



**Groundwater Sample Results,
Level 4 Laboratory Report, Electronic Data
Deliverable, Data Validation Report, Sample Location
Report, SDG 20-1519**

NRL

Chesapeake Bay Detachment, MD

October 2021

**CTO-4532: NRL Chesapeake Bay Detachment
(NRL-CBD) Site 10**

Project No 100142218

PFAS by DoD QSM 5.3 Table B-15

AQ, GW

Batch 20-1519

Package DP-20-1395

Submitted to:

CH2M

5701 Cleveland Street

Virginia Beach, VA 23462 USA

Submitted by:

Battelle Norwell Operations
141 Longwater Drive Suite 202
Norwell, MA 02061

BATTELLE

It can be done

**CTO-4532: NRL Chesapeake Bay Detachment
(NRL-CBD) Site 10
Project No 100142218
PFAS by DoD QSM 5.3 Table B-15
AQ, GW
Batch 20-1519
Package DP-20-1395**

Submitted to:
CH2M
5701 Cleveland Street
Virginia Beach, VA 23462 USA

NELAP Accreditation Number: E87856 (Florida Department of Health)

Submitted by:
Battelle Norwell Operations
141 Longwater Drive Suite 202
Norwell, MA 02061

| | | |
|---------------------------|---|--|
| Analyst Approval: |  | Digitally signed by Denise Schumitz Date: 2020.11.30 09:19:52 -05'00' |
| QC Chemist Approval: |  | Digitally signed by Carla Devine Date: 2020.12.01 09:54:48 -05'00' |
| Project Manager Approval: |  | Digitally signed by Jonathan Thorn Date: 2020.12.01 10:05:40 -05'00' |

BATTELLE
It can be done

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No 100142218

PFAS by DoD QSM 5.3 Table B-15

AQ, GW

Batch 20-1519


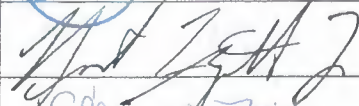






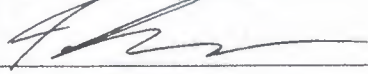



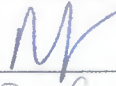

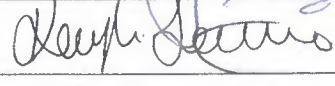
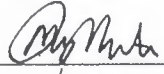
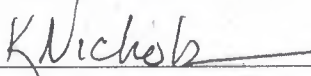

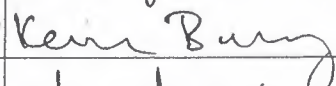
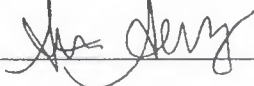
Package DP-20-1395

| | | |
|----------|---|------------|
| 1 | <i>Work Plan</i> Laboratory Work Plan, Addendums To Work Plan, Memos From Project Manager, Special Instructions, Chain-of-Custody Reports. | 1 |
| 2 | <i>Tables</i> Analytical Data Tables, Qualifier Definitions. | 20 |
| 3 | <i>Miscellaneous Documentation</i> Case Narrative, Miscellaneous Documentation Form, Quality Control Summary, Example Calculations, Internal Standard Recovery Report, Retention Time Window Report. | 42 |
| 4 | <i>Sample Preparation Records</i> Sample Preparation Records, Dilution Worksheets, Standard Preparation Records, Certificates Of Analysis, GPC Check Report. | 184 |
| 5 | <i>Analytical Calibrations</i> Analytical Sequence, Analytical Method, Tune Report, Initial Calibration, Pesticide Degradation Report, RF Summary, Calibration Verifications, Independent Calibration Verification Check. | 198 |
| 6 | <i>Analytical Data</i> Raw Data Quantification Reports. | 276 |
| 7 | <i>Chromatograms</i> Sample And Standard Chromatograms. | 297 |
| 8 | <i>Unused Data</i> | 355 |

BATTELLE

It can be done

Master Signature Page

| Name (Printed) | Signature | Initials | Date |
|---------------------|---|----------|------------|
| Jonathan Thom |  | JRT | 1/9/2020 |
| Robert Lizotte, Jr. |  | BL | 1.9.2020 |
| Elynn M. Fitch |  | EF | 1/9/2020 |
| Carla Devine |  | CRD | 1/9/2020 |
| Dennis Schumitz |  | DS | 1/9/2020 |
| Lauren Griffith |  | LMG | 1.9.2020 |
| Carrie P. McLarthy |  | CPM | 1/9/2020 |
| Rich Restucci |  | RR | 1/9/2020 |
| Sam Guimaraes |  | SAG | 1/9/2020 |
| Jordan Tower |  | JUT | 1/9/2020 |
| Christie Usher |  | CU | 1/9/2020 |
| Kevin McInerney |  | KM | 1/14/2020 |
| Matt Schumitz |  | MDS | 1/14/2020 |
| Weidong Li |  | W.L | 1/14/2020 |
| Kayla Lamarre |  | KAL | 1/14/2020 |
| MUNAZ MUNTASIR |  | MM | 01/14/2020 |
| Kristen Nichols |  | KN | 01/14/2020 |
| Kelsey Harnden |  | KH | 01/30/2020 |
| Kevin Bailey |  | KB | 1/30/2020 |
| Stephanie Schultz |  | SAS | 1/30/2020 |

Master Signature Page

| Name (Printed) | Signature | Initials | Date |
|--------------------|-----------|----------|------------|
| Uimileo Brown | | UB | 01/30/20 |
| Ryan Kelly | | RK | 01/30/20 |
| KAREN HYPPOLITE | | K.H. | 01/31/20 |
| Gail DeRuzzo | | GD | 01/31/2020 |
| Tracy Stenner | | JS | 1/31/2020 |
| Ashley Wellington | | AW | 1/31/2020 |
| Daniel Cooney | | DAC | 1/31/2020 |
| Peter Demers | | PD | 1/31/2020 |
| Zachary Willenberg | | ZW | 2/3/2020 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Sample Summary

Client: CH2M
SDG: 20-1519
Project/Site: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
CTO: 4532

| Lab Sample ID | Client Sample ID | Matrix | Collection Date | Receipt Date |
|---------------|---------------------------|--------|-----------------|--------------|
| DB472PB-FS | Procedural Blank | WATER | 11/23/2020 | 11/23/2020 |
| DB473LCS-FS | Laboratory Control Sample | WATER | 11/23/2020 | 11/23/2020 |
| G2203-FS1 | CBD-AOA-MW06-1020 | GW | 10/27/2020 | 10/29/2020 |
| G2205-FS1 | CBD-AOA-MW12-1020 | GW | 10/28/2020 | 10/29/2020 |
| G2206-FS1 | CBD-AOA-MW11-1020 | GW | 10/28/2020 | 10/29/2020 |
| G2207-FS1 | CBD-AOA-MW11P-1020 | GW | 10/28/2020 | 10/29/2020 |
| G2209-FS1 | CBD-AOA-EB01-102820-GW | AQ | 10/28/2020 | 10/29/2020 |
| G2210-FS1 | CBD-AOA-MW14-1020 | GW | 10/28/2020 | 10/29/2020 |

Work Plan



WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title: CTO-4532: PFAS in Water
Project Number: 100142218
Client: CH2M
 2411 Dulles Corner Park
 Suite 500
 Herdon, VA 20171
 USA

Client Contact Information: Michael Zamboni
 Project Chemist
 (703) 376-5301(V)
 NA
 Michael.Zamboni@jacobs.com

Effective Date of QAPP: 10/1/2020
Version Number: 100142218(L)-02
Project Manager: Thorn, Jonathan
Laboratory Task Manager: Thorn, Jonathan
Deliverable Due Date: 10/29/2020

2.0 SCOPE OF WORK

Overview: Analysis of non-potable water for PFAS.
Matrix: Water

2.1 TECHNICAL APPROACH

2.1.1 Sample Receipt, Storage, and Handling

The list of samples for this project plan are presented in Attachment 1.

Storage Directions: Store samples refrigerated prior to extraction.
Sub_Sampling: None
Procedures: NA
Contact: NA
Comment: None.
Archiving: Store excess samples for six months after delivery of final data.
Disposal: Dispose of samples in the appropriate waste stream.



WORK/QUALITY ASSURANCE PROJECT PLAN

2.1.2 Sample Preparation

IDW samples should be batched separately from field samples.

| Samples Expected: | Samples Per Batch: | Batches Expected: |
|-------------------|--------------------|-------------------|
| 51 | 20 | 3 |

Batch quality control samples are defined in Table 1.

Target samples are presented in Attachment 1.

Table 1: Quality Control Samples

| Type: | Description: | Count: | Rgt: | Reference: | Comment: |
|-------|--|-------------|------|------------|---|
| PB | Laboratory control reagent blank. | 1 per batch | -- | NA | |
| LCS | Laboratory Control Sample | 1 per batch | No | NA | |
| MS | Spiked field sample for determining method accuracy in the presence of matrix. | 1 per batch | -- | NA | MS/MSD identified on COC with suffix "-MS" and "-SD". |
| MSD | Spiked field sample for determining method accuracy and precision in the presence of matrix. | 1 per batch | -- | NA | |

2.1.3 Extraction/Preparation

2.1.3.1 Extraction

| | |
|---------------------------|---|
| SOP No.-Rev: | 5-370-11 |
| SOP Title: | <i>Extraction of Poly and Perfluoroalkyl Substances from Environmental Matrices</i> |
| Sample Size: | 250 ml |
| SIS and LCS/MS Compounds: | Defined in Table 2. |
| Deviations: | None |
| Comments: | None |

Table 2: SIS and LCS/MS Spiking Level

| Standard Type | Standard Contents | Spike Amount (ng) | Volume (uL) | Comment |
|---|-------------------|-------------------|-------------|---------|
| PFAS - DoD Low Level Labelled Extracted Internal Standard (SIS) | LC22 SIS | ~ 1.13 - 1.25 ng | 125 uL | NA |



WORK/QUALITY ASSURANCE PROJECT PLAN

| Standard Type | Standard Contents | Spike Amount (ng) | Volume (uL) | Comment |
|--|-------------------|-------------------|-------------|--|
| PFAS - DoD Second Source LCS/MS solution | LD11 LCS/MS | ~ 7.5 ng | 75 uL | Vary spikes 25 (LCS only), 50, 75, 100, 125 µL |

2.1.3.2 Cleanup

None.

RIS spiking levels are presented in Table 3.

Extract PIV (uL): 1000

Table 3: RIS Spiking Level

| Standard Type | Standard Contents | Spike Amount (ng) | Volume (uL) | Comment |
|---|-------------------|-------------------|-------------|---------|
| PFAS - DoD Internal Standard Spiking Solution | LD33 RIS | ~ 1.25 ng | 125 uL | NA |

2.1.4 Instrumental Analysis

The list of analytes along with data quality criteria are presented in Attachment 2.

- 1) SOP_No-Rev: **5-369-08**
- SOP_Title: *Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)*
- Deviations: None.
- Comments: None.

2.2. DELIVERABLES

Deliverables Due: 10/29/2020

LIMS Reports: No

Histograms: No

Excel Tables: No

EICs: No

Chromatograms: No

EDDs: No



WORK/QUALITY ASSURANCE PROJECT PLAN

Comments:

- 28-day TAT for most samples
- Samples marked rush will be 7-day TAT
- LIV validation data packages
- CH2M EDD file

3.0 QUALITY

The Method Quality Objectives are defined in Attachment 3.

4.0 ORGANIZATION AND COMMUNICATION

4.1 ORGANIZATION

The project team is defined in Table 4. Supervisors may make substitutions with Project Manager concurrence.

Table 4: Project Team and Roles

| Staff Member | Role | Comment |
|-----------------------|---------------------------|---------|
| Jonathan R. Thorn | Project Manager | NA |
| Ryan P. Kelly | Sample Preparation | NA |
| Stephanie A. Schultz | LC-MS/MS Analysis | NA |
| Matt D. Schumitz | Sample Custody | NA |
| Carla R. Devine | Quality Control Officer | NA |
| Zachary J. Willenberg | Quality Assurance Officer | NA |

4.2 COMMUNICATION

A kick-off meeting will be held to discuss project scope and goals.

5.0 SCHEDULE

The project schedule is presented in Table 5.

Table 5. Schedule of Laboratory Activities

| Activity: | Start Date: | End Date: | TAT (days): | Comment: |
|------------------------|-------------|------------|-------------|----------|
| Sample Receipt | 10/01/2020 | 10/01/2020 | 0 | NA |
| Sample Preparation | 10/01/2020 | 10/12/2020 | 11 | NA |
| Instrument Analysis | 10/12/2020 | 10/23/2020 | 11 | NA |
| Quality Control Review | 10/23/2020 | 10/27/2020 | 4 | NA |



WORK/QUALITY ASSURANCE PROJECT PLAN

| Activity: | Start Date: | End Date: | TAT (days): | Comment: |
|--------------------------|-------------|------------|----------------|----------|
| Quality Assurance Review | 10/27/2020 | 10/29/2020 | 2 | NA |

6.0 BUDGET

The labor budget for the analytical task is presented in Table 6.

Table 6. Labor Budget (Laboratory Analytical Task)

| Labor Activity: | Hours/ Batch: | Batches: | Total Hours: | Comment: |
|--------------------------|------------------|----------|-----------------|----------|
| Sample Receipt | 4 | 3 | 12 | NA |
| Sample Preparation | 9 | 3 | 27 | NA |
| Instrument Analysis | 10 | 3 | 30 | NA |
| Quality Control Review | 3 | 3 | 9 | NA |
| Quality Assurance Review | 1 | 3 | 3 | NA |

7.0 STAFF DEVELOPMENT

None anticipated.



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: SHP-201005-02
Status: Pending
Description: Site 10 SI
Range: G1071-G1072
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|------------------------|--------------------|---------|-------------------|-----------|-----|-----------|
| 1 | G1071 | CBD-AOA-EB01-100220-SO | 10/02/2020 2:10 pm | AQ | R0119 | (NA) | | |
| 2 | G1072 | CBD-AOA-FB01-100220 | 10/02/2020 2:00 pm | AQ | R0119 | (NA) | | |

Shipment: SHP-201012-02
Status: Pending
Description: Site 10
Range: G1524-G1525
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|------------------------|--------------------|---------|-------------------|-----------|-----|-----------|
| 1 | G1524 | CBD-AOA-FB02-100920 | 10/09/2020 1:00 pm | AQ | R0119 | (NA) | | |
| 2 | G1525 | CBD-AOA-EB02-100920-SO | 10/09/2020 1:10 pm | AQ | R0119 | (NA) | | |

Shipment: SHP-201014-03
Status: Pending
Description: Site 10 SI
Range: G1644-G1668
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|------------------------|---------------------|---------|-------------------|-----------|-----|-----------|
| 1 | G1644 | CBD-AOA-SW07-1020 | 10/13/2020 10:00 am | SW | R0119 | (NA) | | |
| 2 | G1645 | CBD-AOA-SW05-1020 | 10/13/2020 10:20 am | SW | R0119 | (NA) | | |
| 3 | G1646 | CBD-AOA-SW03-1020 | 10/13/2020 10:35 am | SW | R0119 | (NA) | | |
| 4 | G1647 | CBD-AOA-SW04-1020 | 10/13/2020 10:40 am | SW | R0119 | (NA) | | |
| 5 | G1651 | CBD-AOA-SW02-1020 | 10/13/2020 11:30 am | SW | R0119 | (NA) | | |
| 6 | G1652 | CBD-AOA-SW02P-1020 | 10/13/2020 11:35 am | SW | R0119 | (NA) | | |
| 7 | G1654 | CBD-AOA-SW01-1020 | 10/13/2020 12:00 pm | SW | R0119 | (NA) | | |
| 8 | G1655 | CBD-AOA-FB03-101320 | 10/13/2020 12:20 pm | AQ | R0119 | (NA) | | |
| 9 | G1656 | CBD-AOA-EB01-101320-SW | 10/13/2020 12:25 pm | AQ | R0119 | (NA) | | |
| 10 | G1657 | CBD-AOA-EB01-101320-SD | 10/13/2020 12:30 pm | AQ | R0119 | (NA) | | |
| 11 | G1658 | CBD-AOA-SW08-1020 | 10/13/2020 1:00 pm | SW | R0119 | (NA) | | |
| 12 | G1661 | CBD-AOA-SW06-1020 | 10/13/2020 1:25 pm | SW | R0119 | (NA) | | |
| 13 | G1663 | CBD-AOA-SW11-1020 | 10/13/2020 2:00 pm | SW | R0119 | (NA) | | |
| 14 | G1664 | CBD-AOA-SW11P-1020 | 10/13/2020 2:05 pm | SW | R0119 | (NA) | | |
| 15 | G1665 | CBD-AOA-SW10-1020 | 10/13/2020 2:10 pm | SW | R0119 | (NA) | | |
| 16 | G1666 | CBD-AOA-SW10-1020-MS | 10/13/2020 2:10 pm | SW | R0119 | (NA) | | |



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-201014-03
Status: Pending
Description: Site 10 SI
Range: G1644-G1668
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|----------------------|--------------------|---------|-------------------|-----------|-----|-----------|
| 17 | G1667 | CBD-AOA-SW10-1020-SD | 10/13/2020 2:10 pm | SW | R0119 (NA) | | | |
| 18 | G1668 | CBD-AOA-SW09-1020 | 10/13/2020 2:25 pm | SW | R0119 (NA) | | | |

Shipment: SHP-201016-02
Status: Pending
Description: Site 10 SI
Range: G1696-G1702
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|--------------------|---------------------|---------|-------------------|-----------|-----|-----------|
| 1 | G1696 | CBD-HVG-GW10-1020 | 10/14/2020 3:15 pm | GW | R0119 (NA) | | | |
| 2 | G1697 | CBD-HVG-GW09-1020 | 10/14/2020 3:30 pm | GW | R0119 (NA) | | | |
| 3 | G1698 | CBD-EB01-101420-GW | 10/14/2020 3:40 pm | AQ | R0119 (NA) | | | |
| 4 | G1699 | CBD-AOA-MW10-1020 | 10/15/2020 10:25 am | GW | R0119 (NA) | | | |
| 5 | G1700 | CBD-BKG-MW03-1020 | 10/15/2020 2:00 pm | GW | R0119 (NA) | | | |
| 6 | G1701 | CBD-SO4-MW01-1020 | 10/15/2020 3:25 pm | GW | R0119 (NA) | | | |
| 7 | G1702 | CBD-SO4-MW01P-1020 | 10/15/2020 3:30 pm | GW | R0119 (NA) | | | |

Shipment: SHP-201019-01
Status: Pending
Description: Site 10 SI
Range: G1707-G1709
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|-------------------|---------------------|---------|-------------------|-----------|-----|-----------|
| 1 | G1707 | CBD-AOA-MW15-1020 | 10/16/2020 10:40 am | GW | R0119 (NA) | | | |
| 2 | G1708 | CBD-AOA-MW16-1020 | 10/16/2020 12:05 pm | GW | R0119 (NA) | | | MS/MSD |
| 3 | G1709 | CBD-FB04-101620 | 10/16/2020 12:10 pm | AQ | R0119 (NA) | | | |

Shipment: SHP-201020-04
Status: Pending
Description: Site 10 SI
Range: G1765-G1775
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|--------------------|---------------------|---------|-------------------|-----------|-----|-----------|
| 1 | G1765 | CBD-AOA-MW04-1020 | 10/19/2020 10:20 am | GW | R0119 (NA) | | | |
| 2 | G1766 | CBD-AOA-MW01-1020 | 10/19/2020 10:35 am | GW | R0119 (NA) | | | |
| 3 | G1767 | CBD-AOA-MW01P-1020 | 10/19/2020 10:40 am | GW | R0119 (NA) | | | |
| 4 | G1768 | CBD-AOA-MW03-1020 | 10/19/2020 11:35 am | GW | R0119 (NA) | | | |



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-201020-04
Status: Pending
Description: Site 10 SI
Range: G1765-G1775
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|------------------------|---------------------|---------|-------------------|-----------|-----|-----------|
| 5 | G1769 | CBD-AOA-MW08-1020 | 10/19/2020 12:55 pm | GW | R0119 | (NA) | | |
| 6 | G1770 | CBD-AOA-MW08-1020-MS | 10/19/2020 12:55 pm | GW | R0119 | (NA) | | |
| 7 | G1771 | CBD-AOA-MW08-1020-SD | 10/19/2020 12:55 pm | GW | R0119 | (NA) | | |
| 8 | G1772 | CBD-AOA-MW02-1020 | 10/19/2020 1:10 pm | GW | R0119 | (NA) | | |
| 9 | G1773 | CBD-AOA-MW18-1020 | 10/19/2020 2:35 pm | GW | R0119 | (NA) | | |
| 10 | G1774 | CBD-AOA-EB01-101920-GW | 10/19/2020 4:00 pm | AQ | R0119 | (NA) | | |
| 11 | G1775 | CBD-SO3-MW01-1020 | 10/19/2020 3:20 pm | GW | R0119 | (NA) | | |

Shipment: SHP-201022-01
Status: Pending
Description: Site 10 SI
Range: G1794-G1801
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|------------------------|---------------------|---------|-------------------|-----------|-----|--------------------------------|
| 1 | G1794 | CBD-AOA-MW07-1020 | 10/20/2020 3:50 pm | GW | R0118 | (NA) | | |
| 2 | G1795 | CBD-AOA-MW17-1020 | 10/20/2020 3:45 pm | GW | R0118 | (NA) | | |
| 3 | G1796 | CBD-AOA-MW19-1020 | 10/20/2020 1:45 pm | GW | R0118 | (NA) | | |
| 4 | G1797 | CBD-AOA-FB05-102020 | 10/20/2020 12:40 pm | AQ | R0118 | (NA) | | Field Blank - GW this week |
| 5 | G1798 | CBD-AOA-EB01-102020-GW | 10/20/2020 4:20 pm | AQ | R0118 | (NA) | | Equipment Blank - monsoon pump |
| 6 | G1799 | CBD-BKG-MW01-1020 | 10/20/2020 2:20 pm | GW | R0118 | (NA) | | |
| 7 | G1800 | CBD-BKG-MW02-1020 | 10/20/2020 3:25 pm | GW | R0118 | (NA) | | |
| 8 | G1801 | CBD-SO3-MW02-1020 | 10/20/2020 12:00 pm | GW | R0118 | (NA) | | |

Shipment: SHP-201022-02
Status: Pending
Description: Site 10 SI
Range: G1802-G1804
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|------------------------|---------------------|---------|-------------------|-----------|-----|---------------------------|
| 1 | G1802 | CBD-AOA-MW09-1020 | 10/21/2020 9:35 am | GW | R0119 | (NA) | | |
| 2 | G1803 | CBD-AOA-MW05-1020 | 10/21/2020 10:25 am | GW | R0119 | (NA) | | |
| 3 | G1804 | CBD-AOA-EB01-102120-GW | 10/21/2020 10:35 am | AQ | R0119 | (NA) | | Equipment Blank - monsoon |



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-201029-03
Status: Pending
Description: Site 10 SI
Range: G2203-G2212
Comment: NA

| No: | BDO Id: | Client Sample ID: | Collection Date: | Matrix: | Storage Facility: | Location: | No: | Comments: |
|-----|---------|------------------------|---------------------|---------|-------------------|-----------|-----|-----------|
| 1 | G2203 | CBD-AOA-MW06-1020 | 10/27/2020 10:00 am | GW | R0119 | (NA) | | |
| 2 | G2204 | CBD-AOA-EB01-102720-GW | 10/27/2020 10:10 am | AQ | R0119 | (NA) | | |
| 3 | G2205 | CBD-AOA-MW12-1020 | 10/28/2020 1:45 pm | GW | R0119 | (NA) | | |
| 4 | G2206 | CBD-AOA-MW11-1020 | 10/28/2020 3:30 pm | GW | R0119 | (NA) | | |
| 5 | G2207 | CBD-AOA-MW11P-1020 | 10/28/2020 3:35 pm | GW | R0119 | (NA) | | |
| 6 | G2208 | CBD-AOA-FB01-102820 | 10/28/2020 3:55 pm | AQ | R0119 | (NA) | | |
| 7 | G2209 | CBD-AOA-EB01-102820-GW | 10/28/2020 4:40 pm | AQ | R0119 | (NA) | | |
| 8 | G2210 | CBD-AOA-MW14-1020 | 10/28/2020 4:35 pm | GW | R0119 | (NA) | | |
| 9 | G2211 | CBD-AOA-MW13-1020 | 10/28/2020 5:10 pm | GW | R0119 | (NA) | | |
| 10 | G2212 | CBD-AOA-IW01-102820 | 10/28/2020 5:30 pm | AQ | R0119 | (NA) | | |



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

| | |
|--------------------------------|---|
| Project Test Code Name: | Master_369B |
| SOP Reference: | 5-369 - Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS) |
| Description: | PFAS by DoD QSM 5.3 Table B-15 |
| Matrix: | L - Liquid Samples, like water or sea water, prepared and analyzed under the same class of detection limits. |
| Detection Limit Study: | 5-369 |
| Instrument: | LC-MS/MS |
| MQO Criteria | Universal_LC |
| Standard Report: | Standard Result Report |

| Method Specific Reporting | | Holding Times (days) | Data Flags |
|------------------------------|-----------|--------------------------------------|--------------------------------------|
| Result Units: | ng/L | Unit Conversion: (none) | Sample: 14 DL_Flag: U |
| Weight Basis: | LIQUID | Result Format: Fixed Digits | Frozen: 14 RL_Flag: J |
| Standard Basis: | SIS | # of Figures/Digits: 2 | Extract: 28 PB_Flag: B |
| Oil Weight Basis: | No | Oil Weight Source: Oil Weight | DIL_Flag: D |
| U-Value Substitution: | U-Flag=MD | Histograms: No | HT_Flag: T |
| ECD_Reporting: | No | | |

| No: | Analyte: | Report Name: | Type | RIS | SIS | Hidden: | Graph: |
|-----|---|--------------|------|-----|--------------|---------|--------|
| 1 | Perfluoro-n-hexanoic acid | PFHxA | T | | 13C5-PFHxA | No | No |
| 2 | Perfluoro-n-heptanoic Acid | PFHpA | T | | 13C4-PFHpA | No | No |
| 3 | Perfluoro-n-octanoic Acid | PFOA | T | | 13C8-PFOA | No | No |
| 4 | Perfluorononanoic Acid | PFNA | T | | 13C9-PFNA | No | No |
| 5 | Perfluoro-n-decanoic Acid | PFDA | T | | 13C6-PFDA | No | No |
| 6 | Perfluoro-n-undecanoic acid | PFUnA | T | | 13C7-PFUnA | No | No |
| 7 | Perfluoro-n-dodecanoic acid | PFDoA | T | | 13C2-PFDoA | No | No |
| 8 | Perfluoro-n-tridecanoic acid | PFTTrDA | T | | 13C2-PFTeDA | No | No |
| 9 | Perfluoro-n-tetradecanoic acid | PFTeDA | T | | 13C2-PFTeDA | No | No |
| 10 | N-methylperfluoro-1-octanesulfonamidoacetic acid | NMeFOSAA | T | | d3-MeFOSAA | No | No |
| 11 | N-ethylperfluoro-octanesulfonamidoacetic acid | NEtFOSAA | T | | d5-EtFOSAA | No | No |
| 12 | Perfluoro-1-butanefulfonate | PFBS | T | | 13C3-PFBS | No | No |
| 13 | Perfluoro-1-hexanesulfonate | PFHxS | T | | 13C3-PFHxS | No | No |
| 14 | Perfluoro-1-octanesulfonate | PFOS | T | | 13C8-PFOS | No | No |
| 15 | Hexafluoropropylene oxide dimer acid | HFPO-DA | T | | 13C3-HFPO-DA | No | No |
| 16 | Adona | Adona | T | | 13C3-HFPO-DA | No | No |
| 17 | 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | 11Cl-PF3OUdS | T | | 13C3-HFPO-DA | No | No |



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369B

| No: | Analyte: | Report Name: | Type | RIS | SIS | Hidden: | Graph: |
|-----|--|--------------|------|-----------|--------------|---------|--------|
| 18 | 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | 9Cl-PF3ONS | T | | 13C3-HFPO-DA | No | No |
| 1 | 13C5-PFHxA | 13C5-PFHxA | SIS | 13C2-PFOA | | No | No |
| 2 | 13C4-PFHpA | 13C4-PFHpA | SIS | 13C2-PFOA | | No | No |
| 3 | 13C8-PFOA | 13C8-PFOA | SIS | 13C2-PFOA | | No | No |
| 4 | 13C9-PFNA | 13C9-PFNA | SIS | 13C2-PFOA | | No | No |
| 5 | 13C6-PFDA | 13C6-PFDA | SIS | 13C2-PFDA | | No | No |
| 6 | 13C7-PFUnA | 13C7-PFUnA | SIS | 13C2-PFDA | | No | No |
| 7 | 13C2-PFDoA | 13C2-PFDoA | SIS | 13C2-PFDA | | No | No |
| 8 | 13C2-PFTeDA | 13C2-PFTeDA | SIS | 13C2-PFDA | | No | No |
| 9 | d3-MeFOSAA | d3-MeFOSAA | SIS | 13C4-PFOS | | No | No |
| 10 | d5-EtFOSAA | d5-EtFOSAA | SIS | 13C4-PFOS | | No | No |
| 11 | 13C3-PFBS | 13C3-PFBS | SIS | 13C4-PFOS | | No | No |
| 12 | 13C3-PFHxS | 13C3-PFHxS | SIS | 13C4-PFOS | | No | No |
| 13 | 13C8-PFOS | 13C8-PFOS | SIS | 13C4-PFOS | | No | No |
| 14 | 13C3-HFPO-DA | 13C3-HFPO-DA | SIS | 13C2-PFOA | | No | No |

Total Analytes: 32

Subtract Peaks:

None

Sum Peaks:

None



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369B

ICAL Acceptance Criteria:

| Curve Fit: | Limit Mean(%): | Mean Qual: | Limit Ind.: | Ind. Qual: | Min Points: | Points Qual: | Comments: |
|------------|-------------------|---------------|----------------|---------------|----------------|-----------------|------------------------------|
| Linear | NA | NA | 0.99 | N | 5 | N | y = Bx + C |
| Quadratic | NA | NA | 0.99 | N | 6 | N | y = Ax ² + Bx + C |

Continuing Calibration Verification Criteria:

CCV Name: 5-369

| Frequency Hrs: | Mean PD(%): | Individual PD(%): | RIS/SIS RT Window (min): | Area Limit Low(%): | Area Limit High(%): | Comment: |
|-------------------|----------------|----------------------|-----------------------------|-----------------------|------------------------|----------|
| 12 (N) | 30 (N) | 30 (N) | 0.04 (N) | -50 | 100 (N) | NA |

Independent Calibration Verification:

ICC Name: 5-369

| Mean PD Limit(%): | Ind. PD Limit(%): | RIS/SIS Window Limit (Secs): | Area Limit High(%): | Area Limit Low(%): | Comment: |
|----------------------|----------------------|---------------------------------|------------------------|-----------------------|----------|
| 30 (N) | 30 (N) | 0.04 (N) | -50 | 100 (N) | NA |

Mass Discrimination Criteria:

None

Degradation Check Criteria:

None



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

| MQO Application: <i>Universal_LC</i> | | | |
|--|---|--------------|--|
| MQO: | Acceptance Criteria: | Qual: | Corrective Action: |
| Procedural Blank | Samples must be greater than five times the blank concentration (>5xPB). | B | Review with Project Manager; re-analyze or justify results in project records. |
| PB Measurement Quality Objective | Organic results in the Procedural Blank are less than 1/2 times the LOQ (<1/2xLOQ) | N | Review with Project Manager; re-analyze or justify results in project records. |
| Laboratory Control Sample | Recovery values 70-130%. | N | Review with project manager; re-analyze or justify reporting the results in project records. |
| Matrix Spike / Matrix Spike Duplicate Recovery | Organics 70-130%. Analyte concentration in MS/MSD must be greater than five times reported background concentration. | N | Review with Project Manager; re-analyze or justify reporting results in the project records. |
| | Organics Results in the Target is less than 5 times the Original | n | |
| Matrix Spike/Spike Duplicate Precision | Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration in MS/MSD must be greater than five times reported background concentration. | N | Review with Project Manager; re-analyze or justify reporting results in the project records. |
| | Organics Results in the Target is less than 5 times the Original | n | |
| Standard Reference Material Accuracy | Organics Percent Difference less than 30% from a range of certified values on average. Analyte concentration must be greater than five times the Method Detection Limit (>5xMDL). | N | Review with Project Manager; re-analyze or justify reporting results in the project records. |
| | Organics Results in the Target is less than 5 times the MDL | n | |
| Analytical Duplicate Precision | Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration must be > 5x MDL. | N | Review with Project Manager; re-analyze or justify reporting results in the project records. |
| | Organics Results in the Original is less than 5 times the MDL | n | |



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

| MQO Application: | <i>Universal_LC</i> | | |
|--|--|--------------|--|
| MQO: | Acceptance Criteria: | Qual: | Corrective Action: |
| Analytical Triplicate Precision | Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL. Organics Results in the Original is less than 5 times the MDL | N n | Review with Project Manager; re-analyze or justify reporting results in the project records. |
| Surrogate Compound Recovery | Recovery results between 50% and 150%. | N | Review with Project Manager; re-analyze or justify reporting results in the project records. |
| Control Oil | RPD < 30% for at least 90% of analytes | N | Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented. |
| Instrument Calibration | 5-369-8: R-squared greater than or equal to 0.990 | | Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented. |
| Independent Calibration Check Solution | 5-369-8: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%. | N | Review with Project Manager; re-analyze or justify in project records. |
| Continuing Calibration Verification | 5-369-8: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%. | N | Review with Project Manager; re-analyze or justify in project records. |



It can be done

ShpNo SHP-201029-03

Battelle Project No: 100142218

Sample Receipt Form

Approved: [] Authorized []

Project Number: 708207CH Client: Jacobs
Received by: Schumitz, Matt Date/Time Received: Thursday, October 29, 2020 10:00 AM
No. of Shipping Containers: 1

SHIPMENT

Method of Delivery: Commercial Carrier Tracking Number: Fed Ex
COC Forms: [x] Shipped with samples [] No Forms

Cooler(s)/Box(es)

Table with 9 columns: Cntr, Type, Tracking No., Seal, Seal, Container, Therm, Temp C, Smps. Row 1: 1 of 1, Cooler, 7718 9536 2077, Custody Seals, Intact, Intact, Therm_1, 1.5, 11

Samples

Sample Labels: [x] Sample labels agree with COC forms [] Discrepancies (see Sample Custody Corrective Action Form)
Container Seals: [] Tape [] Custody Seals [] Other Seals (See sample Log) [x] Seals intact for each shipping container [] Seals broken (See sample log for impacted samples)
Condition of Samples: [x] Sample containers intact [] Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): 1.5 Temperature Blank used [x] Yes [] No
(Note: If temperature upon receipt differs from required conditions, see sample log comment field)

Samples Acidified: [] Yes [] No [x] Unknown

Initial pH 5-9?: [] Yes [] No [x] NA
If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: [] Yes [] No [x] NA
If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: [] Yes [] No [x] NA
Individual sample deviations noted on sample log

Samples Containers:
Samples returned in PC-grade jars: [] Yes [] No [x] Unknown /Lot No.: Unknown

Storage Location: Custody: Refrigerator - R0119 (NA) BDO IDs Assigned: G2203 - G2213

Samples logged in by: Schumitz, Matt Date/Time: 10/29/2020 10:00 AM

Approved By: Approved On:

Authorized By: Authorized On:



It can be done

ShpNo SHP-201029-03

Battelle Project No: 100142218

Sample Receipt Form Details

Approved: Authorized

Project Number: 708207CH Client: Jacobs

Received by: Schumitz, Matt Date/Time Received: Thursday, October 29, 2020 10:00 AM

No. of Shipping Containers: 1

| BDO Id: | Client Sample ID: | Collection Date: | Login Date: | Ctrs: | Matrix: | Temp: | pH: | TRC: | VOC: | Stored In: | Loc: | No: | Comments: |
|---------|------------------------|------------------|----------------|-------|---------|-------|-----|------|------|------------|------|-----|-----------|
| G2203 | CBD-AOA-MW06-1020 | 10/27/20 10:00 | 10/29/20 10:52 | 2 | GW | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2204 | CBD-AOA-EB01-102720-GW | 10/27/20 10:10 | 10/29/20 10:52 | 2 | AQ | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2205 | CBD-AOA-MW12-1020 | 10/28/20 13:45 | 10/29/20 10:52 | 2 | GW | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2206 | CBD-AOA-MW11-1020 | 10/28/20 15:30 | 10/29/20 10:53 | 2 | GW | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2207 | CBD-AOA-MW11P-1020 | 10/28/20 15:35 | 10/29/20 10:53 | 2 | GW | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2208 | CBD-AOA-FB01-102820 | 10/28/20 15:55 | 10/29/20 10:53 | 2 | AQ | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2209 | CBD-AOA-EB01-102820-GW | 10/28/20 16:40 | 10/29/20 10:53 | 2 | AQ | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2210 | CBD-AOA-MW14-1020 | 10/28/20 16:35 | 10/29/20 10:54 | 2 | GW | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2211 | CBD-AOA-MW13-1020 | 10/28/20 17:10 | 10/29/20 10:54 | 2 | GW | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2212 | CBD-AOA-IW01-102820 | 10/28/20 17:30 | 10/29/20 10:54 | 2 | AQ | 1.5 | NA | NA | NA | R0119 (NA) | | | |
| G2213 | CBD-AOA-IS01-102820 | 10/28/20 17:35 | 10/29/20 10:55 | 1 | SO | 1.5 | NA | NA | NA | R0119 (NA) | | | |

Total Samples: 11



Chain-of-Custody

| Client Contact Information Mike Zamboni Michael.Zamboni@jacobs.com CH2M/JACOBS | | Project Manager: Sampler Information (print name) <i>Caitlin Dronfield</i> Phone: Email: <i>caitlin.dronfield@jacobs.com</i> Turnaround Time (TAT) Requested: | | Sampling Site: <i>Site 10 (FTA)</i> | | | Site Information: <i>NRL-CBD</i> | | | | |
|--|-----------------|--|----------------|--|----------|--|---|---------------------|---|---------------------------------|--|
| Project Name: <i>Site 10 SI</i> Project No.: <i>708207CH</i> | | Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> | | Preservative: <i>None</i> | | | COC # | | | | |
| Sample Identification | | Time Zone: <i>ET</i> | | Analysis: <i>PPAS</i> | | | Page# <i>1 of 1</i> | | | | |
| Sample Date | Sample Time | Sample Type | Matrix | Total # of Cont. | | | | | | | |
| <i>CBD-AAA-MW06-1020</i> | <i>10/27/20</i> | <i>1000</i> | <i>Grab GW</i> | <i>2</i> | <i>X</i> | | <i>62203</i> | | | | |
| <i>CBD-AAA-EB01-102720-GW</i> | <i>10/27/20</i> | <i>1010</i> | <i>" " AQ</i> | <i>2</i> | <i>X</i> | | <i>04</i> | | <i>Equipment Blank - monsoon pump</i> | | |
| <i>CBD-AAA-MW12-1020</i> | <i>10/28/20</i> | <i>1345</i> | <i>" " GW</i> | <i>2</i> | <i>X</i> | | <i>05</i> | | | | |
| <i>CBD-AAA-MW11-1020</i> | | <i>1530</i> | <i>" " GW</i> | <i>2</i> | <i>X</i> | | <i>06</i> | | | | |
| <i>CBD-AAA-MW11P-1020</i> | | <i>1535</i> | <i>" " GW</i> | <i>2</i> | <i>X</i> | | <i>07</i> | | <i>Duplicate</i> | | |
| <i>CBD-AAA-FB01-102820</i> | | <i>1555</i> | <i>" " AQ</i> | <i>2</i> | <i>X</i> | | <i>08</i> | | <i>Field Blank</i> | | |
| <i>CBD-AAA-EB01-102820-GW</i> | | <i>1640</i> | <i>" " AQ</i> | <i>2</i> | <i>X</i> | | <i>09</i> | | <i>Equipment blank - water via pump</i> | | |
| <i>CBD-AAA-MW14-1020</i> | | <i>1635</i> | <i>" " GW</i> | <i>2</i> | <i>X</i> | | <i>10</i> | | | | |
| <i>CBD-AAA-MW13-1020</i> | | <i>1710</i> | <i>" " GW</i> | <i>2</i> | <i>X</i> | | <i>11</i> | | | | |
| <i>CBD-AAA-IW01-102820</i> | <i>10/28/20</i> | <i>1730</i> | <i>Comp AQ</i> | <i>2</i> | <i>X</i> | | <i>12</i> | | <i>IDW sample - water</i> | | |
| <i>CBD-AAA-IS01-10280</i> | <i>10/28/20</i> | <i>1735</i> | <i>Comp SO</i> | <i>2</i> | <i>X</i> | | <i>62213</i> | | <i>IDW sample - soil</i> | | |
| Receipt Temperature: (°C) | | Samples Intact: Yes - No | | Samples on Ice: Yes - No | | | Receipt Comments: | | | | |
| Relinquished by (Print/Sign): <i>Caitlin Dronfield</i> | | Company: <i>CH2M/JACOBS</i> | | Date/Time: <i>10/28/20 1900</i> | | Received by (Print/Sign): <i>[Signature]</i> | | Company: <i>BNO</i> | | Date/Time: <i>10.29.20 1000</i> | |
| Relinquished by (Print/Sign): | | Company: | | Date/Time: | | Received by (Print/Sign): | | Company: | | Date/Time: | |
| Relinquished by (Print/Sign): | | Company: | | Date/Time: | | Received by (Print/Sign): | | Company: | | Date/Time: | |
| Comments: | | | | | | | | | | | |

ORIGIN ID:BCBA (703) 376-5000
CAITLIN DRONFIELD
CAITLIN DRONFIELD
2411 DULLES CORNER PARK
SUITE 500
HERNDON, VA 20171
UNITED STATES US

SHIP DATE: 26OCT20
ACTWGT: 50.00 LB
CAD: 103931050/INET4280
DIMS: 16x24x18 IN
BILL THIRD PARTY

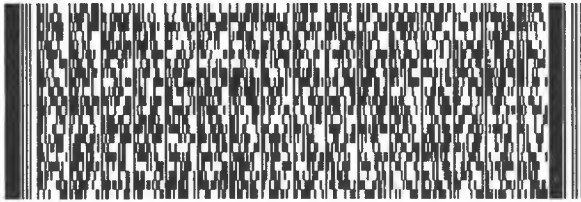
TO **ATTN: SAMPLE RECEIVING
BATTELLE
141 LONGWATER DRIVE
SUITE 202
NORWELL MA 02061**

(781) 681-5565
INV:
PO:

REF: 706207CH.FLFS

DEPT:

56B,2/A27E/B766

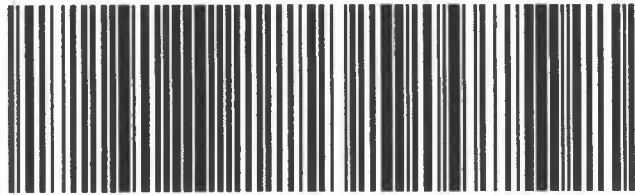


TUE - 27 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 7718 9536 2077
0201

EM XPUA

02061
MA-US BOS



*Thermal
1.50*

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Data Tables



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW06-1020

Battelle ID G2203-FS1
 Sample Type SA
 Collection Date 10/27/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.270
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|--------------|-------------|---------------|--------------|-------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 2.28 JT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.488 | 1.39 | 4.63 |
| PFHpA | 375-85-9 | 1.86 JT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.244 | 0.926 | 4.63 |
| PFOA | 335-67-1 | 55.5 T | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.473 | 1.39 | 4.63 |
| PFNA | 375-95-1 | 0.367 JT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.286 | 0.926 | 4.63 |
| PFDA | 335-76-2 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.131 | 0.463 | 4.63 |
| PFUnA | 2058-94-8 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.203 | 0.463 | 4.63 |
| PFDoA | 307-55-1 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.178 | 0.463 | 4.63 |
| PFTTrDA | 72629-94-8 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.143 | 0.463 | 4.63 |
| PFTeDA | 376-06-7 | 1.85 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.679 | 1.85 | 4.63 |
| NMeFOSAA | 2355-31-9 | 0.926 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.324 | 0.926 | 4.63 |
| NEtFOSAA | 2991-50-6 | 0.926 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.463 | 0.926 | 4.63 |
| PFBS | 375-73-5 | 1.45 JT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.133 | 0.463 | 4.63 |
| PFHxS | 355-46-4 | 13.4 T | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.104 | 0.370 | 4.63 |
| PFOS | 1763-23-1 | 7.48 T | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.405 | 0.926 | 4.63 |
| HFPO-DA | 13252-13-6 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.230 | 0.463 | 4.63 |
| Adona | 919005-14-4 | 0.926 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.245 | 0.926 | 4.63 |
| 9CI-PF3ONS | 756426-58-1 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.248 | 0.463 | 4.63 |
| 11CI-PF3OUdS | 763051-92-9 | 0.926 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.214 | 0.926 | 4.63 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW06-1020

 Battelle ID G2203-FS1
 Sample Type SA
 Collection Date 10/27/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

| <i>Surrogate Recoveries (%)</i> | Recovery | Extract ID | Analysis Date |
|--|-----------------|-------------------|----------------------|
| 13C5-PFHxA | 66 | G2203-FS1(0) | 11/25/2020 |
| 13C4-PFHpA | 79 | G2203-FS1(0) | 11/25/2020 |
| 13C8-PFOA | 88 | G2203-FS1(0) | 11/25/2020 |
| 13C9-PFNA | 88 | G2203-FS1(0) | 11/25/2020 |
| 13C6-PFDA | 98 | G2203-FS1(0) | 11/25/2020 |
| 13C7-PFUnA | 85 | G2203-FS1(0) | 11/25/2020 |
| 13C2-PFDoA | 66 | G2203-FS1(0) | 11/25/2020 |
| 13C2-PFTeDA | 27 N | G2203-FS1(0) | 11/25/2020 |
| d3-MeFOSAA | 101 | G2203-FS1(0) | 11/25/2020 |
| d5-EtFOSAA | 106 | G2203-FS1(0) | 11/25/2020 |
| 13C3-PFBS | 94 | G2203-FS1(0) | 11/25/2020 |
| 13C3-PFHxS | 108 | G2203-FS1(0) | 11/25/2020 |
| 13C8-PFOS | 97 | G2203-FS1(0) | 11/25/2020 |
| 13C3-HFPO-DA | 89 | G2203-FS1(0) | 11/25/2020 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW12-1020

Battelle ID G2205-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.265
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|--------------|-------------|---------------|--------------|-------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 1.01 JT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.497 | 1.42 | 4.72 |
| PFHpA | 375-85-9 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.248 | 0.943 | 4.72 |
| PFOA | 335-67-1 | 1.42 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.482 | 1.42 | 4.72 |
| PFNA | 375-95-1 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.292 | 0.943 | 4.72 |
| PFDA | 335-76-2 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.134 | 0.472 | 4.72 |
| PFUnA | 2058-94-8 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.207 | 0.472 | 4.72 |
| PFDoA | 307-55-1 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.181 | 0.472 | 4.72 |
| PFTTrDA | 72629-94-8 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.145 | 0.472 | 4.72 |
| PFTeDA | 376-06-7 | 1.89 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.692 | 1.89 | 4.72 |
| NMeFOSAA | 2355-31-9 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.330 | 0.943 | 4.72 |
| NEtFOSAA | 2991-50-6 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.472 | 0.943 | 4.72 |
| PFBS | 375-73-5 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.136 | 0.472 | 4.72 |
| PFHxS | 355-46-4 | 0.226 JT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.106 | 0.377 | 4.72 |
| PFOS | 1763-23-1 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.412 | 0.943 | 4.72 |
| HFPO-DA | 13252-13-6 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.234 | 0.472 | 4.72 |
| Adona | 919005-14-4 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.250 | 0.943 | 4.72 |
| 9CI-PF3ONS | 756426-58-1 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.253 | 0.472 | 4.72 |
| 11CI-PF3OUdS | 763051-92-9 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.218 | 0.943 | 4.72 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW12-1020
 Battelle ID G2205-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

| <i>Surrogate Recoveries (%)</i> | Recovery | Extract ID | Analysis Date |
|--|-----------------|-------------------|----------------------|
| 13C5-PFHxA | 54 | G2205-FS1(0) | 11/25/2020 |
| 13C4-PFHpA | 58 | G2205-FS1(0) | 11/25/2020 |
| 13C8-PFOA | 85 | G2205-FS1(0) | 11/25/2020 |
| 13C9-PFNA | 104 | G2205-FS1(0) | 11/25/2020 |
| 13C6-PFDA | 92 | G2205-FS1(0) | 11/25/2020 |
| 13C7-PFUnA | 95 | G2205-FS1(0) | 11/25/2020 |
| 13C2-PFDoA | 103 | G2205-FS1(0) | 11/25/2020 |
| 13C2-PFTeDA | 87 | G2205-FS1(0) | 11/25/2020 |
| d3-MeFOSAA | 92 | G2205-FS1(0) | 11/25/2020 |
| d5-EtFOSAA | 149 | G2205-FS1(0) | 11/25/2020 |
| 13C3-PFBS | 79 | G2205-FS1(0) | 11/25/2020 |
| 13C3-PFHxS | 82 | G2205-FS1(0) | 11/25/2020 |
| 13C8-PFOS | 104 | G2205-FS1(0) | 11/25/2020 |
| 13C3-HFPO-DA | 121 | G2205-FS1(0) | 11/25/2020 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW11-1020

Battelle ID G2206-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.250
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|--------------|-------------|---------------|--------------|-------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 0.934 JT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.527 | 1.50 | 5.00 |
| PFHpA | 375-85-9 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.263 | 1.00 | 5.00 |
| PFOA | 335-67-1 | 1.50 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.511 | 1.50 | 5.00 |
| PFNA | 375-95-1 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.309 | 1.00 | 5.00 |
| PFDA | 335-76-2 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.142 | 0.500 | 5.00 |
| PFUnA | 2058-94-8 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.219 | 0.500 | 5.00 |
| PFDoA | 307-55-1 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.192 | 0.500 | 5.00 |
| PFTTrDA | 72629-94-8 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.154 | 0.500 | 5.00 |
| PFTeDA | 376-06-7 | 2.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.733 | 2.00 | 5.00 |
| NMeFOSAA | 2355-31-9 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.350 | 1.00 | 5.00 |
| NEtFOSAA | 2991-50-6 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.500 | 1.00 | 5.00 |
| PFBS | 375-73-5 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.144 | 0.500 | 5.00 |
| PFHxS | 355-46-4 | 0.400 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.112 | 0.400 | 5.00 |
| PFOS | 1763-23-1 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.437 | 1.00 | 5.00 |
| HFPO-DA | 13252-13-6 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.248 | 0.500 | 5.00 |
| Adona | 919005-14-4 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.265 | 1.00 | 5.00 |
| 9CI-PF3ONS | 756426-58-1 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.268 | 0.500 | 5.00 |
| 11CI-PF3OUdS | 763051-92-9 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.231 | 1.00 | 5.00 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW11-1020

Battelle ID G2206-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

| <i>Surrogate Recoveries (%)</i> | Recovery | Extract ID | Analysis Date |
|---------------------------------|-----------------|-------------------|----------------------|
| 13C5-PFHxA | 50 | G2206-FS1(0) | 11/25/2020 |
| 13C4-PFHpA | 28 N | G2206-FS1(0) | 11/25/2020 |
| 13C8-PFOA | 92 | G2206-FS1(0) | 11/25/2020 |
| 13C9-PFNA | 104 | G2206-FS1(0) | 11/25/2020 |
| 13C6-PFDA | 88 | G2206-FS1(0) | 11/25/2020 |
| 13C7-PFUnA | 106 | G2206-FS1(0) | 11/25/2020 |
| 13C2-PFDoA | 86 | G2206-FS1(0) | 11/25/2020 |
| 13C2-PFTeDA | 65 | G2206-FS1(0) | 11/25/2020 |
| d3-MeFOSAA | 66 | G2206-FS1(0) | 11/25/2020 |
| d5-EtFOSAA | 149 | G2206-FS1(0) | 11/25/2020 |
| 13C3-PFBS | 74 | G2206-FS1(0) | 11/25/2020 |
| 13C3-PFHxS | 55 | G2206-FS1(0) | 11/25/2020 |
| 13C8-PFOS | 103 | G2206-FS1(0) | 11/25/2020 |
| 13C3-HFPO-DA | 108 | G2206-FS1(0) | 11/25/2020 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW11P-1020

Battelle ID G2207-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.260
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|--------------|-------------|---------------|--------------|-------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 1.73 JT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.507 | 1.44 | 4.81 |
| PFHpA | 375-85-9 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.253 | 0.962 | 4.81 |
| PFOA | 335-67-1 | 1.44 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.491 | 1.44 | 4.81 |
| PFNA | 375-95-1 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.297 | 0.962 | 4.81 |
| PFDA | 335-76-2 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.137 | 0.481 | 4.81 |
| PFUnA | 2058-94-8 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.211 | 0.481 | 4.81 |
| PFDoA | 307-55-1 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.185 | 0.481 | 4.81 |
| PFTTrDA | 72629-94-8 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.148 | 0.481 | 4.81 |
| PFTeDA | 376-06-7 | 1.92 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.705 | 1.92 | 4.81 |
| NMeFOSAA | 2355-31-9 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.337 | 0.962 | 4.81 |
| NEtFOSAA | 2991-50-6 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.481 | 0.962 | 4.81 |
| PFBS | 375-73-5 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.138 | 0.481 | 4.81 |
| PFHxS | 355-46-4 | 0.385 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.108 | 0.385 | 4.81 |
| PFOS | 1763-23-1 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.420 | 0.962 | 4.81 |
| HFPO-DA | 13252-13-6 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.238 | 0.481 | 4.81 |
| Adona | 919005-14-4 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.255 | 0.962 | 4.81 |
| 9CI-PF3ONS | 756426-58-1 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.258 | 0.481 | 4.81 |
| 11CI-PF3OUdS | 763051-92-9 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.222 | 0.962 | 4.81 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW11P-1020

 Battelle ID G2207-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

| <i>Surrogate Recoveries (%)</i> | Recovery | Extract ID | Analysis Date |
|---------------------------------|-----------------|-------------------|----------------------|
| 13C5-PFHxA | 51 | G2207-FS1(0) | 11/25/2020 |
| 13C4-PFHpA | 28 N | G2207-FS1(0) | 11/25/2020 |
| 13C8-PFOA | 84 | G2207-FS1(0) | 11/25/2020 |
| 13C9-PFNA | 143 | G2207-FS1(0) | 11/25/2020 |
| 13C6-PFDA | 91 | G2207-FS1(0) | 11/25/2020 |
| 13C7-PFUnA | 116 | G2207-FS1(0) | 11/25/2020 |
| 13C2-PFDoA | 108 | G2207-FS1(0) | 11/25/2020 |
| 13C2-PFTeDA | 95 | G2207-FS1(0) | 11/25/2020 |
| d3-MeFOSAA | 141 | G2207-FS1(0) | 11/25/2020 |
| d5-EtFOSAA | 206 N | G2207-FS1(0) | 11/25/2020 |
| 13C3-PFBS | 63 | G2207-FS1(0) | 11/25/2020 |
| 13C3-PFHxS | 51 | G2207-FS1(0) | 11/25/2020 |
| 13C8-PFOS | 101 | G2207-FS1(0) | 11/25/2020 |
| 13C3-HFPO-DA | 111 | G2207-FS1(0) | 11/25/2020 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-EB01-102820-GW

Battelle ID G2209-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix AQ
 Sample Size 0.280
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|--------------|-------------|---------------|--------------|-------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 1.34 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.471 | 1.34 | 4.46 |
| PFHpA | 375-85-9 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.235 | 0.893 | 4.46 |
| PFOA | 335-67-1 | 1.34 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.456 | 1.34 | 4.46 |
| PFNA | 375-95-1 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.276 | 0.893 | 4.46 |
| PFDA | 335-76-2 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.127 | 0.446 | 4.46 |
| PFUnA | 2058-94-8 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.196 | 0.446 | 4.46 |
| PFDoA | 307-55-1 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.171 | 0.446 | 4.46 |
| PFTTrDA | 72629-94-8 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.138 | 0.446 | 4.46 |
| PFTeDA | 376-06-7 | 1.79 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.654 | 1.79 | 4.46 |
| NMeFOSAA | 2355-31-9 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.313 | 0.893 | 4.46 |
| NEtFOSAA | 2991-50-6 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.446 | 0.893 | 4.46 |
| PFBS | 375-73-5 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.129 | 0.446 | 4.46 |
| PFHxS | 355-46-4 | 0.357 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.100 | 0.357 | 4.46 |
| PFOS | 1763-23-1 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.390 | 0.893 | 4.46 |
| HFPO-DA | 13252-13-6 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.221 | 0.446 | 4.46 |
| Adona | 919005-14-4 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.237 | 0.893 | 4.46 |
| 9CI-PF3ONS | 756426-58-1 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.239 | 0.446 | 4.46 |
| 11CI-PF3OUdS | 763051-92-9 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.206 | 0.893 | 4.46 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-EB01-102820-GW
 Battelle ID G2209-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

| <i>Surrogate Recoveries (%)</i> | Recovery | Extract ID | Analysis Date |
|---------------------------------|-----------------|-------------------|----------------------|
| 13C5-PFHxA | 69 | G2209-FS1(0) | 11/25/2020 |
| 13C4-PFHpA | 86 | G2209-FS1(0) | 11/25/2020 |
| 13C8-PFOA | 83 | G2209-FS1(0) | 11/25/2020 |
| 13C9-PFNA | 100 | G2209-FS1(0) | 11/25/2020 |
| 13C6-PFDA | 105 | G2209-FS1(0) | 11/25/2020 |
| 13C7-PFUnA | 110 | G2209-FS1(0) | 11/25/2020 |
| 13C2-PFDoA | 93 | G2209-FS1(0) | 11/25/2020 |
| 13C2-PFTeDA | 91 | G2209-FS1(0) | 11/25/2020 |
| d3-MeFOSAA | 110 | G2209-FS1(0) | 11/25/2020 |
| d5-EtFOSAA | 114 | G2209-FS1(0) | 11/25/2020 |
| 13C3-PFBS | 131 | G2209-FS1(0) | 11/25/2020 |
| 13C3-PFHxS | 105 | G2209-FS1(0) | 11/25/2020 |
| 13C8-PFOS | 103 | G2209-FS1(0) | 11/25/2020 |
| 13C3-HFPO-DA | 78 | G2209-FS1(0) | 11/25/2020 |



