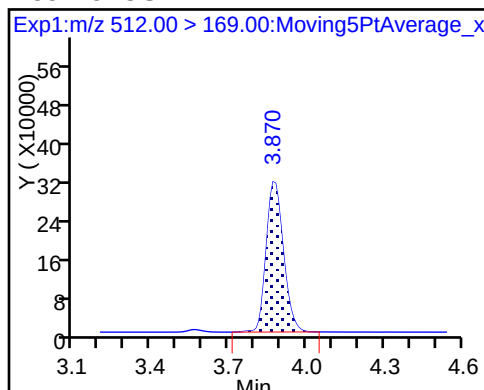
33 N-ethyl perfluorooctane sulfonamid



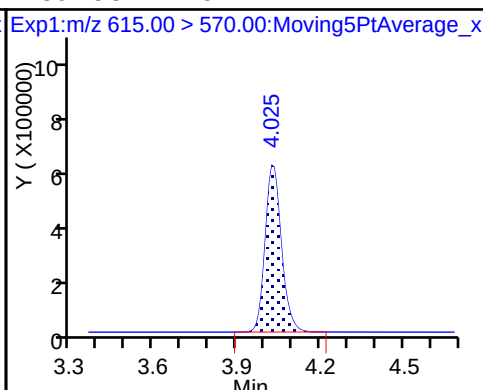
D 34 d-N-MeFOSA-M



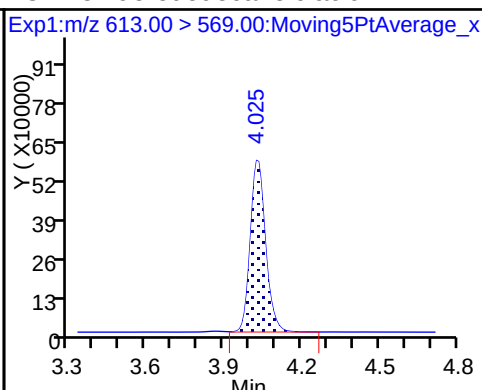
35 MeFOSA



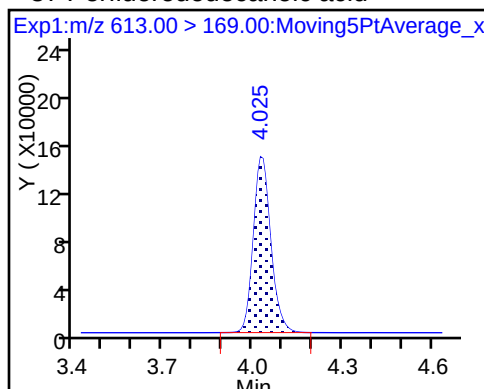
D 36 13C2 PFDaA



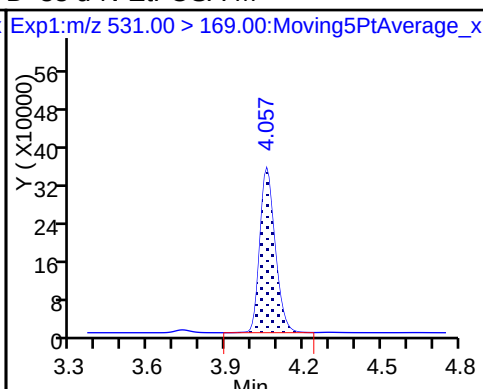
37 Perfluorododecanoic acid



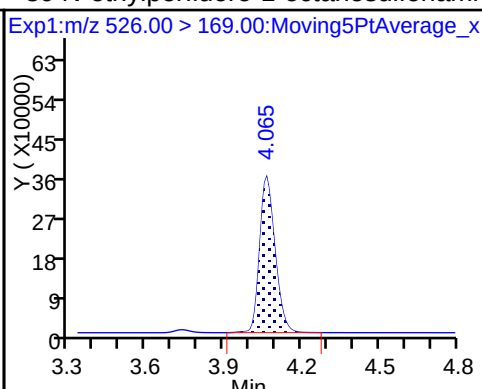
37 Perfluorododecanoic acid



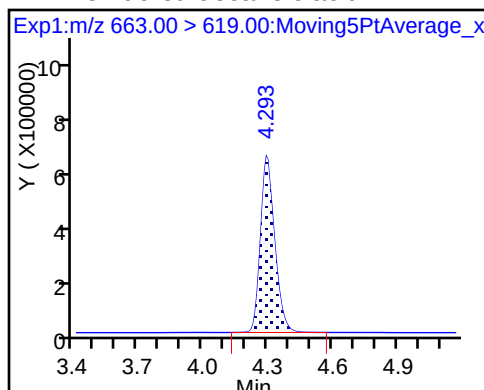
D 38 d-N-EtFOSA-M



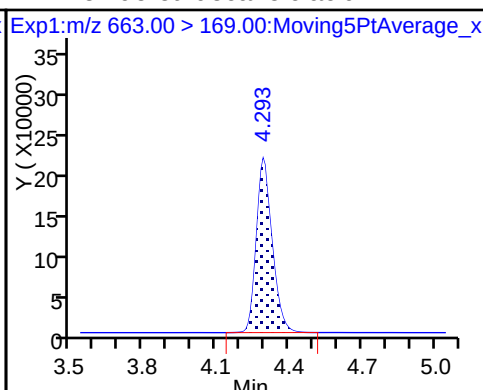
39 N-ethylperfluoro-1-octanesulfonami



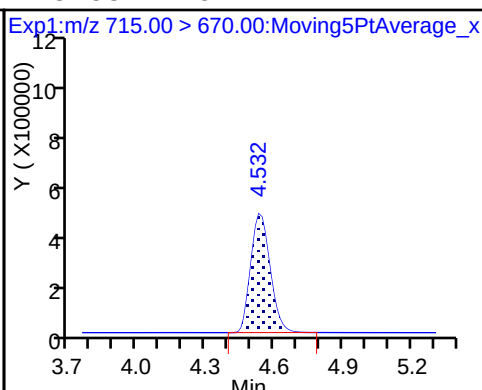
41 Perfluorotridecanoic acid



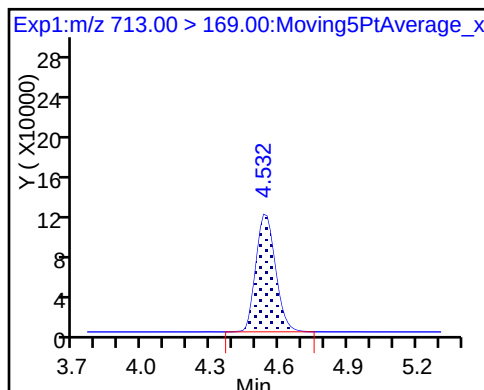
41 Perfluorotridecanoic acid



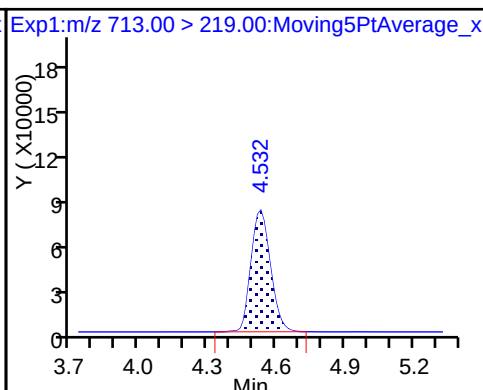
D 43 13C2-PFTeDA



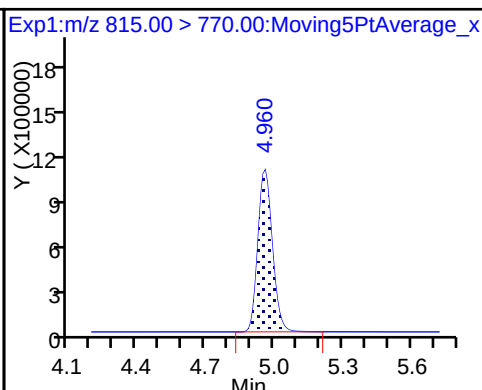
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



D 44 13C2-PFHxDA

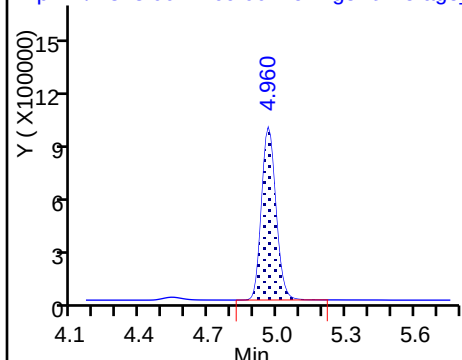


## 45 Perfluorohexadecanoic acid

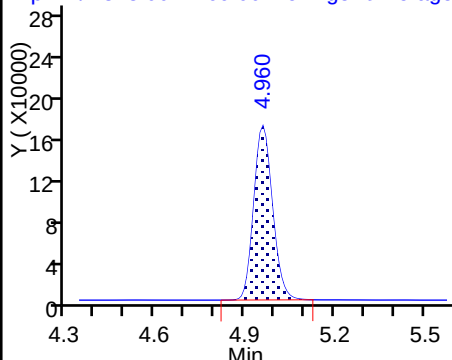
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

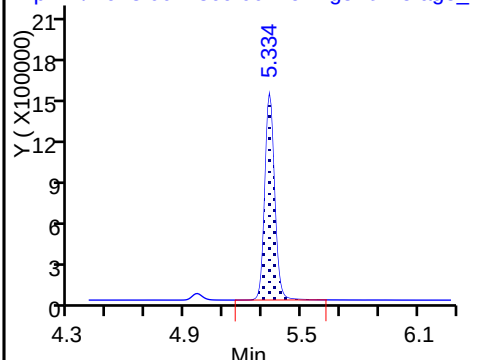
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

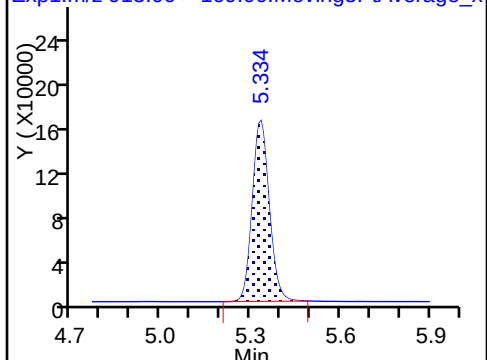


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: ICV 320-201411/18 Calibration Date: 12/27/2017 09:54

Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.27ICALA\_012.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|------------------------------------------------------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| Perfluorobutanoic acid (PFBA)                              | AveID         | 0.9135  | 0.8929 |         | 2.44           | 2.50            | -2.3  | 40.0      |
| Perfluoropentanoic acid (PFPeA)                            | AveID         | 1.122   | 1.103  |         | 2.46           | 2.50            | -1.7  | 40.0      |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID         | 74.84   | 79.17  |         | 2.34           | 2.21            | 5.8   | 50.0      |
| 4:2 FTS                                                    | AveID         | 1.724   | 1.591  |         | 2.15           | 2.34            | -7.7  | 50.0      |
| Perfluorohexanoic acid (PFHxA)                             | AveID         | 0.999   | 1.052  |         | 2.63           | 2.50            | 5.4   | 40.0      |
| Perfluoroheptanoic acid (PFHpA)                            | AveID         | 1.046   | 1.074  |         | 2.57           | 2.50            | 2.7   | 40.0      |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID         | 1.093   | 1.031  |         | 2.23           | 2.36            | -5.7  | 40.0      |
| 6:2FTS                                                     | AveID         | 1.677   | 1.472  |         | 2.08           | 2.37            | -12.2 | 40.0      |
| Perfluorooctanoic acid (PFOA)                              | AveID         | 1.059   | 1.056  |         | 2.49           | 2.50            | -0.3  | 40.0      |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | AveID         | 1.227   | 1.117  |         | 2.17           | 2.38            | -9.0  | 50.0      |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID         | 1.073   | 1.000  |         | 2.23           | 2.39            | -6.8  | 40.0      |
| Perfluorononanoic acid (PFNA)                              | AveID         | 0.9743  | 1.004  |         | 2.58           | 2.50            | 3.0   | 40.0      |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID         | 0.9492  | 0.9418 |         | 2.48           | 2.50            | -0.8  | 40.0      |
| 8:2FTS                                                     | AveID         | 1.256   | 1.137  |         | 2.17           | 2.40            | -9.5  | 40.0      |
| Perfluorodecanoic acid (PFDA)                              | AveID         | 0.9858  | 1.071  |         | 2.72           | 2.50            | 8.6   | 40.0      |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID         | 1.059   | 1.052  |         | 2.48           | 2.50            | -0.6  | 40.0      |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID         | 0.5921  | 0.6695 |         | 2.73           | 2.41            | 13.1  | 50.0      |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID         | 0.9653  | 0.8944 |         | 2.32           | 2.50            | -7.3  | 40.0      |
| Perfluoroundecanoic acid (PFUnA)                           | AveID         | 0.9369  | 0.8884 |         | 2.37           | 2.50            | -5.2  | 40.0      |
| MeFOSA                                                     | AveID         | 0.9651  | 0.995  |         | 2.58           | 2.50            | 3.1   | 50.0      |
| N-EtFOSA-M                                                 | AveID         | 1.084   | 1.010  |         | 2.33           | 2.50            | -6.8  | 40.0      |
| Perfluorododecanoic acid (PFDoA)                           | AveID         | 0.9929  | 1.081  |         | 2.72           | 2.50            | 8.9   | 40.0      |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID         | 1.078   | 1.121  |         | 2.60           | 2.50            | 4.1   | 50.0      |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID         | 0.2545  | 0.2327 |         | 2.29           | 2.50            | -8.6  | 50.0      |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID          |         | 0.9666 |         | 2.81           | 2.50            | 12.3  | 50.0      |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID         | 1.075   | 1.205  |         | 2.80           | 2.50            | 12.1  | 50.0      |
| 13C4 PFBA                                                  | Ave           | 1.731   | 1.628  |         | 2.35           | 2.50            | -5.9  | 50.0      |
| 13C5 PFPeA                                                 | Ave           | 1.009   | 0.996  |         | 2.47           | 2.50            | -1.3  | 50.0      |
| 13C3-PFBS                                                  | Ave           | 0.0219  | 0.0217 |         | 2.30           | 2.33            | -1.0  | 50.0      |
| 13C2 PFHxA                                                 | Ave           | 1.085   | 0.9939 |         | 2.29           | 2.50            | -8.4  | 50.0      |
| 13C4-PFHpA                                                 | Ave           | 1.007   | 0.9605 |         | 2.39           | 2.50            | -4.6  | 50.0      |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 320-201411/18 Calibration Date: 12/27/2017 09:54  
 Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58  
 Lab File ID: 2017.12.27ICALA\_012.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|------|-----------|
| 18O2 PFHxS   | Ave           | 1.278   | 1.221  |         | 2.26           | 2.37            | -4.5 | 50.0      |
| M2-6:2FTS    | Ave           | 0.1910  | 0.1934 |         | 2.41           | 2.38            | 1.3  | 40.0      |
| 13C4 PFOA    | Ave           | 1.028   | 0.9579 |         | 2.33           | 2.50            | -6.8 | 50.0      |
| 13C4 PFOS    | Ave           | 0.8476  | 0.8303 |         | 2.34           | 2.39            | -2.0 | 50.0      |
| 13C5 PFNA    | Ave           | 0.8211  | 0.7756 |         | 2.36           | 2.50            | -5.5 | 50.0      |
| 13C8 FOSA    | Ave           | 1.146   | 1.099  |         | 2.40           | 2.50            | -4.1 | 50.0      |
| M2-8:2FTS    | Ave           | 0.2097  | 0.1998 |         | 2.28           | 2.40            | -4.7 | 40.0      |
| 13C2 PFDA    | Ave           | 0.6674  | 0.6350 |         | 2.38           | 2.50            | -4.8 | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3450  | 0.3282 |         | 2.38           | 2.50            | -4.9 | 50.0      |
| 13C2 PFUnA   | Ave           | 0.5052  | 0.5178 |         | 2.56           | 2.50            | 2.5  | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3516  | 0.3780 |         | 2.69           | 2.50            | 7.5  | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.3256  | 0.3205 |         | 2.46           | 2.50            | -1.6 | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.3100  | 0.3095 |         | 2.50           | 2.50            | -0.2 | 50.0      |
| 13C2 PFDoA   | Ave           | 0.5489  | 0.5345 |         | 2.44           | 2.50            | -2.6 | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5969  | 0.6772 |         | 2.84           | 2.50            | 13.5 | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.094   | 1.183  |         | 2.70           | 2.50            | 8.2  | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.27ICALA\_012.d  
 Lims ID: ICV Full  
 Client ID:  
 Sample Type: ICV  
 Inject. Date: 27-Dec-2017 09:54:06 ALS Bottle#: 18 Worklist Smp#: 18  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: ICV  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist:  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 27-Dec-2017 11:03:12 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK016

First Level Reviewer: roycea

Date: 27-Dec-2017 10:08:13

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.436 | 1.433  | 0.003  | 0.534  | 7172024  | 2.35         |                   | 94.1 | 21913 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.436 | 1.434  | 0.002  | 1.000  | 6403652  | 2.44         |                   |      | 1641  |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.694 | 1.691  | 0.003  | 1.000  | 4839733  | 2.46         |                   |      | 4735  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.694 | 1.692  | 0.002  | 0.630  | 4388575  | 2.47         |                   | 98.7 | 40300 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.729 | 1.725  | 0.004  | 0.643  | 88712    | 2.30         |                   | 99.0 | 4156  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.738 | 1.730  | 0.008  | 1.005  | 6683784  | 2.34         |                   |      | 28681 |       |
| 298.90 > 99.00                        | 1.729 | 1.730  | -0.001 | 1.000  | 2684489  |              | 2.49(1.25-3.74)   |      | 18664 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.949 | 1.941  | 0.008  | 1.000  | 1265559  | 2.15         |                   |      | 46457 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.990 | 1.976  | 0.014  | 0.740  | 4378047  | 2.29         |                   | 91.6 | 47749 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.990 | 1.979  | 0.011  | 1.000  | 4606807  | 2.63         |                   |      | 10613 |       |
| 313.00 > 119.00                       | 1.990 | 1.979  | 0.011  | 1.000  | 418987   |              | 11.00(5.03-15.10) |      | 8266  |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.325 | 2.311  | 0.014  | 1.000  | 4545353  | 2.57         |                   |      | 7336  |       |
| 363.00 > 169.00                       | 2.325 | 2.311  | 0.014  | 1.000  | 1867538  |              | 2.43(1.13-3.40)   |      | 15597 |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.325 | 2.311  | 0.014  | 0.864  | 4230977  | 2.38         |                   | 95.4 | 29362 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.338 | 2.324  | 0.014  | 1.000  | 5237404  | 2.23         |                   |      | 20861 |       |
| 399.00 > 99.00                        | 2.338 | 2.324  | 0.014  | 1.000  | 1655687  |              | 3.16(1.50-4.49)   |      | 8969  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.338 | 2.328  | 0.010  | 0.869  | 5087248  | 2.26         |                 | 95.5 | 26647 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.661 | 2.649  | 0.012  | 0.989  | 809192   | 2.40         |                 | 101  | 14182 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.661 | 2.651  | 0.010  | 1.000  | 1189000  | 2.08         |                 |      | 24081 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.690 | 2.674  | 0.016  | 1.000  | 4219551  | 2.33         |                 | 93.2 | 33286 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.690 | 2.676  | 0.014  |        | 4404850  | 2.50         |                 |      | 44851 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.690 | 2.677  | 0.013  | 1.000  | 4454883  | 2.49         |                 |      | 2948  |       |
| 413.00 > 169.00                       | 2.690 | 2.677  | 0.013  | 1.000  | 2469327  |              | 1.80(0.84-2.52) |      | 15036 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.697 | 2.683  | 0.014  | 1.000  | 3889830  | 2.17         |                 |      | 41089 |       |
| 449.00 > 99.00                        | 2.697 | 2.683  | 0.014  | 1.000  | 1082373  |              | 3.59(1.94-5.82) |      | 16593 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.067 | 3.048  | 0.019  | 1.140  | 3496479  | 2.34         |                 | 98.0 | 23455 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.067 | 3.050  | 0.017  | 1.000  | 3493647  | 2.23         |                 |      | 1674  |       |
| 499.00 > 99.00                        | 3.067 | 3.050  | 0.017  | 1.000  | 844754   |              | 4.14(2.31-6.93) |      | 2230  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.067 | 3.051  | 0.016  | 1.140  | 3416423  | 2.36         |                 | 94.5 | 34059 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.075 | 3.052  | 0.023  | 1.003  | 3429312  | 2.58         |                 |      | 8076  |       |
| 463.00 > 169.00                       | 3.067 | 3.052  | 0.015  | 1.000  | 854616   |              | 4.01(1.90-5.69) |      | 15671 |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.381 | 3.377  | 0.004  | 1.257  | 4842360  | 2.40         |                 | 95.9 | 26866 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.381 | 3.378  | 0.003  | 1.000  | 4560473  | 2.48         |                 |      | 24521 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.426 | 3.402  | 0.024  | 1.000  | 958085   | 2.17         |                 |      | 29793 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.426 | 3.403  | 0.023  | 1.274  | 842987   | 2.28         |                 | 95.3 | 14978 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.433 | 3.414  | 0.019  | 1.000  | 2994449  | 2.71         |                 |      | 11801 |       |
| 513.00 > 169.00                       | 3.433 | 3.414  | 0.019  | 1.000  | 539524   |              | 5.55(2.36-7.09) |      | 2069  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.433 | 3.414  | 0.019  | 1.276  | 2797145  | 2.38         |                 | 95.2 | 25833 |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.594 | 3.569  | 0.025  | 1.336  | 1445775  | 2.38         |                 | 95.1 | 18667 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.602 | 3.574  | 0.028  | 1.002  | 1520870  | 2.48         |                 |      | 9012  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.751 | 3.730  | 0.021  | 1.000  | 2362956  | 2.73         |                 |      | 39870 |       |
| 599.00 > 99.00                        | 3.751 | 3.730  | 0.021  | 1.000  | 722444   |              | 3.27(1.39-4.16) |      | 15506 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.768 | 3.740  | 0.028  | 1.401  | 1664804  | 2.69         |                 | 108  | 9164  |       |



| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.768 | 3.746     | 0.022     | 1.000     | 2026267  | 2.37            |                 |      | 10028 |       |
| 563.00 > 169.00                       | 3.768 | 3.746     | 0.022     | 1.000     | 472331   |                 | 4.29(0.00-0.00) |      | 12608 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.768 | 3.747     | 0.021     | 1.000     | 1489064  | 2.32            |                 |      | 16433 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.768 | 3.747     | 0.021     | 1.401     | 2280818  | 2.56            |                 | 102  | 26895 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.867 | 3.867     | 0.0       | 1.437     | 1411860  | 2.46            |                 | 98.4 | 2802  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.873     | 0.004     | 1.003     | 1404908  | 2.58            |                 |      | 3222  |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.069 | 4.045     | 0.024     | 1.000     | 2545535  | 2.72            |                 |      | 7557  |       |
| 613.00 > 169.00                       | 4.069 | 4.045     | 0.024     | 1.000     | 601043   |                 | 4.24(2.13-6.40) |      | 35895 |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.069 | 4.045     | 0.024     | 1.513     | 2354345  | 2.43            |                 | 97.4 | 35084 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.054 | 4.058     | -0.004    | 1.507     | 1363096  | 2.50            |                 | 99.8 | 2720  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.062 | 4.065     | -0.003    | 1.002     | 1376826  | 2.33            |                 |      | 2659  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.349 | 4.312     | 0.037     | 1.000     | 2640376  | 2.60            |                 |      | 8392  |       |
| 663.00 > 169.00                       | 4.349 | 4.312     | 0.037     | 1.000     | 781998   |                 | 3.38(1.25-3.76) |      | 26042 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.595 | 4.557     | 0.038     | 1.000     | 694050   | 2.29            |                 |      | 15040 |       |
| 713.00 > 219.00                       | 4.583 | 4.557     | 0.026     | 0.997     | 495333   |                 | 1.40(0.71-2.13) |      | 12343 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.595 | 4.557     | 0.038     | 1.708     | 2983010  | 2.84            |                 | 113  | 17872 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 5.022 | 4.984     | 0.038     | 1.000     | 5037781  | 2.81            |                 |      | 2448  |       |
| 813.00 > 169.00                       | 5.022 | 4.984     | 0.038     | 1.000     | 891131   |                 | 5.65(2.86-8.58) |      | 10439 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 5.022 | 4.984     | 0.038     | 1.867     | 5211692  | 2.70            |                 | 108  | 12168 |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.413 | 5.361     | 0.052     | 1.000     | 6278693  | 2.80            |                 |      | 1294  |       |
| 913.00 > 169.00                       | 5.413 | 5.361     | 0.052     | 1.000     | 782394   |                 | 8.02(0.00-0.00) |      | 2527  |       |

## Reagents:

LCPFCIC\_FULL\_00007

Amount Added: 0.25

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.27\ICALA\_012.d

Injection Date: 27-Dec-2017 09:54:06

Instrument ID: A8\_N

Lims ID: ICV Full

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

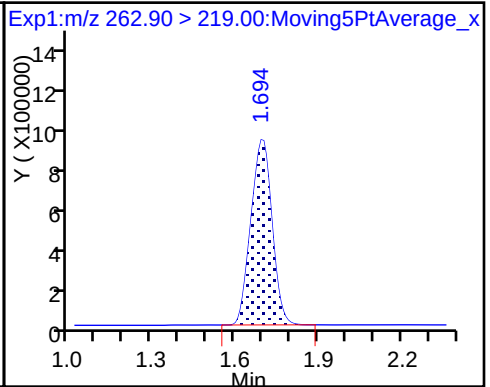
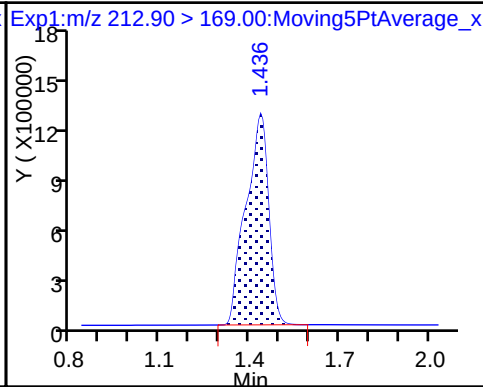
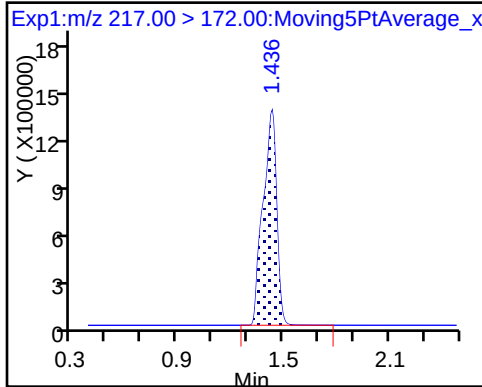
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

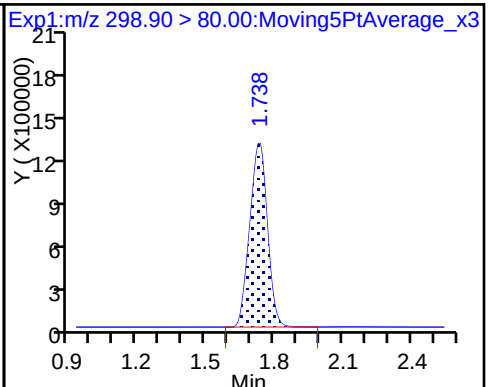
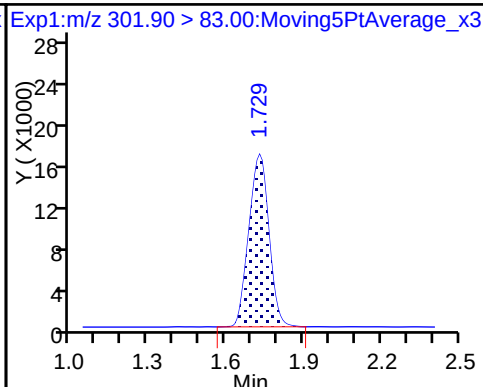
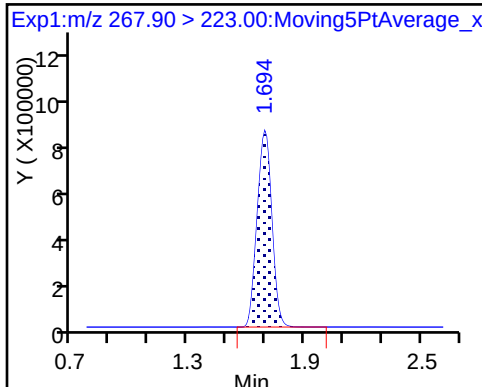
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

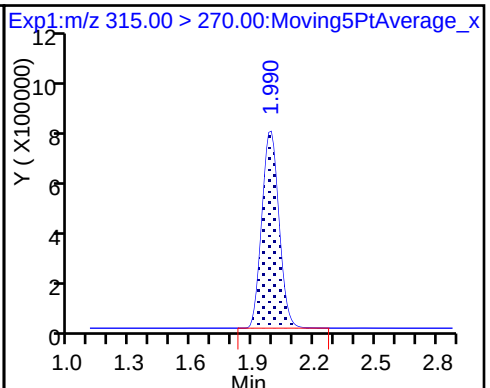
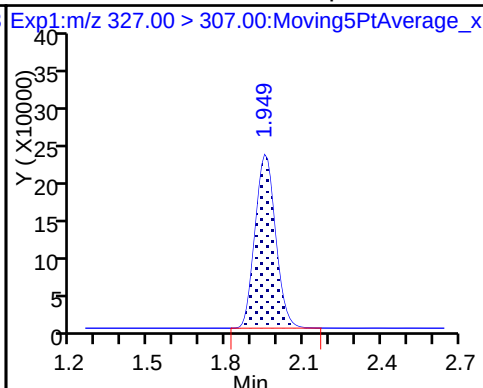
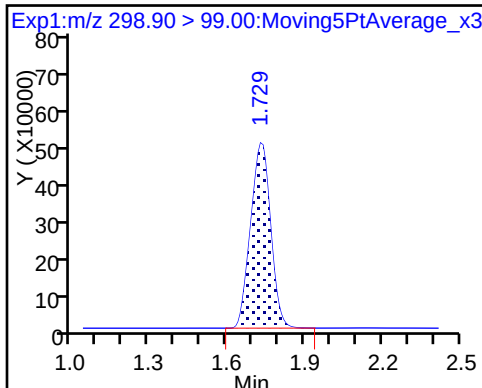
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

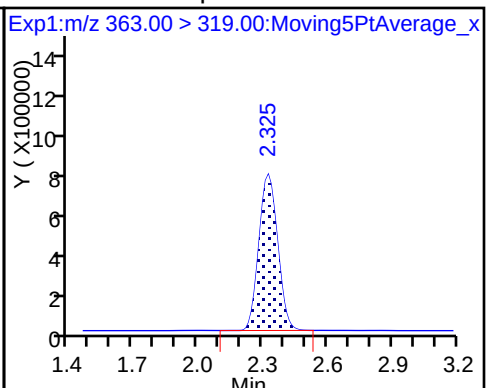
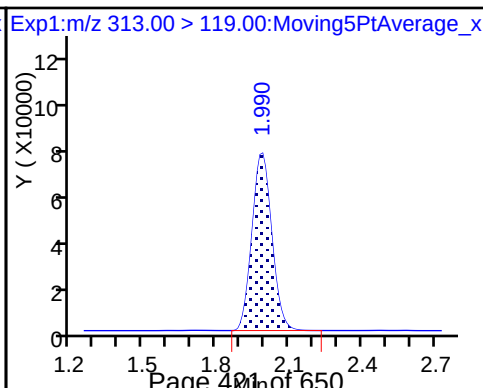
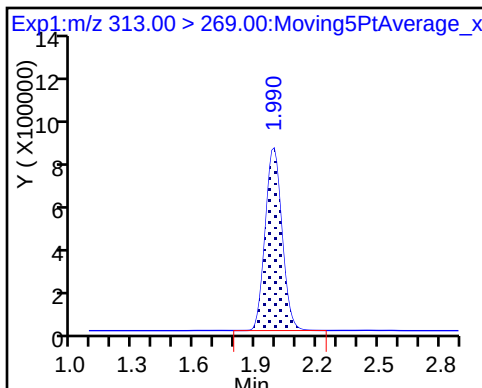
De 7 13C2 PFHxA



6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

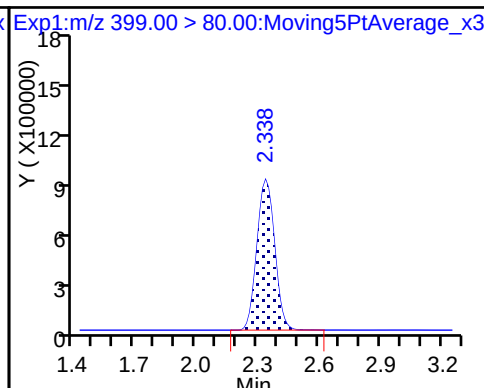
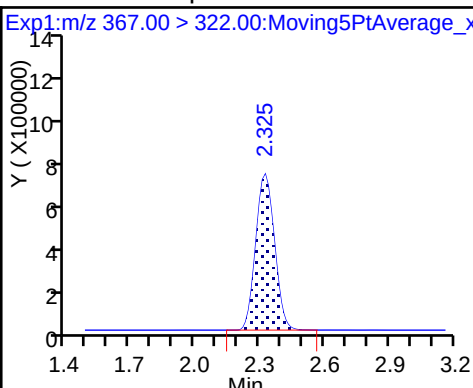
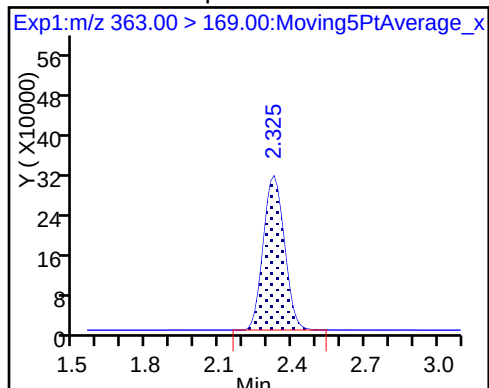
10 Perfluoroheptanoic acid



10 Perfluoroheptanoic acid

D 9 13C4-PFHpA

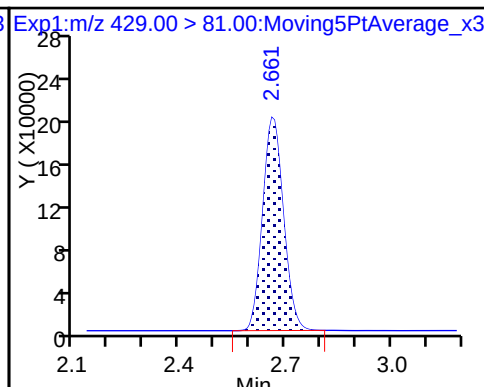
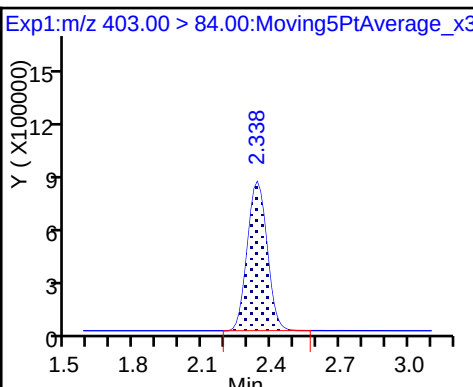
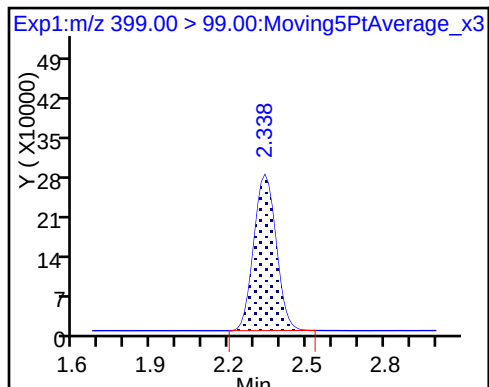
8 Perfluorohexanesulfonic acid



8 Perfluorohexanesulfonic acid

D 11 18O2 PFHxS

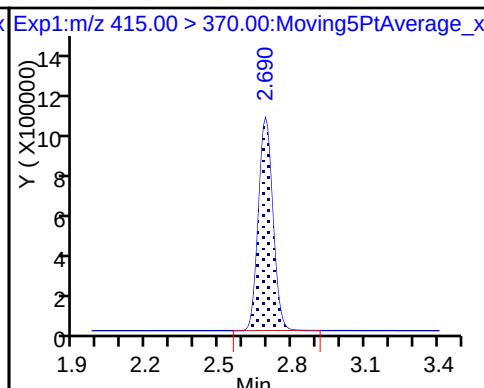
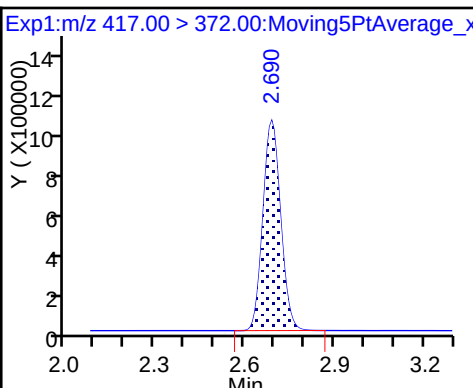
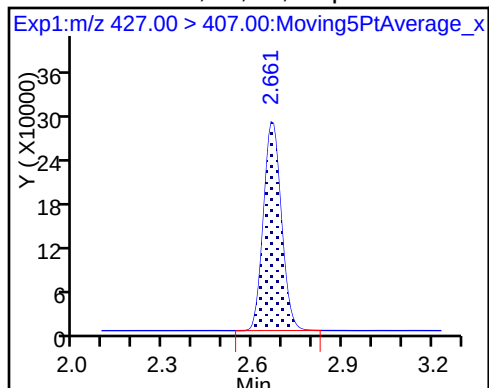
D 12 M2-6:2FTS



13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

D 14 13C4 PFOA

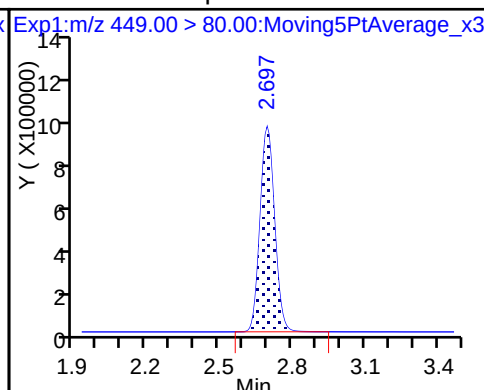
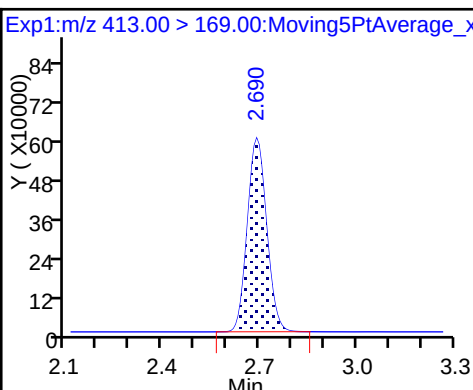
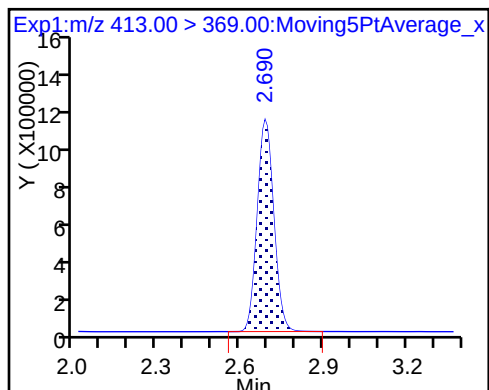
\* 62 13C2-PFOA



15 Perfluorooctanoic acid

15 Perfluorooctanoic acid

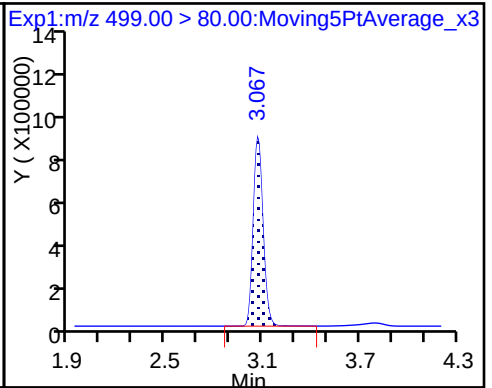
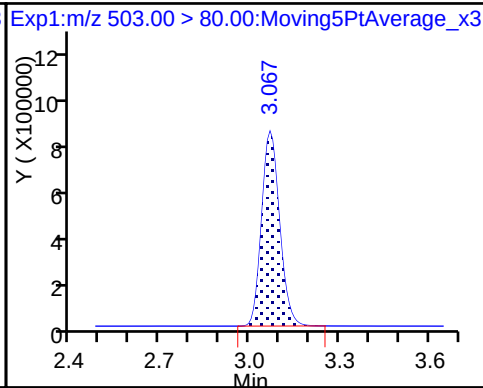
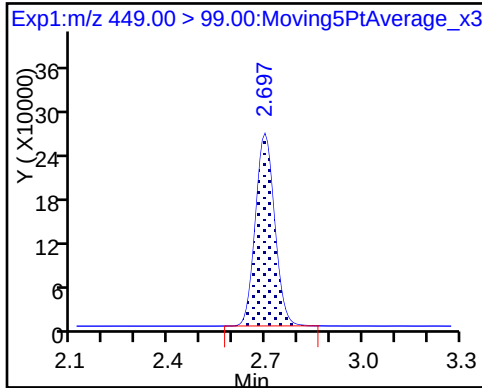
16 Perfluoroheptanesulfonic Acid



16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

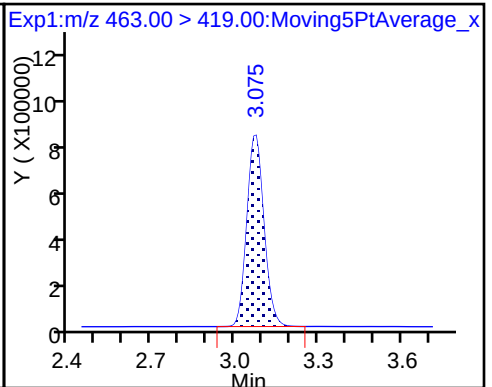
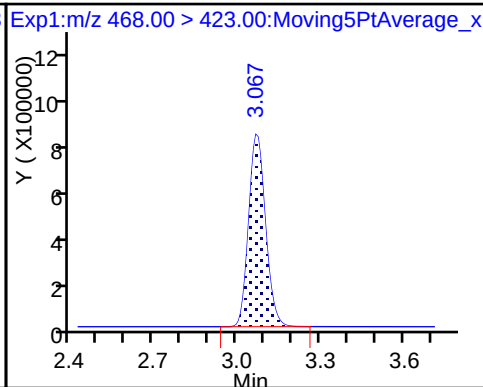
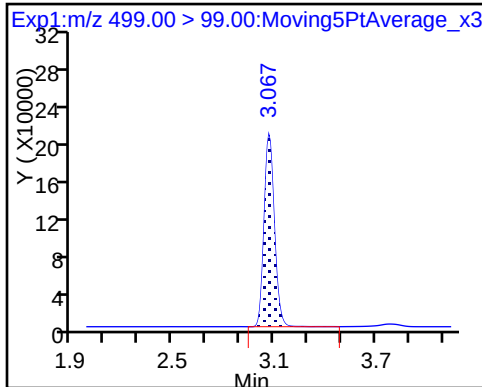
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

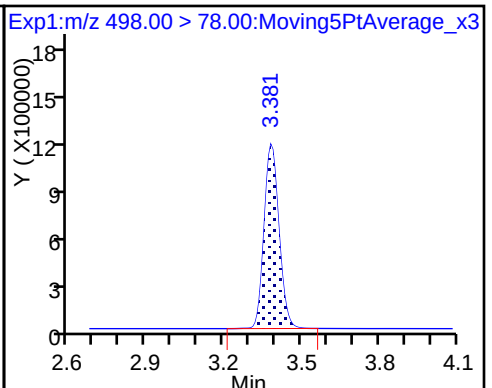
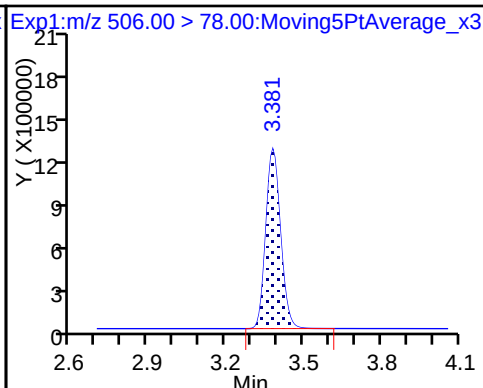
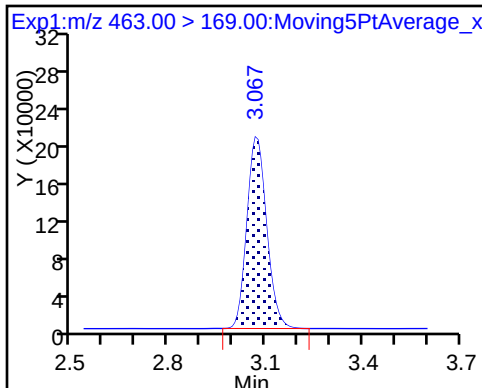
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

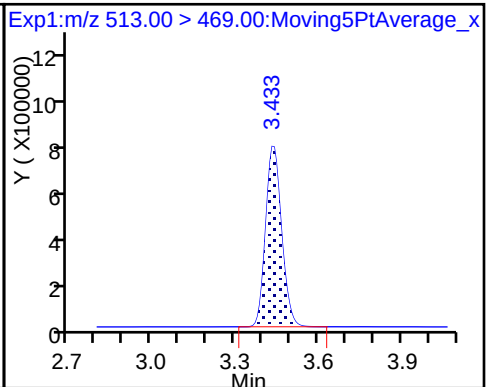
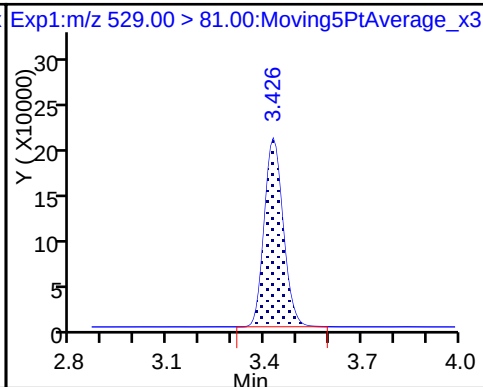
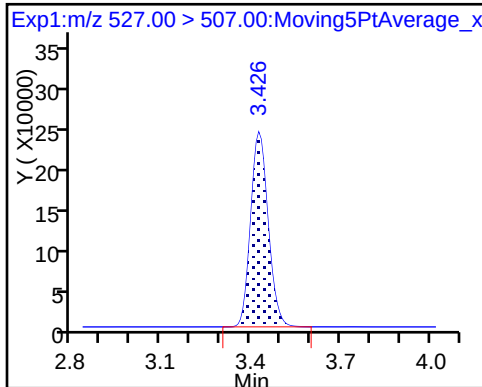
22 Perfluorooctane Sulfonamide



25 Sodium 1H,1H,2H,2H-perfluorodecanoate

De26 M2-8:2FTS

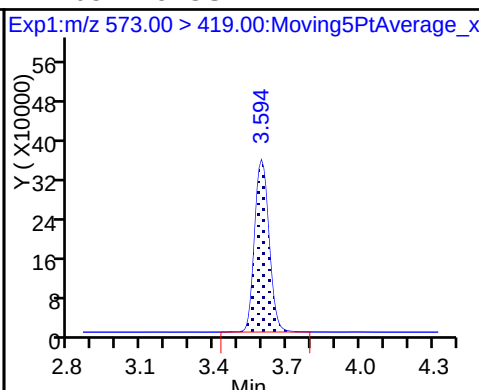
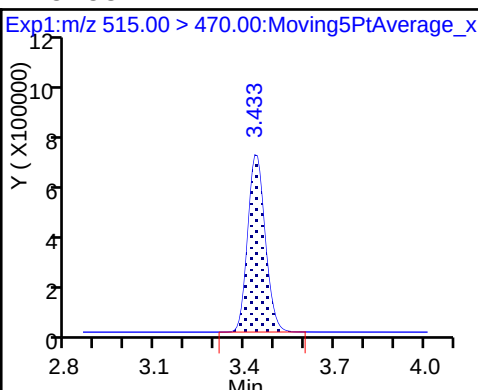
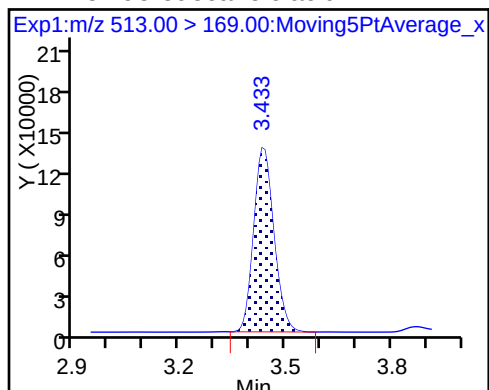
24 Perfluorodecanoic acid



24 Perfluorodecanoic acid

D 23 13C2 PFDA

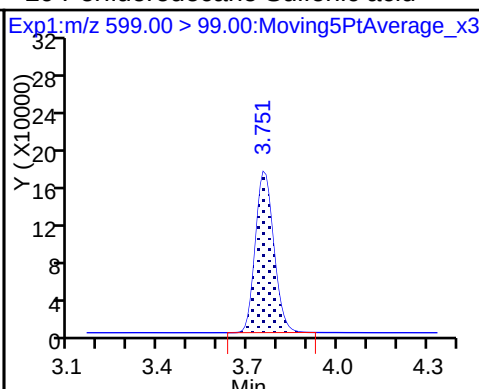
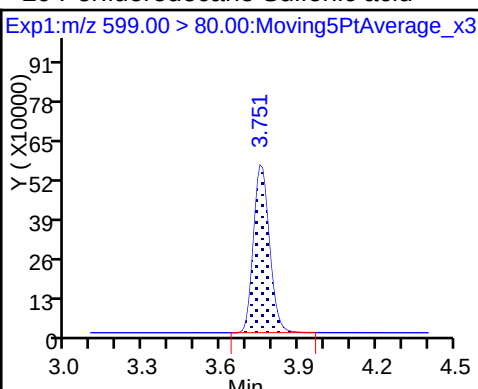
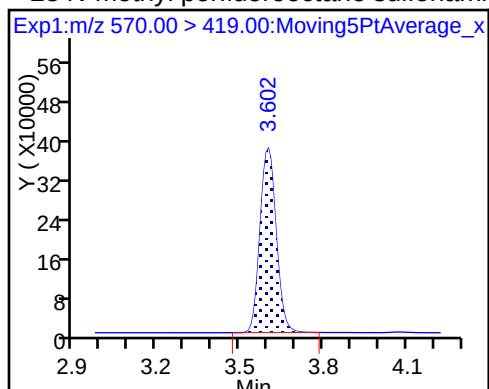
D 27 d3-NMeFOSAA



28 N-methyl perfluorooctane sulfonamid

29 Perfluorodecane Sulfonic acid

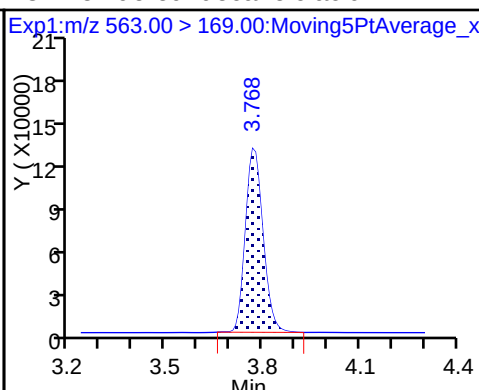
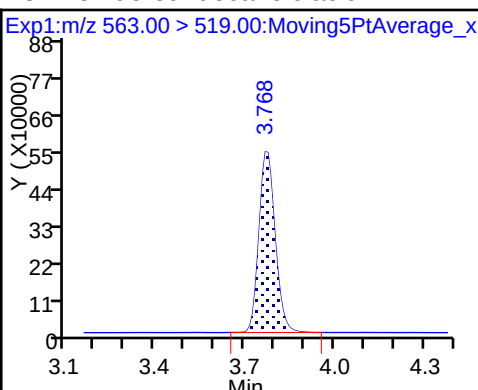
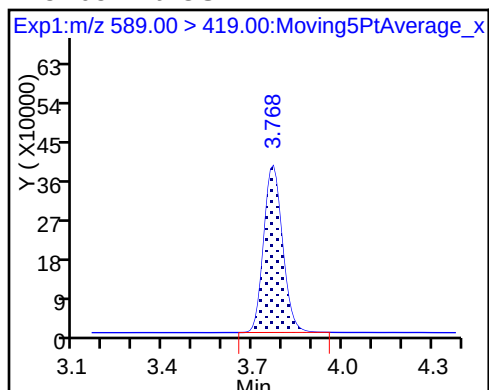
29 Perfluorodecane Sulfonic acid



D 32 d5-NEtFOSAA

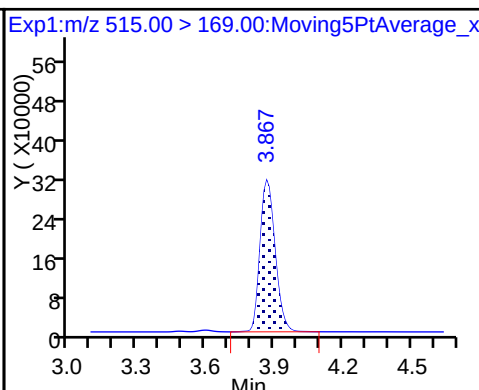
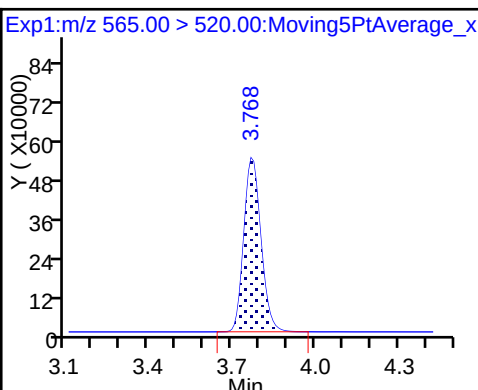
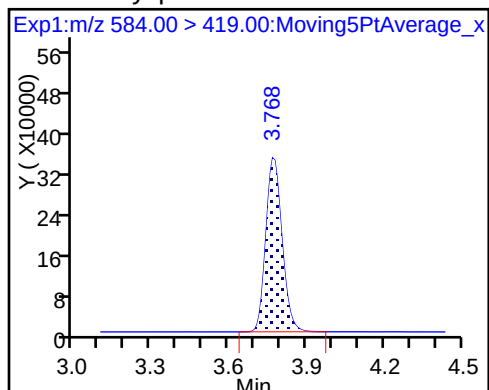
31 Perfluoroundecanoic acid

31 Perfluoroundecanoic acid

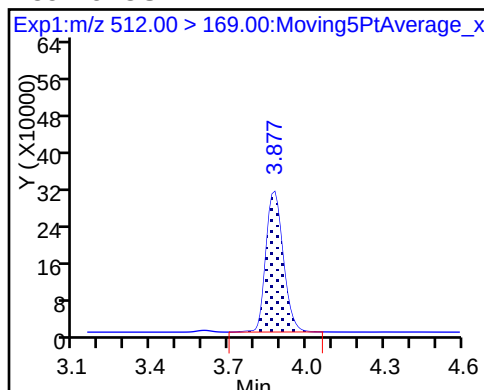


33 N-ethyl perfluorooctane sulfonamid D 30 13C2 PFUnA

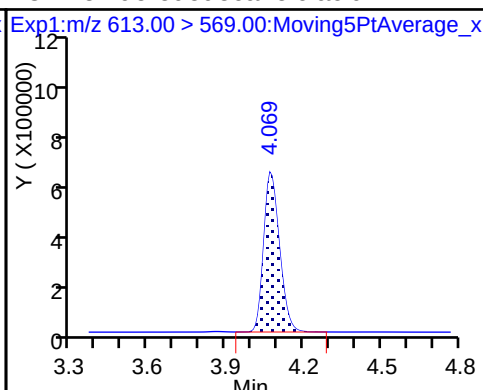
D 34 d-N-MeFOSA-M



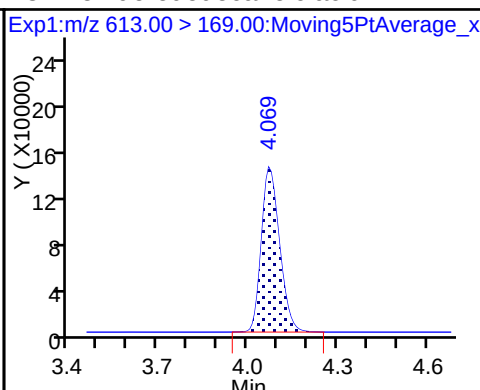
35 MeFOSA



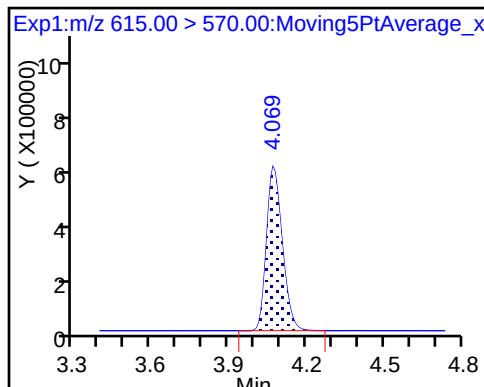
37 Perfluorododecanoic acid



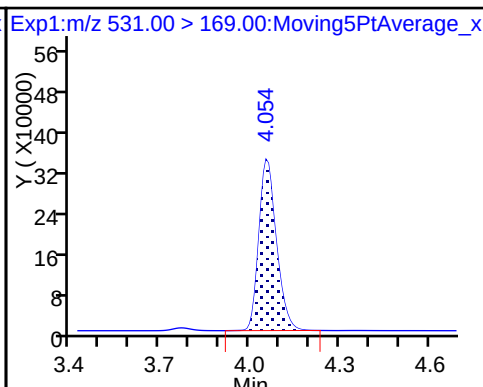
37 Perfluorododecanoic acid



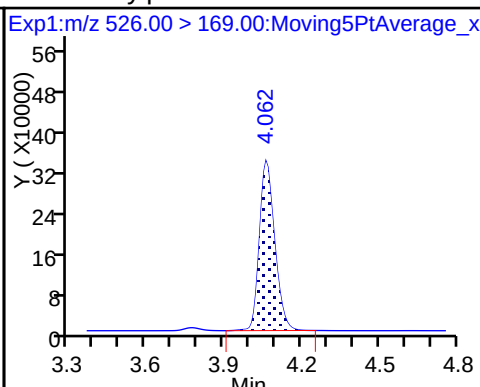
D 36 13C2 PFDaA



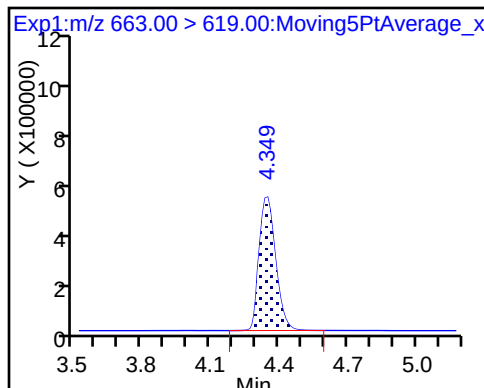
D 38 d-N-EtFOSA-M



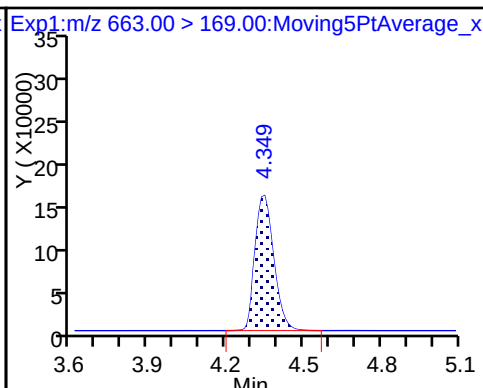
39 N-ethylperfluoro-1-octanesulfonami



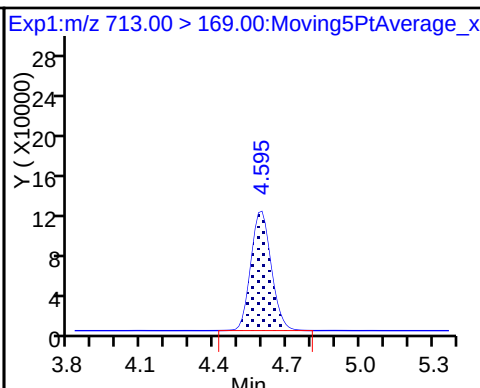
41 Perfluorotridecanoic acid



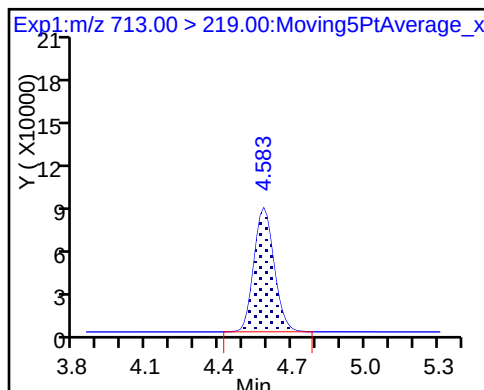
41 Perfluorotridecanoic acid



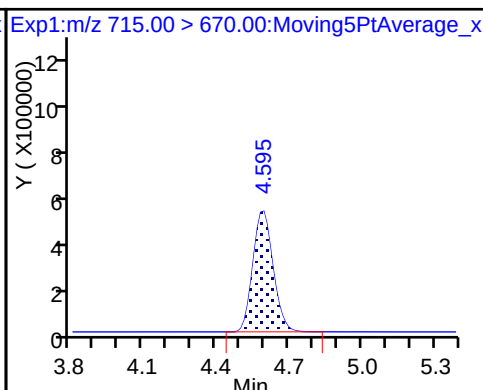
42 Perfluorotetradecanoic acid



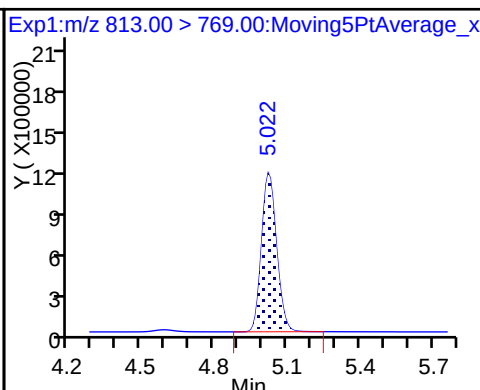
42 Perfluorotetradecanoic acid



D 43 13C2-PFTeDA



45 Perfluorohexadecanoic acid

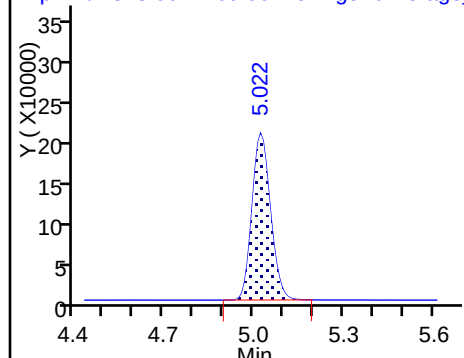


45 Perfluorohexadecanoic acid

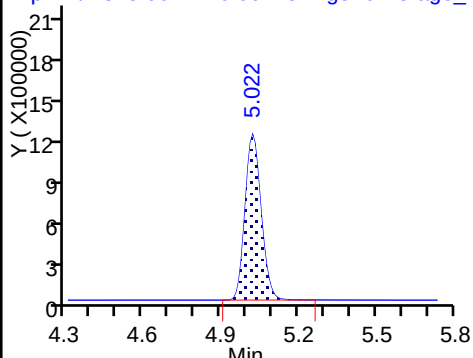
D 44 13C2-PFHxDA

46 Perfluorooctadecanoic acid

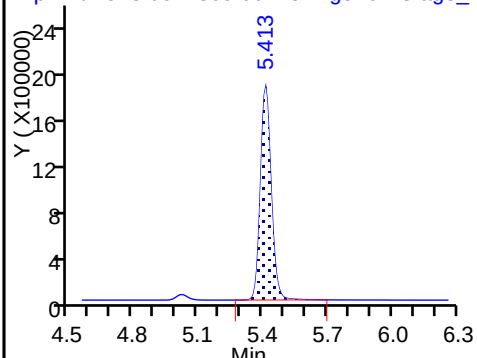
Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x



Exp1:m/z 815.00 &gt; 770.00:Moving5PtAverage\_x

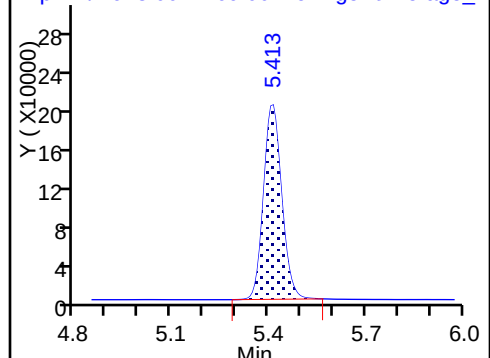


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCVL 320-201540/1 Calibration Date: 12/27/2017 13:50

Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.27LLA\_005.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D    | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9135  | 0.9311 |         | 0.0510      | 0.0500       | 1.9   | 50.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.122   | 1.163  |         | 0.0518      | 0.0500       | 3.7   | 50.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 74.84   | 72.93  |         | 0.0431      | 0.0442       | -2.6  | 50.0   |
| 4:2 FTS                                                    | AveID      | 1.724   | 1.618  |         | 0.438       | 0.467        | -6.2  |        |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 0.999   | 1.034  |         | 0.0518      | 0.0500       | 3.5   | 50.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 0.9900 |         | 0.0473      | 0.0500       | -5.3  | 50.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.093   | 1.189  |         | 0.0495      | 0.0455       | 8.8   | 50.0   |
| 6:2FTS                                                     | AveID      | 1.677   | 2.268  |         | 0.641       | 0.474        | 35.2  | 50.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.059   | 1.266  |         | 0.0598      | 0.0500       | 19.6  | 50.0   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | AveID      | 1.227   | 1.215  |         | 0.0471      | 0.0476       | -1.0  | 50.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 0.9743  | 0.995  |         | 0.0511      | 0.0500       | 2.2   | 50.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.073   | 1.014  |         | 0.0438      | 0.0464       | -5.5  | 50.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9492  | 1.004  |         | 0.0529      | 0.0500       | 5.7   | 50.0   |
| 8:2FTS                                                     | AveID      | 1.256   | 1.191  |         | 0.454       | 0.479        | -5.1  | 50.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9858  | 1.011  |         | 0.0513      | 0.0500       | 2.6   | 50.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.059   | 1.040  |         | 0.491       | 0.500        | -1.7  | 50.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.5921  | 0.6221 |         | 0.0506      | 0.0482       | 5.1   | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9653  | 0.9351 |         | 0.484       | 0.500        | -3.1  | 50.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9369  | 0.9310 |         | 0.0497      | 0.0500       | -0.6  | 50.0   |
| MeFOSA                                                     | AveID      | 0.9651  | 0.9847 |         | 0.750       | 0.500        | 2.0   | 50.0   |
| N-EtFOSA-M                                                 | AveID      | 1.084   | 1.068  |         | 1.00        | 0.500        | -1.4  | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9929  | 0.9627 |         | 0.0485      | 0.0500       | -3.0  | 50.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.078   | 0.9197 |         | 0.0427      | 0.0500       | -14.6 | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2545  | 0.3073 |         | 0.0604      | 0.0500       | 20.8  | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 1.290  |         | 0.0523      | 0.0500       | 4.6   | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.075   | 1.173  |         | 0.0546      | 0.0500       | 9.2   | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.731   | 1.687  |         | 2.44        | 2.50         | -2.5  | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 1.009   | 1.010  |         | 2.50        | 2.50         | 0.1   | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0219  | 0.0221 |         | 2.35        | 2.33         | 1.1   | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 1.085   | 1.100  |         | 2.54        | 2.50         | 1.4   | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 1.007   | 1.027  |         | 2.55        | 2.50         | 2.0   | 50.0   |



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 320-201540/1 Calibration Date: 12/27/2017 13:50  
 Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58  
 Lab File ID: 2017.12.27LLA\_005.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|------|-----------|
| 18O2 PFHxS   | Ave           | 1.278   | 1.336  |         | 2.47           | 2.37            | 4.5  | 50.0      |
| M2-6:2FTS    | Ave           | 0.1910  | 0.2091 |         | 2.60           | 2.38            | 9.5  | 50.0      |
| 13C4 PFOA    | Ave           | 1.028   | 1.044  |         | 2.54           | 2.50            | 1.6  | 50.0      |
| 13C4 PFOS    | Ave           | 0.8476  | 0.8805 |         | 2.48           | 2.39            | 3.9  | 50.0      |
| 13C5 PFNA    | Ave           | 0.8211  | 0.8698 |         | 2.65           | 2.50            | 5.9  | 50.0      |
| 13C8 FOSA    | Ave           | 1.146   | 1.136  |         | 2.48           | 2.50            | -0.9 | 50.0      |
| M2-8:2FTS    | Ave           | 0.2097  | 0.2128 |         | 2.43           | 2.40            | 1.5  | 50.0      |
| 13C2 PFDA    | Ave           | 0.6674  | 0.6917 |         | 2.59           | 2.50            | 3.6  | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3450  | 0.3448 |         | 2.50           | 2.50            | -0.0 | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3516  | 0.3915 |         | 2.78           | 2.50            | 11.4 | 50.0      |
| 13C2 PFUnA   | Ave           | 0.5052  | 0.5507 |         | 2.73           | 2.50            | 9.0  | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.3256  | 0.3189 |         | 2.45           | 2.50            | -2.1 | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.3100  | 0.3033 |         | 2.45           | 2.50            | -2.1 | 50.0      |
| 13C2 PFDoA   | Ave           | 0.5489  | 0.6103 |         | 2.78           | 2.50            | 11.2 | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5969  | 0.6708 |         | 2.81           | 2.50            | 12.4 | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.094   | 1.208  |         | 2.76           | 2.50            | 10.4 | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52188.b\2017.12.27LLA\_005.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 27-Dec-2017 13:50:09 ALS Bottle#: 21 Worklist Smp#: 1  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCVL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52188.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 28-Dec-2017 10:53:03 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK055

First Level Reviewer: barnettj

Date: 28-Dec-2017 10:44:04

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |           |           |           |          |                 |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433     | -0.001    | 0.534     | 7500337  | 2.44            |                   | 97.5 | 23055 |       |
| 2 Perfluorobutyric acid               |       |           |           |           |          |                 |                   |      |       |       |
| 212.90 > 169.00                       | 1.432 | 1.434     | -0.002    | 1.000     | 139671   | 0.0510          |                   | 102  | 26.7  |       |
| 4 Perfluoropentanoic acid             |       |           |           |           |          |                 |                   |      |       |       |
| 262.90 > 219.00                       | 1.689 | 1.691     | -0.002    | 1.000     | 104488   | 0.0518          |                   | 104  | 89.3  |       |
| D 3 13C5-PFPeA                        |       |           |           |           |          |                 |                   |      |       |       |
| 267.90 > 223.00                       | 1.689 | 1.692     | -0.003    | 0.630     | 4491415  | 2.50            |                   | 100  | 44113 |       |
| D 47 13C3-PFBS                        |       |           |           |           |          |                 |                   |      |       |       |
| 301.90 > 83.00                        | 1.725 | 1.725     | 0.0       | 0.643     | 91415    | 2.35            |                   | 101  | 2772  |       |
| 5 Perfluorobutanesulfonic acid        |       |           |           |           |          |                 |                   |      |       |       |
| 298.90 > 80.00                        | 1.725 | 1.730     | -0.005    | 1.000     | 126741   | 0.0431          |                   | 97.4 | 588   |       |
| 298.90 > 99.00                        | 1.725 | 1.730     | -0.005    | 1.000     | 56209    |                 | 2.25(1.25-3.74)   |      | 421   |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |           |           |           |          |                 |                   |      |       |       |
| 327.00 > 307.00                       | 1.945 | 1.941     | 0.004     | 1.000     | 280808   | 0.4382          |                   | 93.8 | 12817 |       |
| D 7 13C2 PFHxA                        |       |           |           |           |          |                 |                   |      |       |       |
| 315.00 > 270.00                       | 1.976 | 1.976     | 0.0       | 0.737     | 4889270  | 2.54            |                   | 101  | 53532 |       |
| 6 Perfluorohexanoic acid              |       |           |           |           |          |                 |                   |      |       |       |
| 313.00 > 269.00                       | 1.976 | 1.979     | -0.003    | 1.000     | 101080   | 0.0518          |                   | 104  | 235   |       |
| 313.00 > 119.00                       | 1.986 | 1.979     | 0.007     | 1.005     | 9164     |                 | 11.03(5.03-15.10) |      | 157   |       |
| D 9 13C4-PFHpA                        |       |           |           |           |          |                 |                   |      |       |       |
| 367.00 > 322.00                       | 2.319 | 2.311     | 0.008     | 0.865     | 4563566  | 2.55            |                   | 102  | 32645 |       |
| 10 Perfluoroheptanoic acid            |       |           |           |           |          |                 |                   |      |       |       |
| 363.00 > 319.00                       | 2.319 | 2.311     | 0.008     | 1.000     | 90359    | 0.0473          |                   | 94.7 | 135   |       |
| 363.00 > 169.00                       | 2.319 | 2.311     | 0.008     | 1.000     | 39762    |                 | 2.27(1.13-3.40)   |      | 350   |       |
| 8 Perfluorohexanesulfonic acid        |       |           |           |           |          |                 |                   |      |       |       |
| 399.00 > 80.00                        | 2.332 | 2.324     | 0.008     | 1.000     | 128531   | 0.0495          |                   | 109  | 802   |       |
| 399.00 > 99.00                        | 2.332 | 2.324     | 0.008     | 1.000     | 41087    |                 | 3.13(1.50-4.49)   |      | 356   |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec  | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|-------|-------|-------|
| D 11 18O2 PFHxS                       |       |           |           |           |          |                 |                 |       |       |       |
| 403.00 > 84.00                        | 2.332 | 2.328     | 0.004     | 0.870     | 5618646  | 2.47            |                 | 105   | 32138 |       |
| D 12 M2-6:2FTS                        |       |           |           |           |          |                 |                 |       |       |       |
| 429.00 > 81.00                        | 2.660 | 2.649     | 0.011     | 0.992     | 882778   | 2.60            |                 | 109   | 16322 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |           |           |           |          |                 |                 |       |       |       |
| 427.00 > 407.00                       | 2.660 | 2.651     | 0.009     | 1.000     | 399538   | 0.6410          |                 | 135   | 9917  |       |
| D 14 13C4 PFOA                        |       |           |           |           |          |                 |                 |       |       |       |
| 417.00 > 372.00                       | 2.681 | 2.674     | 0.007     | 1.000     | 4641931  | 2.54            |                 | 102   | 36119 |       |
| * 62 13C2-PFOA                        |       |           |           |           |          |                 |                 |       |       |       |
| 415.00 > 370.00                       | 2.681 | 2.676     | 0.005     |           | 4445013  | 2.50            |                 |       | 33495 |       |
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |       |       |       |
| 413.00 > 369.00                       | 2.681 | 2.677     | 0.004     | 1.000     | 117523   | 0.0598          |                 | 120   | 58.2  |       |
| 413.00 > 169.00                       | 2.681 | 2.677     | 0.004     | 1.000     | 58441    |                 | 2.01(0.84-2.52) |       | 507   |       |
| 16 Perfluoroheptanesulfonic Acid      |       |           |           |           |          |                 |                 |       |       |       |
| 449.00 > 80.00                        | 2.688 | 2.683     | 0.005     | 1.000     | 90548    | 0.0471          |                 | 99.0  | 2680  |       |
| 449.00 > 99.00                        | 2.688 | 2.683     | 0.005     | 1.000     | 24687    |                 | 3.67(1.94-5.82) |       | 773   |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |       |       |       |
| 503.00 > 80.00                        | 3.057 | 3.048     | 0.009     | 1.140     | 3741456  | 2.48            |                 | 104   | 27212 |       |
| 17 Perfluorooctane sulfonic acid      |       |           |           |           |          |                 |                 |       |       |       |
| 499.00 > 80.00                        | 3.065 | 3.050     | 0.015     | 1.003     | 73652    | 0.0438          |                 | 94.5  | 23.4  |       |
| 499.00 > 99.00                        | 3.057 | 3.050     | 0.007     | 1.000     | 16129    |                 | 4.57(2.31-6.93) |       | 27.0  |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |       |       |       |
| 468.00 > 423.00                       | 3.065 | 3.051     | 0.014     | 1.143     | 3866408  | 2.65            |                 | 106   | 32997 |       |
| 20 Perfluorononanoic acid             |       |           |           |           |          |                 |                 |       |       |       |
| 463.00 > 419.00                       | 3.065 | 3.052     | 0.013     | 1.000     | 76975    | 0.0511          |                 | 102   | 152   |       |
| 463.00 > 169.00                       | 3.065 | 3.052     | 0.013     | 1.000     | 19673    |                 | 3.91(1.90-5.69) |       | 503   |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |       |       |       |
| 506.00 > 78.00                        | 3.380 | 3.377     | 0.003     | 1.261     | 5047444  | 2.48            |                 | 99.1  | 31688 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |       |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378     | 0.002     | 1.000     | 101328   | 0.0529          |                 | 106   | 4177  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |           |           |           |          |                 |                 |       |       |       |
| 527.00 > 507.00                       | 3.418 | 3.402     | 0.016     | 1.000     | 215918   | 0.4544          |                 | 94.9  | 6108  |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |       |       |       |
| 529.00 > 81.00                        | 3.418 | 3.403     | 0.015     | 1.275     | 906328   | 2.43            |                 | 102   | 10971 |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |       |       |       |
| 515.00 > 470.00                       | 3.425 | 3.414     | 0.011     | 1.278     | 3074685  | 2.59            |                 | 104   | 30061 |       |
| 24 Perfluorodecanoic acid             |       |           |           |           |          |                 |                 |       |       |       |
| 513.00 > 469.00                       | 3.425 | 3.414     | 0.011     | 1.000     | 62169    | 0.0513          |                 | 103   | 328   |       |
| 513.00 > 169.00                       | 3.425 | 3.414     | 0.011     | 1.000     | 10477    |                 | 5.93(2.36-7.09) |       | 164   |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |       |       |       |
| 573.00 > 419.00                       | 3.584 | 3.569     | 0.015     | 1.337     | 1532636  | 2.50            |                 | 100.0 | 15341 |       |
| 28 N-methyl perfluorooctane sulfonami |       |           |           |           |          |                 |                 |       |       |       |
| 570.00 > 419.00                       | 3.593 | 3.574     | 0.019     | 1.002     | 318940   | 0.4914          |                 | 98.3  | 2524  |       |
| 29 Perfluorodecane Sulfonic acid      |       |           |           |           |          |                 |                 |       |       |       |
| 599.00 > 80.00                        | 3.742 | 3.730     | 0.012     | 1.000     | 46937    | 0.0506          |                 | 105   | 1841  |       |
| 599.00 > 99.00                        | 3.742 | 3.730     | 0.012     | 1.000     | 17530    |                 | 2.68(1.39-4.16) |       | 441   |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |       |       |       |
| 589.00 > 419.00                       | 3.751 | 3.740     | 0.011     | 1.399     | 1740052  | 2.78            |                 | 111   | 11554 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.760 | 3.746     | 0.014     | 1.000     | 45581    | 0.0497          |                 | 99.4 | 270   |       |
| 563.00 > 169.00                       | 3.760 | 3.746     | 0.014     | 1.000     | 11887    |                 | 3.83(0.00-0.00) |      | 407   |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.760 | 3.747     | 0.013     | 1.402     | 2447856  | 2.73            |                 | 109  | 27707 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.760 | 3.747     | 0.013     | 1.002     | 325418   | 0.4844          |                 | 96.9 | 5926  |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.867 | 3.867     | 0.0       | 1.442     | 1417618  | 2.45            |                 | 97.9 | 3572  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.873     | 0.004     | 1.003     | 279190   | 0.5102          |                 | 102  | 3245  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.062 | 4.045     | 0.017     | 1.515     | 2712831  | 2.78            |                 | 111  | 28427 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.062 | 4.045     | 0.017     | 1.000     | 52234    | 0.0485          |                 | 97.0 | 167   |       |
| 613.00 > 169.00                       | 4.062 | 4.045     | 0.017     | 1.000     | 14299    |                 | 3.65(2.13-6.40) |      | 580   |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.054 | 4.058     | -0.004    | 1.512     | 1348220  | 2.45            |                 | 97.9 | 2703  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.062 | 4.065     | -0.003    | 1.002     | 288047   | 0.4928          |                 | 98.6 | 2240  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.326 | 4.312     | 0.014     | 1.000     | 49898    | 0.0427          |                 | 85.4 | 131   |       |
| 663.00 > 169.00                       | 4.326 | 4.312     | 0.014     | 1.000     | 19033    |                 | 2.62(1.25-3.76) |      | 802   |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.569 | 4.557     | 0.012     | 1.704     | 2981811  | 2.81            |                 | 112  | 25758 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.569 | 4.557     | 0.012     | 1.000     | 18327    | 0.0604          |                 | 121  | 643   |       |
| 713.00 > 219.00                       | 4.569 | 4.557     | 0.012     | 1.000     | 12472    |                 | 1.47(0.71-2.13) |      | 543   |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 5.004 | 4.984     | 0.020     | 1.866     | 5367657  | 2.76            |                 | 110  | 14737 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 5.004 | 4.984     | 0.020     | 1.000     | 138492   | 0.0523          |                 | 105  | 86.8  |       |
| 813.00 > 169.00                       | 5.004 | 4.984     | 0.020     | 1.000     | 26130    |                 | 5.30(2.86-8.58) |      | 1029  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.389 | 5.361     | 0.028     | 1.000     | 125977   | 0.0546          |                 | 109  | 37.3  |       |
| 913.00 > 169.00                       | 5.389 | 5.361     | 0.028     | 1.000     | 15507    |                 | 8.12(0.00-0.00) |      | 317   |       |

## Reagents:

LCPFC\_CCVL\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52188.b\2017.12.27LLA\_005.d

Injection Date: 27-Dec-2017 13:50:09

Instrument ID: A8\_N

Lims ID: CCVL

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 21

Worklist Smp#: 1

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

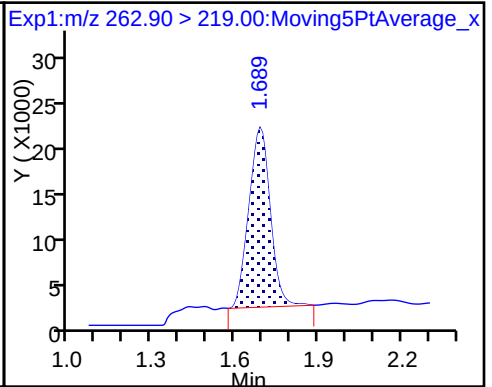
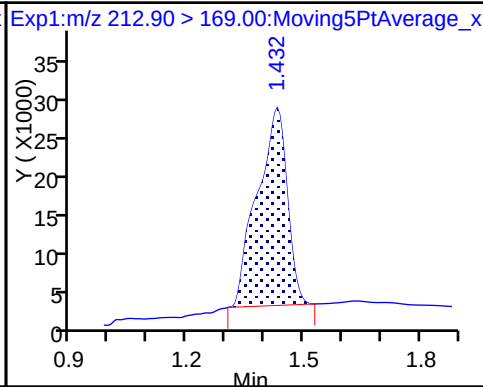
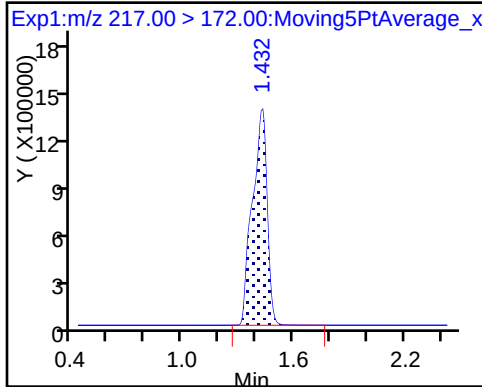
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

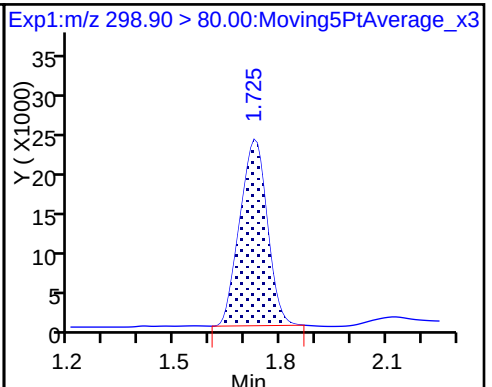
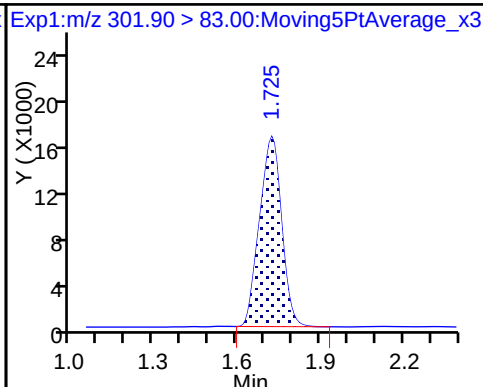
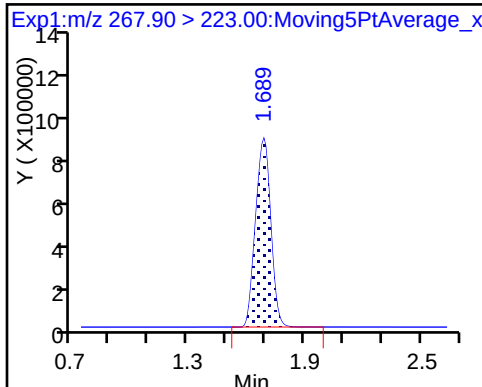
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

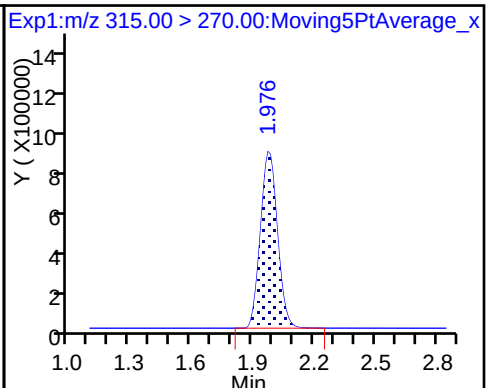
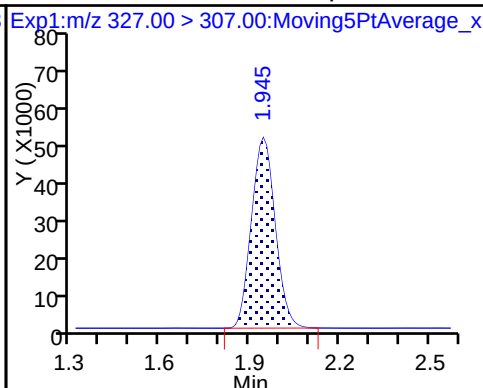
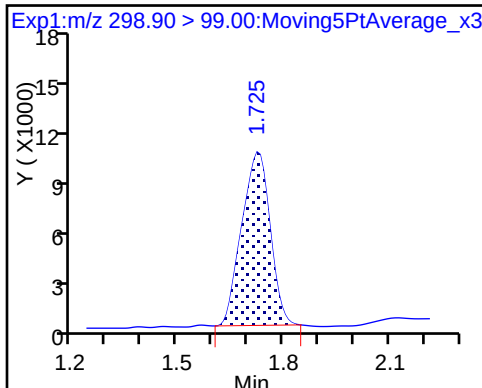
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

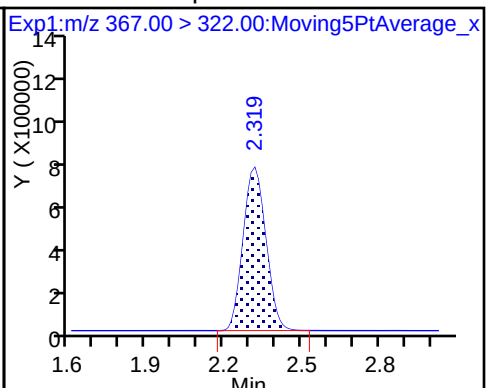
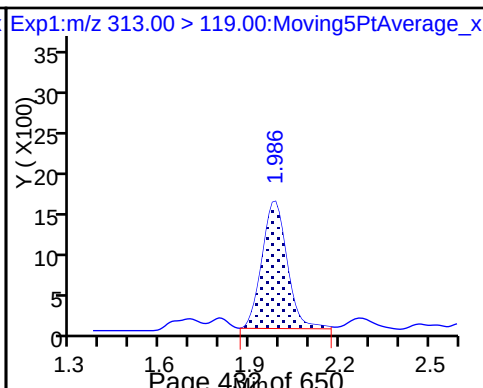
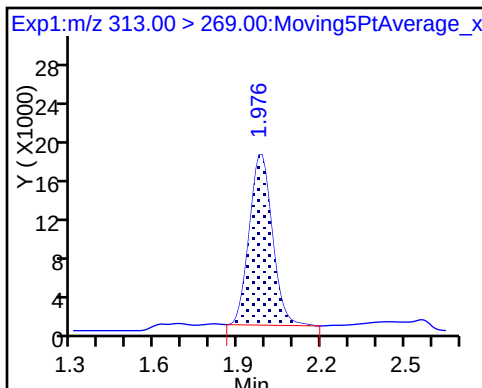
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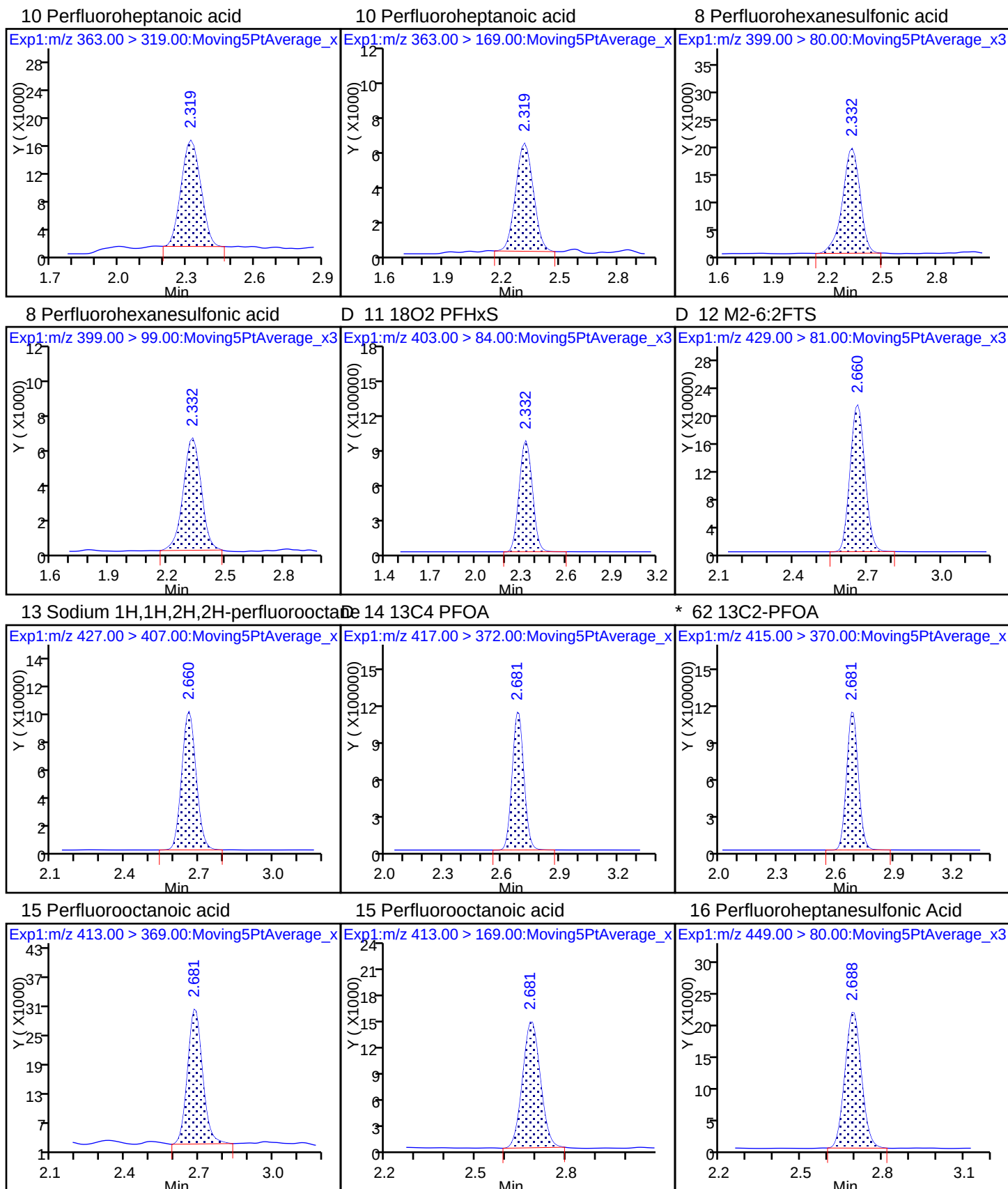


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

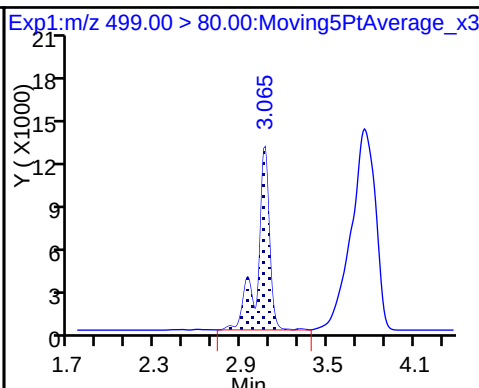
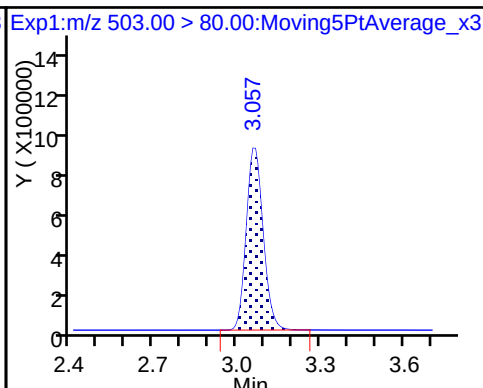
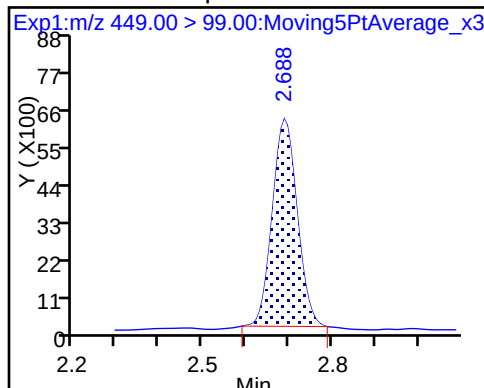




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

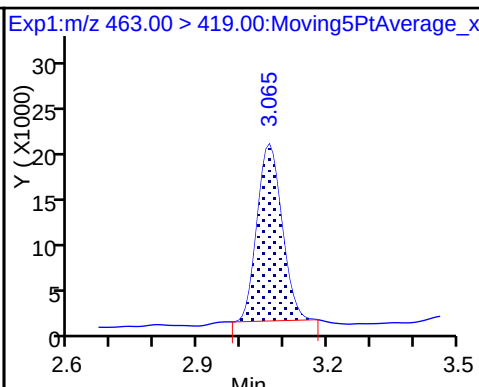
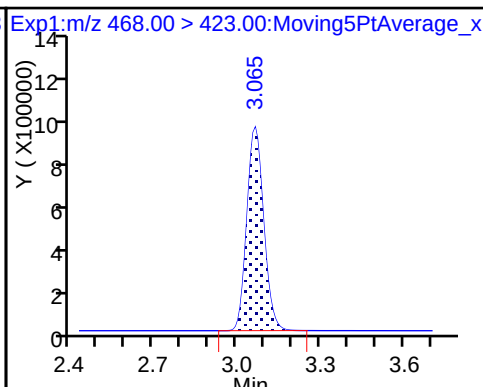
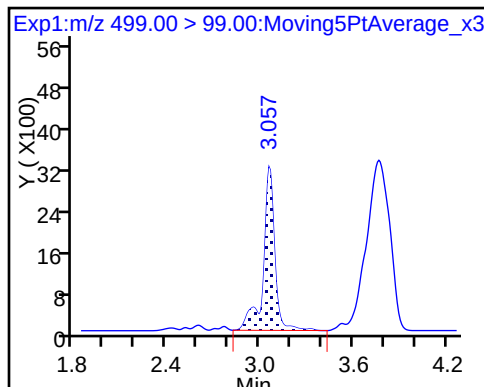
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

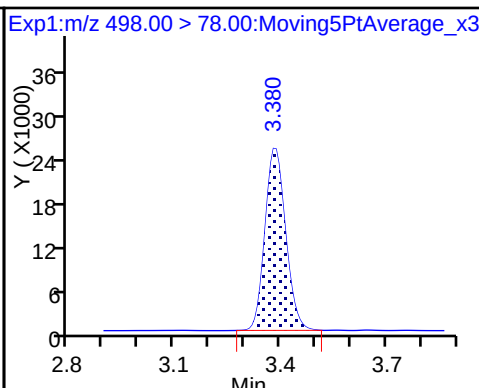
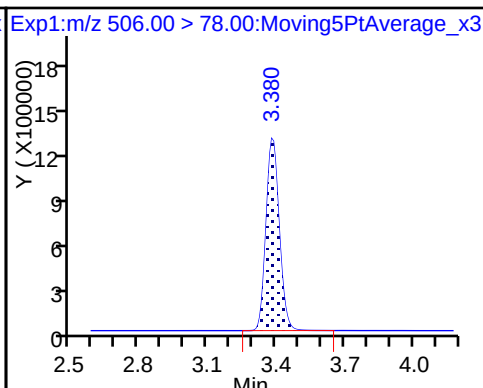
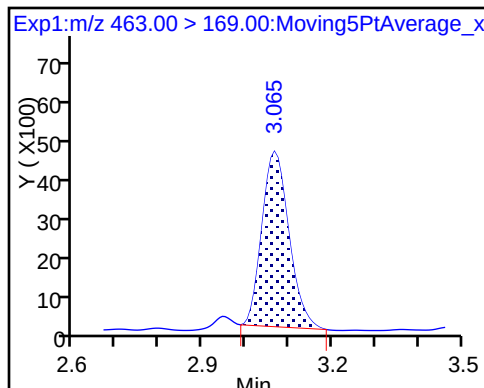
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

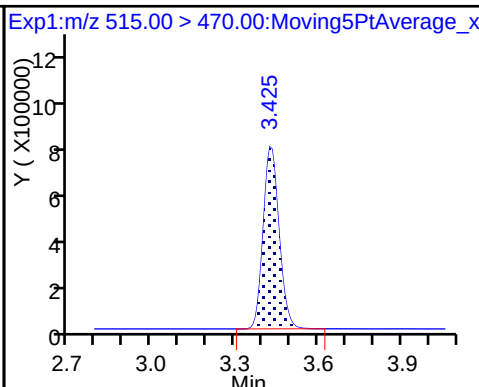
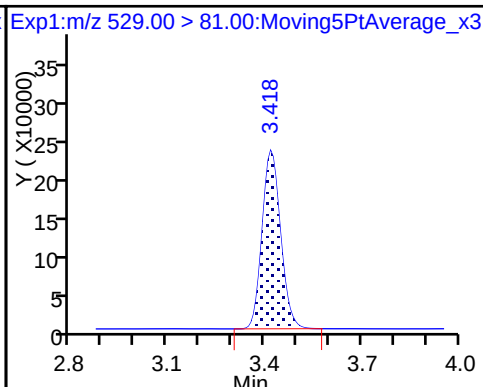
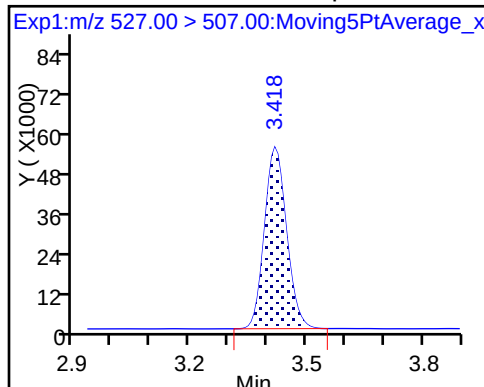
22 Perfluorooctane Sulfonamide

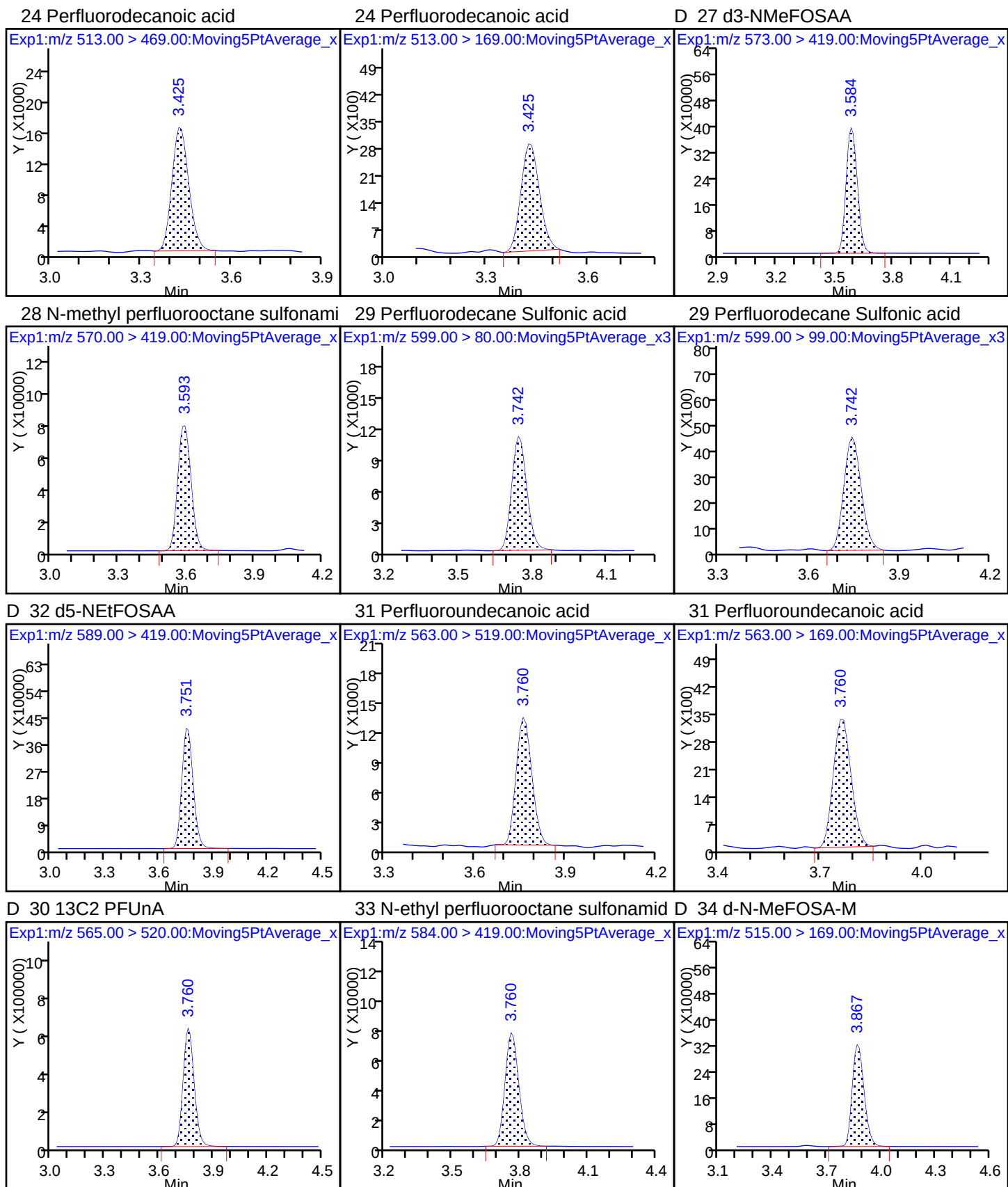


25 Sodium 1H,1H,2H,2H-perfluorodecane-1-sulfonate

De26 M2-8:2FTS

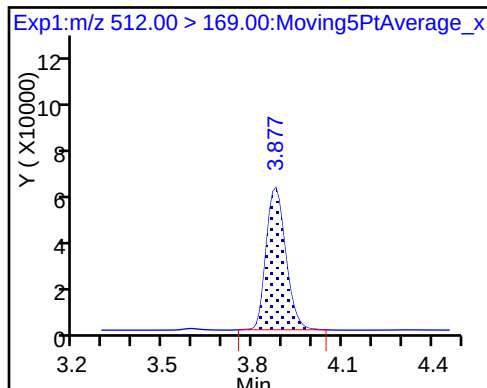
D 23 13C2 PFDA



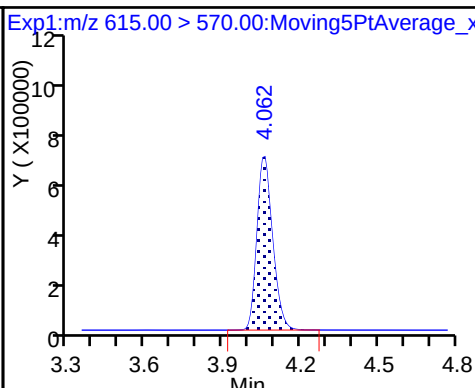




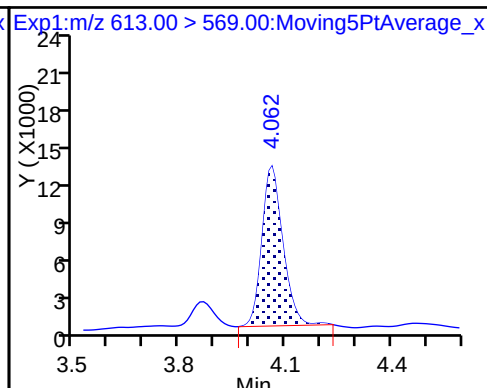
35 MeFOSA



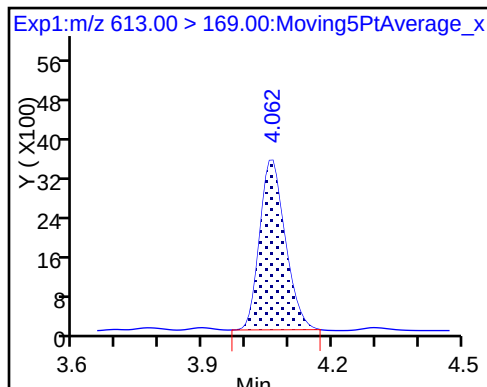
D 36 13C2 PFDaA



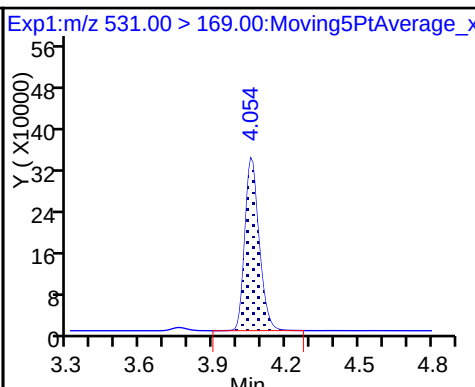
37 Perfluorododecanoic acid



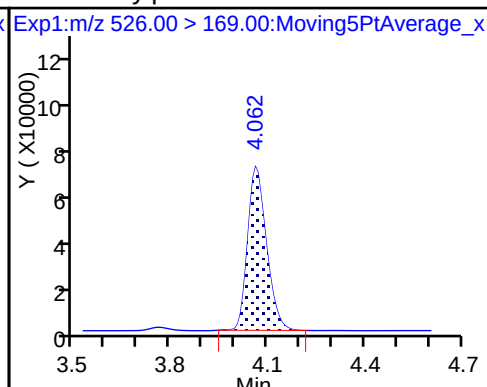
37 Perfluorododecanoic acid



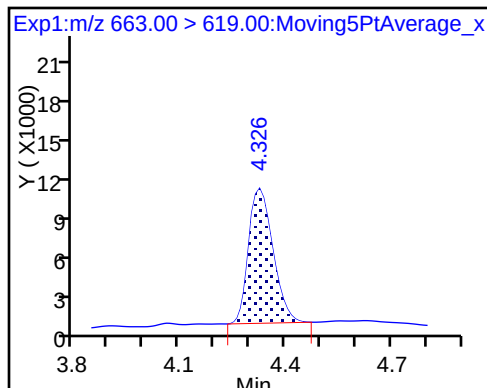
D 38 d-N-EtFOSA-M



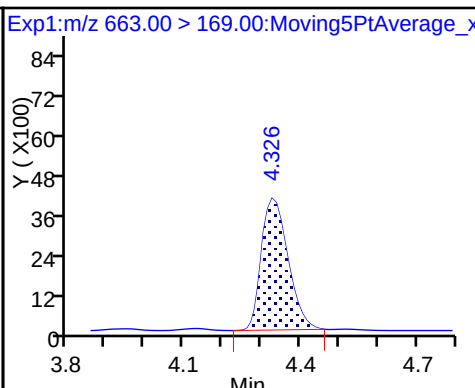
39 N-ethylperfluoro-1-octanesulfonami



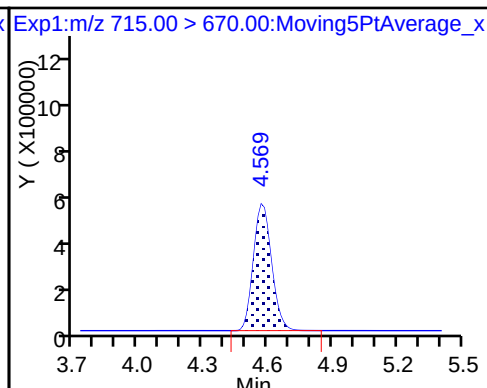
41 Perfluorotridecanoic acid



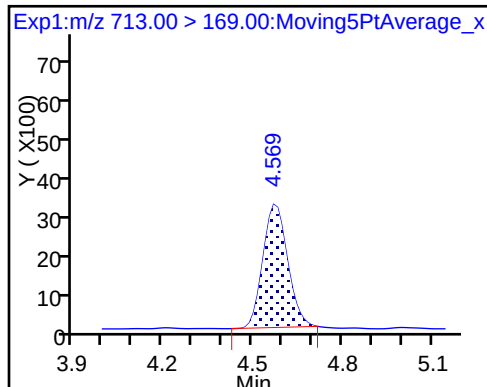
41 Perfluorotridecanoic acid



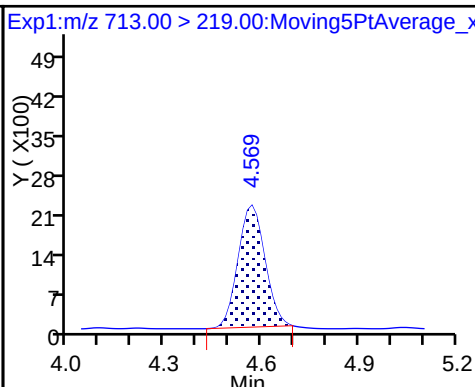
D 43 13C2-PFTeDA



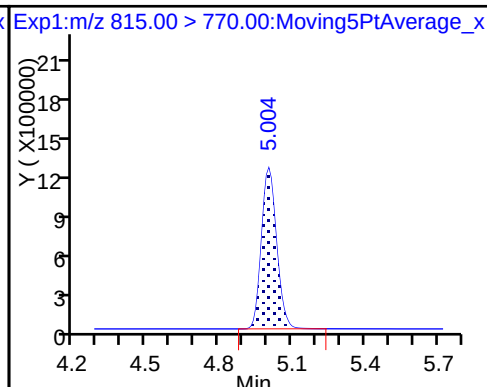
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



D 44 13C2-PFHxDA

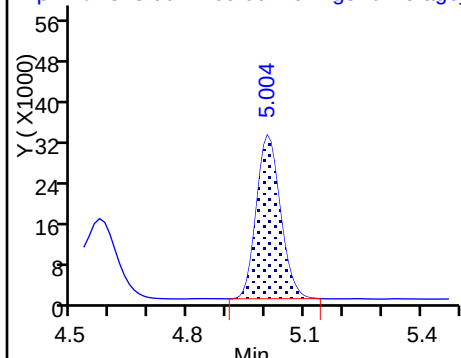


## 45 Perfluorohexadecanoic acid

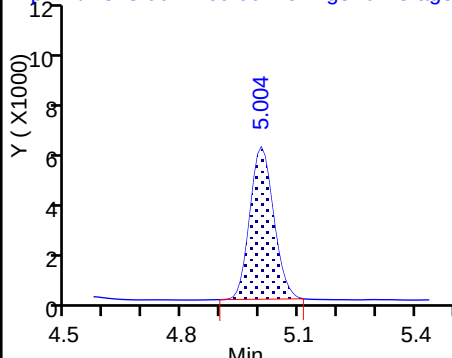
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

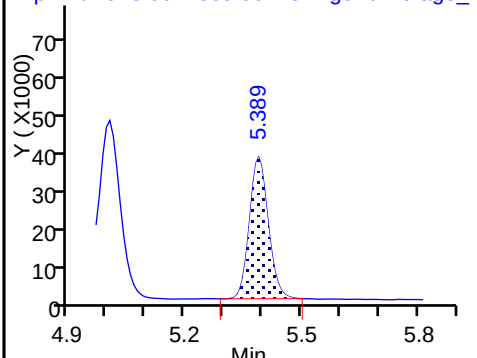
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

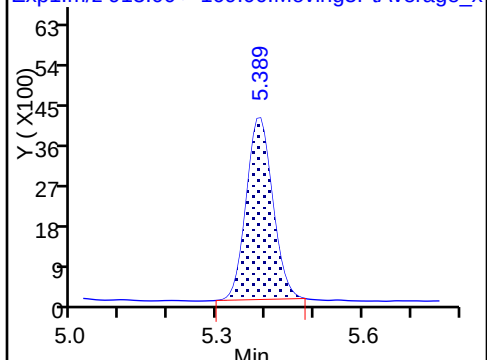


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCV 320-201601/1 Calibration Date: 12/27/2017 19:49

Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.27LLA\_051.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D    | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9135  | 0.9333 |         | 1.02        | 1.00         | 2.2   | 40.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.122   | 1.117  |         | 0.996       | 1.00         | -0.4  | 40.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 74.84   | 77.47  |         | 0.915       | 0.884        | 3.5   | 50.0   |
| 4:2 FTS                                                    | AveID      | 1.724   | 1.702  |         | 0.922       | 0.934        | -1.3  | 50.0   |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 0.999   | 0.9584 |         | 0.960       | 1.00         | -4.0  | 40.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 1.023  |         | 0.979       | 1.00         | -2.1  | 40.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.093   | 1.053  |         | 0.877       | 0.910        | -3.6  | 40.0   |
| 6:2FTS                                                     | AveID      | 1.677   | 1.784  |         | 1.01        | 0.948        | 6.4   | 40.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.059   | 1.137  |         | 1.07        | 1.00         | 7.4   | 40.0   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | AveID      | 1.227   | 1.343  |         | 1.04        | 0.952        | 9.5   | 50.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 0.9743  | 0.9813 |         | 1.01        | 1.00         | 0.7   | 40.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.073   | 1.078  |         | 0.932       | 0.928        | 0.4   | 40.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9492  | 1.015  |         | 1.07        | 1.00         | 7.0   | 40.0   |
| 8:2FTS                                                     | AveID      | 1.256   | 1.232  |         | 0.940       | 0.958        | -1.9  | 40.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9858  | 1.008  |         | 1.02        | 1.00         | 2.3   | 40.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.059   | 1.061  |         | 1.00        | 1.00         | 0.2   | 40.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.5921  | 0.6683 |         | 1.09        | 0.964        | 12.9  | 50.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9369  | 0.8331 |         | 0.889       | 1.00         | -11.1 | 40.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9653  | 0.9108 |         | 0.944       | 1.00         | -5.6  | 40.0   |
| MeFOSA                                                     | AveID      | 0.9651  | 1.020  |         | 1.06        | 1.00         | 5.7   | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9929  | 1.005  |         | 1.01        | 1.00         | 1.2   | 40.0   |
| N-EtFOSA-M                                                 | AveID      | 1.084   | 1.083  |         | 1.00        | 1.00         | -0.1  | 40.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.078   | 1.209  |         | 1.12        | 1.00         | 12.2  | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2545  | 0.2445 |         | 0.961       | 1.00         | -3.9  | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 0.9230 |         | 1.06        | 1.00         | 5.8   | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.075   | 1.073  |         | 0.998       | 1.00         | -0.2  | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.731   | 1.691  |         | 2.44        | 2.50         | -2.3  | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 1.009   | 1.014  |         | 2.51        | 2.50         | 0.5   | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0219  | 0.0222 |         | 2.36        | 2.33         | 1.3   | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 1.085   | 1.108  |         | 2.55        | 2.50         | 2.2   | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 1.007   | 1.058  |         | 2.63        | 2.50         | 5.1   | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 320-201601/1 Calibration Date: 12/27/2017 19:49  
 Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58  
 Lab File ID: 2017.12.27LLA\_051.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|------|-----------|
| 18O2 PFHxS   | Ave           | 1.278   | 1.312  |         | 2.43           | 2.37            | 2.6  | 50.0      |
| M2-6:2FTS    | Ave           | 0.1910  | 0.2066 |         | 2.57           | 2.38            | 8.2  | 40.0      |
| 13C4 PFOA    | Ave           | 1.028   | 1.021  |         | 2.48           | 2.50            | -0.7 | 50.0      |
| 13C4 PFOS    | Ave           | 0.8476  | 0.8244 |         | 2.32           | 2.39            | -2.7 | 50.0      |
| 13C5 PFNA    | Ave           | 0.8211  | 0.8621 |         | 2.63           | 2.50            | 5.0  | 50.0      |
| 13C8 FOSA    | Ave           | 1.146   | 1.138  |         | 2.48           | 2.50            | -0.8 | 50.0      |
| M2-8:2FTS    | Ave           | 0.2097  | 0.2205 |         | 2.52           | 2.40            | 5.2  | 40.0      |
| 13C2 PFDA    | Ave           | 0.6674  | 0.6972 |         | 2.61           | 2.50            | 4.5  | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3450  | 0.3544 |         | 2.57           | 2.50            | 2.7  | 50.0      |
| 13C2 PFUnA   | Ave           | 0.5052  | 0.5714 |         | 2.83           | 2.50            | 13.1 | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3516  | 0.3816 |         | 2.71           | 2.50            | 8.5  | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.3256  | 0.3139 |         | 2.41           | 2.50            | -3.6 | 50.0      |
| 13C2 PFDoA   | Ave           | 0.5489  | 0.5656 |         | 2.58           | 2.50            | 3.1  | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.3100  | 0.2977 |         | 2.40           | 2.50            | -4.0 | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5969  | 0.6798 |         | 2.85           | 2.50            | 13.9 | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.094   | 1.174  |         | 2.68           | 2.50            | 7.3  | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\2017.12.27LLA\_051.d  
 Lims ID: CCV L4  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 27-Dec-2017 19:49:55 ALS Bottle#: 13 Worklist Smp#: 1  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCV L4  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 28-Dec-2017 08:55:07 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK055

First Level Reviewer: hannigana

Date: 28-Dec-2017 08:55:07

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433  | -0.001 | 0.537  | 7635560  | 2.44         |                   | 97.7 | 23305 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.432 | 1.434  | -0.002 | 1.000  | 2850360  | 1.02         |                   | 102  | 500   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.689 | 1.691  | -0.002 | 1.000  | 2046687  | 1.00         |                   | 99.6 | 1679  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.689 | 1.692  | -0.003 | 0.633  | 4580489  | 2.51         |                   | 101  | 59630 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.725 | 1.725  | 0.0    | 0.647  | 93015    | 2.36         |                   | 101  | 2805  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.725 | 1.730  | -0.005 | 1.000  | 2739883  | 0.9151       |                   | 104  | 11593 |       |
| 298.90 > 99.00                        | 1.725 | 1.730  | -0.005 | 1.000  | 1142295  |              | 2.40(1.25-3.74)   |      | 8031  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.934 | 1.941  | -0.007 | 1.000  | 593059   | 0.9218       |                   | 98.7 | 26558 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.976 | 1.976  | 0.0    | 0.741  | 5004028  | 2.55         |                   | 102  | 46265 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.976 | 1.979  | -0.003 | 1.000  | 1918266  | 0.9597       |                   | 96.0 | 4255  |       |
| 313.00 > 119.00                       | 1.976 | 1.979  | -0.003 | 1.000  | 175115   |              | 10.95(5.03-15.10) |      | 3785  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.306 | 2.311  | -0.005 | 0.865  | 4777049  | 2.63         |                   | 105  | 31367 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.306 | 2.311  | -0.005 | 1.000  | 1955427  | 0.9786       |                   | 97.9 | 3310  |       |
| 363.00 > 169.00                       | 2.306 | 2.311  | -0.005 | 1.000  | 799356   |              | 2.45(1.13-3.40)   |      | 7723  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.319 | 2.324  | -0.005 | 1.000  | 2271954  | 0.8771       |                   | 96.4 | 7113  |       |
| 399.00 > 99.00                        | 2.319 | 2.324  | -0.005 | 1.000  | 743461   |              | 3.06(1.50-4.49)   |      | 4118  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.319 | 2.328  | -0.009 | 0.869  | 5605636  | 2.43         |                 | 103  | 26954 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649  | -0.011 | 0.989  | 886222   | 2.57         |                 | 108  | 17628 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.645 | 2.651  | -0.006 | 1.003  | 630902   | 1.01         |                 | 106  | 11475 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.667 | 2.674  | -0.007 | 1.000  | 4610364  | 2.48         |                 | 99.3 | 35291 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.667 | 2.676  | -0.009 |        | 4516100  | 2.50         |                 |      | 31698 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.667 | 2.677  | -0.010 | 1.000  | 2095934  | 1.07         |                 | 107  | 1096  |       |
| 413.00 > 169.00                       | 2.667 | 2.677  | -0.010 | 1.000  | 1083918  |              | 1.93(0.84-2.52) |      | 9255  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.674 | 2.683  | -0.009 | 1.000  | 1904609  | 1.04         |                 | 109  | 17056 |       |
| 449.00 > 99.00                        | 2.674 | 2.683  | -0.009 | 1.000  | 502117   |              | 3.79(1.94-5.82) |      | 10778 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.042 | 3.048  | -0.006 | 1.141  | 3559029  | 2.32         |                 | 97.3 | 21153 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.042 | 3.050  | -0.008 | 1.000  | 1489127  | 0.9318       |                 | 100  | 480   |       |
| 499.00 > 99.00                        | 3.042 | 3.050  | -0.008 | 1.000  | 324640   |              | 4.59(2.31-6.93) |      | 518   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.042 | 3.051  | -0.009 | 1.141  | 3893232  | 2.62         |                 | 105  | 34616 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.042 | 3.052  | -0.010 | 1.000  | 1528092  | 1.01         |                 | 101  | 2564  |       |
| 463.00 > 169.00                       | 3.042 | 3.052  | -0.010 | 1.000  | 375338   |              | 4.07(1.90-5.69) |      | 8878  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.372 | 3.377  | -0.005 | 1.264  | 5137339  | 2.48         |                 | 99.2 | 22963 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378  | 0.002  | 1.002  | 2086209  | 1.07         |                 | 107  | 18668 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.395 | 3.402  | -0.007 | 1.000  | 470074   | 0.9399       |                 | 98.1 | 9947  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.395 | 3.403  | -0.008 | 1.273  | 954023   | 2.52         |                 | 105  | 11310 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.410 | 3.414  | -0.004 | 1.279  | 3148528  | 2.61         |                 | 104  | 29341 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.410 | 3.414  | -0.004 | 1.000  | 1269740  | 1.02         |                 | 102  | 5491  |       |
| 513.00 > 169.00                       | 3.410 | 3.414  | -0.004 | 1.000  | 225790   |              | 5.62(2.36-7.09) |      | 2126  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.561 | 3.569  | -0.008 | 1.335  | 1600345  | 2.57         |                 | 103  | 18243 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.569 | 3.574  | -0.006 | 1.002  | 679368   | 1.00         |                 | 100  | 4320  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.725 | 3.730  | -0.005 | 1.000  | 959418   | 1.09         |                 | 113  | 16145 |       |
| 599.00 > 99.00                        | 3.725 | 3.730  | -0.005 | 1.000  | 327385   |              | 2.93(1.39-4.16) |      | 6978  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.734 | 3.740  | -0.006 | 1.400  | 1723128  | 2.71         |                 | 109  | 9831  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.734 | 3.746     | -0.012    | 1.000     | 859962   | 0.8892          |                 | 88.9 | 4255  |       |
| 563.00 > 169.00                       | 3.742 | 3.746     | -0.004    | 1.002     | 194245   |                 | 4.43(0.00-0.00) |      | 10292 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.734 | 3.747     | -0.013    | 1.400     | 2580683  | 2.83            |                 | 113  | 24270 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.742 | 3.747     | -0.005    | 1.002     | 627794   | 0.9436          |                 | 94.4 | 7614  |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.867 | 3.867     | 0.0       | 1.450     | 1417546  | 2.41            |                 | 96.4 | 3370  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.873     | 0.004     | 1.003     | 578522   | 1.06            |                 | 106  | 2673  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.030 | 4.045     | -0.015    | 1.511     | 2554302  | 2.58            |                 | 103  | 31618 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.030 | 4.045     | -0.015    | 1.000     | 1026450  | 1.01            |                 | 101  | 3110  |       |
| 613.00 > 169.00                       | 4.030 | 4.045     | -0.015    | 1.000     | 266522   |                 | 3.85(2.13-6.40) |      | 11204 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.054 | 4.058     | -0.004    | 1.520     | 1344426  | 2.40            |                 | 96.0 | 3088  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.061 | 4.065     | -0.004    | 1.002     | 582239   | 1.00            |                 | 99.9 | 3061  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.296 | 4.312     | -0.016    | 1.000     | 1235150  | 1.12            |                 | 112  | 4508  |       |
| 663.00 > 169.00                       | 4.296 | 4.312     | -0.016    | 1.000     | 416545   |                 | 2.97(1.25-3.76) |      | 15275 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.542 | 4.557     | -0.015    | 1.703     | 3070020  | 2.85            |                 | 114  | 20404 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.542 | 4.557     | -0.015    | 1.000     | 300190   | 0.9606          |                 | 96.1 | 8639  |       |
| 713.00 > 219.00                       | 4.528 | 4.557     | -0.029    | 0.997     | 216174   |                 | 1.39(0.71-2.13) |      | 7342  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.968 | 4.984     | -0.016    | 1.863     | 5300447  | 2.68            |                 | 107  | 17856 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.968 | 4.984     | -0.016    | 1.000     | 1956869  | 1.06            |                 | 106  | 1199  |       |
| 813.00 > 169.00                       | 4.968 | 4.984     | -0.016    | 1.000     | 341518   |                 | 5.73(2.86-8.58) |      | 5661  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.346 | 5.361     | -0.015    | 1.000     | 2274623  | 1.00            |                 | 99.8 | 595   |       |
| 913.00 > 169.00                       | 5.339 | 5.361     | -0.022    | 0.999     | 282354   |                 | 8.06(0.00-0.00) |      | 1893  |       |

## Reagents:

LCPFC\_LL4\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\2017.12.27LLA\_051.d

Injection Date: 27-Dec-2017 19:49:55

Instrument ID: A8\_N

Lims ID: CCV L4

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 13

Worklist Smp#: 1

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

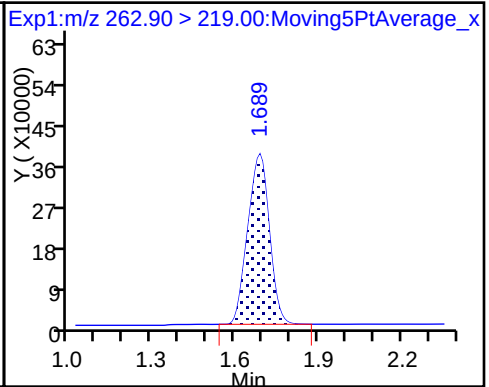
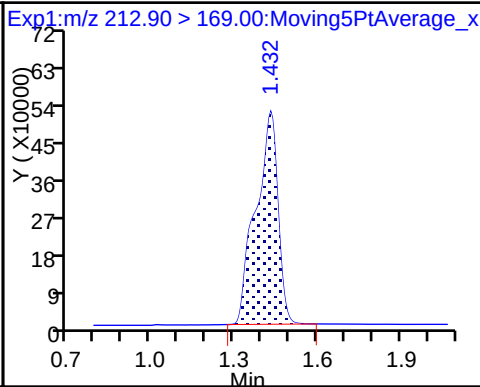
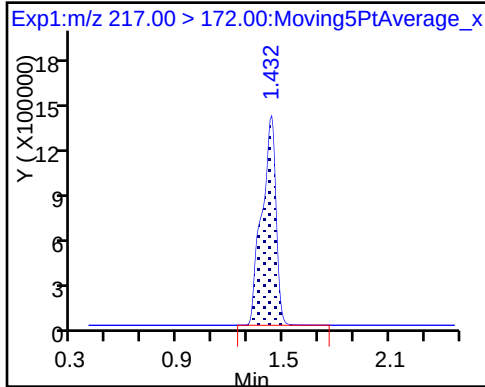
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

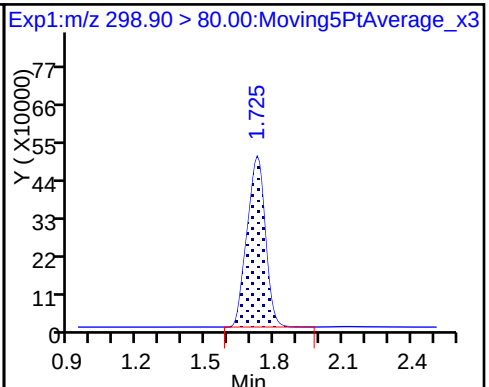
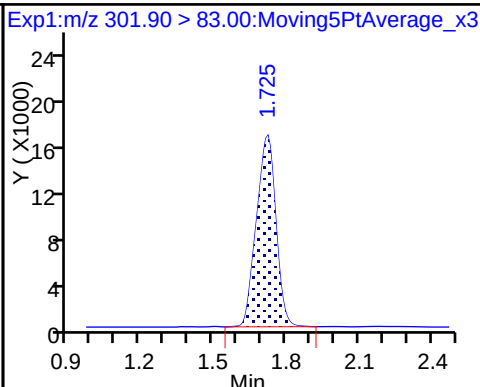
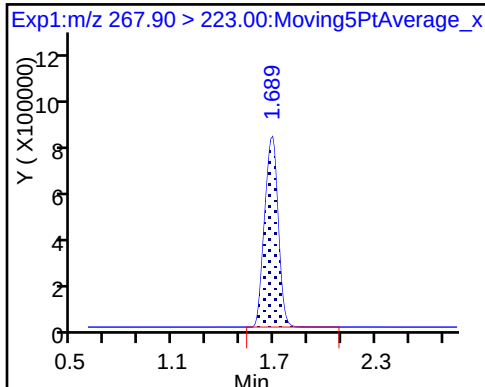
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

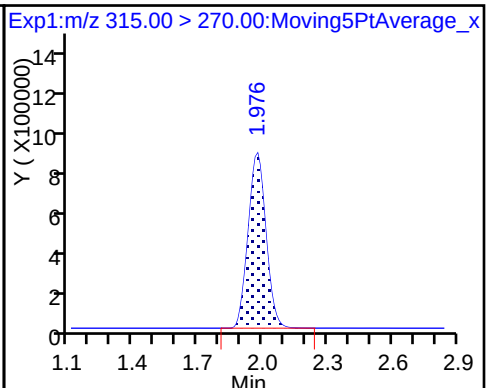
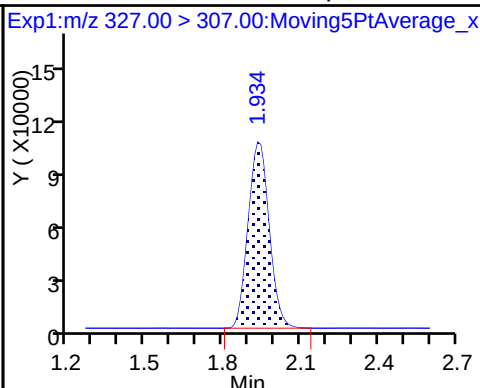
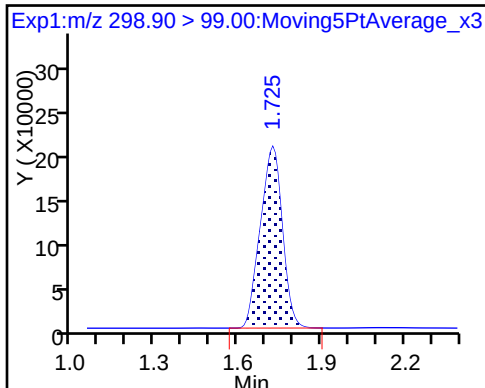
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

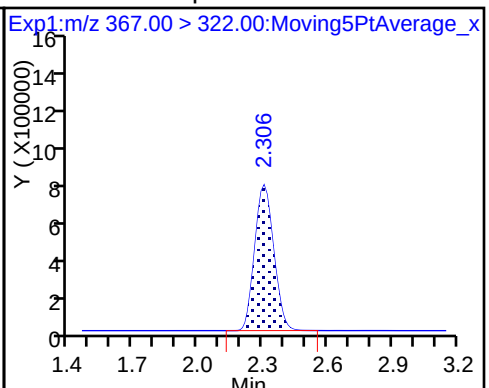
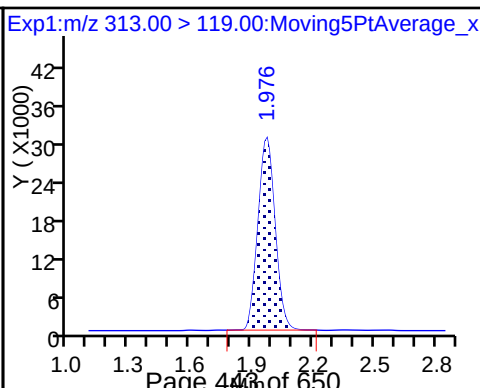
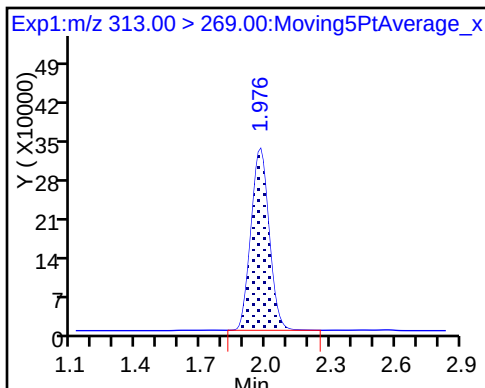
De 7 13C2 PFHxA



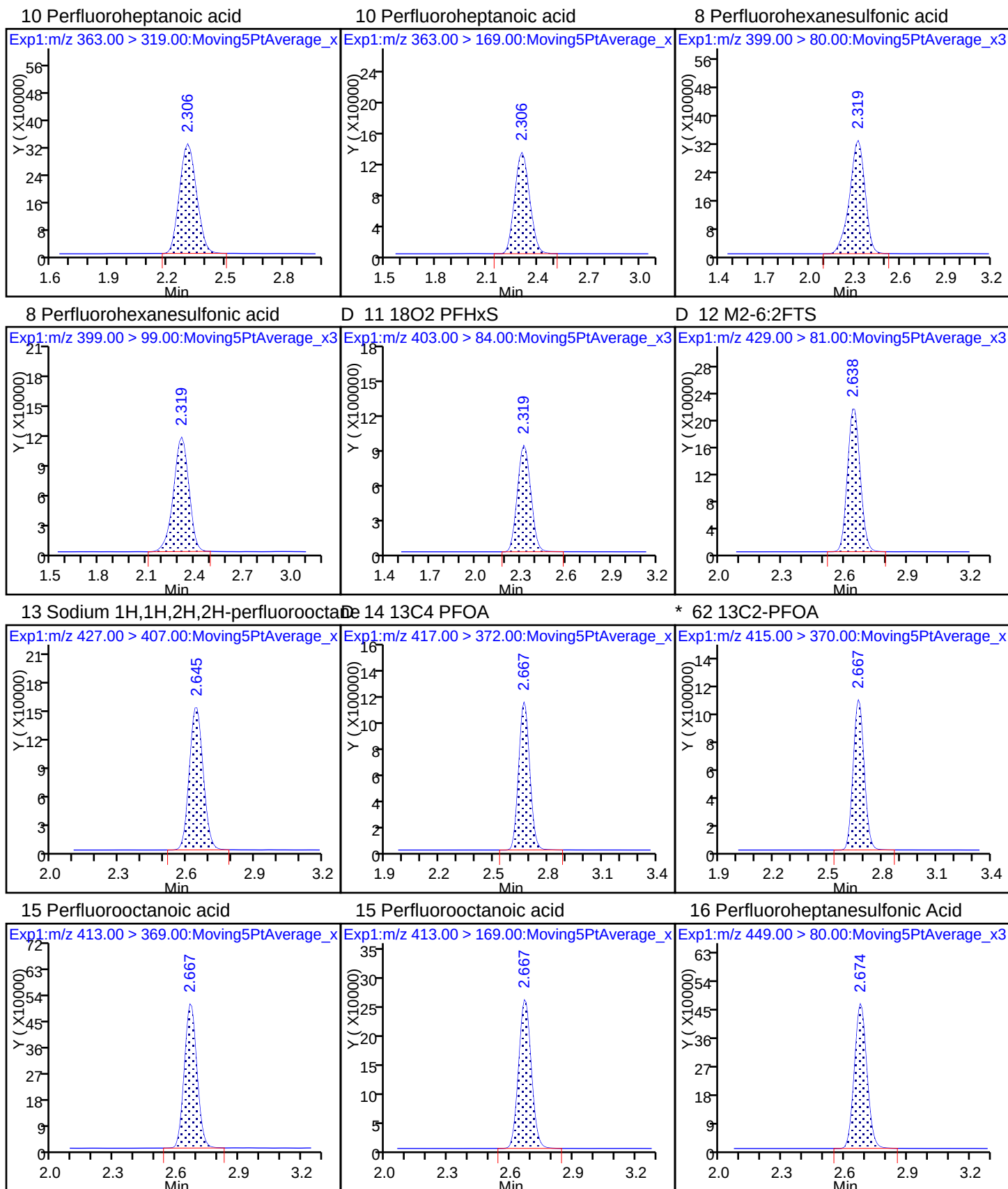
6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA



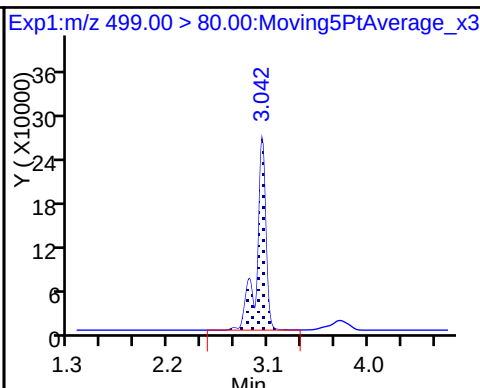
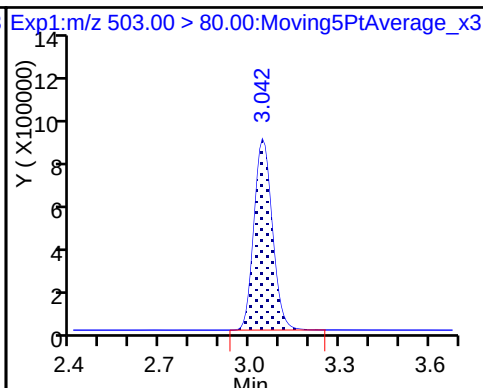
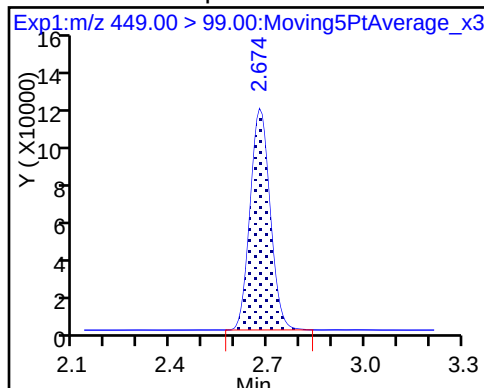




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

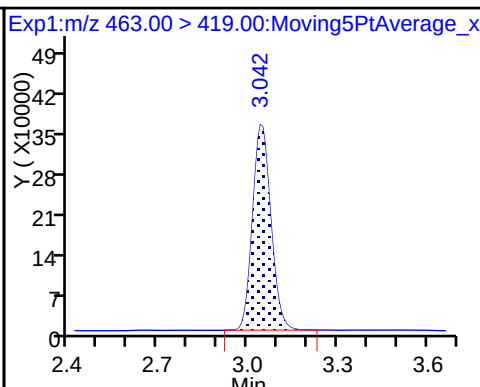
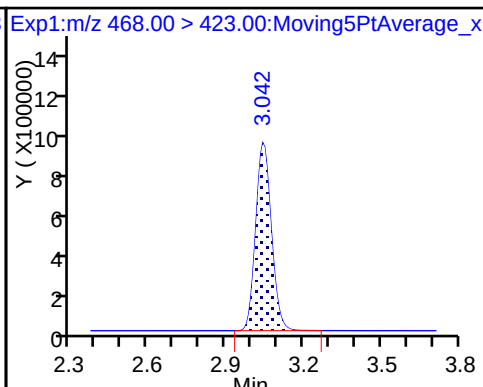
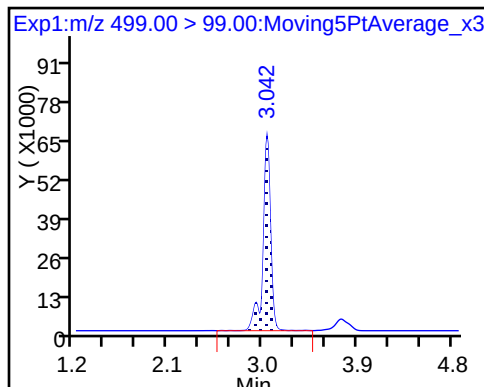
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

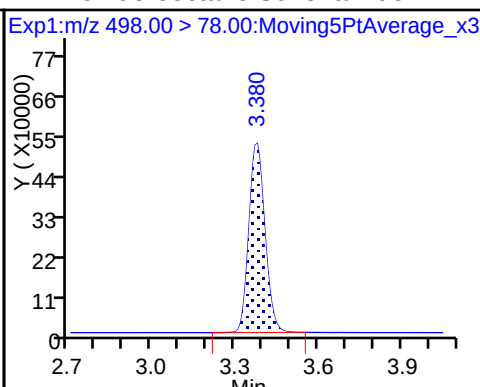
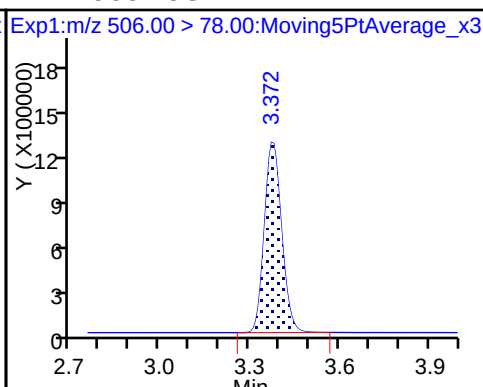
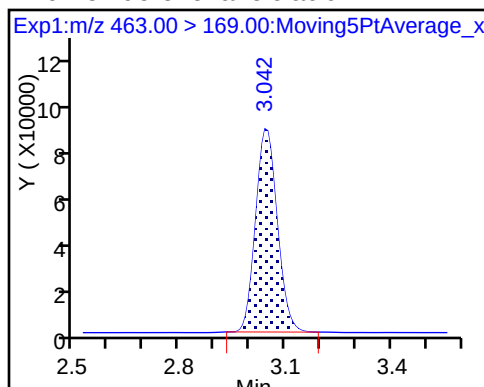
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

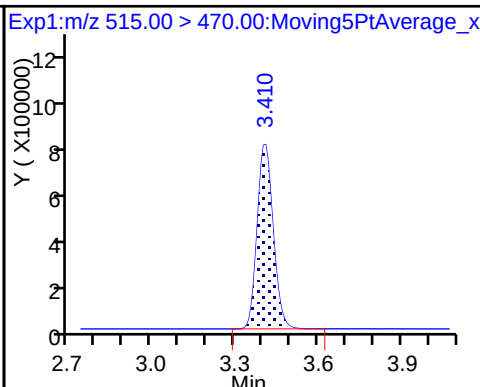
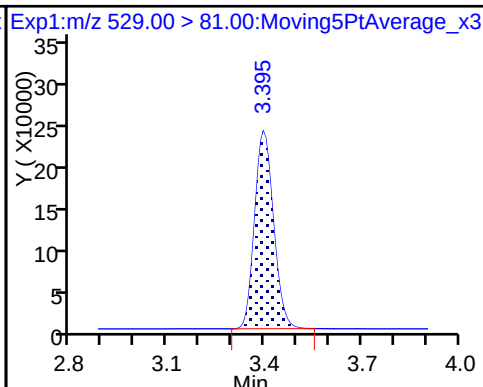
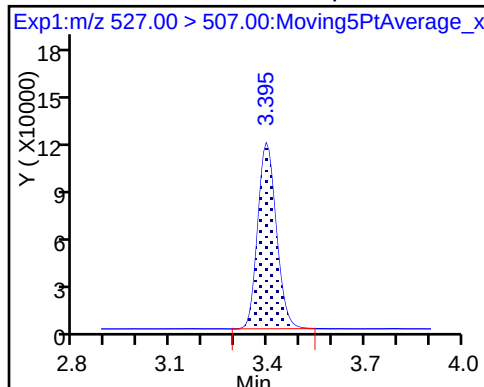
22 Perfluorooctane Sulfonamide

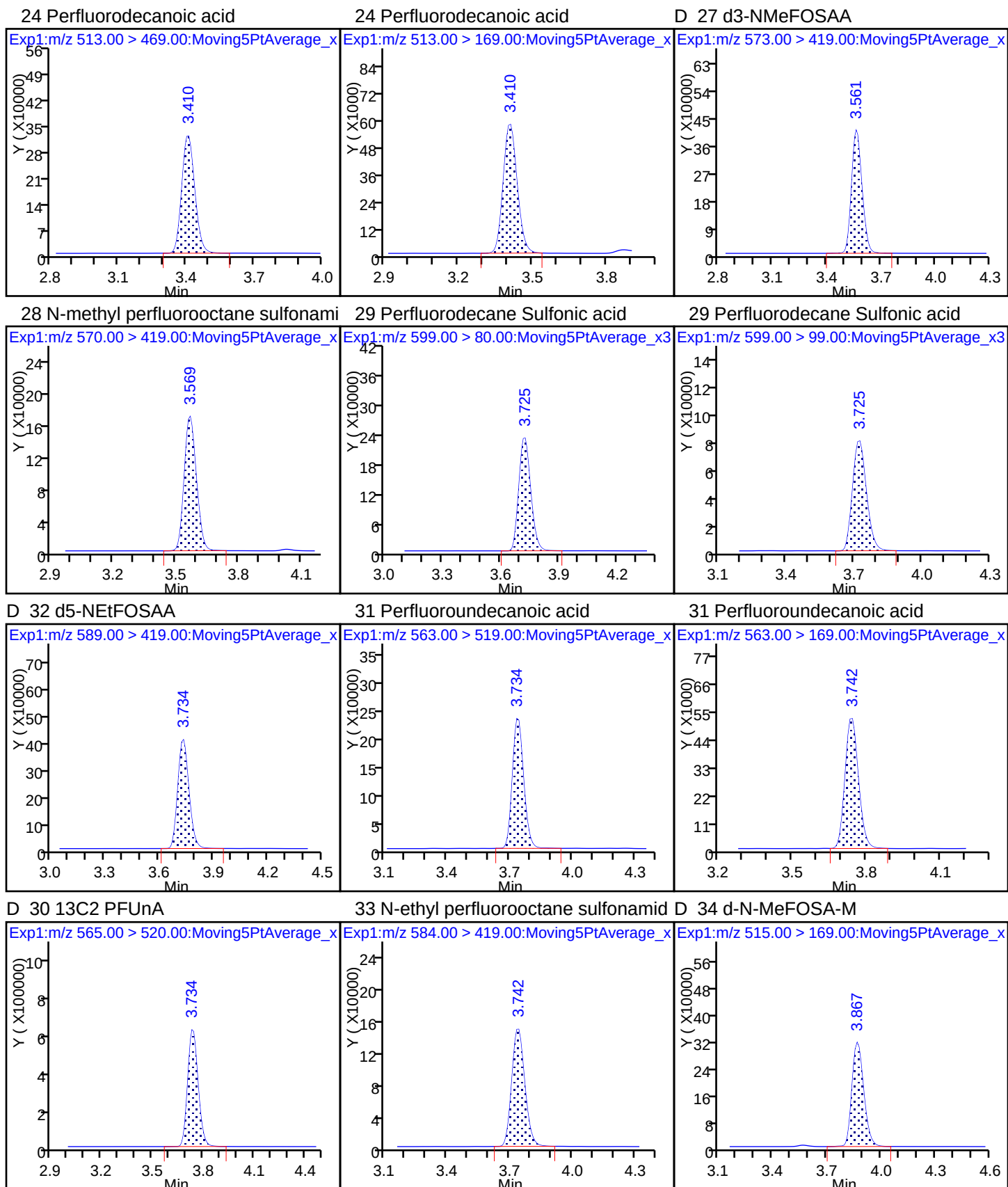


25 Sodium 1H,1H,2H,2H-perfluorodeca

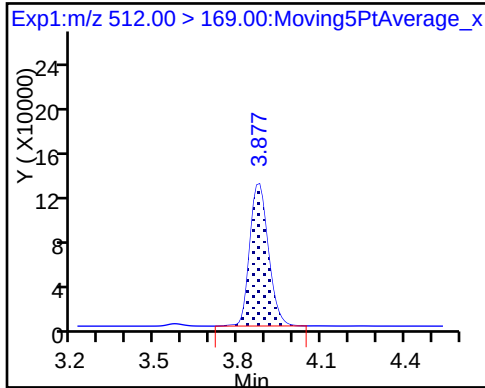
De26 M2-8:2FTS

D 23 13C2 PFDA

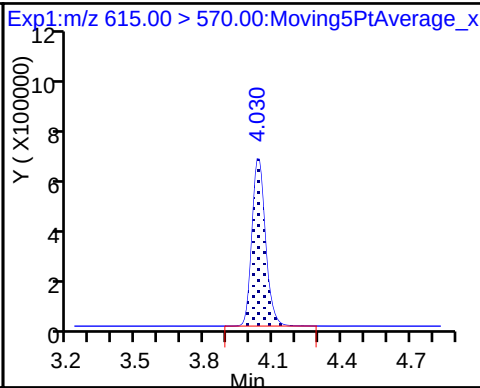




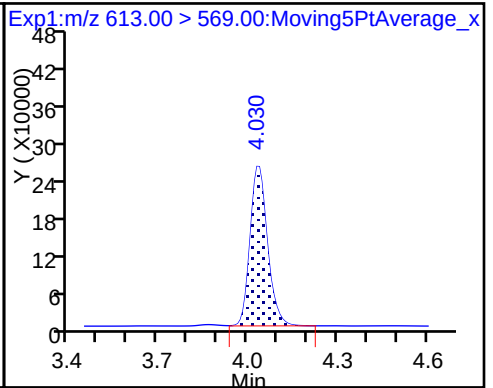
35 MeFOSA



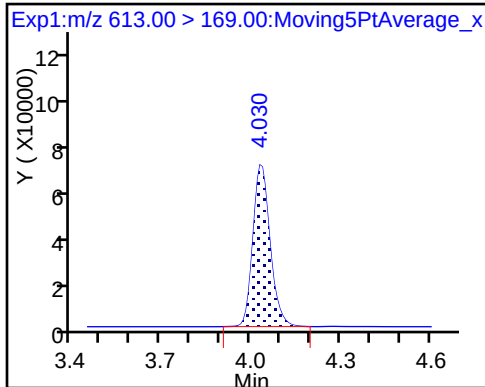
D 36 13C2 PFDaA



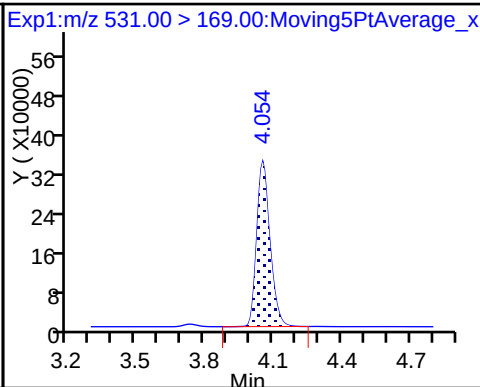
37 Perfluorododecanoic acid



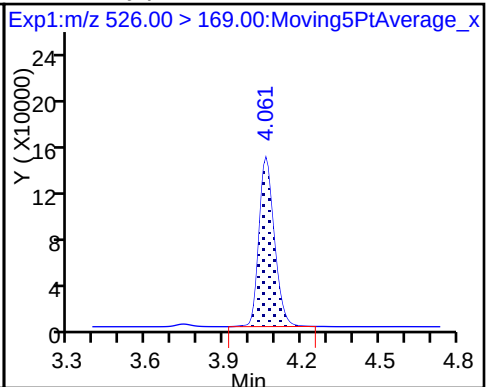
37 Perfluorododecanoic acid



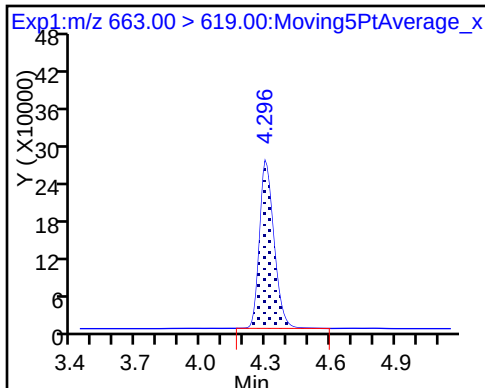
D 38 d-N-EtFOSA-M



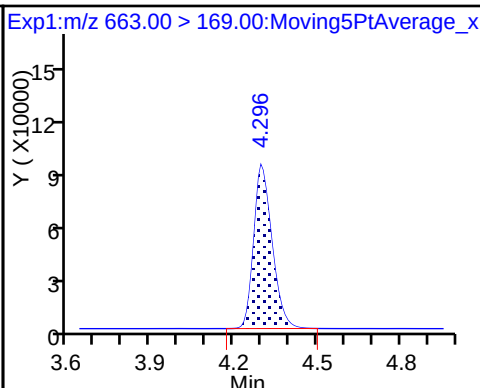
39 N-ethylperfluoro-1-octanesulfonami



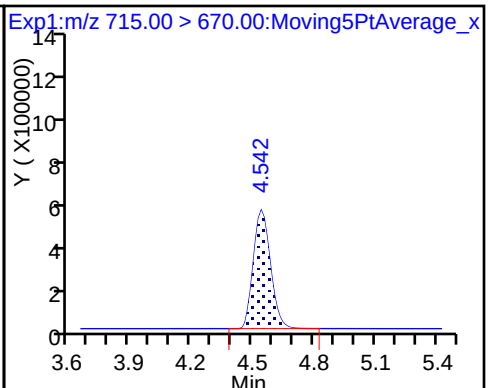
41 Perfluorotridecanoic acid



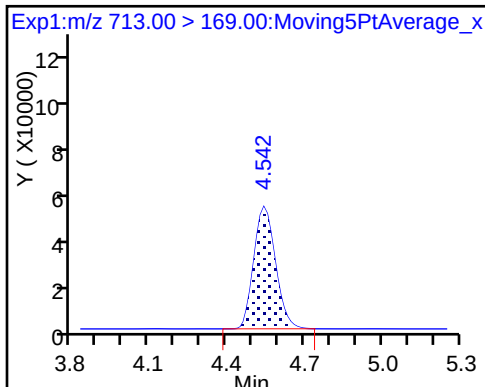
41 Perfluorotridecanoic acid



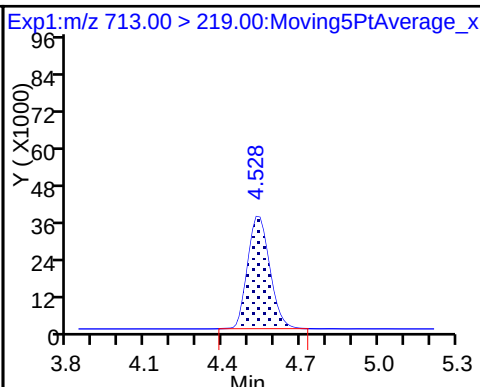
D 43 13C2-PFTeDA



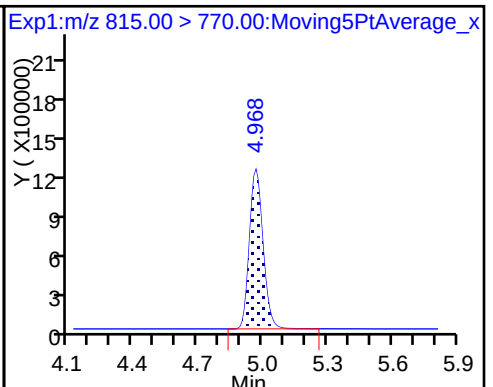
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



D 44 13C2-PFHxDA

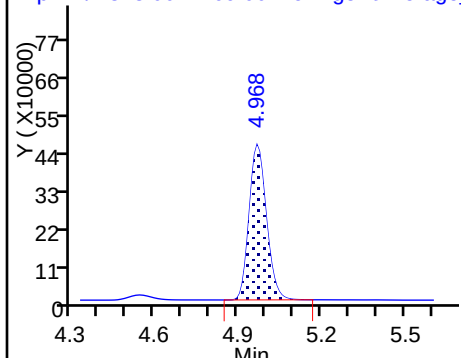


## 45 Perfluorohexadecanoic acid

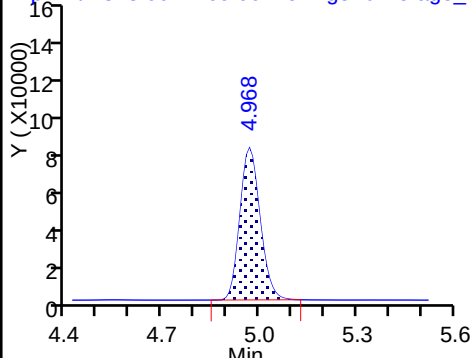
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

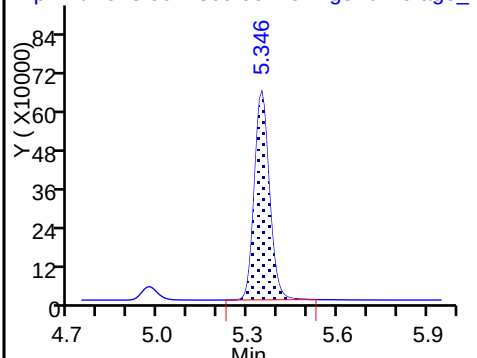
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Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

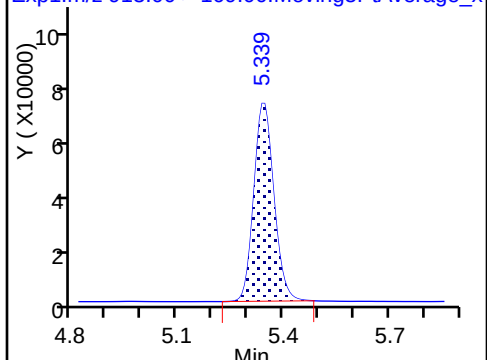


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCV 320-201601/3 Calibration Date: 12/27/2017 20:05

Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.27LLA\_053.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D   | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9135  | 0.9385 |         | 2.57        | 2.50         | 2.7  | 40.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.122   | 1.089  |         | 2.43        | 2.50         | -2.9 | 40.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 74.84   | 76.54  |         | 2.26        | 2.21         | 2.3  | 50.0   |
| 4:2 FTS                                                    | AveID      | 1.724   | 1.672  |         | 2.27        | 2.34         | -3.0 | 50.0   |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 0.999   | 1.051  |         | 2.63        | 2.50         | 5.2  | 40.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 1.088  |         | 2.60        | 2.50         | 4.1  | 40.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.093   | 1.064  |         | 2.22        | 2.28         | -2.6 | 40.0   |
| 6:2FTS                                                     | AveID      | 1.677   | 1.633  |         | 2.31        | 2.37         | -2.6 | 40.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.059   | 1.055  |         | 2.49        | 2.50         | -0.3 | 40.0   |
| Perfluorooctanesulfonic Acid (PFHpS)                       | AveID      | 1.227   | 1.250  |         | 2.43        | 2.38         | 1.9  | 50.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.073   | 1.099  |         | 2.38        | 2.32         | 2.4  | 40.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 0.9743  | 1.015  |         | 2.60        | 2.50         | 4.1  | 40.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9492  | 0.9681 |         | 2.55        | 2.50         | 2.0  | 40.0   |
| 8:2FTS                                                     | AveID      | 1.256   | 1.208  |         | 2.30        | 2.40         | -3.8 | 40.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9858  | 0.9836 |         | 2.49        | 2.50         | -0.2 | 40.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.059   | 1.027  |         | 2.43        | 2.50         | -3.0 | 40.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.5921  | 0.6629 |         | 2.70        | 2.41         | 12.0 | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9653  | 0.9947 |         | 2.58        | 2.50         | 3.0  | 40.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9369  | 0.8871 |         | 2.37        | 2.50         | -5.3 | 40.0   |
| MeFOSA                                                     | AveID      | 0.9651  | 1.004  |         | 2.60        | 2.50         | 4.0  | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9929  | 0.9795 |         | 2.47        | 2.50         | -1.4 | 40.0   |
| N-EtFOSA-M                                                 | AveID      | 1.084   | 1.048  |         | 2.42        | 2.50         | -3.3 | 40.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.078   | 1.216  |         | 2.82        | 2.50         | 12.9 | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2545  | 0.2582 |         | 2.54        | 2.50         | 1.5  | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 0.9057 |         | 2.63        | 2.50         | 5.2  | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.075   | 1.031  |         | 2.40        | 2.50         | -4.0 | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.731   | 1.613  |         | 2.33        | 2.50         | -6.8 | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 1.009   | 0.9511 |         | 2.36        | 2.50         | -5.7 | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0219  | 0.0205 |         | 2.18        | 2.33         | -6.4 | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 1.085   | 1.008  |         | 2.32        | 2.50         | -7.1 | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 1.007   | 0.9427 |         | 2.34        | 2.50         | -6.4 | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 320-201601/3 Calibration Date: 12/27/2017 20:05  
 Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58  
 Lab File ID: 2017.12.27LLA\_053.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 18O2 PFHxS   | Ave           | 1.278   | 1.206  |         | 2.23           | 2.37            | -5.7  | 50.0      |
| M2-6:2FTS    | Ave           | 0.1910  | 0.1906 |         | 2.37           | 2.38            | -0.2  | 40.0      |
| 13C4 PFOA    | Ave           | 1.028   | 1.011  |         | 2.46           | 2.50            | -1.6  | 50.0      |
| 13C4 PFOS    | Ave           | 0.8476  | 0.7795 |         | 2.20           | 2.39            | -8.0  | 50.0      |
| 13C5 PFNA    | Ave           | 0.8211  | 0.8045 |         | 2.45           | 2.50            | -2.0  | 50.0      |
| 13C8 FOSA    | Ave           | 1.146   | 1.107  |         | 2.41           | 2.50            | -3.4  | 50.0      |
| M2-8:2FTS    | Ave           | 0.2097  | 0.2156 |         | 2.46           | 2.40            | 2.8   | 40.0      |
| 13C2 PFDA    | Ave           | 0.6674  | 0.6630 |         | 2.48           | 2.50            | -0.6  | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3450  | 0.3364 |         | 2.44           | 2.50            | -2.5  | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3516  | 0.3316 |         | 2.36           | 2.50            | -5.7  | 50.0      |
| 13C2 PFUnA   | Ave           | 0.5052  | 0.4899 |         | 2.42           | 2.50            | -3.0  | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.3256  | 0.2922 |         | 2.24           | 2.50            | -10.3 | 50.0      |
| 13C2 PFDoA   | Ave           | 0.5489  | 0.5510 |         | 2.51           | 2.50            | 0.4   | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.3100  | 0.2906 |         | 2.34           | 2.50            | -6.2  | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5969  | 0.5875 |         | 2.46           | 2.50            | -1.6  | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.094   | 1.105  |         | 2.53           | 2.50            | 1.0   | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\2017.12.27LLA\_053.d  
 Lims ID: CCV L5  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 27-Dec-2017 20:05:31 ALS Bottle#: 14 Worklist Smp#: 3  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCV L5  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 28-Dec-2017 08:57:42 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK055

First Level Reviewer: hannigana

Date: 28-Dec-2017 08:57:42

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433  | -0.001 | 0.537  | 7644317  | 2.33         |                   | 93.2 | 25571 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.432 | 1.434  | -0.002 | 1.000  | 7174064  | 2.57         |                   | 103  | 1352  |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.688 | 1.691  | -0.003 | 1.000  | 4908365  | 2.43         |                   | 97.1 | 4420  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.688 | 1.692  | -0.004 | 0.633  | 4508289  | 2.36         |                   | 94.3 | 44076 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.723 | 1.725  | -0.002 | 0.647  | 90231    | 2.18         |                   | 93.6 | 4107  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.723 | 1.730  | -0.007 | 1.000  | 6564898  | 2.26         |                   | 102  | 22853 |       |
| 298.90 > 99.00                        | 1.723 | 1.730  | -0.007 | 1.000  | 2794646  |              | 2.35(1.25-3.74)   |      | 15987 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.933 | 1.941  | -0.008 | 1.000  | 1411228  | 2.26         |                   | 97.0 | 50654 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.974 | 1.976  | -0.002 | 0.741  | 4778535  | 2.32         |                   | 92.9 | 41650 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.974 | 1.979  | -0.005 | 1.000  | 5020880  | 2.63         |                   | 105  | 12089 |       |
| 313.00 > 119.00                       | 1.974 | 1.979  | -0.005 | 1.000  | 429217   |              | 11.70(5.03-15.10) |      | 9394  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.304 | 2.311  | -0.007 | 0.864  | 4468425  | 2.34         |                   | 93.6 | 25283 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.304 | 2.311  | -0.007 | 1.000  | 4863571  | 2.60         |                   | 104  | 7344  |       |
| 363.00 > 169.00                       | 2.304 | 2.311  | -0.007 | 1.000  | 1921702  |              | 2.53(1.13-3.40)   |      | 15141 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.317 | 2.324  | -0.007 | 1.000  | 5535796  | 2.22         |                   | 97.4 | 12374 |       |
| 399.00 > 99.00                        | 2.317 | 2.324  | -0.007 | 1.000  | 1771445  |              | 3.13(1.50-4.49)   |      | 7699  |       |



| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.317 | 2.328  | -0.011 | 0.869  | 5406539  | 2.23         |                 | 94.3 | 34011 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.644 | 2.649  | -0.005 | 0.992  | 858304   | 2.37         |                 | 99.8 | 15965 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.644 | 2.651  | -0.007 | 1.000  | 1398858  | 2.31         |                 | 97.4 | 23428 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.665 | 2.674  | -0.009 | 1.000  | 4792105  | 2.46         |                 | 98.4 | 42389 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.665 | 2.676  | -0.011 |        | 4740190  | 2.50         |                 |      | 29356 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.665 | 2.677  | -0.012 | 1.000  | 5056186  | 2.49         |                 | 99.7 | 2702  |       |
| 413.00 > 169.00                       | 2.665 | 2.677  | -0.012 | 1.000  | 2744689  |              | 1.84(0.84-2.52) |      | 16961 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.672 | 2.683  | -0.011 | 1.000  | 4398568  | 2.43         |                 | 102  | 30642 |       |
| 449.00 > 99.00                        | 2.672 | 2.683  | -0.011 | 1.000  | 1185295  |              | 3.71(1.94-5.82) |      | 14134 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.039 | 3.048  | -0.009 | 1.140  | 3532356  | 2.20         |                 | 92.0 | 18822 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.039 | 3.050  | -0.011 | 1.000  | 3768923  | 2.38         |                 | 102  | 1127  |       |
| 499.00 > 99.00                        | 3.039 | 3.050  | -0.011 | 1.000  | 808435   |              | 4.66(2.31-6.93) |      | 1471  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.039 | 3.051  | -0.012 | 1.140  | 3813229  | 2.45         |                 | 98.0 | 26795 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.047 | 3.052  | -0.005 | 1.003  | 3869031  | 2.60         |                 | 104  | 6700  |       |
| 463.00 > 169.00                       | 3.047 | 3.052  | -0.005 | 1.003  | 913288   |              | 4.24(1.90-5.69) |      | 16512 |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.376 | 3.377  | -0.001 | 1.267  | 5246110  | 2.41         |                 | 96.6 | 35957 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.376 | 3.378  | -0.002 | 1.000  | 5078725  | 2.55         |                 | 102  | 35807 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.391 | 3.402  | -0.011 | 1.000  | 1182393  | 2.30         |                 | 96.2 | 24980 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.391 | 3.403  | -0.012 | 1.272  | 979055   | 2.46         |                 | 103  | 12383 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.407 | 3.414  | -0.007 | 1.278  | 3142903  | 2.48         |                 | 99.4 | 27703 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.407 | 3.414  | -0.007 | 1.000  | 3091353  | 2.49         |                 | 99.8 | 12964 |       |
| 513.00 > 169.00                       | 3.407 | 3.414  | -0.007 | 1.000  | 541962   |              | 5.70(2.36-7.09) |      | 2326  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.558 | 3.569  | -0.011 | 1.335  | 1594656  | 2.44         |                 | 97.5 | 18037 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.565 | 3.574  | -0.009 | 1.002  | 1638057  | 2.43         |                 | 97.0 | 7585  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.720 | 3.730  | -0.010 | 1.000  | 2361110  | 2.70         |                 | 112  | 31413 |       |
| 599.00 > 99.00                        | 3.720 | 3.730  | -0.010 | 1.000  | 773165   |              | 3.05(1.39-4.16) |      | 11457 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.729 | 3.740  | -0.011 | 1.399  | 1572021  | 2.36         |                 | 94.3 | 10845 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.738 | 3.746     | -0.008    | 1.000     | 2059865  | 2.37            |                 | 94.7 | 8848  |       |
| 563.00 > 169.00                       | 3.738 | 3.746     | -0.008    | 1.000     | 485571   |                 | 4.24(0.00-0.00) |      | 8121  |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.738 | 3.747     | -0.009    | 1.402     | 2321982  | 2.42            |                 | 97.0 | 28798 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.738 | 3.747     | -0.009    | 1.002     | 1563624  | 2.58            |                 | 103  | 13973 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.862 | 3.867     | -0.005    | 1.449     | 1384838  | 2.24            |                 | 89.7 | 3375  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.872 | 3.873     | -0.001    | 1.003     | 1389688  | 2.60            |                 | 104  | 2866  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.034 | 4.045     | -0.011    | 1.513     | 2612018  | 2.51            |                 | 100  | 30710 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.034 | 4.045     | -0.011    | 1.000     | 2558376  | 2.47            |                 | 98.6 | 7817  |       |
| 613.00 > 169.00                       | 4.034 | 4.045     | -0.011    | 1.000     | 640427   |                 | 3.99(2.13-6.40) |      | 13160 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.050 | 4.058     | -0.008    | 1.519     | 1377644  | 2.34            |                 | 93.8 | 2685  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.057 | 4.065     | -0.008    | 1.002     | 1443169  | 2.42            |                 | 96.7 | 2828  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.301 | 4.312     | -0.011    | 1.000     | 3177003  | 2.82            |                 | 113  | 8829  |       |
| 663.00 > 169.00                       | 4.294 | 4.312     | -0.018    | 0.998     | 977260   |                 | 3.25(1.25-3.76) |      | 27016 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.546 | 4.557     | -0.011    | 1.706     | 2784947  | 2.46            |                 | 98.4 | 18898 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.546 | 4.557     | -0.011    | 1.000     | 719120   | 2.54            |                 | 101  | 13644 |       |
| 713.00 > 219.00                       | 4.532 | 4.557     | -0.025    | 0.997     | 503147   |                 | 1.43(0.71-2.13) |      | 12325 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.970 | 4.984     | -0.014    | 1.865     | 5238886  | 2.53            |                 | 101  | 16785 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.970 | 4.984     | -0.014    | 1.000     | 4744685  | 2.63            |                 | 105  | 2734  |       |
| 813.00 > 169.00                       | 4.970 | 4.984     | -0.014    | 1.000     | 837649   |                 | 5.66(2.86-8.58) |      | 8813  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.341 | 5.361     | -0.020    | 1.000     | 5403568  | 2.40            |                 | 96.0 | 1262  |       |
| 913.00 > 169.00                       | 5.341 | 5.361     | -0.020    | 1.000     | 684631   |                 | 7.89(0.00-0.00) |      | 3036  |       |

## Reagents:

LCPFC\_LL5\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b\2017.12.27LLA\_053.d

Injection Date: 27-Dec-2017 20:05:31

Instrument ID: A8\_N

Lims ID: CCV L5

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 14

Worklist Smp#: 3

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

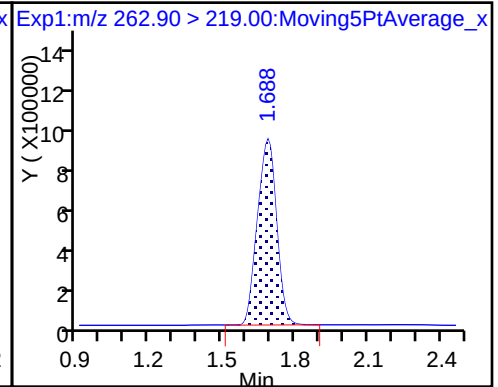
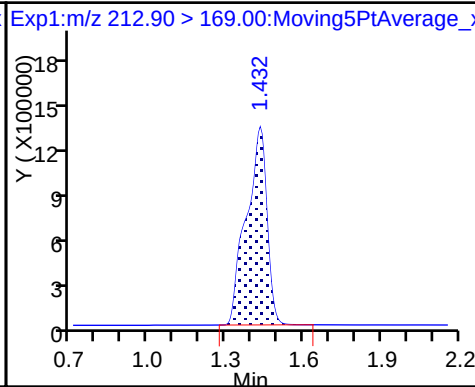
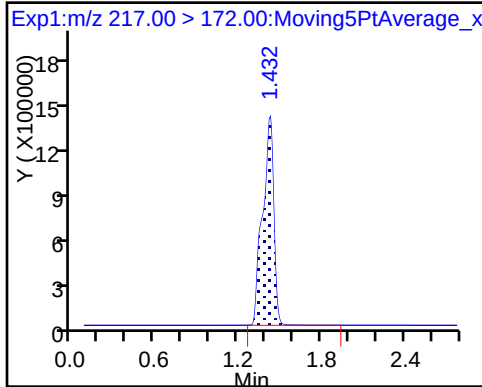
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

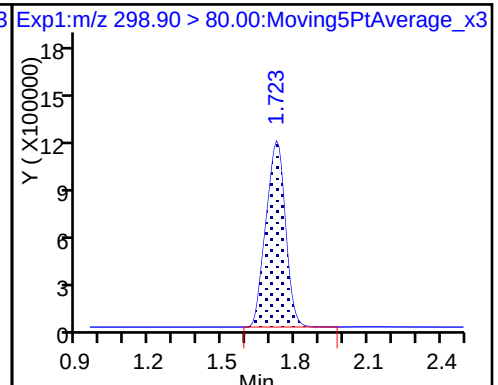
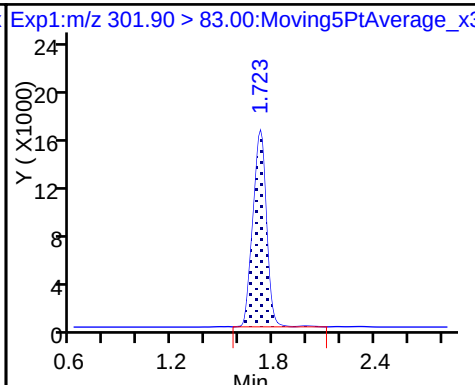
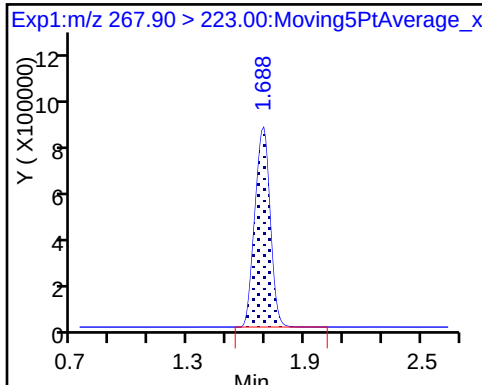
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

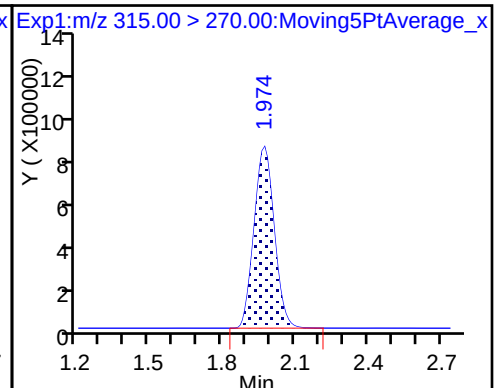
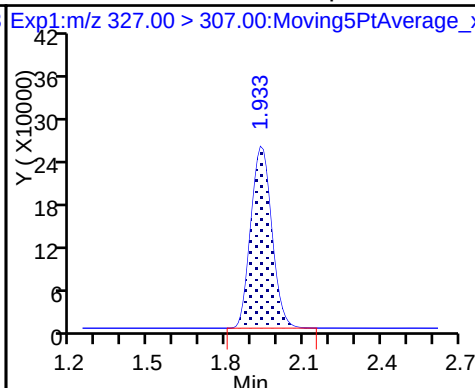
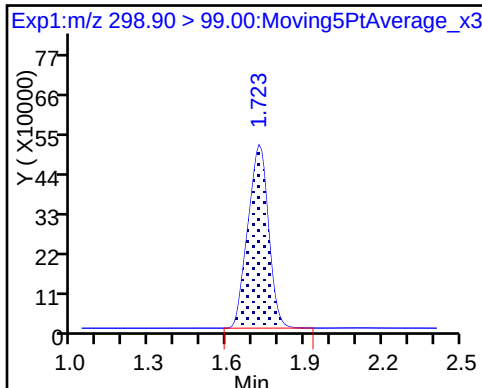
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

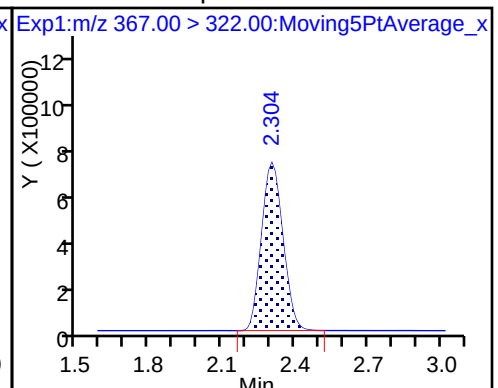
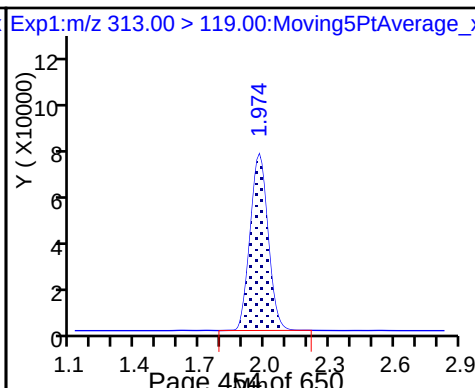
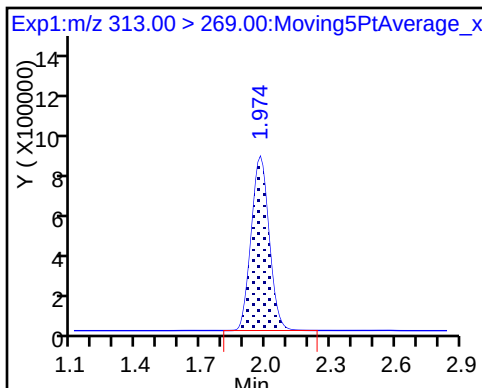
De 7 13C2 PFHxA



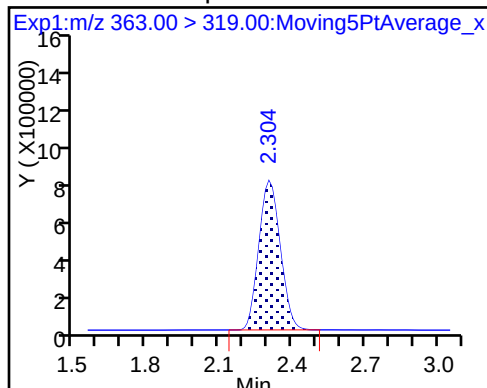
6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

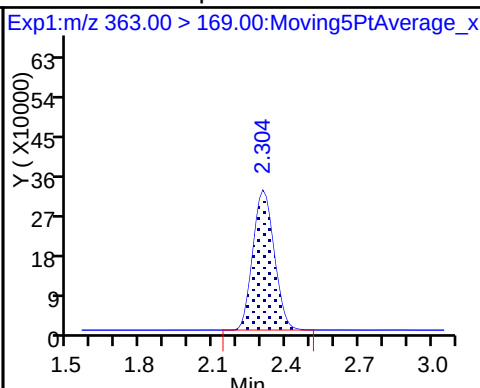
D 9 13C4-PFHpA



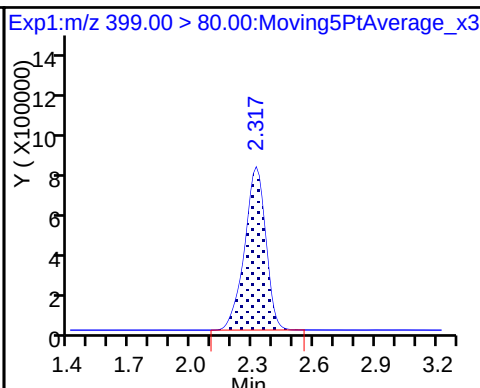
10 Perfluoroheptanoic acid



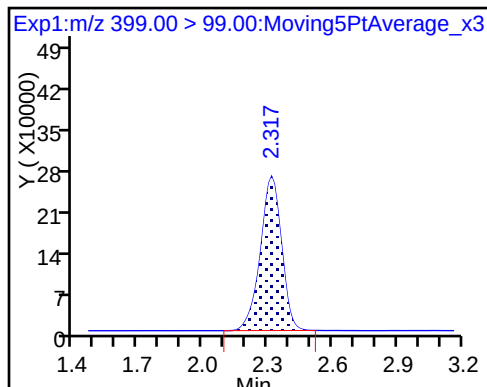
10 Perfluoroheptanoic acid



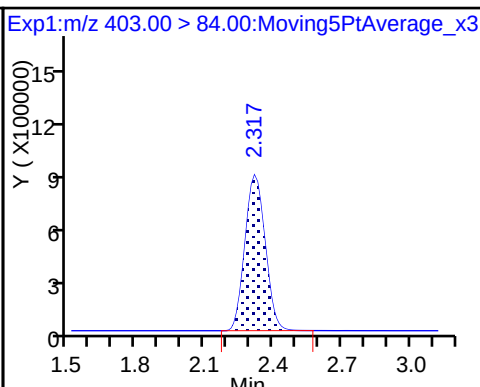
8 Perfluorohexanesulfonic acid



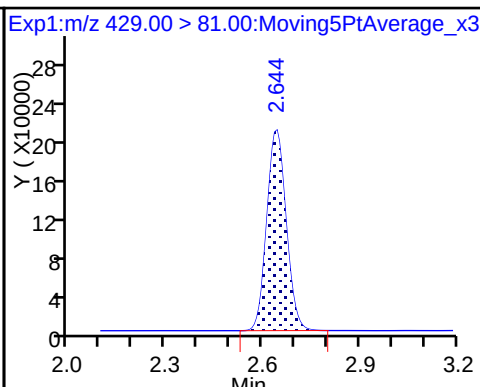
8 Perfluorohexanesulfonic acid



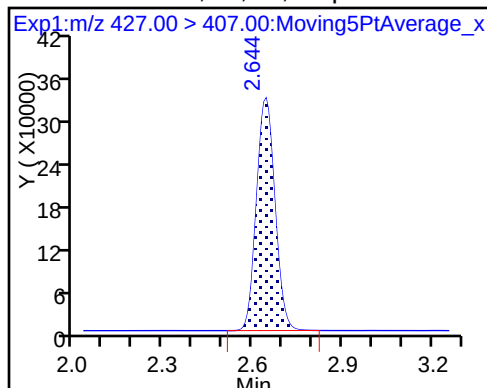
D 11 18O2 PFHxS



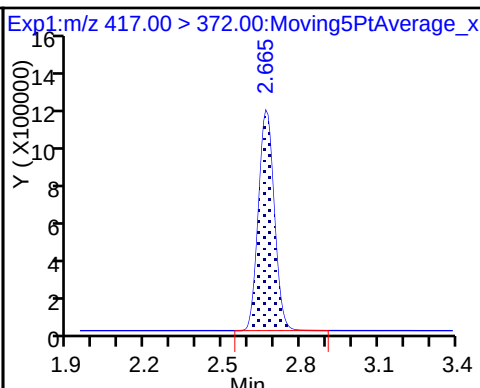
D 12 M2-6:2FTS



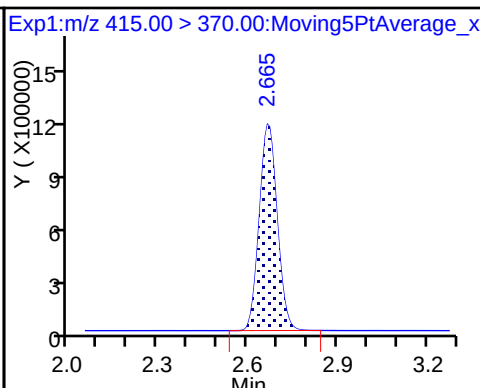
13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate



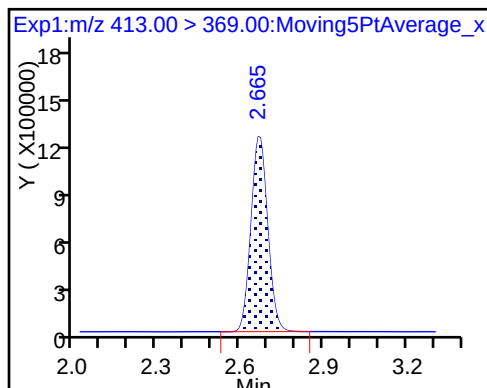
D 14 13C4 PFOA



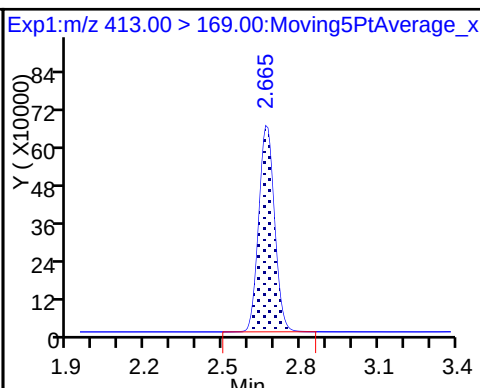
\* 62 13C2-PFOA



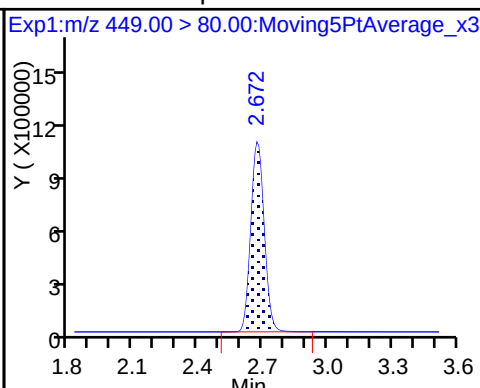
15 Perfluorooctanoic acid



15 Perfluorooctanoic acid



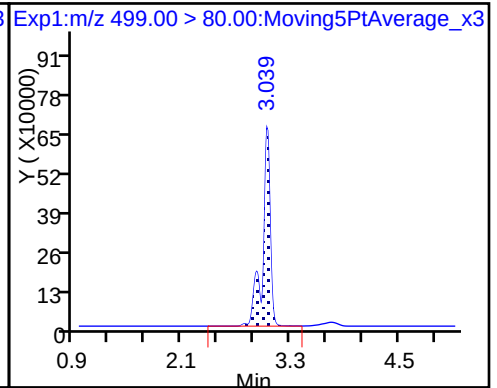
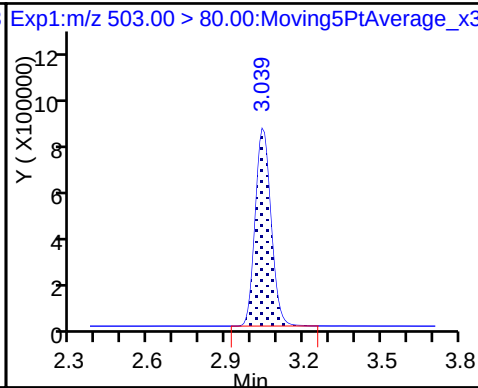
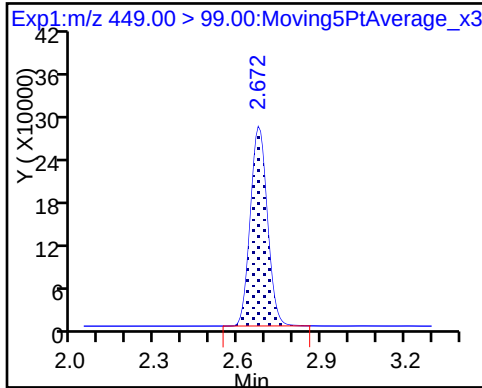
16 Perfluoroheptanesulfonic Acid



16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

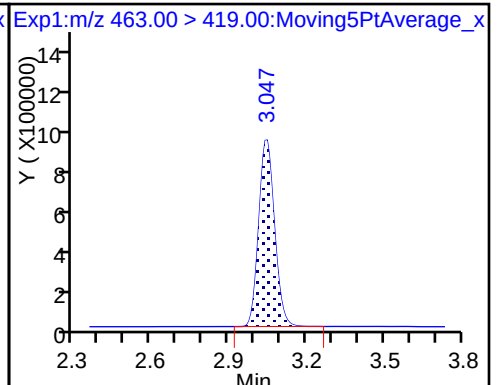
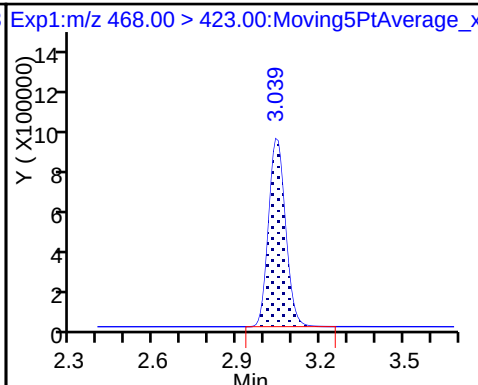
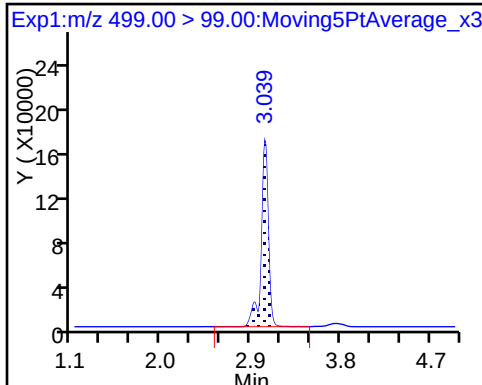
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

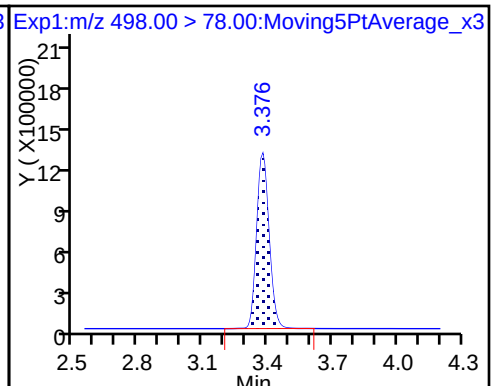
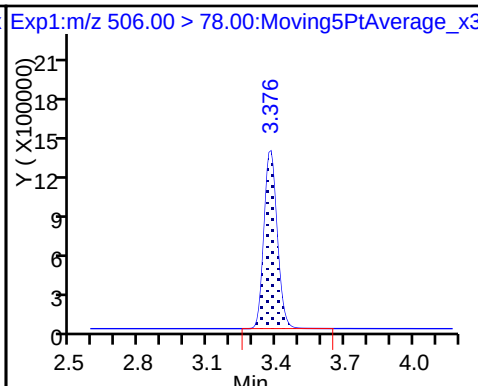
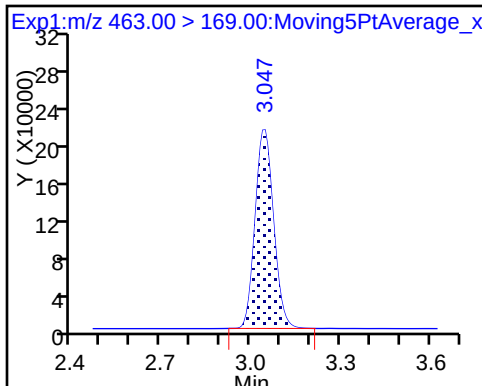
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

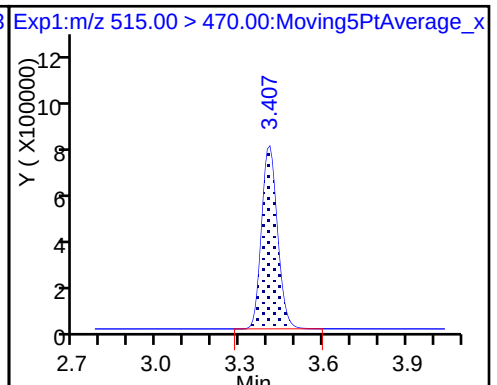
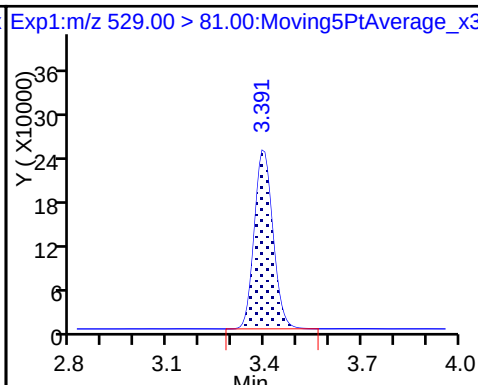
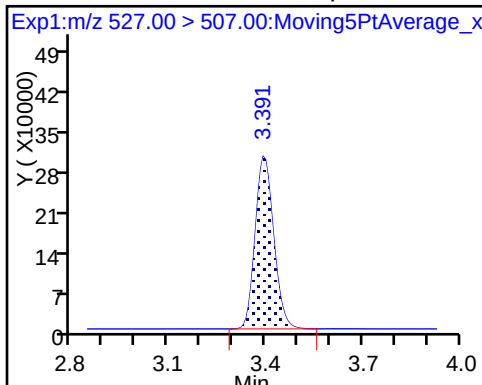
22 Perfluorooctane Sulfonamide



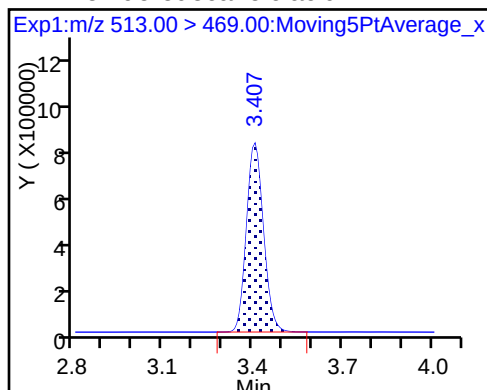
25 Sodium 1H,1H,2H,2H-perfluorodeca

De26 M2-8:2FTS

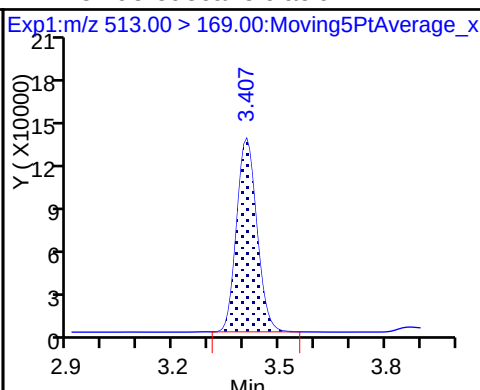
D 23 13C2 PFDA



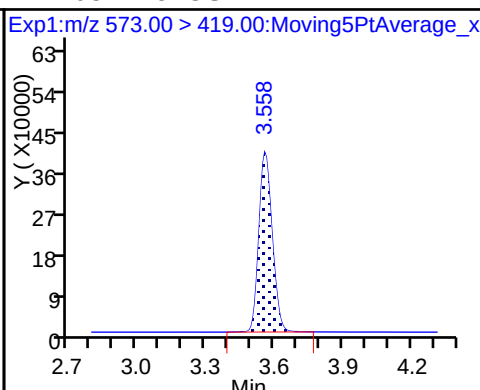
24 Perfluorodecanoic acid



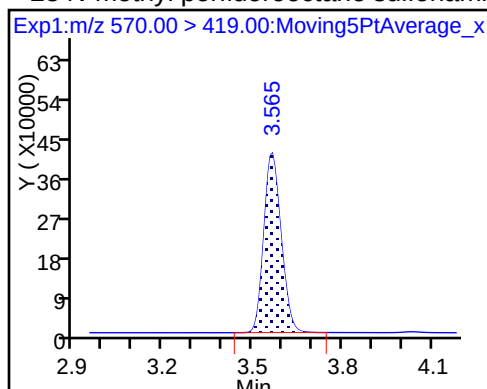
24 Perfluorodecanoic acid



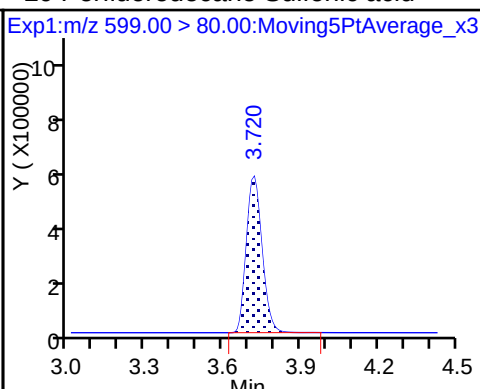
D 27 d3-NMeFOSAA



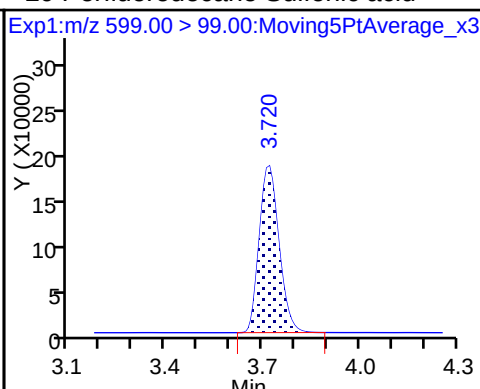
28 N-methyl perfluorooctane sulfonami



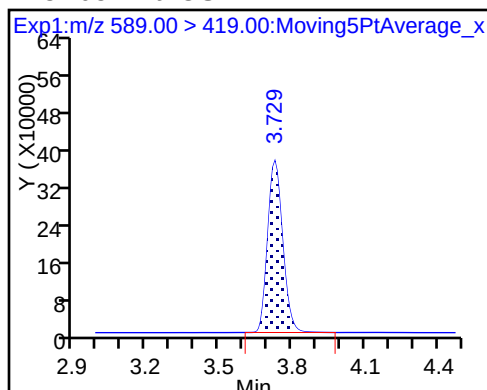
29 Perfluorodecane Sulfonic acid



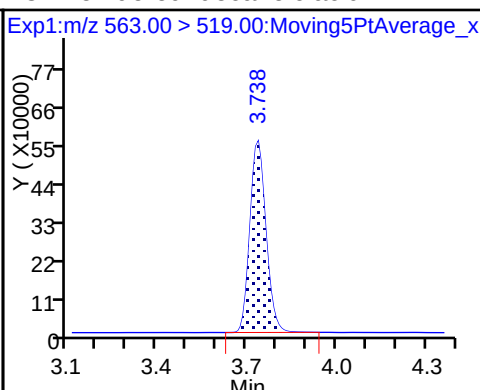
29 Perfluorodecane Sulfonic acid



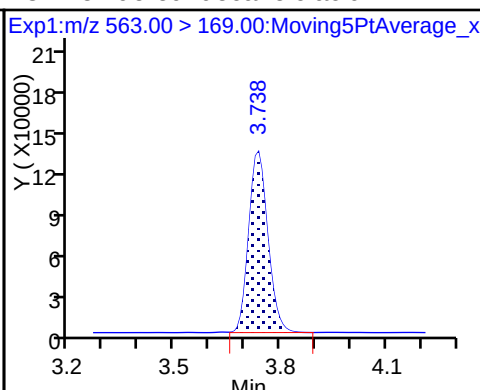
D 32 d5-NEtFOSAA



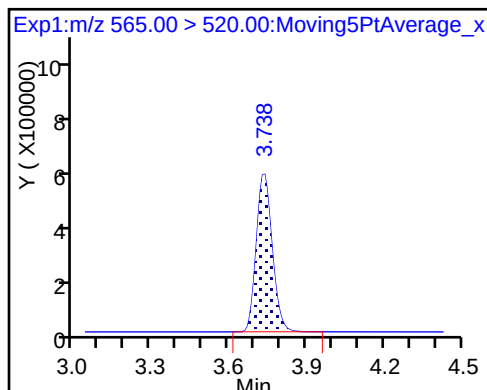
31 Perfluoroundecanoic acid



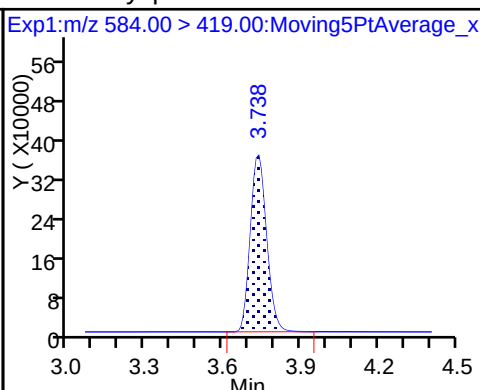
31 Perfluoroundecanoic acid



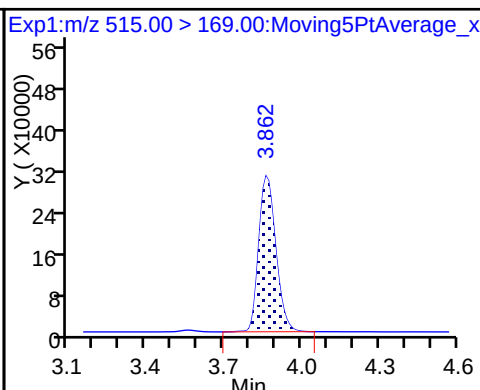
D 30 13C2 PFUnA



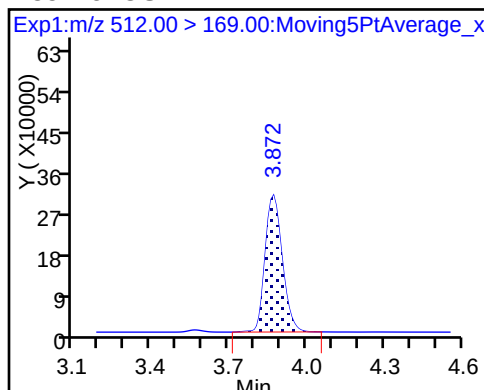
33 N-ethyl perfluorooctane sulfonamid



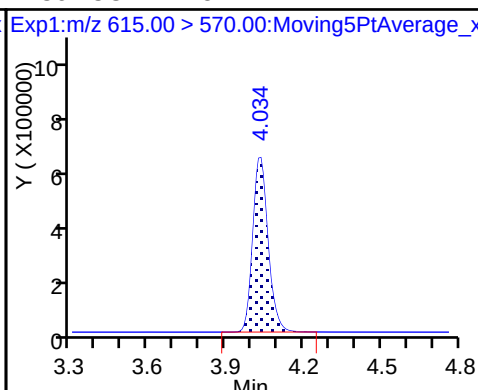
D 34 d-N-MeFOSA-M



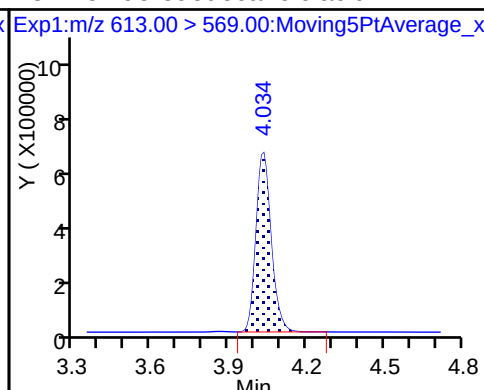
35 MeFOSA



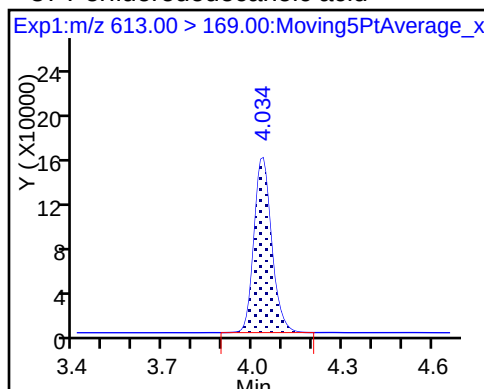
D 36 13C2 PFDaA



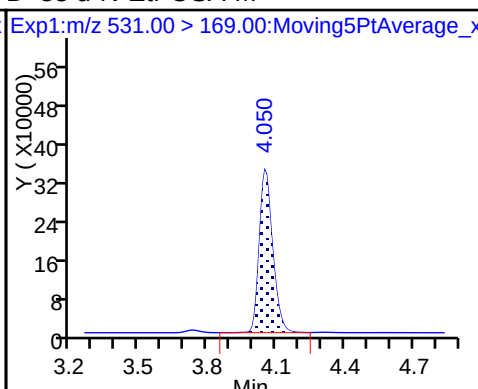
37 Perfluorododecanoic acid



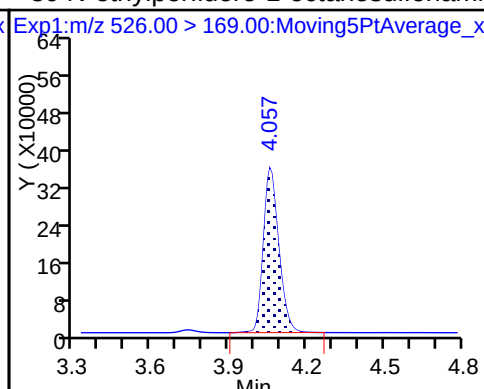
37 Perfluorododecanoic acid



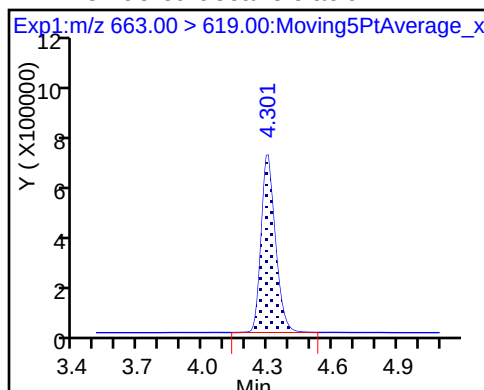
D 38 d-N-EtFOSA-M



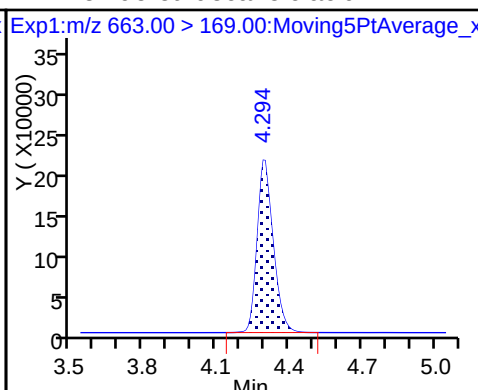
39 N-ethylperfluoro-1-octanesulfonami



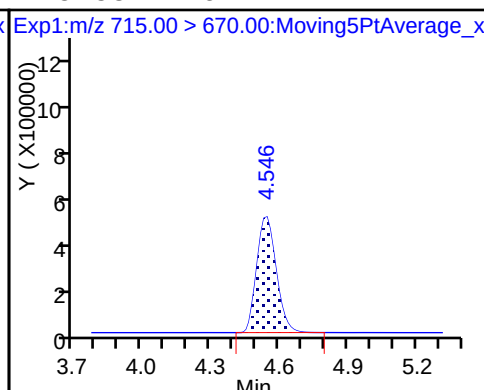
41 Perfluorotridecanoic acid



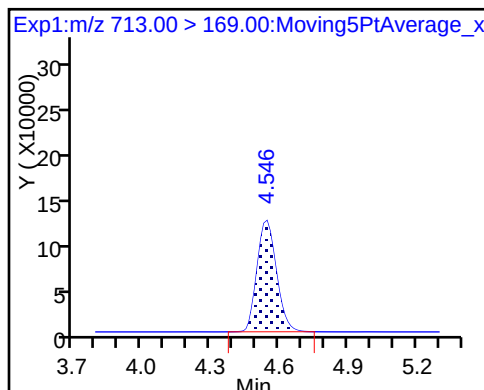
41 Perfluorotridecanoic acid



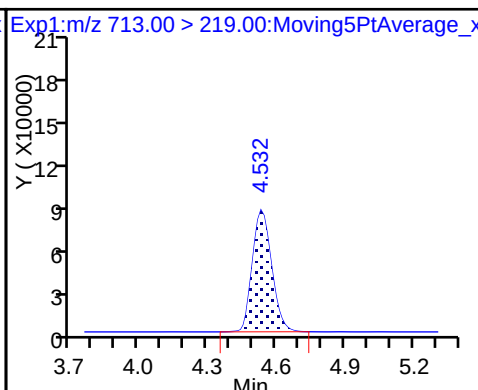
D 43 13C2-PFTeDA



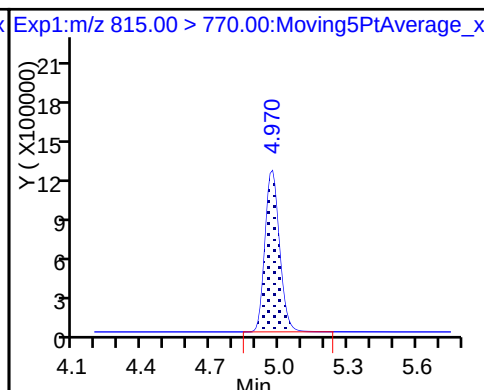
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



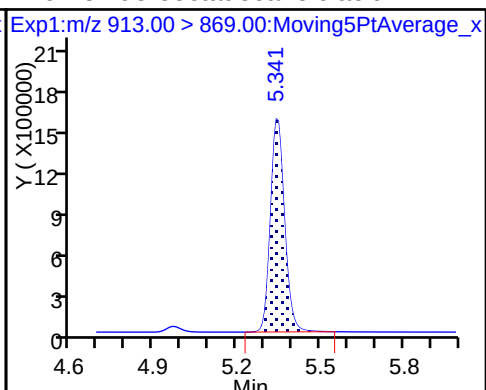
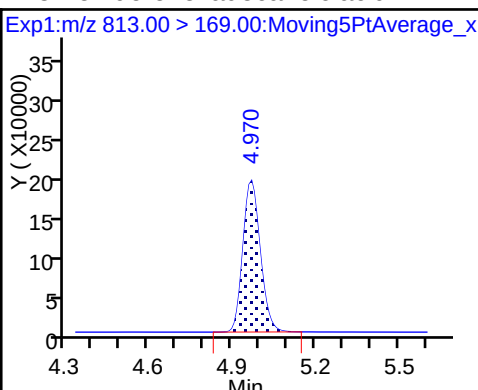
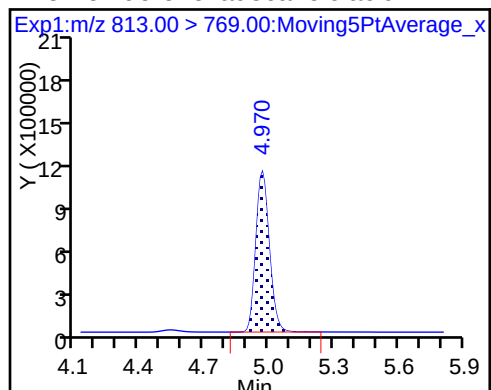
D 44 13C2-PFHxDA



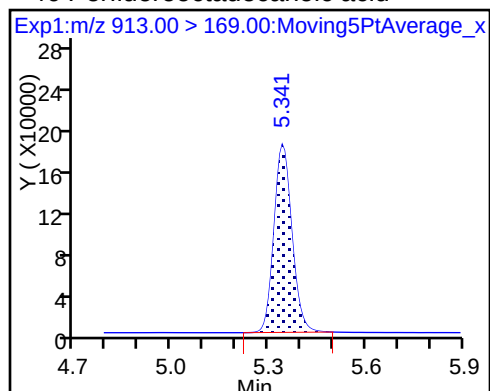
## 45 Perfluorohexadecanoic acid

## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid



## 46 Perfluorooctadecanoic acid





FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCVL 320-201620/1 Calibration Date: 12/28/2017 10:37

Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.28LLA\_005.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D    | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9135  | 0.9506 |         | 0.0520      | 0.0500       | 4.1   | 50.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.122   | 1.170  |         | 0.0521      | 0.0500       | 4.3   | 50.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 74.84   | 76.98  |         | 0.0455      | 0.0442       | 2.9   | 50.0   |
| 4:2 FTS                                                    | AveID      | 1.724   | 1.548  |         | 0.419       | 0.467        | -10.2 |        |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 0.999   | 1.057  |         | 0.0529      | 0.0500       | 5.8   | 50.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 1.057  |         | 0.0506      | 0.0500       | 1.1   | 50.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.093   | 1.083  |         | 0.0451      | 0.0455       | -0.9  | 50.0   |
| 6:2FTS                                                     | AveID      | 1.677   | 2.258  |         | 0.638       | 0.474        | 34.7  | 50.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.059   | 1.221  |         | 0.0577      | 0.0500       | 15.4  | 50.0   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | AveID      | 1.227   | 1.217  |         | 0.0472      | 0.0476       | -0.8  | 50.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 0.9743  | 1.011  |         | 0.0519      | 0.0500       | 3.7   | 50.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.073   | 1.054  |         | 0.0456      | 0.0464       | -1.8  | 50.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9492  | 0.9928 |         | 0.0523      | 0.0500       | 4.6   | 50.0   |
| 8:2FTS                                                     | AveID      | 1.256   | 1.289  |         | 0.492       | 0.479        | 2.7   | 50.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9858  | 1.004  |         | 0.0509      | 0.0500       | 1.8   | 50.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.059   | 1.053  |         | 0.497       | 0.500        | -0.5  | 50.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.5921  | 0.6249 |         | 0.0509      | 0.0482       | 5.5   | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9653  | 0.8996 |         | 0.466       | 0.500        | -6.8  | 50.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9369  | 0.8651 |         | 0.0462      | 0.0500       | -7.7  | 50.0   |
| MeFOSA                                                     | AveID      | 0.9651  | 1.000  |         | 0.750       | 0.500        | 3.6   | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9929  | 1.007  |         | 0.0507      | 0.0500       | 1.4   | 50.0   |
| N-EtFOSA-M                                                 | AveID      | 1.084   | 1.017  |         | 1.00        | 0.500        | -6.2  | 50.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.078   | 1.184  |         | 0.0549      | 0.0500       | 9.9   | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2545  | 0.2416 |         | 0.0475      | 0.0500       | -5.1  | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 1.332  |         | 0.0548      | 0.0500       | 9.6   | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.075   | 1.034  |         | 0.0481      | 0.0500       | -3.7  | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.731   | 1.708  |         | 2.47        | 2.50         | -1.3  | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 1.009   | 1.019  |         | 2.53        | 2.50         | 1.0   | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0219  | 0.0218 |         | 2.32        | 2.33         | -0.1  | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 1.085   | 1.061  |         | 2.45        | 2.50         | -2.2  | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 1.007   | 1.043  |         | 2.59        | 2.50         | 3.6   | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 320-201620/1 Calibration Date: 12/28/2017 10:37  
 Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58  
 Lab File ID: 2017.12.28LLA\_005.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 18O2 PFHxS   | Ave           | 1.278   | 1.360  |         | 2.52           | 2.37            | 6.4   | 50.0      |
| M2-6:2FTS    | Ave           | 0.1910  | 0.1848 |         | 2.30           | 2.38            | -3.2  | 50.0      |
| 13C4 PFOA    | Ave           | 1.028   | 1.032  |         | 2.51           | 2.50            | 0.4   | 50.0      |
| 13C4 PFOS    | Ave           | 0.8476  | 0.8497 |         | 2.40           | 2.39            | 0.2   | 50.0      |
| 13C5 PFNA    | Ave           | 0.8211  | 0.8191 |         | 2.49           | 2.50            | -0.2  | 50.0      |
| 13C8 FOSA    | Ave           | 1.146   | 1.164  |         | 2.54           | 2.50            | 1.6   | 50.0      |
| M2-8:2FTS    | Ave           | 0.2097  | 0.1756 |         | 2.01           | 2.40            | -16.3 | 50.0      |
| 13C2 PFDA    | Ave           | 0.6674  | 0.6391 |         | 2.39           | 2.50            | -4.2  | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3450  | 0.3249 |         | 2.35           | 2.50            | -5.8  | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3516  | 0.3443 |         | 2.45           | 2.50            | -2.1  | 50.0      |
| 13C2 PFUnA   | Ave           | 0.5052  | 0.5343 |         | 2.64           | 2.50            | 5.8   | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.3256  | 0.3212 |         | 2.47           | 2.50            | -1.4  | 50.0      |
| 13C2 PFDoA   | Ave           | 0.5489  | 0.5601 |         | 2.55           | 2.50            | 2.0   | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.3100  | 0.3031 |         | 2.44           | 2.50            | -2.2  | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5969  | 0.6066 |         | 2.54           | 2.50            | 1.6   | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.094   | 1.135  |         | 2.59           | 2.50            | 3.8   | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52215.b\2017.12.28LLA\_005.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 28-Dec-2017 10:37:00 ALS Bottle#: 21 Worklist Smp#: 1  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCVL  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52215.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 09:06:37 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 08:58:31

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.436 | 1.433  | 0.003  | 0.540  | 7363537  | 2.47         |                   | 98.7 | 18900 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.436 | 1.434  | 0.002  | 1.000  | 139989   | 0.0520       |                   | 104  | 25.1  |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.694 | 1.691  | 0.003  | 1.005  | 102784   | 0.0521       |                   | 104  | 121   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.685 | 1.692  | -0.007 | 0.633  | 4393966  | 2.53         |                   | 101  | 40566 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.720 | 1.725  | -0.005 | 0.647  | 87540    | 2.32         |                   | 99.9 | 3246  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.720 | 1.730  | -0.010 | 1.000  | 128102   | 0.0455       |                   | 103  | 604   |       |
| 298.90 > 99.00                        | 1.720 | 1.730  | -0.010 | 1.000  | 55273    |              | 2.32(1.25-3.74)   |      | 387   |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.939 | 1.941  | -0.002 | 1.000  | 230412   | 0.4193       |                   | 89.8 | 10311 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.970 | 1.976  | -0.006 | 0.740  | 4573845  | 2.45         |                   | 97.8 | 44818 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.970 | 1.979  | -0.009 | 1.000  | 96683    | 0.0529       |                   | 106  | 223   |       |
| 313.00 > 119.00                       | 1.970 | 1.979  | -0.009 | 1.000  | 9178     |              | 10.53(5.03-15.10) |      | 221   |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.299 | 2.311  | -0.012 | 0.864  | 4496457  | 2.59         |                   | 104  | 23711 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.299 | 2.311  | -0.012 | 1.000  | 95088    | 0.0506       |                   | 101  | 196   |       |
| 363.00 > 169.00                       | 2.299 | 2.311  | -0.012 | 1.000  | 32663    |              | 2.91(1.13-3.40)   |      | 256   |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.312 | 2.324  | -0.012 | 1.000  | 115562   | 0.0451       |                   | 99.1 | 785   |       |
| 399.00 > 99.00                        | 2.312 | 2.324  | -0.012 | 1.000  | 41819    |              | 2.76(1.50-4.49)   |      | 369   |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.312 | 2.328  | -0.016 | 0.869  | 5547976  | 2.52         |                 | 106  | 34981 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.633 | 2.649  | -0.016 | 0.989  | 756869   | 2.30         |                 | 96.8 | 18277 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.640 | 2.651  | -0.011 | 1.003  | 341146   | 0.6384       |                 | 135  | 10182 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.661 | 2.674  | -0.013 | 1.000  | 4448661  | 2.51         |                 | 100  | 29194 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.661 | 2.676  | -0.015 |        | 4311231  | 2.50         |                 |      | 29634 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.661 | 2.677  | -0.016 | 1.000  | 108654   | 0.0577       |                 | 115  | 129   |       |
| 413.00 > 169.00                       | 2.661 | 2.677  | -0.016 | 1.000  | 56064    |              | 1.94(0.84-2.52) |      | 454   |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.668 | 2.683  | -0.015 | 1.000  | 84860    | 0.0472       |                 | 99.2 | 2240  |       |
| 449.00 > 99.00                        | 2.668 | 2.683  | -0.015 | 1.000  | 25373    |              | 3.34(1.94-5.82) |      | 983   |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.036 | 3.048  | -0.012 | 1.141  | 3501920  | 2.40         |                 | 100  | 24771 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.036 | 3.050  | -0.014 | 1.000  | 71636    | 0.0456       |                 | 98.2 | 26.5  |       |
| 499.00 > 99.00                        | 3.036 | 3.050  | -0.014 | 1.000  | 18098    |              | 3.96(2.31-6.93) |      | 34.2  |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.036 | 3.051  | -0.015 | 1.141  | 3531344  | 2.49         |                 | 99.8 | 31192 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.036 | 3.052  | -0.016 | 1.000  | 71384    | 0.0519       |                 | 104  | 252   |       |
| 463.00 > 169.00                       | 3.036 | 3.052  | -0.016 | 1.000  | 16532    |              | 4.32(1.90-5.69) |      | 468   |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.373 | 3.377  | -0.004 | 1.267  | 5019239  | 2.54         |                 | 102  | 33456 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.373 | 3.378  | -0.005 | 1.000  | 99661    | 0.0523       |                 | 105  | 4211  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.388 | 3.402  | -0.014 | 1.000  | 186955   | 0.4918       |                 | 103  | 6729  |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.388 | 3.403  | -0.015 | 1.273  | 725089   | 2.01         |                 | 83.7 | 13037 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.396 | 3.414  | -0.018 | 1.276  | 2755092  | 2.39         |                 | 95.8 | 29081 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.403 | 3.414  | -0.011 | 1.002  | 55303    | 0.0509       |                 | 102  | 323   |       |
| 513.00 > 169.00                       | 3.403 | 3.414  | -0.011 | 1.002  | 10023    |              | 5.52(2.36-7.09) |      | 183   |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.555 | 3.569  | -0.014 | 1.336  | 1400641  | 2.35         |                 | 94.2 | 19533 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.562 | 3.574  | -0.012 | 1.002  | 294983   | 0.4973       |                 | 99.5 | 2432  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.716 | 3.730  | -0.014 | 1.000  | 44135    | 0.0509       |                 | 106  | 1801  |       |
| 599.00 > 99.00                        | 3.716 | 3.730  | -0.014 | 1.000  | 15956    |              | 2.77(1.39-4.16) |      | 479   |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.725 | 3.740  | -0.015 | 1.400  | 1484486  | 2.45         |                 | 97.9 | 5697  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.734 | 3.746  | -0.012 | 1.000  | 39853    | 0.0462       |                 | 92.3 | 289   |       |
| 563.00 > 169.00                       | 3.734 | 3.746  | -0.012 | 1.000  | 10514    |              | 3.79(0.00-0.00) |      | 708   |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.734 | 3.747  | -0.013 | 1.403  | 2303499  | 2.64         |                 | 106  | 28696 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.734 | 3.747  | -0.013 | 1.002  | 267097   | 0.4660       |                 | 93.2 | 5726  |       |
| D 34 d-N-MeFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 169.00                       | 3.867 | 3.867  | 0.0    | 1.453  | 1384535  | 2.47         |                 | 98.6 | 3887  |       |
| 35 MeFOSA                             |       |        |        |        |          |              |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.873  | 0.004  | 1.003  | 276996   | 0.5182       |                 | 104  | 2915  |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.030 | 4.045  | -0.015 | 1.514  | 2414621  | 2.55         |                 | 102  | 40377 |       |
| 37 Perfluorododecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 613.00 > 569.00                       | 4.030 | 4.045  | -0.015 | 1.000  | 48643    | 0.0507       |                 | 101  | 179   |       |
| 613.00 > 169.00                       | 4.030 | 4.045  | -0.015 | 1.000  | 8898     |              | 5.47(2.13-6.40) |      | 381   |       |
| D 38 d-N-EtFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 531.00 > 169.00                       | 4.061 | 4.058  | 0.003  | 1.526  | 1306504  | 2.44         |                 | 97.8 | 2823  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |        |        |        |          |              |                 |      |       |       |
| 526.00 > 169.00                       | 4.069 | 4.065  | 0.004  | 1.002  | 265727   | 0.4692       |                 | 93.8 | 2689  |       |
| 41 Perfluorotridecanoic acid          |       |        |        |        |          |              |                 |      |       |       |
| 663.00 > 619.00                       | 4.296 | 4.312  | -0.016 | 1.000  | 57172    | 0.0549       |                 | 110  | 326   |       |
| 663.00 > 169.00                       | 4.296 | 4.312  | -0.016 | 1.000  | 20528    |              | 2.79(1.25-3.76) |      | 1150  |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.542 | 4.557  | -0.015 | 1.707  | 2614980  | 2.54         |                 | 102  | 22365 |       |
| 42 Perfluorotetradecanoic acid        |       |        |        |        |          |              |                 |      |       |       |
| 713.00 > 169.00                       | 4.542 | 4.557  | -0.015 | 1.000  | 12636    | 0.0475       |                 | 94.9 | 545   |       |
| 713.00 > 219.00                       | 4.528 | 4.557  | -0.029 | 0.997  | 10560    |              | 1.20(0.71-2.13) |      | 459   |       |
| D 44 13C2-PFHxDA                      |       |        |        |        |          |              |                 |      |       |       |
| 815.00 > 770.00                       | 4.959 | 4.984  | -0.025 | 1.863  | 4894265  | 2.59         |                 | 104  | 13920 |       |
| 45 Perfluorohexadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 813.00 > 769.00                       | 4.959 | 4.984  | -0.025 | 1.000  | 130426   | 0.0548       |                 | 110  | 106   |       |
| 813.00 > 169.00                       | 4.959 | 4.984  | -0.025 | 1.000  | 23845    |              | 5.47(2.86-8.58) |      | 941   |       |
| 46 Perfluorooctadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 913.00 > 869.00                       | 5.332 | 5.361  | -0.029 | 1.000  | 101261   | 0.0481       |                 | 96.3 | 44.8  |       |
| 913.00 > 169.00                       | 5.332 | 5.361  | -0.029 | 1.000  | 12940    |              | 7.83(0.00-0.00) |      | 284   |       |

## Reagents:

LCPFC\_CCVL\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52215.b\2017.12.28LLA\_005.d

Injection Date: 28-Dec-2017 10:37:00

Instrument ID: A8\_N

Lims ID: CCVL

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 21

Worklist Smp#: 1

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

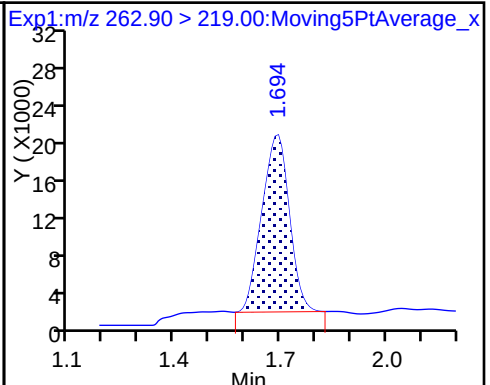
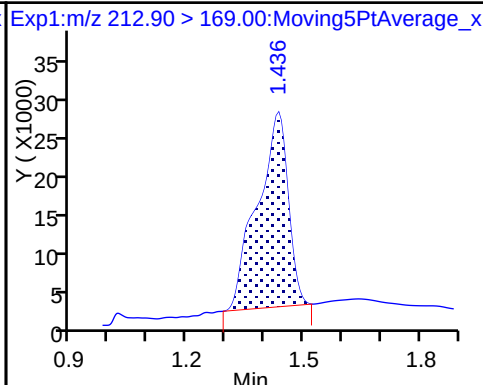
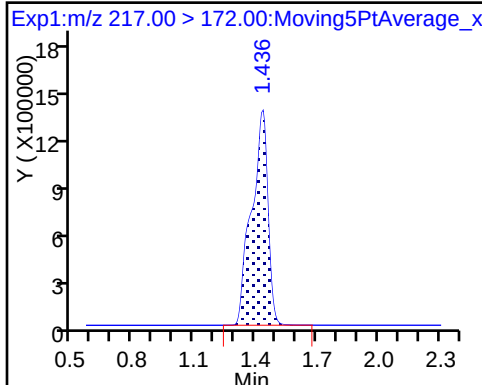
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

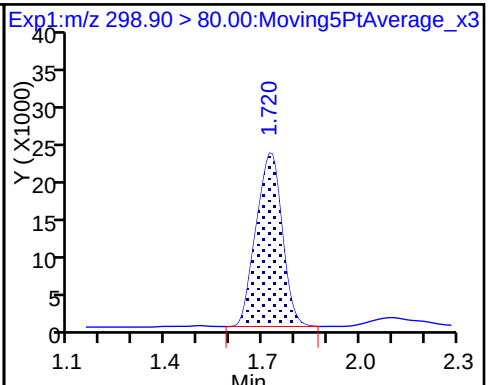
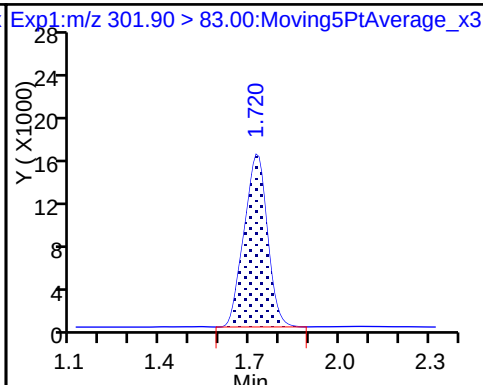
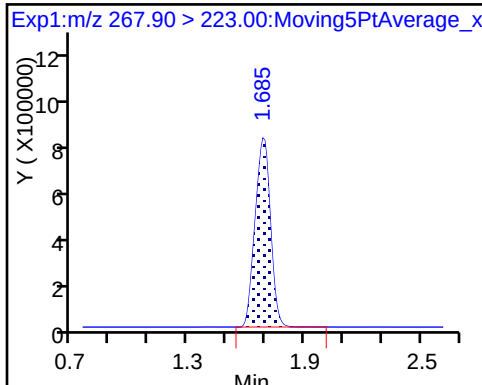
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

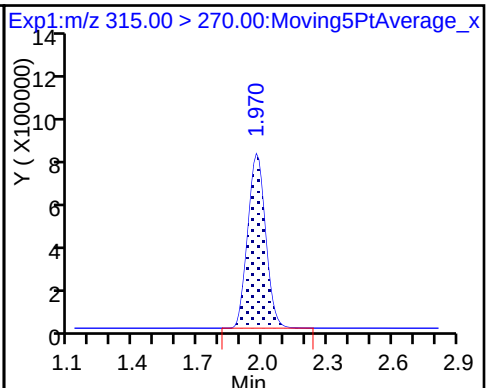
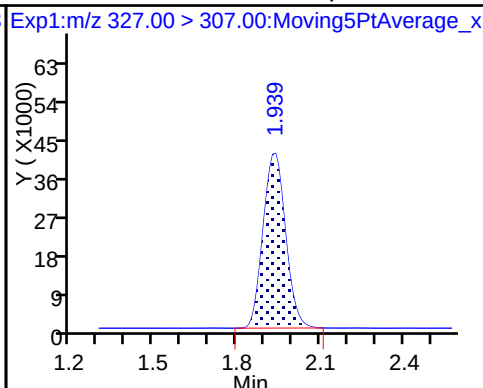
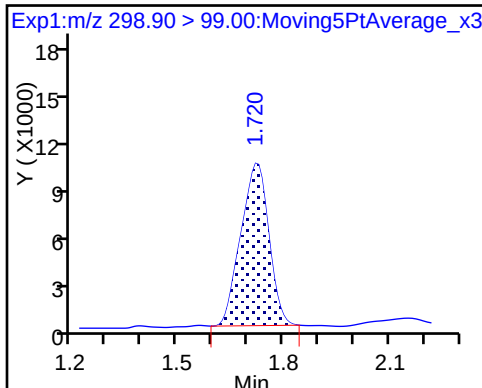
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexanoate

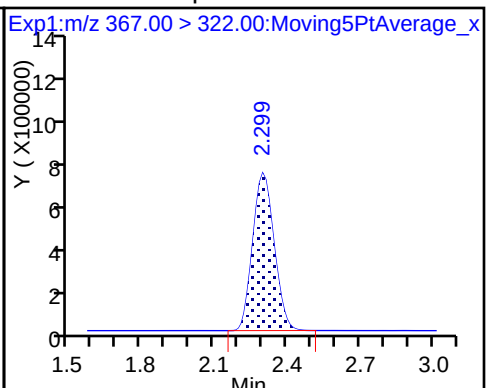
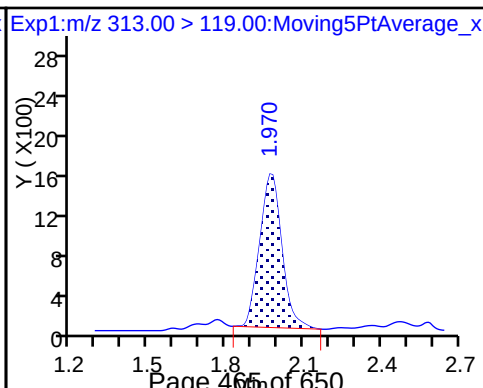
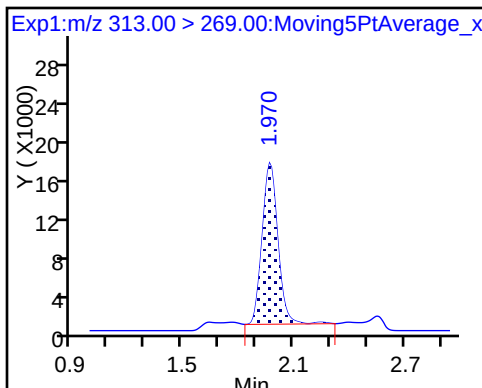
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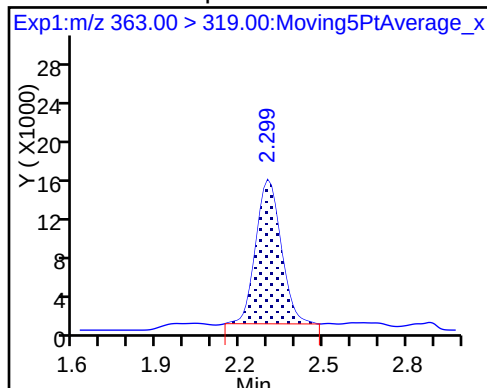
6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

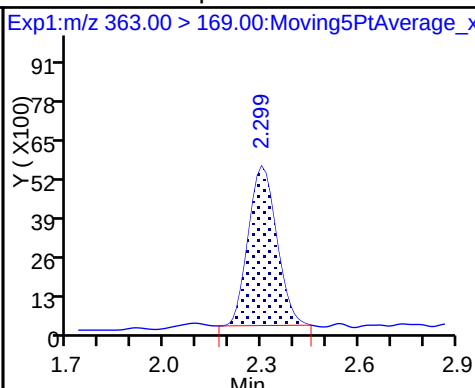
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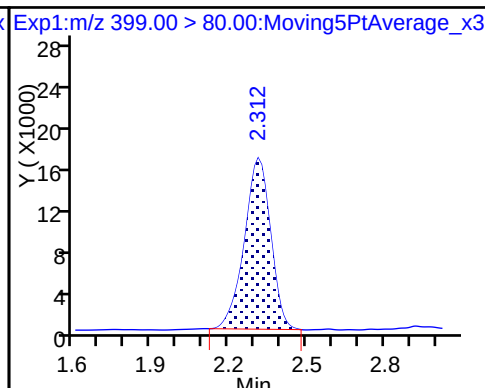
10 Perfluoroheptanoic acid



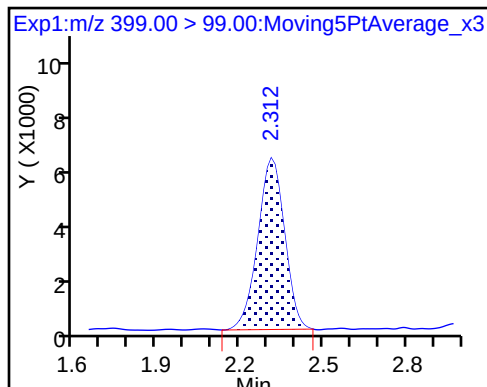
10 Perfluoroheptanoic acid



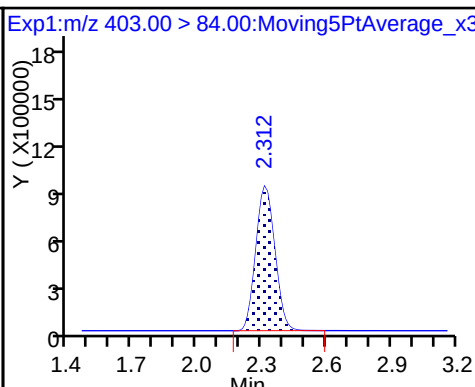
8 Perfluorohexanesulfonic acid



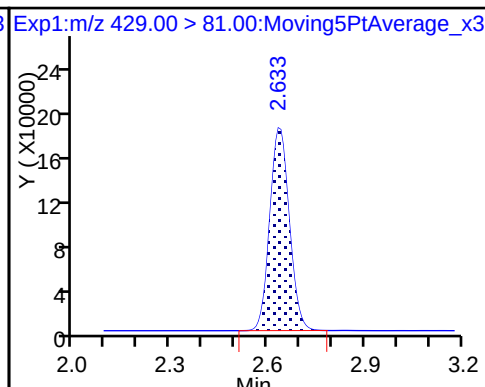
8 Perfluorohexanesulfonic acid



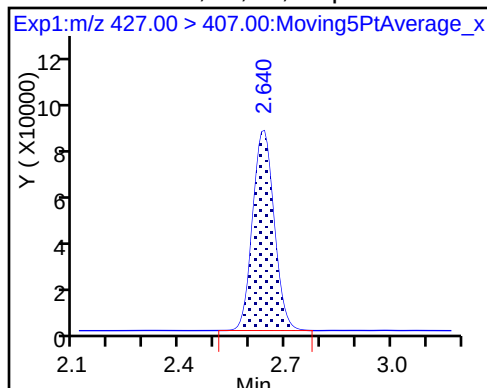
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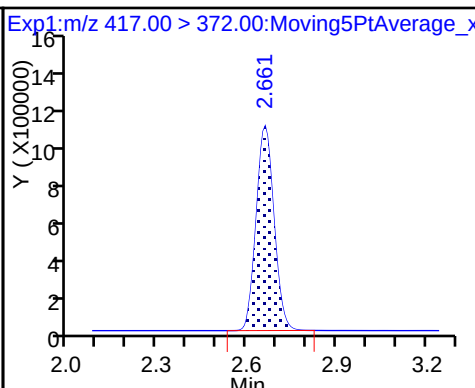
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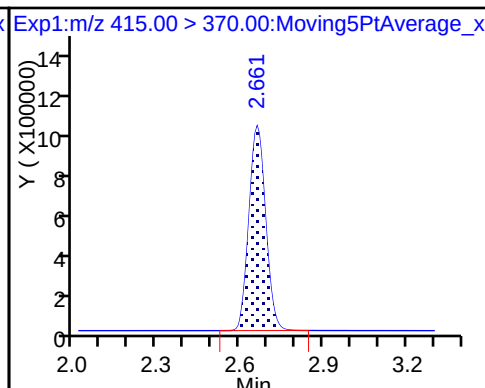
13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate



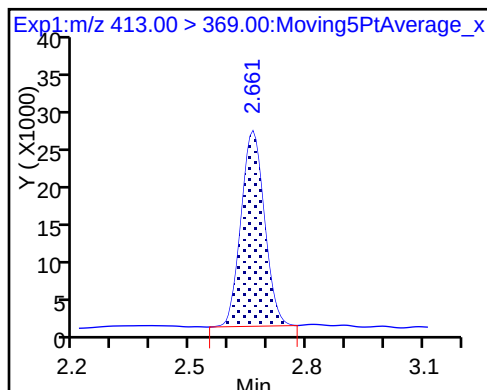
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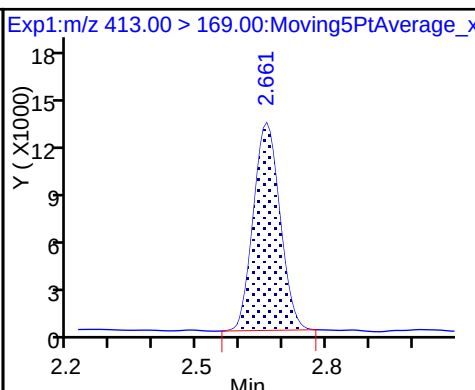
\* 62 13C2-PFOA



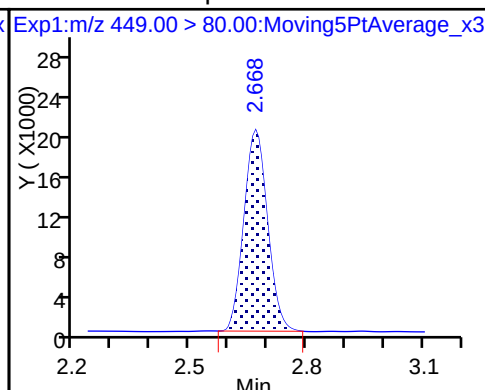
15 Perfluorooctanoic acid



15 Perfluorooctanoic acid



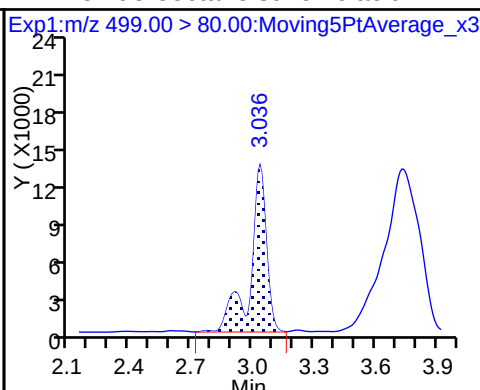
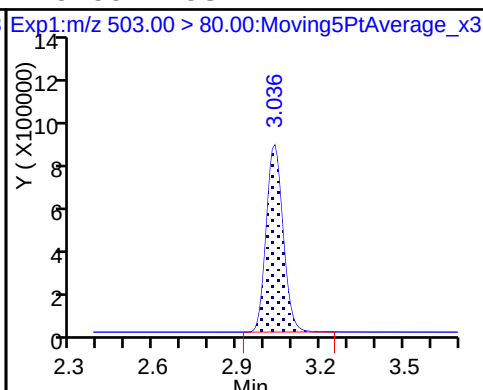
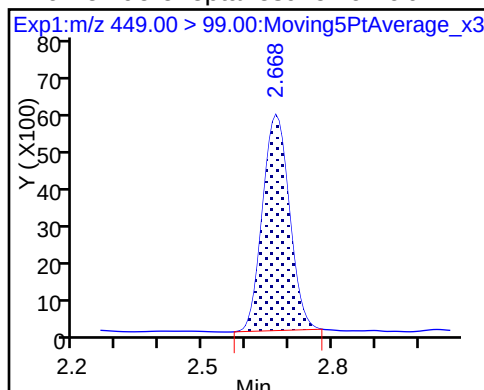
16 Perfluoroheptanesulfonic Acid



16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

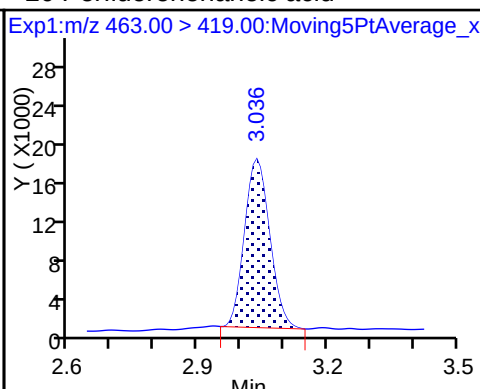
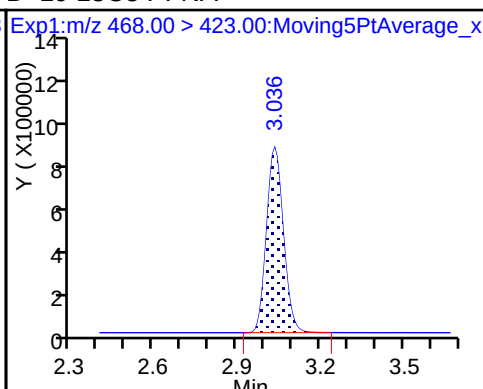
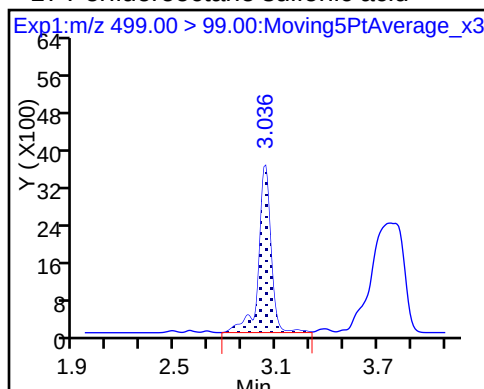
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

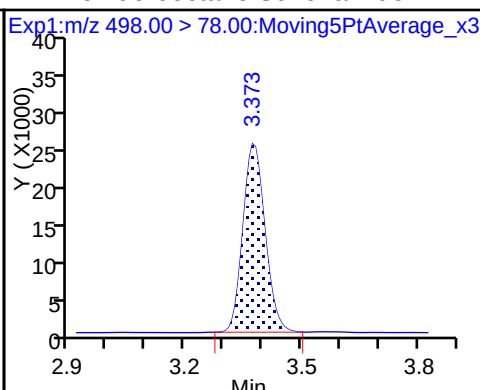
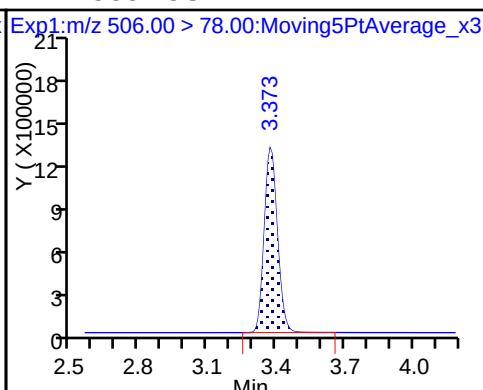
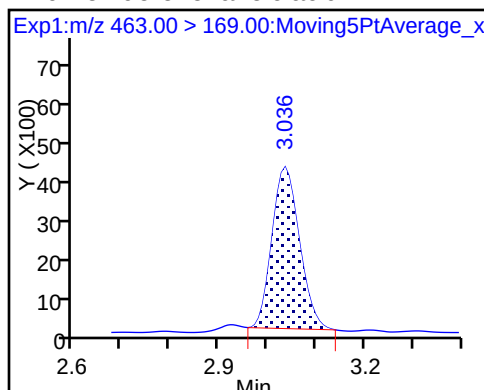
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

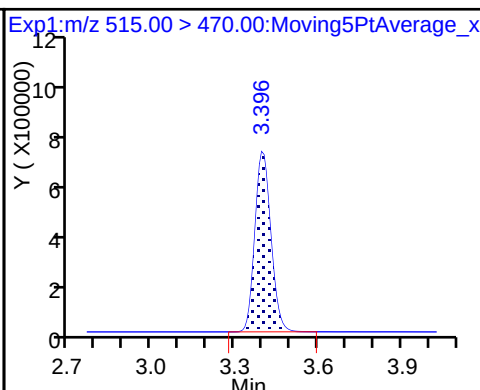
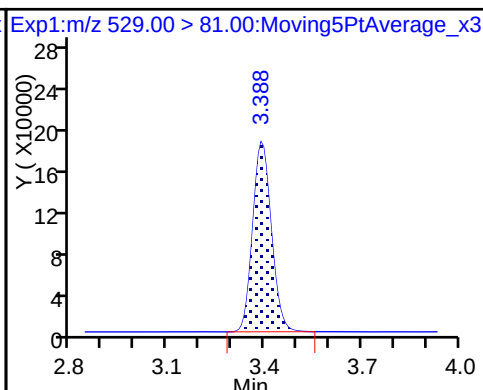
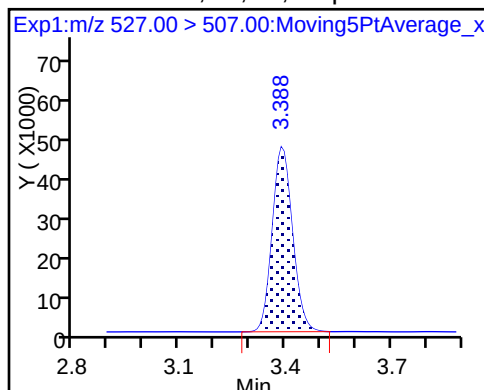
22 Perfluorooctane Sulfonamide



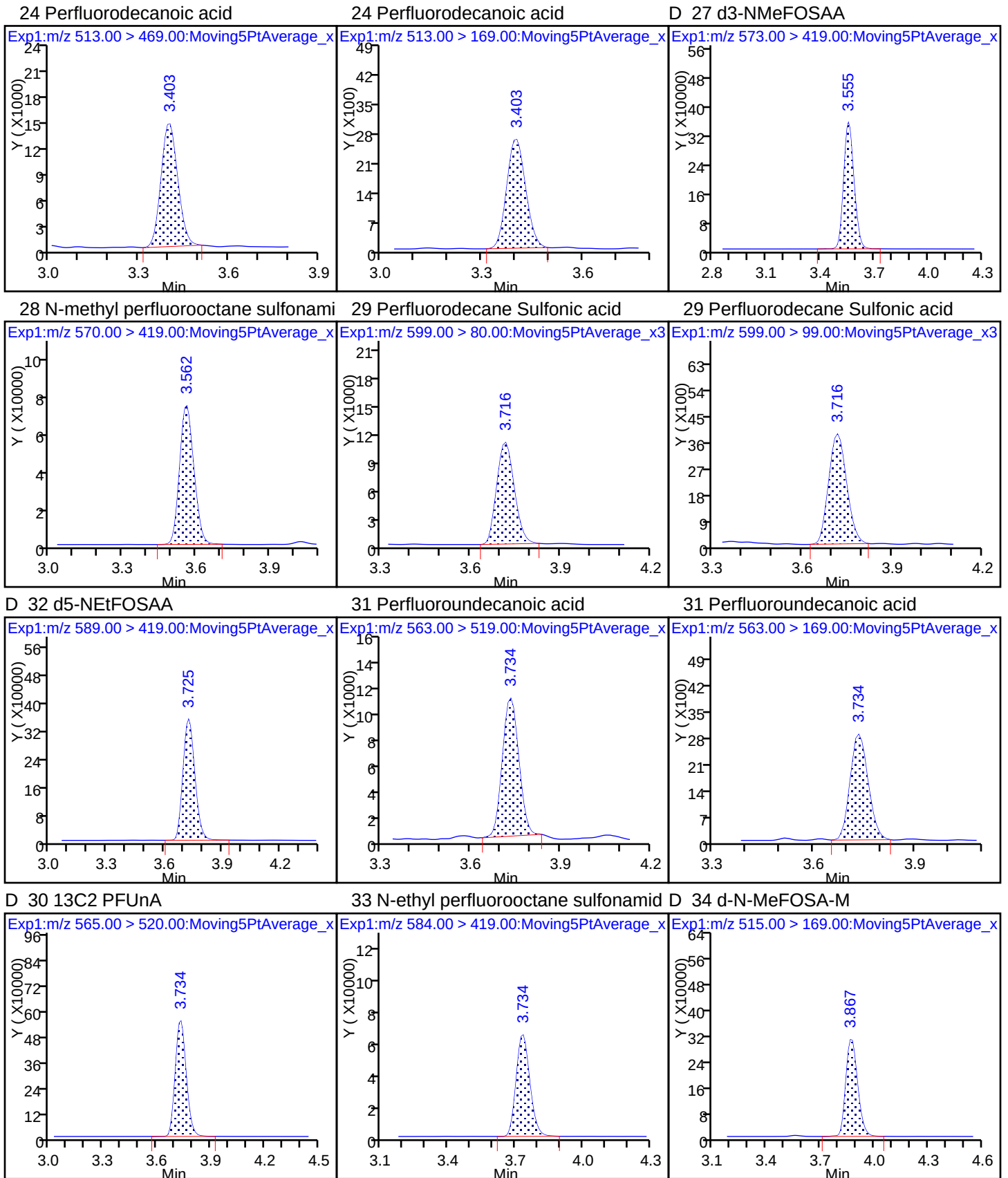
25 Sodium 1H,1H,2H,2H-perfluorodeca

De26 M2-8:2FTS

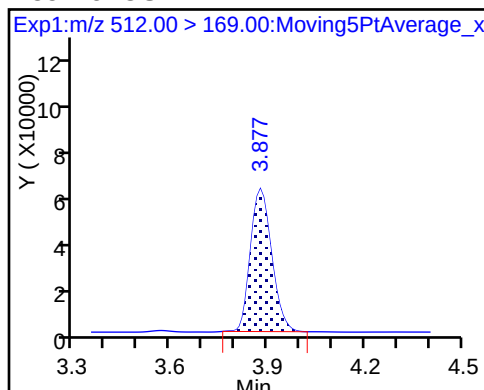
D 23 13C2 PFDA



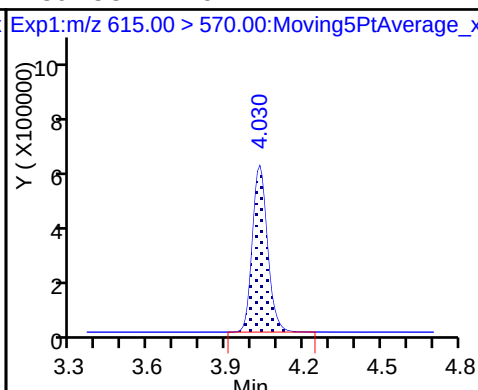




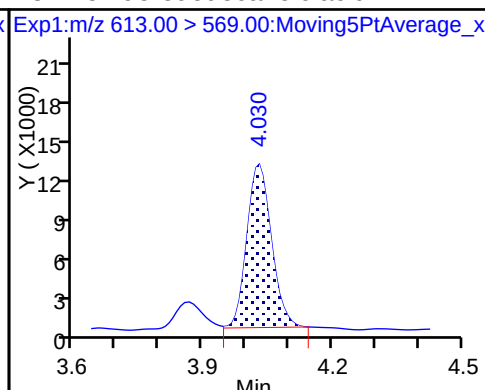
35 MeFOSA



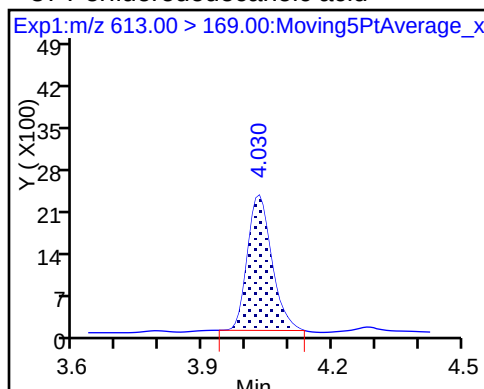
D 36 13C2 PFDaA



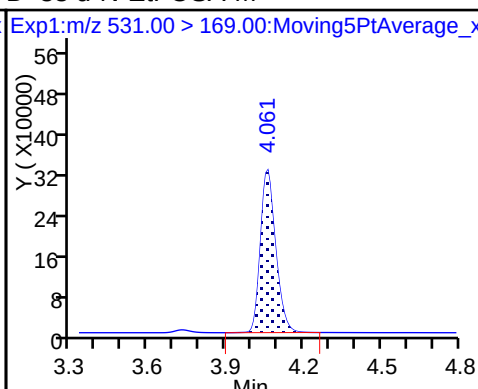
37 Perfluorododecanoic acid



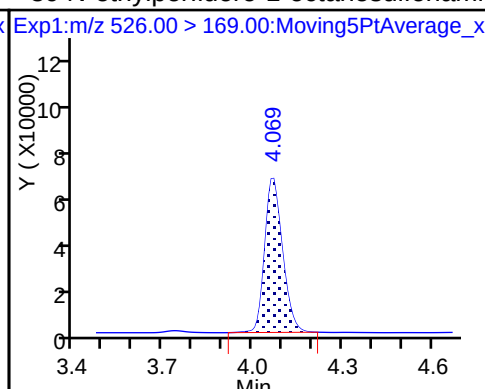
37 Perfluorododecanoic acid



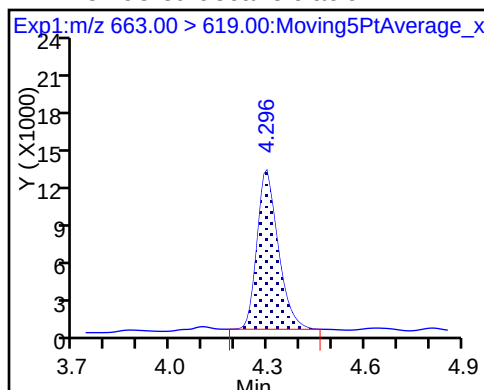
D 38 d-N-EtFOSA-M



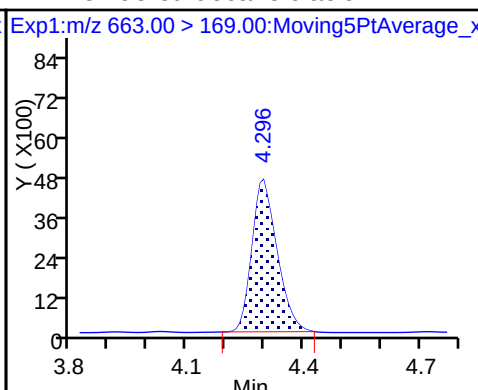
39 N-ethylperfluoro-1-octanesulfonami



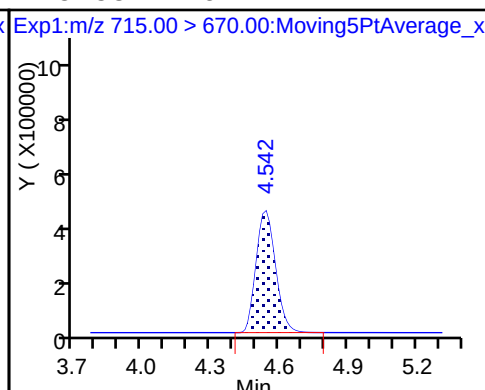
41 Perfluorotridecanoic acid



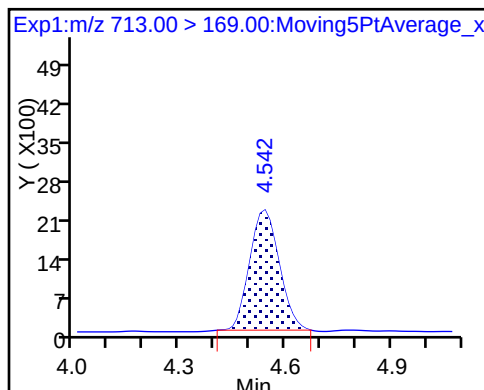
41 Perfluorotridecanoic acid



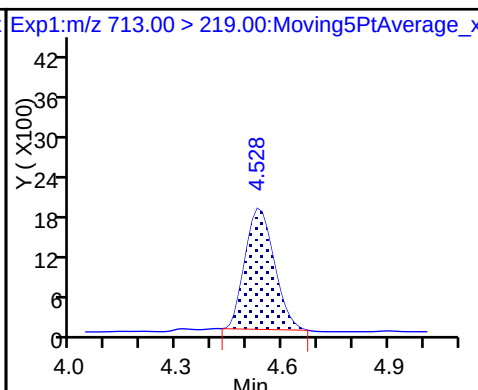
D 43 13C2-PFTeDA



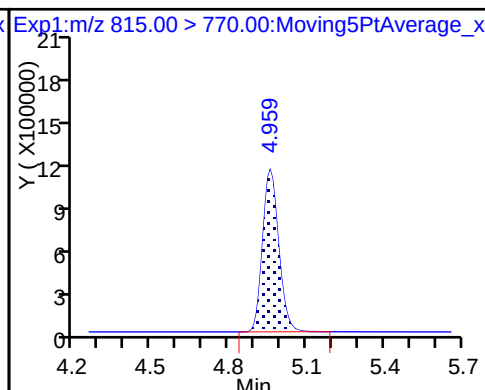
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



D 44 13C2-PFHxDA

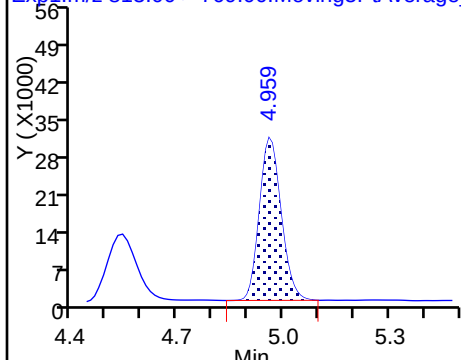


## 45 Perfluorohexadecanoic acid

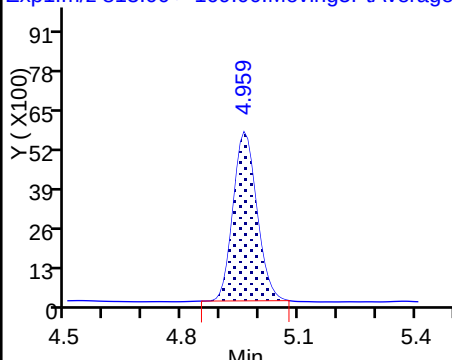
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

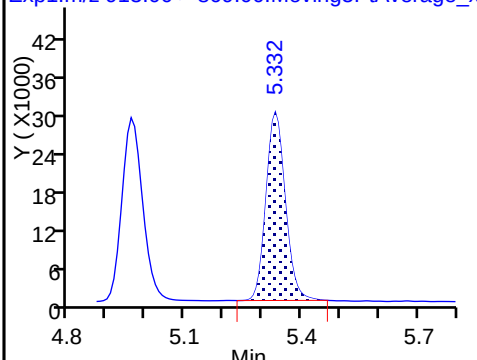
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

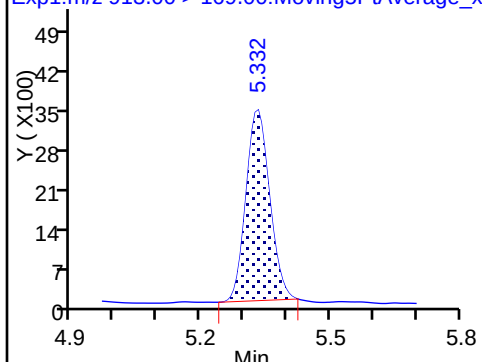


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCV 320-201893/1 Calibration Date: 12/29/2017 07:39

Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.28LLD\_001.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D    | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9135  | 0.9498 |         | 1.04        | 1.00         | 4.0   | 40.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.122   | 1.077  |         | 0.960       | 1.00         | -4.0  | 40.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 74.84   | 81.26  |         | 0.960       | 0.884        | 8.6   | 50.0   |
| 4:2 FTS                                                    | AveID      | 1.724   | 1.645  |         | 0.891       | 0.934        | -4.6  | 50.0   |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 0.999   | 1.002  |         | 1.00        | 1.00         | 0.3   | 40.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 1.125  |         | 1.08        | 1.00         | 7.6   | 40.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.093   | 0.9754 |         | 0.812       | 0.910        | -10.7 | 40.0   |
| 6:2FTS                                                     | AveID      | 1.677   | 1.539  |         | 0.870       | 0.948        | -8.2  | 40.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.059   | 1.067  |         | 1.01        | 1.00         | 0.8   | 40.0   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | AveID      | 1.227   | 1.324  |         | 1.03        | 0.952        | 7.9   | 50.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 0.9743  | 0.9761 |         | 1.00        | 1.00         | 0.2   | 40.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.073   | 1.115  |         | 0.964       | 0.928        | 3.9   | 40.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9492  | 1.004  |         | 1.06        | 1.00         | 5.8   | 40.0   |
| 8:2FTS                                                     | AveID      | 1.256   | 1.180  |         | 0.900       | 0.958        | -6.0  | 40.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9858  | 0.998  |         | 1.01        | 1.00         | 1.2   | 40.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.059   | 1.021  |         | 0.965       | 1.00         | -3.5  | 40.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.5921  | 0.6460 |         | 1.05        | 0.964        | 9.1   | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9653  | 1.040  |         | 1.08        | 1.00         | 7.7   | 40.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9369  | 0.8528 |         | 0.910       | 1.00         | -9.0  | 40.0   |
| MeFOSA                                                     | AveID      | 0.9651  | 1.041  |         | 1.08        | 1.00         | 7.8   | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9929  | 0.9713 |         | 0.978       | 1.00         | -2.2  | 40.0   |
| N-EtFOSA-M                                                 | AveID      | 1.084   | 1.078  |         | 1.00        | 1.00         | -0.6  | 40.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.078   | 1.237  |         | 1.15        | 1.00         | 14.8  | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2545  | 0.2438 |         | 0.958       | 1.00         | -4.2  | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 0.9725 |         | 1.12        | 1.00         | 11.6  | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.075   | 1.035  |         | 0.963       | 1.00         | -3.7  | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.731   | 1.636  |         | 2.36        | 2.50         | -5.5  | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 1.009   | 1.026  |         | 2.54        | 2.50         | 1.7   | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0219  | 0.0211 |         | 2.24        | 2.33         | -3.5  | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 1.085   | 1.077  |         | 2.48        | 2.50         | -0.7  | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 1.007   | 0.9935 |         | 2.47        | 2.50         | -1.3  | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 320-201893/1 Calibration Date: 12/29/2017 07:39  
 Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58  
 Lab File ID: 2017.12.28LLD\_001.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|------|-----------|
| 18O2 PFHxS   | Ave           | 1.278   | 1.318  |         | 2.44           | 2.37            | 3.1  | 50.0      |
| M2-6:2FTS    | Ave           | 0.1910  | 0.2035 |         | 2.53           | 2.38            | 6.6  | 40.0      |
| 13C4 PFOA    | Ave           | 1.028   | 1.034  |         | 2.51           | 2.50            | 0.6  | 50.0      |
| 13C4 PFOS    | Ave           | 0.8476  | 0.7903 |         | 2.23           | 2.39            | -6.8 | 50.0      |
| 13C5 PFNA    | Ave           | 0.8211  | 0.8420 |         | 2.56           | 2.50            | 2.6  | 50.0      |
| 13C8 FOSA    | Ave           | 1.146   | 1.108  |         | 2.42           | 2.50            | -3.4 | 50.0      |
| M2-8:2FTS    | Ave           | 0.2097  | 0.2130 |         | 2.43           | 2.40            | 1.6  | 40.0      |
| 13C2 PFDA    | Ave           | 0.6674  | 0.6788 |         | 2.54           | 2.50            | 1.7  | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3450  | 0.3684 |         | 2.67           | 2.50            | 6.8  | 50.0      |
| 13C2 PFUnA   | Ave           | 0.5052  | 0.5344 |         | 2.65           | 2.50            | 5.8  | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3516  | 0.3574 |         | 2.54           | 2.50            | 1.7  | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.3256  | 0.3110 |         | 2.39           | 2.50            | -4.5 | 50.0      |
| 13C2 PFDoA   | Ave           | 0.5489  | 0.5892 |         | 2.68           | 2.50            | 7.3  | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.3100  | 0.3034 |         | 2.45           | 2.50            | -2.1 | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5969  | 0.6649 |         | 2.79           | 2.50            | 11.4 | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.094   | 1.167  |         | 2.67           | 2.50            | 6.7  | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_001.d  
 Lims ID: CCV L4  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 29-Dec-2017 07:39:18 ALS Bottle#: 30 Worklist Smp#: 1  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCV L4  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:07:53 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:07:53

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433  | -0.001 | 0.537  | 7299983  | 2.36         |                   | 94.5 | 20764 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.438 | 1.434  | 0.004  | 1.004  | 2773271  | 1.04         |                   | 104  | 469   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.688 | 1.691  | -0.003 | 1.000  | 1972670  | 0.9600       |                   | 96.0 | 1812  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.688 | 1.692  | -0.004 | 0.634  | 4579586  | 2.54         |                   | 102  | 38124 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.723 | 1.725  | -0.002 | 0.647  | 87581    | 2.24         |                   | 96.5 | 2625  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.723 | 1.730  | -0.007 | 1.000  | 2706035  | 0.9599       |                   | 109  | 14749 |       |
| 298.90 > 99.00                        | 1.723 | 1.730  | -0.007 | 1.000  | 1117304  |              | 2.42(1.25-3.74)   |      | 7658  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.943 | 1.941  | 0.002  | 1.000  | 558156   | 0.8910       |                   | 95.4 | 24689 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.974 | 1.976  | -0.002 | 0.741  | 4808248  | 2.48         |                   | 99.3 | 30846 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.974 | 1.979  | -0.005 | 1.000  | 1926383  | 1.00         |                   | 100  | 5014  |       |
| 313.00 > 119.00                       | 1.974 | 1.979  | -0.005 | 1.000  | 179858   |              | 10.71(5.03-15.10) |      | 4494  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.304 | 2.311  | -0.007 | 0.865  | 4433768  | 2.47         |                   | 98.7 | 24004 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.304 | 2.311  | -0.007 | 1.000  | 1994839  | 1.08         |                   | 108  | 3574  |       |
| 363.00 > 169.00                       | 2.304 | 2.311  | -0.007 | 1.000  | 764472   |              | 2.61(1.13-3.40)   |      | 7793  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.317 | 2.324  | -0.007 | 1.000  | 2088265  | 0.8123       |                   | 89.3 | 6767  |       |
| 399.00 > 99.00                        | 2.317 | 2.324  | -0.007 | 1.000  | 717237   |              | 2.91(1.50-4.49)   |      | 3605  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.317 | 2.328  | -0.011 | 0.870  | 5563955  | 2.44         |                 | 103  | 45462 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.635 | 2.649  | -0.014 | 0.989  | 862931   | 2.53         |                 | 107  | 17314 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.635 | 2.651  | -0.016 | 1.000  | 530177   | 0.8702       |                 | 91.8 | 15731 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.657 | 2.674  | -0.017 | 0.997  | 4612254  | 2.51         |                 | 101  | 28811 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.664 | 2.676  | -0.012 |        | 4462729  | 2.50         |                 |      | 26737 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.664 | 2.677  | -0.013 | 1.003  | 1969100  | 1.01         |                 | 101  | 1197  |       |
| 413.00 > 169.00                       | 2.657 | 2.677  | -0.020 | 1.000  | 1024189  |              | 1.92(0.84-2.52) |      | 6650  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.671 | 2.683  | -0.012 | 1.000  | 1778583  | 1.03         |                 | 108  | 18892 |       |
| 449.00 > 99.00                        | 2.671 | 2.683  | -0.012 | 1.000  | 487191   |              | 3.65(1.94-5.82) |      | 8228  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.030 | 3.048  | -0.018 | 1.138  | 3371554  | 2.23         |                 | 93.2 | 23568 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.030 | 3.050  | -0.020 | 1.000  | 1459181  | 0.9638       |                 | 104  | 275   |       |
| 499.00 > 99.00                        | 3.030 | 3.050  | -0.020 | 1.000  | 314431   |              | 4.64(2.31-6.93) |      | 381   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.030 | 3.051  | -0.021 | 1.138  | 3757676  | 2.56         |                 | 103  | 25826 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.030 | 3.052  | -0.022 | 1.000  | 1467167  | 1.00         |                 | 100  | 3741  |       |
| 463.00 > 169.00                       | 3.030 | 3.052  | -0.022 | 1.000  | 347317   |              | 4.22(1.90-5.69) |      | 7549  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.376 | 3.377  | -0.001 | 1.267  | 4944038  | 2.42         |                 | 96.6 | 23505 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.376 | 3.378  | -0.002 | 1.000  | 1986280  | 1.06         |                 | 106  | 21691 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.383 | 3.402  | -0.019 | 1.000  | 429794   | 0.9002       |                 | 94.0 | 13385 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.383 | 3.403  | -0.020 | 1.270  | 910712   | 2.43         |                 | 102  | 16298 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.391 | 3.414  | -0.023 | 1.273  | 3029155  | 2.54         |                 | 102  | 31322 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.398 | 3.414  | -0.016 | 1.002  | 1208934  | 1.01         |                 | 101  | 6370  |       |
| 513.00 > 169.00                       | 3.391 | 3.414  | -0.023 | 1.000  | 218453   |              | 5.53(2.36-7.09) |      | 2045  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.550 | 3.569  | -0.019 | 1.333  | 1644240  | 2.67         |                 | 107  | 25451 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.558 | 3.574  | -0.016 | 1.002  | 671560   | 0.9645       |                 | 96.5 | 4606  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.712 | 3.730  | -0.018 | 1.000  | 878503   | 1.05         |                 | 109  | 20913 |       |
| 599.00 > 99.00                        | 3.712 | 3.730  | -0.018 | 1.000  | 291804   |              | 3.01(1.39-4.16) |      | 6887  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.720 | 3.740  | -0.020 | 1.397  | 1595056  | 2.54         |                 | 102  | 8820  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.729 | 3.746     | -0.017    | 1.002     | 813535   | 0.9102          |                 | 91.0 | 3598  |       |
| 563.00 > 169.00                       | 3.729 | 3.746     | -0.017    | 1.002     | 190421   |                 | 4.27(0.00-0.00) |      | 10149 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.720 | 3.747     | -0.027    | 1.397     | 2385036  | 2.64            |                 | 106  | 26808 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.729 | 3.747     | -0.018    | 1.002     | 663302   | 1.08            |                 | 108  | 10958 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.872 | 3.867     | 0.005     | 1.454     | 1387985  | 2.39            |                 | 95.5 | 3306  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.872 | 3.873     | -0.001    | 1.000     | 577723   | 1.08            |                 | 108  | 2922  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.018 | 4.045     | -0.027    | 1.508     | 2629327  | 2.68            |                 | 107  | 29016 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.018 | 4.045     | -0.027    | 1.000     | 1021495  | 0.9782          |                 | 97.8 | 3900  |       |
| 613.00 > 169.00                       | 4.018 | 4.045     | -0.027    | 1.000     | 256828   |                 | 3.98(2.13-6.40) |      | 15937 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.057 | 4.058     | -0.001    | 1.523     | 1354103  | 2.45            |                 | 97.9 | 2607  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.065 | 4.065     | 0.0       | 1.002     | 583678   | 0.99            |                 | 99.4 | 2707  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.285 | 4.312     | -0.027    | 1.000     | 1301056  | 1.15            |                 | 115  | 5039  |       |
| 663.00 > 169.00                       | 4.285 | 4.312     | -0.027    | 1.000     | 394198   |                 | 3.30(1.25-3.76) |      | 11248 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.532 | 4.557     | -0.025    | 1.702     | 2967421  | 2.79            |                 | 111  | 17322 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.532 | 4.557     | -0.025    | 1.000     | 289343   | 0.9579          |                 | 95.8 | 9816  |       |
| 713.00 > 219.00                       | 4.519 | 4.557     | -0.038    | 0.997     | 206991   |                 | 1.40(0.71-2.13) |      | 4469  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.952 | 4.984     | -0.032    | 1.859     | 5209788  | 2.67            |                 | 107  | 17935 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.952 | 4.984     | -0.032    | 1.000     | 2026699  | 1.12            |                 | 112  | 1356  |       |
| 813.00 > 169.00                       | 4.952 | 4.984     | -0.032    | 1.000     | 343459   |                 | 5.90(2.86-8.58) |      | 5321  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.313 | 5.361     | -0.048    | 1.000     | 2157430  | 0.9635          |                 | 96.3 | 609   |       |
| 913.00 > 169.00                       | 5.313 | 5.361     | -0.048    | 1.000     | 279892   |                 | 7.71(0.00-0.00) |      | 1858  |       |

## Reagents:

LCPFC\_LL4\_00002

Amount Added: 1.00

Units: mL



## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_001.d

Injection Date: 29-Dec-2017 07:39:18

Instrument ID: A8\_N

Lims ID: CCV L4

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 30

Worklist Smp#: 1

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

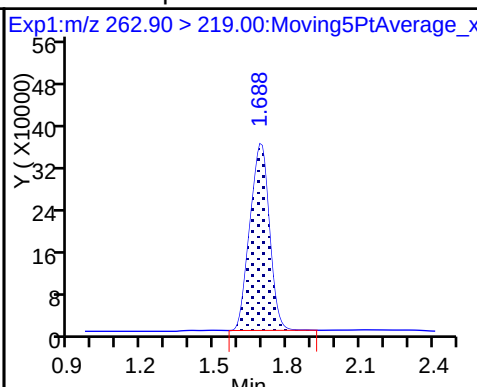
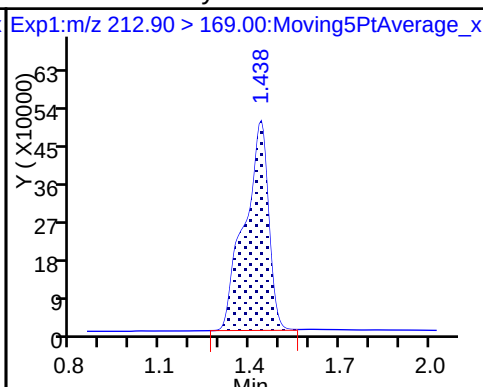
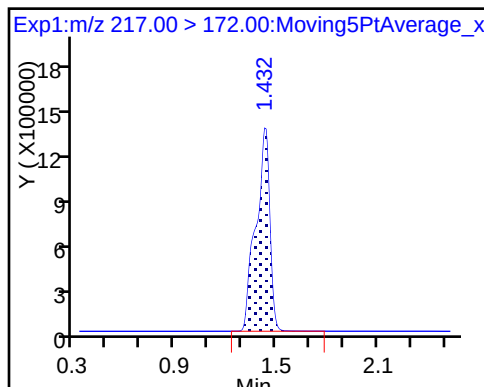
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

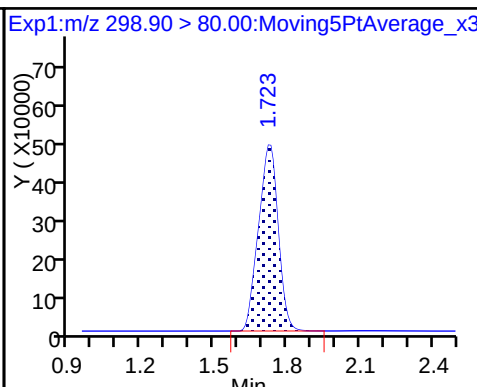
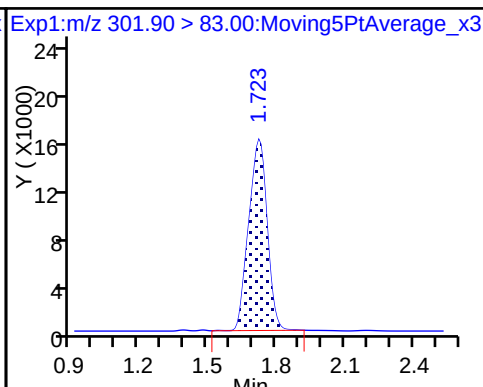
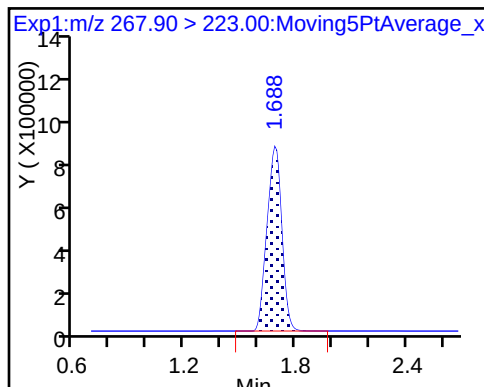
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

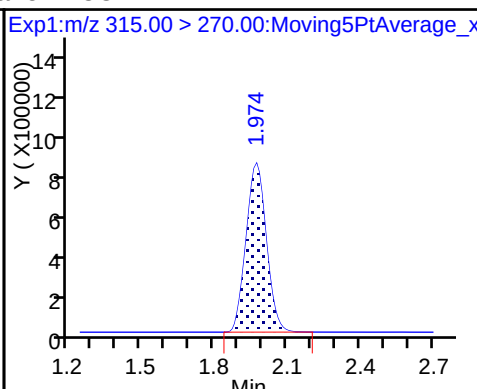
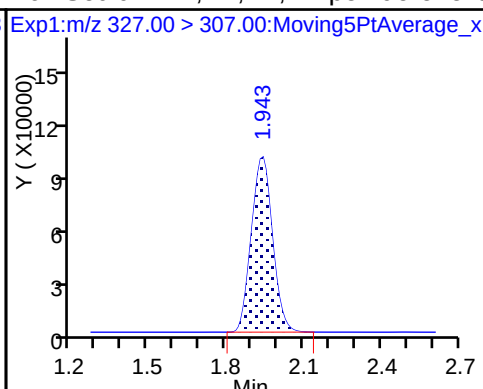
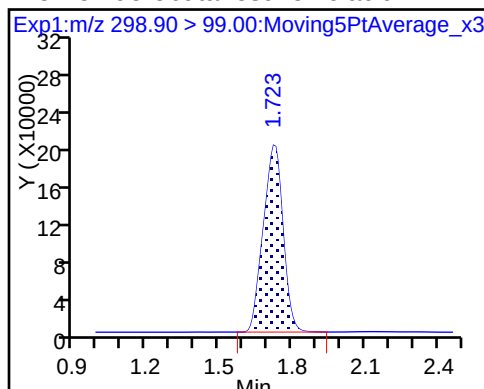
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

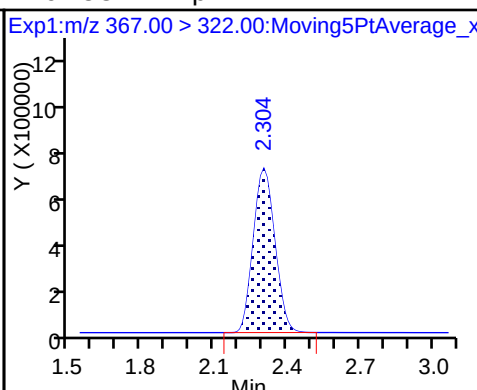
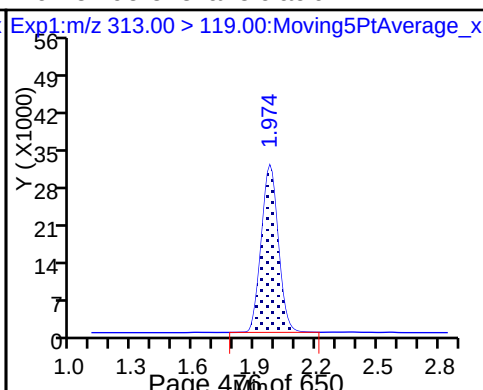
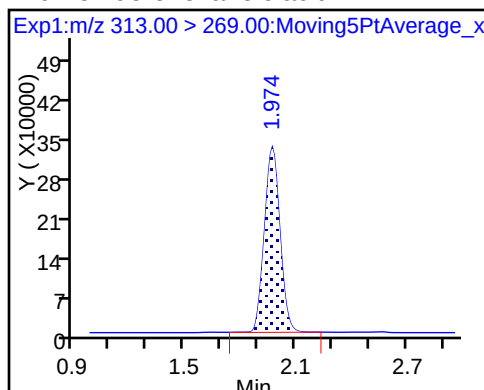
De 7 13C2 PFHxA

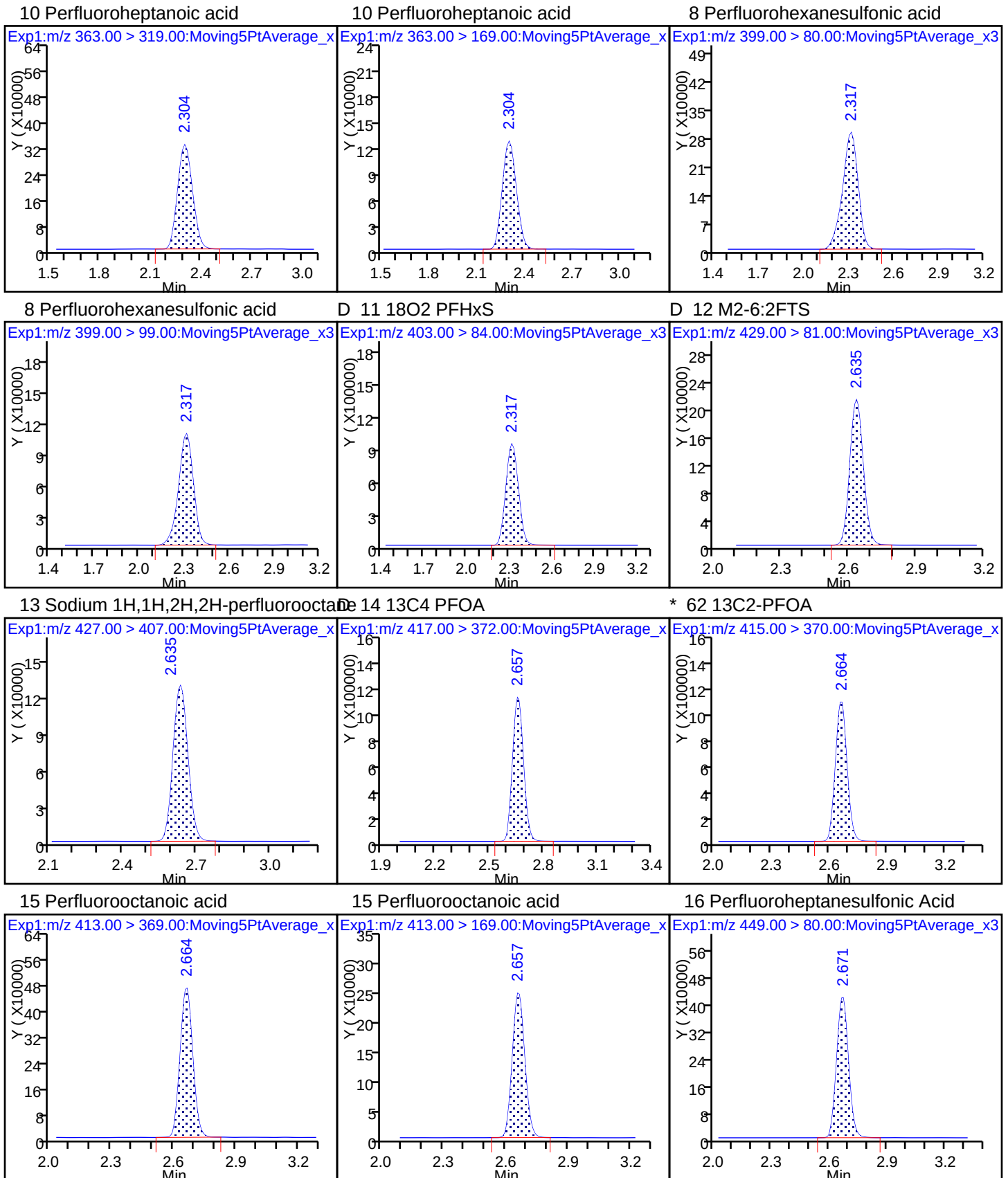


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

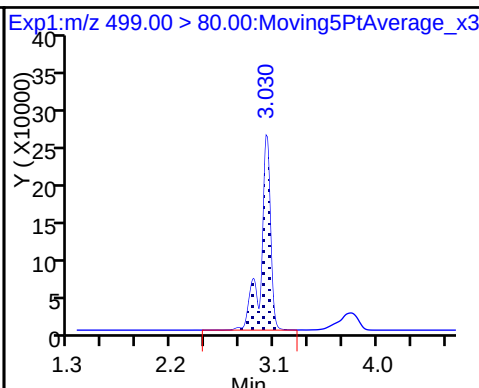
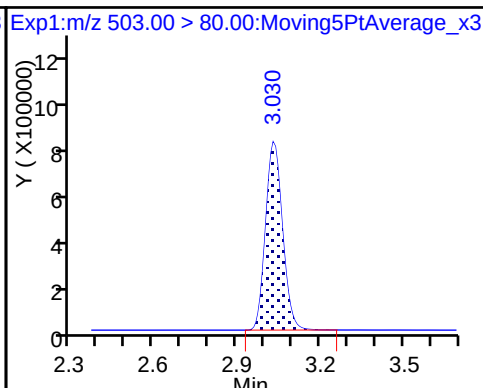
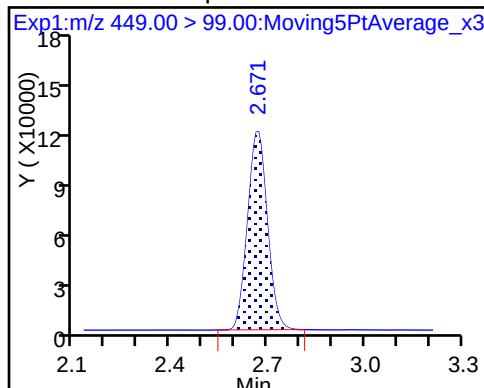




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

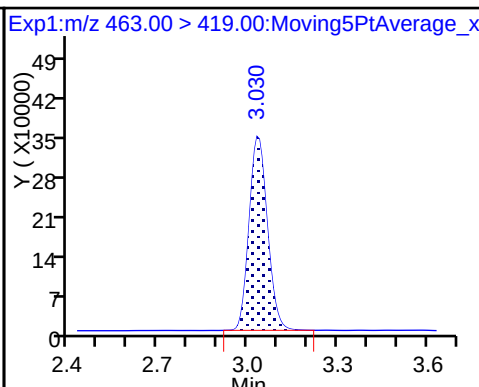
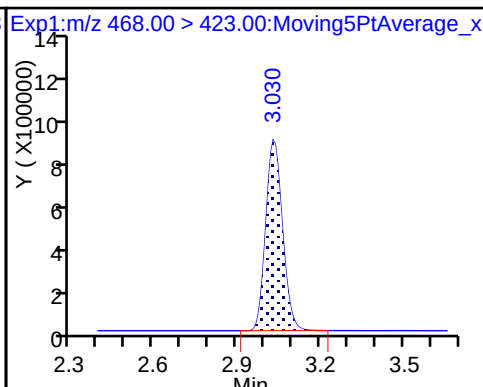
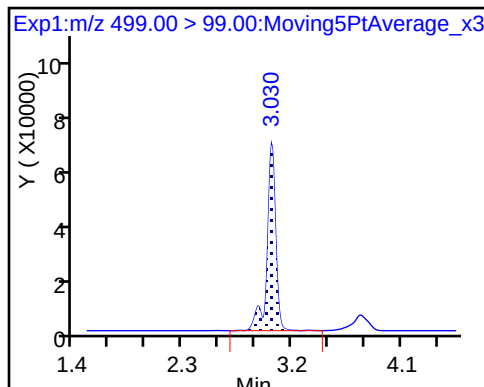
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

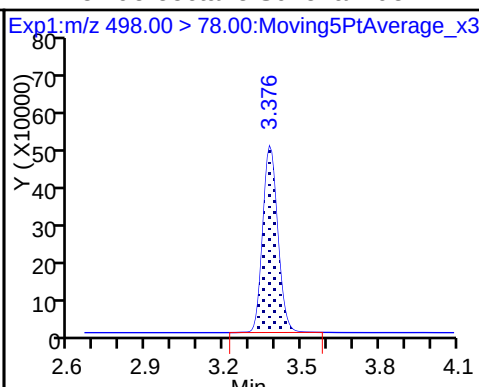
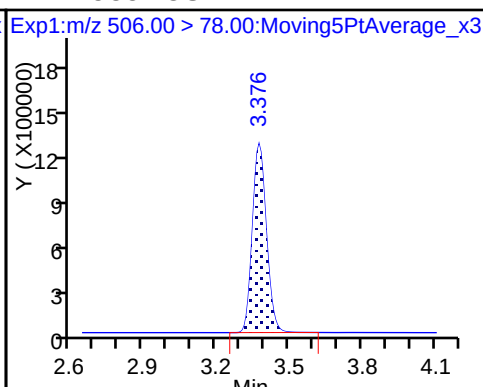
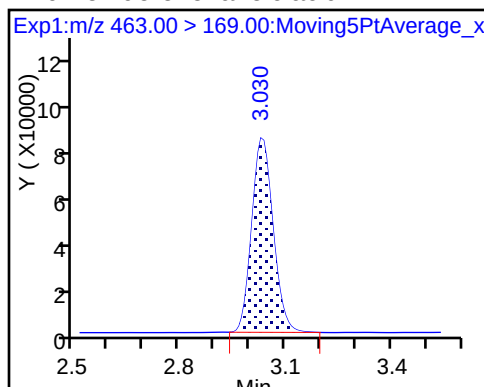
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

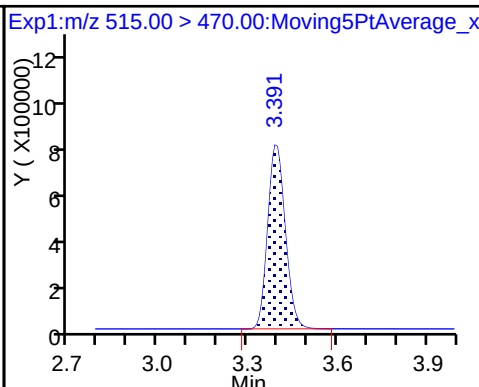
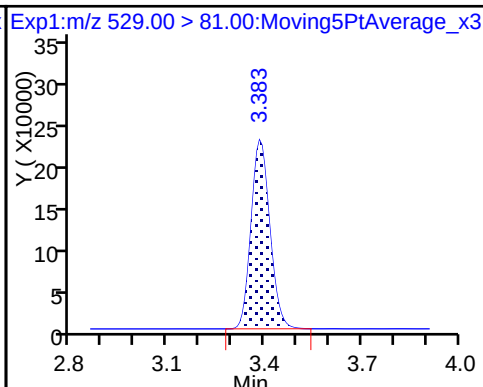
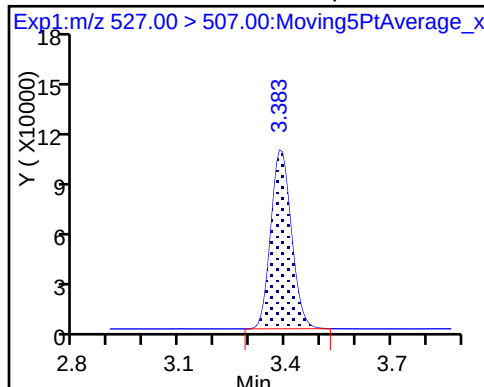
22 Perfluorooctane Sulfonamide

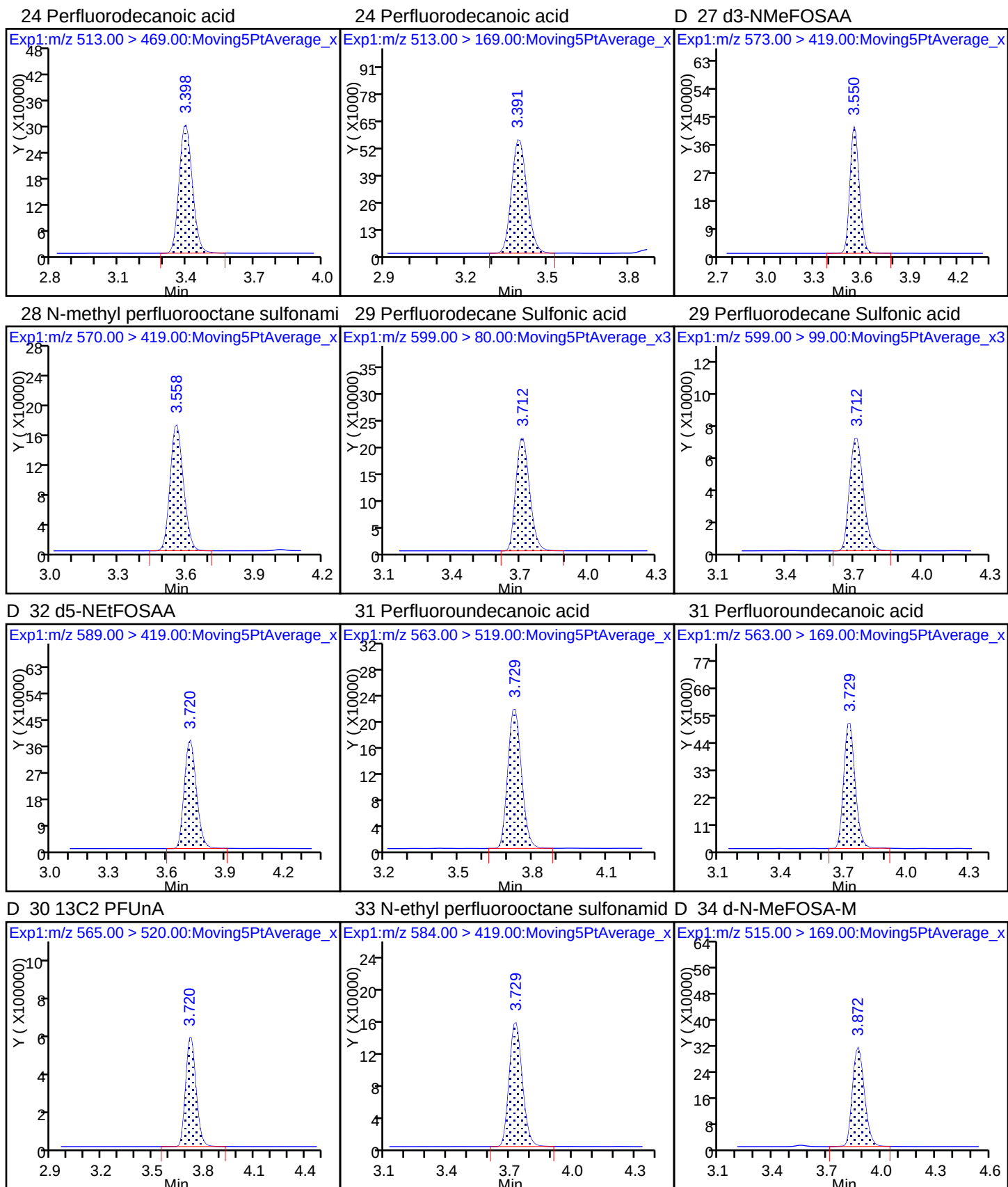


25 Sodium 1H,1H,2H,2H-perfluorodeca

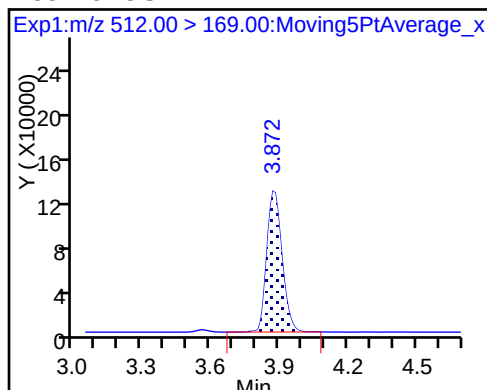
De26 M2-8:2FTS

D 23 13C2 PFDA

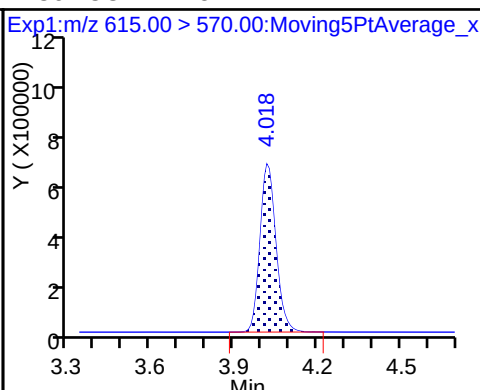




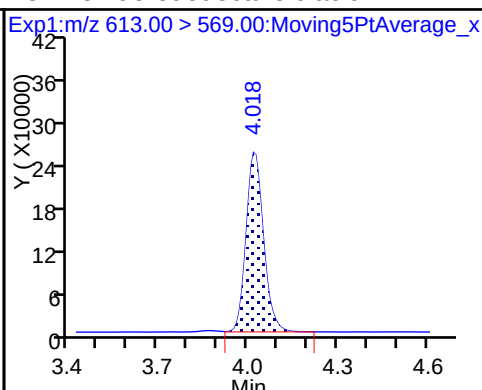
35 MeFOSA



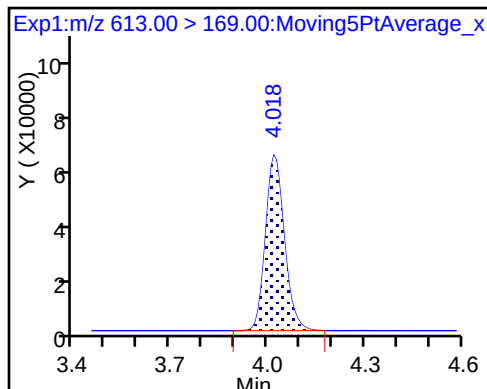
D 36 13C2 PFDaA



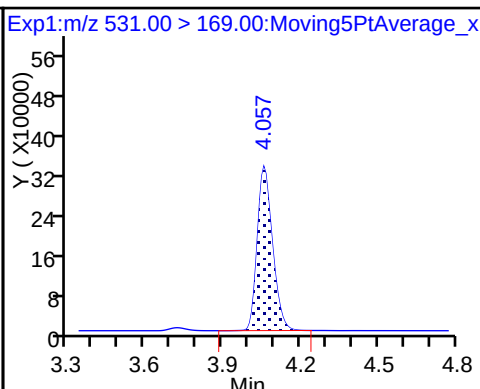
37 Perfluorododecanoic acid



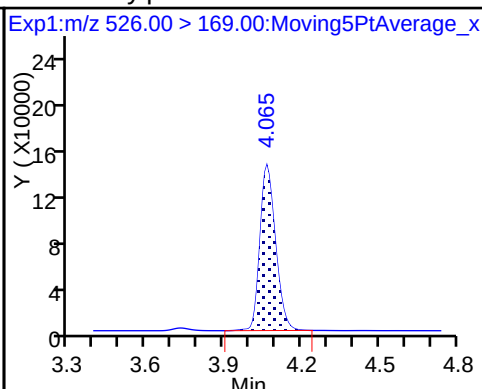
37 Perfluorododecanoic acid



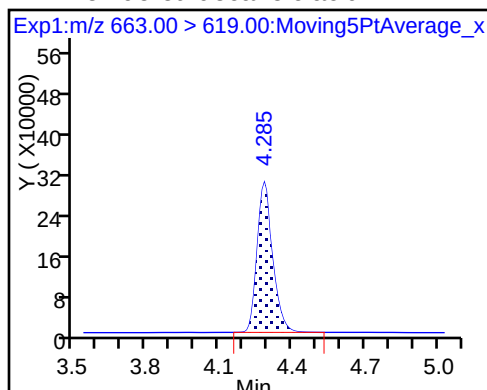
D 38 d-N-EtFOSA-M



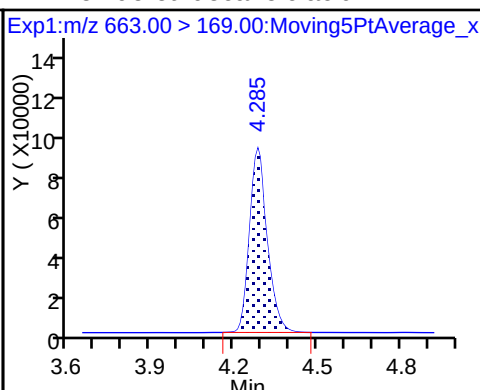
39 N-ethylperfluoro-1-octanesulfonami



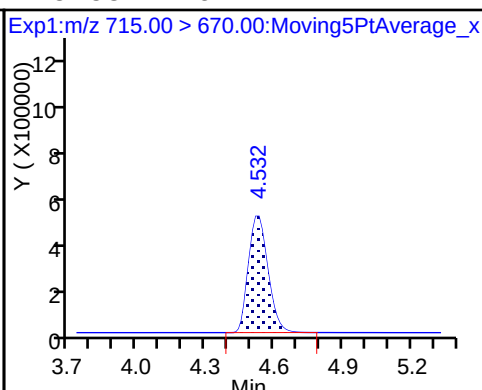
41 Perfluorotridecanoic acid



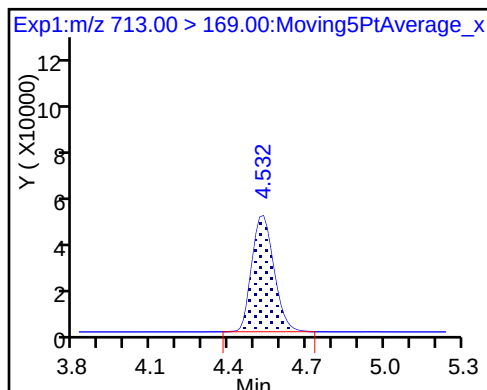
41 Perfluorotridecanoic acid



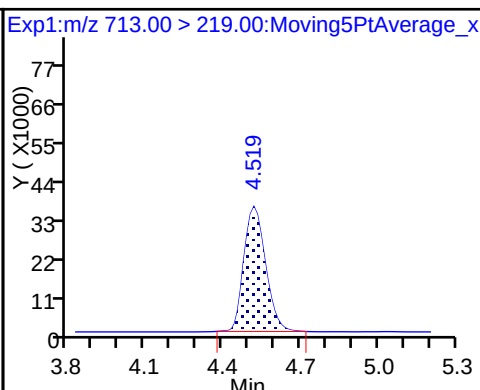
D 43 13C2-PFTeDA



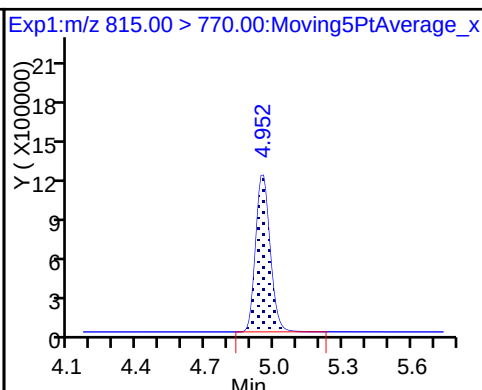
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



D 44 13C2-PFHxDA

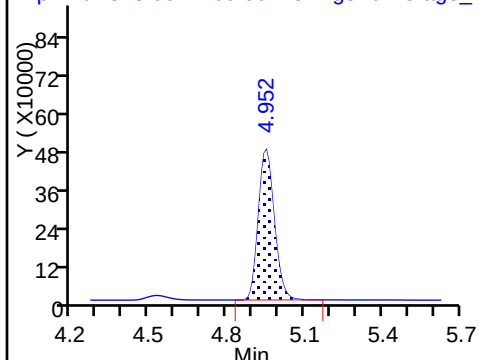


## 45 Perfluorohexadecanoic acid

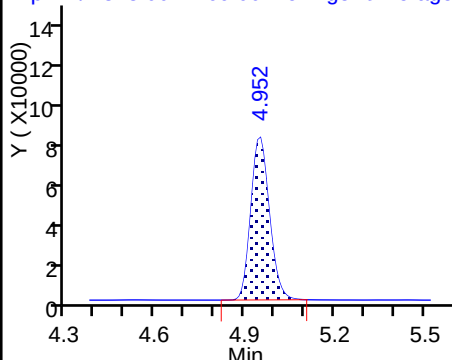
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

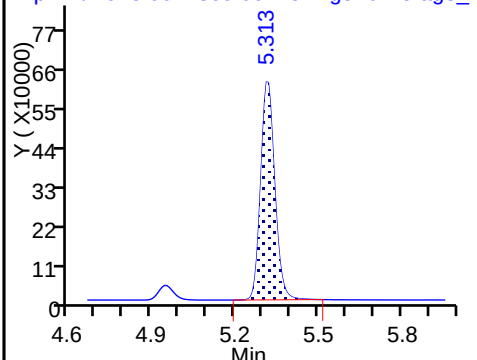
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Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

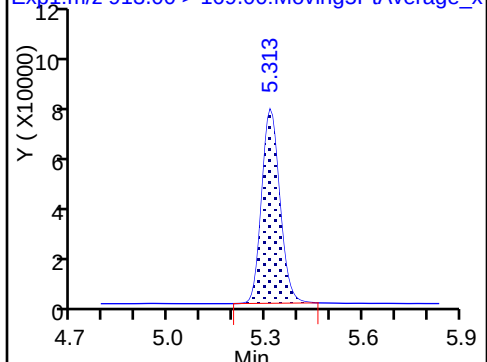


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCV 320-201893/12 Calibration Date: 12/29/2017 09:05

Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.28LLD\_012.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D   | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9135  | 0.9262 |         | 2.54        | 2.50         | 1.4  | 40.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.122   | 1.137  |         | 2.53        | 2.50         | 1.3  | 40.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 74.84   | 81.21  |         | 2.40        | 2.21         | 8.5  | 50.0   |
| 4:2 FTS                                                    | AveID      | 1.724   | 1.766  |         | 2.39        | 2.34         | 2.4  | 50.0   |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 0.999   | 0.9823 |         | 2.46        | 2.50         | -1.6 | 40.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 1.048  |         | 2.51        | 2.50         | 0.2  | 40.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.093   | 1.051  |         | 2.19        | 2.28         | -3.8 | 40.0   |
| 6:2FTS                                                     | AveID      | 1.677   | 1.655  |         | 2.34        | 2.37         | -1.3 | 40.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.059   | 1.075  |         | 2.54        | 2.50         | 1.5  | 40.0   |
| Perfluoroheptanesulfonic Acid (PFHpS)                      | AveID      | 1.227   | 1.277  |         | 2.48        | 2.38         | 4.1  | 50.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 0.9743  | 0.999  |         | 2.56        | 2.50         | 2.5  | 40.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.073   | 1.074  |         | 2.32        | 2.32         | 0.0  | 40.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9492  | 0.9901 |         | 2.61        | 2.50         | 4.3  | 40.0   |
| 8:2FTS                                                     | AveID      | 1.256   | 1.232  |         | 2.35        | 2.40         | -1.9 | 40.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9858  | 0.998  |         | 2.53        | 2.50         | 1.2  | 40.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.059   | 1.055  |         | 2.49        | 2.50         | -0.4 | 40.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.5921  | 0.6174 |         | 2.51        | 2.41         | 4.3  | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9653  | 0.9892 |         | 2.56        | 2.50         | 2.5  | 40.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9369  | 0.8686 |         | 2.32        | 2.50         | -7.3 | 40.0   |
| MeFOSA                                                     | AveID      | 0.9651  | 0.9851 |         | 2.55        | 2.50         | 2.1  | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9929  | 0.999  |         | 2.52        | 2.50         | 0.6  | 40.0   |
| N-EtFOSA-M                                                 | AveID      | 1.084   | 1.058  |         | 2.44        | 2.50         | -2.3 | 40.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.078   | 1.186  |         | 2.75        | 2.50         | 10.0 | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2545  | 0.2339 |         | 2.30        | 2.50         | -8.1 | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 0.9228 |         | 2.68        | 2.50         | 7.2  | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.075   | 1.096  |         | 2.55        | 2.50         | 2.0  | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.731   | 1.674  |         | 2.42        | 2.50         | -3.3 | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 1.009   | 0.9941 |         | 2.46        | 2.50         | -1.5 | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0219  | 0.0206 |         | 2.19        | 2.33         | -5.7 | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 1.085   | 1.117  |         | 2.58        | 2.50         | 3.0  | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 1.007   | 1.015  |         | 2.52        | 2.50         | 0.8  | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 320-201893/12 Calibration Date: 12/29/2017 09:05  
 Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58  
 Lab File ID: 2017.12.28LLD\_012.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|------|-----------|
| 18O2 PFHxS   | Ave           | 1.278   | 1.257  |         | 2.33           | 2.37            | -1.6 | 50.0      |
| M2-6:2FTS    | Ave           | 0.1910  | 0.1851 |         | 2.30           | 2.38            | -3.1 | 40.0      |
| 13C4 PFOA    | Ave           | 1.028   | 1.030  |         | 2.51           | 2.50            | 0.2  | 50.0      |
| 13C4 PFOS    | Ave           | 0.8476  | 0.8256 |         | 2.33           | 2.39            | -2.6 | 50.0      |
| 13C5 PFNA    | Ave           | 0.8211  | 0.8416 |         | 2.56           | 2.50            | 2.5  | 50.0      |
| 13C8 FOSA    | Ave           | 1.146   | 1.131  |         | 2.47           | 2.50            | -1.4 | 50.0      |
| M2-8:2FTS    | Ave           | 0.2097  | 0.2083 |         | 2.38           | 2.40            | -0.7 | 40.0      |
| 13C2 PFDA    | Ave           | 0.6674  | 0.6514 |         | 2.44           | 2.50            | -2.4 | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3450  | 0.3550 |         | 2.57           | 2.50            | 2.9  | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3516  | 0.3387 |         | 2.41           | 2.50            | -3.7 | 50.0      |
| 13C2 PFUnA   | Ave           | 0.5052  | 0.5260 |         | 2.60           | 2.50            | 4.1  | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.3256  | 0.3155 |         | 2.42           | 2.50            | -3.1 | 50.0      |
| 13C2 PFDoA   | Ave           | 0.5489  | 0.5599 |         | 2.55           | 2.50            | 2.0  | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.3100  | 0.3103 |         | 2.50           | 2.50            | 0.1  | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5969  | 0.6496 |         | 2.72           | 2.50            | 8.8  | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.094   | 1.168  |         | 2.67           | 2.50            | 6.8  | 50.0      |



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_012.d  
 Lims ID: CCV L5  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 29-Dec-2017 09:05:20 ALS Bottle#: 35 Worklist Smp#: 12  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCV L5  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:41:42 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last Ical File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:41:42

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |           |           |           |          |                 |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433     | -0.001    | 0.538     | 7235170  | 2.42            |                   | 96.7 | 18663 |       |
| 2 Perfluorobutyric acid               |       |           |           |           |          |                 |                   |      |       |       |
| 212.90 > 169.00                       | 1.432 | 1.434     | -0.002    | 1.000     | 6700838  | 2.53            |                   | 101  | 1227  |       |
| 4 Perfluoropentanoic acid             |       |           |           |           |          |                 |                   |      |       |       |
| 262.90 > 219.00                       | 1.688 | 1.691     | -0.003    | 1.000     | 4883489  | 2.53            |                   | 101  | 4703  |       |
| D 3 13C5-PFPeA                        |       |           |           |           |          |                 |                   |      |       |       |
| 267.90 > 223.00                       | 1.688 | 1.692     | -0.004    | 0.635     | 4296122  | 2.46            |                   | 98.5 | 38796 |       |
| D 47 13C3-PFBS                        |       |           |           |           |          |                 |                   |      |       |       |
| 301.90 > 83.00                        | 1.723 | 1.725     | -0.002    | 0.648     | 82831    | 2.19            |                   | 94.3 | 3022  |       |
| 5 Perfluorobutanesulfonic acid        |       |           |           |           |          |                 |                   |      |       |       |
| 298.90 > 80.00                        | 1.723 | 1.730     | -0.007    | 1.000     | 6393948  | 2.40            |                   | 109  | 32067 |       |
| 298.90 > 99.00                        | 1.723 | 1.730     | -0.007    | 1.000     | 2673593  |                 | 2.39(1.25-3.74)   |      | 18381 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |           |           |           |          |                 |                   |      |       |       |
| 327.00 > 307.00                       | 1.933 | 1.941     | -0.008    | 1.000     | 1319072  | 2.39            |                   | 102  | 47004 |       |
| D 7 13C2 PFHxA                        |       |           |           |           |          |                 |                   |      |       |       |
| 315.00 > 270.00                       | 1.964 | 1.976     | -0.012    | 0.738     | 4828981  | 2.58            |                   | 103  | 35804 |       |
| 6 Perfluorohexanoic acid              |       |           |           |           |          |                 |                   |      |       |       |
| 313.00 > 269.00                       | 1.964 | 1.979     | -0.015    | 1.000     | 4743389  | 2.46            |                   | 98.4 | 10441 |       |
| 313.00 > 119.00                       | 1.974 | 1.979     | -0.005    | 1.005     | 438551   |                 | 10.82(5.03-15.10) |      | 10760 |       |
| D 9 13C4-PFHpA                        |       |           |           |           |          |                 |                   |      |       |       |
| 367.00 > 322.00                       | 2.304 | 2.311     | -0.007    | 0.866     | 4388272  | 2.52            |                   | 101  | 28382 |       |
| 10 Perfluoroheptanoic acid            |       |           |           |           |          |                 |                   |      |       |       |
| 363.00 > 319.00                       | 2.304 | 2.311     | -0.007    | 1.000     | 4600114  | 2.51            |                   | 100  | 7051  |       |
| 363.00 > 169.00                       | 2.304 | 2.311     | -0.007    | 1.000     | 1775735  |                 | 2.59(1.13-3.40)   |      | 13063 |       |
| 8 Perfluorohexanesulfonic acid        |       |           |           |           |          |                 |                   |      |       |       |
| 399.00 > 80.00                        | 2.317 | 2.324     | -0.007    | 1.000     | 5198755  | 2.19            |                   | 96.2 | 10749 |       |
| 399.00 > 99.00                        | 2.317 | 2.324     | -0.007    | 1.000     | 1752192  |                 | 2.97(1.50-4.49)   |      | 8285  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.317 | 2.328  | -0.011 | 0.871  | 5140710  | 2.33         |                 | 98.4 | 25163 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649  | -0.011 | 0.992  | 759892   | 2.30         |                 | 96.9 | 16298 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.638 | 2.651  | -0.013 | 1.000  | 1255240  | 2.34         |                 | 98.7 | 29950 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.659 | 2.674  | -0.015 | 1.000  | 4451229  | 2.51         |                 | 100  | 30153 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.659 | 2.676  | -0.017 |        | 4321741  | 2.50         |                 |      | 34311 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.659 | 2.677  | -0.018 | 1.000  | 4785068  | 2.54         |                 | 102  | 3500  |       |
| 413.00 > 169.00                       | 2.659 | 2.677  | -0.018 | 1.000  | 2471767  |              | 1.94(0.84-2.52) |      | 12672 |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.666 | 2.683  | -0.017 | 1.000  | 4337305  | 2.48         |                 | 104  | 24835 |       |
| 449.00 > 99.00                        | 2.666 | 2.683  | -0.017 | 1.000  | 1138387  |              | 3.81(1.94-5.82) |      | 15680 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.032 | 3.048  | -0.016 | 1.140  | 3411187  | 2.33         |                 | 97.4 | 23859 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.032 | 3.050  | -0.018 | 1.000  | 3556327  | 2.32         |                 | 100  | 674   |       |
| 499.00 > 99.00                        | 3.032 | 3.050  | -0.018 | 1.000  | 768015   |              | 4.63(2.31-6.93) |      | 780   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.032 | 3.051  | -0.019 | 1.140  | 3636943  | 2.56         |                 | 102  | 27491 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.032 | 3.052  | -0.020 | 1.000  | 3633268  | 2.56         |                 | 103  | 10608 |       |
| 463.00 > 169.00                       | 3.032 | 3.052  | -0.020 | 1.000  | 852519   |              | 4.26(1.90-5.69) |      | 12834 |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.370 | 3.377  | -0.007 | 1.267  | 4886174  | 2.47         |                 | 98.6 | 20504 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.378 | 3.378  | 0.0    | 1.002  | 4838017  | 2.61         |                 | 104  | 26225 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.385 | 3.402  | -0.017 | 1.002  | 1061925  | 2.35         |                 | 98.1 | 22345 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.378 | 3.403  | -0.025 | 1.270  | 862188   | 2.38         |                 | 99.3 | 12814 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.393 | 3.414  | -0.021 | 1.276  | 2814956  | 2.44         |                 | 97.6 | 28323 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.393 | 3.414  | -0.021 | 1.000  | 2809251  | 2.53         |                 | 101  | 13260 |       |
| 513.00 > 169.00                       | 3.393 | 3.414  | -0.021 | 1.000  | 515204   |              | 5.45(2.36-7.09) |      | 1912  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.544 | 3.569  | -0.025 | 1.333  | 1534170  | 2.57         |                 | 103  | 20161 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.552 | 3.574  | -0.022 | 1.002  | 1617947  | 2.49         |                 | 99.6 | 8777  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.706 | 3.730  | -0.024 | 1.000  | 2123524  | 2.51         |                 | 104  | 25601 |       |
| 599.00 > 99.00                        | 3.706 | 3.730  | -0.024 | 1.000  | 720038   |              | 2.95(1.39-4.16) |      | 11485 |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.714 | 3.740  | -0.026 | 1.397  | 1463588  | 2.41         |                 | 96.3 | 7442  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.723 | 3.746     | -0.023    | 1.000     | 1974682  | 2.32            |                 | 92.7 | 9217  |       |
| 563.00 > 169.00                       | 3.723 | 3.746     | -0.023    | 1.000     | 444843   |                 | 4.44(0.00-0.00) |      | 13357 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.723 | 3.747     | -0.024    | 1.400     | 2273314  | 2.60            |                 | 104  | 24498 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.723 | 3.747     | -0.024    | 1.002     | 1447843  | 2.56            |                 | 102  | 16006 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.865 | 3.867     | -0.002    | 1.453     | 1363373  | 2.42            |                 | 96.9 | 3433  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.875 | 3.873     | 0.002     | 1.003     | 1343084  | 2.55            |                 | 102  | 3202  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.020 | 4.045     | -0.025    | 1.512     | 2419808  | 2.55            |                 | 102  | 23118 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.020 | 4.045     | -0.025    | 1.000     | 2418271  | 2.52            |                 | 101  | 8499  |       |
| 613.00 > 169.00                       | 4.020 | 4.045     | -0.025    | 1.000     | 591257   |                 | 4.09(2.13-6.40) |      | 24883 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.059 | 4.058     | 0.001     | 1.527     | 1340987  | 2.50            |                 | 100  | 2911  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.059 | 4.065     | -0.006    | 1.000     | 1419409  | 2.44            |                 | 97.7 | 2747  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.287 | 4.312     | -0.025    | 1.000     | 2869142  | 2.75            |                 | 110  | 12239 |       |
| 663.00 > 169.00                       | 4.287 | 4.312     | -0.025    | 1.000     | 904477   |                 | 3.17(1.25-3.76) |      | 33388 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.527 | 4.557     | -0.030    | 1.703     | 2807553  | 2.72            |                 | 109  | 17287 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.527 | 4.557     | -0.030    | 1.000     | 656694   | 2.30            |                 | 91.9 | 12556 |       |
| 713.00 > 219.00                       | 4.514 | 4.557     | -0.043    | 0.997     | 475093   |                 | 1.38(0.71-2.13) |      | 10107 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.949 | 4.984     | -0.035    | 1.861     | 5049066  | 2.67            |                 | 107  | 17787 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.949 | 4.984     | -0.035    | 1.000     | 4659439  | 2.68            |                 | 107  | 3031  |       |
| 813.00 > 169.00                       | 4.949 | 4.984     | -0.035    | 1.000     | 821387   |                 | 5.67(2.86-8.58) |      | 8360  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.317 | 5.361     | -0.044    | 1.000     | 5534991  | 2.55            |                 | 102  | 1471  |       |
| 913.00 > 169.00                       | 5.310 | 5.361     | -0.051    | 0.999     | 688621   |                 | 8.04(0.00-0.00) |      | 2916  |       |

## Reagents:

LCPFC\_LL5\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_012.d

Injection Date: 29-Dec-2017 09:05:20

Instrument ID: A8\_N

Lims ID: CCV L5

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#:

35

Worklist Smp#: 12

Injection Vol: 2.0 ul

Dil. Factor:

1.0000

Method: A8\_N

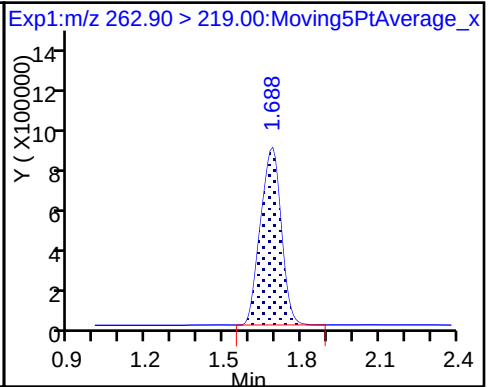
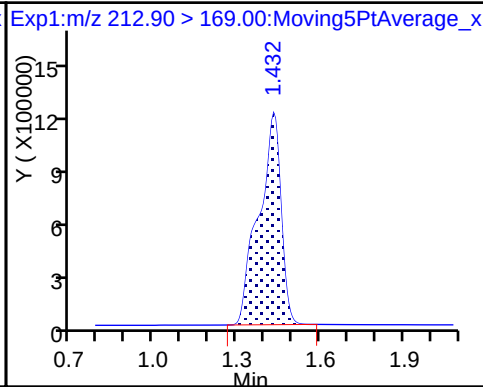
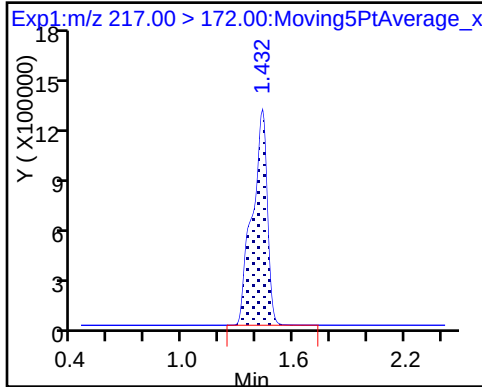
Limit Group:

LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

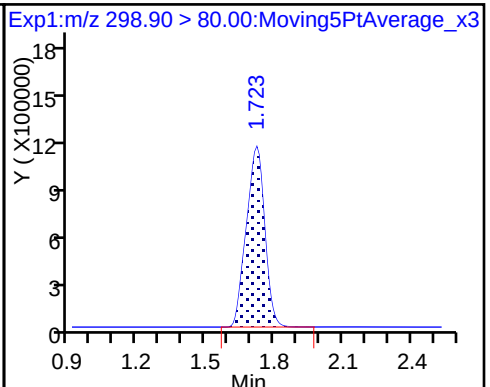
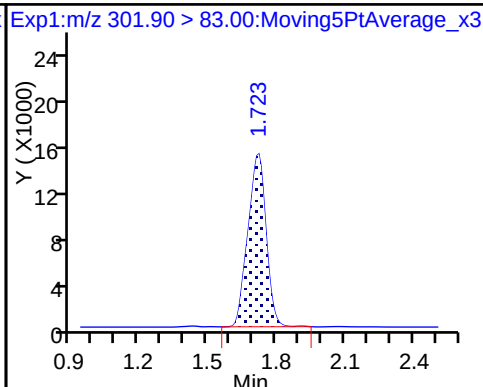
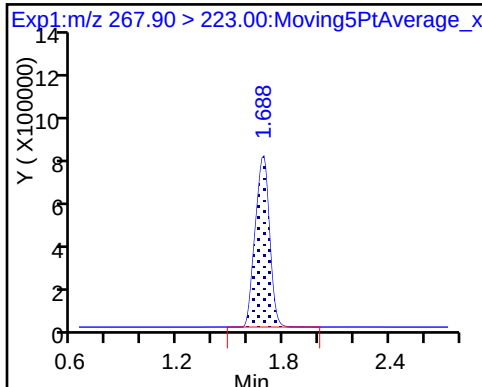
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

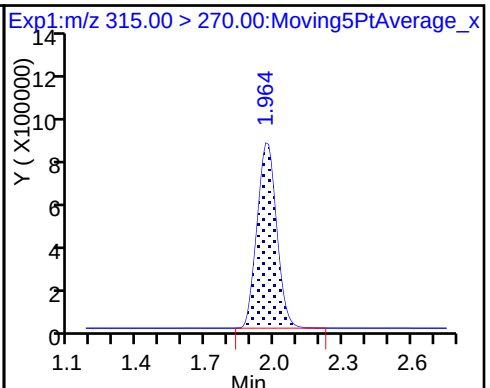
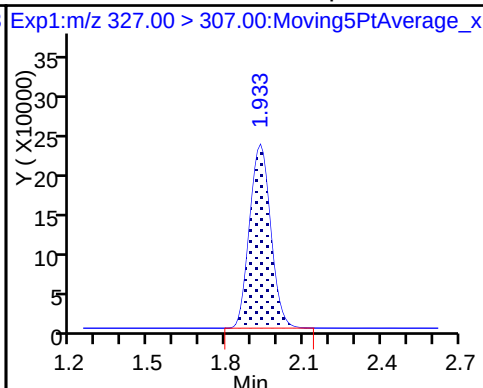
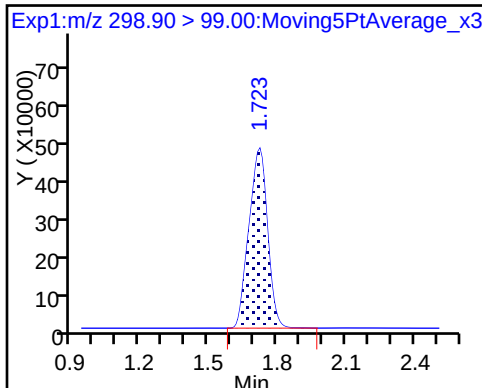
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

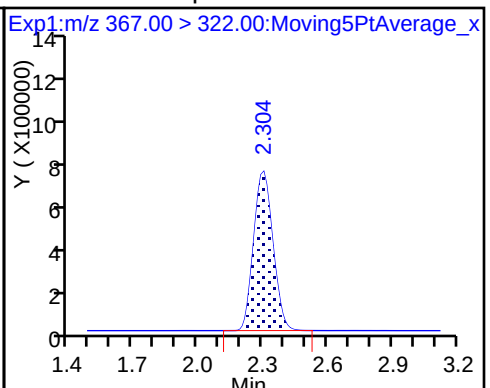
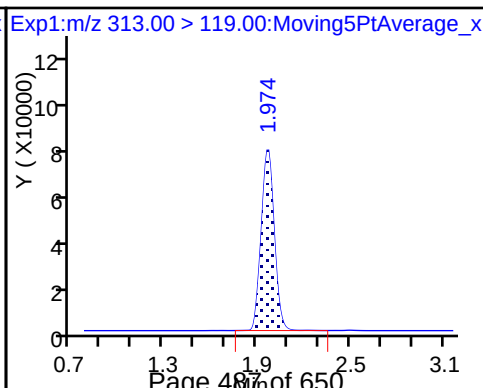
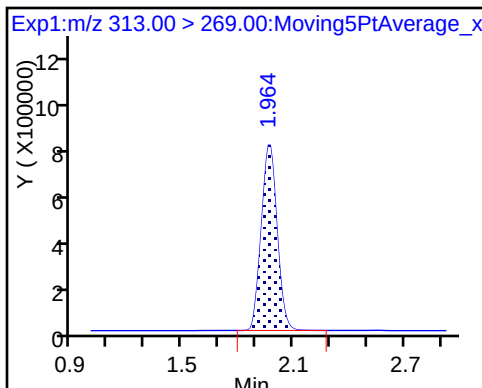
De 7 13C2 PFHxA

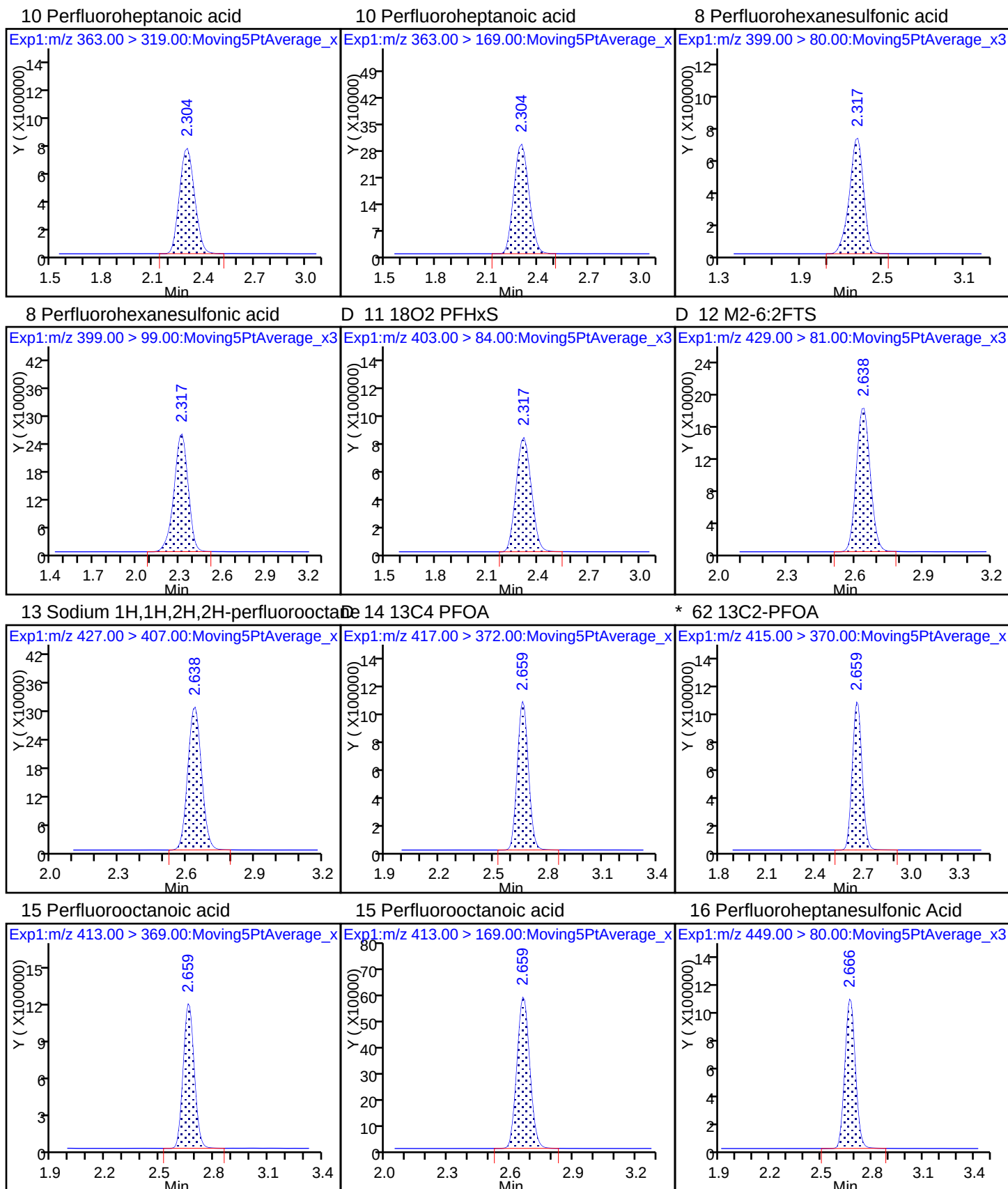


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

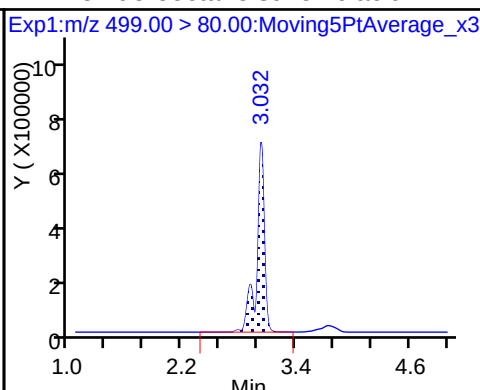
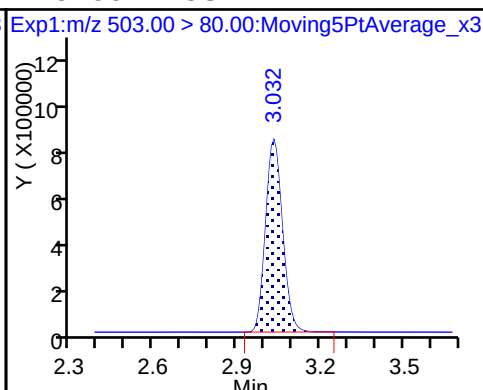
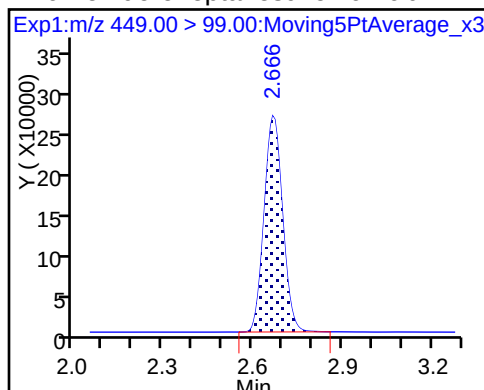




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

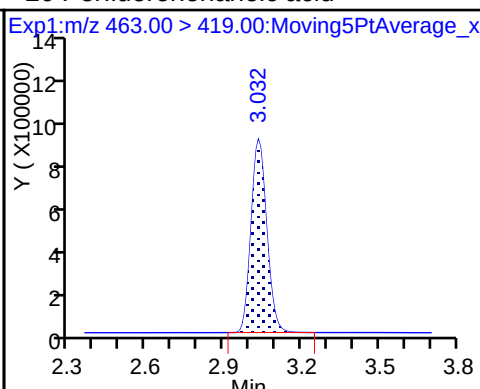
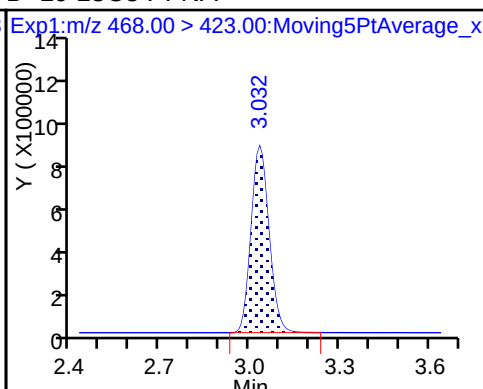
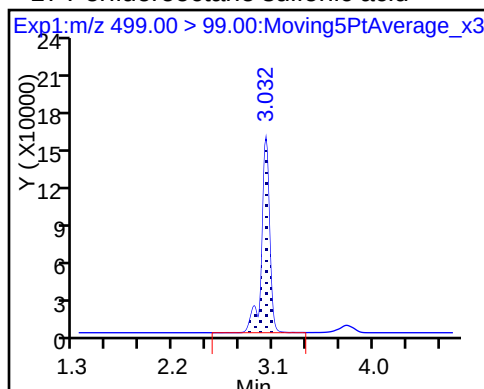
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

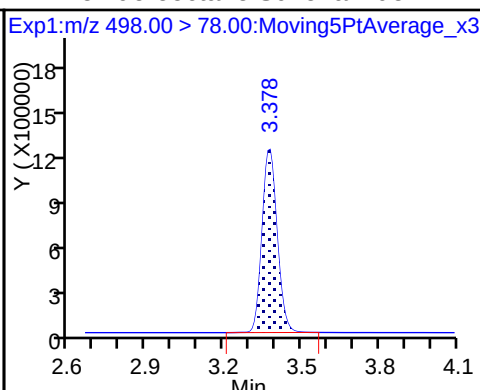
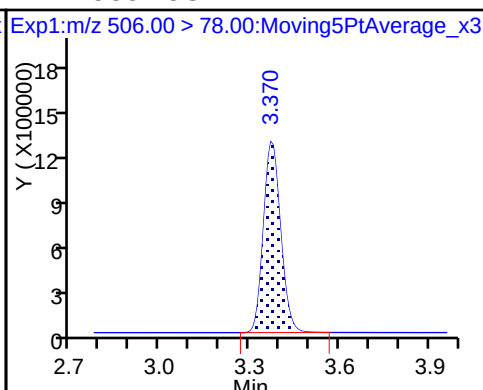
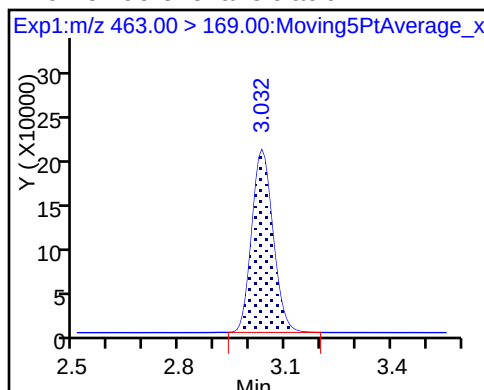
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

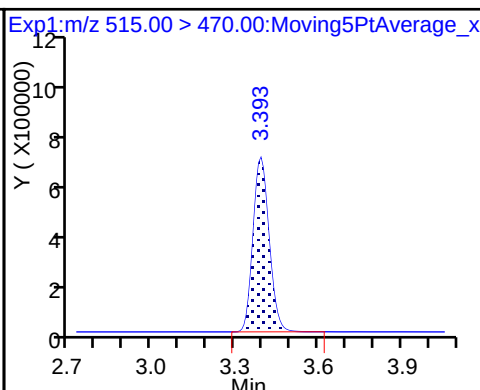
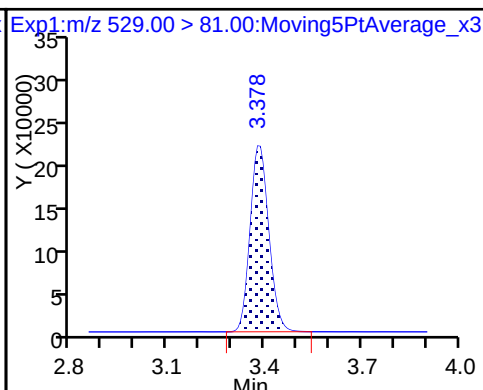
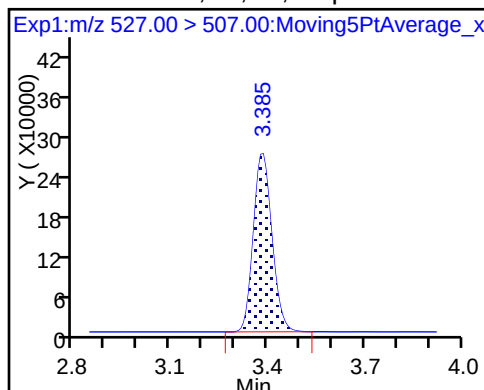
22 Perfluorooctane Sulfonamide

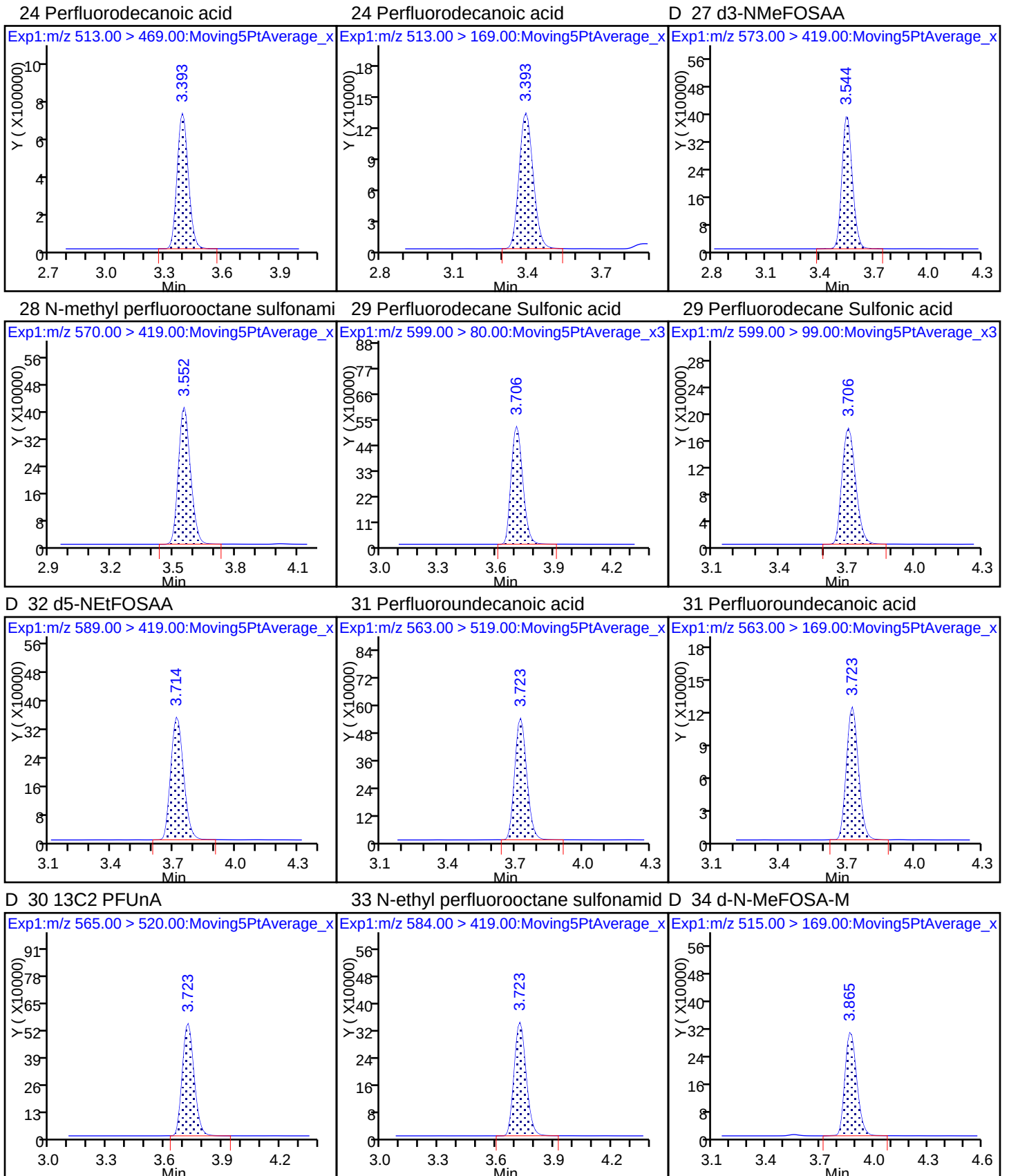


25 Sodium 1H,1H,2H,2H-perfluorodeca

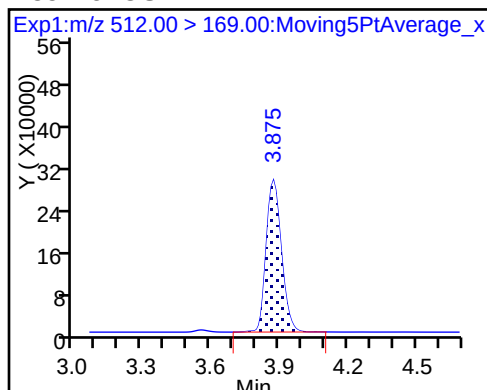
De26 M2-8:2FTS

D 23 13C2 PFDA

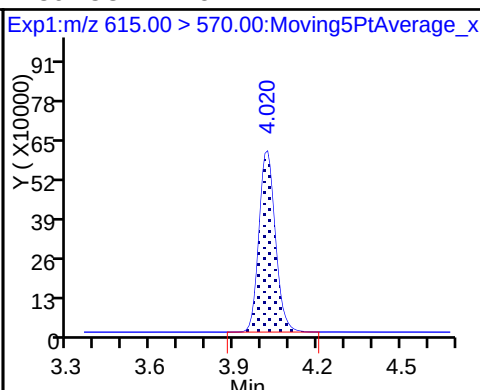




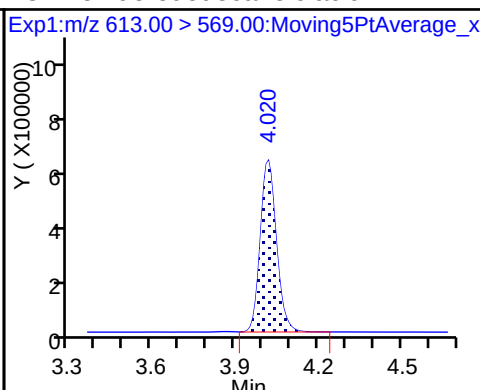
35 MeFOSA



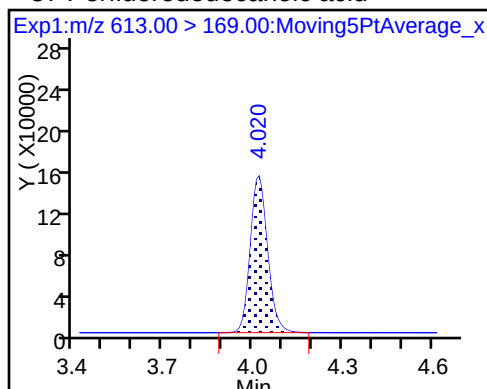
D 36 13C2 PFDaA



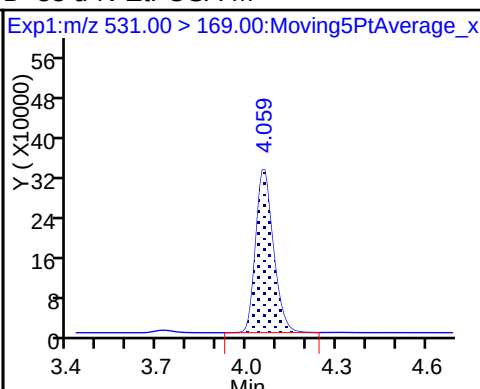
37 Perfluorododecanoic acid



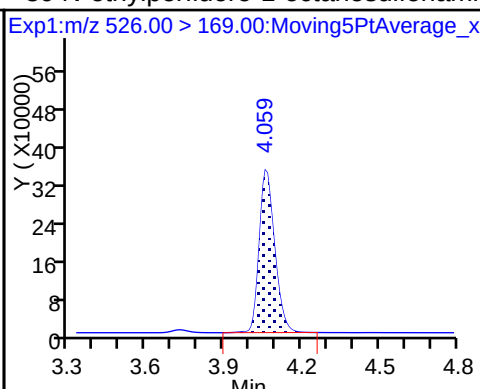
37 Perfluorododecanoic acid



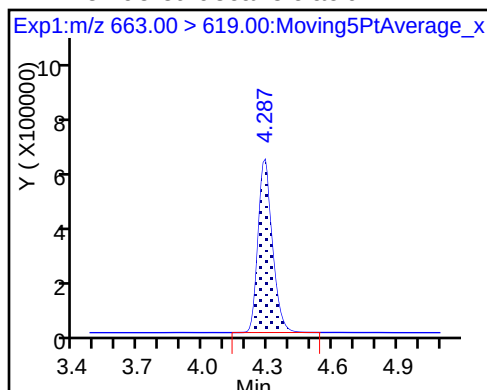
D 38 d-N-EtFOSA-M



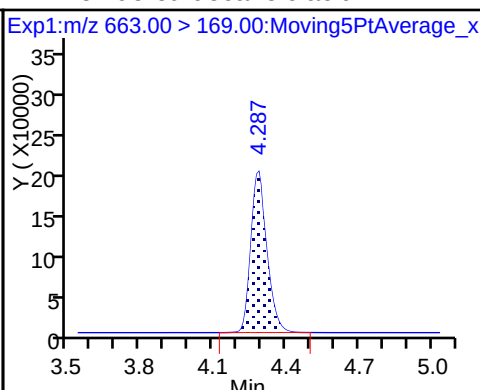
39 N-ethylperfluoro-1-octanesulfonami



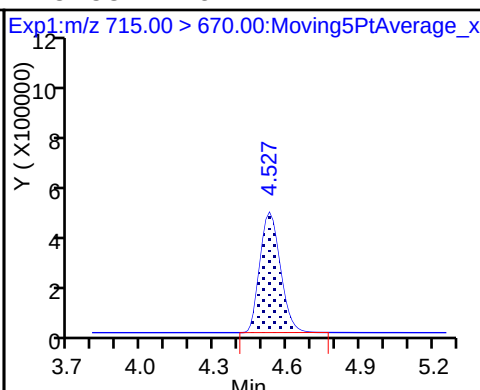
41 Perfluorotridecanoic acid



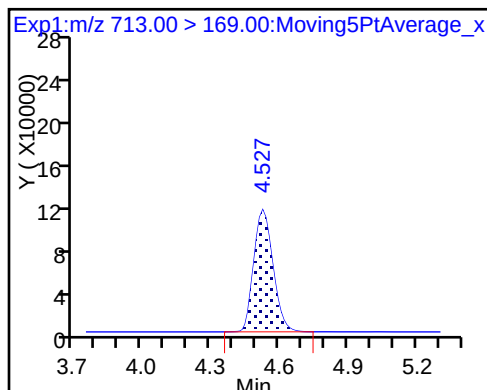
41 Perfluorotridecanoic acid



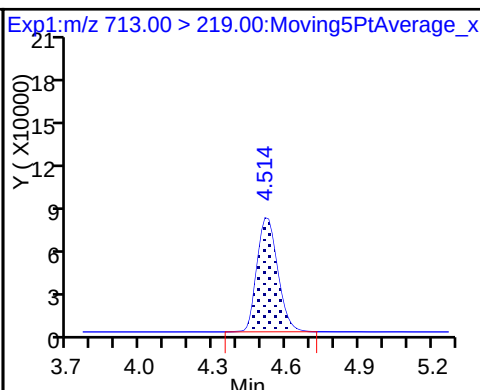
D 43 13C2-PFTeDA



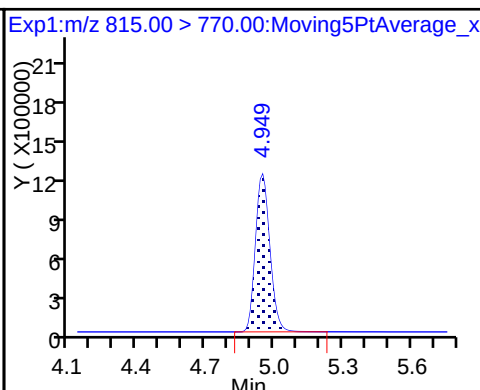
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



D 44 13C2-PFHxDA



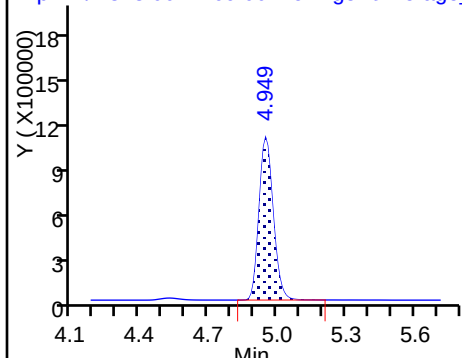


## 45 Perfluorohexadecanoic acid

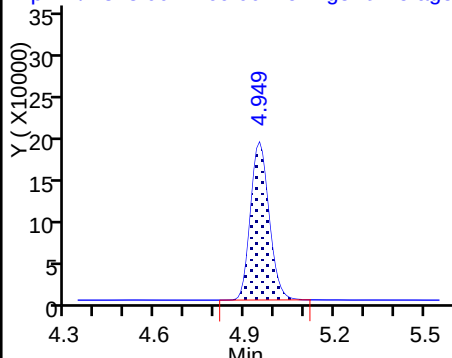
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

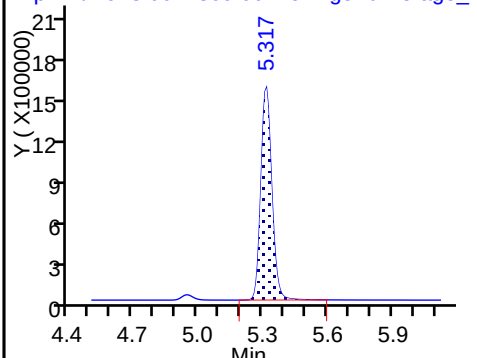
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

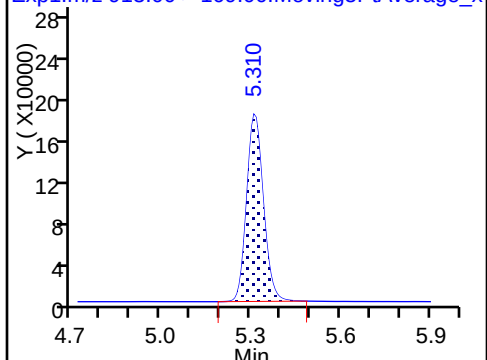


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Lab Sample ID: CCV 320-201893/22 Calibration Date: 12/29/2017 10:23

Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55

GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58

Lab File ID: 2017.12.28LLD\_022.d Conc. Units: ng/mL

| ANALYTE                                                    | CURVE TYPE | AVE RRF | RRF    | MIN RRF | CALC AMOUNT | SPIKE AMOUNT | %D    | MAX %D |
|------------------------------------------------------------|------------|---------|--------|---------|-------------|--------------|-------|--------|
| Perfluorobutanoic acid (PFBA)                              | AveID      | 0.9135  | 0.9458 |         | 1.04        | 1.00         | 3.5   | 40.0   |
| Perfluoropentanoic acid (PFPeA)                            | AveID      | 1.122   | 1.126  |         | 1.00        | 1.00         | 0.4   | 40.0   |
| Perfluorobutanesulfonic acid (PFBS)                        | AveID      | 74.84   | 77.32  |         | 0.913       | 0.884        | 3.3   | 50.0   |
| 4:2 FTS                                                    | AveID      | 1.724   | 1.752  |         | 0.949       | 0.934        | 1.6   | 50.0   |
| Perfluorohexanoic acid (PFHxA)                             | AveID      | 0.999   | 1.000  |         | 1.00        | 1.00         | 0.2   | 40.0   |
| Perfluoroheptanoic acid (PFHpA)                            | AveID      | 1.046   | 0.9947 |         | 0.951       | 1.00         | -4.9  | 40.0   |
| Perfluorohexanesulfonic acid (PFHxS)                       | AveID      | 1.093   | 1.031  |         | 0.858       | 0.910        | -5.7  | 40.0   |
| 6:2FTS                                                     | AveID      | 1.677   | 1.621  |         | 0.916       | 0.948        | -3.3  | 40.0   |
| Perfluorooctanoic acid (PFOA)                              | AveID      | 1.059   | 1.083  |         | 1.02        | 1.00         | 2.3   | 40.0   |
| Perfluorooctanesulfonic Acid (PFHpS)                       | AveID      | 1.227   | 1.284  |         | 0.996       | 0.952        | 4.6   | 50.0   |
| Perfluorononanoic acid (PFNA)                              | AveID      | 0.9743  | 0.999  |         | 1.03        | 1.00         | 2.6   | 40.0   |
| Perfluorooctanesulfonic acid (PFOS)                        | AveID      | 1.073   | 0.8356 |         | 0.723       | 0.928        | -22.1 | 40.0   |
| Perfluorooctane Sulfonamide (FOSA)                         | AveID      | 0.9492  | 1.001  |         | 1.05        | 1.00         | 5.4   | 40.0   |
| 8:2FTS                                                     | AveID      | 1.256   | 1.213  |         | 0.926       | 0.958        | -3.4  | 40.0   |
| Perfluorodecanoic acid (PFDA)                              | AveID      | 0.9858  | 0.9710 |         | 0.985       | 1.00         | -1.5  | 40.0   |
| N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | AveID      | 1.059   | 1.047  |         | 0.989       | 1.00         | -1.1  | 40.0   |
| Perfluorodecanesulfonic acid (PFDS)                        | AveID      | 0.5921  | 0.6268 |         | 1.02        | 0.964        | 5.9   | 50.0   |
| N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | AveID      | 0.9653  | 0.9319 |         | 0.965       | 1.00         | -3.5  | 40.0   |
| Perfluoroundecanoic acid (PFUnA)                           | AveID      | 0.9369  | 0.8868 |         | 0.947       | 1.00         | -5.3  | 40.0   |
| MeFOSA                                                     | AveID      | 0.9651  | 0.997  |         | 1.03        | 1.00         | 3.3   | 50.0   |
| Perfluorododecanoic acid (PFDoA)                           | AveID      | 0.9929  | 1.014  |         | 1.02        | 1.00         | 2.2   | 40.0   |
| N-EtFOSA-M                                                 | AveID      | 1.084   | 1.102  |         | 1.02        | 1.00         | 1.7   | 40.0   |
| Perfluorotridecanoic Acid (PFTriA)                         | AveID      | 1.078   | 1.211  |         | 1.12        | 1.00         | 12.4  | 50.0   |
| Perfluorotetradecanoic acid (PFTeA)                        | AveID      | 0.2545  | 0.2492 |         | 0.979       | 1.00         | -2.1  | 50.0   |
| Perfluoro-n-hexadecanoic acid (PFHxDA)                     | L2ID       |         | 0.9078 |         | 1.04        | 1.00         | 4.0   | 50.0   |
| Perfluoro-n-octadecanoic acid (PFODA)                      | AveID      | 1.075   | 1.080  |         | 1.01        | 1.00         | 0.6   | 50.0   |
| 13C4 PFBA                                                  | Ave        | 1.731   | 1.672  |         | 2.41        | 2.50         | -3.4  | 50.0   |
| 13C5 PFPeA                                                 | Ave        | 1.009   | 1.004  |         | 2.49        | 2.50         | -0.5  | 50.0   |
| 13C3-PFBS                                                  | Ave        | 0.0219  | 0.0213 |         | 2.27        | 2.33         | -2.6  | 50.0   |
| 13C2 PFHxA                                                 | Ave        | 1.085   | 1.069  |         | 2.46        | 2.50         | -1.4  | 50.0   |
| 13C4-PFHpA                                                 | Ave        | 1.007   | 1.047  |         | 2.60        | 2.50         | 4.0   | 50.0   |

FORM VII  
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 320-201893/22 Calibration Date: 12/29/2017 10:23  
 Instrument ID: A8\_N Calib Start Date: 12/26/2017 16:55  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 12/26/2017 17:58  
 Lab File ID: 2017.12.28LLD\_022.d Conc. Units: ng/mL

| ANALYTE      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|--------------|---------------|---------|--------|---------|----------------|-----------------|------|-----------|
| 18O2 PFHxS   | Ave           | 1.278   | 1.256  |         | 2.32           | 2.37            | -1.7 | 50.0      |
| M2-6:2FTS    | Ave           | 0.1910  | 0.1803 |         | 2.24           | 2.38            | -5.6 | 40.0      |
| 13C4 PFOA    | Ave           | 1.028   | 1.050  |         | 2.55           | 2.50            | 2.1  | 50.0      |
| 13C4 PFOS    | Ave           | 0.8476  | 0.8307 |         | 2.34           | 2.39            | -2.0 | 50.0      |
| 13C5 PFNA    | Ave           | 0.8211  | 0.8313 |         | 2.53           | 2.50            | 1.2  | 50.0      |
| 13C8 FOSA    | Ave           | 1.146   | 1.130  |         | 2.47           | 2.50            | -1.4 | 50.0      |
| M2-8:2FTS    | Ave           | 0.2097  | 0.2005 |         | 2.29           | 2.40            | -4.4 | 40.0      |
| 13C2 PFDA    | Ave           | 0.6674  | 0.6694 |         | 2.51           | 2.50            | 0.3  | 50.0      |
| d3-NMeFOSAA  | Ave           | 0.3450  | 0.3328 |         | 2.41           | 2.50            | -3.5 | 50.0      |
| 13C2 PFUnA   | Ave           | 0.5052  | 0.5286 |         | 2.62           | 2.50            | 4.6  | 50.0      |
| d5-NEtFOSAA  | Ave           | 0.3516  | 0.3503 |         | 2.49           | 2.50            | -0.4 | 50.0      |
| d-N-MeFOSA-M | Ave           | 0.3256  | 0.3200 |         | 2.46           | 2.50            | -1.7 | 50.0      |
| 13C2 PFDoA   | Ave           | 0.5489  | 0.5821 |         | 2.65           | 2.50            | 6.1  | 50.0      |
| d-N-EtFOSA-M | Ave           | 0.3100  | 0.2969 |         | 2.40           | 2.50            | -4.2 | 50.0      |
| 13C2-PFTeDA  | Ave           | 0.5969  | 0.6166 |         | 2.58           | 2.50            | 3.3  | 50.0      |
| 13C2-PFHxDA  | Ave           | 1.094   | 1.131  |         | 2.59           | 2.50            | 3.4  | 50.0      |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_022.d  
 Lims ID: CCV L4  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 29-Dec-2017 10:23:32 ALS Bottle#: 30 Worklist Smp#: 22  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: CCV L4  
 Misc. Info.: Plate: 1 Rack: 1  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Sublist: chrom-A8\_N\*sub18  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 10-Jan-2018 10:52:11 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d

Column 1 : Det: EXP1

Process Host: XAWRK036

First Level Reviewer: hannigana

Date: 29-Dec-2017 16:20:37

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.437 | 1.433  | 0.004  | 0.539  | 7280696  | 2.41         |                   | 96.6 | 26254 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.437 | 1.434  | 0.003  | 1.000  | 2754463  | 1.04         |                   | 104  | 442   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.696 | 1.691  | 0.005  | 1.000  | 1969884  | 1.00         |                   | 100  | 2081  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.696 | 1.692  | 0.004  | 0.637  | 4374697  | 2.49         |                   | 99.5 | 41720 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.722 | 1.725  | -0.003 | 0.647  | 86269    | 2.26         |                   | 97.4 | 3047  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.731 | 1.730  | 0.001  | 1.005  | 2536141  | 0.9133       |                   | 103  | 14615 |       |
| 298.90 > 99.00                        | 1.731 | 1.730  | 0.001  | 1.005  | 1087916  |              | 2.33(1.25-3.74)   |      | 10814 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.940 | 1.941  | -0.001 | 1.000  | 514093   | 0.9493       |                   | 102  | 22849 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.971 | 1.976  | -0.005 | 0.740  | 4656293  | 2.46         |                   | 98.6 | 31553 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.971 | 1.979  | -0.008 | 1.000  | 1862898  | 1.00         |                   | 100  | 4101  |       |
| 313.00 > 119.00                       | 1.971 | 1.979  | -0.008 | 1.000  | 178892   |              | 10.41(5.03-15.10) |      | 3406  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.301 | 2.311  | -0.010 | 0.864  | 4561477  | 2.60         |                   | 104  | 33730 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.301 | 2.311  | -0.010 | 1.000  | 1814923  | 0.9512       |                   | 95.1 | 3219  |       |
| 363.00 > 169.00                       | 2.301 | 2.311  | -0.010 | 1.000  | 737530   |              | 2.46(1.13-3.40)   |      | 5407  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.314 | 2.324  | -0.010 | 1.000  | 2052707  | 0.8585       |                   | 94.3 | 6814  |       |
| 399.00 > 99.00                        | 2.314 | 2.324  | -0.010 | 1.000  | 672538   |              | 3.05(1.50-4.49)   |      | 3598  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.314 | 2.328  | -0.014 | 0.869  | 5174851  | 2.32         |                 | 98.3 | 25909 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.642 | 2.649  | -0.007 | 0.992  | 745947   | 2.24         |                 | 94.4 | 21999 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.635 | 2.651  | -0.016 | 0.997  | 482593   | 0.9163       |                 | 96.7 | 16419 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.664 | 2.674  | -0.010 | 1.000  | 4571801  | 2.55         |                 | 102  | 36283 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.664 | 2.676  | -0.012 |        | 4355431  | 2.50         |                 |      | 29315 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.664 | 2.677  | -0.013 | 1.000  | 1979873  | 1.02         |                 | 102  | 1577  |       |
| 413.00 > 169.00                       | 2.664 | 2.677  | -0.013 | 1.000  | 1022894  |              | 1.94(0.84-2.52) |      | 5616  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.671 | 2.683  | -0.012 | 1.000  | 1768584  | 1.00         |                 | 105  | 18113 |       |
| 449.00 > 99.00                        | 2.671 | 2.683  | -0.012 | 1.000  | 480294   |              | 3.68(1.94-5.82) |      | 9529  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.039 | 3.048  | -0.009 | 1.141  | 3458699  | 2.34         |                 | 98.0 | 28395 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.039 | 3.050  | -0.011 | 1.000  | 1122175  | 0.7226       |                 | 77.9 | 123   |       |
| 499.00 > 99.00                        | 3.039 | 3.050  | -0.011 | 1.000  | 320239   |              | 3.50(2.31-6.93) |      | 376   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.039 | 3.051  | -0.012 | 1.141  | 3620646  | 2.53         |                 | 101  | 28890 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.039 | 3.052  | -0.013 | 1.000  | 1447271  | 1.03         |                 | 103  | 4815  |       |
| 463.00 > 169.00                       | 3.039 | 3.052  | -0.013 | 1.000  | 346460   |              | 4.18(1.90-5.69) |      | 7416  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.377 | 3.377  | 0.0    | 1.268  | 4922884  | 2.47         |                 | 98.6 | 19862 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.384 | 3.378  | 0.006  | 1.002  | 1970619  | 1.05         |                 | 105  | 14870 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.392 | 3.402  | -0.010 | 1.000  | 406054   | 0.9257       |                 | 96.6 | 16913 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.392 | 3.403  | -0.011 | 1.273  | 836747   | 2.29         |                 | 95.6 | 17250 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.399 | 3.414  | -0.015 | 1.276  | 2915708  | 2.51         |                 | 100  | 30630 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.399 | 3.414  | -0.015 | 1.000  | 1132504  | 0.9850       |                 | 98.5 | 6175  |       |
| 513.00 > 169.00                       | 3.399 | 3.414  | -0.015 | 1.000  | 202561   |              | 5.59(2.36-7.09) |      | 2022  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.558 | 3.569  | -0.011 | 1.336  | 1449629  | 2.41         |                 | 96.5 | 21184 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.558 | 3.574  | -0.016 | 1.000  | 607065   | 0.9889       |                 | 98.9 | 3760  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.712 | 3.730  | -0.018 | 1.000  | 874360   | 1.02         |                 | 106  | 22917 |       |
| 599.00 > 99.00                        | 3.712 | 3.730  | -0.018 | 1.000  | 293936   |              | 2.97(1.39-4.16) |      | 7713  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.729 | 3.740  | -0.011 | 1.400  | 1525533  | 2.49         |                 | 99.6 | 8536  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.729 | 3.746     | -0.017    | 1.000     | 816646   | 0.9465          |                 | 94.7 | 4110  |       |
| 563.00 > 169.00                       | 3.729 | 3.746     | -0.017    | 1.000     | 194516   |                 | 4.20(0.00-0.00) |      | 10585 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.729 | 3.747     | -0.018    | 1.400     | 2302284  | 2.62            |                 | 105  | 28387 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.729 | 3.747     | -0.018    | 1.000     | 568644   | 0.9654          |                 | 96.5 | 10855 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.882 | 3.867     | 0.015     | 1.458     | 1393832  | 2.46            |                 | 98.3 | 3943  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.882 | 3.873     | 0.009     | 1.000     | 555659   | 1.03            |                 | 103  | 2945  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.026 | 4.045     | -0.019    | 1.512     | 2535320  | 2.65            |                 | 106  | 37492 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.026 | 4.045     | -0.019    | 1.000     | 1028611  | 1.02            |                 | 102  | 3975  |       |
| 613.00 > 169.00                       | 4.026 | 4.045     | -0.019    | 1.000     | 252002   |                 | 4.08(2.13-6.40) |      | 10620 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.066 | 4.058     | 0.008     | 1.526     | 1293033  | 2.39            |                 | 95.8 | 2742  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.073 | 4.065     | 0.008     | 1.002     | 569975   | 1.02            |                 | 102  | 2358  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.294 | 4.312     | -0.018    | 1.000     | 1227938  | 1.12            |                 | 112  | 6783  |       |
| 663.00 > 169.00                       | 4.294 | 4.312     | -0.018    | 1.000     | 383235   |                 | 3.20(1.25-3.76) |      | 21852 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.533 | 4.557     | -0.024    | 1.702     | 2685572  | 2.58            |                 | 103  | 21035 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.533 | 4.557     | -0.024    | 1.000     | 267664   | 0.9792          |                 | 97.9 | 7705  |       |
| 713.00 > 219.00                       | 4.519 | 4.557     | -0.038    | 0.997     | 186083   |                 | 1.44(0.71-2.13) |      | 6318  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.952 | 4.984     | -0.032    | 1.859     | 4926905  | 2.59            |                 | 103  | 20760 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.952 | 4.984     | -0.032    | 1.000     | 1789004  | 1.04            |                 | 104  | 1283  |       |
| 813.00 > 169.00                       | 4.952 | 4.984     | -0.032    | 1.000     | 325739   |                 | 5.49(2.86-8.58) |      | 5913  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.320 | 5.361     | -0.041    | 1.000     | 2129372  | 1.01            |                 | 101  | 674   |       |
| 913.00 > 169.00                       | 5.313 | 5.361     | -0.048    | 0.999     | 267029   |                 | 7.97(0.00-0.00) |      | 2095  |       |

## Reagents:

LCPFC\_LL4\_00002

Amount Added: 1.00

Units: mL

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_022.d

Injection Date: 29-Dec-2017 10:23:32

Instrument ID: A8\_N

Lims ID: CCV L4

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 30

Worklist Smp#: 22

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

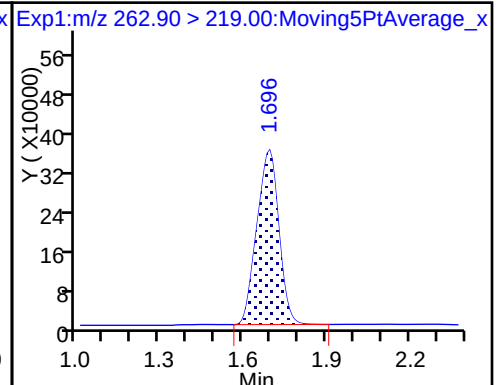
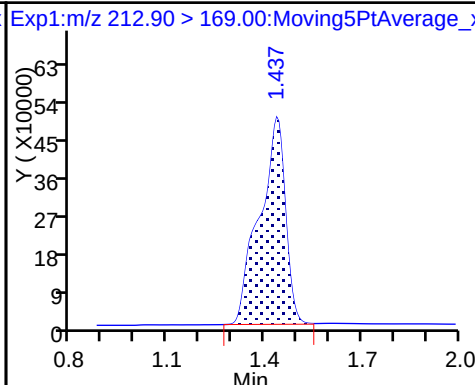
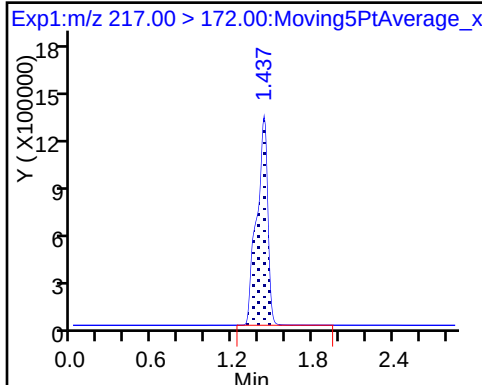
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

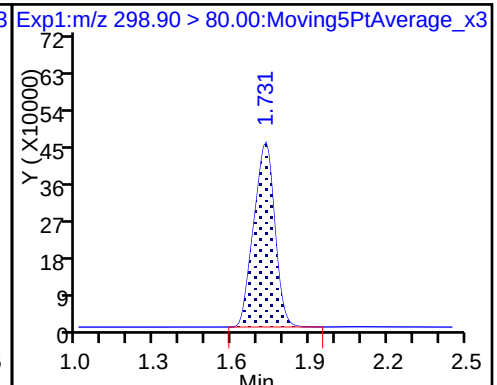
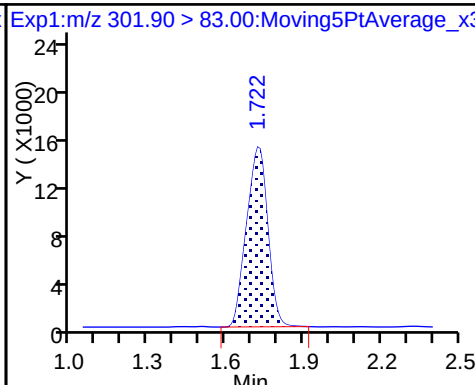
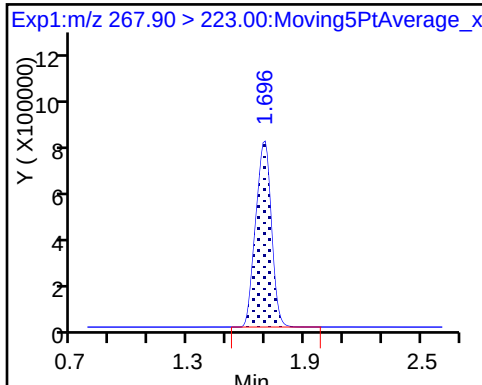
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

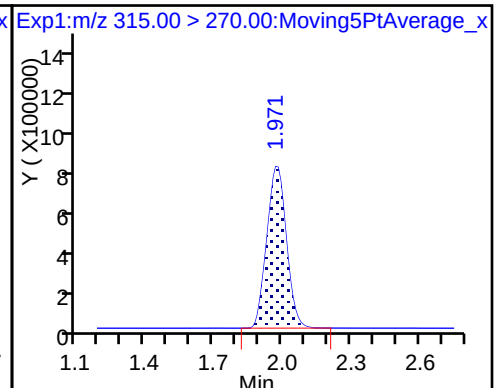
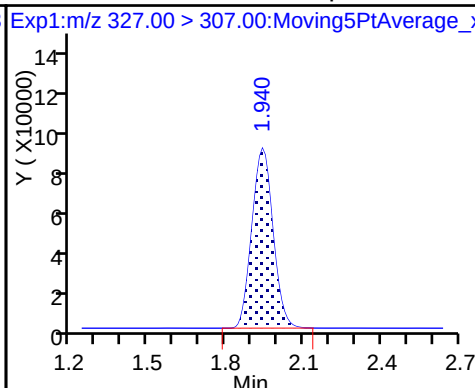
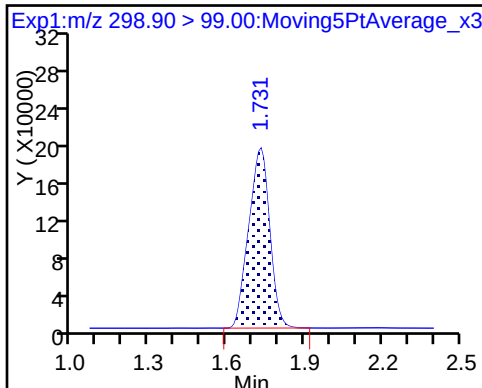
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

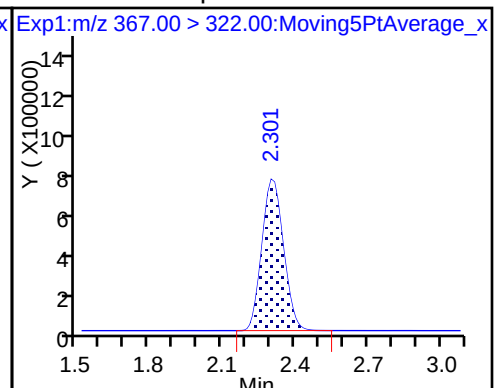
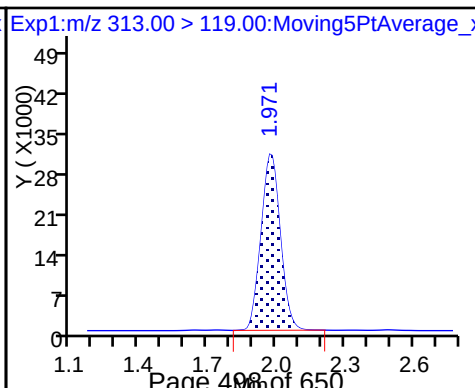
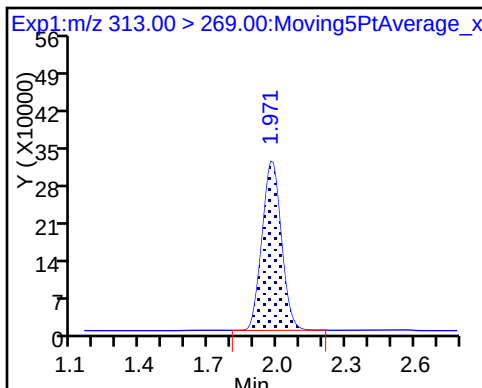
De 7 13C2 PFHxA



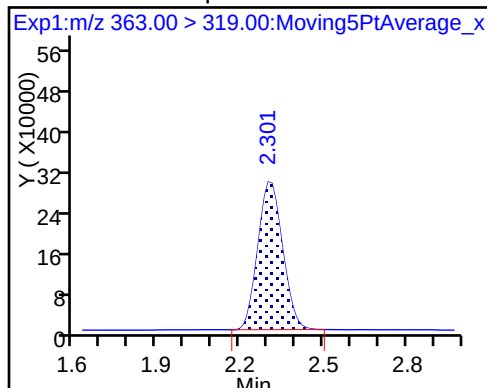
6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

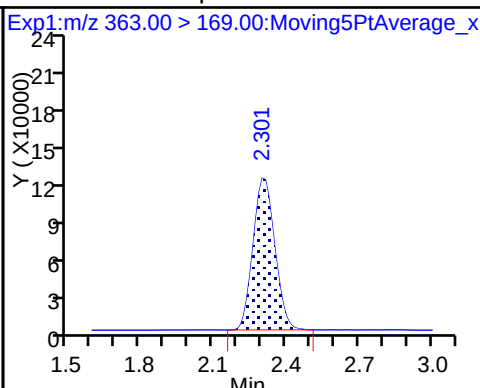
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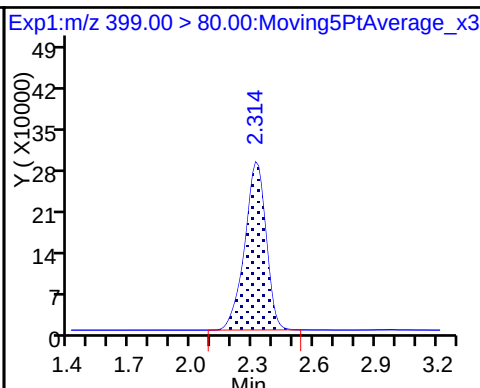
10 Perfluoroheptanoic acid



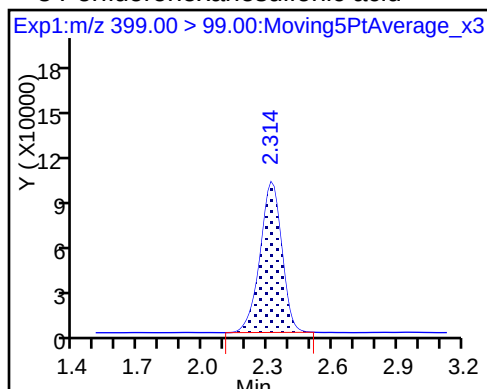
10 Perfluoroheptanoic acid



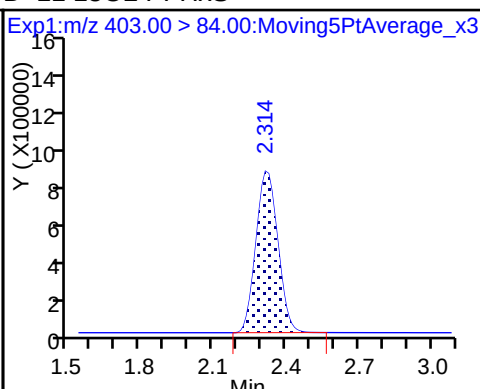
8 Perfluorohexanesulfonic acid



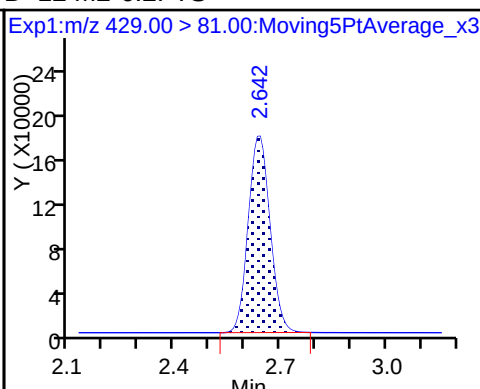
8 Perfluorohexanesulfonic acid



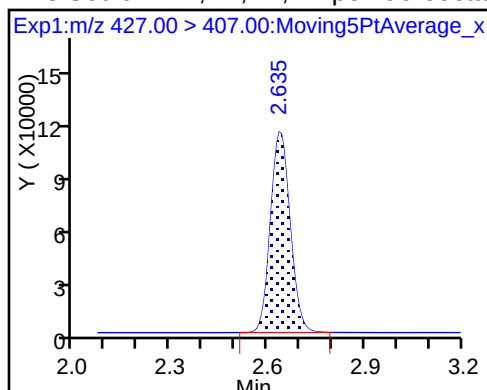
D 11 18O2 PFHxS



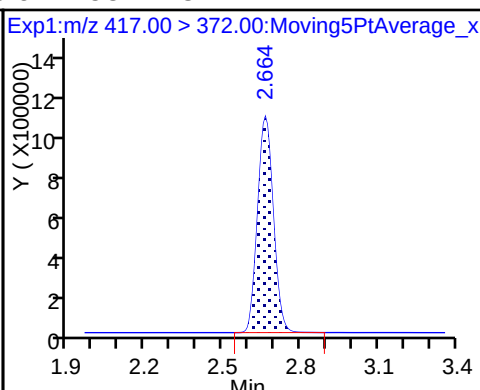
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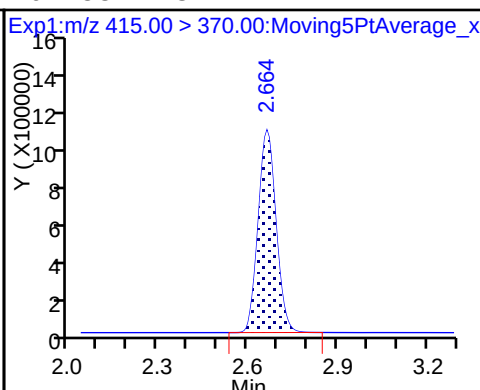
13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate



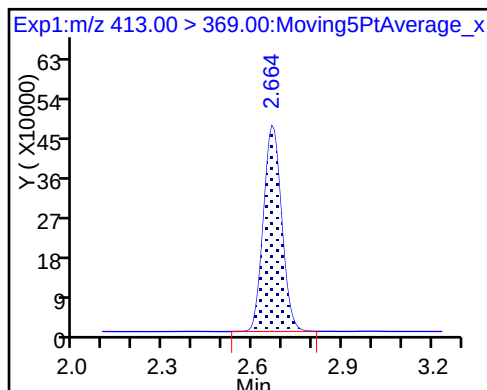
D 14 13C4 PFOA



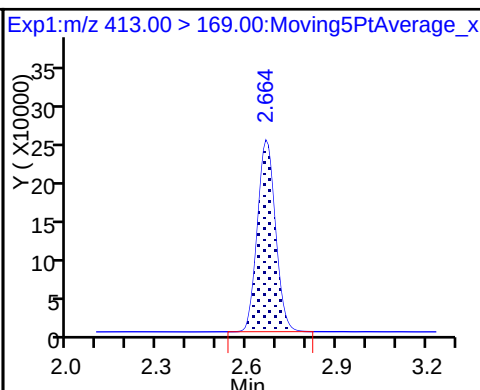
\* 62 13C2-PFOA



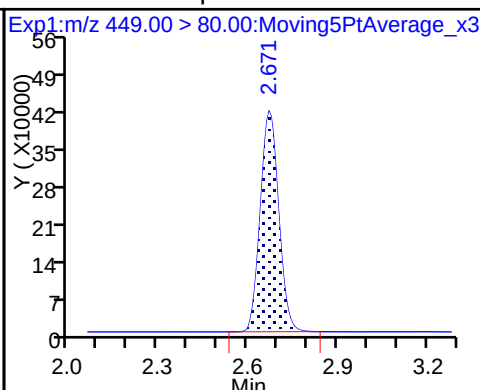
15 Perfluorooctanoic acid



15 Perfluorooctanoic acid



16 Perfluoroheptanesulfonic Acid

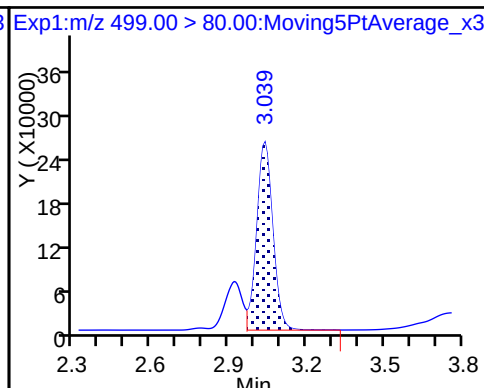
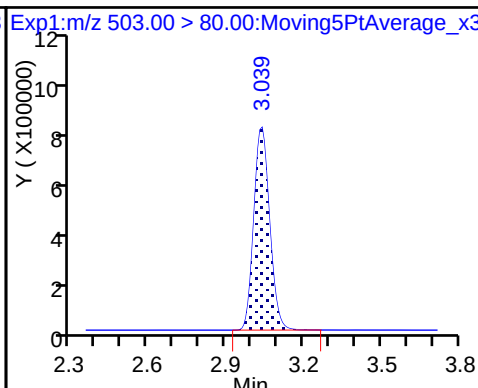
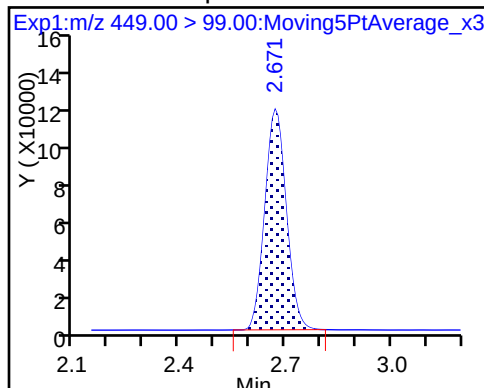




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

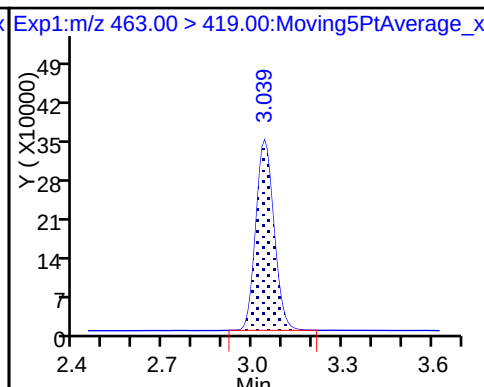
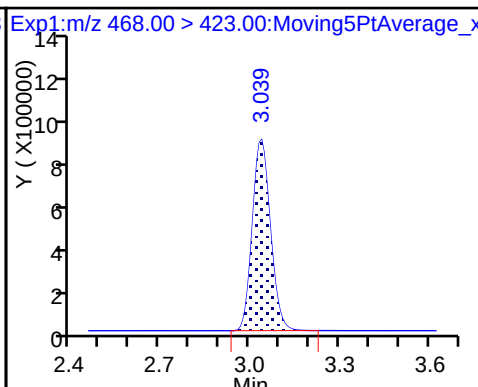
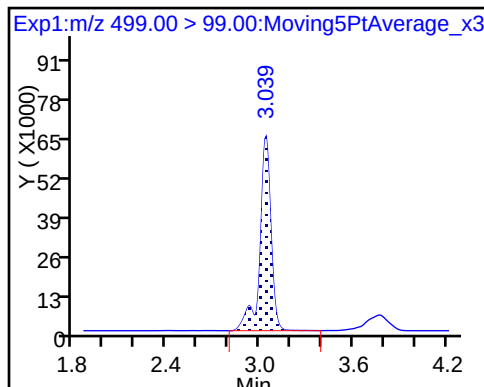
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

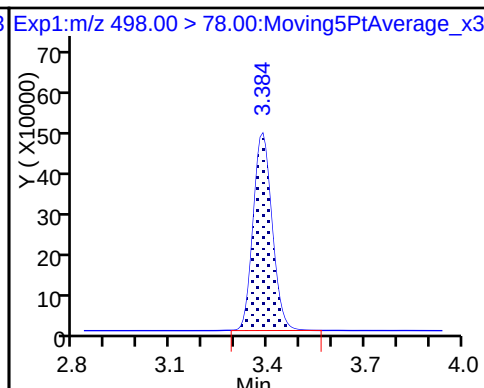
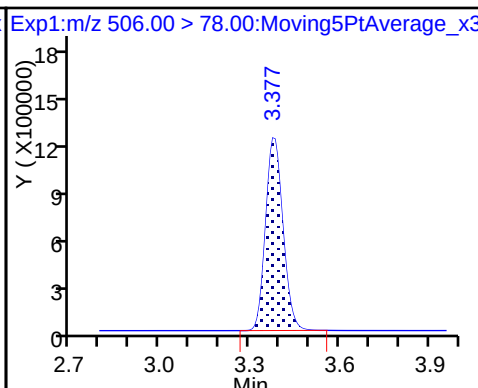
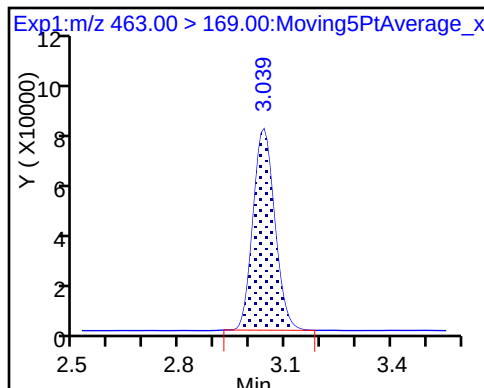
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

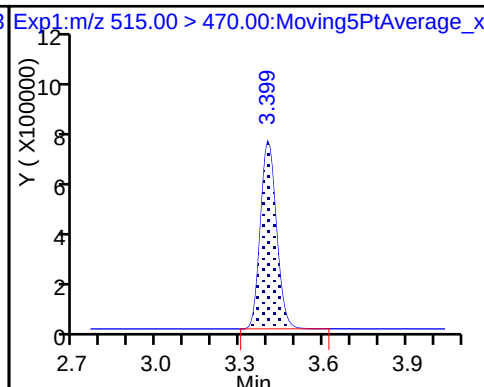
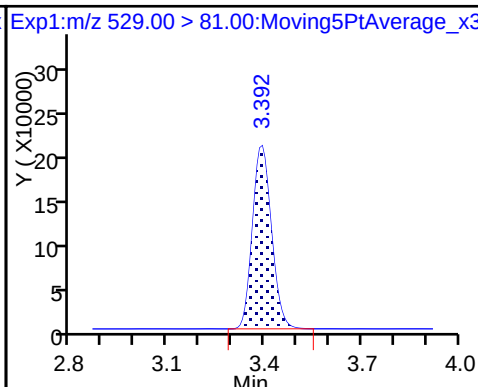
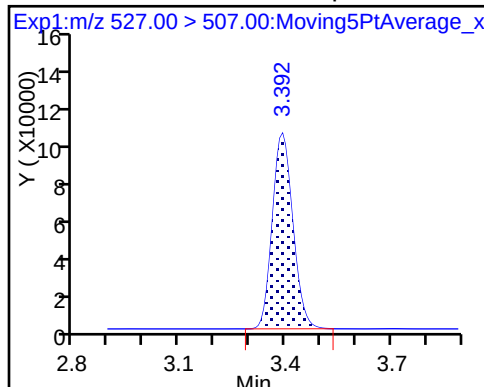
22 Perfluorooctane Sulfonamide

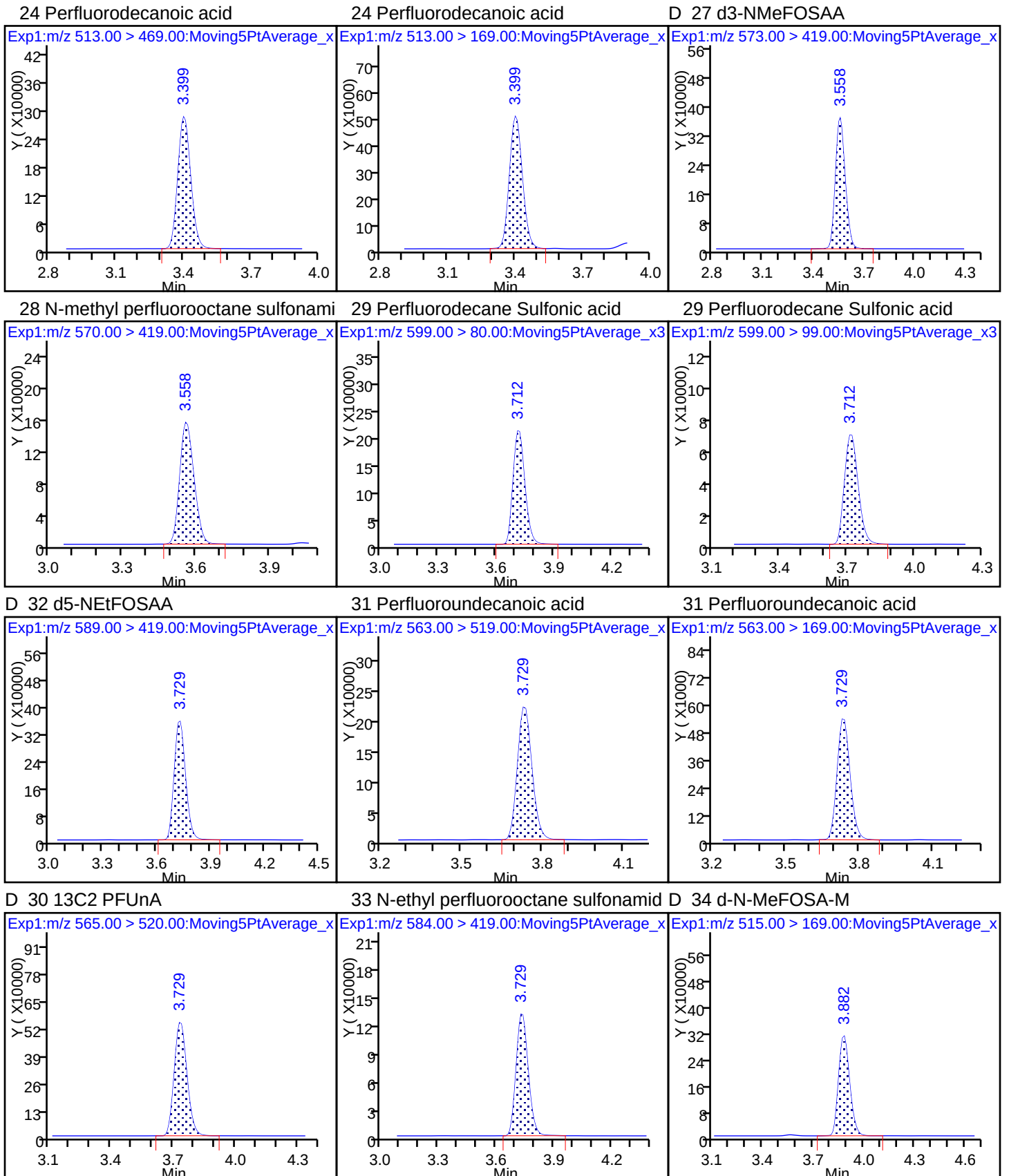


25 Sodium 1H,1H,2H,2H-perfluorodecane-1-sulfonate

D 26 M2-8:2FTS

D 23 13C2 PFDA

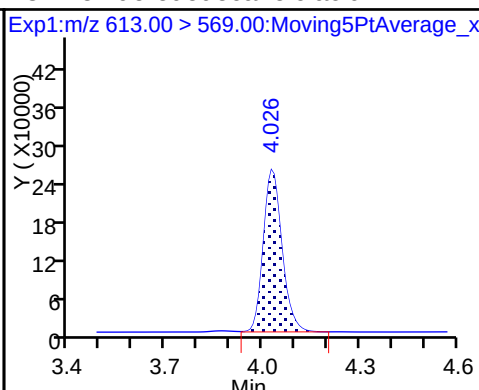
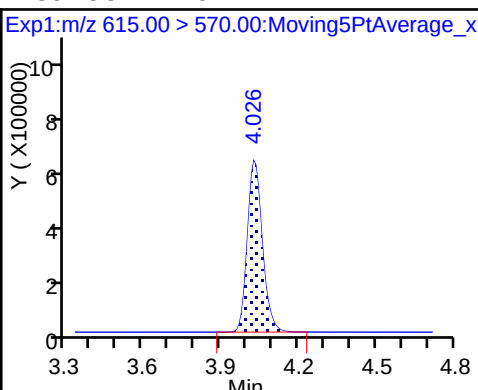
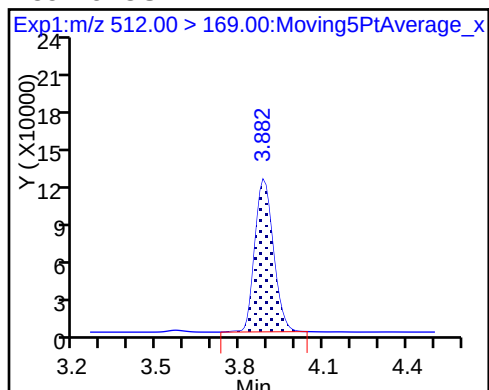




35 MeFOSA

D 36 13C2 PFDaA

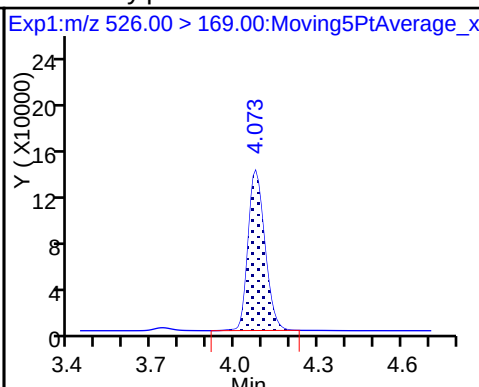
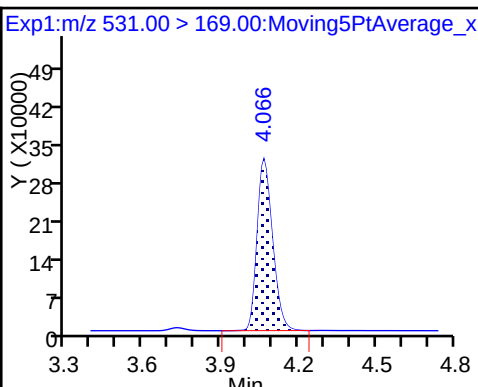
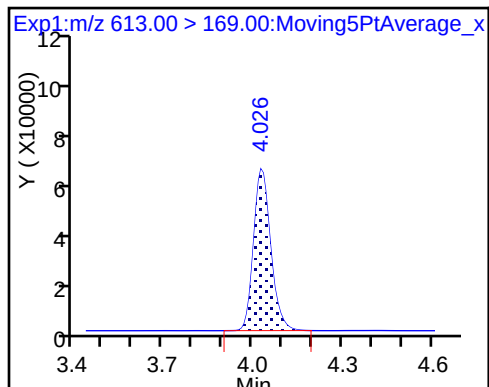
37 Perfluorododecanoic acid



37 Perfluorododecanoic acid

D 38 d-N-EtFOSA-M

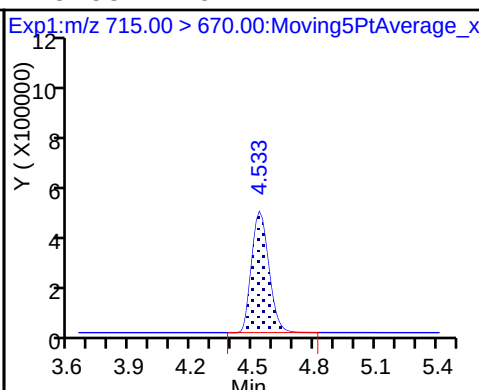
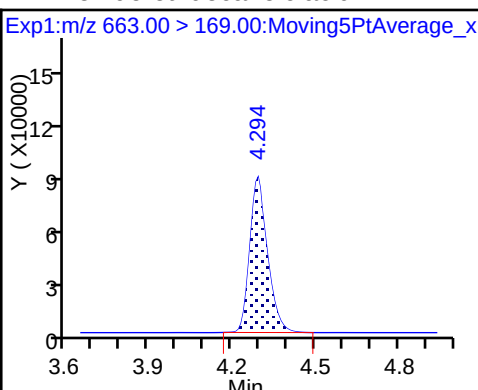
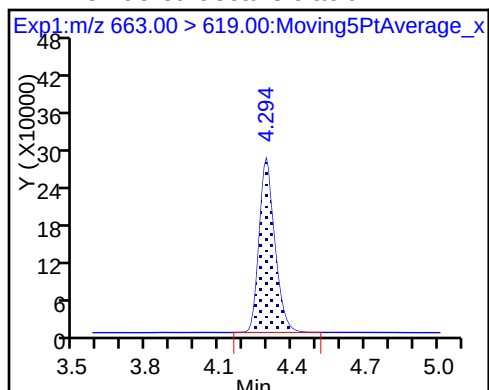
39 N-ethylperfluoro-1-octanesulfonami



41 Perfluorotridecanoic acid

41 Perfluorotridecanoic acid

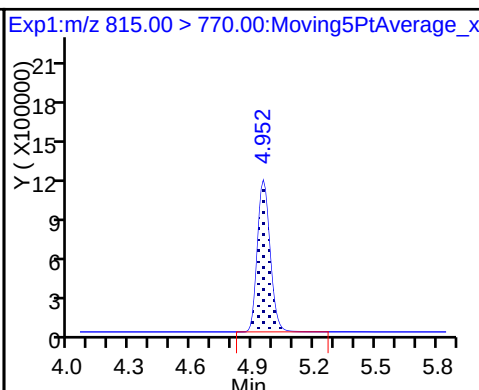
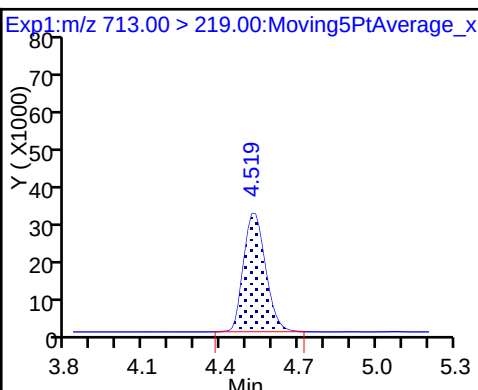
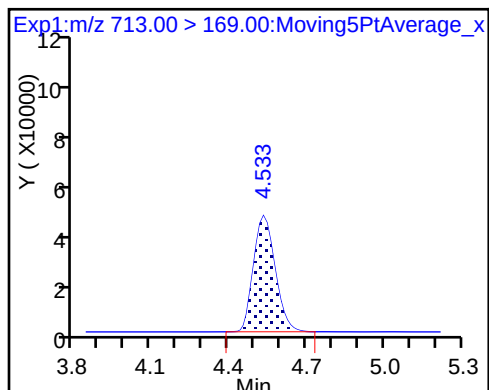
D 43 13C2-PFTeDA



42 Perfluorotetradecanoic acid

42 Perfluorotetradecanoic acid

D 44 13C2-PFHxDA

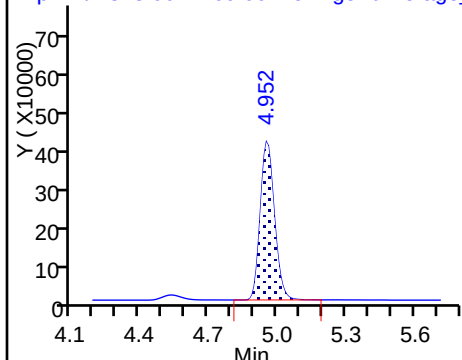


## 45 Perfluorohexadecanoic acid

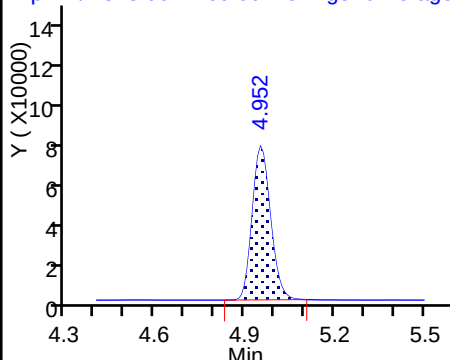
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

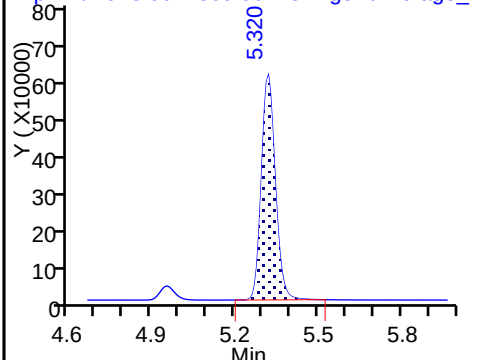
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

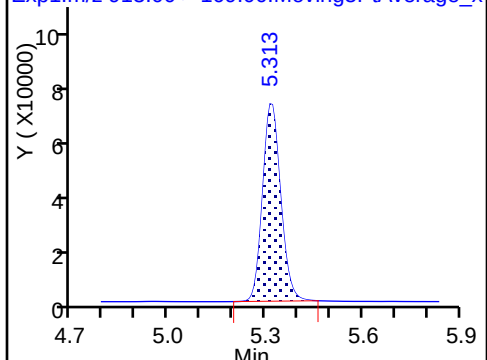


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: _____                 | Lab Sample ID: <u>MB 320-200556/1-A</u>      |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.23LLBxB_002.d</u>    |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: _____                        |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>      |
| Sample wt/vol: <u>250.00 (mL)</u>       | Date Analyzed: <u>12/23/2017 14:41</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201236</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 0.35   | U | 2.00 | 0.35 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 0.49   | U | 2.00 | 0.49 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 0.58   | U | 2.00 | 0.58 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 0.25   | U | 2.00 | 0.25 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 0.85   | U | 2.00 | 0.85 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 0.27   | U | 2.00 | 0.27 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 0.31   | U | 2.00 | 0.31 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 1.10   | U | 2.00 | 1.10 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.55   | U | 2.00 | 0.55 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.30   | U | 2.00 | 1.30 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.29   | U | 2.00 | 0.29 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 0.20   | U | 2.00 | 0.20 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 0.291  | J | 2.00 | 0.17 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.19   | U | 2.00 | 0.19 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 0.54   | U | 2.00 | 0.54 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.32   | U | 2.00 | 0.32 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 0.351  | J | 2.00 | 0.35 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 3.10   | U | 20.0 | 3.10 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.90   | U | 20.0 | 1.90 |
| 27619-97-2 | 6:2FTS                                                     | 2.025  | J | 20.0 | 2.00 |
| 39108-34-4 | 8:2FTS                                                     | 2.00   | U | 20.0 | 2.00 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: _____                 | Lab Sample ID: <u>MB 320-200556/1-A</u>             |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.23LLBXB_002.d</u>           |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: _____                               |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>             |
| Sample wt/vol: <u>250.00 (mL)</u>       | Date Analyzed: <u>12/23/2017 14:41</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201236</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 109  |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 105  |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 105  |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 108  |   | 25-150 |
| STL00990 | 13C4 PFOA        | 106  |   | 25-150 |
| STL00995 | 13C5 PFNA        | 111  |   | 25-150 |
| STL00996 | 13C2 PFDA        | 106  |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 102  |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 97   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 107  |   | 25-150 |
| STL02337 | 13C3-PFBS        | 101  |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 100  |   | 25-150 |
| STL00991 | 13C4 PFOS        | 105  |   | 25-150 |
| STL01056 | 13C8 FOSA        | 95   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 95   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 98   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 52   |   | 25-150 |
| STL02280 | M2-8:2FTS        | 95   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_002.d  
 Lims ID: MB 320-200556/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 23-Dec-2017 14:41:14 ALS Bottle#: 1 Worklist Smp#: 4  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: mb 320-200556/1-a  
 Misc. Info.: Plate: 1 Rack: 5  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 26-Dec-2017 16:35:01 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICAL File: \\ChromNA\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK032

First Level Reviewer: barnettj

Date: 26-Dec-2017 16:33:28

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec  | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|-------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                 |       |       |       |
| 217.00 > 172.00                       | 1.425 | 1.419  | 0.006  | 0.535  | 8165613  | 2.72         |                 | 109   | 21131 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                 |       |       |       |
| 212.90 > 169.00                       | 1.425 | 1.419  | 0.006  | 1.000  | 22292    | 0.007449     |                 |       | 5.8   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                 |       |       |       |
| 267.90 > 223.00                       | 1.679 | 1.670  | 0.009  | 0.630  | 4732379  | 2.64         |                 | 105   | 33366 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                 |       |       | M     |
| 262.90 > 219.00                       | 1.679 | 1.670  | 0.009  | 1.000  | 8727     | 0.004130     |                 |       | 6.1   | M     |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                 |       |       |       |
| 301.90 > 83.00                        | 1.714 | 1.705  | 0.009  | 0.643  | 90308    | 2.36         |                 | 101   | 3598  |       |
| D 60 M2-4:2FTS                        |       |        |        |        |          |              |                 |       |       |       |
| 329.00 > 81.00                        | 1.922 | 1.943  | -0.021 | 0.721  | 773      | 0.003745     |                 | 0.0   | 60.9  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                 |       |       |       |
| 315.00 > 270.00                       | 1.974 | 1.953  | 0.021  | 0.740  | 5011272  | 2.61         |                 | 105   | 44512 |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                 |       |       |       |
| 367.00 > 322.00                       | 2.304 | 2.291  | 0.013  | 0.864  | 4805553  | 2.71         |                 | 108   | 46047 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |       |       |       |
| 399.00 > 80.00                        | 2.317 | 2.304  | 0.013  | 1.000  | 17532    | 0.007277     |                 |       | 105   |       |
| 399.00 > 99.00                        | 2.330 | 2.304  | 0.026  | 1.006  | 5417     |              | 3.24(1.50-4.49) |       | 38.2  |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |       |       |       |
| 403.00 > 84.00                        | 2.317 | 2.304  | 0.013  | 0.869  | 5292916  | 2.36         |                 | 100.0 | 39674 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |       |       |       |
| 427.00 > 407.00                       | 2.644 | 2.642  | 0.002  | 1.000  | 33553    | 0.0506       |                 |       | 860   |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |       |       |       |
| 429.00 > 81.00                        | 2.644 | 2.642  | 0.002  | 0.992  | 1015836  | 1.23         |                 | 51.8  | 18749 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |       |       |       |
| 417.00 > 372.00                       | 2.666 | 2.654  | 0.012  | 1.000  | 5407338  | 2.65         |                 | 106   | 55959 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |       |       |       |
| 415.00 > 370.00                       | 2.666 | 2.656  | 0.010  |        | 4935308  | 2.50         |                 |       | 51621 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 413.00 > 369.00                       | 2.673 | 2.656     | 0.017     | 1.003     | 11450    | 0.005034        |                 |      | 6.7   |       |
| 413.00 > 169.00                       | 2.666 | 2.656     | 0.010     | 1.000     | 8325     |                 | 1.38(0.84-2.52) |      | 77.2  |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |      |       |       |
| 503.00 > 80.00                        | 3.040 | 3.025     | 0.015     | 1.140     | 3709747  | 2.51            |                 | 105  | 39169 |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |      |       |       |
| 468.00 > 423.00                       | 3.040 | 3.028     | 0.012     | 1.140     | 4008036  | 2.77            |                 | 111  | 56319 |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |      |       |       |
| 506.00 > 78.00                        | 3.378 | 3.370     | 0.008     | 1.267     | 4775767  | 2.37            |                 | 95.0 | 27525 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |      |       |       |
| 498.00 > 78.00                        | 3.378 | 3.372     | 0.006     | 1.000     | 16076    | 0.008773        |                 |      | 383   |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 529.00 > 81.00                        | 3.393 | 3.377     | 0.016     | 1.273     | 1051532  | 2.28            |                 | 95.1 | 22531 |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 470.00                       | 3.400 | 3.389     | 0.011     | 1.275     | 3163718  | 2.65            |                 | 106  | 37460 |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 573.00 > 419.00                       | 3.559 | 3.543     | 0.016     | 1.335     | 1530266  | 2.39            |                 | 95.4 | 18322 |       |
| 28 N-methyl perfluorooctane sulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 570.00 > 419.00                       | 3.559 | 3.548     | 0.011     | 1.000     | 2499     | 0.003803        |                 |      | 24.1  |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.723 | 3.712     | 0.011     | 1.396     | 1542248  | 2.46            |                 | 98.5 | 10346 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.731 | 3.717     | 0.014     | 1.400     | 2320123  | 2.55            |                 | 102  | 46481 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.864 | 3.862     | 0.002     | 1.450     | 780453   | 1.36            |                 | 54.5 | 1930  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.028 | 4.011     | 0.017     | 1.511     | 2387933  | 2.43            |                 | 97.4 | 28741 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.059 | 4.052     | 0.007     | 1.523     | 535805   | 0.9736          |                 | 38.9 | 1277  |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.541 | 4.518     | 0.023     | 1.703     | 2941290  | 2.68            |                 | 107  | 18775 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.958 | 4.939     | 0.019     | 1.860     | 4551675  | 2.28            |                 | 91.2 | 14899 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.958 | 4.939     | 0.019     | 1.000     | 43280    | 0.003809        |                 |      | 26.8  |       |
| 813.00 > 169.00                       | 4.958 | 4.939     | 0.019     | 1.000     | 7521     |                 | 5.75(2.86-8.58) |      | 249   |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated



## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_002.d

Injection Date: 23-Dec-2017 14:41:14

Instrument ID: A8\_N

Lims ID: MB 320-200556/1-A

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 1

Worklist Smp#: 4

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

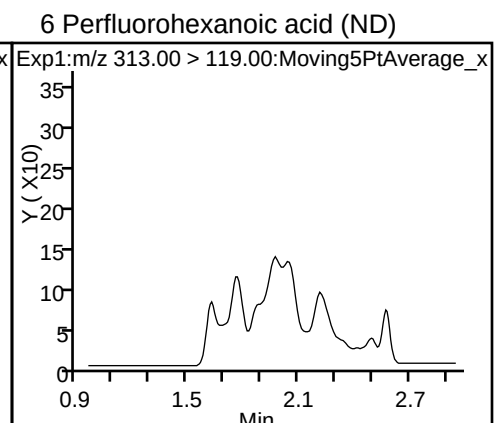
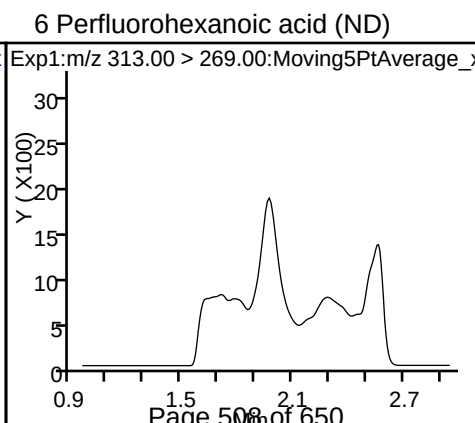
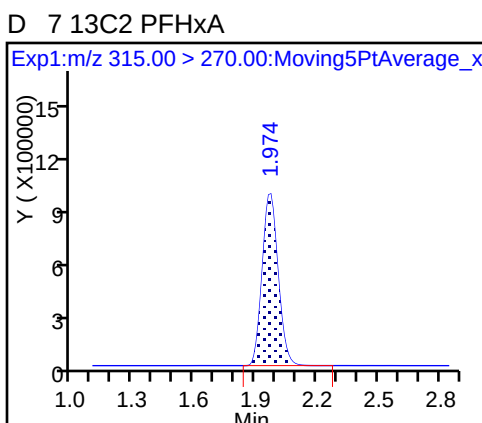
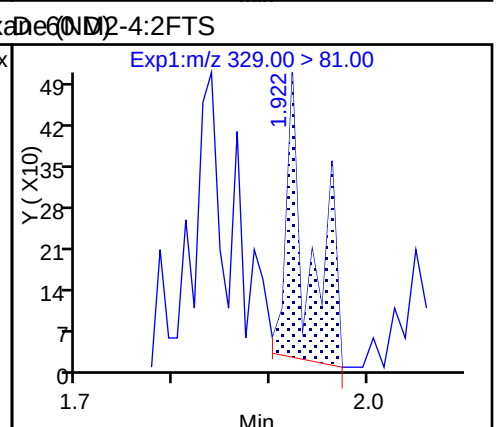
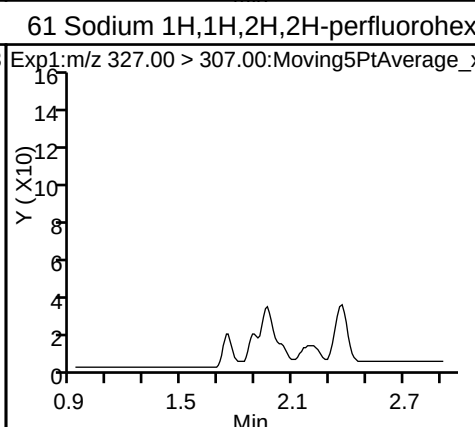
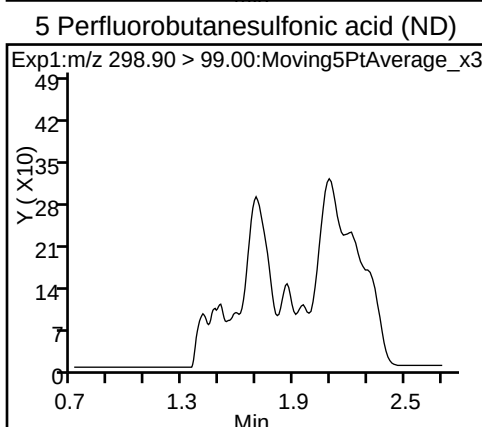
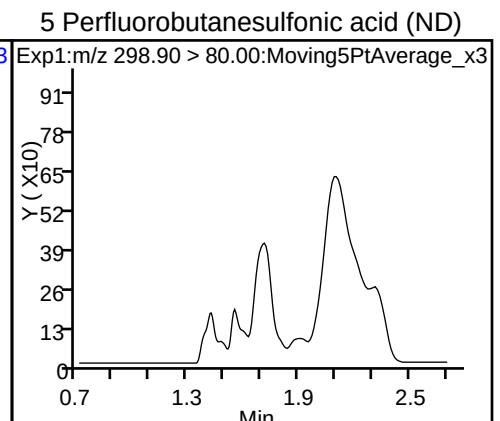
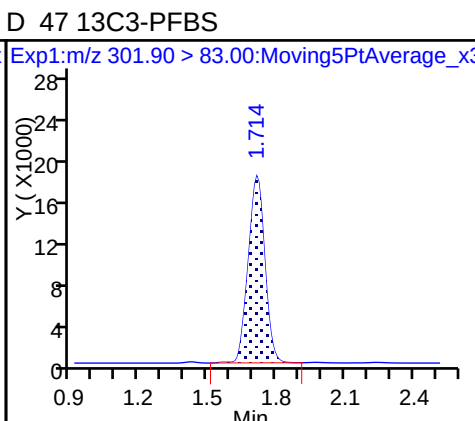
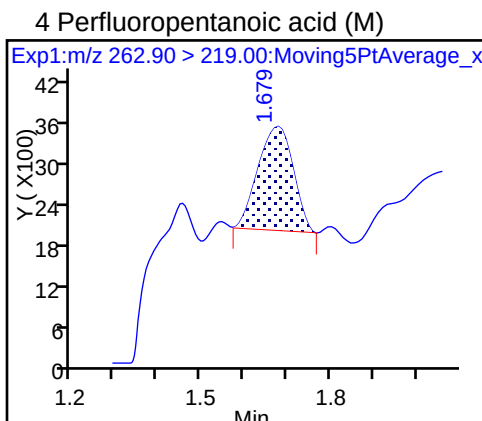
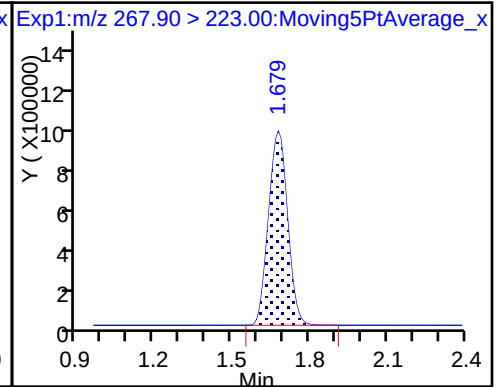
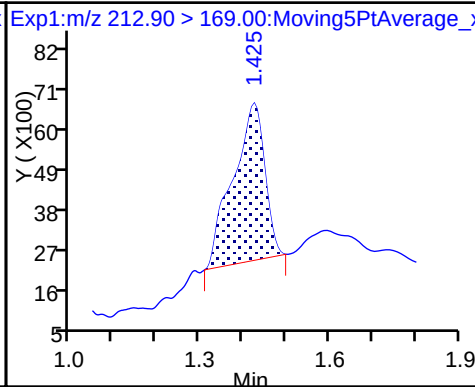
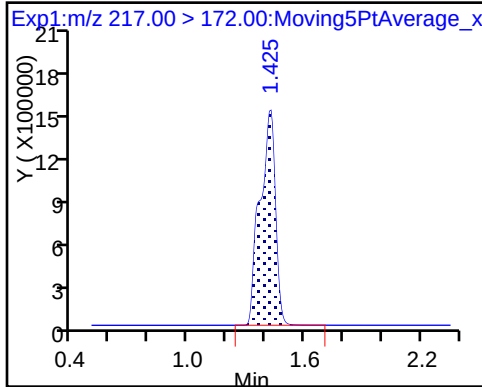
Method: A8\_N

Limit Group: LC PFC ICAL

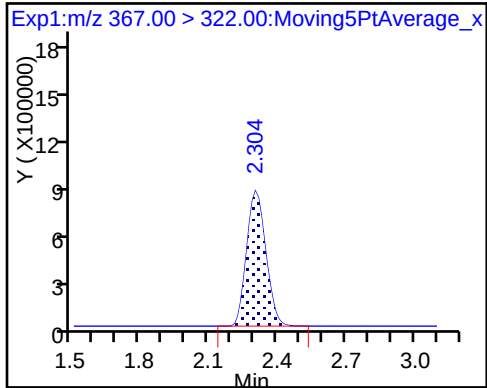
D 1 13C4 PFBA

2 Perfluorobutyric acid

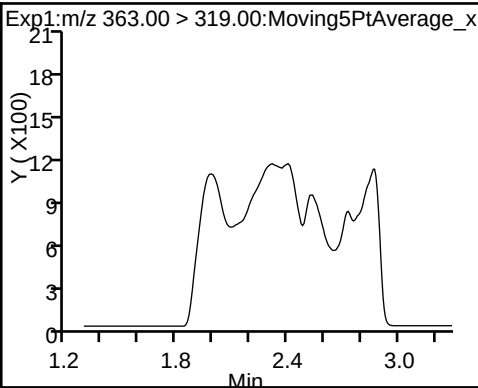
D 3 13C5-PFPeA



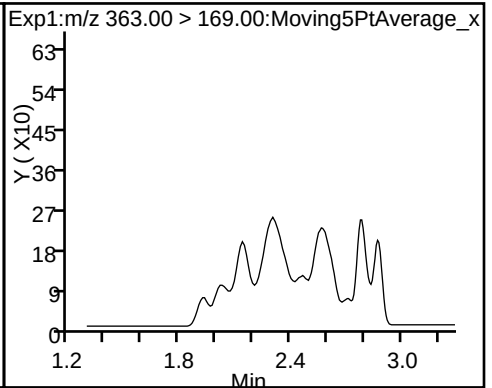
## D 9 13C4-PFHpA



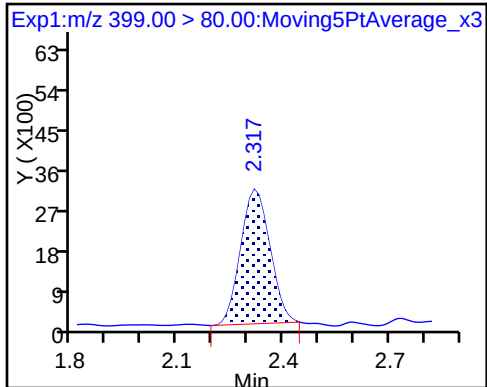
## 10 Perfluoroheptanoic acid (ND)



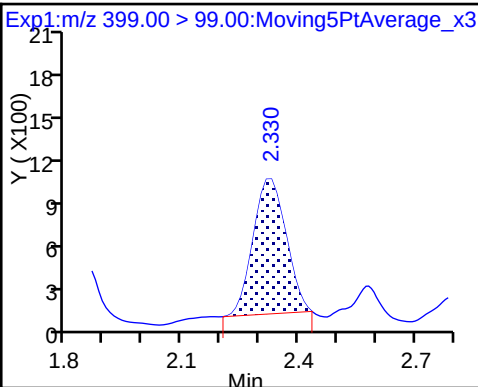
## 10 Perfluoroheptanoic acid (ND)



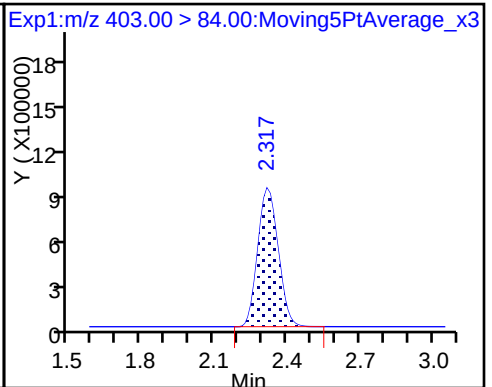
## 8 Perfluorohexanesulfonic acid



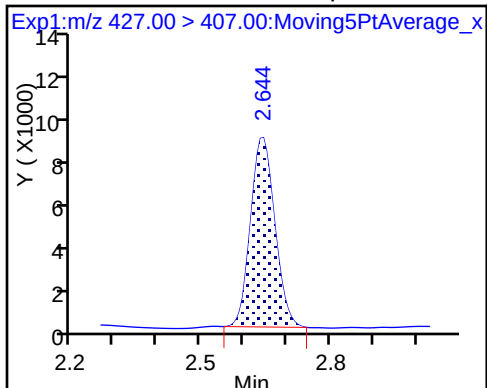
## 8 Perfluorohexanesulfonic acid



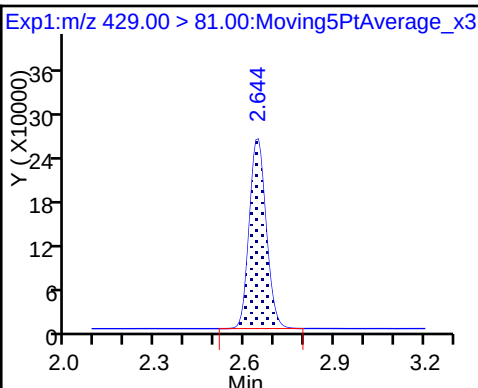
## D 11 18O2 PFHxS



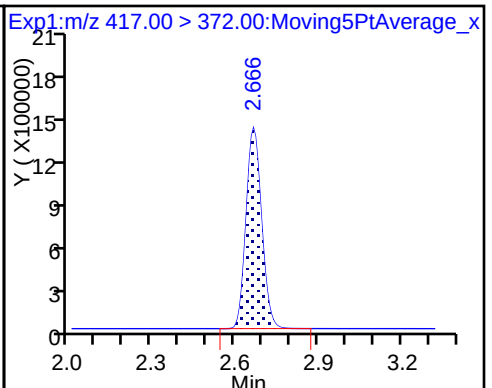
## 13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate



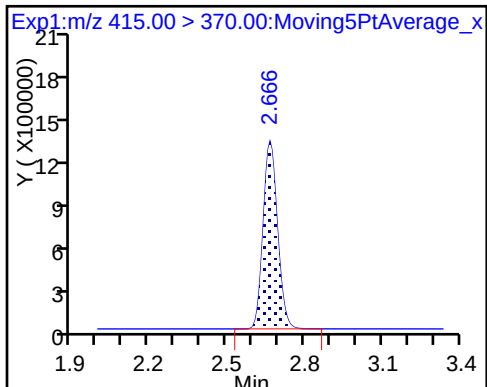
## D 12 M2-6:2FTS



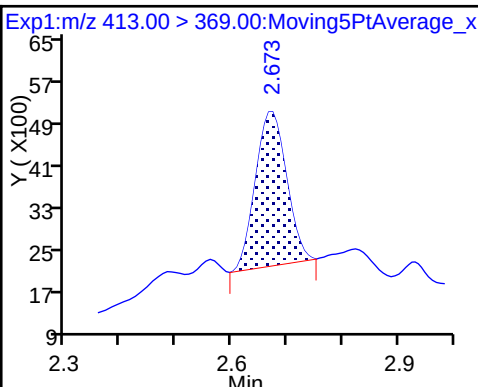
## D 14 13C4 PFOA



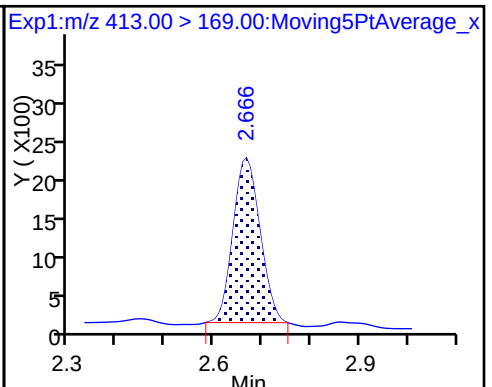
## \* 62 13C2-PFOA



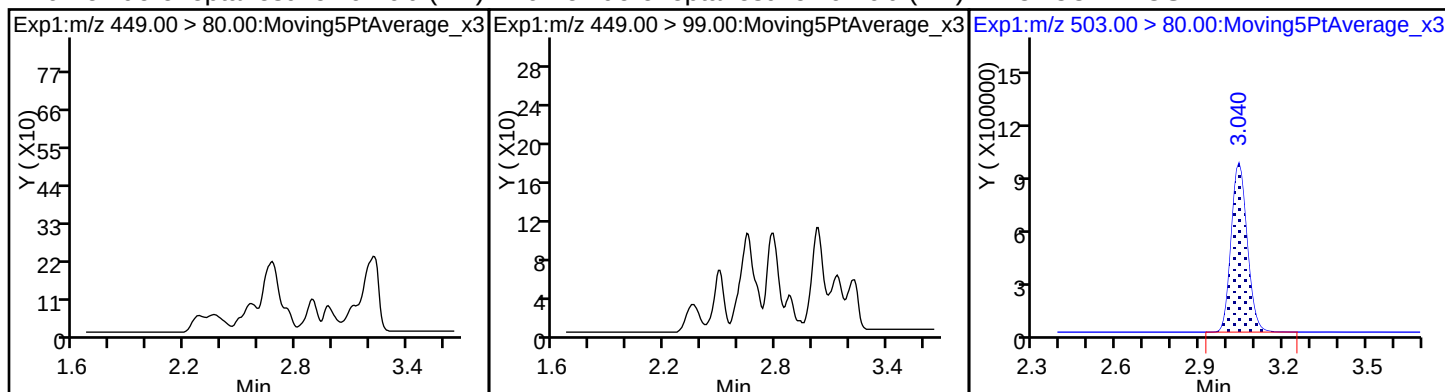
## 15 Perfluorooctanoic acid



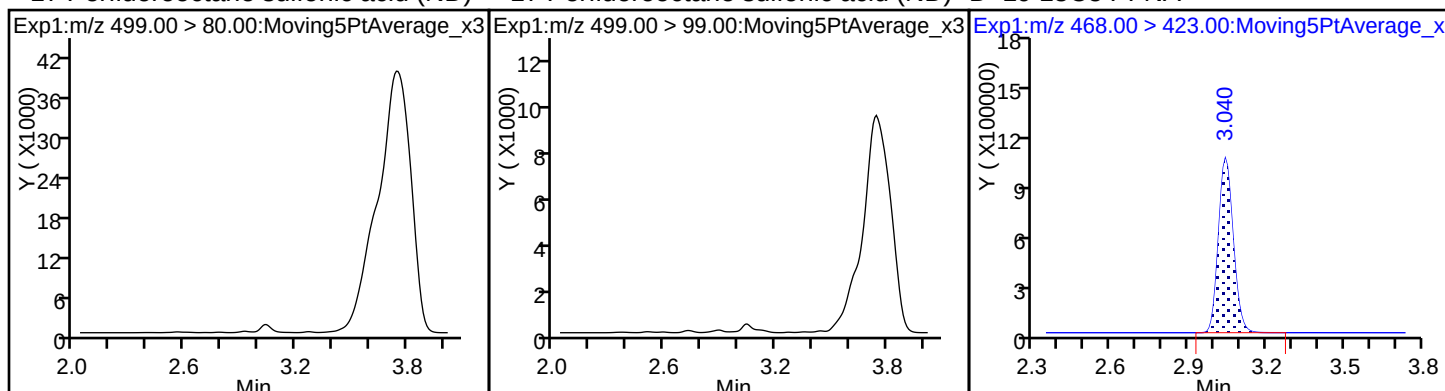
## 15 Perfluorooctanoic acid



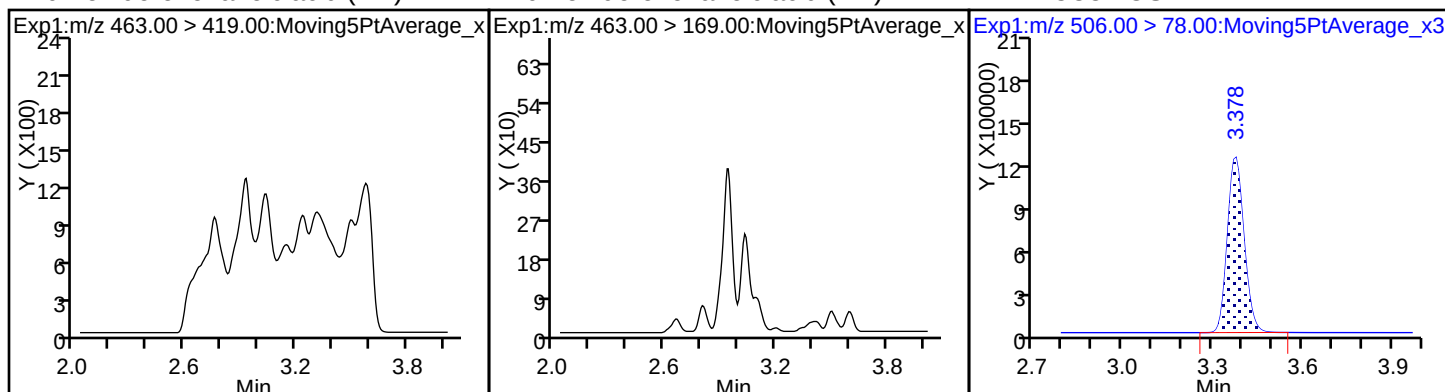
## 16 Perfluoroheptanesulfonic Acid (ND) 16 Perfluoroheptanesulfonic Acid (ND) D 18 13C4 PFOS



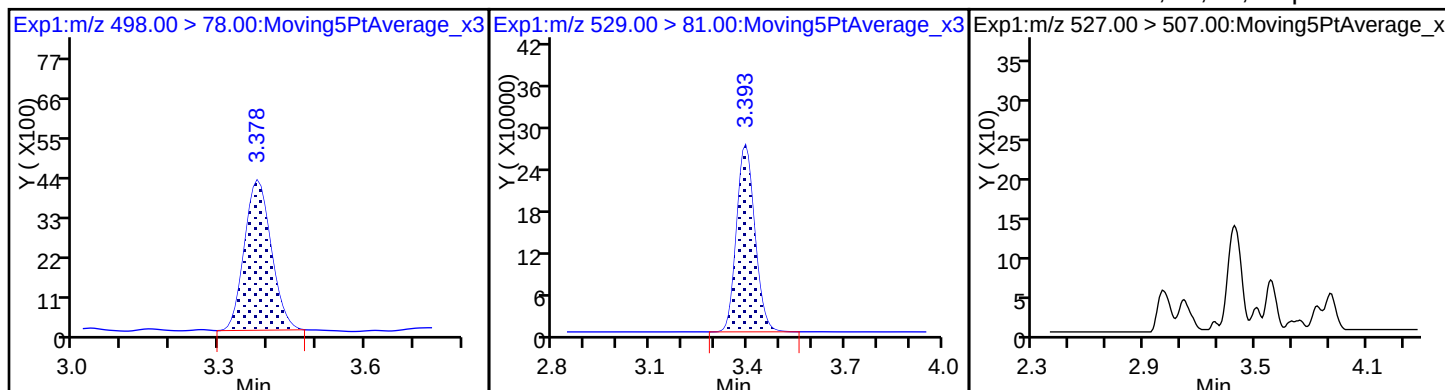
## 17 Perfluorooctane sulfonic acid (ND) 17 Perfluorooctane sulfonic acid (ND) D 19 13C5 PFNA



## 20 Perfluorononanoic acid (ND) 20 Perfluorononanoic acid (ND) D 21 13C8 FOSA

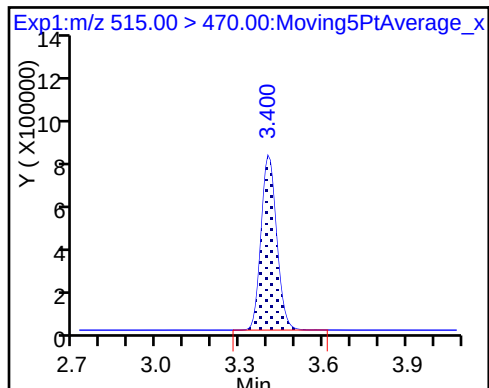


## 22 Perfluorooctane Sulfonamide D 26 M2-8:2FTS

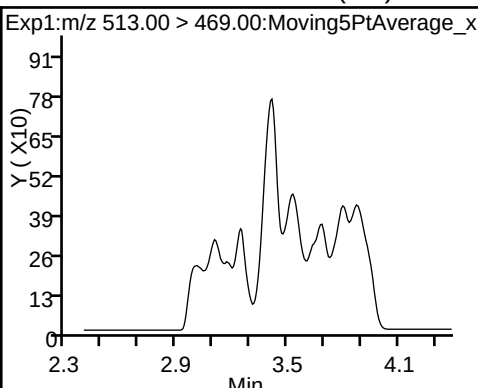


## 25 Sodium 1H,1H,2H,2H-perfluorodecane (ND)

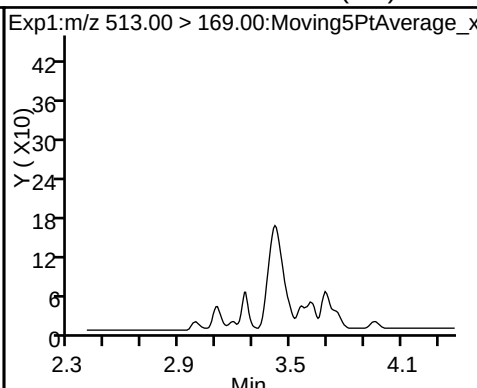
## D 23 13C2 PFDA



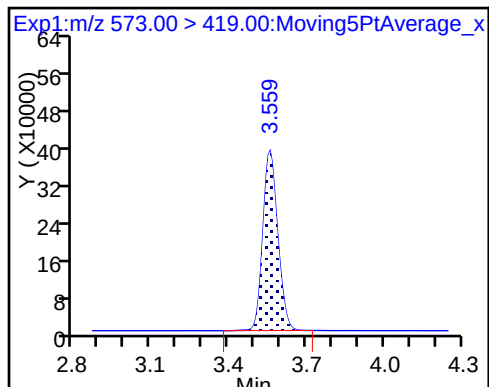
## 24 Perfluorodecanoic acid (ND)



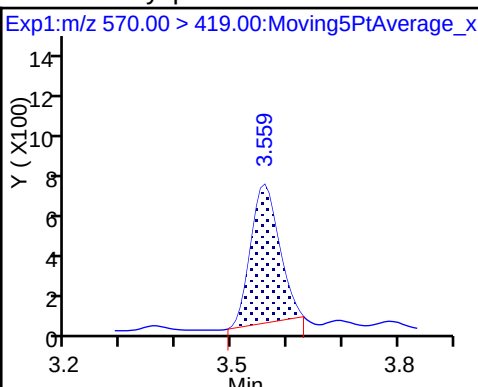
## 24 Perfluorodecanoic acid (ND)



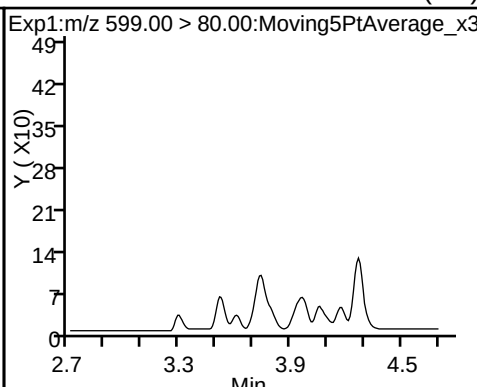
## D 27 d3-NMeFOSAA



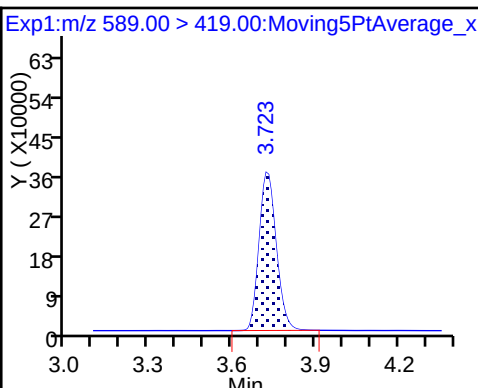
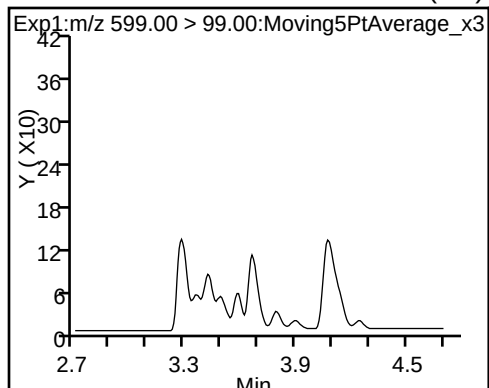
## 28 N-methyl perfluorooctane sulfonami



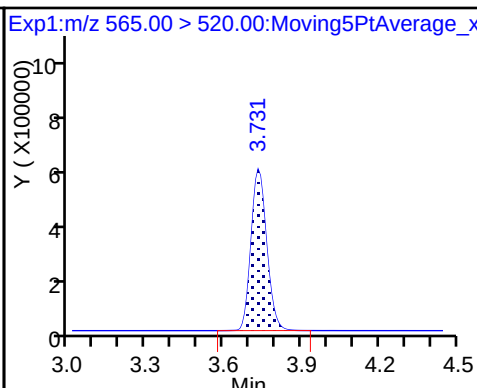
## 29 Perfluorodecane Sulfonic acid (ND)



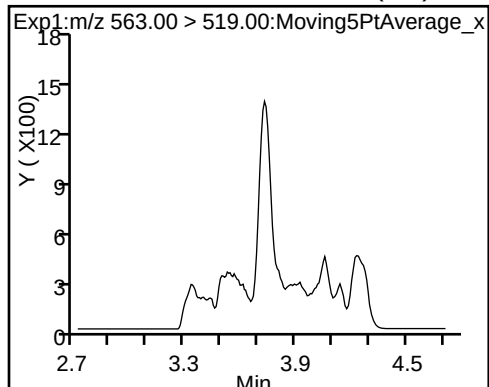
## 29 Perfluorodecane Sulfonic acid (ND) D 32 d5-NEtFOSAA



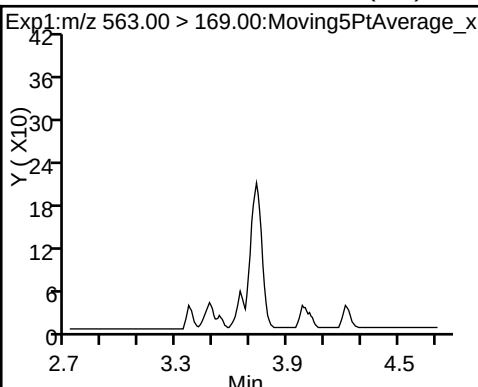
## D 30 13C2 PFUnA



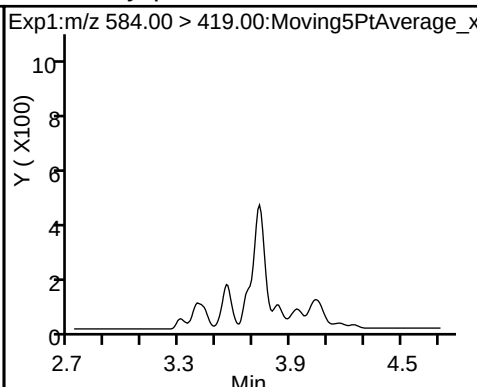
## 31 Perfluoroundecanoic acid (ND)



## 31 Perfluoroundecanoic acid (ND)



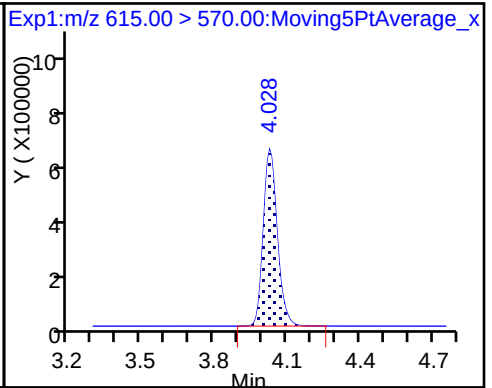
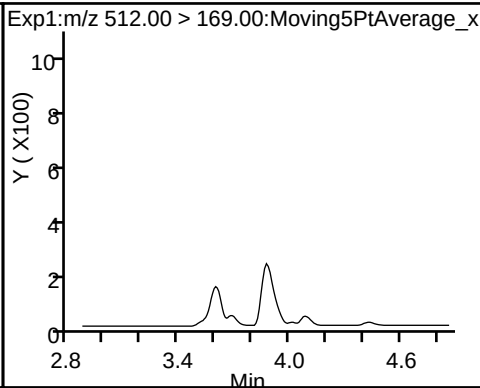
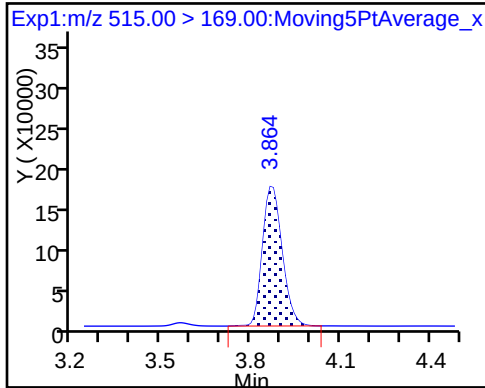
## 33 N-ethyl perfluorooctane sulfonamid (ND)



## D 34 d-N-MeFOSA-M

## 35 MeFOSA (ND)

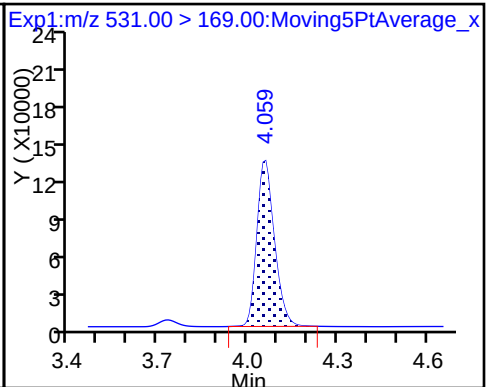
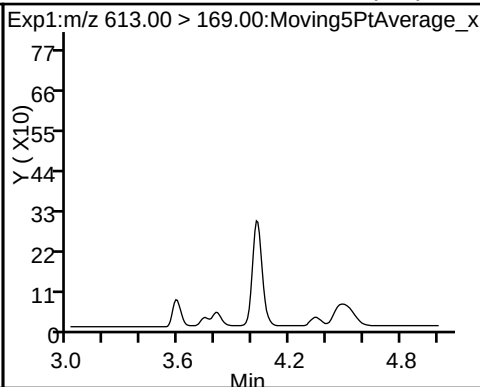
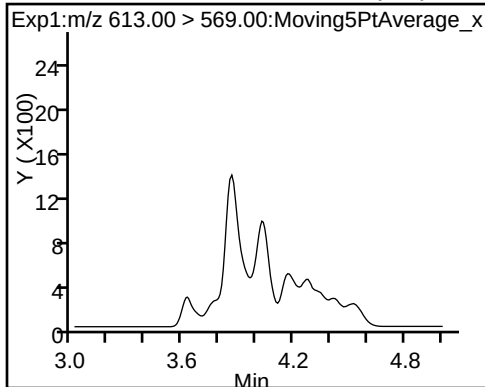
## D 36 13C2 PFDaA



## 37 Perfluorododecanoic acid (ND)

## 37 Perfluorododecanoic acid (ND)

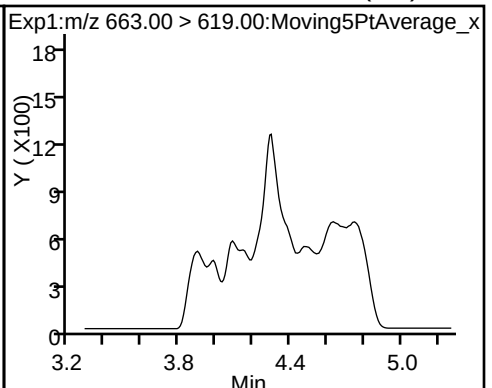
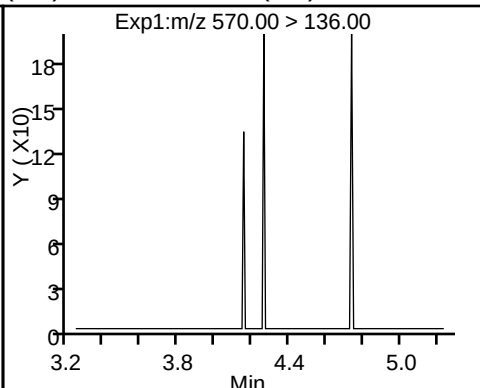
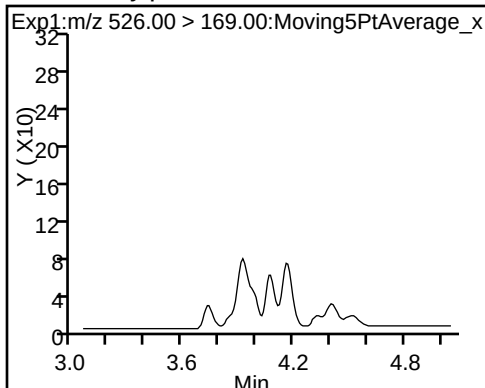
## D 38 d-N-EtFOSA-M



## 39 N-ethylperfluoro-1-octanesulfonami (ND)

## D 40 d-N-EtFOSE-M (ND)

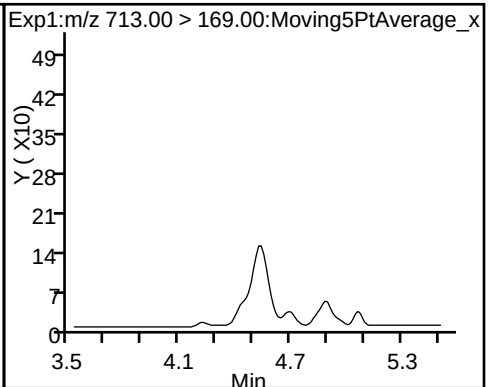
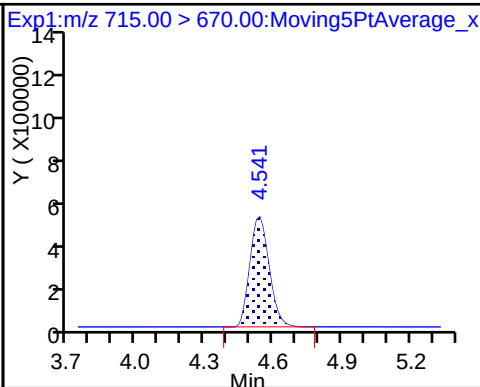
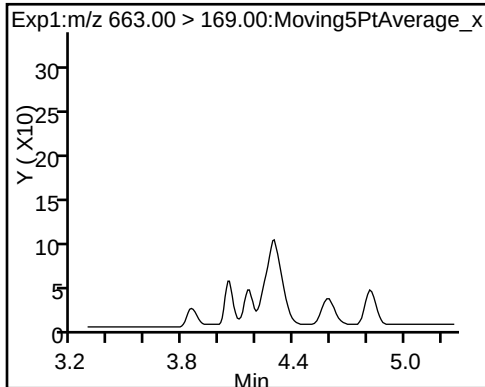
## 41 Perfluorotridecanoic acid (ND)



## 41 Perfluorotridecanoic acid (ND)

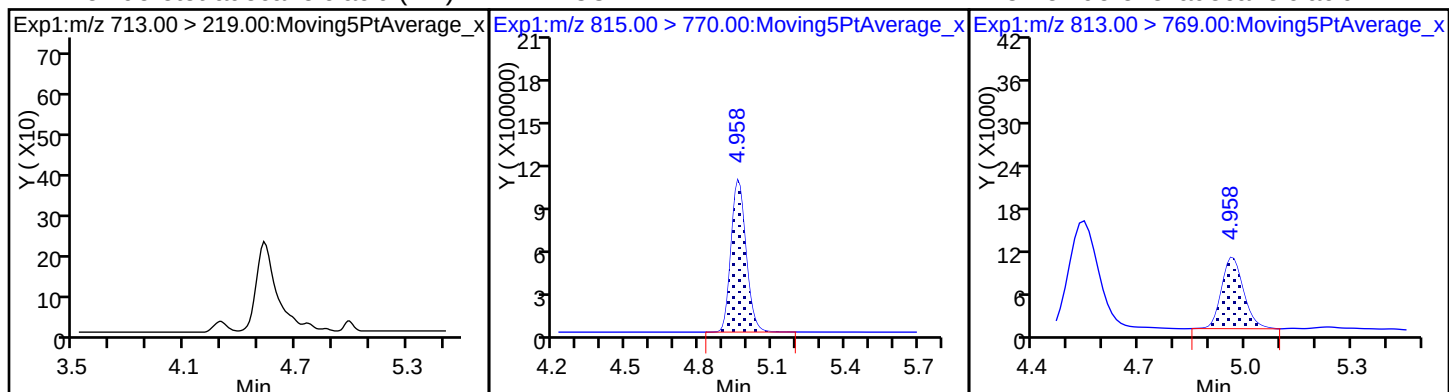
## D 43 13C2-PFTeDA

## 42 Perfluorotetradecanoic acid (ND)



42 Perfluorotetradecanoic acid (ND) D 44 13C2-PFHxDA

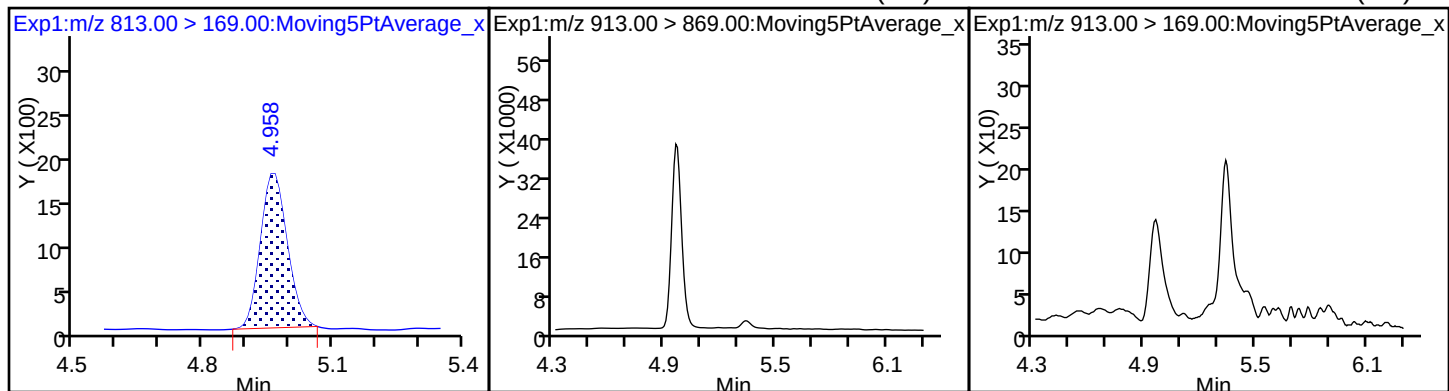
45 Perfluorohexadecanoic acid



45 Perfluorohexadecanoic acid

46 Perfluorooctadecanoic acid (ND)

46 Perfluorooctadecanoic acid (ND)



## TestAmerica Sacramento

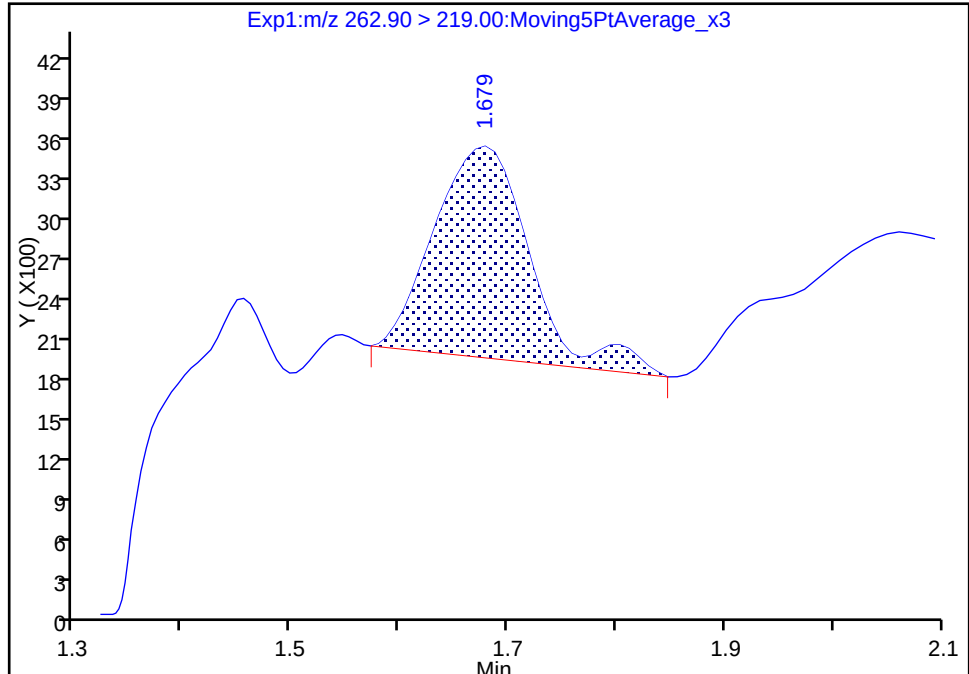
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_002.d  
Injection Date: 23-Dec-2017 14:41:14 Instrument ID: A8\_N  
Lims ID: MB 320-200556/1-A  
Client ID:  
Operator ID: SACINSTLCMS01 ALS Bottle#: 1 Worklist Smp#: 4  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

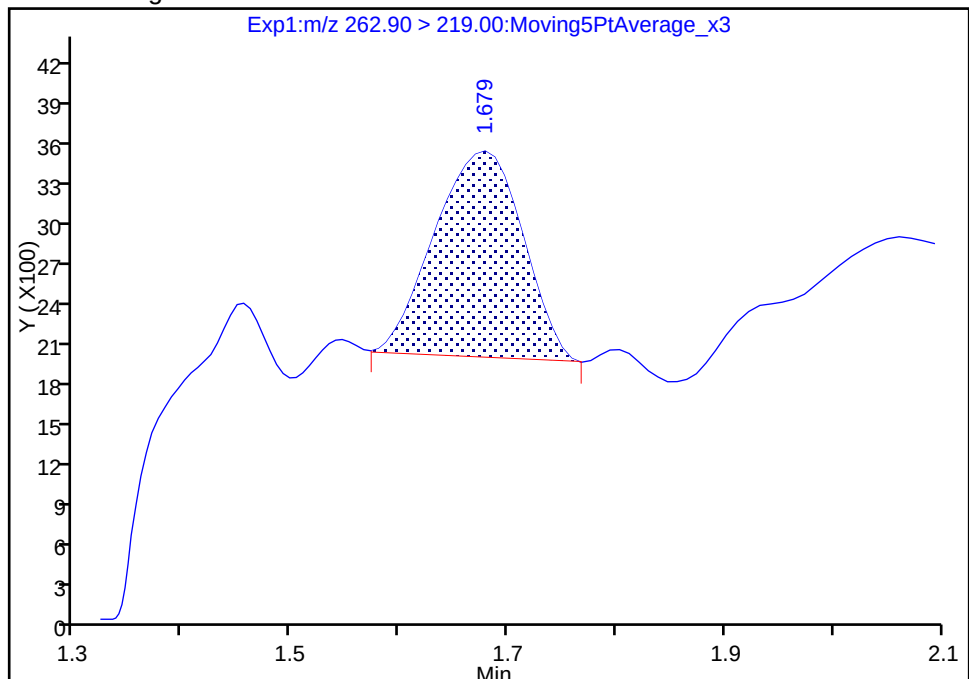
RT: 1.68  
Area: 9744  
Amount: 0.004612  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.68  
Area: 8727  
Amount: 0.004130  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:32:54  
Audit Action: Manually Integrated

Audit Reason: Split Peak

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: _____                 | Lab Sample ID: <u>MB 320-201396/1-A</u>      |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_002.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: _____                        |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>250.00 (mL)</u>       | Date Analyzed: <u>12/29/2017 07:47</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 0.423  | J | 2.00 | 0.35 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 0.49   | U | 2.00 | 0.49 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 0.58   | U | 2.00 | 0.58 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 0.25   | U | 2.00 | 0.25 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 0.85   | U | 2.00 | 0.85 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 0.27   | U | 2.00 | 0.27 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 0.31   | U | 2.00 | 0.31 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 1.10   | U | 2.00 | 1.10 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 0.55   | U | 2.00 | 0.55 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 1.30   | U | 2.00 | 1.30 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 0.29   | U | 2.00 | 0.29 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 0.20   | U | 2.00 | 0.20 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 0.291  | J | 2.00 | 0.17 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 0.19   | U | 2.00 | 0.19 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 0.54   | U | 2.00 | 0.54 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 0.32   | U | 2.00 | 0.32 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 0.35   | U | 2.00 | 0.35 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 3.10   | U | 20.0 | 3.10 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 1.90   | U | 20.0 | 1.90 |
| 27619-97-2 | 6:2FTS                                                     | 2.00   | U | 20.0 | 2.00 |
| 39108-34-4 | 8:2FTS                                                     | 2.00   | U | 20.0 | 2.00 |



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: _____                 | Lab Sample ID: <u>MB 320-201396/1-A</u>             |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_002.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: _____                               |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>250.00 (mL)</u>       | Date Analyzed: <u>12/29/2017 07:47</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 62   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 65   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 65   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 66   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 72   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 65   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 63   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 68   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 62   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 76   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 65   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 64   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 63   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 56   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 66   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 65   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 69   |   | 25-150 |
| STL02280 | M2-8:2FTS        | 67   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_002.d  
 Lims ID: MB 320-201396/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 29-Dec-2017 07:47:09 ALS Bottle#: 1 Worklist Smp#: 2  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: mb 320-201396/1-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:10:16 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:10:16

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                 |      |       | M     |
| 217.00 > 172.00                       | 1.432 | 1.433  | -0.001 | 0.537  | 6161655  | 1.55         |                 | 62.1 | 12472 | M     |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                 |      |       |       |
| 212.90 > 169.00                       | 1.438 | 1.434  | 0.004  | 1.004  | 23798    | 0.0106       |                 |      | 2.9   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 262.90 > 219.00                       | 1.689 | 1.691  | -0.002 | 1.000  | 5456     | 0.003237     |                 |      | 4.5   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                 |      |       |       |
| 267.90 > 223.00                       | 1.689 | 1.692  | -0.003 | 0.633  | 3757001  | 1.62         |                 | 64.9 | 27027 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                 |      |       |       |
| 301.90 > 83.00                        | 1.725 | 1.725  | 0.0    | 0.647  | 75405    | 1.50         |                 | 64.7 | 2647  |       |
| D 60 M2-4:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 329.00 > 81.00                        | 1.787 | 1.955  | -0.168 | 0.670  | 830      | 0.004407     |                 | 0.0  | 37.8  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                 |      |       |       |
| 315.00 > 270.00                       | 1.976 | 1.976  | 0.0    | 0.741  | 4028150  | 1.62         |                 | 64.8 | 33627 |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                 |      |       |       |
| 367.00 > 322.00                       | 2.306 | 2.311  | -0.005 | 0.865  | 3790047  | 1.64         |                 | 65.6 | 23372 |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |      |       |       |
| 399.00 > 80.00                        | 2.319 | 2.324  | -0.005 | 1.000  | 14989    | 0.007275     |                 |      | 78.8  |       |
| 399.00 > 99.00                        | 2.319 | 2.324  | -0.005 | 1.000  | 4711     |              | 3.18(1.50-4.49) |      | 35.8  |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.319 | 2.328  | -0.009 | 0.869  | 4459045  | 1.52         |                 | 64.3 | 53031 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.638 | 2.649  | -0.011 | 0.989  | 718885   | 1.64         |                 | 69.1 | 19357 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.638 | 2.651  | -0.013 | 1.000  | 6222     | 0.0123       |                 |      | 249   |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.660 | 2.674  | -0.014 | 0.997  | 4254146  | 1.80         |                 | 72.2 | 36294 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.667 | 2.676  | -0.009 |        | 5733642  | 2.50         |                 |      | 45157 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 15 Perfluorooctanoic acid             |       |           |           |           |          |                 |                 |      |       |       |
| 413.00 > 369.00                       | 2.660 | 2.677     | -0.017    | 1.000     | 12972    | 0.007201        |                 |      | 8.3   |       |
| 413.00 > 169.00                       | 2.667 | 2.677     | -0.010    | 1.003     | 5149     |                 | 2.52(0.84-2.52) |      | 49.9  |       |
| D 18 13C4 PFOS                        |       |           |           |           |          |                 |                 |      |       |       |
| 503.00 > 80.00                        | 3.042 | 3.048     | -0.006    | 1.141     | 2934055  | 1.51            |                 | 63.2 | 23785 |       |
| D 19 13C5 PFNA                        |       |           |           |           |          |                 |                 |      |       |       |
| 468.00 > 423.00                       | 3.042 | 3.051     | -0.009    | 1.141     | 3057583  | 1.62            |                 | 64.9 | 30902 |       |
| D 21 13C8 FOSA                        |       |           |           |           |          |                 |                 |      |       |       |
| 506.00 > 78.00                        | 3.380 | 3.377     | 0.003     | 1.267     | 3711977  | 1.41            |                 | 56.5 | 20052 |       |
| 22 Perfluorooctane Sulfonamide        |       |           |           |           |          |                 |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.378     | 0.002     | 1.000     | 2989     | 0.002121        |                 |      | 114   |       |
| D 26 M2-8:2FTS                        |       |           |           |           |          |                 |                 |      |       |       |
| 529.00 > 81.00                        | 3.387 | 3.403     | -0.016    | 1.270     | 775104   | 1.61            |                 | 67.3 | 12362 |       |
| D 23 13C2 PFDA                        |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 470.00                       | 3.402 | 3.414     | -0.012    | 1.276     | 2407541  | 1.57            |                 | 62.9 | 22754 |       |
| D 27 d3-NMeFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 573.00 > 419.00                       | 3.554 | 3.569     | -0.015    | 1.333     | 1302840  | 1.65            |                 | 65.9 | 14378 |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.725 | 3.740     | -0.015    | 1.397     | 1312454  | 1.63            |                 | 65.1 | 7421  |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.725 | 3.746     | -0.021    | 1.000     | 5005     | 0.006783        |                 |      | 24.1  |       |
| 563.00 > 169.00                       | 3.734 | 3.746     | -0.012    | 1.002     | 1175     |                 | 4.26(0.00-0.00) |      | 76.6  |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.725 | 3.747     | -0.022    | 1.397     | 1968903  | 1.70            |                 | 68.0 | 24813 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.725 | 3.747     | -0.022    | 1.000     | 1315     | 0.002595        |                 |      | 48.9  |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.877 | 3.867     | 0.010     | 1.454     | 806429   | 1.08            |                 | 43.2 | 2255  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.022 | 4.045     | -0.023    | 1.508     | 1965712  | 1.56            |                 | 62.5 | 27438 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.061 | 4.058     | 0.003     | 1.523     | 628794   | 0.8846          |                 | 35.4 | 1806  |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.528 | 4.557     | -0.029    | 1.698     | 2598015  | 1.90            |                 | 75.9 | 17274 |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.950 | 4.984     | -0.034    | 1.856     | 4377771  | 1.74            |                 | 69.8 | 14867 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.950 | 4.984     | -0.034    | 1.000     | 42775    | 0.005360        |                 |      | 35.0  |       |
| 813.00 > 169.00                       | 4.950 | 4.984     | -0.034    | 1.000     | 6960     |                 | 6.15(2.86-8.58) |      | 185   |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_002.d

Injection Date: 29-Dec-2017 07:47:09

Instrument ID: A8\_N

Lims ID: MB 320-201396/1-A

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 1

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

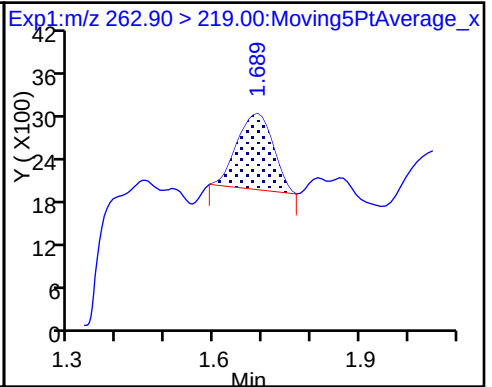
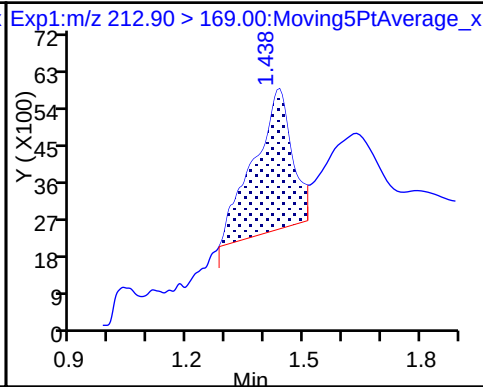
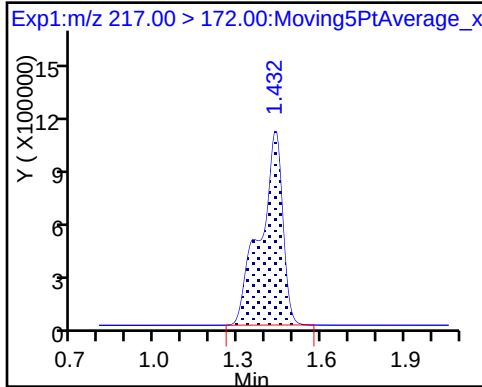
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA (M)

2 Perfluorobutyric acid

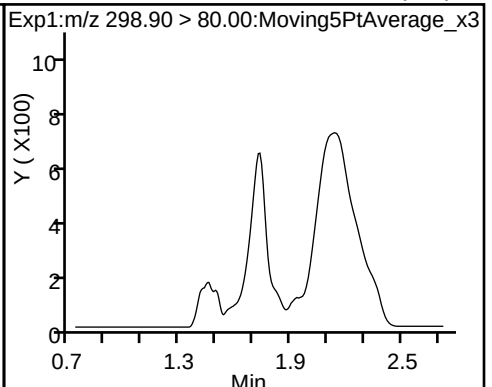
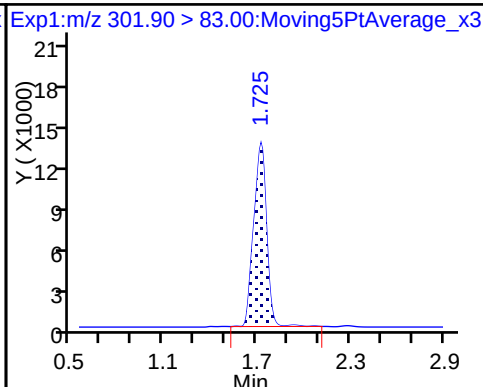
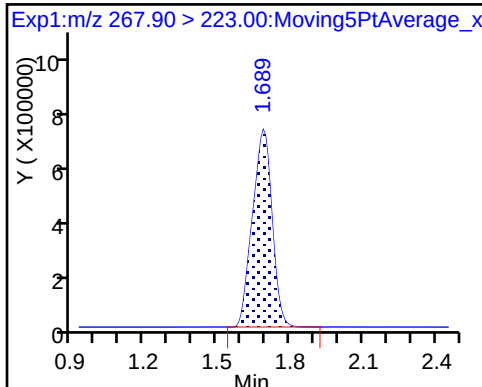
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

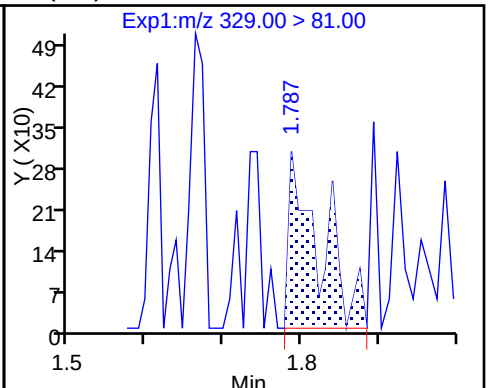
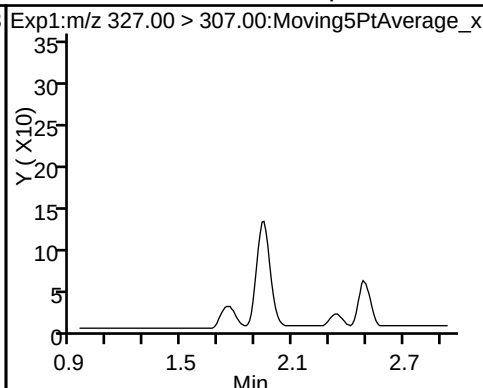
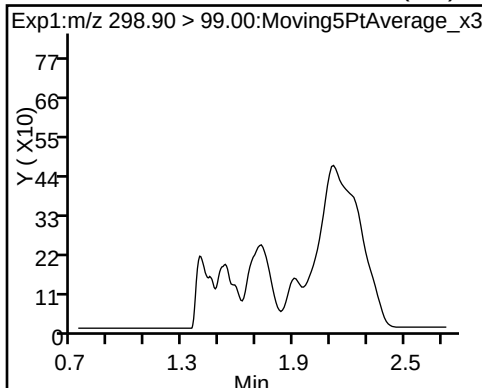
5 Perfluorobutanesulfonic acid (ND)