Project Client: CH2M
Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

Client ID CBD-AOA-MW14-1020

Battelle ID G2210-FS1

Sample Type SA

Collection Date 10/28/2020

Extraction Date 11/23/2020

Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

% Moisture NA

Matrix GW

Sample Size 0.255

Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|--------------|-------------|---------------|--------------|-------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 4.30 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.517 | 1.47 | 4.90 |
| PFHpA | 375-85-9 | 1.73 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.258 | 0.980 | 4.90 |
| PFOA | 335-67-1 | 5.05 T | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.501 | 1.47 | 4.90 |
| PFNA | 375-95-1 | 0.934 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.303 | 0.980 | 4.90 |
| PFDA | 335-76-2 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.139 | 0.490 | 4.90 |
| PFUnA | 2058-94-8 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.215 | 0.490 | 4.90 |
| PFDoA | 307-55-1 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.188 | 0.490 | 4.90 |
| PFTTrDA | 72629-94-8 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.151 | 0.490 | 4.90 |
| PFTeDA | 376-06-7 | 1.96 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.719 | 1.96 | 4.90 |
| NMeFOSAA | 2355-31-9 | 0.980 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.343 | 0.980 | 4.90 |
| NEtFOSAA | 2991-50-6 | 0.980 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.490 | 0.980 | 4.90 |
| PFBS | 375-73-5 | 0.608 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.141 | 0.490 | 4.90 |
| PFHxS | 355-46-4 | 8.33 T | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.110 | 0.392 | 4.90 |
| PFOS | 1763-23-1 | 4.03 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.428 | 0.980 | 4.90 |
| HFPO-DA | 13252-13-6 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.243 | 0.490 | 4.90 |
| Adona | 919005-14-4 | 0.980 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.260 | 0.980 | 4.90 |
| 9CI-PF3ONS | 756426-58-1 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.263 | 0.490 | 4.90 |
| 11CI-PF3OUdS | 763051-92-9 | 0.980 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.226 | 0.980 | 4.90 |

Analyzed by: Schumitz, Denise

Printed: 12/1/2020

Isotope Dilution

L20-1519_Master_369B.xlsm



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW14-1020

Battelle ID G2210-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

| <i>Surrogate Recoveries (%)</i> | Recovery | Extract ID | Analysis Date |
|---------------------------------|-----------------|-------------------|----------------------|
| 13C5-PFHxA | 51 | G2210-FS1(0) | 11/25/2020 |
| 13C4-PFHpA | 65 | G2210-FS1(0) | 11/25/2020 |
| 13C8-PFOA | 78 | G2210-FS1(0) | 11/25/2020 |
| 13C9-PFNA | 95 | G2210-FS1(0) | 11/25/2020 |
| 13C6-PFDA | 88 | G2210-FS1(0) | 11/25/2020 |
| 13C7-PFUnA | 94 | G2210-FS1(0) | 11/25/2020 |
| 13C2-PFDoA | 91 | G2210-FS1(0) | 11/25/2020 |
| 13C2-PFTeDA | 78 | G2210-FS1(0) | 11/25/2020 |
| d3-MeFOSAA | 96 | G2210-FS1(0) | 11/25/2020 |
| d5-EtFOSAA | 175 N | G2210-FS1(0) | 11/25/2020 |
| 13C3-PFBS | 86 | G2210-FS1(0) | 11/25/2020 |
| 13C3-PFHxS | 103 | G2210-FS1(0) | 11/25/2020 |
| 13C8-PFOS | 115 | G2210-FS1(0) | 11/25/2020 |
| 13C3-HFPO-DA | 114 | G2210-FS1(0) | 11/25/2020 |



It can be done

Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

Client ID LE58 IB

Battelle ID LE58 IB_11/20/2020

Sample Type IB

Collection Date NA

Extraction Date NA

Analysis Date 11/20/2020

Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

% Moisture NA

Matrix Water

Sample Size 0.250

Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | DL | LOD | LOQ |
|--------------|-------------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 1.50 U | 0.527 | 1.50 | 5.00 |
| PFHpA | 375-85-9 | 1.00 U | 0.263 | 1.00 | 5.00 |
| PFOA | 335-67-1 | 1.50 U | 0.511 | 1.50 | 5.00 |
| PFNA | 375-95-1 | 1.00 U | 0.309 | 1.00 | 5.00 |
| PFDA | 335-76-2 | 0.500 U | 0.142 | 0.500 | 5.00 |
| PFUnA | 2058-94-8 | 0.500 U | 0.219 | 0.500 | 5.00 |
| PFDoA | 307-55-1 | 0.500 U | 0.192 | 0.500 | 5.00 |
| PFTTrDA | 72629-94-8 | 0.500 U | 0.154 | 0.500 | 5.00 |
| PFTeDA | 376-06-7 | 2.00 U | 0.733 | 2.00 | 5.00 |
| NMeFOSAA | 2355-31-9 | 1.00 U | 0.350 | 1.00 | 5.00 |
| NEtFOSAA | 2991-50-6 | 1.00 U | 0.500 | 1.00 | 5.00 |
| PFBS | 375-73-5 | 0.500 U | 0.144 | 0.500 | 5.00 |
| PFHxS | 355-46-4 | 0.400 U | 0.112 | 0.400 | 5.00 |
| PFOS | 1763-23-1 | 1.00 U | 0.437 | 1.00 | 5.00 |
| HFPO-DA | 13252-13-6 | 0.500 U | 0.248 | 0.500 | 5.00 |
| Adona | 919005-14-4 | 1.00 U | 0.265 | 1.00 | 5.00 |
| 9Cl-PF3ONS | 756426-58-1 | 0.500 U | 0.268 | 0.500 | 5.00 |
| 11Cl-PF3OUdS | 763051-92-9 | 1.00 U | 0.231 | 1.00 | 5.00 |

Analyzed by: Schumitz, Denise

Printed: 12/1/2020

Isotope Dilution

L20-1519_Master_369B.xlsm



It can be done

Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

| | |
|-----------------------|---------------------------|
| Client ID | LE58 IB |
| Battelle ID | LE58 IB_11/20/2020 |
| Sample Type | IB |
| Collection Date | NA |
| Extraction Date | NA |
| Analysis Date | 11/20/2020 |
| Analytical Instrument | Sciex 6500+ (AE) LC/MS/MS |
| % Moisture | NA |
| Matrix | Water |
| Sample Size | 0.250 |
| Size Unit-Basis | L |

Surrogate Recoveries (%)

| | |
|--------------|-----|
| 13C5-PFHxA | 128 |
| 13C4-PFHpA | 123 |
| 13C8-PFOA | 127 |
| 13C9-PFNA | 121 |
| 13C6-PFDA | 99 |
| 13C7-PFUnA | 100 |
| 13C2-PFDoA | 97 |
| 13C2-PFTeDA | 99 |
| d3-MeFOSAA | 94 |
| d5-EtFOSAA | 106 |
| 13C3-PFBS | 96 |
| 13C3-PFHxS | 104 |
| 13C8-PFOS | 106 |
| 13C3-HFPO-DA | 108 |



It can be done

Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

Client ID LE58 IB

Battelle ID LE58 IB_11/25/2020

Sample Type IB

Collection Date NA

Extraction Date NA

Analysis Date 11/25/2020

Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

% Moisture NA

Matrix Water

Sample Size 0.250

Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | DL | LOD | LOQ |
|--------------|-------------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 1.50 U | 0.527 | 1.50 | 5.00 |
| PFHpA | 375-85-9 | 1.00 U | 0.263 | 1.00 | 5.00 |
| PFOA | 335-67-1 | 1.50 U | 0.511 | 1.50 | 5.00 |
| PFNA | 375-95-1 | 1.00 U | 0.309 | 1.00 | 5.00 |
| PFDA | 335-76-2 | 0.500 U | 0.142 | 0.500 | 5.00 |
| PFUnA | 2058-94-8 | 0.500 U | 0.219 | 0.500 | 5.00 |
| PFDoA | 307-55-1 | 0.500 U | 0.192 | 0.500 | 5.00 |
| PFTTrDA | 72629-94-8 | 0.500 U | 0.154 | 0.500 | 5.00 |
| PFTeDA | 376-06-7 | 2.00 U | 0.733 | 2.00 | 5.00 |
| NMeFOSAA | 2355-31-9 | 1.00 U | 0.350 | 1.00 | 5.00 |
| NEtFOSAA | 2991-50-6 | 1.00 U | 0.500 | 1.00 | 5.00 |
| PFBS | 375-73-5 | 0.500 U | 0.144 | 0.500 | 5.00 |
| PFHxS | 355-46-4 | 0.400 U | 0.112 | 0.400 | 5.00 |
| PFOS | 1763-23-1 | 1.00 U | 0.437 | 1.00 | 5.00 |
| HFPO-DA | 13252-13-6 | 0.500 U | 0.248 | 0.500 | 5.00 |
| Adona | 919005-14-4 | 1.00 U | 0.265 | 1.00 | 5.00 |
| 9Cl-PF3ONS | 756426-58-1 | 0.500 U | 0.268 | 0.500 | 5.00 |
| 11Cl-PF3OUdS | 763051-92-9 | 1.00 U | 0.231 | 1.00 | 5.00 |

Analyzed by: Schumitz, Denise

Printed: 12/1/2020

Isotope Dilution

L20-1519_Master_369B.xlsm



It can be done

Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

| | |
|-----------------------|---------------------------|
| Client ID | LE58 IB |
| Battelle ID | LE58 IB_11/25/2020 |
| Sample Type | IB |
| Collection Date | NA |
| Extraction Date | NA |
| Analysis Date | 11/25/2020 |
| Analytical Instrument | Sciex 6500+ (AE) LC/MS/MS |
| % Moisture | NA |
| Matrix | Water |
| Sample Size | 0.250 |
| Size Unit-Basis | L |

Surrogate Recoveries (%)

| | |
|--------------|-----|
| 13C5-PFHxA | 117 |
| 13C4-PFHpA | 121 |
| 13C8-PFOA | 116 |
| 13C9-PFNA | 127 |
| 13C6-PFDA | 106 |
| 13C7-PFUnA | 103 |
| 13C2-PFDoA | 94 |
| 13C2-PFTeDA | 103 |
| d3-MeFOSAA | 90 |
| d5-EtFOSAA | 97 |
| 13C3-PFBS | 97 |
| 13C3-PFHxS | 105 |
| 13C8-PFOS | 104 |
| 13C3-HFPO-DA | 116 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID Procedural Blank

Battelle ID DB472PB-FS
 Sample Type PB
 Collection Date 11/23/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix WATER
 Sample Size 0.250
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|--------------|-------------|---------------|---------------|-------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 1.50 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.527 | 1.50 | 5.00 |
| PFHpA | 375-85-9 | 1.00 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.263 | 1.00 | 5.00 |
| PFOA | 335-67-1 | 1.50 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.511 | 1.50 | 5.00 |
| PFNA | 375-95-1 | 1.00 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.309 | 1.00 | 5.00 |
| PFDA | 335-76-2 | 0.500 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.142 | 0.500 | 5.00 |
| PFUnA | 2058-94-8 | 0.500 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.219 | 0.500 | 5.00 |
| PFDoA | 307-55-1 | 0.500 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.192 | 0.500 | 5.00 |
| PFTTrDA | 72629-94-8 | 0.500 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.154 | 0.500 | 5.00 |
| PFTeDA | 376-06-7 | 2.00 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.733 | 2.00 | 5.00 |
| NMeFOSAA | 2355-31-9 | 1.00 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.350 | 1.00 | 5.00 |
| NEtFOSAA | 2991-50-6 | 1.00 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.500 | 1.00 | 5.00 |
| PFBS | 375-73-5 | 0.500 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.144 | 0.500 | 5.00 |
| PFHxS | 355-46-4 | 0.400 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.112 | 0.400 | 5.00 |
| PFOS | 1763-23-1 | 1.00 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.437 | 1.00 | 5.00 |
| HFPO-DA | 13252-13-6 | 0.500 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.248 | 0.500 | 5.00 |
| Adona | 919005-14-4 | 1.00 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.265 | 1.00 | 5.00 |
| 9Cl-PF3ONS | 756426-58-1 | 0.500 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.268 | 0.500 | 5.00 |
| 11Cl-PF3OUdS | 763051-92-9 | 1.00 U | DB472PB-FS(0) | 1.000 | 11/25/2020 | 0.231 | 1.00 | 5.00 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

| | |
|-----------------------|---------------------------|
| Client ID | Procedural Blank |
| Battelle ID | DB472PB-FS |
| Sample Type | PB |
| Collection Date | 11/23/2020 |
| Extraction Date | 11/23/2020 |
| Analytical Instrument | Sciex 6500+ (AE) LC/MS/MS |

| <i>Surrogate Recoveries (%)</i> | Recovery | Extract ID | Analysis Date |
|---------------------------------|-----------------|-------------------|----------------------|
| 13C5-PFHxA | 92 | DB472PB-FS(0) | 11/25/2020 |
| 13C4-PFHpA | 98 | DB472PB-FS(0) | 11/25/2020 |
| 13C8-PFOA | 106 | DB472PB-FS(0) | 11/25/2020 |
| 13C9-PFNA | 93 | DB472PB-FS(0) | 11/25/2020 |
| 13C6-PFDA | 104 | DB472PB-FS(0) | 11/25/2020 |
| 13C7-PFUnA | 103 | DB472PB-FS(0) | 11/25/2020 |
| 13C2-PFDoA | 95 | DB472PB-FS(0) | 11/25/2020 |
| 13C2-PFTeDA | 92 | DB472PB-FS(0) | 11/25/2020 |
| d3-MeFOSAA | 100 | DB472PB-FS(0) | 11/25/2020 |
| d5-EtFOSAA | 95 | DB472PB-FS(0) | 11/25/2020 |
| 13C3-PFBS | 108 | DB472PB-FS(0) | 11/25/2020 |
| 13C3-PFHxS | 101 | DB472PB-FS(0) | 11/25/2020 |
| 13C8-PFOS | 123 | DB472PB-FS(0) | 11/25/2020 |
| 13C3-HFPO-DA | 97 | DB472PB-FS(0) | 11/25/2020 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID Laboratory Control Sample

Battelle ID DB473LCS-FS
 Sample Type LCS
 Collection Date 11/23/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix WATER
 Sample Size 0.250
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | Target | Recovery | Qual | Control Limits | |
|--------------|-------------|---------------|----------------|-------|---------------|--------|----------|------|----------------|-------|
| | | | | | | | | | Lower | Upper |
| PFHxA | 307-24-4 | 38.9 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.4 | 96 | | 72 | 129 |
| PFHpA | 375-85-9 | 34.2 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 86 | | 72 | 130 |
| PFOA | 335-67-1 | 31.9 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.4 | 79 | | 71 | 133 |
| PFNA | 375-95-1 | 32.1 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 80 | | 69 | 130 |
| PFDA | 335-76-2 | 31.3 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 78 | | 71 | 129 |
| PFUnA | 2058-94-8 | 34.3 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 86 | | 69 | 133 |
| PFDoA | 307-55-1 | 30.5 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 76 | | 72 | 134 |
| PFTTrDA | 72629-94-8 | 36.2 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 91 | | 65 | 144 |
| PFTeDA | 376-06-7 | 33.2 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 83 | | 71 | 132 |
| NMeFOSAA | 2355-31-9 | 31.3 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 78 | | 65 | 136 |
| NEtFOSAA | 2991-50-6 | 35.9 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 90 | | 61 | 135 |
| PFBS | 375-73-5 | 33.1 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 83 | | 72 | 130 |
| PFHxS | 355-46-4 | 34.9 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 87 | | 68 | 131 |
| PFOS | 1763-23-1 | 31.8 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 80 | | 65 | 140 |
| HFPO-DA | 13252-13-6 | 29.7 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 74 | | 74 | 148 |
| Adona | 919005-14-4 | 28.7 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 72 | | 61 | 143 |
| 9CI-PF3ONS | 756426-58-1 | 25.2 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 63 | | 52 | 158 |
| 11CI-PF3OUdS | 763051-92-9 | 25.6 | DB473LCS-FS(0) | 1.000 | 11/25/2020 | 40.0 | 64 | | 59 | 147 |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

| | |
|-----------------------|---------------------------|
| Client ID | Laboratory Control Sample |
| Battelle ID | DB473LCS-FS |
| Sample Type | LCS |
| Collection Date | 11/23/2020 |
| Extraction Date | 11/23/2020 |
| Analytical Instrument | Sciex 6500+ (AE) LC/MS/MS |

| <i>Surrogate Recoveries (%)</i> | Recovery | Extract ID | Analysis Date |
|---------------------------------|-----------------|-------------------|----------------------|
| 13C5-PFHxA | 83 | DB473LCS-FS(0) | 11/25/2020 |
| 13C4-PFHpA | 92 | DB473LCS-FS(0) | 11/25/2020 |
| 13C8-PFOA | 108 | DB473LCS-FS(0) | 11/25/2020 |
| 13C9-PFNA | 94 | DB473LCS-FS(0) | 11/25/2020 |
| 13C6-PFDA | 105 | DB473LCS-FS(0) | 11/25/2020 |
| 13C7-PFUnA | 93 | DB473LCS-FS(0) | 11/25/2020 |
| 13C2-PFDoA | 103 | DB473LCS-FS(0) | 11/25/2020 |
| 13C2-PFTeDA | 99 | DB473LCS-FS(0) | 11/25/2020 |
| d3-MeFOSAA | 94 | DB473LCS-FS(0) | 11/25/2020 |
| d5-EtFOSAA | 85 | DB473LCS-FS(0) | 11/25/2020 |
| 13C3-PFBS | 114 | DB473LCS-FS(0) | 11/25/2020 |
| 13C3-PFHxS | 99 | DB473LCS-FS(0) | 11/25/2020 |
| 13C8-PFOS | 118 | DB473LCS-FS(0) | 11/25/2020 |
| 13C3-HFPO-DA | 117 | DB473LCS-FS(0) | 11/25/2020 |



Glossary of Data Qualifiers

Flag: Application:

| | |
|----|--|
| B | Analyte found in the sample at a concentration <10x the level found in the procedural blank |
| D | Dilution Run. Initial run outside the initial calibration range of the instrument |
| E | Estimate, result is greater than the highest concentration level in the calibration |
| J | Analyte detected below the Limit of Quantitation (LOQ) |
| MI | Significant Matrix Interference - value could not be determined. |
| N | Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO) |
| NA | Not Applicable |
| T | Holding Time (HT) exceeded |
| U | Analyte not detected or detected below the Detection Limit (DL) value, Limit of Detection (LOD) reported |
| Q | Ion ratio outside of criteria (50% difference from calibration expected ratio) |

Miscellaneous Documentation

QA/QC Summary Batch 20-1519

| | |
|-------------------------|---|
| Project: | CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10 |
| Client Project Manager: | Michael Zamboni |
| Parameters: | PFAS |
| Laboratory: | Battelle, Norwell, MA |
| Matrix: | AQ, GW |
| Data Set: | DP-20-1395 |
| Analytical SOP: | 5-369 |
| Method Reference: | PFAS to QSM 5.3 Table B-15 |

| Sample Custody | | |
|-----------------|--------------|-----------|
| Collection Date | Receipt Date | Temp (°C) |
| 10/27 – 28/2020 | 10/29/2020 | 1.5 |

| | |
|--------------------|--|
| Corrective Actions | None. |
| Sample Storage | The samples were stored refrigerated until extraction. |
| Related samples | Samples re-extracted from SDG 20-1375 to verify select extracted internal standard recoveries. |

| METHOD SUMMARIES | |
|--------------------|--|
| Sample Preparation | Water samples were fortified with surrogates in the original sample container from the field. The water was extracted using a weak-anion exchange (WAX) solid phase extraction (SPE) cartridge. Target analytes are eluted from the WAX SPE using methanol followed by 0.5% NH ₃ in methanol. Extracts were further refined using Envi-carb to remove co-extracted interferences. Extracts were concentrated to approximately 500 µL under nitrogen with a water bath set between 50 °C and 60 °C, reconstituted with methanol/water and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis in 80:20 methanol/water (V/V). |
| Prep comments | pH of all samples prior to SPE extraction was verified between 6 and 8. Samples DB472PB-FS (Procedural Blank), DB473LCS-FS (Laboratory Control Sample), and G2203-FS1 (CBD-AOA-MW06-1020) were fortified with extracted internal standards, shaken, and transferred to a new HDPE bottle. The samples were centrifuged at 3,500 RPM for five minutes. The supernatant was then decanted back into the original sample container prior to extraction. This procedure was performed due to the level of particulate matter present in the field samples centrifuged. |
| Analysis | PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations to three (3) significant figures. |
| Analysis Comments | Samples analyzed on Sciex 6500+ (AE) LC-MS/MS. MeFOSAA, EtFOSAA, PFHxS, and PFOS in the LCS, and field samples when |

QA/QC Summary Batch 20-1519

| | |
|--|--|
| | <p>detected, were found and reported as a combination of the linear and branched isomers.</p> <p>Adona, 9CI-PF3ONS, and 11CI-PF3OUdS are quantified using 13C8-PFOA.</p> <p>Re-extraction to verify QC exceedances from the initial extraction occurred outside of the 14-day collection to extraction holding time window. This is allowable under QSM 5.3 for corrective actions associated with QC exceedances. All sample results are "T" qualified.</p> |
|--|--|

| Holding Times | Extraction Date(s) | Analysis Date(s) |
|---------------|--------------------|-------------------|
| | 11/23/2020 | 11/20 and 25/2020 |

| | |
|-----------------------|--|
| Procedural Blank (PB) | A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination. |
| ≤ ½ the LOQ | No exceedances noted. |
| Samples >10x PB | No comments. |

| | |
|--|---|
| Laboratory Control Spike (LCS) | A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy. |
| Laboratory derived control limits for recovery | No exceedances noted. No comments. |

| | |
|---|--|
| Matrix Spike and Matrix Spike Duplicate (MS/MSD) | A MS/MSD was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy. |
| Laboratory derived control limits for recovery and <30% RPD | Project specific MS/MSD not included in this SDG. No comments. |

| Extracted Internal Standard Analytes | Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency. | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--|-------------|------------|-------------|------------|-------------------------------|--|---|--|-------------------------------|---|--|--|--------------------------------|---|--|---|-------------------------------|--|--|---|
| 50-150% of true value | <p>Five (5) exceedances noted.</p> <p>Four samples had suppressed or enhanced recoveries for select extracted internal standards. The table below indicates if the extracted internal standard was within +/- 50% of the area of the L5 calibration point ("P") or if the area showed suppression ("↓") or enhancement ("↑") for these extracted internal standards.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;">13C4-PFHpA</th> <th style="text-align: center;">13C2-PFTeDA</th> <th style="text-align: center;">d5-EtFOSAA</th> </tr> </thead> <tbody> <tr> <td>G2203-FS1 (CBD-AOA-MW06-1020)</td> <td></td> <td style="text-align: center;">↓</td> <td></td> </tr> <tr> <td>G2206-FS1 (CBD-AOA-MW11-1020)</td> <td style="text-align: center;">↓</td> <td></td> <td></td> </tr> <tr> <td>G2207-FS1 (CBD-AOA-MW11P-1020)</td> <td style="text-align: center;">↓</td> <td></td> <td style="text-align: center;">P</td> </tr> <tr> <td>G2210-FS1 (CBD-AOA-MW14-1020)</td> <td></td> <td></td> <td style="text-align: center;">P</td> </tr> </tbody> </table> <p>The remaining extracted internal standards in each impacted sample, fortified</p> | | 13C4-PFHpA | 13C2-PFTeDA | d5-EtFOSAA | G2203-FS1 (CBD-AOA-MW06-1020) | | ↓ | | G2206-FS1 (CBD-AOA-MW11-1020) | ↓ | | | G2207-FS1 (CBD-AOA-MW11P-1020) | ↓ | | P | G2210-FS1 (CBD-AOA-MW14-1020) | | | P |
| | 13C4-PFHpA | 13C2-PFTeDA | d5-EtFOSAA | | | | | | | | | | | | | | | | | | |
| G2203-FS1 (CBD-AOA-MW06-1020) | | ↓ | | | | | | | | | | | | | | | | | | | |
| G2206-FS1 (CBD-AOA-MW11-1020) | ↓ | | | | | | | | | | | | | | | | | | | | |
| G2207-FS1 (CBD-AOA-MW11P-1020) | ↓ | | P | | | | | | | | | | | | | | | | | | |
| G2210-FS1 (CBD-AOA-MW14-1020) | | | P | | | | | | | | | | | | | | | | | | |

QA/QC Summary
Batch 20-1519

| | |
|--|---|
| | from the same solution, pass all criteria, suggesting that the suppression is matrix related to these analytes only. One sample extract was re-analyzed for confirmation. The quant report for the analysis not reported is included in the unused data section of the full data package. |
| Internal Standard Analytes | Labelled analog compounds were added prior to analysis. |
| +/- 50% of the area of the L5 calibration point. | No exceedances noted. No comments. |
| Initial Calibration (ICAL) | The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting. |
| +/- 30% of true value, $R^2 \geq 0.99$ | No exceedances noted. No comments. |
| Independent Calibration Check (ICC) | The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL. |
| +/- 30% of true value | No exceedances noted. No comments. |
| Continuing Calibration Verification (CCV) | Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid. |
| +/- 30% of true value | No exceedances noted. No comments. |
| Instrument Blank (IB) | Immediately following the highest standard analyzed and daily prior to sample analysis. |
| $\leq \frac{1}{2}$ the LOQ | No exceedances noted. No comments. |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project Number: 100142218
 Preparation Batch: 20-1519
 Data Set: DP-20-1395
 Test Code: Master_369B

| QC Parameter: | Exceed: | Justification: |
|---|---------|--|
| Procedural Blank | 0 | None |
| PB Measurement Quality Objective | 0 | None |
| Laboratory Control Sample | 0 | None |
| Matrix Spike / Matrix Spike Duplicate Recovery | NA | None |
| Matrix Spike / Matrix Spike Duplicate Precision | NA | None |
| Extracted Internal Standard Analytes (Surrogates) | 5 | There are five extracted internal standards that do not meet passing criteria and was confirmed from a previous batch or analyzing a fresh aliquot. DMS 11/30/2020 |
| Instrument Calibration | 0 | None |
| Instrument Blank | 0 | None |
| Independent Calibration Check | 0 | None |
| Continuing Calibration Verification | 0 | None |



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title: CTO-4532: NRL Chesapeake Bay Detac **Data Set Number:** DP-20-1395
Project Number: 100142218 **Prep Batch Number:** 20-1519
Entered By: Denise Schumitz **Entered On:** 11/30/2020
Test Code (Matrix Type): Master_369B(L)

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS 11/30/2020

ADONA, 9CI-PF3ONS and 11CI-PF3OUdS are being quantified off 13C8-PFOA instead of 13C3-HFPO-DA.
DMS 11/30/2020

Task Leader Approval:

SupervisorApproval:

PM Approval:

Digitally signed by Jonathan Thorn
Date: 2020.12.01 07:37:24 -05'00'

Example Calculation for PFAS

Calculation of final concentration from area:

$$\text{Concentration} = \left[\frac{PA - b}{m} \right] * C_{IS} * PIV * DF / S$$

Where:

PA = Area of target / area of internal standard

b = y intercept from calibration curve

CIS = concentration of internal standard (ng/L)

m = slope of calibration

DF = dilution factor

S = Sample Size

PIV = Pre-injection volume (L)

Sample ID: DB473LCS-FS(0)
 Client Sample ID: Laboratory Control Sample
 Sample Size: 0.25
 Units: L
 Dilution Factor: 1.000
 PIV (L): 0.001
 Target Analyte: HFPO-DA
 MRM Transition: 285.0 / 169.0
 Data file: AE_11202020_5-369.wiff
 Result table: 20-1519
 Area: 8,632,683.56
 IS Name: 13C3-HFPO-DA
 IS Area: 486,892.74
 IS Amount (ng/L): 1250
 y-intercept: 0.4615
 slope: 2.91166

$$\text{Concentration} = \frac{[(8632683.56/486892.74) - 0.4615]}{2.91166} * 1250 * 0.001 * 1 / 0.25$$

$$\text{ng/L} = 29.7$$

*Final concentration may vary based on rounding.



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218
 Preparation Batch: 20-1519
 Data Set: DP-20-1395

| | | DB472PB-FS (Procedural Blank) | DB473LCS-FS (Laboratory Control Sample) | G2203-FS1 (CBD-AOA-MW06-1020) | G2205-FS1 (CBD-AOA-MW12-1020) | G2206-FS1 (CBD-AOA-MW11-1020) | G2207-FS1 (CBD-AOA-MW11P-1020) | G2209-FS1 (CBD-AOA-EB01-102820-GW) | G2210-FS1 (CBD-AOA-MW14-1020) |
|--------------|-------------|-------------------------------|---|-------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------------|-------------------------------|
| PFHxA | 307-24-4 | - | L | L | L | L | L | - | L |
| PFHpA | 375-85-9 | - | L | L | - | - | - | - | L |
| PFOA | 335-67-1 | - | L | L | - | - | - | - | L |
| PFNA | 375-95-1 | - | L | L | - | - | - | - | L |
| PFDA | 335-76-2 | - | L | - | - | - | - | - | - |
| PFUnA | 2058-94-8 | - | L | - | - | - | - | - | - |
| PFDoA | 307-55-1 | - | L | - | - | - | - | - | - |
| PFTrDA | 72629-94-8 | - | L | - | - | - | - | - | - |
| PFTeDA | 376-06-7 | - | L | - | - | - | - | - | - |
| NMeFOSAA | 2355-31-9 | - | L/Br | - | - | - | - | - | - |
| NEtFOSAA | 2991-50-6 | - | L/Br | - | - | - | - | - | - |
| PFBS | 375-73-5 | - | L | L | - | - | - | - | L |
| PFHxS | 355-46-4 | - | L/Br | L/Br | L/Br | - | - | - | L/Br |
| PFOS | 1763-23-1 | - | L/Br | L/Br | - | - | - | - | L/Br |
| HFPO-DA | 13252-13-6 | - | L | - | - | - | - | - | - |
| Adona | 919005-14-4 | - | L | - | - | - | - | - | - |
| 9CI-PF3ONS | 756426-58-1 | - | L | - | - | - | - | - | - |
| 11CI-PF3OUdS | 763051-92-9 | - | L | - | - | - | - | - | - |

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected

Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218



| Passing criteria = 50% to 150% of internal standard area (compared to mid-point of calibration) | | | | | | | | | |
|---|-----------|----------------|-----------|--|--------------|--|--------------|--|------------|
| Sample Name | Sample ID | Analysis Date | 13C3-PFBA | | 13C2-PFOA | | 13C2-PFDA | | 13C4-PFOS |
| LE56 | L5 | 11/20/20 22:41 | - | | 772,043.59 | | 1,015,997.35 | | 207,337.80 |
| | | Lower | - | | 386,021.80 | | 507,998.68 | | 103,668.90 |
| | | Upper | - | | 1,158,065.39 | | 1,523,996.03 | | 311,006.70 |

| Sample Name | Sample ID | Analysis Date | 13C3-PFBA | Qual | User | 13C2-PFOA | Qual | User | 13C2-PFDA | Qual | User | 13C4-PFOS | Qual | User |
|----------------|---------------------------|----------------|-----------|------|------|--------------|------|------|--------------|------|------|------------|------|------|
| LE52 | L1 | 11/20/20 21:59 | - | | | 783,114.75 | | | 1,154,360.29 | | | 248,928.59 | | |
| LE53 | L2 | 11/20/20 22:10 | - | | | 805,394.16 | | | 1,200,303.42 | | | 211,849.98 | | |
| LE54 | L3 | 11/20/20 22:20 | - | | | 1,089,000.60 | | | 1,121,623.50 | | | 224,897.07 | | |
| LE55 | L4 | 11/20/20 22:31 | - | | | 791,893.23 | | | 1,051,697.48 | | | 225,802.73 | | |
| LE56 | L5 | 11/20/20 22:41 | - | | | 772,043.59 | | | 1,015,997.35 | | | 207,337.80 | | |
| LE57 | L6 | 11/20/20 22:51 | - | | | 670,284.48 | | | 770,672.85 | | | 182,609.45 | | |
| LE58 IB | Instrument Blank | 11/20/20 23:02 | - | | | 704,946.82 | | | 1,077,361.75 | | | 219,600.40 | | |
| LE59 ICC | ICC | 11/20/20 23:12 | - | | | 805,611.88 | | | 1,025,857.97 | | | 203,658.69 | | |
| LE54 CCV | CCV | 11/25/20 17:35 | - | | | 838,550.35 | | | 1,094,280.46 | | | 216,196.55 | | |
| LE58 IB | Instrument Blank | 11/25/20 17:56 | - | | | 702,178.04 | | | 953,587.57 | | | 202,902.39 | | |
| DB472PB-FS(0) | Procedural Blank | 11/25/20 18:06 | - | | | 810,892.44 | | | 949,580.44 | | | 185,256.33 | | |
| DB473LCS-FS(0) | Laboratory Control Sample | 11/25/20 18:17 | - | | | 798,581.26 | | | 923,224.97 | | | 192,170.08 | | |
| G2203-FS1(0) | CBD-AOA-MW06-1020 | 11/25/20 18:27 | - | | | 696,936.33 | | | 859,791.94 | | | 151,311.50 | | |
| G2205-FS1(0) | CBD-AOA-MW12-1020 | 11/25/20 18:37 | - | | | 572,376.28 | | | 895,389.81 | | | 157,845.74 | | |
| G2206-FS1(0) | CBD-AOA-MW11-1020 | 11/25/20 18:48 | - | | | 431,380.13 | | | 863,392.21 | | | 130,083.02 | | |
| G2207-FS1(0) | CBD-AOA-MW11P-1020 | 11/25/20 18:58 | - | | | 422,789.60 | | | 922,607.76 | | | 133,453.56 | | |
| G2209-FS1(0) | CBD-AOA-EB01-102820-GW | 11/25/20 19:09 | - | | | 940,663.70 | | | 1,035,624.71 | | | 192,966.31 | | |
| G2210-FS1(0) | CBD-AOA-MW14-1020 | 11/25/20 19:19 | - | | | 645,614.70 | | | 967,092.18 | | | 150,592.72 | | |
| LE55 CCV | CCV | 11/25/20 19:40 | - | | | 897,299.28 | | | 1,103,154.56 | | | 204,617.67 | | |

| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE56 | Injection Vial | 6 |
| Sample ID | L5 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:41:30 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Asymmetry Factor | Passing Range |
|----------------|-----------------------|-----------|-------------------------|----------------------|
| PFBS_1 | 298.9 / 80.0 | 1.28 | 1.20 | 0.8 – 1.5 |
| PFHxA_1 | 313.0 / 269.0 | 1.53 | 1.15 | 0.8 – 1.5 |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE57 | Injection Vial | 7 |
| Sample ID | L6 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:51:58 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Spectra Acquisition Rate | Passing Range |
|----------------|----------------|------|--------------------------|---------------|
| PFBS 1 | 298.9 / 80.0 | 1.27 | 29 | >10 |
| PFBS 2 | 298.9 / 99.0 | 1.27 | 33 | >10 |
| PFHxA 1 | 313.0 / 269.0 | 1.52 | 23 | >10 |
| PFHxA 2 | 313.0 / 119.0 | 1.52 | 25 | >10 |
| PFHpA 1 | 363.0 / 319.0 | 1.87 | 47 | >10 |
| PFHpA 2 | 363.0 / 169.0 | 1.88 | 30 | >10 |
| PFHxS 1 | 399.0 / 80.0 | 1.89 | 40 | >10 |
| PFHxS 2 | 399.0 / 99.0 | 1.89 | 39 | >10 |
| PFOA 1 | 413.0 / 369.0 | 2.25 | 32 | >10 |
| PFOA 2 | 413.0 / 169.0 | 2.25 | 24 | >10 |
| PFNA 1 | 463.0 / 419.0 | 2.63 | 40 | >10 |
| PFNA 2 | 463.0 / 219.0 | 2.63 | 35 | >10 |
| PFOS 1 | 499.0 / 80.0 | 2.63 | 53 | >10 |
| PFOS 2 | 499.0 / 99.0 | 2.62 | 35 | >10 |
| PFDA 1 | 513.0 / 469.0 | 2.99 | 42 | >10 |
| PFDA 2 | 513.0 / 219.0 | 2.99 | 34 | >10 |
| PFUnA 1 | 563.0 / 519.0 | 3.31 | 44 | >10 |
| PFUnA 2 | 563.0 / 269.0 | 3.31 | 33 | >10 |
| PFDoA 1 | 613.0 / 569.0 | 3.60 | 71 | >10 |
| PFDoA 2 | 613.0 / 319.0 | 3.60 | 47 | >10 |
| PFTTrDA 1 | 663.0 / 619.0 | 3.86 | 53 | >10 |
| PFTTrDA 2 | 663.0 / 169.0 | 3.86 | 55 | >10 |
| PFTeDA 1 | 713.0 / 669.0 | 4.09 | 71 | >10 |
| PFTeDA 2 | 713.0 / 169.0 | 4.09 | 70 | >10 |
| NMeFOSAA 1 | 570.0 / 419.0 | 3.13 | 60 | >10 |
| NMeFOSAA 2 | 570.0 / 512.0 | 3.13 | 45 | >10 |
| NEtFOSAA 1 | 584.0 / 419.0 | 3.30 | 54 | >10 |
| NEtFOSAA 2 | 584.0 / 483.0 | 3.30 | 46 | >10 |
| HFPO-DA 1 | 285.0 / 169.0 | 1.62 | 17 | >10 |
| HFPO-DA 2 | 285.0 / 118.8 | 1.62 | 39 | >10 |
| ADONA 1 | 377.0 / 251.0 | 1.91 | 49 | >10 |
| ADONA 2 | 377.0 / 85.0 | 1.91 | 32 | >10 |
| 9Cl-PF3ONS 1 | 531.0 / 351.0 | 2.83 | 49 | >10 |
| 9Cl-PF3ONS 2 | 531.0 / 83.0 | 2.83 | 28 | >10 |
| 11Cl-pf3OUdS 1 | 631.0 / 451.0 | 3.46 | 45 | >10 |
| 11Cl-pf3OUdS 2 | 631.0 / 83.0 | 3.46 | 31 | >10 |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE57 | Injection Vial | 7 |
| Sample ID | L6 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:51:58 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Spectra Acquisition Rate | Passing Range |
|--------------|----------------|------|--------------------------|---------------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.60 | 35 | >10 |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 28 | >10 |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 20 | >10 |
| 13C5-PFHxA | 318.0 / 273.0 | 1.51 | 30 | >10 |
| 13C4-PFHpA | 367.0 / 322.0 | 1.87 | 35 | >10 |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 40 | >10 |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 31 | >10 |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 25 | >10 |
| 13C7-PFUnA | 570.0 / 525.0 | 3.31 | 47 | >10 |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.09 | 53 | >10 |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 28 | >10 |
| 13C3-PFHxS | 402.0 / 99.0 | 1.88 | 28 | >10 |
| 13C8-PFOS | 507.0 / 99.0 | 2.62 | 40 | >10 |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 51 | >10 |



Precision and Bias at the LOQ for PFAS in non-potable Water

| Analyte | CAS No. | Average (ng/L) | ST DEV | 2 Sigma | n ¹ |
|--------------|-------------|----------------|--------|---------|----------------|
| PFBA | 375-22-4 | 11.00 | 0.9226 | 1.85 | 14 |
| PFPeA | 2706-90-3 | 9.81 | 0.7228 | 1.45 | 11 |
| PFHxA | 307-24-4 | 9.88 | 1.1365 | 2.27 | 43 |
| PFHpA | 375-85-9 | 9.76 | 0.9225 | 1.85 | 43 |
| PFOA | 335-67-1 | 9.93 | 1.3923 | 2.78 | 44 |
| PFNA | 375-95-1 | 9.71 | 1.1236 | 2.25 | 43 |
| PFDA | 335-76-2 | 9.51 | 0.9842 | 1.97 | 43 |
| PFUnA | 2058-94-8 | 9.55 | 0.9267 | 1.85 | 43 |
| PFDoA | 307-55-1 | 10.22 | 0.9055 | 1.81 | 43 |
| PFTTrDA | 72629-94-8 | 9.93 | 1.2752 | 2.55 | 43 |
| PFTeDA | 376-06-7 | 10.39 | 0.9707 | 1.94 | 43 |
| NMeFOSAA | 2355-31-9 | 10.02 | 1.5564 | 3.11 | 43 |
| NEtFOSAA | 2991-50-6 | 9.55 | 1.4218 | 2.84 | 43 |
| PFOSA | 754-91-6 | 10.06 | 0.8394 | 1.68 | 11 |
| PFBS | 375-73-5 | 9.63 | 1.1816 | 2.36 | 43 |
| PFPeS | 2706-91-4 | 9.88 | 0.9203 | 1.84 | 5 |
| PFHxS | 355-46-4 | 9.90 | 1.1346 | 2.27 | 43 |
| PFHpS | 375-92-8 | 10.13 | 1.0851 | 2.17 | 11 |
| PFOS | 1763-23-1 | 9.78 | 1.2383 | 2.48 | 44 |
| PFNS | 68259-12-1 | 9.45 | 1.0923 | 2.18 | 5 |
| PFDS | 335-77-3 | 9.55 | 1.3140 | 2.63 | 11 |
| 4:2FTS | 757124-72-4 | 10.38 | 1.7353 | 3.47 | 6 |
| 6:2FTS | 27619-97-2 | 10.08 | 1.1871 | 2.37 | 12 |
| 8:2FTS | 39108-34-4 | 9.59 | 1.4345 | 2.87 | 12 |
| HFPO-DA | 13252-13-6 | 10.92 | 1.4420 | 2.88 | 25 |
| Adona | 919005-14-4 | 10.38 | 1.4862 | 2.97 | 25 |
| 11Cl-PF3OUds | 763051-92-9 | 9.80 | 1.5701 | 3.14 | 25 |
| 9Cl-PF3ONS | 756426-58-1 | 9.52 | 1.0952 | 2.19 | 25 |

¹ Minimum of 20 samples required per QAM for determination of uncertainty, results including less than 20 data points are estimated.

BATTELLE DETECTION LIMITS FOR PFAS IN NON-POTABLE WATER

QSM 5.1.1 compliant with Table B-15 requirements

| Analyte | CAS No. | MDL (ng/L) | LOD (ng/L) | LOQ (ng/L) |
|---------------------|-------------|------------|------------|------------|
| PFBA | 375-22-4 | 0.45 | 1.0 | 5.0 |
| PFPeA | 2706-90-3 | 0.26 | 1.0 | 5.0 |
| PFHxA | 307-24-4 | 0.53 | 1.5 | 5.0 |
| PFHpA | 375-85-9 | 0.26 | 1.0 | 5.0 |
| PFOA | 335-67-1 | 0.51 | 1.5 | 5.0 |
| PFNA | 375-95-1 | 0.31 | 1.0 | 5.0 |
| PFDA | 335-76-2 | 0.14 | 0.5 | 5.0 |
| PFUnA | 2058-94-8 | 0.22 | 0.5 | 5.0 |
| PFDoA | 307-55-1 | 0.19 | 0.5 | 5.0 |
| PFTrDA | 72629-94-8 | 0.15 | 0.5 | 5.0 |
| PFTeDA | 376-06-7 | 0.73 | 2.0 | 5.0 |
| NMeFOSAA | 2355-31-9 | 0.35 | 1.0 | 5.0 |
| NEtFOSAA | 2991-50-6 | 0.50 | 1.0 | 5.0 |
| PFOSA | 754-91-6 | 0.46 | 1.0 | 5.0 |
| PFBS | 375-73-5 | 0.14 | 0.5 | 5.0 |
| PFPeS | 2706-91-4 | 0.26 | 1.0 | 5.0 |
| PFHxS | 355-46-4 | 0.11 | 0.4 | 5.0 |
| PFHpS | 375-92-8 | 0.85 | 2.0 | 5.0 |
| PFOS | 1763-23-1 | 0.44 | 1.0 | 5.0 |
| PFNS | 68259-12-1 | 0.36 | 1.0 | 5.0 |
| PFDS | 335-77-3 | 0.27 | 1.0 | 5.0 |
| 4:2FTS | 747124-72-4 | 0.50 | 1.0 | 5.0 |
| 6:2FTS | 27619-97-2 | 0.53 | 1.5 | 5.0 |
| 8:2FTS | 39108-34-4 | 0.60 | 2.0 | 5.0 |
| 3:3 FTCA | 356-02-5 | 1.32 | 3.0 | 5.0 |
| 5:3 FTCA | 914637-49-3 | 1.59 | 3.0 | 5.0 |
| 7:3 FTCA | 812-70-4 | 1.40 | 3.0 | 5.0 |
| HFPO-DA | 13252-13-6 | 0.25 | 0.5 | 5.0 |
| Adona | 919005-14-4 | 0.27 | 1.0 | 5.0 |
| 11CI-PF3OUdS | 763051-92-9 | 0.23 | 0.5 | 5.0 |
| 9CI-PF3ONS | 756426-58-1 | 0.27 | 1.0 | 5.0 |

Analytes on ELAP QSM 5.1.1 Scope of accreditation

MDL calculated based on 40 CFR 136 (2017)

Analytical Transitions for PFAS in non-potable water, solid, and tissue

| Analyte | CAS No. | Type | Primary Transition | Secondary Transition |
|--------------|-------------|--------|--------------------|----------------------|
| PFBA | 375-22-4 | Target | 213.0 / 169.0 | NA |
| PFPeA | 2706-90-3 | Target | 263.0 / 219.0 | NA |
| PFHxA | 307-24-4 | Target | 313.0 / 269.0 | 313.0 / 119.0 |
| PFHpA | 375-85-9 | Target | 363.0 / 319.0 | 363.0 / 169.0 |
| PFOA | 335-67-1 | Target | 413.0 / 369.0 | 413.0 / 169.0 |
| PFNA | 375-95-1 | Target | 463.0 / 419.0 | 463.0 / 219.0 |
| PFDA | 335-76-2 | Target | 513.0 / 469.0 | 513.0 / 219.0 |
| PFUnA | 2058-94-8 | Target | 563.0 / 519.0 | 563.0 / 269.0 |
| PFDoA | 307-55-1 | Target | 613.0 / 569.0 | 613.0 / 319.0 |
| PFTTrDA | 72629-94-8 | Target | 663.0 / 619.0 | 663.0 / 169.0 |
| PFTeDA | 376-06-7 | Target | 713.0 / 669.0 | 713.0 / 169.0 |
| NMeFOSAA | 2355-31-9 | Target | 570.0 / 419.0 | 570.0 / 512.0 |
| NEtFOSAA | 2991-50-6 | Target | 584.0 / 419.0 | 584.0 / 483.0 |
| PFOSA | 754-91-6 | Target | 498.0 / 78.0 | 498.0 / 83.0 |
| PFBS | 375-73-5 | Target | 299.0 / 80.0 | 299.0 / 99.0 |
| PFPeS | BDO-2114 | Target | 349.0 / 99.0 | 249.0 / 80.0 |
| PFHxS | 355-46-4 | Target | 399.0 / 80.0 | 399.0 / 99.0 |
| PFHpS | 375-99-6 | Target | 449.0 / 80.0 | 449.0 / 99.0 |
| PFOS | 1763-23-1 | Target | 499.0 / 80.0 | 499.0 / 99.0 |
| PFNS | 98789-57-2 | Target | 549.0 / 99.0 | 549.0 / 80.0 |
| PFDS | 2806-15-7 | Target | 599.0 / 80.0 | 599.0 / 99.0 |
| 4:2FTS | BDO-2205 | Target | 327.0 / 307.0 | 327.0 / 80.0 |
| 6:2FTS | 27619-97-2 | Target | 427.0 / 407.0 | 427.0 / 81.0 |
| 8:2FTS | 39108-34-4 | Target | 527.0 / 507.0 | 527.0 / 487.0 |
| 3:3 FTCA | 356-02-5 | Target | 241.0 / 177.0 | NA |
| 5:3 FTCA | 914637-49-3 | Target | 341.0 / 237.0 | NA |
| 7:3 FTCA | 812-70-4 | Target | 441.0 / 337.0 | NA |
| HFPO-DA | 13252-13-6 | Target | 285.0 / 169.0 | 285.0 / 118.8 |
| Adona | 919005-14-4 | Target | 377.0 / 251.0 | 377.0 / 85.0 |
| 9CI-PF3ONS | 756426-58-1 | Target | 531.0 / 351.0 | 531.0 / 83.0 |
| 11CI-PF3OUdS | 763051-92-9 | Target | 631.0 / 451.0 | 631.0 / 83.0 |

| Analyte | CAS No. | Type | Primary Transition | Secondary Transition |
|---------------------------------------|---------|------------------|--------------------|----------------------|
| 13C4-PFBA | NA | SIS ¹ | 217.0 / 172.0 | NA |
| 13C5-PFPeA | NA | SIS ¹ | 268.0 / 223.0 | NA |
| 13C5-PFHxA | NA | SIS ¹ | 318.0 / 273.0 | NA |
| 13C4-PFHpA | NA | SIS ¹ | 367.0 / 322.0 | NA |
| 13C8-PFOA | NA | SIS ¹ | 421.0 / 376.0 | NA |
| 13C9-PFNA | NA | SIS ¹ | 472.0 / 427.0 | NA |
| 13C6-PFDA | NA | SIS ¹ | 519.0 / 474.0 | NA |
| 13C7-PFUnA | NA | SIS ¹ | 570.0 / 525.0 | NA |
| 13C2-PFDoA | NA | SIS ¹ | 615.0 / 570.0 | NA |
| 13C2-PFTeDA | NA | SIS ¹ | 715.0 / 670.0 | NA |
| d3-MeFOSAA | NA | SIS ¹ | 573.0 / 419.0 | NA |
| d5-EtFOSAA | NA | SIS ¹ | 589.0 / 419.0 | NA |
| 13C8-FOSA | NA | SIS ¹ | 506.0 / 78.0 | NA |
| 13C3-PFBS | NA | SIS ¹ | 302.0 / 99.0 | NA |
| 13C3-PFHxS | NA | SIS ¹ | 402.0 / 99.0 | NA |
| 13C8-PFOS | NA | SIS ¹ | 507.0 / 99.0 | NA |
| 13C2-4:2FTS | NA | SIS ¹ | 329.0 / 81.0 | NA |
| 13C2-6:2FTS | NA | SIS ¹ | 429.0 / 81.0 | NA |
| 13C2-8:2FTS | NA | SIS ¹ | 529.0 / 81.0 | NA |
| ¹³ C ₃ -HFPO-DA | NA | SIS | 287.0 / 169.0 | NA |
| 13C3-PFBA | NA | IS ² | 216.0 / 172.0 | NA |
| 13C2-PFOA | NA | IS ² | 415.0 / 370.0 | NA |
| 13C2-PFDA | NA | IS ² | 515.0 / 470.0 | NA |
| 13C4-PFOS | NA | IS ² | 503.0 / 99.0 | NA |

¹ – extracted internal standard (surrogate)

² – injection internal standard



Non-Potable Water Calibration to Sample Equivalents

| ICAL (ng/L) | PIV (mL) | DF ¹ | Sample Size (L) | Sample Equivalent (ng/L) ² |
|-------------|----------|-----------------|-----------------|---------------------------------------|
| 125 | 1 | 1 | 0.250 | 0.5 |
| 250 | 1 | 1 | 0.250 | 1.0 |
| 500 | 1 | 1 | 0.250 | 2.0 |
| 1,000 | 1 | 1 | 0.250 | 4.0 |
| 2,500 | 1 | 1 | 0.250 | 10.0 |
| 10,000 | 1 | 1 | 0.250 | 40.0 |
| 25,000 | 1 | 1 | 0.250 | 100.0 |

¹ - base level dilution as part of the extraction procedure

² - calculated equivalent of a sample based on the ICAL concentration



Zef Scientific Inc.

12707 High Bluff Dr.
Suite 200
San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

Triple Quad 6500+

LC/MS/MS Detector System
Appendix ZEFPM003-1S

Triple Quad 6500+ Preventive Maintenance Checklist

| | |
|------------------------------|--|
| Preventive Maintenance Date: | |
| Request ID: | |
| Company Name: | |
| Instrument ID: | |
| Instrument Model: | |
| Instrument Serial Number: | |

PASS FAIL

Any failure will lead to an automatic Service Call being open to investigate fault.

Preventive Maintenance is performed twice every year unless specified in the Service Contract. It is designed to help maintain optimum system performance and to help diagnose any system deficiencies.

Engineer is required the assigned Request ID for this PM otherwise making this job invalid.

Comments: _____

Performed By: _____ **Date:** _____

Approved By : _____ **Date:** _____



Zef Scientific Inc.

12707 High Bluff Dr.
Suite 200
San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

Triple Quad 6500+

LC/MS/MS Detector System
Appendix ZEFPM003-1S

PRE-PM PPG PERFORMANCE EVALUATION:

- Consult the customer concerning the system overall performance.
- Check Logbook for services performed recently if available.
- Check Vacuum Pressure.

| CAD Settings | Vacuum Reading (10 ⁻⁵ Torr) | Acceptance Criteria |
|---------------------------------|---|------------------------------------|
| <input type="checkbox"/> CAD 0 | | 0.4 to 1.1 x 10 ⁻⁵ Torr |
| <input type="checkbox"/> CAD 12 | | 2.4 to 4.1 x 10 ⁻⁵ Torr |

- Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7M for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification.
 - No degradation or Sensitivity drop
- Check for Q3 contamination symptoms. Run Q3 POS PPG using PPG 2e-7M for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification.
 - No degradation or Sensitivity drop

**Zef Scientific Inc.**

12707 High Bluff Dr.
Suite 200
San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

Triple Quad 6500+

LC/MS/MS Detector System

Appendix ZEFPM003-1S

PPG Performance Test

(Make printouts showing all the peaks, intensities, peak widths, and mass shift values.)

Positive Mode: Masses for the peaks of interest are: 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427.

High Mass Test

Perform High Mass Q1 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q1 Intensity | | Q1 Width Value | Width Specs |
|-------------|--------------|-----------|----------------|-------------|
| | Value | Specs | | |
| Q1 500.380 | | Read Only | | Read Only |
| Q1 616.464 | | Read Only | | Read Only |
| Q1 906.673 | | Read Only | | Read Only |
| Q1 1952.427 | | Read Only | | Read Only |

Perform High Mass Q3 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q3 Intensity | | Q3 Width Value | Width Specs |
|-------------|--------------|-----------|----------------|-------------|
| | Value | Specs | | |
| Q3 500.380 | | Read Only | | Read Only |
| Q3 616.464 | | Read Only | | Read Only |
| Q3 906.673 | | Read Only | | Read Only |
| Q3 1952.427 | | Read Only | | Read Only |

Low Mass Test

Perform Low Mass Q1 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q1 Intensity | | Q1 Width Value | Width Specs |
|------------|--------------|-----------|----------------|-------------|
| | Value | Specs | | |
| Q1 175.133 | | Read Only | | Read Only |
| Q1 500.380 | | Read Only | | Read Only |
| Q1 616.464 | | Read Only | | Read Only |
| Q1 906.673 | | Read Only | | Read Only |

Perform Low Mass Q3 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q3 Intensity | | Q3 Width Value | Width Specs |
|------------|--------------|-----------|----------------|-------------|
| | Value | Specs | | |
| Q3 175.133 | | Read Only | | Read Only |
| Q3 500.380 | | Read Only | | Read Only |
| Q3 616.464 | | Read Only | | Read Only |
| Q3 906.673 | | Read Only | | Read Only |

**Zef Scientific Inc.**

12707 High Bluff Dr.
Suite 200
San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

Triple Quad 6500+

LC/MS/MS Detector System

Appendix ZEFPM003-1S

Preventive Maintenance Procedure

- Check cooling fans in mass spec if working. Replace them soon, if defective.
- Clean bench cooling fans if applicable. Replace them soon, if defective.
- Record AC input voltage while MS is OFF: _____ (200 to 240 Vac).
Notify customer if input voltage is out of range.
- After venting, clean Interface region:
 - Curtain Plate
 - Orifice Plate atmosphere side
 - Orifice Plate vacuum side
 - Ion Drive QJet and IQ0.
- Check Q0 for signs of arcing and clean with cleaning solvent.
- Replace Roughing Pump Oil.
- Clean oil exhaust Filter.

Replace if necessary. N/A
- Adjust Multiplier Voltage if necessary.
- Clean or replace Air Filters.
- Clean the turbo pump filter screen if applicable.
- Check Orifice resistances.

Replace it soon if out of resistance specifications. N/A
- Replace Electrode if necessary in Ion Drive Turbo V source.
- Check Turbo heaters resistances and their physical conditions in Ion Drive Turbo V source.

Replace the defective heaters if necessary. N/A
- Check the APCI heater resistance. Verify Temperature reaches setpoint

Replace the heater if necessary. N/A
- Turn on the mass spec and rough pumps for pumping down.
- Verify Temperature reaches setpoint in both TIS and APCI modes if applicable.

**Zef Scientific Inc.**

12707 High Bluff Dr.
Suite 200
San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

Triple Quad 6500+

LC/MS/MS Detector System

Appendix ZEFPM003-1S

POST- PM PPG PERFORMANCE TESTS:

- Set-up PPG standard for infusion.
- Check spray and adjust sprayer's position of the Ion Drive Turbo V source.
- Check Vacuum Pressure:

| CAD Settings | Vacuum Reading (10^{-5} Torr) | Acceptance Criteria |
|---------------------------------|-------------------------------------|----------------------------------|
| <input type="checkbox"/> CAD 0 | | 0.4 to 1.1×10^{-5} Torr |
| <input type="checkbox"/> CAD 12 | | 2.4 to 4.1×10^{-5} Torr |

- Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7M for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification.
 - No degradation or Sensitivity drop
- Check for Q3 contamination symptoms. Run Q3 POS PPG using PPG 2e-7M for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification.
 - No degradation or Sensitivity drop

PPG Performance Test

(Mass calibrate to less than 0.1 amu. Make printouts showing all the peaks, intensities, peak widths, and mass shift values.)

Positive Mode: Masses for the peaks of interest are: 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427.

Negative Mode: Masses for the peaks of interest are: 44.998, 411.259, 585.385, 933.636, 1223.845, 1572.097, 1863.306, 1979.389.