5 Perfluorobutanesulfonic acid (ND)

61 Sodium 1H,1H,2H,2H-perfluorohexanoate (ND)

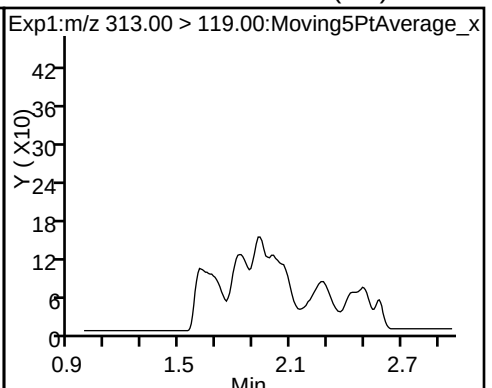
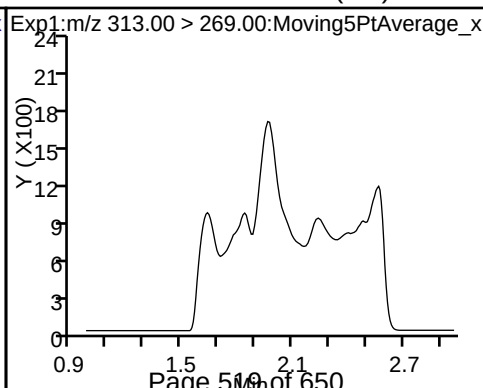
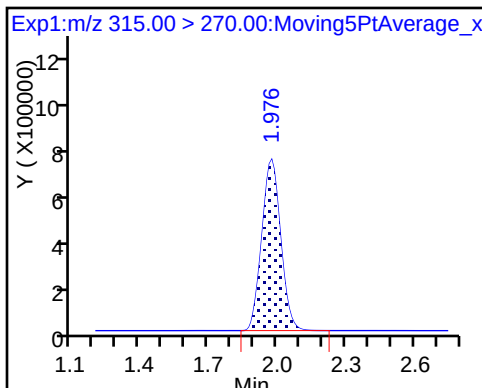
Dec 01 2017



D 7 13C2 PFHxA

6 Perfluorohexanoic acid (ND)

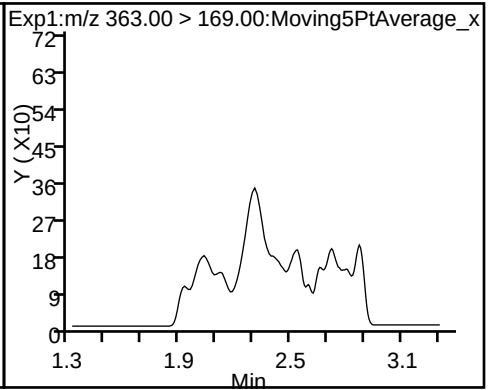
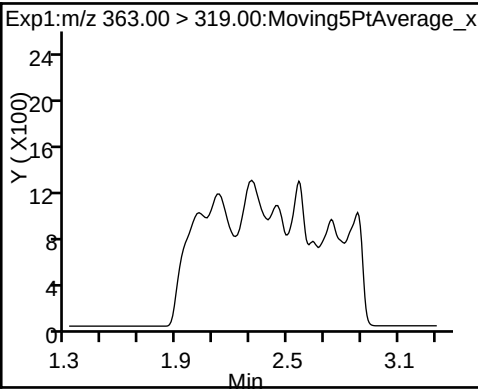
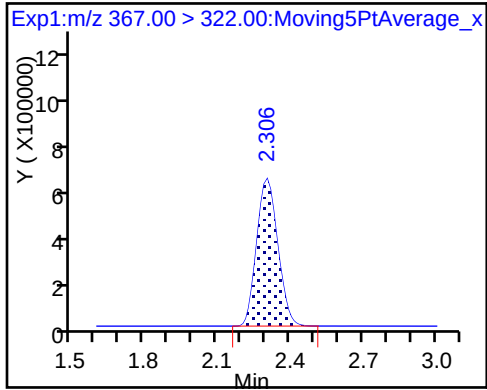
6 Perfluorohexanoic acid (ND)



## D 9 13C4-PFHpA

## 10 Perfluoroheptanoic acid (ND)

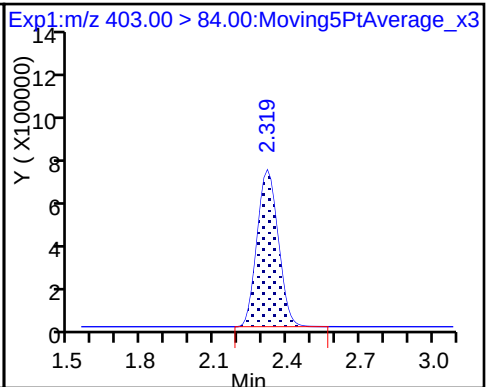
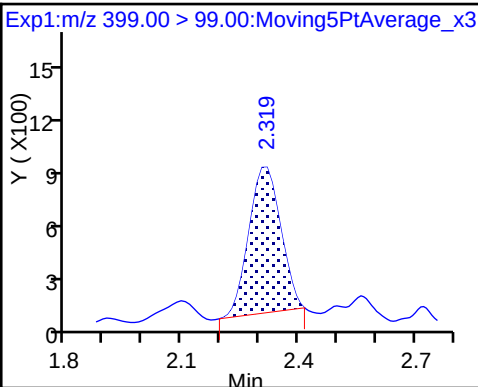
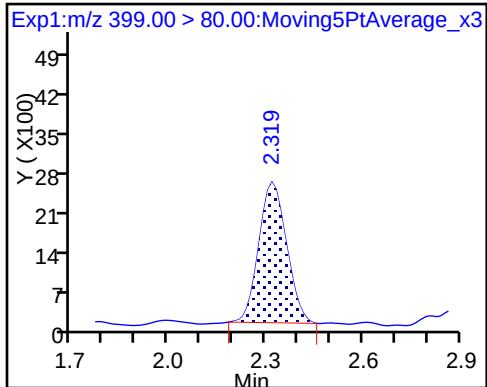
## 10 Perfluoroheptanoic acid (ND)



## 8 Perfluorohexanesulfonic acid

## 8 Perfluorohexanesulfonic acid

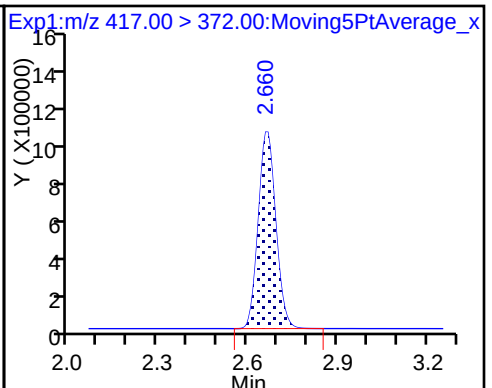
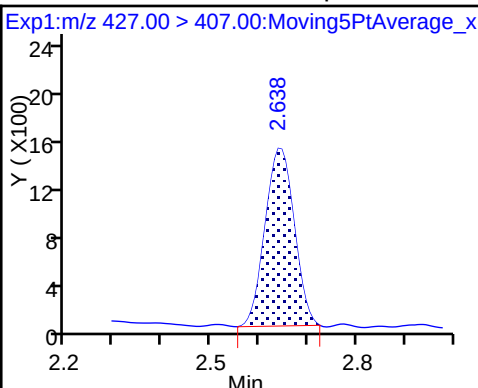
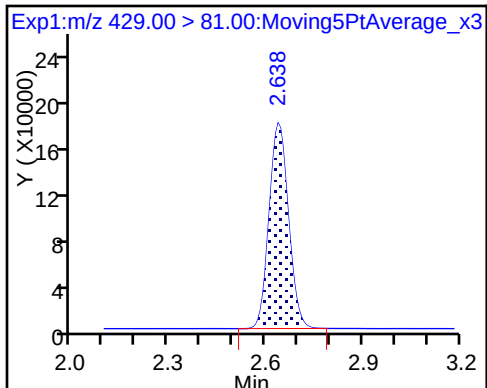
## D 11 18O2 PFHxS



## D 12 M2-6:2FTS

## 13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

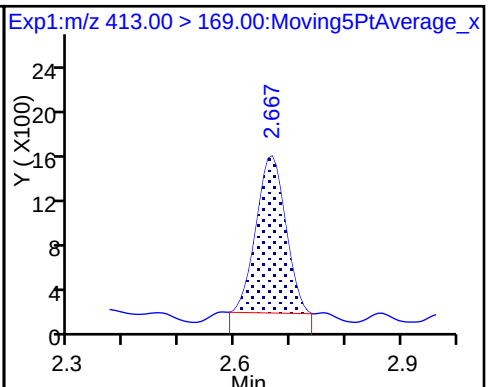
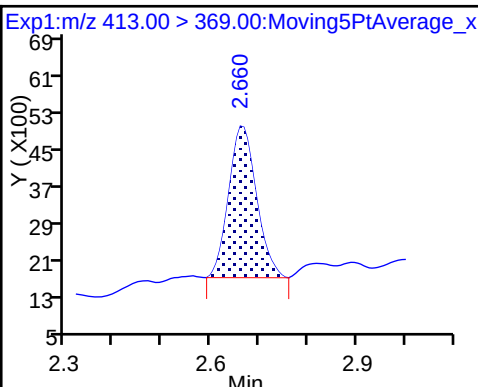
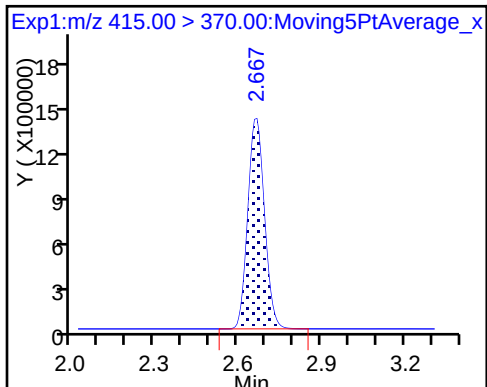
## D 14 13C4 PFOA



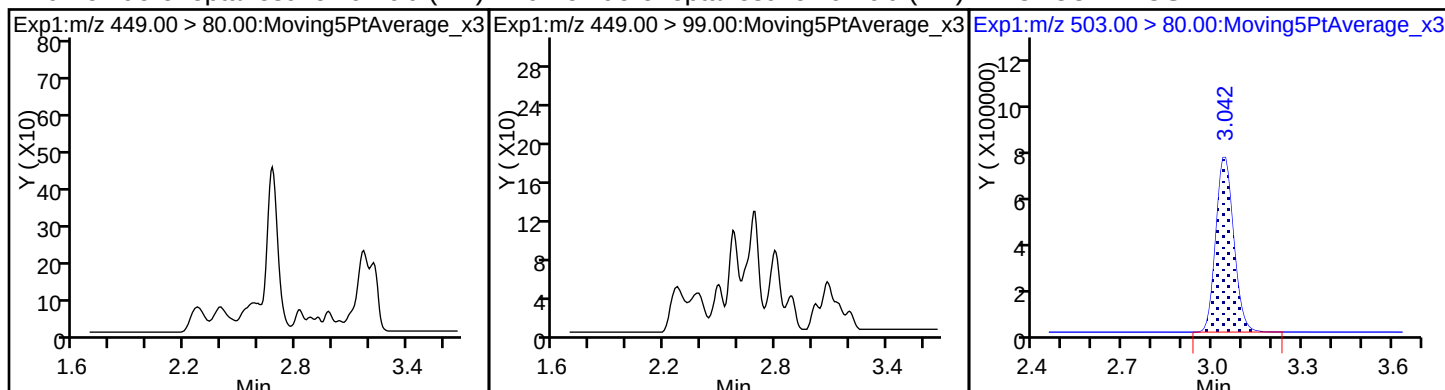
## \* 62 13C2-PFOA

## 15 Perfluorooctanoic acid

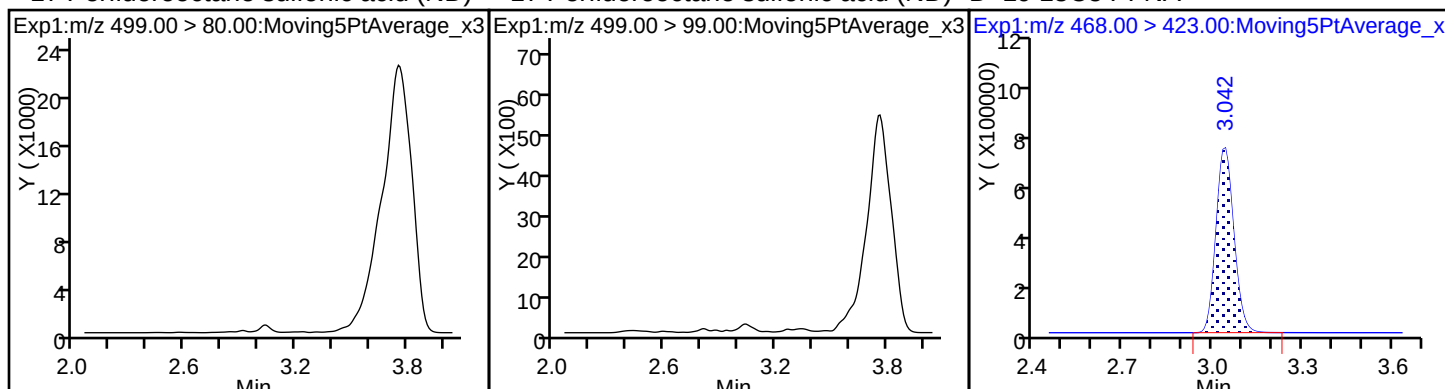
## 15 Perfluorooctanoic acid



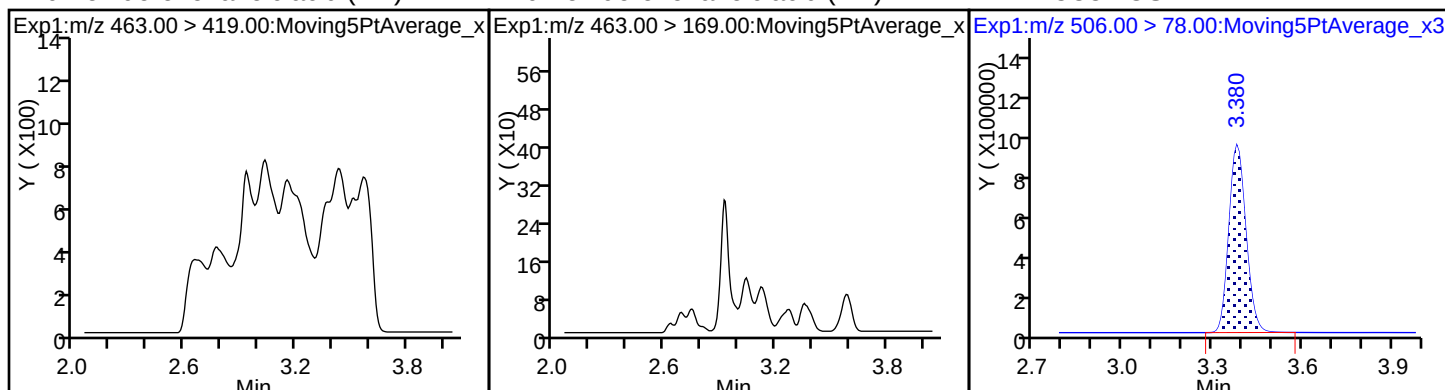
## 16 Perfluoroheptanesulfonic Acid (ND) 16 Perfluoroheptanesulfonic Acid (ND) D 18 13C4 PFOS



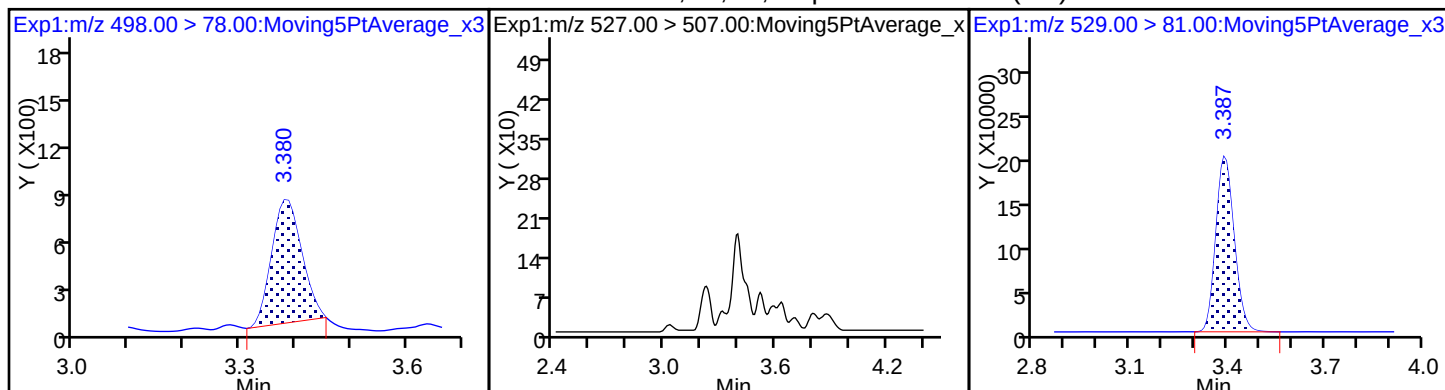
## 17 Perfluorooctane sulfonic acid (ND) 17 Perfluorooctane sulfonic acid (ND) D 19 13C5 PFNA



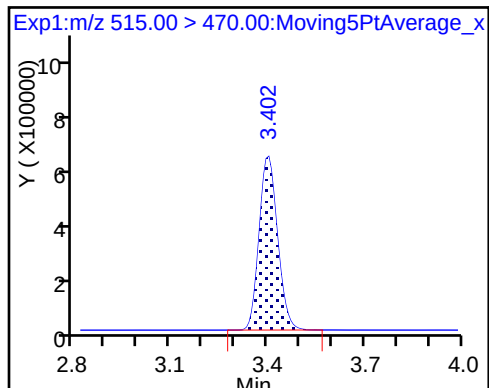
## 20 Perfluorononanoic acid (ND) 20 Perfluorononanoic acid (ND) D 21 13C8 FOSA



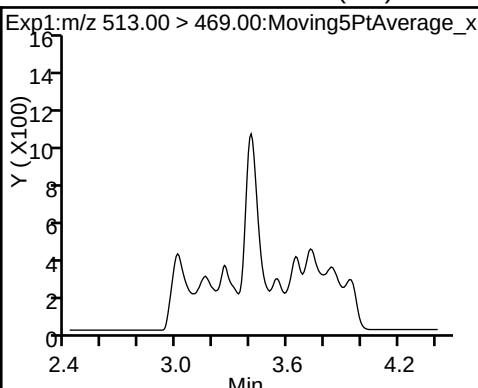
## 22 Perfluorooctane Sulfonamide 25 Sodium 1H,1H,2H,2H-perfluorodeca-2,6,10-triene-8,12-dithiolate



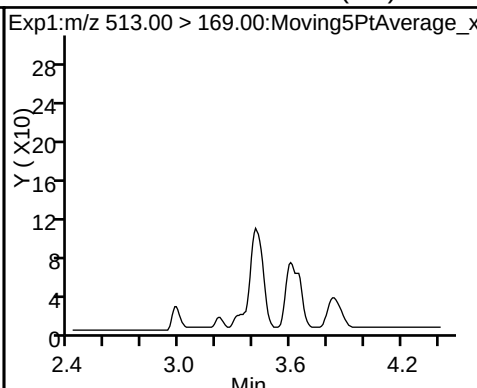
## D 23 13C2 PFDA



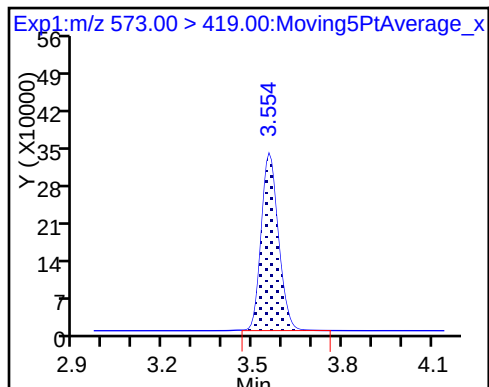
## 24 Perfluorodecanoic acid (ND)



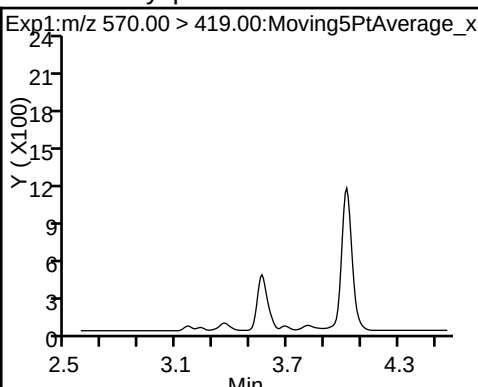
## 24 Perfluorodecanoic acid (ND)



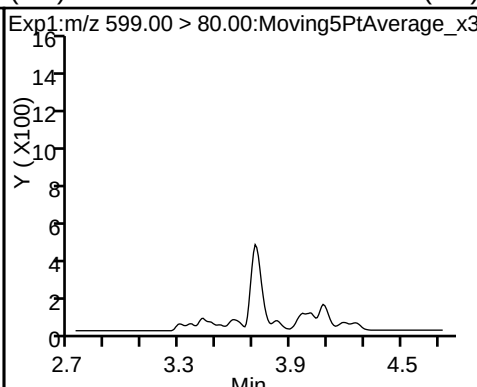
## D 27 d3-NMeFOSAA



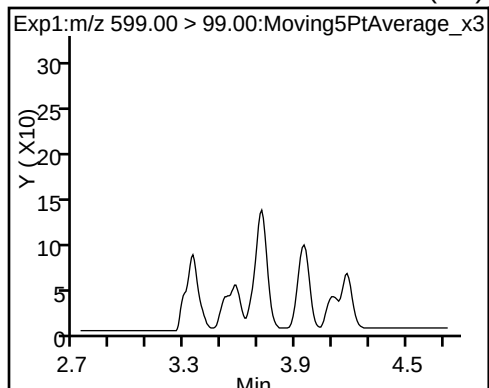
## 28 N-methyl perfluorooctane sulfonami (ND)



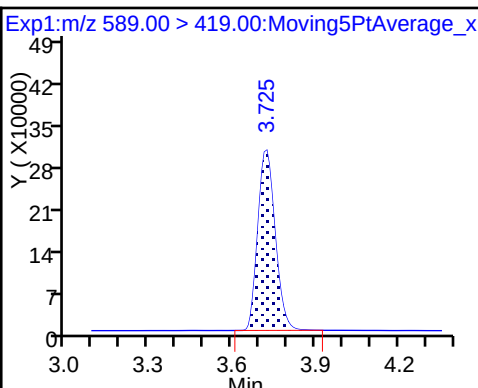
## 29 Perfluorodecane Sulfonic acid (ND)



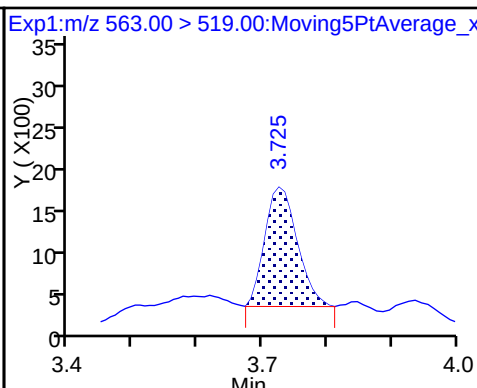
## 29 Perfluorodecane Sulfonic acid (ND) D 32 d5-NEtFOSAA



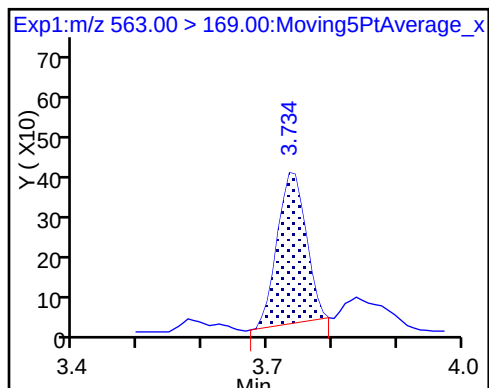
## D 32 d5-NEtFOSAA



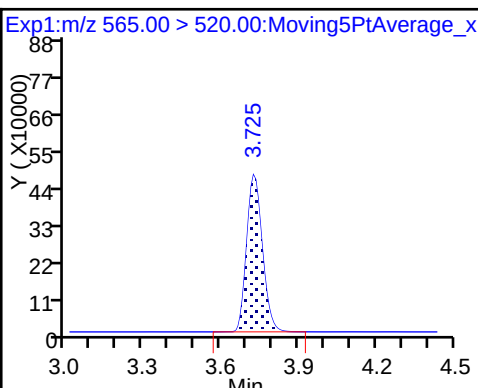
## 31 Perfluoroundecanoic acid



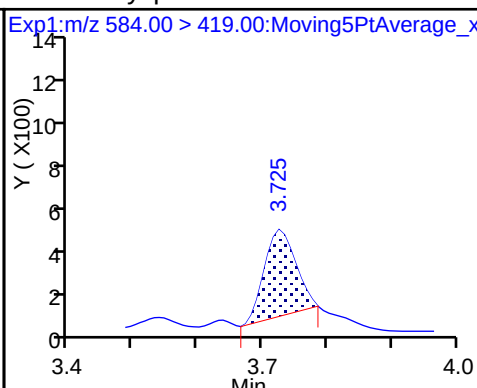
## 31 Perfluoroundecanoic acid



## D 30 13C2 PFUnA



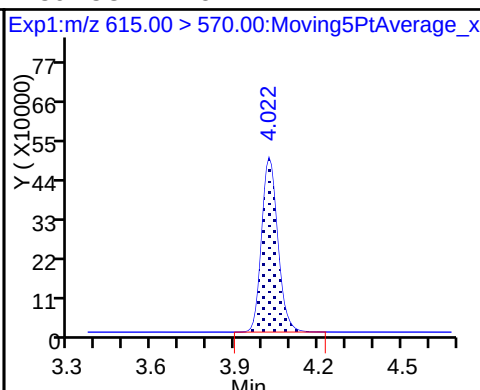
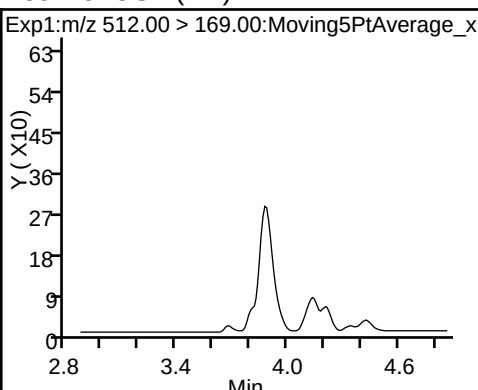
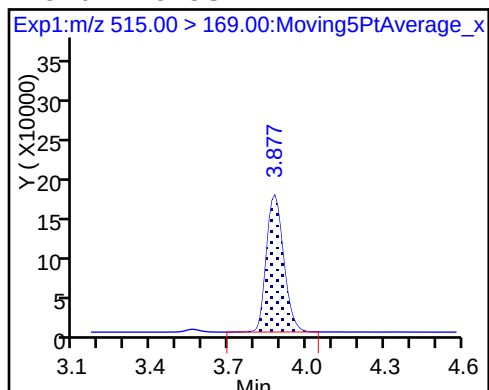
## 33 N-ethyl perfluorooctane sulfonamid



## D 34 d-N-MeFOSA-M

## 35 MeFOSA (ND)

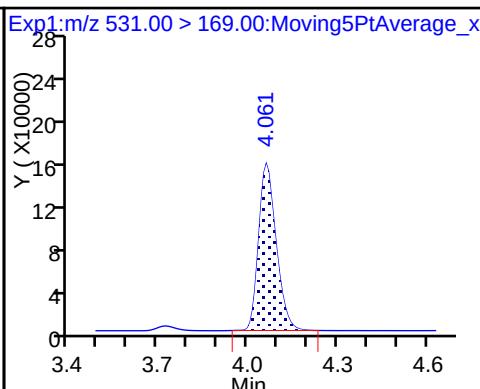
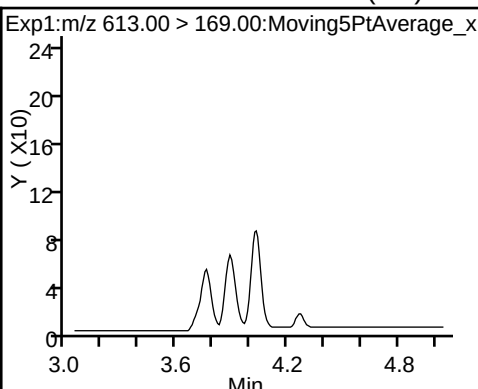
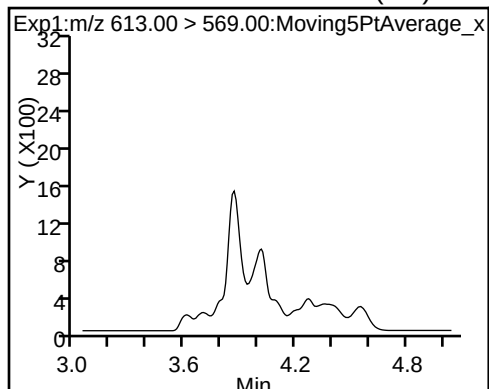
## D 36 13C2 PFDaA



## 37 Perfluorododecanoic acid (ND)

## 37 Perfluorododecanoic acid (ND)

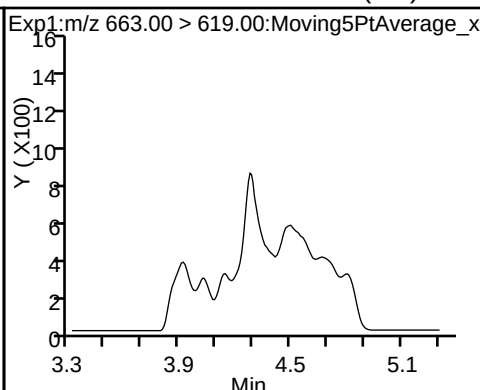
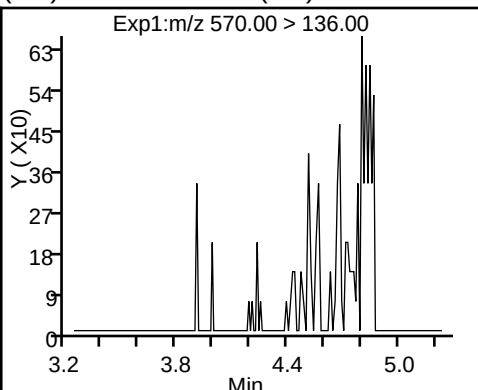
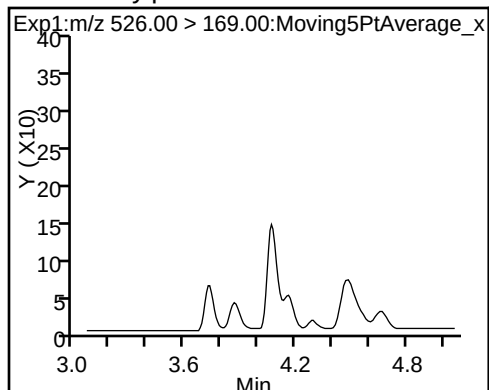
## D 38 d-N-EtFOSA-M



## 39 N-ethylperfluoro-1-octanesulfonamide (ND)

## D 39 d-N-EtFOSE-M (ND)

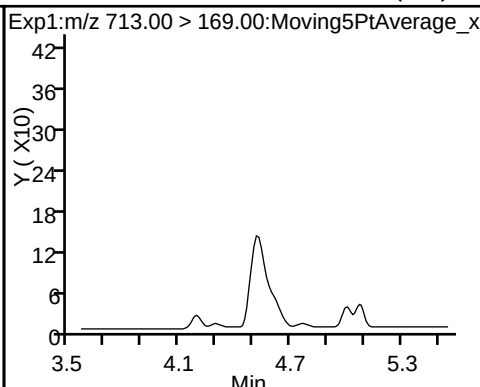
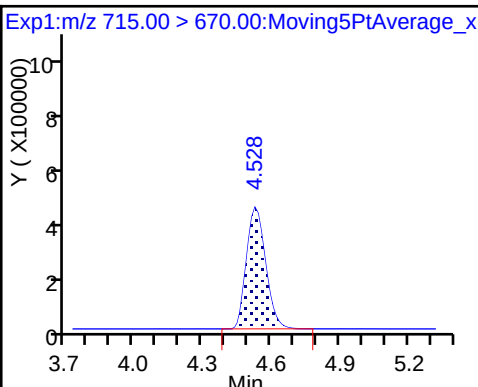
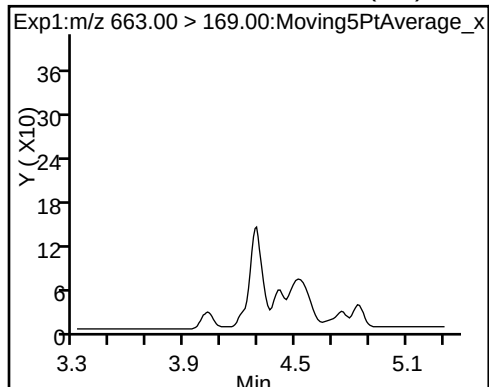
## 41 Perfluorotridecanoic acid (ND)



## 41 Perfluorotridecanoic acid (ND)

## D 43 13C2-PFTeDA

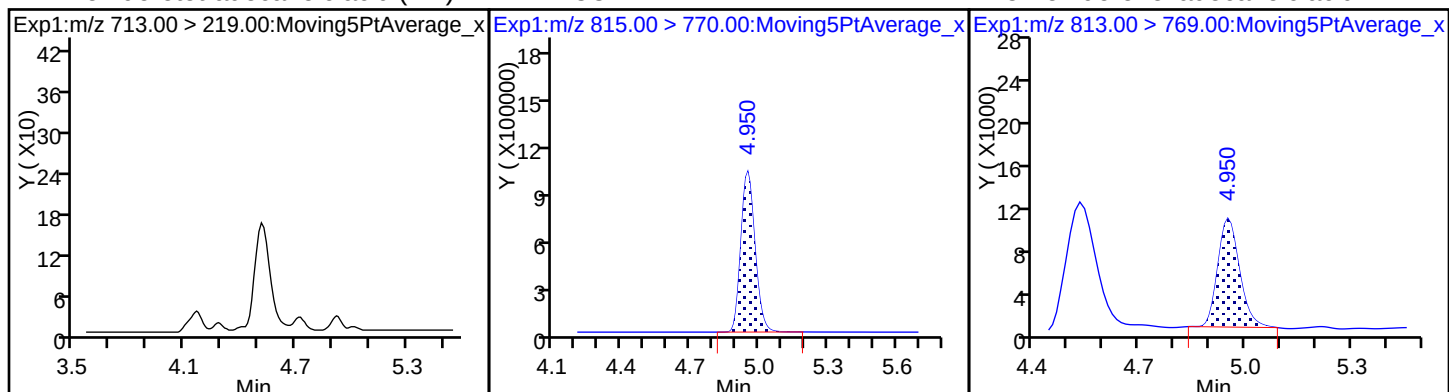
## 42 Perfluorotetradecanoic acid (ND)





42 Perfluorotetradecanoic acid (ND) D 44 13C2-PFHxDA

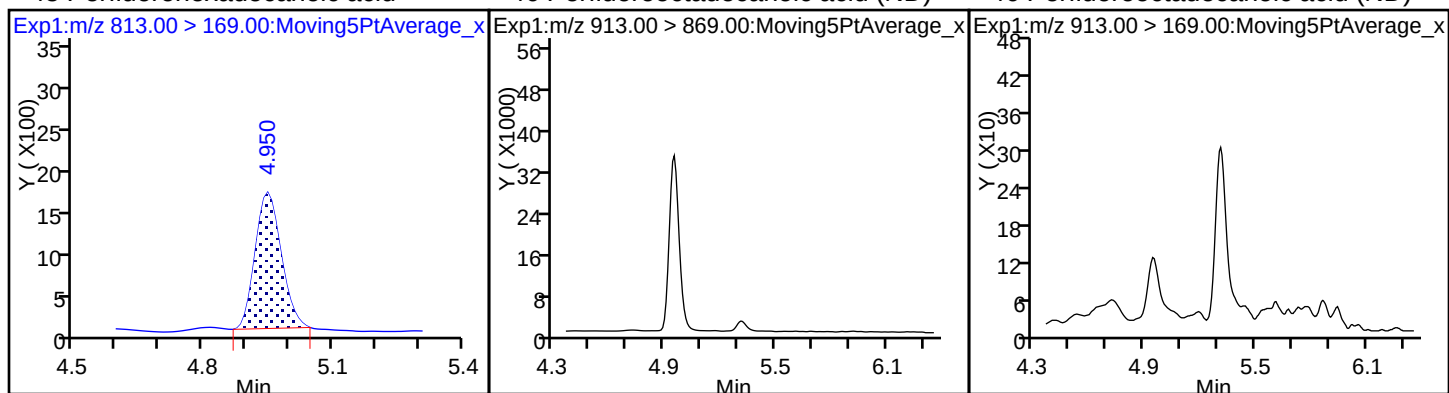
45 Perfluorohexadecanoic acid



45 Perfluorohexadecanoic acid

46 Perfluorooctadecanoic acid (ND)

46 Perfluorooctadecanoic acid (ND)



## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_002.d

Injection Date: 29-Dec-2017 07:47:09

Instrument ID: A8\_N

Lims ID: MB 320-201396/1-A

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 1 Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

Column:

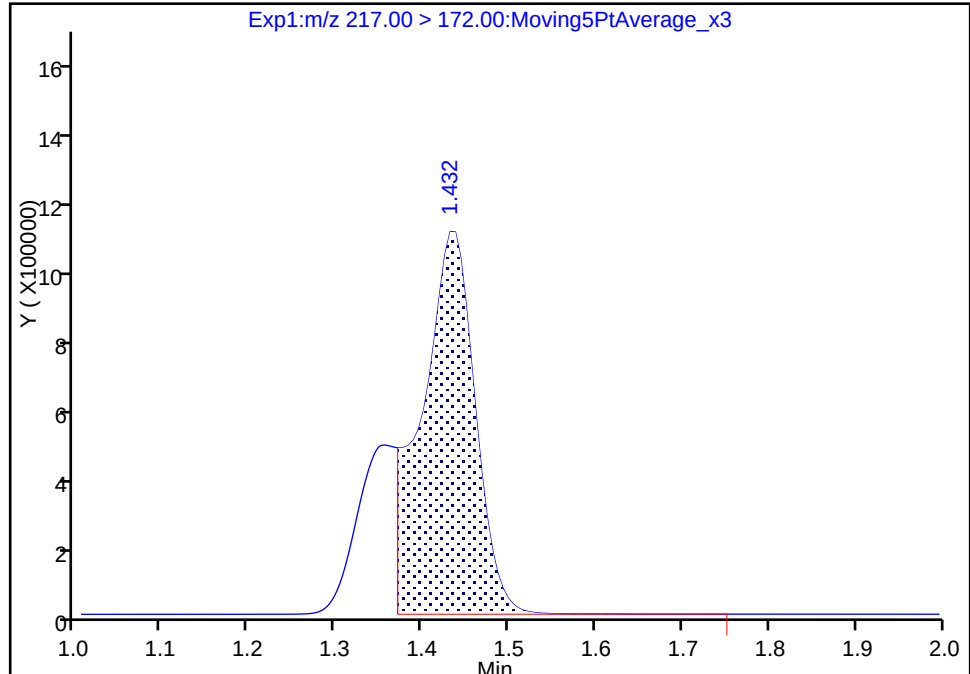
Detector: EXP1

**D 1 13C4 PFBA, CAS: STL00992**

Signal: 1

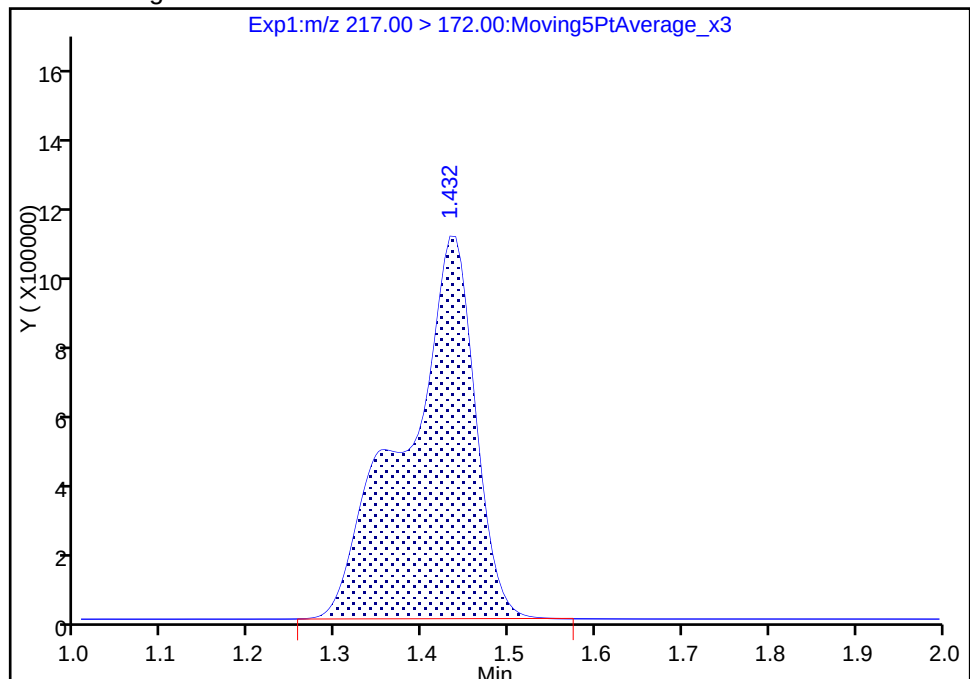
RT: 1.43  
Area: 4676275  
Amount: 1.177861  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.43  
Area: 6161655  
Amount: 1.551998  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:08:34

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: _____                 | Lab Sample ID: <u>LCS 320-200556/2-A</u>     |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.23LLBxB_003.d</u>    |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: _____                        |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>      |
| Sample wt/vol: <u>250.00 (mL)</u>       | Date Analyzed: <u>12/23/2017 14:49</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201236</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 42.07  |   | 2.00 | 0.35 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 40.62  |   | 2.00 | 0.49 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 41.43  |   | 2.00 | 0.58 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 39.47  |   | 2.00 | 0.25 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 37.93  |   | 2.00 | 0.85 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 40.54  |   | 2.00 | 0.27 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 41.73  |   | 2.00 | 0.31 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 37.59  |   | 2.00 | 1.10 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 41.06  |   | 2.00 | 0.55 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 45.35  |   | 2.00 | 1.30 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 42.59  |   | 2.00 | 0.29 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 39.33  |   | 2.00 | 0.20 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 36.70  |   | 2.00 | 0.17 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 40.07  |   | 2.00 | 0.19 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 39.14  |   | 2.00 | 0.54 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 38.62  |   | 2.00 | 0.32 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 43.35  |   | 2.00 | 0.35 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 38.20  |   | 20.0 | 3.10 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 39.43  |   | 20.0 | 1.90 |
| 27619-97-2 | 6:2FTS                                                     | 40.99  |   | 20.0 | 2.00 |
| 39108-34-4 | 8:2FTS                                                     | 39.40  |   | 20.0 | 2.00 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: _____                 | Lab Sample ID: <u>LCS 320-200556/2-A</u>            |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.23LLBxB_003.d</u>           |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: _____                               |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>             |
| Sample wt/vol: <u>250.00 (mL)</u>       | Date Analyzed: <u>12/23/2017 14:49</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201236</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 112  |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 107  |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 105  |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 112  |   | 25-150 |
| STL00990 | 13C4 PFOA        | 105  |   | 25-150 |
| STL00995 | 13C5 PFNA        | 115  |   | 25-150 |
| STL00996 | 13C2 PFDA        | 111  |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 105  |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 104  |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 117  |   | 25-150 |
| STL02337 | 13C3-PFBS        | 105  |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 103  |   | 25-150 |
| STL00991 | 13C4 PFOS        | 109  |   | 25-150 |
| STL01056 | 13C8 FOSA        | 96   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 103  |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 104  |   | 25-150 |
| STL02279 | M2-6:2FTS        | 54   |   | 25-150 |
| STL02280 | M2-8:2FTS        | 100  |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_003.d  
 Lims ID: LCS 320-200556/2-A  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 23-Dec-2017 14:49:07 ALS Bottle#: 2 Worklist Smp#: 5  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: lcs 320-200556/2-  
 Misc. Info.: Plate: 1 Rack: 5  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 26-Dec-2017 16:35:01 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK032

First Level Reviewer: barnettj

Date: 26-Dec-2017 16:34:46

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.426 | 1.419  | 0.007  | 0.533  | 8014875  | 2.80         |                   | 112  | 22788 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.426 | 1.419  | 0.007  | 1.000  | 3089514  | 1.05         |                   | 105  | 669   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.680 | 1.670  | 0.010  | 0.628  | 4568742  | 2.66         |                   | 107  | 68486 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.689 | 1.670  | 0.019  | 1.005  | 2071595  | 1.02         |                   | 102  | 1659  |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.716 | 1.705  | 0.011  | 0.642  | 88927    | 2.43         |                   | 105  | 2911  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.725 | 1.707  | 0.018  | 1.005  | 2829006  | 0.9833       |                   | 111  | 18638 |       |
| 298.90 > 99.00                        | 1.725 | 1.707  | 0.018  | 1.005  | 1151642  |              | 2.46(1.25-3.74)   |      | 10792 |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.934 | 1.920  | 0.014  | 1.000  | 580846   | 1.65         |                   | 177  | 27536 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.975 | 1.953  | 0.022  | 0.739  | 4805052  | 2.62         |                   | 105  | 39199 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.975 | 1.956  | 0.019  | 1.000  | 1993002  | 1.04         |                   | 104  | 4786  |       |
| 313.00 > 119.00                       | 1.975 | 1.956  | 0.019  | 1.000  | 192933   |              | 10.33(5.03-15.10) |      | 4060  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.305 | 2.291  | 0.014  | 0.862  | 4730623  | 2.79         |                   | 112  | 40595 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.305 | 2.291  | 0.014  | 1.000  | 1953169  | 0.9867       |                   | 98.7 | 3696  |       |
| 363.00 > 169.00                       | 2.305 | 2.291  | 0.014  | 1.000  | 752674   |              | 2.59(1.13-3.40)   |      | 6133  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.318 | 2.304  | 0.014  | 1.000  | 2186344  | 0.9175       |                   | 101  | 7775  |       |
| 399.00 > 99.00                        | 2.318 | 2.304  | 0.014  | 1.000  | 745772   |              | 2.93(1.50-4.49)   |      | 451   |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.318 | 2.304  | 0.014  | 0.867  | 5235396  | 2.45         |                 | 103  | 49903 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.645 | 2.642  | 0.003  | 1.000  | 678287   | 1.02         |                 | 108  | 13478 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.645 | 2.642  | 0.003  | 0.989  | 1014294  | 1.29         |                 | 54.1 | 23896 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.674 | 2.654  | 0.020  | 1.000  | 5114974  | 2.63         |                 | 105  | 49058 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.674 | 2.656  | 0.018  |        | 4714724  | 2.50         |                 |      | 50376 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.674 | 2.656  | 0.018  | 1.000  | 2040365  | 0.9483       |                 | 94.8 | 1342  |       |
| 413.00 > 169.00                       | 2.674 | 2.656  | 0.018  | 1.000  | 1115044  |              | 1.83(0.84-2.52) |      | 8476  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.681 | 2.662  | 0.019  | 1.000  | 2010384  | 1.00         |                 | 105  | 27749 |       |
| 449.00 > 99.00                        | 2.681 | 2.662  | 0.019  | 1.000  | 533112   |              | 3.77(1.94-5.82) |      | 12783 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.048 | 3.025  | 0.023  | 1.140  | 3662585  | 2.59         |                 | 109  | 39782 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.048 | 3.028  | 0.020  | 1.000  | 1589608  | 0.9785       |                 | 105  | 180   |       |
| 499.00 > 99.00                        | 3.048 | 3.028  | 0.020  | 1.000  | 343639   |              | 4.63(2.31-6.93) |      | 228   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.048 | 3.028  | 0.020  | 1.140  | 3976229  | 2.87         |                 | 115  | 47545 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.048 | 3.029  | 0.019  | 1.000  | 1622118  | 1.01         |                 | 101  | 3690  |       |
| 463.00 > 169.00                       | 3.048 | 3.029  | 0.019  | 1.000  | 409867   |              | 3.96(1.90-5.69) |      | 6423  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.379 | 3.370  | 0.009  | 1.264  | 4634680  | 2.41         |                 | 96.5 | 28505 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.379 | 3.372  | 0.007  | 1.000  | 1927217  | 1.08         |                 | 108  | 20659 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.394 | 3.377  | 0.017  | 1.269  | 1053548  | 2.39         |                 | 99.8 | 15014 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.394 | 3.377  | 0.017  | 1.000  | 526677   | 0.9849       |                 | 103  | 14897 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.409 | 3.389  | 0.020  | 1.275  | 3163767  | 2.77         |                 | 111  | 32675 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.409 | 3.390  | 0.019  | 1.000  | 1276983  | 1.04         |                 | 104  | 7561  |       |
| 513.00 > 169.00                       | 3.409 | 3.390  | 0.019  | 1.000  | 239844   |              | 5.32(2.36-7.09) |      | 2156  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.560 | 3.543  | 0.017  | 1.332  | 1584133  | 2.59         |                 | 103  | 26510 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.568 | 3.548  | 0.020  | 1.002  | 649581   | 0.9549       |                 | 95.5 | 6328  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.724 | 3.703  | 0.021  | 1.000  | 913749   | 0.9654       |                 | 100  | 16942 |       |
| 599.00 > 99.00                        | 3.724 | 3.703  | 0.021  | 1.000  | 306222   |              | 2.98(1.39-4.16) |      | 6575  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.733 | 3.712  | 0.021  | 1.396  | 1554258  | 2.60         |                 | 104  | 10761 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.733 | 3.717     | 0.016     | 1.396     | 2283777  | 2.63            |                 | 105  | 41626 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.742 | 3.718     | 0.024     | 1.002     | 786456   | 0.9398          |                 | 94.0 | 3969  |       |
| 563.00 > 169.00                       | 3.742 | 3.718     | 0.024     | 1.002     | 191925   |                 | 4.10(0.00-0.00) |      | 10600 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.742 | 3.720     | 0.022     | 1.002     | 608964   | 0.9858          |                 | 98.6 | 8495  |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.876 | 3.862     | 0.014     | 1.450     | 1076420  | 1.97            |                 | 78.7 | 2867  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.876 | 3.872     | 0.004     | 1.000     | 440601   | 1.05            |                 | 105  | 2529  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.037 | 4.011     | 0.026     | 1.510     | 2444842  | 2.61            |                 | 104  | 29158 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.037 | 4.011     | 0.026     | 1.000     | 996444   | 1.03            |                 | 103  | 3764  |       |
| 613.00 > 169.00                       | 4.037 | 4.011     | 0.026     | 1.000     | 247557   |                 | 4.03(2.13-6.40) |      | 10213 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.061 | 4.052     | 0.009     | 1.519     | 995635   | 1.89            |                 | 75.8 | 2120  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.069 | 4.058     | 0.011     | 1.002     | 455578   | 1.07            |                 | 107  | 2335  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.296 | 4.277     | 0.019     | 1.000     | 1285655  | 1.13            |                 | 113  | 4800  |       |
| 663.00 > 169.00                       | 4.296 | 4.277     | 0.019     | 1.000     | 431566   |                 | 2.98(1.25-3.76) |      | 15980 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.542 | 4.518     | 0.024     | 1.699     | 3069478  | 2.93            |                 | 117  | 20308 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.542 | 4.518     | 0.024     | 1.000     | 336929   | 1.06            |                 | 106  | 11624 |       |
| 713.00 > 219.00                       | 4.528 | 4.518     | 0.010     | 0.997     | 249408   |                 | 1.35(0.71-2.13) |      | 8565  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.958 | 4.939     | 0.019     | 1.855     | 4257319  | 2.23            |                 | 89.3 | 14598 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.958 | 4.939     | 0.019     | 1.000     | 1653619  | 1.11            |                 | 111  | 997   |       |
| 813.00 > 169.00                       | 4.958 | 4.939     | 0.019     | 1.000     | 306874   |                 | 5.39(2.86-8.58) |      | 5108  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.339 | 5.306     | 0.033     | 1.000     | 1932713  | 1.10            |                 | 110  | 534   |       |
| 913.00 > 169.00                       | 5.332 | 5.306     | 0.026     | 0.999     | 246899   |                 | 7.83(0.00-0.00) |      | 2053  |       |

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_003.d

Injection Date: 23-Dec-2017 14:49:07

Instrument ID: A8\_N

Lims ID: LCS 320-200556/2-A

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 2

Worklist Smp#: 5

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

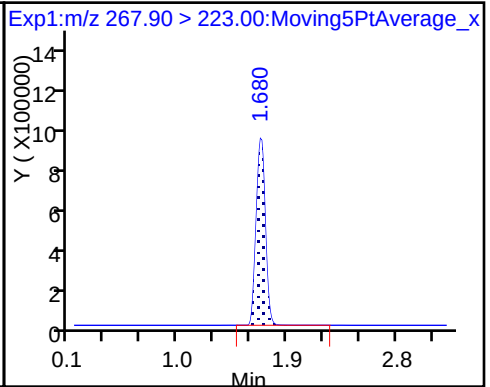
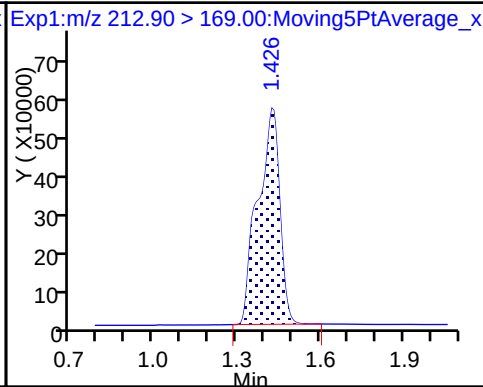
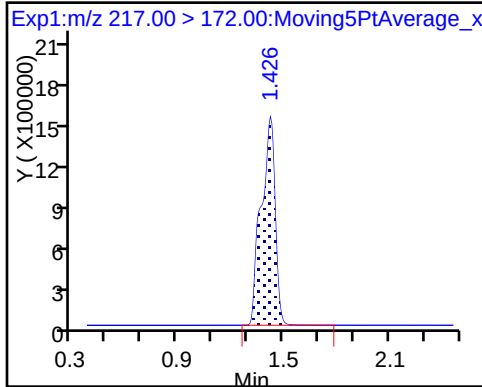
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

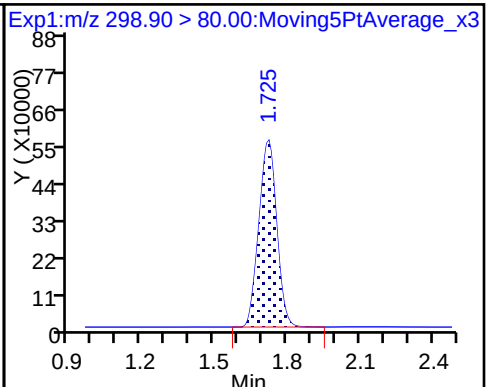
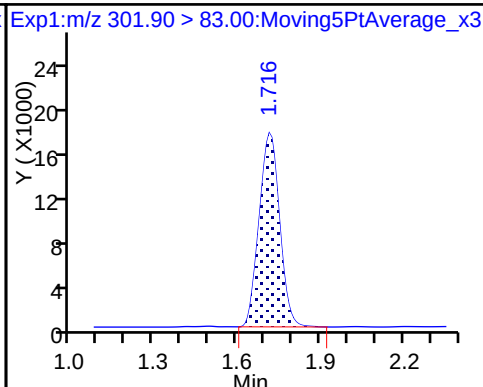
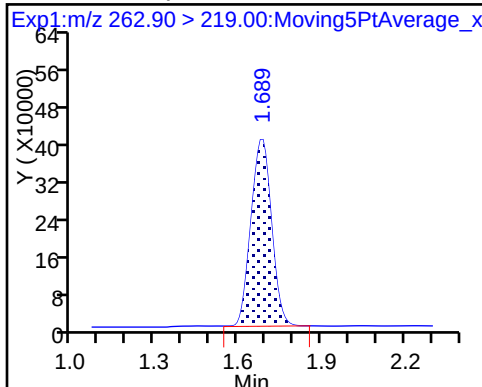
D 3 13C5-PFPeA



4 Perfluoropentanoic acid

D 47 13C3-PFBS

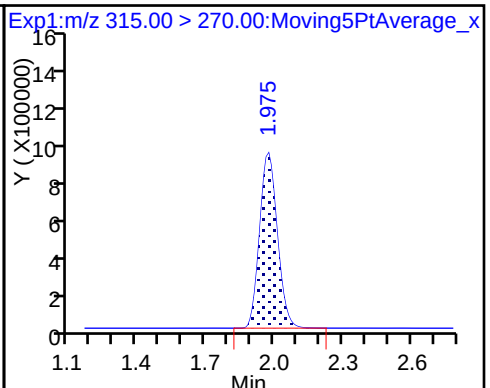
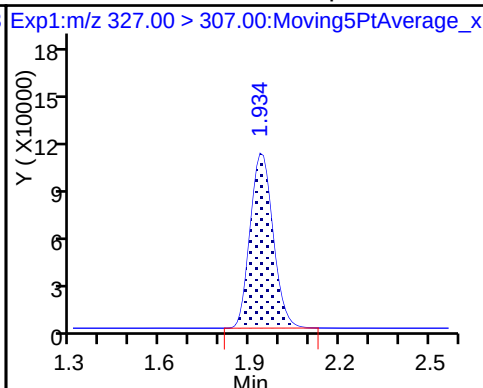
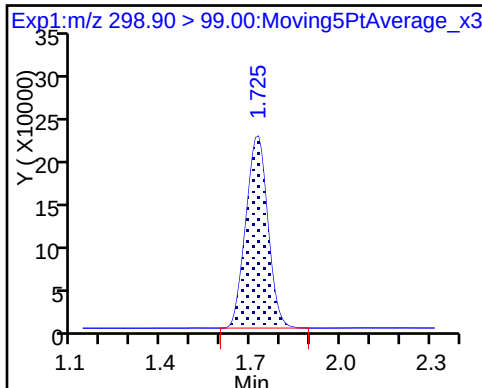
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

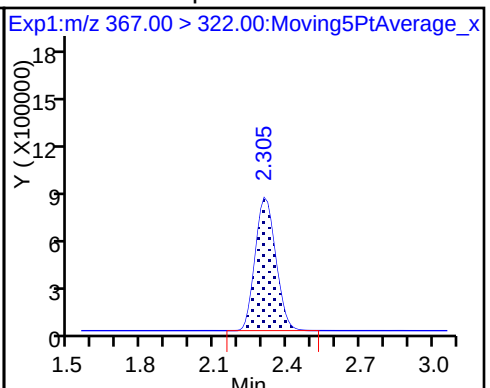
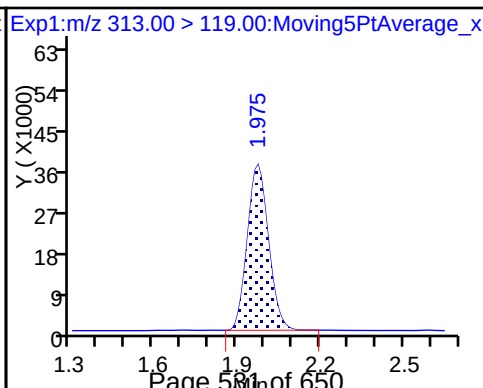
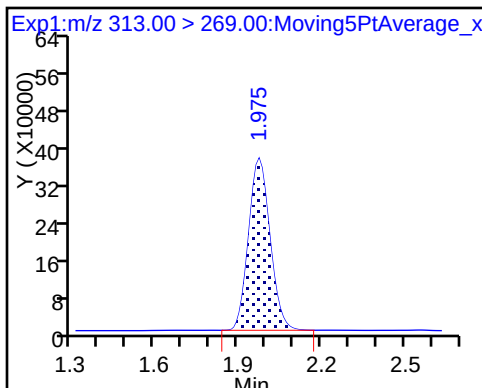
De 7 13C2 PFHxA



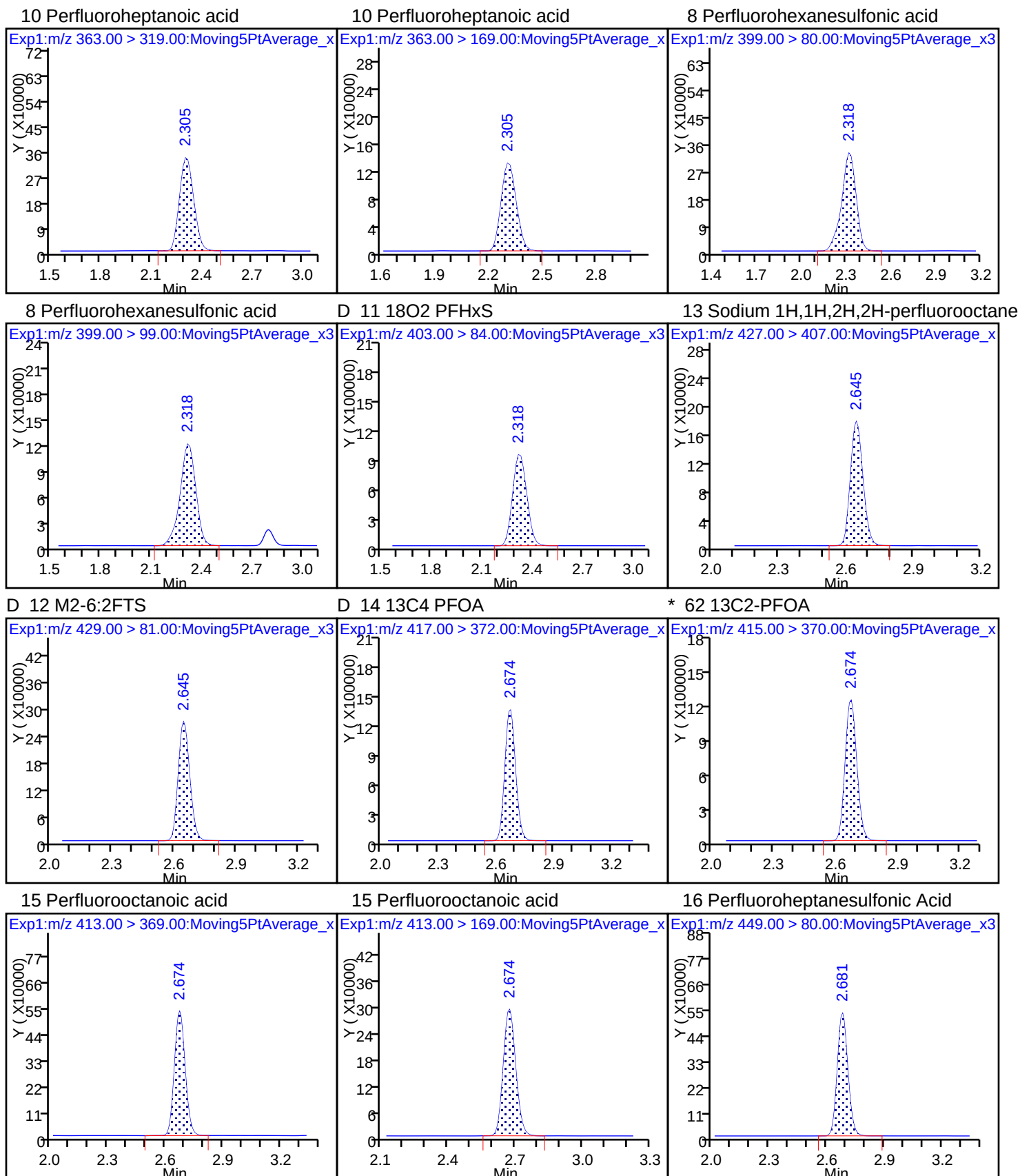
6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA



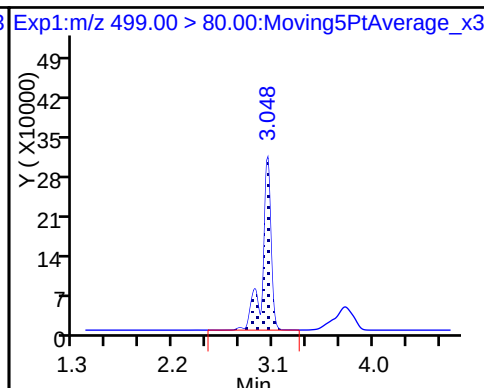
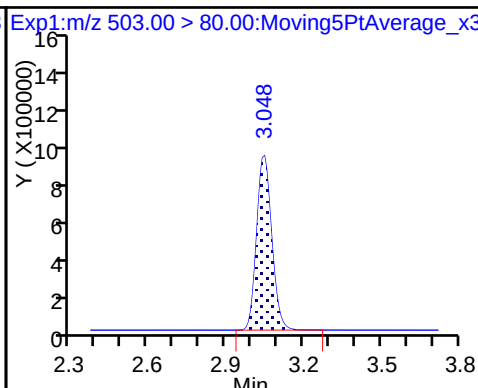
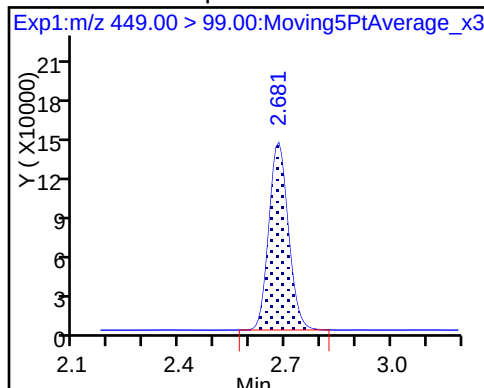




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

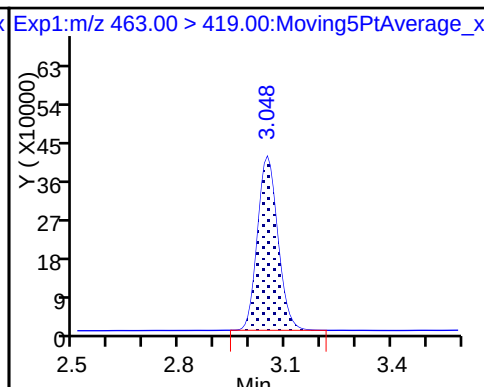
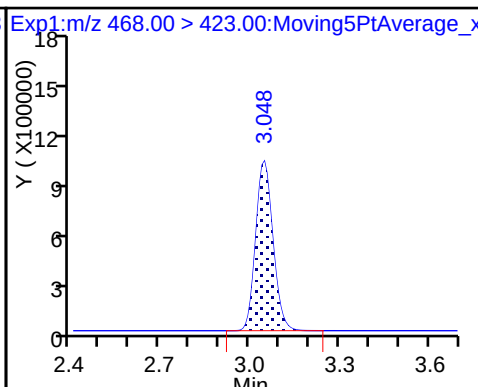
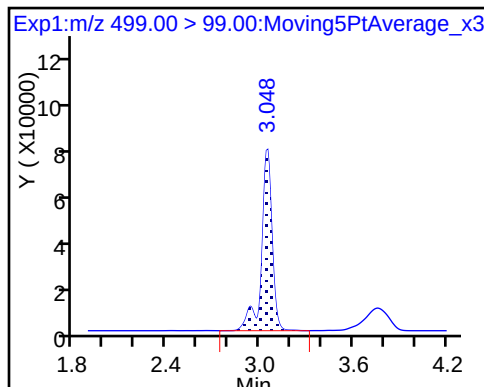
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

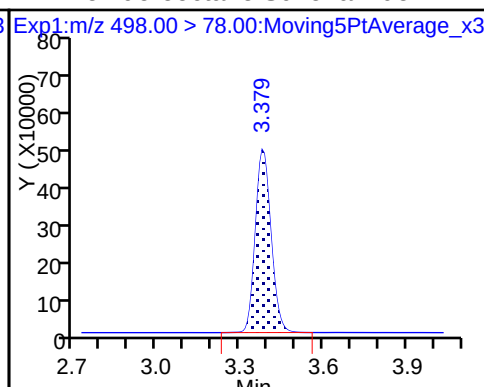
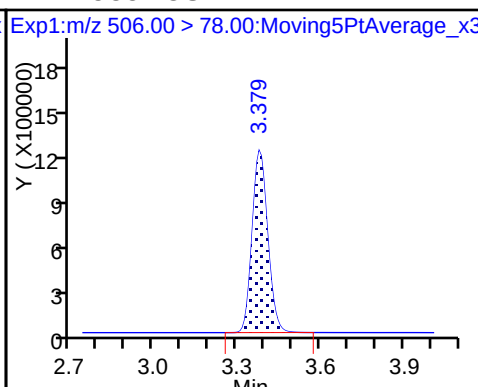
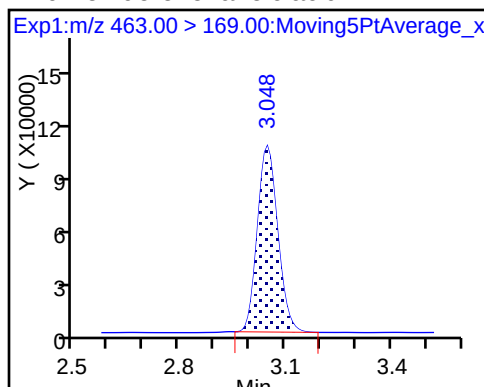
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

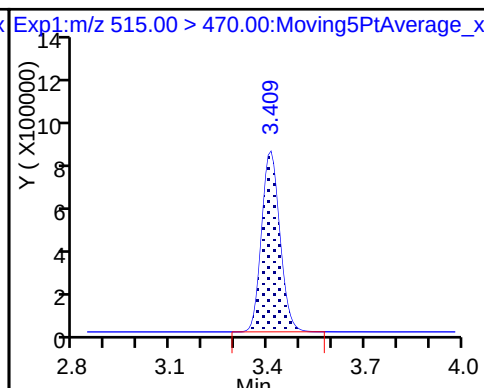
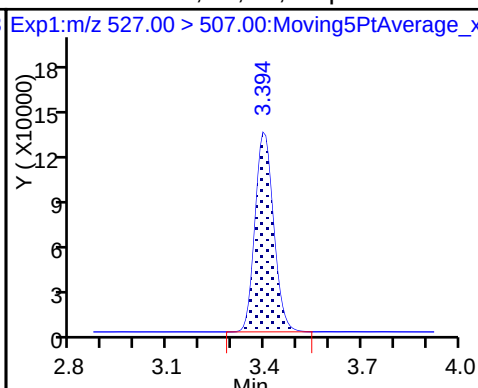
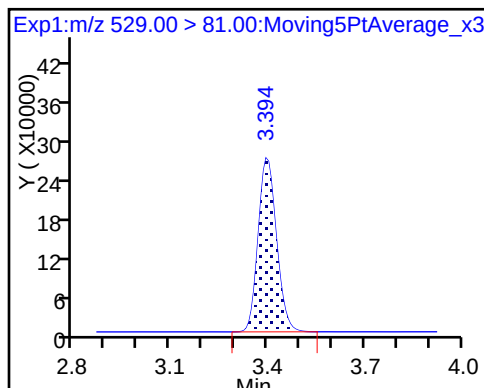
22 Perfluorooctane Sulfonamide

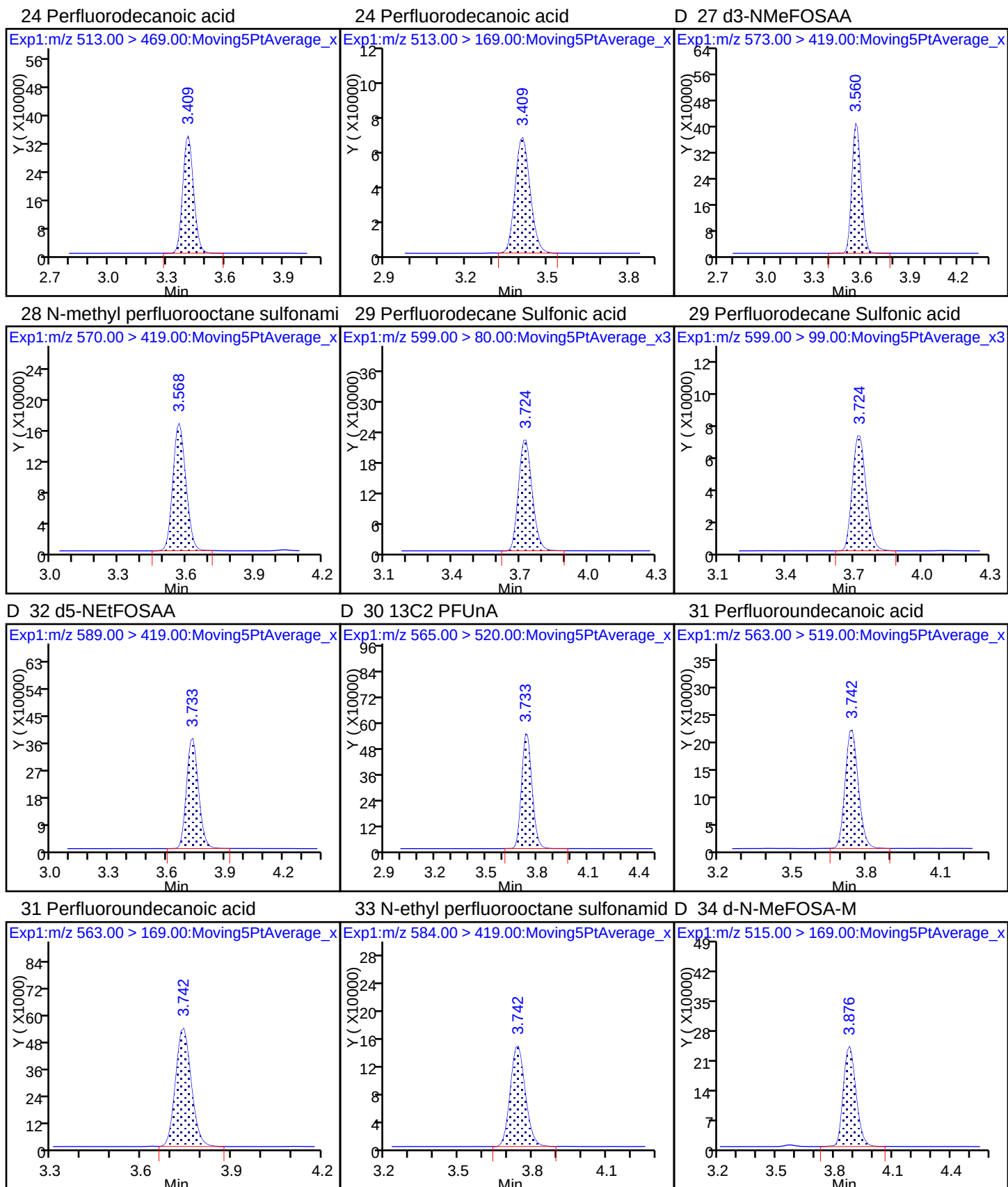


D 26 M2-8:2FTS

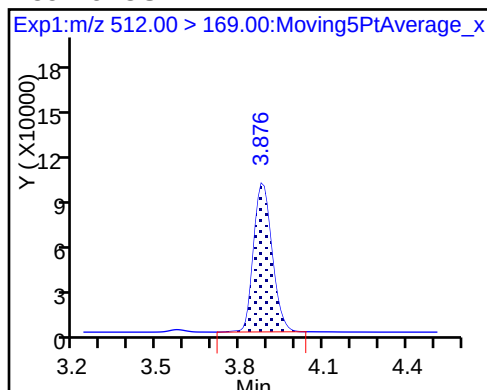
25 Sodium 1H,1H,2H,2H-perfluorodeca

De23 13C2 PFDA

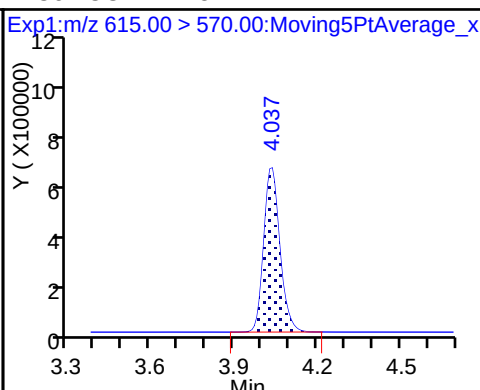




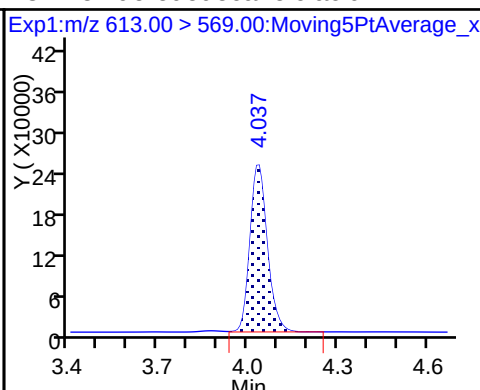
35 MeFOSA



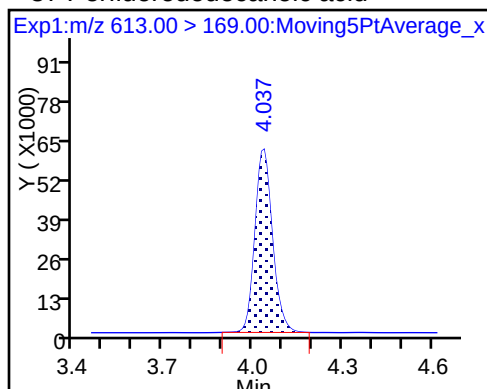
D 36 13C2 PFDaA



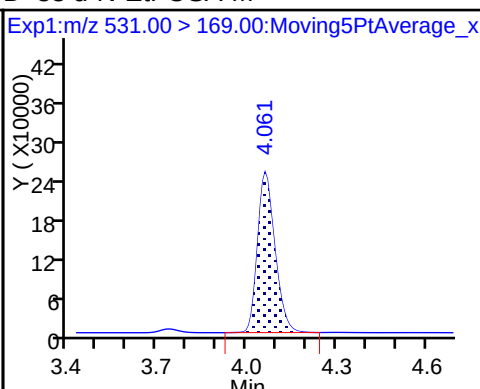
37 Perfluorododecanoic acid



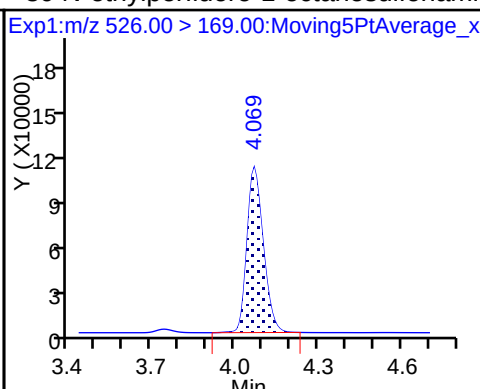
37 Perfluorododecanoic acid



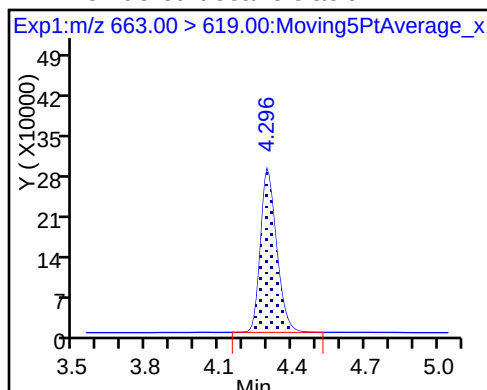
D 38 d-N-EtFOSA-M



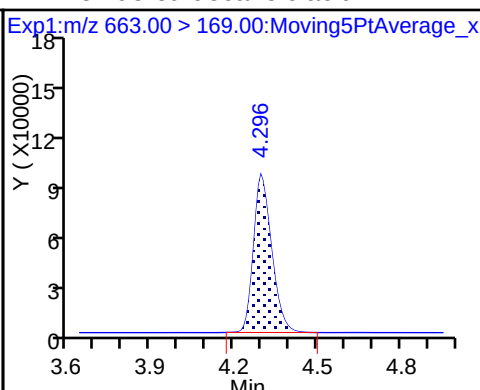
39 N-ethylperfluoro-1-octanesulfonami



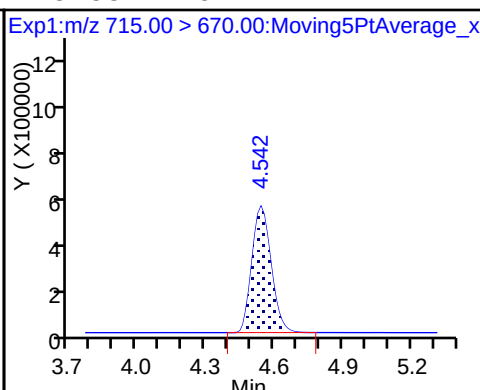
41 Perfluorotridecanoic acid



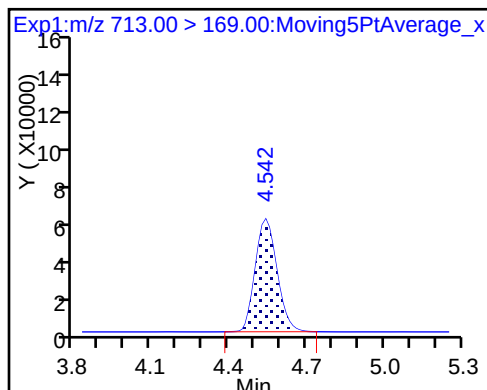
41 Perfluorotridecanoic acid



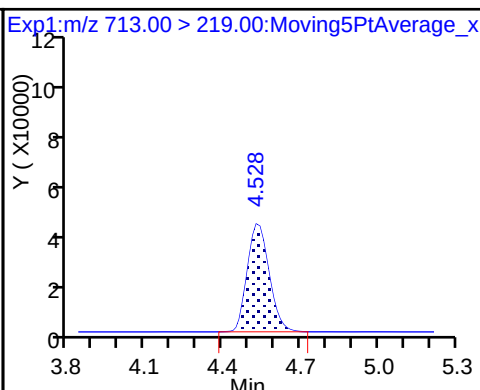
D 43 13C2-PFTeDA



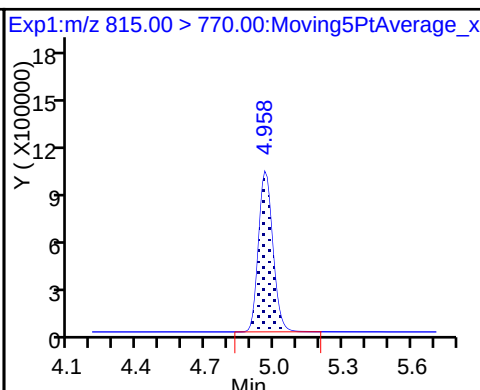
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



D 44 13C2-PFHxDA

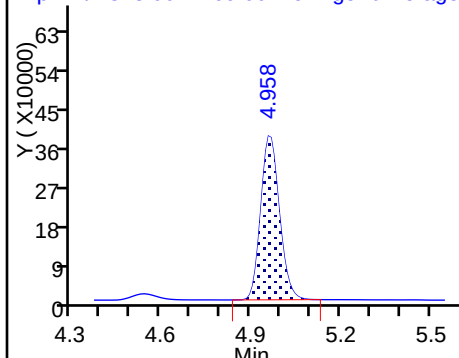


## 45 Perfluorohexadecanoic acid

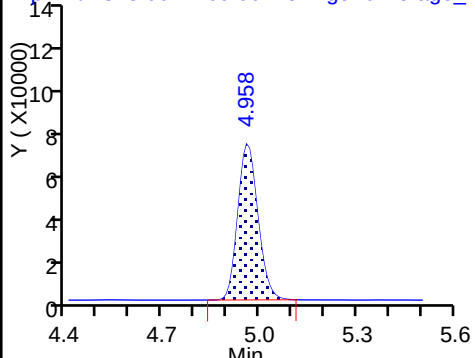
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

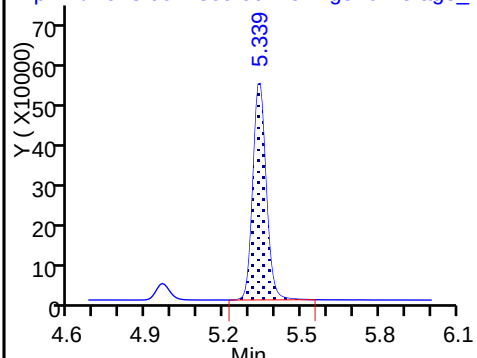
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

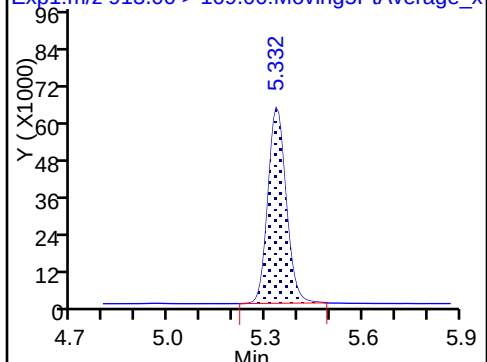


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: _____                 | Lab Sample ID: <u>LCS 320-201396/2-A</u>     |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_003.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: _____                        |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>250.00 (mL)</u>       | Date Analyzed: <u>12/29/2017 07:54</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 39.45  |   | 2.00 | 0.35 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 39.17  |   | 2.00 | 0.49 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 37.38  |   | 2.00 | 0.58 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 38.67  |   | 2.00 | 0.25 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 34.50  |   | 2.00 | 0.85 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 39.66  |   | 2.00 | 0.27 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 39.83  |   | 2.00 | 0.31 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 35.18  |   | 2.00 | 1.10 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 38.97  |   | 2.00 | 0.55 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 39.82  |   | 2.00 | 1.30 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 34.97  |   | 2.00 | 0.29 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 35.75  |   | 2.00 | 0.20 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 32.81  |   | 2.00 | 0.17 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 40.08  |   | 2.00 | 0.19 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 34.29  |   | 2.00 | 0.54 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 38.32  |   | 2.00 | 0.32 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 36.78  |   | 2.00 | 0.35 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 37.11  |   | 20.0 | 3.10 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 37.68  |   | 20.0 | 1.90 |
| 27619-97-2 | 6:2FTS                                                     | 34.72  |   | 20.0 | 2.00 |
| 39108-34-4 | 8:2FTS                                                     | 36.17  |   | 20.0 | 2.00 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: _____                 | Lab Sample ID: <u>LCS 320-201396/2-A</u>            |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_003.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: _____                               |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>250.00 (mL)</u>       | Date Analyzed: <u>12/29/2017 07:54</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 78   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 81   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 81   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 82   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 91   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 82   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 82   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 85   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 85   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 101  |   | 25-150 |
| STL02337 | 13C3-PFBS        | 82   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 79   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 81   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 74   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 85   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 85   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 89   |   | 25-150 |
| STL02280 | M2-8:2FTS        | 83   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_003.d  
 Lims ID: LCS 320-201396/2-A  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 29-Dec-2017 07:54:58 ALS Bottle#: 2 Worklist Smp#: 3  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: lcs 320-201396/2-a  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:10:48 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:10:48

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433  | -0.001 | 0.538  | 6860405  | 1.96         |                   | 78.4 | 21247 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.432 | 1.434  | -0.002 | 1.000  | 2472655  | 0.9864       |                   | 98.6 | 471   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.689 | 1.691  | -0.002 | 1.005  | 1808275  | 0.9793       |                   | 97.9 | 1623  |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.680 | 1.692  | -0.012 | 0.632  | 4115176  | 2.02         |                   | 80.7 | 52514 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.716 | 1.725  | -0.009 | 0.645  | 84333    | 1.91         |                   | 82.0 | 2697  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.725 | 1.730  | -0.005 | 1.005  | 2426297  | 0.8938       |                   | 101  | 14747 |       |
| 298.90 > 99.00                        | 1.725 | 1.730  | -0.005 | 1.005  | 996779   |              | 2.43(1.25-3.74)   |      | 8387  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.934 | 1.941  | -0.007 | 1.000  | 496126   | 0.8396       |                   | 89.9 | 23586 |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.965 | 1.976  | -0.011 | 0.739  | 4455590  | 2.03         |                   | 81.3 | 37343 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.975 | 1.979  | -0.004 | 1.005  | 1663471  | 0.9346       |                   | 93.5 | 4166  |       |
| 313.00 > 119.00                       | 1.975 | 1.979  | -0.004 | 1.005  | 152212   |              | 10.93(5.03-15.10) |      | 3980  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.305 | 2.311  | -0.006 | 0.867  | 4172385  | 2.05         |                   | 82.0 | 30672 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.305 | 2.311  | -0.006 | 1.000  | 1687392  | 0.9668       |                   | 96.7 | 2825  |       |
| 363.00 > 169.00                       | 2.305 | 2.311  | -0.006 | 1.000  | 697814   |              | 2.42(1.13-3.40)   |      | 5891  |       |
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 399.00 > 80.00                        | 2.319 | 2.324  | -0.006 | 1.000  | 1836564  | 0.8202       |                   | 90.1 | 5921  |       |
| 399.00 > 99.00                        | 2.319 | 2.324  | -0.006 | 1.000  | 624176   |              | 2.94(1.50-4.49)   |      | 3513  |       |



| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.319 | 2.328  | -0.010 | 0.872  | 4846160  | 1.87         |                 | 79.3 | 51162 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.631 | 2.649  | -0.018 | 0.989  | 813932   | 2.11         |                 | 88.7 | 18716 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.631 | 2.651  | -0.020 | 1.000  | 498861   | 0.8681       |                 | 91.6 | 25365 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.652 | 2.674  | -0.022 | 0.997  | 4710268  | 2.27         |                 | 90.7 | 39710 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.659 | 2.676  | -0.017 |        | 5055056  | 2.50         |                 |      | 47601 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.659 | 2.677  | -0.018 | 1.003  | 1720319  | 0.8625       |                 | 86.3 | 1113  |       |
| 413.00 > 169.00                       | 2.659 | 2.677  | -0.018 | 1.003  | 921233   |              | 1.87(0.84-2.52) |      | 7082  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.667 | 2.683  | -0.016 | 1.000  | 1710992  | 1.00         |                 | 105  | 19668 |       |
| 449.00 > 99.00                        | 2.667 | 2.683  | -0.016 | 1.000  | 460927   |              | 3.71(1.94-5.82) |      | 11871 |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.033 | 3.048  | -0.015 | 1.140  | 3326324  | 1.94         |                 | 81.2 | 33974 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.033 | 3.050  | -0.017 | 1.000  | 1280582  | 0.8574       |                 | 92.4 | 249   |       |
| 499.00 > 99.00                        | 3.025 | 3.050  | -0.025 | 0.997  | 279167   |              | 4.59(2.31-6.93) |      | 328   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.033 | 3.051  | -0.018 | 1.140  | 3397339  | 2.05         |                 | 81.9 | 39846 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.033 | 3.052  | -0.019 | 1.000  | 1312808  | 0.99         |                 | 99.2 | 3170  |       |
| 463.00 > 169.00                       | 3.033 | 3.052  | -0.019 | 1.000  | 311454   |              | 4.22(1.90-5.69) |      | 6374  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.371 | 3.377  | -0.006 | 1.268  | 4280957  | 1.85         |                 | 73.9 | 23685 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.379 | 3.378  | 0.001  | 1.002  | 1494709  | 0.9196       |                 | 92.0 | 15786 |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.387 | 3.402  | -0.015 | 1.002  | 400688   | 0.9043       |                 | 94.4 | 17019 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.379 | 3.403  | -0.024 | 1.271  | 845198   | 1.99         |                 | 83.2 | 12486 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.394 | 3.414  | -0.020 | 1.276  | 2770192  | 2.05         |                 | 82.1 | 35460 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.394 | 3.414  | -0.020 | 1.000  | 1087639  | 1.00         |                 | 99.6 | 5494  |       |
| 513.00 > 169.00                       | 3.394 | 3.414  | -0.020 | 1.000  | 198196   |              | 5.49(2.36-7.09) |      | 3385  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.545 | 3.569  | -0.024 | 1.333  | 1486652  | 2.13         |                 | 85.3 | 13272 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.553 | 3.574  | -0.021 | 1.002  | 584019   | 0.9277       |                 | 92.8 | 4505  |       |
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.707 | 3.730  | -0.023 | 1.000  | 789425   | 0.9580       |                 | 99.4 | 16019 |       |
| 599.00 > 99.00                        | 3.707 | 3.730  | -0.023 | 1.000  | 260731   |              | 3.03(1.39-4.16) |      | 7022  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.716 | 3.740  | -0.024 | 1.397  | 1503605  | 2.12         |                 | 84.6 | 12135 |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.724 | 3.746     | -0.022    | 1.000     | 712815   | 0.8796          |                 | 88.0 | 3624  |       |
| 563.00 > 169.00                       | 3.724 | 3.746     | -0.022    | 1.000     | 151156   |                 | 4.72(0.00-0.00) |      | 8167  |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.724 | 3.747     | -0.023    | 1.400     | 2162532  | 2.12            |                 | 84.7 | 27295 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.724 | 3.747     | -0.023    | 1.002     | 546814   | 0.9419          |                 | 94.2 | 10713 |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.876 | 3.867     | 0.009     | 1.457     | 722851   | 1.10            |                 | 43.9 | 1879  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.876 | 3.873     | 0.003     | 1.000     | 277493   | 0.99            |                 | 99.4 | 1844  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.021 | 4.045     | -0.024    | 1.512     | 2353619  | 2.12            |                 | 84.8 | 32963 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.021 | 4.045     | -0.024    | 1.000     | 910645   | 0.9742          |                 | 97.4 | 3118  |       |
| 613.00 > 169.00                       | 4.021 | 4.045     | -0.024    | 1.000     | 211177   |                 | 4.31(2.13-6.40) |      | 13180 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.061 | 4.058     | 0.003     | 1.527     | 540058   | 0.8617          |                 | 34.5 | 1199  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.068 | 4.065     | 0.003     | 1.002     | 234379   | 1.00            |                 | 100  | 1237  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.280 | 4.312     | -0.032    | 1.000     | 1009821  | 1.00            |                 | 99.5 | 3966  |       |
| 663.00 > 169.00                       | 4.280 | 4.312     | -0.032    | 1.000     | 343615   |                 | 2.94(1.25-3.76) |      | 10824 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.528 | 4.557     | -0.029    | 1.703     | 3034617  | 2.51            |                 | 101  | 27502 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.528 | 4.557     | -0.029    | 1.000     | 270030   | 0.8742          |                 | 87.4 | 9289  |       |
| 713.00 > 219.00                       | 4.514 | 4.557     | -0.043    | 0.997     | 188064   |                 | 1.44(0.71-2.13) |      | 4610  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.940 | 4.984     | -0.044    | 1.858     | 4784048  | 2.16            |                 | 86.5 | 18590 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.940 | 4.984     | -0.044    | 1.000     | 1702460  | 1.02            |                 | 102  | 1184  |       |
| 813.00 > 169.00                       | 4.940 | 4.984     | -0.044    | 1.000     | 311030   |                 | 5.47(2.86-8.58) |      | 5547  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.310 | 5.361     | -0.051    | 1.000     | 2000619  | 0.9729          |                 | 97.3 | 642   |       |
| 913.00 > 169.00                       | 5.310 | 5.361     | -0.051    | 1.000     | 249926   |                 | 8.00(0.00-0.00) |      | 1683  |       |

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_003.d

Injection Date: 29-Dec-2017 07:54:58

Instrument ID: A8\_N

Lims ID: LCS 320-201396/2-A

Client ID:

Operator ID: SACINSTLCMS01

ALS Bottle#: 2

Worklist Smp#: 3

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

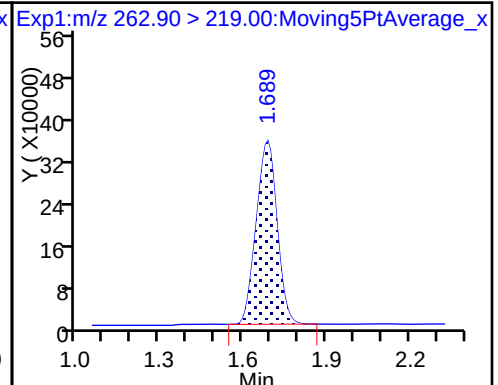
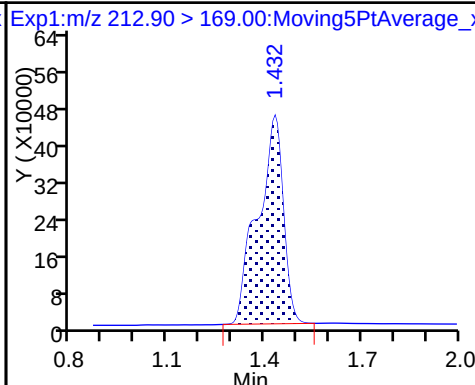
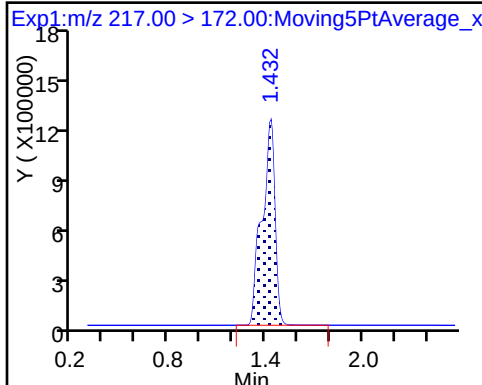
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

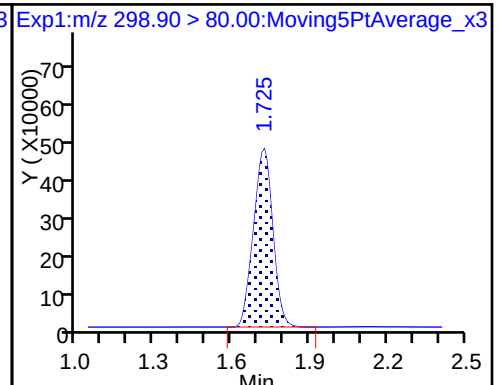
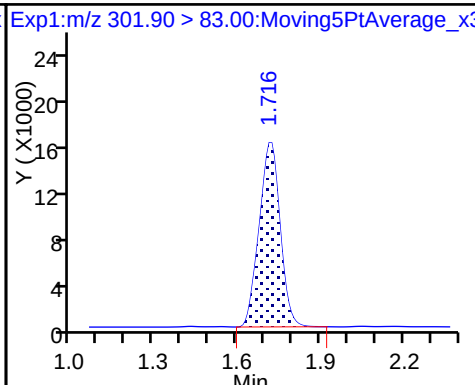
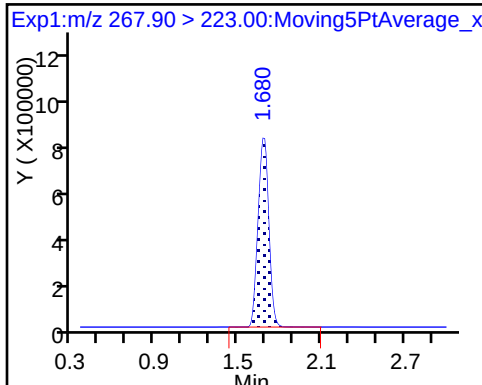
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

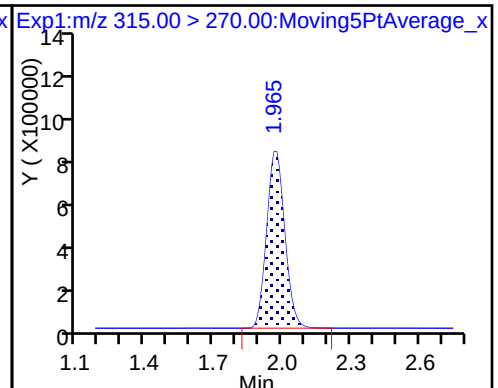
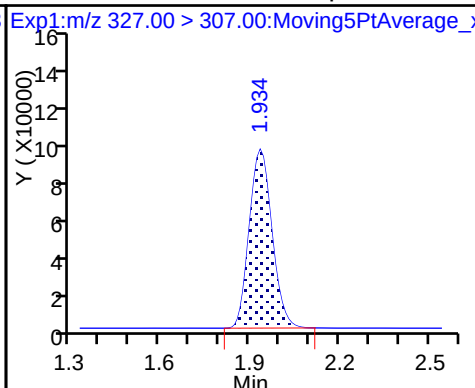
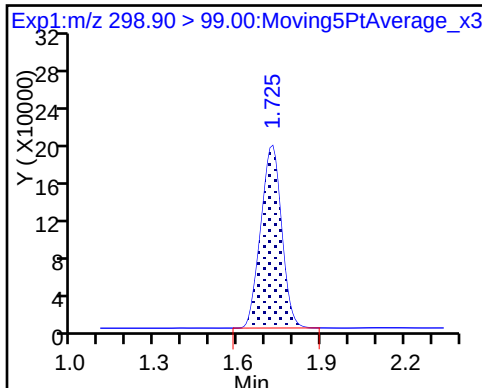
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexa

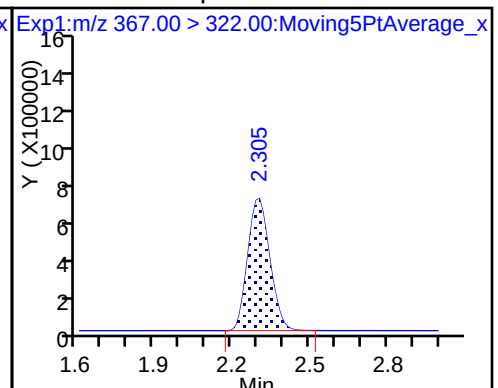
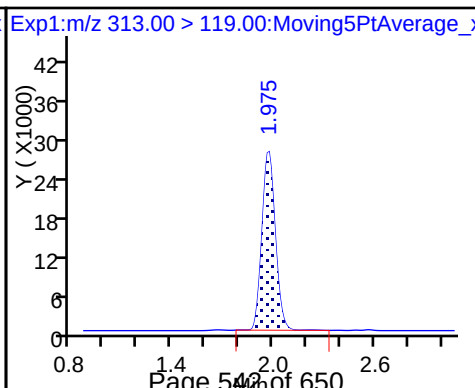
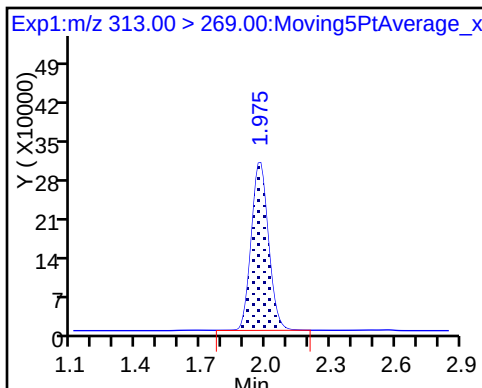
De 7 13C2 PFHxA

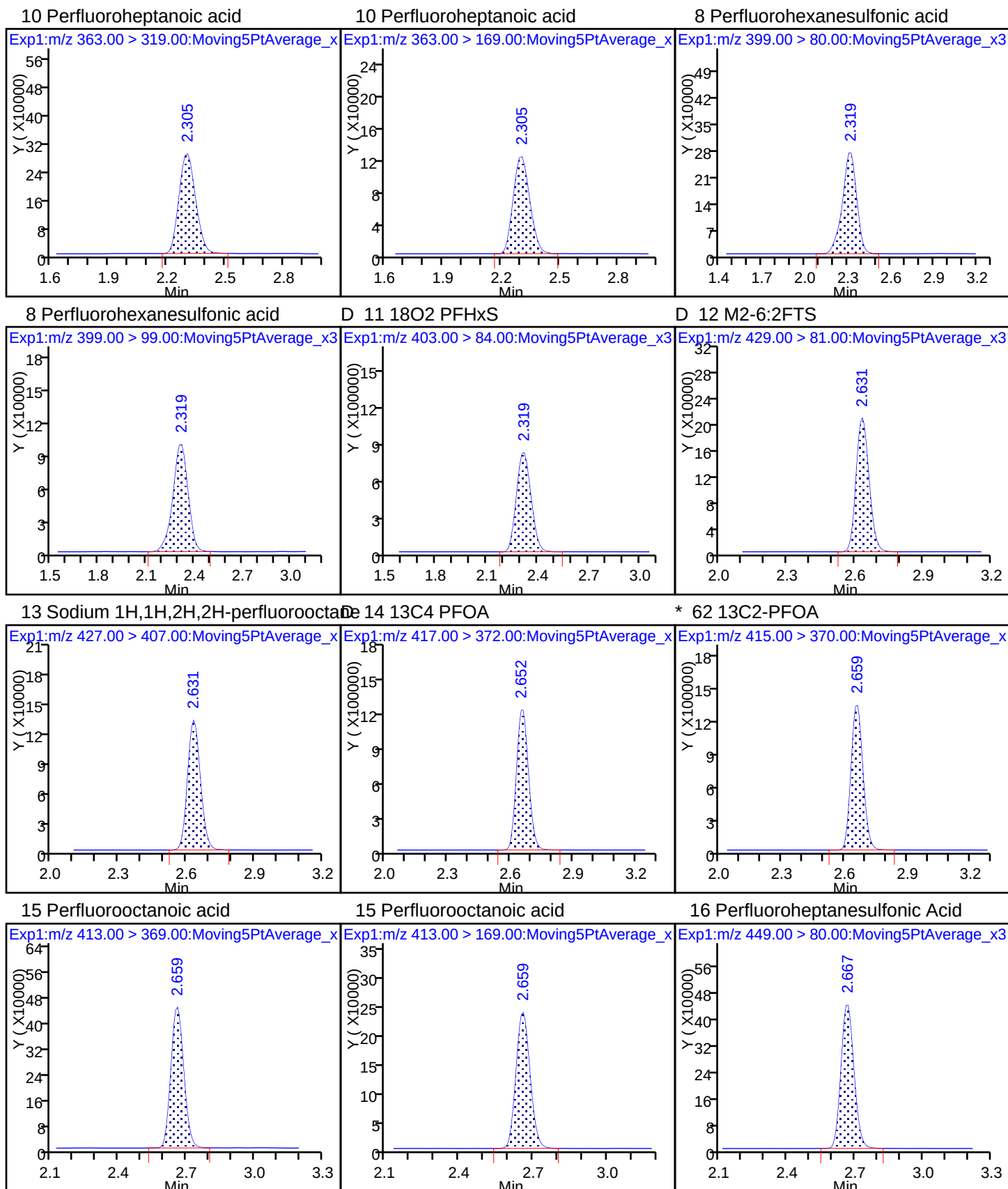


6 Perfluorohexanoic acid

6 Perfluorohexanoic acid

D 9 13C4-PFHpA

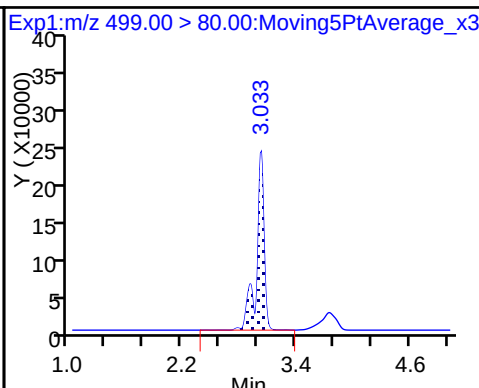
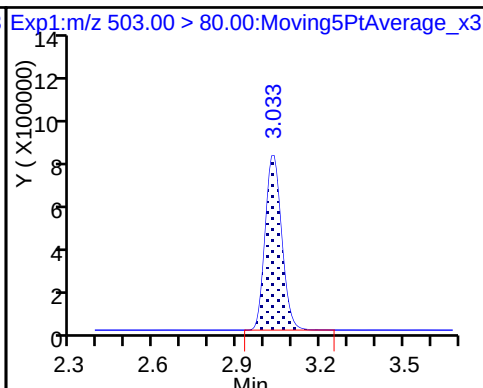
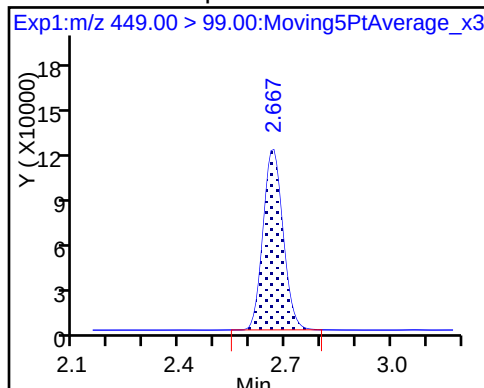




16 Perfluoroheptanesulfonic Acid

D 18 13C4 PFOS

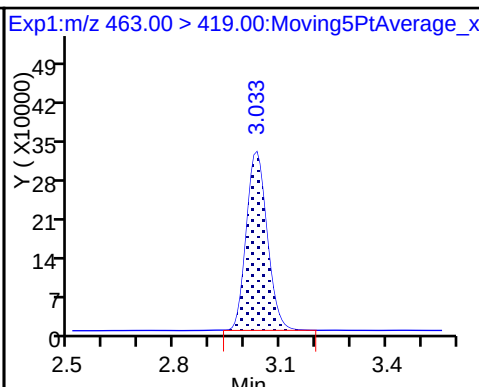
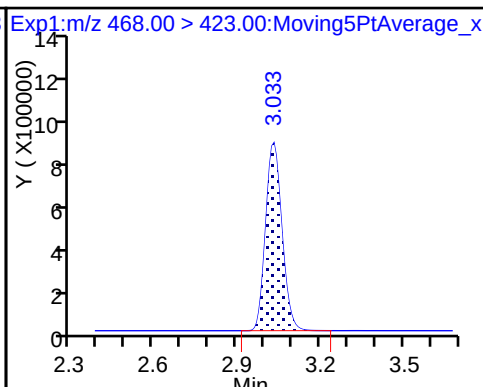
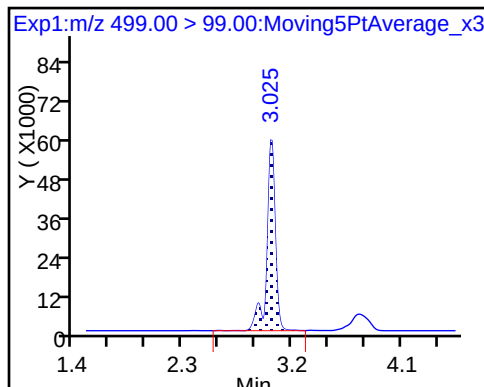
17 Perfluorooctane sulfonic acid



17 Perfluorooctane sulfonic acid

D 19 13C5 PFNA

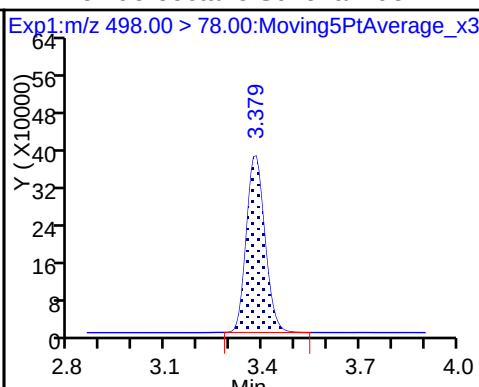
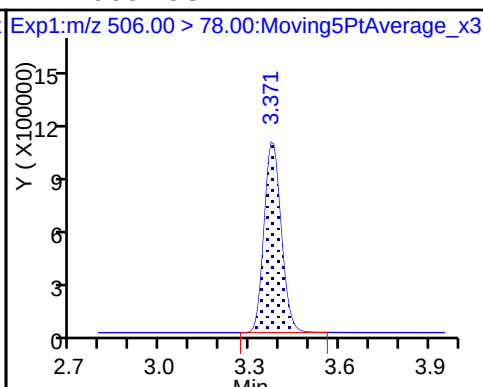
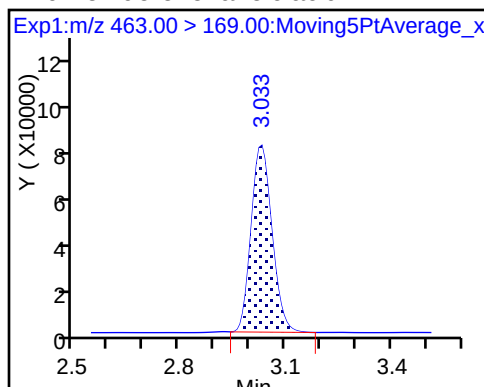
20 Perfluorononanoic acid



20 Perfluorononanoic acid

D 21 13C8 FOSA

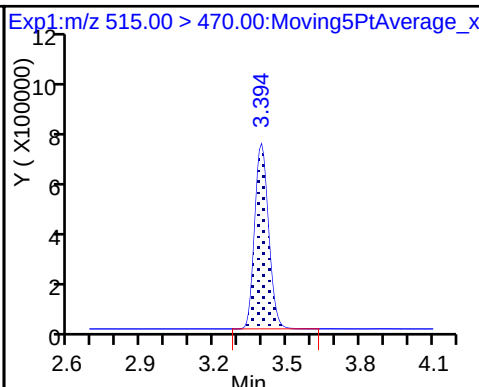
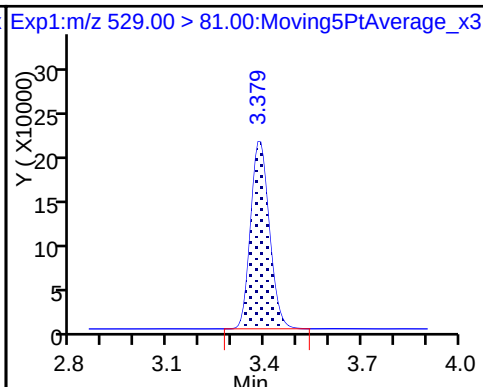
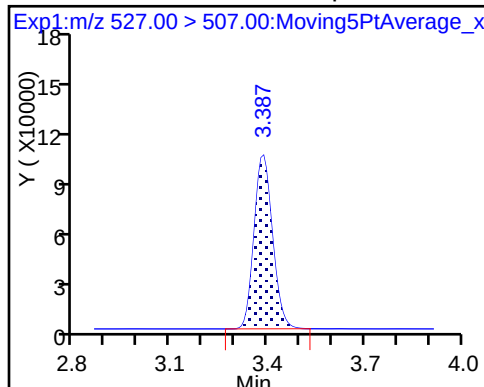
22 Perfluorooctane Sulfonamide

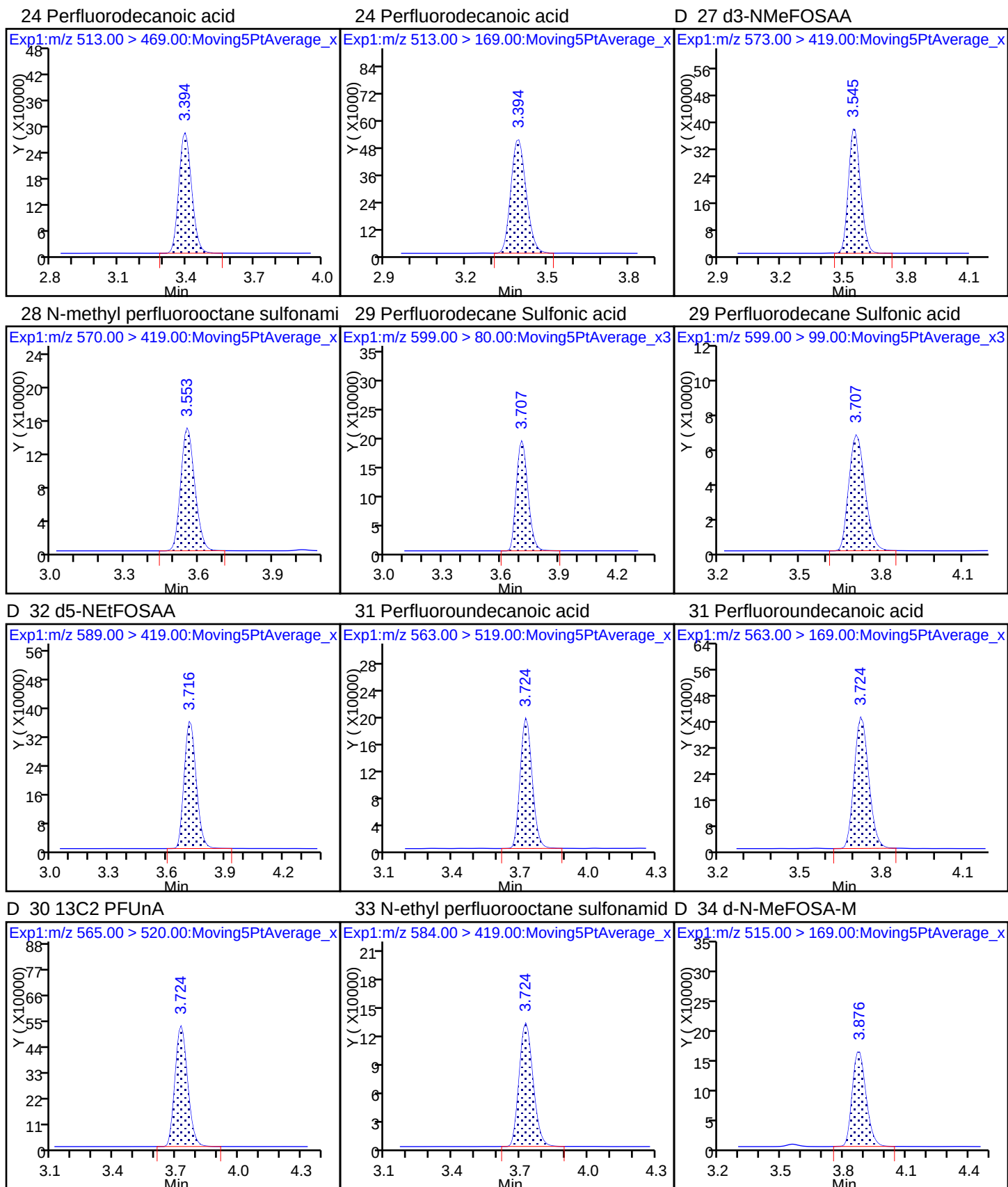


25 Sodium 1H,1H,2H,2H-perfluorodecane-1-sulfonate

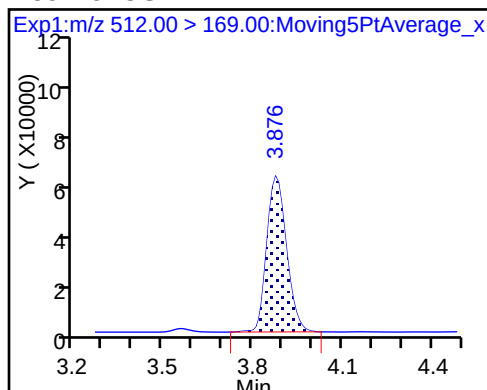
D 26 M2-8:2FTS

D 23 13C2 PFDA

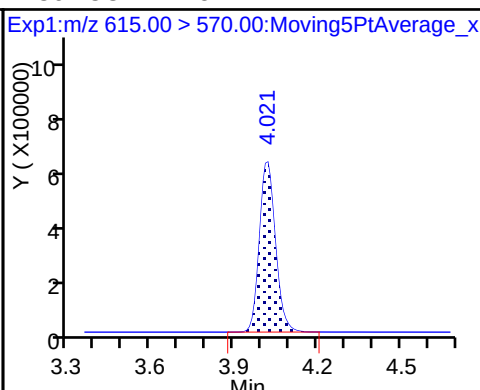




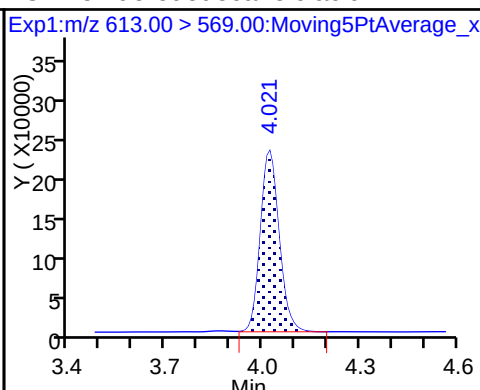
35 MeFOSA



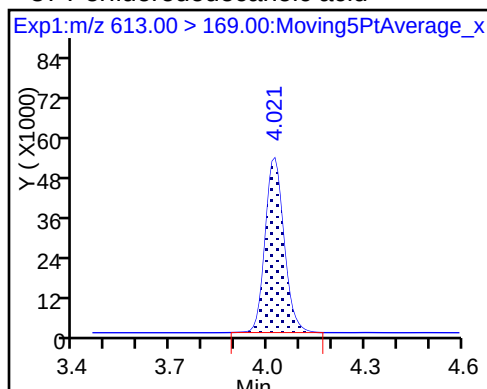
D 36 13C2 PFDaA



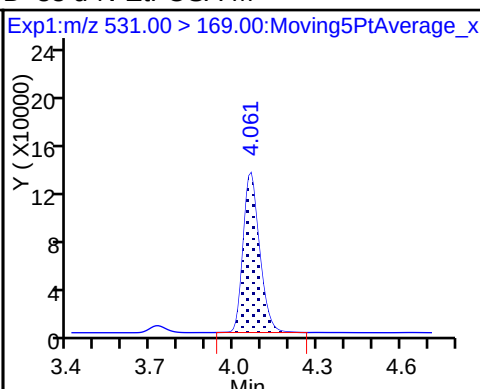
37 Perfluorododecanoic acid



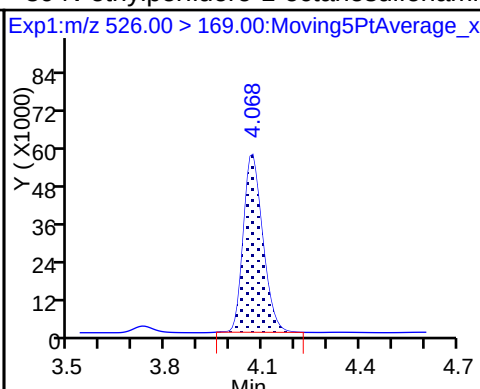
37 Perfluorododecanoic acid



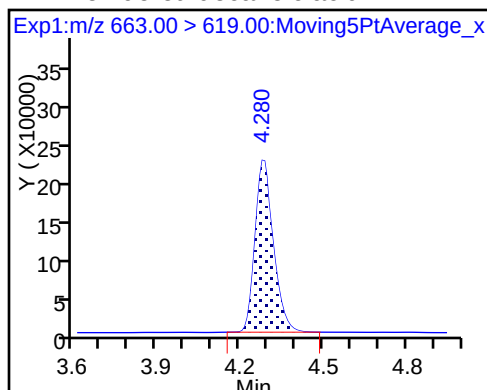
D 38 d-N-EtFOSA-M



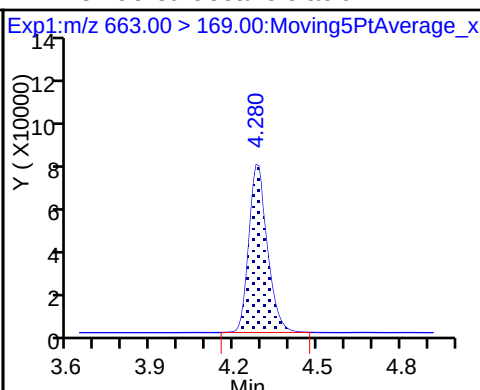
39 N-ethylperfluoro-1-octanesulfonami



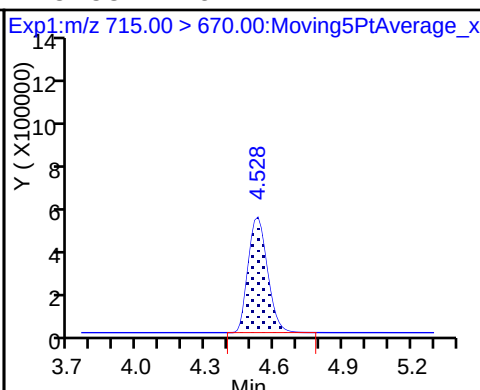
41 Perfluorotridecanoic acid



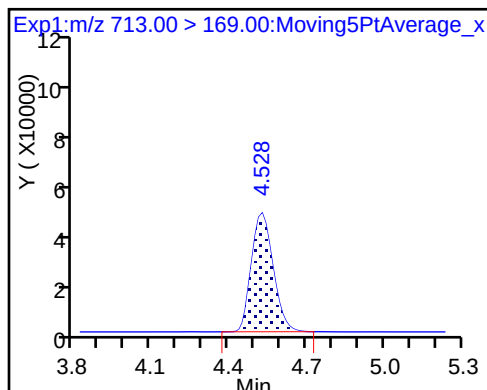
41 Perfluorotridecanoic acid



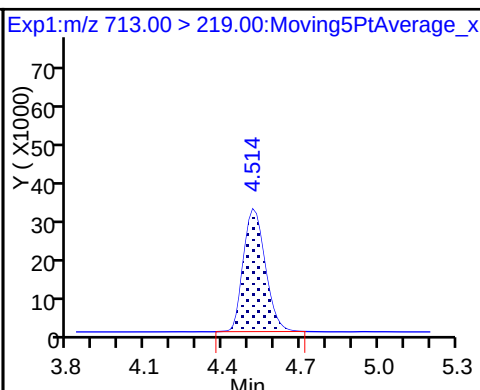
D 43 13C2-PFTeDA



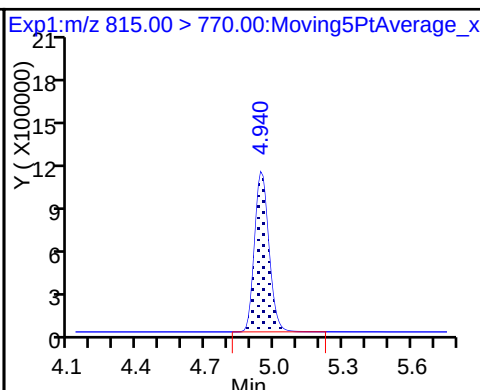
42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid



D 44 13C2-PFHxDA

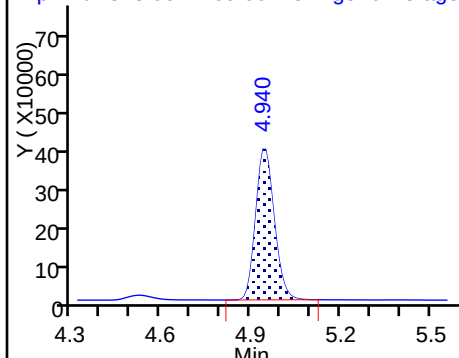


## 45 Perfluorohexadecanoic acid

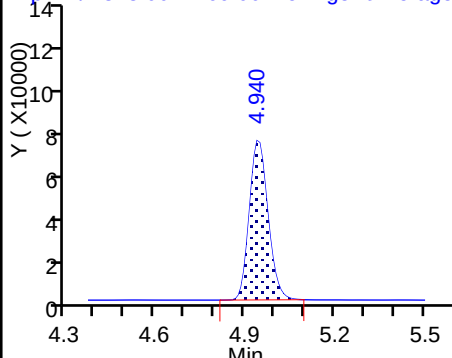
## 45 Perfluorohexadecanoic acid

## 46 Perfluorooctadecanoic acid

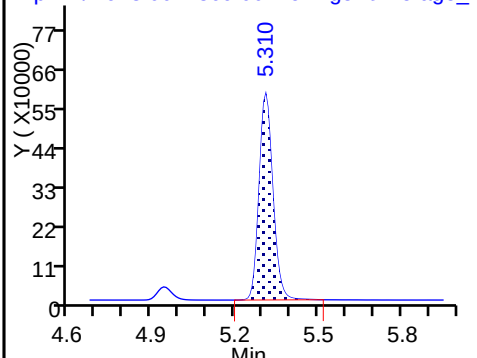
Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x

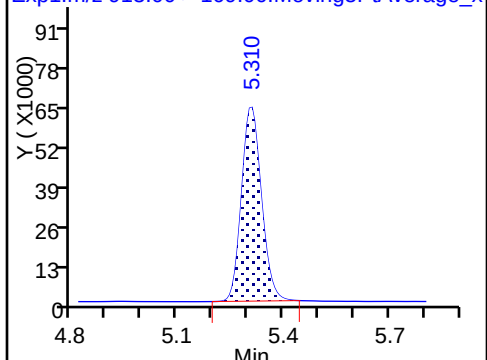


Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



## 46 Perfluorooctadecanoic acid

Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x





FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-6S MS</u>       | Lab Sample ID: <u>320-34293-2 MS</u>         |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_006.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 08:56</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>282.8 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:18</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 43.35  |   | 1.77 | 0.31 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 43.03  |   | 1.77 | 0.43 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 43.49  |   | 1.77 | 0.51 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 39.97  |   | 1.77 | 0.22 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 53.25  |   | 1.77 | 0.75 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 42.27  |   | 1.77 | 0.24 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 35.97  |   | 1.77 | 0.27 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 33.36  |   | 1.77 | 0.97 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 37.91  |   | 1.77 | 0.49 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 41.37  |   | 1.77 | 1.15 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 36.21  |   | 1.77 | 0.26 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 36.05  |   | 1.77 | 0.18 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 33.93  |   | 1.77 | 0.15 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 36.90  |   | 1.77 | 0.17 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 74.16  |   | 1.77 | 0.48 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 32.36  |   | 1.77 | 0.28 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 36.45  |   | 1.77 | 0.31 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 33.43  |   | 17.7 | 2.74 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 33.86  |   | 17.7 | 1.68 |
| 27619-97-2 | 6:2FTS                                                     | 29.33  |   | 17.7 | 1.77 |
| 39108-34-4 | 8:2FTS                                                     | 30.83  |   | 17.7 | 1.77 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-6S MS</u>       | Lab Sample ID: <u>320-34293-2 MS</u>                |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_006.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 08:56</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>282.8 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:18</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 67   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 82   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 83   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 85   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 91   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 86   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 86   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 83   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 80   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 91   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 86   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 82   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 84   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 74   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 85   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 82   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 106  |   | 25-150 |
| STL02280 | M2-8:2FTS        | 90   |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_006.d  
 Lims ID: 320-34293-A-2-B MS  
 Client ID: MW-6S  
 Sample Type: MS  
 Inject. Date: 29-Dec-2017 08:18:25 ALS Bottle#: 5 Worklist Smp#: 6  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-2-b ms  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:18:05 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:18:05

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.432 | 1.433  | -0.001 | 0.537  | 5842179  | 1.68         |                   | 67.1 | 16575 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.438 | 1.434  | 0.004  | 1.004  | 2617047  | 1.23         |                   | 123  | 357   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.688 | 1.691  | -0.003 | 1.000  | 2279312  | 1.22         |                   | 122  | 526   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.688 | 1.692  | -0.004 | 0.633  | 4174038  | 2.06         |                   | 82.2 | 27497 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.724 | 1.725  | -0.001 | 0.647  | 87806    | 2.00         |                   | 85.8 | 1311  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.724 | 1.730  | -0.006 | 1.000  | 2881341  | 1.02         |                   | 115  | 1516  |       |
| 298.90 > 99.00                        | 1.724 | 1.730  | -0.006 | 1.000  | 1204449  |              | 2.39(1.25-3.74)   |      | 1924  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.943 | 1.941  | 0.002  | 1.000  | 769075   | 1.09         |                   | 117  | 25245 |       |
| D 60 M2-4:2FTS                        |       |        |        |        |          |              |                   |      |       |       |
| 329.00 > 81.00                        | 1.954 | 1.955  | -0.001 | 0.733  | 2115     | 0.0128       |                   | 0.0  | 27.0  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.974 | 1.976  | -0.002 | 0.741  | 4508632  | 2.06         |                   | 82.6 | 41741 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.974 | 1.979  | -0.005 | 1.000  | 2215333  | 1.23         |                   | 123  | 1445  |       |
| 313.00 > 119.00                       | 1.974 | 1.979  | -0.005 | 1.000  | 193599   |              | 11.44(5.03-15.10) |      | 2336  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.304 | 2.311  | -0.007 | 0.865  | 4290618  | 2.12         |                   | 84.7 | 27584 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.304 | 2.311  | -0.007 | 1.000  | 2028801  | 1.13         |                   | 113  | 1681  |       |
| 363.00 > 169.00                       | 2.304 | 2.311  | -0.007 | 1.000  | 826384   |              | 2.46(1.13-3.40)   |      | 5698  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |      |       |       |
| 399.00 > 80.00                        | 2.318 | 2.324  | -0.006 | 1.000  | 2200094  | 0.9596       |                 | 105  | 1762  |       |
| 399.00 > 99.00                        | 2.318 | 2.324  | -0.006 | 1.000  | 723156   |              | 3.04(1.50-4.49) |      | 1679  |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.318 | 2.328  | -0.010 | 0.869  | 4962016  | 1.93         |                 | 81.5 | 39228 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.644 | 2.649  | -0.005 | 0.992  | 971361   | 2.53         |                 | 106  | 6958  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.644 | 2.651  | -0.007 | 1.000  | 568851   | 0.8294       |                 | 87.5 | 14763 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.666 | 2.674  | -0.008 | 1.000  | 4702991  | 2.27         |                 | 90.9 | 38655 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.666 | 2.676  | -0.010 |        | 5032390  | 2.50         |                 |      | 42588 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.666 | 2.677  | -0.011 | 1.000  | 2999001  | 1.51         |                 | 151  | 1913  | M     |
| 413.00 > 169.00                       | 2.666 | 2.677  | -0.011 | 1.000  | 1663262  |              | 1.80(0.84-2.52) |      | 8156  | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.673 | 2.683  | -0.010 | 1.000  | 1833960  | 1.04         |                 | 110  | 4297  |       |
| 449.00 > 99.00                        | 2.673 | 2.683  | -0.010 | 1.000  | 474425   |              | 3.87(1.94-5.82) |      | 4548  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.040 | 3.048  | -0.008 | 1.140  | 3423028  | 2.01         |                 | 83.9 | 19575 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.040 | 3.050  | -0.010 | 1.000  | 3223611  | 2.10         |                 | 226  | 571   | M     |
| 499.00 > 99.00                        | 3.040 | 3.050  | -0.010 | 1.000  | 623136   |              | 5.17(2.31-6.93) |      | 649   | M     |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.040 | 3.051  | -0.011 | 1.140  | 3574014  | 2.16         |                 | 86.5 | 40533 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.040 | 3.052  | -0.012 | 1.000  | 1665085  | 1.20         |                 | 120  | 2950  |       |
| 463.00 > 169.00                       | 3.040 | 3.052  | -0.012 | 1.000  | 399952   |              | 4.16(1.90-5.69) |      | 3566  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.377 | 3.377  | 0.0    | 1.267  | 4241839  | 1.84         |                 | 73.5 | 24844 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.384 | 3.378  | 0.006  | 1.002  | 1660345  | 1.03         |                 | 103  | 1213  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.392 | 3.402  | -0.010 | 1.002  | 414862   | 0.8719       |                 | 91.0 | 13181 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.384 | 3.403  | -0.019 | 1.270  | 907609   | 2.15         |                 | 89.8 | 8602  |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.399 | 3.414  | -0.015 | 1.275  | 2902808  | 2.16         |                 | 86.4 | 41575 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.399 | 3.414  | -0.015 | 1.000  | 1164213  | 1.02         |                 | 102  | 4824  |       |
| 513.00 > 169.00                       | 3.399 | 3.414  | -0.015 | 1.000  | 210873   |              | 5.52(2.36-7.09) |      | 2748  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.551 | 3.569  | -0.018 | 1.332  | 1479605  | 2.13         |                 | 85.2 | 26532 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.558 | 3.574  | -0.016 | 1.002  | 592321   | 0.9454       |                 | 94.5 | 4408  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.712 | 3.730  | -0.018 | 1.000  | 776154   | 0.9153       |                 | 94.9 | 11085 |       |
| 599.00 > 99.00                        | 3.712 | 3.730  | -0.018 | 1.000  | 259713   |              | 2.99(1.39-4.16) |      | 5227  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.721 | 3.740  | -0.019 | 1.396  | 1450005  | 2.05         |                 | 82.0 | 7886  |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.729 | 3.746  | -0.017 | 1.000  | 744888   | 0.9433       |                 | 94.3 | 3172  |       |
| 563.00 > 169.00                       | 3.729 | 3.746  | -0.017 | 1.000  | 167771   |              | 4.44(0.00-0.00) |      | 2625  |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.729 | 3.747  | -0.018 | 1.399  | 2107125  | 2.07         |                 | 82.9 | 29211 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.729 | 3.747  | -0.018 | 1.002  | 536081   | 0.9575       |                 | 95.8 | 4278  |       |
| D 34 d-N-MeFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 169.00                       | 3.872 | 3.867  | 0.005  | 1.453  | 770902   | 1.18         |                 | 47.0 | 2087  |       |
| 35 MeFOSA                             |       |        |        |        |          |              |                 |      |       |       |
| 512.00 > 169.00                       | 3.882 | 3.873  | 0.009  | 1.003  | 292029   | 0.9813       |                 | 98.1 | 1582  |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.019 | 4.045  | -0.026 | 1.508  | 2206821  | 2.00         |                 | 79.9 | 32130 |       |
| 37 Perfluorododecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 613.00 > 569.00                       | 4.026 | 4.045  | -0.019 | 1.002  | 939567   | 1.07         |                 | 107  | 3699  |       |
| 613.00 > 169.00                       | 4.026 | 4.045  | -0.019 | 1.002  | 233184   |              | 4.03(2.13-6.40) |      | 8256  |       |
| D 38 d-N-EtFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 531.00 > 169.00                       | 4.066 | 4.058  | 0.008  | 1.525  | 616328   | 0.9878       |                 | 39.5 | 1331  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |        |        |        |          |              |                 |      |       |       |
| 526.00 > 169.00                       | 4.066 | 4.065  | 0.001  | 1.000  | 266294   | 1.00         |                 | 99.7 | 1431  |       |
| 41 Perfluorotridecanoic acid          |       |        |        |        |          |              |                 |      |       |       |
| 663.00 > 619.00                       | 4.286 | 4.312  | -0.026 | 1.000  | 1112679  | 1.17         |                 | 117  | 5336  |       |
| 663.00 > 169.00                       | 4.286 | 4.312  | -0.026 | 1.000  | 339056   |              | 3.28(1.25-3.76) |      | 15008 |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.536 | 4.557  | -0.021 | 1.702  | 2730449  | 2.27         |                 | 90.9 | 23357 |       |
| 42 Perfluorotetradecanoic acid        |       |        |        |        |          |              |                 |      |       |       |
| 713.00 > 169.00                       | 4.536 | 4.557  | -0.021 | 1.000  | 284578   | 1.02         |                 | 102  | 9801  |       |
| 713.00 > 219.00                       | 4.523 | 4.557  | -0.034 | 0.997  | 191531   |              | 1.49(0.71-2.13) |      | 6625  |       |
| D 44 13C2-PFHxDA                      |       |        |        |        |          |              |                 |      |       |       |
| 815.00 > 770.00                       | 4.947 | 4.984  | -0.037 | 1.856  | 4586225  | 2.08         |                 | 83.3 | 16226 |       |
| 45 Perfluorohexadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 813.00 > 769.00                       | 4.947 | 4.984  | -0.037 | 1.000  | 1776512  | 1.11         |                 | 111  | 1275  |       |
| 813.00 > 169.00                       | 4.947 | 4.984  | -0.037 | 1.000  | 305661   |              | 5.81(2.86-8.58) |      | 4743  |       |
| 46 Perfluorooctadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 913.00 > 869.00                       | 5.315 | 5.361  | -0.046 | 1.000  | 2033813  | 1.03         |                 | 103  | 650   |       |
| 913.00 > 169.00                       | 5.315 | 5.361  | -0.046 | 1.000  | 258745   |              | 7.86(0.00-0.00) |      | 1915  |       |

## QC Flag Legend

### Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_006.d

Injection Date: 29-Dec-2017 08:18:25

Instrument ID: A8\_N

Lims ID: 320-34293-A-2-B MS

Client ID: MW-6S

Operator ID: SACINSTLCMS01

ALS Bottle#: 5

Worklist Smp#: 6

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

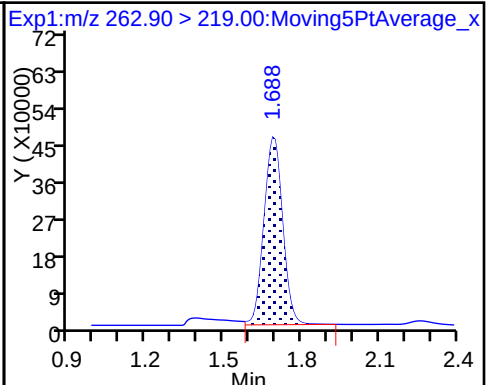
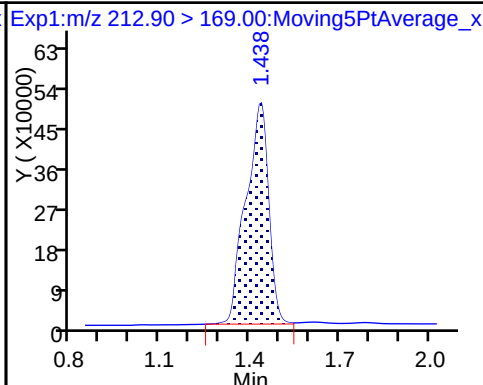
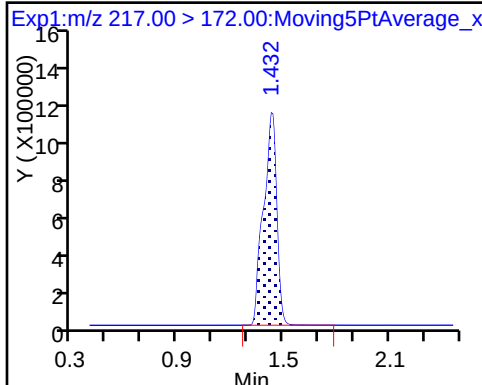
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

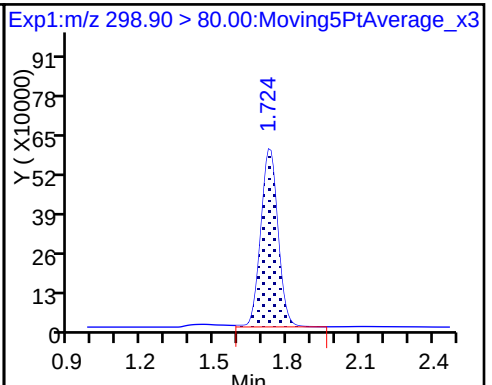
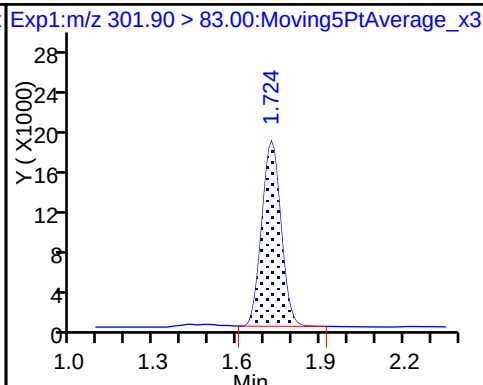
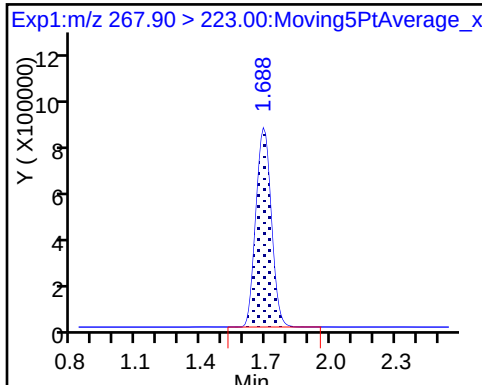
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

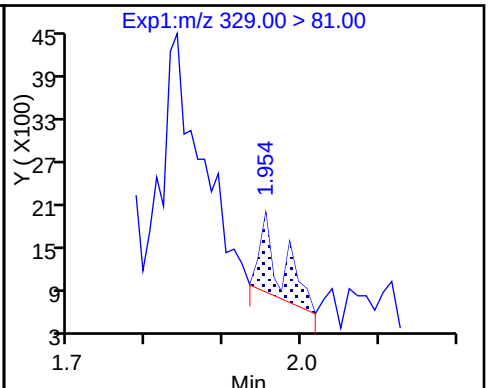
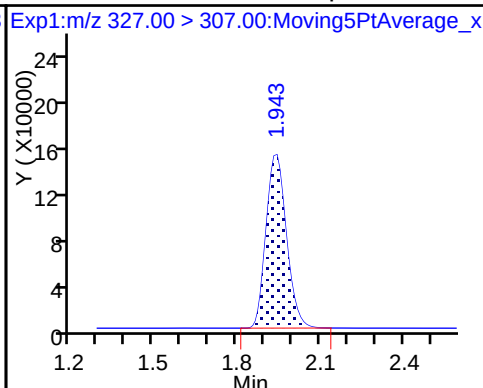
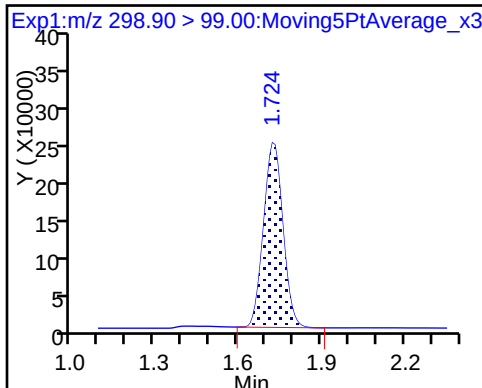
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexanoate

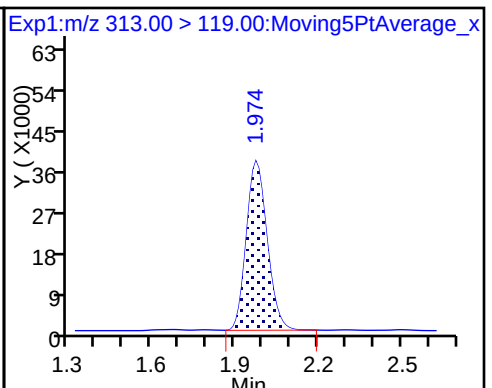
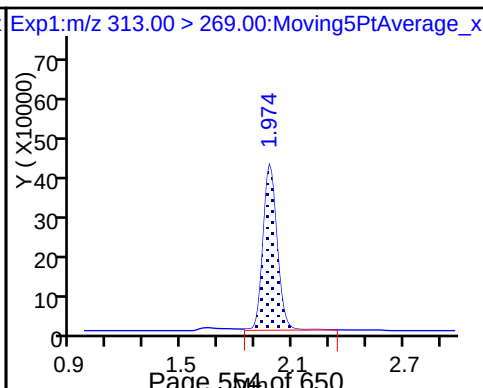
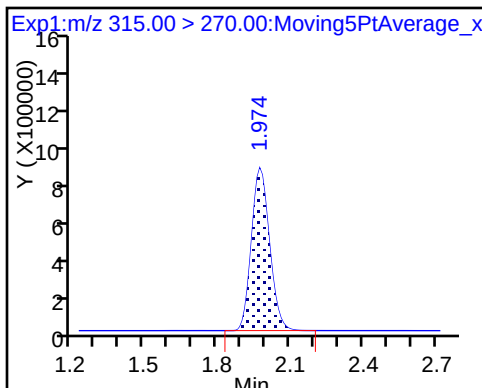
De60 M2-4:2FTS



D 7 13C2 PFHxA

6 Perfluorohexanoic acid

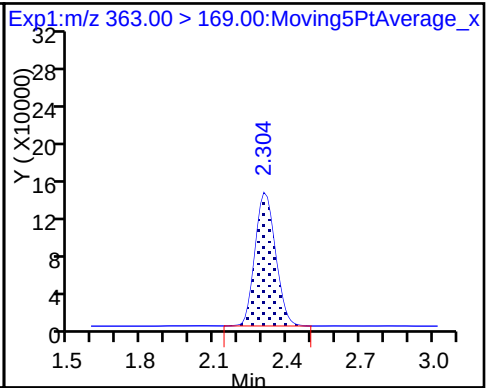
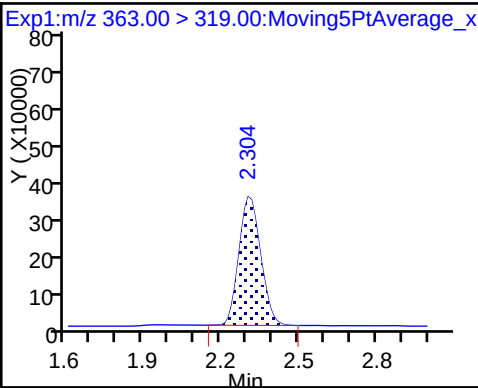
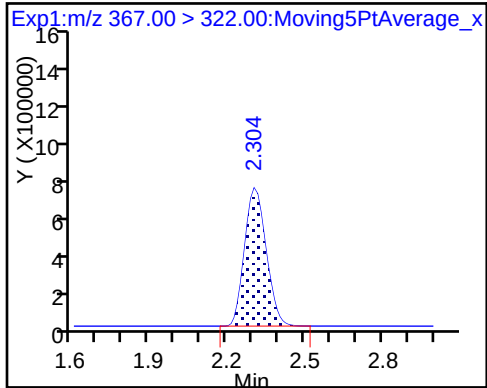
6 Perfluorohexanoic acid



## D 9 13C4-PFHpA

## 10 Perfluoroheptanoic acid

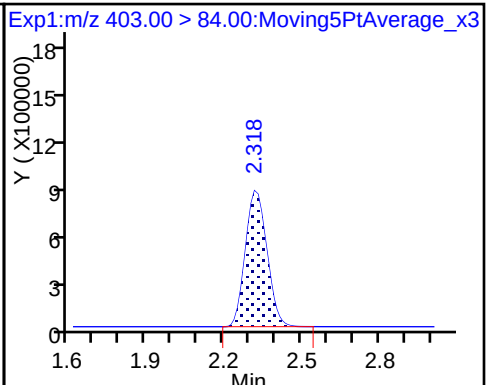
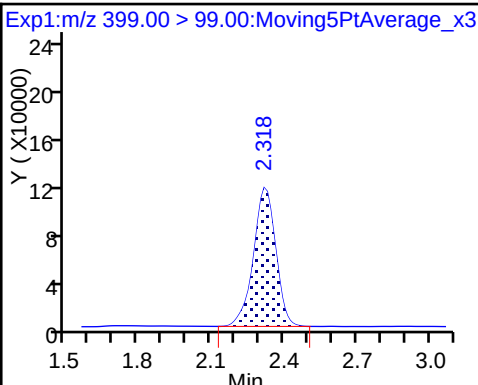
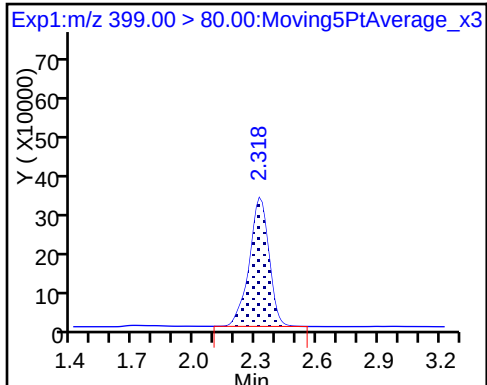
## 10 Perfluoroheptanoic acid



## 8 Perfluorohexanesulfonic acid

## 8 Perfluorohexanesulfonic acid

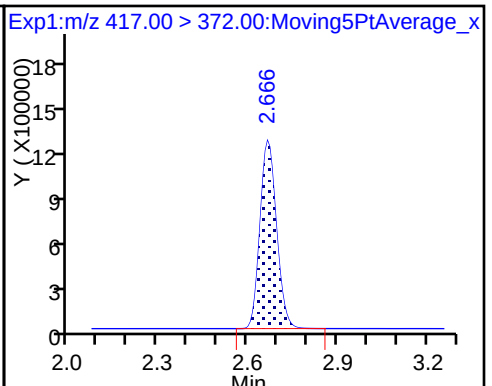
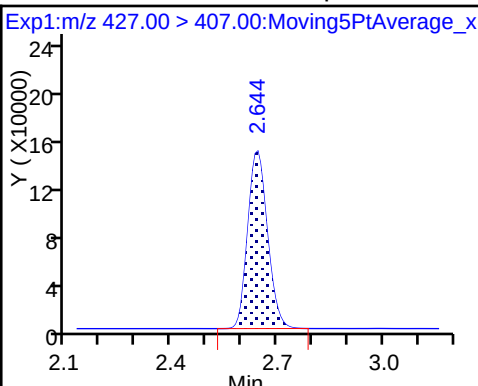
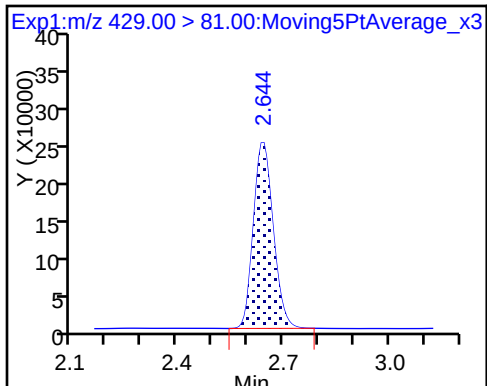
## D 11 18O2 PFHxS



## D 12 M2-6:2FTS

## 13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

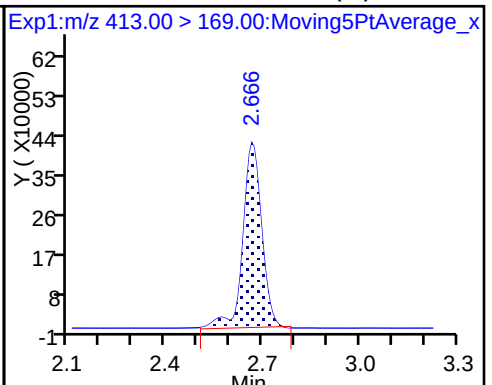
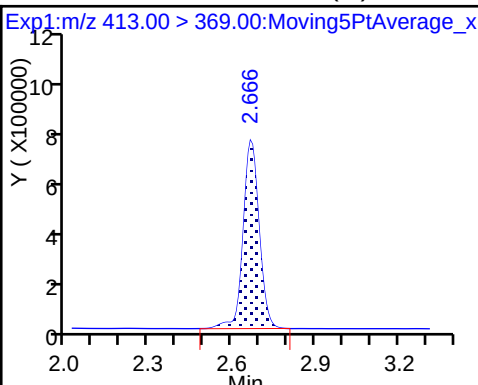
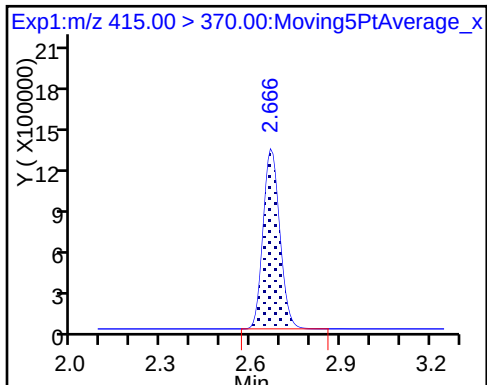
## D 14 13C4 PFOA



## \* 62 13C2-PFOA

## 15 Perfluorooctanoic acid (M)

## 15 Perfluorooctanoic acid (M)



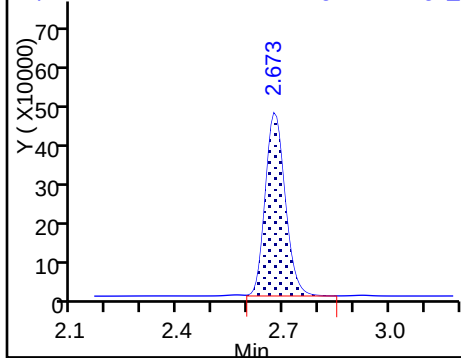


## 16 Perfluoroheptanesulfonic Acid

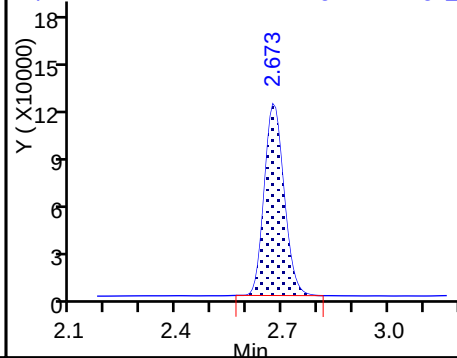
## 16 Perfluoroheptanesulfonic Acid

## D 18 13C4 PFOS

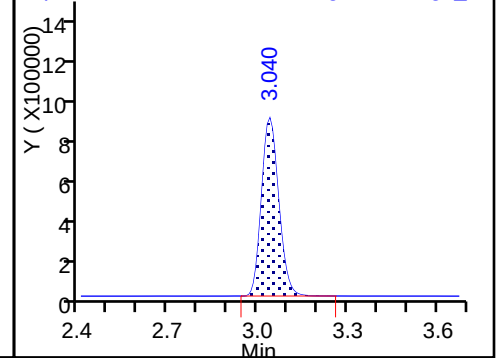
Exp1:m/z 449.00 &gt; 80.00:Moving5PtAverage\_x3



Exp1:m/z 449.00 &gt; 99.00:Moving5PtAverage\_x3



Exp1:m/z 503.00 &gt; 80.00:Moving5PtAverage\_x3

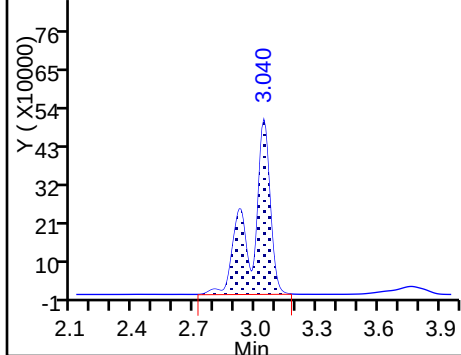


## 17 Perfluorooctane sulfonic acid (M)

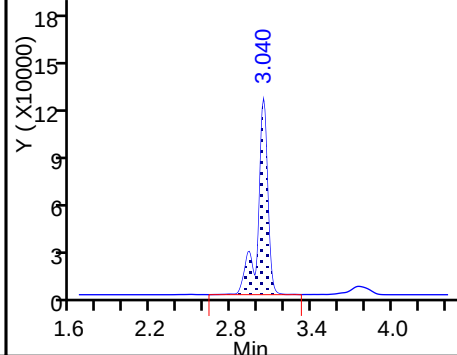
## 17 Perfluorooctane sulfonic acid

## D 19 13C5 PFNA

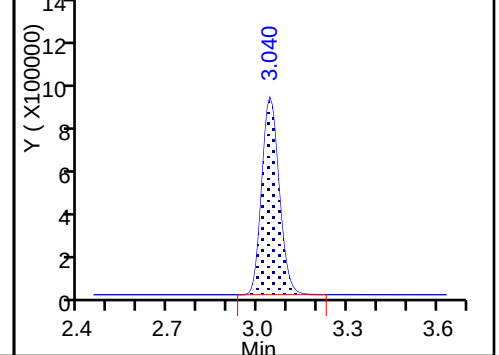
Exp1:m/z 499.00 &gt; 80.00:Moving5PtAverage\_x3



Exp1:m/z 499.00 &gt; 99.00:Moving5PtAverage\_x3



Exp1:m/z 468.00 &gt; 423.00:Moving5PtAverage\_x3

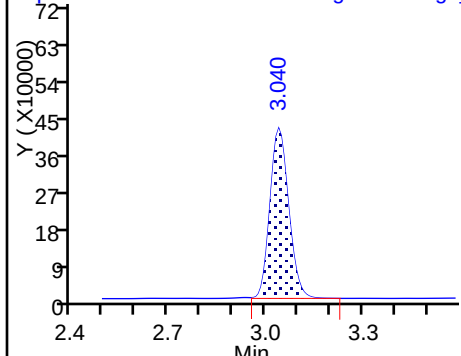


## 20 Perfluorononanoic acid

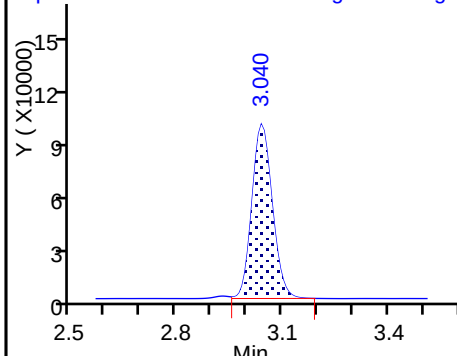
## 20 Perfluorononanoic acid

## D 21 13C8 FOSA

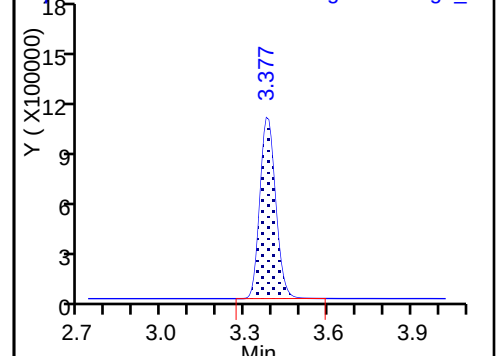
Exp1:m/z 463.00 &gt; 419.00:Moving5PtAverage\_x3



Exp1:m/z 463.00 &gt; 169.00:Moving5PtAverage\_x3



Exp1:m/z 506.00 &gt; 78.00:Moving5PtAverage\_x3

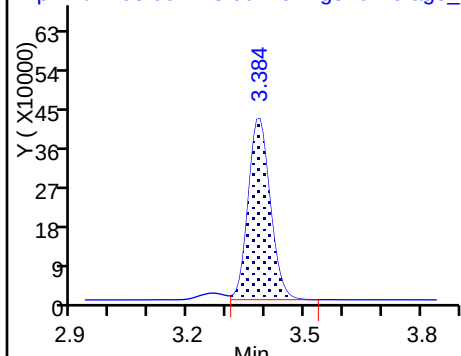


## 22 Perfluorooctane Sulfonamide

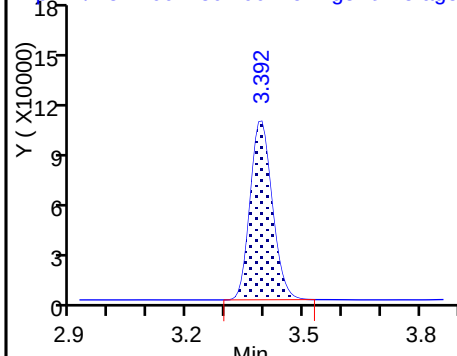
## 25 Sodium 1H,1H,2H,2H-perfluorodecane-1-sulfonamide

## De26 M2-8:2FTS

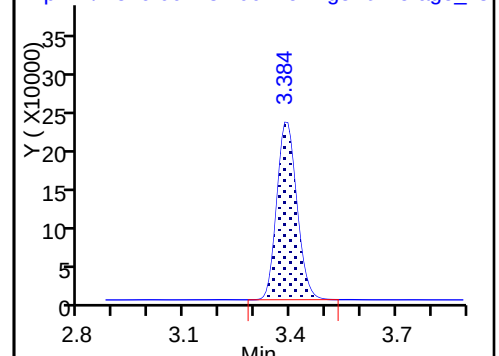
Exp1:m/z 498.00 &gt; 78.00:Moving5PtAverage\_x3



Exp1:m/z 527.00 &gt; 507.00:Moving5PtAverage\_x3



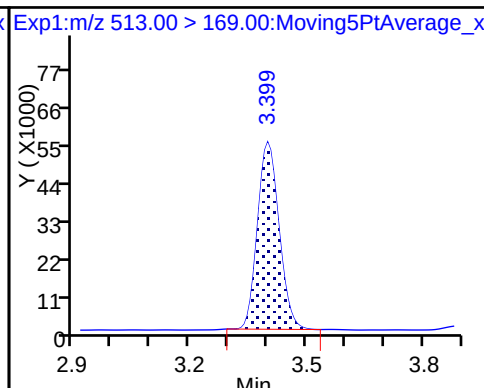
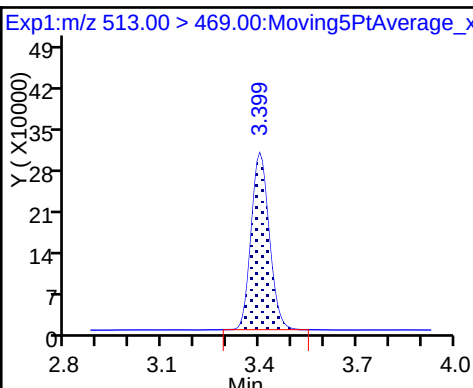
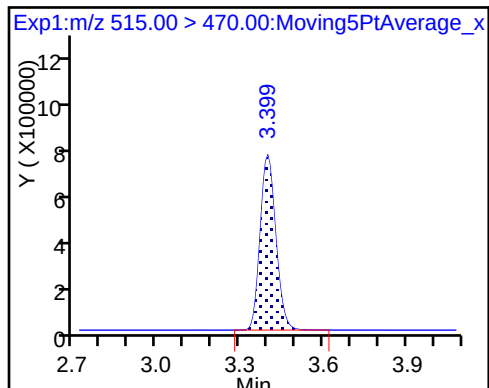
Exp1:m/z 529.00 &gt; 81.00:Moving5PtAverage\_x3



## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

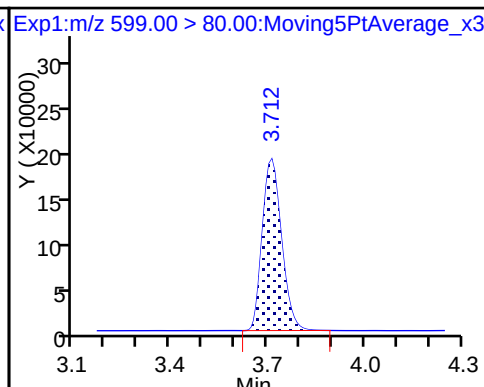
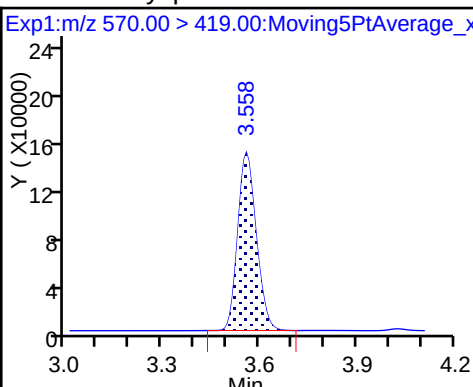
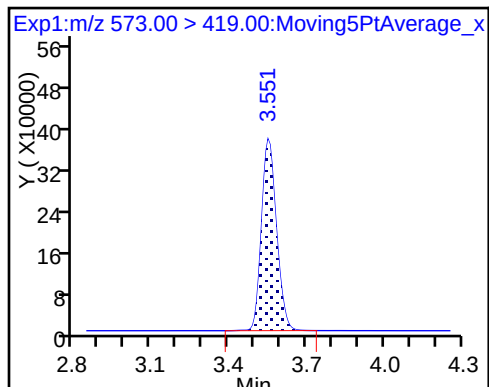
## 24 Perfluorodecanoic acid



## D 27 d3-NMeFOSAA

## 28 N-methyl perfluorooctane sulfonamid

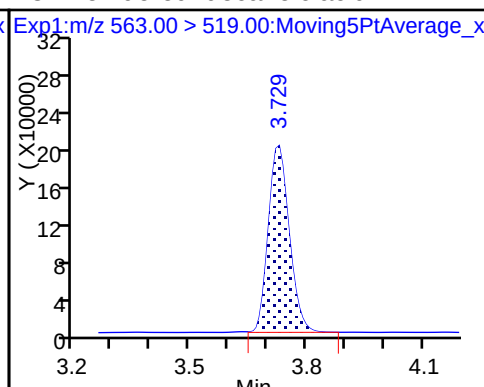
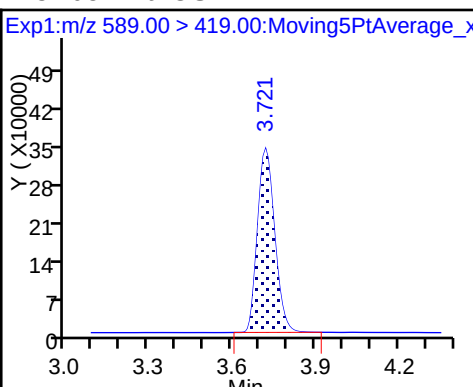
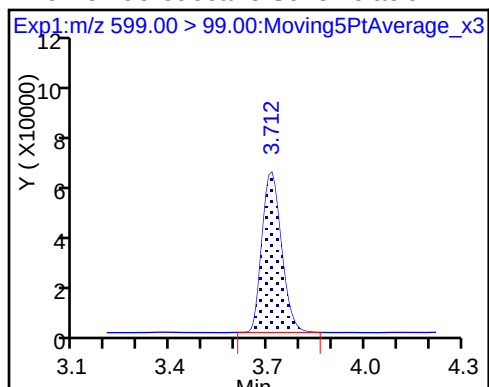
## 29 Perfluorodecane Sulfonic acid



## 29 Perfluorodecane Sulfonic acid

## D 32 d5-NEtFOSAA

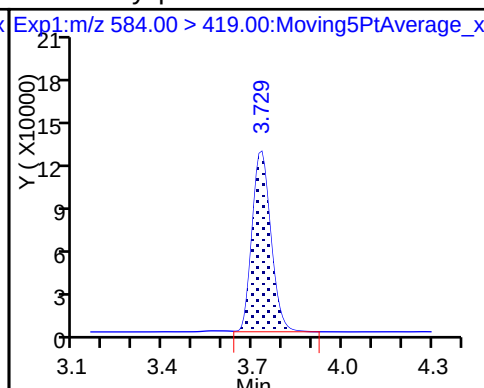
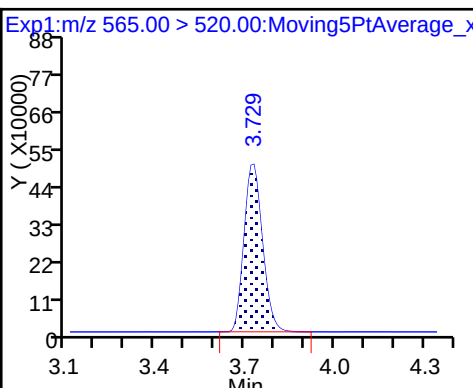
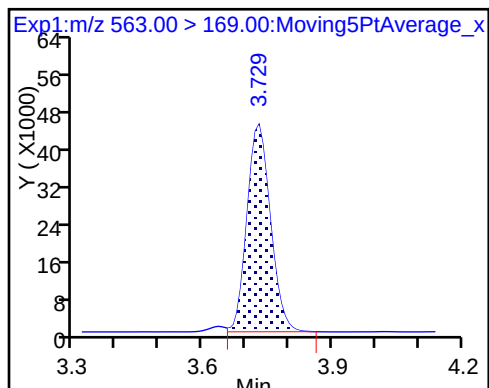
## 31 Perfluoroundecanoic acid



## 31 Perfluoroundecanoic acid

## D 30 13C2 PFUnA

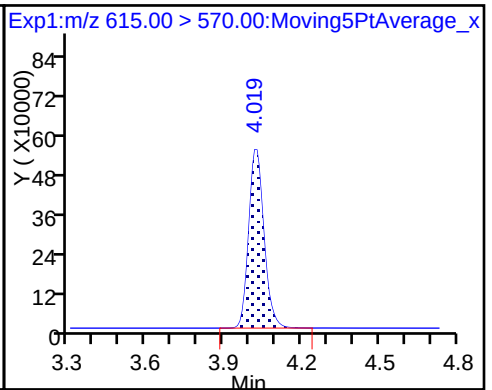
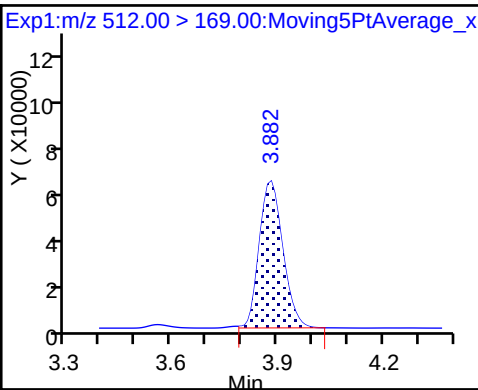
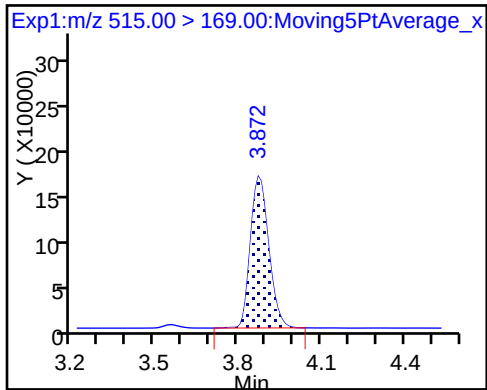
## 33 N-ethyl perfluorooctane sulfonamid



## D 34 d-N-MeFOSA-M

## 35 MeFOSA

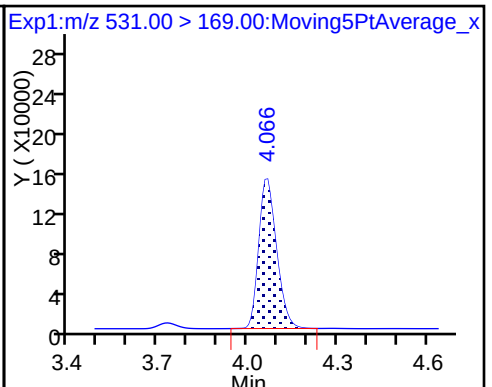
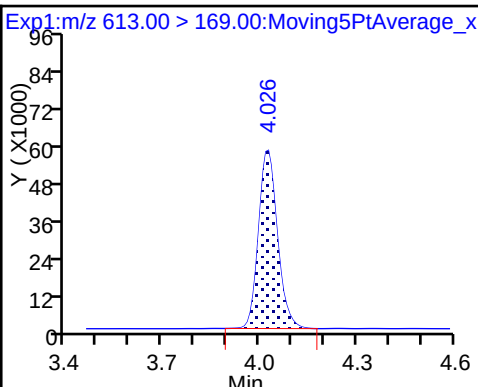
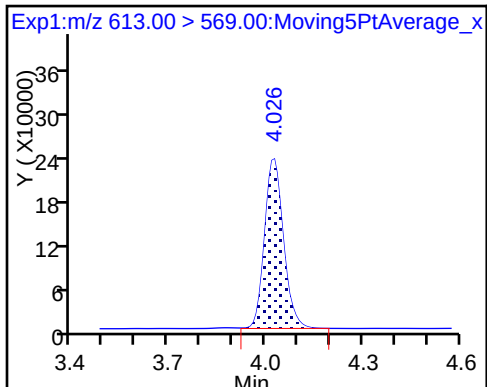
## D 36 13C2 PFDaA



## 37 Perfluorododecanoic acid

## 37 Perfluorododecanoic acid

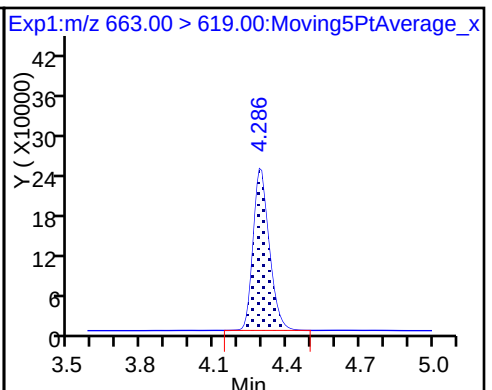
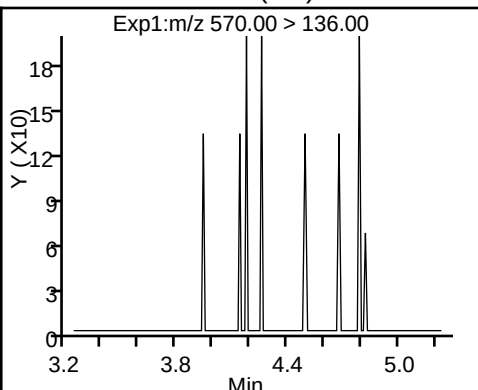
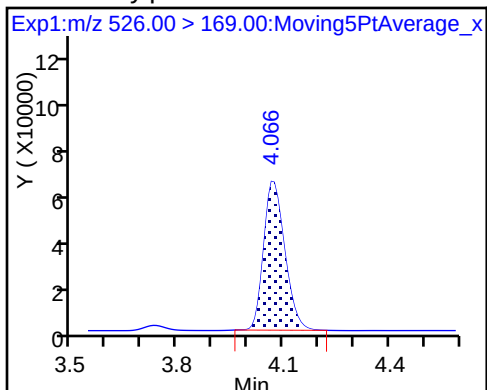
## D 38 d-N-EtFOSA-M



## 39 N-ethylperfluoro-1-octanesulfonami

## D 40 d-N-EtFOSE-M (ND)

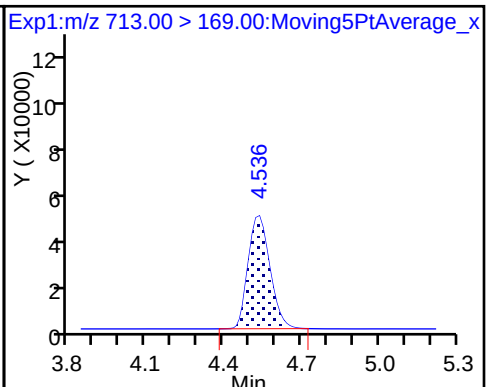
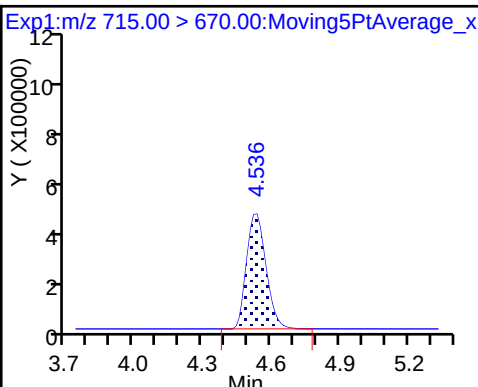
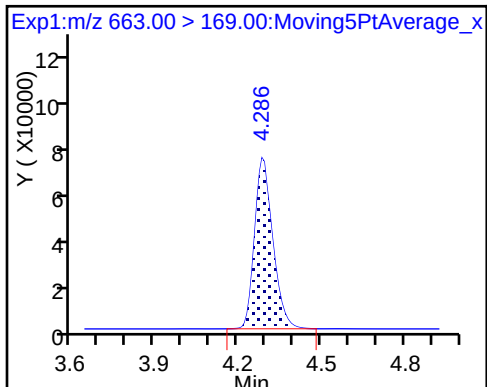
## 41 Perfluorotridecanoic acid



## 41 Perfluorotridecanoic acid

## D 43 13C2-PFTeDA

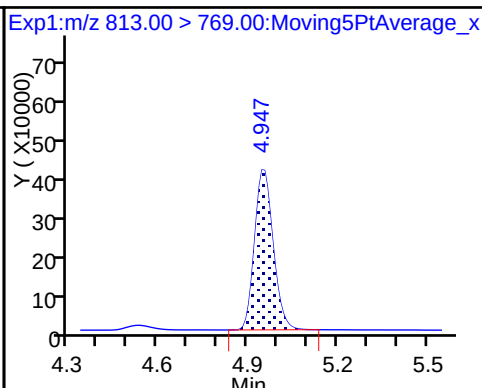
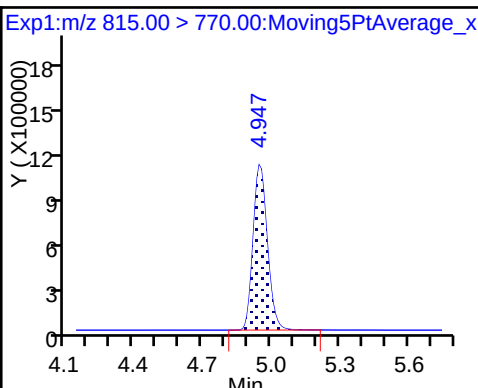
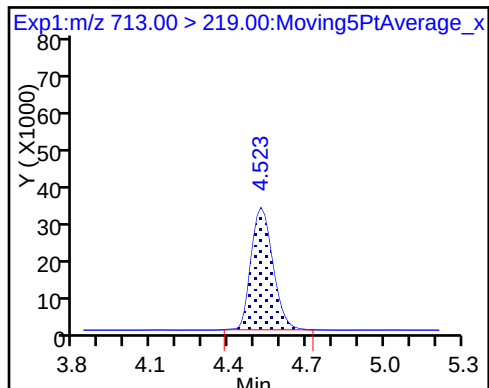
## 42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid

D 44 13C2-PFHxDA

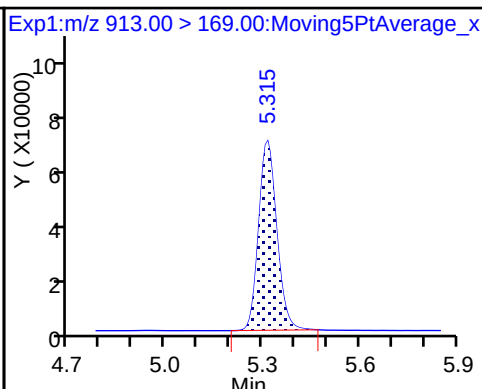
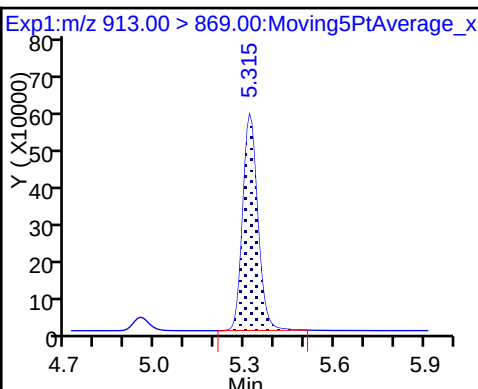
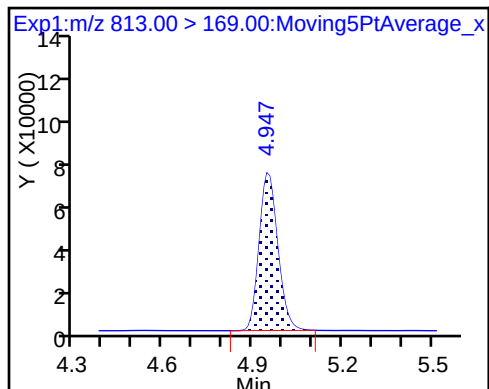
45 Perfluorohexadecanoic acid



45 Perfluorohexadecanoic acid

46 Perfluorooctadecanoic acid

46 Perfluorooctadecanoic acid



## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_006.d

Injection Date: 29-Dec-2017 08:18:25

Instrument ID: A8\_N

Lims ID: 320-34293-A-2-B MS

Client ID: MW-6S

Operator ID: SACINSTLCMS01

ALS Bottle#: 5 Worklist Smp#: 6

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: A8\_N

Limit Group: LC PFC ICAL

Column:

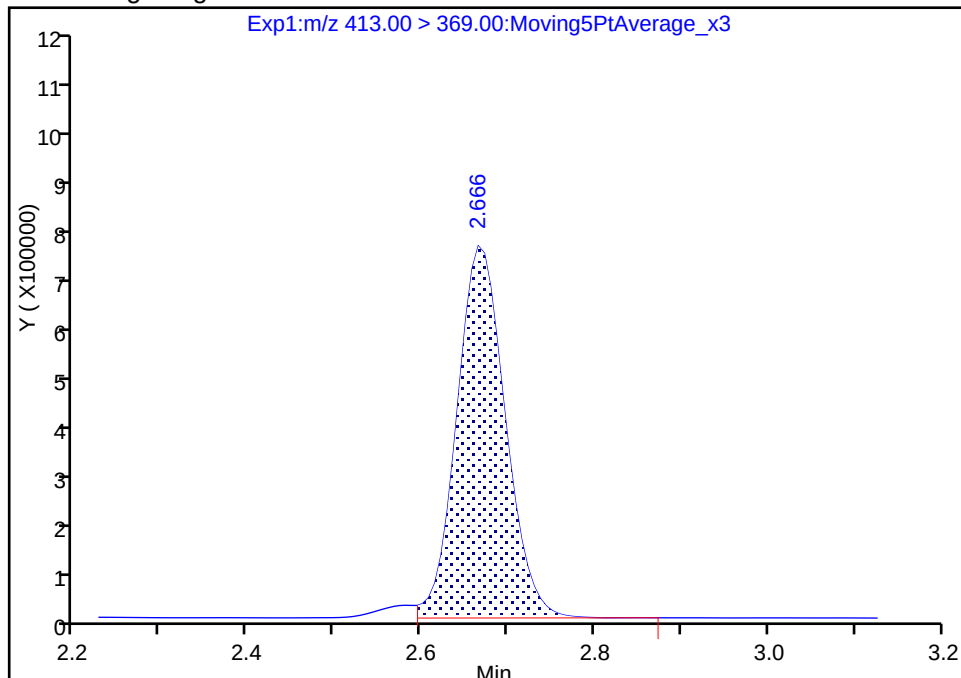
Detector: EXP1

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 1

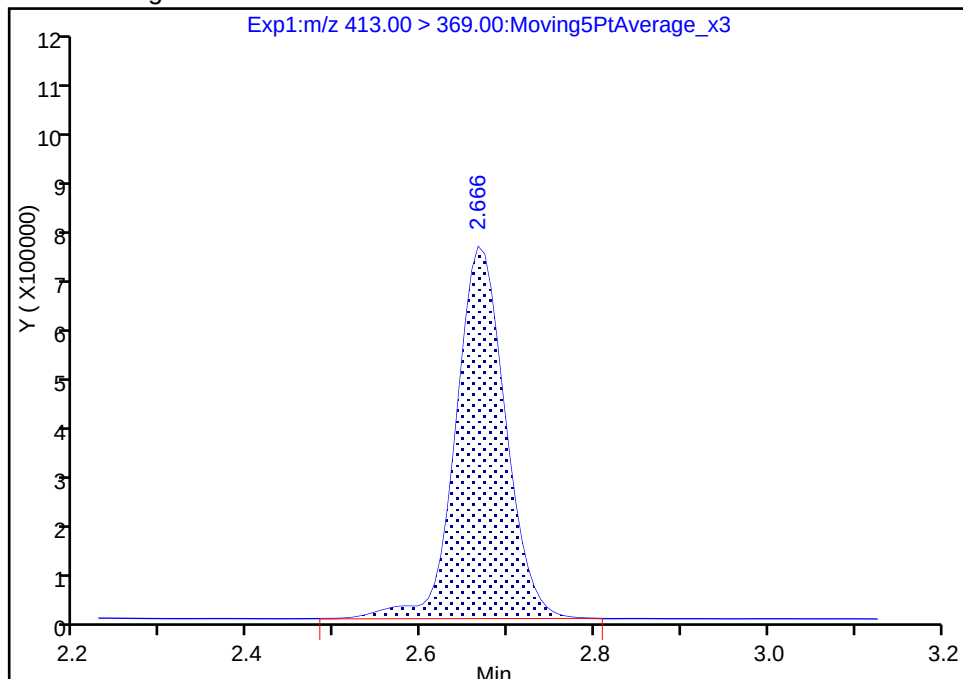
RT: 2.67  
Area: 2928682  
Amount: 1.470644  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 2999001  
Amount: 1.505954  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:17:19

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

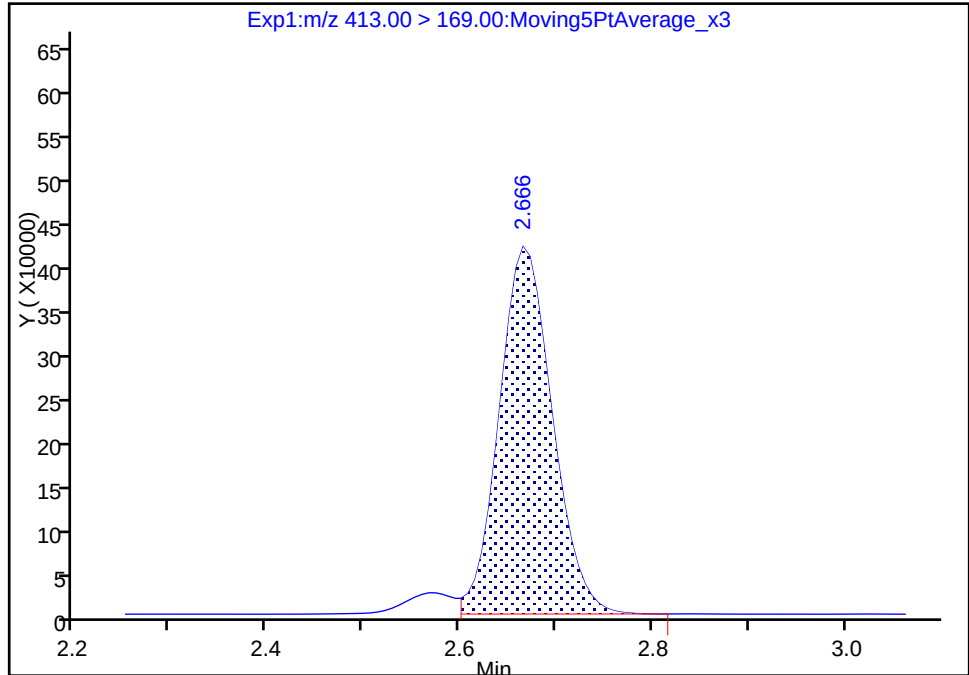
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_006.d  
Injection Date: 29-Dec-2017 08:18:25 Instrument ID: A8\_N  
Lims ID: 320-34293-A-2-B MS  
Client ID: MW-6S  
Operator ID: SACINSTLCMS01 ALS Bottle#: 5 Worklist Smp#: 6  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

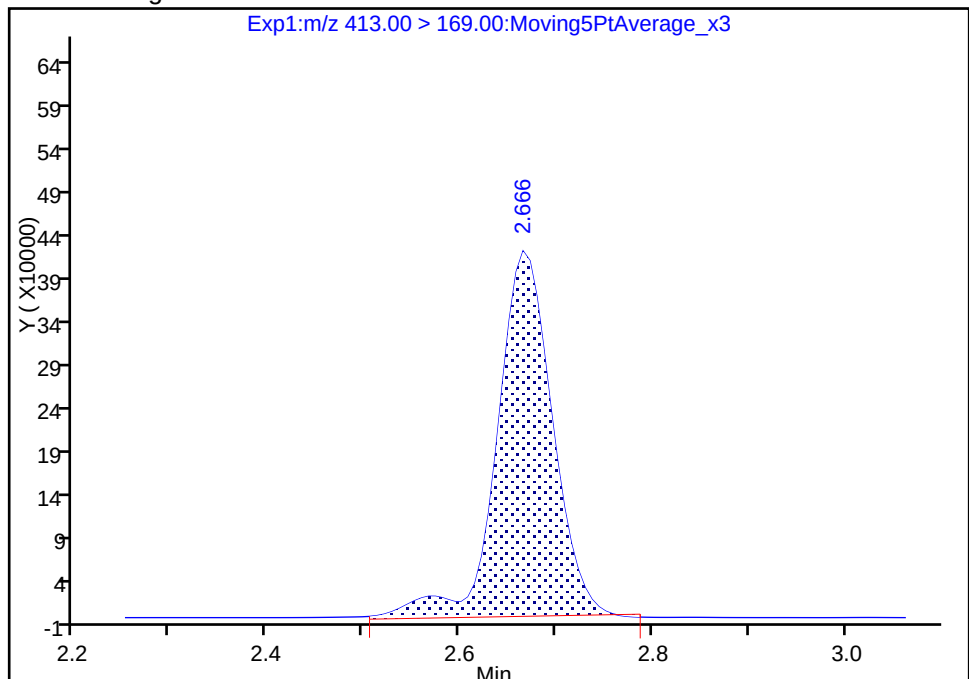
RT: 2.67  
Area: 1593824  
Amount: 1.470644  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 1663262  
Amount: 1.505954  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:17:23

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

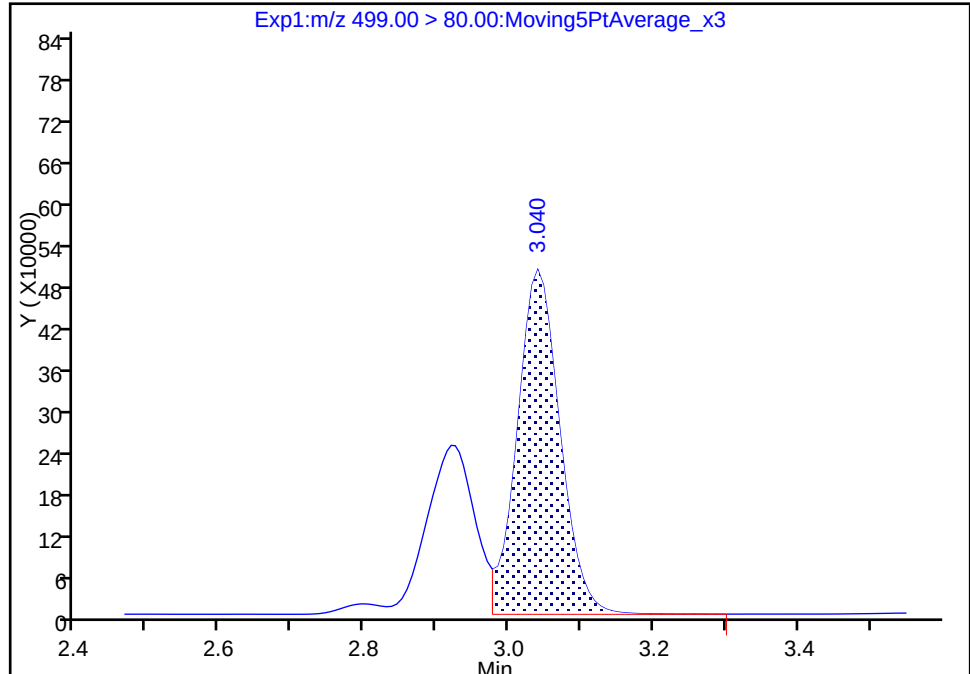
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_006.d  
Injection Date: 29-Dec-2017 08:18:25 Instrument ID: A8\_N  
Lims ID: 320-34293-A-2-B MS  
Client ID: MW-6S  
Operator ID: SACINSTLCMS01 ALS Bottle#: 5 Worklist Smp#: 6  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**17 Perfluorooctane sulfonic acid, CAS: 1763-23-1**

Signal: 1

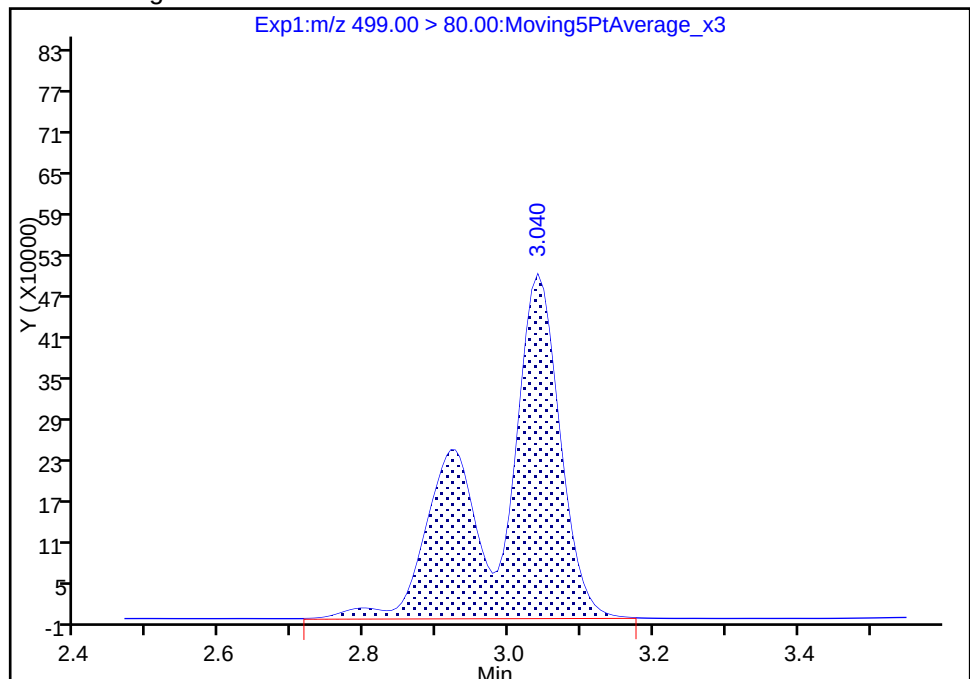
RT: 3.04  
Area: 2043461  
Amount: 1.329473  
Amount Units: ng/ml

## Processing Integration Results



RT: 3.04  
Area: 3223611  
Amount: 2.097278  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:17:35

Audit Action: Manually Integrated

Audit Reason: Isomers

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: _____                 | Lab Sample ID: <u>480-128901-E-19-B MS</u>   |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.23LLBxB_009.d</u>    |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/06/2017 14:20</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>      |
| Sample wt/vol: <u>249.5 (mL)</u>        | Date Analyzed: <u>12/23/2017 15:36</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201236</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 45.19  |   | 2.00 | 0.35 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 39.98  |   | 2.00 | 0.49 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 41.65  |   | 2.00 | 0.58 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 42.47  |   | 2.00 | 0.25 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 43.68  |   | 2.00 | 0.85 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 40.74  |   | 2.00 | 0.27 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 40.52  |   | 2.00 | 0.31 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 36.32  |   | 2.00 | 1.10 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 39.55  |   | 2.00 | 0.55 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 44.60  |   | 2.00 | 1.30 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 41.75  |   | 2.00 | 0.29 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 38.46  |   | 2.00 | 0.20 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 37.56  |   | 2.00 | 0.17 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 40.35  |   | 2.00 | 0.19 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 45.47  |   | 2.00 | 0.54 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 36.66  |   | 2.00 | 0.32 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 41.14  |   | 2.00 | 0.35 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 37.60  |   | 20.0 | 3.11 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 36.02  |   | 20.0 | 1.90 |
| 27619-97-2 | 6:2FTS                                                     | 39.62  |   | 20.0 | 2.00 |
| 39108-34-4 | 8:2FTS                                                     | 36.28  |   | 20.0 | 2.00 |



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: _____                 | Lab Sample ID: <u>480-128901-E-19-B MS</u>          |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.23LLBxB_009.d</u>           |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/06/2017 14:20</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>             |
| Sample wt/vol: <u>249.5 (mL)</u>        | Date Analyzed: <u>12/23/2017 15:36</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201236</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 59   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 90   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 88   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 96   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 96   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 102  |   | 25-150 |
| STL00996 | 13C2 PFDA        | 104  |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 101  |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 95   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 109  |   | 25-150 |
| STL02337 | 13C3-PFBS        | 96   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 97   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 102  |   | 25-150 |
| STL01056 | 13C8 FOSA        | 98   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 101  |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 104  |   | 25-150 |
| STL02279 | M2-6:2FTS        | 87   |   | 25-150 |
| STL02280 | M2-8:2FTS        | 111  |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_009.d  
 Lims ID: 480-128901-E-19-B MS  
 Client ID: MW-12  
 Sample Type: MS  
 Inject. Date: 23-Dec-2017 15:36:13 ALS Bottle#: 8 Worklist Smp#: 11  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 480-128901-e-19-b ms  
 Misc. Info.: Plate: 1 Rack: 5  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 26-Dec-2017 16:35:01 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1  
 Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 16:28:50

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)    | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                  |      |       |       |
| 217.00 > 172.00                       | 1.426 | 1.419  | 0.007  | 0.535  | 4527540  | 1.47         |                  | 58.9 | 12056 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                  |      |       | M     |
| 212.90 > 169.00                       | 1.432 | 1.419  | 0.013  | 1.004  | 1870825  | 1.13         |                  | 113  | 75.4  | M     |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                  |      |       |       |
| 267.90 > 223.00                       | 1.681 | 1.670  | 0.010  | 0.630  | 4144754  | 2.25         |                  | 90.0 | 11196 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                  |      |       | M     |
| 262.90 > 219.00                       | 1.689 | 1.670  | 0.019  | 1.005  | 1846039  | 1.00         |                  | 99.8 | 87.3  | M     |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                  |      |       |       |
| 301.90 > 83.00                        | 1.716 | 1.705  | 0.011  | 0.643  | 87715    | 2.23         |                  | 96.1 | 504   |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                  |      |       | M     |
| 298.90 > 80.00                        | 1.725 | 1.707  | 0.018  | 1.005  | 2723315  | 0.9596       |                  | 109  | 204   | M     |
| 298.90 > 99.00                        | 1.725 | 1.707  | 0.018  | 1.005  | 1179265  |              | 2.31(1.25-3.74)  |      | 711   | M     |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                  |      |       |       |
| 327.00 > 307.00                       | 1.934 | 1.920  | 0.014  | 1.000  | 1286044  | 2.11         |                  | 226  | 19934 |       |
| D 60 M2-4:2FTS                        |       |        |        |        |          |              |                  |      |       |       |
| 329.00 > 81.00                        | 1.934 | 1.943  | -0.009 | 0.725  | 3071     | 0.0145       |                  | 0.0  | 26.6  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                  |      |       |       |
| 315.00 > 270.00                       | 1.976 | 1.953  | 0.023  | 0.741  | 4314671  | 2.19         |                  | 87.8 | 25019 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                  |      |       | M     |
| 313.00 > 269.00                       | 1.976 | 1.956  | 0.020  | 1.000  | 1795800  | 1.04         |                  | 104  | 161   | M     |
| 313.00 > 119.00                       | 1.976 | 1.956  | 0.020  | 1.000  | 181789   |              | 9.88(5.03-15.10) |      | 716   |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                  |      |       |       |
| 367.00 > 322.00                       | 2.306 | 2.291  | 0.015  | 0.865  | 4372365  | 2.40         |                  | 96.1 | 33590 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                  |      |       |       |
| 363.00 > 319.00                       | 2.306 | 2.291  | 0.015  | 1.000  | 1938441  | 1.06         |                  | 106  | 531   |       |
| 363.00 > 169.00                       | 2.306 | 2.291  | 0.015  | 1.000  | 777465   |              | 2.49(1.13-3.40)  |      | 4821  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |      |       |       |
| 399.00 > 80.00                        | 2.319 | 2.304  | 0.015  | 1.000  | 2246370  | 0.9372       |                 | 103  | 364   |       |
| 399.00 > 99.00                        | 2.319 | 2.304  | 0.015  | 1.000  | 748226   |              | 3.00(1.50-4.49) |      | 891   |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.319 | 2.304  | 0.015  | 0.869  | 5266394  | 2.29         |                 | 96.9 | 46535 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.645 | 2.642  | 0.003  | 1.000  | 1134555  | 0.9884       |                 | 104  | 19242 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.645 | 2.642  | 0.003  | 0.992  | 1758858  | 2.08         |                 | 87.4 | 2951  |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.667 | 2.654  | 0.013  | 1.000  | 5015892  | 2.40         |                 | 95.9 | 48238 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.667 | 2.656  | 0.011  |        | 5063185  | 2.50         |                 |      | 53088 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.674 | 2.656  | 0.018  | 1.003  | 2299523  | 1.09         |                 | 109  | 744   |       |
| 413.00 > 169.00                       | 2.674 | 2.656  | 0.018  | 1.003  | 1228733  |              | 1.87(0.84-2.52) |      | 6536  |       |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.674 | 2.662  | 0.012  | 1.000  | 2029506  | 1.01         |                 | 106  | 2409  |       |
| 449.00 > 99.00                        | 2.674 | 2.662  | 0.012  | 1.000  | 535898   |              | 3.79(1.94-5.82) |      | 2580  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.042 | 3.025  | 0.017  | 1.141  | 3679476  | 2.43         |                 | 102  | 7374  |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.042 | 3.028  | 0.014  | 1.000  | 1851437  | 1.13         |                 | 122  | 189   |       |
| 499.00 > 99.00                        | 3.042 | 3.028  | 0.014  | 1.000  | 388940   |              | 4.76(2.31-6.93) |      | 241   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.042 | 3.028  | 0.014  | 1.141  | 3793799  | 2.55         |                 | 102  | 35872 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.049 | 3.029  | 0.020  | 1.003  | 1552220  | 1.02         |                 | 102  | 1629  |       |
| 463.00 > 169.00                       | 3.049 | 3.029  | 0.020  | 1.003  | 389915   |              | 3.98(1.90-5.69) |      | 5315  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.380 | 3.370  | 0.010  | 1.267  | 5032999  | 2.44         |                 | 97.5 | 32400 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.380 | 3.372  | 0.008  | 1.000  | 1982151  | 1.03         |                 | 103  | 20391 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.395 | 3.377  | 0.018  | 1.273  | 1256992  | 2.65         |                 | 111  | 9558  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.395 | 3.377  | 0.018  | 1.000  | 577573   | 0.9053       |                 | 94.5 | 24579 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.403 | 3.389  | 0.014  | 1.276  | 3192944  | 2.60         |                 | 104  | 41149 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.410 | 3.390  | 0.020  | 1.002  | 1249044  | 1.01         |                 | 101  | 3758  |       |
| 513.00 > 169.00                       | 3.410 | 3.390  | 0.020  | 1.002  | 233115   |              | 5.36(2.36-7.09) |      | 3161  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.561 | 3.543  | 0.018  | 1.335  | 1663651  | 2.53         |                 | 101  | 20078 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.569 | 3.548  | 0.021  | 1.002  | 670234   | 0.9382       |                 | 93.8 | 4738  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.717 | 3.703  | 0.014  | 1.000  | 869771   | 0.9147       |                 | 94.9 | 8039  |       |
| 599.00 > 99.00                        | 3.717 | 3.703  | 0.014  | 1.000  | 293321   |              | 2.97(1.39-4.16) |      | 5036  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.725 | 3.712  | 0.013  | 1.397  | 1667799  | 2.60         |                 | 104  | 14333 |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.734 | 3.717  | 0.017  | 1.400  | 2365615  | 2.53         |                 | 101  | 29848 |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.734 | 3.718  | 0.016  | 1.000  | 785579   | 0.9063       |                 | 90.6 | 3262  |       |
| 563.00 > 169.00                       | 3.734 | 3.718  | 0.016  | 1.000  | 180351   |              | 4.36(0.00-0.00) |      | 6149  |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.734 | 3.720  | 0.014  | 1.002  | 595725   | 0.8987       |                 | 89.9 | 10625 |       |
| D 34 d-N-MeFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 169.00                       | 3.877 | 3.862  | 0.015  | 1.454  | 735846   | 1.25         |                 | 50.1 | 1941  |       |
| 35 MeFOSA                             |       |        |        |        |          |              |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.872  | 0.005  | 1.000  | 280669   | 0.9743       |                 | 97.4 | 1311  |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.030 | 4.011  | 0.019  | 1.511  | 2394246  | 2.38         |                 | 95.1 | 33500 |       |
| 37 Perfluorododecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 613.00 > 569.00                       | 4.030 | 4.011  | 0.019  | 1.000  | 937896   | 0.9867       |                 | 98.7 | 3385  |       |
| 613.00 > 169.00                       | 4.030 | 4.011  | 0.019  | 1.000  | 238025   |              | 3.94(2.13-6.40) |      | 8538  |       |
| D 38 d-N-EtFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 531.00 > 169.00                       | 4.062 | 4.052  | 0.010  | 1.523  | 521658   | 0.9240       |                 | 37.0 | 1084  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |        |        |        |          |              |                 |      |       |       |
| 526.00 > 169.00                       | 4.069 | 4.058  | 0.011  | 1.002  | 224542   | 1.01         |                 | 101  | 1063  |       |
| 41 Perfluorotridecanoic acid          |       |        |        |        |          |              |                 |      |       |       |
| 663.00 > 619.00                       | 4.297 | 4.277  | 0.020  | 1.000  | 1235791  | 1.11         |                 | 111  | 4480  |       |
| 663.00 > 169.00                       | 4.297 | 4.277  | 0.020  | 1.000  | 407743   |              | 3.03(1.25-3.76) |      | 18242 |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.542 | 4.518  | 0.024  | 1.703  | 3052610  | 2.71         |                 | 109  | 32816 |       |
| 42 Perfluorotetradecanoic acid        |       |        |        |        |          |              |                 |      |       |       |
| 713.00 > 169.00                       | 4.542 | 4.518  | 0.024  | 1.000  | 327813   | 1.04         |                 | 104  | 9381  |       |
| 713.00 > 219.00                       | 4.528 | 4.518  | 0.010  | 0.997  | 245059   |              | 1.34(0.71-2.13) |      | 8475  |       |
| D 44 13C2-PFHxDA                      |       |        |        |        |          |              |                 |      |       |       |
| 815.00 > 770.00                       | 4.959 | 4.939  | 0.020  | 1.859  | 4307163  | 2.10         |                 | 84.1 | 15904 |       |
| 45 Perfluorohexadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 813.00 > 769.00                       | 4.959 | 4.939  | 0.020  | 1.000  | 1643428  | 1.09         |                 | 109  | 974   |       |
| 813.00 > 169.00                       | 4.959 | 4.939  | 0.020  | 1.000  | 296289   |              | 5.55(2.86-8.58) |      | 5771  |       |
| 46 Perfluorooctadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 913.00 > 869.00                       | 5.332 | 5.306  | 0.026  | 1.000  | 1890142  | 1.07         |                 | 107  | 540   |       |
| 913.00 > 169.00                       | 5.332 | 5.306  | 0.026  | 1.000  | 245698   |              | 7.69(0.00-0.00) |      | 2137  |       |

## QC Flag Legend

### Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_009.d

Injection Date: 23-Dec-2017 15:36:13

Instrument ID: A8\_N

Lims ID: 480-128901-E-19-B MS

Client ID: MW-12

Operator ID: SACINSTLCMS01

ALS Bottle#: 8

Worklist Smp#: 11

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

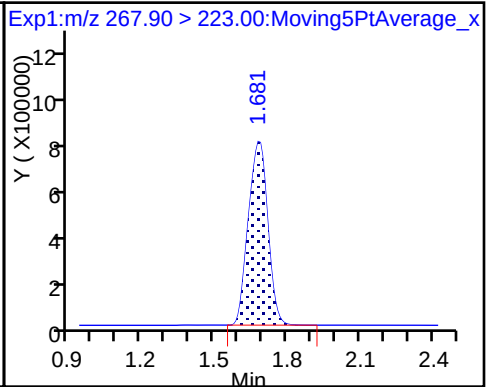
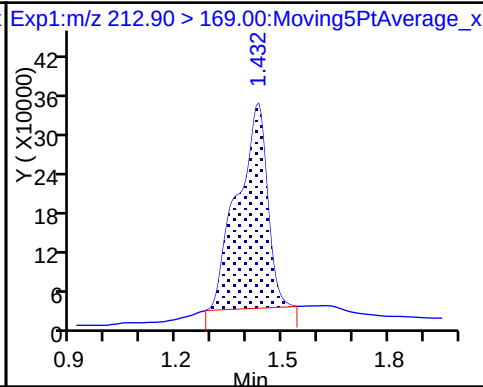
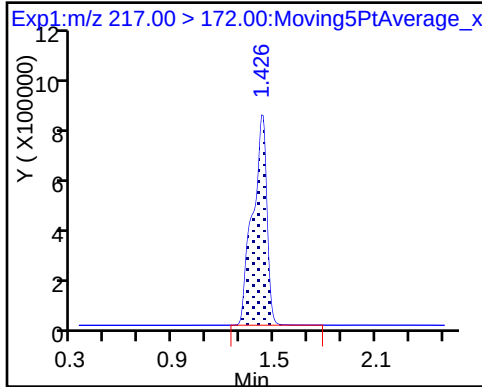
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid (M)

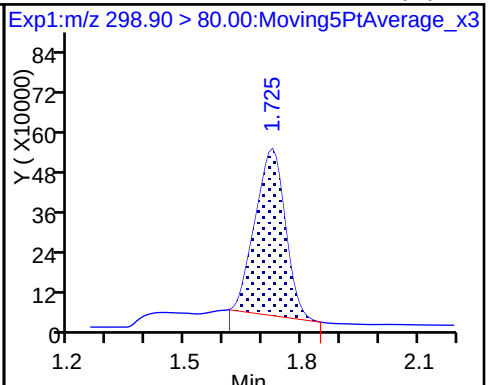
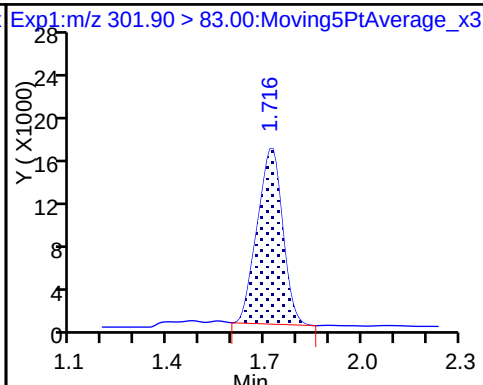
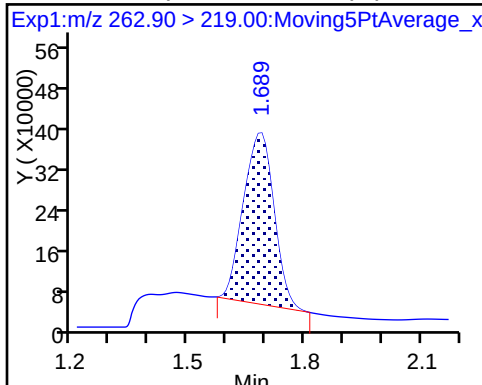
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 47 13C3-PFBS

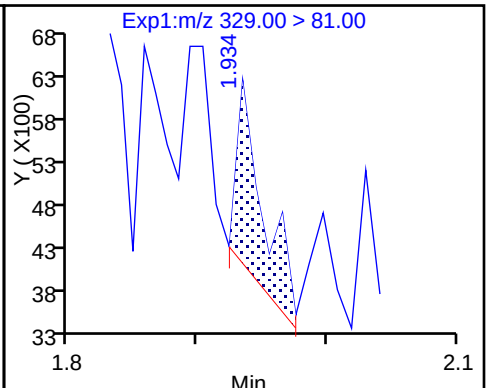
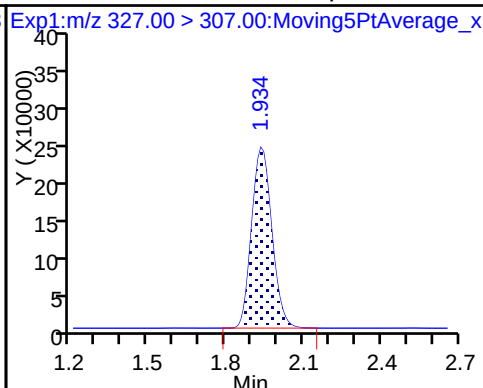
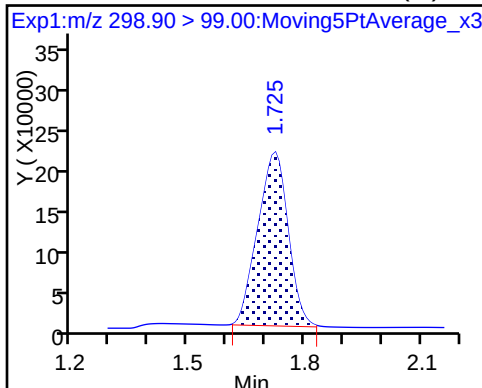
5 Perfluorobutanesulfonic acid (M)



5 Perfluorobutanesulfonic acid (M)

61 Sodium 1H,1H,2H,2H-perfluorohexanoate

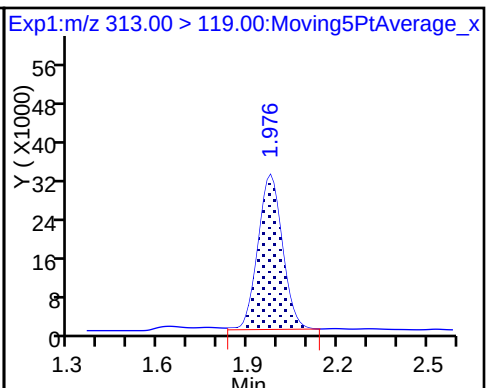
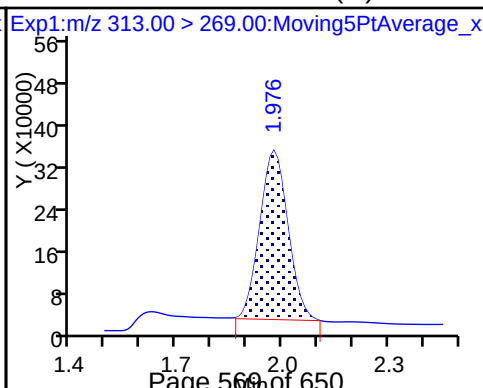
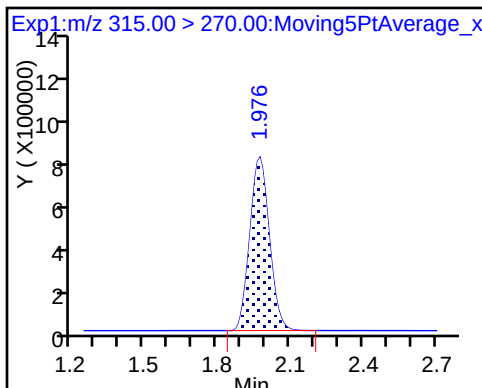
De60 M2-4:2FTS



D 7 13C2 PFHxA

6 Perfluorohexanoic acid (M)

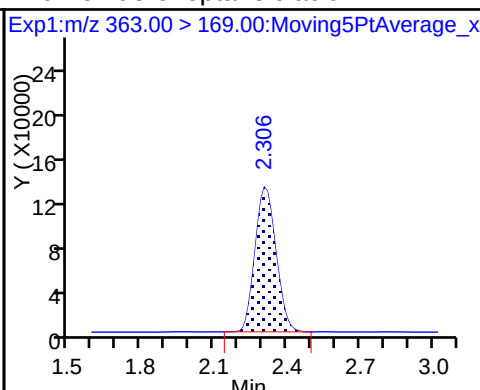
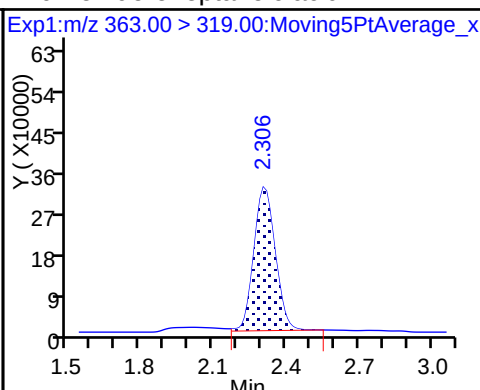
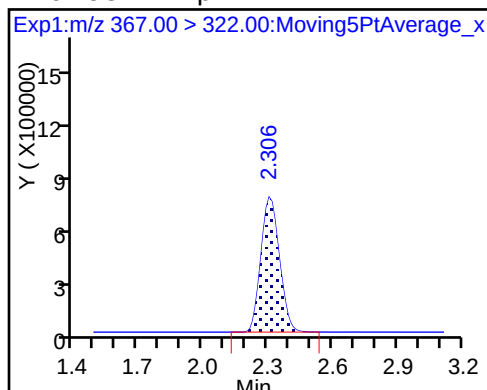
6 Perfluorohexanoic acid



D 9 13C4-PFHpA

10 Perfluoroheptanoic acid

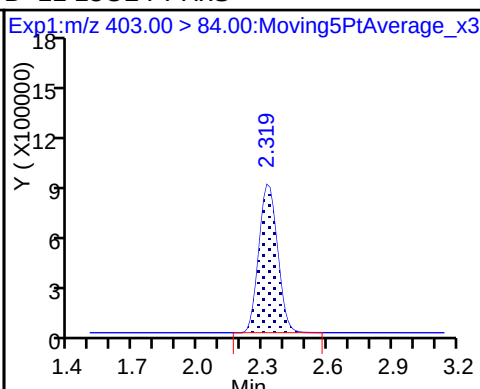
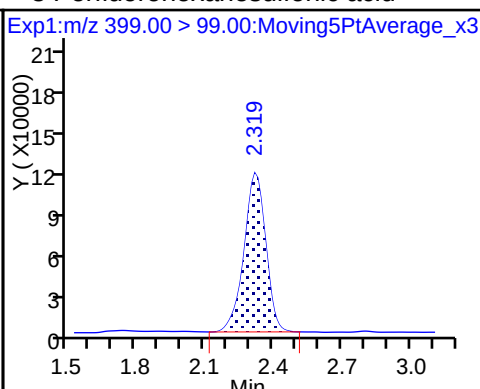
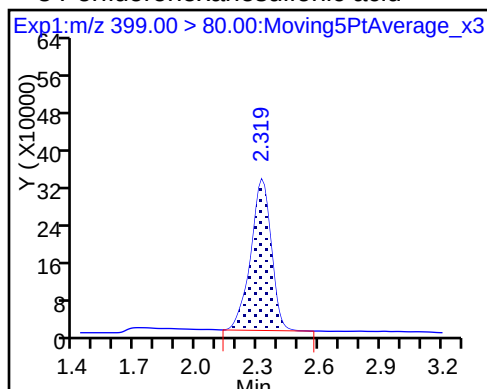
10 Perfluoroheptanoic acid



8 Perfluorohexanesulfonic acid

8 Perfluorohexanesulfonic acid

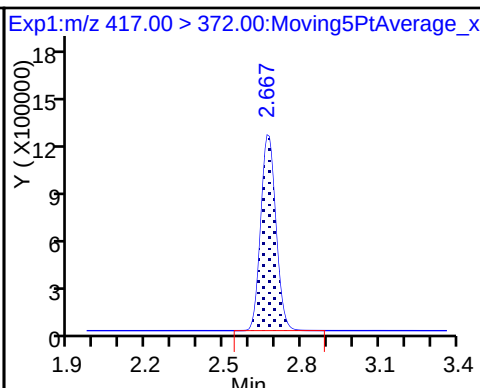
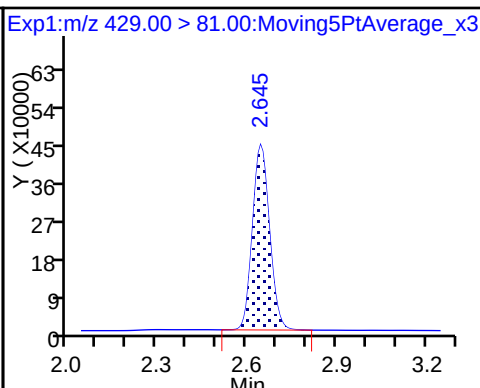
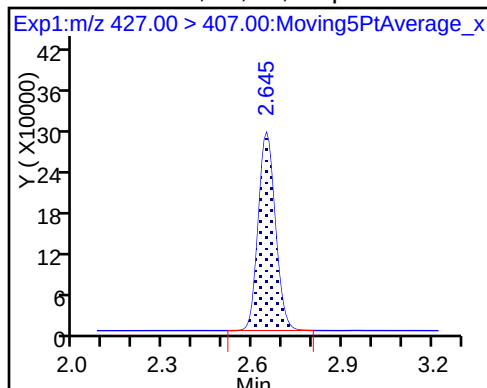
D 11 18O2 PFHxS



13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

D 12 M2-6:2FTS

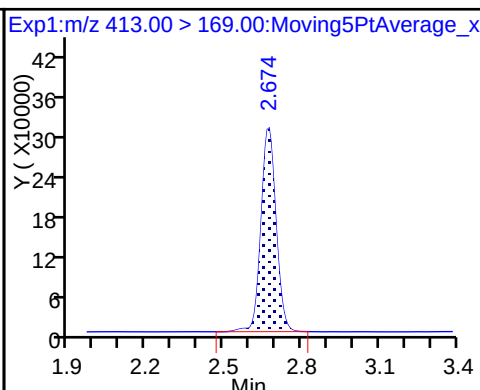
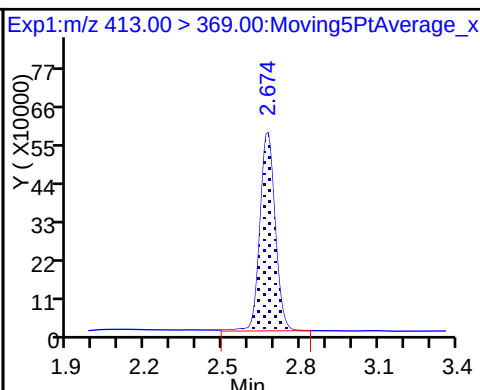
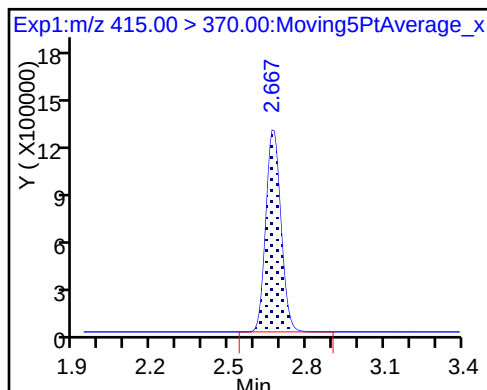
D 14 13C4 PFOA



\* 62 13C2-PFOA

15 Perfluorooctanoic acid

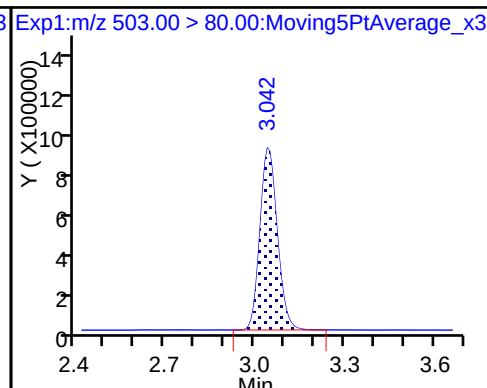
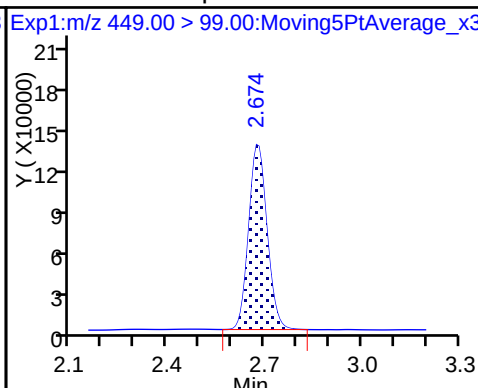
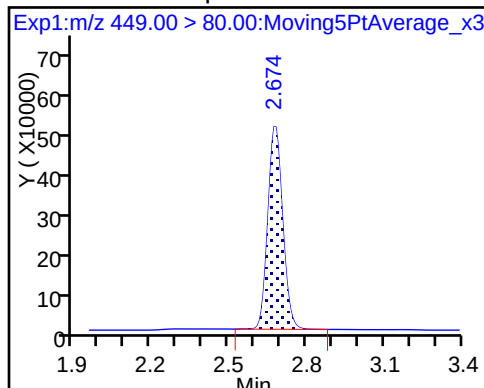
15 Perfluorooctanoic acid



## 16 Perfluoroheptanesulfonic Acid

## 16 Perfluoroheptanesulfonic Acid

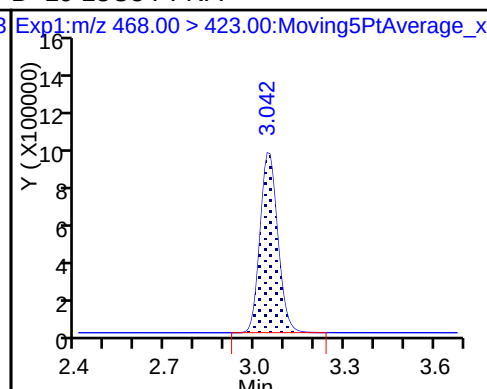
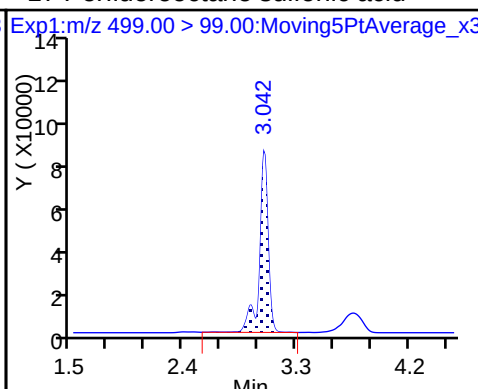
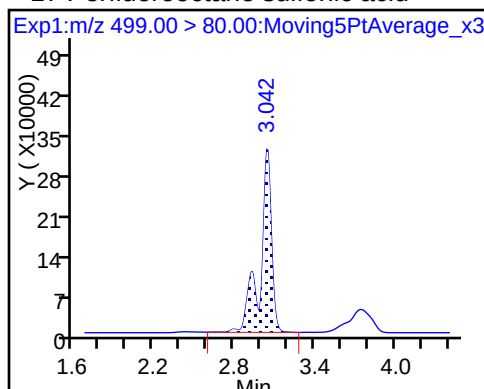
## D 18 13C4 PFOS



## 17 Perfluorooctane sulfonic acid

## 17 Perfluorooctane sulfonic acid

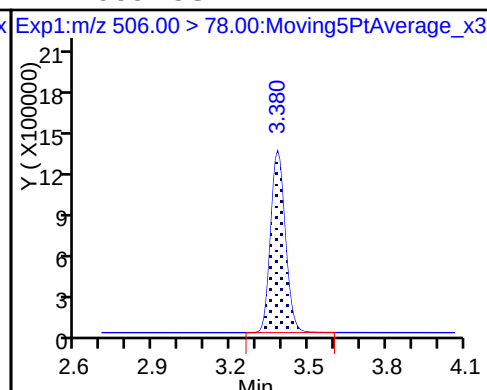
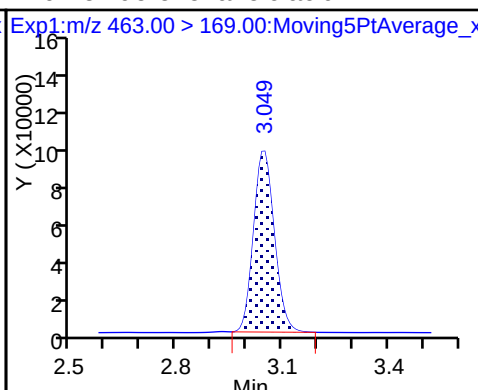
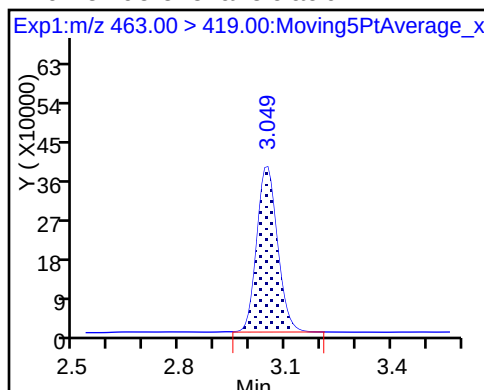
## D 19 13C5 PFNA



## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

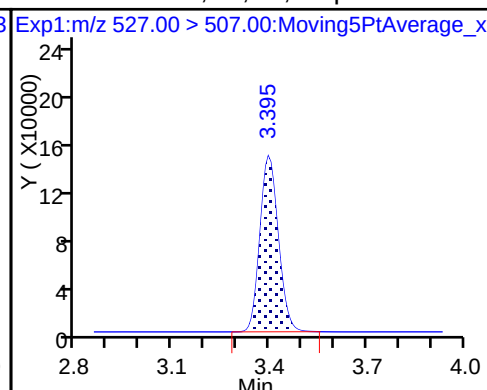
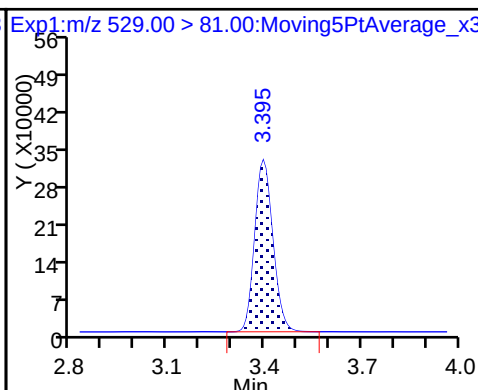
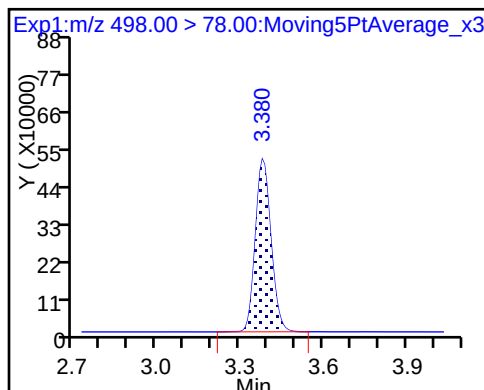
## D 21 13C8 FOSA



## 22 Perfluorooctane Sulfonamide

## D 26 M2-8:2FTS

## 25 Sodium 1H,1H,2H,2H-perfluorodecane

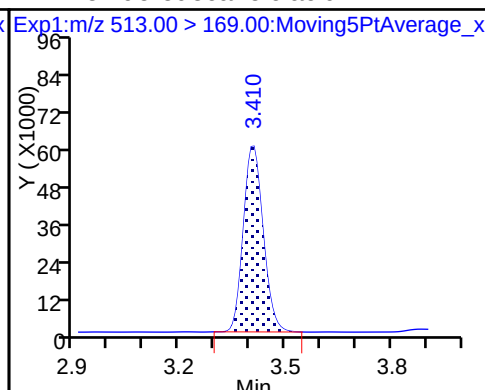
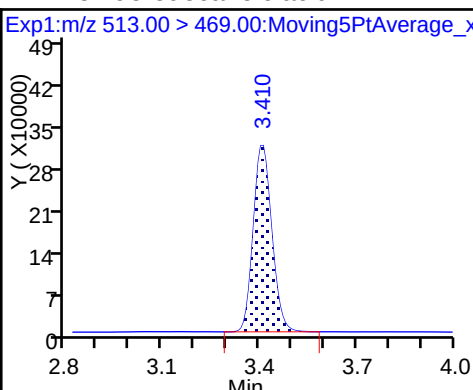
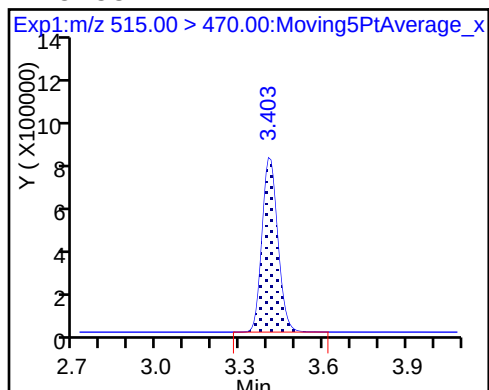




## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

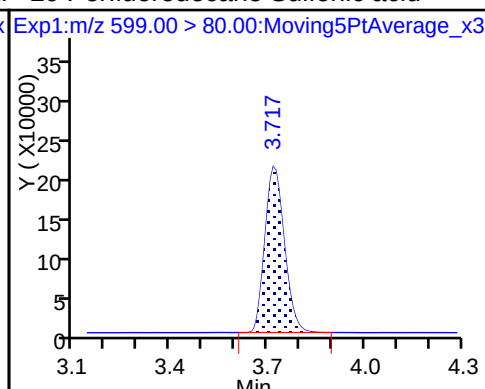
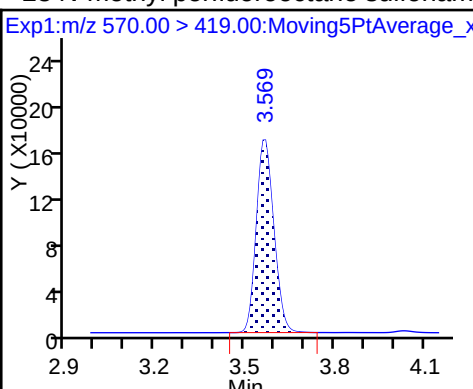
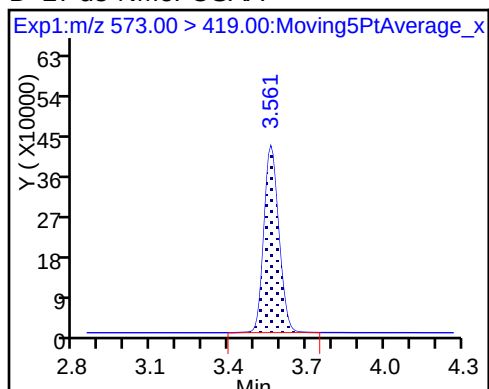
## 24 Perfluorodecanoic acid



## D 27 d3-NMeFOSAA

## 28 N-methyl perfluorooctane sulfonami

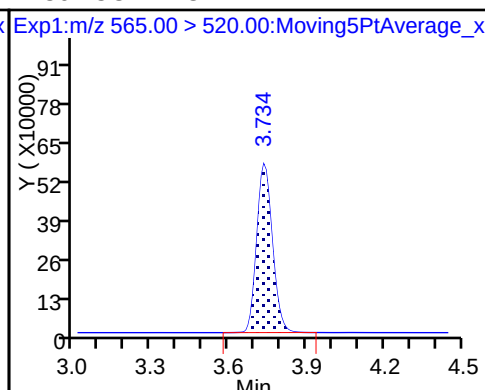
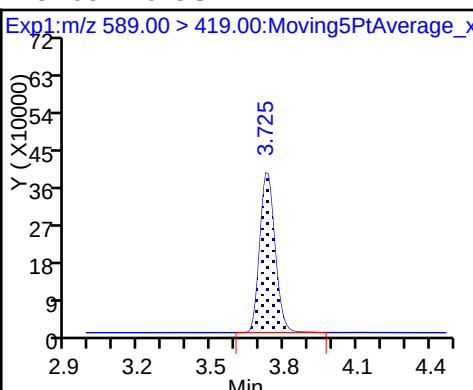
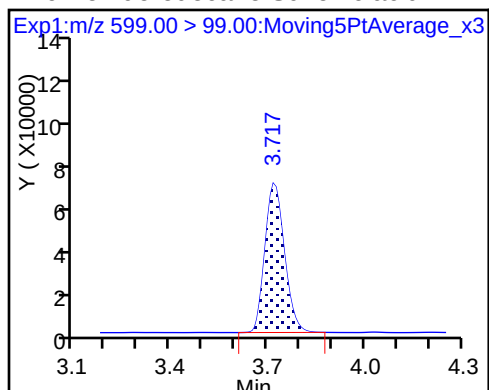
## 29 Perfluorodecane Sulfonic acid



## 29 Perfluorodecane Sulfonic acid

## D 32 d5-NEtFOSAA

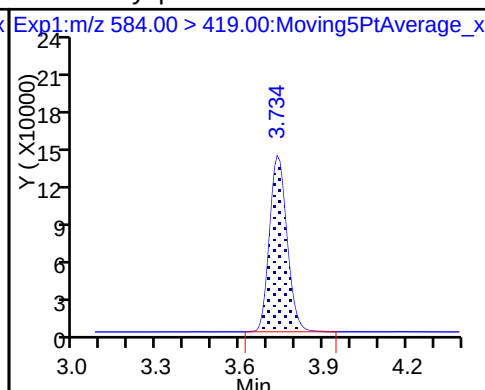
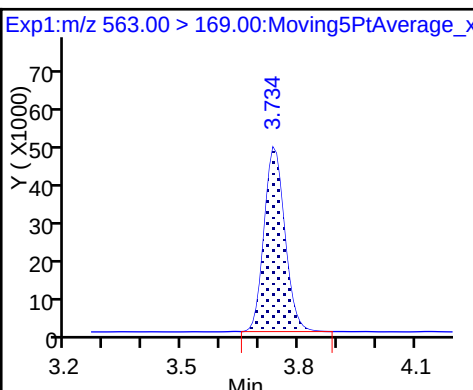
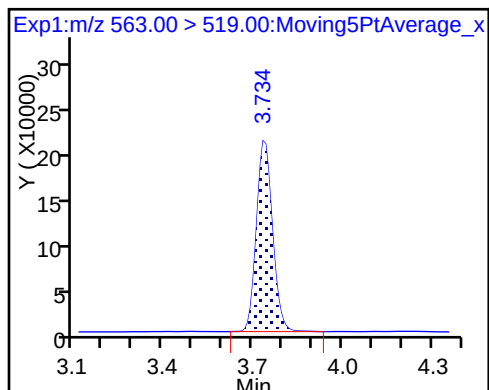
## D 30 13C2 PFUnA



## 31 Perfluoroundecanoic acid

## 31 Perfluoroundecanoic acid

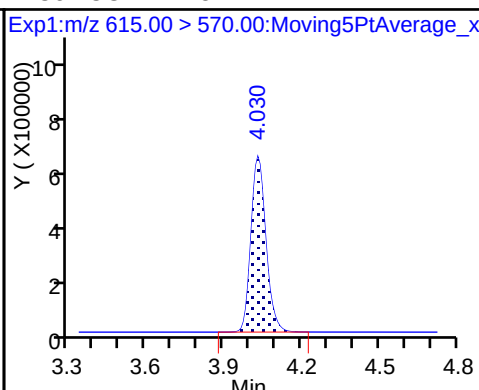
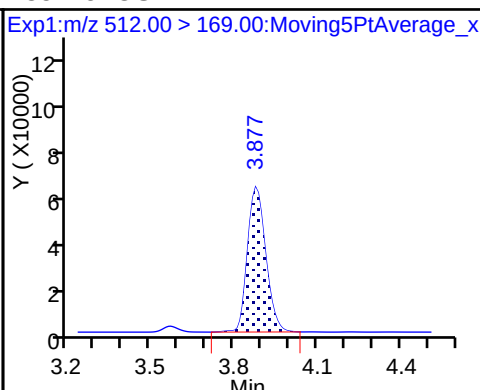
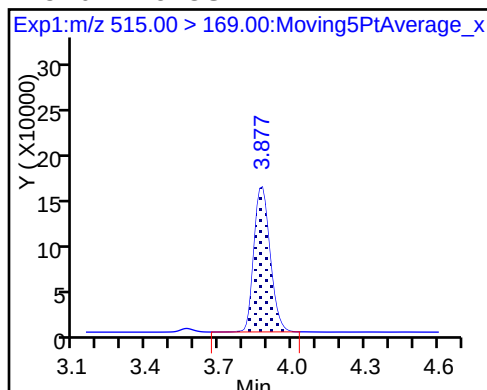
## 33 N-ethyl perfluorooctane sulfonamid



## D 34 d-N-MeFOSA-M

## 35 MeFOSA

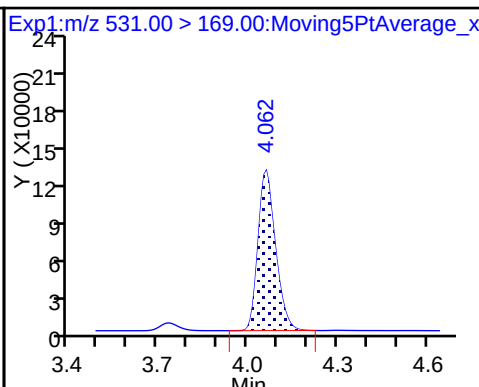
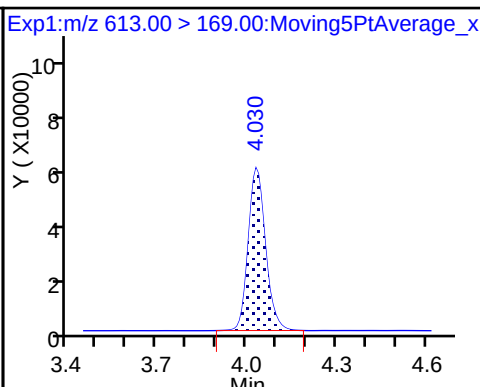
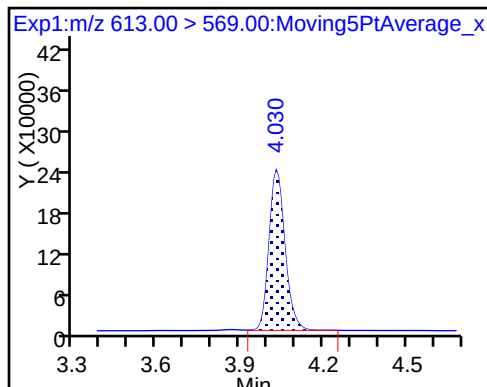
## D 36 13C2 PFDaA



## 37 Perfluorododecanoic acid

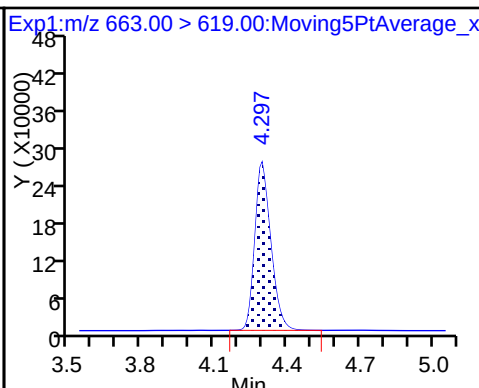
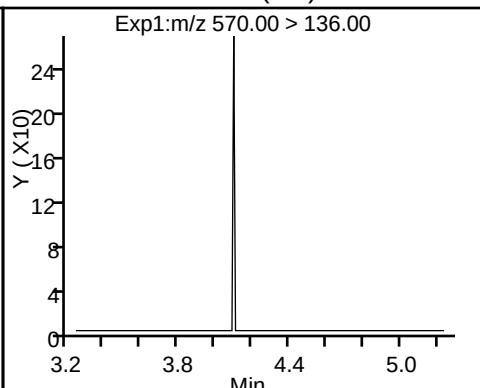
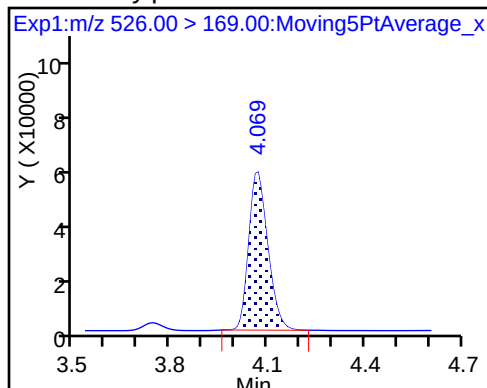
## 37 Perfluorododecanoic acid

## D 38 d-N-EtFOSA-M



## 39 N-ethylperfluoro-1-octanesulfonami D 40 d-N-EtFOSE-M (ND)

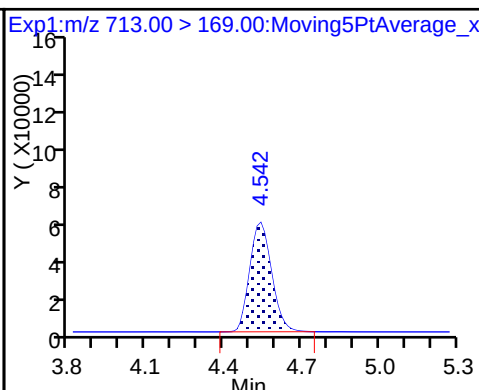
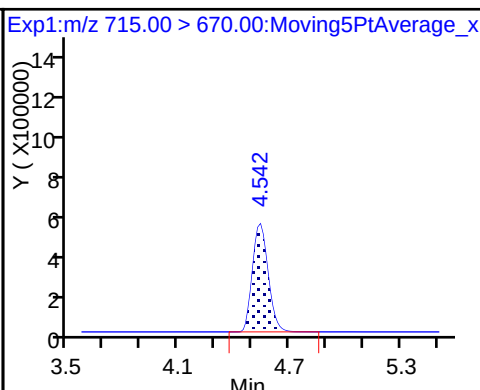
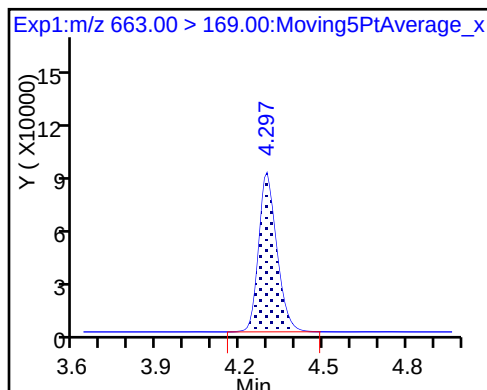
## 41 Perfluorotridecanoic acid



## 41 Perfluorotridecanoic acid

## D 43 13C2-PFTeDA

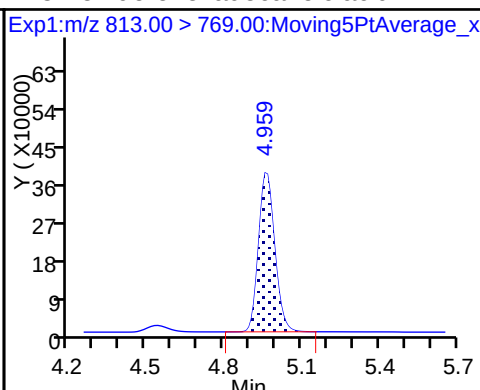
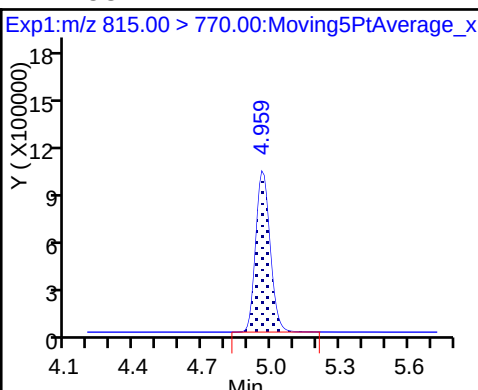
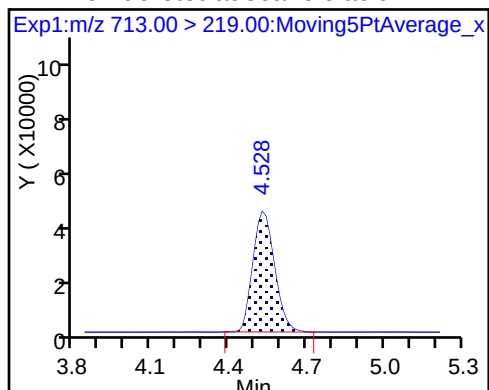
## 42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid

D 44 13C2-PFHxDA

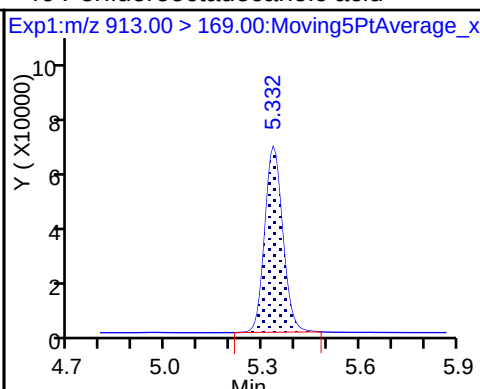
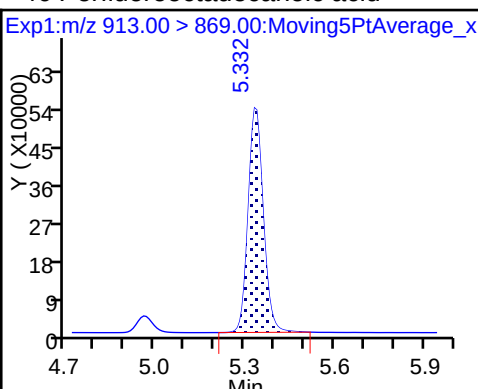
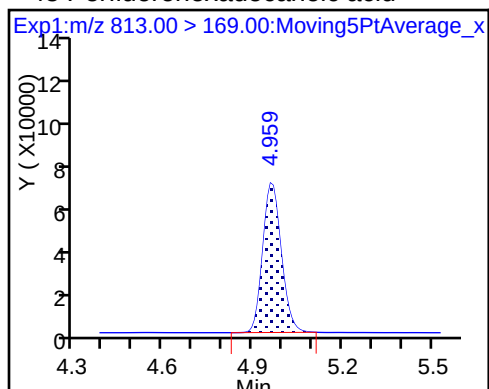
45 Perfluorohexadecanoic acid



45 Perfluorohexadecanoic acid

46 Perfluorooctadecanoic acid

46 Perfluorooctadecanoic acid



## TestAmerica Sacramento

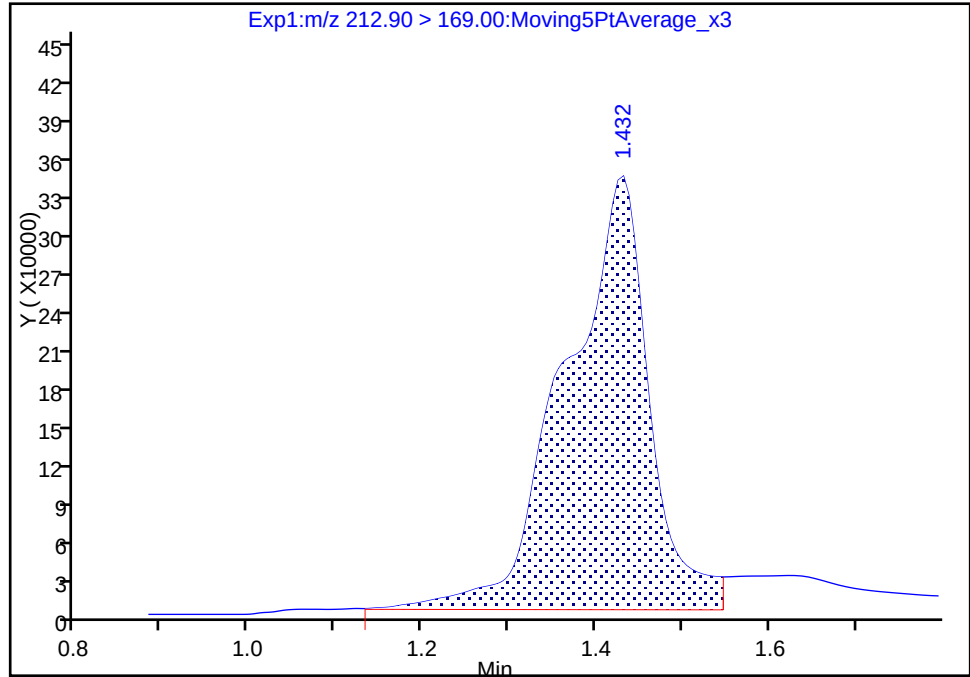
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Injection Date: 23-Dec-2017 15:36:13 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-B MS  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 8 Worklist Smp#: 11  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**2 Perfluorobutyric acid, CAS: 375-22-4**

Signal: 1

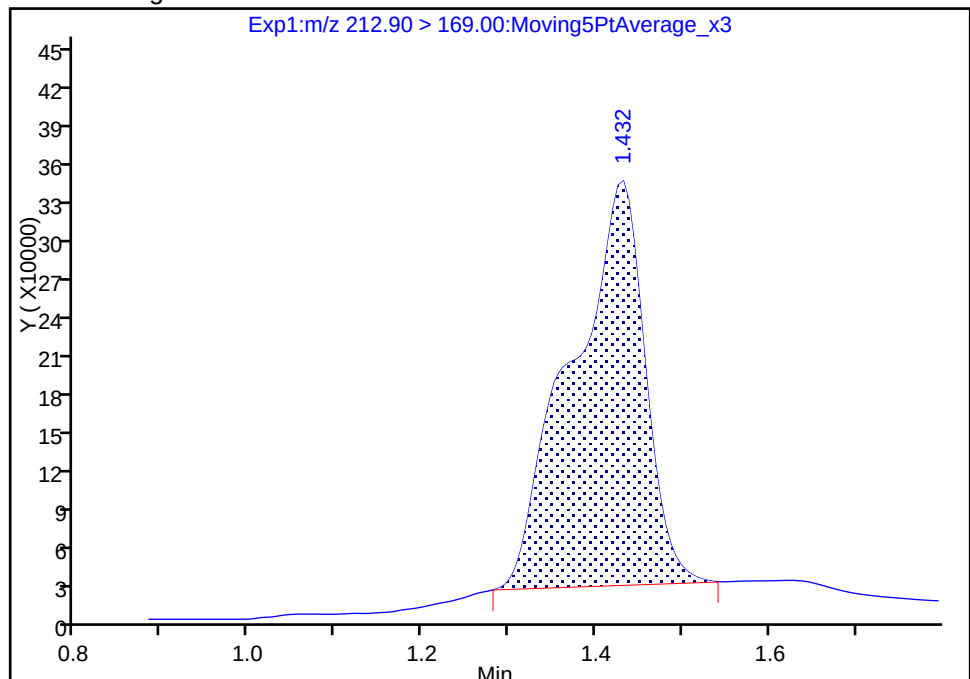
RT: 1.43  
Area: 2300432  
Amount: 1.386323  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.43  
Area: 1870825  
Amount: 1.127426  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:27:08  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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## TestAmerica Sacramento

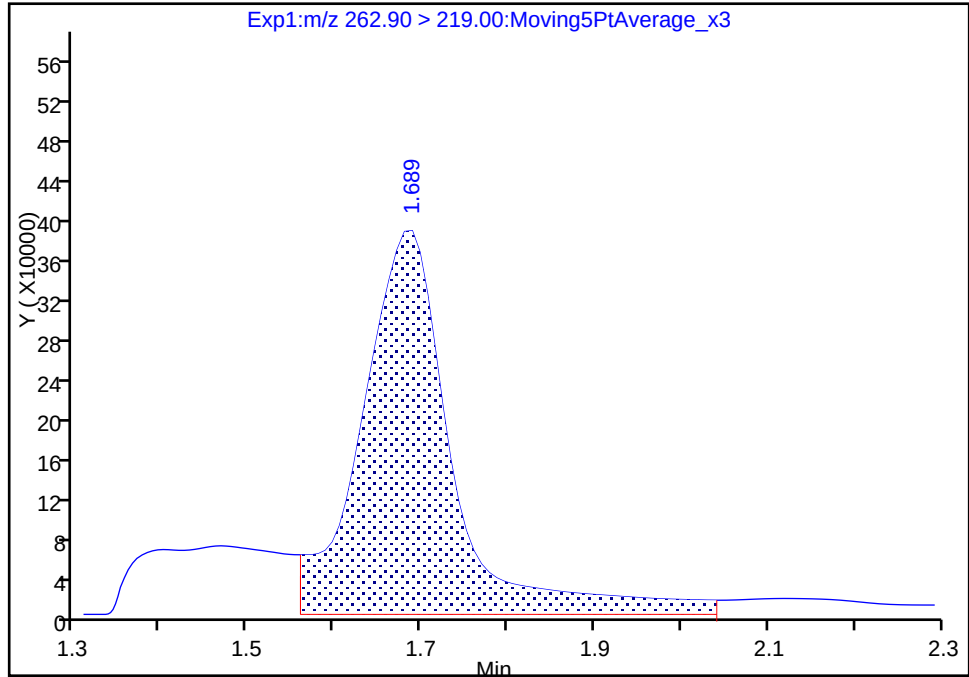
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Injection Date: 23-Dec-2017 15:36:13 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-B MS  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 8 Worklist Smp#: 11  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

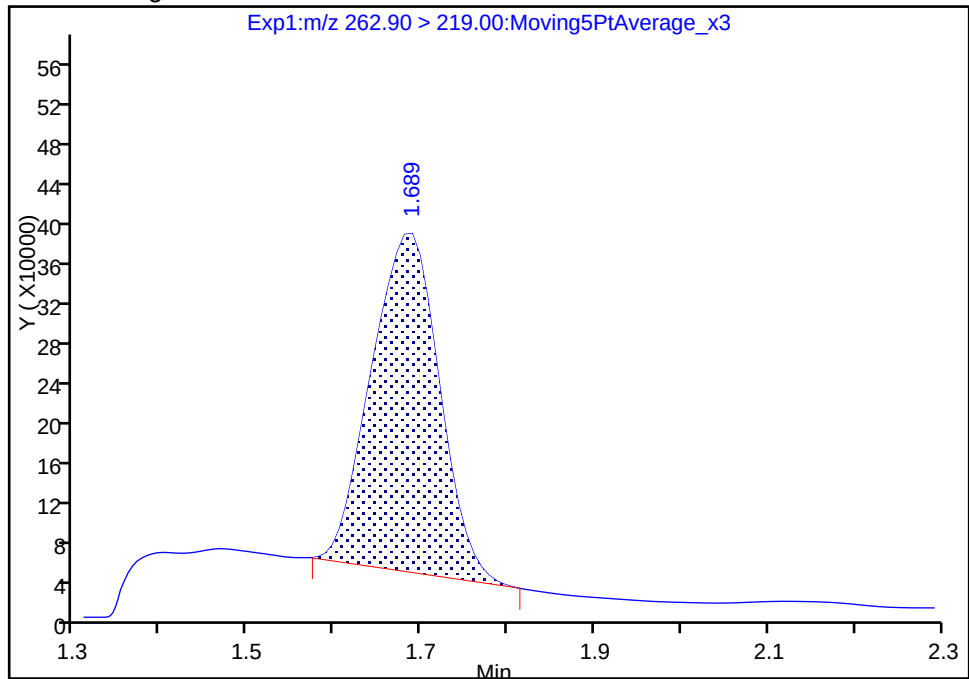
RT: 1.69  
Area: 2787304  
Amount: 1.506160  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.69  
Area: 1846039  
Amount: 0.997534  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:27:19  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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## TestAmerica Sacramento

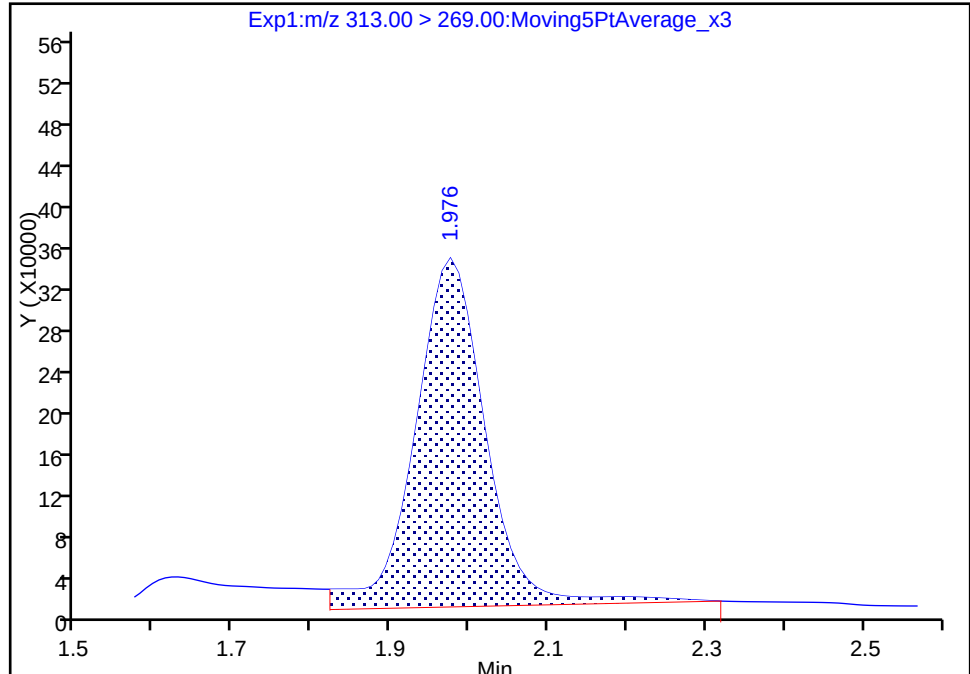
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_009.d  
Injection Date: 23-Dec-2017 15:36:13 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-B MS  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 8 Worklist Smp#: 11  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 1

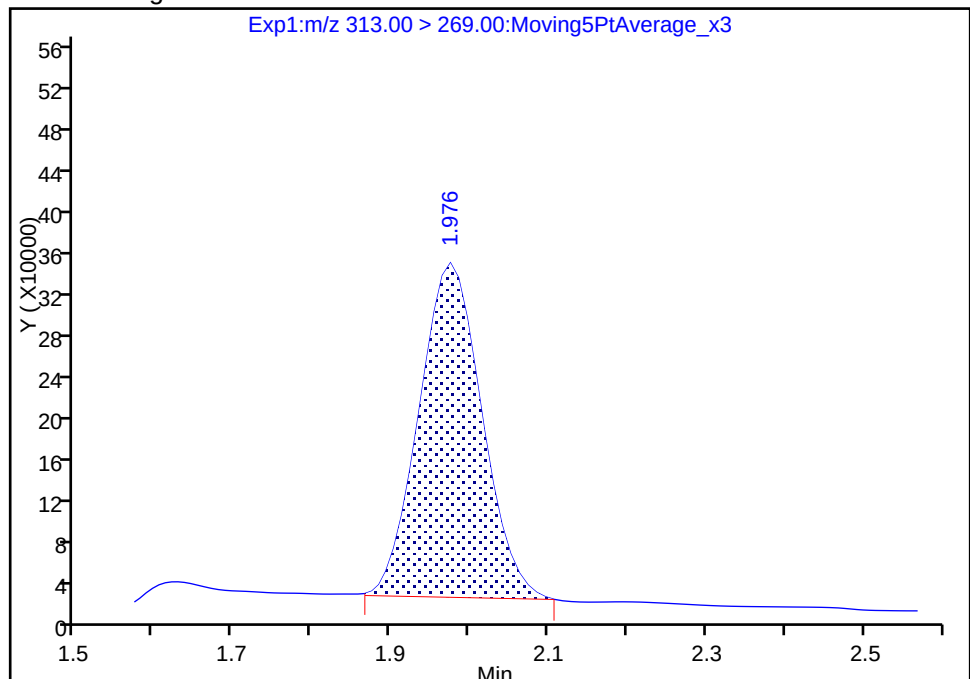
RT: 1.98  
Area: 2106027  
Amount: 1.218821  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.98  
Area: 1795800  
Amount: 1.039283  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:28:03  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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## TestAmerica Sacramento

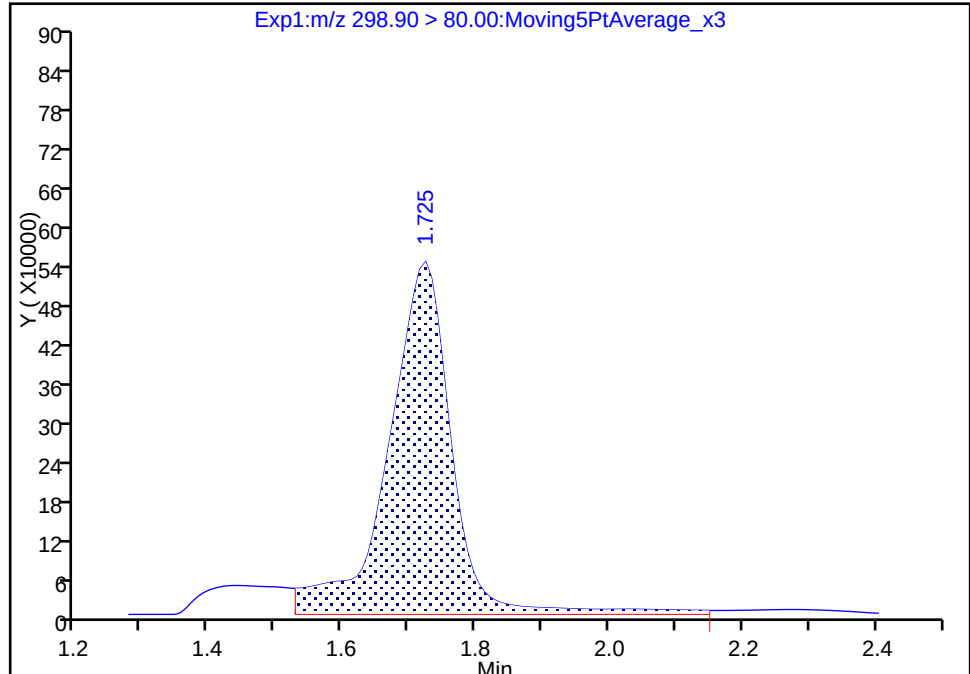
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_009.d  
Injection Date: 23-Dec-2017 15:36:13 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-B MS  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 8 Worklist Smp#: 11  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**5 Perfluorobutanesulfonic acid, CAS: 375-73-5**

Signal: 1

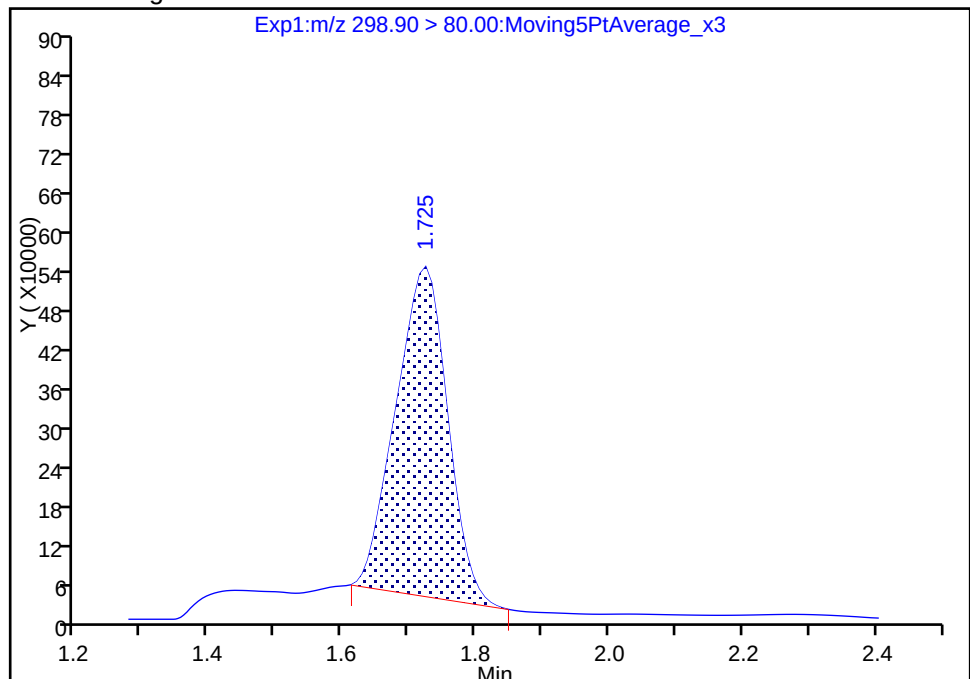
RT: 1.72  
Area: 3586242  
Amount: 1.263700  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.72  
Area: 2723315  
Amount: 0.959627  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:27:35  
Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 578 of 650

## TestAmerica Sacramento

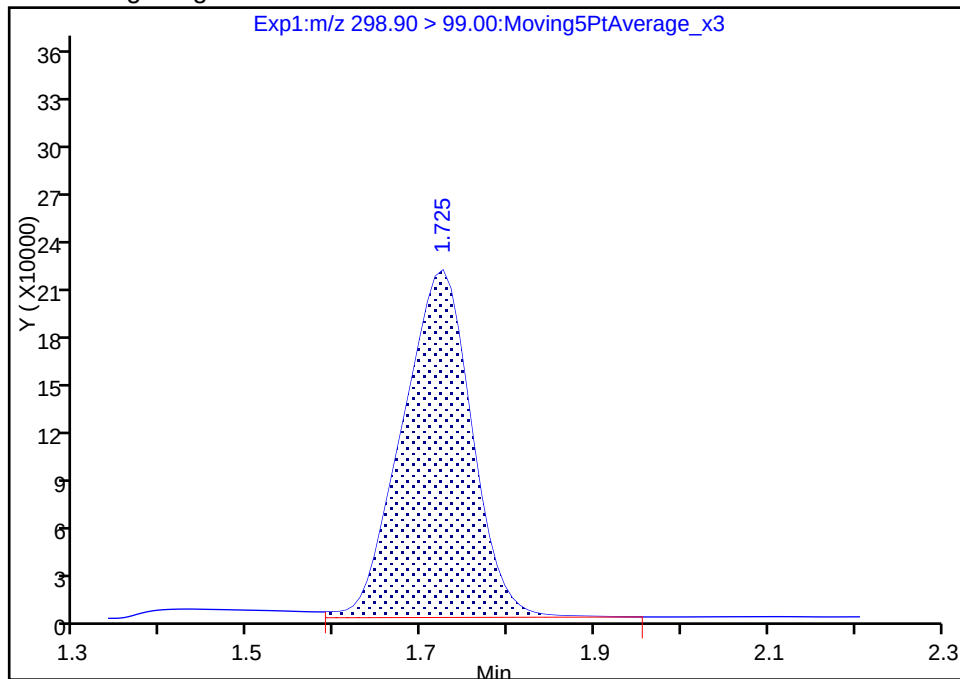
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBXB\_009.d  
Injection Date: 23-Dec-2017 15:36:13 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-B MS  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 8 Worklist Smp#: 11  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**5 Perfluorobutanesulfonic acid, CAS: 375-73-5**

Signal: 2

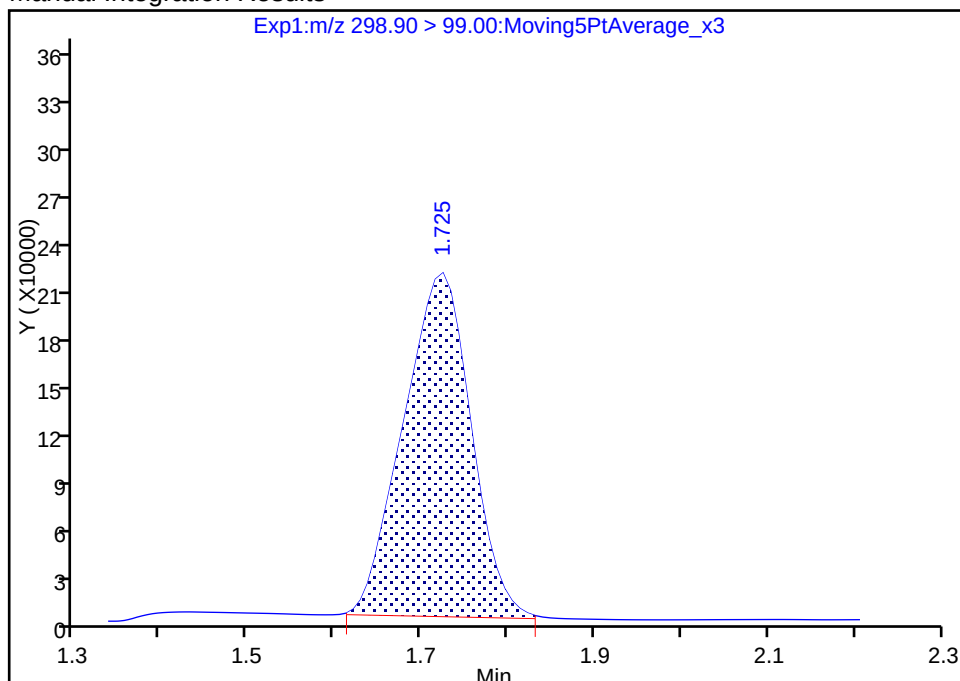
RT: 1.72  
Area: 1220706  
Amount: 1.263700  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.72  
Area: 1179265  
Amount: 0.959627  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:27:51

Audit Action: Manually Integrated

Audit Reason: Baseline



FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: <u>MW-6S MSD</u>      | Lab Sample ID: <u>320-34293-2 MSD</u>        |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_007.d</u>      |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 08:56</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>      |
| Sample wt/vol: <u>280.5 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:26</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 42.63  |   | 1.78 | 0.31 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 42.64  |   | 1.78 | 0.44 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 41.47  |   | 1.78 | 0.52 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 41.08  |   | 1.78 | 0.22 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 50.64  |   | 1.78 | 0.76 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 40.57  |   | 1.78 | 0.24 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 37.88  |   | 1.78 | 0.28 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 31.01  |   | 1.78 | 0.98 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 36.76  |   | 1.78 | 0.49 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 40.10  |   | 1.78 | 1.16 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 33.92  |   | 1.78 | 0.26 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 36.53  |   | 1.78 | 0.18 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 33.05  |   | 1.78 | 0.15 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 38.51  |   | 1.78 | 0.17 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 76.84  |   | 1.78 | 0.48 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 31.93  |   | 1.78 | 0.29 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 35.72  |   | 1.78 | 0.31 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 34.30  |   | 17.8 | 2.76 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 35.22  |   | 17.8 | 1.69 |
| 27619-97-2 | 6:2FTS                                                     | 33.03  |   | 17.8 | 1.78 |
| 39108-34-4 | 8:2FTS                                                     | 31.02  |   | 17.8 | 1.78 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: <u>MW-6S MSD</u>      | Lab Sample ID: <u>320-34293-2 MSD</u>               |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.28LLD_007.d</u>             |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/12/2017 08:56</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/26/2017 18:34</u>             |
| Sample wt/vol: <u>280.5 (mL)</u>        | Date Analyzed: <u>12/29/2017 08:26</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201893</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 71   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 88   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 89   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 90   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 92   |   | 25-150 |
| STL00995 | 13C5 PFNA        | 90   |   | 25-150 |
| STL00996 | 13C2 PFDA        | 88   |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 86   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 83   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 92   |   | 25-150 |
| STL02337 | 13C3-PFBS        | 86   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 86   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 85   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 78   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 90   |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 86   |   | 25-150 |
| STL02279 | M2-6:2FTS        | 105  |   | 25-150 |
| STL02280 | M2-8:2FTS        | 100  |   | 25-150 |

TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_007.d  
 Lims ID: 320-34293-A-2-C MSD  
 Client ID: MW-6S  
 Sample Type: MSD  
 Inject. Date: 29-Dec-2017 08:26:14 ALS Bottle#: 6 Worklist Smp#: 7  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 320-34293-a-2-c msd  
 Misc. Info.: Plate: 1 Rack: 6  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 29-Dec-2017 15:19:26 Calib Date: 26-Dec-2017 17:58:18  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171227-52152.b\2017.12.26ICALA\_010.d  
 Column 1 : Det: EXP1  
 Process Host: XAWRK035

First Level Reviewer: hannigana

Date: 29-Dec-2017 15:19:26

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.436 | 1.433  | 0.003  | 0.538  | 5931716  | 1.77         |                   | 71.0 | 16681 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       |       |
| 212.90 > 169.00                       | 1.436 | 1.434  | 0.002  | 1.000  | 2592060  | 1.20         |                   | 120  | 390   |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       |       |
| 262.90 > 219.00                       | 1.694 | 1.691  | 0.003  | 1.005  | 2291496  | 1.20         |                   | 120  | 554   |       |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.685 | 1.692  | -0.007 | 0.632  | 4270327  | 2.19         |                   | 87.7 | 37989 |       |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.721 | 1.725  | -0.004 | 0.645  | 84424    | 2.00         |                   | 86.0 | 1200  |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       |       |
| 298.90 > 80.00                        | 1.730 | 1.730  | 0.0    | 1.005  | 2784580  | 1.02         |                   | 116  | 1478  |       |
| 298.90 > 99.00                        | 1.730 | 1.730  | 0.0    | 1.005  | 1128034  |              | 2.47(1.25-3.74)   |      | 1825  |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.939 | 1.941  | -0.002 | 1.000  | 715808   | 1.07         |                   | 115  | 17801 |       |
| D 60 M2-4:2FTS                        |       |        |        |        |          |              |                   |      |       |       |
| 329.00 > 81.00                        | 1.991 | 1.955  | 0.036  | 0.746  | 585      | 0.003689     |                   | 0.0  | 10.6  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.970 | 1.976  | -0.006 | 0.738  | 4650761  | 2.22         |                   | 88.8 | 39407 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       |       |
| 313.00 > 269.00                       | 1.970 | 1.979  | -0.009 | 1.000  | 2160907  | 1.16         |                   | 116  | 1516  |       |
| 313.00 > 119.00                       | 1.970 | 1.979  | -0.009 | 1.000  | 198100   |              | 10.91(5.03-15.10) |      | 2588  |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.299 | 2.311  | -0.012 | 0.862  | 4379692  | 2.25         |                   | 90.1 | 32666 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.312 | 2.311  | 0.001  | 1.006  | 2110980  | 1.15         |                   | 115  | 1989  |       |
| 363.00 > 169.00                       | 2.312 | 2.311  | 0.001  | 1.006  | 792864   |              | 2.66(1.13-3.40)   |      | 5875  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |      |       |       |
| 399.00 > 80.00                        | 2.326 | 2.324  | 0.002  | 1.000  | 2145675  | 0.9272       |                 | 102  | 1833  |       |
| 399.00 > 99.00                        | 2.312 | 2.324  | -0.012 | 0.994  | 676477   |              | 3.17(1.50-4.49) |      | 1720  |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.326 | 2.328  | -0.002 | 0.871  | 5008553  | 2.03         |                 | 85.8 | 48125 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.640 | 2.649  | -0.009 | 0.989  | 921825   | 2.50         |                 | 105  | 7725  |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.640 | 2.651  | -0.011 | 1.000  | 602961   | 0.9264       |                 | 97.7 | 17702 |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.662 | 2.674  | -0.012 | 0.997  | 4575885  | 2.31         |                 | 92.2 | 36186 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.669 | 2.676  | -0.007 |        | 4827625  | 2.50         |                 |      | 40556 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.669 | 2.677  | -0.008 | 1.003  | 2752127  | 1.42         |                 | 142  | 1678  | M     |
| 413.00 > 169.00                       | 2.669 | 2.677  | -0.008 | 1.003  | 1538803  |              | 1.79(0.84-2.52) |      | 6856  | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.676 | 2.683  | -0.007 | 1.000  | 1843949  | 1.08         |                 | 113  | 4146  |       |
| 449.00 > 99.00                        | 2.676 | 2.683  | -0.007 | 1.000  | 473146   |              | 3.90(1.94-5.82) |      | 5657  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.036 | 3.048  | -0.012 | 1.138  | 3324663  | 2.03         |                 | 85.0 | 18511 |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.036 | 3.050  | -0.014 | 1.000  | 3217658  | 2.16         |                 | 232  | 513   |       |
| 499.00 > 99.00                        | 3.036 | 3.050  | -0.014 | 1.000  | 597768   |              | 5.38(2.31-6.93) |      | 649   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.036 | 3.051  | -0.015 | 1.138  | 3582472  | 2.26         |                 | 90.4 | 32823 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.044 | 3.052  | -0.008 | 1.003  | 1588870  | 1.14         |                 | 114  | 2770  |       |
| 463.00 > 169.00                       | 3.044 | 3.052  | -0.008 | 1.003  | 381932   |              | 4.16(1.90-5.69) |      | 3501  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.381 | 3.377  | 0.004  | 1.267  | 4320519  | 1.95         |                 | 78.1 | 24406 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.381 | 3.378  | 0.003  | 1.000  | 1643486  | 1.00         |                 | 100  | 1286  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.388 | 3.402  | -0.014 | 1.000  | 441351   | 0.8700       |                 | 90.8 | 18948 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.388 | 3.403  | -0.015 | 1.270  | 967667   | 2.39         |                 | 99.8 | 11782 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.403 | 3.414  | -0.011 | 1.275  | 2820771  | 2.19         |                 | 87.6 | 30296 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.403 | 3.414  | -0.011 | 1.000  | 1181974  | 1.06         |                 | 106  | 5030  |       |
| 513.00 > 169.00                       | 3.403 | 3.414  | -0.011 | 1.000  | 213181   |              | 5.54(2.36-7.09) |      | 2748  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.555 | 3.569  | -0.014 | 1.332  | 1496294  | 2.25         |                 | 89.8 | 21214 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.563 | 3.574  | -0.011 | 1.002  | 609586   | 0.9621       |                 | 96.2 | 4845  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 29 Perfluorodecane Sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 599.00 > 80.00                        | 3.717 | 3.730  | -0.013 | 1.000  | 737585   | 0.8955       |                 | 92.9 | 9777  |       |
| 599.00 > 99.00                        | 3.717 | 3.730  | -0.013 | 1.000  | 244364   |              | 3.02(1.39-4.16) |      | 4503  |       |
| D 32 d5-NEtFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 589.00 > 419.00                       | 3.725 | 3.740  | -0.015 | 1.396  | 1452864  | 2.14         |                 | 85.6 | 9931  |       |
| 31 Perfluoroundecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 563.00 > 519.00                       | 3.725 | 3.746  | -0.021 | 1.000  | 681098   | 0.8698       |                 | 87.0 | 2825  |       |
| 563.00 > 169.00                       | 3.725 | 3.746  | -0.021 | 1.000  | 153847   |              | 4.43(0.00-0.00) |      | 2453  |       |
| D 30 13C2 PFUnA                       |       |        |        |        |          |              |                 |      |       |       |
| 565.00 > 520.00                       | 3.725 | 3.747  | -0.022 | 1.396  | 2089568  | 2.14         |                 | 85.7 | 29384 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |        |        |        |          |              |                 |      |       |       |
| 584.00 > 419.00                       | 3.725 | 3.747  | -0.022 | 1.000  | 554120   | 0.9878       |                 | 98.8 | 4291  |       |
| D 34 d-N-MeFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 169.00                       | 3.877 | 3.867  | 0.010  | 1.453  | 705625   | 1.12         |                 | 44.9 | 1699  |       |
| 35 MeFOSA                             |       |        |        |        |          |              |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.873  | 0.004  | 1.000  | 276814   | 1.02         |                 | 102  | 1548  |       |
| D 36 13C2 PFDaA                       |       |        |        |        |          |              |                 |      |       |       |
| 615.00 > 570.00                       | 4.022 | 4.045  | -0.023 | 1.507  | 2205862  | 2.08         |                 | 83.3 | 22917 |       |
| 37 Perfluorododecanoic acid           |       |        |        |        |          |              |                 |      |       |       |
| 613.00 > 569.00                       | 4.022 | 4.045  | -0.023 | 1.000  | 903385   | 1.03         |                 | 103  | 3694  |       |
| 613.00 > 169.00                       | 4.022 | 4.045  | -0.023 | 1.000  | 224950   |              | 4.02(2.13-6.40) |      | 9452  |       |
| D 38 d-N-EtFOSA-M                     |       |        |        |        |          |              |                 |      |       |       |
| 531.00 > 169.00                       | 4.062 | 4.058  | 0.004  | 1.522  | 598127   | 1.00         |                 | 40.0 | 1424  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |        |        |        |          |              |                 |      |       |       |
| 526.00 > 169.00                       | 4.069 | 4.065  | 0.004  | 1.002  | 251391   | 0.9695       |                 | 97.0 | 1220  |       |
| 41 Perfluorotridecanoic acid          |       |        |        |        |          |              |                 |      |       |       |
| 663.00 > 619.00                       | 4.289 | 4.312  | -0.023 | 1.000  | 1069507  | 1.12         |                 | 112  | 4554  |       |
| 663.00 > 169.00                       | 4.289 | 4.312  | -0.023 | 1.000  | 350431   |              | 3.05(1.25-3.76) |      | 13194 |       |
| D 43 13C2-PFTeDA                      |       |        |        |        |          |              |                 |      |       |       |
| 715.00 > 670.00                       | 4.528 | 4.557  | -0.029 | 1.697  | 2657018  | 2.31         |                 | 92.2 | 20831 |       |
| 42 Perfluorotetradecanoic acid        |       |        |        |        |          |              |                 |      |       |       |
| 713.00 > 169.00                       | 4.528 | 4.557  | -0.029 | 1.000  | 257348   | 0.9515       |                 | 95.2 | 8803  |       |
| 713.00 > 219.00                       | 4.515 | 4.557  | -0.042 | 0.997  | 190164   |              | 1.35(0.71-2.13) |      | 6491  |       |
| D 44 13C2-PFHxDA                      |       |        |        |        |          |              |                 |      |       |       |
| 815.00 > 770.00                       | 4.950 | 4.984  | -0.034 | 1.855  | 4506621  | 2.13         |                 | 85.3 | 15180 |       |
| 45 Perfluorohexadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 813.00 > 769.00                       | 4.950 | 4.984  | -0.034 | 1.000  | 1636661  | 1.04         |                 | 104  | 1212  |       |
| 813.00 > 169.00                       | 4.950 | 4.984  | -0.034 | 1.000  | 299271   |              | 5.47(2.86-8.58) |      | 3882  |       |
| 46 Perfluorooctadecanoic acid         |       |        |        |        |          |              |                 |      |       |       |
| 913.00 > 869.00                       | 5.311 | 5.361  | -0.050 | 1.000  | 1979929  | 1.02         |                 | 102  | 663   |       |
| 913.00 > 169.00                       | 5.311 | 5.361  | -0.050 | 1.000  | 243737   |              | 8.12(0.00-0.00) |      | 1651  |       |

## QC Flag Legend

### Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_007.d

Injection Date: 29-Dec-2017 08:26:14

Instrument ID: A8\_N

Lims ID: 320-34293-A-2-C MSD

Client ID: MW-6S

Operator ID: SACINSTLCMS01

ALS Bottle#: 6

Worklist Smp#: 7

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

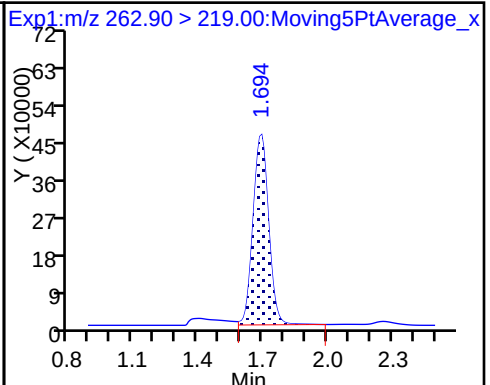
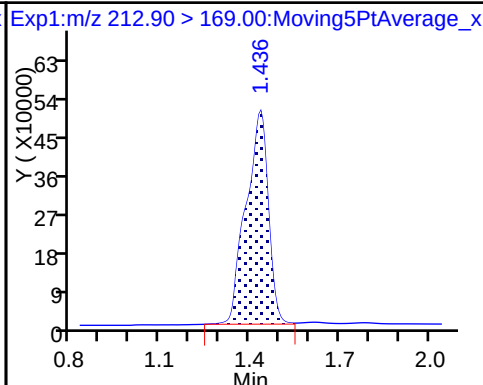
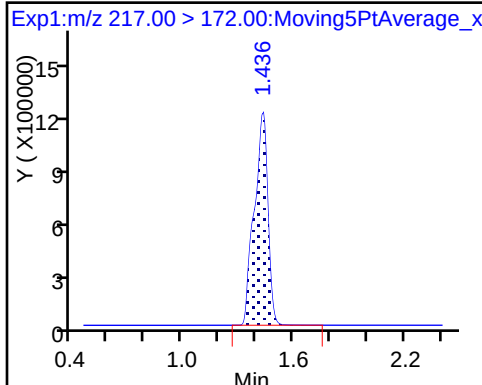
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid

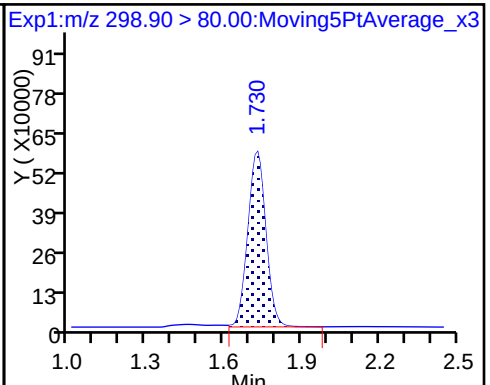
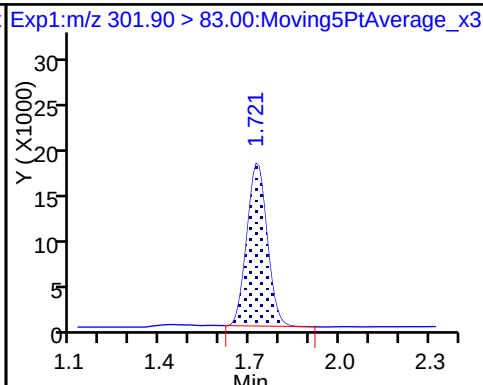
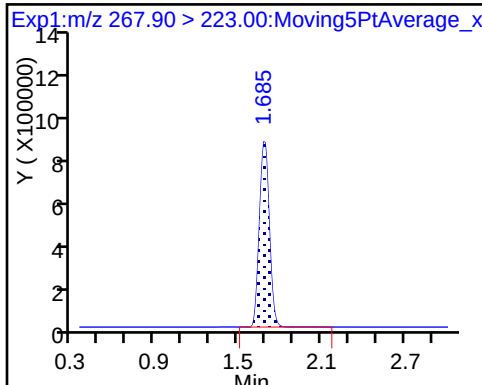
4 Perfluoropentanoic acid



D 3 13C5-PFPeA

D 47 13C3-PFBS

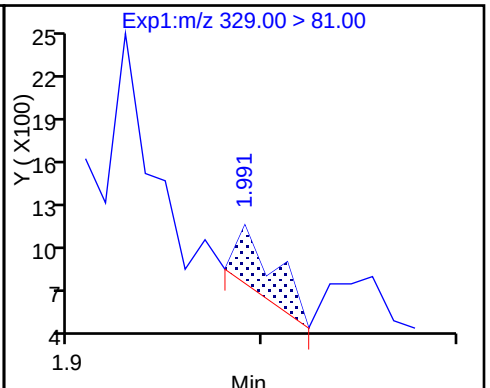
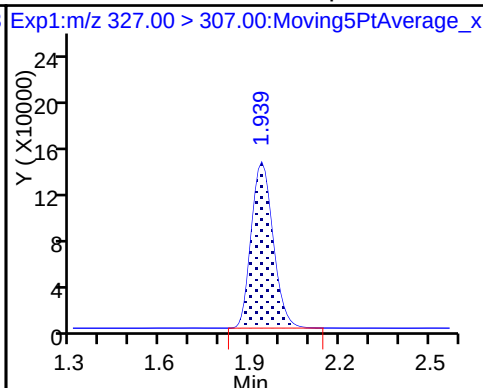
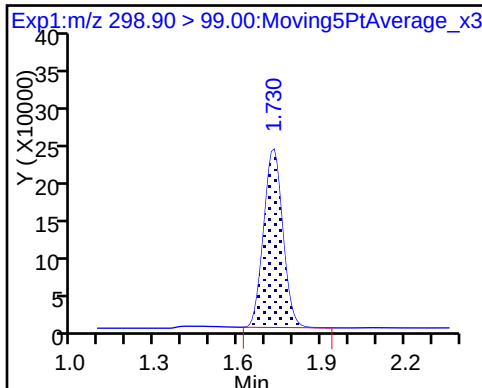
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexanoate

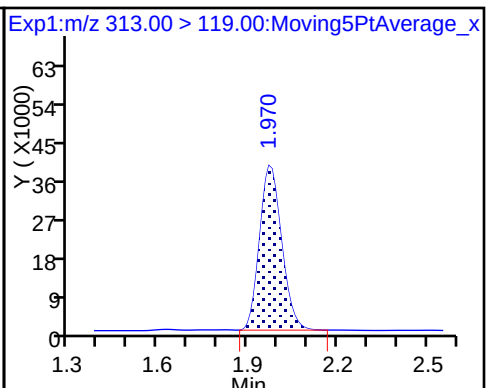
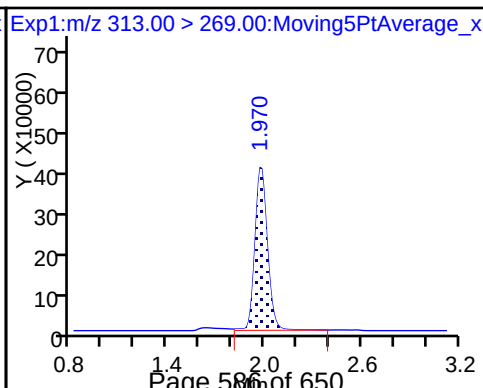
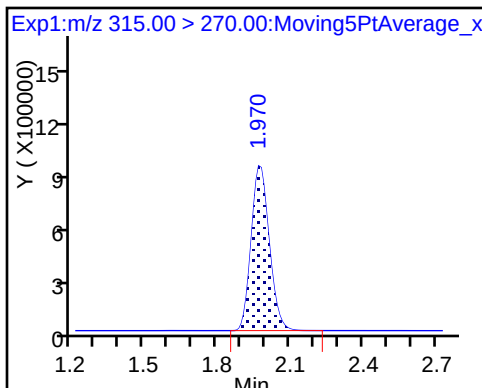
De60 M2-4:2FTS



D 7 13C2 PFHxA

6 Perfluorohexanoic acid

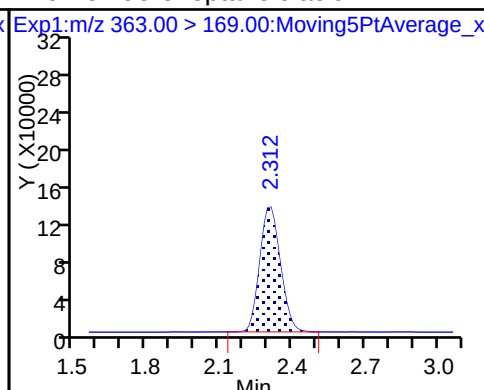
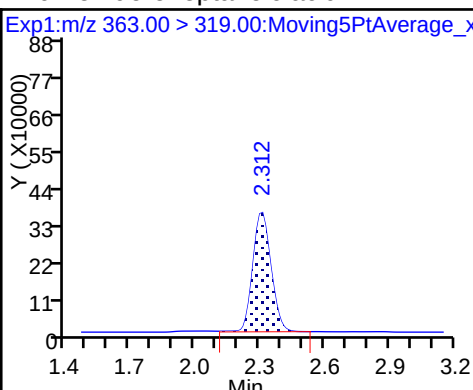
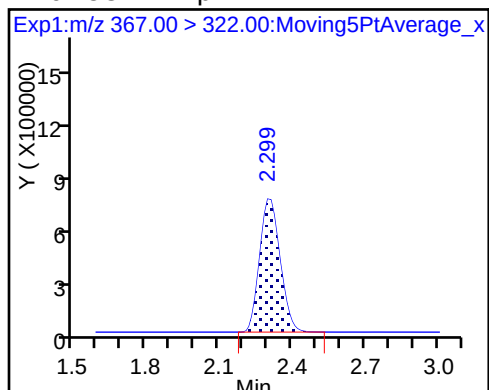
6 Perfluorohexanoic acid



## D 9 13C4-PFHpA

## 10 Perfluoroheptanoic acid

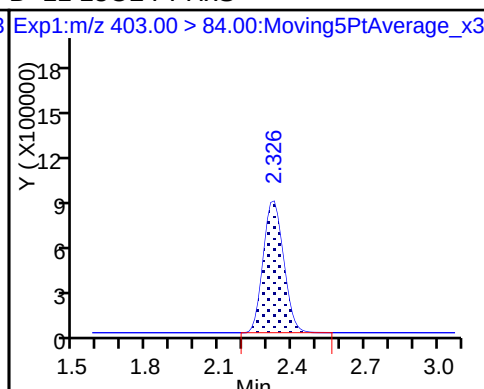
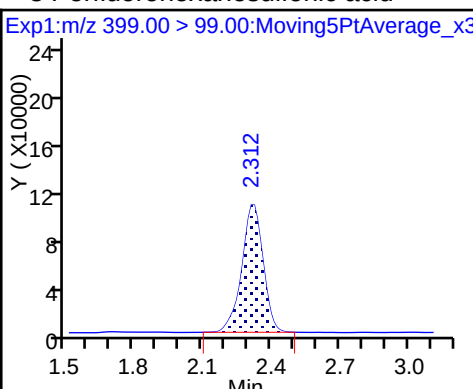
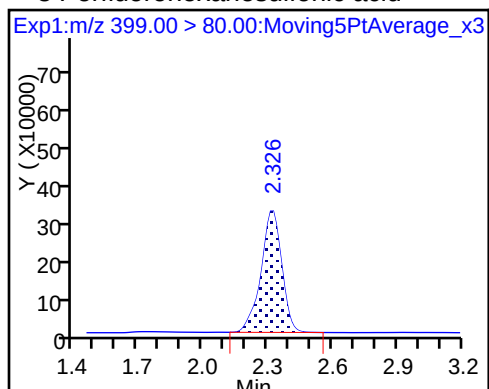
## 10 Perfluoroheptanoic acid



## 8 Perfluorohexanesulfonic acid

## 8 Perfluorohexanesulfonic acid

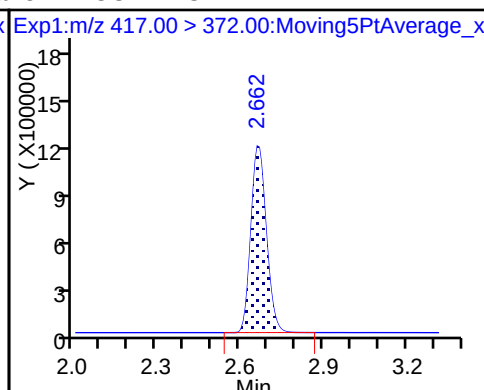
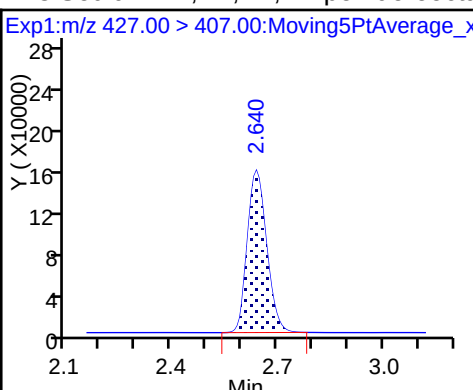
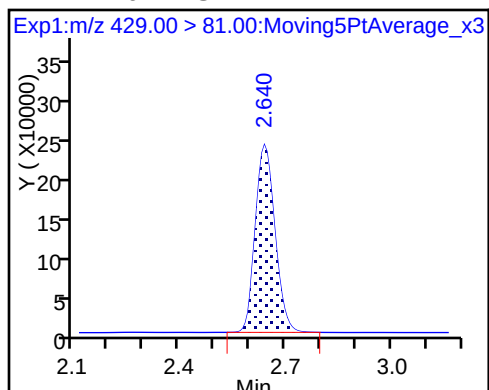
## D 11 18O2 PFHxS



## D 12 M2-6:2FTS

## 13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

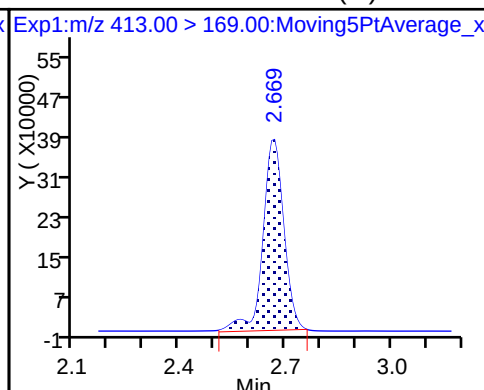
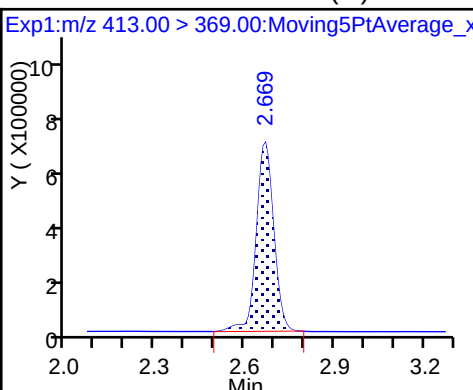
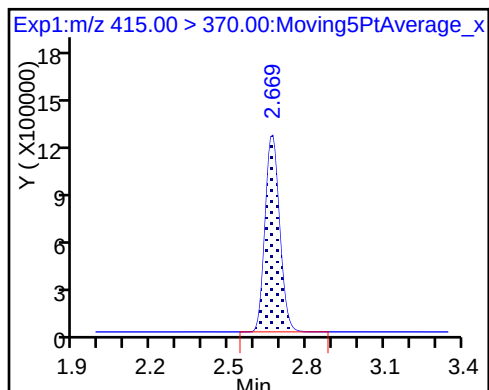
## De 14 13C4 PFOA



## \* 62 13C2-PFOA

## 15 Perfluorooctanoic acid (M)

## 15 Perfluorooctanoic acid (M)

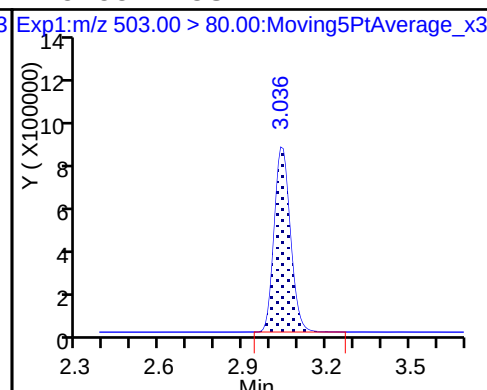
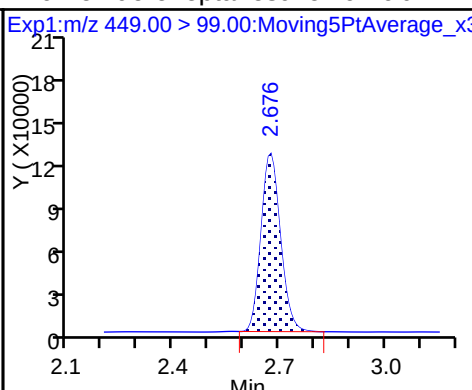
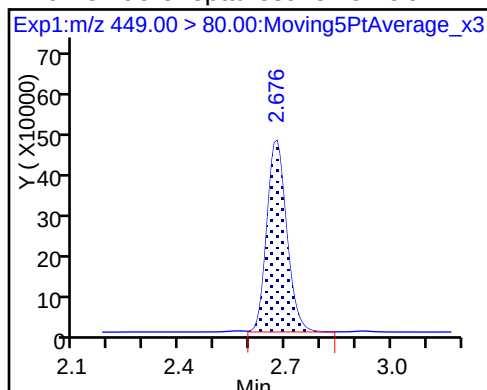




## 16 Perfluoroheptanesulfonic Acid

## 16 Perfluoroheptanesulfonic Acid

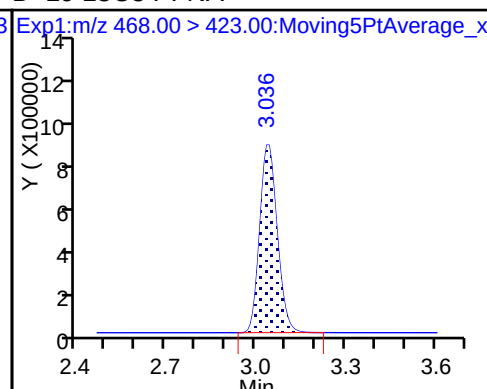
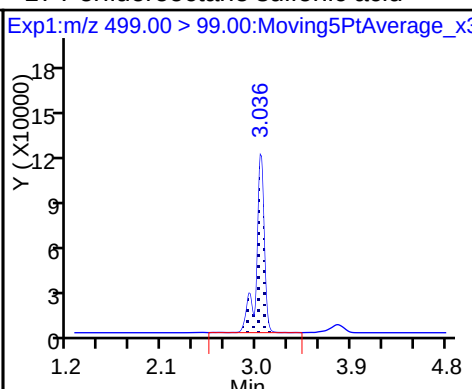
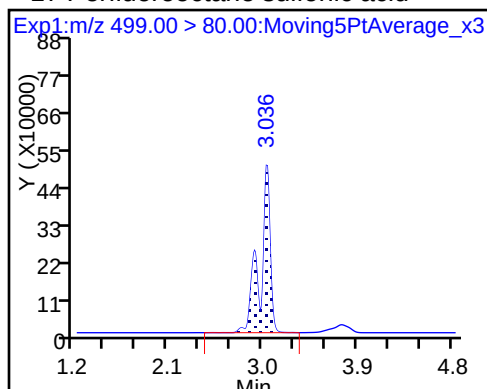
## D 18 13C4 PFOS



## 17 Perfluorooctane sulfonic acid

## 17 Perfluorooctane sulfonic acid

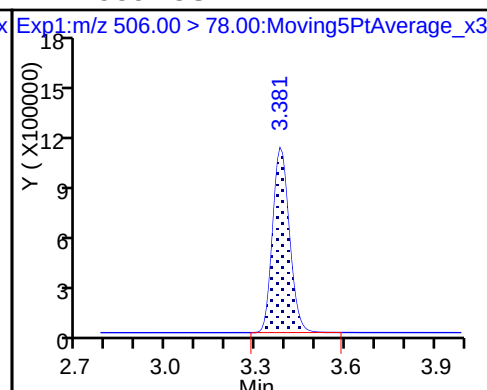
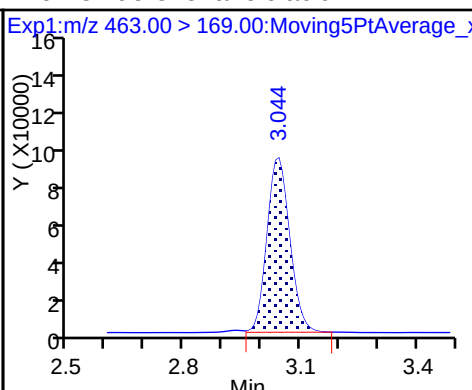
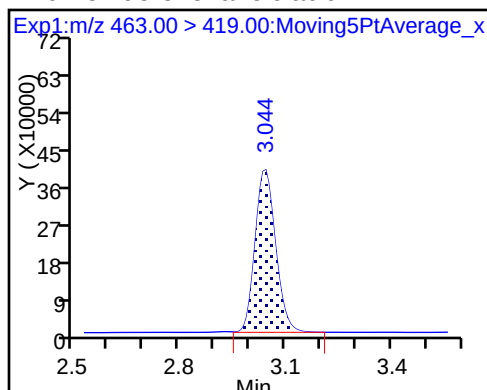
## D 19 13C5 PFNA



## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

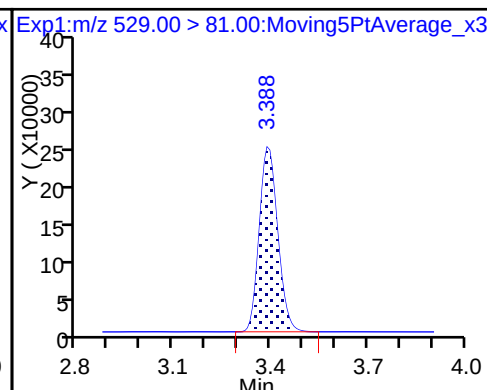
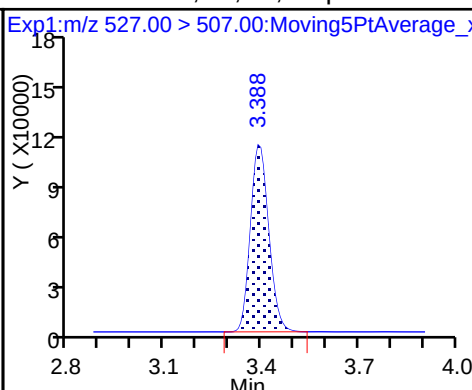
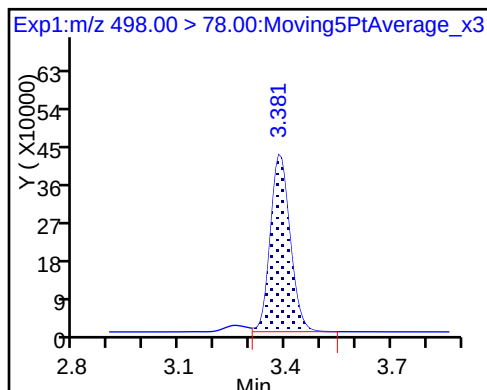
## D 21 13C8 FOSA



## 22 Perfluorooctane Sulfonamide

## 25 Sodium 1H,1H,2H,2H-perfluorodeca-

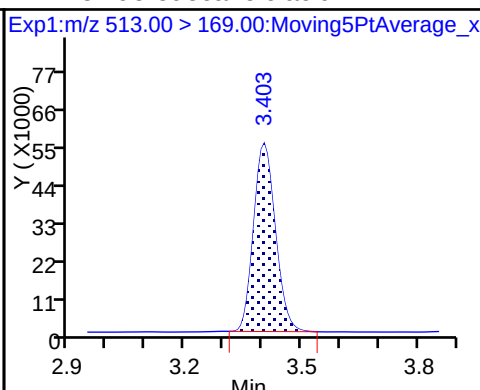
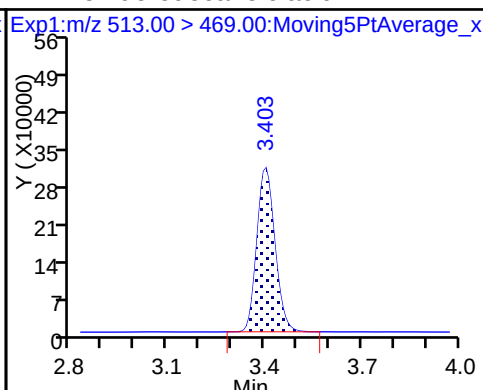
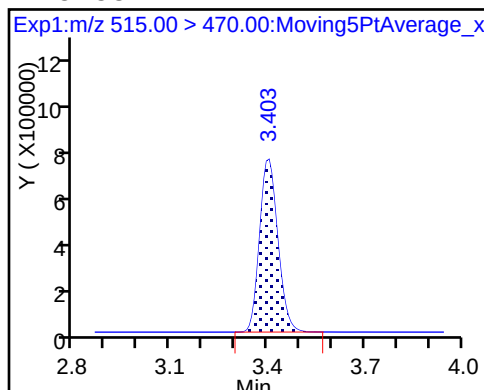
## De26 M2-8:2FTS



## D 23 13C2 PFDA

## 24 Perfluorodecanoic acid

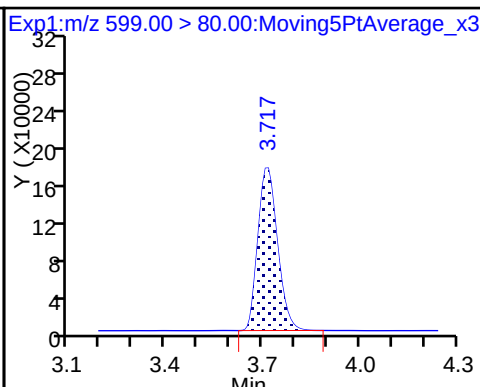
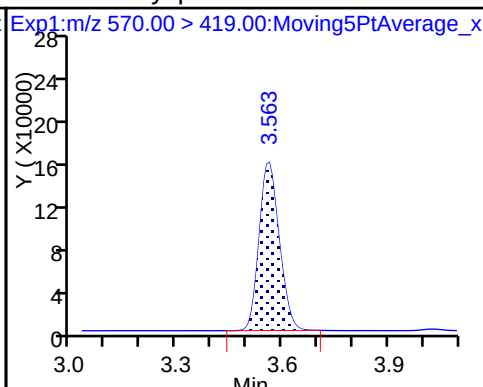
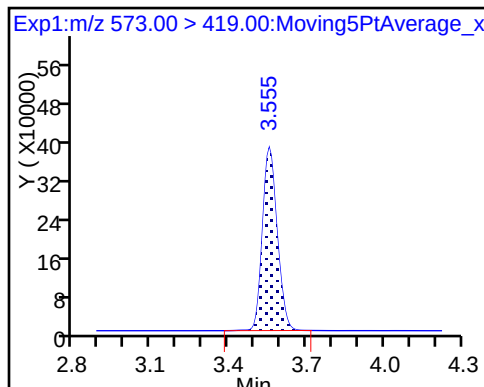
## 24 Perfluorodecanoic acid



## D 27 d3-NMeFOSAA

## 28 N-methyl perfluorooctane sulfonami

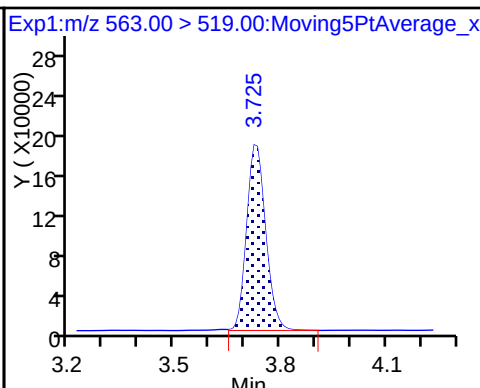
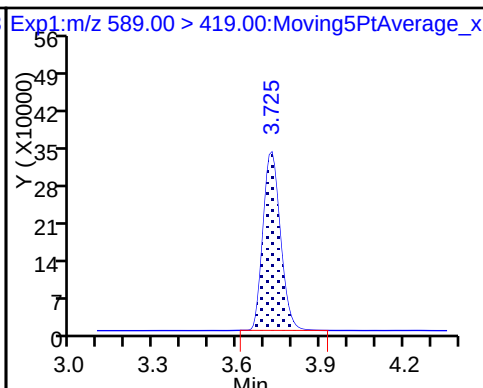
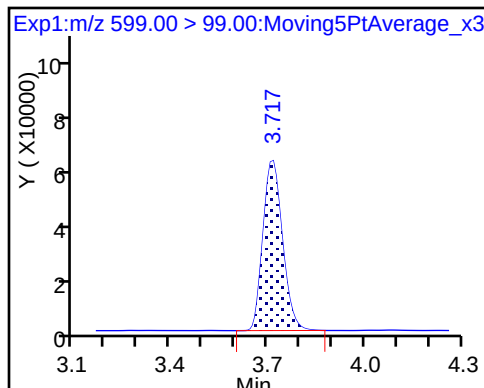
## 29 Perfluorodecane Sulfonic acid



## 29 Perfluorodecane Sulfonic acid

## D 32 d5-NEtFOSAA

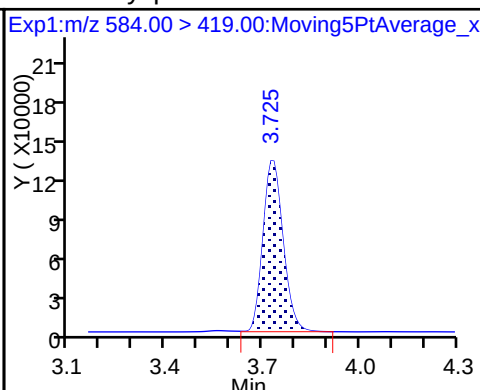
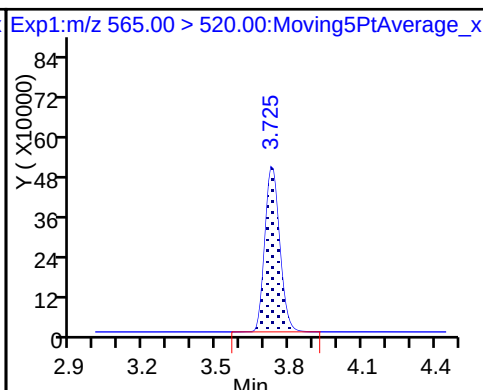
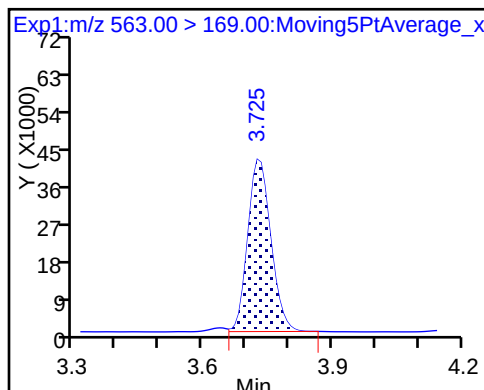
## 31 Perfluoroundecanoic acid



## 31 Perfluoroundecanoic acid

## D 30 13C2 PFUnA

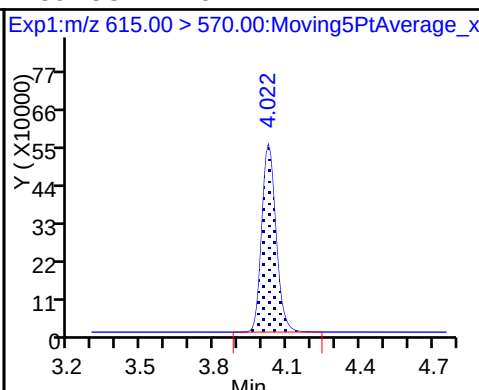
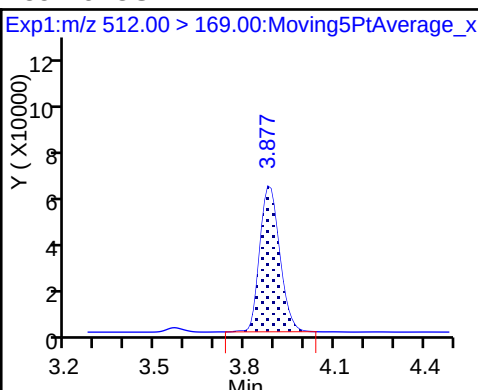
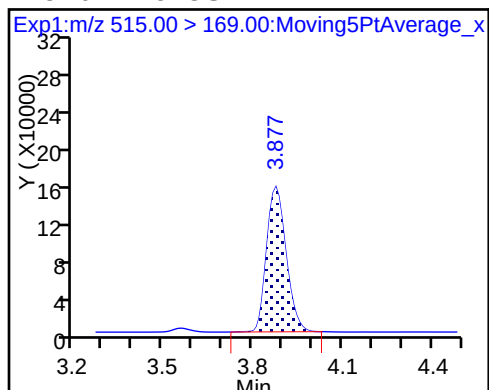
## 33 N-ethyl perfluorooctane sulfonamid