**Zef Scientific Inc.**

12707 High Bluff Dr.
Suite 200
San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

Triple Quad 6500+

LC/MS/MS Detector System

Appendix ZEFPM003-1S

High Mass Test

Perform High Mass Q1 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q1 Intensity | | Q1 Width Value | Width Specs |
|-------------|--------------|---------------------------------|----------------|-------------|
| | Value | Specs | | |
| Q1 500.380 | | $\geq 3.2 \text{ }^{\text{e}}7$ | | 0.6 to 0.8 |
| Q1 616.464 | | $\geq 2.0 \text{ }^{\text{e}}7$ | | 0.6 to 0.8 |
| Q1 906.673 | | $\geq 9.6 \text{ }^{\text{e}}7$ | | 0.6 to 0.8 |
| Q1 1952.427 | | $\geq 2.4 \text{ }^{\text{e}}6$ | | 0.6 to 0.8 |

Perform High Mass Q3 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q3 Intensity | | Q3 Width Value | Width Specs |
|-------------|--------------|---------------------------------|----------------|-------------|
| | Value | Specs | | |
| Q3 500.380 | | $\geq 3.2 \text{ }^{\text{e}}7$ | | 0.6 to 0.8 |
| Q3 616.464 | | $\geq 2.0 \text{ }^{\text{e}}7$ | | 0.6 to 0.8 |
| Q3 906.673 | | $\geq 9.6 \text{ }^{\text{e}}7$ | | 0.6 to 0.8 |
| Q3 1952.427 | | $\geq 2.4 \text{ }^{\text{e}}6$ | | 0.6 to 0.8 |

Perform MSMS POS in Product Ion scan with 907 parent and record daughter 175.1 using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | MSMS Intensity | | MSMS Width Value | Width Specs |
|-------------|----------------|-----------|------------------|-------------|
| | Value | Spec | | |
| MS/MS 175.1 | | Read Only | | Read Only |

Perform Q1 NEG using NEG PPG 3 x 10⁻⁵ M (10:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q1 Intensity | | Q1 Width Value | Width Specs |
|-------------|--------------|---------------------------------|----------------|-------------|
| | Value | Specs | | |
| Q1 933.636 | | $\geq 1.8 \text{ }^{\text{e}}7$ | | 0.6 to 0.8 |
| Q1 1863.306 | | $\geq 1.0 \text{ }^{\text{e}}6$ | | 0.6 to 0.8 |

Perform Q3 NEG using NEG PPG 3 x 10⁻⁵ M (10:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q3 Intensity | | Q3 Width Value | Width Specs |
|-------------|--------------|---------------------------------|----------------|-------------|
| | Value | Specs | | |
| Q3 933.636 | | $\geq 1.8 \text{ }^{\text{e}}7$ | | 0.6 to 0.8 |
| Q3 1863.306 | | $\geq 1.0 \text{ }^{\text{e}}6$ | | 0.6 to 0.8 |

**Zef Scientific Inc.**

12707 High Bluff Dr.
Suite 200
San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

Triple Quad 6500+

LC/MS/MS Detector System

Appendix ZEFPM003-1S

Low Mass Test

Perform Low Mass Q1 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q1 Intensity | | Q1 Width Value | Width Specs |
|------------|--------------|----------------------------------|----------------|-------------|
| | Value | Specs | | |
| Q1 175.133 | | $\geq 8.0 \text{ }^{\text{e}6}$ | | 0.6 to 0.8 |
| Q1 500.380 | | $\geq 3.68 \text{ }^{\text{e}7}$ | | 0.6 to 0.8 |
| Q1 616.464 | | $\geq 2.4 \text{ }^{\text{e}7}$ | | 0.6 to 0.8 |
| Q1 906.673 | | $\geq 1.0 \text{ }^{\text{e}8}$ | | 0.6 to 0.8 |

Perform Low Mass Q3 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q3 Intensity | | Q3 Width Value | Width Specs |
|------------|--------------|----------------------------------|----------------|-------------|
| | Value | Specs | | |
| Q3 175.133 | | $\geq 8.0 \text{ }^{\text{e}6}$ | | 0.6 to 0.8 |
| Q3 500.380 | | $\geq 3.68 \text{ }^{\text{e}7}$ | | 0.6 to 0.8 |
| Q3 616.464 | | $\geq 2.4 \text{ }^{\text{e}7}$ | | 0.6 to 0.8 |
| Q3 906.673 | | $\geq 1.0 \text{ }^{\text{e}8}$ | | 0.6 to 0.8 |

Perform Q1 NEG using NEG PPG 3 x 10-5 M (10:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q1 Intensity | | Q1 Width Value | Width Specs |
|------------|--------------|---------------------------------|----------------|-------------|
| | Value | Spec | | |
| Q1 933.636 | | $\geq 1.8 \text{ }^{\text{e}7}$ | | 0.6 to 0.8 |

Perform Q3 NEG using NEG PPG 3 x 10-5 M (10:1). Scan Rate 10 Da/s. Record 10 MCA.

| Mass | Q3 Intensity | | Q3 Width Value | Width Specs |
|------------|--------------|---------------------------------|----------------|-------------|
| | Value | Spec | | |
| Q3 933.636 | | $\geq 1.8 \text{ }^{\text{e}7}$ | | 0.6 to 0.8 |

Perform MSMS NEG in Product Ion scan with 933.6 parent and record daughter 45.0 using NEG PPG 3 x 10-5 M (10:1) at the scan rate of 10 Da/s for 10 MCA.

| Mass | MSMS Intensity | | MSMS Width Value | Width Specs |
|------------|----------------|-----------|------------------|-------------|
| | Value | Spec | | |
| MS/MS 45.0 | | Read Only | | Read Only |

**Zef Scientific Inc.**

12707 High Bluff Dr.
Suite 200
San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

Triple Quad 6500+

LC/MS/MS Detector System
Appendix ZEFPM003-1S

REVIEW:

- Attach all printouts to this checklist.
- If any parameter setting access modes were changed during the PM, ensure that they are returned to their normal access mode and that their offsets are adjusted to match optimized values from the post-PM acquisition files.
- Empty tuning cache folder, if necessary. N/A
- Fill and replaced PM Label.

END OF PREVENTIVE MAINTENANCE PROCEDURE**Document history:**

04 OCT 2016: Appendix ZEFPM003-1S: New SOP Appendix.

| Battelle Standard ID | Description | Intermediate Solutions | | | Battelle Reagent ID (purchased solutions) |
|----------------------|---|------------------------|------|------|---|
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-01 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-02 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-03 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-04 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-05 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-06 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-07 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-08 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-09 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-10 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-11 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-12 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-13 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-14 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-15 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-16 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-17 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-18 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-19 |
| LE39 | PFAS - DoD Low Level Labelled Extracted Internal Standard | LB74 | - | - | 200721-20 |
| LE64 | PFAS - DoD Second Source LCS/MS Solution | - | - | - | 201112-01 |
| LE64 | PFAS - DoD Second Source LCS/MS Solution | LC24 | - | - | 200811-01 |
| LE64 | PFAS - DoD Second Source LCS/MS Solution | LC24 | - | - | 200811-02 |
| LE64 | PFAS - DoD Second Source LCS/MS Solution | LC24 | - | - | 200811-03 |
| LE40 | PFAS - DoD Internal Standard Spiking Solution | LB75 | - | - | 200721-21 |
| LE40 | PFAS - DoD Internal Standard Spiking Solution | LB75 | - | - | 200721-22 |
| LE40 | PFAS - DoD Internal Standard Spiking Solution | LB75 | - | - | 200721-23 |
| LE40 | PFAS - DoD Internal Standard Spiking Solution | LB75 | - | - | 200721-24 |
| LE52 | PFAS - DoD Calibration L1 | LB78 | LB75 | - | 200721-21 |
| LE52 | PFAS - DoD Calibration L1 | LB78 | LB75 | - | 200721-22 |
| LE52 | PFAS - DoD Calibration L1 | LB78 | LB75 | - | 200721-23 |
| LE52 | PFAS - DoD Calibration L1 | LB78 | LB75 | - | 200721-24 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-01 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-02 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-03 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-04 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-05 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-06 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-07 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-08 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-09 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-10 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-11 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-12 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-13 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-14 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-15 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-16 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-17 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-18 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-19 |
| LE52 | PFAS - DoD Calibration L1 | LD73 | LB74 | - | 200721-20 |
| LE52 | PFAS - DoD Calibration L1 | LE51 | LE50 | LC24 | 200811-01 |
| LE52 | PFAS - DoD Calibration L1 | LE51 | LE50 | LC24 | 200811-02 |
| LE52 | PFAS - DoD Calibration L1 | LE51 | LE50 | LC24 | 200811-03 |
| LE52 | PFAS - DoD Calibration L1 | LE51 | LE50 | - | 200914-01 |
| LE53 | PFAS - DoD Calibration L2 | LB78 | LB75 | - | 200721-21 |
| LE53 | PFAS - DoD Calibration L2 | LB78 | LB75 | - | 200721-22 |

| Battelle Standard ID | Description | Intermediate Solutions | | | Battelle Reagent ID (purchased solutions) |
|----------------------|---------------------------|------------------------|------|------|---|
| LE53 | PFAS - DoD Calibration L2 | LB78 | LB75 | - | 200721-23 |
| LE53 | PFAS - DoD Calibration L2 | LB78 | LB75 | - | 200721-24 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-01 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-02 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-03 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-04 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-05 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-06 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-07 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-08 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-09 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-10 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-11 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-12 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-13 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-14 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-15 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-16 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-17 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-18 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-19 |
| LE53 | PFAS - DoD Calibration L2 | LD73 | LB74 | - | 200721-20 |
| LE53 | PFAS - DoD Calibration L2 | LE51 | LE50 | LC24 | 200811-01 |
| LE53 | PFAS - DoD Calibration L2 | LE51 | LE50 | LC24 | 200811-02 |
| LE53 | PFAS - DoD Calibration L2 | LE51 | LE50 | LC24 | 200811-03 |
| LE53 | PFAS - DoD Calibration L2 | LE51 | LE50 | - | 200914-01 |
| LE54 | PFAS - DoD Calibration L3 | LB78 | LB75 | - | 200721-21 |
| LE54 | PFAS - DoD Calibration L3 | LB78 | LB75 | - | 200721-22 |
| LE54 | PFAS - DoD Calibration L3 | LB78 | LB75 | - | 200721-23 |
| LE54 | PFAS - DoD Calibration L3 | LB78 | LB75 | - | 200721-24 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-01 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-02 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-03 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-04 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-05 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-06 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-07 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-08 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-09 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-10 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-11 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-12 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-13 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-14 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-15 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-16 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-17 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-18 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-19 |
| LE54 | PFAS - DoD Calibration L3 | LD73 | LB74 | - | 200721-20 |
| LE54 | PFAS - DoD Calibration L3 | LE50 | LC24 | - | 200811-01 |
| LE54 | PFAS - DoD Calibration L3 | LE50 | LC24 | - | 200811-02 |
| LE54 | PFAS - DoD Calibration L3 | LE50 | LC24 | - | 200811-03 |
| LE54 | PFAS - DoD Calibration L3 | LE50 | - | - | 200914-01 |
| LE55 | PFAS - DoD Calibration L4 | LB78 | LB75 | - | 200721-21 |
| LE55 | PFAS - DoD Calibration L4 | LB78 | LB75 | - | 200721-22 |
| LE55 | PFAS - DoD Calibration L4 | LB78 | LB75 | - | 200721-23 |
| LE55 | PFAS - DoD Calibration L4 | LB78 | LB75 | - | 200721-24 |

| Battelle Standard ID | Description | Intermediate Solutions | | | Battelle Reagent ID (purchased solutions) |
|----------------------|---------------------------|------------------------|------|---|---|
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-01 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-02 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-03 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-04 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-05 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-06 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-07 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-08 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-09 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-10 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-11 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-12 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-13 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-14 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-15 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-16 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-17 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-18 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-19 |
| LE55 | PFAS - DoD Calibration L4 | LD73 | LB74 | - | 200721-20 |
| LE55 | PFAS - DoD Calibration L4 | LE50 | LC24 | - | 200811-01 |
| LE55 | PFAS - DoD Calibration L4 | LE50 | LC24 | - | 200811-02 |
| LE55 | PFAS - DoD Calibration L4 | LE50 | LC24 | - | 200811-03 |
| LE55 | PFAS - DoD Calibration L4 | LE50 | - | - | 200914-01 |
| LE56 | PFAS - DoD Calibration L5 | LB78 | LB75 | - | 200721-21 |
| LE56 | PFAS - DoD Calibration L5 | LB78 | LB75 | - | 200721-22 |
| LE56 | PFAS - DoD Calibration L5 | LB78 | LB75 | - | 200721-23 |
| LE56 | PFAS - DoD Calibration L5 | LB78 | LB75 | - | 200721-24 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-01 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-02 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-03 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-04 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-05 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-06 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-07 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-08 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-09 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-10 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-11 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-12 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-13 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-14 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-15 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-16 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-17 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-18 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-19 |
| LE56 | PFAS - DoD Calibration L5 | LD73 | LB74 | - | 200721-20 |
| LE56 | PFAS - DoD Calibration L5 | LE50 | LC24 | - | 200811-01 |
| LE56 | PFAS - DoD Calibration L5 | LE50 | LC24 | - | 200811-02 |
| LE56 | PFAS - DoD Calibration L5 | LE50 | LC24 | - | 200811-03 |
| LE56 | PFAS - DoD Calibration L5 | LE50 | - | - | 200914-01 |
| LE57 | PFAS - DoD Calibration L6 | LB78 | LB75 | - | 200721-21 |
| LE57 | PFAS - DoD Calibration L6 | LB78 | LB75 | - | 200721-22 |
| LE57 | PFAS - DoD Calibration L6 | LB78 | LB75 | - | 200721-23 |
| LE57 | PFAS - DoD Calibration L6 | LB78 | LB75 | - | 200721-24 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-01 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-02 |

| Battelle Standard ID | Description | Intermediate Solutions | | | Battelle Reagent ID (purchased solutions) |
|----------------------|---------------------------|------------------------|------|---|---|
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-03 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-04 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-05 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-06 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-07 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-08 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-09 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-10 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-11 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-12 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-13 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-14 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-15 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-16 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-17 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-18 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-19 |
| LE57 | PFAS - DoD Calibration L6 | LD73 | LB74 | - | 200721-20 |
| LE57 | PFAS - DoD Calibration L6 | LE50 | LC24 | - | 200811-01 |
| LE57 | PFAS - DoD Calibration L6 | LE50 | LC24 | - | 200811-02 |
| LE57 | PFAS - DoD Calibration L6 | LE50 | LC24 | - | 200811-03 |
| LE57 | PFAS - DoD Calibration L6 | LE50 | - | - | 200914-01 |
| LE59 | PFAS - DoD ICC | LB78 | LB75 | - | 200721-21 |
| LE59 | PFAS - DoD ICC | LB78 | LB75 | - | 200721-22 |
| LE59 | PFAS - DoD ICC | LB78 | LB75 | - | 200721-23 |
| LE59 | PFAS - DoD ICC | LB78 | LB75 | - | 200721-24 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-01 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-02 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-03 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-04 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-05 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-06 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-07 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-08 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-09 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-10 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-11 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-12 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-13 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-14 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-15 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-16 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-17 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-18 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-19 |
| LE59 | PFAS - DoD ICC | LD73 | LB74 | - | 200721-20 |
| LE59 | PFAS - DoD ICC | LE49 | LC24 | - | 200811-01 |
| LE59 | PFAS - DoD ICC | LE49 | LC24 | - | 200811-02 |
| LE59 | PFAS - DoD ICC | LE49 | LC24 | - | 200811-03 |
| LE59 | PFAS - DoD ICC | LE49 | - | - | 200909-01 |
| LE59 | PFAS - DoD ICC | LE49 | - | - | 201006-07 |



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LB74**

Description: PFAS - DoD SIS Stock

| Stock Id: 200721-01 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------------|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| | 13C4-PFBA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-02 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C5-PFPeA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-03 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C5-PFHxA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-04 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C4-PFHpA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-05 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C8-PFOA | 1000 | 48.90 | 1 | 97.800 | 1 | 50 | 0.97800 |
| Stock Id: 200721-06 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C9-PFNA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-07 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C6-PFDA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-08 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C7-PFUnA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-09 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C2-PFDoA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/21/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise Date: 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LB74**

Description: PFAS - DoD SIS Stock

| Stock Id: 200721-10 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------------|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| | 13C2-PFTeDA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-11 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C2-4:2FTS | 1000 | 46.70 | 1 | 98.000 | 1 | 50 | 0.93400 |
| Stock Id: 200721-12 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C2-6:2FTS | 1000 | 47.50 | 1 | 98.000 | 1 | 50 | 0.95000 |
| Stock Id: 200721-13 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C2-8:2FTS | 1000 | 47.90 | 1 | 98.000 | 1 | 50 | 0.95800 |
| Stock Id: 200721-14 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C3-PFBS | 1000 | 46.50 | 1 | 98.000 | 1 | 50 | 0.93000 |
| Stock Id: 200721-15 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C3-PFHxS | 1000 | 47.30 | 1 | 98.000 | 1 | 50 | 0.94600 |
| Stock Id: 200721-16 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | 13C8-PFOS | 1000 | 47.80 | 1 | 98.000 | 1 | 50 | 0.95600 |
| Stock Id: 200721-17 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | d3-MeFOSAA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-18 | Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| | d5-EtFOSAA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/21/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise Date: 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LB74**

Description: PFAS - DoD SIS Stock

Stock Id: 200721-19

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C8-FOSA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |

Stock Id: 200721-20

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C3-HFPO-DA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--------------|---------------|
| 13C2-4:2FTS | .93400 |
| 13C2-6:2FTS | .95000 |
| 13C2-8:2FTS | .95800 |
| 13C2-PFDoA | 1.00000 |
| 13C2-PFTeDA | 1.00000 |
| 13C3-HFPO-DA | 1.00000 |
| 13C3-PFBS | .93000 |
| 13C3-PFHxS | .94600 |
| 13C4-PFBA | 1.00000 |
| 13C4-PFHpA | 1.00000 |
| 13C5-PFHxA | 1.00000 |
| 13C5-PFPeA | 1.00000 |
| 13C6-PFDA | 1.00000 |
| 13C7-PFUnA | 1.00000 |
| 13C8-FOSA | 1.00000 |
| 13C8-PFOA | .97800 |
| 13C8-PFOS | .95600 |
| 13C9-PFNA | 1.00000 |
| d3-MeFOSAA | 1.00000 |
| d5-EtFOSAA | 1.00000 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| 200721-01 | Pipette | B820865811 |
| 200721-02 | Pipette | B820865811 |
| 200721-03 | Pipette | B820865811 |
| 200721-04 | Pipette | B820865811 |

| | | |
|---|---------------------------------|-----------------------------------|
| Solution Prepared By: Schultz, Stephanie | Date Prepared: 7/21/2020 | Expiration Date: 7/21/2021 |
|---|---------------------------------|-----------------------------------|

| | |
|--|--|
| Solution Volume : 40 mL X 5 Vials | Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 |
|--|--|

| |
|---|
| Comment: 96/4 methanol/milli-q water (RP-200722-1) |
|---|

Approved By: Schumitz, Denise Date: 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LB74

Description: PFAS - DoD SIS Stock

| | | |
|-----------|---------|------------|
| 200721-05 | Pipette | B820865811 |
| 200721-06 | Pipette | B820865811 |
| 200721-07 | Pipette | B820865811 |
| 200721-08 | Pipette | B820865811 |
| 200721-09 | Pipette | B820865811 |
| 200721-10 | Pipette | B820865811 |
| 200721-11 | Pipette | B820865811 |
| 200721-12 | Pipette | B820865811 |
| 200721-13 | Pipette | B820865811 |
| 200721-14 | Pipette | B820865811 |
| 200721-15 | Pipette | B820865811 |
| 200721-16 | Pipette | B820865811 |
| 200721-17 | Pipette | B820865811 |
| 200721-18 | Pipette | B820865811 |
| 200721-19 | Pipette | B820865811 |
| 200721-20 | Pipette | B820865811 |

| | | |
|---|---------------------------------|-----------------------------------|
| Solution Prepared By: Schultz, Stephanie | Date Prepared: 7/21/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise **Date:** 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LB75**

Description: PFAS - DoD RIS Stock

| Stock Id: 200721-21 | | | | | | | |
|---------------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| 13C2-PFDA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-22 | | | | | | | |
| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| 13C2-PFOA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-23 | | | | | | | |
| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| 13C3-PFBA | 1000 | 50.00 | 1 | 98.000 | 1 | 50 | 1.00000 |
| Stock Id: 200721-24 | | | | | | | |
| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| 13C4-PFOS | 1000 | 47.80 | 1 | 98.000 | 1 | 50 | 0.95600 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|-----------|---------------|
| 13C2-PFDA | 1.00000 |
| 13C2-PFOA | 1.00000 |
| 13C3-PFBA | 1.00000 |
| 13C4-PFOS | .95600 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| 200721-21 | Pipette | B820865811 |
| 200721-22 | Pipette | B820865811 |
| 200721-23 | Pipette | B820865811 |
| 200721-24 | Pipette | B820865811 |

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/21/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0123

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise Date: 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: LB78

Description: PFAS - DoD Internal Standard Stock Solution

Stock Id: LB75

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-PFDA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C2-PFOA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C3-PFBA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C4-PFOS | 5000 | 0.96 | --- | --- | 1 | 50 | 0.09560 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|-----------|---------------|
| 13C2-PFDA | .10000 |
| 13C2-PFOA | .10000 |
| 13C3-PFBA | .10000 |
| 13C4-PFOS | .09560 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB75 | Pipette | B906204506 |

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 7/21/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 5 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise **Date:** 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: LC24

Description: PFAS - FTCA Stock

| Stock Id: 200811-01 | | | | | | | |
|----------------------------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| 3-perfluoropropyl propanoic Acid | 1000 | 50.00 | 1 | 98.000 | 1 | 10 | 5.00000 |
| Stock Id: 200811-02 | | | | | | | |
| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| 3-Perfluoroheptyl propanoic acid | 1000 | 50.00 | 1 | 98.000 | 1 | 10 | 5.00000 |
| Stock Id: 200811-03 | | | | | | | |
| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
| 3-Perfluoropentyl propanoic acid | 1000 | 50.00 | 1 | 98.000 | 1 | 10 | 5.00000 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|----------------------------------|---------------|
| 3-Perfluoroheptyl propanoic acid | 5.00000 |
| 3-Perfluoropentyl propanoic acid | 5.00000 |
| 3-perfluoropropyl propanoic Acid | 5.00000 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| 200811-01 | Pipette | B909301606 |
| 200811-02 | Pipette | B909301606 |
| 200811-03 | Pipette | B909301606 |

Solution Prepared By: Bailey, Kevin Date Prepared: 8/11/2020 Expiration Date: 8/11/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Freezer - F0111

Comment:

Approved By: Schumitz, Denise Date: 8/12/2020 8:20:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LD73**

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

Stock Id: **LB74**

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-4:2FTS | 5000 | 0.93 | --- | --- | 1 | 50 | 0.09340 |
| 13C2-6:2FTS | 5000 | 0.95 | --- | --- | 1 | 50 | 0.09500 |
| 13C2-8:2FTS | 5000 | 0.96 | --- | --- | 1 | 50 | 0.09580 |
| 13C2-PFDoA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C2-PFTeDA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C3-HFPO-DA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C3-PFBS | 5000 | 0.93 | --- | --- | 1 | 50 | 0.09300 |
| 13C3-PFHxS | 5000 | 0.95 | --- | --- | 1 | 50 | 0.09460 |
| 13C4-PFBA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C4-PFHpA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C5-PFHxA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C5-PFPeA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C6-PFDA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C7-PFUnA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C8-FOSA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| 13C8-PFOA | 5000 | 0.98 | --- | --- | 1 | 50 | 0.09780 |
| 13C8-PFOS | 5000 | 0.96 | --- | --- | 1 | 50 | 0.09560 |
| 13C9-PFNA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| d3-MeFOSAA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |
| d5-EtFOSAA | 5000 | 1.00 | --- | --- | 1 | 50 | 0.10000 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--------------|---------------|
| 13C2-4:2FTS | .09340 |
| 13C2-6:2FTS | .09500 |
| 13C2-8:2FTS | .09580 |
| 13C2-PFDoA | .10000 |
| 13C2-PFTeDA | .10000 |
| 13C3-HFPO-DA | .10000 |
| 13C3-PFBS | .09300 |
| 13C3-PFHxS | .09460 |
| 13C4-PFBA | .10000 |
| 13C4-PFHpA | .10000 |
| 13C5-PFHxA | .10000 |
| 13C5-PFPeA | .10000 |
| 13C6-PFDA | .10000 |

Solution Prepared By: Bailey, Kevin Date Prepared: 10/22/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q (RP-201022-2)

Approved By: Schumitz, Denise Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: LD73

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

| | |
|------------|--------|
| 13C7-PFUnA | .10000 |
| 13C8-FOSA | .10000 |
| 13C8-PFOA | .09780 |
| 13C8-PFOS | .09560 |
| 13C9-PFNA | .10000 |
| d3-MeFOSAA | .10000 |
| d5-EtFOSAA | .10000 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB74 | Pipette | B820865811 |

Solution Prepared By: Bailey, Kevin **Date Prepared:** 10/22/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 5 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q (RP-201022-2)

Approved By: Schumitz, Denise **Date:** 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE39**

Description: PFAS - DoD Low Level Labelled Extracted Internal Standard

Stock Id: **LB74**

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-4:2FTS | 2000 | 0.93 | --- | --- | 1 | 200 | 0.00934 |
| 13C2-6:2FTS | 2000 | 0.95 | --- | --- | 1 | 200 | 0.00950 |
| 13C2-8:2FTS | 2000 | 0.96 | --- | --- | 1 | 200 | 0.00958 |
| 13C2-PFDoA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C2-PFTeDA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C3-HFPO-DA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C3-PFBS | 2000 | 0.93 | --- | --- | 1 | 200 | 0.00930 |
| 13C3-PFHxS | 2000 | 0.95 | --- | --- | 1 | 200 | 0.00946 |
| 13C4-PFBA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C4-PFHpA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C5-PFHxA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C5-PFPeA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C6-PFDA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C7-PFUnA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C8-FOSA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C8-PFOA | 2000 | 0.98 | --- | --- | 1 | 200 | 0.00978 |
| 13C8-PFOS | 2000 | 0.96 | --- | --- | 1 | 200 | 0.00956 |
| 13C9-PFNA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| d3-MeFOSAA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| d5-EtFOSAA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--------------|---------------|
| 13C2-4:2FTS | .00934 |
| 13C2-6:2FTS | .00950 |
| 13C2-8:2FTS | .00958 |
| 13C2-PFDoA | .01000 |
| 13C2-PFTeDA | .01000 |
| 13C3-HFPO-DA | .01000 |
| 13C3-PFBS | .00930 |
| 13C3-PFHxS | .00946 |
| 13C4-PFBA | .01000 |
| 13C4-PFHpA | .01000 |
| 13C5-PFHxA | .01000 |
| 13C5-PFPeA | .01000 |
| 13C6-PFDA | .01000 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/4/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 8 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-201104-11)

Approved By: Schumitz, Denise Date: 11/5/2020 10:09:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: LE39

Description: PFAS - DoD Low Level Labelled Extracted Internal Standard

| | |
|------------|--------|
| 13C7-PFUnA | .01000 |
| 13C8-FOSA | .01000 |
| 13C8-PFOA | .00978 |
| 13C8-PFOS | .00956 |
| 13C9-PFNA | .01000 |
| d3-MeFOSAA | .01000 |
| d5-EtFOSAA | .01000 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB74 | Pipette | B820865811 |

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/4/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 8 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-201104-11)

Approved By: Schumitz, Denise **Date:** 11/5/2020 10:09:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE40**

Description: PFAS - DoD Internal Standard Spiking Solution

Stock Id: **LB75**

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-PFDA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C2-PFOA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C3-PFBA | 2000 | 1.00 | --- | --- | 1 | 200 | 0.01000 |
| 13C4-PFOS | 2000 | 0.96 | --- | --- | 1 | 200 | 0.00956 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|-----------|---------------|
| 13C2-PFDA | .01000 |
| 13C2-PFOA | .01000 |
| 13C3-PFBA | .01000 |
| 13C4-PFOS | .00956 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB75 | Pipette | B820865811 |

| | | |
|--|---------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/4/2020 | Expiration Date: 7/21/2021 |
|--|---------------------------------|-----------------------------------|

| | |
|--|--|
| Solution Volume : 40 mL X 8 Vials | Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 |
|--|--|

| |
|--|
| Comment: 96/4 methanol/milli-q (RP-201104-12) |
|--|

Approved By: Schumitz, Denise Date: 11/5/2020 10:54:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE49**

Description: PFAS - DoD Second Source LCS/MS Solution

Stock Id: **200909-01**

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|---------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 0 | 1.01 | 1 | 100.000 | 1 | 10 | 0.00000 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Adona | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Hexafluoropropylene oxide dimer acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-1-butanefluoride | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-1-decanesulfonate | 0 | 1.01 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-1-heptanesulfonate | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-1-hexanesulfonate | 0 | 1.01 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-1-nonanesulfonate | 0 | 1.01 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-1-octanesulfonamide | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-1-octanesulfonate | 0 | 1.01 | 1 | 100.000 | 1 | 10 | 0.00000 |
| perfluoro-1-pentanesulfonate | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-butanoic Acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-decanoic Acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-dodecanoic acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-heptanoic Acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-hexanoic acid | 0 | 1.01 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-octanoic Acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluorononanoic Acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-pentanoic acid | 0 | 1.01 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-tetradecanoic acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-tridecanoic acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |
| Perfluoro-n-undecanoic acid | 0 | 1.00 | 1 | 100.000 | 1 | 10 | 0.00000 |

Stock Id: **201006-07**

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|---------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 1000 | 1.01 | 1 | 100.000 | 1 | 10 | 0.10100 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/10/2020 Expiration Date: 8/11/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201110-)

Approved By: Schumitz, Denise Date: 11/11/2020 1:05:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE49
Description: PFAS - DoD Second Source LCS/MS Solution

| | | | | | | | |
|---|------|------|---|---------|---|----|---------|
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Adona | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Hexafluoropropylene oxide dimer acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-1-butanesulfonate | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-1-decanesulfonate | 1000 | 1.01 | 1 | 100.000 | 1 | 10 | 0.10100 |
| Perfluoro-1-heptanesulfonate | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-1-hexanesulfonate | 1000 | 1.01 | 1 | 100.000 | 1 | 10 | 0.10100 |
| Perfluoro-1-nonanesulfonate | 1000 | 1.01 | 1 | 100.000 | 1 | 10 | 0.10100 |
| Perfluoro-1-octanesulfonamide | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-1-octanesulfonate | 1000 | 1.01 | 1 | 100.000 | 1 | 10 | 0.10100 |
| perfluoro-1-pentanesulfonate | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-n-butanoic Acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-n-decanoic Acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-n-dodecanoic acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-n-heptanoic Acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-n-hexanoic acid | 1000 | 1.01 | 1 | 100.000 | 1 | 10 | 0.10100 |
| Perfluoro-n-octanoic Acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluorononanoic Acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-n-pentanoic acid | 1000 | 1.01 | 1 | 100.000 | 1 | 10 | 0.10100 |
| Perfluoro-n-tetradecanoic acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-n-tridecanoic acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |
| Perfluoro-n-undecanoic acid | 1000 | 1.00 | 1 | 100.000 | 1 | 10 | 0.10000 |

Stock Id: LC24

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|----------------------------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 3-Perfluoroheptyl propanoic acid | 200 | 5.00 | --- | --- | 1 | 10 | 0.10000 |
| 3-Perfluoropentyl propanoic acid | 200 | 5.00 | --- | --- | 1 | 10 | 0.10000 |
| 3-perfluoropropyl propanoic Acid | 200 | 5.00 | --- | --- | 1 | 10 | 0.10000 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .10000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .10100 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .10000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .10000 |
| 3-Perfluoroheptyl propanoic acid | .10000 |
| 3-Perfluoropentyl propanoic acid | .10000 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/10/2020 | Expiration Date: 8/11/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201110-)

Approved By: Schumitz, Denise **Date:** 11/11/2020 1:05:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE49
Description: PFAS - DoD Second Source LCS/MS Solution

| | |
|--|--------|
| 3-perfluoropropyl propanoic Acid | .10000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .10000 |
| Adona | .10000 |
| Hexafluoropropylene oxide dimer acid | .10000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .10000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .10000 |
| Perfluoro-1-butanedisulfonate | .10000 |
| Perfluoro-1-decanedisulfonate | .10100 |
| Perfluoro-1-heptanedisulfonate | .10000 |
| Perfluoro-1-hexanedisulfonate | .10100 |
| Perfluoro-1-nonanedisulfonate | .10100 |
| Perfluoro-1-octanesulfonamide | .10000 |
| Perfluoro-1-octanesulfonate | .10100 |
| perfluoro-1-pentanedisulfonate | .10000 |
| Perfluoro-n-butanedioic Acid | .10000 |
| Perfluoro-n-decanedioic Acid | .10000 |
| Perfluoro-n-dodecanedioic acid | .10000 |
| Perfluoro-n-heptanedioic Acid | .10000 |
| Perfluoro-n-hexanedioic acid | .10100 |
| Perfluoro-n-octanedioic Acid | .10000 |
| Perfluorononanedioic Acid | .10000 |
| Perfluoro-n-pentanedioic acid | .10100 |
| Perfluoro-n-tetradecanedioic acid | .10000 |
| Perfluoro-n-tridecanedioic acid | .10000 |
| Perfluoro-n-undecanedioic acid | .10000 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| 200909-01 | Pipette | B820865811 |
| 201006-07 | Pipette | B820865811 |
| LC24 | Pipette | B814657482 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/10/2020 | Expiration Date: 8/11/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |
| Comment: 80/20 methanol/milli-q (RP-201110-) | | |

Approved By: Schumitz, Denise **Date:** 11/11/2020 1:05:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: LE50

Description: PFAS - DoD High ICAL Stock

Stock Id: 200914-01

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|---------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Adona | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Hexafluoropropylene oxide dimer acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-1-butanefluoride | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-1-decanesulfonate | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluoro-1-heptanesulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-1-hexanesulfonate | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluoro-1-nonanesulfonate | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluoro-1-octanesulfonamide | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-1-octanesulfonate | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| perfluoro-1-pentanesulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-butanoic Acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-decanoic Acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-dodecanoic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-heptanoic Acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-hexanoic acid | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluoro-n-octanoic Acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluorononanoic Acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-pentanoic acid | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluoro-n-tetradecanoic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-tridecanoic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-undecanoic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |

Stock Id: LC24

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|----------------------------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 3-Perfluoroheptyl propanoic acid | 400 | 5.00 | --- | --- | 1 | 20 | 0.10000 |
| 3-Perfluoropentyl propanoic acid | 400 | 5.00 | --- | --- | 1 | 20 | 0.10000 |
| 3-perfluoropropyl propanoic Acid | 400 | 5.00 | --- | --- | 1 | 20 | 0.10000 |

Final Concentrations:

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 8/11/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 96/4 methanol/milli-q (RP-201112-3)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:15:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: LE50

Description: PFAS - DoD High ICAL Stock

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .10000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .10100 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .10000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .10000 |
| 3-Perfluoroheptyl propanoic acid | .10000 |
| 3-Perfluoropentyl propanoic acid | .10000 |
| 3-perfluoropropyl propanoic Acid | .10000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .10000 |
| Adona | .10000 |
| Hexafluoropropylene oxide dimer acid | .10000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .10000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .10000 |
| Perfluoro-1-butanedisulfonate | .10000 |
| Perfluoro-1-decanedisulfonate | .10100 |
| Perfluoro-1-heptanedisulfonate | .10000 |
| Perfluoro-1-hexanedisulfonate | .10100 |
| Perfluoro-1-nonanedisulfonate | .10100 |
| Perfluoro-1-octanesulfonamide | .10000 |
| Perfluoro-1-octanesulfonate | .10100 |
| perfluoro-1-pentanesulfonate | .10000 |
| Perfluoro-n-butanoic Acid | .10000 |
| Perfluoro-n-decanoic Acid | .10000 |
| Perfluoro-n-dodecanoic acid | .10000 |
| Perfluoro-n-heptanoic Acid | .10000 |
| Perfluoro-n-hexanoic acid | .10100 |
| Perfluoro-n-octanoic Acid | .10000 |
| Perfluorononanoic Acid | .10000 |
| Perfluoro-n-pentanoic acid | .10100 |
| Perfluoro-n-tetradecanoic acid | .10000 |
| Perfluoro-n-tridecanoic acid | .10000 |
| Perfluoro-n-undecanoic acid | .10000 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| 200914-01 | Pipette | B820865811 |
| LC24 | Pipette | B820865811 |

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **Expiration Date:** 8/11/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q (RP-201112-3)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:15:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE51**

Description: PFAS - DoD Low ICAL Stock

Stock Id: **LE50**

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 500 | 0.10 | --- | --- | 1 | 5 | 0.01010 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| 3-Perfluoroheptyl propanoic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| 3-Perfluoropentyl propanoic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| 3-perfluoropropyl propanoic Acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Adona | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Hexafluoropropylene oxide dimer acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-1-butanefluoride | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-1-decanesulfonate | 500 | 0.10 | --- | --- | 1 | 5 | 0.01010 |
| Perfluoro-1-heptanesulfonate | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-1-hexanesulfonate | 500 | 0.10 | --- | --- | 1 | 5 | 0.01010 |
| Perfluoro-1-nonanesulfonate | 500 | 0.10 | --- | --- | 1 | 5 | 0.01010 |
| Perfluoro-1-octanesulfonamide | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-1-octanesulfonate | 500 | 0.10 | --- | --- | 1 | 5 | 0.01010 |
| perfluoro-1-pentanesulfonate | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-n-butanoic Acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-n-decanoic Acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-n-dodecanoic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-n-heptanoic Acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-n-hexanoic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01010 |
| Perfluoro-n-octanoic Acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluorononanoic Acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-n-pentanoic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01010 |
| Perfluoro-n-tetradecanoic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-n-tridecanoic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |
| Perfluoro-n-undecanoic acid | 500 | 0.10 | --- | --- | 1 | 5 | 0.01000 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .01000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .01010 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 Expiration Date: 8/11/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q (RP-201112-3)

Approved By: Schumitz, Denise Date: 11/13/2020 1:15:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE51

Description: PFAS - DoD Low ICAL Stock

| | |
|--|--------|
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .01000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .01000 |
| 3-Perfluoroheptyl propanoic acid | .01000 |
| 3-Perfluoropentyl propanoic acid | .01000 |
| 3-perfluoropropyl propanoic Acid | .01000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .01000 |
| Adona | .01000 |
| Hexafluoropropylene oxide dimer acid | .01000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .01000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .01000 |
| Perfluoro-1-butanedisulfonate | .01000 |
| Perfluoro-1-decanedisulfonate | .01010 |
| Perfluoro-1-heptanedisulfonate | .01000 |
| Perfluoro-1-hexanedisulfonate | .01010 |
| Perfluoro-1-nonanedisulfonate | .01010 |
| Perfluoro-1-octanesulfonamide | .01000 |
| Perfluoro-1-octanedisulfonate | .01010 |
| perfluoro-1-pentanedisulfonate | .01000 |
| Perfluoro-n-butanedioic Acid | .01000 |
| Perfluoro-n-decanedioic Acid | .01000 |
| Perfluoro-n-dodecanedioic acid | .01000 |
| Perfluoro-n-heptanedioic Acid | .01000 |
| Perfluoro-n-hexanedioic acid | .01010 |
| Perfluoro-n-octanedioic Acid | .01000 |
| Perfluorononanedioic Acid | .01000 |
| Perfluoro-n-pentanedioic acid | .01010 |
| Perfluoro-n-tetradecanedioic acid | .01000 |
| Perfluoro-n-tridecanedioic acid | .01000 |
| Perfluoro-n-undecanedioic acid | .01000 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LE50 | Pipette | B820865811 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 8/11/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 96/4 methanol/milli-q (RP-201112-3)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:15:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE52**

Description: PFAS - DoD Calibration L1

Stock Id: LB78

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |

Stock Id: LD73

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-4:2FTS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00117 |
| 13C2-6:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C2-8:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00120 |
| 13C2-PFDoA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFTeDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-HFPO-DA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00116 |
| 13C3-PFHxS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00118 |
| 13C4-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFHpA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFHxA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFPeA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C6-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C7-PFUnA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-FOSA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00122 |
| 13C8-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C9-PFNA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d3-MeFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d5-EtFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |

Stock Id: LE51

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| 3-Perfluoroheptyl propanoic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE52

Description: PFAS - DoD Calibration L1

| | | | | | | | |
|---|-----|------|-----|-----|---|----|---------|
| 3-Perfluoropentyl propanoic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| 3-perfluoropropyl propanoic Acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Adona | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Hexafluoropropylene oxide dimer acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-1-butanedisulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-1-decanedisulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-1-heptanedisulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-1-hexanedisulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-1-nonanedisulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-1-octanesulfonamide | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-1-octanesulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| perfluoro-1-pentanesulfonate | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-butanoic Acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-decanoic Acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-dodecanoic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-heptanoic Acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-hexanoic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-octanoic Acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluorononanoic Acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-pentanoic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-tetradecanoic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-tridecanoic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |
| Perfluoro-n-undecanoic acid | 250 | 0.01 | --- | --- | 1 | 10 | 0.00025 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .00025 |
| 13C2-4:2FTS | .00117 |
| 13C2-6:2FTS | .00119 |
| 13C2-8:2FTS | .00120 |
| 13C2-PFDA | .00125 |
| 13C2-PFDoA | .00125 |
| 13C2-PFOA | .00125 |
| 13C2-PFTeDA | .00125 |
| 13C3-HFPO-DA | .00125 |
| 13C3-PFBA | .00125 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE52

Description: PFAS - DoD Calibration L1

| | |
|--|--------|
| 13C3-PFBS | .00116 |
| 13C3-PFHxS | .00118 |
| 13C4-PFBA | .00125 |
| 13C4-PFHpA | .00125 |
| 13C4-PFOS | .00119 |
| 13C5-PFHxA | .00125 |
| 13C5-PFPeA | .00125 |
| 13C6-PFDA | .00125 |
| 13C7-PFUnA | .00125 |
| 13C8-FOSA | .00125 |
| 13C8-PFOA | .00122 |
| 13C8-PFOS | .00119 |
| 13C9-PFNA | .00125 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .00025 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .00025 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .00025 |
| 3-Perfluoroheptyl propanoic acid | .00025 |
| 3-Perfluoropentyl propanoic acid | .00025 |
| 3-perfluoropropyl propanoic Acid | .00025 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .00025 |
| Adona | .00025 |
| d3-MeFOSAA | .00125 |
| d5-EtFOSAA | .00125 |
| Hexafluoropropylene oxide dimer acid | .00025 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .00025 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .00025 |
| Perfluoro-1-butanedisulfonate | .00025 |
| Perfluoro-1-decanedisulfonate | .00025 |
| Perfluoro-1-heptanedisulfonate | .00025 |
| Perfluoro-1-hexanedisulfonate | .00025 |
| Perfluoro-1-nonanedisulfonate | .00025 |
| Perfluoro-1-octanesulfonamide | .00025 |
| Perfluoro-1-octanesulfonate | .00025 |
| perfluoro-1-pentanesulfonate | .00025 |
| Perfluoro-n-butanedisulfonate | .00025 |
| Perfluoro-n-decanedisulfonate | .00025 |
| Perfluoro-n-dodecanedisulfonate | .00025 |
| Perfluoro-n-heptanedisulfonate | .00025 |
| Perfluoro-n-hexanedisulfonate | .00025 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE52

Description: PFAS - DoD Calibration L1

| | |
|--------------------------------|--------|
| Perfluoro-n-octanoic Acid | .00025 |
| Perfluorononanoic Acid | .00025 |
| Perfluoro-n-pentanoic acid | .00025 |
| Perfluoro-n-tetradecanoic acid | .00025 |
| Perfluoro-n-tridecanoic acid | .00025 |
| Perfluoro-n-undecanoic acid | .00025 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB78 | Pipette | B814657482 |
| LD73 | Pipette | B814657482 |
| LE51 | Pipette | B814657482 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE53**

Description: PFAS - DoD Calibration L2

Stock Id: LB78

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |

Stock Id: LD73

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-4:2FTS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00117 |
| 13C2-6:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C2-8:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00120 |
| 13C2-PFDoA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFTeDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-HFPO-DA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00116 |
| 13C3-PFHxS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00118 |
| 13C4-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFHpA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFHxA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFPeA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C6-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C7-PFUnA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-FOSA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00122 |
| 13C8-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C9-PFNA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d3-MeFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d5-EtFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |

Stock Id: LE51

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00051 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| 3-Perfluoroheptyl propanoic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE53

Description: PFAS - DoD Calibration L2

| | | | | | | | |
|---|-----|------|-----|-----|---|----|---------|
| 3-Perfluoropentyl propanoic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| 3-perfluoropropyl propanoic Acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Adona | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Hexafluoropropylene oxide dimer acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-1-butanefulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-1-decanesulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00051 |
| Perfluoro-1-heptanesulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-1-hexanesulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00051 |
| Perfluoro-1-nonanesulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00051 |
| Perfluoro-1-octanesulfonamide | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-1-octanesulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00051 |
| perfluoro-1-pentanesulfonate | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-n-butanoic Acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-n-decanoic Acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-n-dodecanoic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-n-heptanoic Acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-n-hexanoic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00051 |
| Perfluoro-n-octanoic Acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluorononanoic Acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-n-pentanoic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00051 |
| Perfluoro-n-tetradecanoic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-n-tridecanoic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |
| Perfluoro-n-undecanoic acid | 500 | 0.01 | --- | --- | 1 | 10 | 0.00050 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .00050 |
| 13C2-4:2FTS | .00117 |
| 13C2-6:2FTS | .00119 |
| 13C2-8:2FTS | .00120 |
| 13C2-PFDA | .00125 |
| 13C2-PFDoA | .00125 |
| 13C2-PFOA | .00125 |
| 13C2-PFTeDA | .00125 |
| 13C3-HFPO-DA | .00125 |
| 13C3-PFBA | .00125 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE53

Description: PFAS - DoD Calibration L2

| | |
|--|--------|
| 13C3-PFBS | .00116 |
| 13C3-PFHxS | .00118 |
| 13C4-PFBA | .00125 |
| 13C4-PFHpA | .00125 |
| 13C4-PFOS | .00119 |
| 13C5-PFHxA | .00125 |
| 13C5-PFPeA | .00125 |
| 13C6-PFDA | .00125 |
| 13C7-PFUnA | .00125 |
| 13C8-FOSA | .00125 |
| 13C8-PFOA | .00122 |
| 13C8-PFOS | .00119 |
| 13C9-PFNA | .00125 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .00051 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .00050 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .00050 |
| 3-Perfluoroheptyl propanoic acid | .00050 |
| 3-Perfluoropentyl propanoic acid | .00050 |
| 3-perfluoropropyl propanoic Acid | .00050 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .00050 |
| Adona | .00050 |
| d3-MeFOSAA | .00125 |
| d5-EtFOSAA | .00125 |
| Hexafluoropropylene oxide dimer acid | .00050 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .00050 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .00050 |
| Perfluoro-1-butanedisulfonate | .00050 |
| Perfluoro-1-decanedisulfonate | .00051 |
| Perfluoro-1-heptanedisulfonate | .00050 |
| Perfluoro-1-hexanedisulfonate | .00051 |
| Perfluoro-1-nonanedisulfonate | .00051 |
| Perfluoro-1-octanesulfonamide | .00050 |
| Perfluoro-1-octanedisulfonate | .00051 |
| perfluoro-1-pentanedisulfonate | .00050 |
| Perfluoro-n-butanedioic Acid | .00050 |
| Perfluoro-n-decanedioic Acid | .00050 |
| Perfluoro-n-dodecanedioic acid | .00050 |
| Perfluoro-n-heptanedioic Acid | .00050 |
| Perfluoro-n-hexanedioic acid | .00051 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE53

Description: PFAS - DoD Calibration L2

| | |
|--------------------------------|--------|
| Perfluoro-n-octanoic Acid | .00050 |
| Perfluorononanoic Acid | .00050 |
| Perfluoro-n-pentanoic acid | .00051 |
| Perfluoro-n-tetradecanoic acid | .00050 |
| Perfluoro-n-tridecanoic acid | .00050 |
| Perfluoro-n-undecanoic acid | .00050 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB78 | Pipette | B814657482 |
| LD73 | Pipette | B814657482 |
| LE51 | Pipette | B820865811 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE54**

Description: PFAS - DoD Calibration L3

Stock Id: LB78

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-PFDA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C2-PFOA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C3-PFBA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C4-PFOS | 500 | 0.10 | --- | --- | 1 | 40 | 0.00119 |

Stock Id: LD73

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-4:2FTS | 500 | 0.09 | --- | --- | 1 | 40 | 0.00117 |
| 13C2-6:2FTS | 500 | 0.10 | --- | --- | 1 | 40 | 0.00119 |
| 13C2-8:2FTS | 500 | 0.10 | --- | --- | 1 | 40 | 0.00120 |
| 13C2-PFDoA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C2-PFTeDA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C3-HFPO-DA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C3-PFBS | 500 | 0.09 | --- | --- | 1 | 40 | 0.00116 |
| 13C3-PFHxS | 500 | 0.09 | --- | --- | 1 | 40 | 0.00118 |
| 13C4-PFBA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C4-PFHpA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C5-PFHxA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C5-PFPeA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C6-PFDA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C7-PFUnA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C8-FOSA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C8-PFOA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00122 |
| 13C8-PFOS | 500 | 0.10 | --- | --- | 1 | 40 | 0.00119 |
| 13C9-PFNA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| d3-MeFOSAA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| d5-EtFOSAA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |

Stock Id: LE50

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 11-chloroeicosfluoro-3-oxaundecane-1-sulfonic aci | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00101 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| 3-Perfluoroheptyl propanoic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |

Solution Prepared By: Bailey, Kevin

Date Prepared: 11/12/2020

Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE54

Description: PFAS - DoD Calibration L3

| | | | | | | | |
|---|-----|------|-----|-----|---|----|---------|
| 3-Perfluoropentyl propanoic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| 3-perfluoropropyl propanoic Acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Adona | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Hexafluoropropylene oxide dimer acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-1-butanedisulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-1-decanedisulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00101 |
| Perfluoro-1-heptanedisulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-1-hexanedisulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00101 |
| Perfluoro-1-nonanedisulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00101 |
| Perfluoro-1-octanesulfonamide | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-1-octanedisulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00101 |
| perfluoro-1-pentanedisulfonate | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-n-butanedioic Acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-n-decanedioic Acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-n-dodecanedioic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-n-heptanedioic Acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-n-hexanedioic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00101 |
| Perfluoro-n-octanedioic Acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluorononanedioic Acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-n-pentanedioic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00101 |
| Perfluoro-n-tetradecanedioic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-n-tridecanedioic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |
| Perfluoro-n-undecanedioic acid | 400 | 0.10 | --- | --- | 1 | 40 | 0.00100 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .00100 |
| 13C2-4:2FTS | .00117 |
| 13C2-6:2FTS | .00119 |
| 13C2-8:2FTS | .00120 |
| 13C2-PFDA | .00125 |
| 13C2-PFDoA | .00125 |
| 13C2-PFOA | .00125 |
| 13C2-PFTeDA | .00125 |
| 13C3-HFPO-DA | .00125 |
| 13C3-PFBA | .00125 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE54

Description: PFAS - DoD Calibration L3

| | |
|--|--------|
| 13C3-PFBS | .00116 |
| 13C3-PFHxS | .00118 |
| 13C4-PFBA | .00125 |
| 13C4-PFHpA | .00125 |
| 13C4-PFOS | .00119 |
| 13C5-PFHxA | .00125 |
| 13C5-PFPeA | .00125 |
| 13C6-PFDA | .00125 |
| 13C7-PFUnA | .00125 |
| 13C8-FOSA | .00125 |
| 13C8-PFOA | .00122 |
| 13C8-PFOS | .00119 |
| 13C9-PFNA | .00125 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .00101 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .00100 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .00100 |
| 3-Perfluoroheptyl propanoic acid | .00100 |
| 3-Perfluoropentyl propanoic acid | .00100 |
| 3-perfluoropropyl propanoic Acid | .00100 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .00100 |
| Adona | .00100 |
| d3-MeFOSAA | .00125 |
| d5-EtFOSAA | .00125 |
| Hexafluoropropylene oxide dimer acid | .00100 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .00100 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .00100 |
| Perfluoro-1-butanedisulfonate | .00100 |
| Perfluoro-1-decanedisulfonate | .00101 |
| Perfluoro-1-heptanedisulfonate | .00100 |
| Perfluoro-1-hexanedisulfonate | .00101 |
| Perfluoro-1-nonanedisulfonate | .00101 |
| Perfluoro-1-octanesulfonamide | .00100 |
| Perfluoro-1-octanedisulfonate | .00101 |
| perfluoro-1-pentanedisulfonate | .00100 |
| Perfluoro-n-butanedisulfonate | .00100 |
| Perfluoro-n-decanedisulfonate | .00100 |
| Perfluoro-n-dodecanedisulfonate | .00100 |
| Perfluoro-n-heptanedisulfonate | .00100 |
| Perfluoro-n-hexanedisulfonate | .00101 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE54

Description: PFAS - DoD Calibration L3

| | |
|--------------------------------|--------|
| Perfluoro-n-octanoic Acid | .00100 |
| Perfluorononanoic Acid | .00100 |
| Perfluoro-n-pentanoic acid | .00101 |
| Perfluoro-n-tetradecanoic acid | .00100 |
| Perfluoro-n-tridecanoic acid | .00100 |
| Perfluoro-n-undecanoic acid | .00100 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB78 | Pipette | B820865811 |
| LD73 | Pipette | B820865811 |
| LE50 | Pipette | B820865811 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE55**

Description: PFAS - DoD Calibration L4

Stock Id: LB78

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-PFDA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C2-PFOA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C3-PFBA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C4-PFOS | 500 | 0.10 | --- | --- | 1 | 40 | 0.00119 |

Stock Id: LD73

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-4:2FTS | 500 | 0.09 | --- | --- | 1 | 40 | 0.00117 |
| 13C2-6:2FTS | 500 | 0.10 | --- | --- | 1 | 40 | 0.00119 |
| 13C2-8:2FTS | 500 | 0.10 | --- | --- | 1 | 40 | 0.00120 |
| 13C2-PFDoA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C2-PFTeDA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C3-HFPO-DA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C3-PFBS | 500 | 0.09 | --- | --- | 1 | 40 | 0.00116 |
| 13C3-PFHxS | 500 | 0.09 | --- | --- | 1 | 40 | 0.00118 |
| 13C4-PFBA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C4-PFHpA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C5-PFHxA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C5-PFPeA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C6-PFDA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C7-PFUnA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C8-FOSA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| 13C8-PFOA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00122 |
| 13C8-PFOS | 500 | 0.10 | --- | --- | 1 | 40 | 0.00119 |
| 13C9-PFNA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| d3-MeFOSAA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |
| d5-EtFOSAA | 500 | 0.10 | --- | --- | 1 | 40 | 0.00125 |

Stock Id: LE50

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00253 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| 3-Perfluoroheptyl propanoic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE55

Description: PFAS - DoD Calibration L4

| | | | | | | | |
|---|------|------|-----|-----|---|----|---------|
| 3-Perfluoropentyl propanoic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| 3-perfluoropropyl propanoic Acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Adona | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Hexafluoropropylene oxide dimer acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-1-butanefulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-1-decanesulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00253 |
| Perfluoro-1-heptanesulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-1-hexanesulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00253 |
| Perfluoro-1-nonanesulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00253 |
| Perfluoro-1-octanesulfonamide | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-1-octanesulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00253 |
| perfluoro-1-pentanesulfonate | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-n-butanoic Acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-n-decanoic Acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-n-dodecanoic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-n-heptanoic Acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-n-hexanoic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00253 |
| Perfluoro-n-octanoic Acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluorononanoic Acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-n-pentanoic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00253 |
| Perfluoro-n-tetradecanoic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-n-tridecanoic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |
| Perfluoro-n-undecanoic acid | 1000 | 0.10 | --- | --- | 1 | 40 | 0.00250 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .00250 |
| 13C2-4:2FTS | .00117 |
| 13C2-6:2FTS | .00119 |
| 13C2-8:2FTS | .00120 |
| 13C2-PFDA | .00125 |
| 13C2-PFDoA | .00125 |
| 13C2-PFOA | .00125 |
| 13C2-PFTeDA | .00125 |
| 13C3-HFPO-DA | .00125 |
| 13C3-PFBA | .00125 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE55

Description: PFAS - DoD Calibration L4

| | |
|--|--------|
| 13C3-PFBS | .00116 |
| 13C3-PFHxS | .00118 |
| 13C4-PFBA | .00125 |
| 13C4-PFHpA | .00125 |
| 13C4-PFOS | .00119 |
| 13C5-PFHxA | .00125 |
| 13C5-PFPeA | .00125 |
| 13C6-PFDA | .00125 |
| 13C7-PFUnA | .00125 |
| 13C8-FOSA | .00125 |
| 13C8-PFOA | .00122 |
| 13C8-PFOS | .00119 |
| 13C9-PFNA | .00125 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .00253 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .00250 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .00250 |
| 3-Perfluoroheptyl propanoic acid | .00250 |
| 3-Perfluoropentyl propanoic acid | .00250 |
| 3-perfluoropropyl propanoic Acid | .00250 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .00250 |
| Adona | .00250 |
| d3-MeFOSAA | .00125 |
| d5-EtFOSAA | .00125 |
| Hexafluoropropylene oxide dimer acid | .00250 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .00250 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .00250 |
| Perfluoro-1-butanedisulfonate | .00250 |
| Perfluoro-1-decanedisulfonate | .00253 |
| Perfluoro-1-heptanedisulfonate | .00250 |
| Perfluoro-1-hexanedisulfonate | .00253 |
| Perfluoro-1-nonanedisulfonate | .00253 |
| Perfluoro-1-octanesulfonamide | .00250 |
| Perfluoro-1-octanesulfonate | .00253 |
| perfluoro-1-pentanesulfonate | .00250 |
| Perfluoro-n-butanedisulfonate | .00250 |
| Perfluoro-n-decanedisulfonate | .00250 |
| Perfluoro-n-dodecanedisulfonate | .00250 |
| Perfluoro-n-heptanedisulfonate | .00250 |
| Perfluoro-n-hexanedisulfonate | .00253 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE55

Description: PFAS - DoD Calibration L4

| | |
|--------------------------------|--------|
| Perfluoro-n-octanoic Acid | .00250 |
| Perfluorononanoic Acid | .00250 |
| Perfluoro-n-pentanoic acid | .00253 |
| Perfluoro-n-tetradecanoic acid | .00250 |
| Perfluoro-n-tridecanoic acid | .00250 |
| Perfluoro-n-undecanoic acid | .00250 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB78 | Pipette | B820865811 |
| LD73 | Pipette | B820865811 |
| LE50 | Pipette | B820865811 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE56**