## D 34 d-N-MeFOSA-M

## 35 MeFOSA

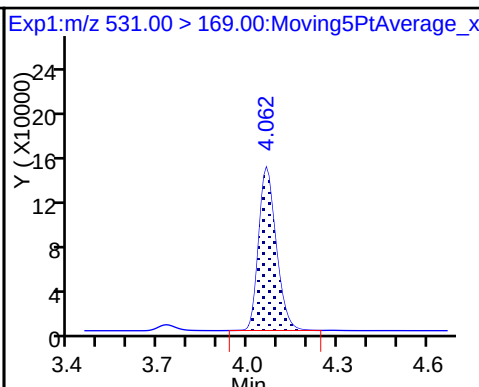
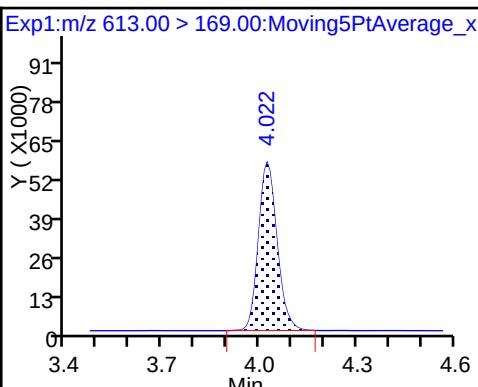
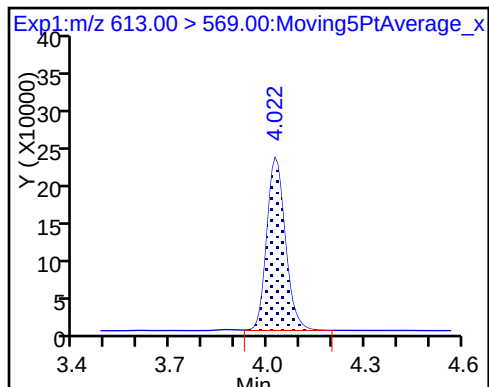
## D 36 13C2 PFDaA



## 37 Perfluorododecanoic acid

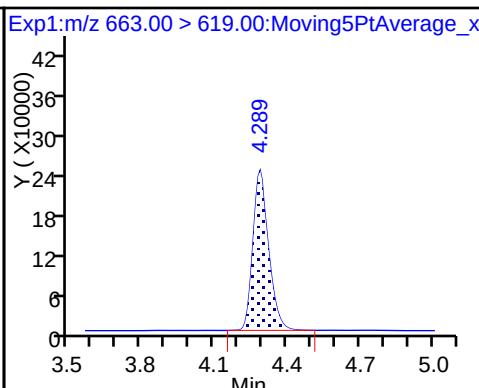
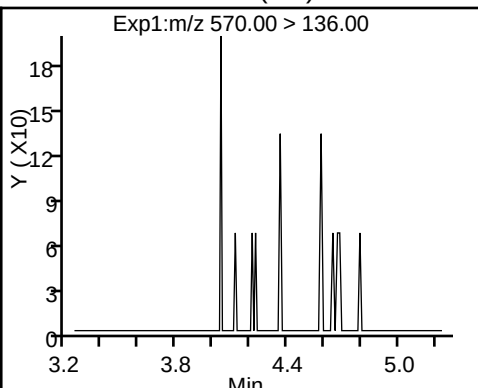
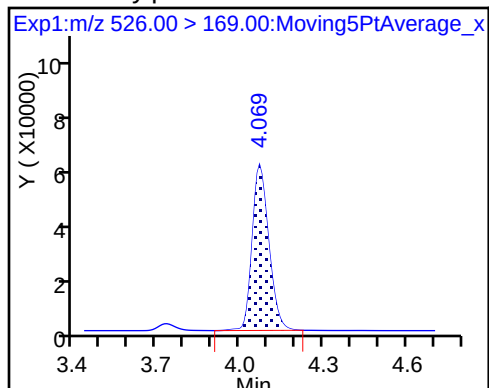
## 37 Perfluorododecanoic acid

## D 38 d-N-EtFOSA-M



## 39 N-ethylperfluoro-1-octanesulfonami D 40 d-N-EtFOSE-M (ND)

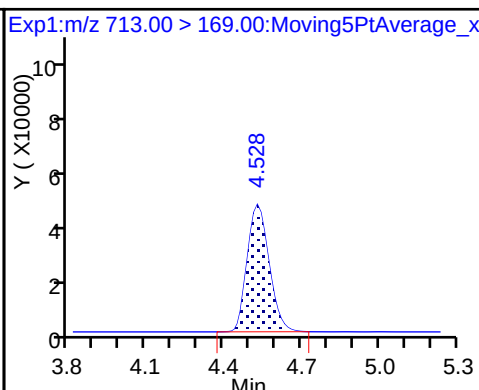
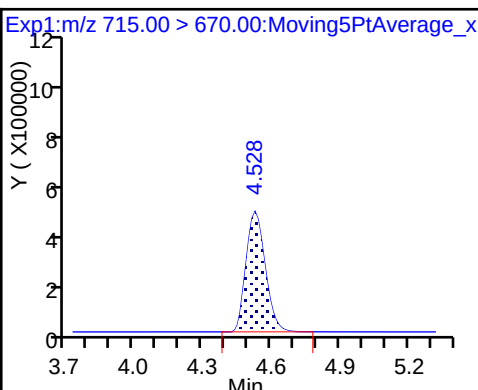
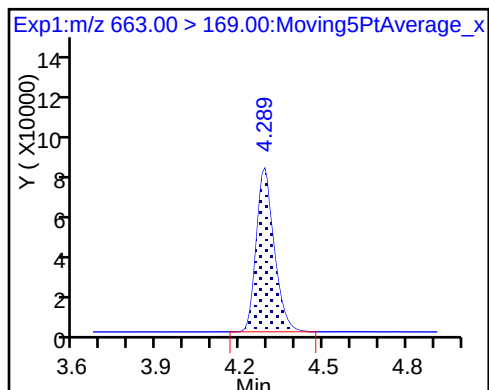
## 41 Perfluorotridecanoic acid



## 41 Perfluorotridecanoic acid

## D 43 13C2-PFTeDA

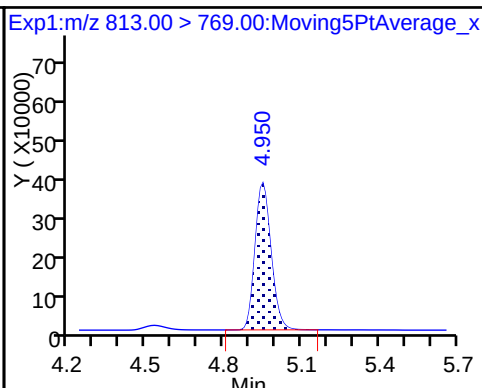
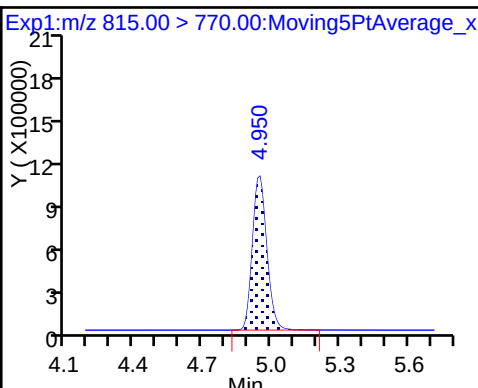
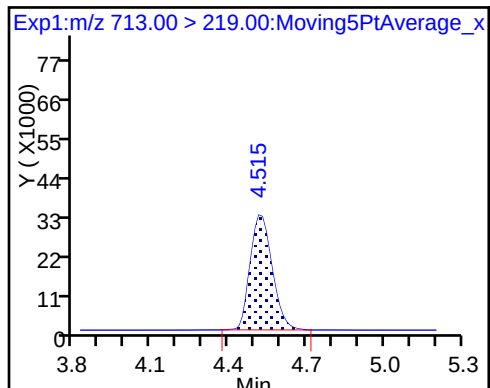
## 42 Perfluorotetradecanoic acid



42 Perfluorotetradecanoic acid

D 44 13C2-PFHxDA

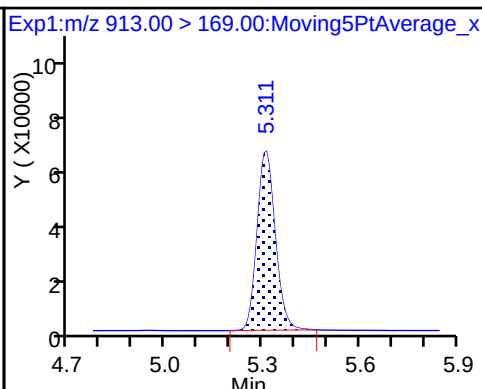
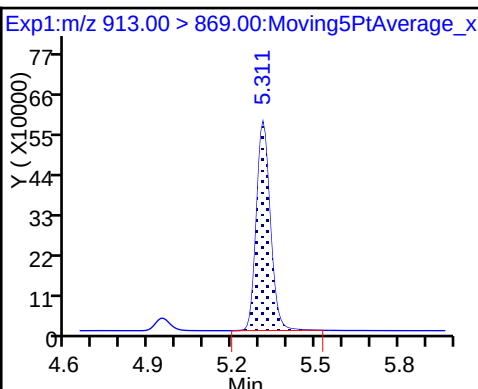
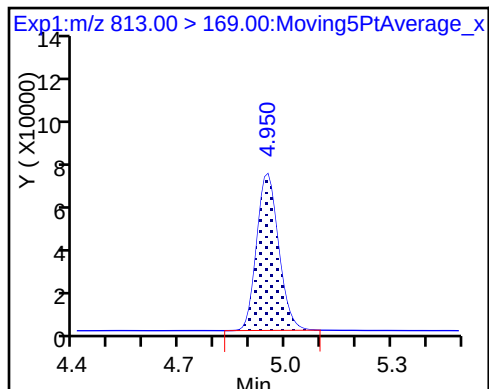
45 Perfluorohexadecanoic acid



45 Perfluorohexadecanoic acid

46 Perfluorooctadecanoic acid

46 Perfluorooctadecanoic acid



## TestAmerica Sacramento

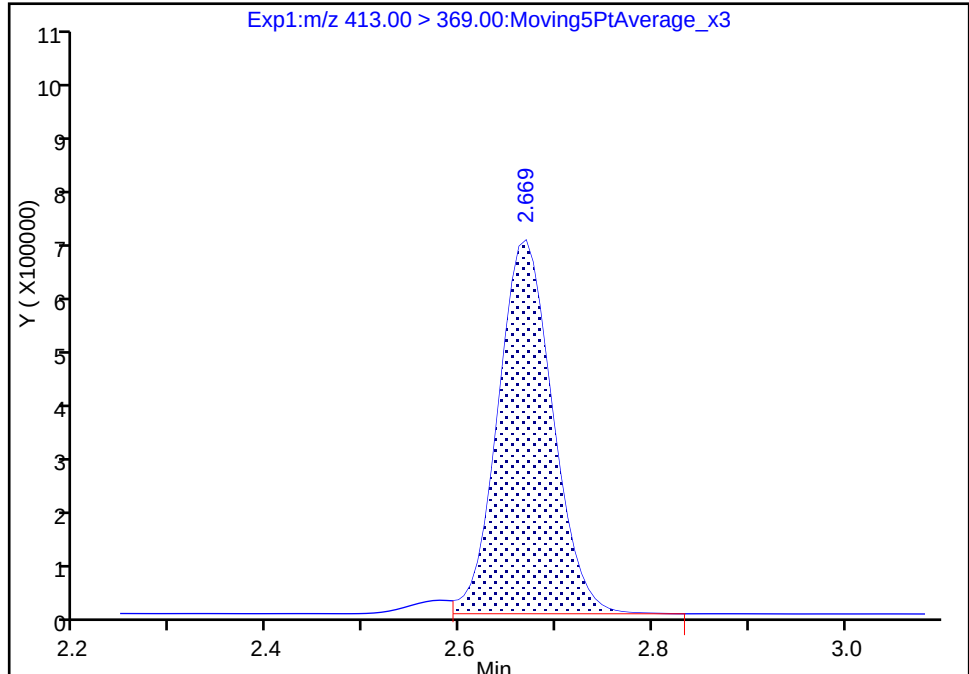
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| Injection Date: | 29-Dec-2017 08:26:14                                                     | Instrument ID: | A8_N        |                |   |
| Lims ID:        | 320-34293-A-2-C MSD                                                      |                |             |                |   |
| Client ID:      | MW-6S                                                                    |                |             |                |   |
| Operator ID:    | SACINSTLCMS01                                                            | ALS Bottle#:   | 6           | Worklist Smp#: | 7 |
| Injection Vol:  | 2.0 ul                                                                   | Dil. Factor:   | 1.0000      |                |   |
| Method:         | A8_N                                                                     | Limit Group:   | LC PFC ICAL |                |   |
| Column:         |                                                                          | Detector       | EXP1        |                |   |

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 1

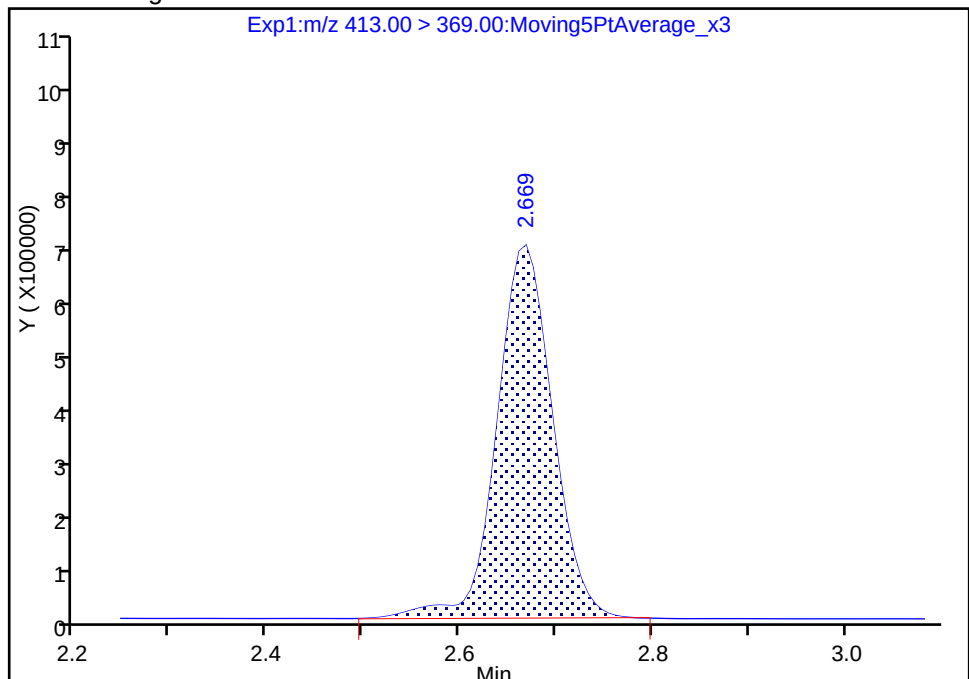
RT: 2.67  
Area: 2692887  
Amount: 1.389800  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 2752127  
Amount: 1.420374  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:18:37

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

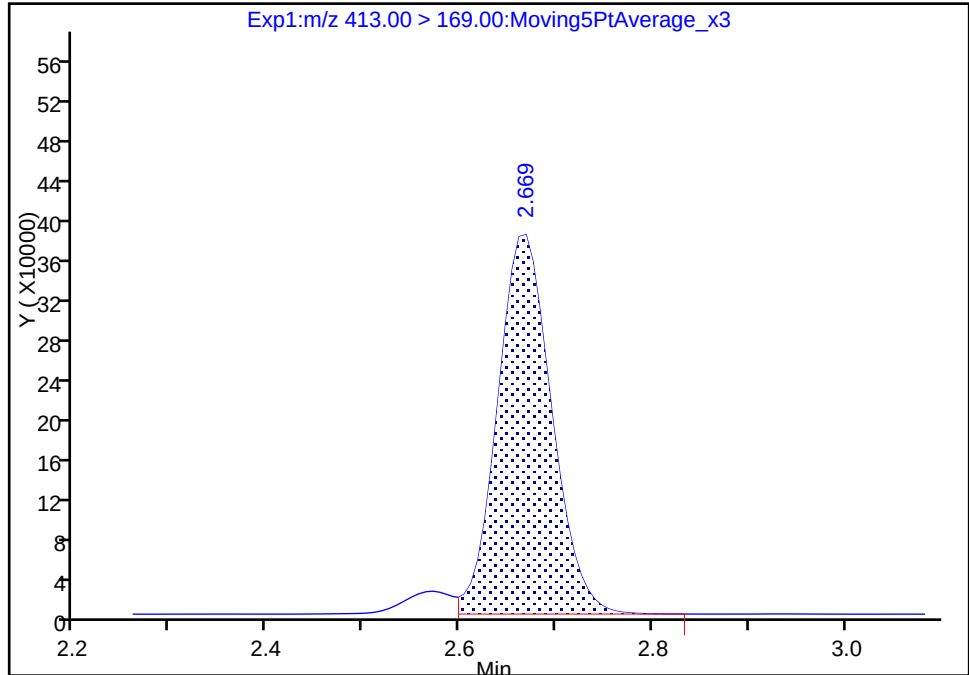
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b\2017.12.28LLD\_007.d  
Injection Date: 29-Dec-2017 08:26:14 Instrument ID: A8\_N  
Lims ID: 320-34293-A-2-C MSD  
Client ID: MW-6S  
Operator ID: SACINSTLCMS01 ALS Bottle#: 6 Worklist Smp#: 7  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

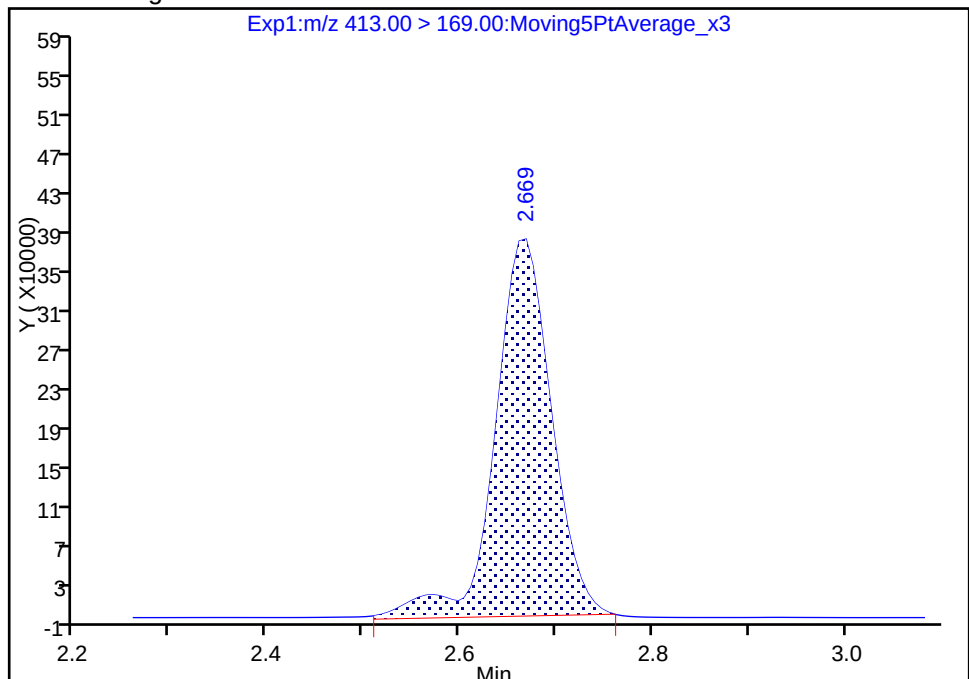
RT: 2.67  
Area: 1476177  
Amount: 1.389800  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 1538803  
Amount: 1.420374  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: hannigana, 29-Dec-2017 15:18:42

Audit Action: Manually Integrated

Audit Reason: Isomers

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                  |
| SDG No.: _____                          |                                              |
| Client Sample ID: _____                 | Lab Sample ID: <u>480-128901-E-19-C MSD</u>  |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.23LLBxB_010.d</u>    |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/06/2017 14:20</u>      |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>      |
| Sample wt/vol: <u>251.8 (mL)</u>        | Date Analyzed: <u>12/23/2017 15:44</u>       |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                    |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                  |
| Analysis Batch No.: <u>201236</u>       | Units: <u>ng/L</u>                           |

| CAS NO.    | COMPOUND NAME                                              | RESULT | Q | RL   | MDL  |
|------------|------------------------------------------------------------|--------|---|------|------|
| 375-22-4   | Perfluorobutanoic acid (PFBA)                              | 44.69  |   | 1.99 | 0.35 |
| 2706-90-3  | Perfluoropentanoic acid (PFPeA)                            | 40.62  |   | 1.99 | 0.49 |
| 307-24-4   | Perfluorohexanoic acid (PFHxA)                             | 40.98  |   | 1.99 | 0.58 |
| 375-85-9   | Perfluoroheptanoic acid (PFHpA)                            | 44.77  |   | 1.99 | 0.25 |
| 335-67-1   | Perfluorooctanoic acid (PFOA)                              | 41.36  |   | 1.99 | 0.84 |
| 375-95-1   | Perfluorononanoic acid (PFNA)                              | 39.30  |   | 1.99 | 0.27 |
| 335-76-2   | Perfluorodecanoic acid (PFDA)                              | 39.02  |   | 1.99 | 0.31 |
| 2058-94-8  | Perfluoroundecanoic acid (PFUnA)                           | 36.30  |   | 1.99 | 1.09 |
| 307-55-1   | Perfluorododecanoic acid (PFDoA)                           | 38.60  |   | 1.99 | 0.55 |
| 72629-94-8 | Perfluorotridecanoic Acid (PFTriA)                         | 42.01  |   | 1.99 | 1.29 |
| 376-06-7   | Perfluorotetradecanoic acid (PFTeA)                        | 40.18  |   | 1.99 | 0.29 |
| 375-73-5   | Perfluorobutanesulfonic acid (PFBS)                        | 40.11  |   | 1.99 | 0.20 |
| 355-46-4   | Perfluorohexanesulfonic acid (PFHxS)                       | 35.92  |   | 1.99 | 0.17 |
| 375-92-8   | Perfluoroheptanesulfonic Acid (PFHpS)                      | 38.62  |   | 1.99 | 0.19 |
| 1763-23-1  | Perfluorooctanesulfonic acid (PFOS)                        | 46.19  |   | 1.99 | 0.54 |
| 335-77-3   | Perfluorodecanesulfonic acid (PFDS)                        | 34.31  |   | 1.99 | 0.32 |
| 754-91-6   | Perfluorooctane Sulfonamide (FOSA)                         | 41.01  |   | 1.99 | 0.35 |
| 2355-31-9  | N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA) | 37.49  |   | 19.9 | 3.08 |
| 2991-50-6  | N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)  | 36.99  |   | 19.9 | 1.89 |
| 27619-97-2 | 6:2FTS                                                     | 35.07  |   | 19.9 | 1.99 |
| 39108-34-4 | 8:2FTS                                                     | 35.57  |   | 19.9 | 1.99 |

FORM I  
LCMS ORGANICS ANALYSIS DATA SHEET

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Lab Name: <u>TestAmerica Sacramento</u> | Job No.: <u>320-34293-1</u>                         |
| SDG No.: _____                          |                                                     |
| Client Sample ID: _____                 | Lab Sample ID: <u>480-128901-E-19-C MSD</u>         |
| Matrix: <u>Water</u>                    | Lab File ID: <u>2017.12.23LLBxB_010.d</u>           |
| Analysis Method: <u>537 (modified)</u>  | Date Collected: <u>12/06/2017 14:20</u>             |
| Extraction Method: <u>3535</u>          | Date Extracted: <u>12/19/2017 15:25</u>             |
| Sample wt/vol: <u>251.8 (mL)</u>        | Date Analyzed: <u>12/23/2017 15:44</u>              |
| Con. Extract Vol.: <u>10.00 (mL)</u>    | Dilution Factor: <u>1</u>                           |
| Injection Volume: <u>2 (uL)</u>         | GC Column: <u>GeminiC18 3x100</u> ID: <u>3 (mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                         |
| Analysis Batch No.: <u>201236</u>       | Units: <u>ng/L</u>                                  |

| CAS NO.  | ISOTOPE DILUTION | %REC | Q | LIMITS |
|----------|------------------|------|---|--------|
| STL00992 | 13C4 PFBA        | 59   |   | 25-150 |
| STL01893 | 13C5 PFPeA       | 88   |   | 25-150 |
| STL00993 | 13C2 PFHxA       | 88   |   | 25-150 |
| STL01892 | 13C4-PFHpA       | 96   |   | 25-150 |
| STL00990 | 13C4 PFOA        | 100  |   | 25-150 |
| STL00995 | 13C5 PFNA        | 103  |   | 25-150 |
| STL00996 | 13C2 PFDA        | 103  |   | 25-150 |
| STL00997 | 13C2 PFUnA       | 97   |   | 25-150 |
| STL00998 | 13C2 PFDoA       | 96   |   | 25-150 |
| STL02116 | 13C2-PFTeDA      | 103  |   | 25-150 |
| STL02337 | 13C3-PFBS        | 92   |   | 25-150 |
| STL00994 | 18O2 PFHxS       | 99   |   | 25-150 |
| STL00991 | 13C4 PFOS        | 99   |   | 25-150 |
| STL01056 | 13C8 FOSA        | 94   |   | 25-150 |
| STL02118 | d3-NMeFOSAA      | 100  |   | 25-150 |
| STL02117 | d5-NEtFOSAA      | 101  |   | 25-150 |
| STL02279 | M2-6:2FTS        | 92   |   | 25-150 |
| STL02280 | M2-8:2FTS        | 106  |   | 25-150 |



TestAmerica Sacramento  
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_010.d  
 Lims ID: 480-128901-E-19-C MSD  
 Client ID: MW-12  
 Sample Type: MSD  
 Inject. Date: 23-Dec-2017 15:44:04 ALS Bottle#: 9 Worklist Smp#: 12  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 480-128901-e-19-c msd  
 Misc. Info.: Plate: 1 Rack: 5  
 Operator ID: SACINSTLCMS01 Instrument ID: A8\_N  
 Method: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\A8\_N.m  
 Limit Group: LC PFC ICAL  
 Last Update: 26-Dec-2017 16:35:01 Calib Date: 21-Dec-2017 16:08:29  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Sacramento\ChromData\A8\_N\20171222-52066.b\2017.12.21ICALX\_010.d

Column 1 : Det: EXP1  
 Process Host: XAWRK032

First Level Reviewer: barnettj Date: 26-Dec-2017 16:30:41

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)     | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-------------------|------|-------|-------|
| D 1 13C4 PFBA                         |       |        |        |        |          |              |                   |      |       |       |
| 217.00 > 172.00                       | 1.430 | 1.419  | 0.011  | 0.536  | 4491241  | 1.48         |                   | 59.0 | 11580 |       |
| 2 Perfluorobutyric acid               |       |        |        |        |          |              |                   |      |       | M     |
| 212.90 > 169.00                       | 1.430 | 1.419  | 0.011  | 1.000  | 1852233  | 1.13         |                   | 113  | 75.3  | M     |
| D 3 13C5-PFPeA                        |       |        |        |        |          |              |                   |      |       |       |
| 267.90 > 223.00                       | 1.685 | 1.670  | 0.015  | 0.631  | 3984888  | 2.19         |                   | 87.5 | 12006 |       |
| 4 Perfluoropentanoic acid             |       |        |        |        |          |              |                   |      |       | M     |
| 262.90 > 219.00                       | 1.685 | 1.670  | 0.015  | 1.000  | 1819905  | 1.02         |                   | 102  | 86.2  | M     |
| D 47 13C3-PFBS                        |       |        |        |        |          |              |                   |      |       |       |
| 301.90 > 83.00                        | 1.721 | 1.705  | 0.016  | 0.645  | 82719    | 2.13         |                   | 91.6 | 508   |       |
| 5 Perfluorobutanesulfonic acid        |       |        |        |        |          |              |                   |      |       | M     |
| 298.90 > 80.00                        | 1.721 | 1.707  | 0.014  | 1.000  | 2703162  | 1.01         |                   | 114  | 212   | M     |
| 298.90 > 99.00                        | 1.721 | 1.707  | 0.014  | 1.000  | 1134545  |              | 2.38(1.25-3.74)   |      | 881   |       |
| 61 Sodium 1H,1H,2H,2H-perfluorohexane |       |        |        |        |          |              |                   |      |       |       |
| 327.00 > 307.00                       | 1.939 | 1.920  | 0.019  | 1.000  | 1279307  | 2.01         |                   | 215  | 18600 |       |
| D 60 M2-4:2FTS                        |       |        |        |        |          |              |                   |      |       |       |
| 329.00 > 81.00                        | 1.970 | 1.943  | 0.027  | 0.738  | 1678     | 0.008014     |                   | 0.0  | 29.8  |       |
| D 7 13C2 PFHxA                        |       |        |        |        |          |              |                   |      |       |       |
| 315.00 > 270.00                       | 1.970 | 1.953  | 0.017  | 0.738  | 4280830  | 2.20         |                   | 88.1 | 31536 |       |
| 6 Perfluorohexanoic acid              |       |        |        |        |          |              |                   |      |       | M     |
| 313.00 > 269.00                       | 1.970 | 1.956  | 0.014  | 1.000  | 1769073  | 1.03         |                   | 103  | 161   | M     |
| 313.00 > 119.00                       | 1.970 | 1.956  | 0.014  | 1.000  | 164837   |              | 10.73(5.03-15.10) |      | 633   |       |
| D 9 13C4-PFHpA                        |       |        |        |        |          |              |                   |      |       |       |
| 367.00 > 322.00                       | 2.312 | 2.291  | 0.021  | 0.867  | 4305588  | 2.39         |                   | 95.7 | 27887 |       |
| 10 Perfluoroheptanoic acid            |       |        |        |        |          |              |                   |      |       |       |
| 363.00 > 319.00                       | 2.312 | 2.291  | 0.021  | 1.000  | 2030779  | 1.13         |                   | 113  | 668   |       |
| 363.00 > 169.00                       | 2.312 | 2.291  | 0.021  | 1.000  | 748992   |              | 2.71(1.13-3.40)   |      | 3940  |       |

| Signal                                | RT    | EXP RT | DLT RT | REL RT | Response | Amount ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|--------|--------|--------|----------|--------------|-----------------|------|-------|-------|
| 8 Perfluorohexanesulfonic acid        |       |        |        |        |          |              |                 |      |       |       |
| 399.00 > 80.00                        | 2.326 | 2.304  | 0.022  | 1.000  | 2194134  | 0.9045       |                 | 99.4 | 375   |       |
| 399.00 > 99.00                        | 2.326 | 2.304  | 0.022  | 1.000  | 719257   |              | 3.05(1.50-4.49) |      | 787   |       |
| D 11 18O2 PFHxS                       |       |        |        |        |          |              |                 |      |       |       |
| 403.00 > 84.00                        | 2.326 | 2.304  | 0.022  | 0.871  | 5329683  | 2.35         |                 | 99.2 | 34820 |       |
| 13 Sodium 1H,1H,2H,2H-perfluorooctane |       |        |        |        |          |              |                 |      |       |       |
| 427.00 > 407.00                       | 2.647 | 2.642  | 0.005  | 1.000  | 1060456  | 0.8831       |                 | 93.2 | 24489 |       |
| D 12 M2-6:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 429.00 > 81.00                        | 2.647 | 2.642  | 0.005  | 0.992  | 1840014  | 2.20         |                 | 92.5 | 3082  |       |
| D 14 13C4 PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 417.00 > 372.00                       | 2.669 | 2.654  | 0.015  | 1.000  | 5159104  | 2.49         |                 | 99.8 | 42857 |       |
| * 62 13C2-PFOA                        |       |        |        |        |          |              |                 |      |       |       |
| 415.00 > 370.00                       | 2.669 | 2.656  | 0.013  |        | 5006073  | 2.50         |                 |      | 47906 |       |
| 15 Perfluorooctanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 413.00 > 369.00                       | 2.669 | 2.656  | 0.013  | 1.000  | 2260008  | 1.04         |                 | 104  | 747   | M     |
| 413.00 > 169.00                       | 2.669 | 2.656  | 0.013  | 1.000  | 1194302  |              | 1.89(0.84-2.52) |      | 5544  | M     |
| 16 Perfluoroheptanesulfonic Acid      |       |        |        |        |          |              |                 |      |       |       |
| 449.00 > 80.00                        | 2.676 | 2.662  | 0.014  | 1.000  | 1886539  | 0.9724       |                 | 102  | 1692  |       |
| 449.00 > 99.00                        | 2.676 | 2.662  | 0.014  | 1.000  | 528266   |              | 3.57(1.94-5.82) |      | 2373  |       |
| D 18 13C4 PFOS                        |       |        |        |        |          |              |                 |      |       |       |
| 503.00 > 80.00                        | 3.044 | 3.025  | 0.019  | 1.141  | 3540985  | 2.36         |                 | 98.8 | 7718  |       |
| 17 Perfluorooctane sulfonic acid      |       |        |        |        |          |              |                 |      |       |       |
| 499.00 > 80.00                        | 3.044 | 3.028  | 0.016  | 1.000  | 1826599  | 1.16         |                 | 125  | 188   |       |
| 499.00 > 99.00                        | 3.044 | 3.028  | 0.016  | 1.000  | 379465   |              | 4.81(2.31-6.93) |      | 242   |       |
| D 19 13C5 PFNA                        |       |        |        |        |          |              |                 |      |       |       |
| 468.00 > 423.00                       | 3.044 | 3.028  | 0.016  | 1.141  | 3785474  | 2.58         |                 | 103  | 33505 |       |
| 20 Perfluorononanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 463.00 > 419.00                       | 3.044 | 3.029  | 0.015  | 1.000  | 1507627  | 0.9895       |                 | 99.0 | 1708  |       |
| 463.00 > 169.00                       | 3.044 | 3.029  | 0.015  | 1.000  | 379520   |              | 3.97(1.90-5.69) |      | 5878  |       |
| D 21 13C8 FOSA                        |       |        |        |        |          |              |                 |      |       |       |
| 506.00 > 78.00                        | 3.381 | 3.370  | 0.011  | 1.267  | 4786628  | 2.35         |                 | 93.8 | 30059 |       |
| 22 Perfluorooctane Sulfonamide        |       |        |        |        |          |              |                 |      |       |       |
| 498.00 > 78.00                        | 3.381 | 3.372  | 0.009  | 1.000  | 1896536  | 1.03         |                 | 103  | 19624 |       |
| D 26 M2-8:2FTS                        |       |        |        |        |          |              |                 |      |       |       |
| 529.00 > 81.00                        | 3.396 | 3.377  | 0.019  | 1.273  | 1187999  | 2.54         |                 | 106  | 6919  |       |
| 25 Sodium 1H,1H,2H,2H-perfluorodecane |       |        |        |        |          |              |                 |      |       |       |
| 527.00 > 507.00                       | 3.396 | 3.377  | 0.019  | 1.000  | 540083   | 0.8957       |                 | 93.5 | 19625 |       |
| D 23 13C2 PFDA                        |       |        |        |        |          |              |                 |      |       |       |
| 515.00 > 470.00                       | 3.404 | 3.389  | 0.015  | 1.275  | 3132200  | 2.58         |                 | 103  | 40761 |       |
| 24 Perfluorodecanoic acid             |       |        |        |        |          |              |                 |      |       |       |
| 513.00 > 469.00                       | 3.404 | 3.390  | 0.014  | 1.000  | 1190598  | 0.9824       |                 | 98.2 | 3185  |       |
| 513.00 > 169.00                       | 3.404 | 3.390  | 0.014  | 1.000  | 218869   |              | 5.44(2.36-7.09) |      | 2686  |       |
| D 27 d3-NMeFOSAA                      |       |        |        |        |          |              |                 |      |       |       |
| 573.00 > 419.00                       | 3.563 | 3.543  | 0.020  | 1.335  | 1634222  | 2.51         |                 | 100  | 15851 |       |
| 28 N-methyl perfluorooctane sulfonami |       |        |        |        |          |              |                 |      |       |       |
| 570.00 > 419.00                       | 3.563 | 3.548  | 0.015  | 1.000  | 662401   | 0.9439       |                 | 94.4 | 5593  |       |

| Signal                                | RT    | EXP<br>RT | DLT<br>RT | REL<br>RT | Response | Amount<br>ng/ml | Ratio(Limits)   | %Rec | S/N   | Flags |
|---------------------------------------|-------|-----------|-----------|-----------|----------|-----------------|-----------------|------|-------|-------|
| 29 Perfluorodecane Sulfonic acid      |       |           |           |           |          |                 |                 |      |       |       |
| 599.00 > 80.00                        | 3.717 | 3.703     | 0.014     | 1.000     | 790485   | 0.8639          |                 | 89.6 | 8654  |       |
| 599.00 > 99.00                        | 3.717 | 3.703     | 0.014     | 1.000     | 289978   |                 | 2.73(1.39-4.16) |      | 7820  |       |
| D 32 d5-NEtFOSAA                      |       |           |           |           |          |                 |                 |      |       |       |
| 589.00 > 419.00                       | 3.725 | 3.712     | 0.013     | 1.396     | 1611888  | 2.54            |                 | 101  | 15041 |       |
| D 30 13C2 PFUnA                       |       |           |           |           |          |                 |                 |      |       |       |
| 565.00 > 520.00                       | 3.734 | 3.717     | 0.017     | 1.399     | 2244181  | 2.43            |                 | 97.3 | 35762 |       |
| 31 Perfluoroundecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 563.00 > 519.00                       | 3.734 | 3.718     | 0.016     | 1.000     | 751507   | 0.9139          |                 | 91.4 | 2909  |       |
| 563.00 > 169.00                       | 3.734 | 3.718     | 0.016     | 1.000     | 175381   |                 | 4.28(0.00-0.00) |      | 11971 |       |
| 33 N-ethyl perfluorooctane sulfonamid |       |           |           |           |          |                 |                 |      |       |       |
| 584.00 > 419.00                       | 3.734 | 3.720     | 0.014     | 1.002     | 596687   | 0.9314          |                 | 93.1 | 8721  |       |
| D 34 d-N-MeFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 515.00 > 169.00                       | 3.877 | 3.862     | 0.015     | 1.453     | 640151   | 1.10            |                 | 44.1 | 1560  |       |
| 35 MeFOSA                             |       |           |           |           |          |                 |                 |      |       |       |
| 512.00 > 169.00                       | 3.877 | 3.872     | 0.005     | 1.000     | 262756   | 1.05            |                 | 105  | 1579  |       |
| D 36 13C2 PFDaA                       |       |           |           |           |          |                 |                 |      |       |       |
| 615.00 > 570.00                       | 4.030 | 4.011     | 0.019     | 1.510     | 2392897  | 2.40            |                 | 96.2 | 28935 |       |
| 37 Perfluorododecanoic acid           |       |           |           |           |          |                 |                 |      |       |       |
| 613.00 > 569.00                       | 4.030 | 4.011     | 0.019     | 1.000     | 923320   | 0.9719          |                 | 97.2 | 3457  |       |
| 613.00 > 169.00                       | 4.030 | 4.011     | 0.019     | 1.000     | 244298   |                 | 3.78(2.13-6.40) |      | 12213 |       |
| D 38 d-N-EtFOSA-M                     |       |           |           |           |          |                 |                 |      |       |       |
| 531.00 > 169.00                       | 4.062 | 4.052     | 0.010     | 1.522     | 492682   | 0.8826          |                 | 35.3 | 1003  |       |
| 39 N-ethylperfluoro-1-octanesulfonami |       |           |           |           |          |                 |                 |      |       |       |
| 526.00 > 169.00                       | 4.070 | 4.058     | 0.011     | 1.002     | 196298   | 0.9356          |                 | 93.6 | 1085  |       |
| 41 Perfluorotridecanoic acid          |       |           |           |           |          |                 |                 |      |       |       |
| 663.00 > 619.00                       | 4.297 | 4.277     | 0.020     | 1.000     | 1174124  | 1.06            |                 | 106  | 4353  |       |
| 663.00 > 169.00                       | 4.297 | 4.277     | 0.020     | 1.000     | 361915   |                 | 3.24(1.25-3.76) |      | 20206 |       |
| D 43 13C2-PFTeDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 715.00 > 670.00                       | 4.542 | 4.518     | 0.024     | 1.702     | 2857955  | 2.57            |                 | 103  | 21330 |       |
| 42 Perfluorotetradecanoic acid        |       |           |           |           |          |                 |                 |      |       |       |
| 713.00 > 169.00                       | 4.542 | 4.518     | 0.024     | 1.000     | 298096   | 1.01            |                 | 101  | 10207 |       |
| 713.00 > 219.00                       | 4.528 | 4.518     | 0.010     | 0.997     | 199437   |                 | 1.49(0.71-2.13) |      | 5729  |       |
| D 44 13C2-PFHxDA                      |       |           |           |           |          |                 |                 |      |       |       |
| 815.00 > 770.00                       | 4.959 | 4.939     | 0.020     | 1.858     | 4111304  | 2.03            |                 | 81.2 | 13803 |       |
| 45 Perfluorohexadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 813.00 > 769.00                       | 4.959 | 4.939     | 0.020     | 1.000     | 1466688  | 1.02            |                 | 102  | 898   |       |
| 813.00 > 169.00                       | 4.959 | 4.939     | 0.020     | 1.000     | 290145   |                 | 5.06(2.86-8.58) |      | 6841  |       |
| 46 Perfluorooctadecanoic acid         |       |           |           |           |          |                 |                 |      |       |       |
| 913.00 > 869.00                       | 5.332 | 5.306     | 0.026     | 1.000     | 1611185  | 0.9518          |                 | 95.2 | 454   |       |
| 913.00 > 169.00                       | 5.332 | 5.306     | 0.026     | 1.000     | 207965   |                 | 7.75(0.00-0.00) |      | 1728  |       |

## QC Flag Legend

### Review Flags

M - Manually Integrated

## TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_010.d

Injection Date: 23-Dec-2017 15:44:04

Instrument ID: A8\_N

Lims ID: 480-128901-E-19-C MSD

Client ID: MW-12

Operator ID: SACINSTLCMS01

ALS Bottle#: 9

Worklist Smp#: 12

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

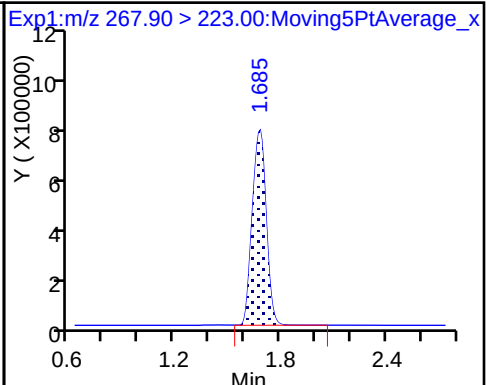
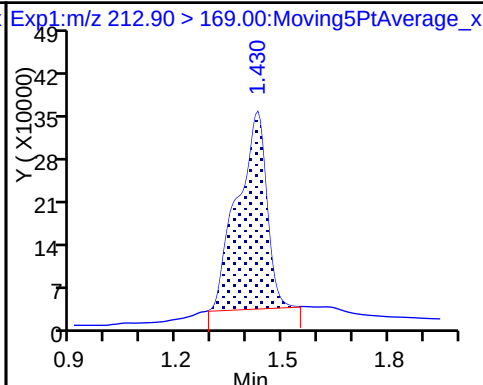
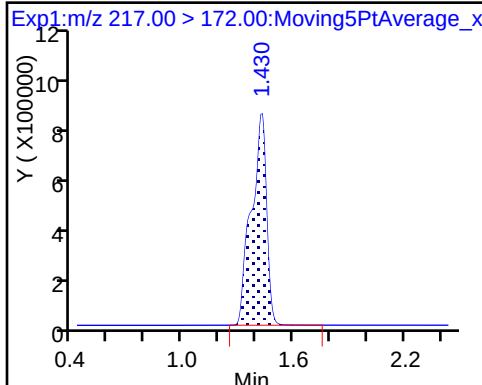
Method: A8\_N

Limit Group: LC PFC ICAL

D 1 13C4 PFBA

2 Perfluorobutyric acid (M)

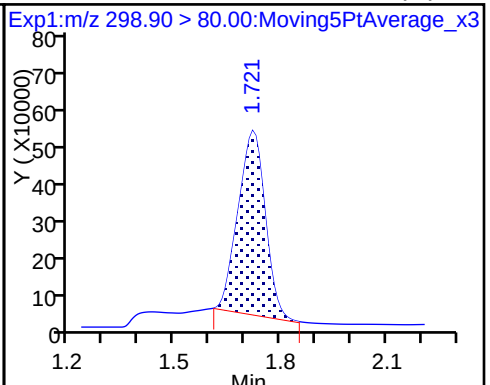
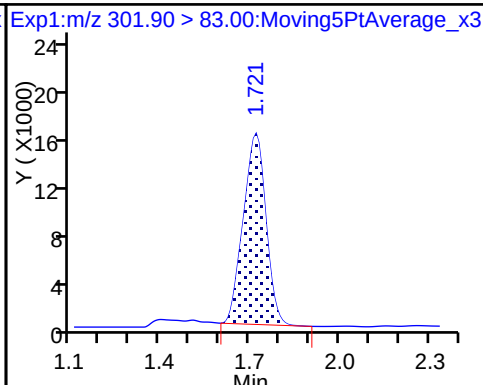
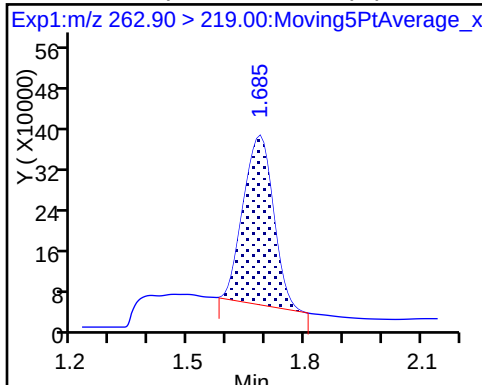
D 3 13C5-PFPeA



4 Perfluoropentanoic acid (M)

D 47 13C3-PFBS

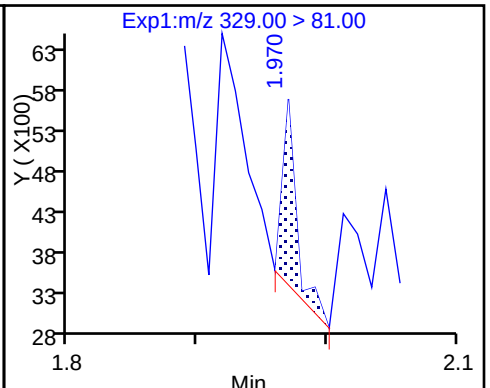
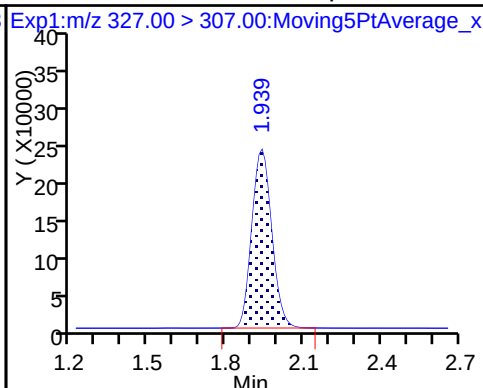
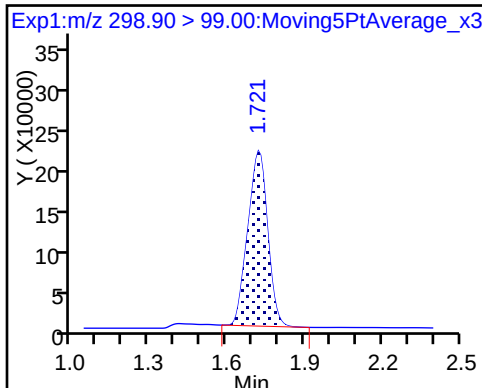
5 Perfluorobutanesulfonic acid (M)



5 Perfluorobutanesulfonic acid

61 Sodium 1H,1H,2H,2H-perfluorohexanoate

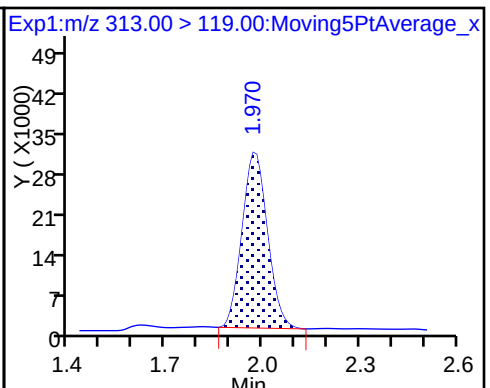
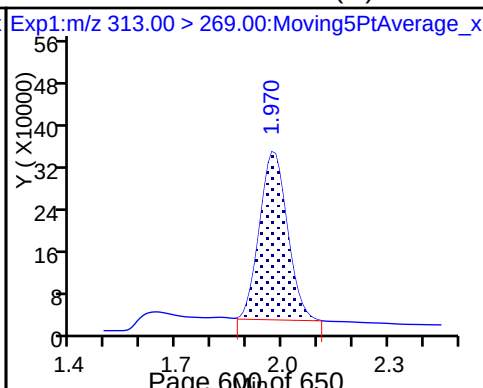
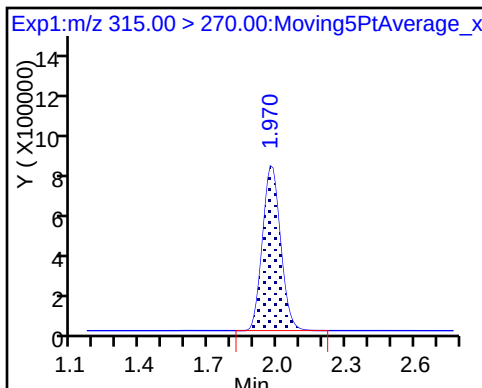
De60 M2-4:2FTS



D 7 13C2 PFHxA

6 Perfluorohexanoic acid (M)

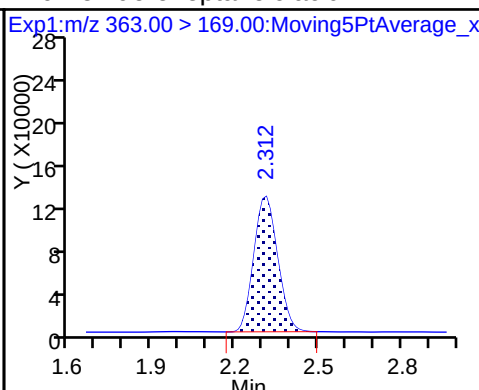
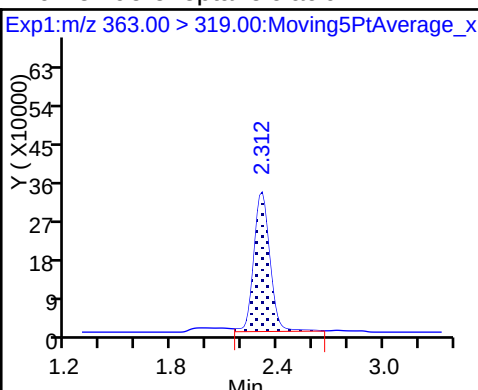
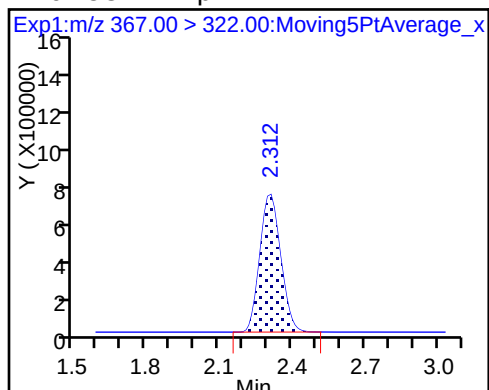
6 Perfluorohexanoic acid



D 9 13C4-PFHpA

10 Perfluoroheptanoic acid

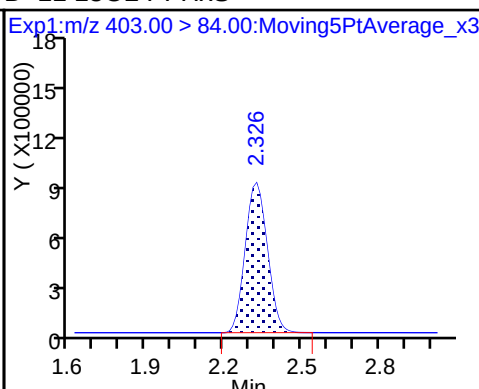
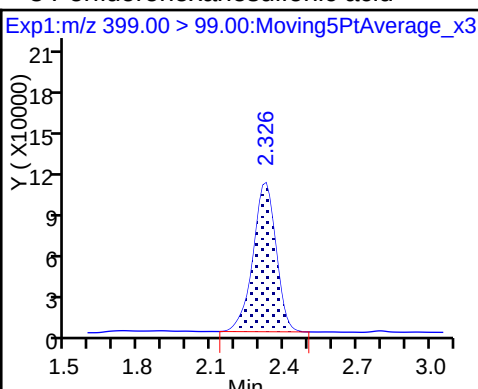
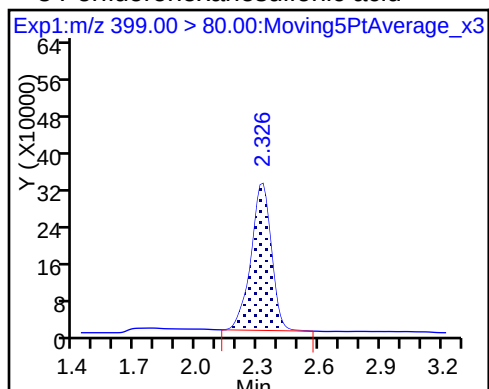
10 Perfluoroheptanoic acid



8 Perfluorohexanesulfonic acid

8 Perfluorohexanesulfonic acid

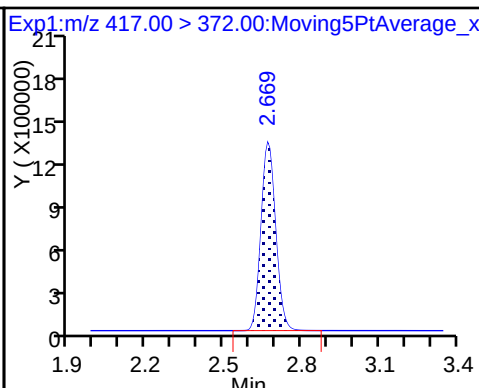
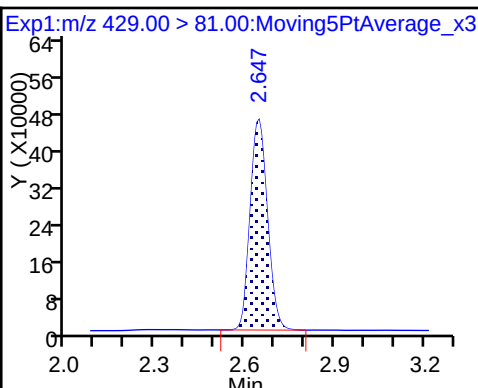
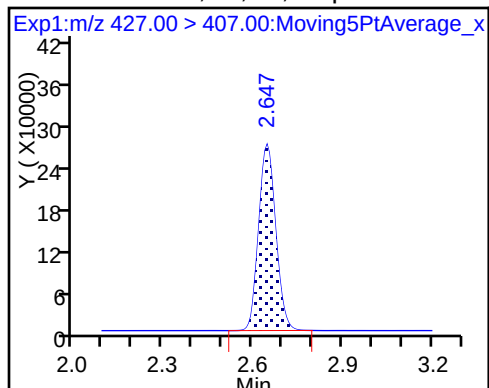
D 11 18O2 PFHxS



13 Sodium 1H,1H,2H,2H-perfluorooctadecanoate

D 12 M2-6:2FTS

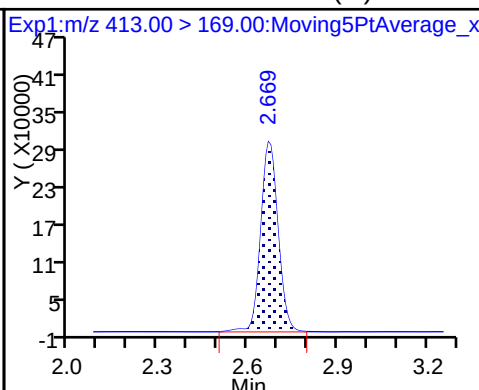
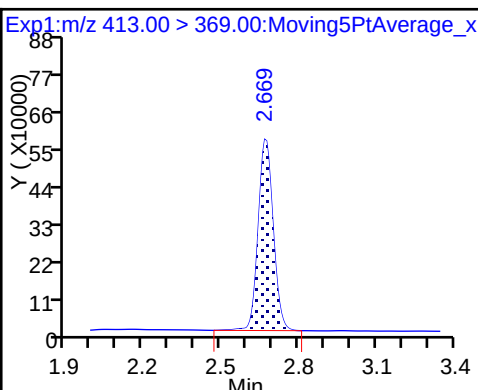
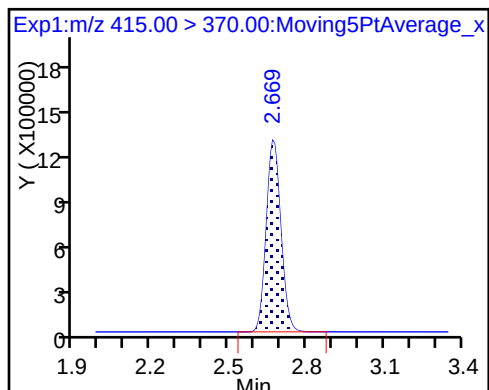
D 14 13C4 PFOA



\* 62 13C2-PFOA

15 Perfluorooctanoic acid

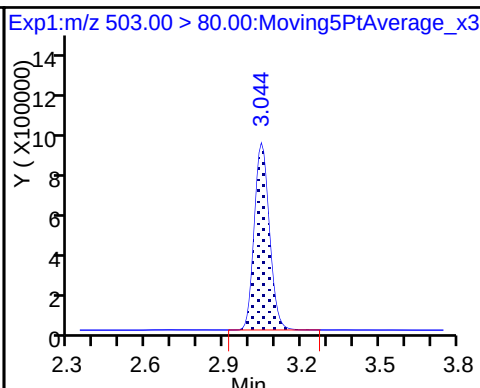
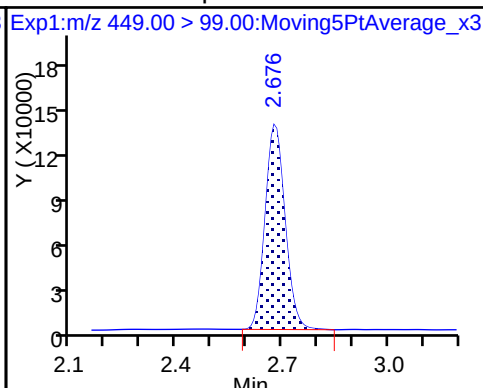
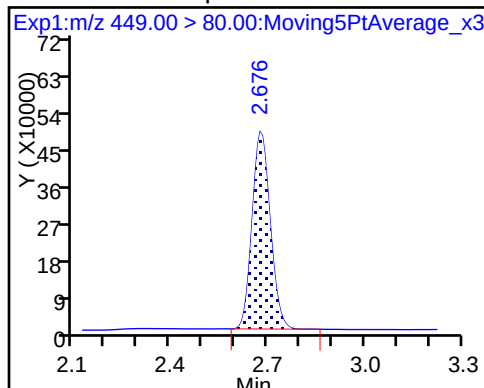
15 Perfluorooctanoic acid (M)



## 16 Perfluoroheptanesulfonic Acid

## 16 Perfluoroheptanesulfonic Acid

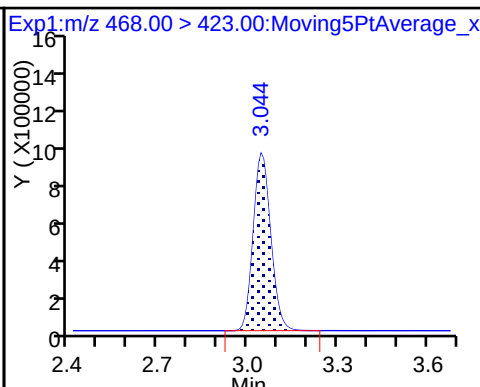
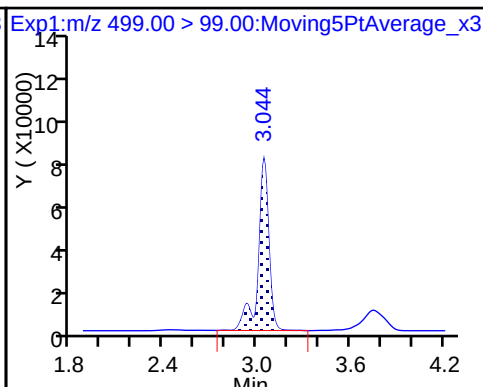
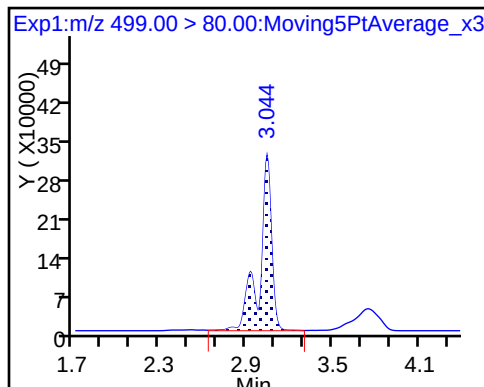
## D 18 13C4 PFOS



## 17 Perfluorooctane sulfonic acid

## 17 Perfluorooctane sulfonic acid

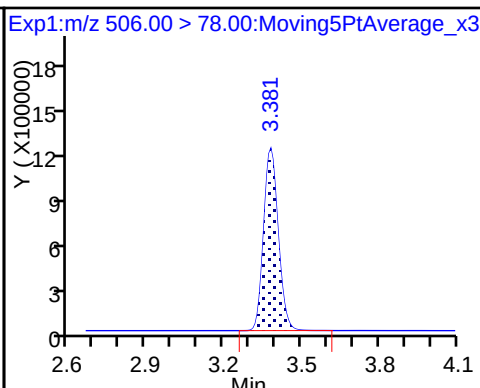
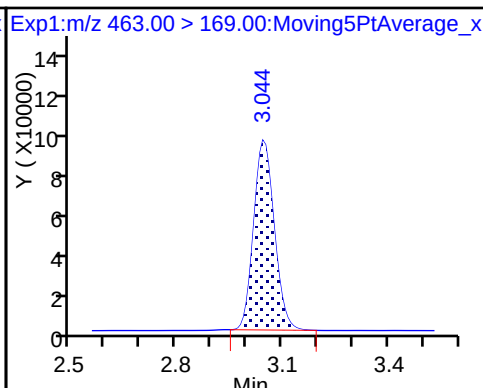
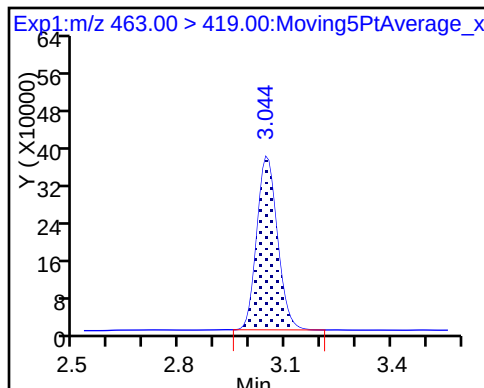
## D 19 13C5 PFNA



## 20 Perfluorononanoic acid

## 20 Perfluorononanoic acid

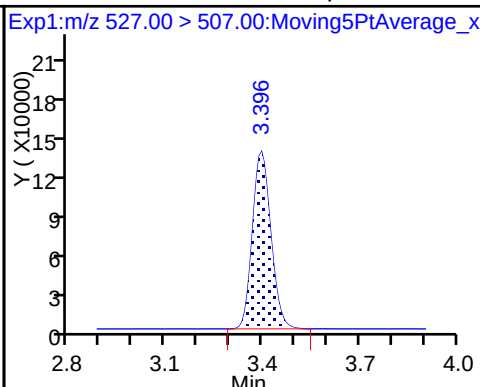
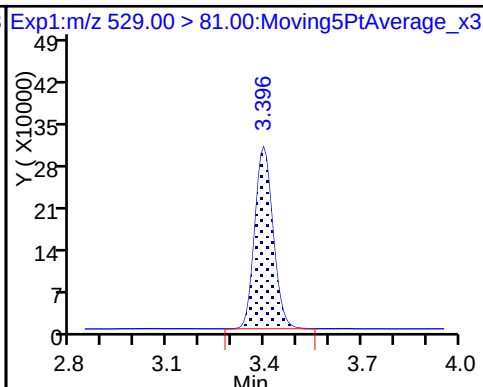
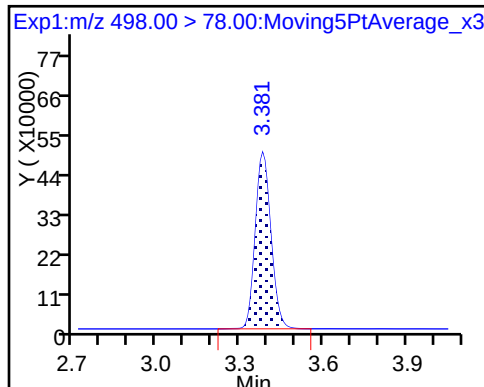
## D 21 13C8 FOSA



## 22 Perfluorooctane Sulfonamide

## D 26 M2-8:2FTS

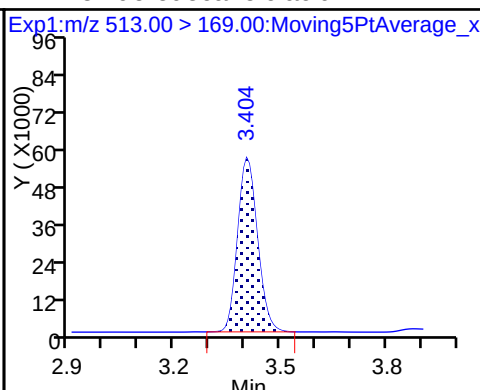
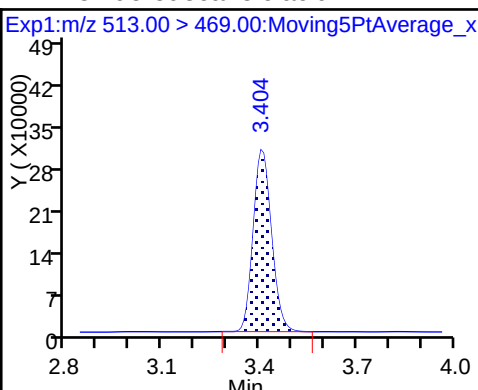
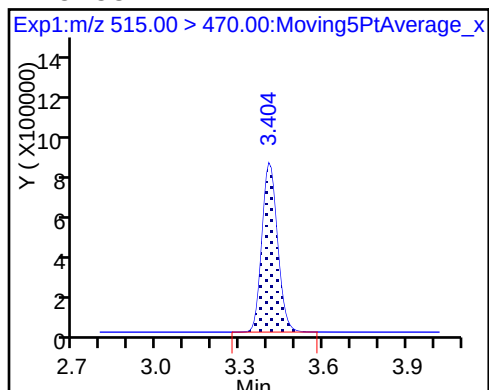
## 25 Sodium 1H,1H,2H,2H-perfluorodecane



D 23 13C2 PFDA

24 Perfluorodecanoic acid

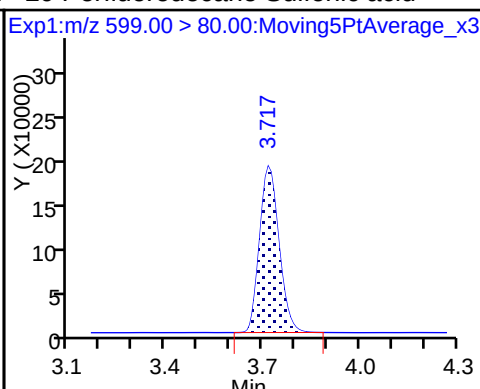
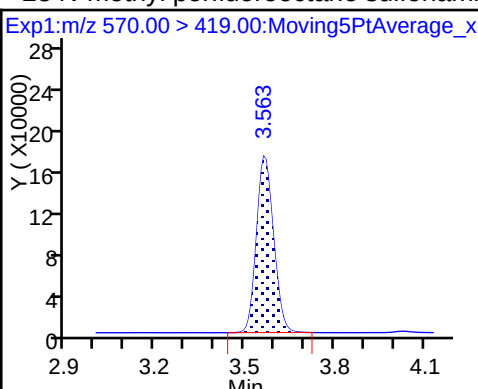
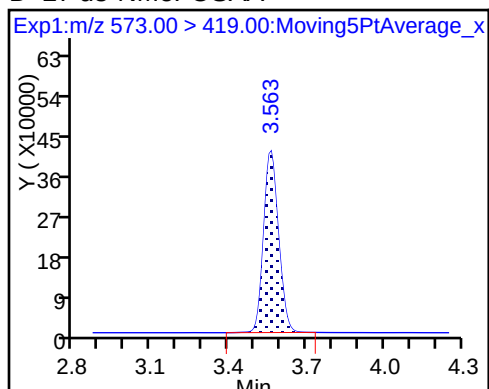
24 Perfluorodecanoic acid



D 27 d3-NMeFOSAA

28 N-methyl perfluorooctane sulfonami

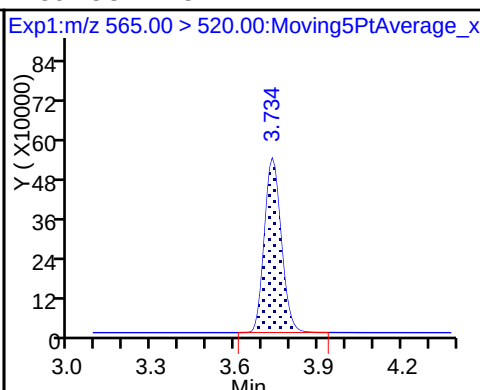
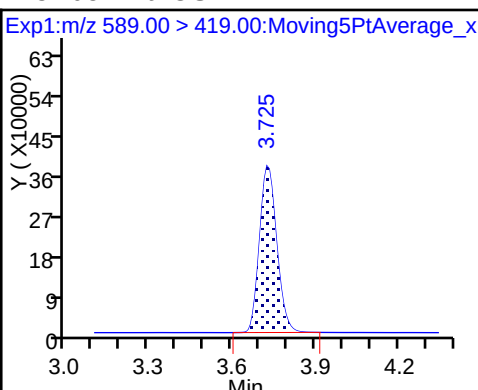
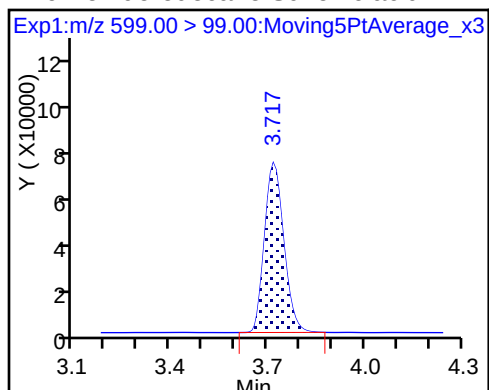
29 Perfluorodecane Sulfonic acid



29 Perfluorodecane Sulfonic acid

D 32 d5-NEtFOSAA

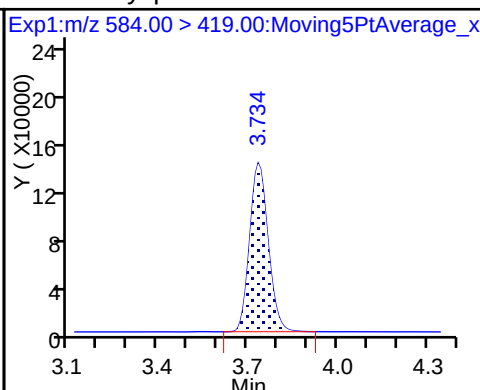
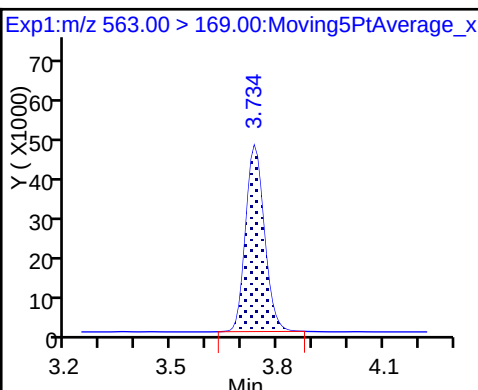
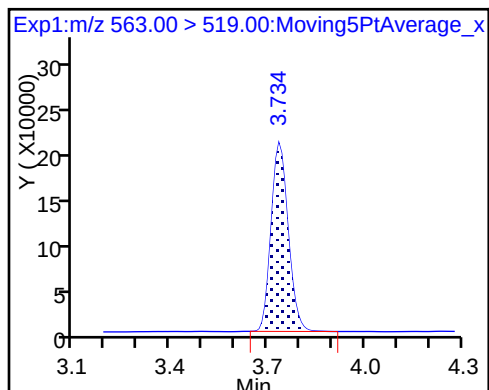
D 30 13C2 PFUnA



31 Perfluoroundecanoic acid

31 Perfluoroundecanoic acid

33 N-ethyl perfluorooctane sulfonamid

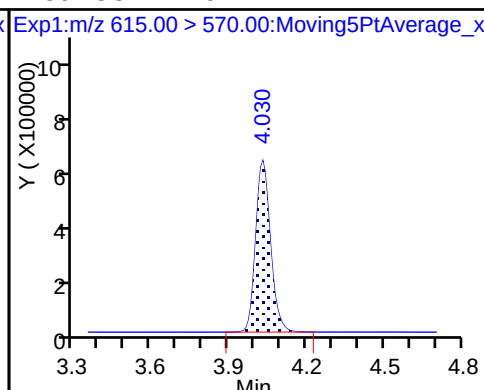
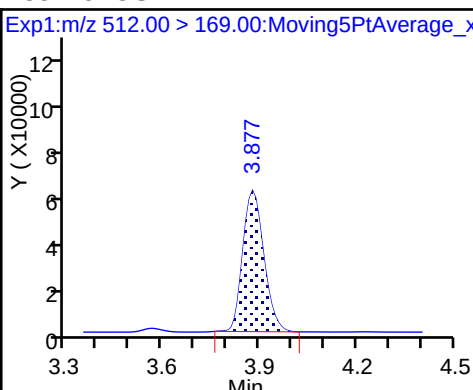
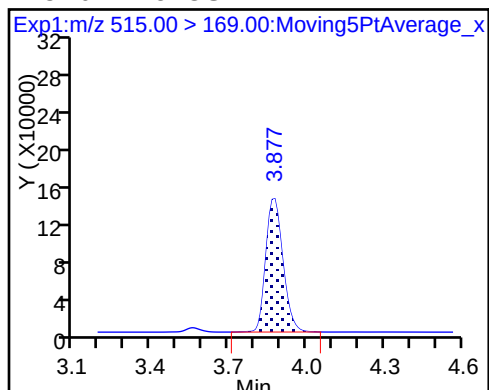




## D 34 d-N-MeFOSA-M

## 35 MeFOSA

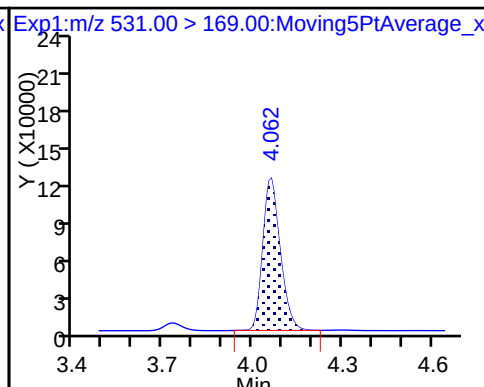
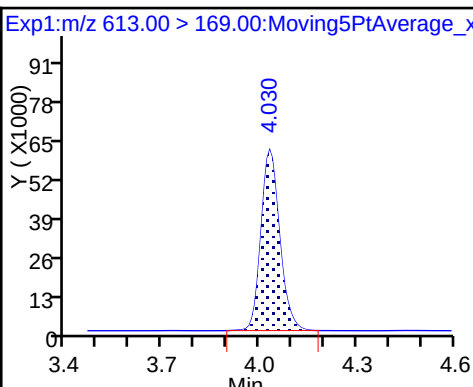
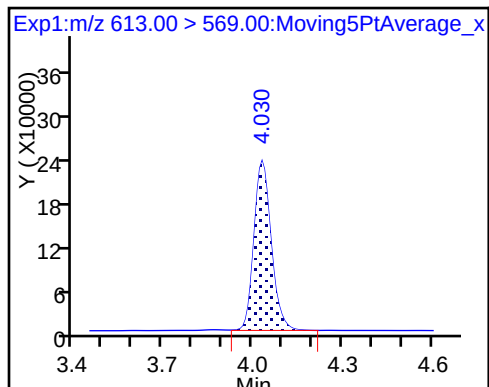
## D 36 13C2 PFDaA



## 37 Perfluorododecanoic acid

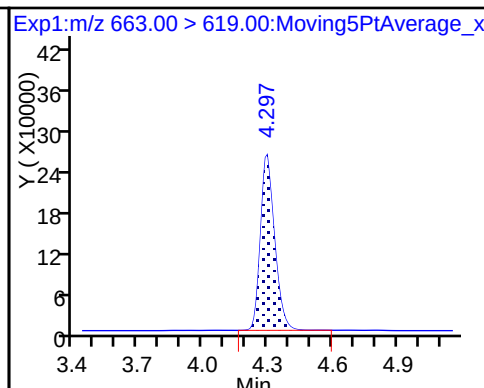
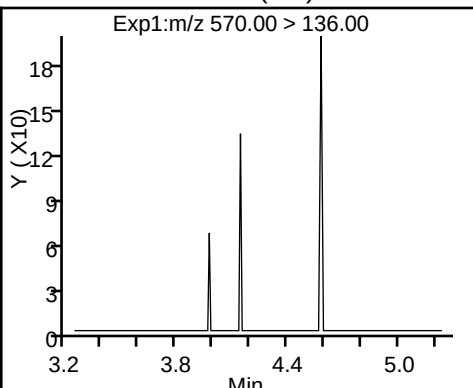
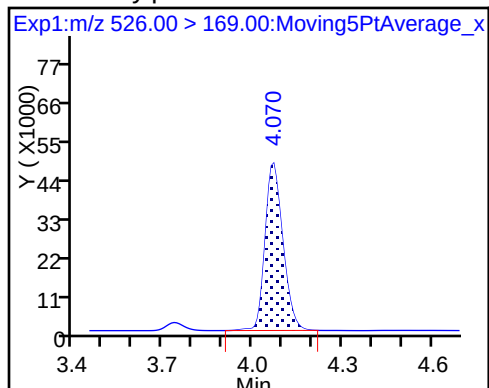
## 37 Perfluorododecanoic acid

## D 38 d-N-EtFOSA-M



## 39 N-ethylperfluoro-1-octanesulfonami D 40 d-N-EtFOSE-M (ND)

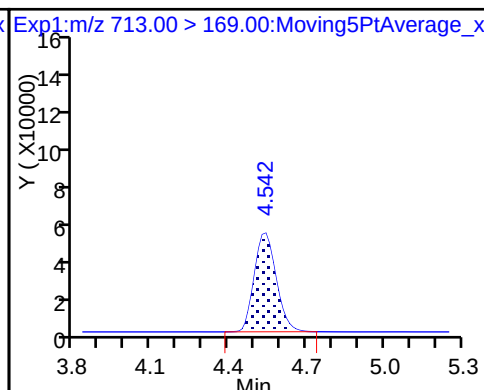
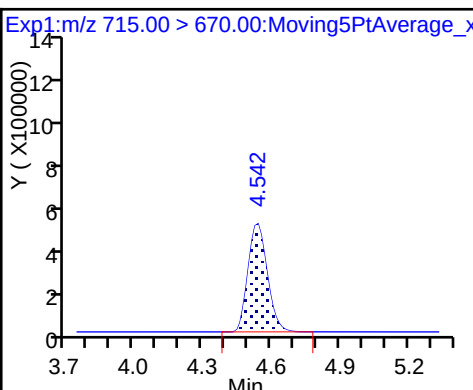
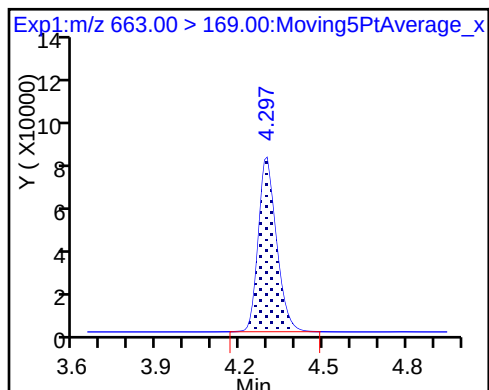
## 41 Perfluorotridecanoic acid



## 41 Perfluorotridecanoic acid

## D 43 13C2-PFTeDA

## 42 Perfluorotetradecanoic acid

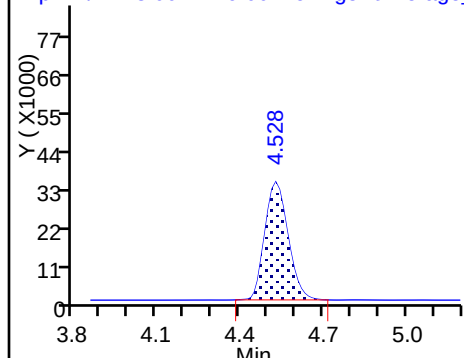


42 Perfluorotetradecanoic acid

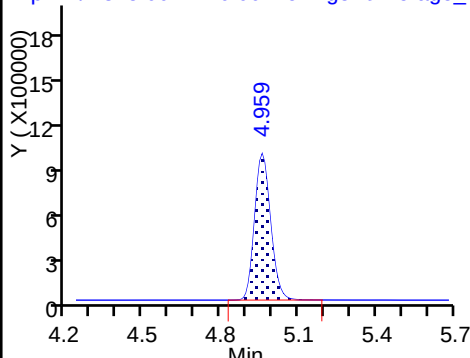
D 44 13C2-PFHxDA

45 Perfluorohexadecanoic acid

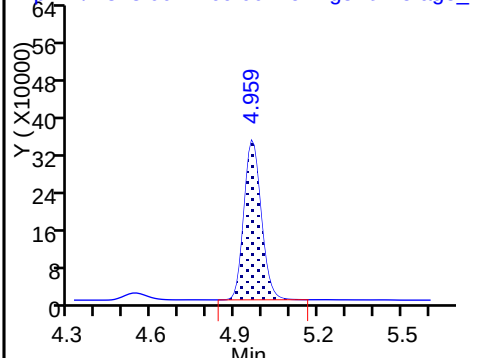
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Exp1:m/z 815.00 &gt; 770.00:Moving5PtAverage\_x



Exp1:m/z 813.00 &gt; 769.00:Moving5PtAverage\_x

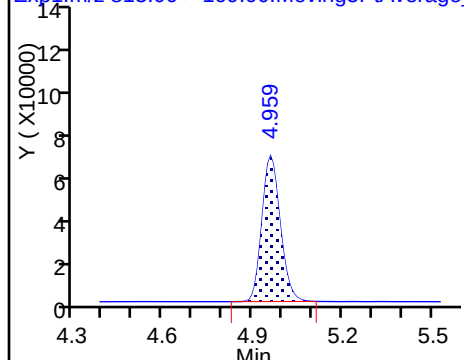


45 Perfluorohexadecanoic acid

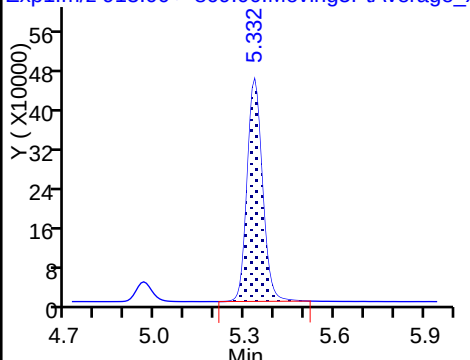
46 Perfluorooctadecanoic acid

46 Perfluorooctadecanoic acid

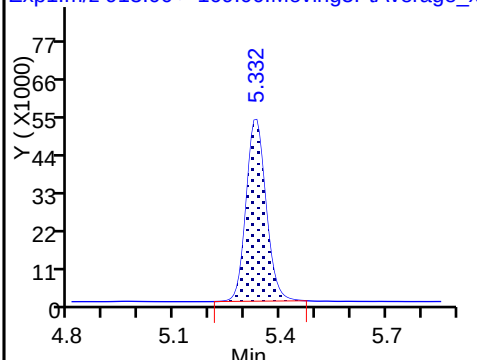
Exp1:m/z 813.00 &gt; 169.00:Moving5PtAverage\_x



Exp1:m/z 913.00 &gt; 869.00:Moving5PtAverage\_x



Exp1:m/z 913.00 &gt; 169.00:Moving5PtAverage\_x



## TestAmerica Sacramento

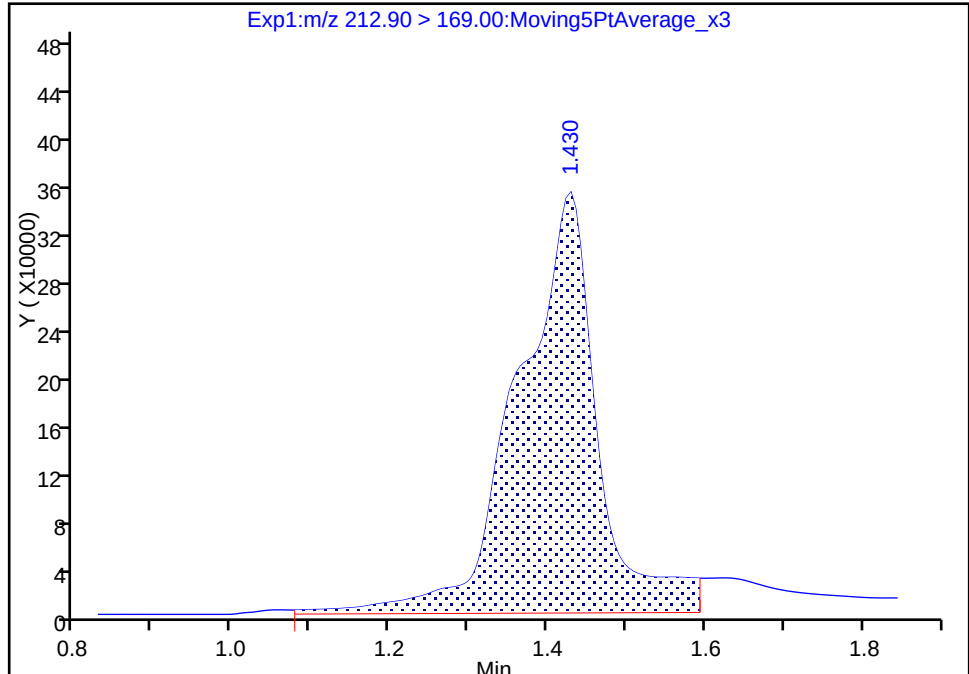
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Injection Date: 23-Dec-2017 15:44:04 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-C MSD  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 9 Worklist Smp#: 12  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**2 Perfluorobutyric acid, CAS: 375-22-4**

Signal: 1

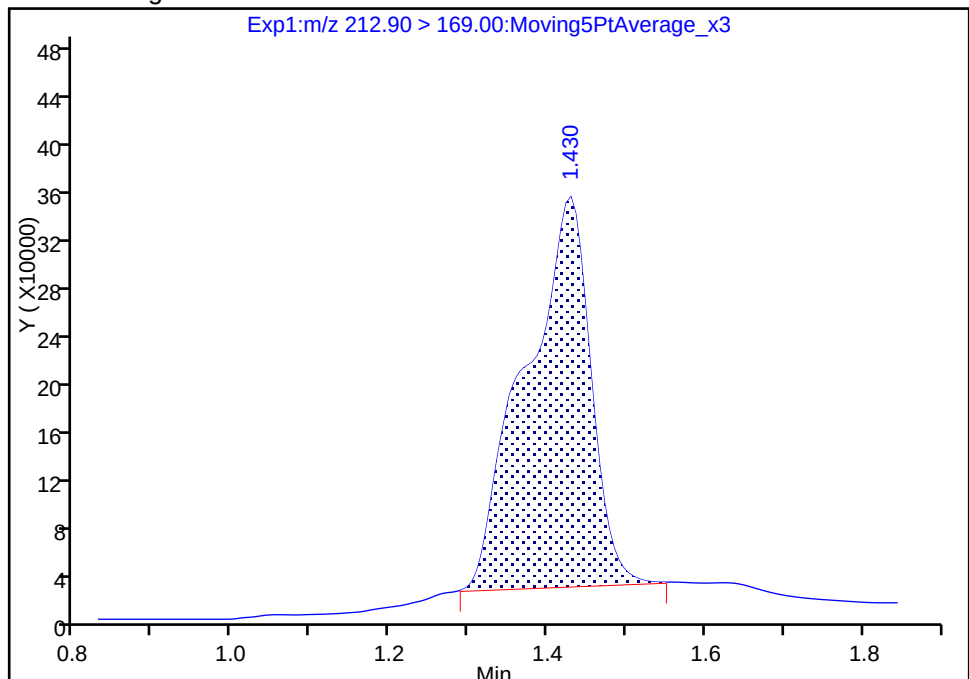
RT: 1.43  
Area: 2444793  
Amount: 1.485227  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.43  
Area: 1852233  
Amount: 1.125243  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:29:22  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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## TestAmerica Sacramento

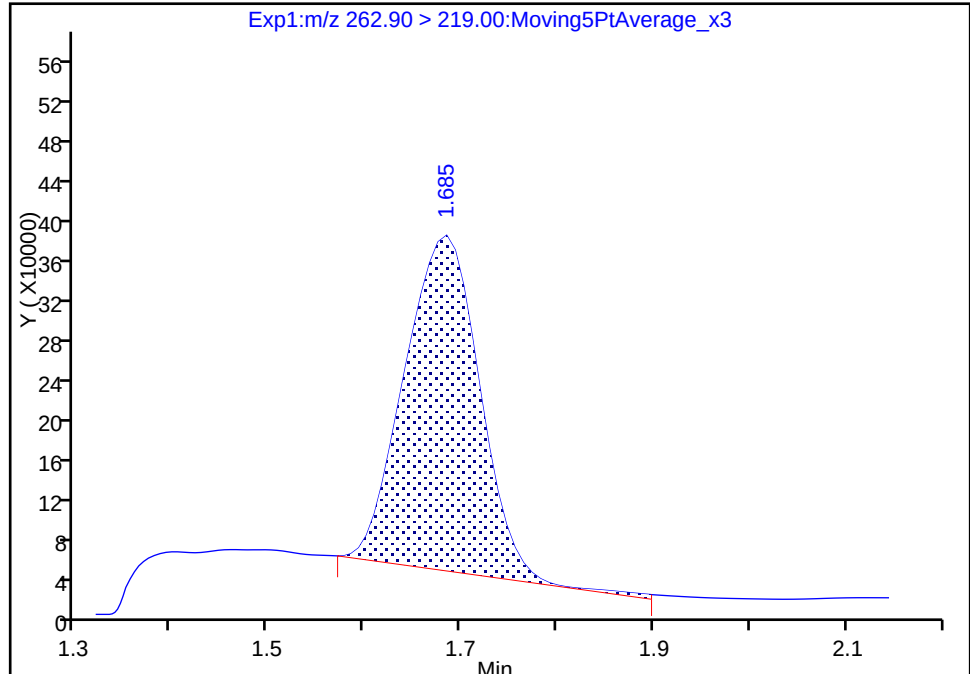
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_010.d  
Injection Date: 23-Dec-2017 15:44:04 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-C MSD  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 9 Worklist Smp#: 12  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**4 Perfluoropentanoic acid, CAS: 2706-90-3**

Signal: 1

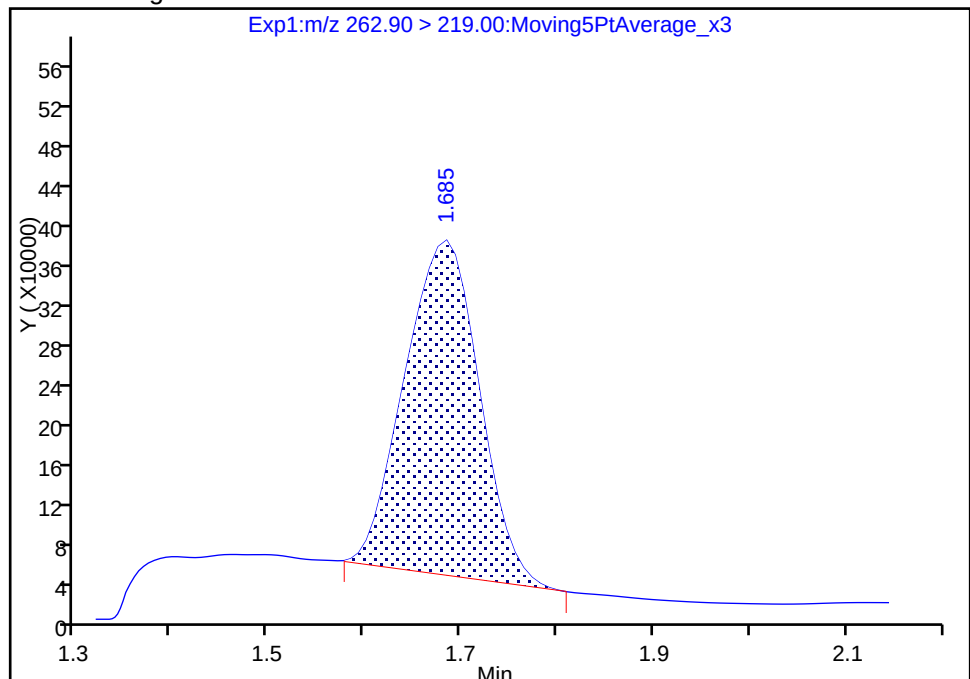
RT: 1.69  
Area: 1842268  
Amount: 1.035434  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.69  
Area: 1819905  
Amount: 1.022865  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:29:39  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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## TestAmerica Sacramento

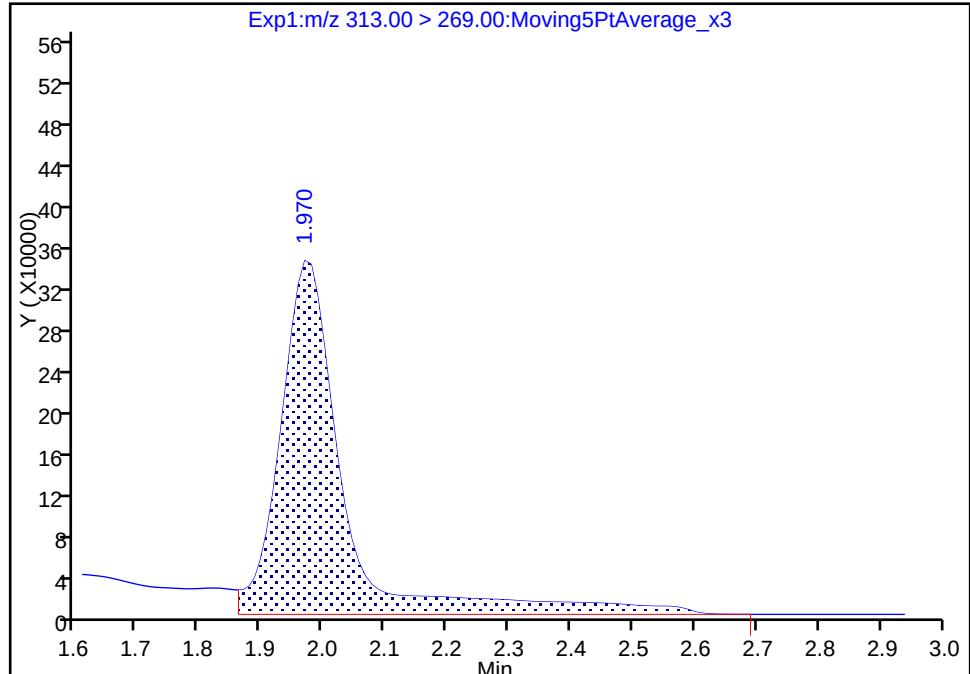
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_010.d  
Injection Date: 23-Dec-2017 15:44:04 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-C MSD  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 9 Worklist Smp#: 12  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**6 Perfluorohexanoic acid, CAS: 307-24-4**

Signal: 1

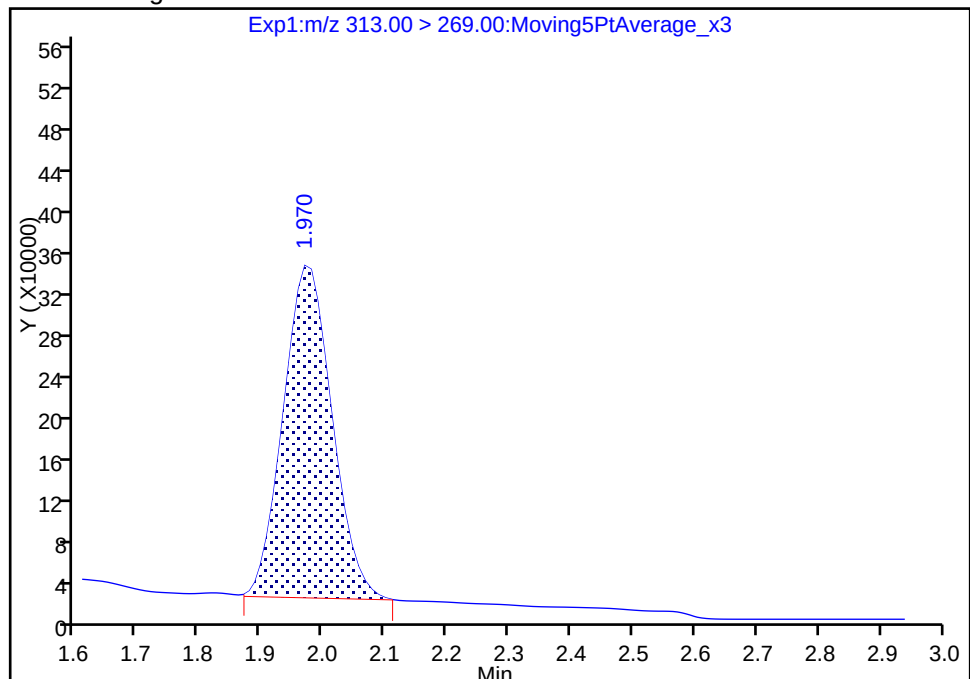
RT: 1.97  
Area: 2446511  
Amount: 1.427062  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.97  
Area: 1769073  
Amount: 1.031909  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:30:07

Audit Action: Manually Integrated

Audit Reason: Baseline

## TestAmerica Sacramento

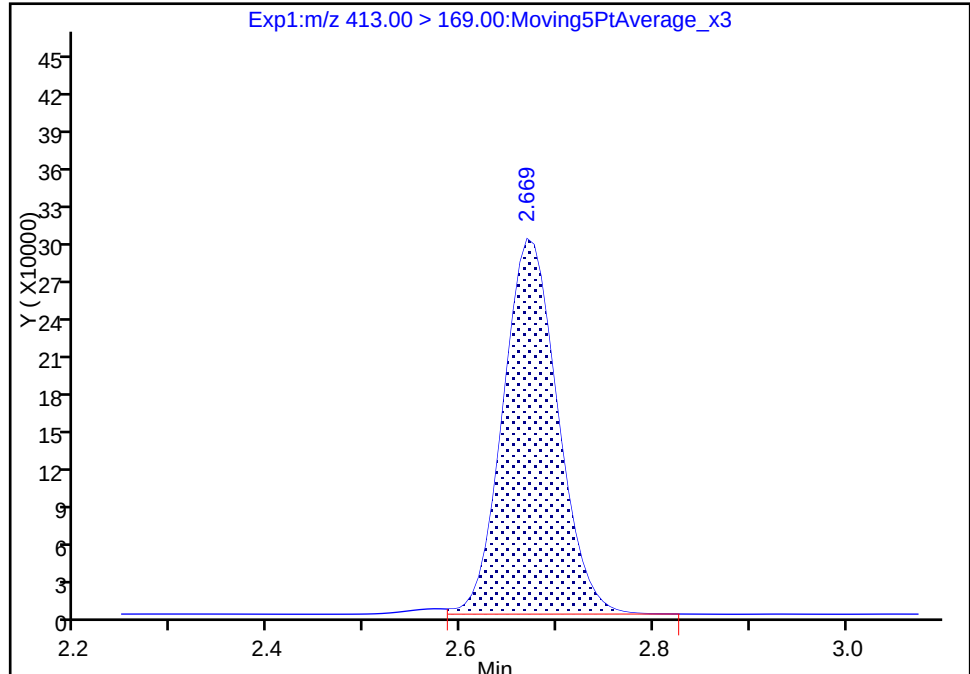
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_010.d  
Injection Date: 23-Dec-2017 15:44:04 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-C MSD  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 9 Worklist Smp#: 12  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**15 Perfluorooctanoic acid, CAS: 335-67-1**

Signal: 2

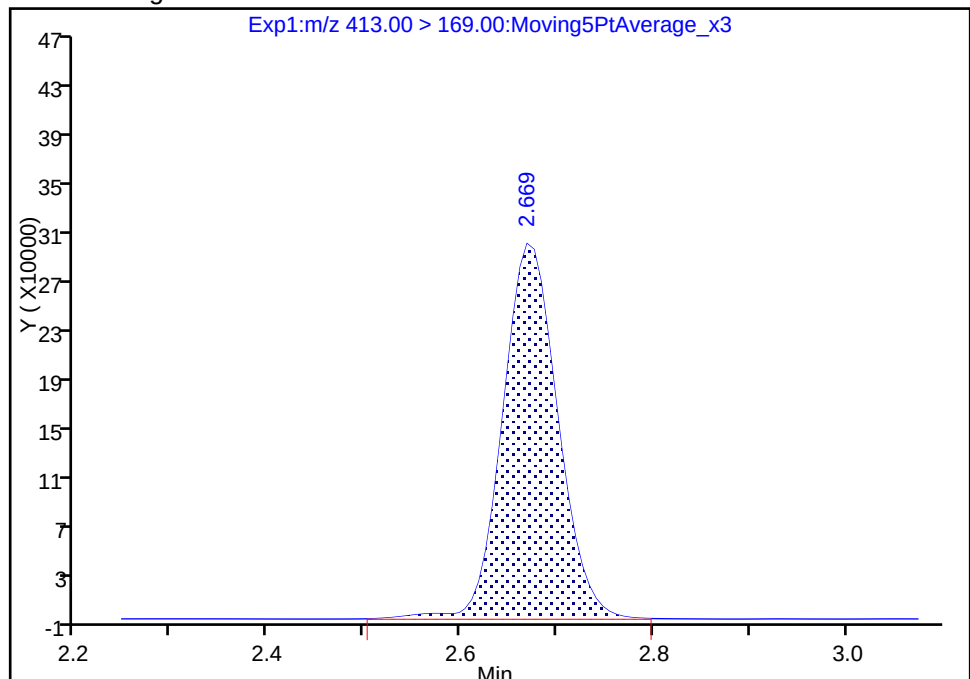
RT: 2.67  
Area: 1177889  
Amount: 1.041394  
Amount Units: ng/ml

## Processing Integration Results



RT: 2.67  
Area: 1194302  
Amount: 1.041394  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:30:32

Audit Action: Manually Integrated

Audit Reason: Isomers

## TestAmerica Sacramento

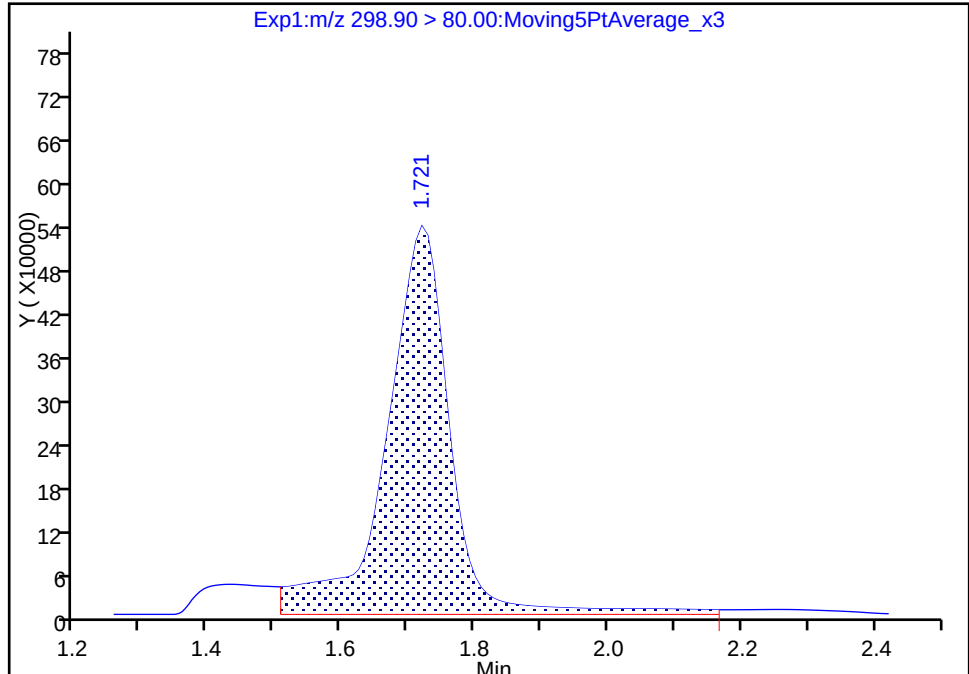
Data File: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b\2017.12.23LLBxB\_010.d  
Injection Date: 23-Dec-2017 15:44:04 Instrument ID: A8\_N  
Lims ID: 480-128901-E-19-C MSD  
Client ID: MW-12  
Operator ID: SACINSTLCMS01 ALS Bottle#: 9 Worklist Smp#: 12  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: A8\_N Limit Group: LC PFC ICAL  
Column: Detector EXP1

**5 Perfluorobutanesulfonic acid, CAS: 375-73-5**

Signal: 1

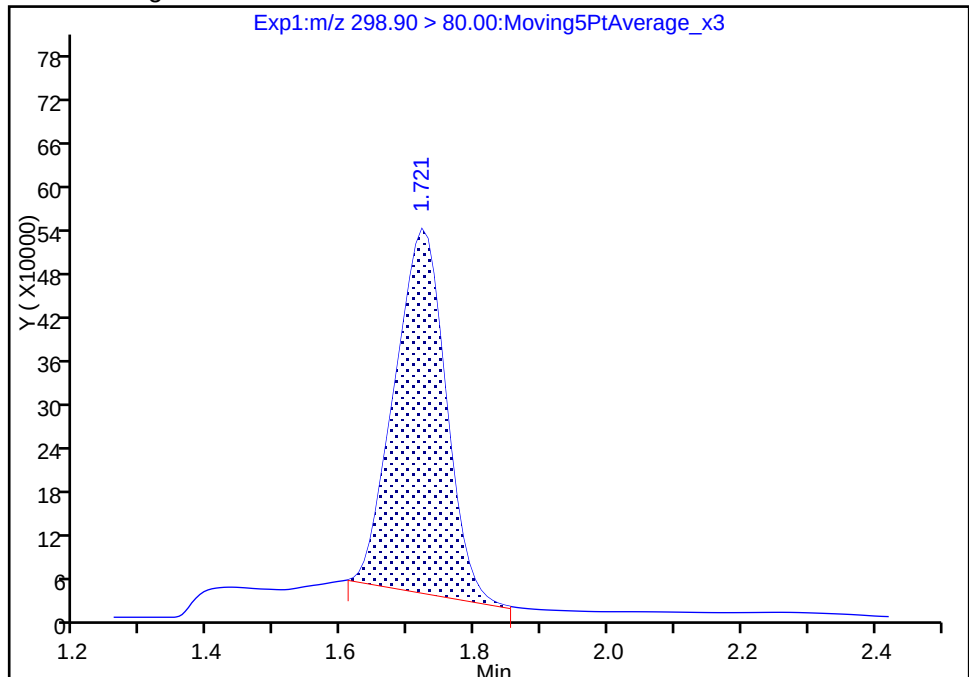
RT: 1.72  
Area: 3592762  
Amount: 1.342461  
Amount Units: ng/ml

## Processing Integration Results



RT: 1.72  
Area: 2703162  
Amount: 1.010055  
Amount Units: ng/ml

## Manual Integration Results



Reviewer: barnettj, 26-Dec-2017 16:29:52

Audit Action: Manually Integrated

Audit Reason: Baseline

# LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: A8\_N Start Date: 12/21/2017 15:05  
 Analysis Batch Number: 201053 End Date: 12/21/2017 16:47

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID              | COLUMN ID             |
|--------------------|------------------|------------------|--------------------|--------------------------|-----------------------|
| IC 320-201053/2    |                  | 12/21/2017 15:05 | 1                  | 2017.12.21ICALX<br>002.d | GeminiC18 3x100 3(mm) |
| IC 320-201053/3    |                  | 12/21/2017 15:13 | 1                  | 2017.12.21ICALX<br>003.d | GeminiC18 3x100 3(mm) |
| IC 320-201053/4    |                  | 12/21/2017 15:21 | 1                  | 2017.12.21ICALX<br>004.d | GeminiC18 3x100 3(mm) |
| IC 320-201053/5    |                  | 12/21/2017 15:29 | 1                  | 2017.12.21ICALX<br>005.d | GeminiC18 3x100 3(mm) |
| IC 320-201053/6    |                  | 12/21/2017 15:37 | 1                  | 2017.12.21ICALX<br>006.d | GeminiC18 3x100 3(mm) |
| IC 320-201053/7    |                  | 12/21/2017 15:45 | 1                  | 2017.12.21ICALX<br>007.d | GeminiC18 3x100 3(mm) |
| IC 320-201053/8    |                  | 12/21/2017 15:52 | 1                  | 2017.12.21ICALX<br>008.d | GeminiC18 3x100 3(mm) |
| IC 320-201053/9    |                  | 12/21/2017 16:00 | 1                  | 2017.12.21ICALX<br>009.d | GeminiC18 3x100 3(mm) |
| IC 320-201053/10   |                  | 12/21/2017 16:08 | 1                  | 2017.12.21ICALX<br>010.d | GeminiC18 3x100 3(mm) |
| ICB 320-201053/11  |                  | 12/21/2017 16:16 | 1                  | 2017.12.21ICALX<br>011.d | GeminiC18 3x100 3(mm) |
| ICV 320-201053/12  |                  | 12/21/2017 16:24 | 1                  | 2017.12.21ICALX<br>012.d | GeminiC18 3x100 3(mm) |
| ZZZZZ              |                  | 12/21/2017 16:31 | 1                  |                          | GeminiC18 3x100 3(mm) |
| ZZZZZ              |                  | 12/21/2017 16:39 | 1                  |                          | GeminiC18 3x100 3(mm) |
| CCVL 320-201053/15 |                  | 12/21/2017 16:47 | 1                  |                          | GeminiC18 3x100 3(mm) |



## LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica SacramentoJob No.: 320-34293-1

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

Instrument ID: A8\_NStart Date: 12/23/2017 14:09Analysis Batch Number: 201236End Date: 12/23/2017 15:51

| LAB SAMPLE ID            | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID              | COLUMN ID             |
|--------------------------|------------------|------------------|--------------------|--------------------------|-----------------------|
| CCVL 320-201236/1        |                  | 12/23/2017 14:09 | 1                  | 2017.12.23LLAXA<br>002.d | GeminiC18 3x100 3(mm) |
| CCV 320-201236/2         |                  | 12/23/2017 14:17 | 1                  | 2017.12.23LLAXA<br>003.d | GeminiC18 3x100 3(mm) |
| ZZZZZ                    |                  | 12/23/2017 14:25 | 1                  |                          | GeminiC18 3x100 3(mm) |
| MB 320-200556/1-A        |                  | 12/23/2017 14:41 | 1                  | 2017.12.23LLBXB<br>002.d | GeminiC18 3x100 3(mm) |
| LCS 320-200556/2-A       |                  | 12/23/2017 14:49 | 1                  | 2017.12.23LLBXB<br>003.d | GeminiC18 3x100 3(mm) |
| ZZZZZ                    |                  | 12/23/2017 14:56 | 1                  |                          | GeminiC18 3x100 3(mm) |
| ZZZZZ                    |                  | 12/23/2017 15:04 | 10                 |                          | GeminiC18 3x100 3(mm) |
| ZZZZZ                    |                  | 12/23/2017 15:12 | 1                  |                          | GeminiC18 3x100 3(mm) |
| ZZZZZ                    |                  | 12/23/2017 15:20 | 1                  |                          | GeminiC18 3x100 3(mm) |
| ZZZZZ                    |                  | 12/23/2017 15:28 | 1                  |                          | GeminiC18 3x100 3(mm) |
| 480-128901-E-19-B MS     |                  | 12/23/2017 15:36 | 1                  | 2017.12.23LLBXB<br>009.d | GeminiC18 3x100 3(mm) |
| 480-128901-E-19-C<br>MSD |                  | 12/23/2017 15:44 | 1                  | 2017.12.23LLBXB<br>010.d | GeminiC18 3x100 3(mm) |
| CCV 320-201236/13        |                  | 12/23/2017 15:51 | 1                  | 2017.12.23LLBXB<br>011.d | GeminiC18 3x100 3(mm) |

## LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica SacramentoJob No.: 320-34293-1

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

Instrument ID: A8\_NStart Date: 12/26/2017 16:55Analysis Batch Number: 201411End Date: 12/27/2017 09:54

| LAB SAMPLE ID     | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID              | COLUMN ID             |
|-------------------|------------------|------------------|--------------------|--------------------------|-----------------------|
| IC 320-201411/2   |                  | 12/26/2017 16:55 | 1                  | 2017.12.26ICALA<br>002.d | GeminiC18 3x100 3(mm) |
| IC 320-201411/3   |                  | 12/26/2017 17:03 | 1                  | 2017.12.26ICALA<br>003.d | GeminiC18 3x100 3(mm) |
| IC 320-201411/4   |                  | 12/26/2017 17:11 | 1                  | 2017.12.26ICALA<br>004.d | GeminiC18 3x100 3(mm) |
| IC 320-201411/5   |                  | 12/26/2017 17:19 | 1                  | 2017.12.26ICALA<br>005.d | GeminiC18 3x100 3(mm) |
| IC 320-201411/6   |                  | 12/26/2017 17:27 | 1                  | 2017.12.26ICALA<br>006.d | GeminiC18 3x100 3(mm) |
| IC 320-201411/7   |                  | 12/26/2017 17:34 | 1                  | 2017.12.26ICALA<br>007.d | GeminiC18 3x100 3(mm) |
| IC 320-201411/8   |                  | 12/26/2017 17:42 | 1                  | 2017.12.26ICALA<br>008.d | GeminiC18 3x100 3(mm) |
| IC 320-201411/9   |                  | 12/26/2017 17:50 | 1                  | 2017.12.26ICALA<br>009.d | GeminiC18 3x100 3(mm) |
| IC 320-201411/10  |                  | 12/26/2017 17:58 | 1                  | 2017.12.26ICALA<br>010.d | GeminiC18 3x100 3(mm) |
| ICB 320-201411/17 |                  | 12/27/2017 09:46 | 1                  | 2017.12.27ICALA<br>011.d | GeminiC18 3x100 3(mm) |
| ICV 320-201411/18 |                  | 12/27/2017 09:54 | 1                  | 2017.12.27ICALA<br>012.d | GeminiC18 3x100 3(mm) |

## LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Instrument ID: A8\_N Start Date: 12/27/2017 13:50Analysis Batch Number: 201540 End Date: 12/27/2017 14:52

| LAB SAMPLE ID     | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID         | COLUMN ID             |
|-------------------|------------------|------------------|--------------------|---------------------|-----------------------|
| CCVL 320-201540/1 |                  | 12/27/2017 13:50 | 1                  | 2017.12.27LLA_005.d | GeminiC18 3x100 3(mm) |
| CCV 320-201540/2  |                  | 12/27/2017 13:57 | 1                  |                     | GeminiC18 3x100 3(mm) |
| CCV 320-201540/4  |                  | 12/27/2017 14:13 | 1                  |                     | GeminiC18 3x100 3(mm) |
| ZZZZZ             |                  | 12/27/2017 14:21 | 1                  |                     | GeminiC18 3x100 3(mm) |
| ZZZZZ             |                  | 12/27/2017 14:29 | 1                  |                     | GeminiC18 3x100 3(mm) |
| ZZZZZ             |                  | 12/27/2017 14:37 | 1                  |                     | GeminiC18 3x100 3(mm) |
| ZZZZZ             |                  | 12/27/2017 14:44 | 1                  |                     | GeminiC18 3x100 3(mm) |
| CCV 320-201540/9  |                  | 12/27/2017 14:52 | 1                  |                     | GeminiC18 3x100 3(mm) |

## LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Instrument ID: A8\_N Start Date: 12/27/2017 19:49Analysis Batch Number: 201601 End Date: 12/27/2017 20:05

| LAB SAMPLE ID    | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID             | COLUMN ID             |
|------------------|------------------|------------------|--------------------|-------------------------|-----------------------|
| CCV 320-201601/1 |                  | 12/27/2017 19:49 | 1                  | 2017.12.27LLA_0<br>51.d | GeminiC18 3x100 3(mm) |
| 320-34293-11     |                  | 12/27/2017 19:57 | 1                  | 2017.12.27LLA_0<br>52.d | GeminiC18 3x100 3(mm) |
| CCV 320-201601/3 |                  | 12/27/2017 20:05 | 1                  | 2017.12.27LLA_0<br>53.d | GeminiC18 3x100 3(mm) |

## LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Instrument ID: A8\_N Start Date: 12/28/2017 10:37Analysis Batch Number: 201620 End Date: 12/28/2017 10:37

| LAB SAMPLE ID     | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID             | COLUMN ID             |
|-------------------|------------------|------------------|--------------------|-------------------------|-----------------------|
| CCVL 320-201620/1 |                  | 12/28/2017 10:37 | 1                  | 2017.12.28LLA_0<br>05.d | GeminiC18 3x100 3(mm) |

## LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica SacramentoJob No.: 320-34293-1

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

Instrument ID: A8\_NStart Date: 12/29/2017 07:39Analysis Batch Number: 201893End Date: 12/29/2017 10:23

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID             | COLUMN ID             |
|--------------------|------------------|------------------|--------------------|-------------------------|-----------------------|
| CCV 320-201893/1   |                  | 12/29/2017 07:39 | 1                  | 2017.12.28LLD_0<br>01.d | GeminiC18 3x100 3(mm) |
| MB 320-201396/1-A  |                  | 12/29/2017 07:47 | 1                  | 2017.12.28LLD_0<br>02.d | GeminiC18 3x100 3(mm) |
| LCS 320-201396/2-A |                  | 12/29/2017 07:54 | 1                  | 2017.12.28LLD_0<br>03.d | GeminiC18 3x100 3(mm) |
| 320-34293-1        |                  | 12/29/2017 08:02 | 1                  | 2017.12.28LLD_0<br>04.d | GeminiC18 3x100 3(mm) |
| 320-34293-2        |                  | 12/29/2017 08:10 | 1                  | 2017.12.28LLD_0<br>05.d | GeminiC18 3x100 3(mm) |
| 320-34293-2 MS     |                  | 12/29/2017 08:18 | 1                  | 2017.12.28LLD_0<br>06.d | GeminiC18 3x100 3(mm) |
| 320-34293-2 MSD    |                  | 12/29/2017 08:26 | 1                  | 2017.12.28LLD_0<br>07.d | GeminiC18 3x100 3(mm) |
| 320-34293-3        |                  | 12/29/2017 08:34 | 1                  | 2017.12.28LLD_0<br>08.d | GeminiC18 3x100 3(mm) |
| 320-34293-4        |                  | 12/29/2017 08:41 | 1                  | 2017.12.28LLD_0<br>09.d | GeminiC18 3x100 3(mm) |
| 320-34293-5        |                  | 12/29/2017 08:49 | 1                  | 2017.12.28LLD_0<br>10.d | GeminiC18 3x100 3(mm) |
| 320-34293-6        |                  | 12/29/2017 08:57 | 1                  | 2017.12.28LLD_0<br>11.d | GeminiC18 3x100 3(mm) |
| CCV 320-201893/12  |                  | 12/29/2017 09:05 | 1                  | 2017.12.28LLD_0<br>12.d | GeminiC18 3x100 3(mm) |
| 320-34293-7        |                  | 12/29/2017 09:13 | 1                  | 2017.12.28LLD_0<br>13.d | GeminiC18 3x100 3(mm) |
| 320-34293-8        |                  | 12/29/2017 09:20 | 1                  | 2017.12.28LLD_0<br>14.d | GeminiC18 3x100 3(mm) |
| 320-34293-9        |                  | 12/29/2017 09:28 | 1                  | 2017.12.28LLD_0<br>15.d | GeminiC18 3x100 3(mm) |
| 320-34293-10       |                  | 12/29/2017 09:36 | 1                  | 2017.12.28LLD_0<br>16.d | GeminiC18 3x100 3(mm) |
| ZZZZZ              |                  | 12/29/2017 09:44 | 1                  |                         | GeminiC18 3x100 3(mm) |
| ZZZZZ              |                  | 12/29/2017 09:52 | 1                  |                         | GeminiC18 3x100 3(mm) |
| ZZZZZ              |                  | 12/29/2017 10:00 | 1                  |                         | GeminiC18 3x100 3(mm) |
| ZZZZZ              |                  | 12/29/2017 10:07 | 1                  |                         | GeminiC18 3x100 3(mm) |
| ZZZZZ              |                  | 12/29/2017 10:15 | 1                  |                         | GeminiC18 3x100 3(mm) |
| CCV 320-201893/22  |                  | 12/29/2017 10:23 | 1                  | 2017.12.28LLD_0<br>22.d | GeminiC18 3x100 3(mm) |

## LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Batch Number: 200556 Batch Start Date: 12/19/17 15:24 Batch Analyst: Kolstad, Kate MBatch Method: 3535 Batch End Date: 12/19/17 19:50

| Lab Sample ID          | Client Sample ID | Method Chain            | Basis | GrossWeight | TareWeight | InitialAmount | FinalAmount | LCMPFC ALL_SU<br>00028 | LCPFC-IS 00018 |
|------------------------|------------------|-------------------------|-------|-------------|------------|---------------|-------------|------------------------|----------------|
| MB 320-200556/1        |                  | 3535, 537<br>(modified) |       |             |            | 250.00 mL     | 10.00 mL    | 500 uL                 | 500 uL         |
| LCS<br>320-200556/2    |                  | 3535, 537<br>(modified) |       |             |            | 250.00 mL     | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-11         | MW-X             | 3535, 537<br>(modified) | T     | 275.74 g    | 28.33 g    | 247.4 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 480-128901-E-19<br>MS  |                  | 3535, 537<br>(modified) | T     | 275.79 g    | 26.26 g    | 249.5 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 480-128901-E-19<br>MSD |                  | 3535, 537<br>(modified) | T     | 278.18 g    | 26.38 g    | 251.8 mL      | 10.00 mL    | 500 uL                 | 500 uL         |

| Lab Sample ID          | Client Sample ID | Method Chain            | Basis | LCPFCSP 00117 |  |  |  |  |  |
|------------------------|------------------|-------------------------|-------|---------------|--|--|--|--|--|
| MB 320-200556/1        |                  | 3535, 537<br>(modified) |       |               |  |  |  |  |  |
| LCS<br>320-200556/2    |                  | 3535, 537<br>(modified) |       | 500 uL        |  |  |  |  |  |
| 320-34293-A-11         | MW-X             | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 480-128901-E-19<br>MS  |                  | 3535, 537<br>(modified) | T     | 500 uL        |  |  |  |  |  |
| 480-128901-E-19<br>MSD |                  | 3535, 537<br>(modified) | T     | 500 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.

537 (modified)

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## LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Batch Number: 200556 Batch Start Date: 12/19/17 15:24 Batch Analyst: Kolstad, Kate MBatch Method: 3535 Batch End Date: 12/19/17 19:50

| Batch Notes                          |                 |
|--------------------------------------|-----------------|
| Analyst ID - Aliquot Step            | KMK             |
| Balance ID                           | QA-070          |
| Analyst ID - Final Volume Step       | KMK             |
| H2O ID                               | 12-19-17        |
| Hexane ID                            | 1095479         |
| Internal Standard ID#                | 1106115         |
| Manifold ID                          | 2, 11           |
| Methanol ID                          | 1118718         |
| Sodium Hydroxide ID                  | 1112059         |
| Pipette ID                           | N32761F         |
| Analyst ID - Reagent Drop            | JER             |
| Analyst ID - IS Reagent Drop         | VPM             |
| Analyst ID - IS Reagent Drop Witness | KMK             |
| Analyst ID - SU Reagent Drop         | JER             |
| Analyst ID - SU Reagent Drop Witness | KMK             |
| Solvent Lot #                        | 1112263         |
| Solvent Name                         | 0.3% NH4OH/MeOH |
| SOP Number                           | WS-LC-0025      |
| SPE Cartridge Type                   | WAX 500mg       |
| Solid Phase Extraction Disk ID       | 003337172A      |

| 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: TestAmerica Sacramento Job No.: 320-34293-1

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

Batch Number: 201396 Batch Start Date: 12/26/17 18:34 Batch Analyst: Reed, Jonathan EBatch Method: 3535 Batch End Date: 12/28/17 00:30

| Lab Sample ID        | Client Sample ID            | Method Chain            | Basis | GrossWeight | TareWeight | InitialAmount | FinalAmount | LCMPFC ALL_SU<br>00027 | LCPFC-IS 00018 |
|----------------------|-----------------------------|-------------------------|-------|-------------|------------|---------------|-------------|------------------------|----------------|
| MB 320-201396/1      |                             | 3535, 537<br>(modified) |       |             |            | 250.00 mL     | 10.00 mL    | 500 uL                 | 500 uL         |
| LCS<br>320-201396/2  |                             | 3535, 537<br>(modified) |       |             |            | 250.00 mL     | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-1        | Equipment Blank<br>12-12-17 | 3535, 537<br>(modified) | T     | 326.71 g    | 28.30 g    | 298.4 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-2        | MW-6S                       | 3535, 537<br>(modified) | T     | 306.41 g    | 29.06 g    | 277.4 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-2<br>MS  | MW-6S                       | 3535, 537<br>(modified) | T     | 311.25 g    | 28.44 g    | 282.8 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-2<br>MSD | MW-6S                       | 3535, 537<br>(modified) | T     | 309.10 g    | 28.63 g    | 280.5 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-3        | MW-6I                       | 3535, 537<br>(modified) | T     | 317.60 g    | 28.62 g    | 289 mL        | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-4        | MW-10S                      | 3535, 537<br>(modified) | T     | 320.04 g    | 28.33 g    | 291.7 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-5        | MW-10I                      | 3535, 537<br>(modified) | T     | 300.21 g    | 26.70 g    | 273.5 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-6        | MW-1I                       | 3535, 537<br>(modified) | T     | 293.29 g    | 26.54 g    | 266.8 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-7        | MW-1S                       | 3535, 537<br>(modified) | T     | 302.39 g    | 29.75 g    | 272.6 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-8        | MW-9D                       | 3535, 537<br>(modified) | T     | 308.86 g    | 29.21 g    | 279.7 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-9        | MW-9I                       | 3535, 537<br>(modified) | T     | 307.92 g    | 28.60 g    | 279.3 mL      | 10.00 mL    | 500 uL                 | 500 uL         |
| 320-34293-A-10       | MW-9S                       | 3535, 537<br>(modified) | T     | 302.75 g    | 26.26 g    | 276.5 mL      | 10.00 mL    | 500 uL                 | 500 uL         |

| Lab Sample ID       | Client Sample ID            | Method Chain            | Basis | LCPFCSP 00118 |  |  |  |  |  |
|---------------------|-----------------------------|-------------------------|-------|---------------|--|--|--|--|--|
| MB 320-201396/1     |                             | 3535, 537<br>(modified) |       |               |  |  |  |  |  |
| LCS<br>320-201396/2 |                             | 3535, 537<br>(modified) |       | 500 uL        |  |  |  |  |  |
| 320-34293-A-1       | Equipment Blank<br>12-12-17 | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 320-34293-A-2       | MW-6S                       | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 320-34293-A-2<br>MS | MW-6S                       | 3535, 537<br>(modified) | T     | 500 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.

537 (modified)

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## LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Batch Number: 201396 Batch Start Date: 12/26/17 18:34 Batch Analyst: Reed, Jonathan EBatch Method: 3535 Batch End Date: 12/28/17 00:30

| Lab Sample ID        | Client Sample ID | Method Chain            | Basis | LCPFCSP 00118 |  |  |  |  |  |
|----------------------|------------------|-------------------------|-------|---------------|--|--|--|--|--|
| 320-34293-A-2<br>MSD | MW-6S            | 3535, 537<br>(modified) | T     | 500 uL        |  |  |  |  |  |
| 320-34293-A-3        | MW-6I            | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 320-34293-A-4        | MW-10S           | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 320-34293-A-5        | MW-10I           | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 320-34293-A-6        | MW-1I            | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 320-34293-A-7        | MW-1S            | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 320-34293-A-8        | MW-9D            | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 320-34293-A-9        | MW-9I            | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |
| 320-34293-A-10       | MW-9S            | 3535, 537<br>(modified) | T     |               |  |  |  |  |  |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

537 (modified)

Page 2 of 3

## LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-34293-1

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

Batch Number: 201396 Batch Start Date: 12/26/17 18:34 Batch Analyst: Reed, Jonathan EBatch Method: 3535 Batch End Date: 12/28/17 00:30

| Batch Notes                          |                 |
|--------------------------------------|-----------------|
| Analyst ID - Aliquot Step            | JER             |
| Balance ID                           | QA-070          |
| Analyst ID - Final Volume Step       | JER             |
| H2O ID                               | 12/19/17        |
| Hexane ID                            | 1095481         |
| Internal Standard ID#                | 1106115         |
| Manifold ID                          | 15, 14          |
| Methanol ID                          | 1118716         |
| Sodium Hydroxide ID                  | 1112059         |
| Pipette ID                           | I46370G         |
| Analyst ID - Reagent Drop            | JER             |
| Analyst ID - IS Reagent Drop         | JER             |
| Analyst ID - IS Reagent Drop Witness | VPM             |
| Analyst ID - SU Reagent Drop         | JER             |
| Analyst ID - SU Reagent Drop Witness | TWL             |
| Solvent Lot #                        | 1112027         |
| Solvent Name                         | 0.3% NH4OH/MeOH |
| SOP Number                           | WS-LC-0025      |
| SPE Cartridge Type                   | WAX 500         |
| Solid Phase Extraction Disk ID       | 003337157A      |

| 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.

## HPLC/LCMS Data Review Checklist

Job Number(s): 320-34293

Work List ID(s): 52207, 52119

Extraction Batch: 200556

Analysis Batch(es): 201601, 201236

Delivery Rank: 4

Due Date: 2/19/2018

| A. Calibration/Instrument Run QC                                                                                           | 1 <sup>st</sup> Level               | 2 <sup>nd</sup> Level               | N/A                                 |
|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. ICAL locked in Chrom and TALS? ICAL Batch# <u>201411, 201053</u>                                                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 2. ICAL, CCV Frequency & Criteria met.                                                                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| • RF <sub>average</sub> criteria appropriate for the method.                                                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| • Linear Regression criteria appropriate if required ( $r \geq 0.995$ ).                                                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| • Quadratic fit criteria appropriate if required ( $r^2 \geq 0.990$ ).                                                     |                                     |                                     | <input checked="" type="checkbox"/> |
| • For Linear Regression and Quadratic fit – Does the y-intercept support ½ the reporting limit as described in CA-Q-S-005? | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| • All curve points show calculated concentrations.                                                                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 3. Peaks correctly ID'd by data system.                                                                                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 5. Tune check frequency & criteria met and Tune check report attached.                                                     |                                     |                                     | <input checked="" type="checkbox"/> |
| B. QA/QC                                                                                                                   |                                     |                                     |                                     |
| 1. Are all QC samples properly linked in TALS?                                                                             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 2. Method blank, LCS/LCSD and MS/SD frequencies met.                                                                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 3. LCS/LCSD and MB data are within control limits. If not, NCM is present.                                                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 4. Are MS/MSD recoveries and RPD within control limits?                                                                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 5. Holding Times were met for prep and analytical.                                                                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 6. IS/Surrogate recoveries meet criteria or properly noted.                                                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| C. Sample Analysis                                                                                                         |                                     |                                     |                                     |
| 1. Was correct analysis performed and were project instructions followed?                                                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 2. If required, are compounds within RT windows?                                                                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 3. If required, are positive hits confirmed and >40% RPD flagged?                                                          |                                     |                                     | <input checked="" type="checkbox"/> |
| 4. Manual Integrations reviewed and appropriate.                                                                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 5. All analytes correctly reported. (Primary, secondary, acceptable status)                                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 6. Correct reporting limits used. (based on client request, prep factors, and dilutions)                                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| D. Documentation                                                                                                           |                                     |                                     |                                     |
| 1. Are all non-conformances documented/attached? NCM# <u>113405</u>                                                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 2. Do results make sense (e.g. dilutions, etc.)?                                                                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 3. Have all flags been reviewed for appropriateness?                                                                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 4. For level 3 and 4 reports, have forms and raw data been reviewed?                                                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 5. Was QC Checker run for this job?                                                                                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |

\*Upon completion of this checklist, the reviewer must scan and attach the checklist to the TALS job.

1<sup>st</sup> Level (Analyst): ABH

Date: 1/12/2018

2<sup>nd</sup> Level Reviewer: Sub

Date: 1/12/18

TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 23DEC2017NCAX\_PFC Worklist Number: 52119  
 Instrument Name: A8\_N Chrom Method: A8\_N  
 Data Directory: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b  
 QC Batching: Disabled Limit Group Batching: Enabled

| QC Batch: 1               | LC PFC ICAL<br>Raw Batch: 201236 | LC PFC_DOD ICAL<br>Raw Batch: 201237 | LC PFC_QSM5-1 ICAL<br>Raw Batch: 201238 |
|---------------------------|----------------------------------|--------------------------------------|-----------------------------------------|
| # 1 CCVL                  | # 1 CCVL                         | # 1 CCVL                             | # 1 CCVL                                |
| # 2 CCV L4                | # 2 CCV L4                       | # 2 CCV L4                           | # 2 CCV L4                              |
| # 3 RB                    | # 3 RB                           | # 3 RB                               | # 3 RB                                  |
| # 4 MB 320-200556/1-A     | # 4 MB 320-200556/1-A            |                                      |                                         |
| # 5 LCS 320-200556/2-A    | # 5 LCS 320-200556/2-A           |                                      |                                         |
| # 6 320-34293-A-11-A      | # 6 320-34293-A-11-A             |                                      |                                         |
| # 7 190-15125-A-1-A       | # 7 190-15125-A-1-A              |                                      |                                         |
| # 8 560-71286-J-1-A       | # 8 560-71286-J-1-A              |                                      |                                         |
| # 9 560-71286-J-2-A       | # 9 560-71286-J-2-A              |                                      |                                         |
| #10 480-128901-E-19-A     | #10 480-128901-E-19-A            |                                      |                                         |
| #11 480-128901-E-19-B MS  | #11 480-128901-E-19-B MS         |                                      |                                         |
| #12 480-128901-E-19-C MSD | #12 480-128901-E-19-C MSD        |                                      |                                         |
| #13 CCV L5                | #13 CCV L5                       |                                      |                                         |

TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 27DEC2017NCF\_PFC Worklist Number: 52207  
Instrument Name: A8\_N Chrom Method: A8\_N  
Data Directory: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b  
QC Batching: Disabled Limit Group Batching: Enabled

| QC Batch: 1          | LC PFC ICAL<br>Raw Batch: 201601 |
|----------------------|----------------------------------|
| # 1 CCV L4           | # 1 CCV L4                       |
| # 2 320-34293-A-11-A | # 2 320-34293-A-11-A             |
| # 3 CCV L5           | # 3 CCV L5                       |

CCVL: 201540

## TestAmerica Laboratories

## Worklist Run Log Report

Worklist Name: 23DEC2017NCAX\_PFC

Worklist Num: 52119

Instrument: A8\_N

Method: A8\_N

Batch Directory: \\ChromNa\Sacramento\ChromData\A8\_N\20171223-52119.b

Analysis Type: SemiVOA

Creator: Phomsopha, Thep

Inj Volume: 2.00

Inj Vol Units: ul

| Lab ID                | Worklist ID     | Sample Type | Inj Date/Time        | File Name             | Vial | Dil Factor | Client ID    | Fract |
|-----------------------|-----------------|-------------|----------------------|-----------------------|------|------------|--------------|-------|
| CCVL                  | 320-0052119-001 | CCVL        | 23-Dec-2017 14:09:53 | 2017.12.23LLAXA_002.d | 21   | 1.0        |              | sv    |
| CCV L4                | 320-0052119-002 | CCV         | 23-Dec-2017 14:17:40 | 2017.12.23LLAXA_003.d | 13   | 1.0        |              | sv    |
| RB                    | 320-0052119-003 | RB          | 23-Dec-2017 14:25:32 | 2017.12.23LLAXA_004.d | 20   | 1.0        |              | sv    |
| MB 320-200556/1-A     | 320-0052119-004 | MB          | 23-Dec-2017 14:41:14 | 2017.12.23LLBXB_002.d | 1    | 1.0        |              | sv    |
| LCS 320-200556/2-A    | 320-0052119-005 | LCS         | 23-Dec-2017 14:49:07 | 2017.12.23LLBXB_003.d | 2    | 1.0        |              | sv    |
| 320-34293-A-11-A      | 320-0052119-006 | Client      | 23-Dec-2017 14:56:57 | 2017.12.23LLBXB_004.d | 3    | 1.0        | MW-X         | sv    |
| 190-15125-A-1-A       | 320-0052119-007 | Client      | 23-Dec-2017 15:04:46 | 2017.12.23LLBXB_005.d | 4    | 10.0       | Outfall PFOS | sv    |
| 560-71286-J-1-A       | 320-0052119-008 | Client      | 23-Dec-2017 15:12:35 | 2017.12.23LLBXB_006.d | 5    | 1.0        | RB-68-11-816 | sv    |
| 560-71286-J-2-A       | 320-0052119-009 | Client      | 23-Dec-2017 15:20:30 | 2017.12.23LLBXB_007.d | 6    | 1.0        | RB-68-19-506 | sv    |
| 480-128901-E-19-A     | 320-0052119-010 | Client      | 23-Dec-2017 15:28:22 | 2017.12.23LLBXB_008.d | 7    | 1.0        | MW-12        | sv    |
| 480-128901-E-19-B MS  | 320-0052119-011 | MS          | 23-Dec-2017 15:36:13 | 2017.12.23LLBXB_009.d | 8    | 1.0        | MW-12        | sv    |
| 480-128901-E-19-C MSD | 320-0052119-012 | MSD         | 23-Dec-2017 15:44:04 | 2017.12.23LLBXB_010.d | 9    | 1.0        | MW-12        | sv    |
| CCV L5                | 320-0052119-013 | CCV         | 23-Dec-2017 15:51:55 | 2017.12.23LLBXB_011.d | 14   | 1.0        |              | sv    |

TestAmerica Laboratories  
Worklist Run Log Report

Worklist Name: 27DEC2017NCA\_PFC

Worklist Num: 52188

Instrument: A8\_N

Method: A8\_N

Batch Directory: \\ChromNa\Sacramento\ChromData\A8\_N\20171227-52188.b

Analysis Type: SemiVOA

Creator: Royce, Amani A

Inj Volume: 2.00

Inj Vol Units: ul

| Lab ID              | Worklist ID     | Sample Type | Inj Date/Time        | File Name           | Vial | Dil Factor | Client ID | Fract |
|---------------------|-----------------|-------------|----------------------|---------------------|------|------------|-----------|-------|
| CCVL                | 320-0052188-001 | CCVL        | 27-Dec-2017 13:50:09 | 2017.12.27LLA_005.d | 21   | 1.0        |           | sv    |
| CCV L4              | 320-0052188-002 | CCV         | 27-Dec-2017 13:57:57 | 2017.12.27LLA_006.d | 13   | 1.0        |           | sv    |
| RB                  | 320-0052188-003 | RB          | 27-Dec-2017 14:05:45 | 2017.12.27LLA_007.d | 20   | 1.0        |           | sv    |
| CCV L5              | 320-0052188-004 | CCV         | 27-Dec-2017 14:13:33 | 2017.12.27LLA_008.d | 14   | 1.0        |           | sv    |
| MB 320-201394/1-A   | 320-0052188-005 | MB          | 27-Dec-2017 14:21:22 | 2017.12.27LLA_009.d | 1    | 1.0        |           | sv    |
| LCS 320-201394/2-A  | 320-0052188-006 | LCS         | 27-Dec-2017 14:29:11 | 2017.12.27LLA_010.d | 2    | 1.0        |           | sv    |
| LCSD 320-201394/3-A | 320-0052188-007 | LCSD        | 27-Dec-2017 14:37:00 | 2017.12.27LLA_011.d | 3    | 1.0        |           | sv    |
| 480-128901-F-5-A    | 320-0052188-008 | Client      | 27-Dec-2017 14:44:49 | 2017.12.27LLA_012.d | 4    | 1.0        | MW-4      | sv    |
| CCV L4              | 320-0052188-009 | CCV         | 27-Dec-2017 14:52:39 | 2017.12.27LLA_013.d | 13   | 1.0        |           | sv    |



TestAmerica Laboratories  
Worklist Run Log Report

Worklist Name: 27DEC2017NCF\_PFC

Worklist Num: 52207

Instrument: A8\_N

Method: A8\_N

Batch Directory: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52207.b

Anaylysis Type: SemiVOA

Creator: Hannigan, Alyssa B

Inj Volume: 2.00

Inj Vol Units: ul

| Lab ID           | Worklist ID     | Sample Type | Inj Date/Time        | File Name           | Viel | Dil Factor | Client ID | Fract |
|------------------|-----------------|-------------|----------------------|---------------------|------|------------|-----------|-------|
| CCV L4           | 320-0052207-001 | CCV         | 27-Dec-2017 19:49:55 | 2017.12.27LLA_051.d | 13   | 1.0        |           | sv    |
| 320-34293-A-11-A | 320-0052207-002 | Client      | 27-Dec-2017 19:57:43 | 2017.12.27LLA_052.d | 33   | 1.0        | MW-X      | sv    |
| CCV L5           | 320-0052207-003 | CCV         | 27-Dec-2017 20:05:31 | 2017.12.27LLA_053.d | 14   | 1.0        |           | sv    |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200556

Analyst: Kolstad, Kate M

Batch Open: 12/19/2017 3:24:00PM

Method Code: 320-3535\_PFC-320

Batch End: 12/19/2017 7:50:00PM

## Solid-Phase Extraction (SPE)

| Input Sample Lab ID<br>(Analytical Method) | SDG<br>(Job #)        | GrossWt<br>TareWt   | InitAmt<br>FinAmt     | PHs<br>Adj1 Adj2 | Due Date | Analytical<br>TAT | Div<br>Rank | Comments | Output Sample Lab ID  |
|--------------------------------------------|-----------------------|---------------------|-----------------------|------------------|----------|-------------------|-------------|----------|-----------------------|
| 1 MB-320-200556/1<br>N/A                   | N/A                   |                     | 250.00 mL<br>10.00 mL |                  | N/A      | N/A               | N/A         |          | MB-320-200556/1-A     |
| 2 LCS-320-200556/2<br>N/A                  | N/A                   |                     | 250.00 mL<br>10.00 mL |                  | N/A      | N/A               | N/A         |          | LCS-320-200556/2-A    |
| 3 320-34293-A-11<br>(PFC_IDA)              | N/A<br>(320-34293-1)  | 275.74 g<br>28.33 g | 247.4 mL<br>10.00 mL  |                  | 1/22/18  | 25_Days           | 4           |          | 320-34293-A-11-A      |
| 190-15125-A-1<br>(PFC_IDA)                 | N/A<br>(190-15125-1)  | 274.68 g<br>27.78 g | 246.9 mL<br>10.00 mL  |                  | 12/27/17 | 8_Days            | 2           |          | 190-15125-A-1-A       |
| 560-71286-J-1<br>(PFC_IDA)                 | N/A<br>(560-71286-1)  | 277.42 g<br>26.97 g | 250.5 mL<br>10.00 mL  |                  | 1/8/18   | 16_Days           | 2           |          | 560-71286-J-1-A       |
| 560-71286-J-2<br>(PFC_IDA)                 | N/A<br>(560-71286-1)  | 277.69 g<br>26.74 g | 251 mL<br>10.00 mL    |                  | 1/8/18   | 16_Days           | 2           |          | 560-71286-J-2-A       |
| 480-128901-E-19<br>(PFC_IDA)               | N/A<br>(480-128901-1) | 282.11 g<br>26.44 g | 255.7 mL<br>10.00 mL  |                  | 12/26/17 | 8_Day_Rush        | 4           |          | 480-128901-E-19-A     |
| 480-128901-E-19-MS<br>(PFC_IDA)            | N/A<br>(480-128901-1) | 275.79 g<br>26.26 g | 249.5 mL<br>10.00 mL  |                  | 12/26/17 | 8_Day_Rush        | 4           |          | 480-128901-E-19-B-MS  |
| 480-128901-E-19-MSD<br>(PFC_IDA)           | N/A<br>(480-128901-1) | 278.18 g<br>26.38 g | 251.8 mL<br>10.00 mL  |                  | 12/26/17 | 8_Day_Rush        | 4           |          | 480-128901-E-19-C-MSD |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200556

Analyst: Kolstad, Kate M

Batch Open: 12/19/2017 3:24:00PM

Method Code: 320-3535\_PFC-320

Batch End: 12/19/2017 7:50:00PM

|                                           | atch Notes |
|-------------------------------------------|------------|
| Manifold ID 2, 11                         |            |
| Methanol ID 1118718                       |            |
| Hexane ID 1095479                         |            |
| Sodium Hydroxide ID 1112059               |            |
| First Start time NA                       |            |
| First End time NA                         |            |
| SPE Cartridge Type WAX 500mg              |            |
| Solid Phase Extraction Disk ID 003337172A |            |
| Balance ID QA-070                         |            |
| H2O ID 12-19-17                           |            |
| Pipette ID N32761F                        |            |
| Solvent Name 0.3 NH4OH/MeOH               |            |
| Solvent Lot # 1112263                     |            |
| Analyst ID - Reagent Drop JER             |            |
| Analyst ID - SU Reagent Drop JER          |            |
| Analyst ID - SU Reagent Drop KMK          |            |
| Witness                                   |            |
| Acid Name NA                              |            |
| Acid ID NA                                |            |
| Reagent ID NA                             |            |
| Reagent Lot Number NA                     |            |
| Analyst ID - IS Reagent Drop VPM          |            |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200556

Analyst: Kolstad, Kate M .

Batch Open: 12/19/2017 3:24:00PM

Method Code: 320-3535\_PFC-320

Batch End: 12/19/2017 7:50:00PM

|                                      |            |
|--------------------------------------|------------|
| Analyst ID - IS Reagent Drop Witness | KMK        |
| Internal Standard ID#                | 1106115    |
| Analyst ID - Concentration           | NA         |
| Analyst ID - Aliquot Step            | KMK        |
| Analyst ID - Final Volume Step       | KMK        |
| SOP Number                           | WS-LC-0025 |
| Batch Comment                        | NA         |
|                                      |            |
|                                      |            |

## Comments

Login Comments for Job 128901: L4Reviewed(Bflo)n/a - all sub only.

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200556

Analyst: Kolstad, Kate M

Batch Open: 12/19/2017 3:24:00PM

Method Code: 320-3535\_PFC-320

Batch End: 12/19/2017 7:50:00PM

## Reagent Additions Worksheet

| Lab ID             | Reagent Code        | Amount Added | Final Amount | y | Witness |
|--------------------|---------------------|--------------|--------------|---|---------|
| MB 320-200556/1    | LCMPFC_ALL_SU_00028 | 500 uL       | 10.00 mL     |   |         |
| MB 320-200556/1    | LCPFC-IS_00018      | 500 uL       | 10.00 mL     |   |         |
| LCS 320-200556/2   | LCMPFC_ALL_SU_00028 | 500 uL       | 10.00 mL     |   |         |
| LCS 320-200556/2   | LCPFC-IS_00018      | 500 uL       | 10.00 mL     |   |         |
| LCS 320-200556/2   | LCPFCSP_00117       | 500 uL       | 10.00 mL     |   |         |
| 320-34293-A-11     | LCMPFC_ALL_SU_00028 | 500 uL       | 10.00 mL     |   |         |
| 320-34293-A-11     | LCPFC-IS_00018      | 500 uL       | 10.00 mL     |   |         |
| 190-15125-A-1      | LCMPFC_ALL_SU_00028 | 500 uL       | 10.00 mL     |   |         |
| 190-15125-A-1      | LCPFC-IS_00018      | 500 uL       | 10.00 mL     |   |         |
| 560-71286-J-1      | LCMPFC_ALL_SU_00028 | 500 uL       | 10.00 mL     |   |         |
| 560-71286-J-1      | LCPFC-IS_00018      | 500 uL       | 10.00 mL     |   |         |
| 560-71286-J-2      | LCMPFC_ALL_SU_00028 | 500 uL       | 10.00 mL     |   |         |
| 560-71286-J-2      | LCPFC-IS_00018      | 500 uL       | 10.00 mL     |   |         |
| 480-128901-E-19    | LCMPFC_ALL_SU_00028 | 500 uL       | 10.00 mL     |   |         |
| 480-128901-E-19    | LCPFC-IS_00018      | 500 uL       | 10.00 mL     |   |         |
| 480-128901-E-19 MS | LCMPFC_ALL_SU_00028 | 500 uL       | 10.00 mL     |   |         |
| 480-128901-E-19 MS | LCPFC-IS_00018      | 500 uL       | 10.00 mL     |   |         |
| 480-128901-E-19 MS | LCPFCSP_00117       | 500 uL       | 10.00 mL     |   |         |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-200556

Analyst: Kolstad, Kate M

Batch Open: 12/19/2017 3:24:00PM

Method Code: 320-3535\_PFC-320

Batch End: 12/19/2017 7:50:00PM

|                     |                     |        |          |  |
|---------------------|---------------------|--------|----------|--|
| 480-128901-E-19 MSD | LCMPFC_ALL_SU_00028 | 500 uL | 10.00 mL |  |
| 480-128901-E-19 MSD | LCPFC-IS_00018      | 500 uL | 10.00 mL |  |
| 480-128901-E-19 MSD | LCPFCSP_00117       | 500 uL | 10.00 mL |  |

| Reagent | Other Reagents: | Amount/U nits | Lot#: |
|---------|-----------------|---------------|-------|
|         |                 |               |       |
|         |                 |               |       |
|         |                 |               |       |
|         |                 |               |       |
|         |                 |               |       |
|         |                 |               |       |

## HPLC/LCMS Data Review Checklist

Job Number(s): 320-34293, 480-128902

Work List ID(s): 52289

Extraction Batch: 201396

Analysis Batch(es): 201893

Delivery Rank: 4

Due Date: 01/12/2018

| A. Calibration/Instrument Run QC                                                                                           | 1 <sup>st</sup> Level               | 2 <sup>nd</sup> Level               | N/A                                 |
|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. ICAL locked in Chrom and TALS? ICAL Batch# <u>201411</u>                                                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 2. ICAL, CCV Frequency & Criteria met.                                                                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| • RF <sub>average</sub> criteria appropriate for the method.                                                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| • Linear Regression criteria appropriate if required ( $r \geq 0.995$ ).                                                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| • Quadratic fit criteria appropriate if required ( $r^2 \geq 0.990$ ).                                                     |                                     |                                     | <input checked="" type="checkbox"/> |
| • For Linear Regression and Quadratic fit – Does the y-intercept support ½ the reporting limit as described in CA-Q-S-005? | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| • All curve points show calculated concentrations.                                                                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 3. Peaks correctly ID'd by data system.                                                                                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 5. Tune check frequency & criteria met and Tune check report attached.                                                     |                                     |                                     | <input checked="" type="checkbox"/> |
| B. QA/QC                                                                                                                   |                                     |                                     |                                     |
| 1. Are all QC samples properly linked in TALS?                                                                             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 2. Method blank, LCS/LCSD and MS/SD frequencies met.                                                                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 3. LCS/LCSD and MB data are within control limits. If not, NCM is present.                                                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 4. Are MS/MSD recoveries and RPD within control limits?                                                                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 5. Holding Times were met for prep and analytical.                                                                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 6. IS/Surrogate recoveries meet criteria or properly noted.                                                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| C. Sample Analysis                                                                                                         |                                     |                                     |                                     |
| 1. Was correct analysis performed and were project instructions followed?                                                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 2. If required, are compounds within RT windows?                                                                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 3. If required, are positive hits confirmed and >40% RPD flagged?                                                          |                                     |                                     | <input checked="" type="checkbox"/> |
| 4. Manual Integrations reviewed and appropriate.                                                                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 5. All analytes correctly reported. (Primary, secondary, acceptable status)                                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 6. Correct reporting limits used. (based on client request, prep factors, and dilutions)                                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| D. Documentation                                                                                                           |                                     |                                     |                                     |
| 1. Are all non-conformances documented/attached? NCM# <u>113191</u>                                                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 2. Do results make sense (e.g. dilutions, etc.)?                                                                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 3. Have all flags been reviewed for appropriateness?                                                                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 4. For level 3 and 4 reports, have forms and raw data been reviewed?                                                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |
| 5. Was QC Checker run for this job?                                                                                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |

\*Upon completion of this checklist, the reviewer must scan and attach the checklist to the TALS job.

1<sup>st</sup> Level (Analyst): ABH

Date: 01/10/2018

2<sup>nd</sup> Level Reviewer: She

Date: 1/4/18

## TestAmerica Laboratories

## Worklist QC Batch Report

Worklist Name: 28DEC2017NCJ\_PFC

Worklist Number: 52289

Instrument Name: A8\_N

Chrom Method: A8\_N

Data Directory: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b

QC Batching: Disabled

Limit Group Batching: Enabled

CCVL 201620

| QC Batch: 1             | LC PFC ICAL<br>Raw Batch: 201893 | LC PFC_DOD ICAL<br>Raw Batch: 201894 | LC PFC_QSM5-1 ICAL<br>Raw Batch: 201895 |
|-------------------------|----------------------------------|--------------------------------------|-----------------------------------------|
| # 1 CCV L4              | # 1 CCV L4                       | # 1 CCV L4                           | # 1 CCV L4                              |
| # 2 MB 320-201396/1-A   | # 2 MB 320-201396/1-A            |                                      |                                         |
| # 3 LCS 320-201396/2-A  | # 3 LCS 320-201396/2-A           |                                      |                                         |
| # 4 320-34293-A-1-A     | # 4 320-34293-A-1-A              |                                      |                                         |
| # 5 320-34293-A-2-A     | # 5 320-34293-A-2-A              |                                      |                                         |
| # 6 320-34293-A-2-B MS  | # 6 320-34293-A-2-B MS           |                                      |                                         |
| # 7 320-34293-A-2-C MSD | # 7 320-34293-A-2-C MSD          |                                      |                                         |
| # 8 320-34293-A-3-A     | # 8 320-34293-A-3-A              |                                      |                                         |
| # 9 320-34293-A-4-A     | # 9 320-34293-A-4-A              |                                      |                                         |
| #10 320-34293-A-5-A     | #10 320-34293-A-5-A              |                                      |                                         |
| #11 320-34293-A-6-A     | #11 320-34293-A-6-A              |                                      |                                         |
| #12 CCV L5              | #12 CCV L5                       | #12 CCV L5                           | #12 CCV L5                              |
| #13 320-34293-A-7-A     | #13 320-34293-A-7-A              |                                      |                                         |
| #14 320-34293-A-8-A     | #14 320-34293-A-8-A              |                                      |                                         |
| #15 320-34293-A-9-A     | #15 320-34293-A-9-A              |                                      |                                         |
| #16 320-34293-A-10-A    | #16 320-34293-A-10-A             |                                      |                                         |
| #17 480-128902-E-1-A    | #17 480-128902-E-1-A             |                                      |                                         |
| #18 480-128902-C-2-A    | #18 480-128902-C-2-A             |                                      |                                         |
| #19 480-128902-E-3-A    | #19 480-128902-E-3-A             |                                      |                                         |
| #20 480-128902-A-4-A    | #20 480-128902-A-4-A             |                                      |                                         |
| #21 480-128902-A-5-A    | #21 480-128902-A-5-A             |                                      |                                         |
| #22 CCV L4              | #22 CCV L4                       | #22 CCV L4                           | #22 CCV L4                              |



TestAmerica Laboratories  
Worklist Run Log Report

Worklist Name: 28DEC2017NCA\_PFC

Worklist Num: 52215

Instrument: A8\_N

Method: A8\_N

Batch Directory: \\ChromNa\Sacramento\ChromData\A8\_N\20171228-52215.b

Analysis Type: SemiVOA

Creator: Hannigan, Alyssa B

Inj Volume: 2.00

Inj Vol Units: ul

| Lab ID                       | Worklist ID     | Sample Type | Inj Date/Time        | File Name           | Vial | Dil Factor | Fract |
|------------------------------|-----------------|-------------|----------------------|---------------------|------|------------|-------|
| CCVL                         | 320-0052215-001 | CCVL        | 28-Dec-2017 10:37:00 | 2017.12.28LLA_005.d | 21   | 1.0        | sv    |
| CCV L4                       | 320-0052215-002 | CCV         | 28-Dec-2017 10:44:49 | 2017.12.28LLA_006.d | 28   | 1.0        | sv    |
| RB                           | 320-0052215-003 | RB          | 28-Dec-2017 10:52:39 | 2017.12.28LLA_007.d | 20   | 1.0        | sv    |
| TOPS FEASIBILITY STUDY LCS 5 | 320-0052215-004 | Client      | 28-Dec-2017 11:00:29 | 2017.12.28LLA_038.d | 26   | 1.0        | sv    |
| TOPS FEASIBILITY STUDY LCS 6 | 320-0052215-005 | Client      | 28-Dec-2017 11:08:21 | 2017.12.28LLA_039.d | 27   | 1.0        | sv    |
| CCV L5                       | 320-0052215-006 | CCV         | 28-Dec-2017 11:16:12 | 2017.12.28LLA_040.d | 33   | 1.0        | sv    |
| CCV L4                       | 320-0052215-007 | CCV         |                      |                     |      |            |       |
| DO NOT USE MB 320-201406/1-A | 320-0052215-008 | Client      |                      |                     |      |            |       |

TestAmerica Laboratories  
Worklist Run Log Report

Worklist Name: 28DEC2017NCJ\_PFC

Worklist Num: 52289

Instrument: A8\_N

Method: A8\_N

Batch Directory: \\ChromNa\Sacramento\ChromData\A8\_N\20171229-52289.b

Analysis Type: SemiVOA

Creator: Royce, Amani A

Inj Volume: 2.00

Inj Vol Units: ul

| Lab ID              | Worklist ID     | Sample Type | Inj Date/Time        | File Name           | Vial | Dil Factor | Client ID                | Fract |
|---------------------|-----------------|-------------|----------------------|---------------------|------|------------|--------------------------|-------|
| CCV L4              | 320-0052289-001 | CCV         | 29-Dec-2017 07:39:18 | 2017.12.28LLD_001.d | 30   | 1.0        |                          | sv    |
| MB 320-201396/1-A   | 320-0052289-002 | MB          | 29-Dec-2017 07:47:09 | 2017.12.28LLD_002.d | 1    | 1.0        |                          | sv    |
| LCS 320-201396/2-A  | 320-0052289-003 | LCS         | 29-Dec-2017 07:54:58 | 2017.12.28LLD_003.d | 2    | 1.0        |                          | sv    |
| 320-34293-A-1-A     | 320-0052289-004 | Client      | 29-Dec-2017 08:02:47 | 2017.12.28LLD_004.d | 3    | 1.0        | Equipment Blank 12-12-17 | sv    |
| 320-34293-A-2-A     | 320-0052289-005 | Client      | 29-Dec-2017 08:10:36 | 2017.12.28LLD_005.d | 4    | 1.0        | MW-6S                    | sv    |
| 320-34293-A-2-B MS  | 320-0052289-006 | MS          | 29-Dec-2017 08:18:25 | 2017.12.28LLD_006.d | 5    | 1.0        | MW-6S                    | sv    |
| 320-34293-A-2-C MSD | 320-0052289-007 | MSD         | 29-Dec-2017 08:26:14 | 2017.12.28LLD_007.d | 6    | 1.0        | MW-6S                    | sv    |
| 320-34293-A-3-A     | 320-0052289-008 | Client      | 29-Dec-2017 08:34:04 | 2017.12.28LLD_008.d | 7    | 1.0        | MW-6I                    | sv    |
| 320-34293-A-4-A     | 320-0052289-009 | Client      | 29-Dec-2017 08:41:53 | 2017.12.28LLD_009.d | 8    | 1.0        | MW-10S                   | sv    |
| 320-34293-A-5-A     | 320-0052289-010 | Client      | 29-Dec-2017 08:49:42 | 2017.12.28LLD_010.d | 9    | 1.0        | MW-10I                   | sv    |
| 320-34293-A-6-A     | 320-0052289-011 | Client      | 29-Dec-2017 08:57:31 | 2017.12.28LLD_011.d | 10   | 1.0        | MW-1I                    | sv    |
| CCV L5              | 320-0052289-012 | CCV         | 29-Dec-2017 09:05:20 | 2017.12.28LLD_012.d | 35   | 1.0        |                          | sv    |
| 320-34293-A-7-A     | 320-0052289-013 | Client      | 29-Dec-2017 09:13:08 | 2017.12.28LLD_013.d | 11   | 1.0        | MW-1S                    | sv    |
| 320-34293-A-8-A     | 320-0052289-014 | Client      | 29-Dec-2017 09:20:58 | 2017.12.28LLD_014.d | 12   | 1.0        | MW-9D                    | sv    |
| 320-34293-A-9-A     | 320-0052289-015 | Client      | 29-Dec-2017 09:28:47 | 2017.12.28LLD_015.d | 13   | 1.0        | MW-9I                    | sv    |
| 320-34293-A-10-A    | 320-0052289-016 | Client      | 29-Dec-2017 09:36:36 | 2017.12.28LLD_016.d | 14   | 1.0        | MW-9S                    | sv    |
| 480-128902-E-1-A    | 320-0052289-017 | Client      | 29-Dec-2017 09:44:26 | 2017.12.28LLD_017.d | 15   | 1.0        | MW1-18-20171213-0        | sv    |
| 480-128902-C-2-A    | 320-0052289-018 | Client      | 29-Dec-2017 09:52:16 | 2017.12.28LLD_018.d | 16   | 1.0        | MW1-1-20171212-0         | sv    |
| 480-128902-E-3-A    | 320-0052289-019 | Client      | 29-Dec-2017 10:00:06 | 2017.12.28LLD_019.d | 17   | 1.0        | MW1-5-20171213-0         | sv    |
| 480-128902-A-4-A    | 320-0052289-020 | Client      | 29-Dec-2017 10:07:54 | 2017.12.28LLD_020.d | 18   | 1.0        | DUPE-20171212-0          | sv    |
| 480-128902-A-5-A    | 320-0052289-021 | Client      | 29-Dec-2017 10:15:42 | 2017.12.28LLD_021.d | 19   | 1.0        | MW1-16-20171212-0        | sv    |
| CCV L4              | 320-0052289-022 | CCV         | 29-Dec-2017 10:23:32 | 2017.12.28LLD_022.d | 30   | 1.0        |                          | sv    |

28 NL Method

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201396

Analyst: Reed, Jonathan E

Method Code: 320-3535\_PFC-320

Batch Open: 12/26/2017 6:34:00PM

Batch End: 12/28/2017 12:30:00AM

## Solid-Phase Extraction (SPE)

| Input Sample Lab ID<br>(Analytical Method) | SDG<br>(Job #)       | GrossWt<br>TareWt   | InitAmnt<br>FinAmnt   | PHs  |      | Due Date | Analytical<br>TAT | Div<br>Rank | Comments | Output Sample Lab ID |
|--------------------------------------------|----------------------|---------------------|-----------------------|------|------|----------|-------------------|-------------|----------|----------------------|
|                                            |                      |                     |                       | Rcvd | Adj1 |          |                   |             |          |                      |
| 1 MB-320-201396/1<br>N/A                   | N/A                  |                     | 250.00 mL<br>10.00 mL |      |      | N/A      | N/A               | N/A         |          | MB 320-201396/1-A    |
| 2 LCS-320-201396/2<br>N/A                  | N/A                  |                     | 250.00 mL<br>10.00 mL |      |      | N/A      | N/A               | N/A         |          | LCS 320-201396/2-A   |
| 3 320-34293-A-1<br>(PFC_IDA)               | N/A<br>(320-34293-1) | 326.71 g<br>28.30 g | 298.4 mL<br>10.00 mL  |      |      | 1/22/18  | 25_Days           | 4           |          | 320-34293-A-1-A      |
| 4 320-34293-A-2<br>(PFC_IDA)               | N/A<br>(320-34293-1) | 306.41 g<br>29.06 g | 277.4 mL<br>10.00 mL  |      |      | 1/22/18  | 25_Days           | 4           |          | 320-34293-A-2-A      |
| 5 320-34293-A-2-MS<br>(PFC_IDA)            | N/A<br>(320-34293-1) | 311.25 g<br>28.44 g | 282.8 mL<br>10.00 mL  |      |      | 1/22/18  | 25_Days           | 4           |          | 320-34293-A-2-B-MS   |
| 6 320-34293-A-2-MSD<br>(PFC_IDA)           | N/A<br>(320-34293-1) | 309.10 g<br>28.63 g | 280.5 mL<br>10.00 mL  |      |      | 1/22/18  | 25_Days           | 4           |          | 320-34293-A-2-C-MSD  |
| 7 320-34293-A-3<br>(PFC_IDA)               | N/A<br>(320-34293-1) | 317.60 g<br>28.62 g | 289 mL<br>10.00 mL    |      |      | 1/22/18  | 25_Days           | 4           |          | 320-34293-A-3-A      |
| 8 320-34293-A-4<br>(PFC_IDA)               | N/A<br>(320-34293-1) | 320.04 g<br>28.33 g | 291.7 mL<br>10.00 mL  |      |      | 1/22/18  | 25_Days           | 4           |          | 320-34293-A-4-A      |
| 9 320-34293-A-5<br>(PFC_IDA)               | N/A<br>(320-34293-1) | 300.21 g<br>26.70 g | 273.5 mL<br>10.00 mL  |      |      | 1/22/18  | 25_Days           | 4           |          | 320-34293-A-5-A      |
| 10 320-34293-A-6<br>(PFC_IDA)              | N/A<br>(320-34293-1) | 293.29 g<br>26.54 g | 266.8 mL<br>10.00 mL  |      |      | 1/22/18  | 25_Days           | 4           |          | 320-34293-A-6-A      |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

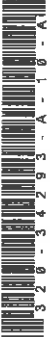
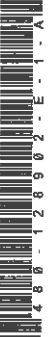
Batch Number: 320-201396

Analyst: Reed, Jonathan E

Batch Open: 12/26/2017 6:34:00PM

Method Code: 320-3535\_PFC-320

Batch End: 12/28/2017 12:30:00AM

|    |                             |                       |                     |                      |  |  |  |          |            |   |                                                                                     |
|----|-----------------------------|-----------------------|---------------------|----------------------|--|--|--|----------|------------|---|-------------------------------------------------------------------------------------|
| 11 | 320-34293-A-7<br>(PFC_IDA)  | N/A<br>(320-34293-1)  | 302.39 g<br>29.75 g | 272.6 mL<br>10.00 mL |  |  |  | 1/22/18  | 25_Days    | 4 |    |
| 12 | 320-34293-A-8<br>(PFC_IDA)  | N/A<br>(320-34293-1)  | 308.86 g<br>29.21 g | 279.7 mL<br>10.00 mL |  |  |  | 1/22/18  | 25_Days    | 4 |    |
| 13 | 320-34293-A-9<br>(PFC_IDA)  | N/A<br>(320-34293-1)  | 307.92 g<br>28.60 g | 279.3 mL<br>10.00 mL |  |  |  | 1/22/18  | 25_Days    | 4 |    |
| 14 | 320-34293-A-10<br>(PFC_IDA) | N/A<br>(320-34293-1)  | 302.75 g<br>26.26 g | 276.5 mL<br>10.00 mL |  |  |  | 1/22/18  | 25_Days    | 4 |    |
| 15 | 480-128902-E-1<br>(PFC_IDA) | N/A<br>(480-128902-1) | 315.49 g<br>28.22 g | 287.3 mL<br>10.00 mL |  |  |  | 12/26/17 | 8_Day_Rush | 4 |    |
| 16 | 480-128902-C-2<br>(PFC_IDA) | N/A<br>(480-128902-1) | 321.44 g<br>28.61 g | 292.8 mL<br>10.00 mL |  |  |  | 12/26/17 | 8_Day_Rush | 4 |    |
| 17 | 480-128902-E-3<br>(PFC_IDA) | N/A<br>(480-128902-1) | 319.72 g<br>27.86 g | 291.9 mL<br>10.00 mL |  |  |  | 12/26/17 | 8_Day_Rush | 4 |    |
| 18 | 480-128902-A-4<br>(PFC_IDA) | N/A<br>(480-128902-1) | 307.38 g<br>28.26 g | 279.1 mL<br>10.00 mL |  |  |  | 12/26/17 | 8_Day_Rush | 4 |   |
| 19 | 480-128902-A-5<br>(PFC_IDA) | N/A<br>(480-128902-1) | 305.85 g<br>28.12 g | 277.7 mL<br>10.00 mL |  |  |  | 12/26/17 | 8_Day_Rush | 4 |  |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201396

Method Code: 320-3535\_PFC-320

Analyst: Reed, Jonathan E

Batch Open: 12/26/2017 6:34:00PM

Batch End: 12/28/2017 12:30:00AM

| Batch Notes                             |                 |
|-----------------------------------------|-----------------|
| Manifold ID                             | 15, 14          |
| Methanol ID                             | 1118716         |
| Hexane ID                               | 1095481         |
| Sodium Hydroxide ID                     | 1112059         |
| First Start time                        | NA              |
| First End time                          | NA              |
| SPE Cartridge Type                      | WAX 500         |
| Solid Phase Extraction Disk ID          | 003337157A      |
| Balance ID                              | QA-070          |
| H2O ID                                  | 12/19/17        |
| Pipette ID                              | I46370G         |
| Solvent Name                            | 0.3% NH4OH/MeOH |
| Solvent Lot #                           | 1112027         |
| Analyst ID - Reagent Drop               | JER             |
| Analyst ID - SU Reagent Drop            | JER             |
| Analyst ID - SU Reagent Drop<br>Witness | TWL             |
| Acid Name                               | NA              |
| Acid ID                                 | NA              |
| Reagent ID                              | NA              |
| Reagent Lot Number                      | NA              |
| Analyst ID - IS Reagent Drop            | JER             |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201396

Analyst: Reed, Jonathan E

Batch Open: 12/26/2017 6:34:00PM

Method Code: 320-3535\_PFC-320

Batch End: 12/28/2017 12:30:00AM

|                                |            |
|--------------------------------|------------|
| Analyst ID - IS Reagent Drop   | VPM        |
| Witness                        |            |
| Internal Standard ID#          | 1106115    |
| Analyst ID - Concentration     | NA         |
| Analyst ID - Aliquot Step      | JER        |
| Analyst ID - Final Volume Step | JER        |
| SOP Number                     | WS-LC-0025 |
| Batch Comment                  | NA         |

| Comments               |                                                                                |
|------------------------|--------------------------------------------------------------------------------|
| Login Comments for Job | 128902: L4Reviewed(Bfio):<br>~Sub methods:8260C,8260C_SIM,PFC_IDA,RSK175_CO2.~ |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201396

Method Code: 320-3535\_PFC-320

Analyst: Reed, Jonathan E

Batch Open: 12/26/2017 6:34:00PM

Batch End:

| Batch Notes                    |                 |
|--------------------------------|-----------------|
| Manifold ID                    | 15, 14          |
| Methanol ID                    | 1118716         |
| Hexane ID                      | 1095481         |
| Sodium Hydroxide ID            | 1112059         |
| First Start time               | NA              |
| First End time                 | NA              |
| SPE Cartridge Type             | WAX 500         |
| Solid Phase Extraction Disk ID | 003337157A      |
| Balance ID                     | QA-070          |
| H2O ID                         | 12/19/17        |
| Pipette ID                     | I46370G         |
| Solvent Name                   | 0.3% NH4OH/MeOH |
| Solvent Lot #                  | 1112027         |
| Analyst ID - Reagent Drop      | JER             |
| Analyst ID - SU Reagent Drop   | JER             |
| Analyst ID - SU Reagent Drop   | TwL             |
| Witness                        |                 |
| Acid Name                      | NA              |
| Acid ID                        | NA              |
| Reagent ID                     | NA              |
| Reagent Lot Number             | NA              |
| Analyst ID - IS Reagent Drop   | JER             |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201396

Analyst: Reed, Jonathan E

Batch Open: 12/26/2017 6:34:00PM

Method Code: 320-3535\_PFC-320

Batch End:

|                                |                 |
|--------------------------------|-----------------|
| Analyst ID - IS Reagent Drop   | WPM             |
| Witness                        |                 |
| Internal Standard ID#          | 1106115         |
| Analyst ID - Concentration     | JER 12/14/17 NA |
| Analyst ID - Aliquot Step      | JER             |
| Analyst ID - Final Volume Step | JER             |
| SOP Number                     | WS-LC-0025      |
| Batch Comment                  | NA              |

| Comments                                                                                               |
|--------------------------------------------------------------------------------------------------------|
| Login Comments for Job 128902: L4Reviewed(Bfio):<br>--Sub methods:8260C,8260C_SIM,PFC_IDA,RSK175_CO2.~ |



# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201396

Method Code: 320-3535\_PFC-320

Analyst: Reed, Jonathan E

Batch Open: 12/26/2017 6:34:00PM

Batch End:

## Reagent Additions Worksheet

| Lab ID            | Reagent Code        | Amount Added | Final Amount | By                                                                                  | Witness                                                                             |
|-------------------|---------------------|--------------|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| MB 320-201396/1   | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |    |     |
| LCS 320-201396/2  | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| LCS 320-201396/2  | LCPFCSF_00118       | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-1     | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-2     | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-2 MS  | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-2 MS  | LCPFCSF_00118       | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-2 MSD | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-2 MSD | LCPFCSF_00118       | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-3     | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-4     | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |  |  |
| 320-34293-A-5     | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-6     | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-7     | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-8     | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-9     | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 320-34293-A-10    | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |
| 480-128902-E-1    | LCMPFC_ALL_SU_00027 | 500 uL       | 10.00 mL     |                                                                                     |                                                                                     |

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-201396

Analyst: Reed, Jonathan E

Batch Open: 12/26/2017 6:34:00PM

Method Code: 320-3535\_PFC-320

Batch End:

|                |                     |        |          |                    |                     |
|----------------|---------------------|--------|----------|--------------------|---------------------|
| 480-128902-C-2 | LCMPFC_ALL_SU_00027 | 500 uL | 10.00 mL | <i>[Signature]</i> | <i>Twz 12/26/17</i> |
| 480-128902-E-3 | LCMPFC_ALL_SU_00027 | 500 uL | 10.00 mL | <i>[Signature]</i> |                     |
| 480-128902-A-4 | LCMPFC_ALL_SU_00027 | 500 uL | 10.00 mL |                    |                     |
| 480-128902-A-5 | LCMPFC_ALL_SU_00027 | 500 uL | 10.00 mL |                    |                     |

| Reagent | Other Reagents: | Lot#: |
|---------|-----------------|-------|
|         | Amount/Units    |       |
|         |                 |       |
|         |                 |       |
|         |                 |       |
|         |                 |       |
|         |                 |       |

Preparation Batch Number(s) 201396 Test PFe

Earliest Holding Time 12/26/17

| Batch Information                                                                                                                                   | 1 <sup>st</sup> Level Reviewer | 2 <sup>nd</sup> Level Reviewer |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|
| Date and time accurate and entered into TALS correctly                                                                                              | ✓                              | ✓                              |
| All necessary batch information complete and entered into TALS correctly                                                                            | ✓                              | ✓                              |
| BD, FV, and AL initials are transcribed into the batch comment                                                                                      | ✓                              | ✓                              |
| Sample List Tab                                                                                                                                     | 1 <sup>st</sup> Level Reviewer | 2 <sup>nd</sup> Level Reviewer |
| Samples identified to the correct method                                                                                                            | ✓                              | ✓                              |
| Holding time violation NCM filed                                                                                                                    | NA                             | NA                             |
| MS/MSD or MS/DU NCM filed                                                                                                                           | NA                             | NA                             |
| NCM for any anomalies filed                                                                                                                         | NA                             | NA                             |
| All NCMs include method code, matrix, and prep batch                                                                                                | NA                             | NA                             |
| Method/sample/login/QAS checked and correct                                                                                                         | ✓                              | ✓                              |
| Batch contains no more than 20 live samples                                                                                                         | ✓                              | ✓                              |
| Worksheet Tab                                                                                                                                       | 1 <sup>st</sup> Level Reviewer | 2 <sup>nd</sup> Level Reviewer |
| All samples properly preserved                                                                                                                      | ✓                              | ✓                              |
| Weights in anticipated range and not targeted                                                                                                       | ✓                              | ✓                              |
| All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and CI Check) | ✓                              | ✓                              |
| The pH is transcribed properly in TALS                                                                                                              | NA                             | NA                             |
| All additional information is transcribed into TALS and is correct and raw data is attached                                                         | ✓                              | ✓                              |
| Comments/Observations are transcribed correctly in TALS                                                                                             | ✓                              | ✓                              |
| Reagents Tab                                                                                                                                        | 1 <sup>st</sup> Level Reviewer | 2 <sup>nd</sup> Level Reviewer |
| All necessary reagents not expired and checked into TALS                                                                                            | ✓                              | ✓                              |
| All spike amounts correct and added to necessary samples and QC                                                                                     | ✓                              | ✓                              |
| Internal Standard is added to the reagents                                                                                                          | ✓                              | ✓                              |
| All units are correctly transcribed into TALS                                                                                                       | ✓                              | ✓                              |

1<sup>st</sup> Level Reviewer: [Signature]

Date: 12/28/17

2<sup>nd</sup> Level Reviewer: [Signature] VPM

Date: 12/28/17

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

# Shipping and Receiving Documents

Name (for report and invoice)  
 Jennifer Lawrence  
 Company Environmental Assessment & Remediation

Address  
 225 Atlantic Ave  
 City Patchogue State NY  
 Phone 631-447-6400 Fax 631-447-6497

## Sample Identification

| Sample Identification    | Date     | Time  | Matrix | No. of Cont. |
|--------------------------|----------|-------|--------|--------------|
| Equipment Blank 12-12-17 | 12/12/17 | 8:24  | AQ     | 2            |
| MW-6S                    |          | 8:36  |        | 6            |
| MW-6I                    |          | 9:50  |        | 2            |
| MW-10S                   |          | 11:06 |        | 2            |
| MW-10I                   |          | 11:51 |        | 2            |
| MW-11                    |          | 12:54 |        | 2            |
| MW-15                    |          | 13:36 |        | 2            |
| MW-9D                    |          | 15:03 |        | 2            |
| MW-9I                    |          | 16:00 |        | 2            |
| MW-9S                    |          | 15:12 |        | 2            |

Preservation Used: 1 = ICE, 2 = HCl, 3 = H<sub>2</sub>SO<sub>4</sub>, 4 = HNO<sub>3</sub>, 5 = NaOH

6 = Other, 7 = Other

Soil:

Water:

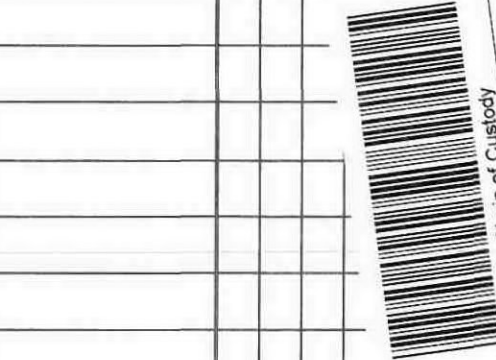
## CHAIN OF CUSTODY / ANALYSIS REQUEST

Samplers Name (Printed)  
 TB MF  
 P.O.#  
 17-03865  
 Analysis Turnaround Time  
 Standard ☒ 30 day  
 Rush Charges Authorized For:  
 2 Week ☐  
 1 Week ☐  
 Other ☐

Site/Project Identification  
 dec-derivation 3801  
 State (Location of site): NJ: ☐ NY: ☒ Other: ☐  
 Regulatory Program: NY DEC - Reg 1

ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST)

LAB USE ONLY  
 Project No:  
 Job No:  
 Sample Numbers



## Special Instructions Category B Deliverables Requested

| Relinquished by                     | Company | Date / Time    | Received by                         | Company             | Water Metals Filtered (Yes/No)? |
|-------------------------------------|---------|----------------|-------------------------------------|---------------------|---------------------------------|
| John Brown                          | E.A.R.  | 12/12/17 17:20 | 1) F.A.R. garage                    | E.A.R.              |                                 |
| Relinquished by JIMMYE EARL PAGE    | E.A.R.  | 12-13-17 11:05 | Relinquished by WILLIAM A. Vignotta | E.A.R.              |                                 |
| Relinquished by WILLIAM A. Vignotta | E.A.R.  | 12-13-17 11:05 | 3) Received by [Signature]          | Company [Signature] |                                 |
| 4) Relinquished by [Signature]      | F.A.R.  | 12/13/17 17:00 | 4) Received by [Signature]          | Company TMS         | 12/14/17 3:58                   |

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0408)



## Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 320-34293-1

**Login Number: 34293**

**List Source: TestAmerica Sacramento**

**List Number: 1**

**Creator: Aguayo, Alonso**

| Question                                                                                 | Answer | Comment |
|------------------------------------------------------------------------------------------|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.                                        | N/A    |         |
| Sample custody seals, if present, are intact.                                            | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.                                                            | True   |         |
| Cooler Temperature is acceptable.                                                        | True   |         |
| Cooler Temperature is recorded.                                                          | True   |         |
| COC is present.                                                                          | True   |         |
| COC is filled out in ink and legible.                                                    | True   |         |
| COC is filled out with all pertinent information.                                        | True   |         |
| Is the Field Sampler's name present on COC?                                              | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.                                                   | True   |         |
| Containers are not broken or leaking.                                                    | True   |         |
| Sample collection date/times are provided.                                               | True   |         |
| Appropriate sample containers are used.                                                  | True   |         |
| Sample bottles are completely filled.                                                    | True   |         |
| Sample Preservation Verified.                                                            | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.                                                     | True   |         |
| Samples do not require splitting or compositing.                                         | True   |         |
| Residual Chlorine Checked.                                                               | N/A    |         |

## ANALYTICAL REPORT

Job Number: 460-147014-1

Job Description: DEC LEVITTOWN3801; Spill: 1703865

For:  
New York State D.E.C.  
625 Broadway  
4th Floor  
Albany, NY 12233  
Attention: Mr. Payson Long



Approved for release.  
Thomas A Chupela  
Project Management Assistant I  
1/12/2018 12:32 PM

---

Designee for  
Melissa Haas, Project Manager I  
777 New Durham Road, Edison, NJ, 08817  
(203)944-1310  
melissa.haas@testamericainc.com  
01/12/2018

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

TestAmerica Edison Certifications and Approvals: Connecticut: CTDOH #PH-0200, New Jersey: NJDEP (NELAP) #12028, New York: NYDOH (NELAP) #11452, NYDOH (ELAP) #11452, Pennsylvania: PADEP (NELAP) 68-00522 and Rhode Island: RIDOH LA000132

**TestAmerica Laboratories, Inc.**

TestAmerica Edison 777 New Durham Road, Edison, NJ 08817  
Tel (732) 549-3900 Fax (732) 549-3679 [www.testamericainc.com](http://www.testamericainc.com)



Job Number: 460-147014-1

Job Description: DEC LEVITTOWN3801; Spill: 1703865

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



Approved for release.  
Thomas A. Chupela  
Project Management Assistant I  
1/12/2018 12:32 PM

---

Designee for  
Melissa Haas

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## **CASE NARRATIVE**

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

**Project: DEC LEVITTOWN3801; Spill: 1703865**

**Report Number: 460-147014-1**

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

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

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

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

### **RECEIPT**

The samples were received on 12/13/2017 8:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5° C.

### **Receipt Exceptions**

Due to a laboratory error, the following MS/MSD samples were not analyzed for 1,4-Dioxane: MW-6S (460-147014-3[MS]) and MW-6S (460-147014-3[MSD]). Batch LCS/LCSD is reported.

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

### **VOLATILE ORGANIC COMPOUNDS (GC-MS) - SELECTED ION MODE (SIM)**

Samples Trip Blank 12-12-17 (460-147014-1), Field Blank 12-12-17 (460-147014-2), MW-6S (460-147014-3), MW-6I (460-147014-4), MW-10S (460-147014-5), MW-10I (460-147014-6), MW-1I (460-147014-7), MW-1S (460-147014-8), MW-9D (460-147014-9), MW-9S (460-147014-10), MW-9I (460-147014-11) and MW-X (460-147014-12) were analyzed for volatile organic compounds (GC-MS) - Selected Ion Mode (SIM) in accordance with EPA SW-846 Method 8260C SIM. The samples were analyzed on 12/15/2017, 12/18/2017 and 12/20/2017.

No difficulties were encountered during the VOA SIM analysis.

All quality control parameters were within the acceptance limits.

## Sample Summary

Client: New York State D.E.C.

TestAmerica Job ID: 460-147014-1

Project/Site: DEC LEVITTOWN3801; Spill: 1703865

| Lab Sample ID | Client Sample ID     | Matrix | Collected      | Received       |
|---------------|----------------------|--------|----------------|----------------|
| 460-147014-1  | Trip Blank 12-12-17  | Water  | 12/12/17 08:16 | 12/13/17 20:10 |
| 460-147014-2  | Field Blank 12-12-17 | Water  | 12/12/17 08:20 | 12/13/17 20:10 |
| 460-147014-3  | MW-6S                | Water  | 12/12/17 08:56 | 12/13/17 20:10 |
| 460-147014-4  | MW-6I                | Water  | 12/12/17 09:50 | 12/13/17 20:10 |
| 460-147014-5  | MW-10S               | Water  | 12/12/17 11:06 | 12/13/17 20:10 |
| 460-147014-6  | MW-10I               | Water  | 12/12/17 11:51 | 12/13/17 20:10 |
| 460-147014-7  | MW-1I                | Water  | 12/12/17 12:54 | 12/13/17 20:10 |
| 460-147014-8  | MW-1S                | Water  | 12/12/17 13:36 | 12/13/17 20:10 |
| 460-147014-9  | MW-9D                | Water  | 12/12/17 15:03 | 12/13/17 20:10 |
| 460-147014-10 | MW-9S                | Water  | 12/12/17 15:12 | 12/13/17 20:10 |
| 460-147014-11 | MW-9I                | Water  | 12/12/17 16:00 | 12/13/17 20:10 |
| 460-147014-12 | MW-X                 | Water  | 12/12/17 00:00 | 12/13/17 20:10 |

## Detection Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

**Client Sample ID: Trip Blank 12-12-17**

**Lab Sample ID: 460-147014-1**

☐ No Detections.

**Client Sample ID: Field Blank 12-12-17**

**Lab Sample ID: 460-147014-2**

☐ No Detections.

**Client Sample ID: MW-6S**

**Lab Sample ID: 460-147014-3**

☐ No Detections.

**Client Sample ID: MW-6I**

**Lab Sample ID: 460-147014-4**

☐ No Detections.

**Client Sample ID: MW-10S**

**Lab Sample ID: 460-147014-5**

☐ No Detections.

**Client Sample ID: MW-10I**

**Lab Sample ID: 460-147014-6**

☐ No Detections.

**Client Sample ID: MW-1I**

**Lab Sample ID: 460-147014-7**

☐ No Detections.

**Client Sample ID: MW-1S**

**Lab Sample ID: 460-147014-8**

☐ No Detections.

**Client Sample ID: MW-9D**

**Lab Sample ID: 460-147014-9**

☐ No Detections.

**Client Sample ID: MW-9S**

**Lab Sample ID: 460-147014-10**

☐ No Detections.

**Client Sample ID: MW-9I**

**Lab Sample ID: 460-147014-11**

☐ No Detections.

**Client Sample ID: MW-X**

**Lab Sample ID: 460-147014-12**

☐ No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Edison

## Method Summary

Client: New York State D.E.C.

TestAmerica Job ID: 460-147014-1

Project/Site: DEC LEVITTOWN3801; Spill: 1703865

---

| Method    | Method Description                 | Protocol | Laboratory |
|-----------|------------------------------------|----------|------------|
| 8260C SIM | Volatile Organic Compounds (GC/MS) | SW846    | TAL EDI    |

---

**Protocol References:**

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

**Laboratory References:**

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

## Client Sample ID: Trip Blank 12-12-17

Date Collected: 12/12/17 08:16

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-1

Matrix: Water

### Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L | — |          | 12/15/17 11:26 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 96        |           | 71 - 144 |      |      |   |          | 12/15/17 11:26 | 1       |
| 4-Bromofluorobenzene         | 100       |           | 72 - 133 |      |      |   |          | 12/15/17 11:26 | 1       |

## Client Sample ID: Field Blank 12-12-17

Date Collected: 12/12/17 08:20

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-2

Matrix: Water

### Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L | — |          | 12/15/17 11:50 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 101       |           | 71 - 144 |      |      |   |          | 12/15/17 11:50 | 1       |
| 4-Bromofluorobenzene         | 106       |           | 72 - 133 |      |      |   |          | 12/15/17 11:50 | 1       |

## Client Sample ID: MW-6S

Date Collected: 12/12/17 08:56

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-3

Matrix: Water

### Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L | — |          | 12/15/17 12:15 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 101       |           | 71 - 144 |      |      |   |          | 12/15/17 12:15 | 1       |
| 4-Bromofluorobenzene         | 103       |           | 72 - 133 |      |      |   |          | 12/15/17 12:15 | 1       |

## Client Sample ID: MW-6I

Date Collected: 12/12/17 09:50

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-4

Matrix: Water

### Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L | — |          | 12/15/17 12:39 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 104       |           | 71 - 144 |      |      |   |          | 12/15/17 12:39 | 1       |
| 4-Bromofluorobenzene         | 103       |           | 72 - 133 |      |      |   |          | 12/15/17 12:39 | 1       |

## Client Sample ID: MW-10S

Date Collected: 12/12/17 11:06

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-5

Matrix: Water

### Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

| Analyte     | Result | Qualifier | RL   | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|-------------|--------|-----------|------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane | 0.20   | U         | 0.40 | 0.20 | ug/L | — |          | 12/18/17 10:10 | 1       |

TestAmerica Edison



# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

## Client Sample ID: MW-10S

Date Collected: 12/12/17 11:06

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-5

Matrix: Water

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 105       |           | 71 - 144 |          | 12/18/17 10:10 | 1       |
| 4-Bromofluorobenzene         | 99        |           | 72 - 133 |          | 12/18/17 10:10 | 1       |

## Client Sample ID: MW-10I

Date Collected: 12/12/17 11:51

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-6

Matrix: Water

### Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L | - |          | 12/15/17 14:36 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 107       |           | 71 - 144 |      |      |   |          | 12/15/17 14:36 | 1       |
| 4-Bromofluorobenzene         | 102       |           | 72 - 133 |      |      |   |          | 12/15/17 14:36 | 1       |

## Client Sample ID: MW-1I

Date Collected: 12/12/17 12:54

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-7

Matrix: Water

### Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L | - |          | 12/15/17 15:00 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 108       |           | 71 - 144 |      |      |   |          | 12/15/17 15:00 | 1       |
| 4-Bromofluorobenzene         | 101       |           | 72 - 133 |      |      |   |          | 12/15/17 15:00 | 1       |

## Client Sample ID: MW-1S

Date Collected: 12/12/17 13:36

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-8

Matrix: Water

### Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L | - |          | 12/15/17 15:25 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 108       |           | 71 - 144 |      |      |   |          | 12/15/17 15:25 | 1       |
| 4-Bromofluorobenzene         | 102       |           | 72 - 133 |      |      |   |          | 12/15/17 15:25 | 1       |

## Client Sample ID: MW-9D

Date Collected: 12/12/17 15:03

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-9

Matrix: Water

### Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L | - |          | 12/18/17 21:19 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 110       |           | 71 - 144 |      |      |   |          | 12/18/17 21:19 | 1       |
| 4-Bromofluorobenzene         | 101       |           | 72 - 133 |      |      |   |          | 12/18/17 21:19 | 1       |

TestAmerica Edison

# Client Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

**Client Sample ID: MW-9S**

**Date Collected: 12/12/17 15:12**

**Date Received: 12/13/17 20:10**

**Lab Sample ID: 460-147014-10**

**Matrix: Water**

**Method: 8260C SIM - Volatile Organic Compounds (GC/MS)**

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L |   |          | 12/20/17 10:21 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 106       |           | 71 - 144 |      |      |   |          | 12/20/17 10:21 | 1       |
| 4-Bromofluorobenzene         | 101       |           | 72 - 133 |      |      |   |          | 12/20/17 10:21 | 1       |

**Client Sample ID: MW-9I**

**Date Collected: 12/12/17 16:00**

**Date Received: 12/13/17 20:10**

**Lab Sample ID: 460-147014-11**

**Matrix: Water**

**Method: 8260C SIM - Volatile Organic Compounds (GC/MS)**

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L |   |          | 12/20/17 17:33 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 103       |           | 71 - 144 |      |      |   |          | 12/20/17 17:33 | 1       |
| 4-Bromofluorobenzene         | 99        |           | 72 - 133 |      |      |   |          | 12/20/17 17:33 | 1       |

**Client Sample ID: MW-X**

**Date Collected: 12/12/17 00:00**

**Date Received: 12/13/17 20:10**

**Lab Sample ID: 460-147014-12**

**Matrix: Water**

**Method: 8260C SIM - Volatile Organic Compounds (GC/MS)**

| Analyte                      | Result    | Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20      | U         | 0.40     | 0.20 | ug/L |   |          | 12/18/17 20:55 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 109       |           | 71 - 144 |      |      |   |          | 12/18/17 20:55 | 1       |
| 4-Bromofluorobenzene         | 102       |           | 72 - 133 |      |      |   |          | 12/18/17 20:55 | 1       |

# Surrogate Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

|                   |                        | Percent Surrogate Recovery (Acceptance Limits) |          |  |  |  |  |
|-------------------|------------------------|------------------------------------------------|----------|--|--|--|--|
| Lab Sample ID     | Client Sample ID       | DCA                                            | BFB      |  |  |  |  |
|                   |                        | (71-144)                                       | (72-133) |  |  |  |  |
| 460-147014-1      | Trip Blank 12-12-17    | 96                                             | 100      |  |  |  |  |
| 460-147014-2      | Field Blank 12-12-17   | 101                                            | 106      |  |  |  |  |
| 460-147014-3      | MW-6S                  | 101                                            | 103      |  |  |  |  |
| 460-147014-4      | MW-6I                  | 104                                            | 103      |  |  |  |  |
| 460-147014-5      | MW-10S                 | 105                                            | 99       |  |  |  |  |
| 460-147014-6      | MW-10I                 | 107                                            | 102      |  |  |  |  |
| 460-147014-7      | MW-1I                  | 108                                            | 101      |  |  |  |  |
| 460-147014-8      | MW-1S                  | 108                                            | 102      |  |  |  |  |
| 460-147014-9      | MW-9D                  | 110                                            | 101      |  |  |  |  |
| 460-147014-10     | MW-9S                  | 106                                            | 101      |  |  |  |  |
| 460-147014-11     | MW-9I                  | 103                                            | 99       |  |  |  |  |
| 460-147014-12     | MW-X                   | 109                                            | 102      |  |  |  |  |
| LCS 460-484411/3  | Lab Control Sample     | 94                                             | 106      |  |  |  |  |
| LCS 460-485055/3  | Lab Control Sample     | 98                                             | 103      |  |  |  |  |
| LCS 460-485226/3  | Lab Control Sample     | 100                                            | 101      |  |  |  |  |
| LCS 460-485727/3  | Lab Control Sample     | 101                                            | 98       |  |  |  |  |
| LCSD 460-484411/4 | Lab Control Sample Dup | 97                                             | 104      |  |  |  |  |
| LCSD 460-485055/4 | Lab Control Sample Dup | 101                                            | 103      |  |  |  |  |
| LCSD 460-485226/4 | Lab Control Sample Dup | 100                                            | 99       |  |  |  |  |
| LCSD 460-485727/4 | Lab Control Sample Dup | 102                                            | 99       |  |  |  |  |
| MB 460-484411/7   | Method Blank           | 94                                             | 100      |  |  |  |  |
| MB 460-485055/7   | Method Blank           | 101                                            | 101      |  |  |  |  |
| MB 460-485226/7   | Method Blank           | 102                                            | 99       |  |  |  |  |
| MB 460-485727/7   | Method Blank           | 106                                            | 99       |  |  |  |  |

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-484411/7

Matrix: Water

Analysis Batch: 484411

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                      | MB Result    | MB Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------------|--------------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20         | U            | 0.40     | 0.20 | ug/L | - |          | 12/15/17 07:00 | 1       |
| Surrogate                    | MB %Recovery | MB Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 94           |              | 71 - 144 |      |      |   |          | 12/15/17 07:00 | 1       |
| 4-Bromofluorobenzene         | 100          |              | 72 - 133 |      |      |   |          | 12/15/17 07:00 | 1       |

Lab Sample ID: LCS 460-484411/3

Matrix: Water

Analysis Batch: 484411

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                      |               | Spike Added   | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |  |
|------------------------------|---------------|---------------|------------|---------------|------|---|------|--------------|--|
| 1,4-Dioxane                  |               | 5.00          | 4.60       |               | ug/L | - | 92   | 66 - 135     |  |
| Surrogate                    | LCS %Recovery | LCS Qualifier | Limits     |               |      |   |      |              |  |
| 1,2-Dichloroethane-d4 (Surr) | 94            |               | 71 - 144   |               |      |   |      |              |  |
| 4-Bromofluorobenzene         | 106           |               | 72 - 133   |               |      |   |      |              |  |

Lab Sample ID: LCSD 460-484411/4

Matrix: Water

Analysis Batch: 484411

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                      |                | Spike Added    | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|------------------------------|----------------|----------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| 1,4-Dioxane                  |                | 5.00           | 4.77        |                | ug/L | - | 95   | 66 - 135     | 4   | 30        |
| Surrogate                    | LCSD %Recovery | LCSD Qualifier | Limits      |                |      |   |      |              |     |           |
| 1,2-Dichloroethane-d4 (Surr) | 97             |                | 71 - 144    |                |      |   |      |              |     |           |
| 4-Bromofluorobenzene         | 104            |                | 72 - 133    |                |      |   |      |              |     |           |

Lab Sample ID: MB 460-485055/7

Matrix: Water

Analysis Batch: 485055

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                      | MB Result    | MB Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------------|--------------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20         | U            | 0.40     | 0.20 | ug/L | - |          | 12/18/17 07:22 | 1       |
| Surrogate                    | MB %Recovery | MB Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 101          |              | 71 - 144 |      |      |   |          | 12/18/17 07:22 | 1       |
| 4-Bromofluorobenzene         | 101          |              | 72 - 133 |      |      |   |          | 12/18/17 07:22 | 1       |

Lab Sample ID: LCS 460-485055/3

Matrix: Water

Analysis Batch: 485055

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte     |  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |  |
|-------------|--|-------------|------------|---------------|------|---|------|--------------|--|
| 1,4-Dioxane |  | 5.00        | 4.59       |               | ug/L | - | 92   | 66 - 135     |  |

TestAmerica Edison

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

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

Lab Sample ID: LCS 460-485055/3

Matrix: Water

Analysis Batch: 485055

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

|                              | LCS       | LCS       |          |
|------------------------------|-----------|-----------|----------|
| Surrogate                    | %Recovery | Qualifier | Limits   |
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 71 - 144 |
| 4-Bromofluorobenzene         | 103       |           | 72 - 133 |

Lab Sample ID: LCSD 460-485055/4

Matrix: Water

Analysis Batch: 485055

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte     | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|-------------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| 1,4-Dioxane | 5.00        | 4.34        |                | ug/L |   | 87   | 66 - 135     | 6   | 30        |

|                              | LCSD      | LCSD      |          |
|------------------------------|-----------|-----------|----------|
| Surrogate                    | %Recovery | Qualifier | Limits   |
| 1,2-Dichloroethane-d4 (Surr) | 101       |           | 71 - 144 |
| 4-Bromofluorobenzene         | 103       |           | 72 - 133 |

Lab Sample ID: MB 460-485226/7

Matrix: Water

Analysis Batch: 485226

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte     | MB Result | MB Qualifier | RL   | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|-------------|-----------|--------------|------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane | 0.20      | U            | 0.40 | 0.20 | ug/L |   |          | 12/18/17 19:02 | 1       |

|                              | MB        | MB        |          | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| Surrogate                    | %Recovery | Qualifier | Limits   |          |                |         |
| 1,2-Dichloroethane-d4 (Surr) | 102       |           | 71 - 144 |          | 12/18/17 19:02 | 1       |
| 4-Bromofluorobenzene         | 99        |           | 72 - 133 |          | 12/18/17 19:02 | 1       |

Lab Sample ID: LCS 460-485226/3

Matrix: Water

Analysis Batch: 485226

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte     | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|-------------|-------------|------------|---------------|------|---|------|--------------|
| 1,4-Dioxane | 5.00        | 4.24       |               | ug/L |   | 85   | 66 - 135     |

|                              | LCS       | LCS       |          |
|------------------------------|-----------|-----------|----------|
| Surrogate                    | %Recovery | Qualifier | Limits   |
| 1,2-Dichloroethane-d4 (Surr) | 100       |           | 71 - 144 |
| 4-Bromofluorobenzene         | 101       |           | 72 - 133 |

Lab Sample ID: LCSD 460-485226/4

Matrix: Water

Analysis Batch: 485226

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte     | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|-------------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| 1,4-Dioxane | 5.00        | 4.22        |                | ug/L |   | 84   | 66 - 135     | 0   | 30        |

|                              | LCSD      | LCSD      |          |
|------------------------------|-----------|-----------|----------|
| Surrogate                    | %Recovery | Qualifier | Limits   |
| 1,2-Dichloroethane-d4 (Surr) | 100       |           | 71 - 144 |
| 4-Bromofluorobenzene         | 99        |           | 72 - 133 |

TestAmerica Edison

# QC Sample Results

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

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

Lab Sample ID: MB 460-485727/7

Matrix: Water

Analysis Batch: 485727

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                      | MB<br>Result    | MB<br>Qualifier | RL       | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------------|-----------------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane                  | 0.20            | U               | 0.40     | 0.20 | ug/L | - |          | 12/20/17 09:58 | 1       |
| Surrogate                    | MB<br>%Recovery | MB<br>Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 106             |                 | 71 - 144 |      |      |   |          | 12/20/17 09:58 | 1       |
| 4-Bromofluorobenzene         | 99              |                 | 72 - 133 |      |      |   |          | 12/20/17 09:58 | 1       |

Lab Sample ID: LCS 460-485727/3

Matrix: Water

Analysis Batch: 485727

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                      |                  | Spike<br>Added   | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |  |
|------------------------------|------------------|------------------|---------------|------------------|------|---|------|-----------------|--|
| 1,4-Dioxane                  |                  | 5.00             | 5.02          |                  | ug/L | - | 100  | 66 - 135        |  |
| Surrogate                    | LCS<br>%Recovery | LCS<br>Qualifier | Limits        |                  |      |   |      |                 |  |
| 1,2-Dichloroethane-d4 (Surr) | 101              |                  | 71 - 144      |                  |      |   |      |                 |  |
| 4-Bromofluorobenzene         | 98               |                  | 72 - 133      |                  |      |   |      |                 |  |

Lab Sample ID: LCSD 460-485727/4

Matrix: Water

Analysis Batch: 485727

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                      |                   | Spike<br>Added    | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|------------------------------|-------------------|-------------------|----------------|-------------------|------|---|------|-----------------|-----|--------------|
| 1,4-Dioxane                  |                   | 5.00              | 5.65           |                   | ug/L | - | 113  | 66 - 135        | 12  | 30           |
| Surrogate                    | LCSD<br>%Recovery | LCSD<br>Qualifier | Limits         |                   |      |   |      |                 |     |              |
| 1,2-Dichloroethane-d4 (Surr) | 102               |                   | 71 - 144       |                   |      |   |      |                 |     |              |
| 4-Bromofluorobenzene         | 99                |                   | 72 - 133       |                   |      |   |      |                 |     |              |

# Definitions/Glossary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description                                    |
|-----------|----------------------------------------------------------|
| U         | Indicates the analyte was analyzed for but not detected. |

## Glossary

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

# QC Association Summary

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

## GC/MS VOA

### Analysis Batch: 484411

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|-------------------|------------------------|-----------|--------|-----------|------------|
| 460-147014-1      | Trip Blank 12-12-17    | Total/NA  | Water  | 8260C SIM |            |
| 460-147014-2      | Field Blank 12-12-17   | Total/NA  | Water  | 8260C SIM |            |
| 460-147014-3      | MW-6S                  | Total/NA  | Water  | 8260C SIM |            |
| 460-147014-4      | MW-6I                  | Total/NA  | Water  | 8260C SIM |            |
| 460-147014-6      | MW-10I                 | Total/NA  | Water  | 8260C SIM |            |
| 460-147014-7      | MW-1I                  | Total/NA  | Water  | 8260C SIM |            |
| 460-147014-8      | MW-1S                  | Total/NA  | Water  | 8260C SIM |            |
| MB 460-484411/7   | Method Blank           | Total/NA  | Water  | 8260C SIM |            |
| LCS 460-484411/3  | Lab Control Sample     | Total/NA  | Water  | 8260C SIM |            |
| LCSD 460-484411/4 | Lab Control Sample Dup | Total/NA  | Water  | 8260C SIM |            |

### Analysis Batch: 485055

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|-------------------|------------------------|-----------|--------|-----------|------------|
| 460-147014-5      | MW-10S                 | Total/NA  | Water  | 8260C SIM |            |
| MB 460-485055/7   | Method Blank           | Total/NA  | Water  | 8260C SIM |            |
| LCS 460-485055/3  | Lab Control Sample     | Total/NA  | Water  | 8260C SIM |            |
| LCSD 460-485055/4 | Lab Control Sample Dup | Total/NA  | Water  | 8260C SIM |            |

### Analysis Batch: 485226

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|-------------------|------------------------|-----------|--------|-----------|------------|
| 460-147014-9      | MW-9D                  | Total/NA  | Water  | 8260C SIM |            |
| 460-147014-12     | MW-X                   | Total/NA  | Water  | 8260C SIM |            |
| MB 460-485226/7   | Method Blank           | Total/NA  | Water  | 8260C SIM |            |
| LCS 460-485226/3  | Lab Control Sample     | Total/NA  | Water  | 8260C SIM |            |
| LCSD 460-485226/4 | Lab Control Sample Dup | Total/NA  | Water  | 8260C SIM |            |

### Analysis Batch: 485727

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|-------------------|------------------------|-----------|--------|-----------|------------|
| 460-147014-10     | MW-9S                  | Total/NA  | Water  | 8260C SIM |            |
| 460-147014-11     | MW-9I                  | Total/NA  | Water  | 8260C SIM |            |
| MB 460-485727/7   | Method Blank           | Total/NA  | Water  | 8260C SIM |            |
| LCS 460-485727/3  | Lab Control Sample     | Total/NA  | Water  | 8260C SIM |            |
| LCSD 460-485727/4 | Lab Control Sample Dup | Total/NA  | Water  | 8260C SIM |            |



# Lab Chronicle

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

## Client Sample ID: Trip Blank 12-12-17

Date Collected: 12/12/17 08:16

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-1

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 484411       | 12/15/17 11:26       | AAT     | TAL EDI |

## Client Sample ID: Field Blank 12-12-17

Date Collected: 12/12/17 08:20

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-2

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 484411       | 12/15/17 11:50       | AAT     | TAL EDI |

## Client Sample ID: MW-6S

Date Collected: 12/12/17 08:56

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-3

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 484411       | 12/15/17 12:15       | AAT     | TAL EDI |

## Client Sample ID: MW-6I

Date Collected: 12/12/17 09:50

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-4

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 484411       | 12/15/17 12:39       | AAT     | TAL EDI |

## Client Sample ID: MW-10S

Date Collected: 12/12/17 11:06

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-5

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 485055       | 12/18/17 10:10       | XXC     | TAL EDI |

## Client Sample ID: MW-10I

Date Collected: 12/12/17 11:51

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-6

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 484411       | 12/15/17 14:36       | AAT     | TAL EDI |

# Lab Chronicle

Client: New York State D.E.C.  
Project/Site: DEC LEVITTOWN3801; Spill: 1703865

TestAmerica Job ID: 460-147014-1

## Client Sample ID: MW-1I

Date Collected: 12/12/17 12:54

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-7

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 484411       | 12/15/17 15:00       | AAT     | TAL EDI |

## Client Sample ID: MW-1S

Date Collected: 12/12/17 13:36

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-8

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 484411       | 12/15/17 15:25       | AAT     | TAL EDI |

## Client Sample ID: MW-9D

Date Collected: 12/12/17 15:03

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-9

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 485226       | 12/18/17 21:19       | XXC     | TAL EDI |

## Client Sample ID: MW-9S

Date Collected: 12/12/17 15:12

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-10

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 485727       | 12/20/17 10:21       | SZD     | TAL EDI |

## Client Sample ID: MW-9I

Date Collected: 12/12/17 16:00

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-11

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 485727       | 12/20/17 17:33       | SZD     | TAL EDI |

## Client Sample ID: MW-X

Date Collected: 12/12/17 00:00

Date Received: 12/13/17 20:10

## Lab Sample ID: 460-147014-12

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C SIM    |     | 1               | 485226       | 12/18/17 20:55       | XXC     | TAL EDI |

### Laboratory References:

TAL EDI = TestAmerica Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

## Accreditation/Certification Summary

Client: New York State D.E.C.

TestAmerica Job ID: 460-147014-1

Project/Site: DEC LEVITTOWN3801; Spill: 1703865

### Laboratory: TestAmerica Edison

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

| Authority                         | Program       | EPA Region | Identification Number | Expiration Date |
|-----------------------------------|---------------|------------|-----------------------|-----------------|
| Connecticut                       | State Program | 1          | PH-0200               | 09-30-18        |
| DE Haz. Subst. Cleanup Act (HSCA) | State Program | 3          | N/A                   | 12-31-18        |
| New Jersey                        | NELAP         | 2          | 12028                 | 06-30-18        |
| New York                          | NELAP         | 2          | 11452                 | 04-01-18        |
| Pennsylvania                      | NELAP         | 3          | 68-00522              | 02-28-18        |
| Rhode Island                      | State Program | 1          | LAO00132              | 12-30-17 *      |
| USDA                              | Federal       |            | NJCA-003-08           | 06-13-20        |

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

TestAmerica Edison

# 8260C\_SIM

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Volatile Organic Compounds (GC/MS)

FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low  
 GC Column (1): Rtx-624 ID: 0.25 (mm)

| Client Sample ID        | Lab Sample ID        | DCA # | BFB # |
|-------------------------|----------------------|-------|-------|
| Trip Blank<br>12-12-17  | 460-147014-1         | 96    | 100   |
| Field Blank<br>12-12-17 | 460-147014-2         | 101   | 106   |
| MW-6S                   | 460-147014-3         | 101   | 103   |
| MW-6I                   | 460-147014-4         | 104   | 103   |
| MW-10S                  | 460-147014-5         | 105   | 99    |
| MW-10I                  | 460-147014-6         | 107   | 102   |
| MW-1I                   | 460-147014-7         | 108   | 101   |
| MW-1S                   | 460-147014-8         | 108   | 102   |
| MW-9D                   | 460-147014-9         | 110   | 101   |
| MW-9S                   | 460-147014-10        | 106   | 101   |
| MW-9I                   | 460-147014-11        | 103   | 99    |
| MW-X                    | 460-147014-12        | 109   | 102   |
|                         | MB 460-484411/7      | 94    | 100   |
|                         | MB 460-485055/7      | 101   | 101   |
|                         | MB 460-485226/7      | 102   | 99    |
|                         | MB 460-485727/7      | 106   | 99    |
|                         | LCS 460-484411/3     | 94    | 106   |
|                         | LCS 460-485055/3     | 98    | 103   |
|                         | LCS 460-485226/3     | 100   | 101   |
|                         | LCS 460-485727/3     | 101   | 98    |
|                         | LCSD<br>460-484411/4 | 97    | 104   |
|                         | LCSD<br>460-485055/4 | 101   | 103   |
|                         | LCSD<br>460-485226/4 | 100   | 99    |
|                         | LCSD<br>460-485727/4 | 102   | 99    |

DCA = 1,2-Dichloroethane-d4 (Surr)  
 BFB = 4-Bromofluorobenzene

QC LIMITS  
71-144  
72-133

# Column to be used to flag recovery values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: S001660.D  
Lab ID: LCS 460-484411/3 Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ug/L) | LCS<br>CONCENTRATION<br>(ug/L) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|-------------|--------------------------|--------------------------------|-----------------|---------------------|---|
| 1,4-Dioxane | 5.00                     | 4.60                           | 92              | 66-135              |   |

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: S001687.D  
Lab ID: LCS 460-485055/3 Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ug/L) | LCS<br>CONCENTRATION<br>(ug/L) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|-------------|--------------------------|--------------------------------|-----------------|---------------------|---|
| 1,4-Dioxane | 5.00                     | 4.59                           | 92              | 66-135              |   |

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Matrix: Water Level: Low Lab File ID: S001716.D

Lab ID: LCS 460-485226/3 Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ug/L) | LCS<br>CONCENTRATION<br>(ug/L) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|-------------|--------------------------|--------------------------------|-----------------|---------------------|---|
| 1,4-Dioxane | 5.00                     | 4.24                           | 85              | 66-135              |   |

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: S001743.D  
Lab ID: LCS 460-485727/3 Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ug/L) | LCS<br>CONCENTRATION<br>(ug/L) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|-------------|--------------------------|--------------------------------|-----------------|---------------------|---|
| 1,4-Dioxane | 5.00                     | 5.02                           | 100             | 66-135              |   |

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: S001661.D  
Lab ID: LCSD 460-484411/4 Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ug/L) | LCSD<br>CONCENTRATION<br>(ug/L) | LCSD<br>%<br>REC | %<br>RPD | QC LIMITS |        | # |
|-------------|--------------------------|---------------------------------|------------------|----------|-----------|--------|---|
|             |                          |                                 |                  |          | RPD       | REC    |   |
| 1,4-Dioxane | 5.00                     | 4.77                            | 95               | 4        | 30        | 66-135 |   |

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: S001688.D  
Lab ID: LCSD 460-485055/4 Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ug/L) | LCSD<br>CONCENTRATION<br>(ug/L) | LCSD<br>%<br>REC | %<br>RPD | QC LIMITS |        | # |
|-------------|--------------------------|---------------------------------|------------------|----------|-----------|--------|---|
|             |                          |                                 |                  |          | RPD       | REC    |   |
| 1,4-Dioxane | 5.00                     | 4.34                            | 87               | 6        | 30        | 66-135 |   |

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: S001717.D  
Lab ID: LCSD 460-485226/4 Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ug/L) | LCSD<br>CONCENTRATION<br>(ug/L) | LCSD<br>%<br>REC | %<br>RPD | QC LIMITS |        | # |
|-------------|--------------------------|---------------------------------|------------------|----------|-----------|--------|---|
|             |                          |                                 |                  |          | RPD       | REC    |   |
| 1,4-Dioxane | 5.00                     | 4.22                            | 84               | 0        | 30        | 66-135 |   |

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: S001744.D  
Lab ID: LCSD 460-485727/4 Client ID: \_\_\_\_\_

| COMPOUND    | SPIKE<br>ADDED<br>(ug/L) | LCSD<br>CONCENTRATION<br>(ug/L) | LCSD<br>%<br>REC | %<br>RPD | QC LIMITS |        | # |
|-------------|--------------------------|---------------------------------|------------------|----------|-----------|--------|---|
|             |                          |                                 |                  |          | RPD       | REC    |   |
| 1,4-Dioxane | 5.00                     | 5.65                            | 113              | 12       | 30        | 66-135 |   |

# Column to be used to flag recovery and RPD values

FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Lab File ID: S001664.D Lab Sample ID: MB 460-484411/7  
Matrix: Water Heated Purge: (Y/N) Y  
Instrument ID: CVOAMS14 Date Analyzed: 12/15/2017 07:00  
GC Column: Rtx-624 ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

| CLIENT SAMPLE ID     | LAB SAMPLE ID     | LAB<br>FILE ID | DATE ANALYZED    |
|----------------------|-------------------|----------------|------------------|
|                      | LCS 460-484411/3  | S001660.D      | 12/15/2017 05:04 |
|                      | LCSD 460-484411/4 | S001661.D      | 12/15/2017 05:28 |
| Trip Blank 12-12-17  | 460-147014-1      | S001675.D      | 12/15/2017 11:26 |
| Field Blank 12-12-17 | 460-147014-2      | S001676.D      | 12/15/2017 11:50 |
| MW-6S                | 460-147014-3      | S001677.D      | 12/15/2017 12:15 |
| MW-6I                | 460-147014-4      | S001678.D      | 12/15/2017 12:39 |
| MW-10I               | 460-147014-6      | S001680.D      | 12/15/2017 14:36 |
| MW-1I                | 460-147014-7      | S001681.D      | 12/15/2017 15:00 |
| MW-1S                | 460-147014-8      | S001682.D      | 12/15/2017 15:25 |

FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Lab File ID: S001691.D Lab Sample ID: MB 460-485055/7  
Matrix: Water Heated Purge: (Y/N) Y  
Instrument ID: CVOAMS14 Date Analyzed: 12/18/2017 07:22  
GC Column: Rtx-624 ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

| CLIENT SAMPLE ID | LAB SAMPLE ID     | LAB<br>FILE ID | DATE ANALYZED    |
|------------------|-------------------|----------------|------------------|
|                  | LCS 460-485055/3  | S001687.D      | 12/18/2017 05:36 |
|                  | LCSD 460-485055/4 | S001688.D      | 12/18/2017 06:00 |
| MW-10S           | 460-147014-5      | S001698.D      | 12/18/2017 10:10 |

FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Lab File ID: S001720.D Lab Sample ID: MB 460-485226/7  
Matrix: Water Heated Purge: (Y/N) Y  
Instrument ID: CVOAMS14 Date Analyzed: 12/18/2017 19:02  
GC Column: Rtx-624 ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

| CLIENT SAMPLE ID | LAB SAMPLE ID     | LAB<br>FILE ID | DATE ANALYZED    |
|------------------|-------------------|----------------|------------------|
|                  | LCS 460-485226/3  | S001716.D      | 12/18/2017 17:26 |
|                  | LCSD 460-485226/4 | S001717.D      | 12/18/2017 17:50 |
| MW-X             | 460-147014-12     | S001723.D      | 12/18/2017 20:55 |
| MW-9D            | 460-147014-9      | S001724.D      | 12/18/2017 21:19 |



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Lab File ID: S001747.D Lab Sample ID: MB 460-485727/7  
Matrix: Water Heated Purge: (Y/N) Y  
Instrument ID: CVOAMS14 Date Analyzed: 12/20/2017 09:58  
GC Column: Rtx-624 ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

| CLIENT SAMPLE ID | LAB SAMPLE ID     | LAB<br>FILE ID | DATE ANALYZED    |
|------------------|-------------------|----------------|------------------|
|                  | LCS 460-485727/3  | S001743.D      | 12/20/2017 08:12 |
|                  | LCSD 460-485727/4 | S001744.D      | 12/20/2017 08:36 |
| MW-9S            | 460-147014-10     | S001748.D      | 12/20/2017 10:21 |
| MW-9I            | 460-147014-11     | S001766.D      | 12/20/2017 17:33 |

FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: S001419.D BFB Injection Date: 12/06/2017  
 Instrument ID: CVOAMS14 BFB Injection Time: 08:17  
 Analysis Batch No.: 482109

| M/E | ION ABUNDANCE CRITERIA             | % RELATIVE ABUNDANCE |
|-----|------------------------------------|----------------------|
| 50  | 15.0 - 40.0 % of mass 95           | 17.3                 |
| 75  | 30.0 - 60.0 % of mass 95           | 49.0                 |
| 95  | Base Peak, 100% relative abundance | 100.0                |
| 96  | 5.0 - 9.0 % of mass 95             | 7.0                  |
| 173 | Less than 2.0 % of mass 174        | 0.7 (0.7) 1          |
| 174 | 50.0 - 120.00 % of mass 95         | 90.5                 |
| 175 | 5.0 - 9.0 % of mass 174            | 6.3 (6.9) 1          |
| 176 | 95.0 - 101.0 % of mass 174         | 88.1 (97.3) 1        |
| 177 | 5.0 - 9.0 % of mass 176            | 6.0 (6.8) 2          |

1-Value is % mass 174

2-Value is % mass 176

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 |
|------------------|--------------------|-------------|---------------|---------------|
|                  | STD04 460-482109/2 | S001420.D   | 12/06/2017    | 08:44         |
|                  | STD1 460-482109/3  | S001421.D   | 12/06/2017    | 09:08         |
|                  | STD5 460-482109/4  | S001422.D   | 12/06/2017    | 09:32         |
|                  | STD10 460-482109/5 | S001423.D   | 12/06/2017    | 09:56         |
|                  | STD20 460-482109/6 | S001424.D   | 12/06/2017    | 10:20         |
|                  | STD30 460-482109/7 | S001425.D   | 12/06/2017    | 10:43         |
|                  | STD40 460-482109/8 | S001426.D   | 12/06/2017    | 11:07         |
|                  | STD50 460-482109/9 | S001427.D   | 12/06/2017    | 11:31         |

FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Lab File ID: S001658.D BFB Injection Date: 12/15/2017  
Instrument ID: CVOAMS14 BFB Injection Time: 04:11  
Analysis Batch No.: 484411

| M/E | ION ABUNDANCE CRITERIA             | % RELATIVE ABUNDANCE |
|-----|------------------------------------|----------------------|
| 50  | 15.0 - 40.0 % of mass 95           | 17.3                 |
| 75  | 30.0 - 60.0 % of mass 95           | 48.5                 |
| 95  | Base Peak, 100% relative abundance | 100.0                |
| 96  | 5.0 - 9.0 % of mass 95             | 6.8                  |
| 173 | Less than 2.0 % of mass 174        | 0.6 (0.7) 1          |
| 174 | 50.0 - 120.00 % of mass 95         | 83.3                 |
| 175 | 5.0 - 9.0 % of mass 174            | 6.3 (7.5) 1          |
| 176 | 95.0 - 101.0 % of mass 174         | 80.4 (96.5) 1        |
| 177 | 5.0 - 9.0 % of mass 176            | 5.4 (6.7) 2          |

1-Value is % mass 174

2-Value is % mass 176

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 460-484411/2 | S001659.D   | 12/15/2017    | 04:40         |
|                      | LCS 460-484411/3   | S001660.D   | 12/15/2017    | 05:04         |
|                      | LCSD 460-484411/4  | S001661.D   | 12/15/2017    | 05:28         |
|                      | MB 460-484411/7    | S001664.D   | 12/15/2017    | 07:00         |
| Trip Blank 12-12-17  | 460-147014-1       | S001675.D   | 12/15/2017    | 11:26         |
| Field Blank 12-12-17 | 460-147014-2       | S001676.D   | 12/15/2017    | 11:50         |
| MW-6S                | 460-147014-3       | S001677.D   | 12/15/2017    | 12:15         |
| MW-6I                | 460-147014-4       | S001678.D   | 12/15/2017    | 12:39         |
| MW-10I               | 460-147014-6       | S001680.D   | 12/15/2017    | 14:36         |
| MW-1I                | 460-147014-7       | S001681.D   | 12/15/2017    | 15:00         |
| MW-1S                | 460-147014-8       | S001682.D   | 12/15/2017    | 15:25         |

FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: S001685.D BFB Injection Date: 12/18/2017  
 Instrument ID: CVOAMS14 BFB Injection Time: 04:07  
 Analysis Batch No.: 485055

| M/E | ION ABUNDANCE CRITERIA             | % RELATIVE ABUNDANCE |
|-----|------------------------------------|----------------------|
| 50  | 15.0 - 40.0 % of mass 95           | 16.8                 |
| 75  | 30.0 - 60.0 % of mass 95           | 47.3                 |
| 95  | Base Peak, 100% relative abundance | 100.0                |
| 96  | 5.0 - 9.0 % of mass 95             | 6.9                  |
| 173 | Less than 2.0 % of mass 174        | 0.7 (0.7) 1          |
| 174 | 50.0 - 120.00 % of mass 95         | 91.6                 |
| 175 | 5.0 - 9.0 % of mass 174            | 6.6 (7.2) 1          |
| 176 | 95.0 - 101.0 % of mass 174         | 88.2 (96.3) 1        |
| 177 | 5.0 - 9.0 % of mass 176            | 5.7 (6.4) 2          |

1-Value is % mass 174

2-Value is % mass 176

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 460-485055/2 | S001686.D   | 12/18/2017    | 04:55         |
|                  | LCS 460-485055/3   | S001687.D   | 12/18/2017    | 05:36         |
|                  | LCSD 460-485055/4  | S001688.D   | 12/18/2017    | 06:00         |
|                  | MB 460-485055/7    | S001691.D   | 12/18/2017    | 07:22         |
| MW-10S           | 460-147014-5       | S001698.D   | 12/18/2017    | 10:10         |

FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: S001714.D BFB Injection Date: 12/18/2017  
 Instrument ID: CVOAMS14 BFB Injection Time: 16:29  
 Analysis Batch No.: 485226

| M/E | ION ABUNDANCE CRITERIA             | % RELATIVE ABUNDANCE |
|-----|------------------------------------|----------------------|
| 50  | 15.0 - 40.0 % of mass 95           | 16.6                 |
| 75  | 30.0 - 60.0 % of mass 95           | 47.4                 |
| 95  | Base Peak, 100% relative abundance | 100.0                |
| 96  | 5.0 - 9.0 % of mass 95             | 6.9                  |
| 173 | Less than 2.0 % of mass 174        | 0.6 (0.7) 1          |
| 174 | 50.0 - 120.00 % of mass 95         | 94.0                 |
| 175 | 5.0 - 9.0 % of mass 174            | 6.4 (6.8) 1          |
| 176 | 95.0 - 101.0 % of mass 174         | 92.4 (98.3) 1        |
| 177 | 5.0 - 9.0 % of mass 176            | 6.3 (6.9) 2          |

1-Value is % mass 174

2-Value is % mass 176

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 460-485226/2 | S001715.D   | 12/18/2017    | 16:53         |
|                  | LCS 460-485226/3   | S001716.D   | 12/18/2017    | 17:26         |
|                  | LCSD 460-485226/4  | S001717.D   | 12/18/2017    | 17:50         |
|                  | MB 460-485226/7    | S001720.D   | 12/18/2017    | 19:02         |
| MW-X             | 460-147014-12      | S001723.D   | 12/18/2017    | 20:55         |
| MW-9D            | 460-147014-9       | S001724.D   | 12/18/2017    | 21:19         |

FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: S001741.D BFB Injection Date: 12/20/2017  
 Instrument ID: CVOAMS14 BFB Injection Time: 07:23  
 Analysis Batch No.: 485727

| M/E | ION ABUNDANCE CRITERIA             | % RELATIVE ABUNDANCE |
|-----|------------------------------------|----------------------|
| 50  | 15.0 - 40.0 % of mass 95           | 16.5                 |
| 75  | 30.0 - 60.0 % of mass 95           | 47.2                 |
| 95  | Base Peak, 100% relative abundance | 100.0                |
| 96  | 5.0 - 9.0 % of mass 95             | 7.1                  |
| 173 | Less than 2.0 % of mass 174        | 0.6 (0.6) 1          |
| 174 | 50.0 - 120.00 % of mass 95         | 97.5                 |
| 175 | 5.0 - 9.0 % of mass 174            | 7.0 (7.2) 1          |
| 176 | 95.0 - 101.0 % of mass 174         | 93.7 (96.1) 1        |
| 177 | 5.0 - 9.0 % of mass 176            | 6.2 (6.6) 2          |

1-Value is % mass 174

2-Value is % mass 176

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 460-485727/2 | S001742.D   | 12/20/2017    | 07:48         |
|                  | LCS 460-485727/3   | S001743.D   | 12/20/2017    | 08:12         |
|                  | LCSD 460-485727/4  | S001744.D   | 12/20/2017    | 08:36         |
|                  | MB 460-485727/7    | S001747.D   | 12/20/2017    | 09:58         |
| MW-9S            | 460-147014-10      | S001748.D   | 12/20/2017    | 10:21         |
| MW-9I            | 460-147014-11      | S001766.D   | 12/20/2017    | 17:33         |

FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 460-484411/2 Date Analyzed: 12/15/2017 04:40  
 Instrument ID: CVOAMS14 GC Column: Rtx-624 ID: 0.25 (mm)  
 Lab File ID (Standard): S001659.D Heated Purge: (Y/N) Y  
 Calibration ID: 65303

|                   | FB                   |      | DXE    |      | CBNZd5 |           |
|-------------------|----------------------|------|--------|------|--------|-----------|
|                   | AREA #               | RT # | AREA # | RT # | AREA # | RT #      |
| 12/24 HOUR STD    | 10751                | 5.04 | 223    | 5.73 | 3624   | 8.42      |
| UPPER LIMIT       | 21502                | 5.54 | 446    | 6.23 | 7248   | 8.92      |
| LOWER LIMIT       | 5376                 | 4.54 | 112    | 5.23 | 1812   | 7.92      |
| LAB SAMPLE ID     | CLIENT SAMPLE ID     |      |        |      |        |           |
| LCS 460-484411/3  |                      | 9875 | 5.05   | 217  | 5.73   | 3301 8.42 |
| LCSD 460-484411/4 |                      | 9979 | 5.04   | 207  | 5.73   | 3370 8.42 |
| MB 460-484411/7   |                      | 8416 | 5.04   | 251  | 5.73   | 2583 8.42 |
| 460-147014-1      | Trip Blank 12-12-17  | 9541 | 5.04   | 178  | 5.73   | 3186 8.42 |
| 460-147014-2      | Field Blank 12-12-17 | 9680 | 5.04   | 184  | 5.73   | 3164 8.42 |
| 460-147014-3      | MW-6S                | 9550 | 5.04   | 186  | 5.73   | 3102 8.42 |
| 460-147014-4      | MW-6I                | 9142 | 5.04   | 190  | 5.73   | 2912 8.42 |
| 460-147014-6      | MW-10I               | 8716 | 5.04   | 206  | 5.73   | 2718 8.42 |
| 460-147014-7      | MW-1I                | 8268 | 5.04   | 189  | 5.73   | 2574 8.42 |
| 460-147014-8      | MW-1S                | 8928 | 5.05   | 189  | 5.73   | 2896 8.42 |

FB = Fluorobenzene

DXE = 1,4-Dioxane-d8

CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 460-485055/2 Date Analyzed: 12/18/2017 04:55  
 Instrument ID: CVOAMS14 GC Column: Rtx-624 ID: 0.25 (mm)  
 Lab File ID (Standard): S001686.D Heated Purge: (Y/N) Y  
 Calibration ID: 65303

|                   | FB               |      | DXE    |      | CBNZd5 |      |      |
|-------------------|------------------|------|--------|------|--------|------|------|
|                   | AREA #           | RT # | AREA # | RT # | AREA # | RT # |      |
| 12/24 HOUR STD    | 9065             | 5.05 | 194    | 5.73 | 3057   | 8.42 |      |
| UPPER LIMIT       | 18130            | 5.55 | 388    | 6.23 | 6114   | 8.92 |      |
| LOWER LIMIT       | 4533             | 4.55 | 97     | 5.23 | 1529   | 7.92 |      |
| LAB SAMPLE ID     | CLIENT SAMPLE ID |      |        |      |        |      |      |
| LCS 460-485055/3  |                  | 9015 | 5.04   | 168  | 5.73   | 3009 | 8.42 |
| LCSD 460-485055/4 |                  | 9036 | 5.04   | 191  | 5.73   | 3068 | 8.42 |
| MB 460-485055/7   |                  | 7996 | 5.04   | 237  | 5.73   | 2597 | 8.42 |
| 460-147014-5      | MW-10S           | 8032 | 5.05   | 160  | 5.73   | 2645 | 8.42 |

FB = Fluorobenzene

DXE = 1,4-Dioxane-d8

CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 460-485226/2 Date Analyzed: 12/18/2017 16:53  
 Instrument ID: CVOAMS14 GC Column: Rtx-624 ID: 0.25 (mm)  
 Lab File ID (Standard): S001715.D Heated Purge: (Y/N) Y  
 Calibration ID: 65303

|                   | FB               |      | DXE    |      | CBNZd5 |           |
|-------------------|------------------|------|--------|------|--------|-----------|
|                   | AREA #           | RT # | AREA # | RT # | AREA # | RT #      |
| 12/24 HOUR STD    | 8263             | 5.04 | 171    | 5.73 | 2751   | 8.42      |
| UPPER LIMIT       | 16526            | 5.54 | 342    | 6.23 | 5502   | 8.92      |
| LOWER LIMIT       | 4132             | 4.54 | 86     | 5.23 | 1376   | 7.92      |
| LAB SAMPLE ID     | CLIENT SAMPLE ID |      |        |      |        |           |
| LCS 460-485226/3  |                  | 8317 | 5.05   | 164  | 5.73   | 2799 8.42 |
| LCSD 460-485226/4 |                  | 7629 | 5.04   | 162  | 5.73   | 2499 8.42 |
| MB 460-485226/7   |                  | 7552 | 5.04   | 149  | 5.73   | 2436 8.42 |
| 460-147014-12     | MW-X             | 7392 | 5.04   | 239  | 5.73   | 2524 8.42 |
| 460-147014-9      | MW-9D            | 7186 | 5.04   | 182  | 5.73   | 2417 8.42 |

FB = Fluorobenzene

DXE = 1,4-Dioxane-d8

CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 460-485727/2 Date Analyzed: 12/20/2017 07:48  
 Instrument ID: CVOAMS14 GC Column: Rtx-624 ID: 0.25 (mm)  
 Lab File ID (Standard): S001742.D Heated Purge: (Y/N) Y  
 Calibration ID: 65303

|                   | FB               |      | DXE    |      | CBNZd5 |           |
|-------------------|------------------|------|--------|------|--------|-----------|
|                   | AREA #           | RT # | AREA # | RT # | AREA # | RT #      |
| 12/24 HOUR STD    | 6052             | 5.04 | 149    | 5.73 | 1982   | 8.42      |
| UPPER LIMIT       | 12104            | 5.54 | 298    | 6.23 | 3964   | 8.92      |
| LOWER LIMIT       | 3026             | 4.54 | 75     | 5.23 | 991    | 7.92      |
| LAB SAMPLE ID     | CLIENT SAMPLE ID |      |        |      |        |           |
| LCS 460-485727/3  |                  | 5793 | 5.04   | 122  | 5.73   | 1877 8.42 |
| LCSD 460-485727/4 |                  | 5074 | 5.04   | 102  | 5.73   | 1629 8.42 |
| MB 460-485727/7   |                  | 6467 | 5.04   | 118  | 5.73   | 2079 8.42 |
| 460-147014-10     | MW-9S            | 6241 | 5.04   | 124  | 5.73   | 2119 8.42 |
| 460-147014-11     | MW-9I            | 6805 | 5.04   | 119  | 5.73   | 2290 8.42 |

FB = Fluorobenzene

DXE = 1,4-Dioxane-d8

CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: Trip Blank 12-12-17 Lab Sample ID: 460-147014-1  
 Matrix: Water Lab File ID: S001675.D  
 Analysis Method: 8260C SIM Date Collected: 12/12/2017 08:16  
 Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 11:26  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 96   |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 100  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001675.D  
 Lims ID: 460-147014-B-1  
 Client ID: Trip Blank 12-12-17  
 Sample Type: Client  
 Inject. Date: 15-Dec-2017 11:26:26 ALS Bottle#: 0 Worklist Smp#: 18  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-1  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 03:31:33 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: tupayachia

Date: 18-Dec-2017 03:32:02

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 9541     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 178      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 3186     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2997     | 0.4819            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.889            | 0.001            | 99  | 2511     | 0.5003            |       |

**Reagents:**

SimissurNEW\_00010 Amount Added: 2.00 Units: uL Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001675.D

Injection Date: 15-Dec-2017 11:26:26

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-1

Lab Sample ID: 460-147014-1

Worklist Smp#: 18

Client ID: Trip Blank 12-12-17

Purge Vol: 5.000 mL

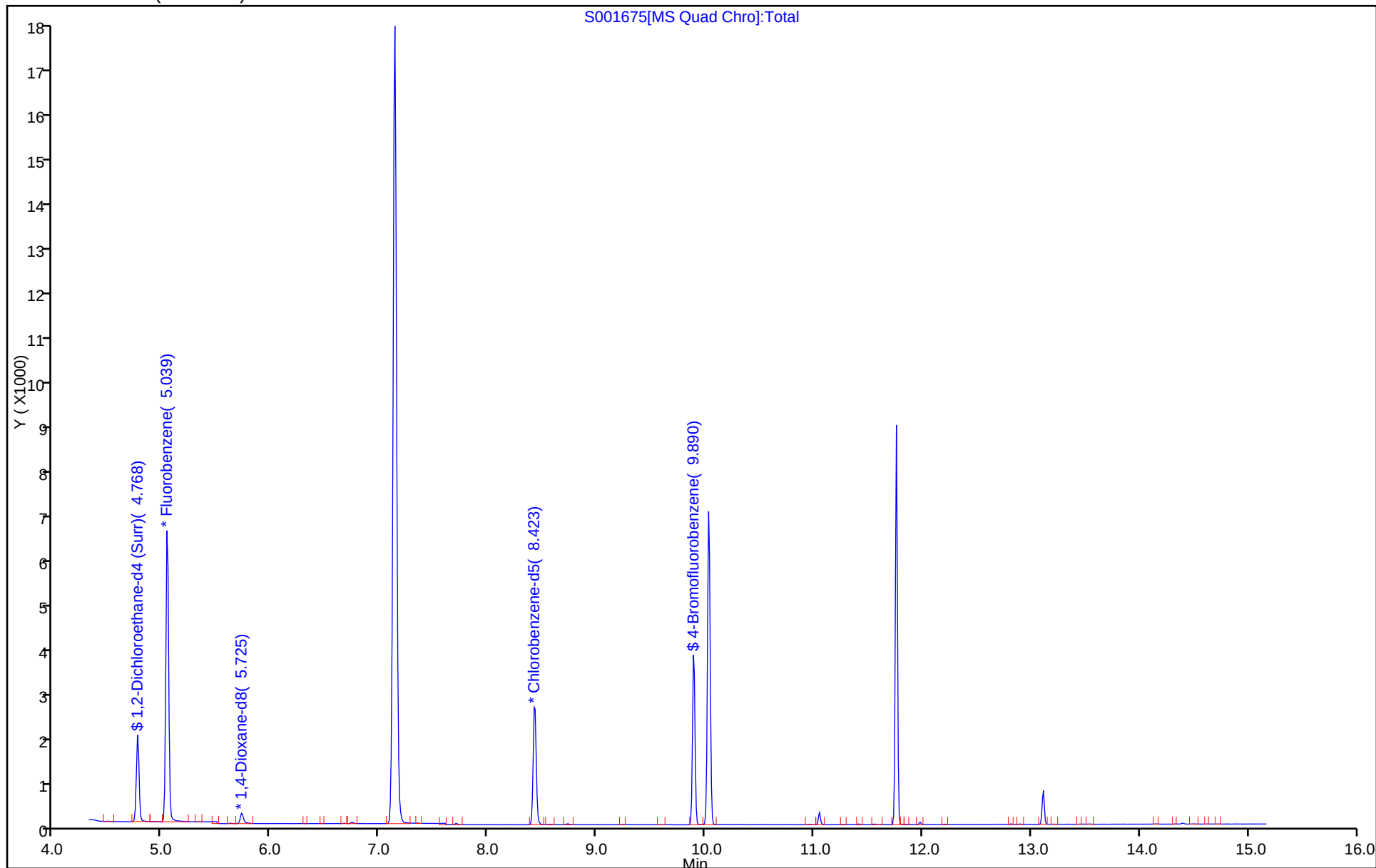
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: Field Blank 12-12-17 Lab Sample ID: 460-147014-2  
 Matrix: Water Lab File ID: S001676.D  
 Analysis Method: 8260C SIM Date Collected: 12/12/2017 08:20  
 Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 11:50  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 101  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 106  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001676.D  
 Lims ID: 460-147014-B-2  
 Client ID: Field Blank 12-12-17  
 Sample Type: Client  
 Inject. Date: 15-Dec-2017 11:50:39 ALS Bottle#: 0 Worklist Smp#: 19  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-2  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 03:31:33 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: tupayachia

Date: 18-Dec-2017 03:32:11

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 9680     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 98  | 184      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 3164     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 96  | 3177     | 0.5035            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 2640     | 0.5296            |       |

**Reagents:**

SimissurNEW\_00010 Amount Added: 2.00 Units: uL Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001676.D

Injection Date: 15-Dec-2017 11:50:39

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-2

Lab Sample ID: 460-147014-2

Worklist Smp#: 19

Client ID: Field Blank 12-12-17

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

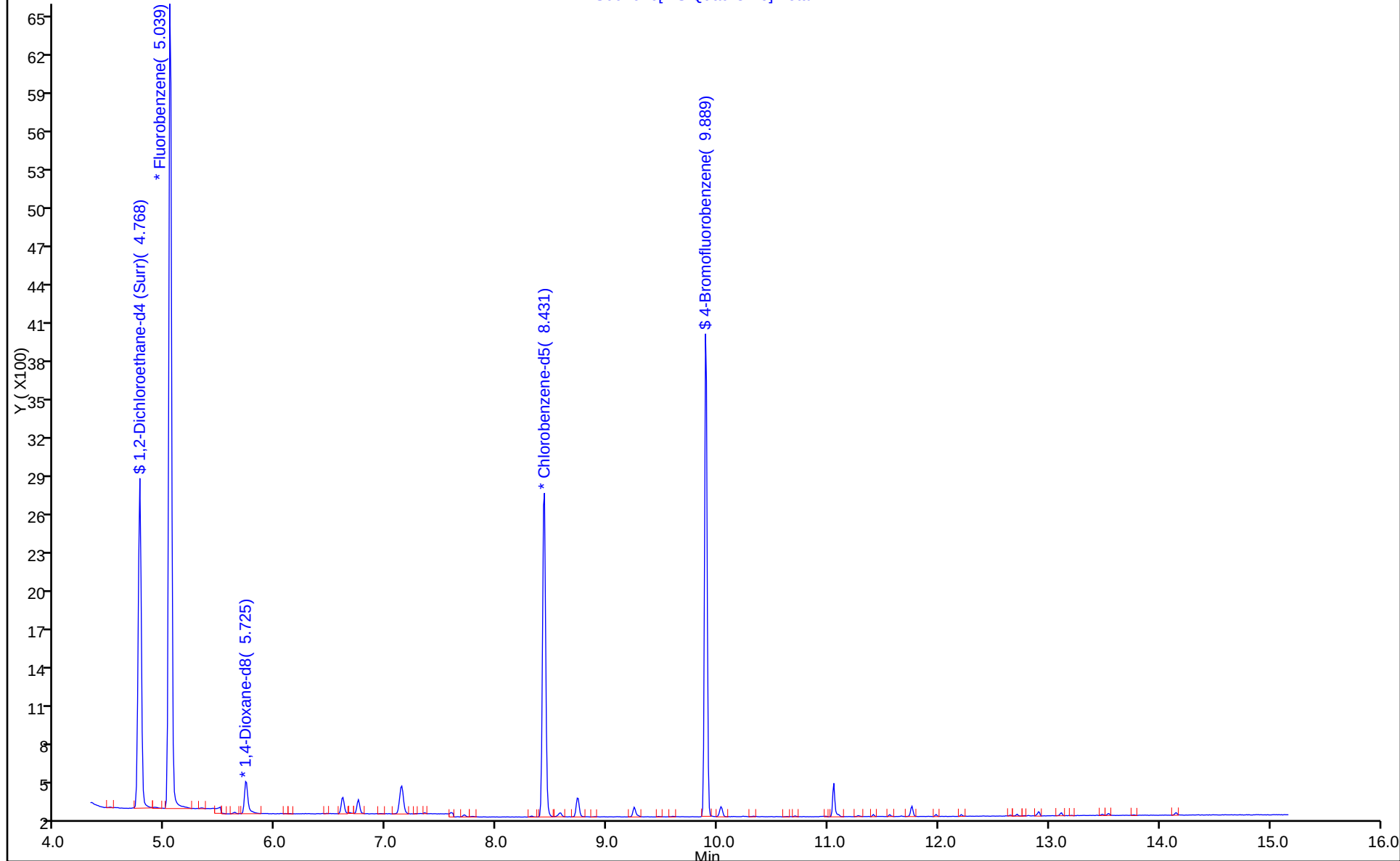
ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)

S001676[MS Quad Chro]:Total





FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: MW-6S Lab Sample ID: 460-147014-3  
Matrix: Water Lab File ID: S001677.D  
Analysis Method: 8260C SIM Date Collected: 12/12/2017 08:56  
Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 12:15  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 101  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 103  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001677.D  
 Lims ID: 460-147014-B-3  
 Client ID: MW-6S  
 Sample Type: Client  
 Inject. Date: 15-Dec-2017 12:15:15 ALS Bottle#: 0 Worklist Smp#: 20  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-3  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 03:31:33 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: tupayachia

Date: 18-Dec-2017 03:32:19

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 9550     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 98  | 186      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 3102     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3155     | 0.5068            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 2525     | 0.5167            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001677.D

Injection Date: 15-Dec-2017 12:15:15

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-3

Lab Sample ID: 460-147014-3

Worklist Smp#: 20

Client ID: MW-6S

Purge Vol: 5.000 mL

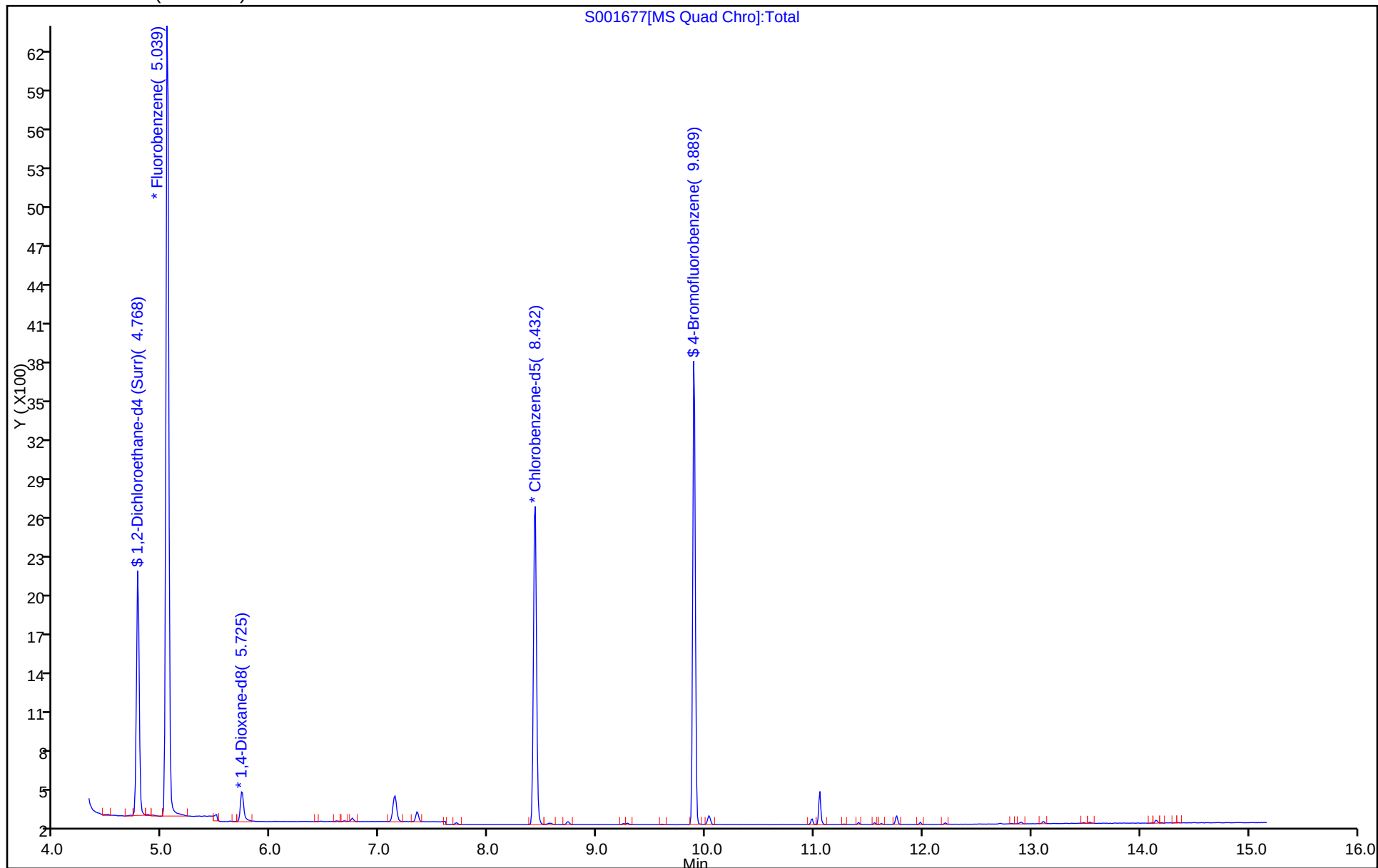
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-6I Lab Sample ID: 460-147014-4  
 Matrix: Water Lab File ID: S001678.D  
 Analysis Method: 8260C SIM Date Collected: 12/12/2017 09:50  
 Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 12:39  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 104  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 103  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001678.D  
 Lims ID: 460-147014-B-4  
 Client ID: MW-6I  
 Sample Type: Client  
 Inject. Date: 15-Dec-2017 12:39:54 ALS Bottle#: 0 Worklist Smp#: 21  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-4  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 03:31:33 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: tupayachia

Date: 18-Dec-2017 03:32:32

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 9142     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 190      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 2912     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3114     | 0.5225            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 2366     | 0.5157            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001678.D

Injection Date: 15-Dec-2017 12:39:54

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-4

Lab Sample ID: 460-147014-4

Worklist Smp#: 21

Client ID: MW-6I

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

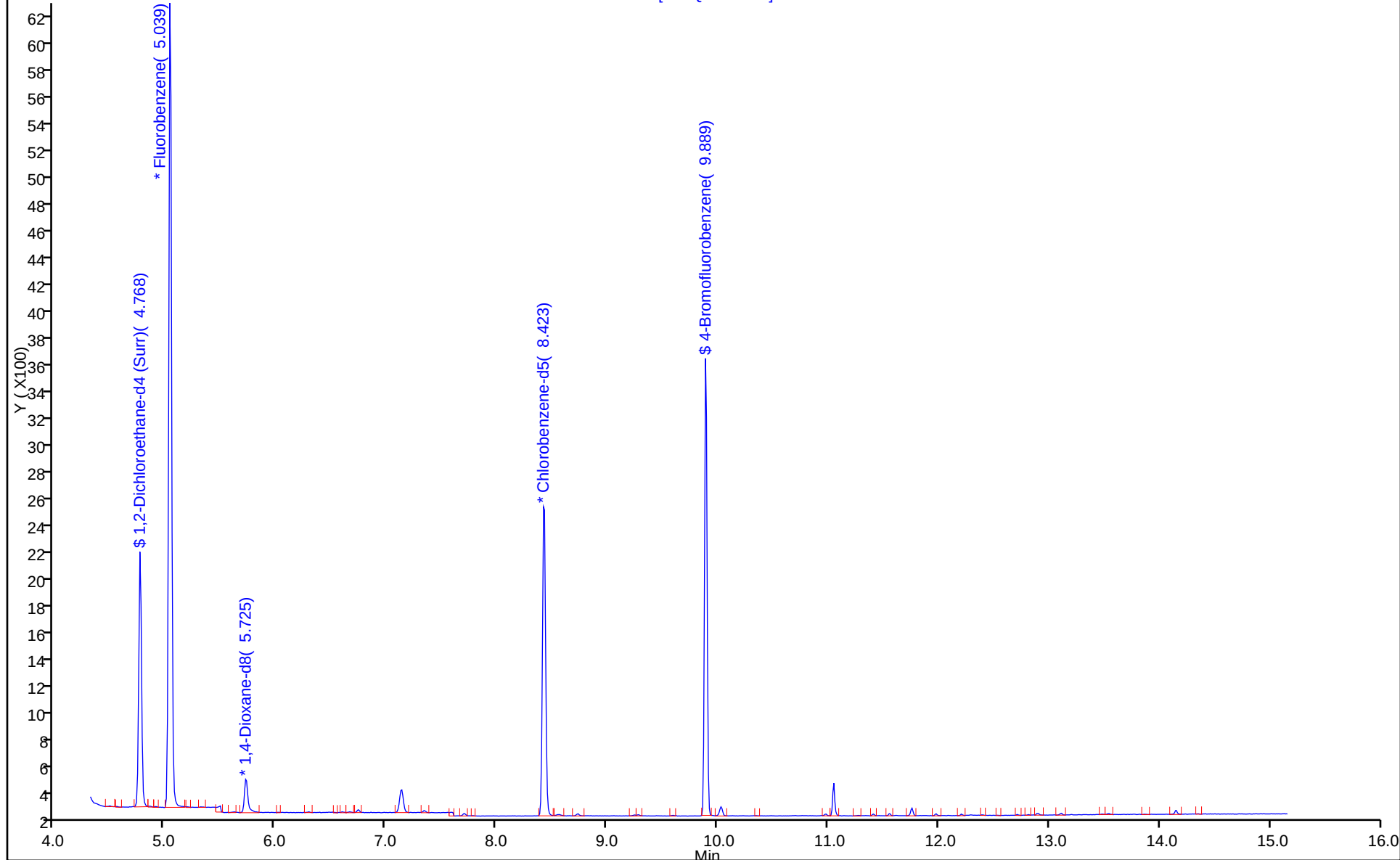
ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)

S001678[MS Quad Chro]:Total



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: MW-10S Lab Sample ID: 460-147014-5  
Matrix: Water Lab File ID: S001698.D  
Analysis Method: 8260C SIM Date Collected: 12/12/2017 11:06  
Sample wt/vol: 10 (mL) Date Analyzed: 12/18/2017 10:10  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485055 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 105  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 99   |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001698.D  
 Lims ID: 460-147014-B-5  
 Client ID: MW-10S  
 Sample Type: Client  
 Inject. Date: 18-Dec-2017 10:10:04 ALS Bottle#: 0 Worklist Smp#: 14  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-5  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 19:33:27 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK001

First Level Reviewer: colladox

Date: 18-Dec-2017 19:33:27

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.049            | 0.000            | 100 | 8032     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 100 | 160      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 2645     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2762     | 0.5275            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.890            | -0.001           | 99  | 2063     | 0.4951            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent



## TestAmerica Edison

Data File: \\ChromNA\\Edison\\ChromData\\CVOAMS14\\20171218-64997.b\\S001698.D

Injection Date: 18-Dec-2017 10:10:04

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-5

Lab Sample ID: 460-147014-5

Worklist Smp#: 14

Client ID: MW-10S

Purge Vol: 5.000 mL

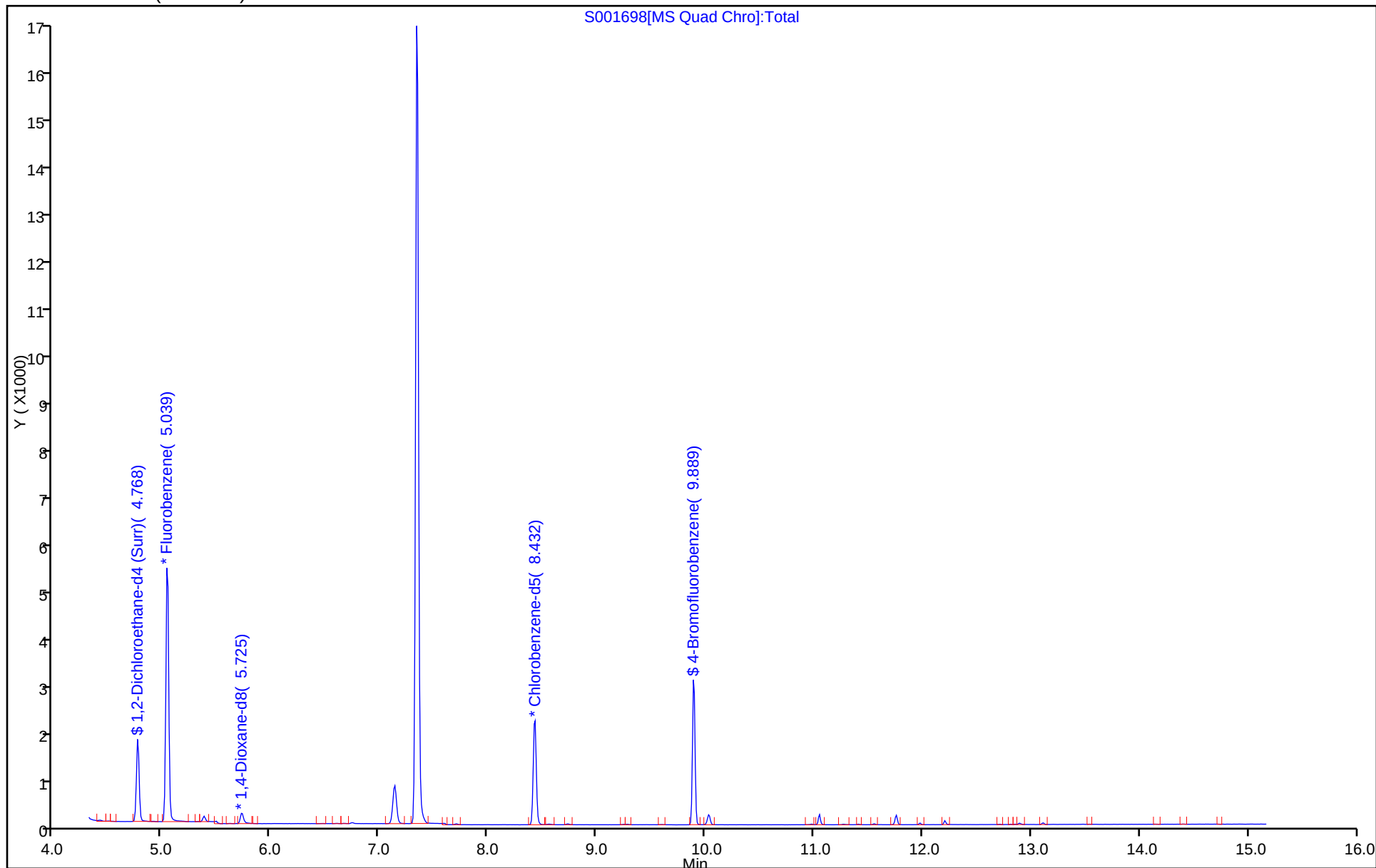
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: MW-10I Lab Sample ID: 460-147014-6  
Matrix: Water Lab File ID: S001680.D  
Analysis Method: 8260C SIM Date Collected: 12/12/2017 11:51  
Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 14:36  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 107  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 102  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001680.D  
 Lims ID: 460-147014-B-6  
 Client ID: MW-101  
 Sample Type: Client  
 Inject. Date: 15-Dec-2017 14:36:06 ALS Bottle#: 0 Worklist Smp#: 23  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-6  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 03:31:33 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: tupayachia

Date: 18-Dec-2017 03:32:42

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 8716     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 206      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 98  | 2718     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3051     | 0.5370            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.889            | 0.001            | 98  | 2175     | 0.5079            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001680.D

Injection Date: 15-Dec-2017 14:36:06

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-6

Lab Sample ID: 460-147014-6

Worklist Smp#: 23

Client ID: MW-10I

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

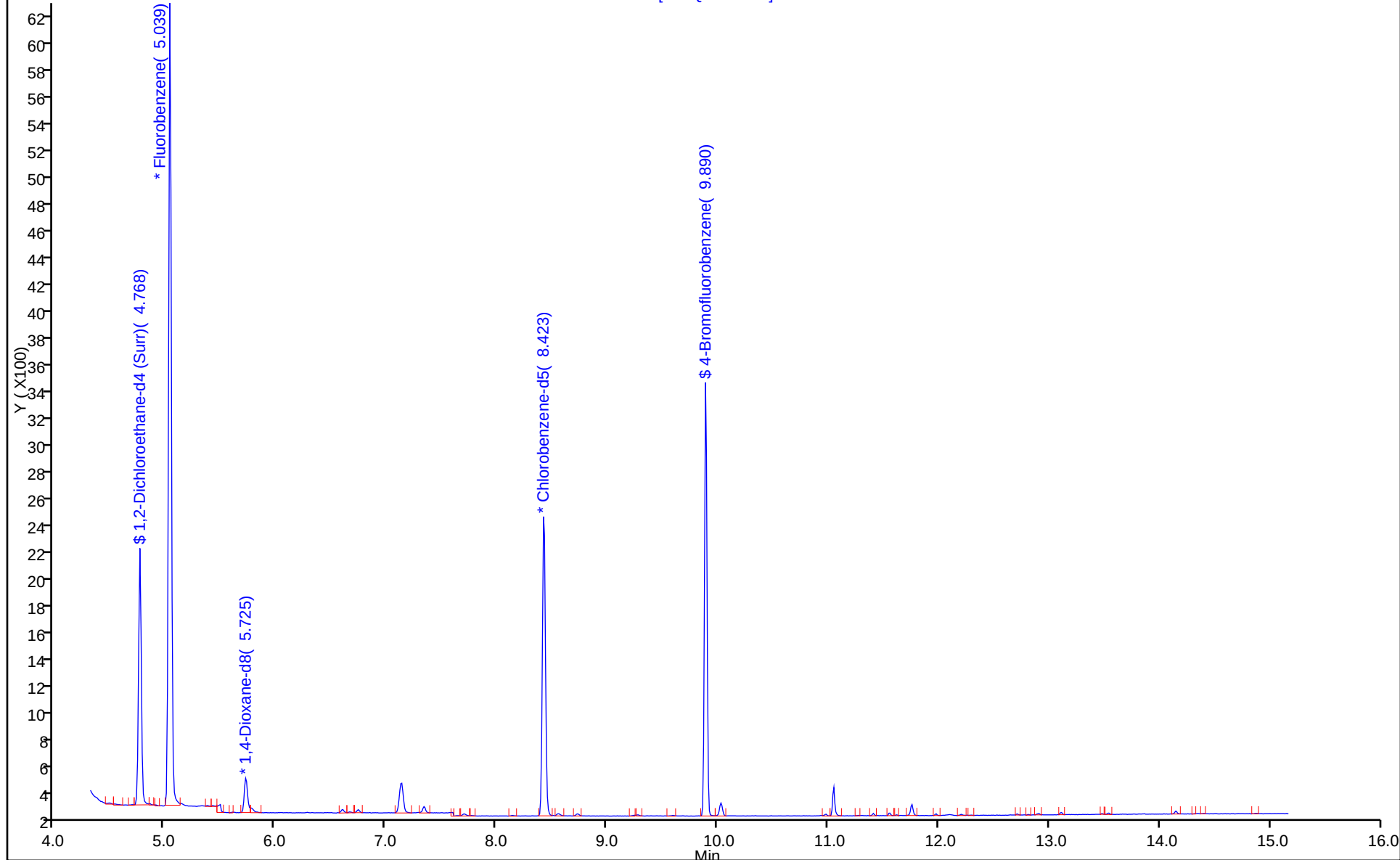
ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)

S001680[MS Quad Chro]:Total



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: MW-1I Lab Sample ID: 460-147014-7  
Matrix: Water Lab File ID: S001681.D  
Analysis Method: 8260C SIM Date Collected: 12/12/2017 12:54  
Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 15:00  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 108  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 101  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001681.D  
 Lims ID: 460-147014-B-7  
 Client ID: MW-1I  
 Sample Type: Client  
 Inject. Date: 15-Dec-2017 15:00:54 ALS Bottle#: 0 Worklist Smp#: 24  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-7  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 03:31:33 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: tupayachia

Date: 18-Dec-2017 03:32:50

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 8268     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 189      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 2574     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2908     | 0.5396            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.889            | 0.001            | 99  | 2051     | 0.5058            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001681.D

Injection Date: 15-Dec-2017 15:00:54

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-7

Lab Sample ID: 460-147014-7

Worklist Smp#: 24

Client ID: MW-11

Purge Vol: 5.000 mL

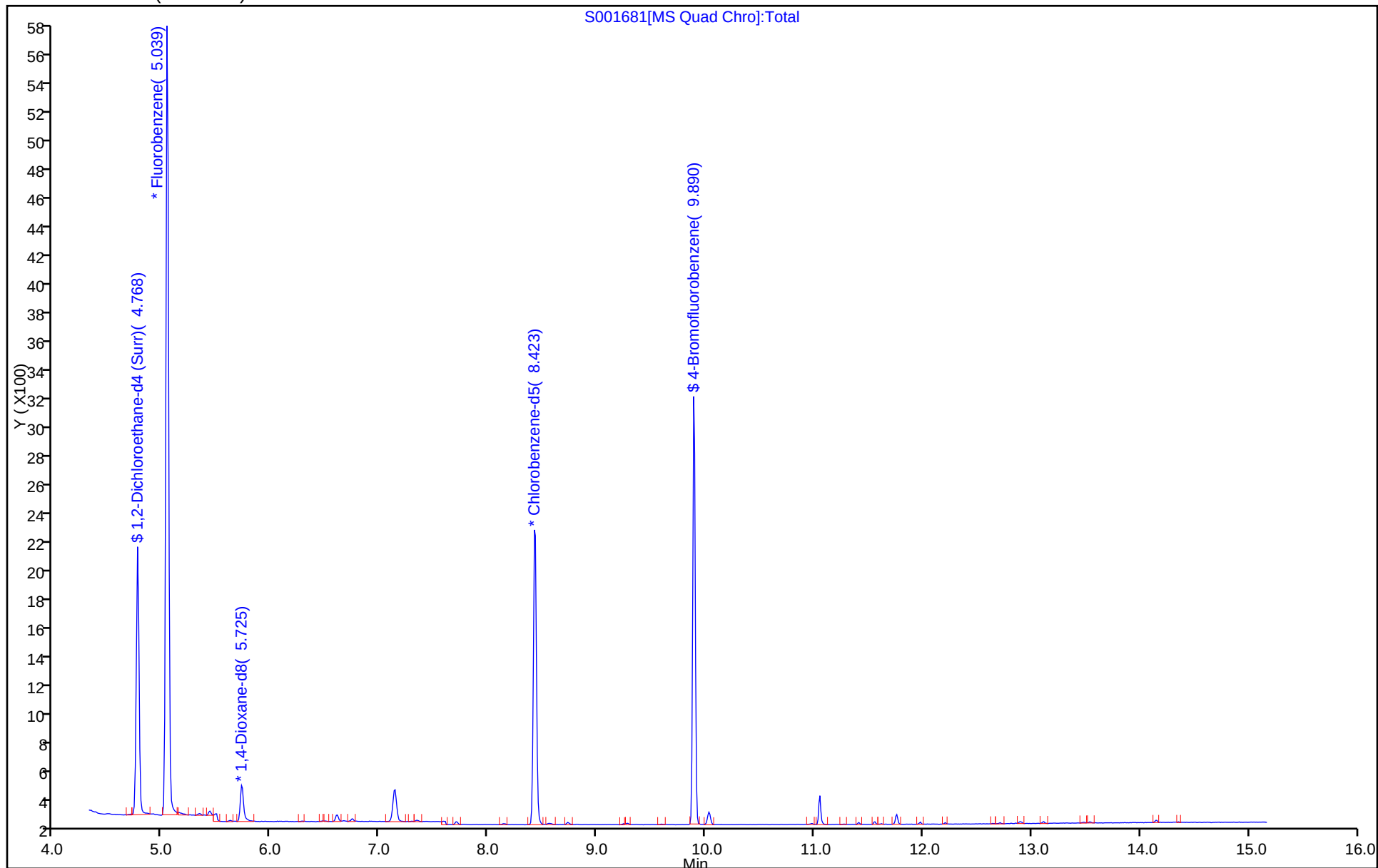
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: MW-1S Lab Sample ID: 460-147014-8  
Matrix: Water Lab File ID: S001682.D  
Analysis Method: 8260C SIM Date Collected: 12/12/2017 13:36  
Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 15:25  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 108  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 102  |   | 72-133 |



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001682.D  
 Lims ID: 460-147014-B-8  
 Client ID: MW-1S  
 Sample Type: Client  
 Inject. Date: 15-Dec-2017 15:25:28 ALS Bottle#: 0 Worklist Smp#: 25  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-8  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 03:31:33 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: tupayachia

Date: 18-Dec-2017 03:33:05

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.039            | 0.010            | 100 | 8928     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.734        | 5.725            | 0.009            | 95  | 189      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 2896     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3142     | 0.5399            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 100 | 2317     | 0.5078            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\\Edison\\ChromData\\CVOAMS14\\20171215-64845.b\\S001682.D

Injection Date: 15-Dec-2017 15:25:28

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-8

Lab Sample ID: 460-147014-8

Worklist Smp#: 25

Client ID: MW-1S

Purge Vol: 5.000 mL

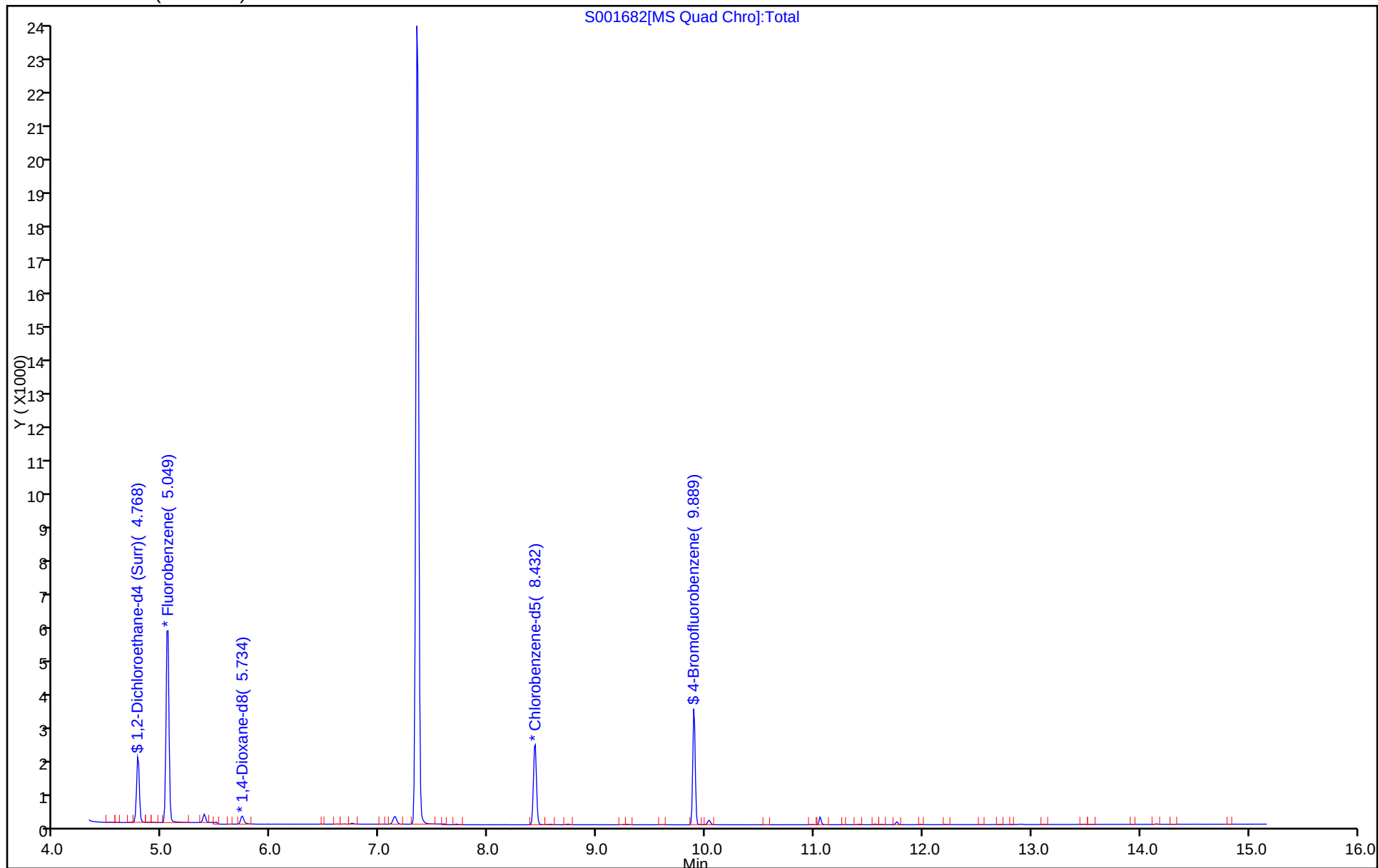
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: MW-9D Lab Sample ID: 460-147014-9  
Matrix: Water Lab File ID: S001724.D  
Analysis Method: 8260C SIM Date Collected: 12/12/2017 15:03  
Sample wt/vol: 10 (mL) Date Analyzed: 12/18/2017 21:19  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485226 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 110  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 101  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001724.D  
 Lims ID: 460-147014-B-9  
 Client ID: MW-9D  
 Sample Type: Client  
 Inject. Date: 18-Dec-2017 21:19:15 ALS Bottle#: 0 Worklist Smp#: 11  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-9  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 22:37:35 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK001

First Level Reviewer: colladox

Date: 18-Dec-2017 22:37:35

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 7186     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 98  | 182      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 2417     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2572     | 0.5491            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.889            | 0.001            | 98  | 1919     | 0.5040            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001724.D

Injection Date: 18-Dec-2017 21:19:15

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-9

Lab Sample ID: 460-147014-9

Worklist Smp#: 11

Client ID: MW-9D

Purge Vol: 5.000 mL

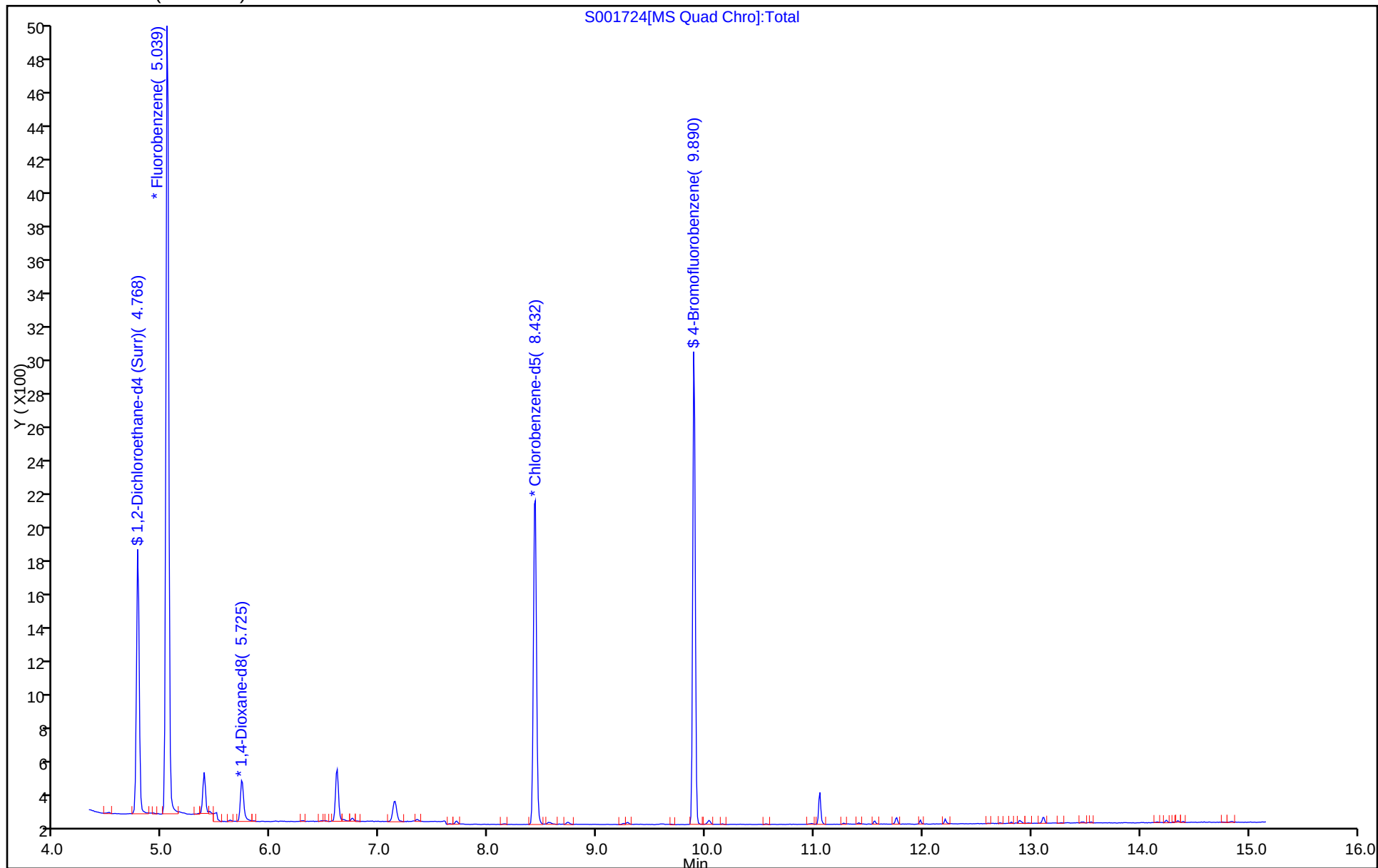
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: MW-9S Lab Sample ID: 460-147014-10  
Matrix: Water Lab File ID: S001748.D  
Analysis Method: 8260C SIM Date Collected: 12/12/2017 15:12  
Sample wt/vol: 10 (mL) Date Analyzed: 12/20/2017 10:21  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485727 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 106  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 101  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001748.D  
 Lims ID: 460-147014-B-10  
 Client ID: MW-9S  
 Sample Type: Client  
 Inject. Date: 20-Dec-2017 10:21:56 ALS Bottle#: 0 Worklist Smp#: 8  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-10  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 20-Dec-2017 12:13:17 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK019

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 6241     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 124      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 2119     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2149     | 0.5282            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.889            | 0.001            | 99  | 1693     | 0.5071            |       |

### Reagents:

SimissurNEW\_00011 Amount Added: 2.00 Units: uL Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001748.D

Injection Date: 20-Dec-2017 10:21:56

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-10

Lab Sample ID: 460-147014-10

Worklist Smp#: 8

Client ID: MW-9S

Purge Vol: 5.000 mL

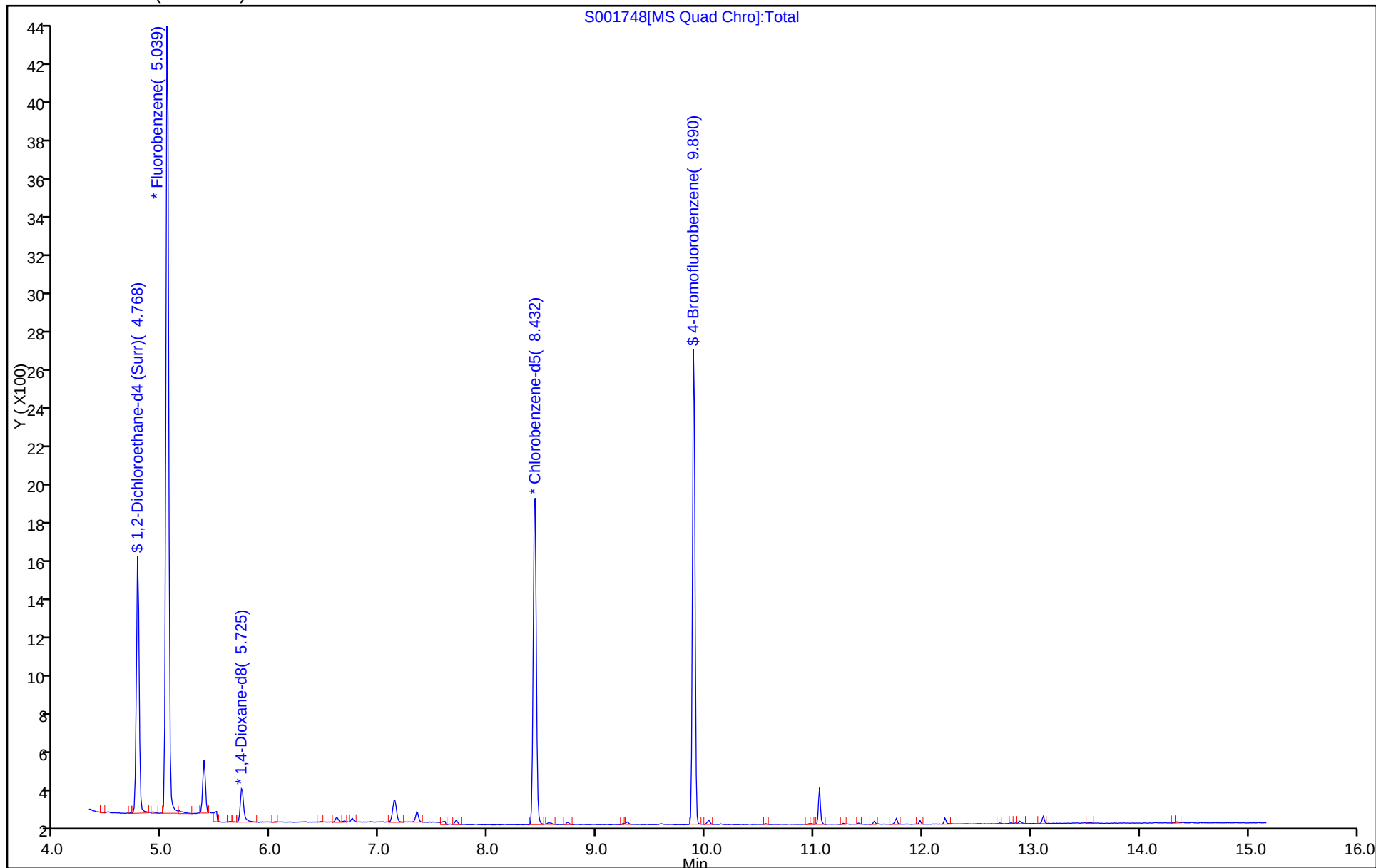
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)





FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: MW-9I Lab Sample ID: 460-147014-11  
 Matrix: Water Lab File ID: S001766.D  
 Analysis Method: 8260C SIM Date Collected: 12/12/2017 16:00  
 Sample wt/vol: 10 (mL) Date Analyzed: 12/20/2017 17:33  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 485727 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 103  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 99   |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001766.D  
 Lims ID: 460-147014-B-11  
 Client ID: MW-9I  
 Sample Type: Client  
 Inject. Date: 20-Dec-2017 17:33:01 ALS Bottle#: 0 Worklist Smp#: 26  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 460-147014-B-11  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 21-Dec-2017 10:25:34 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK026

First Level Reviewer: desais

Date: 21-Dec-2017 10:25:53

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 6805     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 98  | 119      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 2290     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2295     | 0.5174            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 98  | 1784     | 0.4945            |       |

**Reagents:**

SimissurNEW\_00011 Amount Added: 2.00 Units: uL Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001766.D

Injection Date: 20-Dec-2017 17:33:01

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-11

Lab Sample ID: 460-147014-11

Worklist Smp#: 26

Client ID: MW-9I

Purge Vol: 5.000 mL

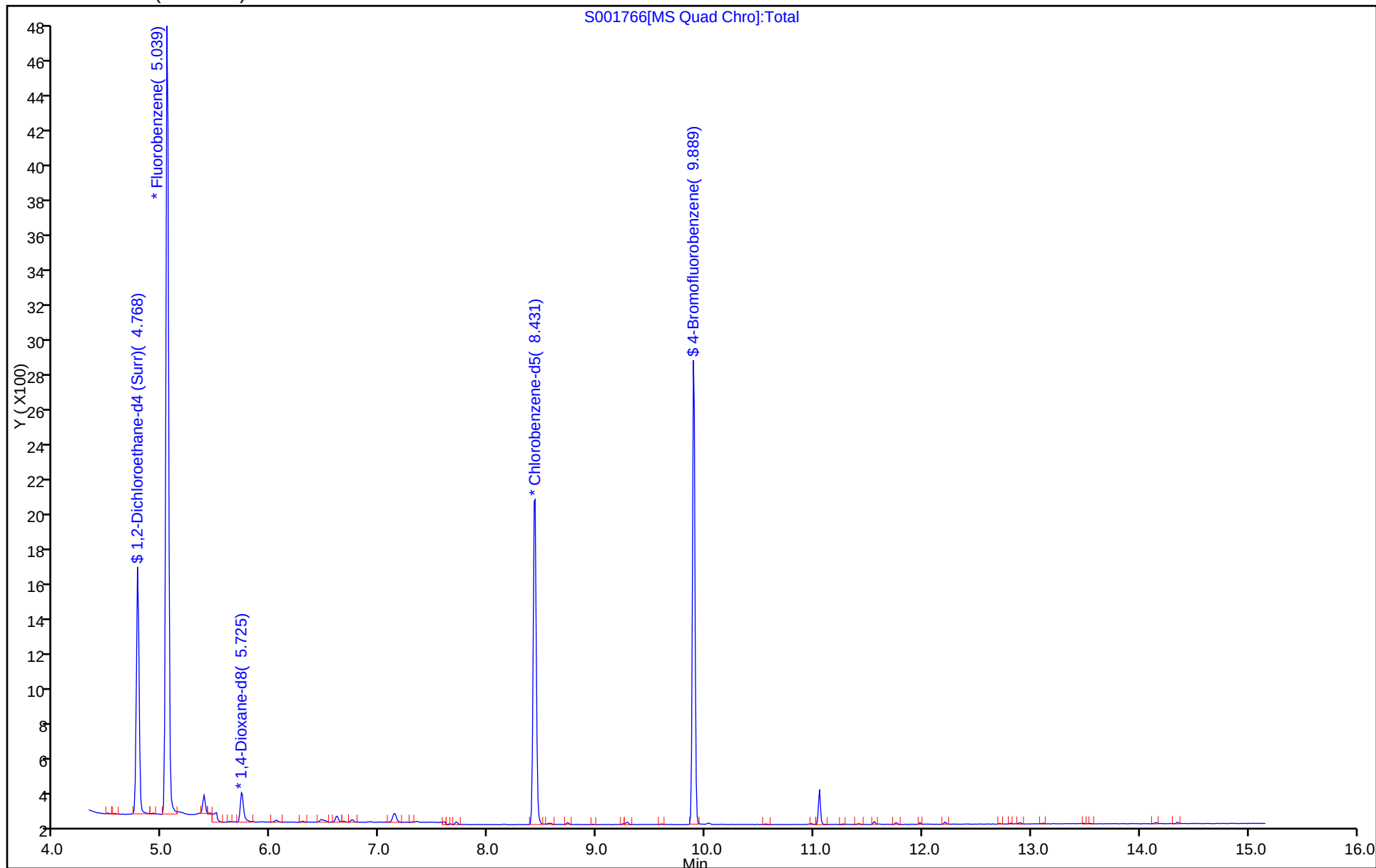
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: MW-X Lab Sample ID: 460-147014-12  
Matrix: Water Lab File ID: S001723.D  
Analysis Method: 8260C SIM Date Collected: 12/12/2017 00:00  
Sample wt/vol: 10 (mL) Date Analyzed: 12/18/2017 20:55  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485226 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 109  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 102  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001723.D  
Lims ID: 460-147014-B-12  
Client ID: MW-X  
Sample Type: Client  
Inject. Date: 18-Dec-2017 20:55:18 ALS Bottle#: 0 Worklist Smp#: 10  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Sample Info: 460-147014-B-12  
Operator ID: Instrument ID: CVOAMS14  
Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\8260SIM\_14.m  
Limit Group: VOA - 8260C Water and Solid  
Last Update: 18-Dec-2017 22:38:32 Calib Date: 06-Dec-2017 11:31:52  
Integrator: RTE ID Type: RT Order ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
Process Host: XAWRK001

First Level Reviewer: colladox

Date: 18-Dec-2017 22:37:19

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 7392     | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 98  | 239      | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 2524     | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2616     | 0.5429            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 2019     | 0.5078            |       |

## Reagents:

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001723.D

Injection Date: 18-Dec-2017 20:55:18

Instrument ID: CVOAMS14

Operator ID:

Lims ID: 460-147014-B-12

Lab Sample ID: 460-147014-12

Worklist Smp#: 10

Client ID: MW-X

Purge Vol: 5.000 mL

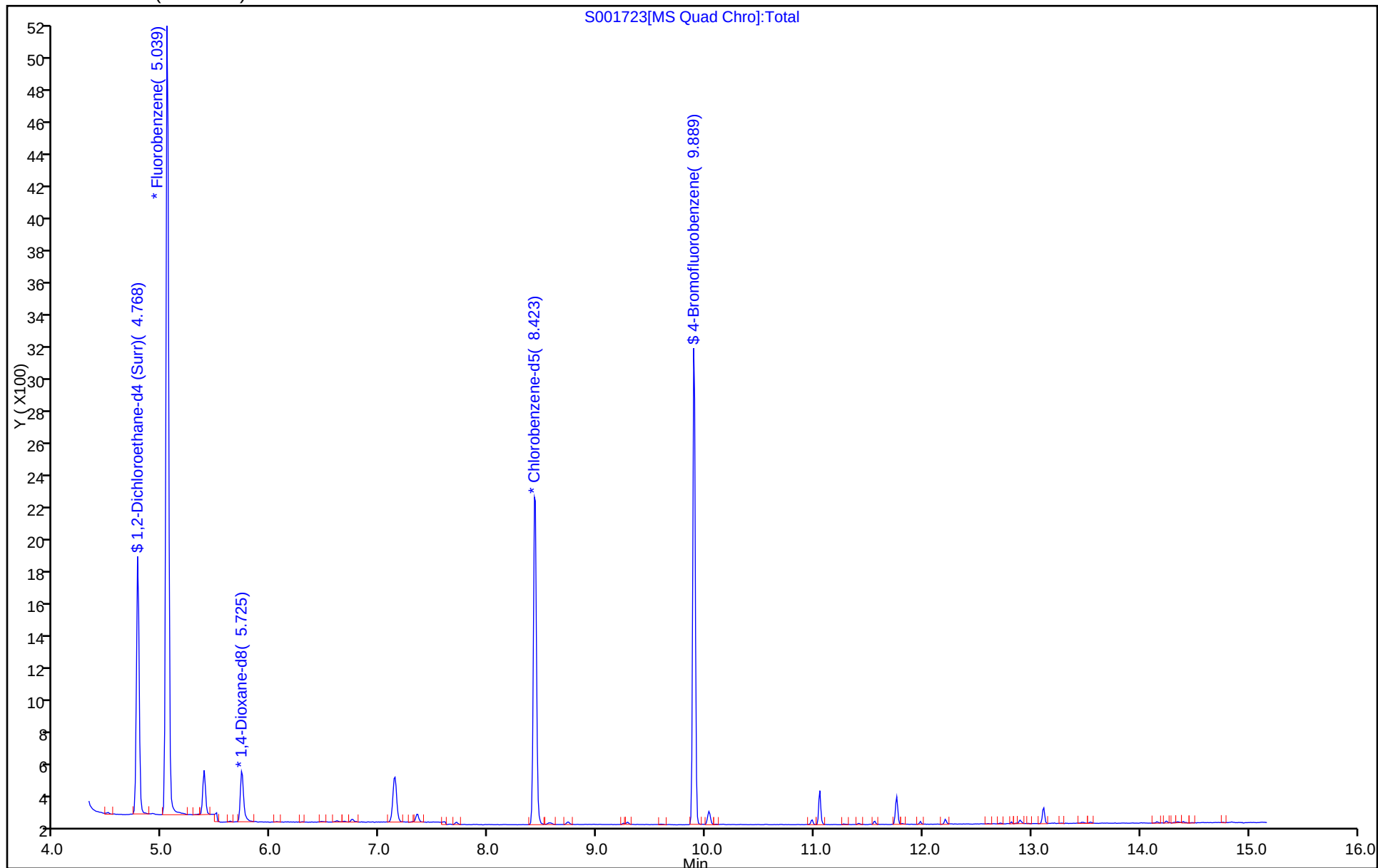
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Edison Job No.: 460-147014-1 Analy Batch No.: 482109

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

Instrument ID: CVOAMS14 GC Column: Rtx-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 12/06/2017 08:44 Calibration End Date: 12/06/2017 11:31 Calibration ID: 65303

Calibration Files:

|         |                    |              |
|---------|--------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:     | LAB FILE ID: |
| Level 1 | STD04 460-482109/2 | S001420.D    |
| Level 2 | STD1 460-482109/3  | S001421.D    |
| Level 3 | STD5 460-482109/4  | S001422.D    |
| Level 4 | STD10 460-482109/5 | S001423.D    |
| Level 5 | STD20 460-482109/6 | S001424.D    |
| Level 6 | STD30 460-482109/7 | S001425.D    |
| Level 7 | STD40 460-482109/8 | S001426.D    |
| Level 8 | STD50 460-482109/9 | S001427.D    |

| ANALYTE                      | RRF              |                  |                  |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|------------------------------|------------------|------------------|------------------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                              | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| 1,4-Dioxane                  | 2.1073<br>1.8949 | 1.9651<br>1.9516 | 1.8355<br>2.0888 | 1.8802 | 1.8231 | Ave           |             | 1.9433 |    |   |         | 5.5  |   | 20.0        |               |   |                   |
| Ethylene Dibromide           | 0.3563<br>0.4552 | 0.3925<br>0.4642 | 0.4287<br>0.5311 | 0.4337 | 0.4255 | Ave           |             | 0.4359 |    |   | 0.1000  | 11.8 |   | 20.0        |               |   |                   |
| 1,2,3-Trichloropropane       | 0.1510<br>0.1905 | 0.1749<br>0.1983 | 0.1866<br>0.2259 | 0.1924 | 0.1840 | Ave           |             | 0.1879 |    |   |         | 11.3 |   | 20.0        |               |   |                   |
| 1,2-Dibromo-3-Chloropropane  | 0.0604<br>0.0673 | 0.0714<br>0.0696 | 0.0787<br>0.0800 | 0.0733 | 0.0665 | Ave           |             | 0.0709 |    |   | 0.0500  | 9.2  |   | 20.0        |               |   |                   |
| 1,2-Dichloroethane-d4 (Surr) | 0.3127<br>0.3261 | 0.3262<br>0.3312 | 0.3234<br>0.3372 | 0.3241 | 0.3265 | Ave           |             | 0.3259 |    |   |         | 2.1  |   | 20.0        |               |   |                   |
| 4-Bromofluorobenzene         | 0.8052<br>0.7854 | 0.7950<br>0.7845 | 0.7964<br>0.7655 | 0.7892 | 0.7804 | Ave           |             | 0.7877 |    |   |         | 1.5  |   | 20.0        |               |   |                   |

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Edison Job No.: 460-147014-1 Analy Batch No.: 482109

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

Instrument ID: CVOAMS14 GC Column: Rtx-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 12/06/2017 08:44 Calibration End Date: 12/06/2017 11:31 Calibration ID: 65303

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:     | LAB FILE ID: |
|---------|--------------------|--------------|
| Level 1 | STD04 460-482109/2 | S001420.D    |
| Level 2 | STD1 460-482109/3  | S001421.D    |
| Level 3 | STD5 460-482109/4  | S001422.D    |
| Level 4 | STD10 460-482109/5 | S001423.D    |
| Level 5 | STD20 460-482109/6 | S001424.D    |
| Level 6 | STD30 460-482109/7 | S001425.D    |
| Level 7 | STD40 460-482109/8 | S001426.D    |
| Level 8 | STD50 460-482109/9 | S001427.D    |

| ANALYTE                      | IS<br>REF  | CURVE<br>TYPE | RESPONSE       |                |                |       |       | CONCENTRATION (UG/L) |                |                |       |       |
|------------------------------|------------|---------------|----------------|----------------|----------------|-------|-------|----------------------|----------------|----------------|-------|-------|
|                              |            |               | LVL 1<br>LVL 6 | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4 | LVL 5 | LVL 1<br>LVL 6       | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4 | LVL 5 |
| 1,4-Dioxane                  | DXE        | Ave           | 22<br>1262     | 45<br>1694     | 212<br>2141    | 408   | 835   | 0.400<br>30.0        | 1.00<br>40.0   | 5.00<br>50.0   | 10.0  | 20.0  |
| Ethylene Dibromide           | CBNZ<br>d5 | Ave           | 59<br>1508     | 110<br>2942    | 147<br>6186    | 284   | 576   | 0.0200<br>0.500      | 0.0400<br>1.00 | 0.0500<br>2.00 | 0.100 | 0.200 |
| 1,2,3-Trichloropropane       | CBNZ<br>d5 | Ave           | 25<br>631      | 49<br>1257     | 64<br>2631     | 126   | 249   | 0.0200<br>0.500      | 0.0400<br>1.00 | 0.0500<br>2.00 | 0.100 | 0.200 |
| 1,2-Dibromo-3-Chloropropane  | CBNZ<br>d5 | Ave           | 10<br>223      | 20<br>441      | 27<br>932      | 48    | 90    | 0.0200<br>0.500      | 0.0400<br>1.00 | 0.0500<br>2.00 | 0.100 | 0.200 |
| 1,2-Dichloroethane-d4 (Surr) | FB         | Ave           | 3903<br>3397   | 3480<br>3307   | 3412<br>3184   | 3310  | 3488  | 0.500<br>0.500       | 0.500<br>0.500 | 0.500<br>0.500 | 0.500 | 0.500 |
| 4-Bromofluorobenzene         | CBNZ<br>d5 | Ave           | 3335<br>2603   | 2786<br>2487   | 2732<br>2230   | 2585  | 2642  | 0.500<br>0.500       | 0.500<br>0.500 | 0.500<br>0.500 | 0.500 | 0.500 |

Curve Type Legend:

Ave = Average ISTD



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001420.D  
 Lims ID: STD04  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 06-Dec-2017 08:44:14 ALS Bottle#: 0 Worklist Smp#: 2  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: STD04  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 06-Dec-2017 12:50:52 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: desais

Date: 06-Dec-2017 10:45:37

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.038        | 5.049            | -0.011           | 98 | 12475    | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 1  | 261      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 97 | 4140     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 88 | 3903     | 0.5003          | 0.4800            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 98 | 3335     | 0.5002          | 0.5113            |       |
| 7 1,4-Dioxane                   | 88  | 5.778        | 5.786            | -0.008           | 79 | 22       | 0.4000          | 0.4338            |       |
| 8 Ethylene Dibromide            | 109 | 7.881        | 7.882            | -0.001           | 99 | 59       | 0.0200          | 0.0163            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.151       | 10.152           | -0.001           | 99 | 25       | 0.0200          | 0.0161            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 95 | 10       | 0.0200          | 0.0170            |       |

## Reagents:

|                   |                    |           |             |
|-------------------|--------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00 | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 4.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00 | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001420.D

Injection Date: 06-Dec-2017 08:44:14

Instrument ID: CVOAMS14

Operator ID:

Lims ID: STD04

Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL

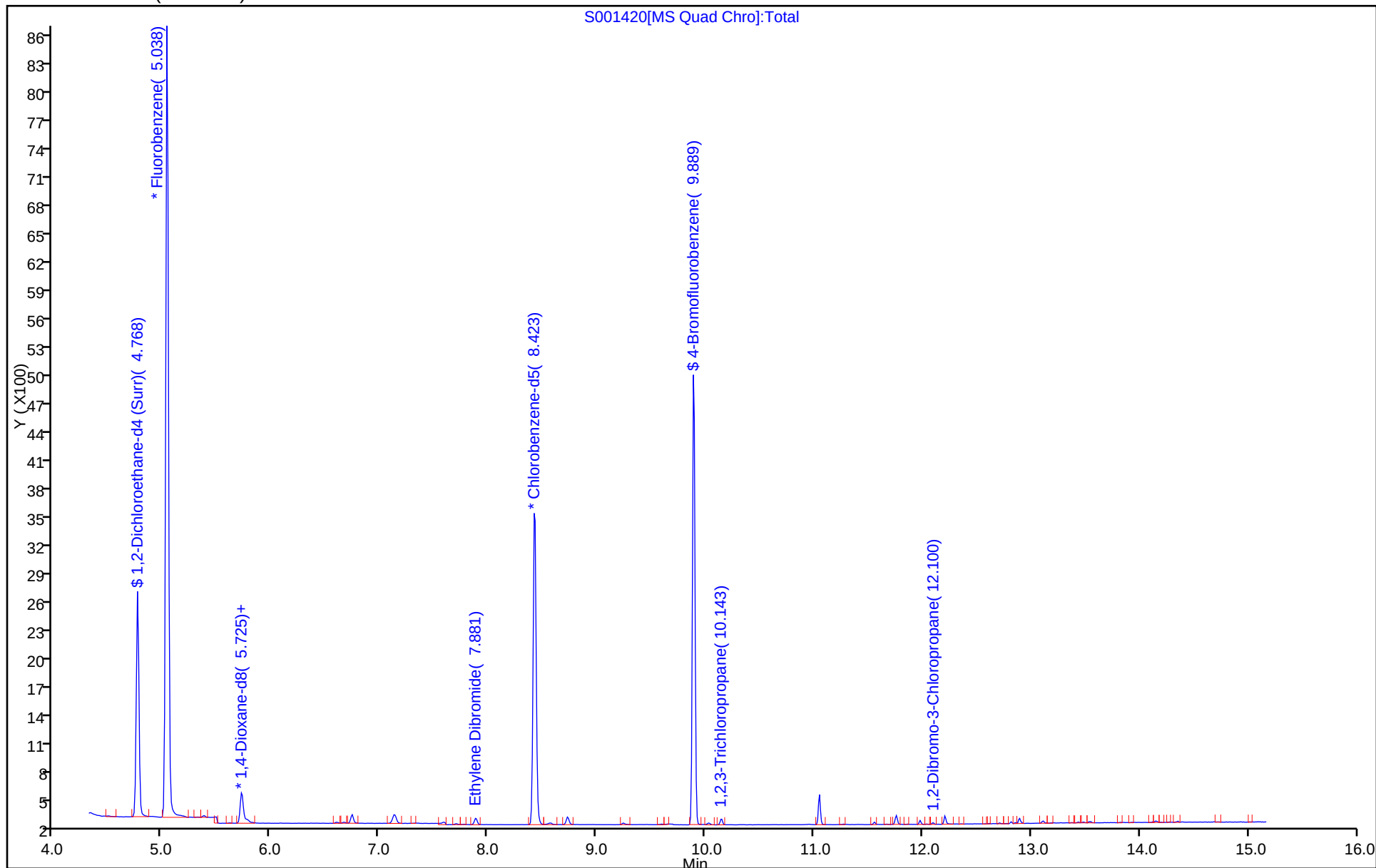
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001421.D  
 Lims ID: STD1  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 06-Dec-2017 09:08:14 ALS Bottle#: 0 Worklist Smp#: 3  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: STD1  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 06-Dec-2017 12:50:54 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: desais

Date: 06-Dec-2017 10:45:30

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.049            | 0.000            | 100 | 10660    | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 1   | 229      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 3503     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 89  | 3480     | 0.5003          | 0.5008            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 100 | 2786     | 0.5002          | 0.5048            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.786            | 0.000            | 88  | 45       | 1.00            | 1.01              |       |
| 8 Ethylene Dibromide            | 109 | 7.890        | 7.882            | 0.008            | 97  | 110      | 0.0400          | 0.0360            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 99  | 49       | 0.0400          | 0.0372            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 98  | 20       | 0.0400          | 0.0403            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 2.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 10.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001421.D

Injection Date: 06-Dec-2017 09:08:14

Instrument ID: CVOAMS14

Operator ID:

Lims ID: STD1

Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL

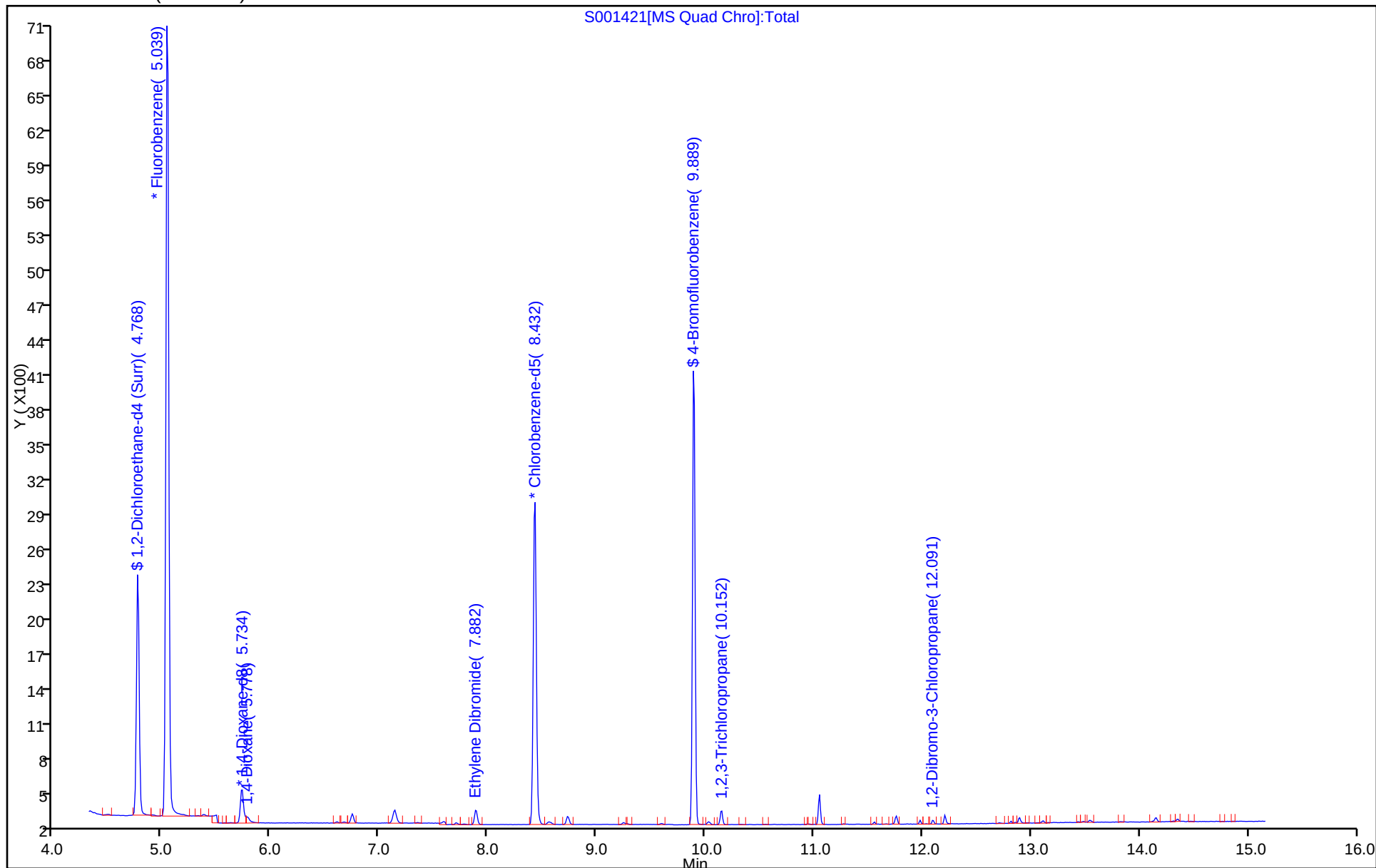
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001422.D  
 Lims ID: STD5  
 Client ID:  
 Sample Type: ICIS Calib Level: 3  
 Inject. Date: 06-Dec-2017 09:32:09 ALS Bottle#: 0 Worklist Smp#: 4  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: STD5  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 06-Dec-2017 12:50:56 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: desais

Date: 06-Dec-2017 09:58:42

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.049            | 0.000            | 100 | 10544    | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 1   | 231      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 98  | 3429     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 89  | 3412     | 0.5003          | 0.4964            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 100 | 2732     | 0.5002          | 0.5057            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.786            | 0.000            | 94  | 212      | 5.00            | 4.72              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.882            | 0.000            | 98  | 147      | 0.0500          | 0.0492            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 100 | 64       | 0.0500          | 0.0497            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 97  | 27       | 0.0500          | 0.0555            |       |

## Reagents:

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001422.D

Injection Date: 06-Dec-2017 09:32:09

Instrument ID: CVOAMS14

Operator ID:

Lims ID: STD5

Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL

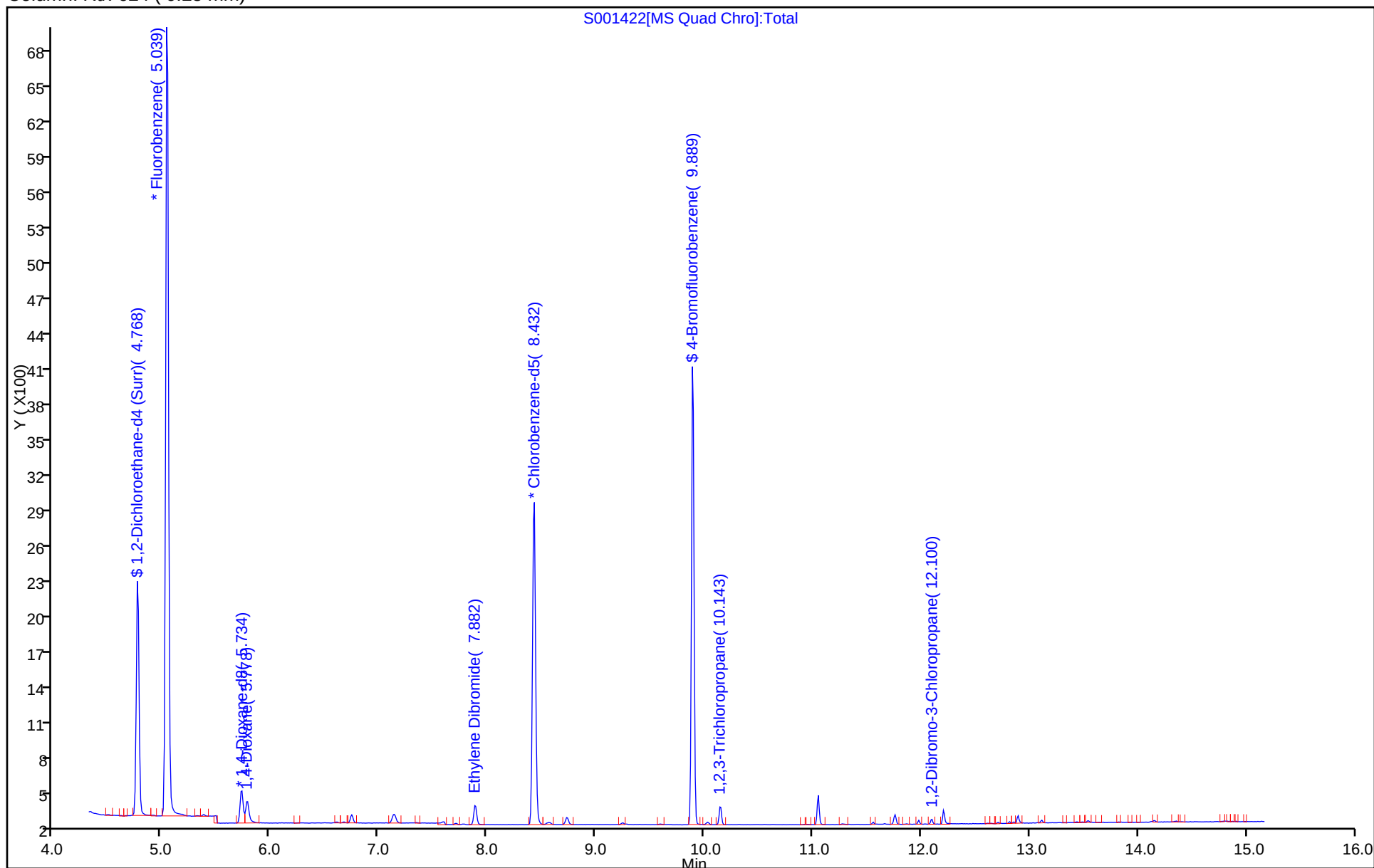
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001423.D  
 Lims ID: STD10  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 06-Dec-2017 09:56:06 ALS Bottle#: 0 Worklist Smp#: 5  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: STD10  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 06-Dec-2017 12:50:58 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: desais

Date: 06-Dec-2017 10:45:01

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.049            | 0.000            | 100 | 10206    | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 100 | 217      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 3274     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3310     | 0.5003          | 0.4975            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 100 | 2585     | 0.5002          | 0.5012            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.786            | 0.000            | 97  | 408      | 10.0            | 9.68              |       |
| 8 Ethylene Dibromide            | 109 | 7.890        | 7.882            | 0.008            | 94  | 284      | 0.1000          | 0.0995            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 100 | 126      | 0.1000          | 0.1024            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 97  | 48       | 0.1000          | 0.1034            |       |

## Reagents:

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001423.D

Injection Date: 06-Dec-2017 09:56:06

Instrument ID: CVOAMS14

Operator ID:

Lims ID: STD10

Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL

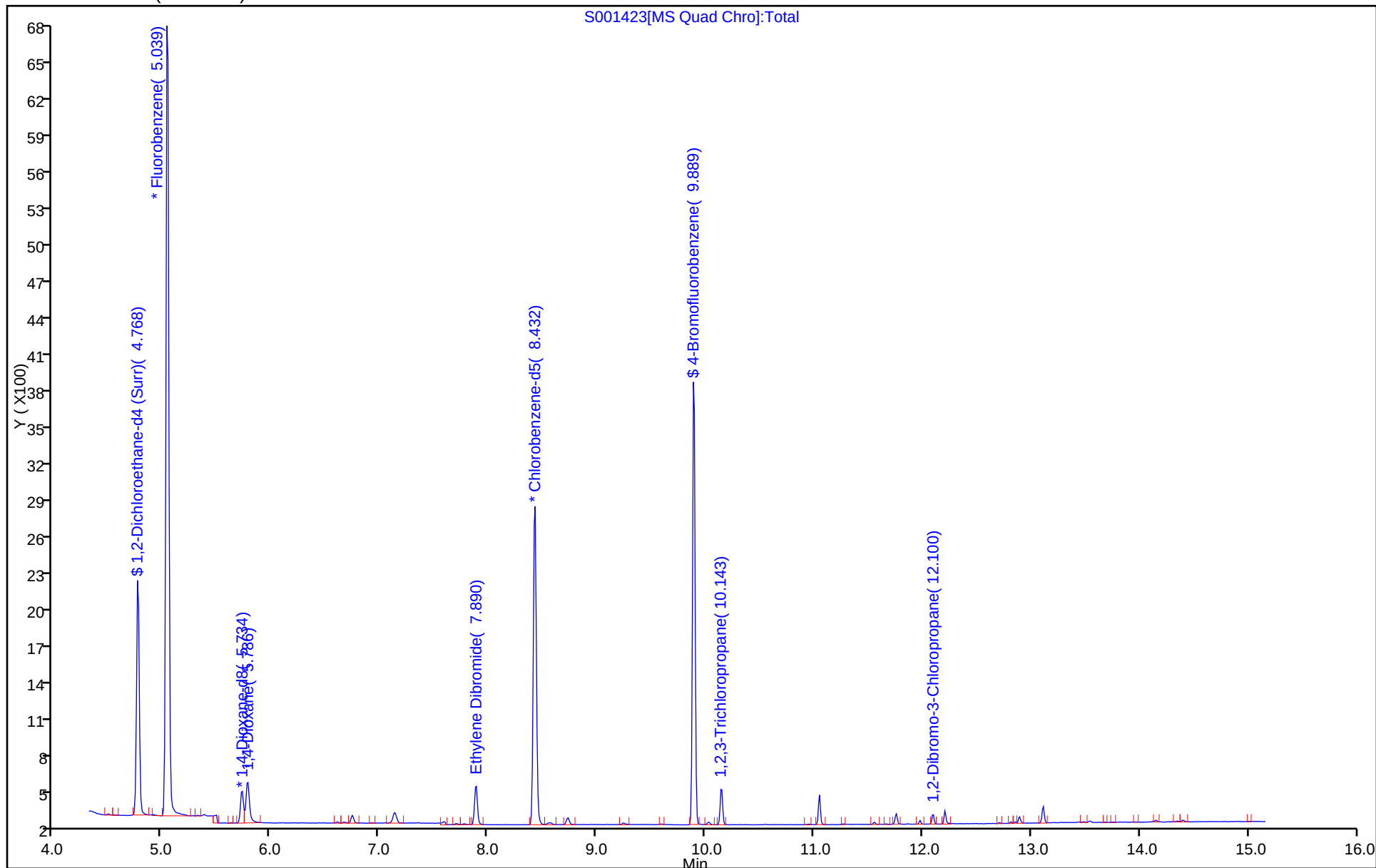
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)





TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001424.D  
 Lims ID: STD20  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 06-Dec-2017 10:20:03 ALS Bottle#: 0 Worklist Smp#: 6  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: STD20  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 06-Dec-2017 12:51:00 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: desais

Date: 06-Dec-2017 10:45:09

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.049            | 0.000            | 100 | 10675    | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 94  | 229      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 3384     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3488     | 0.5003          | 0.5013            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.889            | 0.001            | 100 | 2642     | 0.5002          | 0.4956            |       |
| 7 1,4-Dioxane                   | 88  | 5.787        | 5.786            | 0.001            | 96  | 835      | 20.0            | 18.8              |       |
| 8 Ethylene Dibromide            | 109 | 7.890        | 7.882            | 0.008            | 95  | 576      | 0.2000          | 0.1952            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 100 | 249      | 0.2000          | 0.1958            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 97  | 90       | 0.2000          | 0.1876            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001424.D

Injection Date: 06-Dec-2017 10:20:03

Instrument ID: CVOAMS14

Operator ID:

Lims ID: STD20

Worklist Smp#: 6

Client ID:

Purge Vol: 5.000 mL

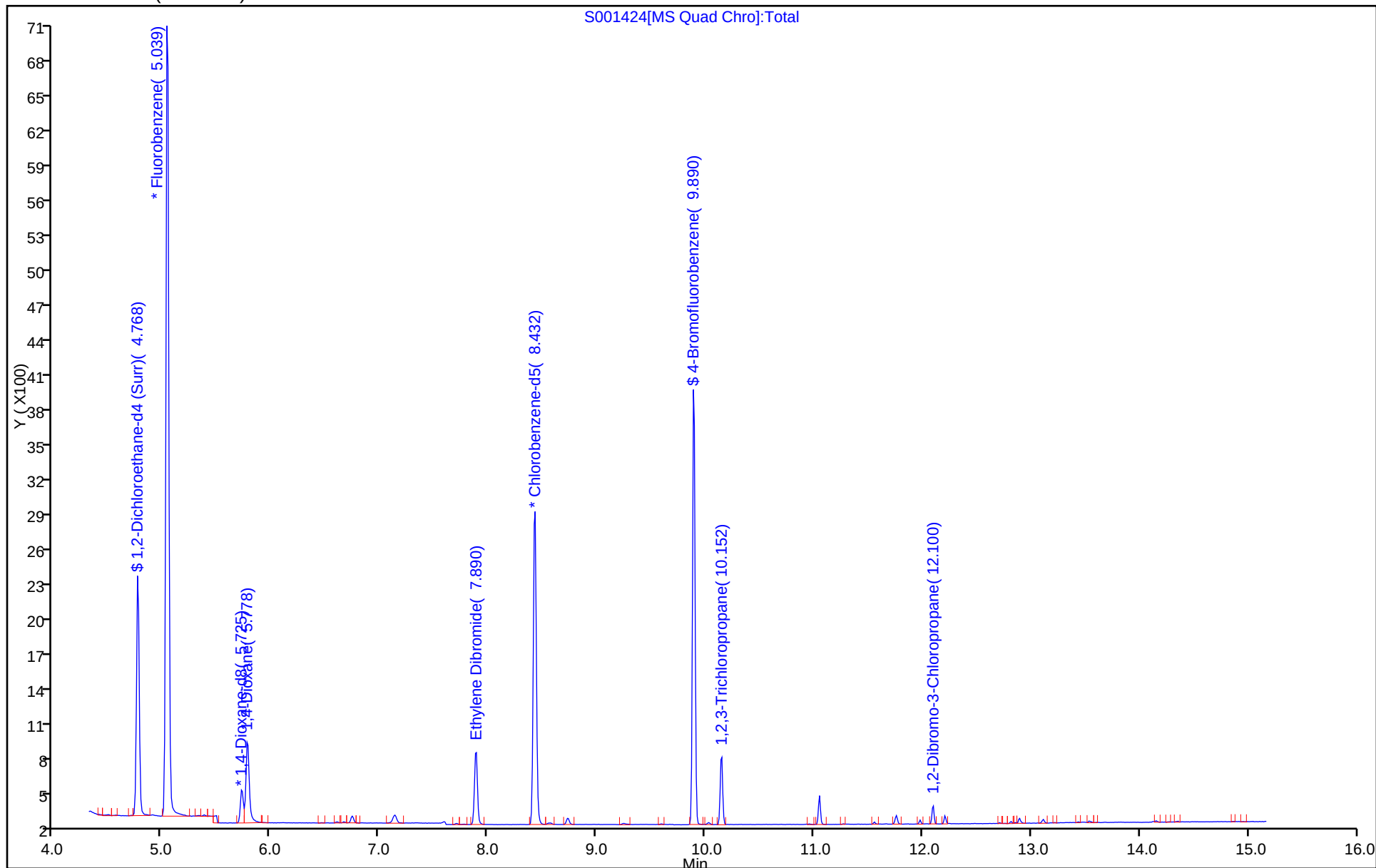
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001425.D  
 Lims ID: STD30  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 06-Dec-2017 10:43:59 ALS Bottle#: 0 Worklist Smp#: 7  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: STD30  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 06-Dec-2017 12:51:02 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: desais