Description: PFAS - DoD Calibration L5

Stock Id: LB78

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |

Stock Id: LD73

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-4:2FTS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00117 |
| 13C2-6:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C2-8:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00120 |
| 13C2-PFDoA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFTeDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-HFPO-DA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00116 |
| 13C3-PFHxS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00118 |
| 13C4-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFHpA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFHxA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFPeA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C6-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C7-PFUnA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-FOSA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00122 |
| 13C8-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C9-PFNA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d3-MeFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d5-EtFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |

Stock Id: LE50

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01010 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| 3-Perfluoroheptyl propanoic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE56**

Description: PFAS - DoD Calibration L5

| | | | | | | | |
|---|------|------|-----|-----|---|----|---------|
| 3-Perfluoropentyl propanoic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| 3-perfluoropropyl propanoic Acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Adona | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Hexafluoropropylene oxide dimer acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-1-butanefulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-1-decanesulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01010 |
| Perfluoro-1-heptanesulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-1-hexanesulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01010 |
| Perfluoro-1-nonanesulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01010 |
| Perfluoro-1-octanesulfonamide | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-1-octanesulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01010 |
| perfluoro-1-pentanesulfonate | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-n-butanoic Acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-n-decanoic Acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-n-dodecanoic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-n-heptanoic Acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-n-hexanoic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01010 |
| Perfluoro-n-octanoic Acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluorononanoic Acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-n-pentanoic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01010 |
| Perfluoro-n-tetradecanoic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-n-tridecanoic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |
| Perfluoro-n-undecanoic acid | 1000 | 0.10 | --- | --- | 1 | 10 | 0.01000 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .01000 |
| 13C2-4:2FTS | .00117 |
| 13C2-6:2FTS | .00119 |
| 13C2-8:2FTS | .00120 |
| 13C2-PFDA | .00125 |
| 13C2-PFDoA | .00125 |
| 13C2-PFOA | .00125 |
| 13C2-PFTeDA | .00125 |
| 13C3-HFPO-DA | .00125 |
| 13C3-PFBA | .00125 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE56

Description: PFAS - DoD Calibration L5

| | |
|--|--------|
| 13C3-PFBS | .00116 |
| 13C3-PFHxS | .00118 |
| 13C4-PFBA | .00125 |
| 13C4-PFHpA | .00125 |
| 13C4-PFOS | .00119 |
| 13C5-PFHxA | .00125 |
| 13C5-PFPeA | .00125 |
| 13C6-PFDA | .00125 |
| 13C7-PFUnA | .00125 |
| 13C8-FOSA | .00125 |
| 13C8-PFOA | .00122 |
| 13C8-PFOS | .00119 |
| 13C9-PFNA | .00125 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .01010 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .01000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .01000 |
| 3-Perfluoroheptyl propanoic acid | .01000 |
| 3-Perfluoropentyl propanoic acid | .01000 |
| 3-perfluoropropyl propanoic Acid | .01000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .01000 |
| Adona | .01000 |
| d3-MeFOSAA | .00125 |
| d5-EtFOSAA | .00125 |
| Hexafluoropropylene oxide dimer acid | .01000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .01000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .01000 |
| Perfluoro-1-butanefulfonate | .01000 |
| Perfluoro-1-decanesulfonate | .01010 |
| Perfluoro-1-heptanesulfonate | .01000 |
| Perfluoro-1-hexanesulfonate | .01010 |
| Perfluoro-1-nonanesulfonate | .01010 |
| Perfluoro-1-octanesulfonamide | .01000 |
| Perfluoro-1-octanesulfonate | .01010 |
| perfluoro-1-pentanesulfonate | .01000 |
| Perfluoro-n-butanoic Acid | .01000 |
| Perfluoro-n-decanoic Acid | .01000 |
| Perfluoro-n-dodecanoic acid | .01000 |
| Perfluoro-n-heptanoic Acid | .01000 |
| Perfluoro-n-hexanoic acid | .01010 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE56

Description: PFAS - DoD Calibration L5

| | |
|--------------------------------|--------|
| Perfluoro-n-octanoic Acid | .01000 |
| Perfluorononanoic Acid | .01000 |
| Perfluoro-n-pentanoic acid | .01010 |
| Perfluoro-n-tetradecanoic acid | .01000 |
| Perfluoro-n-tridecanoic acid | .01000 |
| Perfluoro-n-undecanoic acid | .01000 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB78 | Pipette | B814657482 |
| LD73 | Pipette | B814657482 |
| LE50 | Pipette | B820865811 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE57**

Description: PFAS - DoD Calibration L6

Stock Id: LB78

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |

Stock Id: LD73

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-4:2FTS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00117 |
| 13C2-6:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C2-8:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00120 |
| 13C2-PFDoA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFTeDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-HFPO-DA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00116 |
| 13C3-PFHxS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00118 |
| 13C4-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFHpA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFHxA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFPeA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C6-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C7-PFUnA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-FOSA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00122 |
| 13C8-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C9-PFNA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d3-MeFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d5-EtFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |

Stock Id: LE50

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02525 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| 3-Perfluoroheptyl propanoic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE57

Description: PFAS - DoD Calibration L6

| | | | | | | | |
|---|------|------|-----|-----|---|----|---------|
| 3-Perfluoropentyl propanoic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| 3-perfluoropropyl propanoic Acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Adona | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Hexafluoropropylene oxide dimer acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-1-butanefulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-1-decanesulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02525 |
| Perfluoro-1-heptanesulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-1-hexanesulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02525 |
| Perfluoro-1-nonanesulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02525 |
| Perfluoro-1-octanesulfonamide | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-1-octanesulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02525 |
| perfluoro-1-pentanesulfonate | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-n-butanoic Acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-n-decanoic Acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-n-dodecanoic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-n-heptanoic Acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-n-hexanoic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02525 |
| Perfluoro-n-octanoic Acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluorononanoic Acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-n-pentanoic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02525 |
| Perfluoro-n-tetradecanoic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-n-tridecanoic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |
| Perfluoro-n-undecanoic acid | 2500 | 0.10 | --- | --- | 1 | 10 | 0.02500 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .02500 |
| 13C2-4:2FTS | .00117 |
| 13C2-6:2FTS | .00119 |
| 13C2-8:2FTS | .00120 |
| 13C2-PFDA | .00125 |
| 13C2-PFDoA | .00125 |
| 13C2-PFOA | .00125 |
| 13C2-PFTeDA | .00125 |
| 13C3-HFPO-DA | .00125 |
| 13C3-PFBA | .00125 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE57

Description: PFAS - DoD Calibration L6

| | |
|--|--------|
| 13C3-PFBS | .00116 |
| 13C3-PFHxS | .00118 |
| 13C4-PFBA | .00125 |
| 13C4-PFHpA | .00125 |
| 13C4-PFOS | .00119 |
| 13C5-PFHxA | .00125 |
| 13C5-PFPeA | .00125 |
| 13C6-PFDA | .00125 |
| 13C7-PFUnA | .00125 |
| 13C8-FOSA | .00125 |
| 13C8-PFOA | .00122 |
| 13C8-PFOS | .00119 |
| 13C9-PFNA | .00125 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .02525 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .02500 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .02500 |
| 3-Perfluoroheptyl propanoic acid | .02500 |
| 3-Perfluoropentyl propanoic acid | .02500 |
| 3-perfluoropropyl propanoic Acid | .02500 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .02500 |
| Adona | .02500 |
| d3-MeFOSAA | .00125 |
| d5-EtFOSAA | .00125 |
| Hexafluoropropylene oxide dimer acid | .02500 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .02500 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .02500 |
| Perfluoro-1-butanefulfonate | .02500 |
| Perfluoro-1-decanesulfonate | .02525 |
| Perfluoro-1-heptanesulfonate | .02500 |
| Perfluoro-1-hexanesulfonate | .02525 |
| Perfluoro-1-nonanesulfonate | .02525 |
| Perfluoro-1-octanesulfonamide | .02500 |
| Perfluoro-1-octanesulfonate | .02525 |
| perfluoro-1-pentanesulfonate | .02500 |
| Perfluoro-n-butanoic Acid | .02500 |
| Perfluoro-n-decanoic Acid | .02500 |
| Perfluoro-n-dodecanoic acid | .02500 |
| Perfluoro-n-heptanoic Acid | .02500 |
| Perfluoro-n-hexanoic acid | .02525 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE57

Description: PFAS - DoD Calibration L6

| | |
|--------------------------------|--------|
| Perfluoro-n-octanoic Acid | .02500 |
| Perfluorononanoic Acid | .02500 |
| Perfluoro-n-pentanoic acid | .02525 |
| Perfluoro-n-tetradecanoic acid | .02500 |
| Perfluoro-n-tridecanoic acid | .02500 |
| Perfluoro-n-undecanoic acid | .02500 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB78 | Pipette | B814657482 |
| LD73 | Pipette | B814657482 |
| LE50 | Pipette | B814657482 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE59**

Description: PFAS - DoD ICC

Stock Id: LB78

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |

Stock Id: LD73

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 13C2-4:2FTS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00117 |
| 13C2-6:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C2-8:2FTS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00120 |
| 13C2-PFDoA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C2-PFTeDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-HFPO-DA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C3-PFBS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00116 |
| 13C3-PFHxS | 125 | 0.09 | --- | --- | 1 | 10 | 0.00118 |
| 13C4-PFBA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C4-PFHpA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFHxA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C5-PFPeA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C6-PFDA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C7-PFUnA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-FOSA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| 13C8-PFOA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00122 |
| 13C8-PFOS | 125 | 0.10 | --- | --- | 1 | 10 | 0.00119 |
| 13C9-PFNA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d3-MeFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |
| d5-EtFOSAA | 125 | 0.10 | --- | --- | 1 | 10 | 0.00125 |

Stock Id: LE49

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00253 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| 3-Perfluoroheptyl propanoic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE59

Description: PFAS - DoD ICC

| | | | | | | | |
|---|-----|------|-----|-----|---|----|---------|
| 3-Perfluoropentyl propanoic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| 3-perfluoropropyl propanoic Acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Adona | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Hexafluoropropylene oxide dimer acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-1-butanefulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-1-decanesulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00253 |
| Perfluoro-1-heptanesulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-1-hexanesulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00253 |
| Perfluoro-1-nonanesulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00253 |
| Perfluoro-1-octanesulfonamide | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-1-octanesulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00253 |
| perfluoro-1-pentanesulfonate | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-n-butanoic Acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-n-decanoic Acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-n-dodecanoic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-n-heptanoic Acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-n-hexanoic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00253 |
| Perfluoro-n-octanoic Acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluorononanoic Acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-n-pentanoic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00253 |
| Perfluoro-n-tetradecanoic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-n-tridecanoic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |
| Perfluoro-n-undecanoic acid | 250 | 0.10 | --- | --- | 1 | 10 | 0.00250 |

Final Concentrations:

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .00250 |
| 13C2-4:2FTS | .00117 |
| 13C2-6:2FTS | .00119 |
| 13C2-8:2FTS | .00120 |
| 13C2-PFDA | .00125 |
| 13C2-PFDoA | .00125 |
| 13C2-PFOA | .00125 |
| 13C2-PFTeDA | .00125 |
| 13C3-HFPO-DA | .00125 |
| 13C3-PFBA | .00125 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE59**

Description: PFAS - DoD ICC

| | |
|--|--------|
| 13C3-PFBS | .00116 |
| 13C3-PFHxS | .00118 |
| 13C4-PFBA | .00125 |
| 13C4-PFHpA | .00125 |
| 13C4-PFOS | .00119 |
| 13C5-PFHxA | .00125 |
| 13C5-PFPeA | .00125 |
| 13C6-PFDA | .00125 |
| 13C7-PFUnA | .00125 |
| 13C8-FOSA | .00125 |
| 13C8-PFOA | .00122 |
| 13C8-PFOS | .00119 |
| 13C9-PFNA | .00125 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .00253 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .00250 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .00250 |
| 3-Perfluoroheptyl propanoic acid | .00250 |
| 3-Perfluoropentyl propanoic acid | .00250 |
| 3-perfluoropropyl propanoic Acid | .00250 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .00250 |
| Adona | .00250 |
| d3-MeFOSAA | .00125 |
| d5-EtFOSAA | .00125 |
| Hexafluoropropylene oxide dimer acid | .00250 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .00250 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .00250 |
| Perfluoro-1-butanedisulfonate | .00250 |
| Perfluoro-1-decanedisulfonate | .00253 |
| Perfluoro-1-heptanedisulfonate | .00250 |
| Perfluoro-1-hexanedisulfonate | .00253 |
| Perfluoro-1-nonanedisulfonate | .00253 |
| Perfluoro-1-octanesulfonamide | .00250 |
| Perfluoro-1-octanedisulfonate | .00253 |
| perfluoro-1-pentanedisulfonate | .00250 |
| Perfluoro-n-butanedisulfonate | .00250 |
| Perfluoro-n-decanedisulfonate | .00250 |
| Perfluoro-n-dodecanedisulfonate | .00250 |
| Perfluoro-n-heptanedisulfonate | .00250 |
| Perfluoro-n-hexanedisulfonate | .00253 |

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: LE59

Description: PFAS - DoD ICC

| | |
|--------------------------------|--------|
| Perfluoro-n-octanoic Acid | .00250 |
| Perfluorononanoic Acid | .00250 |
| Perfluoro-n-pentanoic acid | .00253 |
| Perfluoro-n-tetradecanoic acid | .00250 |
| Perfluoro-n-tridecanoic acid | .00250 |
| Perfluoro-n-undecanoic acid | .00250 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| LB78 | Pipette | B814657482 |
| LD73 | Pipette | B814657482 |
| LE49 | Pipette | B814657482 |

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/12/2020 | Expiration Date: 7/21/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **LE64**

Description: PFAS - DoD Second Source LCS/MS Solution

Stock Id: **201112-01**

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|---|--------------------|--------------------------|-------------------|---------|-----------------|-----------------|--------------------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Adona | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Hexafluoropropylene oxide dimer acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-1-butanefluoride | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-1-decanesulfonate | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluoro-1-heptanesulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-1-hexanesulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-1-nonanesulfonate | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluoro-1-octanesulfonamide | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-1-octanesulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| perfluoro-1-pentanesulfonate | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-butanoic Acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-decanoic Acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-dodecanoic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-heptanoic Acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-hexanoic acid | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluoro-n-octanoic Acid | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluorononanoic Acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-pentanoic acid | 2000 | 1.01 | 1 | 100.000 | 1 | 20 | 0.10100 |
| Perfluoro-n-tetradecanoic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-tridecanoic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |
| Perfluoro-n-undecanoic acid | 2000 | 1.00 | 1 | 100.000 | 1 | 20 | 0.10000 |

Stock Id: **LC24**

| Chemical Name | Stock Amount uL | Initial Conc. (ug/mL) | Density (g/mL) | Purity | Conv. Factor | Final Vol mL | Concentration (ug/mL) |
|----------------------------------|--------------------|--------------------------|-------------------|--------|-----------------|-----------------|--------------------------|
| 3-Perfluoroheptyl propanoic acid | 400 | 5.00 | --- | --- | 1 | 20 | 0.10000 |
| 3-Perfluoropentyl propanoic acid | 400 | 5.00 | --- | --- | 1 | 20 | 0.10000 |
| 3-perfluoropropyl propanoic Acid | 400 | 5.00 | --- | --- | 1 | 20 | 0.10000 |

Final Concentrations:

| | | |
|---|----------------------------------|-----------------------------------|
| Solution Prepared By: Bailey, Kevin | Date Prepared: 11/18/2020 | Expiration Date: 8/11/2021 |
| Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121 | | |

Comment: 80/20 methanol/milli-q (RP-201118-14)

Approved By: Schumitz, Denise Date: 11/19/2020 10:41:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: LE64

Description: PFAS - DoD Second Source LCS/MS Solution

| Analyte: | Conc (ug/mL): |
|--|---------------|
| 11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid | .10000 |
| 1H,1H,2H,2H-Perfluorodecane sulfonate | .10100 |
| 1H,1H,2H,2H-Perfluorohexane sulfonate | .10000 |
| 1H,1H,2H,2H-Perfluorooctane sulfonate | .10000 |
| 3-Perfluoroheptyl propanoic acid | .10000 |
| 3-Perfluoropentyl propanoic acid | .10000 |
| 3-perfluoropropyl propanoic Acid | .10000 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | .10000 |
| Adona | .10000 |
| Hexafluoropropylene oxide dimer acid | .10000 |
| N-ethylperfluoro-octanesulfonamidoacetic acid | .10000 |
| N-methylperfluoro-1-octanesulfonamidoacetic acid | .10000 |
| Perfluoro-1-butanedisulfonate | .10000 |
| Perfluoro-1-decanedisulfonate | .10100 |
| Perfluoro-1-heptanedisulfonate | .10000 |
| Perfluoro-1-hexanedisulfonate | .10000 |
| Perfluoro-1-nonanedisulfonate | .10100 |
| Perfluoro-1-octanesulfonamide | .10000 |
| Perfluoro-1-octanesulfonate | .10000 |
| perfluoro-1-pentanesulfonate | .10000 |
| Perfluoro-n-butanoic Acid | .10000 |
| Perfluoro-n-decanoic Acid | .10000 |
| Perfluoro-n-dodecanoic acid | .10000 |
| Perfluoro-n-heptanoic Acid | .10000 |
| Perfluoro-n-hexanoic acid | .10100 |
| Perfluoro-n-octanoic Acid | .10100 |
| Perfluorononanoic Acid | .10000 |
| Perfluoro-n-pentanoic acid | .10100 |
| Perfluoro-n-tetradecanoic acid | .10000 |
| Perfluoro-n-tridecanoic acid | .10000 |
| Perfluoro-n-undecanoic acid | .10000 |

Syringes/Pipettes:

| Stock ID: | Type: | Battelle ID: |
|-----------|---------|--------------|
| 201112-01 | Pipette | B820865811 |
| LC24 | Pipette | B820865811 |

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/18/2020 **Expiration Date:** 8/11/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201118-14)

Approved By: Schumitz, Denise **Date:** 11/19/2020 10:41:00 AM



It can be done

BDO Id: 200721-01

Reagent Receipt Report

Approved:

Name: MPFBA Received: 7/21/2020
 Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
 Catalogue No: MPFBA Expires: 5/13/2025
 Type: Solution Consumed: _____
 Lot No: MPFBA0420 Stored In: VOC Laboratory - R0123
 Quantity: 1 ea mL % Moisture: _____
 Description: MPFBA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------|----------|------------------------|---------|----------|----------------|--------------------------|-----------|--------------|--------------|
| 13C4-PFBA | BDO-2105 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |

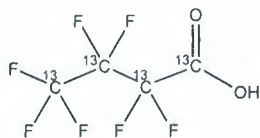
Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION

PRODUCT CODE: MPFBA
COMPOUND: Perfluoro-n-[1,2,3,4-¹³C₄]butanoic acid
LOT NUMBER: MPFBA0420
STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA: ¹³C₄HF₇O₂
CONCENTRATION: 50.0 ± 2.5 µg/ml
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/13/2020
EXPIRY DATE: (mm/dd/yyyy) 05/13/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

MOLECULAR WEIGHT: 218.01
SOLVENT(S): Methanol
Water (<1%)
ISOTOPIC PURITY: ≥99%¹³C
(1,2,3,4-¹³C₄)

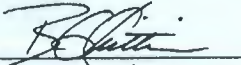
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager
Date: 05/20/2020
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



It can be done

BDO Id:

200721-02

Reagent Receipt Report

Approved:

Authorized:

Name: M5PFPeA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M5PFPeA

Expires: 1/22/2025

Type: Solution

Consumed:

Lot No: M5PFPeA0120

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M5PFPeA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|------------|----------|------------------------|---------|----------|----------------|--------------------------|-----------|--------------|--------------|
| 13C5-PFPeA | BDO-2216 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |

Total Analytes: 1

Notes:

Approved by: _____

Approved on: _____

Authorized by: _____

Authorized on: _____

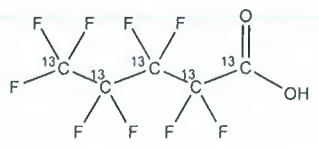


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M5PFPeA **LOT NUMBER:** M5PFPeA0120
COMPOUND: Perfluoro-n-[¹³C₅]pentanoic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₅HF₉O₂ **MOLECULAR WEIGHT:** 269.01
CONCENTRATION: 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol
Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
(¹³C₅)
LAST TESTED: (mm/dd/yyyy) 01/22/2020
EXPIRY DATE: (mm/dd/yyyy) 01/22/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

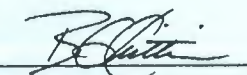
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.25% of perfluoro-n-pentanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 01/24/2020
B.G. Chittim, General Manager (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-03

Reagent Receipt Report

Approved: Authorized:

Name: M5PFHxA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M5PFHxA Expires: 4/3/2025
Type: Solution Consumed: _____
Lot No: M5PFHxA0320 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M5PFHxA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C5-PFHxA | BDO-2217 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | 1 | | | | | | | |

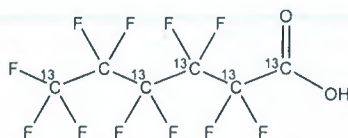
Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

200721-03

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION

PRODUCT CODE: M5PFHxA **LOT NUMBER:** M5PFHxA0320
COMPOUND: Perfluoro-n-[1,2,3,4,6-¹³C₅]hexanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₅¹²C₁HF₁₁O₂ **MOLECULAR WEIGHT:** 319.02
CONCENTRATION: 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol
Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 04/03/2020 (1,2,3,4,6-¹³C₅)
EXPIRY DATE: (mm/dd/yyyy) 04/03/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**Certified By:**
B.G. Chittim, General Manager**Date:** 04/15/2020

(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-04

Reagent Receipt Report

Approved:

AM 07/21/20

Name: M4PFHpA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M4PFHpA Expires: 1/8/2025
Type: Solution Consumed: _____
Lot No: M4PFHpA0120 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M4PFHpA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| 13C4-PFHpA | BDO-2218 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |
| Total Analytes: | 1 | | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____



WELLINGTON LABORATORIES

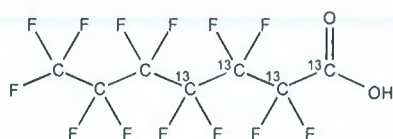
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M4PFHpA
COMPOUND: Perfluoro-n-[1,2,3,4-¹³C₄]heptanoic acid

LOT NUMBER: M4PFHpA0120

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: ¹³C₄¹²C₃HF₁₃O₂
CONCENTRATION: 50.0 ± 2.5 µg/ml

MOLECULAR WEIGHT: 368.03
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 01/08/2020
EXPIRY DATE: (mm/dd/yyyy) 01/08/2025

ISOTOPIC PURITY: ≥99%¹³C
(1,2,3,4-¹³C₄)

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

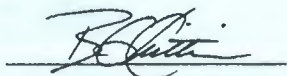
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (TIC and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.03% of perfluoro-n-heptanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager
Date: 01/24/2020
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-05

Reagent Receipt Report

Approved: Number:

Name: M8PFOA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M8PFOA Expires: 1/23/2025
Type: Solution Consumed: _____
Lot No: M8PFOA0220 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M8PFOA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C8-PFOA | BDO-2219 | 48.9000 | 97.80 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | 1 | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

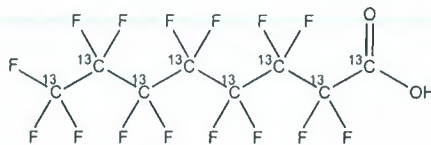


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8PFOA **LOT NUMBER:** M8PFOA0220
COMPOUND: Perfluoro-n-[¹³C₈]octanoic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₈H₁₅O₂ **MOLECULAR WEIGHT:** 422.01
CONCENTRATION: 48.9 ± 2.4 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: 97.8% (M8PFOA) **ISOTOPIC PURITY:** ≥99% ¹³C
 2.2% (MPFOA [M+4]) (¹³C₈)
LAST TESTED: (mm/dd/yyyy) 01/23/2020
EXPIRY DATE: (mm/dd/yyyy) 01/23/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

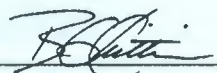
Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of native perfluoro-n-octanoic acid (PFOA) and ~ 2.2% of [M+4] perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____


 B.G. Chittim, General Manager

Date: 01/24/2020
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-06

Reagent Receipt Report

Approved: Authorized:

Name: M9PFNA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M9PFNA Expires: 9/8/2023
Type: Solution Consumed: _____
Lot No: M9PFNA0918 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M9PFNA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C9-PFNA | BDO-2221 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | 1 | | | | | | | |

Notes:

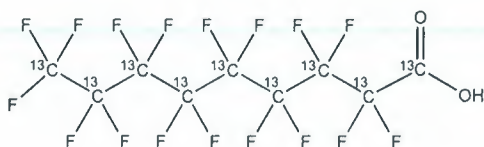
Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M9PFNA **LOT NUMBER:** M9PFNA0918
COMPOUND: Perfluoro-n-[¹³C₉]nonanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₉HF₁₇O₂ **MOLECULAR WEIGHT:** 473.01
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (¹³C₉)
LAST TESTED: (mm/dd/yyyy) 09/08/2018
EXPIRY DATE: (mm/dd/yyyy) 09/08/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

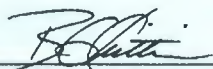
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 1.0% of ¹³C₅¹²C₄HF₁₇O₂ (MPFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 09/19/2018
 B.G. Chittim, General Manager (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be doneBDO Id: 200721-07**Reagent Receipt Report**Approved: Author:

Name: M6PFDA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M6PFDA Expires: 7/25/2024
Type: Solution Consumed: _____
Lot No: M6PFDA0719 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M6PFDA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------|----------|------------------------|---------|----------|----------------|--------------------------|--------------|--------------|
| 13C6-PFDA | BDO-2222 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | |

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

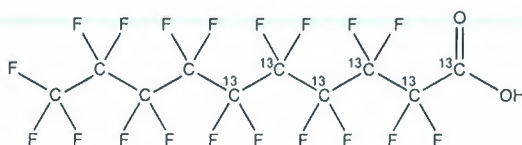
26074-07



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M6PFDA **LOT NUMBER:** M6PFDA0719
COMPOUND: Perfluoro-n-[1,2,3,4,5,6-¹³C₆]decanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₆¹²C₄HF₁₉O₂ **MOLECULAR WEIGHT:** 520.04
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2,3,4,5,6-¹³C₆)
LAST TESTED: (mm/dd/yyyy) 07/25/2019
EXPIRY DATE: (mm/dd/yyyy) 07/25/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

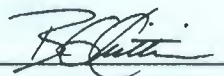
Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


 B.G. Chittim, General Manager

Date: 07/26/2019

(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-08

Acquisition Receipt Report

Approved: Authorized:

Name: M7PFUdA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M7PFUdA Expires: 7/22/2024
Type: Solution Consumed:
Lot No: M7PFUdA0719 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture:
Description: M7PFUdA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C7-PFUnA | BDO-2223 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | 1 | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M7PFUdA **LOT NUMBER:** M7PFUdA0719
COMPOUND: Perfluoro-n-[1,2,3,4,5,6,7-¹³C₇]undecanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₇¹²C₄HF₂₁O₂ **MOLECULAR WEIGHT:** 571.04
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2,3,4,5,6,7-¹³C₇)
LAST TESTED: (mm/dd/yyyy) 07/22/2019
EXPIRY DATE: (mm/dd/yyyy) 07/22/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 09/12/2019
 B.G. Chittim, General Manager (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-09

Reagent Receipt Report

Approved: Authorized:

Name: MPFDoA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: MPFDoA Expires: 11/22/2024
Type: Solution Consumed: _____
Lot No: MPFDoA1119 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: MPFDoA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C2-PFDoA | BDO-2112 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | 1 | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

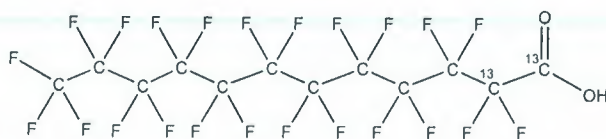
200721-09



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFDoA **LOT NUMBER:** MPFDoA1119
COMPOUND: Perfluoro-n-[1,2-¹³C₂]dodecanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₁₀HF₂₃O₂ **MOLECULAR WEIGHT:** 616.08
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2-¹³C₂)
LAST TESTED: (mm/dd/yyyy) 11/22/2019
EXPIRY DATE: (mm/dd/yyyy) 11/22/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

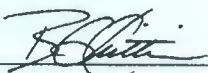
Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____


 B.G. Chittim, General Manager

Date: 11/27/2019
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-10

Reagent Receipt Report

Approved: Authorized:

Name: M2PFTeDA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M2PFTeDA Expires: 11/14/2024
Type: Solution Consumed: _____
Lot No: M2PFTeDA1119 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M2PFTeDA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C2-PFTeDA | BDO-2224 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | 1 | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION

PRODUCT CODE: M2PFTeDA **LOT NUMBER:** M2PFTeDA1119
COMPOUND: Perfluoro-n-[1,2-¹³C₂]tetradecanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₁₂HF₂₇O₂ **MOLECULAR WEIGHT:** 716.10
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
(1,2-¹³C₂)
LAST TESTED: (mm/dd/yyyy) 11/14/2019
EXPIRY DATE: (mm/dd/yyyy) 11/14/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-tetradecanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**Certified By:**
B.G. Chittim, General Manager**Date:** 11/26/2019
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



It can be done

BDO Id: 200721-11

Reagent Receipt Report

Approved:

Name: M2-4:2FTS Received: 7/21/2020
 Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
 Catalogue No: M2-4:2FTS Expires: 4/16/2025
 Type: Solution Consumed:
 Lot No: M242FTS0420 Stored In: VOC Laboratory - R0123
 Quantity: 1 ea mL % Moisture:
 Description: M2-4:2FTS

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|-------------|----------|------------------------|---------|----------|----------------|--------------------------|-----------|--------------|--------------|
| 13C2-4:2FTS | BDO-2229 | 46.7000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

200721-11

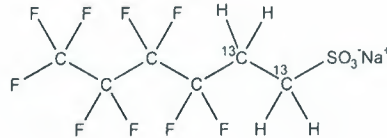


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-4:2FTS **LOT NUMBER:** M242FTS0420
COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-¹³C₂]hexane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₄H₄F₉SO₃Na **MOLECULAR WEIGHT:** 352.12
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
 46.9 ± 2.3 µg/ml (M2-4:2FTS acid)
 46.7 ± 2.3 µg/ml (M2-4:2FTS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 04/16/2020 (1,2-¹³C₂)
EXPIRY DATE: (mm/dd/yyyy) 04/16/2025
RECOMMENDED STORAGE: Refrigerate ampoule


DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 4:2FTS contains 4.22% of ³⁴S (due to natural isotopic abundance) therefore both native 4:2FTS and M2-4:2FTS will produce signals in the m/z 329 to m/z 309 channel during SRM analysis. We recommend using the m/z 329 to m/z 81 transition to monitor for M2-4:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager **Date:** 04/20/2020
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-12

Reagent Receipt ReportApproved:

Name: M2-6:2FTS Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M2-6:2FTS Expires: 5/20/2025
Type: Solution Consumed: _____
Lot No: M262FTS0520 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M2-6:2FTS

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C2-6:2FTS | BDO-2230 | 47.5000 | 98.00 | -- | -- | <input type="checkbox"/> | | |

Total Analytes: 1

Notes:

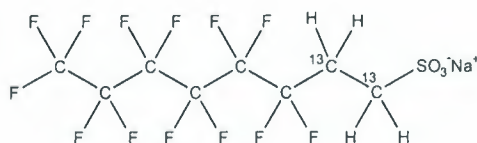
Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-6:2FTS **LOT NUMBER:** M262FTS0520
COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-¹³C₂]octane sulfonate
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₆H₄F₁₃SO₃Na **MOLECULAR WEIGHT:** 452.13
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
 47.6 ± 2.4 µg/ml (M2-6:2FTS acid)
 47.5 ± 2.4 µg/ml (M2-6:2FTS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 05/20/2020 (1,2-¹³C₂)
EXPIRY DATE: (mm/dd/yyyy) 05/20/2025
RECOMMENDED STORAGE: Refrigerate ampoule

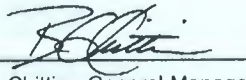
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 6:2FTS contains 4.22% of ³⁴S (due to natural isotopic abundance) therefore both native 6:2FTS and M2-6:2FTS will produce signals in the m/z 429 to m/z 409 channel during SRM analysis. We recommend using the m/z 429 to m/z 81 transition to monitor for M2-6:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager **Date:** 06/02/2020
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



It can be done

BDO Id: 200721-13

Reagent Receipt Report

Approved: Authorized:

Name: M2-8:2FTS Received: 7/21/2020
 Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
 Catalogue No: M2-8:2FTS Expires: 3/18/2025
 Type: Solution Consumed:
 Lot No: M282FTS0320 Stored In: VOC Laboratory - R0123
 Quantity: 1 ea mL % Moisture:
 Description: M2-8:2FTS

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|------------------------|---------|----------|----------------|--------------------------|--------------|--------------|
| 13C2-8:2FTS | BDO-2220 | 47.9000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | | 1 | | | | | | |

Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-8:2FTS **LOT NUMBER:** M282FTS0320
COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-¹³C₂]decane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₈H₄F₁₇SO₃Na **MOLECULAR WEIGHT:** 552.15
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
 48.0 ± 2.4 µg/ml (M2-8:2FTS acid)
 47.9 ± 2.4 µg/ml (M2-8:2FTS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 03/18/2020 (1,2-¹³C₂)
EXPIRY DATE: (mm/dd/yyyy) 03/18/2025
RECOMMENDED STORAGE: Refrigerate ampoule

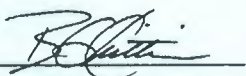
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 8:2FTS contains 4.22% of ³⁴S (due to natural isotopic abundance) therefore both native 8:2FTS and M2-8:2FTS will produce signals in the m/z 529 to m/z 509 channel during SRM analysis. We recommend using the m/z 529 to m/z 81 transition to monitor for M2-8:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager **Date:** 03/18/2020
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-14

Reagent Receipt Report

Approved:

Date: _____

Name: M3PFBSReceived: 7/21/2020Vendor: Wellington LaboratoriesCustodian: Schultz, StephanieCatalogue No: M3PFBSExpires: 3/17/2025Type: Solution

Consumed: _____

Lot No: M3PFBS1019Stored In: VOC Laboratory - R0123Quantity: 1 ea mL % Moisture: _____Description: M3PFBS

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------|----------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| 13C3-PFBS | BDO-2226 | 46.5000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |

Total Analytes: 1

Notes:

Approved by: _____

Approved on: _____

Authorized by: _____

Authorized on: _____

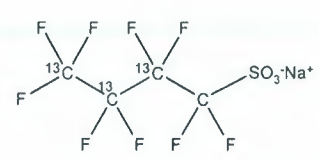


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFBS **LOT NUMBER:** M3PFBS1019
COMPOUND: Sodium perfluoro-1-[2,3,4-¹³C₃]butanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₃¹²CF₉SO₃Na **MOLECULAR WEIGHT:** 325.06
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
 46.6 ± 2.3 µg/ml (M3PFBS acid)
 46.5 ± 2.3 µg/ml (M3PFBS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 03/17/2020 (2,3,4-¹³C₃)
EXPIRY DATE: (mm/dd/yyyy) 03/17/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

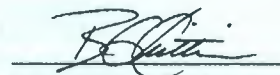
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (TIC and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains < 0.1% of perfluoro-1-butanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 03/18/2020
 B.G. Chittim, General Manager (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-15

Reagent Receipt Report

Approved:

Authorized on:

Name: M3PFHxS Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M3PFHxS Expires: 10/15/2024
Type: Solution Consumed: _____
Lot No: M3PFHxS1019 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M3PFHxS

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C3-PFHxS | BDO-2227 | 47.3000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | 1 | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFHxS **LOT NUMBER:** M3PFHxS1019
COMPOUND: Sodium perfluoro-1-[1,2,3-¹³C₃]hexanesulfonate
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₃¹²C₃F₁₃SO₃Na **MOLECULAR WEIGHT:** 425.07
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
47.3 ± 2.4 µg/ml (M3PFHxS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 10/15/2019 (1,2,3-¹³C₃)
EXPIRY DATE: (mm/dd/yyyy) 10/15/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

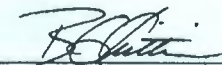
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.1% perfluoro-1-[1,2-¹³C₂]pentanesulfonate, ~ 0.1% perfluoro-1-octanesulfonate, and ~ 0.05% of perfluoro-1-hexanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 10/16/2019
B.G. Chittim, General Manager (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id: 200721-16

Reagent Receipt ReportApproved: Authorized:

Name: M8PFOS Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M8PFOS Expires: 2/21/2025
Type: Solution Consumed:
Lot No: M8PFOS0120 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture:
Description: M8PFOS

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|------------------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C8-PFOS | BDO-2228 | 47.8000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | | | | | | | | 1 |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

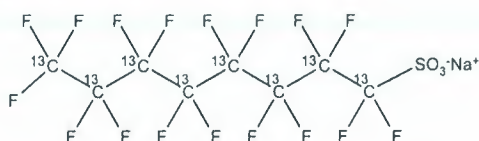
200721-16



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8PFOS **LOT NUMBER:** M8PFOS0120
COMPOUND: Sodium perfluoro-1-[¹³C₈]octanesulfonate
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₈F₁₇SO₃Na **MOLECULAR WEIGHT:** 530.05
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
 47.9 ± 2.4 µg/ml (M8PFOS acid)
 47.8 ± 2.4 µg/ml (M8PFOS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** >99% ¹³C
LAST TESTED: (mm/dd/yyyy) 02/21/2020 (¹³C₈)
EXPIRY DATE: (mm/dd/yyyy) 02/21/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

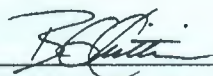
Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of sodium perfluoro-1-[¹³C₇]heptanesulfonate (¹³C₇-PFHpS) and ~ 1.0% of sodium perfluoro-1-[¹³C₈]octanesulfonate (MPFOS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


 B.G. Chittim, General Manager

Date: 02/21/2020

(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



It can be done

BDO Id:

200721-17

Reagent Receipt Report

Approved: Authorized:

Name: d3-N-MeFOSAA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: d3-N-MeFOSAA

Expires: 12/2/2024

Type: Solution

Consumed:

Lot No: d3NMeFOSAA1119

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: d3-N-MeFOSAA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|------------|----------|------------------------|---------|----------|----------------|--------------------------|-----------|--------------|--------------|
| d3-MeFOSAA | BDO-1838 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

200721-17

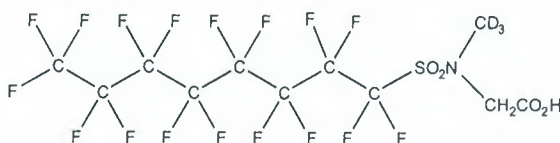


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: d3-N-MeFOSAA **LOT NUMBER:** d3NMeFOSAA1119
COMPOUND: N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 1400690-70-1



MOLECULAR FORMULA: C₁₁D₃H₃F₁₇NO₄S
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 574.23
SOLVENT(S): Methanol
 Water (<1%)

CHEMICAL PURITY: >98%

ISOTOPIC PURITY: ≥98% ²H₃

LAST TESTED: (mm/dd/yyyy) 12/02/2019

EXPIRY DATE: (mm/dd/yyyy) 12/02/2024

RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

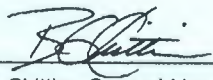
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


 B.G. Chittim, General Manager

Date: 12/04/2019
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-18

Reagent Receipt Report

Approved: Authorized:

Name: d5-N-EtFOSAA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: d5-N-EtFOSAA Expires: 5/20/2025
Type: Solution Consumed: _____
Lot No: d5NEtFOSAA0520 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: d5-N-EtFOSAA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| d5-EtFOSAA | BDO-1839 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |
| Total Analytes: | 1 | | | | | | | | |

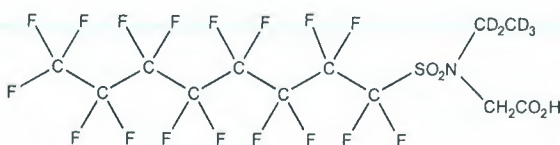
Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION

PRODUCT CODE: d5-N-EtFOSAA **LOT NUMBER:** d5NEtFOSAA0520
COMPOUND: N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: C₁₂D₅H₃F₁₇NO₄S
CONCENTRATION: 50.0 ± 2.5 µg/ml

MOLECULAR WEIGHT: 590.26
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/20/2020

ISOTOPIC PURITY: ≥98% ²H₅

EXPIRY DATE: (mm/dd/yyyy) 05/20/2025

RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 05/22/2020
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-19

Reagent Receipt Report

Approved: Authorized:

Name: M8FOSA-I Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M8FOSA-I Expires: 2/28/2025
Type: Solution Consumed:
Lot No: M8FOSA0220I Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture:
Description: M8FOSA-I

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C8-FOSA | BDO-2225 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | |

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

200721-19



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8FOSA-I **LOT NUMBER:** M8FOSA0220I
COMPOUND: Perfluoro-1-[¹³C₈]octanesulfonamide
STRUCTURE: **CAS #:** 1365803-60-6



MOLECULAR FORMULA: ¹³C₈H₂F₁₇NO₂S **MOLECULAR WEIGHT:** 507.09
CONCENTRATION: 50.0 ± 2.5 µg/ml **SOLVENT(S):** Isopropanol
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 02/28/2020 (¹³C₈)
EXPIRY DATE: (mm/dd/yyyy) 02/28/2025
RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

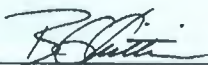
Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.2% of perfluoro-1-[¹³C₈]octanesulfonamide and ~ 0.03% of perfluoro-1-[¹³C₇]heptanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


 B.G. Chittim, General Manager

Date: 03/03/2020
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-20

Reagent Receipt Report

Approved: Sub:

Name: M3HFPO-DA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M3HFPO-DA Expires: 5/13/2023
Type: Solution Consumed:
Lot No: M3HFPODA0520 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture:
Description: M3HFPO-DA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C3-HFPO-DA | BDO-2276 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | 1 | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

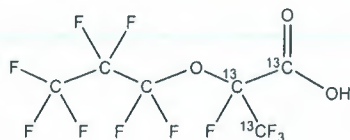


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3HFPO-DA **LOT NUMBER:** M3HFPODA0520
COMPOUND: 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-¹³C₃-propanoic acid

STRUCTURE: **CAS #:** Not available



| | | | |
|----------------------------------|---|--------------------------|--|
| MOLECULAR FORMULA: | ¹³ C ₃ ¹² C ₃ HF ₁₁ O ₃ | MOLECULAR WEIGHT: | 333.03 |
| CONCENTRATION: | 50.0 ± 2.5 µg/ml | SOLVENT(S): | Methanol |
| CHEMICAL PURITY: | >98% | ISOTOPIC PURITY: | ≥99% ¹³ C (¹³ C ₃) |
| LAST TESTED: (mm/dd/yyyy) | 05/13/2020 | | |
| EXPIRY DATE: (mm/dd/yyyy) | 05/13/2023 | | |
| RECOMMENDED STORAGE: | Refrigerate ampoule | | |

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.9% of the linear M3HFPO-DA isomer.
- Product is commercially known as GenX.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 05/22/2020

(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id: _____

200721-21

Reagent Receipt Report

Approved: Authorized:

Name: MPFDA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: MPFDA Expires: 3/24/2025
Type: Solution Consumed: _____
Lot No: MPFDA0320 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: MPFDA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|-----------------|-----------------|
| 13C2-PFDA | BDO-2110 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | |
| Total Analytes: | 1 | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

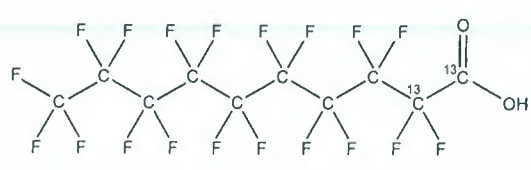


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFDA **LOT NUMBER:** MPFDA0320
COMPOUND: Perfluoro-n-[1,2-¹³C₂]decanoic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₈HF₁₉O₂ **MOLECULAR WEIGHT:** 516.07
CONCENTRATION: 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol
Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 03/24/2020 (1,2-¹³C₂)
EXPIRY DATE: (mm/dd/yyyy) 03/24/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (TIC and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 04/06/2020
B.G. Chittim, General Manager (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-22

Reagent Receipt Report

Approved: Authorized:

Name: M2PFOA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M2PFOA Expires: 1/8/2025
Type: Solution Consumed: _____
Lot No: M2PFOA0120 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M2PFOA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| 13C2-PFOA | BDO-2107 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |
| Total Analytes: | 1 | | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____



It can be done

BDO Id:

200721-23

Reagent Receipt Report

Approved:

Authorized:

Name: M3PFBA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M3PFBA

Expires: 2/24/2025

Type: Solution

Consumed:

Lot No: M3PFBA0120

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M3PFBA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------|----------|------------------------|---------|----------|----------------|--------------------------|-----------|--------------|--------------|
| 13C3-PFBA | BDO-2231 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |

Total Analytes: 1

Notes:

Approved by: _____

Approved on: _____

Authorized by: _____

Authorized on: _____

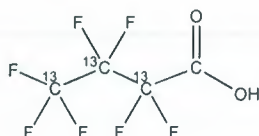


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFBA **LOT NUMBER:** M3PFBA0120
COMPOUND: Perfluoro-n-[2,3,4-¹³C₃]butanoic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₃¹²CHF₇O₂ **MOLECULAR WEIGHT:** 217.02
CONCENTRATION: 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99%¹³C
LAST TESTED: (mm/dd/yyyy) 02/24/2020 (2,3,4-¹³C₃)
EXPIRY DATE: (mm/dd/yyyy) 02/24/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-[¹³C₃]propanoic acid and also contains ~ 1.0% of perfluoro-n-[1,2,3,4-¹³C₄]butanoic acid due to the naturally occurring isotopic abundance of ¹³C in the unlabelled carbon atom.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager **Date:** 03/27/2020
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id: 200721-24

Reagent Receipt Report

Approved: Authorized:

Name: MPFOS Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: MPFOS Expires: 4/15/2025
Type: Solution Consumed:
Lot No: MPFOS0420 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture:
Description: MPFOS

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|-----------------|----------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| 13C4-PFOS | BDO-2121 | 47.8000 | 98.00 | -- | -- | <input type="checkbox"/> | | | |
| Total Analytes: | 1 | | | | | | | | |

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

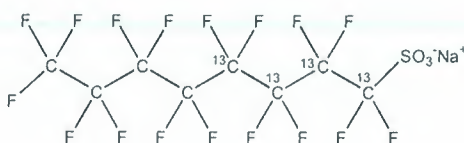


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS0420
COMPOUND: Sodium perfluoro-1-[1,2,3,4-¹³C₄]octanesulfonate

STRUCTURE: **CAS #:** 960315-53-1



MOLECULAR FORMULA: ¹³C₄¹²C₄F₁₇SO₃Na **MOLECULAR WEIGHT:** 526.08
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
47.9 ± 2.4 µg/ml (MPFOS acid)
47.8 ± 2.4 µg/ml (MPFOS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 04/15/2020 (1,2,3,4-¹³C₄)
EXPIRY DATE: (mm/dd/yyyy) 04/15/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

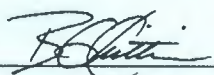
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.3% Sodium perfluoro-1-[1,2,3-¹³C₃]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 04/20/2020
B.G. Chittim, General Manager (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

BATTELLE

It can be done

BDO Id: 200811-01

Reagent Receipt Report

Approved: Authorized

Name: 3-Perfluoropropyl propanoic acid **Received:** 8/11/2020
Vendor: Wellington Laboratories **Custodian:** Bailey, Kevin
Catalogue No: FPrPA **Expires:** 1/7/2023
Type: Solution **Consumed:** _____
Lot No: FPrPA1219 **Stored In:** VOC Laboratory - R0123
Quantity: 1 ea ml **% Moisture:** _____
Description: FPrPA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert | Cert Val: | Lower Limit: | Upper Limit: |
|----------------------------------|----------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| 3-perfluoropropyl propanoic Acid | 356-02-5 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | 50 | 47.5 | 52.5 |

Total Analytes: 1

Notes:

Approved by: _____ **Approved on:** _____
Authorized by: _____ **Authorized on:** _____



WELLINGTON LABORATORIES

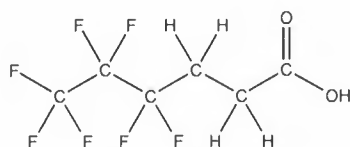
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPrPA
COMPOUND: 3-Perfluoropropyl propanoic acid

LOT NUMBER: FPrPA1219

STRUCTURE:

CAS #: 356-02-5



MOLECULAR FORMULA: C₆H₅F₇O₂
CONCENTRATION: 50 ± 2.5 µg/ml
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 01/07/2020
EXPIRY DATE: (mm/dd/yyyy) 01/07/2023
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 242.09
SOLVENT(S): Methanol

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid (C₆H₃F₇O₂) as an impurity determined by ¹⁹F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager

Date: 01/08/2020
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

BATTELLE

It can be done

BDO Id: 200811-02

Reagent Receipt Report

Approved: Authorized

Name: 3-Perfluoroheptyl propanoic acid **Received:** 8/11/2020
Vendor: Wellington Laboratories **Custodian:** Bailey, Kevin
Catalogue No: FHpPA **Expires:** 3/31/2023
Type: Solution **Consumed:** _____
Lot No: FHpPA0320 **Stored In:** VOC Laboratory - R0123
Quantity: 1 ea ml **% Moisture:** _____
Description: FHpPA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert Val: | Cert Val: | Lower Limit: | Upper Limit: |
|----------------------------------|----------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| 3-Perfluoroheptyl propanoic acid | 812-70-4 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | 50 | 47.5 | 52.5 |

Total Analytes: 1

Notes:

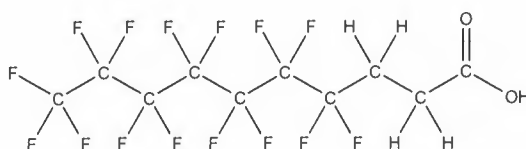
Approved by: _____ **Approved on:** _____
Authorized by: _____ **Authorized on:** _____



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FHpPA **LOT NUMBER:** FHpPA0320
COMPOUND: 3-Perfluoroheptyl propanoic acid
STRUCTURE: **CAS #:** 812-70-4



MOLECULAR FORMULA: C₁₀H₅F₁₅O₂ **MOLECULAR WEIGHT:** 442.12
CONCENTRATION: 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 03/31/2020
EXPIRY DATE: (mm/dd/yyyy) 03/31/2023
RECOMMENDED STORAGE: Refrigerate ampoule


DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 04/01/2020
 B.G. Chittim, General Manager (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



It can be done

BDO Id: 200811-03

Reagent Receipt Report

Approved: Authorized

Name: 3-Perfluoropentyl propanoic acid **Received:** 8/11/2020
Vendor: Wellington Laboratories **Custodian:** Bailey, Kevin
Catalogue No: FPePA **Expires:** 10/2/2022
Type: Solution **Consumed:** _____
Lot No: FPePA0919 **Stored In:** VOC Laboratory - R0123
Quantity: 1 ea ml **% Moisture:** _____
Description: FPePA

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert | Cert Val: | Lower Limit: | Upper Limit: |
|----------------------------------|-------------|------------------------|---------|----------|----------------|--------------------------|-----------|--------------|--------------|
| 3-Perfluoropentyl propanoic acid | 914637-49-3 | 50.0000 | 98.00 | -- | -- | <input type="checkbox"/> | 50 | 47.5 | 52.5 |

Total Analytes: 1

Notes:

Approved by: _____ **Approved on:** _____
Authorized by: _____ **Authorized on:** _____



WELLINGTON LABORATORIES

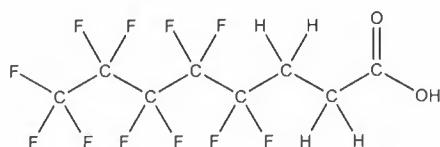
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPePA
COMPOUND: 3-Perfluoropentyl propanoic acid

LOT NUMBER: FPePA0919

STRUCTURE:

CAS #: 914637-49-3



MOLECULAR FORMULA: $C_8H_5F_{11}O_2$
CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 10/02/2019
EXPIRY DATE: (mm/dd/yyyy) 10/02/2022
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 342.11
SOLVENT(S): Methanol


DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 5:3 telomer acid ($C_8H_3F_{11}O_2$) as an impurity determined by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager

Date: 10/04/2019
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



It can be done

BDO Id: 200909-01

Reagent Receipt Report

Approved: Authorized

Name: PFOA DOD **Received:** 9/9/2020
Vendor: ABSOLUTE STANDARDS **Custodian:** Bailey, Kevin
Catalogue No: 64029 **Expires:** 7/28/2025
Type: Solution **Consumed:** _____
Lot No: 072820 **Stored In:** LC Laboratory - F0111
Quantity: 5 ea ml **% Moisture:** _____
Description: PFOA DOD

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert | Cert Val: | Lower Limit: | Upper Limit: |
|-------------------------------------|-------------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| 11-chloroeicosafuoro-3-oxaundecan | 763051-92-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorodecane sulfon | 39108-34-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorohexane sulfon | 757124-72-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorooctane sulfon | 27619-97-2 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 9-chlorohexadecafluoro-3-oxanonane | 756426-58-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Adona | 919005-14-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Hexafluoropropylene oxide dimer aci | 13252-13-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| N-ethylperfluoro-octanesulfonamidoa | 2991-50-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| N-methylperfluoro-1-octanesulfonami | 2355-31-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-butanefluoride | 375-73-5 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-decanesulfonate | 335-77-3 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-heptanesulfonate | 375-92-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-hexanesulfonate | 355-46-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-nonanesulfonate | 68259-12-1 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-octanesulfonamide | 754-91-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-octanesulfonate | 1763-23-1 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| perfluoro-1-pentanesulfonate | 2706-91-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-butyric Acid | 375-22-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-decanoic Acid | 335-76-2 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-dodecanoic acid | 307-55-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-heptanoic Acid | 375-85-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-hexanoic acid | 307-24-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-octanoic Acid | 335-67-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluorononanoic Acid | 375-95-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-pentanoic acid | 2706-90-3 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-tetradecanoic acid | 376-06-7 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-tridecanoic acid | 72629-94-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-undecanoic acid | 2058-94-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |

Total Analytes: 28

Notes:

Approved by: _____ **Approved on:** _____
Authorized by: _____ **Authorized on:** _____



200909-01

CERTIFIED WEIGHT REPORT

Part Number: 64029
Lot Number: 072820
Description: PFOA - DOD
26 components
Solvent(s): Methanol (1 mM KOH) Lot# 042920 (98%)
2-Propanol 23214 (2%)
Expiration Date: 072825
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 23050
5E-05 Balance Uncertainty
0.007 Flask Uncertainty

| | | | |
|----------------|-----------------|------|--------|
| Formulated By: | Benson Chan | DATE | 072820 |
| Reviewed By: | Pedro L. Rantes | DATE | 072820 |

Volume(s) shown below were combined and diluted to (mL): 50.0
Note: All assigned values are anion concentrations.