Date: 06-Dec-2017 11:52:27

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.049            | -0.010           | 98  | 10410    | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 94  | 222      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 3313     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3397     | 0.5003          | 0.5006            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.889            | 0.001            | 100 | 2603     | 0.5002          | 0.4987            |       |
| 7 1,4-Dioxane                   | 88  | 5.778        | 5.786            | -0.008           | 97  | 1262     | 30.0            | 29.3              |       |
| 8 Ethylene Dibromide            | 109 | 7.891        | 7.882            | 0.008            | 94  | 1508     | 0.5000          | 0.5221            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 99  | 631      | 0.5000          | 0.5067            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 96  | 223      | 0.5000          | 0.4747            |       |

## Reagents:

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 2.50  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 30.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001425.D

Injection Date: 06-Dec-2017 10:43:59

Instrument ID: CVOAMS14

Operator ID:

Lims ID: STD30

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

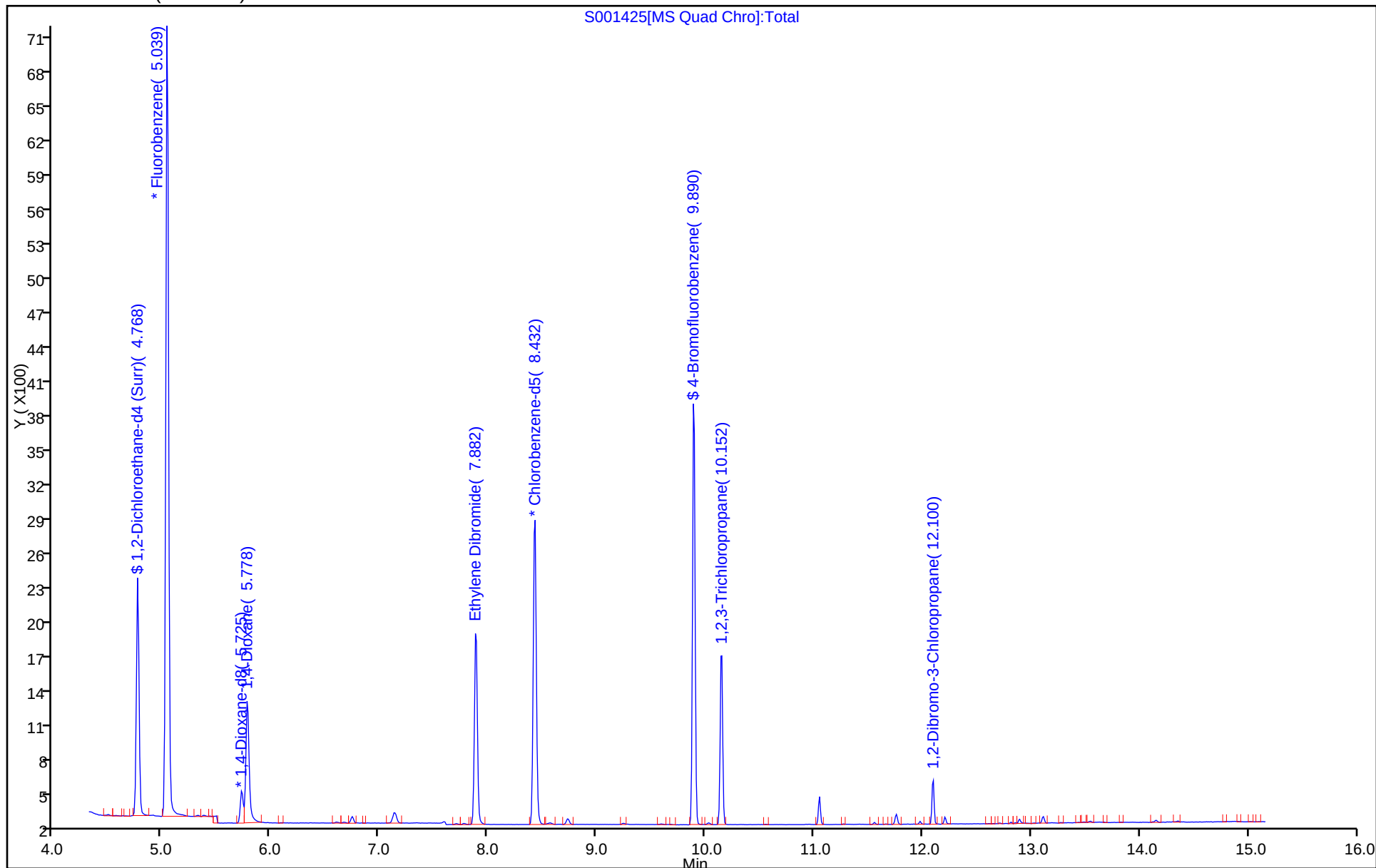
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001426.D  
 Lims ID: STD40  
 Client ID:  
 Sample Type: IC Calib Level: 7  
 Inject. Date: 06-Dec-2017 11:07:56 ALS Bottle#: 0 Worklist Smp#: 8  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: STD40  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 06-Dec-2017 12:51:04 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: desais

Date: 06-Dec-2017 11:52:33

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.049            | 0.000            | 100 | 9980     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 93  | 217      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 3169     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3307     | 0.5003          | 0.5083            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 100 | 2487     | 0.5002          | 0.4982            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.786            | 0.000            | 96  | 1694     | 40.0            | 40.2              |       |
| 8 Ethylene Dibromide            | 109 | 7.890        | 7.882            | 0.008            | 94  | 2942     | 1.00            | 1.06              |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.151       | 10.152           | -0.001           | 100 | 1257     | 1.00            | 1.06              |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 94  | 441      | 1.00            | 0.9814            |       |

## Reagents:

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 5.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 40.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001426.D

Injection Date: 06-Dec-2017 11:07:56

Instrument ID: CVOAMS14

Operator ID:

Lims ID: STD40

Worklist Smp#: 8

Client ID:

Purge Vol: 5.000 mL

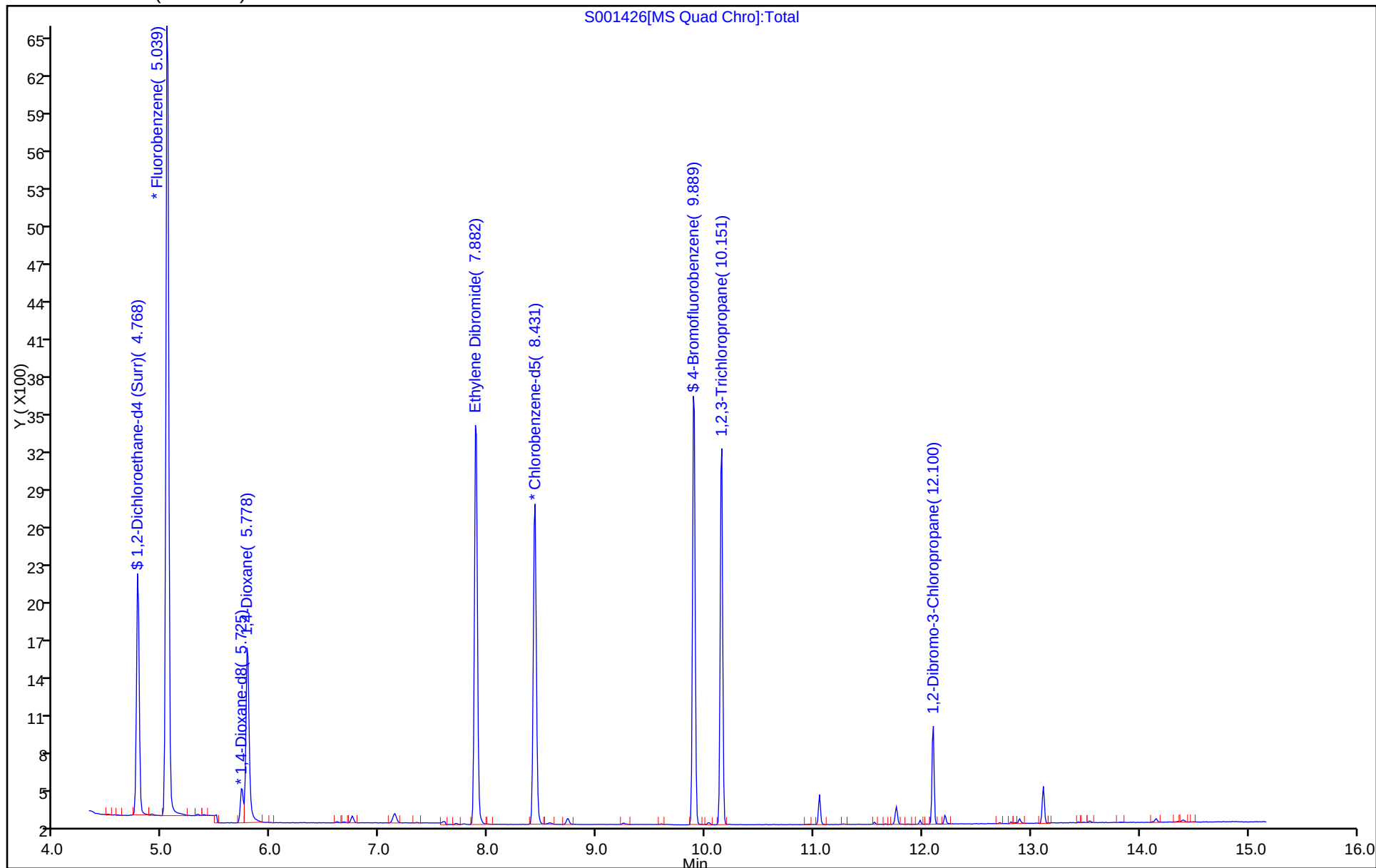
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Lims ID: STD50  
 Client ID:  
 Sample Type: IC Calib Level: 8  
 Inject. Date: 06-Dec-2017 11:31:52 ALS Bottle#: 0 Worklist Smp#: 9  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: STD50  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 06-Dec-2017 12:51:05 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: desais

Date: 06-Dec-2017 11:52:43

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.049            | 0.000            | 100 | 9436     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 94  | 205      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 2912     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3184     | 0.5003          | 0.5176            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.889            | 0.001            | 100 | 2230     | 0.5002          | 0.4861            |       |
| 7 1,4-Dioxane                   | 88  | 5.778        | 5.786            | -0.008           | 97  | 2141     | 50.0            | 53.7              |       |
| 8 Ethylene Dibromide            | 109 | 7.891        | 7.882            | 0.008            | 94  | 6186     | 2.00            | 2.44              |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 99  | 2631     | 2.00            | 2.40              |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 97  | 932      | 2.00            | 2.26              |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 10.00 | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 50.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D

Injection Date: 06-Dec-2017 11:31:52

Instrument ID: CVOAMS14

Operator ID:

Lims ID: STD50

Worklist Smp#: 9

Client ID:

Purge Vol: 5.000 mL

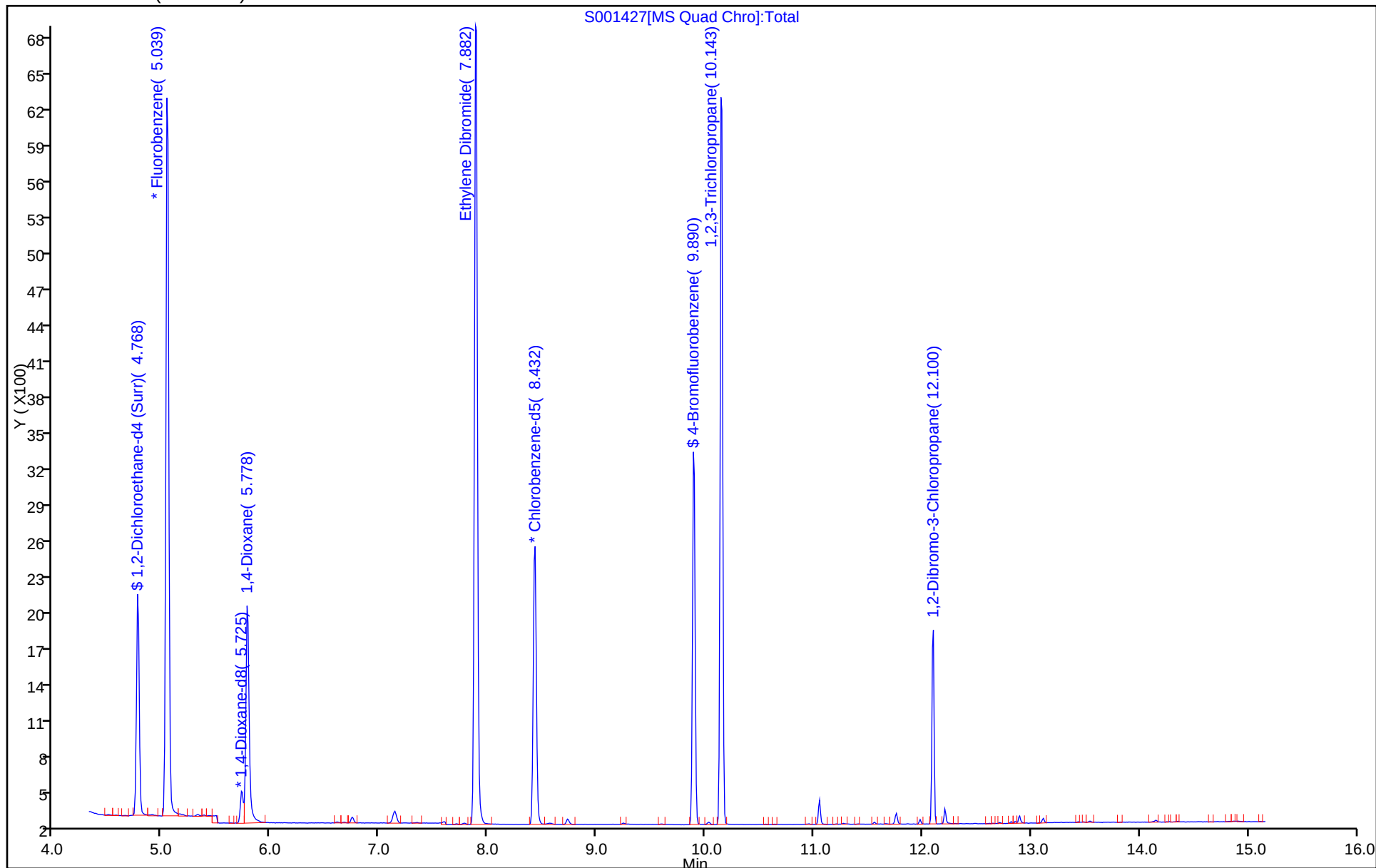
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)





FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 460-484411/2 Calibration Date: 12/15/2017 04:40  
 Instrument ID: CVOAMS14 Calib Start Date: 12/06/2017 08:44  
 GC Column: Rtx-624 ID: 0.25 (mm) Calib End Date: 12/06/2017 11:31  
 Lab File ID: S001659.D Conc. Units: ug/L Heated Purge: (Y/N) Y

| ANALYTE                      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|------------------------------|---------------|---------|--------|---------|----------------|-----------------|------|-----------|
| 1,4-Dioxane                  | Ave           | 1.943   | 1.892  |         | 4.87           | 5.00            | -2.6 | 50.0      |
| Ethylene Dibromide           | Ave           | 0.4359  | 0.4167 | 0.1000  | 0.0478         | 0.0500          | -4.4 | 20.0      |
| 1,2,3-Trichloropropane       | Ave           | 0.1879  | 0.1821 |         | 0.0485         | 0.0500          | -3.1 | 20.0      |
| 1,2-Dibromo-3-Chloropropane  | Ave           | 0.0709  | 0.0745 | 0.0500  | 0.0525         | 0.0500          | 5.1  | 50.0      |
| 1,2-Dichloroethane-d4 (Surr) | Ave           | 0.3259  | 0.3095 |         | 0.475          | 0.500           | -5.1 | 20.0      |
| 4-Bromofluorobenzene         | Ave           | 0.7877  | 0.8531 |         | 0.542          | 0.500           | 8.3  | 20.0      |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001659.D  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 15-Dec-2017 04:40:19 ALS Bottle#: 0 Worklist Smp#: 2  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: CCVIS  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 15-Dec-2017 14:47:37 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: baronm

Date: 15-Dec-2017 14:47:37

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 99 | 10751    | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 97 | 223      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 97 | 3624     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 99 | 3329     | 0.5003          | 0.4750            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 96 | 3093     | 0.5002          | 0.5418            |       |
| 7 1,4-Dioxane                   | 88  | 5.778        | 5.778            | 0.000            | 99 | 211      | 5.00            | 4.87              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.882            | 0.000            | 98 | 151      | 0.0500          | 0.0478            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 98 | 66       | 0.0500          | 0.0485            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 93 | 27       | 0.0500          | 0.0525            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001659.D

Injection Date: 15-Dec-2017 04:40:19

Instrument ID: CVOAMS14

Operator ID:

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL

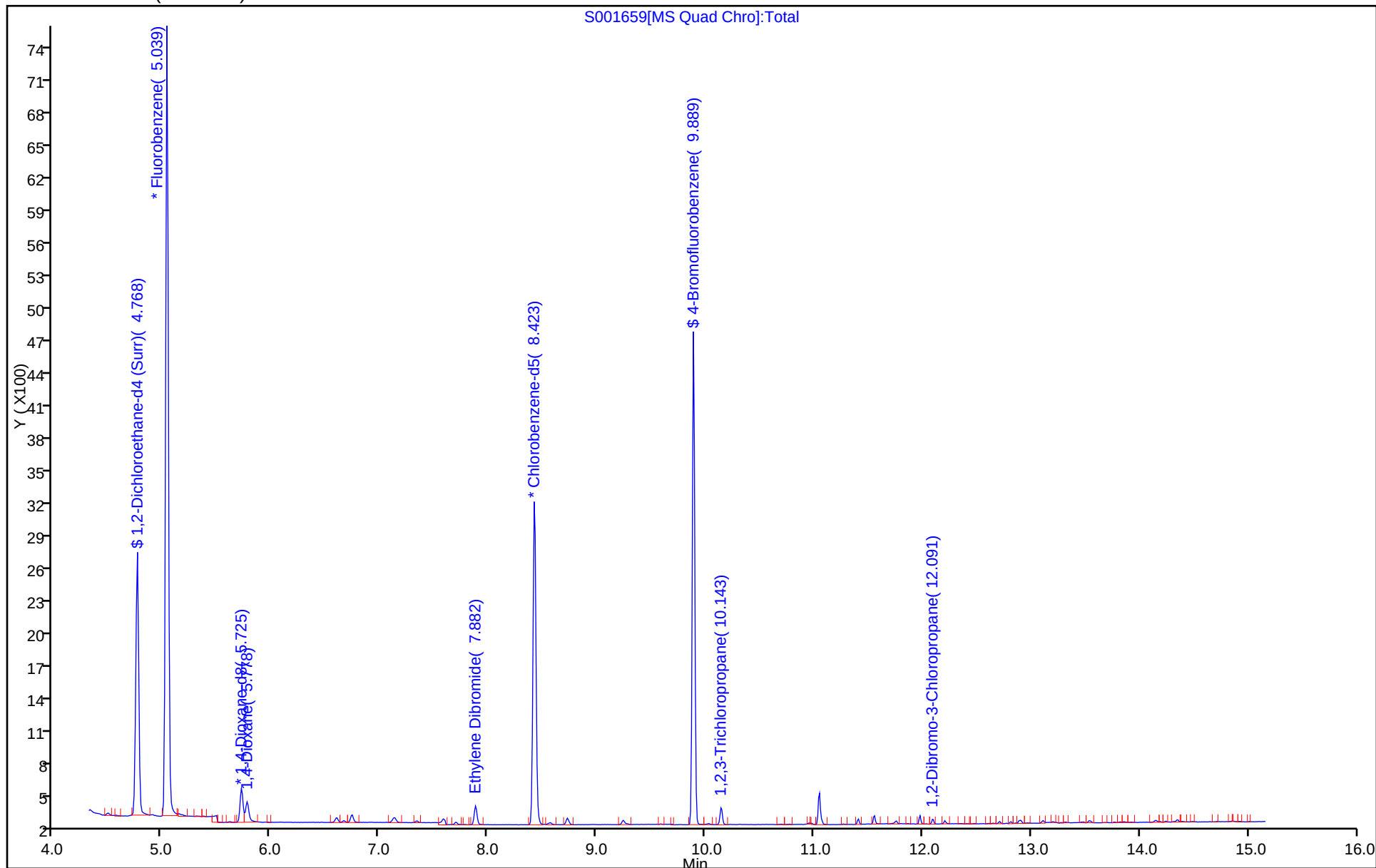
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 460-485055/2 Calibration Date: 12/18/2017 04:55  
 Instrument ID: CVOAMS14 Calib Start Date: 12/06/2017 08:44  
 GC Column: Rtx-624 ID: 0.25 (mm) Calib End Date: 12/06/2017 11:31  
 Lab File ID: S001686.D Conc. Units: ug/L Heated Purge: (Y/N) Y

| ANALYTE                      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|------------------------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 1,4-Dioxane                  | Ave           | 1.943   | 1.691  |         | 4.35           | 5.00            | -13.0 | 50.0      |
| Ethylene Dibromide           | Ave           | 0.4359  | 0.4678 | 0.1000  | 0.0537         | 0.0500          | 7.3   | 20.0      |
| 1,2,3-Trichloropropane       | Ave           | 0.1879  | 0.1995 |         | 0.0531         | 0.0500          | 6.2   | 20.0      |
| 1,2-Dibromo-3-Chloropropane  | Ave           | 0.0709  | 0.0752 | 0.0500  | 0.0531         | 0.0500          | 6.1   | 50.0      |
| 1,2-Dichloroethane-d4 (Surr) | Ave           | 0.3259  | 0.3279 |         | 0.503          | 0.500           | 0.6   | 20.0      |
| 4-Bromofluorobenzene         | Ave           | 0.7877  | 0.8106 |         | 0.515          | 0.500           | 2.9   | 20.0      |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001686.D  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 18-Dec-2017 04:55:49 ALS Bottle#: 0 Worklist Smp#: 2  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: CCVIS  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 20-Dec-2017 16:23:16 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK022

First Level Reviewer: xuyvo

Date: 20-Dec-2017 16:23:16

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.049            | 0.000            | 100 | 9065     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 92  | 194      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 3057     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2974     | 0.5003          | 0.5033            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.890            | 0.000            | 100 | 2479     | 0.5002          | 0.5147            |       |
| 7 1,4-Dioxane                   | 88  | 5.787        | 5.787            | 0.000            | 100 | 164      | 5.00            | 4.35              |       |
| 8 Ethylene Dibromide            | 109 | 7.891        | 7.891            | 0.000            | 94  | 143      | 0.0500          | 0.0537            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 99  | 61       | 0.0500          | 0.0531            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 99  | 23       | 0.0500          | 0.0531            | M     |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001686.D

Injection Date: 18-Dec-2017 04:55:49

Instrument ID: CVOAMS14

Operator ID:

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL

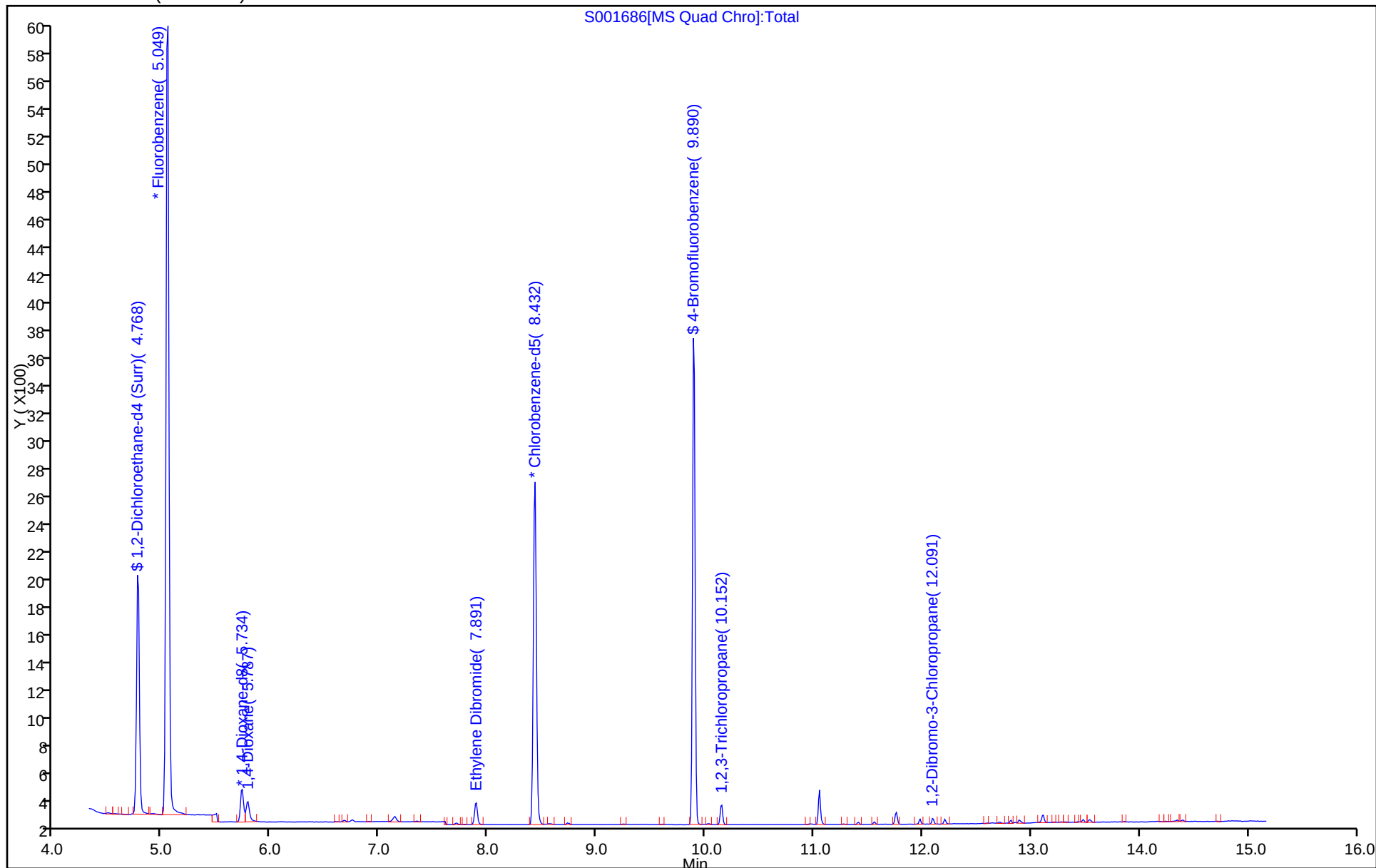
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001686.D

Injection Date: 18-Dec-2017 04:55:49

Instrument ID: CVOAMS14

Lims ID: CCVIS

Client ID:

Operator ID:

ALS Bottle#:

0

Worklist Smp#: 2

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: 8260SIM\_14

Limit Group:

VOA - 8260C Water and Solid

Column: Rtx-624 (0.25 mm)

Detector

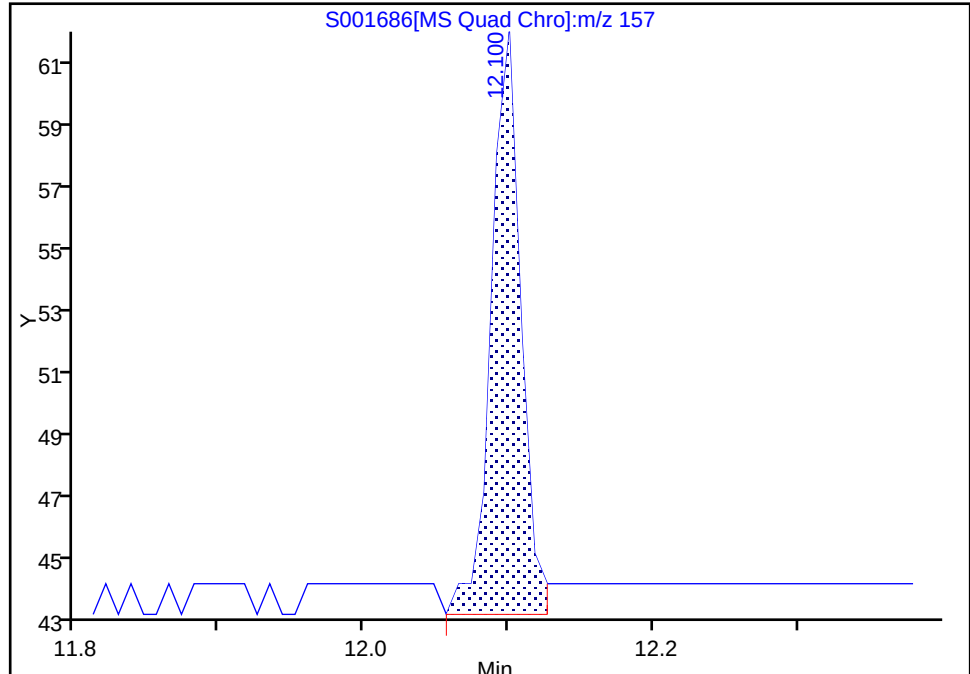
MS SCAN

**10 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8**

Signal: 1

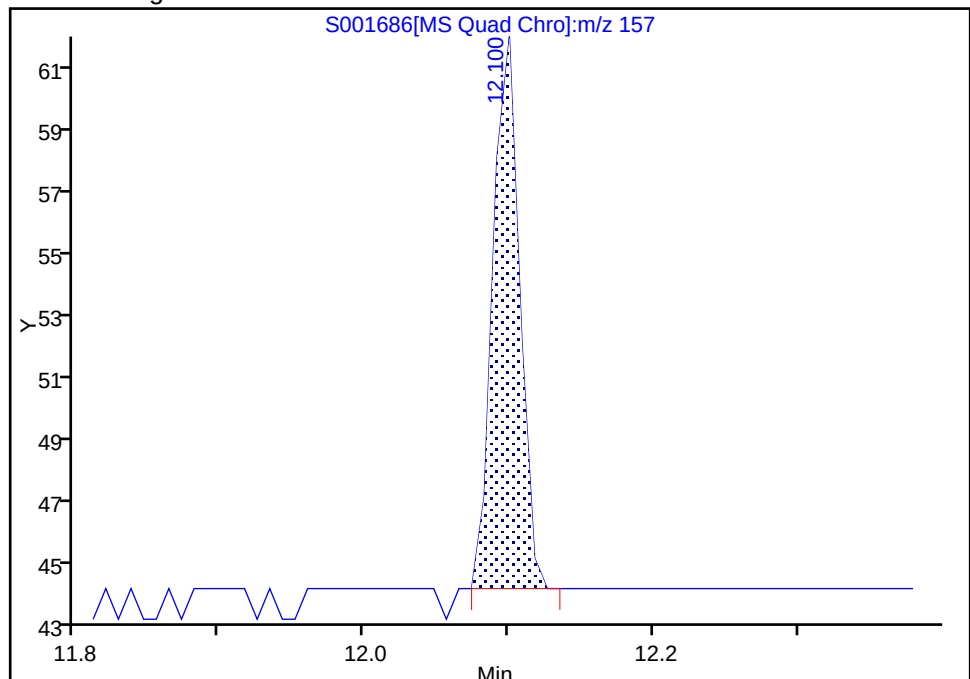
RT: 12.10  
Area: 27  
Amount: 0.062287  
Amount Units: ug/l

## Processing Integration Results



RT: 12.10  
Area: 23  
Amount: 0.053059  
Amount Units: ug/l

## Manual Integration Results



Reviewer: xuyvo, 20-Dec-2017 16:23:11

Audit Action: Manually Integrated

Audit Reason: Baseline

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 460-485226/2 Calibration Date: 12/18/2017 16:53  
 Instrument ID: CVOAMS14 Calib Start Date: 12/06/2017 08:44  
 GC Column: Rtx-624 ID: 0.25 (mm) Calib End Date: 12/06/2017 11:31  
 Lab File ID: S001715.D Conc. Units: ug/L Heated Purge: (Y/N) Y

| ANALYTE                      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|------------------------------|---------------|---------|--------|---------|----------------|-----------------|------|-----------|
| 1,4-Dioxane                  | Ave           | 1.943   | 2.082  |         | 5.36           | 5.00            | 7.1  | 50.0      |
| Ethylene Dibromide           | Ave           | 0.4359  | 0.5162 | 0.1000  | 0.0592         | 0.0500          | 18.4 | 20.0      |
| 1,2,3-Trichloropropane       | Ave           | 0.1879  | 0.2072 |         | 0.0551         | 0.0500          | 10.2 | 20.0      |
| 1,2-Dibromo-3-Chloropropane  | Ave           | 0.0709  | 0.0763 | 0.0500  | 0.0538         | 0.0500          | 7.7  | 50.0      |
| 1,2-Dichloroethane-d4 (Surr) | Ave           | 0.3259  | 0.3151 |         | 0.484          | 0.500           | -3.3 | 20.0      |
| 4-Bromofluorobenzene         | Ave           | 0.7877  | 0.8027 |         | 0.510          | 0.500           | 1.9  | 20.0      |



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001715.D  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 18-Dec-2017 16:53:31 ALS Bottle#: 0 Worklist Smp#: 2  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: CCVIS  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 22:34:19 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK001

First Level Reviewer: colladox

Date: 18-Dec-2017 22:34:19

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 99  | 8263     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 171      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 97  | 2751     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2605     | 0.5003          | 0.4836            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 97  | 2209     | 0.5002          | 0.5097            |       |
| 7 1,4-Dioxane                   | 88  | 5.778        | 5.778            | 0.000            | 100 | 178      | 5.00            | 5.36              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.882            | 0.000            | 100 | 142      | 0.0500          | 0.0592            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 99  | 57       | 0.0500          | 0.0551            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 99  | 21       | 0.0500          | 0.0538            |       |

## Reagents:

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001715.D

Injection Date: 18-Dec-2017 16:53:31

Instrument ID: CVOAMS14

Operator ID:

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL

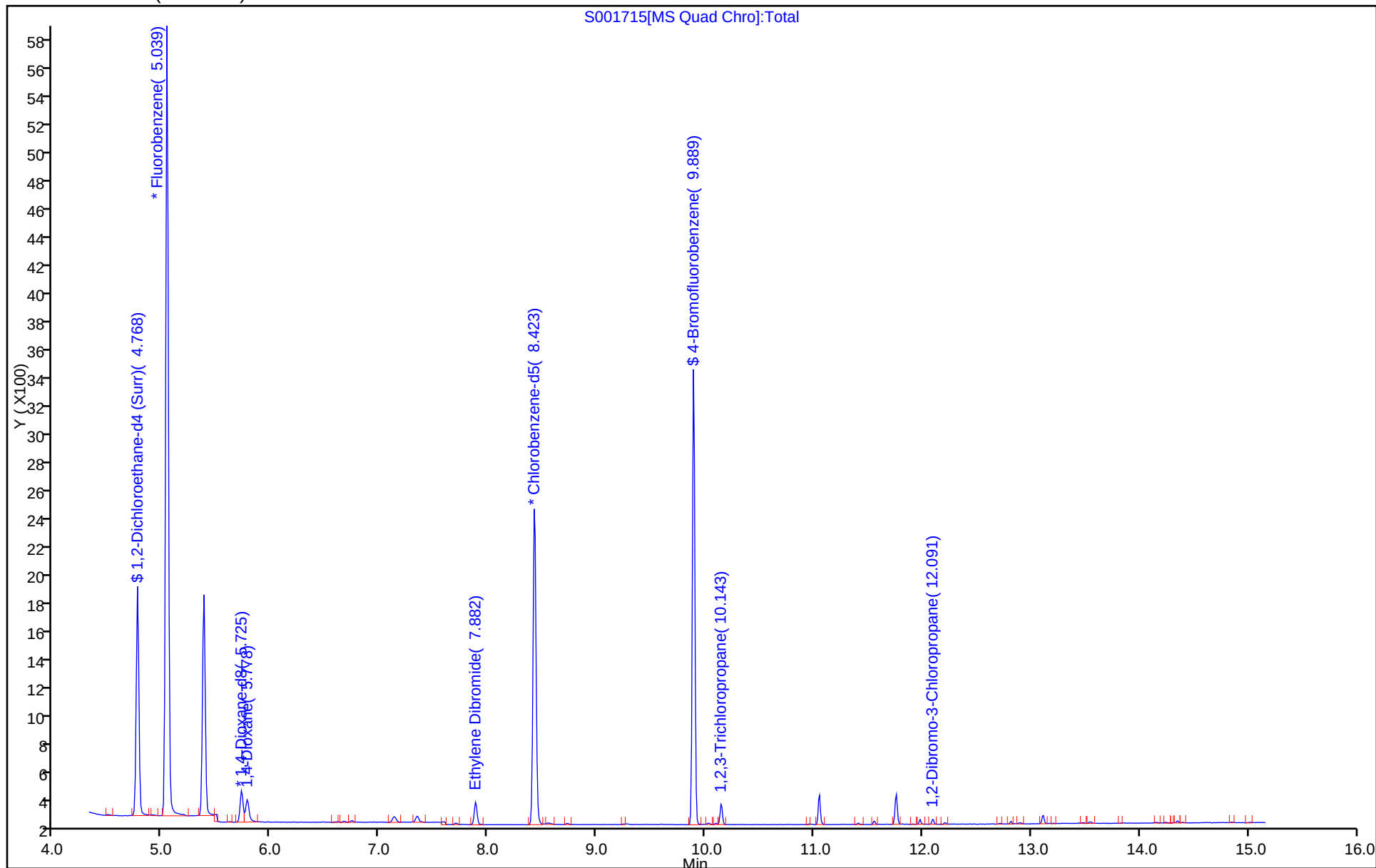
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 460-485727/2 Calibration Date: 12/20/2017 07:48  
 Instrument ID: CVOAMS14 Calib Start Date: 12/06/2017 08:44  
 GC Column: Rtx-624 ID: 0.25 (mm) Calib End Date: 12/06/2017 11:31  
 Lab File ID: S001742.D Conc. Units: ug/L Heated Purge: (Y/N) Y

| ANALYTE                      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|------------------------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 1,4-Dioxane                  | Ave           | 1.943   | 1.638  |         | 4.21           | 5.00            | -15.7 | 50.0      |
| Ethylene Dibromide           | Ave           | 0.4359  | 0.4793 | 0.1000  | 0.0550         | 0.0500          | 10.0  | 20.0      |
| 1,2,3-Trichloropropane       | Ave           | 0.1879  | 0.2018 |         | 0.0537         | 0.0500          | 7.4   | 20.0      |
| 1,2-Dibromo-3-Chloropropane  | Ave           | 0.0709  | 0.0706 | 0.0500  | 0.0498         | 0.0500          | -0.4  | 50.0      |
| 1,2-Dichloroethane-d4 (Surr) | Ave           | 0.3259  | 0.3281 |         | 0.504          | 0.500           | 0.7   | 20.0      |
| 4-Bromofluorobenzene         | Ave           | 0.7877  | 0.7742 |         | 0.492          | 0.500           | -1.7  | 20.0      |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001742.D  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 20-Dec-2017 07:48:54 ALS Bottle#: 0 Worklist Smp#: 2  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: CCVIS  
 Operator ID: Instrument ID: CVOAMS14  
 Sublist: chrom-8260SIM\_14\*sub1  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 20-Dec-2017 10:23:35 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK019

First Level Reviewer: desais

Date: 20-Dec-2017 08:08:31

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 6052     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 90  | 149      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 98  | 1982     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 1987     | 0.5003          | 0.5037            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 96  | 1535     | 0.5002          | 0.4916            |       |
| 7 1,4-Dioxane                   | 88  | 5.778        | 5.778            | 0.000            | 98  | 122      | 5.00            | 4.21              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.882            | 0.000            | 96  | 95       | 0.0500          | 0.0550            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 99  | 40       | 0.0500          | 0.0537            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 96  | 14       | 0.0500          | 0.0498            |       |

## Reagents:

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00011 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001742.D

Injection Date: 20-Dec-2017 07:48:54

Instrument ID: CVOAMS14

Operator ID:

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Purge Vol: 5.000 mL

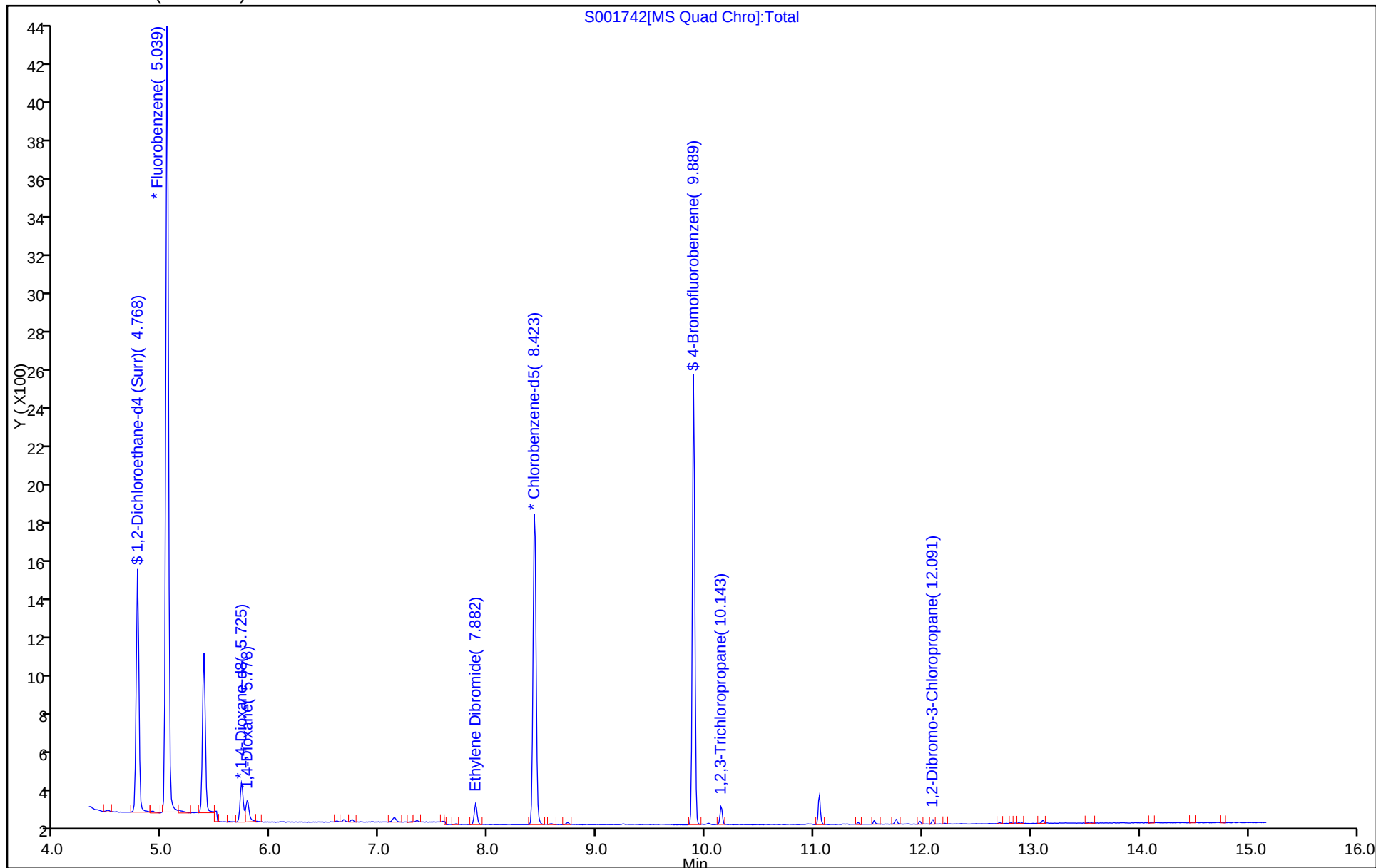
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001419.D  
Lims ID: BFB  
Client ID:  
Sample Type: BFB  
Inject. Date: 06-Dec-2017 08:17:03 ALS Bottle#: 0 Worklist Smp#: 1  
Injection Vol: 10.0 mL Dil. Factor: 1.0000  
Sample Info: BFB  
Operator ID: Instrument ID: CVOAMS14  
Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\8260SIM\_14.m  
Limit Group: VOA - 8260C Water and Solid  
Last Update: 06-Dec-2017 12:50:51 Calib Date: 06-Dec-2017 11:31:52  
Integrator: RTE ID Type: RT Order ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
Process Host: XAWRK002

First Level Reviewer: desais

Date: 06-Dec-2017 08:37:13

| Compound | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|----------|-----|--------------|------------------|------------------|---|----------|-----------------|-------------------|-------|
| \$ 6 BFB | 95  | 3.742        | 3.742            | 0.000            | 0 | 86482    | NR              | NR                |       |

**QC Flag Legend**

Processing Flags

NR - Missing Quant Standard

**Reagents:**

BFB\_00015

Amount Added: 1.00

Units: uL

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001419.D

Injection Date: 06-Dec-2017 08:17:03

Instrument ID: CVOAMS14

Lims ID: BFB

Client ID:

Operator ID:

ALS Bottle#:

0

Worklist Smp#:

1

Injection Vol: 10.0 mL

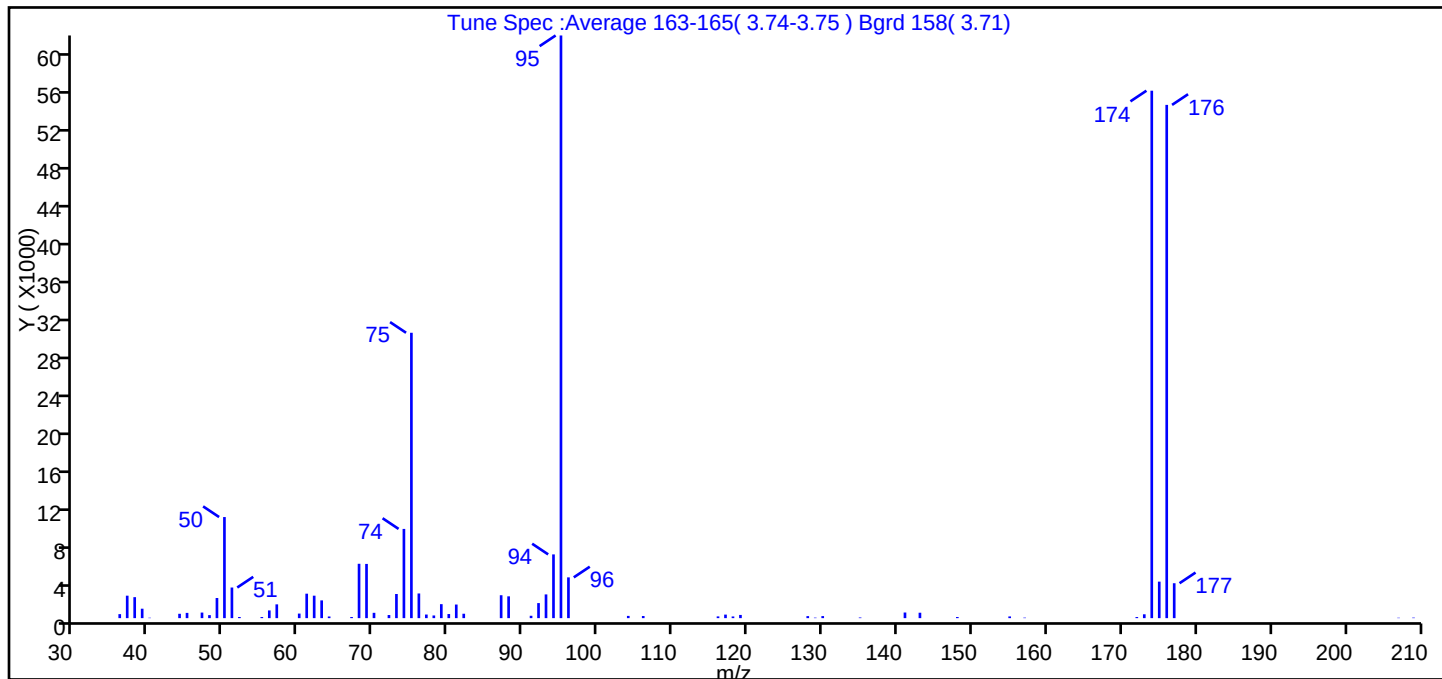
Dil. Factor: 1.0000

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Tune Method: BFB Method 8260

\$ 6 BFB



| m/z | Ion Abundance Criteria                         | % Relative Abundance |
|-----|------------------------------------------------|----------------------|
| 95  | Base peak, 100% relative abundance             | 100.0                |
| 50  | 15 to 40% of m/z 95                            | 17.3                 |
| 75  | 30 to 60% of m/z 95                            | 49.0                 |
| 96  | 5 to 9% of m/z 95                              | 7.0                  |
| 173 | Less than 2% of m/z 174                        | 0.7 (0.7)            |
| 174 | 50 to 120% of m/z 95                           | 90.5                 |
| 175 | 5 to 9% of m/z 174                             | 6.3 (6.9)            |
| 176 | Greater than 95% but less than 101% of m/z 174 | 88.1 (97.3)          |
| 177 | 5 to 9% of m/z 176                             | 6.0 (6.8)            |

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001419.D\8260SIM\_14.rslt\spectra.d  
 Injection Date: 06-Dec-2017 08:17:03  
 Spectrum: Tune Spec :Average 163-165( 3.74-3.75 ) Bgrd 158( 3.71)  
 Base Peak: 95.00  
 Minimum % Base Peak: 0  
 Number of Points: 67

| m/z   | Y     | m/z   | Y     | m/z    | Y     | m/z    | Y     |
|-------|-------|-------|-------|--------|-------|--------|-------|
| 36.00 | 423   | 61.00 | 2580  | 81.00  | 1435  | 129.00 | 52    |
| 37.00 | 2369  | 62.00 | 2369  | 82.00  | 465   | 130.00 | 216   |
| 38.00 | 2213  | 63.00 | 1873  | 87.00  | 2417  | 135.00 | 68    |
| 39.00 | 996   | 64.00 | 175   | 88.00  | 2300  | 141.00 | 594   |
| 40.00 | 42    | 67.00 | 117   | 91.00  | 250   | 143.00 | 572   |
| 44.00 | 459   | 68.00 | 5733  | 92.00  | 1588  | 148.00 | 117   |
| 45.00 | 554   | 69.00 | 5718  | 93.00  | 2503  | 155.00 | 180   |
| 47.00 | 588   | 70.00 | 562   | 94.00  | 6723  | 157.00 | 52    |
| 48.00 | 318   | 72.00 | 328   | 95.00  | 61448 | 172.00 | 116   |
| 49.00 | 2124  | 73.00 | 2546  | 96.00  | 4300  | 173.00 | 406   |
| 50.00 | 10661 | 74.00 | 9410  | 104.00 | 237   | 174.00 | 55624 |
| 51.00 | 3230  | 75.00 | 30096 | 106.00 | 224   | 175.00 | 3850  |
| 52.00 | 120   | 76.00 | 2602  | 116.00 | 184   | 176.00 | 54128 |
| 55.00 | 116   | 77.00 | 380   | 117.00 | 373   | 177.00 | 3682  |
| 56.00 | 813   | 78.00 | 282   | 118.00 | 177   | 207.00 | 42    |
| 57.00 | 1454  | 79.00 | 1475  | 119.00 | 338   | 209.00 | 54    |
| 60.00 | 481   | 80.00 | 433   | 128.00 | 214   |        |       |



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001658.D  
Lims ID: BFB  
Client ID:  
Sample Type: BFB  
Inject. Date: 15-Dec-2017 04:11:00 ALS Bottle#: 0 Worklist Smp#: 1  
Injection Vol: 10.0 mL Dil. Factor: 1.0000  
Sample Info: BFB  
Operator ID: Instrument ID: CVOAMS14  
Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
Limit Group: VOA - 8260C Water and Solid  
Last Update: 15-Dec-2017 10:32:44 Calib Date: 06-Dec-2017 11:31:52  
Integrator: RTE ID Type: RT Order ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
Process Host: XAWRK026

First Level Reviewer: tupayachia

Date: 15-Dec-2017 04:23:30

| Compound | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|----------|-----|--------------|------------------|------------------|---|----------|-----------------|-------------------|-------|
| \$ 6 BFB | 95  | 3.747        | 3.747            | 0.000            | 0 | 38822    | NR              | NR                |       |

**QC Flag Legend**

Processing Flags

NR - Missing Quant Standard

**Reagents:**

BFB\_00015

Amount Added: 1.00

Units: uL

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001658.D

Injection Date: 15-Dec-2017 04:11:00

Instrument ID: CVOAMS14

Lims ID: BFB

Client ID:

Operator ID:

ALS Bottle#:

0

Worklist Smp#:

1

Injection Vol: 10.0 mL

Dil. Factor:

1.0000

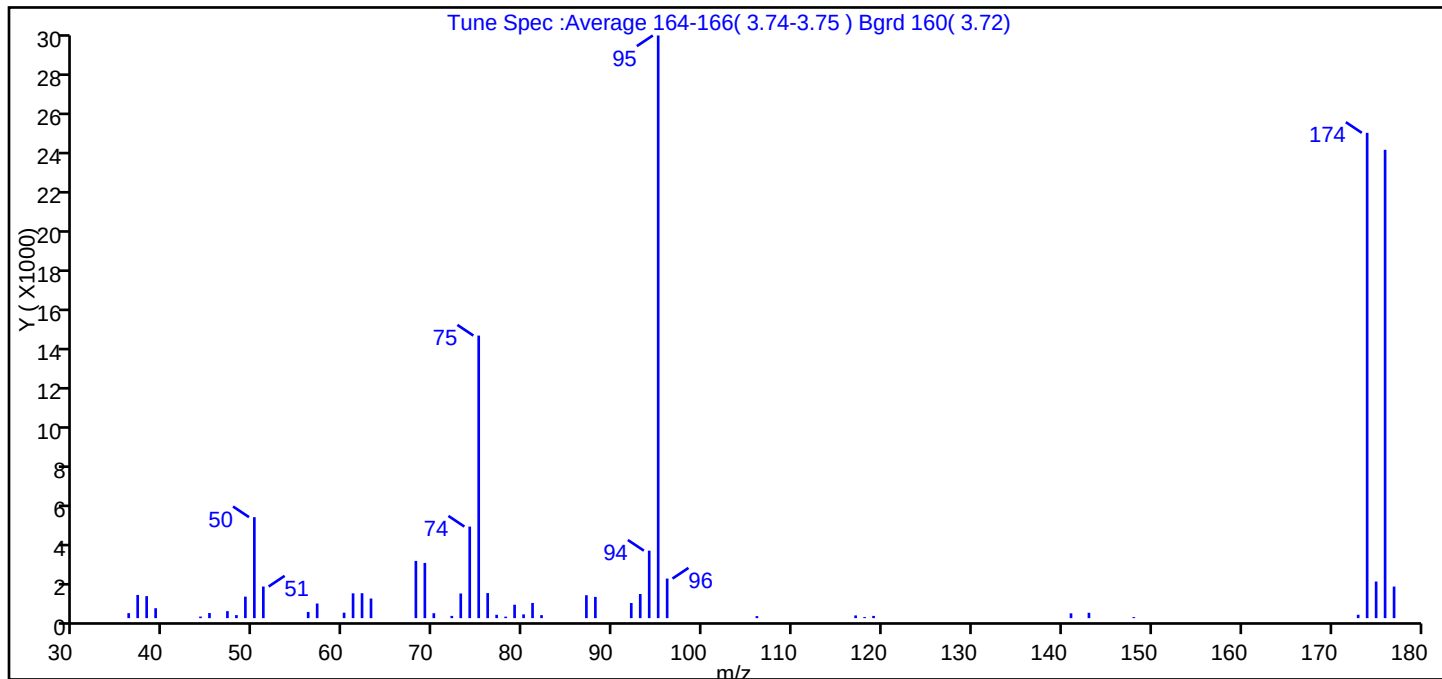
Method: 8260SIM\_14

Limit Group:

VOA - 8260C Water and Solid

Tune Method: BFB Method 8260

\$ 6 BFB



| m/z | Ion Abundance Criteria                         | % Relative Abundance |
|-----|------------------------------------------------|----------------------|
| 95  | Base peak, 100% relative abundance             | 100.0                |
| 50  | 15 to 40% of m/z 95                            | 17.3                 |
| 75  | 30 to 60% of m/z 95                            | 48.5                 |
| 96  | 5 to 9% of m/z 95                              | 6.8                  |
| 173 | Less than 2% of m/z 174                        | 0.6 (0.7)            |
| 174 | 50 to 120% of m/z 95                           | 83.3                 |
| 175 | 5 to 9% of m/z 174                             | 6.3 (7.5)            |
| 176 | Greater than 95% but less than 101% of m/z 174 | 80.4 (96.5)          |
| 177 | 5 to 9% of m/z 176                             | 5.4 (6.7)            |

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001658.D\8260SIM\_14.rslt\spectra.d  
Injection Date: 15-Dec-2017 04:11:00  
Spectrum: Tune Spec :Average 164-166( 3.74-3.75 ) Bgrd 160( 3.72)  
Base Peak: 95.00  
Minimum % Base Peak: 0  
Number of Points: 50

| m/z   | Y    | m/z   | Y     | m/z    | Y     | m/z    | Y     |
|-------|------|-------|-------|--------|-------|--------|-------|
| 36.00 | 251  | 60.00 | 276   | 78.00  | 75    | 117.00 | 137   |
| 37.00 | 1168 | 61.00 | 1250  | 79.00  | 676   | 118.00 | 54    |
| 38.00 | 1109 | 62.00 | 1257  | 80.00  | 189   | 119.00 | 113   |
| 39.00 | 500  | 63.00 | 988   | 81.00  | 765   | 141.00 | 243   |
| 44.00 | 79   | 68.00 | 2883  | 82.00  | 152   | 143.00 | 270   |
| 45.00 | 257  | 69.00 | 2782  | 87.00  | 1155  | 148.00 | 51    |
| 47.00 | 352  | 70.00 | 248   | 88.00  | 1070  | 173.00 | 170   |
| 48.00 | 154  | 72.00 | 113   | 92.00  | 762   | 174.00 | 24448 |
| 49.00 | 1083 | 73.00 | 1243  | 93.00  | 1216  | 175.00 | 1845  |
| 50.00 | 5087 | 74.00 | 4612  | 94.00  | 3399  | 176.00 | 23592 |
| 51.00 | 1593 | 75.00 | 14234 | 95.00  | 29352 | 177.00 | 1591  |
| 56.00 | 313  | 76.00 | 1263  | 96.00  | 1993  |        |       |
| 57.00 | 738  | 77.00 | 169   | 106.00 | 103   |        |       |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001685.D  
Lims ID: BFB  
Client ID:  
Sample Type: BFB  
Inject. Date: 18-Dec-2017 04:07:57 ALS Bottle#: 0 Worklist Smp#: 1  
Injection Vol: 10.0 mL Dil. Factor: 1.0000  
Sample Info: BFB  
Operator ID: Instrument ID: CVOAMS14  
Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\8260SIM\_14.m  
Limit Group: VOA - 8260C Water and Solid  
Last Update: 18-Dec-2017 09:50:39 Calib Date: 06-Dec-2017 11:31:52  
Integrator: RTE ID Type: RT Order ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
Process Host: XAWRK006

First Level Reviewer: tupayachia

Date: 18-Dec-2017 04:15:13

| Compound | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|----------|-----|--------------|------------------|------------------|---|----------|-----------------|-------------------|-------|
|----------|-----|--------------|------------------|------------------|---|----------|-----------------|-------------------|-------|

|          |    |       |       |       |   |       |    |    |  |
|----------|----|-------|-------|-------|---|-------|----|----|--|
| \$ 6 BFB | 95 | 3.752 | 3.752 | 0.000 | 0 | 63029 | NR | NR |  |
|----------|----|-------|-------|-------|---|-------|----|----|--|

**QC Flag Legend**

Processing Flags

NR - Missing Quant Standard

**Reagents:**

BFB\_00015

Amount Added: 1.00

Units: uL

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001685.D

Injection Date: 18-Dec-2017 04:07:57

Instrument ID: CVOAMS14

Lims ID: BFB

Client ID:

Operator ID:

ALS Bottle#:

0

Worklist Smp#: 1

Injection Vol: 10.0 mL

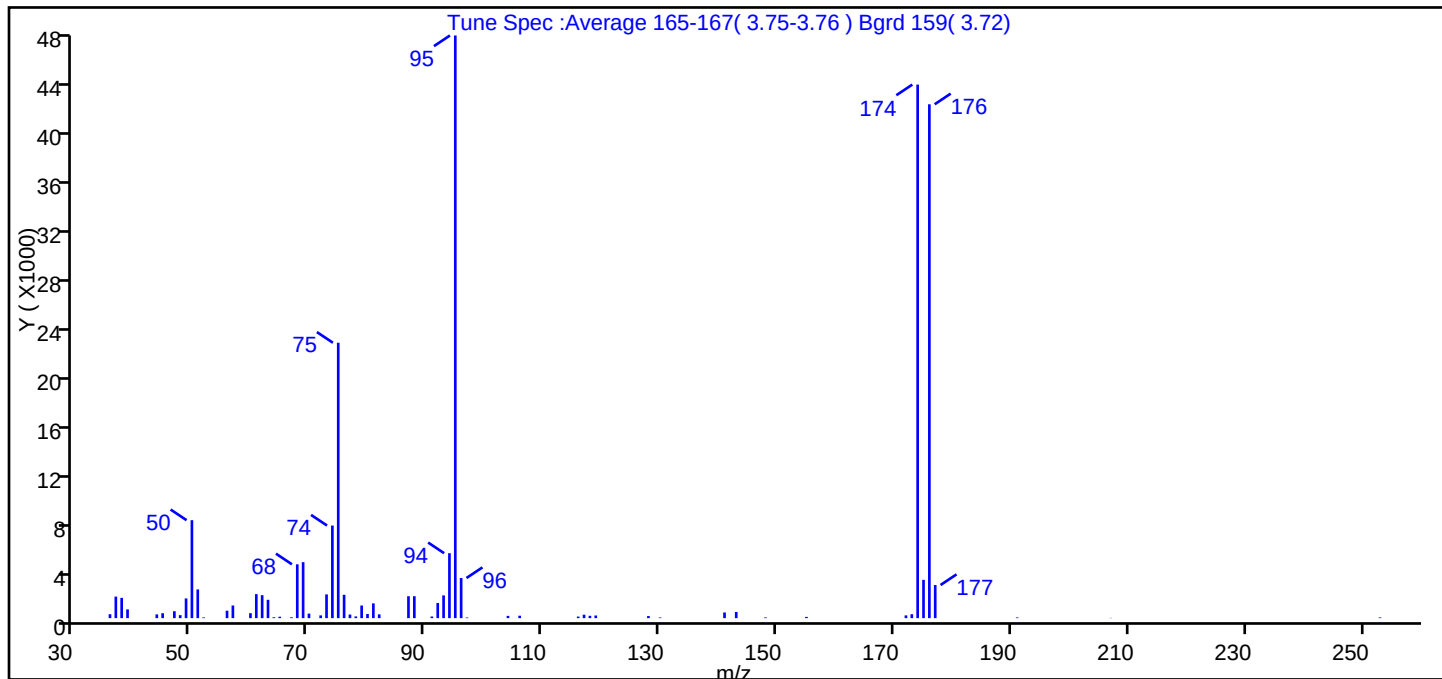
Dil. Factor: 1.0000

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Tune Method: BFB Method 8260

\$ 6 BFB



| m/z | Ion Abundance Criteria                         | % Relative Abundance |
|-----|------------------------------------------------|----------------------|
| 95  | Base peak, 100% relative abundance             | 100.0                |
| 50  | 15 to 40% of m/z 95                            | 16.8                 |
| 75  | 30 to 60% of m/z 95                            | 47.3                 |
| 96  | 5 to 9% of m/z 95                              | 6.9                  |
| 173 | Less than 2% of m/z 174                        | 0.7 (0.7)            |
| 174 | 50 to 120% of m/z 95                           | 91.6                 |
| 175 | 5 to 9% of m/z 174                             | 6.6 (7.2)            |
| 176 | Greater than 95% but less than 101% of m/z 174 | 88.2 (96.3)          |
| 177 | 5 to 9% of m/z 176                             | 5.7 (6.4)            |

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001685.D\8260SIM\_14.rslt\spectra.d  
Injection Date: 18-Dec-2017 04:07:57  
Spectrum: Tune Spec :Average 165-167( 3.75-3.76 ) Bgrd 159( 3.72)  
Base Peak: 95.00  
Minimum % Base Peak: 0  
Number of Points: 65

| m/z   | Y    | m/z   | Y     | m/z    | Y     | m/z    | Y     |
|-------|------|-------|-------|--------|-------|--------|-------|
| 36.00 | 320  | 63.00 | 1497  | 82.00  | 310   | 130.00 | 54    |
| 37.00 | 1759 | 64.00 | 71    | 87.00  | 1789  | 141.00 | 464   |
| 38.00 | 1656 | 65.00 | 116   | 88.00  | 1791  | 143.00 | 507   |
| 39.00 | 715  | 67.00 | 68    | 91.00  | 132   | 148.00 | 59    |
| 44.00 | 307  | 68.00 | 4394  | 92.00  | 1239  | 155.00 | 103   |
| 45.00 | 401  | 69.00 | 4570  | 93.00  | 1858  | 172.00 | 225   |
| 47.00 | 565  | 70.00 | 369   | 94.00  | 5301  | 173.00 | 321   |
| 48.00 | 244  | 72.00 | 225   | 95.00  | 47560 | 174.00 | 43552 |
| 49.00 | 1610 | 73.00 | 1938  | 96.00  | 3275  | 175.00 | 3127  |
| 50.00 | 7995 | 74.00 | 7557  | 97.00  | 54    | 176.00 | 41944 |
| 51.00 | 2343 | 75.00 | 22480 | 104.00 | 185   | 177.00 | 2704  |
| 52.00 | 59   | 76.00 | 1907  | 106.00 | 199   | 191.00 | 58    |
| 56.00 | 607  | 77.00 | 296   | 116.00 | 129   | 207.00 | 19    |
| 57.00 | 1032 | 78.00 | 141   | 117.00 | 279   | 253.00 | 58    |
| 60.00 | 405  | 79.00 | 1031  | 118.00 | 191   |        |       |
| 61.00 | 1961 | 80.00 | 339   | 119.00 | 217   |        |       |
| 62.00 | 1874 | 81.00 | 1206  | 128.00 | 171   |        |       |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001714.D  
Lims ID: BFB  
Client ID:  
Sample Type: BFB  
Inject. Date: 18-Dec-2017 16:29:35 ALS Bottle#: 0 Worklist Smp#: 1  
Injection Vol: 10.0 mL Dil. Factor: 1.0000  
Sample Info: BFB  
Operator ID: Instrument ID: CVOAMS14  
Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\8260SIM\_14.m  
Limit Group: VOA - 8260C Water and Solid  
Last Update: 18-Dec-2017 22:33:55 Calib Date: 06-Dec-2017 11:31:52  
Integrator: RTE ID Type: RT Order ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
Process Host: XAWRK001

First Level Reviewer: colladox

Date: 18-Dec-2017 22:33:55

| Compound | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|----------|-----|--------------|------------------|------------------|---|----------|-----------------|-------------------|-------|
| \$ 6 BFB | 95  | 3.752        | 3.752            | 0.000            | 0 | 63279    | NR              | NR                |       |

**QC Flag Legend**

Processing Flags

NR - Missing Quant Standard

**Reagents:**

BFB\_00015

Amount Added: 1.00

Units: uL

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001714.D

Injection Date: 18-Dec-2017 16:29:35

Instrument ID: CVOAMS14

Lims ID: BFB

Client ID:

Operator ID:

ALS Bottle#:

0

Worklist Smp#:

1

Injection Vol: 10.0 mL

Dil. Factor:

1.0000

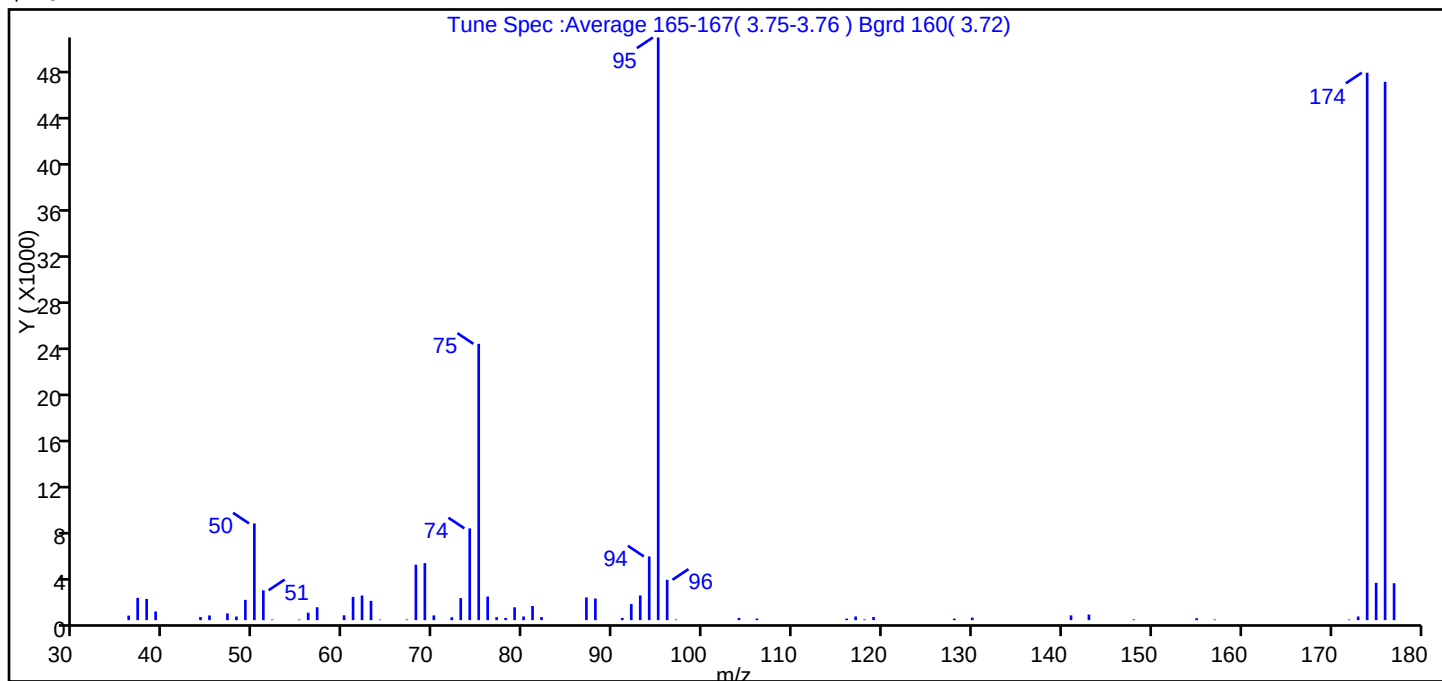
Method: 8260SIM\_14

Limit Group:

VOA - 8260C Water and Solid

Tune Method: BFB Method 8260

\$ 6 BFB



| m/z | Ion Abundance Criteria                         | % Relative Abundance |
|-----|------------------------------------------------|----------------------|
| 95  | Base peak, 100% relative abundance             | 100.0                |
| 50  | 15 to 40% of m/z 95                            | 16.6                 |
| 75  | 30 to 60% of m/z 95                            | 47.4                 |
| 96  | 5 to 9% of m/z 95                              | 6.9                  |
| 173 | Less than 2% of m/z 174                        | 0.6 (0.7)            |
| 174 | 50 to 120% of m/z 95                           | 94.0                 |
| 175 | 5 to 9% of m/z 174                             | 6.4 (6.8)            |
| 176 | Greater than 95% but less than 101% of m/z 174 | 92.4 (98.3)          |
| 177 | 5 to 9% of m/z 176                             | 6.3 (6.9)            |



Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001714.D\8260SIM\_14.rslt\spectra.d  
Injection Date: 18-Dec-2017 16:29:35  
Spectrum: Tune Spec :Average 165-167( 3.75-3.76 ) Bgrd 160( 3.72)  
Base Peak: 95.00  
Minimum % Base Peak: 0  
Number of Points: 64

| m/z   | Y    | m/z   | Y     | m/z    | Y     | m/z    | Y     |
|-------|------|-------|-------|--------|-------|--------|-------|
| 36.00 | 390  | 60.00 | 420   | 79.00  | 1108  | 117.00 | 317   |
| 37.00 | 1918 | 61.00 | 2003  | 80.00  | 317   | 118.00 | 62    |
| 38.00 | 1832 | 62.00 | 2119  | 81.00  | 1218  | 119.00 | 272   |
| 39.00 | 748  | 63.00 | 1664  | 82.00  | 260   | 128.00 | 132   |
| 40.00 | 2    | 64.00 | 50    | 87.00  | 1958  | 130.00 | 217   |
| 44.00 | 270  | 67.00 | 58    | 88.00  | 1860  | 141.00 | 411   |
| 45.00 | 405  | 68.00 | 4777  | 91.00  | 194   | 143.00 | 481   |
| 47.00 | 581  | 69.00 | 4910  | 92.00  | 1387  | 148.00 | 61    |
| 48.00 | 315  | 70.00 | 409   | 93.00  | 2125  | 155.00 | 164   |
| 49.00 | 1748 | 72.00 | 252   | 94.00  | 5485  | 157.00 | 54    |
| 50.00 | 8327 | 73.00 | 1900  | 95.00  | 50184 | 172.00 | 56    |
| 51.00 | 2575 | 74.00 | 7904  | 96.00  | 3476  | 173.00 | 316   |
| 52.00 | 52   | 75.00 | 23800 | 97.00  | 54    | 174.00 | 47152 |
| 55.00 | 55   | 76.00 | 2035  | 104.00 | 196   | 175.00 | 3219  |
| 56.00 | 642  | 77.00 | 262   | 106.00 | 140   | 176.00 | 46368 |
| 57.00 | 1111 | 78.00 | 190   | 116.00 | 134   | 177.00 | 3180  |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001741.D  
Lims ID: BFB  
Client ID:  
Sample Type: BFB  
Inject. Date: 20-Dec-2017 07:23:38 ALS Bottle#: 0 Worklist Smp#: 1  
Injection Vol: 10.0 mL Dil. Factor: 1.0000  
Sample Info: BFB  
Operator ID: Instrument ID: CVOAMS14  
Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\8260SIM\_14.m  
Limit Group: VOA - 8260C Water and Solid  
Last Update: 20-Dec-2017 10:23:33 Calib Date: 06-Dec-2017 11:31:52  
Integrator: RTE ID Type: RT Order ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
Process Host: XAWRK019

| Compound | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|----------|-----|--------------|------------------|------------------|---|----------|-----------------|-------------------|-------|
| \$ 6 BFB | 95  | 3.742        | 3.742            | 0.000            | 0 | 76558    | NR              | NR                |       |

## QC Flag Legend

Processing Flags

NR - Missing Quant Standard

## Reagents:

BFB\_00016

Amount Added: 1.00

Units: uL

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001741.D

Injection Date: 20-Dec-2017 07:23:38

Instrument ID: CVOAMS14

Lims ID: BFB

Client ID:

Operator ID:

ALS Bottle#:

0

Worklist Smp#: 1

Injection Vol: 10.0 mL

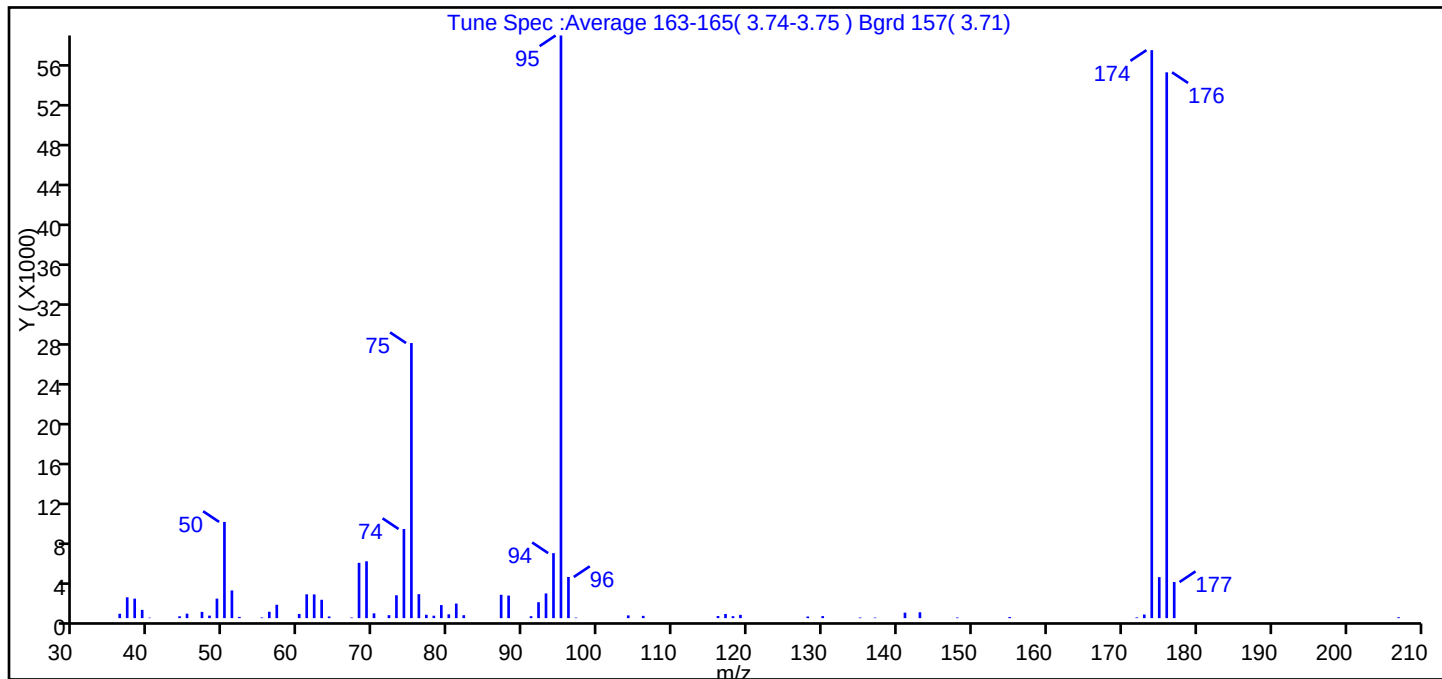
Dil. Factor: 1.0000

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Tune Method: BFB Method 8260

\$ 6 BFB



| m/z | Ion Abundance Criteria                         | % Relative Abundance |
|-----|------------------------------------------------|----------------------|
| 95  | Base peak, 100% relative abundance             | 100.0                |
| 50  | 15 to 40% of m/z 95                            | 16.5                 |
| 75  | 30 to 60% of m/z 95                            | 47.2                 |
| 96  | 5 to 9% of m/z 95                              | 7.1                  |
| 173 | Less than 2% of m/z 174                        | 0.6 (0.6)            |
| 174 | 50 to 120% of m/z 95                           | 97.5                 |
| 175 | 5 to 9% of m/z 174                             | 7.0 (7.2)            |
| 176 | Greater than 95% but less than 101% of m/z 174 | 93.7 (96.1)          |
| 177 | 5 to 9% of m/z 176                             | 6.2 (6.6)            |

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001741.D\8260SIM\_14.rslt\spectra.d  
Injection Date: 20-Dec-2017 07:23:38  
Spectrum: Tune Spec :Average 163-165( 3.74-3.75 ) Bgrd 157( 3.71)  
Base Peak: 95.00  
Minimum % Base Peak: 0  
Number of Points: 66

| m/z   | Y    | m/z   | Y     | m/z    | Y     | m/z    | Y     |
|-------|------|-------|-------|--------|-------|--------|-------|
| 36.00 | 441  | 61.00 | 2400  | 81.00  | 1469  | 128.00 | 165   |
| 37.00 | 2102 | 62.00 | 2392  | 82.00  | 296   | 130.00 | 206   |
| 38.00 | 1965 | 63.00 | 1850  | 87.00  | 2351  | 135.00 | 65    |
| 39.00 | 832  | 64.00 | 171   | 88.00  | 2272  | 137.00 | 58    |
| 40.00 | 46   | 67.00 | 59    | 91.00  | 196   | 141.00 | 552   |
| 44.00 | 186  | 68.00 | 5572  | 92.00  | 1606  | 143.00 | 593   |
| 45.00 | 451  | 69.00 | 5727  | 93.00  | 2488  | 148.00 | 65    |
| 47.00 | 630  | 70.00 | 483   | 94.00  | 6550  | 155.00 | 109   |
| 48.00 | 254  | 72.00 | 299   | 95.00  | 58696 | 172.00 | 75    |
| 49.00 | 1967 | 73.00 | 2306  | 96.00  | 4147  | 173.00 | 363   |
| 50.00 | 9694 | 74.00 | 8980  | 97.00  | 55    | 174.00 | 57216 |
| 51.00 | 2790 | 75.00 | 27712 | 104.00 | 276   | 175.00 | 4130  |
| 52.00 | 126  | 76.00 | 2416  | 106.00 | 231   | 176.00 | 54984 |
| 55.00 | 67   | 77.00 | 340   | 116.00 | 218   | 177.00 | 3636  |
| 56.00 | 644  | 78.00 | 247   | 117.00 | 420   | 207.00 | 90    |
| 57.00 | 1346 | 79.00 | 1315  | 118.00 | 198   |        |       |
| 60.00 | 422  | 80.00 | 385   | 119.00 | 334   |        |       |

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 460-484411/7  
Matrix: Water Lab File ID: S001664.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 07:00  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 94   |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 100  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001664.D  
 Lims ID: MB  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 15-Dec-2017 07:00:51 ALS Bottle#: 0 Worklist Smp#: 7  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: MB  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 15-Dec-2017 14:48:35 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: baronm

Date: 15-Dec-2017 14:48:35

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 8416     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 100 | 251      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 2583     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2583     | 0.5003          | 0.4708            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 2045     | 0.5002          | 0.5025            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001664.D

Injection Date: 15-Dec-2017 07:00:51

Instrument ID: CVOAMS14

Operator ID:

Lims ID: MB

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

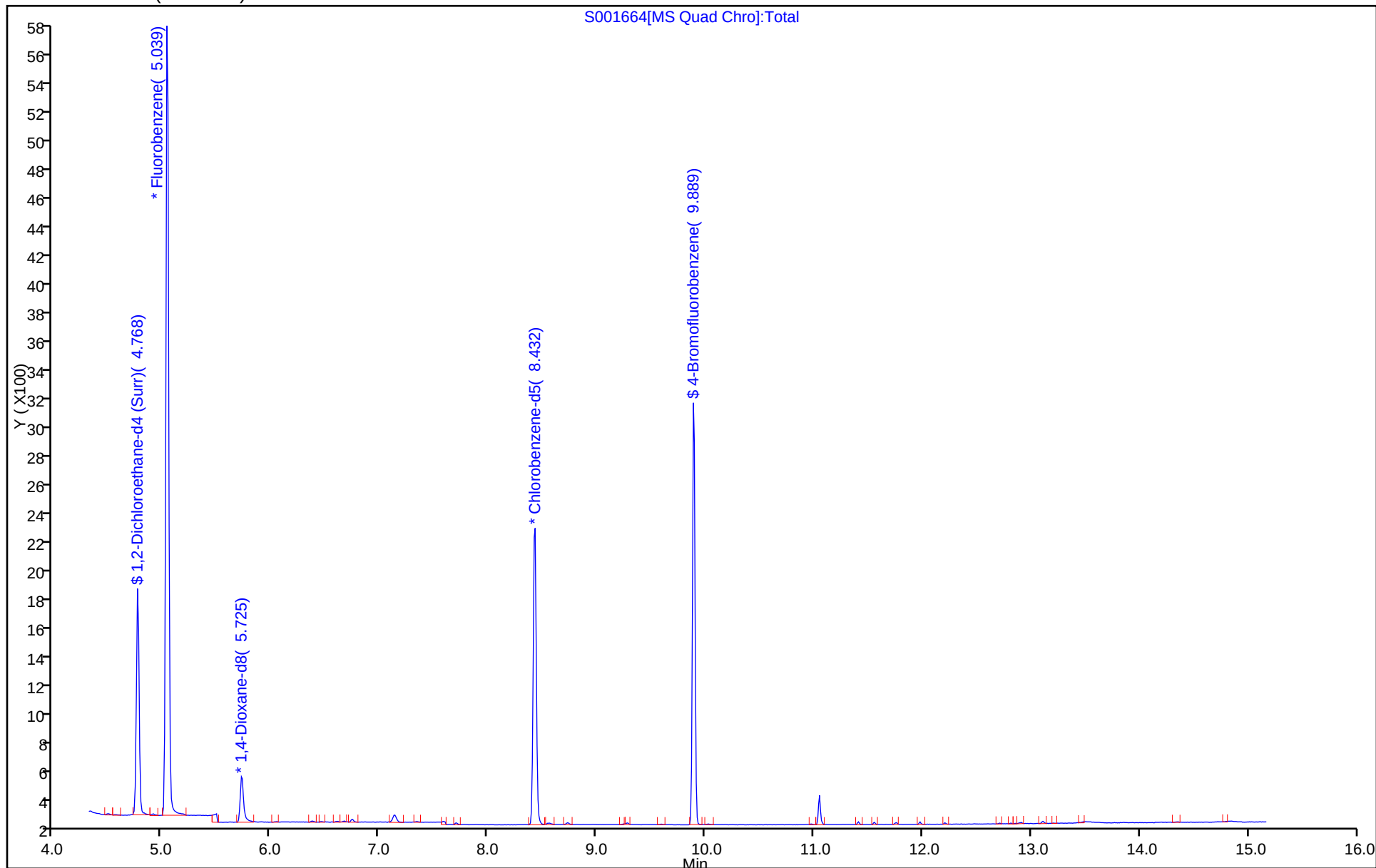
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 460-485055/7  
Matrix: Water Lab File ID: S001691.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/18/2017 07:22  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485055 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 101  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 101  |   | 72-133 |



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001691.D  
 Lims ID: MB  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 18-Dec-2017 07:22:18 ALS Bottle#: 0 Worklist Smp#: 7  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: MB  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 15:13:05 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: baronm

Date: 18-Dec-2017 15:13:05

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.049            | -0.010           | 98  | 7996     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 237      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 2597     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2631     | 0.5003          | 0.5048            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.890            | -0.001           | 98  | 2077     | 0.5002          | 0.5077            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001691.D

Injection Date: 18-Dec-2017 07:22:18

Instrument ID: CVOAMS14

Operator ID:

Lims ID: MB

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

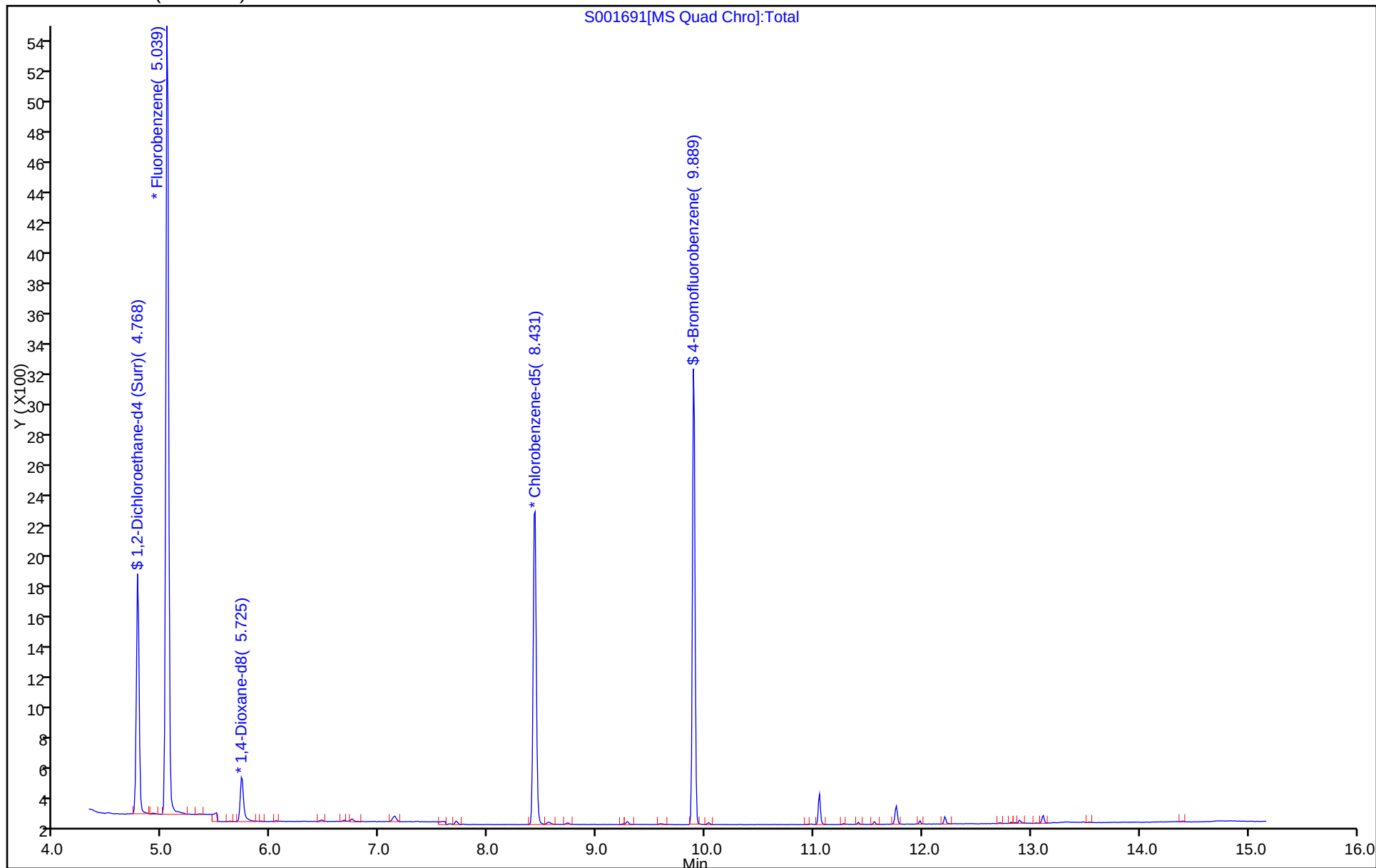
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 460-485226/7  
 Matrix: Water Lab File ID: S001720.D  
 Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
 Sample wt/vol: 10 (mL) Date Analyzed: 12/18/2017 19:02  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 485226 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 102  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 99   |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001720.D  
 Lims ID: MB  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 18-Dec-2017 19:02:06 ALS Bottle#: 0 Worklist Smp#: 7  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: MB  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 20-Dec-2017 19:05:50 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK001

First Level Reviewer: colladox

Date: 18-Dec-2017 22:36:33

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 7552     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 149      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 2436     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2500     | 0.5003          | 0.5078            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 1899     | 0.5002          | 0.4948            |       |

**Reagents:**

SimissurNEW\_00010

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001720.D

Injection Date: 18-Dec-2017 19:02:06

Instrument ID: CVOAMS14

Operator ID:

Lims ID: MB

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

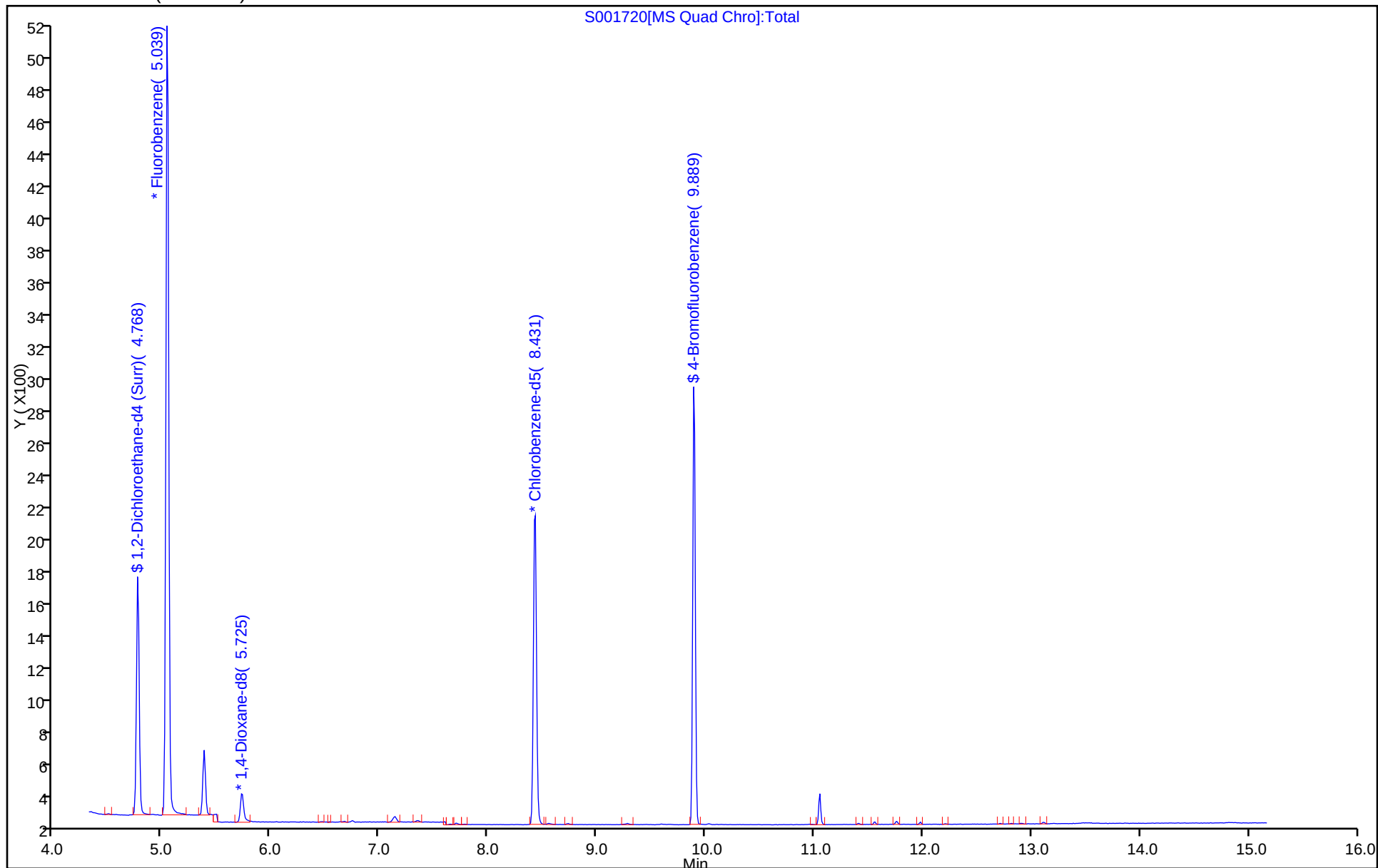
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 460-485727/7  
Matrix: Water Lab File ID: S001747.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/20/2017 09:58  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485727 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 0.20   | U | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 106  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 99   |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001747.D  
 Lims ID: MB  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 20-Dec-2017 09:58:02 ALS Bottle#: 0 Worklist Smp#: 7  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: MB  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 20-Dec-2017 12:13:17 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK019

First Level Reviewer: desais

Date: 20-Dec-2017 10:23:20

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 6467     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 118      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 2079     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2234     | 0.5003          | 0.5299            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 98  | 1627     | 0.5002          | 0.4968            |       |

**Reagents:**

SimissurNEW\_00011

Amount Added: 2.00

Units: uL

Run Reagent

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001747.D

Injection Date: 20-Dec-2017 09:58:02

Instrument ID: CVOAMS14

Operator ID:

Lims ID: MB

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

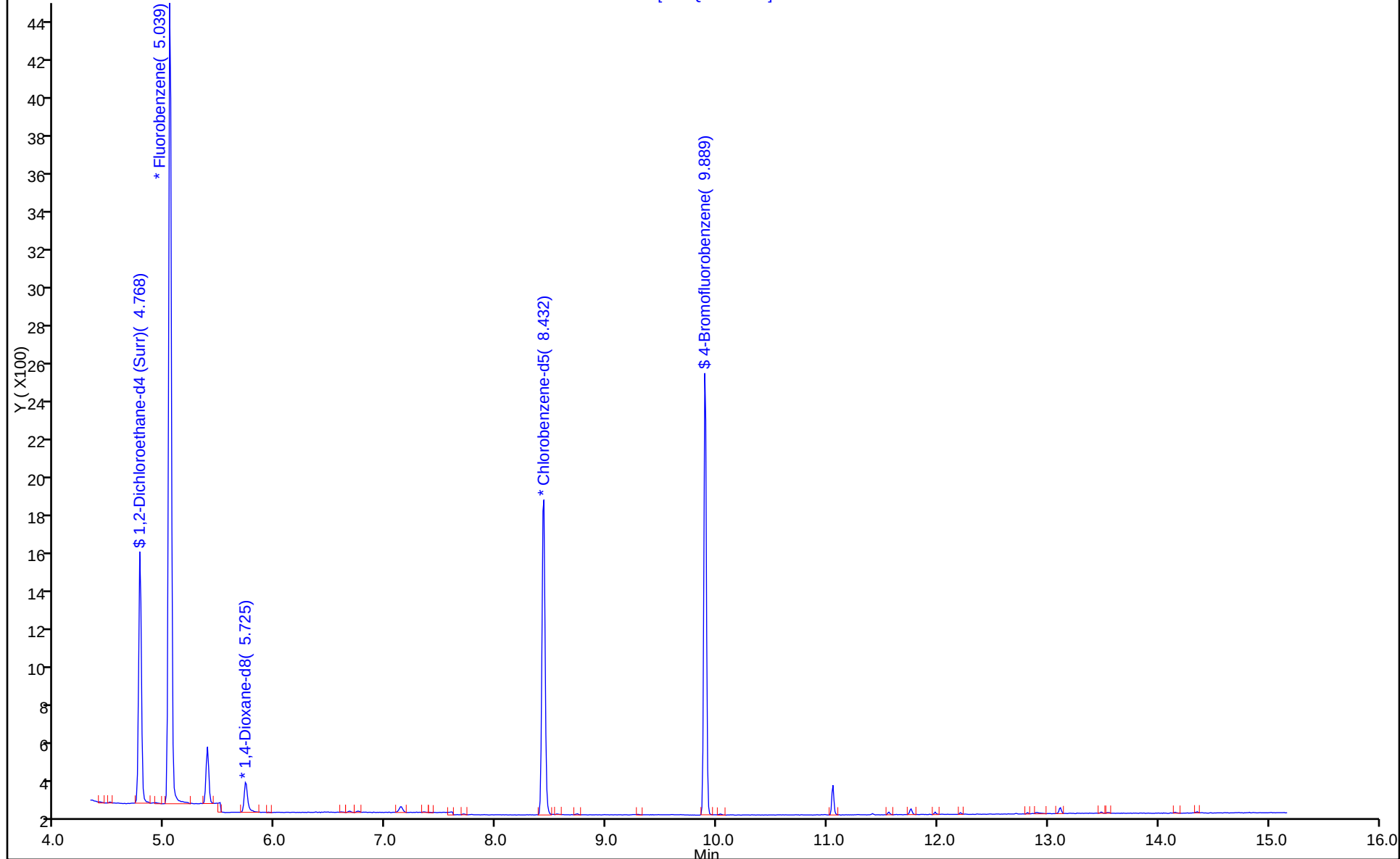
ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)

S001747[MS Quad Chro]:Total





FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 460-484411/3  
Matrix: Water Lab File ID: S001660.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 05:04  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 4.60   |   | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 94   |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 106  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001660.D  
 Lims ID: LCS  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 15-Dec-2017 05:04:21 ALS Bottle#: 0 Worklist Smp#: 3  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: LCS  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 15-Dec-2017 14:47:52 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: baronm

Date: 15-Dec-2017 14:47:52

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.039            | 0.010            | 100 | 9875     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 100 | 217      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 3301     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3034     | 0.5003          | 0.4713            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 2751     | 0.5002          | 0.5290            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.778            | 0.008            | 99  | 194      | 5.00            | 4.60              |       |
| 8 Ethylene Dibromide            | 109 | 7.890        | 7.882            | 0.008            | 91  | 137      | 0.0500          | 0.0476            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 100 | 57       | 0.0500          | 0.0459            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 97  | 25       | 0.0500          | 0.0534            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001660.D

Injection Date: 15-Dec-2017 05:04:21

Instrument ID: CVOAMS14

Operator ID:

Lims ID: LCS

Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL

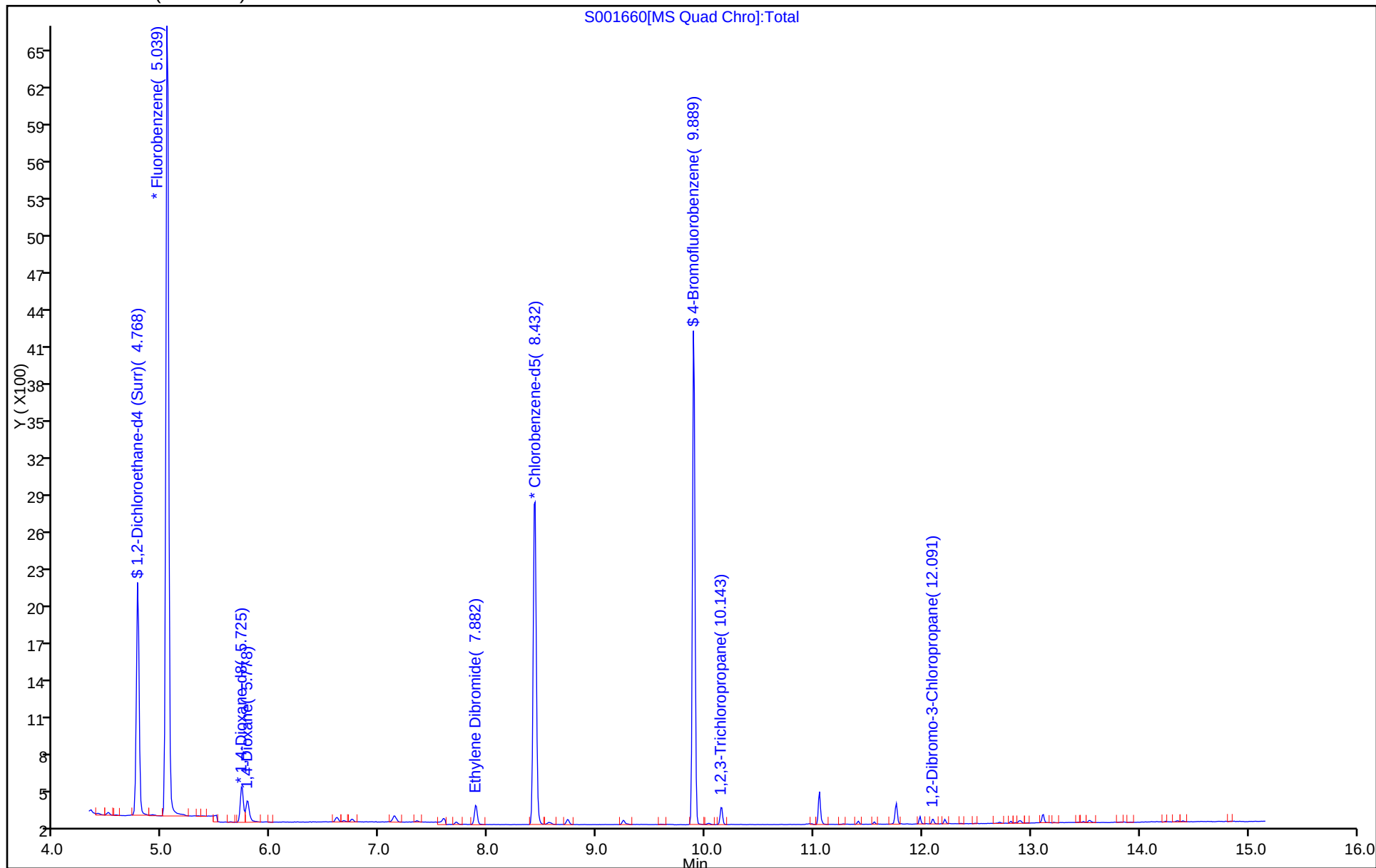
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 460-485055/3  
Matrix: Water Lab File ID: S001687.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/18/2017 05:36  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485055 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 4.59   |   | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 98   |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 103  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001687.D  
 Lims ID: LCS  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 18-Dec-2017 05:36:31 ALS Bottle#: 0 Worklist Smp#: 3  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: LCS  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 15:12:36 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: baronm

Date: 18-Dec-2017 15:12:36

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.049            | -0.010           | 99  | 9015     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 96  | 168      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 98  | 3009     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2871     | 0.5003          | 0.4886            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.890        | 9.890            | 0.000            | 97  | 2450     | 0.5002          | 0.5168            |       |
| 7 1,4-Dioxane                   | 88  | 5.778        | 5.787            | -0.009           | 98  | 150      | 5.00            | 4.59              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.891            | -0.009           | 100 | 113      | 0.0500          | 0.0431            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 99  | 48       | 0.0500          | 0.0424            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 96  | 18       | 0.0500          | 0.0422            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\\Edison\\ChromData\\CVOAMS14\\20171218-64997.b\\S001687.D

Injection Date: 18-Dec-2017 05:36:31

Instrument ID: CVOAMS14

Operator ID:

Lims ID: LCS

Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL

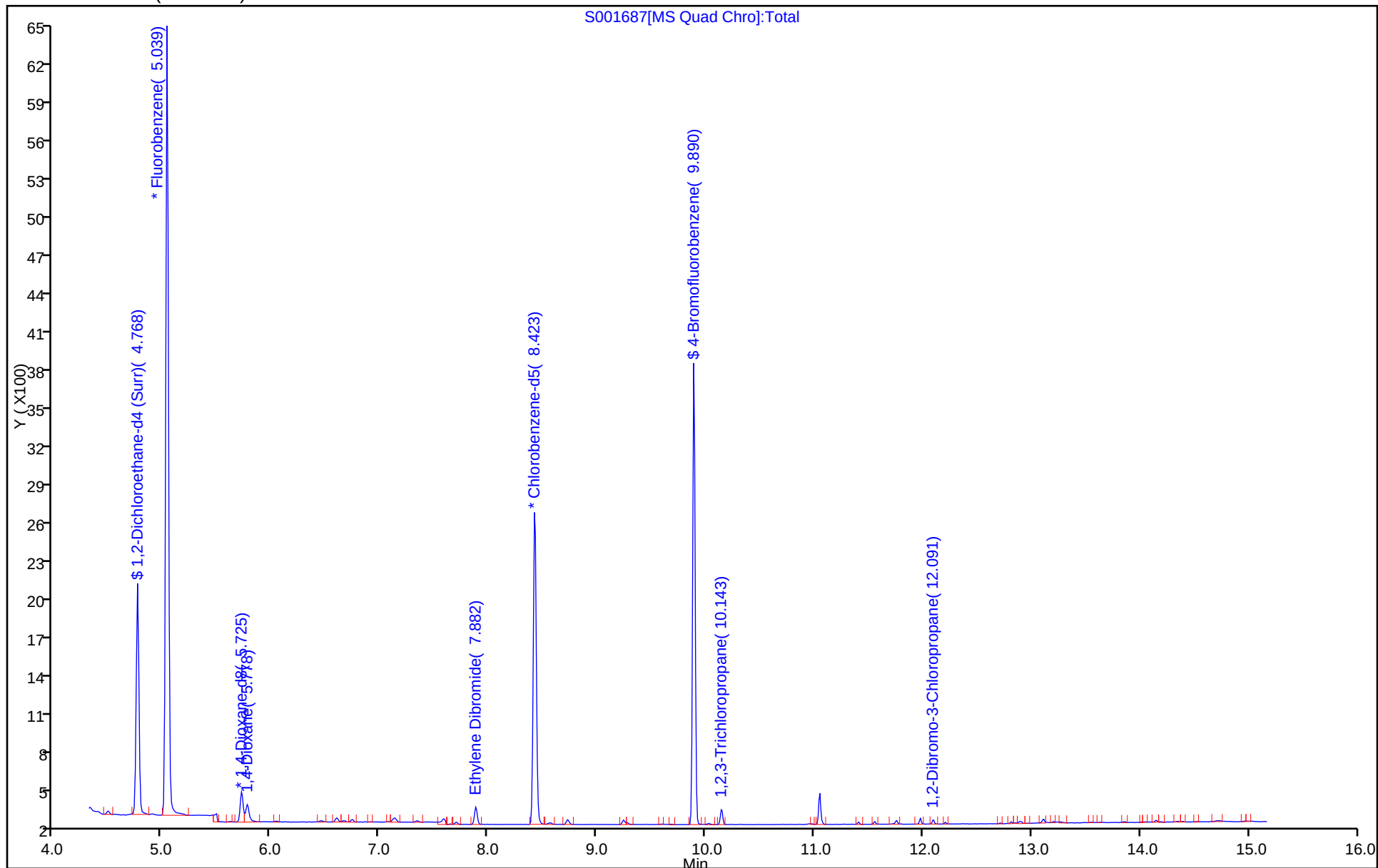
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 460-485226/3  
Matrix: Water Lab File ID: S001716.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/18/2017 17:26  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485226 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 4.24   |   | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 100  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 101  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001716.D  
 Lims ID: LCS  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 18-Dec-2017 17:26:11 ALS Bottle#: 0 Worklist Smp#: 3  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: LCS  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 22:34:44 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK001

First Level Reviewer: colladox

Date: 18-Dec-2017 22:34:44

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.049        | 5.039            | 0.010            | 100 | 8317     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 91  | 164      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 2799     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2699     | 0.5003          | 0.4978            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 2224     | 0.5002          | 0.5044            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.778            | 0.008            | 97  | 135      | 5.00            | 4.24              |       |
| 8 Ethylene Dibromide            | 109 | 7.890        | 7.882            | 0.008            | 94  | 109      | 0.0500          | 0.0447            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 99  | 47       | 0.0500          | 0.0447            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 97  | 19       | 0.0500          | 0.0479            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |



## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001716.D

Injection Date: 18-Dec-2017 17:26:11

Instrument ID: CVOAMS14

Operator ID:

Lims ID: LCS

Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL

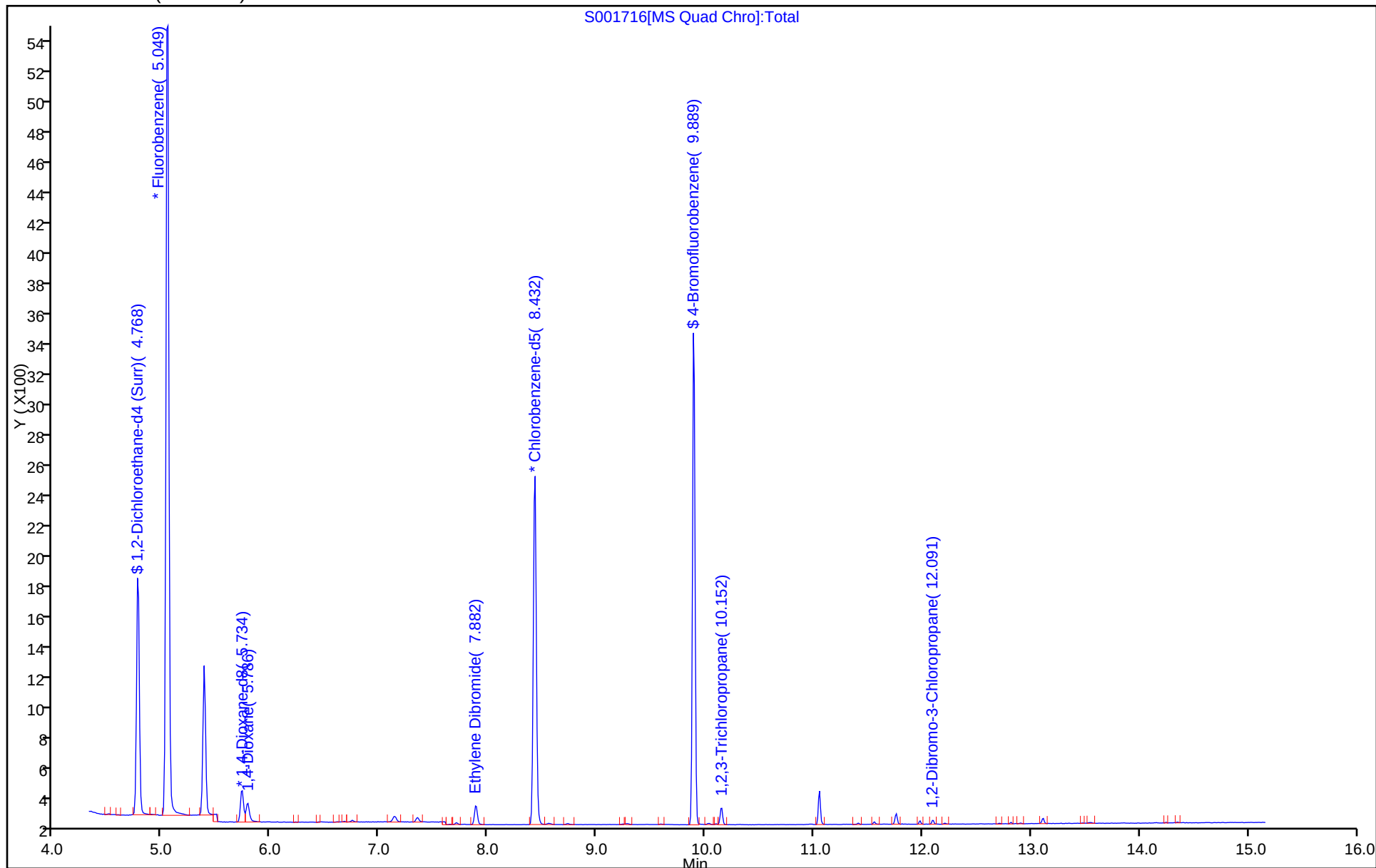
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 460-485727/3  
Matrix: Water Lab File ID: S001743.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/20/2017 08:12  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485727 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 5.02   |   | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 101  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 98   |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001743.D  
 Lims ID: LCS  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 20-Dec-2017 08:12:44 ALS Bottle#: 0 Worklist Smp#: 3  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: LCS  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 21-Dec-2017 14:45:49 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK012

First Level Reviewer: desais

Date: 20-Dec-2017 08:33:07

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 5793     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 94  | 122      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 1877     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 1917     | 0.5003          | 0.5077            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 1450     | 0.5002          | 0.4904            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.778            | 0.008            | 100 | 119      | 5.00            | 5.02              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.882            | 0.000            | 97  | 86       | 0.0500          | 0.0526            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.151       | 10.152           | -0.001           | 100 | 36       | 0.0500          | 0.0510            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 92  | 14       | 0.0500          | 0.0526            | M     |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00011 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001743.D

Injection Date: 20-Dec-2017 08:12:44

Instrument ID: CVOAMS14

Operator ID:

Lims ID: LCS

Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL

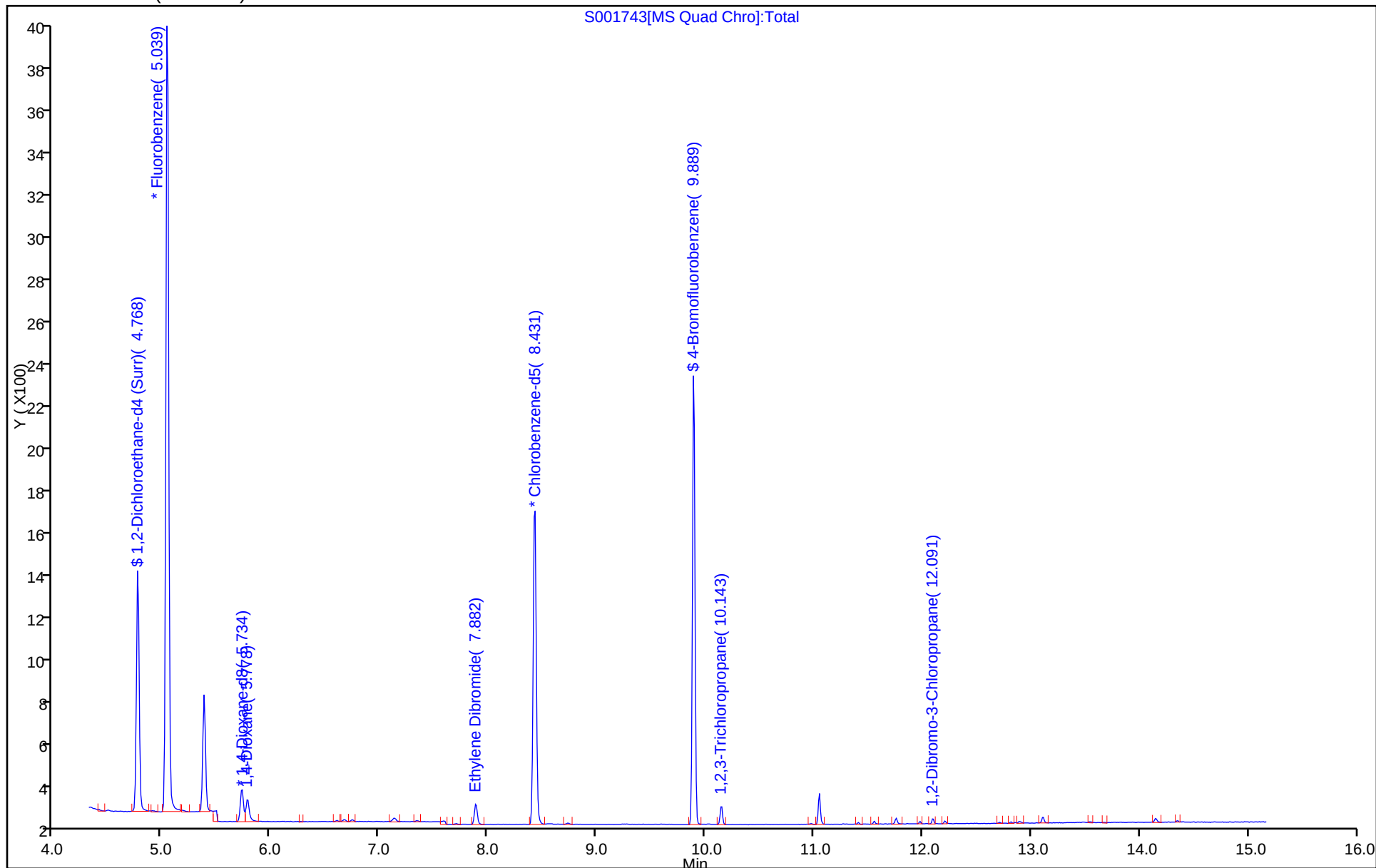
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 460-484411/4  
Matrix: Water Lab File ID: S001661.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/15/2017 05:28  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 484411 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 4.77   |   | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 97   |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 104  |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\S001661.D  
 Lims ID: LCSD  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 15-Dec-2017 05:28:23 ALS Bottle#: 0 Worklist Smp#: 4  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: LCSD  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171215-64845.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 15-Dec-2017 14:48:04 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK002

First Level Reviewer: baronm

Date: 15-Dec-2017 14:48:04

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 9979     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 100 | 207      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 3370     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 3164     | 0.5003          | 0.4864            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 99  | 2774     | 0.5002          | 0.5225            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.778            | 0.008            | 99  | 192      | 5.00            | 4.77              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.882            | 0.000            | 97  | 141      | 0.0500          | 0.0480            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.151       | 10.152           | -0.001           | 100 | 64       | 0.0500          | 0.0505            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 98  | 22       | 0.0500          | 0.0460            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\\Edison\\ChromData\\CVOAMS14\\20171215-64845.b\\S001661.D

Injection Date: 15-Dec-2017 05:28:23

Instrument ID: CVOAMS14

Operator ID:

Lims ID: LCSD

Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL

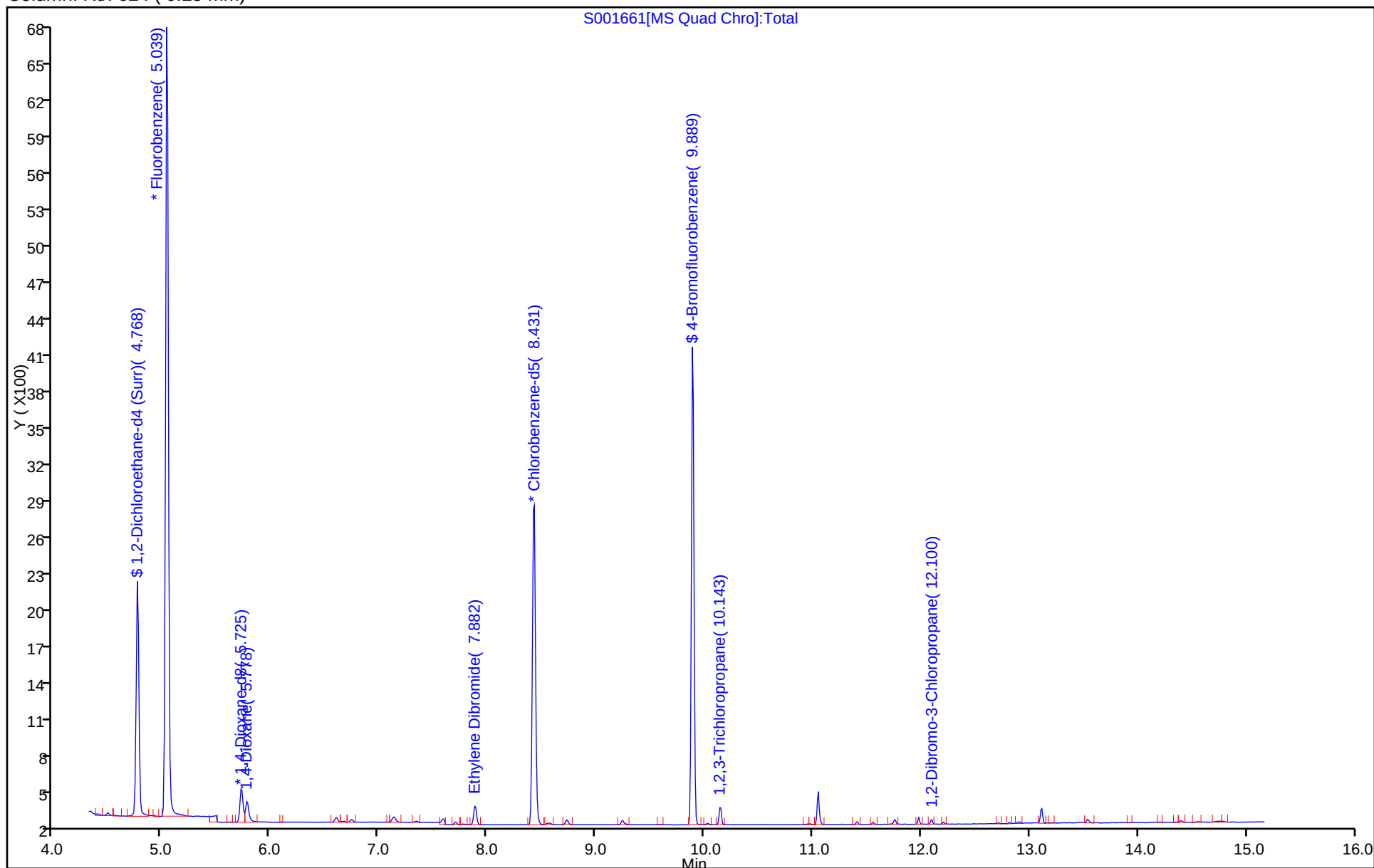
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 460-485055/4  
 Matrix: Water Lab File ID: S001688.D  
 Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
 Sample wt/vol: 10 (mL) Date Analyzed: 12/18/2017 06:00  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 485055 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 4.34   |   | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 101  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 103  |   | 72-133 |



TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001688.D  
 Lims ID: LCSD  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 18-Dec-2017 06:00:27 ALS Bottle#: 0 Worklist Smp#: 4  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: LCSD  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 15:12:47 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK021

First Level Reviewer: baronm

Date: 18-Dec-2017 15:12:47

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.049            | -0.010           | 98  | 9036     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 99  | 191      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 3068     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2989     | 0.5003          | 0.5075            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.890            | -0.001           | 99  | 2485     | 0.5002          | 0.5141            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.787            | -0.001           | 96  | 161      | 5.00            | 4.34              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.891            | -0.009           | 97  | 119      | 0.0500          | 0.0445            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 99  | 53       | 0.0500          | 0.0460            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 93  | 19       | 0.0500          | 0.0437            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-64997.b\S001688.D

Injection Date: 18-Dec-2017 06:00:27

Instrument ID: CVOAMS14

Operator ID:

Lims ID: LCSD

Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL

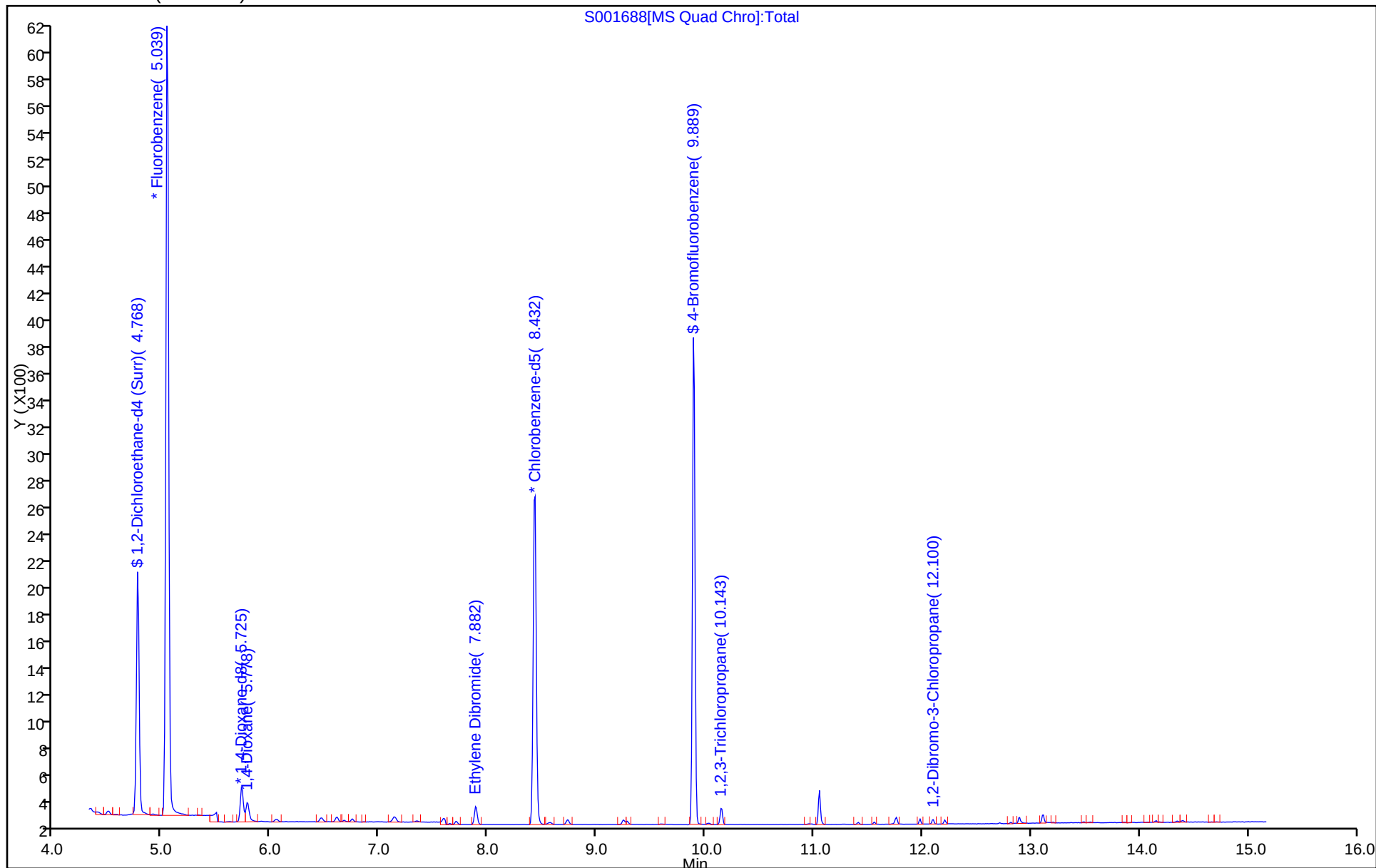
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 460-485226/4  
Matrix: Water Lab File ID: S001717.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/18/2017 17:50  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485226 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 4.22   |   | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 100  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 99   |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001717.D  
 Lims ID: LCSD  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 18-Dec-2017 17:50:12 ALS Bottle#: 0 Worklist Smp#: 4  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: LCSD  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 18-Dec-2017 22:36:11 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK001

First Level Reviewer: colladox

Date: 18-Dec-2017 22:36:11

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 7629     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 100 | 162      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 100 | 2499     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 2494     | 0.5003          | 0.5015            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 98  | 1952     | 0.5002          | 0.4958            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.778            | 0.008            | 98  | 133      | 5.00            | 4.22              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.882            | 0.000            | 99  | 107      | 0.0500          | 0.0491            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.151       | 10.152           | -0.001           | 100 | 42       | 0.0500          | 0.0447            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 98  | 17       | 0.0500          | 0.0480            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00010 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171218-65035.b\S001717.D

Injection Date: 18-Dec-2017 17:50:12

Instrument ID: CVOAMS14

Operator ID:

Lims ID: LCSD

Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL

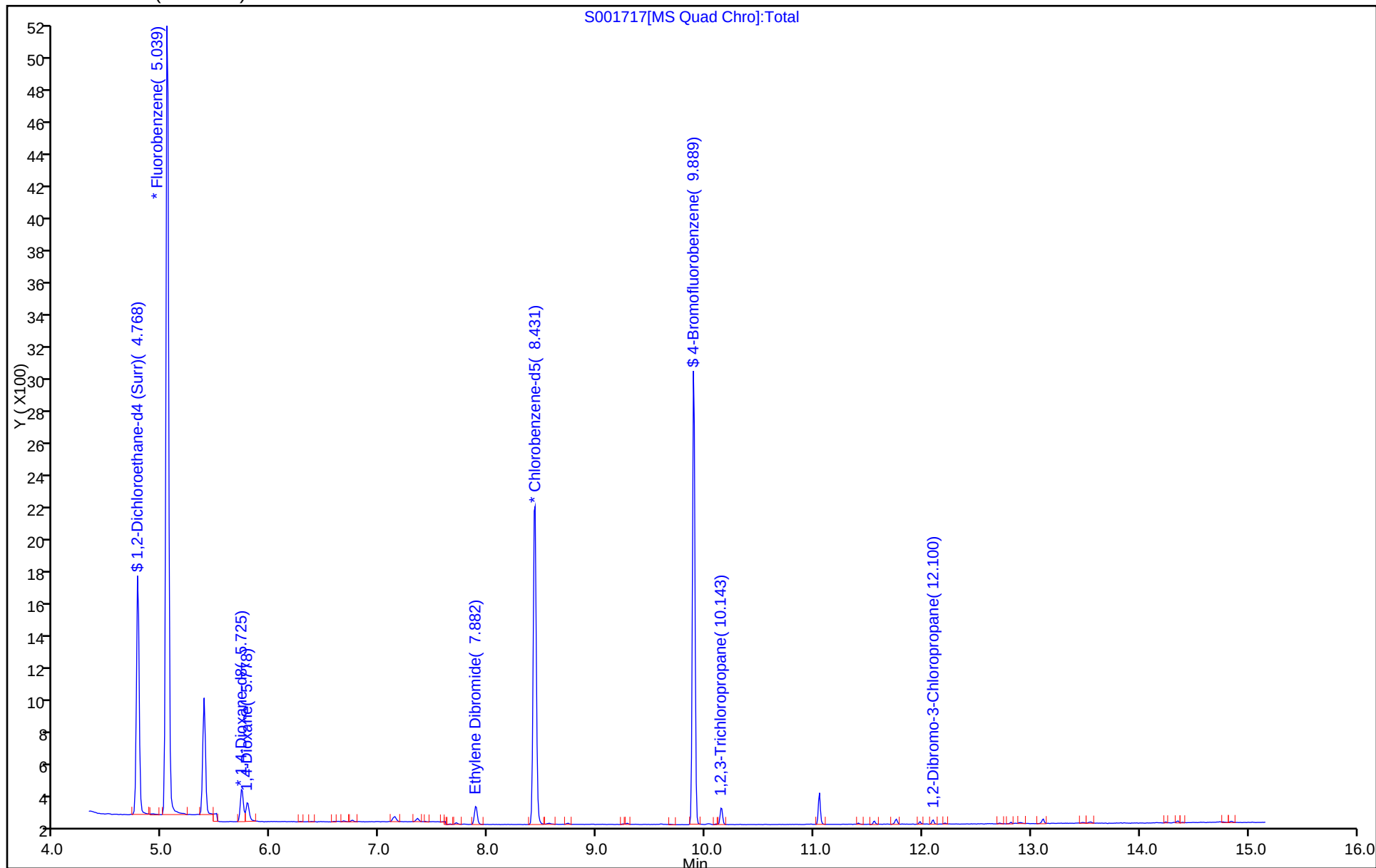
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 460-485727/4  
Matrix: Water Lab File ID: S001744.D  
Analysis Method: 8260C SIM Date Collected: \_\_\_\_\_  
Sample wt/vol: 10 (mL) Date Analyzed: 12/20/2017 08:36  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rtx-624 ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 485727 Units: ug/L

| CAS NO.  | COMPOUND NAME | RESULT | Q | RL   | MDL  |
|----------|---------------|--------|---|------|------|
| 123-91-1 | 1,4-Dioxane   | 5.65   |   | 0.40 | 0.20 |

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 102  |   | 71-144 |
| 460-00-4   | 4-Bromofluorobenzene         | 99   |   | 72-133 |

TestAmerica Edison  
Target Compound Quantitation Report

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001744.D  
 Lims ID: LCSD  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 20-Dec-2017 08:36:32 ALS Bottle#: 0 Worklist Smp#: 4  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: LCSD  
 Operator ID: Instrument ID: CVOAMS14  
 Method: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\8260SIM\_14.m  
 Limit Group: VOA - 8260C Water and Solid  
 Last Update: 21-Dec-2017 14:45:49 Calib Date: 06-Dec-2017 11:31:52  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\ChromNA\Edison\ChromData\CVOAMS14\20171206-64389.b\S001427.D  
 Column 1 : Rtx-624 ( 0.25 mm) Det: MS SCAN  
 Process Host: XAWRK012

First Level Reviewer: desais

Date: 20-Dec-2017 08:57:24

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ug/l | OnCol Amt<br>ug/l | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|-----------------|-------------------|-------|
| * 1 Fluorobenzene               | 96  | 5.039        | 5.039            | 0.000            | 98  | 5074     | 0.5000          | 0.5000            |       |
| * 2 1,4-Dioxane-d8              | 64  | 5.725        | 5.725            | 0.000            | 94  | 102      | 10.0            | 10.0              |       |
| * 3 Chlorobenzene-d5            | 82  | 8.423        | 8.423            | 0.000            | 99  | 1629     | 0.5000          | 0.5000            |       |
| \$ 4 1,2-Dichloroethane-d4 (Sur | 65  | 4.768        | 4.768            | 0.000            | 100 | 1692     | 0.5003          | 0.5116            |       |
| \$ 5 4-Bromofluorobenzene       | 95  | 9.889        | 9.889            | 0.000            | 98  | 1266     | 0.5002          | 0.4933            |       |
| 7 1,4-Dioxane                   | 88  | 5.786        | 5.778            | 0.008            | 93  | 112      | 5.00            | 5.65              |       |
| 8 Ethylene Dibromide            | 109 | 7.882        | 7.882            | 0.000            | 98  | 81       | 0.0500          | 0.0570            |       |
| 9 1,2,3-Trichloropropane        | 110 | 10.152       | 10.152           | 0.000            | 100 | 33       | 0.0500          | 0.0539            |       |
| 10 1,2-Dibromo-3-Chloropropan   | 157 | 12.100       | 12.100           | 0.000            | 91  | 14       | 0.0500          | 0.0606            |       |

**Reagents:**

|                   |                     |           |             |
|-------------------|---------------------|-----------|-------------|
| VMMIX1SIM_00104   | Amount Added: 1.00  | Units: uL |             |
| SIMDIOX50_00015   | Amount Added: 20.00 | Units: uL |             |
| SimissurNEW_00011 | Amount Added: 2.00  | Units: uL | Run Reagent |

## TestAmerica Edison

Data File: \\ChromNA\Edison\ChromData\CVOAMS14\20171220-65137.b\S001744.D

Injection Date: 20-Dec-2017 08:36:32

Instrument ID: CVOAMS14

Operator ID:

Lims ID: LCSD

Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL

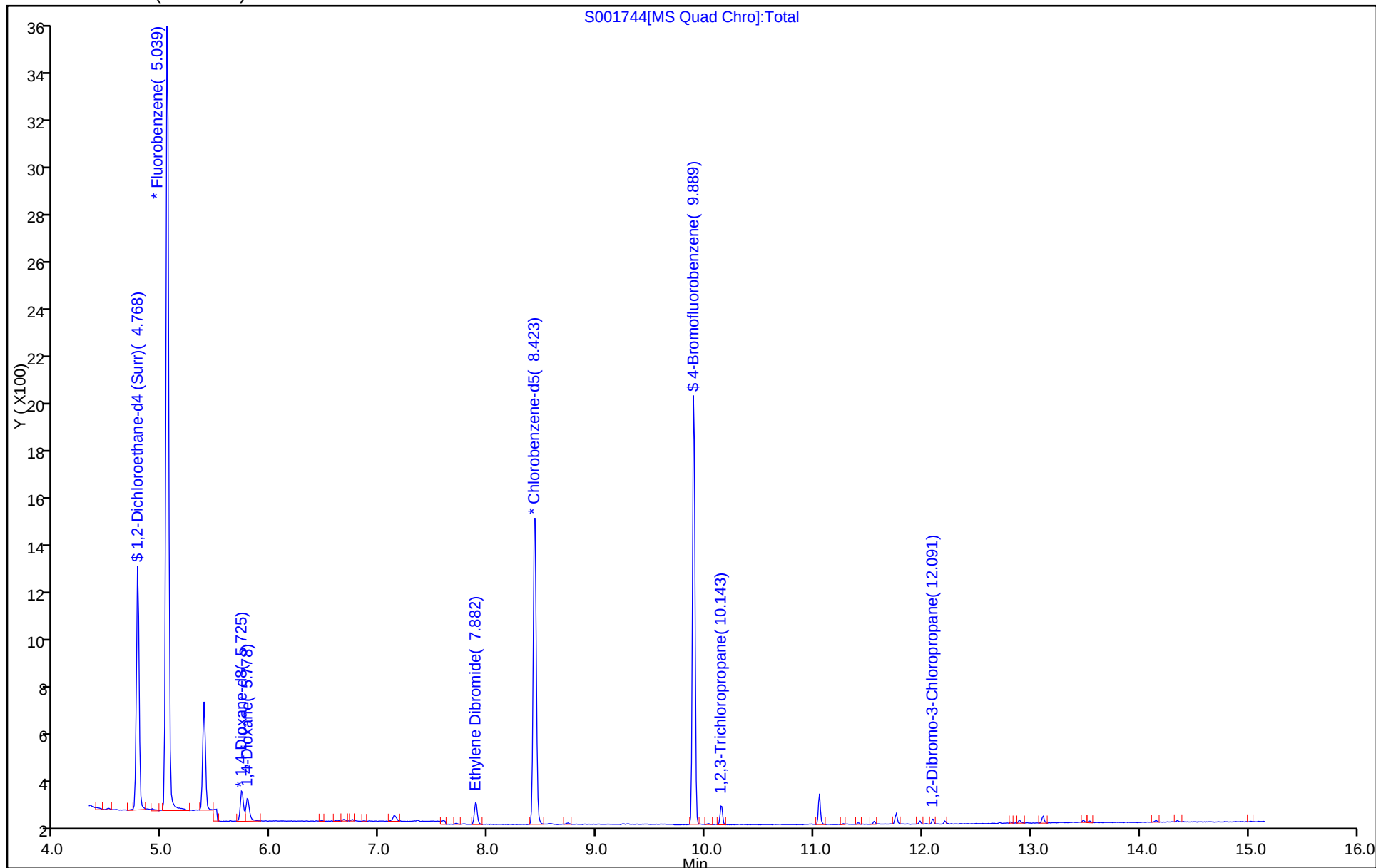
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8260SIM\_14

Limit Group: VOA - 8260C Water and Solid

Column: Rtx-624 ( 0.25 mm)





## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Instrument ID: CVOAMS14 Start Date: 12/06/2017 08:17Analysis Batch Number: 482109 End Date: 12/06/2017 13:07

| LAB SAMPLE ID             | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID         |
|---------------------------|------------------|------------------|--------------------|-------------|-------------------|
| BFB 460-482109/1          |                  | 12/06/2017 08:17 | 1                  | S001419.D   | Rtx-624 0.25 (mm) |
| STD04 460-482109/2<br>IC  |                  | 12/06/2017 08:44 | 1                  | S001420.D   | Rtx-624 0.25 (mm) |
| STD1 460-482109/3 IC      |                  | 12/06/2017 09:08 | 1                  | S001421.D   | Rtx-624 0.25 (mm) |
| STD5 460-482109/4<br>ICIS |                  | 12/06/2017 09:32 | 1                  | S001422.D   | Rtx-624 0.25 (mm) |
| STD10 460-482109/5<br>IC  |                  | 12/06/2017 09:56 | 1                  | S001423.D   | Rtx-624 0.25 (mm) |
| STD20 460-482109/6<br>IC  |                  | 12/06/2017 10:20 | 1                  | S001424.D   | Rtx-624 0.25 (mm) |
| STD30 460-482109/7<br>IC  |                  | 12/06/2017 10:43 | 1                  | S001425.D   | Rtx-624 0.25 (mm) |
| STD40 460-482109/8<br>IC  |                  | 12/06/2017 11:07 | 1                  | S001426.D   | Rtx-624 0.25 (mm) |
| STD50 460-482109/9<br>IC  |                  | 12/06/2017 11:31 | 1                  | S001427.D   | Rtx-624 0.25 (mm) |
| ICV 460-482109/13         |                  | 12/06/2017 13:07 | 1                  |             | Rtx-624 0.25 (mm) |

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Instrument ID: CVOAMS14 Start Date: 12/15/2017 04:11Analysis Batch Number: 484411 End Date: 12/15/2017 15:25

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID         |
|--------------------|------------------|------------------|--------------------|-------------|-------------------|
| BFB 460-484411/1   |                  | 12/15/2017 04:11 | 1                  | S001658.D   | Rtx-624 0.25 (mm) |
| CCVIS 460-484411/2 |                  | 12/15/2017 04:40 | 1                  | S001659.D   | Rtx-624 0.25 (mm) |
| LCS 460-484411/3   |                  | 12/15/2017 05:04 | 1                  | S001660.D   | Rtx-624 0.25 (mm) |
| LCSD 460-484411/4  |                  | 12/15/2017 05:28 | 1                  | S001661.D   | Rtx-624 0.25 (mm) |
| MB 460-484411/7    |                  | 12/15/2017 07:00 | 1                  | S001664.D   | Rtx-624 0.25 (mm) |
| 460-147014-1       |                  | 12/15/2017 11:26 | 1                  | S001675.D   | Rtx-624 0.25 (mm) |
| 460-147014-2       |                  | 12/15/2017 11:50 | 1                  | S001676.D   | Rtx-624 0.25 (mm) |
| 460-147014-3       |                  | 12/15/2017 12:15 | 1                  | S001677.D   | Rtx-624 0.25 (mm) |
| 460-147014-4       |                  | 12/15/2017 12:39 | 1                  | S001678.D   | Rtx-624 0.25 (mm) |
| 460-147014-6       |                  | 12/15/2017 14:36 | 1                  | S001680.D   | Rtx-624 0.25 (mm) |
| 460-147014-7       |                  | 12/15/2017 15:00 | 1                  | S001681.D   | Rtx-624 0.25 (mm) |
| 460-147014-8       |                  | 12/15/2017 15:25 | 1                  | S001682.D   | Rtx-624 0.25 (mm) |

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Instrument ID: CVOAMS14 Start Date: 12/18/2017 04:07Analysis Batch Number: 485055 End Date: 12/18/2017 10:10

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID         |
|--------------------|------------------|------------------|--------------------|-------------|-------------------|
| BFB 460-485055/1   |                  | 12/18/2017 04:07 | 1                  | S001685.D   | Rtx-624 0.25 (mm) |
| CCVIS 460-485055/2 |                  | 12/18/2017 04:55 | 1                  | S001686.D   | Rtx-624 0.25 (mm) |
| LCS 460-485055/3   |                  | 12/18/2017 05:36 | 1                  | S001687.D   | Rtx-624 0.25 (mm) |
| LCSD 460-485055/4  |                  | 12/18/2017 06:00 | 1                  | S001688.D   | Rtx-624 0.25 (mm) |
| MB 460-485055/7    |                  | 12/18/2017 07:22 | 1                  | S001691.D   | Rtx-624 0.25 (mm) |
| 460-147014-5       |                  | 12/18/2017 10:10 | 1                  | S001698.D   | Rtx-624 0.25 (mm) |

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Instrument ID: CVOAMS14 Start Date: 12/18/2017 16:29Analysis Batch Number: 485226 End Date: 12/18/2017 21:19

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID         |
|--------------------|------------------|------------------|--------------------|-------------|-------------------|
| BFB 460-485226/1   |                  | 12/18/2017 16:29 | 1                  | S001714.D   | Rtx-624 0.25 (mm) |
| CCVIS 460-485226/2 |                  | 12/18/2017 16:53 | 1                  | S001715.D   | Rtx-624 0.25 (mm) |
| LCS 460-485226/3   |                  | 12/18/2017 17:26 | 1                  | S001716.D   | Rtx-624 0.25 (mm) |
| LCSD 460-485226/4  |                  | 12/18/2017 17:50 | 1                  | S001717.D   | Rtx-624 0.25 (mm) |
| MB 460-485226/7    |                  | 12/18/2017 19:02 | 1                  | S001720.D   | Rtx-624 0.25 (mm) |
| ZZZZZ              |                  | 12/18/2017 20:31 | 1                  |             | Rtx-624 0.25 (mm) |
| 460-147014-12      |                  | 12/18/2017 20:55 | 1                  | S001723.D   | Rtx-624 0.25 (mm) |
| 460-147014-9       |                  | 12/18/2017 21:19 | 1                  | S001724.D   | Rtx-624 0.25 (mm) |

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Instrument ID: CVOAMS14 Start Date: 12/20/2017 07:23Analysis Batch Number: 485727 End Date: 12/20/2017 17:57

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID         |
|--------------------|------------------|------------------|--------------------|-------------|-------------------|
| BFB 460-485727/1   |                  | 12/20/2017 07:23 | 1                  | S001741.D   | Rtx-624 0.25 (mm) |
| CCVIS 460-485727/2 |                  | 12/20/2017 07:48 | 1                  | S001742.D   | Rtx-624 0.25 (mm) |
| LCS 460-485727/3   |                  | 12/20/2017 08:12 | 1                  | S001743.D   | Rtx-624 0.25 (mm) |
| LCSD 460-485727/4  |                  | 12/20/2017 08:36 | 1                  | S001744.D   | Rtx-624 0.25 (mm) |
| MB 460-485727/7    |                  | 12/20/2017 09:58 | 1                  | S001747.D   | Rtx-624 0.25 (mm) |
| 460-147014-10      |                  | 12/20/2017 10:21 | 1                  | S001748.D   | Rtx-624 0.25 (mm) |
| ZZZZZ              |                  | 12/20/2017 13:57 | 1                  |             | Rtx-624 0.25 (mm) |
| ZZZZZ              |                  | 12/20/2017 16:21 | 1                  |             | Rtx-624 0.25 (mm) |
| ZZZZZ              |                  | 12/20/2017 16:45 | 1                  |             | Rtx-624 0.25 (mm) |
| ZZZZZ              |                  | 12/20/2017 17:09 | 1                  |             | Rtx-624 0.25 (mm) |
| 460-147014-11      |                  | 12/20/2017 17:33 | 1                  | S001766.D   | Rtx-624 0.25 (mm) |
| ZZZZZ              |                  | 12/20/2017 17:57 | 1                  |             | Rtx-624 0.25 (mm) |

## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Batch Number: 484411 Batch Start Date: 12/15/17 04:11 Batch Analyst: Tupayachi, AudbertoBatch Method: 8260C SIM Batch End Date: \_\_\_\_\_

| Lab Sample ID      | Client Sample ID     | Method Chain | Basis | InitialAmount | FinalAmount | BFB 00015 | SIMDIOX50 00015 | SimissurNEW 00010 | VMMIX1SIM 00104 |
|--------------------|----------------------|--------------|-------|---------------|-------------|-----------|-----------------|-------------------|-----------------|
| BFB 460-484411/1   |                      | 8260C SIM    |       | 10 mL         | 10 mL       | 1 uL      |                 |                   |                 |
| CCVIS 460-484411/2 |                      | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL              | 1 uL            |
| LCS 460-484411/3   |                      | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL              | 1 uL            |
| LCSD 460-484411/4  |                      | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL              | 1 uL            |
| MB 460-484411/7    |                      | 8260C SIM    |       | 10 mL         | 10 mL       |           |                 | 2 uL              |                 |
| 460-147014-B-1     | Trip Blank 12-12-17  | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL              |                 |
| 460-147014-B-2     | Field Blank 12-12-17 | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL              |                 |
| 460-147014-B-3     | MW-6S                | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL              |                 |
| 460-147014-B-4     | MW-6I                | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL              |                 |
| 460-147014-B-6     | MW-10I               | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL              |                 |
| 460-147014-B-7     | MW-1I                | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL              |                 |
| 460-147014-B-8     | MW-1S                | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL              |                 |

| Batch Notes |  |
|-------------|--|
|             |  |
|             |  |

| 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.

8260C SIM

Page 1 of 1

## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Batch Number: 485055 Batch Start Date: 12/18/17 04:07 Batch Analyst: Collado, Ximena XBatch Method: 8260C SIM Batch End Date: \_\_\_\_\_

| Lab Sample ID         | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | BFB 00015 | SIMDIOX50 00015 | SimissurNEW<br>00010 | VMMIX1SIM 00104 |
|-----------------------|------------------|--------------|-------|---------------|-------------|-----------|-----------------|----------------------|-----------------|
| BFB<br>460-485055/1   |                  | 8260C SIM    |       | 10 mL         | 10 mL       | 1 uL      |                 |                      |                 |
| CCVIS<br>460-485055/2 |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL                 | 1 uL            |
| LCS<br>460-485055/3   |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL                 | 1 uL            |
| LCSD<br>460-485055/4  |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL                 | 1 uL            |
| MB 460-485055/7       |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           |                 | 2 uL                 |                 |
| 460-147014-B-5        | MW-10S           | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL                 |                 |

| Batch Notes |  |
|-------------|--|
|             |  |
|             |  |

| 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.

8260C SIM

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## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Batch Number: 485226 Batch Start Date: 12/18/17 16:29 Batch Analyst: Collado, Ximena XBatch Method: 8260C SIM Batch End Date: \_\_\_\_\_

| Lab Sample ID         | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | BFB 00015 | SIMDIOX50 00015 | SimissurNEW<br>00010 | VMMIX1SIM 00104 |
|-----------------------|------------------|--------------|-------|---------------|-------------|-----------|-----------------|----------------------|-----------------|
| BFB<br>460-485226/1   |                  | 8260C SIM    |       | 10 mL         | 10 mL       | 1 uL      |                 |                      |                 |
| CCVIS<br>460-485226/2 |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL                 | 1 uL            |
| LCS<br>460-485226/3   |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL                 | 1 uL            |
| LCSD<br>460-485226/4  |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL                 | 1 uL            |
| MB 460-485226/7       |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           |                 | 2 uL                 |                 |
| 460-147014-B-12       | MW-X             | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL                 |                 |
| 460-147014-B-9        | MW-9D            | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL                 |                 |

| Batch Notes |  |
|-------------|--|
|             |  |
|             |  |

| 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 VOA BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-147014-1

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

Batch Number: 485727 Batch Start Date: 12/20/17 07:23 Batch Analyst: Desai, SaurabBatch Method: 8260C SIM Batch End Date: \_\_\_\_\_

| Lab Sample ID         | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | BFB 00016 | SIMDIOX50 00015 | SimissurNEW<br>00011 | VMMIX1SIM 00104 |
|-----------------------|------------------|--------------|-------|---------------|-------------|-----------|-----------------|----------------------|-----------------|
| BFB<br>460-485727/1   |                  | 8260C SIM    |       | 10 mL         | 10 mL       | 1 uL      |                 |                      |                 |
| CCVIS<br>460-485727/2 |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL                 | 1 uL            |
| LCS<br>460-485727/3   |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL                 | 1 uL            |
| LCSD<br>460-485727/4  |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           | 20 uL           | 2 uL                 | 1 uL            |
| MB 460-485727/7       |                  | 8260C SIM    |       | 10 mL         | 10 mL       |           |                 | 2 uL                 |                 |
| 460-147014-B-10       | MW-9S            | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL                 |                 |
| 460-147014-B-11       | MW-9I            | 8260C SIM    | T     | 10 mL         | 10 mL       |           |                 | 2 uL                 |                 |

| Batch Notes |  |
|-------------|--|
|             |  |
|             |  |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

# Shipping and Receiving Documents

777 New Durham Road  
Edison, New Jersey 08817  
Phone: (732) 549-2900 Fax: (732) 549-3679

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## Water Metals Filtered (Yes/No)?

TAL - 0016 (0715)

Laboratory Certifications: New Jersey (12028), New  
Massachusetts (M-NJ312) North Carolina (No. 578)

# TestAmerica

777 New Durham Road  
Edison, New Jersey 08817  
Phone: (732) 549-3900 Fax: (732) 549-3679

THE LEADER IN ENVIRONMENTAL TESTING

## CHAIN OF CUSTODY / ANALYSIS REQUEST

Page 2 of 2

|                                                                                                                                  |                  |                                                                                                                                                                                             |        |                                                                                                                                |                |
|----------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------|----------------|
| Name (for report and invoice)                                                                                                    |                  | Samplers Name (Printed)                                                                                                                                                                     |        | Site/Project Identification                                                                                                    |                |
| Jennifer Lawrence<br>Company Environmental<br>adoption & remediation                                                             |                  | ME SB                                                                                                                                                                                       |        | dec - townham 3801                                                                                                             |                |
| Address                                                                                                                          |                  | P.O. #                                                                                                                                                                                      |        | State (Location of site): NJ: <input type="checkbox"/> NY: <input checked="" type="checkbox"/> Other: <input type="checkbox"/> |                |
| 325 Atlantic ave                                                                                                                 |                  | Full # 17-03865                                                                                                                                                                             |        | Regulatory Program: NY dec - Reg 1                                                                                             |                |
| City                                                                                                                             | State            | Analysis Turnaround Time                                                                                                                                                                    |        | LAB USE ONLY                                                                                                                   |                |
| Patchogue                                                                                                                        | NY               | Standard <input checked="" type="checkbox"/> 30 day<br>Rush Charges Authorized For:<br>2 Week <input type="checkbox"/><br>1 Week <input type="checkbox"/><br>Other <input type="checkbox"/> |        | Project No:                                                                                                                    |                |
| Phone 631-447-6400                                                                                                               | Fax 631-447-6497 | ANALYSIS REQUESTED (ENTER X BELOW TO INDICATE REQUEST)                                                                                                                                      |        | Job No:<br>147014                                                                                                              |                |
| Sample Identification                                                                                                            | Date             | Time                                                                                                                                                                                        | Matrix | No. of Cont.                                                                                                                   | Sample Numbers |
| MW-9I                                                                                                                            | 12/12/17         | 16:00                                                                                                                                                                                       | AQ     | 3                                                                                                                              | 11             |
| MW-X                                                                                                                             | 12/12/17         | 16:00                                                                                                                                                                                       | AQ     | 3                                                                                                                              | 12             |
| Preservation Used: 1 = ICE, 2 = HCl, 3 = H <sub>2</sub> SO <sub>4</sub> , 4 = HNO <sub>3</sub> , 5 = NaOH<br>Soil: 2<br>Water: 2 |                  |                                                                                                                                                                                             |        |                                                                                                                                |                |

### Special Instructions category B deliverables requested

Water Metals Filtered (Yes/No)?

|                     |         |                |                     |                    |
|---------------------|---------|----------------|---------------------|--------------------|
| Relinquished by     | Company | Date / Time    | Received by         | Company            |
| Jason Brown         | E.A.R   | 12/12/17 17:20 | 1) E.A.R garage     | EAL                |
| Relinquished by     | Company | Date / Time    | Received by         | Company            |
| EAH EAL             | EAL     | 12-13-17 11:05 | William A. Voloshin | EAL                |
| Relinquished by     | Company | Date / Time    | Received by         | Company            |
| William A. Voloshin | EAL     | 12-13-17 11:05 | 3) JSD              | Company            |
| Relinquished by     | Company | Date / Time    | Received by         | Company            |
| Jason               | TA      | 12/13/17 2:10  | 4) Jason Douglas    | TH Edison 12/13/17 |

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0715)

IR # 9 4.5°C

147014



| BANK 1     |       | CONNECTED |  | BANK 2 |  | CONNECTED |  |
|------------|-------|-----------|--|--------|--|-----------|--|
| Cooler #1: | 45 °C | 45 °C     |  |        |  |           |  |
| Cooler #2: | °C    | °C        |  |        |  |           |  |
| Cooler #3: | °C    | °C        |  |        |  |           |  |
| Cooler #4: | °C    | °C        |  |        |  |           |  |
| Cooler #5: | °C    | °C        |  |        |  |           |  |
| Cooler #6: | °C    | °C        |  |        |  |           |  |
| Cooler #7: | °C    | °C        |  |        |  |           |  |
| Cooler #8: | °C    | °C        |  |        |  |           |  |
| Cooler #9: | °C    | °C        |  |        |  |           |  |

[illegible]

Date: 12/13/17

## Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 460-147014-1

**Login Number: 147014**  
**List Number: 1**  
**Creator: Rivera, Kenneth**

**List Source: TestAmerica Edison**

| Question                                                                                 | Answer | Comment |
|------------------------------------------------------------------------------------------|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.                                        | True   |         |
| Sample custody seals, if present, are intact.                                            | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.                                                            | True   |         |
| Cooler Temperature is acceptable.                                                        | True   |         |
| Cooler Temperature is recorded.                                                          | True   |         |
| COC is present.                                                                          | True   |         |
| COC is filled out in ink and legible.                                                    | True   |         |
| COC is filled out with all pertinent information.                                        | True   |         |
| Is the Field Sampler's name present on COC?                                              | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.                                                   | True   |         |
| Containers are not broken or leaking.                                                    | True   |         |
| Sample collection date/times are provided.                                               | True   |         |
| Appropriate sample containers are used.                                                  | True   |         |
| Sample bottles are completely filled.                                                    | True   |         |
| Sample Preservation Verified.                                                            | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.                                                     | True   |         |
| Samples do not require splitting or compositing.                                         | True   |         |
| Residual Chlorine Checked.                                                               | N/A    |         |