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty (+/-) µg/mL | SDS Information (Solvent Safety Info. On Attached pg.) | | |
|--|-------------|-----------------|-----------------|-------------------|--------------------------|-----------------------|---------------------|----------------------------------|--|----------------|------------------|
| | | | | | | | | | CAS# | OSHA PEL (TWA) | LD50 |
| 1. Perfluoro-n-butanolic acid (linear) | 99542 | 110419 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 375-22-4 | N/A | N/A |
| 2. Perfluoro-n-pentanolic acid | 99543 | 110419 | 0.02 | 1.00 | 0.004 | 50.7 | 1.01 | 0.02 | 2706-90-3 | N/A | N/A |
| 3. Perfluorohexanolic acid | 99199 | 010820 | 0.02 | 1.00 | 0.004 | 50.3 | 1.01 | 0.01 | 307-24-4 | N/A | N/A |
| 4. Perfluoroheptanolic acid | 99197 | 071219 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 375-85-9 | N/A | N/A |
| 5. Perfluorooctanoic acid (branched)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 50.3 | 1.01 | 0.01 | 335-67-1 | N/A | ipr-rel 189mg/kg |
| 6. Perfluorononanolic acid | 99200 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 375-95-1 | N/A | N/A |
| 7. Perfluorodecanolic acid | 99195 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 335-76-2 | N/A | ori-rel 57mg/kg |
| 8. Perfluoroundecanolic acid | 99205 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 2058-94-8 | N/A | N/A |
| 9. Tricosulfurododecanolic acid | 99196 | 010820 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 307-55-1 | N/A | N/A |
| 10. Perfluorotridecanolic acid | 99204 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 72829-94-8 | N/A | N/A |
| 11. Perfluorotetradecanolic acid | 99203 | 120319 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 376-06-7 | N/A | N/A |
| 12. Perfluoro-1-octanesulfonamide | 3677 | FOSA04201 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 754-91-8 | N/A | N/A |
| 13. N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4162 | brNMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 00-00-0 | N/A | N/A |
| 14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4163 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 00-00-0 | N/A | N/A |
| 15. Perfluorobutanesulfonic acid | 99194 | 021820 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 375-73-5 | N/A | N/A |
| 16. Perfluoro-1-pentanesulfonic acid | 99544 | 011420 | 0.02 | 0.98 | 0.004 | 51.3 | 1.00 | 0.02 | 830402-22-1 | N/A | N/A |
| 17. Perfluorohexanesulfonic acid (branched)* | 99198 | 091219 | 0.02 | 1.00 | 0.004 | 50.6 | 1.01 | 0.01 | 355-46-4 | N/A | N/A |
| 18. Perfluoro-1-heptanesulfonic acid | 3672 | LPFHpS0120 | 0.021 | 1.05 | 0.004 | 47.6 | 1.00 | 0.05 | 375-92-8 | N/A | N/A |
| 19. Heptadecafluorooctanesulfonic acid (branched)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 1763-23-1 | N/A | N/A |
| 20. Perfluoro-1-nonanesulfonic acid | 3957 | LPFNS1119 | 0.021 | 1.05 | 0.004 | 46.0 | 1.01 | 0.05 | 98789-57-2 | N/A | N/A |
| 21. Perfluoro-1-decane sulfonic acid | 3671 | LPFDS0419 | 0.021 | 1.05 | 0.004 | 48.2 | 1.01 | 0.05 | 2808-15-7 | N/A | N/A |
| 22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid | 3955 | 42FTS1019 | 0.0214 | 1.07 | 0.004 | 46.7 | 1.00 | 0.05 | 27819-93-8 | N/A | N/A |
| 23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid | 3661 | 82FTS0919 | 0.021 | 1.05 | 0.004 | 47.4 | 1.00 | 0.05 | 27819-94-9 | N/A | N/A |
| 24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid | 3662 | 82FTS0520 | 0.021 | 1.05 | 0.004 | 47.9 | 1.01 | 0.05 | 27819-96-1 | N/A | N/A |
| 25. 2-(Heptafluoropropoxy)-2,3,3,3-tetrafluoropropionic acid | 99668 | 071219 | 0.020 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 13252-13-6 | N/A | N/A |
| 26. 11-Chloroicosasulfuro-3-oxaundecane-1-sulfonic acid | 4165 | 11CIPF3OUdS0320 | 0.021 | 1.06 | 0.004 | 47.1 | 1.00 | 0.05 | 83329-89-9 | N/A | N/A |
| 27. 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | 4164 | 9CIPF3ONS0420 | 0.021 | 1.07 | 0.004 | 46.6 | 1.00 | 0.05 | 73606-19-6 | N/A | N/A |
| 28. Dodecafluoro-3H-4,8-dioxanonanolic acid (ADONA) | 4103 | NaDONA1119 | 0.021 | 1.06 | 0.004 | 47.1 | 1.00 | 0.05 | 958445-44-8 | N/A | N/A |
| Perfluorooctanoic acid (linear)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 44.2 | 0.88 | 0.012 | 335-67-1 | N/A | ipr-rel 189mg/kg |
| Perfluorooctanoic acid (branched isomer)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 6.0 | 0.12 | 0.002 | 335-67-1 | N/A | ipr-rel 189mg/kg |
| Perfluorohexanesulfonic acid (linear)* | 99198 | 091219 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.01 | 355-46-4 | N/A | N/A |
| Perfluorohexanesulfonic acid (branched isomer)* | 99198 | 091219 | 0.02 | 1.00 | 0.004 | 0.6 | 0.01 | 0.0002 | 355-46-4 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (linear)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 38.2 | 0.76 | 0.01 | 1763-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 7.5 | 0.15 | 0.002 | 1763-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 4.0 | 0.08 | 0.001 | 1763-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 0.5 | 0.010 | 0.0001 | 1763-23-1 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (linear)* | 4162 | brNMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 34.2 | 0.68 | 0.03 | 2355-31-9 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4162 | brNMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 10.5 | 0.21 | 0.011 | 00-00-0 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4162 | brNMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 5.1 | 0.10 | 0.005 | 00-00-0 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4162 | brNMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 0.3 | 0.005 | 0.00026 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)* | 4163 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 36.2 | 0.72 | 0.04 | 2991-50-6 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4163 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 8.7 | 0.17 | 0.009 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4163 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 4.5 | 0.09 | 0.005 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4163 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 0.6 | 0.012 | 0.0006 | 00-00-0 | N/A | N/A |

*Concentrations for branched and linear isomers are based on LCMS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.1

• The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
 • Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
 • Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
 • All Standards, after opening ampule, should be stored with cap tight and under appropriate laboratory conditions.
 • Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



It can be done

BDO Id: 200914-01

Reagent Receipt Report

Approved: Authorized

Name: PFOA DOD **Received:** 9/14/2020
Vendor: ABSOLUTE STANDARDS **Custodian:** Schumitz, Matt
Catalogue No: 64029 **Expires:** 8/26/2025
Type: Solution **Consumed:** _____
Lot No: 082620 **Stored In:** LC Laboratory - F0111
Quantity: 5 ea ML **% Moisture:** _____
Description: PFOA DOD

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert | Cert Val: | Lower Limit: | Upper Limit: |
|-------------------------------------|-------------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| 11-chloroeicosafuoro-3-oxaundecan | 763051-92-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorodecane sulfon | 39108-34-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorohexane sulfon | 757124-72-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorooctane sulfon | 27619-97-2 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 9-chlorohexadecafluoro-3-oxanonane | 756426-58-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Adona | 919005-14-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Hexafluoropropylene oxide dimer aci | 13252-13-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| N-ethylperfluoro-octanesulfonamidoa | 2991-50-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| N-methylperfluoro-1-octanesulfonami | 2355-31-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-butanefluoride | 375-73-5 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-decanesulfonate | 335-77-3 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-heptanesulfonate | 375-92-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-hexanesulfonate | 355-46-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-nonanesulfonate | 68259-12-1 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-octanesulfonamide | 754-91-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-octanesulfonate | 1763-23-1 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| perfluoro-1-pentanesulfonate | 2706-91-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-butanoic Acid | 375-22-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-decanoic Acid | 335-76-2 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-dodecanoic acid | 307-55-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-heptanoic Acid | 375-85-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-hexanoic acid | 307-24-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-octanoic Acid | 335-67-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluorononanoic Acid | 375-95-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-pentanoic acid | 2706-90-3 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-tetradecanoic acid | 376-06-7 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-tridecanoic acid | 72629-94-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-undecanoic acid | 2058-94-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |

Total Analytes: 28

Notes:

Approved by: _____ **Approved on:** _____
Authorized by: _____ **Authorized on:** _____



CERTIFIED WEIGHT REPORT

Part Number: 64029
Lot Number: 082620
Description: PFOA - DOD
28 components
Expiration Date: 082625
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 23060

Solvent(s):
Methanol (1 mM KOH) 042920 (98%)
2-Propanol 23214 (2%)

Lot#
5E-05 Balance Uncertainty
0.007 Flask Uncertainty

| | | |
|------------------------------|--|--------|
| Formulated By: Benson Cran | | 082620 |
| | | DATE |
| Reviewed By: Pedro L. Rentas | | 082620 |
| | | DATE |

Volume(s) shown below were combined and diluted to (mL):

Note: All assigned values are anion concentrations.

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty (+/-) µg/mL | SDS Information (Solvent Safety Info. On Attached pg.) | | |
|--|-------------|-----------------|-----------------|-------------------|--------------------------|-----------------------|---------------------|----------------------------------|--|----------------|-----------------|
| | | | | | | | | | CAS# | OSHA PEL (TWA) | LD50 |
| 1. Perfluoro-n-butyric acid (linear) | 99542 | 110419 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 375-22-4 | N/A | N/A |
| 2. Perfluoro-n-pentanoic acid | 99543 | 110419 | 0.02 | 1.00 | 0.004 | 50.7 | 1.01 | 0.02 | 2706-90-3 | N/A | N/A |
| 3. Perfluorohexanoic acid | 99199 | 010820 | 0.02 | 1.00 | 0.004 | 50.3 | 1.01 | 0.01 | 307-24-4 | N/A | N/A |
| 4. Perfluorooctanoic acid (linear)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 375-85-9 | N/A | N/A |
| 5. Perfluorooctanoic acid (branched)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 50.3 | 1.01 | 0.01 | 335-67-1 | N/A | or-rel 180mg/kg |
| 6. Perfluorononanoic acid | 99200 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 375-95-1 | N/A | N/A |
| 7. Perfluorodecanoic acid | 99195 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 335-76-2 | N/A | or-rel 57mg/kg |
| 8. Perfluoroundecanoic acid | 99205 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 2058-94-8 | N/A | N/A |
| 9. Tricosfluorododecanoic acid | 99196 | 010820 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 307-55-1 | N/A | N/A |
| 10. Perfluortridecanoic acid | 99204 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 72529-94-8 | N/A | N/A |
| 11. Perfluortetradecanoic acid | 99203 | 120319 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 376-06-7 | N/A | N/A |
| 12. Perfluoro-1-octanesulfonamide | 3677 | FOSA04201 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 754-91-6 | N/A | N/A |
| 13. N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4162 | brMeFOSAA1119 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 00-00-0 | N/A | N/A |
| 14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4163 | brNEFOSAA0819 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 00-00-0 | N/A | N/A |
| 15. Perfluorobutanesulfonic acid | 99194 | 021820 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 375-73-5 | N/A | N/A |
| 16. Perfluoro-1-pentanesulfonic acid | 99544 | 011420 | 0.02 | 0.98 | 0.004 | 51.3 | 1.00 | 0.02 | 630402-22-1 | N/A | N/A |
| 17. Perfluorohexanesulfonic acid (branched)* | 99198 | 081920 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 355-46-4 | N/A | N/A |
| 18. Perfluoro-1-heptanesulfonic acid | 3672 | LPFH6S0120 | 0.021 | 1.05 | 0.004 | 47.6 | 1.00 | 0.05 | 375-92-8 | N/A | N/A |
| 19. Heptadecafluorooctanesulfonic acid (branched)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 1783-23-1 | N/A | N/A |
| 20. Perfluoro-1-nonanesulfonic acid | 3957 | LPFNS1119 | 0.021 | 1.05 | 0.004 | 48.0 | 1.01 | 0.05 | 98789-57-2 | N/A | N/A |
| 21. Perfluoro-1-decane sulfonic acid | 3671 | LPFDS1119 | 0.021 | 1.05 | 0.004 | 48.2 | 1.01 | 0.05 | 2806-15-7 | N/A | N/A |
| 22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid | 3955 | 42FTS0720 | 0.0214 | 1.07 | 0.004 | 46.7 | 1.00 | 0.05 | 27619-93-8 | N/A | N/A |
| 23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid | 3661 | 62FTS0420 | 0.021 | 1.05 | 0.004 | 47.4 | 1.00 | 0.05 | 27819-94-9 | N/A | N/A |
| 24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid | 3662 | 82FTS0520 | 0.021 | 1.05 | 0.004 | 47.9 | 1.01 | 0.05 | 27619-96-1 | N/A | N/A |
| 25. 2-(heptafluoropropoxy)-2,3,3,3-tetrafluoropropionic acid | 99966 | 061820 | 0.020 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 13252-13-6 | N/A | N/A |
| 26. 11-Chlorooctadecafluoro-3-oxaundecane-1-sulfonic acid | 4165 | 11ClPF30udS0320 | 0.021 | 1.06 | 0.004 | 47.1 | 1.00 | 0.05 | 83329-89-9 | N/A | N/A |
| 27. 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | 4164 | 9ClPF30NS0420 | 0.021 | 1.07 | 0.004 | 46.6 | 1.00 | 0.05 | 72606-19-6 | N/A | N/A |
| 28. Dodecafluoro-3H-4,8-dioxanonanoic acid (ADONA) | 4103 | NaDONA1119 | 0.021 | 1.06 | 0.004 | 47.1 | 1.00 | 0.05 | 958445-44-8 | N/A | N/A |

| | | | | | | | | | | | |
|--|-------|---------------|------|------|-------|------|-------|---------|-----------|-----|-----------------|
| Perfluorooctanoic acid (linear)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 44.2 | 0.88 | 0.012 | 335-67-1 | N/A | or-rel 180mg/kg |
| Perfluorooctanoic acid (branched isomer)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 6.0 | 0.12 | 0.002 | 335-67-1 | N/A | or-rel 180mg/kg |
| Perfluorohexanesulfonic acid (linear)* | 99198 | 081920 | 0.02 | 1.00 | 0.004 | 49.6 | 0.99 | 0.01 | 355-46-4 | N/A | N/A |
| Perfluorohexanesulfonic acid (branched isomer)* | 99198 | 081920 | 0.02 | 1.00 | 0.004 | 0.6 | 0.01 | 0.0002 | 355-46-4 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (linear)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 38.2 | 0.76 | 0.01 | 1783-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 7.5 | 0.15 | 0.002 | 1783-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 4.0 | 0.08 | 0.001 | 1783-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 0.5 | 0.010 | 0.0001 | 1783-23-1 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (linear)* | 4162 | brMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 34.2 | 0.68 | 0.03 | 2355-31-9 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4162 | brMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 10.5 | 0.21 | 0.011 | 00-00-0 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4162 | brMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 5.1 | 0.10 | 0.005 | 00-00-0 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4162 | brMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 0.3 | 0.005 | 0.00026 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)* | 4163 | brNEFOSAA0819 | 0.02 | 1.00 | 0.004 | 36.2 | 0.72 | 0.04 | 2991-50-6 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4163 | brNEFOSAA0819 | 0.02 | 1.00 | 0.004 | 6.7 | 0.17 | 0.009 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4163 | brNEFOSAA0819 | 0.02 | 1.00 | 0.004 | 4.5 | 0.09 | 0.005 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4163 | brNEFOSAA0819 | 0.02 | 1.00 | 0.004 | 0.6 | 0.012 | 0.0006 | 00-00-0 | N/A | N/A |

*Concentrations for branched and linear isomers are based on LCMS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available. 1

The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
Standards are certified to ± 0.25% of the stated value, unless otherwise stated.
All standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
Uncertainty Reference: Taylor, B.N. and Kaye, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



It can be done

BDO Id: 201006-07

Reagent Receipt Report

Approved: Authorized

Name: PFOA DOD Received: 10/6/2020
 Vendor: ABSOLUTE STANDARDS Custodian: Bailey, Kevin
 Catalogue No: 64029 Expires: 7/28/2025
 Type: Solution Consumed: _____
 Lot No: 072820 Stored In: LC Laboratory - F0111
 Quantity: 5 ea ml % Moisture: _____
 Description: PFOA DOD

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert | Cert Val: | Lower Limit: | Upper Limit: |
|-------------------------------------|-------------|------------------------|---------|----------|----------------|--------------------------|-----------|--------------|--------------|
| 11-chloroeicosafuoro-3-oxaundecan | 763051-92-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorodecane sulfon | 39108-34-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorohexane sulfon | 757124-72-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorooctane sulfon | 27619-97-2 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 9-chlorohexadecafluoro-3-oxanonane | 756426-58-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Adona | 919005-14-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Hexafluoropropylene oxide dimer aci | 13252-13-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| N-ethylperfluoro-octanesulfonamidoa | 2991-50-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| N-methylperfluoro-1-octanesulfonami | 2355-31-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-butanefluoride | 375-73-5 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-decanesulfonate | 335-77-3 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-heptanesulfonate | 375-92-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-hexanesulfonate | 355-46-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-nonanesulfonate | 68259-12-1 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-octanesulfonamide | 754-91-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-octanesulfonate | 1763-23-1 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| perfluoro-1-pentanesulfonate | 2706-91-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-butanoic Acid | 375-22-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-decanoic Acid | 335-76-2 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-dodecanoic acid | 307-55-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-heptanoic Acid | 375-85-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-hexanoic acid | 307-24-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-octanoic Acid | 335-67-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluorononanoic Acid | 375-95-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-pentanoic acid | 2706-90-3 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-tetradecanoic acid | 376-06-7 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-tridecanoic acid | 72629-94-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-undecanoic acid | 2058-94-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |

Total Analytes: 28

Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____



201006-07

CERTIFIED WEIGHT REPORT

Part Number: 64029
Lot Number: 072820
Description: PFOA - DOD
28 components

Expiration Date: 072825
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 23060

Solvent(s): Methanol (1 mM KOH)
2-Propanol

Lot# 042920 (98%)
23214 (2%)

5E-05 Balance Uncertainty
0.007 Flask Uncertainty

| | | |
|------------------------------|--------|------|
| Formulated By: Benson Chan | 072820 | DATE |
| Reviewed By: Pedro L. Rentas | 072820 | DATE |

Volume(s) shown below were combined and diluted to (mL): 50.0

Note: All assigned values are anion concentrations.

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty (+/-) µg/mL | SDS Information (Solvent Safety Info. On Attached pg.) | | |
|--|-------------|-----------------|-----------------|-------------------|--------------------------|-----------------------|---------------------|----------------------------------|--|----------------|------------------|
| | | | | | | | | | CAS# | OSHA PEL (TWA) | LD50 |
| 1. Perfluoro-n-butanolic acid (linear) | 99542 | 110419 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 375-22-4 | N/A | N/A |
| 2. Perfluoro-n-pentanoic acid | 99543 | 110419 | 0.02 | 1.00 | 0.004 | 50.7 | 1.01 | 0.02 | 2708-90-3 | N/A | N/A |
| 3. Perfluorohexanoic acid | 99199 | 010820 | 0.02 | 1.00 | 0.004 | 50.3 | 1.01 | 0.01 | 307-24-4 | N/A | N/A |
| 4. Perfluoroheptanoic acid | 99197 | 071219 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 375-85-9 | N/A | N/A |
| 5. Perfluorooctanoic acid (branched)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 50.3 | 1.01 | 0.01 | 335-87-1 | N/A | lpr-rat 189mg/kg |
| 6. Perfluorononanoic acid | 99200 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 375-95-1 | N/A | N/A |
| 7. Perfluorodecanoic acid | 99195 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 335-78-2 | N/A | ort-rat 57mg/kg |
| 8. Perfluoroundecanoic acid | 99205 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 2058-94-6 | N/A | N/A |
| 9. Tricosulfurododecanoic acid | 99198 | 010820 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 307-55-1 | N/A | N/A |
| 10. Perfluorotridecanoic acid | 99204 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 72829-94-8 | N/A | N/A |
| 11. Perfluorotetradecanoic acid | 99203 | 120319 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 378-08-7 | N/A | N/A |
| 12. Perfluoro-1-octanesulfonamide | 3677 | FOSA0420I | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 754-91-8 | N/A | N/A |
| 13. N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4182 | brNmFOSAA0119 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 00-00-0 | N/A | N/A |
| 14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 00-00-0 | N/A | N/A |
| 15. Perfluorobutanesulfonic acid | 99194 | 021820 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 375-73-5 | N/A | N/A |
| 16. Perfluoro-1-pentanesulfonic acid | 99544 | 011420 | 0.02 | 0.98 | 0.004 | 51.3 | 1.00 | 0.02 | 830402-22-1 | N/A | N/A |
| 17. Perfluorohexanesulfonic acid (branched)* | 99196 | 091219 | 0.02 | 1.00 | 0.004 | 50.6 | 1.01 | 0.01 | 355-48-4 | N/A | N/A |
| 18. Perfluoro-1-heptanesulfonic acid | 3672 | LPFHPS0120 | 0.021 | 1.05 | 0.004 | 47.8 | 1.00 | 0.05 | 375-92-8 | N/A | N/A |
| 19. Heptadecafluorooctanesulfonic acid (branched)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 1783-23-1 | N/A | N/A |
| 20. Perfluoro-1-nonanesulfonic acid | 3957 | LPFN51119 | 0.021 | 1.05 | 0.004 | 48.0 | 1.01 | 0.05 | 98789-57-2 | N/A | N/A |
| 21. Perfluoro-1-decanesulfonic acid | 3671 | LPFDS0419 | 0.021 | 1.05 | 0.004 | 48.2 | 1.01 | 0.05 | 2808-15-7 | N/A | N/A |
| 22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid | 3955 | 42FTS1019 | 0.0214 | 1.07 | 0.004 | 48.7 | 1.00 | 0.05 | 27819-93-8 | N/A | N/A |
| 23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid | 3681 | 82FTS0919 | 0.021 | 1.05 | 0.004 | 47.4 | 1.00 | 0.05 | 27819-94-9 | N/A | N/A |
| 24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid | 3682 | 82FTS0520 | 0.021 | 1.05 | 0.004 | 47.9 | 1.01 | 0.05 | 27819-98-1 | N/A | N/A |
| 25. 2-(Heptafluoropropoxy)-2,3,3,3-tetrafluoropropionic acid | 99668 | 071219 | 0.020 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 13252-13-6 | N/A | N/A |
| 26. 11-Chloroicosasulfuro-3-oxaundecane-1-sulfonic acid | 4185 | 11CIPF3OUdS0320 | 0.021 | 1.06 | 0.004 | 47.1 | 1.00 | 0.05 | 83329-89-9 | N/A | N/A |
| 27. 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | 4184 | 9CIPF3ONS0420 | 0.021 | 1.07 | 0.004 | 46.6 | 1.00 | 0.05 | 73608-19-6 | N/A | N/A |
| 28. Dodecafluoro-3H-4,8-dioxanonanoic acid (ADONA) | 4103 | NaDONA1119 | 0.021 | 1.06 | 0.004 | 47.1 | 1.00 | 0.05 | 958445-44-8 | N/A | N/A |
| Perfluorooctanoic acid (linear)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 44.2 | 0.88 | 0.012 | 335-87-1 | N/A | lpr-rat 189mg/kg |
| Perfluorooctanoic acid (branched isomer)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 6.0 | 0.12 | 0.002 | 335-87-1 | N/A | lpr-rat 189mg/kg |
| Perfluorohexanesulfonic acid (linear)* | 99198 | 091219 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.01 | 355-48-4 | N/A | N/A |
| Perfluorohexanesulfonic acid (branched isomer)* | 99198 | 091219 | 0.02 | 1.00 | 0.004 | 0.6 | 0.01 | 0.0002 | 355-48-4 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (linear)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 38.2 | 0.78 | 0.01 | 1783-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 7.5 | 0.15 | 0.002 | 1783-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 4.0 | 0.08 | 0.001 | 1783-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 0.5 | 0.010 | 0.0001 | 1783-23-1 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (linear)* | 4182 | brNmFOSAA0119 | 0.02 | 1.00 | 0.004 | 34.2 | 0.68 | 0.03 | 2355-31-9 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4182 | brNmFOSAA0119 | 0.02 | 1.00 | 0.004 | 10.5 | 0.21 | 0.011 | 00-00-0 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4152 | brNmFOSAA0119 | 0.02 | 1.00 | 0.004 | 5.1 | 0.10 | 0.005 | 00-00-0 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4182 | brNmFOSAA0119 | 0.02 | 1.00 | 0.004 | 0.3 | 0.005 | 0.00026 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 38.2 | 0.72 | 0.04 | 2991-50-6 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 8.7 | 0.17 | 0.009 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 4.5 | 0.09 | 0.005 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 0.8 | 0.012 | 0.0006 | 00-00-0 | N/A | N/A |

*Concentrations for branched and linear isomers are based on LCMS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 1.2.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.1

• The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
 • Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
 • Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
 • All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
 • Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



It can be done

BDO Id: 201112-01

Reagent Receipt Report

Approved: Authorized

Name: PFOA DOD **Received:** 11/12/2020
Vendor: ABSOLUTE STANDARDS **Custodian:** Schumitz, Matt
Catalogue No: 64029 **Expires:** 11/2/2025
Type: Solution **Consumed:** _____
Lot No: 072820 **Stored In:** LC Laboratory - F0111
Quantity: 5 ea mL **% Moisture:** _____
Description: PFOA DOD

| Analyte: | CAS No: | Concentration (ug/mL): | Purity: | Density: | Density Units: | Cert | Cert Val: | Lower Limit: | Upper Limit: |
|-------------------------------------|-------------|---------------------------|---------|----------|-------------------|--------------------------|--------------|-----------------|-----------------|
| 11-chloroeicosafuoro-3-oxaundecan | 763051-92-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorodecane sulfon | 39108-34-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorohexane sulfon | 757124-72-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 1H,1H,2H,2H-Perfluorooctane sulfon | 27619-97-2 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| 9-chlorohexadecafluoro-3-oxanonane | 756426-58-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Adona | 919005-14-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Hexafluoropropylene oxide dimer aci | 13252-13-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| N-ethylperfluoro-octanesulfonamidoa | 2991-50-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| N-methylperfluoro-1-octanesulfonami | 2355-31-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-butanefluoride | 375-73-5 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-decanesulfonate | 335-77-3 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-heptanesulfonate | 375-92-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-hexanesulfonate | 355-46-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-nonanesulfonate | 68259-12-1 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-octanesulfonamide | 754-91-6 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-1-octanesulfonate | 1763-23-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| perfluoro-1-pentanesulfonate | 2706-91-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-butanoic Acid | 375-22-4 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-decanoic Acid | 335-76-2 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-dodecanoic acid | 307-55-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-heptanoic Acid | 375-85-9 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-hexanoic acid | 307-24-4 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-octanoic Acid | 335-67-1 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluorononanoic Acid | 375-95-1 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-pentanoic acid | 2706-90-3 | 1.0100 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-tetradecanoic acid | 376-06-7 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-tridecanoic acid | 72629-94-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |
| Perfluoro-n-undecanoic acid | 2058-94-8 | 1.0000 | 100.00 | -- | -- | <input type="checkbox"/> | | | |

Total Analytes: 28

Notes:

Approved by: _____ **Approved on:** _____
Authorized by: _____ **Authorized on:** _____



201112-01

CERTIFIED WEIGHT REPORT

Part Number: **64029**
Lot Number: **110220**
Description: **PFOA - DOD**
28 components
Expiration Date: **110225**
Recommended Storage: **Freezer (0 °C)**
Nominal Concentration (µg/mL): **1.0**
NIST Test ID#: **23060**

Solvent(s): **Methanol (1 mM KOH)**
2-Propanol
Lot# **042920 (98%)**
23214 (2%)

5E-05 Balance Uncertainty
0.007 Flask Uncertainty

| | |
|--|--------|
| Formulated By: <i>Prashant Chauhan</i> | 110220 |
| Prashant Chauhan | DATE |
| Reviewed By: <i>Pedro L. Rentas</i> | 110220 |
| Pedro L. Rentas | DATE |

Volume(s) shown below were combined and diluted to (mL): **50.0**

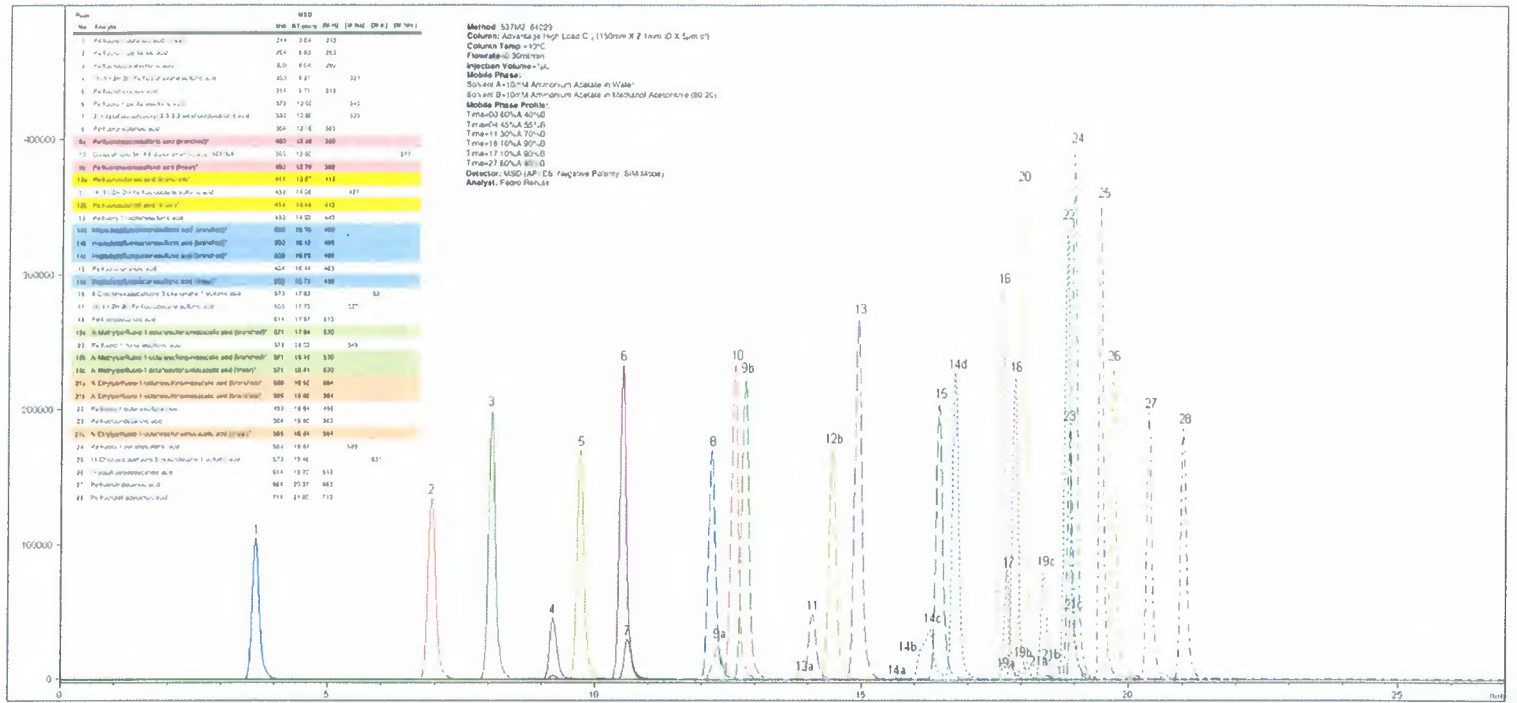
Note: All assigned values are anion concentrations.

| Compound | Part Number | Lot Number | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty (±) µg/mL | SDS Information (Solvent Safety Info. On Attached pg.) | | |
|--|-------------|-----------------|-----------------|-------------------|--------------------------|-----------------------|---------------------|--------------------------------|--|----------------|------------------|
| | | | | | | | | | CAS# | OSHA PEL (TWA) | LD50 |
| 1. Perfluoro-n-butanoic acid (linear) | 99542 | 110419 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 375-22-4 | N/A | N/A |
| 2. Perfluoro-n-pentanoic acid | 99543 | 110419 | 0.02 | 1.00 | 0.004 | 50.7 | 1.01 | 0.02 | 2706-90-3 | N/A | N/A |
| 3. Perfluorohexanoic acid | 99199 | 010820 | 0.02 | 1.00 | 0.004 | 50.3 | 1.01 | 0.01 | 307-24-4 | N/A | N/A |
| 4. Perfluoroheptanoic acid | 99197 | 081920 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 375-85-9 | N/A | N/A |
| 5. Perfluorooctanoic acid (branched)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 50.3 | 1.01 | 0.01 | 335-87-1 | N/A | ipr-rat 189mg/kg |
| 6. Perfluorononanoic acid | 99200 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 375-95-1 | N/A | N/A |
| 7. Perfluorodecanoic acid | 99195 | 101420 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 335-78-2 | N/A | ori-rat 57mg/kg |
| 8. Perfluoroundecanoic acid | 99205 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 2058-94-8 | N/A | N/A |
| 9. Tricosulfurododecanoic acid | 99198 | 010820 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 307-55-1 | N/A | N/A |
| 10. Perfluorotridecanoic acid | 99204 | 110419 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 72829-94-8 | N/A | N/A |
| 11. Perfluorotetradecanoic acid | 99203 | 120319 | 0.02 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 378-06-7 | N/A | N/A |
| 12. Perfluoro-1-octanesulfonamide | 3877 | FOSA04201 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 754-91-8 | N/A | N/A |
| 13. N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4182 | brNMeFOSAA1119 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 00-00-0 | N/A | N/A |
| 14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 50.0 | 1.00 | 0.05 | 00-00-0 | N/A | N/A |
| 15. Perfluorobutanesulfonic acid | 99194 | 021820 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 375-73-5 | N/A | N/A |
| 16. Perfluoro-1-pentanesulfonic acid | 99544 | 011420 | 0.02 | 0.98 | 0.004 | 51.3 | 1.00 | 0.02 | 830402-22-1 | N/A | N/A |
| 17. Perfluorohexanesulfonic acid (branched)* | 99198 | 081920 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 355-46-4 | N/A | N/A |
| 18. Perfluoro-1-heptanesulfonic acid | 3872 | LPFHPS0120 | 0.021 | 1.05 | 0.004 | 47.8 | 1.00 | 0.05 | 375-92-8 | N/A | N/A |
| 19. Heptadecafluorooctanesulfonic acid (branched)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 50.2 | 1.00 | 0.01 | 1783-23-1 | N/A | N/A |
| 20. Perfluoro-1-nonanesulfonic acid | 3957 | LPFNS1119 | 0.021 | 1.05 | 0.004 | 48.0 | 1.01 | 0.05 | 98789-57-2 | N/A | N/A |
| 21. Perfluoro-1-decane sulfonic acid | 3871 | LPFDS1119 | 0.021 | 1.05 | 0.004 | 48.2 | 1.01 | 0.05 | 2808-15-7 | N/A | N/A |
| 22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid | 3955 | 42FTS0720 | 0.0214 | 1.07 | 0.004 | 48.7 | 1.00 | 0.05 | 27619-93-8 | N/A | N/A |
| 23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid | 3861 | 82FTS0420 | 0.021 | 1.05 | 0.004 | 47.4 | 1.00 | 0.05 | 27619-94-9 | N/A | N/A |
| 24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid | 3882 | 82FTS0520 | 0.021 | 1.05 | 0.004 | 47.9 | 1.01 | 0.05 | 27619-96-1 | N/A | N/A |
| 25. 2-(Heptfluoropropoxy)-2,3,3,3-tetrafluoropropionic acid | 99686 | 051820 | 0.020 | 1.00 | 0.004 | 50.1 | 1.00 | 0.01 | 13252-13-8 | N/A | N/A |
| 26. 11-Chloroheptacosulfuro-3-oxaundecane-1-sulfonic acid | 4165 | 11CIPF30UDS0320 | 0.021 | 1.06 | 0.004 | 47.1 | 1.00 | 0.05 | 83329-89-9 | N/A | N/A |
| 27. 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | 4164 | 9CIPF3ONS0420 | 0.021 | 1.07 | 0.004 | 48.6 | 1.00 | 0.05 | 73606-19-6 | N/A | N/A |
| 28. Dodecafluoro-3H-4,8-dioxanonanoic acid (ADONA) | 4103 | NaDONA1119 | 0.021 | 1.06 | 0.004 | 47.1 | 1.00 | 0.05 | 958445-44-8 | N/A | N/A |
| Perfluorooctanoic acid (linear)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 44.2 | 0.88 | 0.012 | 335-87-1 | N/A | ipr-rat 189mg/kg |
| Perfluorooctanoic acid (branched isomer)* | 99202 | 021820 | 0.02 | 1.00 | 0.004 | 8.0 | 0.12 | 0.002 | 335-87-1 | N/A | ipr-rat 189mg/kg |
| Perfluorohexanesulfonic acid (linear)* | 99198 | 081920 | 0.02 | 1.00 | 0.004 | 49.8 | 0.99 | 0.01 | 355-46-4 | N/A | N/A |
| Perfluorohexanesulfonic acid (branched isomer)* | 99198 | 081920 | 0.02 | 1.00 | 0.004 | 0.8 | 0.01 | 0.0002 | 355-46-4 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (linear)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 38.2 | 0.78 | 0.01 | 1783-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 7.5 | 0.15 | 0.002 | 1783-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 4.0 | 0.08 | 0.001 | 1783-23-1 | N/A | N/A |
| Heptadecafluorooctanesulfonic acid (branched isomer)* | 99201 | 021820 | 0.02 | 1.00 | 0.004 | 0.5 | 0.010 | 0.0001 | 1783-23-1 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (linear)* | 4182 | brNMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 34.2 | 0.68 | 0.03 | 2355-31-9 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4182 | brNMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 10.5 | 0.21 | 0.011 | 00-00-0 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4182 | brNMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 5.1 | 0.10 | 0.005 | 00-00-0 | N/A | N/A |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4182 | brNMeFOSAA0119 | 0.02 | 1.00 | 0.004 | 0.3 | 0.005 | 0.00028 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 38.2 | 0.72 | 0.04 | 2991-50-6 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 8.7 | 0.17 | 0.009 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 4.5 | 0.09 | 0.005 | 00-00-0 | N/A | N/A |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)* | 4183 | brNEIFOSAA0819 | 0.02 | 1.00 | 0.004 | 0.6 | 0.012 | 0.0008 | 00-00-0 | N/A | N/A |

*Concentrations for branched and linear isomers are based on LCMS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.1

• The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
 • Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
 • Standards are certified (±) 0.5% of the stated value, unless otherwise stated.
 • All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
 • Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).





ACCREDITATIONS

| Accrediting Authority | Laboratory ID |
|--|---------------|
| U.S. Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP) | 91667 |
| State of Florida Department of Health | E87856 |
| State of New York Department of Health | 12105 |
| State of Washington Department of Ecology | C1050 |
| State of California | 3045 |
| Commonwealth of Massachusetts | E87856 |
| State of Maine | MA00056 |
| State of Vermont | VT 87856 |
| State of New Hampshire | 2137 |
| Commonwealth of Pennsylvania Department of Environmental Protection | 68-05687 |
| State of Alaska Department of Environmental Conservation | 19-005 |
| State of Rhode Island | E87856 |

Current certificates and lists of accredited parameters are available upon request.



Sample Preparation



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE PREPARATION RECORDS**

| | |
|---|------------------------------|
| <u>Project Title(s)</u> | <u>Project No.(s)</u> |
| CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10 | 100142218 |
| 20-1519 | |
| CTO-4532: PFAS in Water | |
| AQ, GW | |
| SOP Numbers (see workplan for modifications) | |
| ExtractionSOP No. | 5-370 |

| This Batch Contains The Following Samples: | |
|---|-----------|
| DB472PB-FS | G2209-FS1 |
| DB473LCS-FS | G2210-FS1 |
| G2203-FS1 | |
| G2205-FS1 | |
| G2206-FS1 | |
| G2207-FS1 | |

Laboratory Preparation Records
COMPLETE AND VALIDATED

Prep Task Leader: Allison Wamness

| Approved By: | Date | Initials |
|-----------------|------------|----------|
| Denise Schumitz | 11/30/2020 | DMS |



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE IDENTIFICATION PAGE

Project Title(s)CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10**Project No.(s)**

100142218

20-1519**CTO-4532: PFAS in Water****AQ, GW**

| Sample ID | Description |
|-------------|---------------------------|
| DB472PB-FS | Procedural Blank |
| DB473LCS-FS | Laboratory Control Sample |
| G2203-FS1 | CBD-AOA-MW06-1020 |
| G2205-FS1 | CBD-AOA-MW12-1020 |
| G2206-FS1 | CBD-AOA-MW11-1020 |
| G2207-FS1 | CBD-AOA-MW11P-1020 |
| G2209-FS1 | CBD-AOA-EB01-102820-GW |
| G2210-FS1 | CBD-AOA-MW14-1020 |

Samples Assigned By:

Denise Schumitz

Date : November 20, 2020

Comments: Re-Extract samples from 20-1375



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE CUSTODY LOG**

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1519

CTO-4532: PFAS in Water

AQ, GW

| | |
|--|---|
| Requested On/By: 11/23/2020 AW | Purpose: Sample Preparation |
| Relinquished On/By: 11/23/2020 BTM | Last Activity: Transfer |
| Accepted On/By: 11/23/2020 KH Stored In Facility: Sample Preparation Stored Until: Stored Comment: NA | Returned On/To: Returned To Facility: Returned Comment: NA |

| No. | BDO-ID: | Ctrs | * | Condition: | Custody Comment: |
|----------------------|---------|------|----------------------------|------------|------------------|
| 1 | G2203 | 2 | C | Consumed | NA |
| 2 | G2205 | 2 | C | Consumed | NA |
| 3 | G2206 | 2 | C | Consumed | NA |
| 4 | G2207 | 2 | C | Consumed | NA |
| 5 | G2209 | 2 | C | Consumed | NA |
| 6 | G2210 | 2 | C | Consumed | NA |
| Total Samples | | 6 | * "C" = Consumed Container | | |



It can be done

**BATTELLE - NORWELL OPERATIONS
LIQUID SAMPLE ID FORM**

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1519

CTO-4532: PFAS in Water

AQ, GW

| Sample ID | Description | Volume (mL) | Bottles | * | Date Initials |
|-------------|---------------------------|-------------|---------|----|---------------|
| DB472PB-FS | Procedural Blank | 250.0 | NA | -- | 11/23/20 KH |
| DB473LCS-FS | Laboratory Control Sample | 250.0 | NA | -- | 11/23/20 KH |
| G2203-FS1 | CBD-AOA-MW06-1020 | 270.0 | 2 | C | 11/24/20 KH |
| G2205-FS1 | CBD-AOA-MW12-1020 | 265.0 | 2 | C | 11/24/20 KH |
| G2206-FS1 | CBD-AOA-MW11-1020 | 250.0 | 2 | C | 11/24/20 KH |
| G2207-FS1 | CBD-AOA-MW11P-1020 | 260.0 | 2 | C | 11/24/20 KH |
| G2209-FS1 | CBD-AOA-EB01-102820-GW | 280.0 | 2 | C | 11/24/20 KH |
| G2210-FS1 | CBD-AOA-MW14-1020 | 255.0 | 2 | C | 11/24/20 KH |

Comments:

| Sample ID: | Comments: |
|------------|--|
| G2205-FS1 | 40 ul HCl to achieve a pH between 6 and 8. TN |
| G2206-FS1 | 160 ul HCl to achieve a pH between 6 and 8. TN |
| G2207-FS1 | 160 ul HCl to achieve a pH between 6 and 8. TN |
| G2210-FS1 | 160 ul HCl to achieve a pH between 6 and 8. TN |

Samples Assigned By:

Denise Schumitz

Date : November 20, 2020

* - "C" = Sample is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1519**CTO-4532: PFAS in Water****AQ, GW**

| Sample ID | Standard ID | Type | Vial No. | Vol Added (uL) | Date Spiked/ Spiked By | Witn'd By | Comment |
|-------------|-------------|--------|----------|----------------|---------------------------|-----------|---------|
| DB472PB-FS | LE39 | SIS | 7 | 125 | 11/23/20 KH | RPK | NA |
| DB473LCS-FS | LE39 | SIS | 7 | 125 | 11/23/20 KH | RPK | NA |
| DB473LCS-FS | LE64 | LCS/MS | 1 | 100 | 11/23/20 KH | RPK | NA |
| G2203-FS1 | LE39 | SIS | 7 | 125 | 11/23/20 KH | RPK | NA |
| G2205-FS1 | LE39 | SIS | 7 | 125 | 11/23/20 KH | RPK | NA |
| G2206-FS1 | LE39 | SIS | 7 | 125 | 11/23/20 KH | RPK | NA |
| G2207-FS1 | LE39 | SIS | 7 | 125 | 11/23/20 KH | RPK | NA |
| G2209-FS1 | LE39 | SIS | 7 | 125 | 11/23/20 KH | RPK | NA |
| G2210-FS1 | LE39 | SIS | 7 | 125 | 11/23/20 KH | RPK | NA |

Syringes/Pipettes Used:

| Std ID | Type | Syr/Pip |
|--------|---------|------------|
| LE39 | Pipette | B814657482 |
| LE64 | Pipette | B814657482 |



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

Project Title(s)CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10**Project No.(s)**

100142218

20-1519**CTO-4532: PFAS in Water****AQ, GW**

| Sample ID | 1st Extraction | 2nd Extraction | 3rd Extraction | Conc. ID | Turbo °C | Turbo PSI | KD °C | Comment |
|-------------|-------------------|-------------------|-------------------|-------------|-------------|--------------|----------|---------|
| DB472PB-FS | 11/23/20 BTM | NA | NA | NEVAP_3 | NA | NA | NA | NA |
| DB473LCS-FS | 11/23/20 BTM | NA | NA | NEVAP_3 | NA | NA | NA | NA |
| G2203-FS1 | 11/23/20 BTM | NA | NA | NEVAP_3 | NA | NA | NA | NA |
| G2205-FS1 | 11/23/20 BTM | NA | NA | NEVAP_3 | NA | NA | NA | NA |
| G2206-FS1 | 11/23/20 BTM | NA | NA | NEVAP_3 | NA | NA | NA | NA |
| G2207-FS1 | 11/23/20 BTM | NA | NA | NEVAP_3 | NA | NA | NA | NA |
| G2209-FS1 | 11/23/20 BTM | NA | NA | NEVAP_3 | NA | NA | NA | NA |
| G2210-FS1 | 11/23/20 BTM | NA | NA | NEVAP_3 | NA | NA | NA | NA |

Solvents/Reagent Preparations:

| Name | ID | Expires | Lot No | Procedure | Comments |
|-------------------------------|--------------|----------|------------------------------|---|----------|
| pH Indicator Strips 0-14 | 201111-01 | 11/11/25 | 10D4191 | NA | |
| Pre-packed SPE Column | RP-201123-10 | 11/24/20 | S308- 0117/S20- 005135 | Pre-packed SPE Column | |
| 0.5% NH3 in Methanol (w/v) | RP-201123-4 | 11/24/20 | A0393442 | Per 100 mL, 4.25 mL ammonia solution brought to 100 mL with methanol | |
| 0.5% NH3 in Methanol (w/v) | RP-201123-4 | 11/24/20 | 202167 | Per 100 mL, 4.25 mL ammonia solution brought to 100 mL with methanol | |

Solvents/Reagents:

| Name | Lot No | Comments |
|---------------------------|--------|----------|
| Methanol HPLC (201009-01) | 202167 | |



It can be done

**BATTELLE - NORWELL OPERATIONS
EXTRACT CLEANUP FORM**

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1519

CTO-4532: PFAS in Water

AQ, GW

| Extract Id | Date | Init. | Comments |
|----------------|----------|-------|----------|
| DB472PB-FS(0) | 11/23/20 | BTM | NA |
| DB473LCS-FS(0) | 11/23/20 | BTM | NA |
| G2203-FS1(0) | 11/23/20 | BTM | NA |
| G2205-FS1(0) | 11/23/20 | BTM | NA |
| G2206-FS1(0) | 11/23/20 | BTM | NA |
| G2207-FS1(0) | 11/23/20 | BTM | NA |
| G2209-FS1(0) | 11/23/20 | BTM | NA |
| G2210-FS1(0) | 11/23/20 | BTM | NA |

Cleanup:

Envi-Carb

Reagents:

| Reagent Prep | Name | Expires | Lot No | Procedure |
|--------------|--|----------|--------|-----------|
| 191209-01 | Supelclean ENVI- Carb SPE Bulk Packing | 12/09/24 | 122395 | NA |



It can be done

**BATTELLE - NORWELL OPERATIONS
EXTRACT CLEANUP FORM**

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1519

CTO-4532: PFAS in Water

AQ, GW

| Extract Id | Date | Init. | Comments |
|------------|------|-------|----------|
|------------|------|-------|----------|



It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1519**CTO-4532: PFAS in Water****AQ, GW****(N/A Fraction)**

| Extract Id | Extr. Vol. (uL) | Added (uL) | Std. Id | Accm . (uL) | Vial No. | Pre Inj. Vol. (uL)^ | Final Dilution * | Date Spiked/ Spiked By | Witn'd By |
|----------------|-----------------|------------|---------|-------------|----------|---------------------|------------------|------------------------|-----------|
| DB472PB-FS(0) | 875 | 125 | LE40 | 125 | 8 | 1000 | 1.000 | 11/25/20 KH | RPK |
| DB473LCS-FS(0) | 875 | 125 | LE40 | 125 | 8 | 1000 | 1.000 | 11/25/20 KH | RPK |
| G2203-FS1(0) | 875 | 125 | LE40 | 125 | 8 | 1000 | 1.000 | 11/25/20 KH | RPK |
| G2205-FS1(0) | 875 | 125 | LE40 | 125 | 8 | 1000 | 1.000 | 11/25/20 KH | RPK |
| G2206-FS1(0) | 875 | 125 | LE40 | 125 | 8 | 1000 | 1.000 | 11/25/20 KH | RPK |
| G2207-FS1(0) | 875 | 125 | LE40 | 125 | 8 | 1000 | 1.000 | 11/25/20 KH | RPK |
| G2209-FS1(0) | 875 | 125 | LE40 | 125 | 8 | 1000 | 1.000 | 11/25/20 KH | RPK |
| G2210-FS1(0) | 875 | 125 | LE40 | 125 | 8 | 1000 | 1.000 | 11/25/20 KH | RPK |

Syringes/Pipettes Used:

| Std ID | Type | Syr/Pip |
|--------|---------|------------|
| LE40 | Pipette | B814657482 |

* - Final Dilution is any HPLC, dilutions, or other manipulation

^ - Pre Injection Volume (PIV) includes any RIS spikes.



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1519**CTO-4532: PFAS in Water****AQ, GW**

| Extract | | * | Extract Date | Source | | Initial Extract Vol (uL) | Extract Split | Extract Split | Total Dilution | Date/Initials |
|-------------|---|----|------------------------|--------|---|-----------------------------|------------------|------------------|-------------------|---------------|
| Name | # | | | Name | # | | | | | |
| DB472PB-FS | 0 | -- | 11/23/2020 12:15:00 PM | NA | | NA | NA | 1.000 | 1.000 | 11/23/20 BTM |
| DB473LCS-FS | 0 | -- | 11/23/2020 12:15:00 PM | NA | | NA | NA | 1.000 | 1.000 | 11/23/20 BTM |
| G2203-FS1 | 0 | -- | 11/23/2020 12:15:00 PM | NA | | NA | NA | 1.000 | 1.000 | 11/23/20 BTM |
| G2205-FS1 | 0 | -- | 11/23/2020 12:15:00 PM | NA | | NA | NA | 1.000 | 1.000 | 11/23/20 BTM |
| G2206-FS1 | 0 | -- | 11/23/2020 12:15:00 PM | NA | | NA | NA | 1.000 | 1.000 | 11/23/20 BTM |
| G2207-FS1 | 0 | -- | 11/23/2020 12:15:00 PM | NA | | NA | NA | 1.000 | 1.000 | 11/23/20 BTM |
| G2209-FS1 | 0 | -- | 11/23/2020 12:15:00 PM | NA | | NA | NA | 1.000 | 1.000 | 11/23/20 BTM |
| G2210-FS1 | 0 | -- | 11/23/2020 12:15:00 PM | NA | | NA | NA | 1.000 | 1.000 | 11/23/20 BTM |

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

**BATTELLE - NORWELL OPERATIONS
EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE**

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1519

CTO-4532: PFAS in Water

AQ, GW

| Purpose: LC-MS/MS TRANSFER | | Last Activity: Prep->Inst | | | |
|---|----------------|---|-----|------------|------------------|
| Relinquished On/By: Nov 25 2020 6:22PM RPK | | Received On/By: Nov 25 2020 6:22PM DMS | | | |
| Relinquished From: Sample Preparation: NA | | Received Location: LC Laboratory: NA | | | |
| Relinquish Comment: NA | | Received Comment: NA | | | |
| No. | BDO-ID: | PIV: | DF: | Condition: | Custody Comment: |
| 1 | DB472PB-FS(0) | 1000 | 1 | Intact | NA |
| 2 | DB473LCS-FS(0) | 1000 | 1 | Intact | NA |
| 3 | G2203-FS1(0) | 1000 | 1 | Intact | NA |
| 4 | G2205-FS1(0) | 1000 | 1 | Intact | NA |
| 5 | G2206-FS1(0) | 1000 | 1 | Intact | NA |
| 6 | G2207-FS1(0) | 1000 | 1 | Intact | NA |
| 7 | G2209-FS1(0) | 1000 | 1 | Intact | NA |
| 8 | G2210-FS1(0) | 1000 | 1 | Intact | NA |
| Total Extracts: | | 8 | | | |



BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1519

CTO-4532: PFAS in Water

AQ, GW

| Sample ID: | Comment: | Date/Initials: |
|-------------|--|----------------|
| DB472PB-FS | Sample was fortified per project plan, sample was poured into a centrifuge bottle and centrifuged at 3500 rpm for 5 minutes. Sample was poured back into original container for extraction. | 11/23/20 KH |
| DB472PB-FS | Extraction began at 12:15PM, manifold 7, ended at 1:15PM. | 11/23/20 BTM |
| DB473LCS-FS | Sample was fortified per project plan, sample was poured into a centrifuge bottle and centrifuged at 3500 rpm for 5 minutes. Sample was poured back into original container for extraction. | 11/23/20 KH |
| DB473LCS-FS | Extraction began at 12:15PM, manifold 7, ended at 1:15PM. | 11/23/20 BTM |
| G2203-FS1 | Sample contained particulates. Sample was fortified per project plan, sample was poured into a centrifuge bottle and centrifuged at 3500 rpm for 5 minutes. Sample was poured back into original container for extraction. | 11/23/20 KH |
| G2203-FS1 | Extraction began at 12:15PM, manifold 6, ended at 1:37PM. | 11/23/20 BTM |
| G2205-FS1 | Extraction began at 12:15PM, manifold 7, ended at 1:57PM. | 11/23/20 BTM |
| G2206-FS1 | Extraction began at 12:15PM, manifold 7, ended at 1:33PM. | 11/23/20 BTM |
| G2207-FS1 | Extraction began at 12:15PM, manifold 7, ended at 1:58PM. | 11/23/20 BTM |
| G2209-FS1 | Extraction began at 12:15PM, manifold 7, ended at 1:26PM. | 11/23/20 BTM |
| G2210-FS1 | Extraction began at 12:15PM, manifold 7, ended at 1:39PM. | 11/23/20 BTM |



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1519

CTO-4532: PFAS in Water

AQ, GW

Entered By:

On:

Task Leader Approval:

On:

SupervisorApproval:

On:

PM Approval:

On:

Analytical Calibrations



Sequence Report

Created with Analyst Reporter
Printed: 30/11/2020 10:00:27 AM

| Vial | Laboratory Sample ID | Client Sample ID | Acquisition Date | Acquisition Method | Data File |
|------|----------------------|------------------|------------------------|--------------------|------------------------|
| 2 | LE52 | L1 | 11/20/2020 9:59:40 PM | 5-369.dam | AE_11202020_5-369.wiff |
| 3 | LE53 | L2 | 11/20/2020 10:10:08 PM | 5-369.dam | AE_11202020_5-369.wiff |
| 4 | LE54 | L3 | 11/20/2020 10:20:35 PM | 5-369.dam | AE_11202020_5-369.wiff |
| 5 | LE55 | L4 | 11/20/2020 10:31:03 PM | 5-369.dam | AE_11202020_5-369.wiff |
| 6 | LE56 | L5 | 11/20/2020 10:41:30 PM | 5-369.dam | AE_11202020_5-369.wiff |
| 7 | LE57 | L6 | 11/20/2020 10:51:58 PM | 5-369.dam | AE_11202020_5-369.wiff |
| 8 | LE58 IB | Instrument Blank | 11/20/2020 11:02:24 PM | 5-369.dam | AE_11202020_5-369.wiff |
| 9 | LE59 ICC | ICC | 11/20/2020 11:12:52 PM | 5-369.dam | AE_11202020_5-369.wiff |
| 10 | LE25 Branch | Branch Standard | 11/20/2020 11:23:21 PM | 5-369.dam | AE_11202020_5-369.wiff |



Sequence Report

Created with Analyst Reporter
Printed: 30/11/2020 10:01:39 AM

| Vial | Laboratory Sample ID | Client Sample ID | Acquisition Date | Acquisition Method | Data File |
|------|----------------------|---------------------------|-----------------------|--------------------|------------------------|
| 4 | LE54 CCV | CCV | 11/25/2020 5:35:10 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 5 | LE57 | L6 | 11/25/2020 5:45:38 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 6 | LE58 IB | Instrument Blank | 11/25/2020 5:56:05 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 7 | DB472PB-FS(0) | Procedural Blank | 11/25/2020 6:06:34 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 8 | DB473LCS-FS(0) | Laboratory Control Sample | 11/25/2020 6:17:01 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 9 | G2203-FS1(0) | CBD-AOA-MW06-1020 | 11/25/2020 6:27:28 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 10 | G2205-FS1(0) | CBD-AOA-MW12-1020 | 11/25/2020 6:37:55 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 11 | G2206-FS1(0) | CBD-AOA-MW11-1020 | 11/25/2020 6:48:23 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 12 | G2207-FS1(0) | CBD-AOA-MW11P-1020 | 11/25/2020 6:58:51 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 13 | G2209-FS1(0) | CBD-AOA-EB01-102820-GW | 11/25/2020 7:09:19 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 14 | G2210-FS1(0) | CBD-AOA-MW14-1020 | 11/25/2020 7:19:47 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 15 | MeOH | | 11/25/2020 7:30:14 PM | 5-369.dam | AE_11262020_5-369.wiff |
| 16 | LE55 CCV | CCV | 11/25/2020 7:40:42 PM | 5-369.dam | AE_11262020_5-369.wiff |



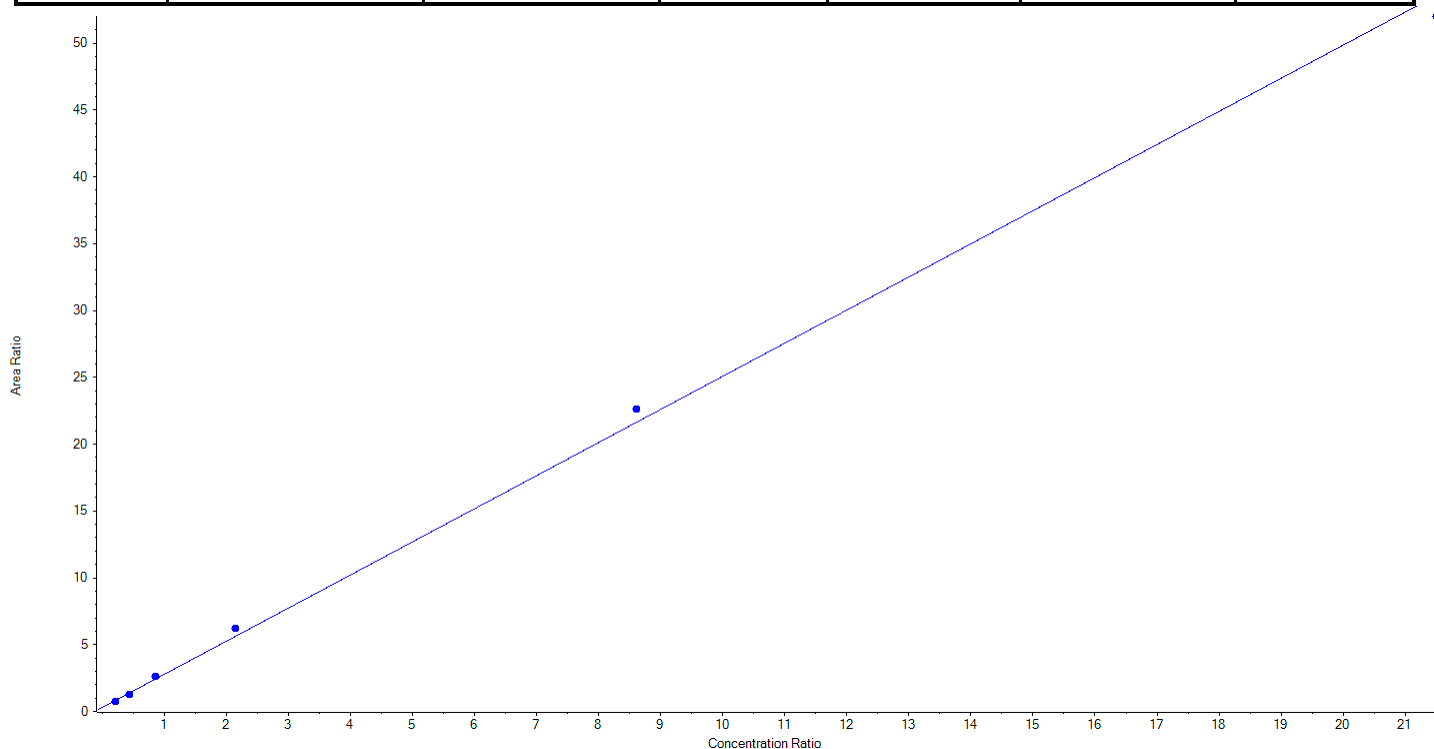
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFBS_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 298.9 / 80.0 | Result Table | 20-1519 |
| Internal Standard | 13C3-PFBS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 2.47657 x + 0.31206$ ($r = 0.99874$) (weighting: $1 / x$) $r^2:0.9975$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 217.08 | 86.8 |
| 3 | LE53 | L2 | True | 500.00 | 460.07 | 92.0 |
| 4 | LE54 | L3 | True | 1000.00 | 1089.65 | 109.0 |
| 5 | LE55 | L4 | True | 2500.00 | 2763.17 | 110.5 |
| 6 | LE56 | L5 | True | 10000.00 | 10463.56 | 104.6 |
| 7 | LE57 | L6 | True | 25000.00 | 24256.47 | 97.0 |





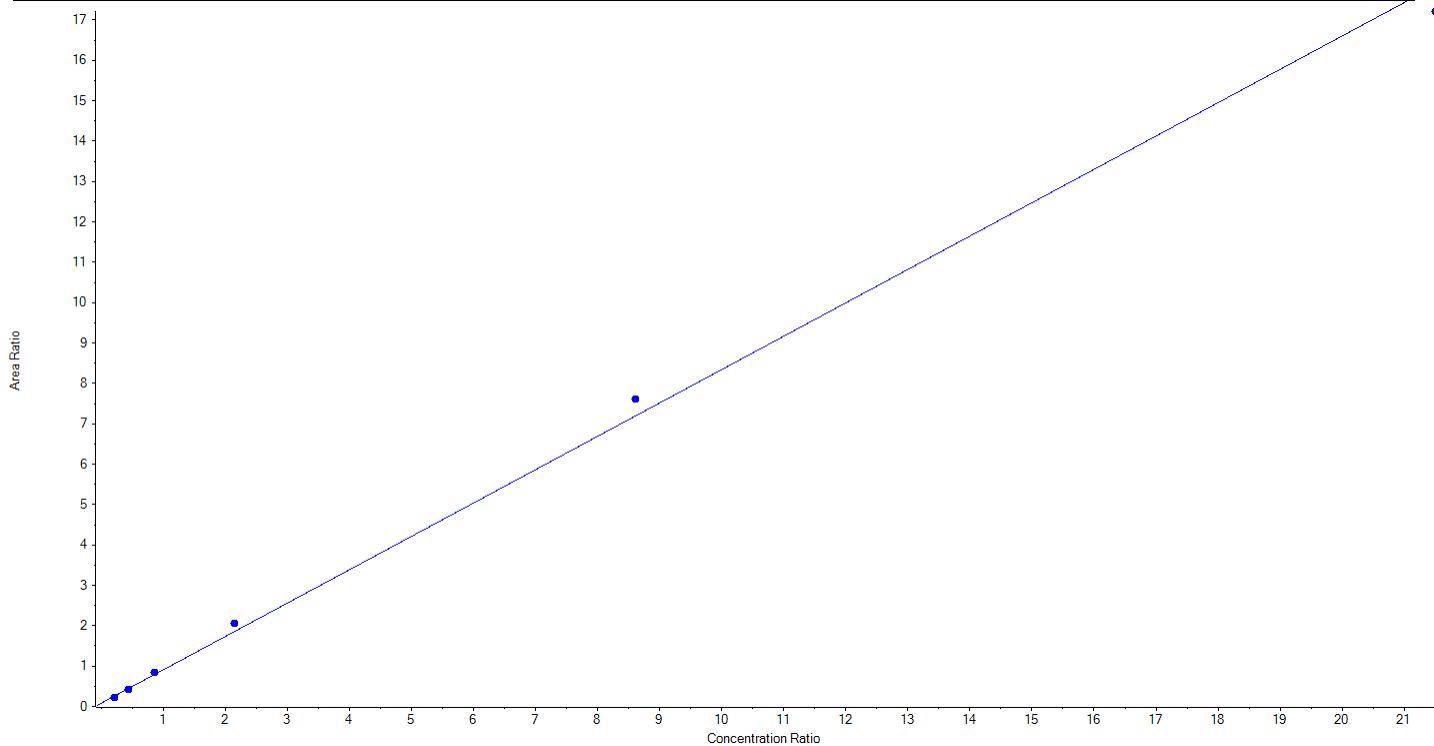
Calibration Summary Report

Created with Analyst Reporter
 Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFBS_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 298.9 / 99.0 | Result Table | 20-1519 |
| Internal Standard | 13C3-PFBS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.82582 x + 0.08499$ (r = 0.99837) (weighting: 1 / x) r²:0.9967

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 210.25 | 84.1 |
| 3 | LE53 | L2 | True | 500.00 | 482.31 | 96.5 |
| 4 | LE54 | L3 | True | 1000.00 | 1053.68 | 105.4 |
| 5 | LE55 | L4 | True | 2500.00 | 2788.23 | 111.5 |
| 6 | LE56 | L5 | True | 10000.00 | 10612.85 | 106.1 |
| 7 | LE57 | L6 | True | 25000.00 | 24102.67 | 96.4 |





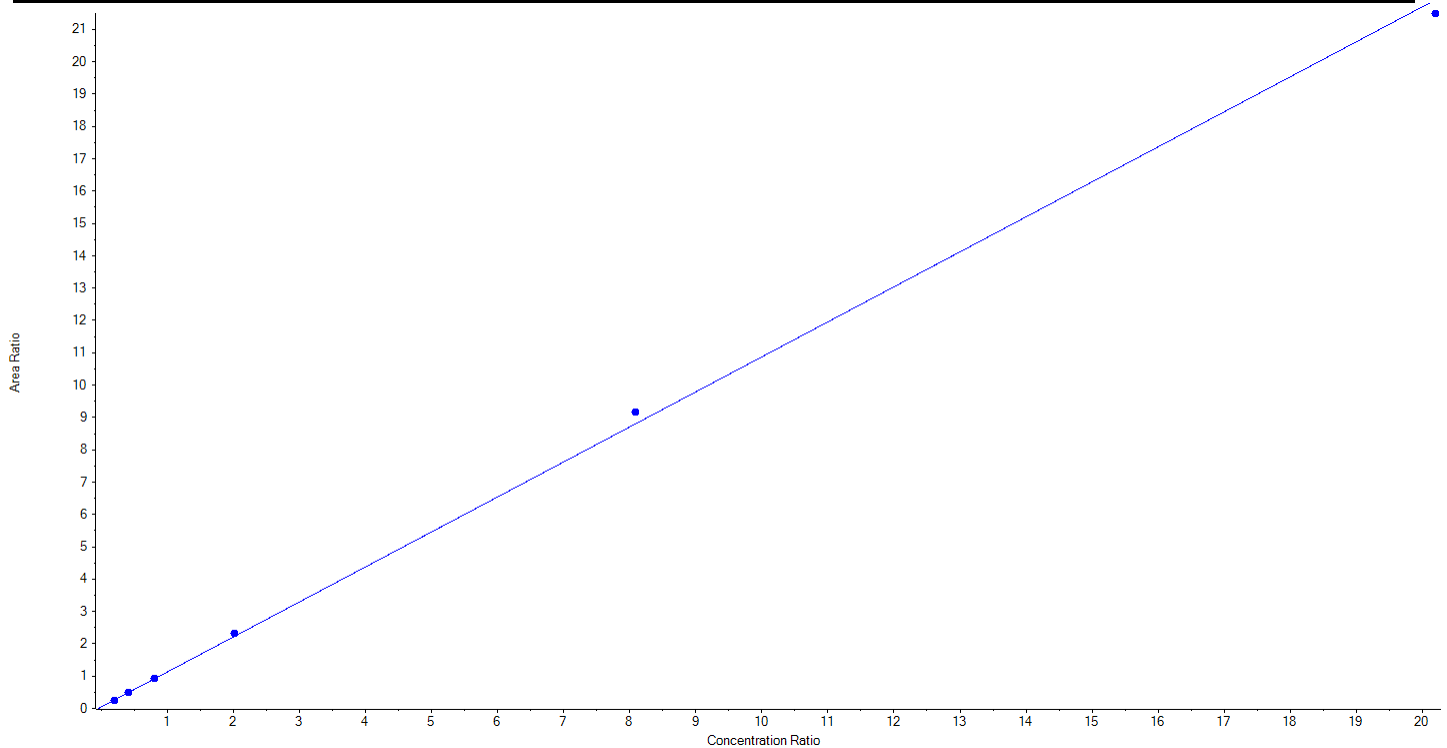
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFHxA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 313.0 / 269.0 | Result Table | 20-1519 |
| Internal Standard | 13C5-PFHxA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.08246 x + 0.04941$ ($r = 0.99956$) (weighting: $1 / x$) $r^2: 0.9991$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 252.50 | 238.95 | 94.6 |
| 3 | LE53 | L2 | True | 505.00 | 502.42 | 99.5 |
| 4 | LE54 | L3 | True | 1010.00 | 1011.99 | 100.2 |
| 5 | LE55 | L4 | True | 2525.00 | 2613.68 | 103.5 |
| 6 | LE56 | L5 | True | 10100.00 | 10514.64 | 104.1 |
| 7 | LE57 | L6 | True | 25250.00 | 24760.83 | 98.1 |





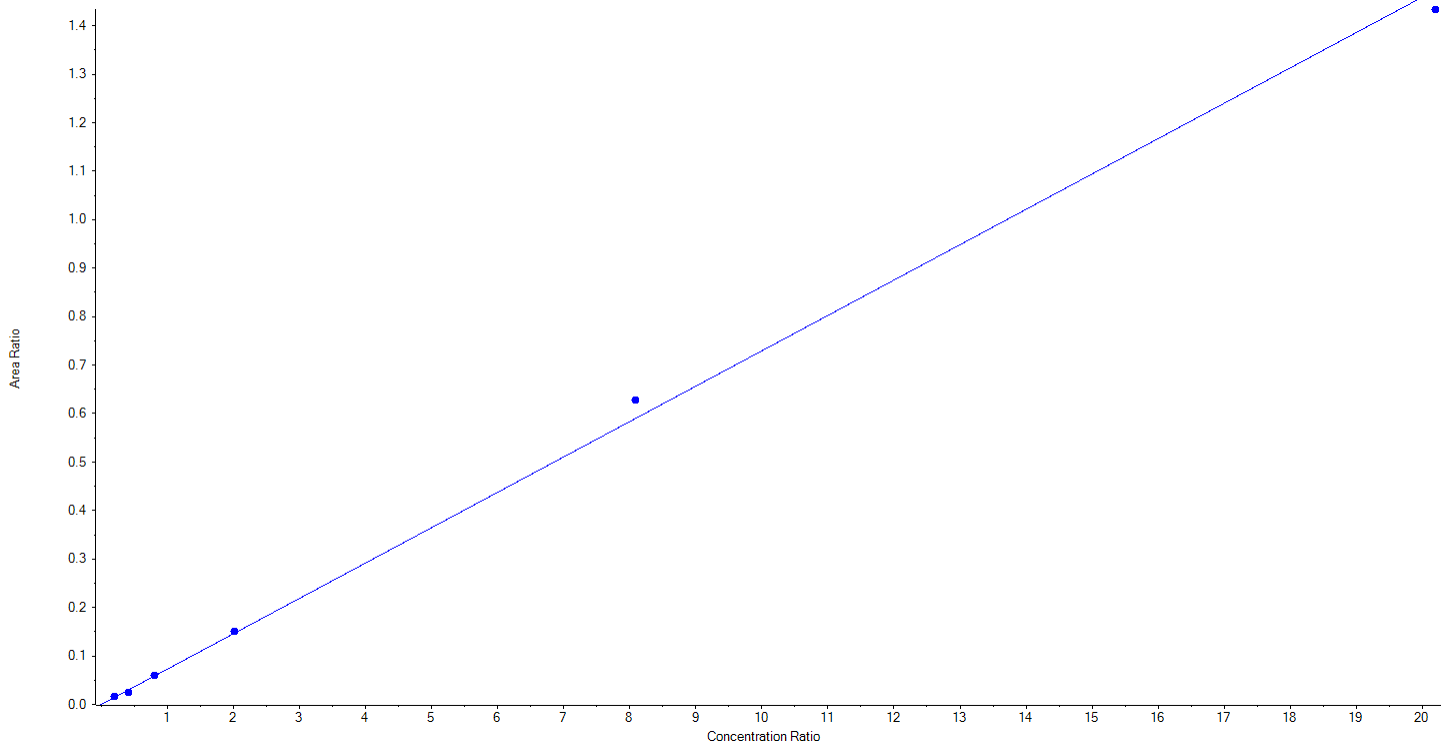
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFHxA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 313.0 / 119.0 | Result Table | 20-1519 |
| Internal Standard | 13C5-PFHxA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.07293x + 1.03283e-4$ ($r = 0.99887$) (weighting: $1/x$) $r^2:0.9977$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 252.50 | 271.11 | 107.4 |
| 3 | LE53 | L2 | True | 505.00 | 423.50 | 83.9 |
| 4 | LE54 | L3 | True | 1010.00 | 1033.27 | 102.3 |
| 5 | LE55 | L4 | True | 2525.00 | 2592.13 | 102.7 |
| 6 | LE56 | L5 | True | 10100.00 | 10759.12 | 106.5 |
| 7 | LE57 | L6 | True | 25250.00 | 24563.37 | 97.3 |





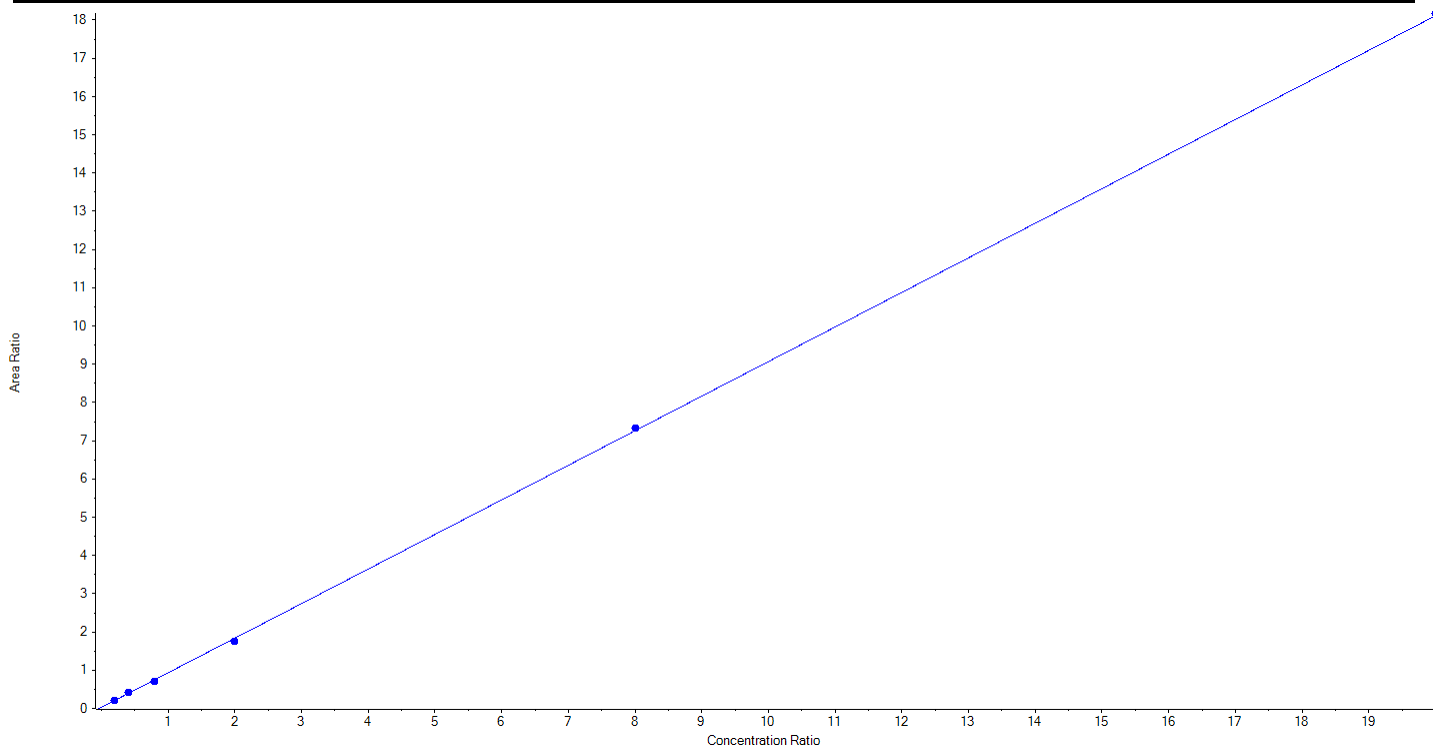
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFHpA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 363.0 / 319.0 | Result Table | 20-1519 |
| Internal Standard | 13C4-PFHpA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.90407x + 0.03017$ ($r = 0.99980$) (weighting: $1/x$) $r^2: 0.9996$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 265.30 | 106.1 |
| 3 | LE53 | L2 | True | 500.00 | 522.68 | 104.5 |
| 4 | LE54 | L3 | True | 1000.00 | 935.50 | 93.6 |
| 5 | LE55 | L4 | True | 2500.00 | 2367.23 | 94.7 |
| 6 | LE56 | L5 | True | 10000.00 | 10078.22 | 100.8 |
| 7 | LE57 | L6 | True | 25000.00 | 25081.07 | 100.3 |





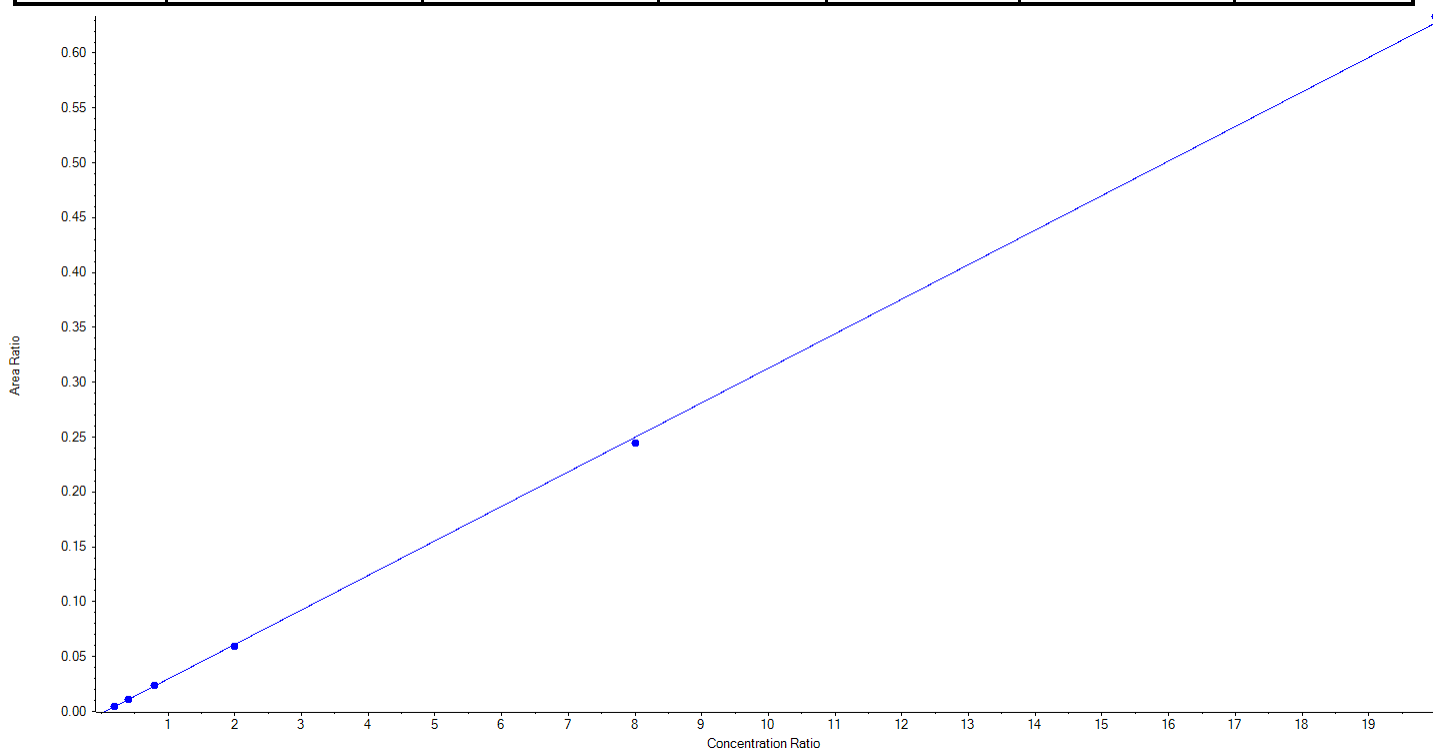
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFHpA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 363.0 / 169.0 | Result Table | 20-1519 |
| Internal Standard | 13C4-PFHpA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.03147 x + -0.00184$ ($r = 0.99989$) (weighting: $1 / x$) $r^2: 0.9998$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 251.32 | 100.5 |
| 3 | LE53 | L2 | True | 500.00 | 506.42 | 101.3 |
| 4 | LE54 | L3 | True | 1000.00 | 1015.53 | 101.6 |
| 5 | LE55 | L4 | True | 2500.00 | 2441.80 | 97.7 |
| 6 | LE56 | L5 | True | 10000.00 | 9803.95 | 98.0 |
| 7 | LE57 | L6 | True | 25000.00 | 25230.98 | 100.9 |





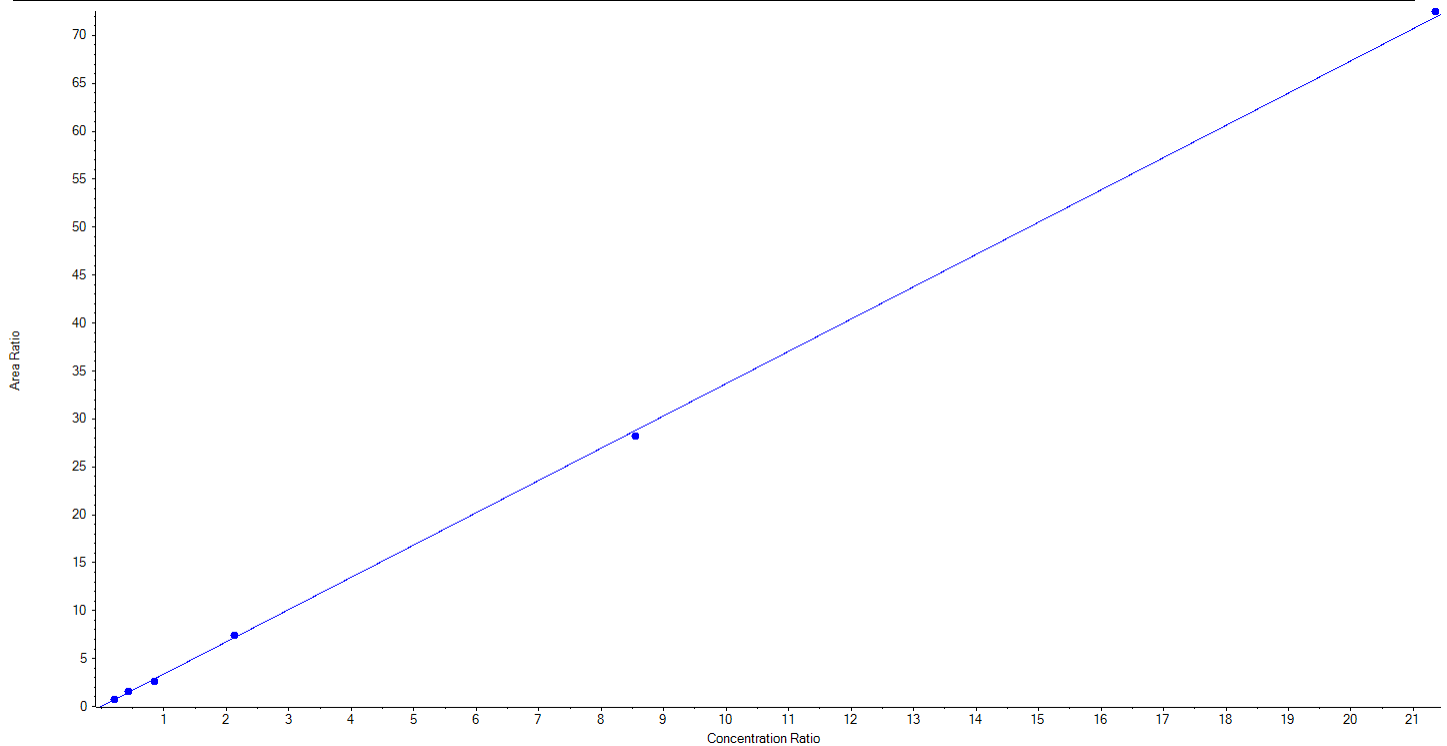
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFHxS_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 399.0 / 80.0 | Result Table | 20-1519 |
| Internal Standard | 13C3-PFHxS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 3.36662x + 0.01312$ ($r = 0.99970$) (weighting: $1/x$) $r^2: 0.9994$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 252.50 | 256.63 | 101.6 |
| 3 | LE53 | L2 | True | 505.00 | 541.15 | 107.2 |
| 4 | LE54 | L3 | True | 1010.00 | 907.74 | 89.9 |
| 5 | LE55 | L4 | True | 2525.00 | 2590.26 | 102.6 |
| 6 | LE56 | L5 | True | 10100.00 | 9890.89 | 97.9 |
| 7 | LE57 | L6 | True | 25250.00 | 25455.82 | 100.8 |





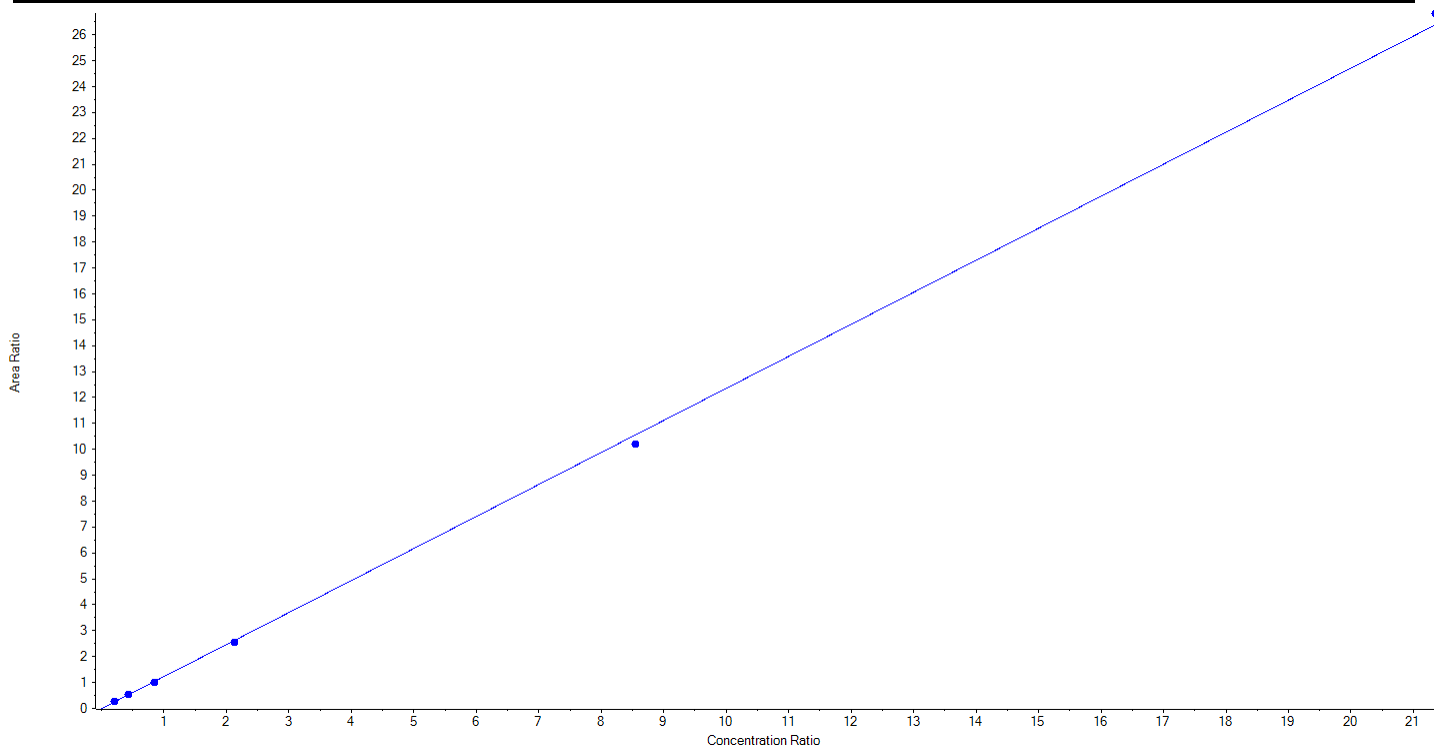
Calibration Summary Report

Created with Analyst Reporter
 Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFHxS_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 399.0 / 99.0 | Result Table | 20-1519 |
| Internal Standard | 13C3-PFHxS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.23592 x + -0.00597$ (r = 0.99964) (weighting: 1 / x) $r^2:0.9993$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 252.50 | 262.98 | 104.2 |
| 3 | LE53 | L2 | True | 505.00 | 535.36 | 106.0 |
| 4 | LE54 | L3 | True | 1010.00 | 949.68 | 94.0 |
| 5 | LE55 | L4 | True | 2525.00 | 2460.55 | 97.5 |
| 6 | LE56 | L5 | True | 10100.00 | 9768.47 | 96.7 |
| 7 | LE57 | L6 | True | 25250.00 | 25665.46 | 101.7 |





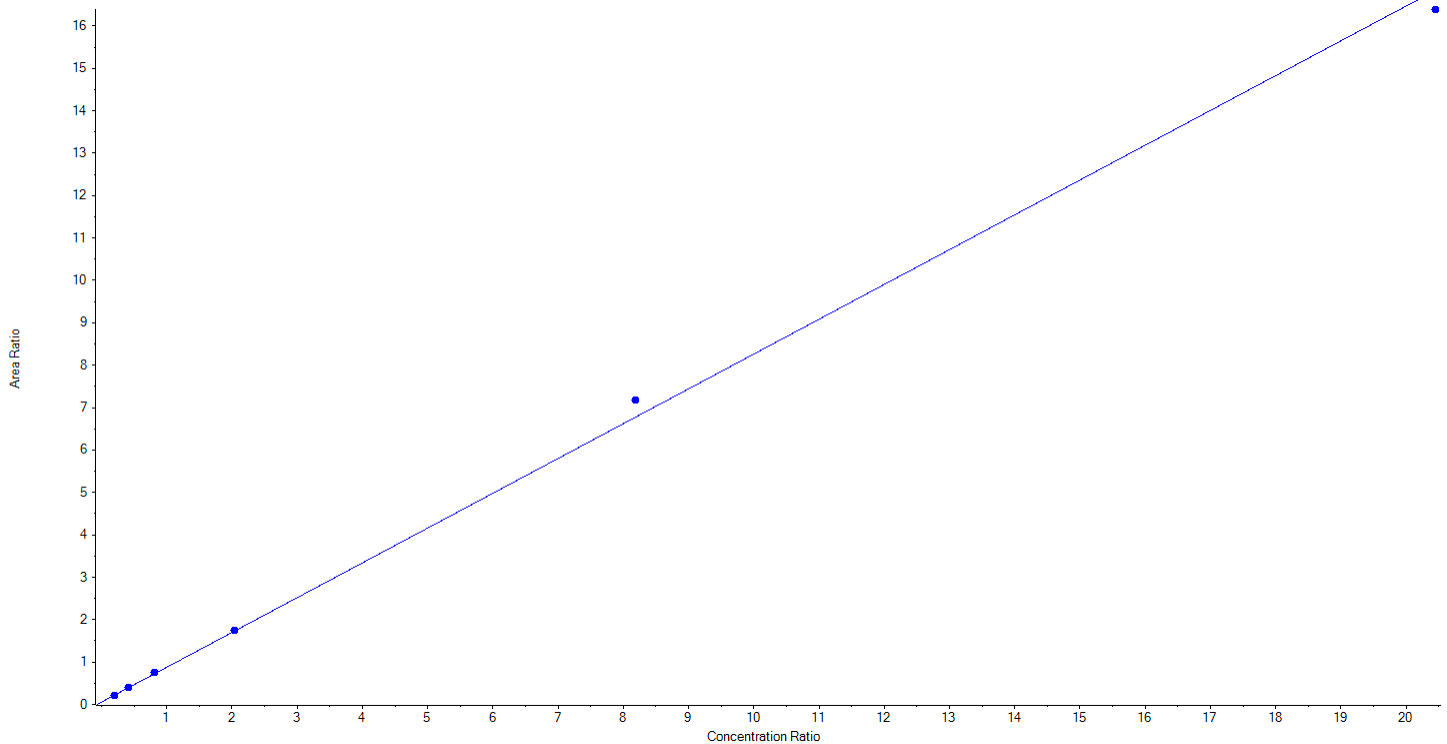
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFOA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 413.0 / 369.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.82057x + 0.05677$ ($r = 0.99908$) (weighting: $1/x$) $r^2: 0.9982$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 216.12 | 86.5 |
| 3 | LE53 | L2 | True | 500.00 | 528.54 | 105.7 |
| 4 | LE54 | L3 | True | 1000.00 | 1031.25 | 103.1 |
| 5 | LE55 | L4 | True | 2500.00 | 2531.22 | 101.3 |
| 6 | LE56 | L5 | True | 10000.00 | 10616.18 | 106.2 |
| 7 | LE57 | L6 | True | 25000.00 | 24326.68 | 97.3 |





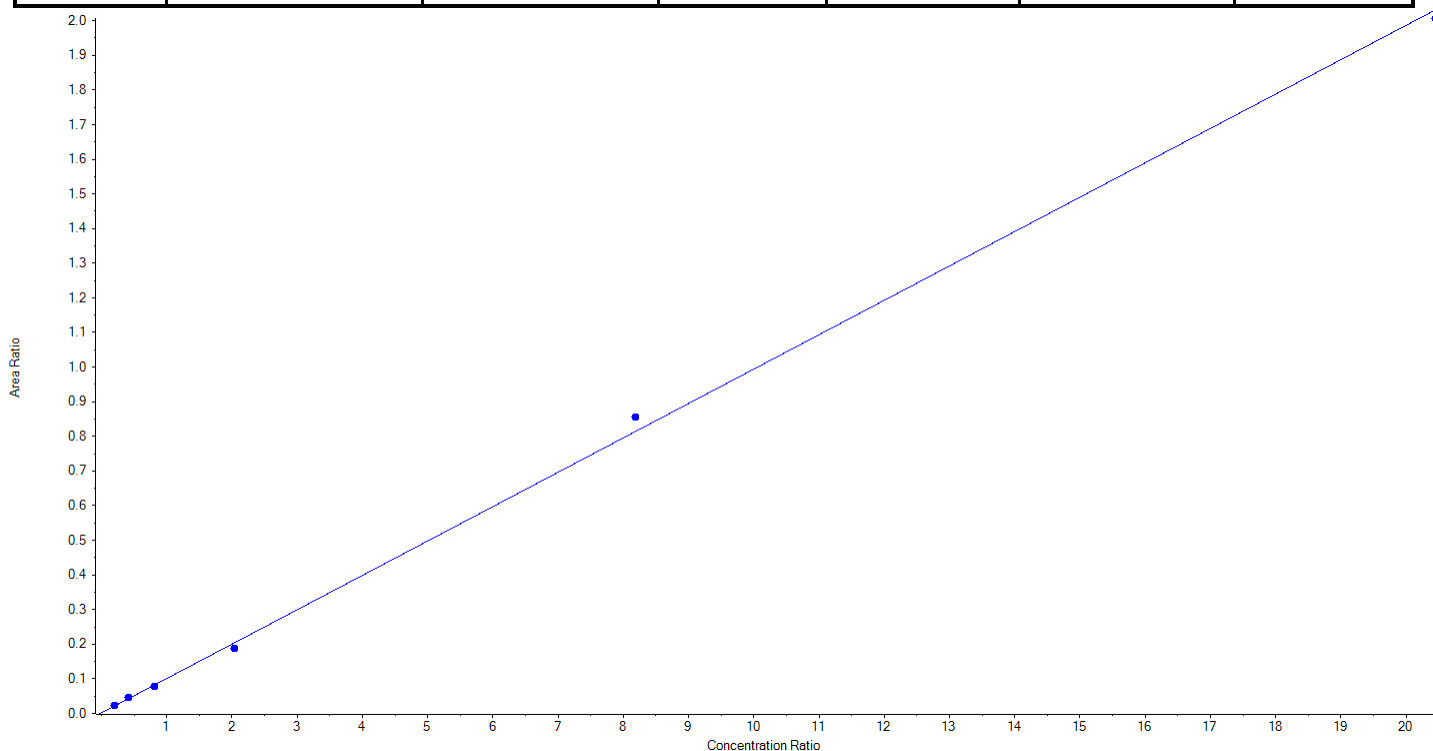
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFOA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 413.0 / 169.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.09926 x + 0.00162$ ($r = 0.99919$) (weighting: $1 / x$) $r^2: 0.9984$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 249.80 | 99.9 |
| 3 | LE53 | L2 | True | 500.00 | 545.44 | 109.1 |
| 4 | LE54 | L3 | True | 1000.00 | 956.60 | 95.7 |
| 5 | LE55 | L4 | True | 2500.00 | 2283.01 | 91.3 |
| 6 | LE56 | L5 | True | 10000.00 | 10525.04 | 105.3 |
| 7 | LE57 | L6 | True | 25000.00 | 24690.11 | 98.8 |





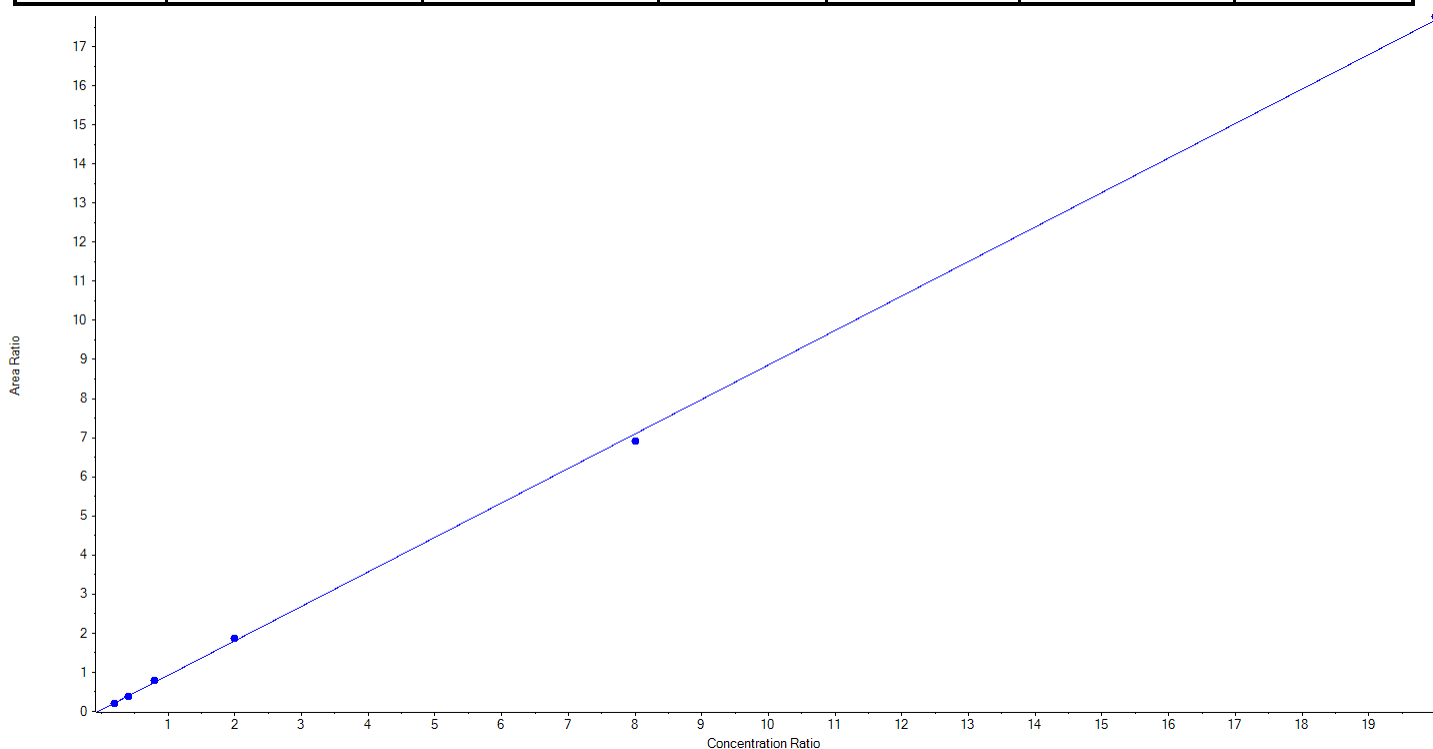
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFNA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 463.0 / 419.0 | Result Table | 20-1519 |
| Internal Standard | 13C9-PFNA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.88171 x + 0.04368$ ($r = 0.99976$) (weighting: $1/x$) $r^2:0.9995$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 230.92 | 92.4 |
| 3 | LE53 | L2 | True | 500.00 | 496.90 | 99.4 |
| 4 | LE54 | L3 | True | 1000.00 | 1071.25 | 107.1 |
| 5 | LE55 | L4 | True | 2500.00 | 2579.82 | 103.2 |
| 6 | LE56 | L5 | True | 10000.00 | 9741.63 | 97.4 |
| 7 | LE57 | L6 | True | 25000.00 | 25129.48 | 100.5 |





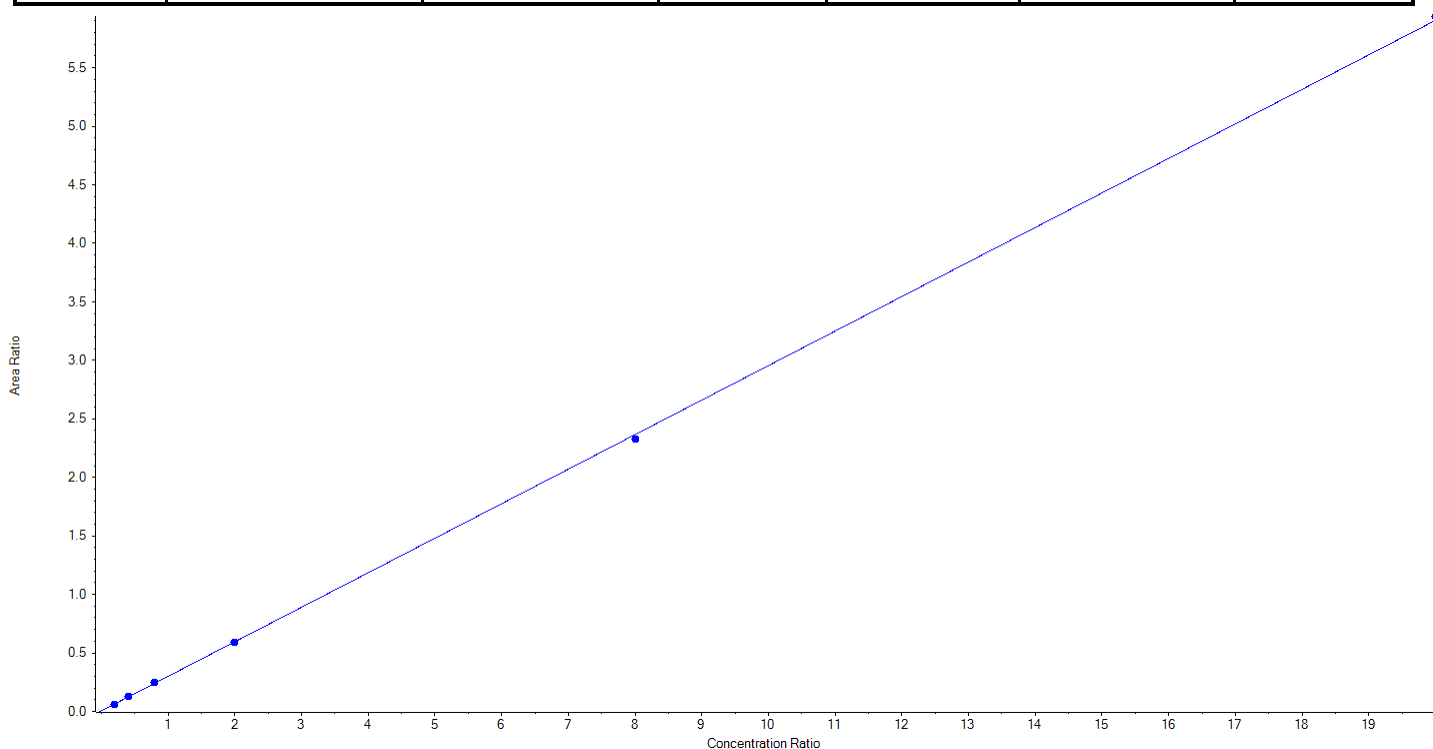
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFNA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 463.0 / 219.0 | Result Table | 20-1519 |
| Internal Standard | 13C9-PFNA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.29496 x + 0.00585$ ($r = 0.99993$) (weighting: $1/x$) $r^2:0.9999$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 238.41 | 95.4 |
| 3 | LE53 | L2 | True | 500.00 | 519.08 | 103.8 |
| 4 | LE54 | L3 | True | 1000.00 | 1026.58 | 102.7 |
| 5 | LE55 | L4 | True | 2500.00 | 2477.65 | 99.1 |
| 6 | LE56 | L5 | True | 10000.00 | 9850.58 | 98.5 |
| 7 | LE57 | L6 | True | 25000.00 | 25137.70 | 100.6 |





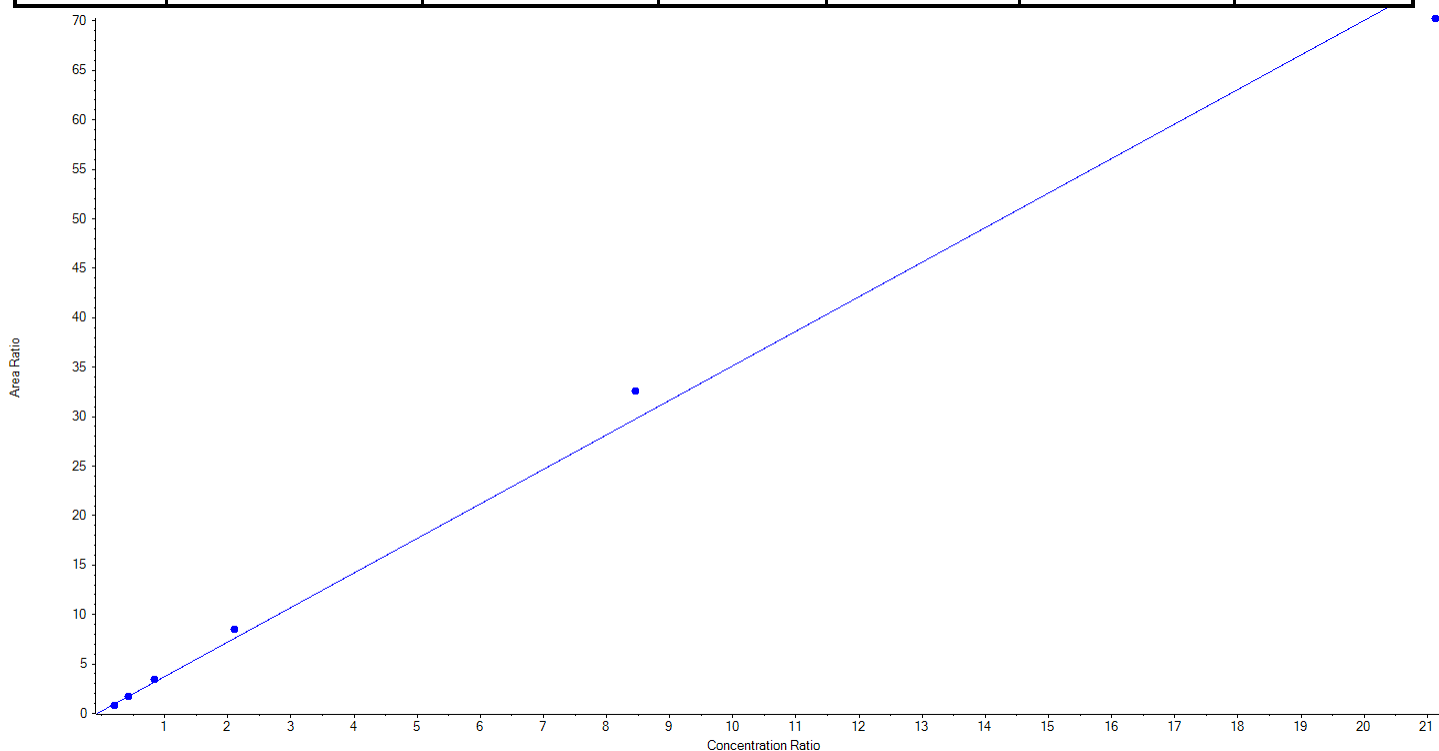
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFOS_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 499.0 / 80.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 3.49108x + 0.23310$ ($r = 0.99694$) (weighting: $1/x$) $r^2: 0.9939$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 252.50 | 193.97 | 76.8 |
| 3 | LE53 | L2 | True | 505.00 | 500.08 | 99.0 |
| 4 | LE54 | L3 | True | 1010.00 | 1088.39 | 107.8 |
| 5 | LE55 | L4 | True | 2525.00 | 2824.86 | 111.9 |
| 6 | LE56 | L5 | True | 10100.00 | 11070.28 | 109.6 |
| 7 | LE57 | L6 | True | 25250.00 | 23964.92 | 94.9 |





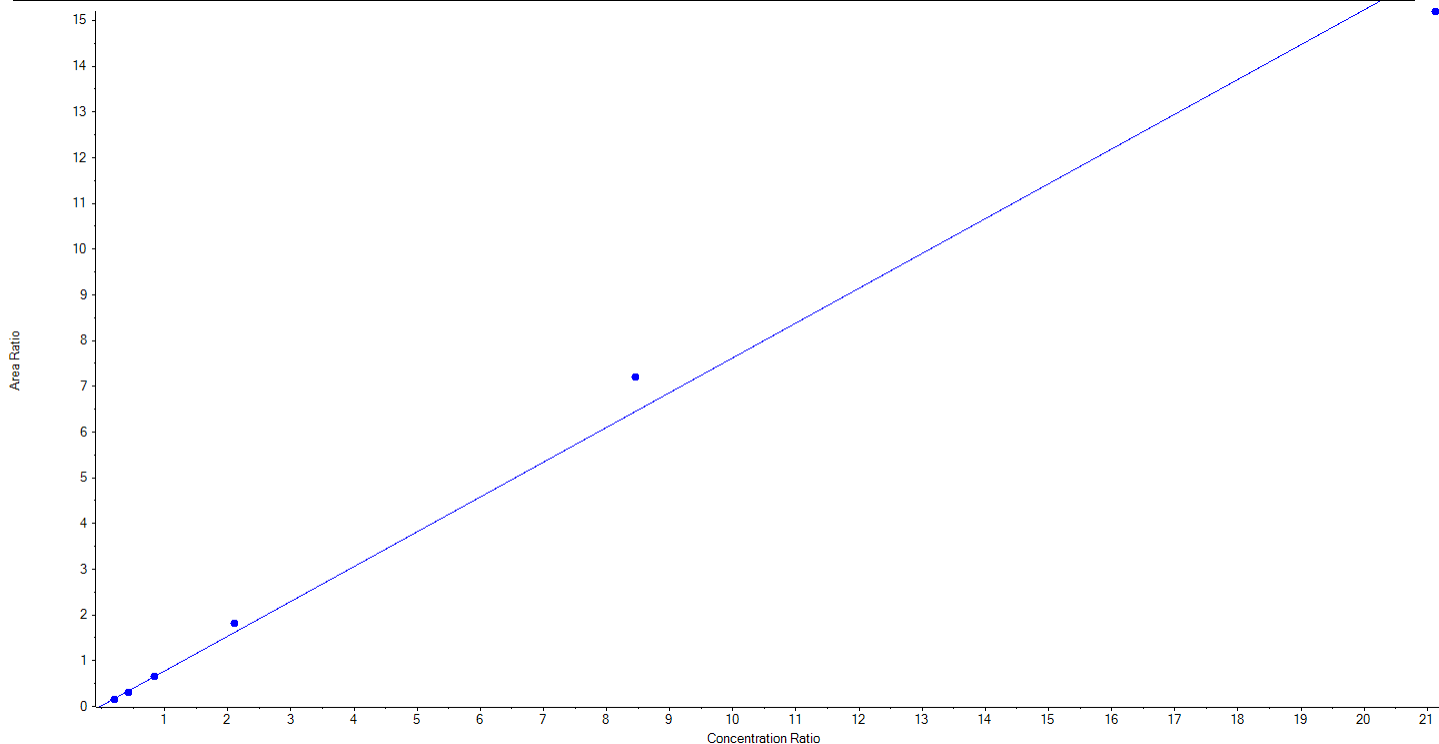
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFOS_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 499.0 / 99.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.76080x + 0.01479$ ($r = 0.99632$) (weighting: $1/x$) $r^2: 0.9927$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 252.50 | 231.69 | 91.8 |
| 3 | LE53 | L2 | True | 505.00 | 461.44 | 91.4 |
| 4 | LE54 | L3 | True | 1010.00 | 1001.00 | 99.1 |
| 5 | LE55 | L4 | True | 2525.00 | 2816.84 | 111.6 |
| 6 | LE56 | L5 | True | 10100.00 | 11289.27 | 111.8 |
| 7 | LE57 | L6 | True | 25250.00 | 23842.25 | 94.4 |





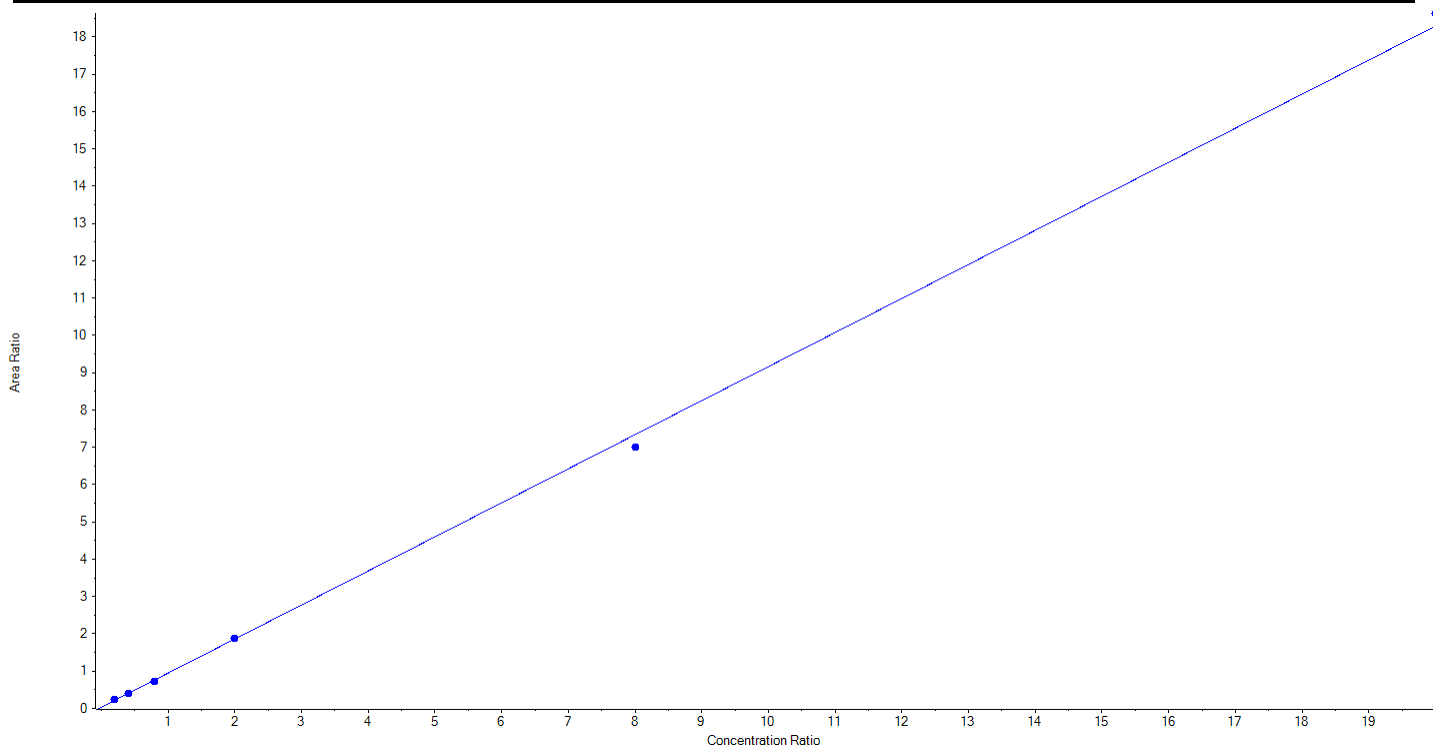
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFDA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 513.0 / 469.0 | Result Table | 20-1519 |
| Internal Standard | 13C6-PFDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.91279x + 0.03729$ ($r = 0.99951$) (weighting: $1/x$) $r^2: 0.9990$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 269.14 | 107.7 |
| 3 | LE53 | L2 | True | 500.00 | 497.38 | 99.5 |
| 4 | LE54 | L3 | True | 1000.00 | 942.52 | 94.3 |
| 5 | LE55 | L4 | True | 2500.00 | 2532.14 | 101.3 |
| 6 | LE56 | L5 | True | 10000.00 | 9549.37 | 95.5 |
| 7 | LE57 | L6 | True | 25000.00 | 25459.45 | 101.8 |





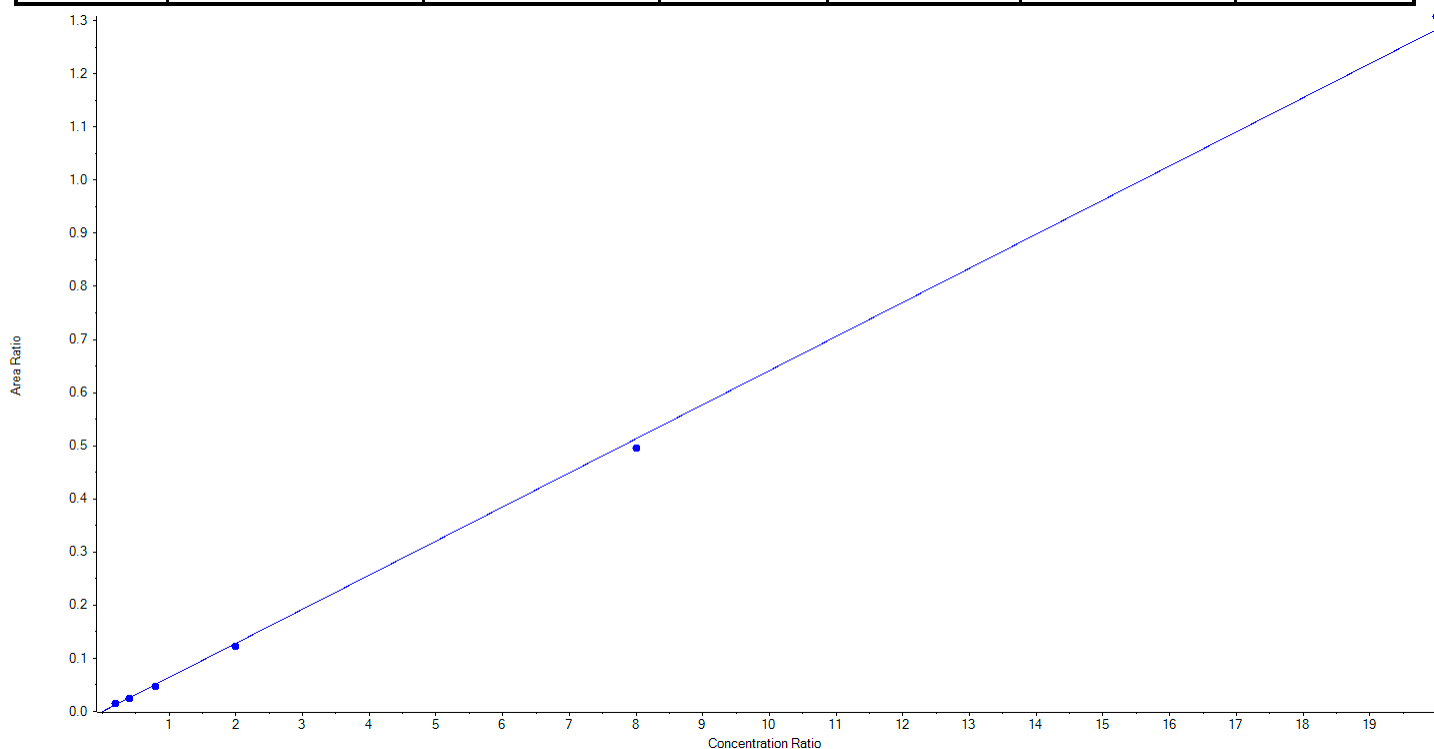
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFDA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 513.0 / 219.0 | Result Table | 20-1519 |
| Internal Standard | 13C6-PFDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.06416x + -3.89496e-5$ (r = 0.99946) (weighting: 1 / x) r²:0.9989

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 289.15 | 115.7 |
| 3 | LE53 | L2 | True | 500.00 | 489.81 | 98.0 |
| 4 | LE54 | L3 | True | 1000.00 | 916.71 | 91.7 |
| 5 | LE55 | L4 | True | 2500.00 | 2401.36 | 96.1 |
| 6 | LE56 | L5 | True | 10000.00 | 9673.64 | 96.7 |
| 7 | LE57 | L6 | True | 25000.00 | 25479.33 | 101.9 |





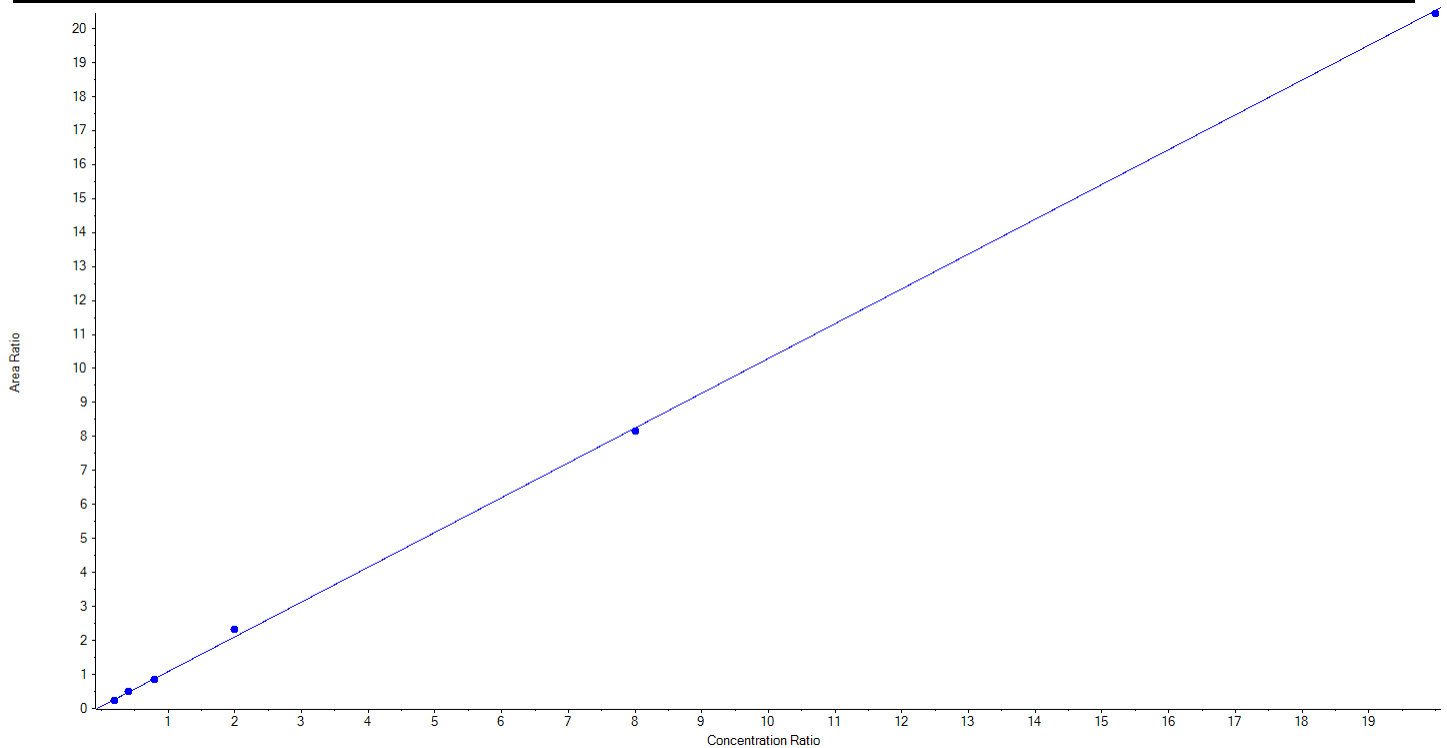
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFUnA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 563.0 / 519.0 | Result Table | 20-1519 |
| Internal Standard | 13C7-PFUnA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.02342x + 0.06262$ ($r = 0.99953$) (weighting: $1/x$) $r^2: 0.9991$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 222.44 | 89.0 |
| 3 | LE53 | L2 | True | 500.00 | 520.93 | 104.2 |
| 4 | LE54 | L3 | True | 1000.00 | 982.15 | 98.2 |
| 5 | LE55 | L4 | True | 2500.00 | 2757.43 | 110.3 |
| 6 | LE56 | L5 | True | 10000.00 | 9875.97 | 98.8 |
| 7 | LE57 | L6 | True | 25000.00 | 24891.08 | 99.6 |





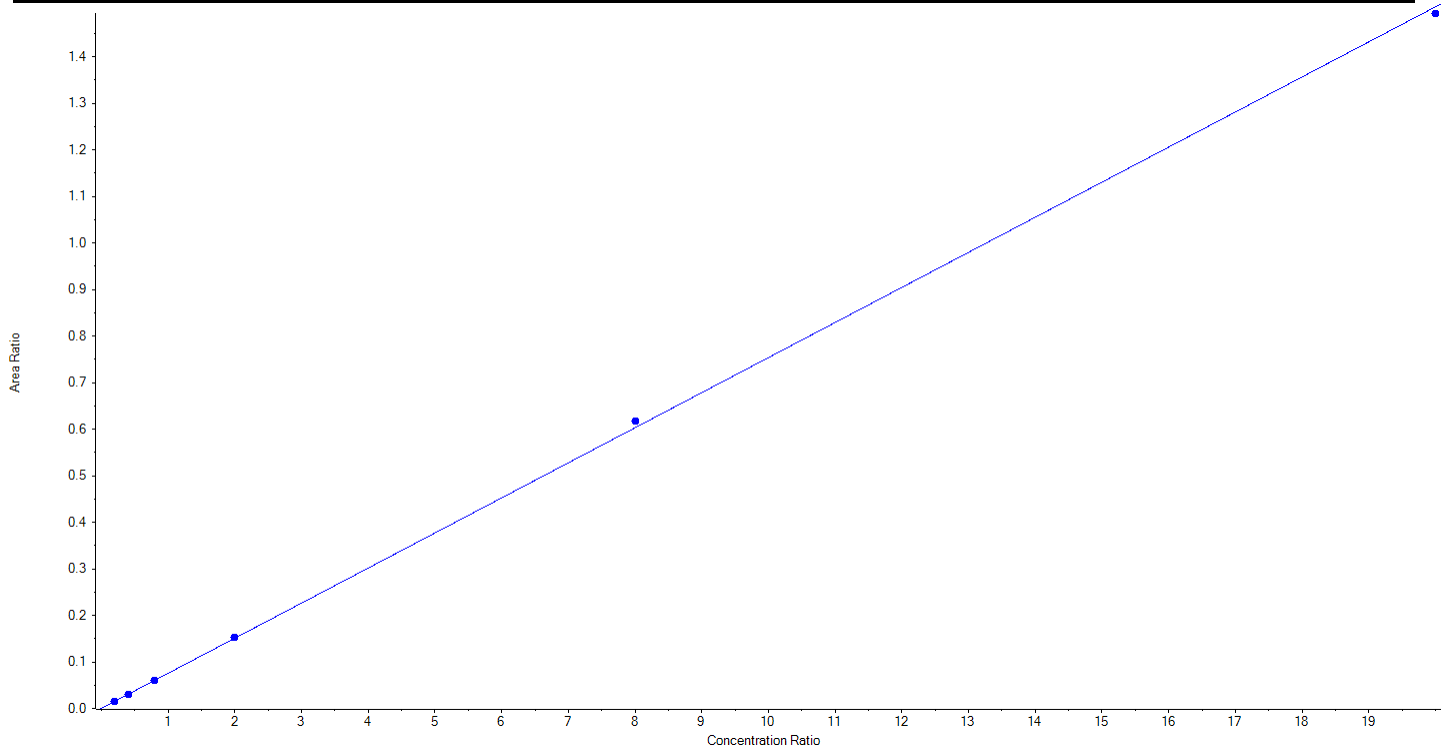
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFUnA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 563.0 / 269.0 | Result Table | 20-1519 |
| Internal Standard | 13C7-PFUnA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.07536 x + 3.22183e-4$ ($r = 0.99988$) (weighting: $1/x$) $r^2:0.9998$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 252.59 | 101.0 |
| 3 | LE53 | L2 | True | 500.00 | 487.24 | 97.5 |
| 4 | LE54 | L3 | True | 1000.00 | 991.29 | 99.1 |
| 5 | LE55 | L4 | True | 2500.00 | 2525.11 | 101.0 |
| 6 | LE56 | L5 | True | 10000.00 | 10234.47 | 102.3 |
| 7 | LE57 | L6 | True | 25000.00 | 24759.30 | 99.0 |





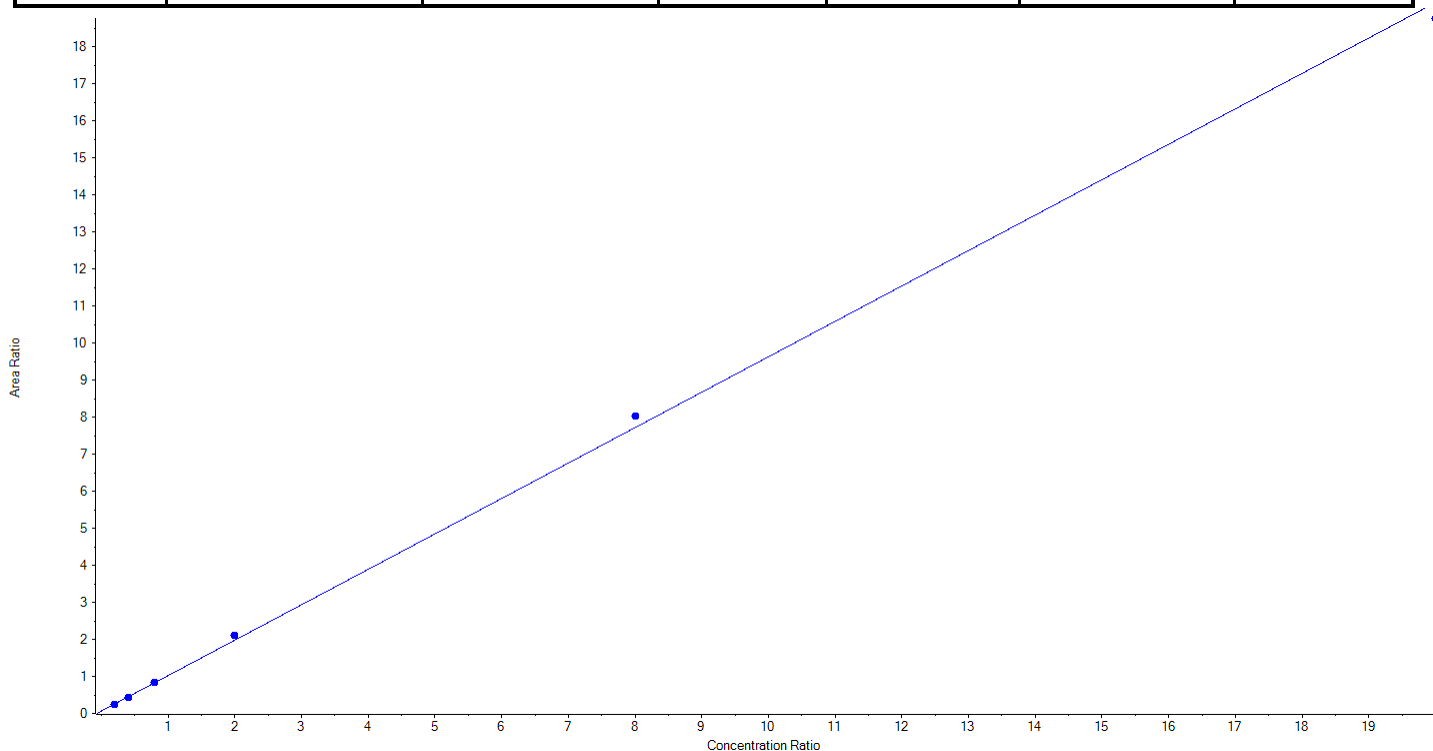
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFDoA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 613.0 / 569.0 | Result Table | 20-1519 |
| Internal Standard | 13C2-PFDoA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.95648x + 0.06818$ ($r = 0.99935$) (weighting: $1/x$) $r^2: 0.9987$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 241.06 | 96.4 |
| 3 | LE53 | L2 | True | 500.00 | 471.36 | 94.3 |
| 4 | LE54 | L3 | True | 1000.00 | 1003.56 | 100.4 |
| 5 | LE55 | L4 | True | 2500.00 | 2674.22 | 107.0 |
| 6 | LE56 | L5 | True | 10000.00 | 10423.20 | 104.2 |
| 7 | LE57 | L6 | True | 25000.00 | 24436.60 | 97.8 |





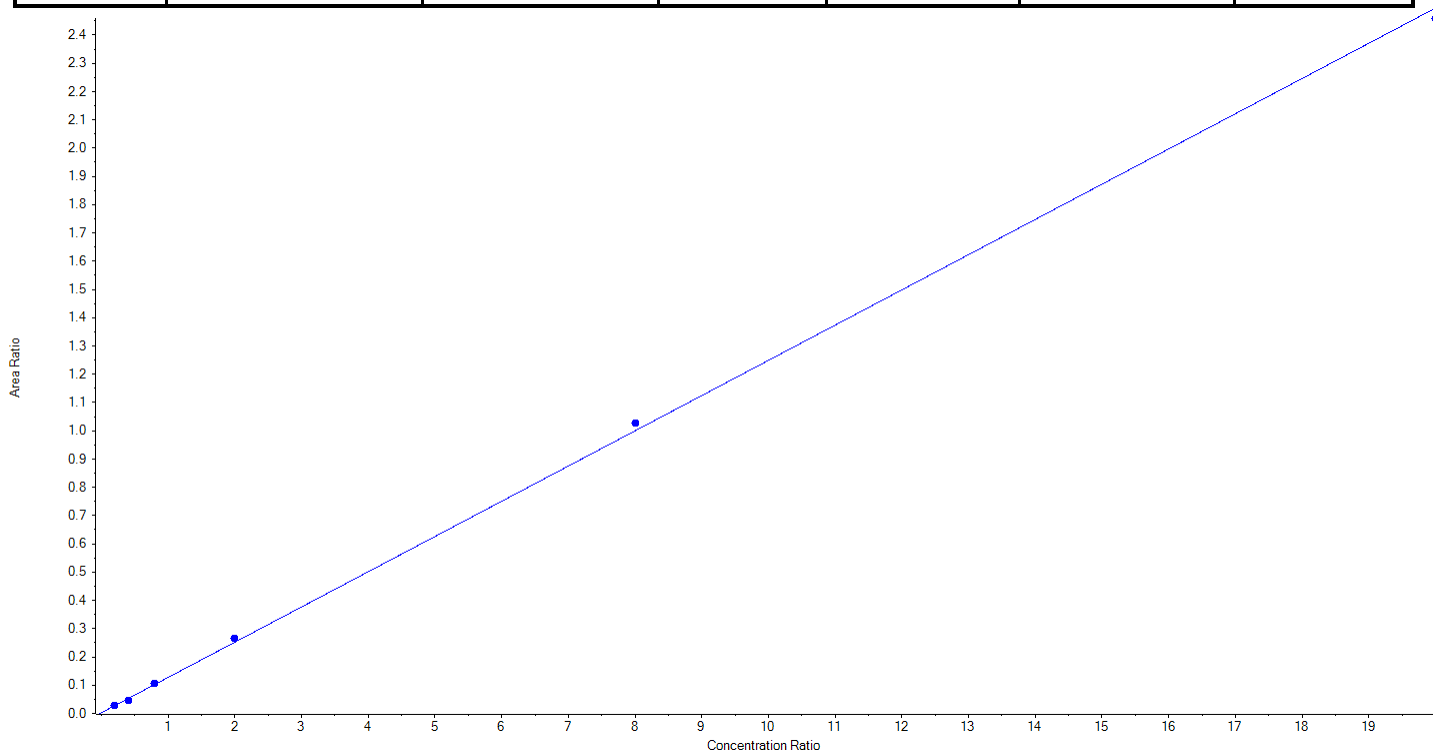
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-------------------------|---------------------------|----------------------------|
| Analyte Name | PFD _o A_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 613.0 / 319.0 | Result Table | 20-1519 |
| Internal Standard | 13C2-PFD _o A | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.12462x + 0.00300$ ($r = 0.99962$) (weighting: $1/x$) $r^2: 0.9992$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 253.65 | 101.5 |
| 3 | LE53 | L2 | True | 500.00 | 447.72 | 89.5 |
| 4 | LE54 | L3 | True | 1000.00 | 1024.17 | 102.4 |
| 5 | LE55 | L4 | True | 2500.00 | 2636.67 | 105.5 |
| 6 | LE56 | L5 | True | 10000.00 | 10260.08 | 102.6 |
| 7 | LE57 | L6 | True | 25000.00 | 24627.71 | 98.5 |





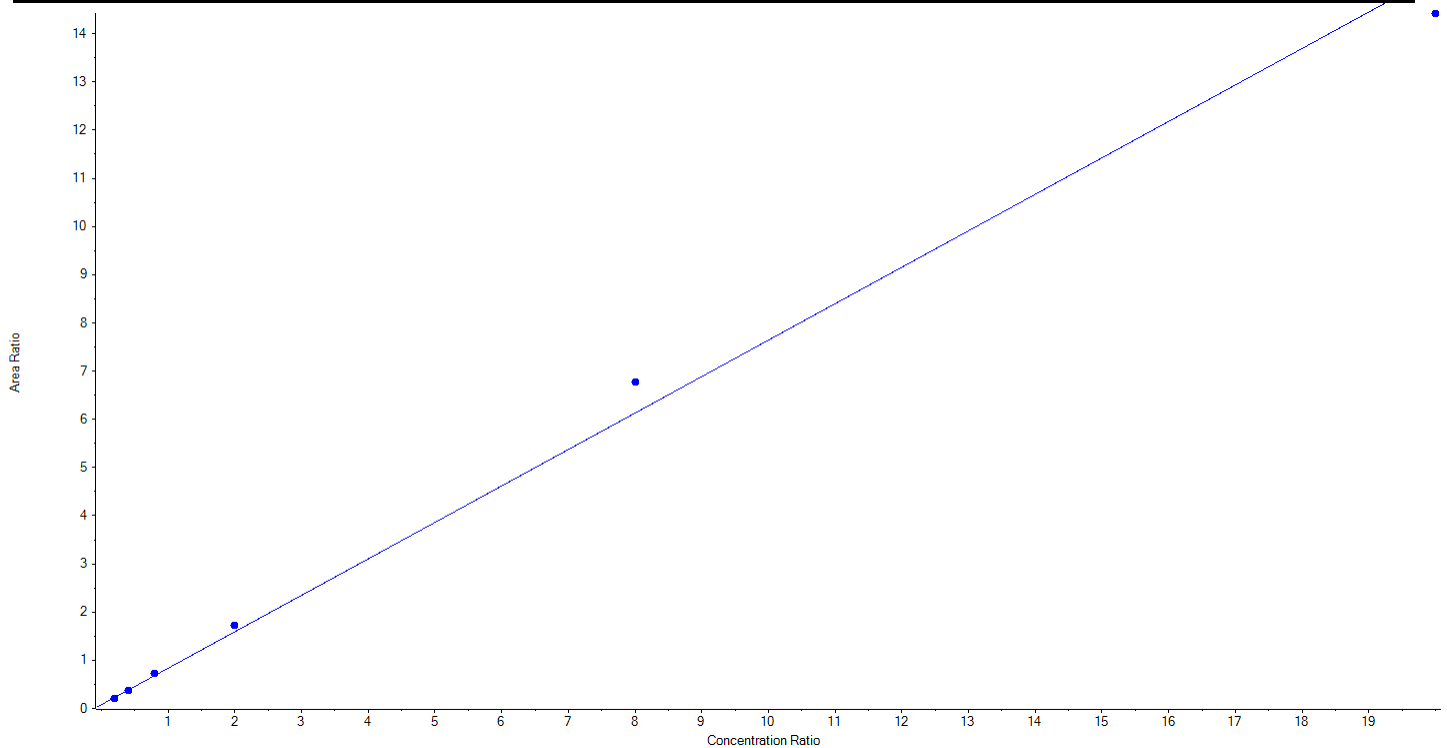
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFTrDA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 663.0 / 619.0 | Result Table | 20-1519 |
| Internal Standard | 13C2-PFTeDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.75635x + 0.07964$ ($r = 0.99689$) (weighting: $1/x$) $r^2:0.9938$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 204.97 | 82.0 |
| 3 | LE53 | L2 | True | 500.00 | 486.93 | 97.4 |
| 4 | LE54 | L3 | True | 1000.00 | 1058.05 | 105.8 |
| 5 | LE55 | L4 | True | 2500.00 | 2733.80 | 109.4 |
| 6 | LE56 | L5 | True | 10000.00 | 11067.57 | 110.7 |
| 7 | LE57 | L6 | True | 25000.00 | 23698.68 | 94.8 |





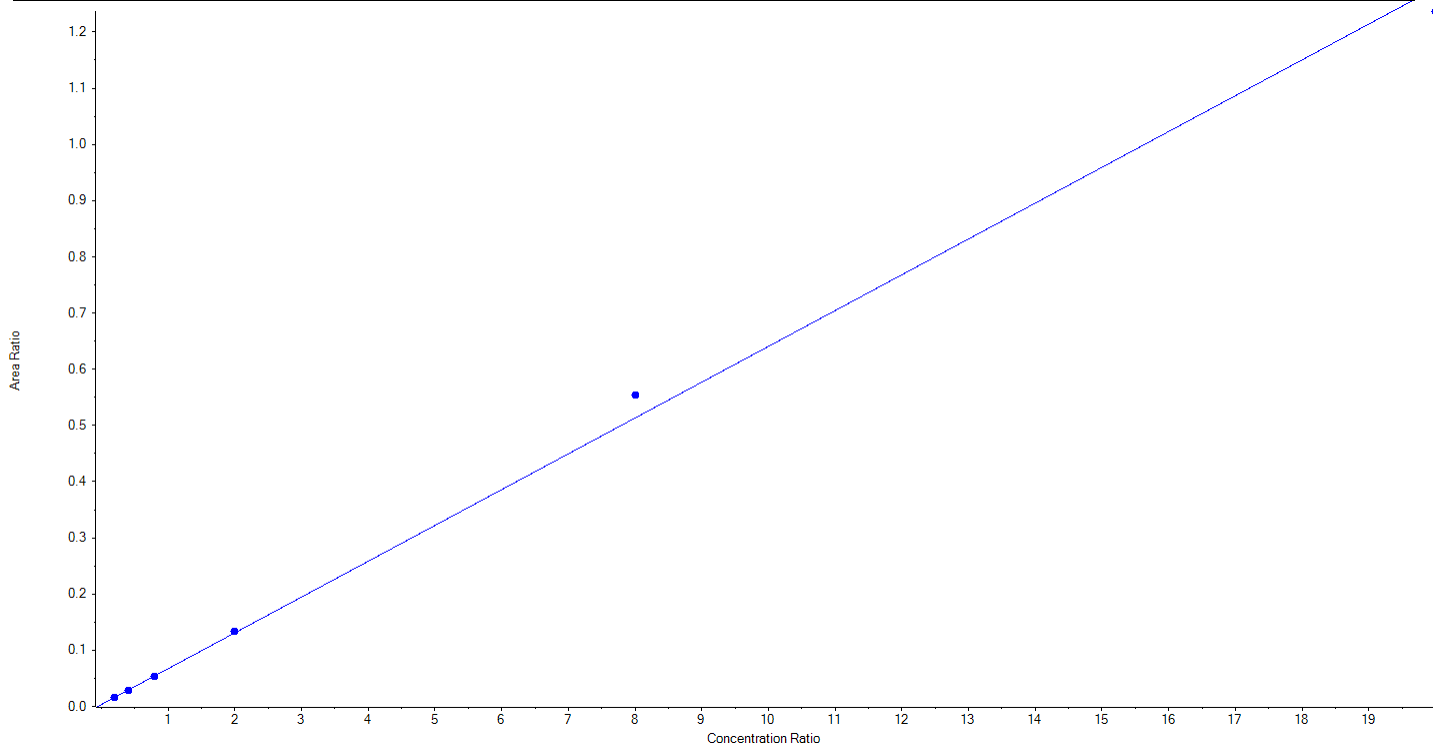
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFTrDA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 663.0 / 169.0 | Result Table | 20-1519 |
| Internal Standard | 13C2-PFTeDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.06371 x + 0.00357$ ($r = 0.99864$) (weighting: $1 / x$) $r^2:0.9973$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 245.96 | 98.4 |
| 3 | LE53 | L2 | True | 500.00 | 484.00 | 96.8 |
| 4 | LE54 | L3 | True | 1000.00 | 985.06 | 98.5 |
| 5 | LE55 | L4 | True | 2500.00 | 2536.14 | 101.5 |
| 6 | LE56 | L5 | True | 10000.00 | 10811.70 | 108.1 |
| 7 | LE57 | L6 | True | 25000.00 | 24187.14 | 96.8 |





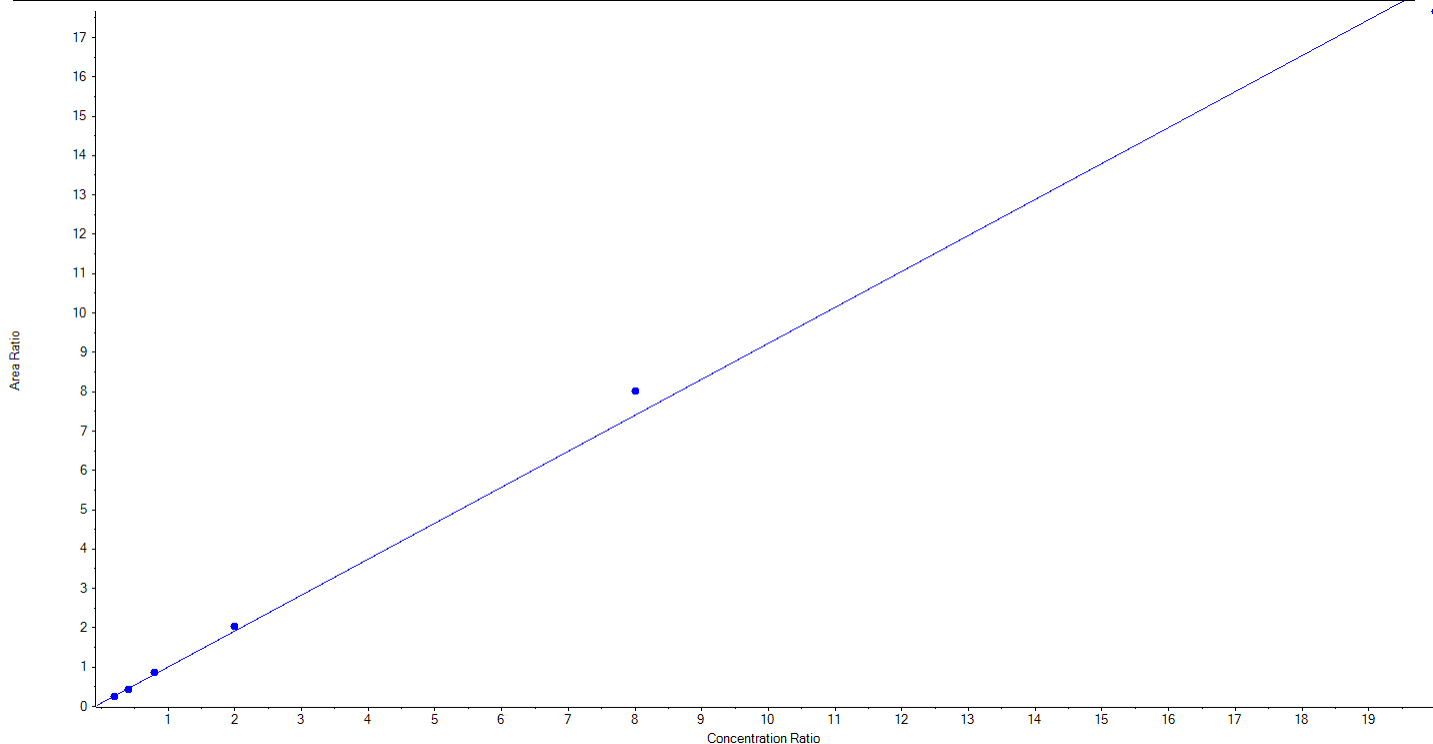
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFTeDA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 713.0 / 669.0 | Result Table | 20-1519 |
| Internal Standard | 13C2-PFTeDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.91387x + 0.09042$ ($r = 0.99826$) (weighting: $1/x$) $r^2:0.9965$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 227.74 | 91.1 |
| 3 | LE53 | L2 | True | 500.00 | 467.88 | 93.6 |
| 4 | LE54 | L3 | True | 1000.00 | 1051.06 | 105.1 |
| 5 | LE55 | L4 | True | 2500.00 | 2646.17 | 105.9 |
| 6 | LE56 | L5 | True | 10000.00 | 10824.49 | 108.2 |
| 7 | LE57 | L6 | True | 25000.00 | 24032.67 | 96.1 |





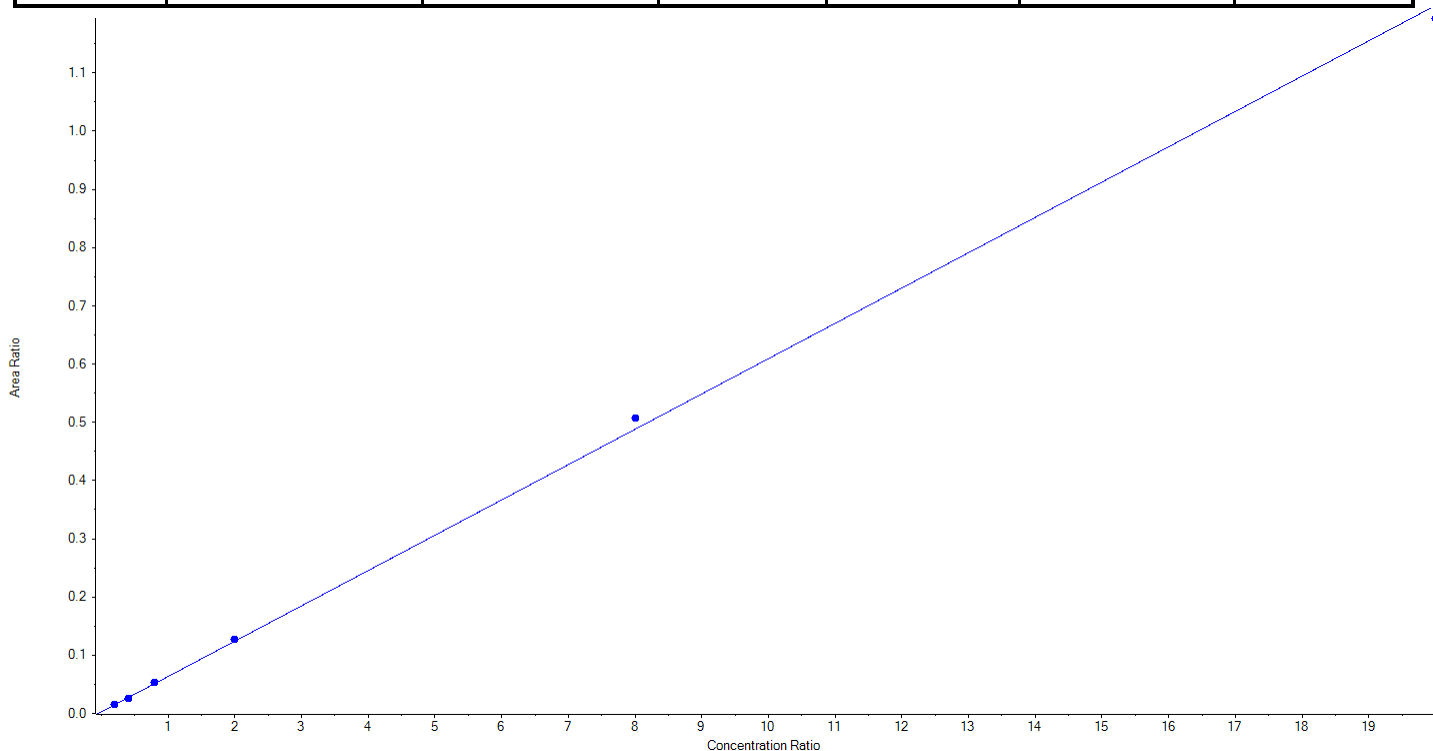
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | PFTeDA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 713.0 / 169.0 | Result Table | 20-1519 |
| Internal Standard | 13C2-PFTeDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.06064 x + 0.00293$ ($r = 0.99958$) (weighting: $1 / x$) $r^2:0.9992$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 246.87 | 98.8 |
| 3 | LE53 | L2 | True | 500.00 | 468.96 | 93.8 |
| 4 | LE54 | L3 | True | 1000.00 | 1026.02 | 102.6 |
| 5 | LE55 | L4 | True | 2500.00 | 2567.07 | 102.7 |
| 6 | LE56 | L5 | True | 10000.00 | 10402.05 | 104.0 |
| 7 | LE57 | L6 | True | 25000.00 | 24539.04 | 98.2 |





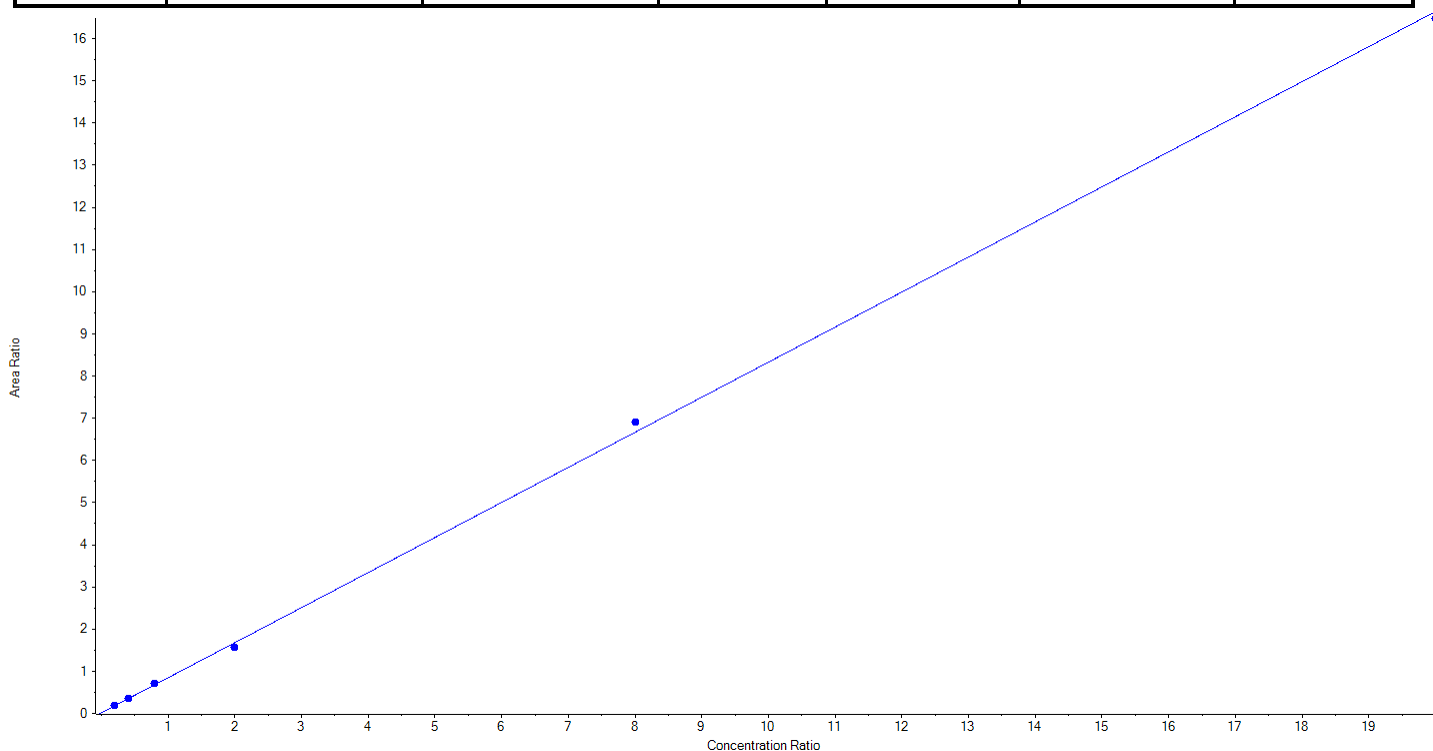
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | NMeFOSAA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 570.0 / 419.0 | Result Table | 20-1519 |
| Internal Standard | d3-MeFOSAA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.83126x + 0.01667$ ($r = 0.99962$) (weighting: $1/x$) $r^2:0.9992$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 247.15 | 98.9 |
| 3 | LE53 | L2 | True | 500.00 | 503.48 | 100.7 |
| 4 | LE54 | L3 | True | 1000.00 | 1038.92 | 103.9 |
| 5 | LE55 | L4 | True | 2500.00 | 2348.55 | 93.9 |
| 6 | LE56 | L5 | True | 10000.00 | 10360.55 | 103.6 |
| 7 | LE57 | L6 | True | 25000.00 | 24751.36 | 99.0 |





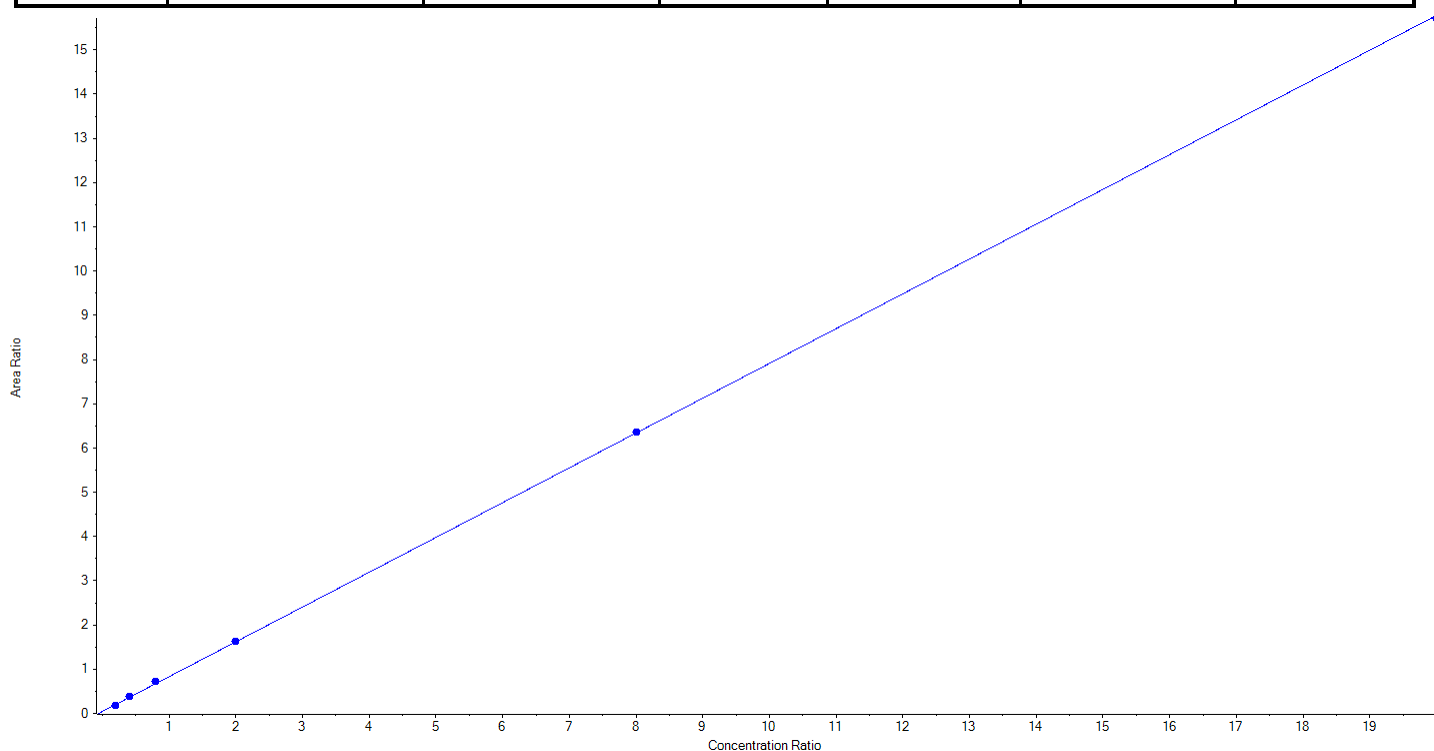
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | NMeFOSAA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 570.0 / 512.0 | Result Table | 20-1519 |
| Internal Standard | d3-MeFOSAA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.78664 x + 0.04660$ ($r = 0.99985$) (weighting: $1 / x$) $r^2:0.9997$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 220.00 | 88.0 |
| 3 | LE53 | L2 | True | 500.00 | 525.88 | 105.2 |
| 4 | LE54 | L3 | True | 1000.00 | 1065.97 | 106.6 |
| 5 | LE55 | L4 | True | 2500.00 | 2505.66 | 100.2 |
| 6 | LE56 | L5 | True | 10000.00 | 10045.43 | 100.5 |
| 7 | LE57 | L6 | True | 25000.00 | 24887.06 | 99.6 |





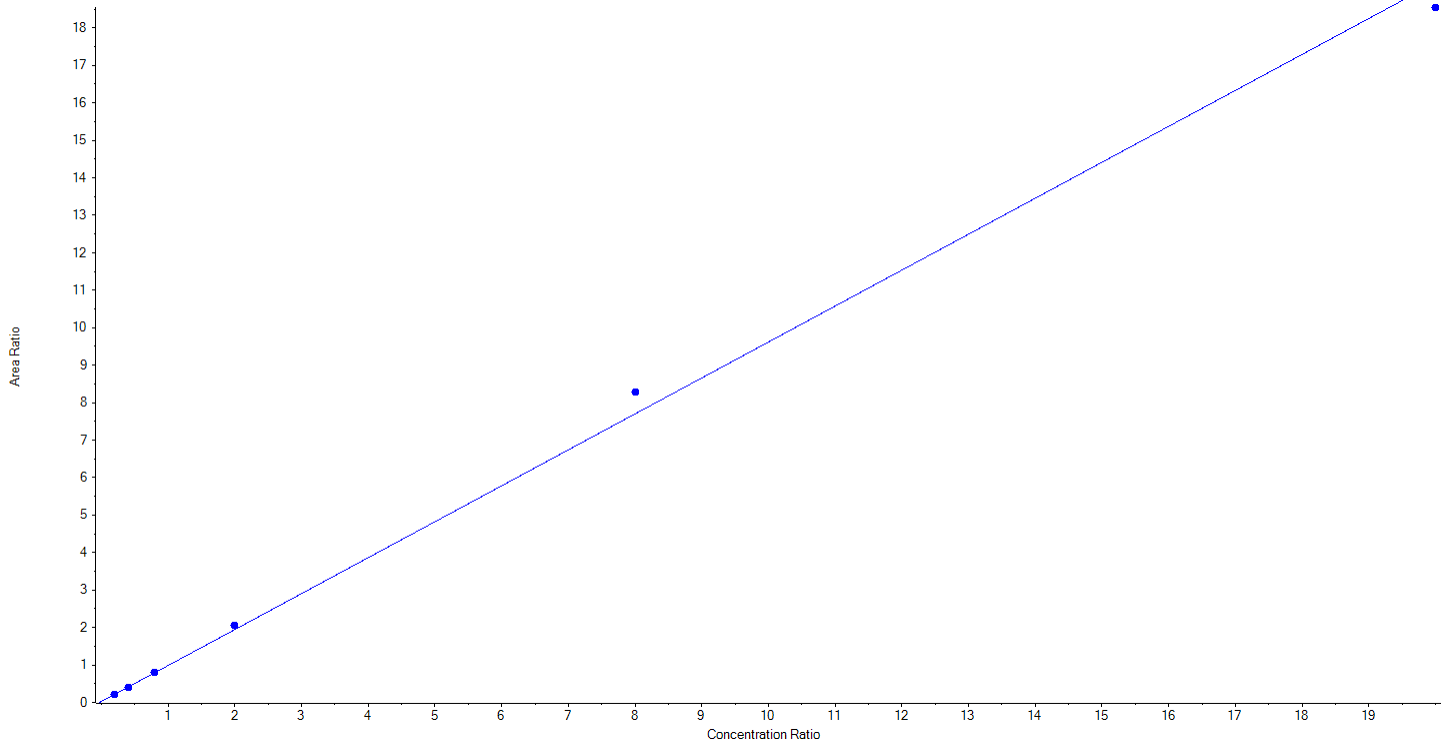
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | NEtFOSAA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 584.0 / 419.0 | Result Table | 20-1519 |
| Internal Standard | d5-EtFOSAA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.95912x + 0.02812$ ($r = 0.99860$) (weighting: $1/x$) $r^2: 0.9972$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 225.92 | 90.4 |
| 3 | LE53 | L2 | True | 500.00 | 496.51 | 99.3 |
| 4 | LE54 | L3 | True | 1000.00 | 1010.93 | 101.1 |
| 5 | LE55 | L4 | True | 2500.00 | 2628.67 | 105.2 |
| 6 | LE56 | L5 | True | 10000.00 | 10756.65 | 107.6 |
| 7 | LE57 | L6 | True | 25000.00 | 24131.33 | 96.5 |





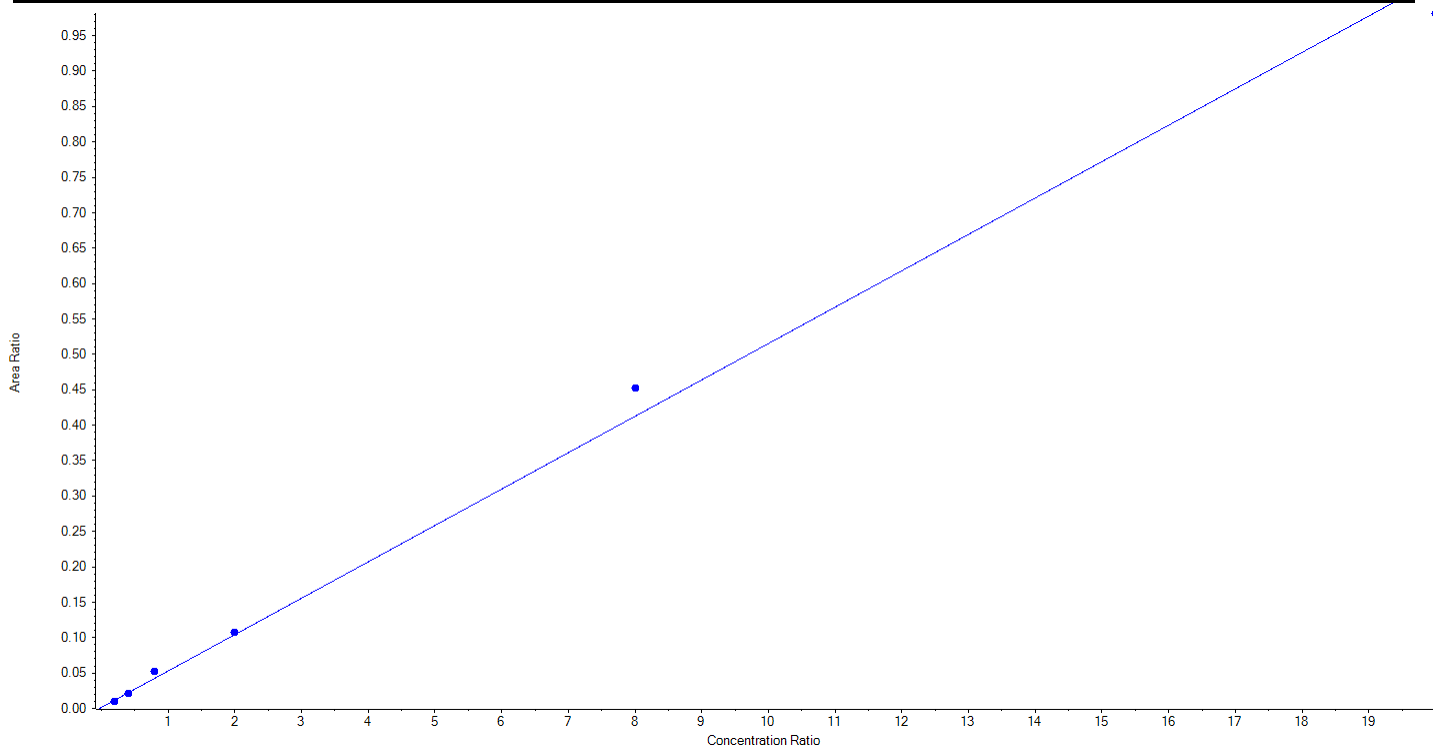
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | NEtFOSAA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 584.0 / 483.0 | Result Table | 20-1519 |
| Internal Standard | d5-EtFOSAA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.05138x + 0.00155$ ($r = 0.99684$) (weighting: $1/x$) $r^2: 0.9937$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 191.42 | 76.6 |
| 3 | LE53 | L2 | True | 500.00 | 462.50 | 92.5 |
| 4 | LE54 | L3 | True | 1000.00 | 1232.77 | 123.3 |
| 5 | LE55 | L4 | True | 2500.00 | 2567.82 | 102.7 |
| 6 | LE56 | L5 | True | 10000.00 | 10959.84 | 109.6 |
| 7 | LE57 | L6 | True | 25000.00 | 23835.65 | 95.3 |





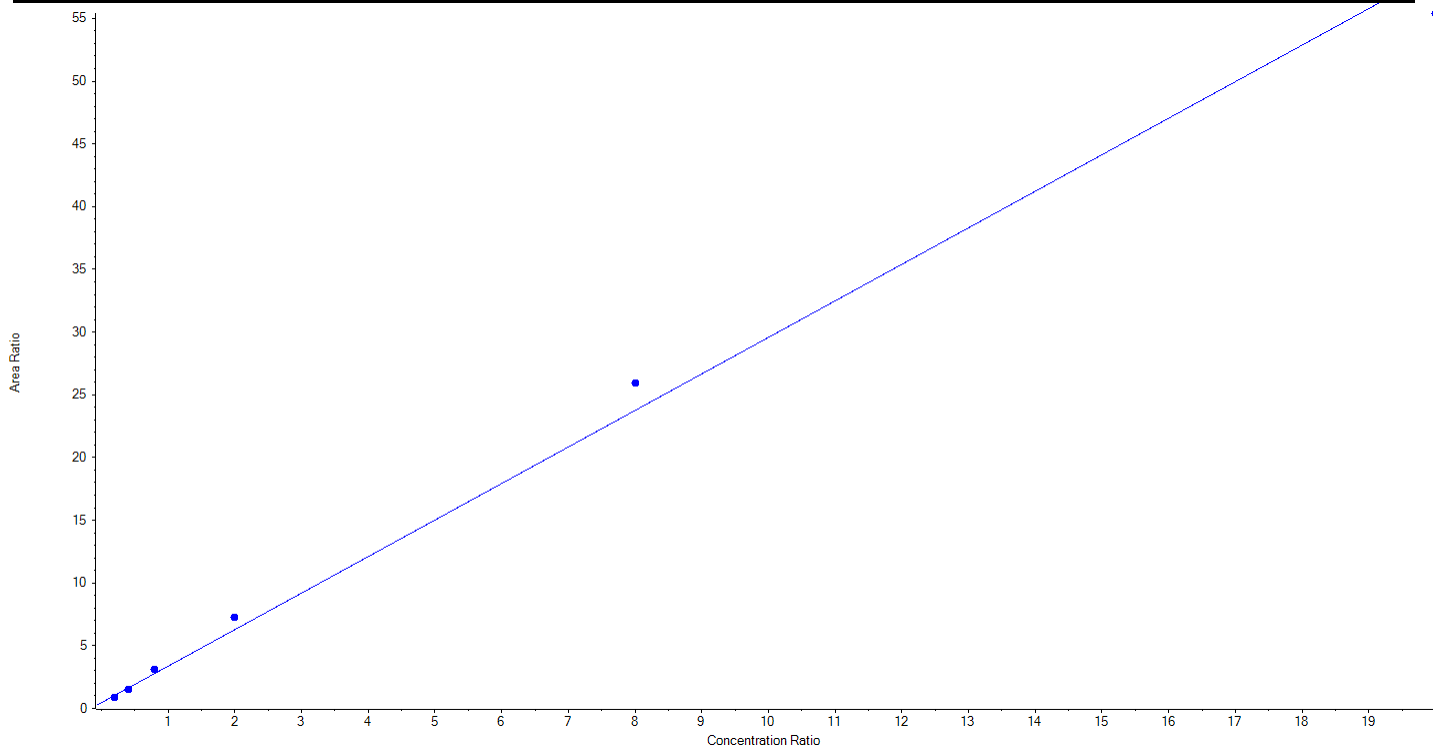
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | HFPO-DA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 285.0 / 169.0 | Result Table | 20-1519 |
| Internal Standard | 13C3-HFPO-DA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 2.91166x + 0.46150$ ($r = 0.99579$) (weighting: $1/x$) $r^2: 0.9916$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 175.68 | 70.3 |
| 3 | LE53 | L2 | True | 500.00 | 466.86 | 93.4 |
| 4 | LE54 | L3 | True | 1000.00 | 1152.99 | 115.3 |
| 5 | LE55 | L4 | True | 2500.00 | 2933.26 | 117.3 |
| 6 | LE56 | L5 | True | 10000.00 | 10940.44 | 109.4 |
| 7 | LE57 | L6 | True | 25000.00 | 23580.78 | 94.3 |





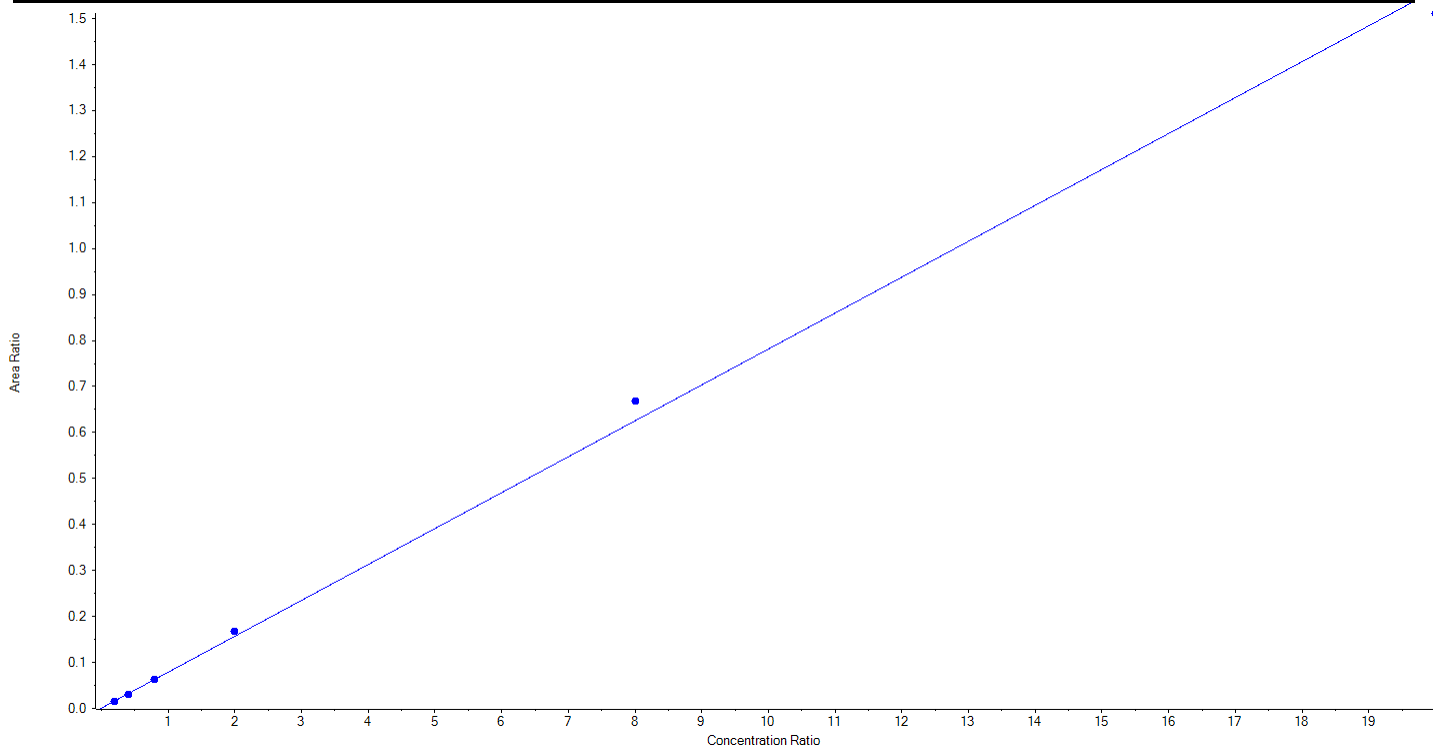
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | HFPO-DA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 285.0 / 118.8 | Result Table | 20-1519 |
| Internal Standard | 13C3-HFPO-DA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.07808 x + 7.93563e-4$ ($r = 0.99873$) (weighting: $1/x$) $r^2:0.9975$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 228.98 | 91.6 |
| 3 | LE53 | L2 | True | 500.00 | 488.94 | 97.8 |
| 4 | LE54 | L3 | True | 1000.00 | 1002.63 | 100.3 |
| 5 | LE55 | L4 | True | 2500.00 | 2670.46 | 106.8 |
| 6 | LE56 | L5 | True | 10000.00 | 10684.14 | 106.8 |
| 7 | LE57 | L6 | True | 25000.00 | 24174.86 | 96.7 |





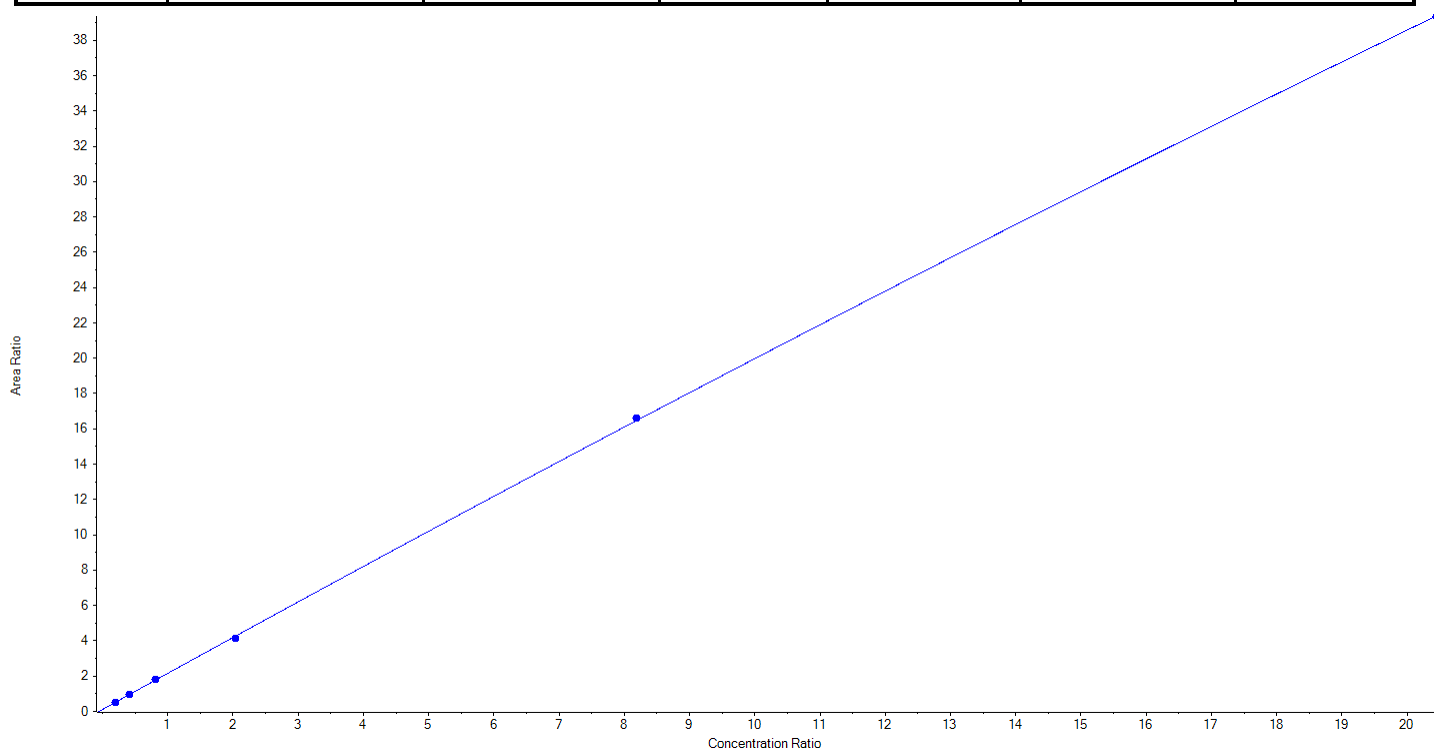
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | ADONA_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 377.0 / 251.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = -0.00631 x^2 + 2.04927 x + 0.11343$ ($r = 0.99992$) (weighting: $1 / x$) $r^2: 0.9998$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 241.18 | 96.5 |
| 3 | LE53 | L2 | True | 500.00 | 522.20 | 104.4 |
| 4 | LE54 | L3 | True | 1000.00 | 1018.61 | 101.9 |
| 5 | LE55 | L4 | True | 2500.00 | 2412.95 | 96.5 |
| 6 | LE56 | L5 | True | 10000.00 | 10081.84 | 100.8 |
| 7 | LE57 | L6 | True | 25000.00 | 24973.03 | 99.9 |





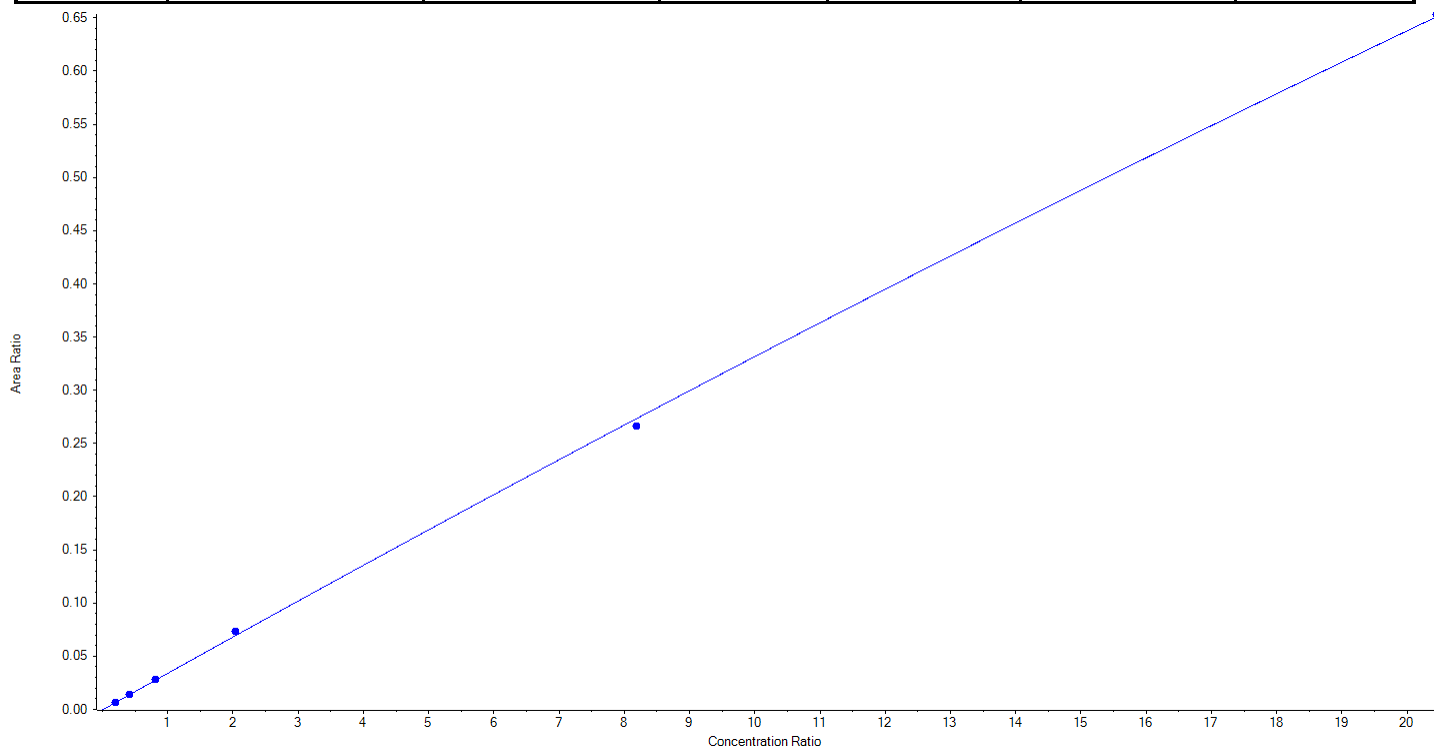
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | ADONA_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 377.0 / 85.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = -1.29487e-4 x^2 + 0.03451 x + -4.41743e-4$ ($r = 0.99975$) (weighting: 1 / x)
 $r^2: 0.9995$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 234.68 | 93.9 |
| 3 | LE53 | L2 | True | 500.00 | 502.62 | 100.5 |
| 4 | LE54 | L3 | True | 1000.00 | 1016.46 | 101.7 |
| 5 | LE55 | L4 | True | 2500.00 | 2650.80 | 106.0 |
| 6 | LE56 | L5 | True | 10000.00 | 9757.47 | 97.6 |
| 7 | LE57 | L6 | True | 25000.00 | 25089.49 | 100.4 |





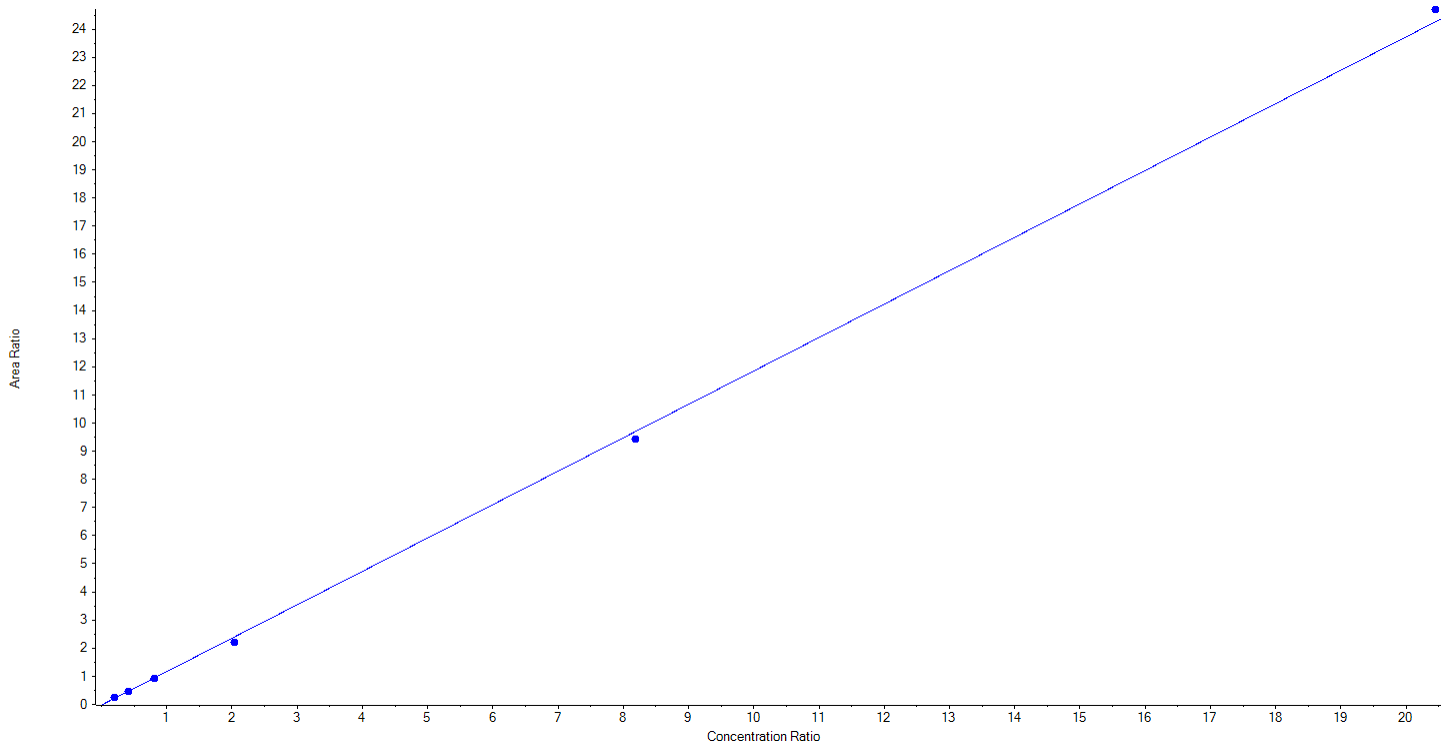
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 9CI-PF3ONS_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 531.0 / 351.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.18727 x + -0.01936$ ($r = 0.99951$) (weighting: $1 / x$) $r^2: 0.9990$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 274.71 | 109.9 |
| 3 | LE53 | L2 | True | 500.00 | 512.78 | 102.6 |
| 4 | LE54 | L3 | True | 1000.00 | 960.89 | 96.1 |
| 5 | LE55 | L4 | True | 2500.00 | 2304.84 | 92.2 |
| 6 | LE56 | L5 | True | 10000.00 | 9747.88 | 97.5 |
| 7 | LE57 | L6 | True | 25000.00 | 25448.89 | 101.8 |





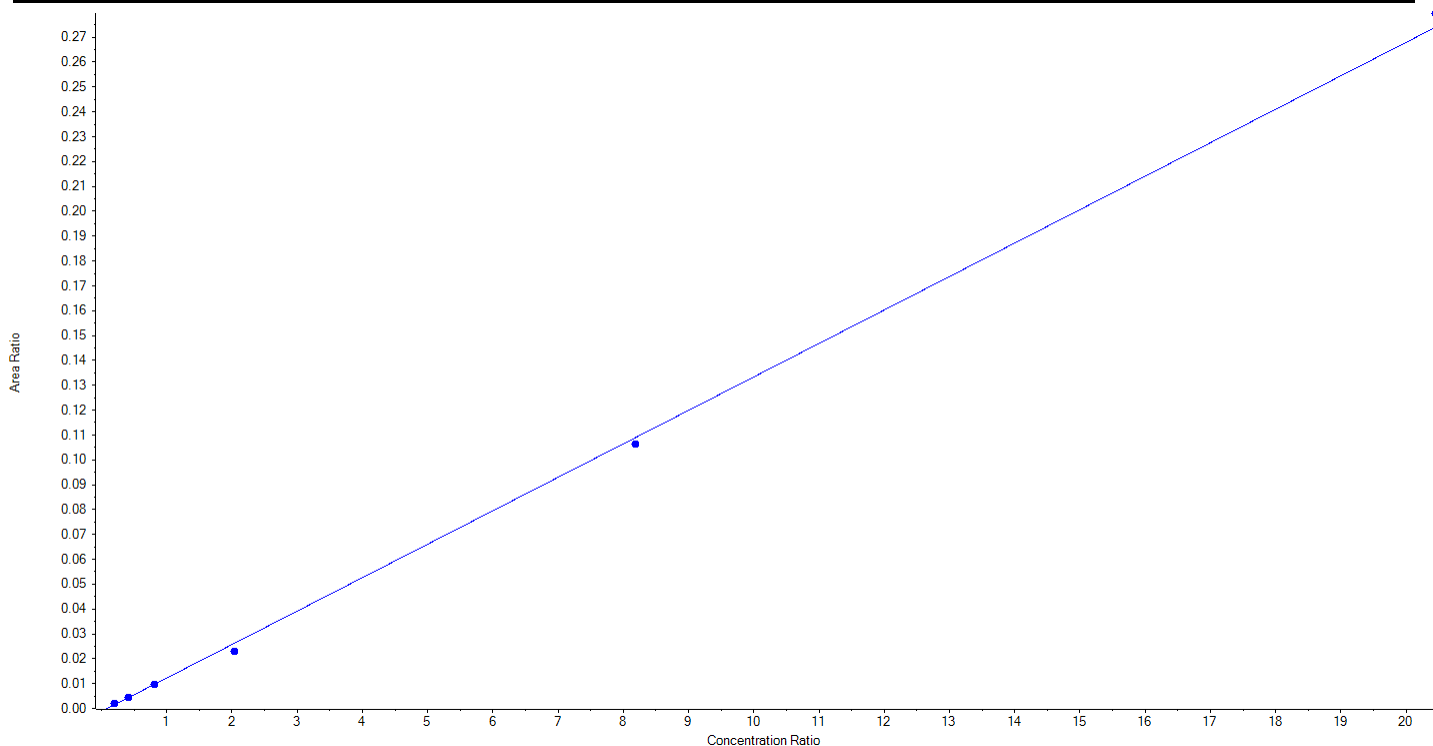
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 9CI-PF3ONS_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 531.0 / 83.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.01346 x + -0.00121$ ($r = 0.99918$) (weighting: 1 / x) $r^2:0.9984$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 280.76 | 112.3 |
| 3 | LE53 | L2 | True | 500.00 | 504.08 | 100.8 |
| 4 | LE54 | L3 | True | 1000.00 | 993.65 | 99.4 |
| 5 | LE55 | L4 | True | 2500.00 | 2193.83 | 87.8 |
| 6 | LE56 | L5 | True | 10000.00 | 9775.39 | 97.8 |
| 7 | LE57 | L6 | True | 25000.00 | 25502.30 | 102.0 |





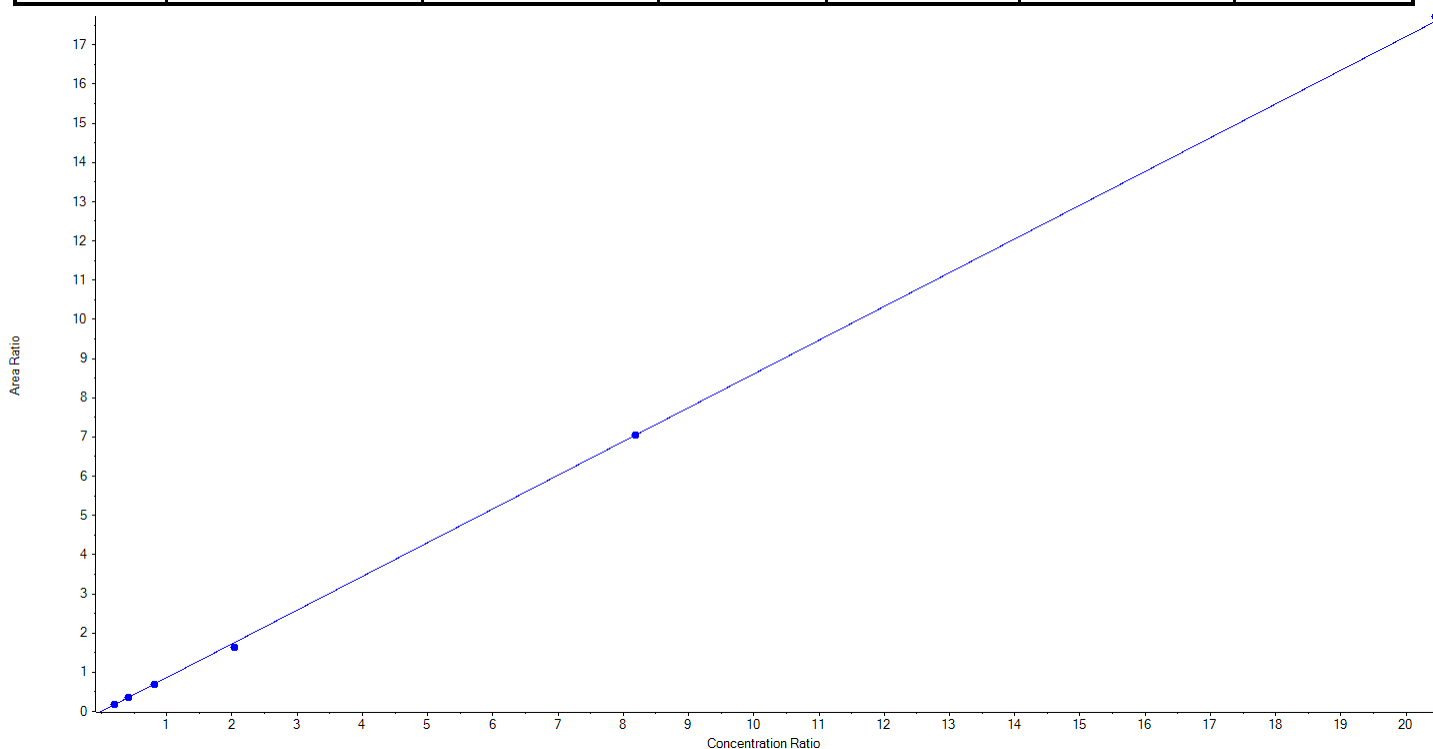
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 11Cl-pf3OUdS_1 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 631.0 / 451.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.86043x + 0.00349$ ($r = 0.99977$) (weighting: $1/x$) $r^2: 0.9995$

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 262.74 | 105.1 |
| 3 | LE53 | L2 | True | 500.00 | 515.17 | 103.0 |
| 4 | LE54 | L3 | True | 1000.00 | 985.16 | 98.5 |
| 5 | LE55 | L4 | True | 2500.00 | 2317.54 | 92.7 |
| 6 | LE56 | L5 | True | 10000.00 | 9995.93 | 100.0 |
| 7 | LE57 | L6 | True | 25000.00 | 25173.46 | 100.7 |





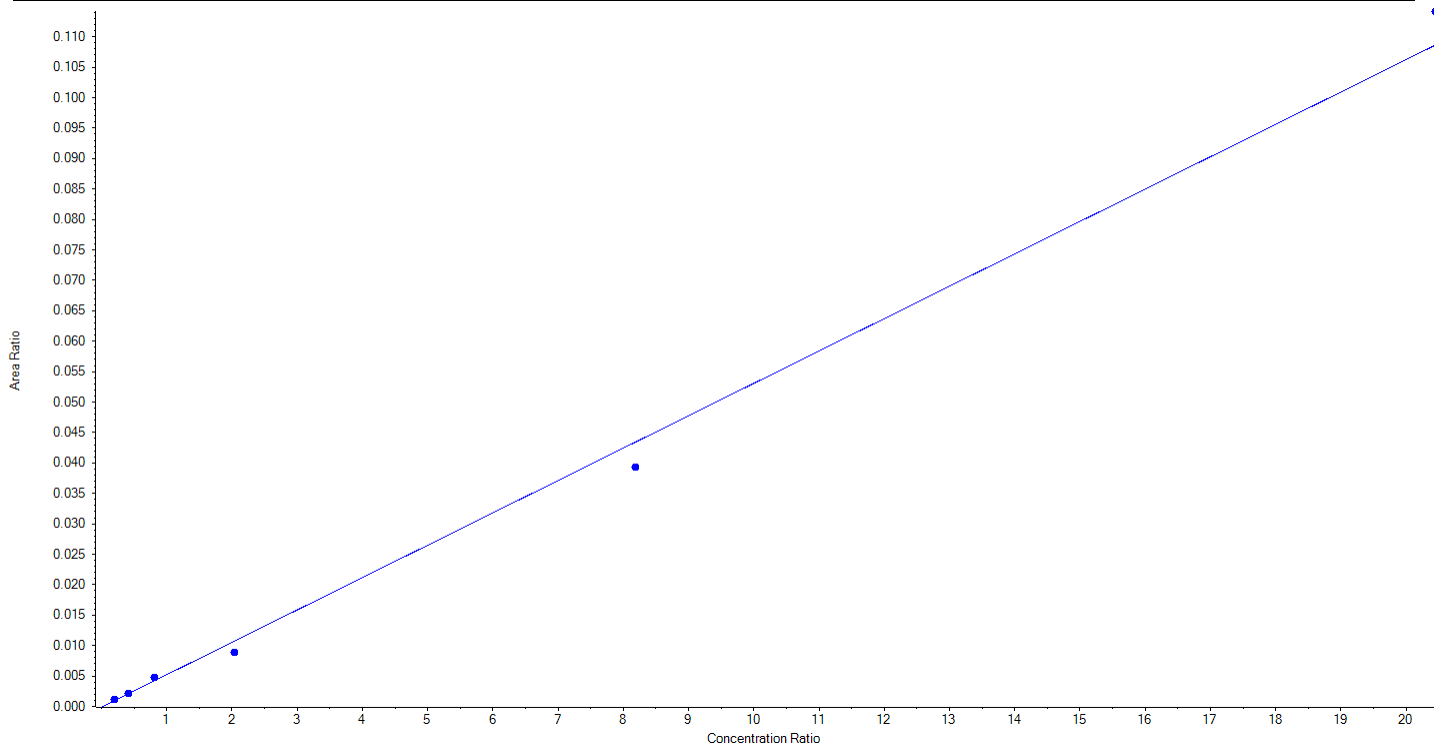
Calibration Summary Report

Created with Analyst Reporter
 Printed: 30/11/2020 9:37:53 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 11Cl-pf3OUdS_2 | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 631.0 / 83.0 | Result Table | 20-1519 |
| Internal Standard | 13C8-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.00532 x + -9.91778e-5$ (r = 0.99638) (weighting: 1 / x) r²:0.9928

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 250.00 | 278.99 | 111.6 |
| 3 | LE53 | L2 | True | 500.00 | 502.10 | 100.4 |
| 4 | LE54 | L3 | True | 1000.00 | 1105.21 | 110.5 |
| 5 | LE55 | L4 | True | 2500.00 | 2047.43 | 81.9 |
| 6 | LE56 | L5 | True | 10000.00 | 9050.24 | 90.5 |
| 7 | LE57 | L6 | True | 25000.00 | 26266.04 | 105.1 |





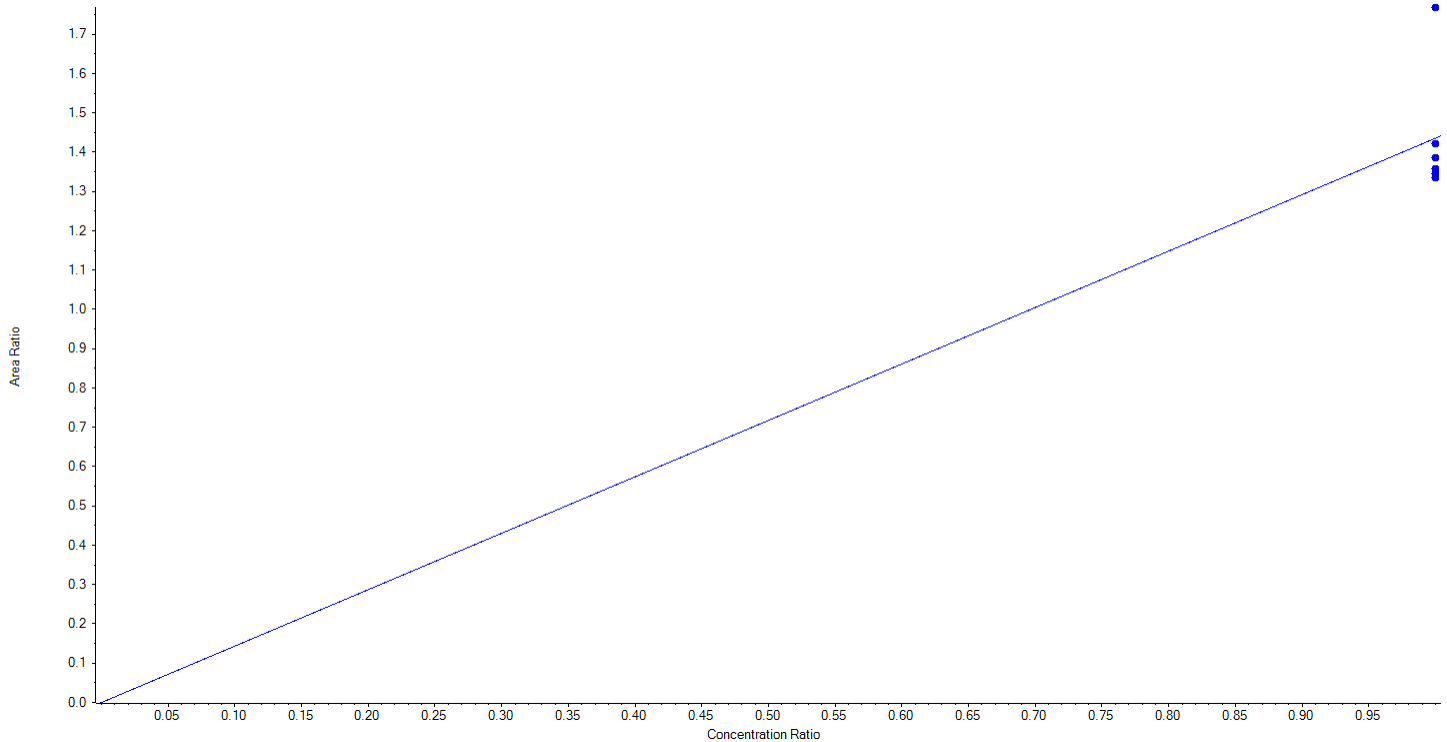
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C2-PFDoA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 615.0 / 570.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C2-PFDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.43548 x$ (std. dev. = 0.16595) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1172.32 | 93.8 |
| 3 | LE53 | L2 | True | 1250.00 | 1181.60 | 94.5 |
| 4 | LE54 | L3 | True | 1250.00 | 1161.70 | 92.9 |
| 5 | LE55 | L4 | True | 1250.00 | 1206.37 | 96.5 |
| 6 | LE56 | L5 | True | 1250.00 | 1238.40 | 99.1 |
| 7 | LE57 | L6 | True | 1250.00 | 1539.60 | 123.2 |





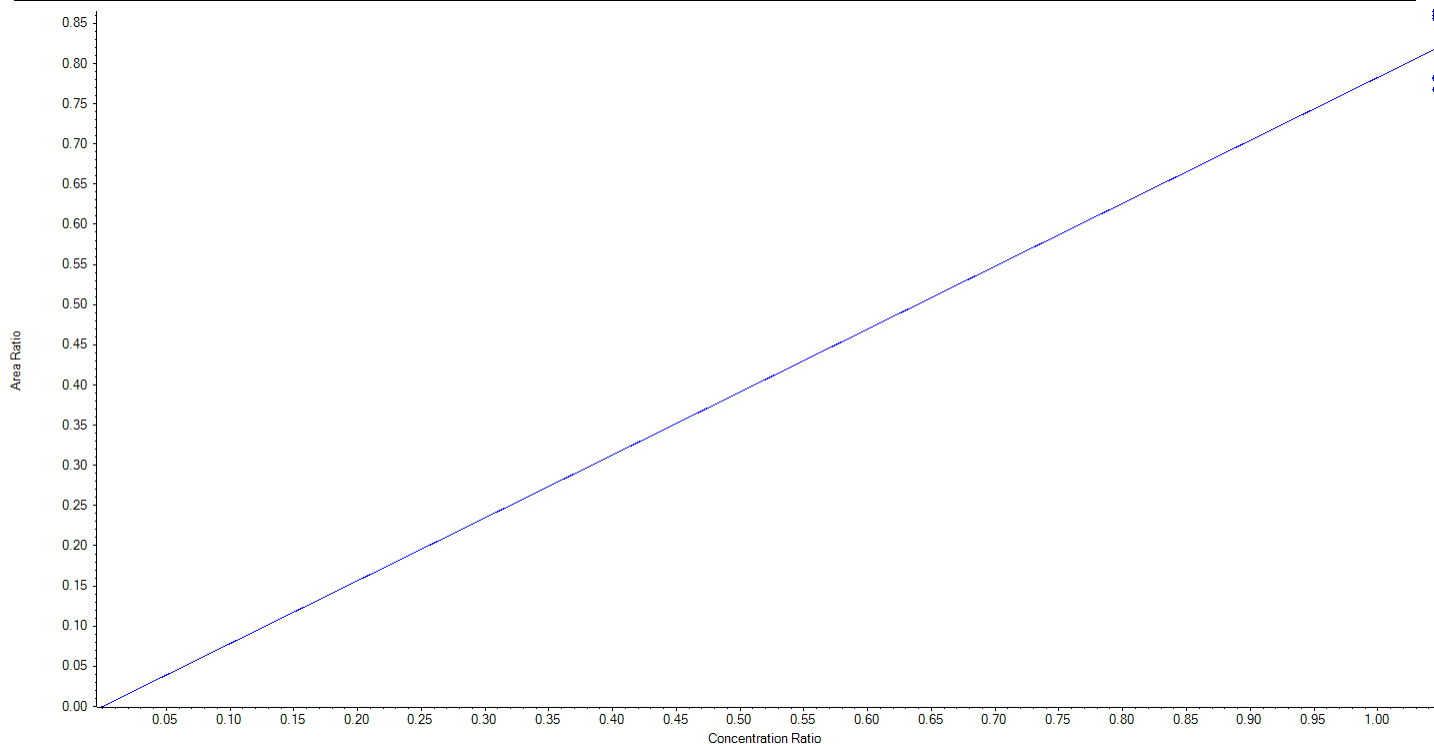
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | d3-MeFOSAA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 573.0 / 419.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C4-PFOS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.78269 x$ (std. dev. = 0.04380) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1195.58 | 95.7 |
| 3 | LE53 | L2 | True | 1250.00 | 1320.28 | 105.6 |
| 4 | LE54 | L3 | True | 1250.00 | 1193.70 | 95.5 |
| 5 | LE55 | L4 | True | 1250.00 | 1170.97 | 93.7 |
| 6 | LE56 | L5 | True | 1250.00 | 1307.59 | 104.6 |
| 7 | LE57 | L6 | True | 1250.00 | 1311.89 | 105.0 |





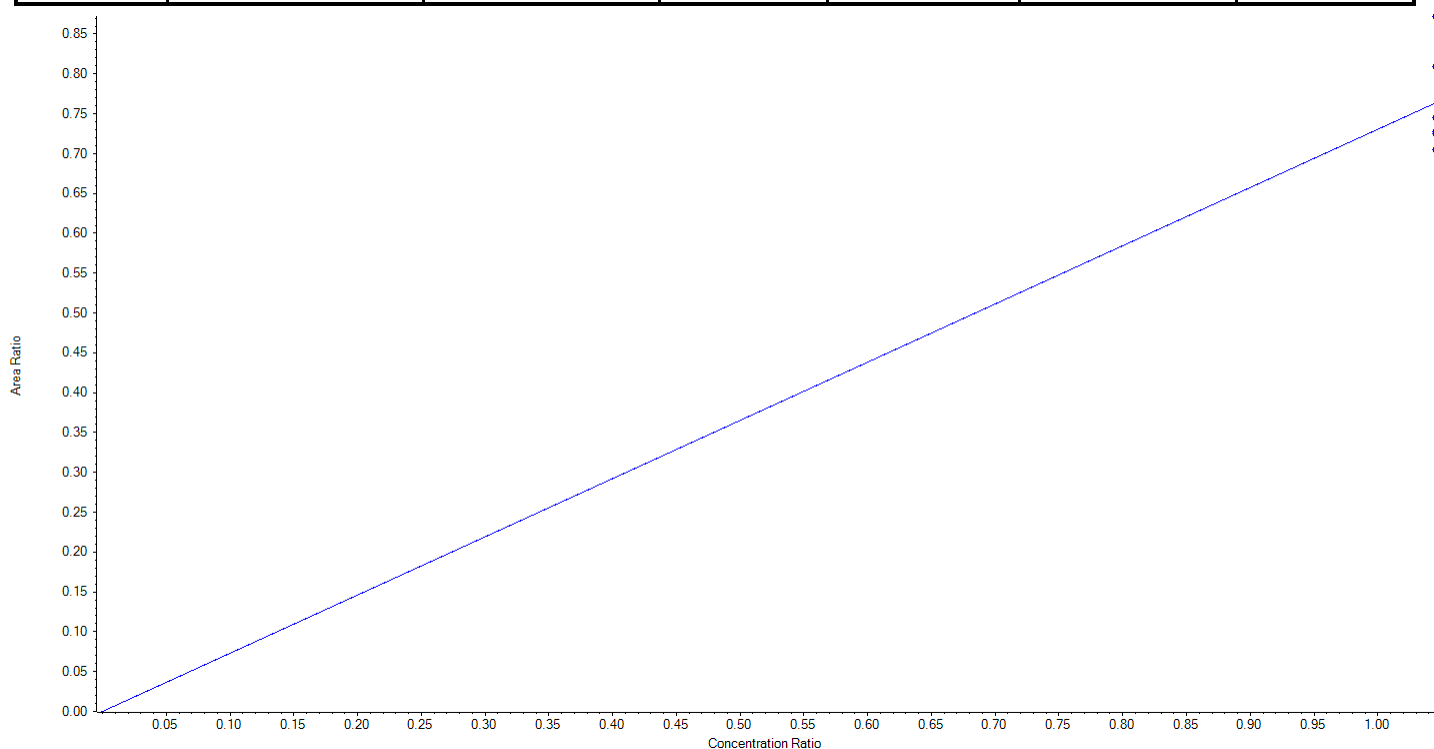
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | d5-EtFOSAA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 589.0 / 419.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C4-PFOS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.73049 x$ (std. dev. = 0.06113) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1324.71 | 106.0 |
| 3 | LE53 | L2 | True | 1250.00 | 1426.47 | 114.1 |
| 4 | LE54 | L3 | True | 1250.00 | 1219.09 | 97.5 |
| 5 | LE55 | L4 | True | 1250.00 | 1152.65 | 92.2 |
| 6 | LE56 | L5 | True | 1250.00 | 1186.74 | 94.9 |
| 7 | LE57 | L6 | True | 1250.00 | 1190.34 | 95.2 |





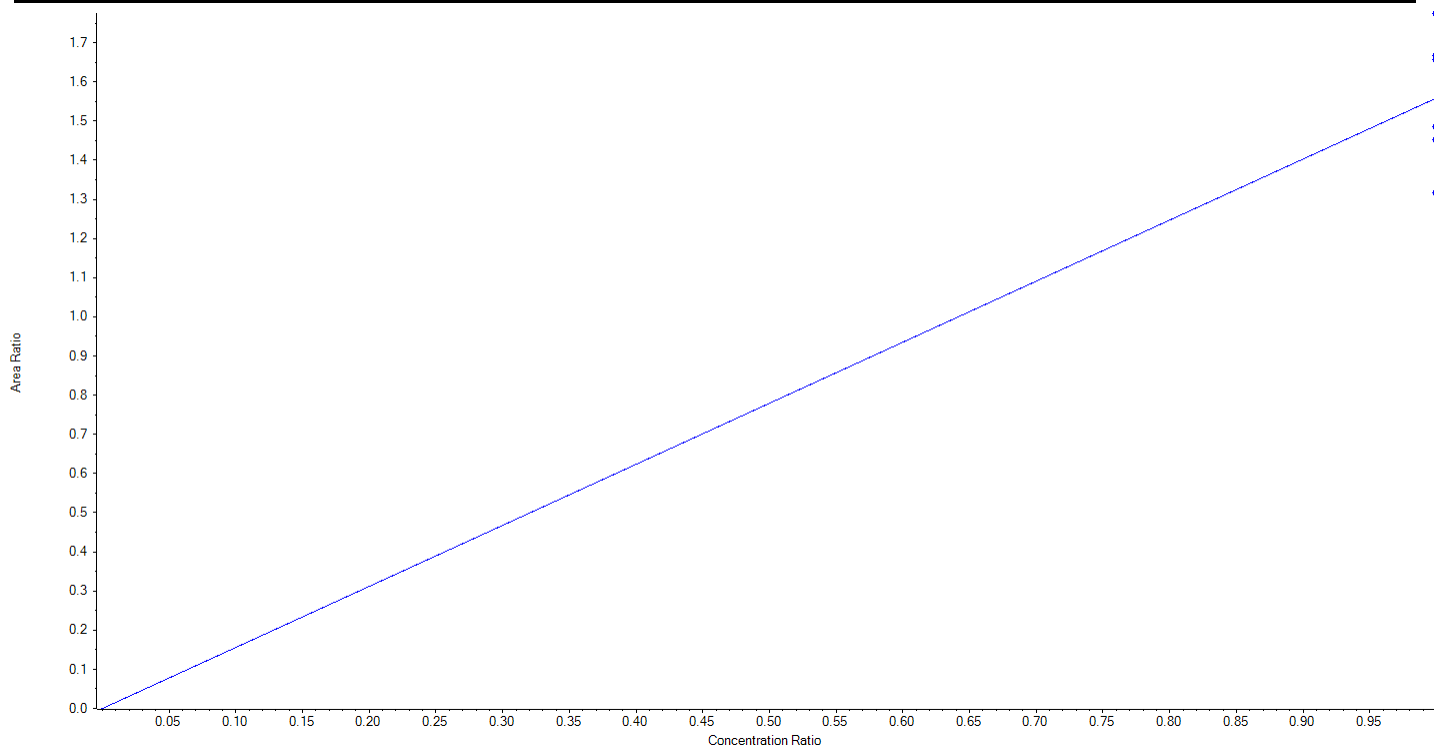
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C5-PFHxA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 318.0 / 273.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C2-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.55863 x$ (std. dev. = 0.16914) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1422.96 | 113.8 |
| 3 | LE53 | L2 | True | 1250.00 | 1337.83 | 107.0 |
| 4 | LE54 | L3 | True | 1250.00 | 1056.57 | 84.5 |
| 5 | LE55 | L4 | True | 1250.00 | 1327.76 | 106.2 |
| 6 | LE56 | L5 | True | 1250.00 | 1191.17 | 95.3 |
| 7 | LE57 | L6 | True | 1250.00 | 1163.71 | 93.1 |





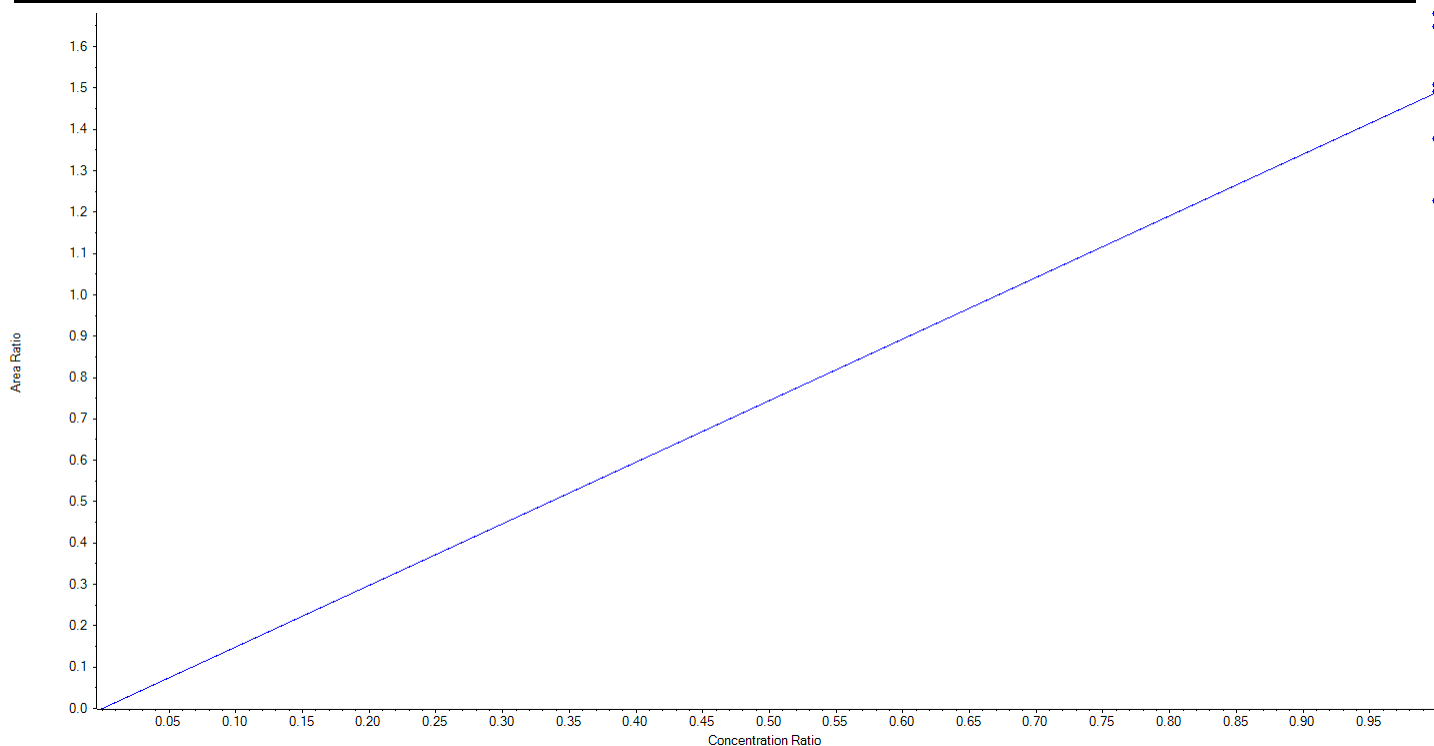
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C4-PFHpA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 367.0 / 322.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C2-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.48884 x$ (std. dev. = 0.16966) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1384.39 | 110.8 |
| 3 | LE53 | L2 | True | 1250.00 | 1267.20 | 101.4 |
| 4 | LE54 | L3 | True | 1250.00 | 1029.49 | 82.4 |
| 5 | LE55 | L4 | True | 1250.00 | 1410.52 | 112.8 |
| 6 | LE56 | L5 | True | 1250.00 | 1251.70 | 100.1 |
| 7 | LE57 | L6 | True | 1250.00 | 1156.71 | 92.5 |





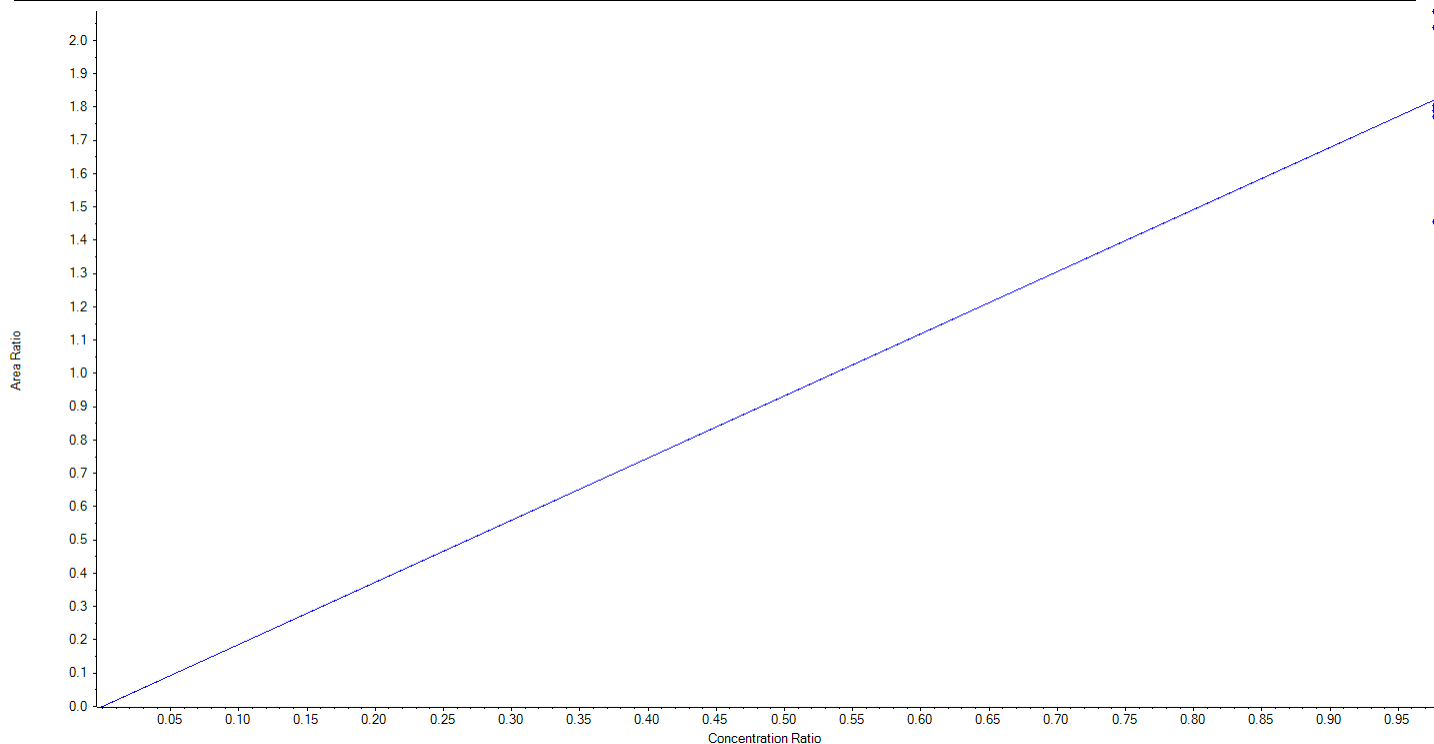
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C8-PFOA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 421.0 / 376.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C2-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.86541 x$ (std. dev. = 0.23164) (weighting: None) r^2 : N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1222.50 | 1398.48 | 114.4 |
| 3 | LE53 | L2 | True | 1222.50 | 1208.46 | 98.9 |
| 4 | LE54 | L3 | True | 1222.50 | 974.59 | 79.7 |
| 5 | LE55 | L4 | True | 1222.50 | 1366.79 | 111.8 |
| 6 | LE56 | L5 | True | 1222.50 | 1199.58 | 98.1 |
| 7 | LE57 | L6 | True | 1222.50 | 1187.11 | 97.1 |





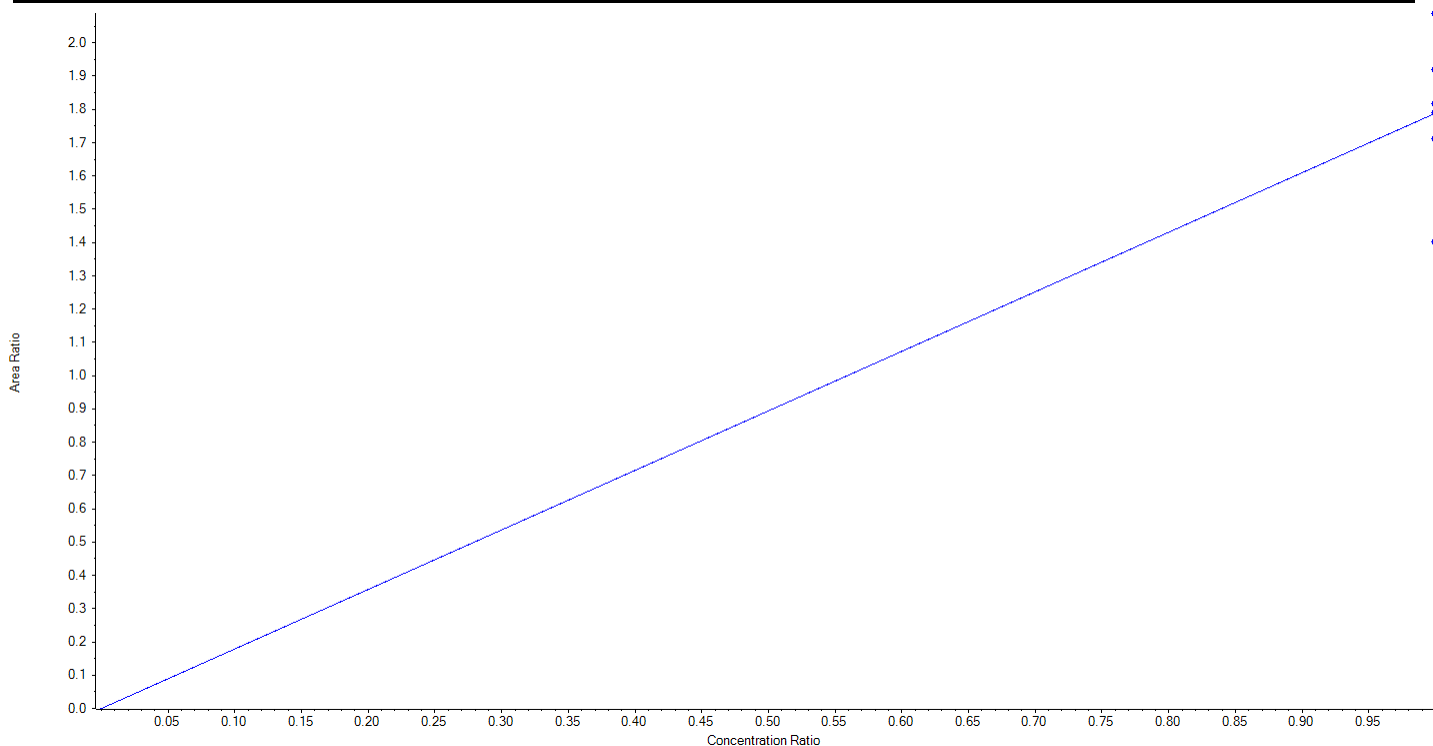
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C9-PFNA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 472.0 / 427.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C2-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.78854 x$ (std. dev. = 0.22906) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1459.28 | 116.7 |
| 3 | LE53 | L2 | True | 1250.00 | 1251.34 | 100.1 |
| 4 | LE54 | L3 | True | 1250.00 | 980.33 | 78.4 |
| 5 | LE55 | L4 | True | 1250.00 | 1341.96 | 107.4 |
| 6 | LE56 | L5 | True | 1250.00 | 1269.79 | 101.6 |
| 7 | LE57 | L6 | True | 1250.00 | 1197.31 | 95.8 |





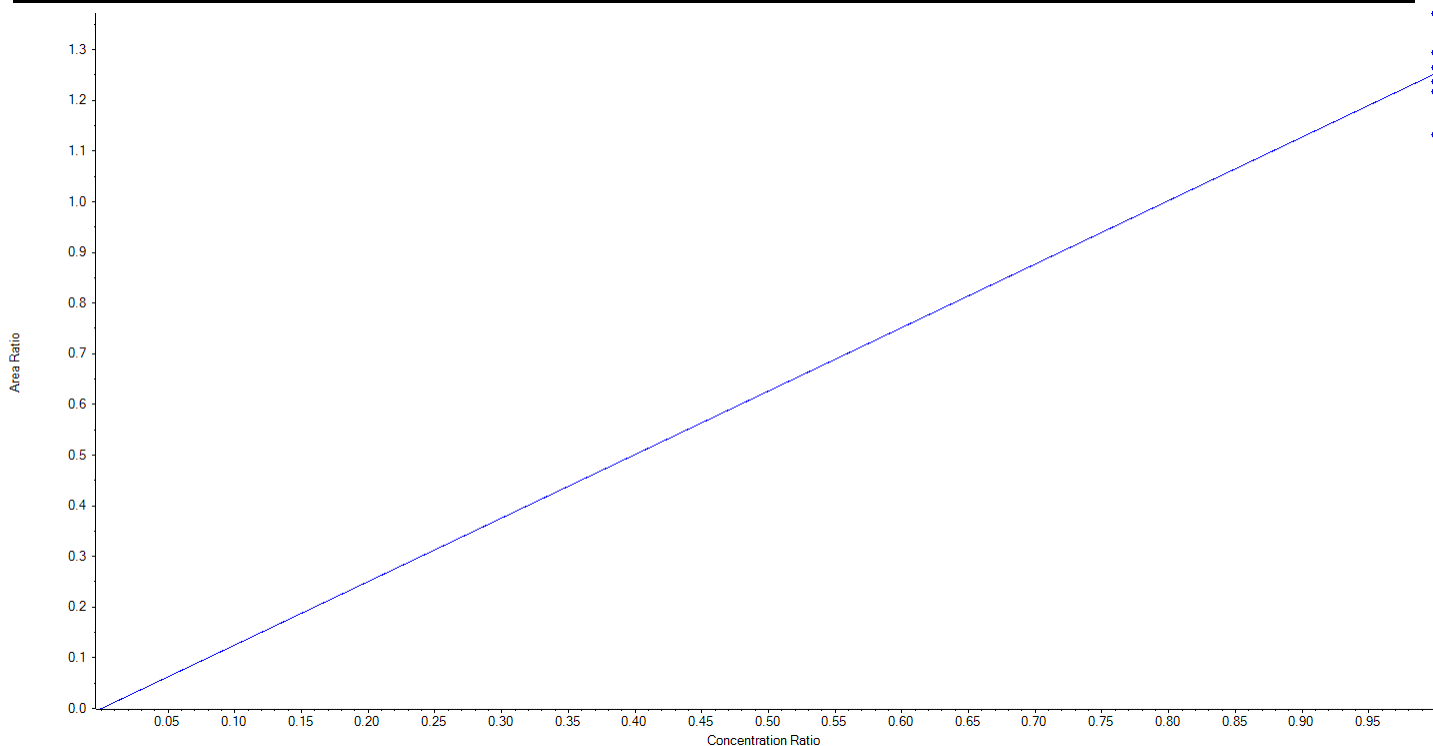
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C6-PFDA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 519.0 / 474.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C2-PFDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.25291 x$ (std. dev. = 0.07980) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1130.49 | 90.4 |
| 3 | LE53 | L2 | True | 1250.00 | 1213.85 | 97.1 |
| 4 | LE54 | L3 | True | 1250.00 | 1368.24 | 109.5 |
| 5 | LE55 | L4 | True | 1250.00 | 1291.51 | 103.3 |
| 6 | LE56 | L5 | True | 1250.00 | 1261.97 | 101.0 |
| 7 | LE57 | L6 | True | 1250.00 | 1233.95 | 98.7 |





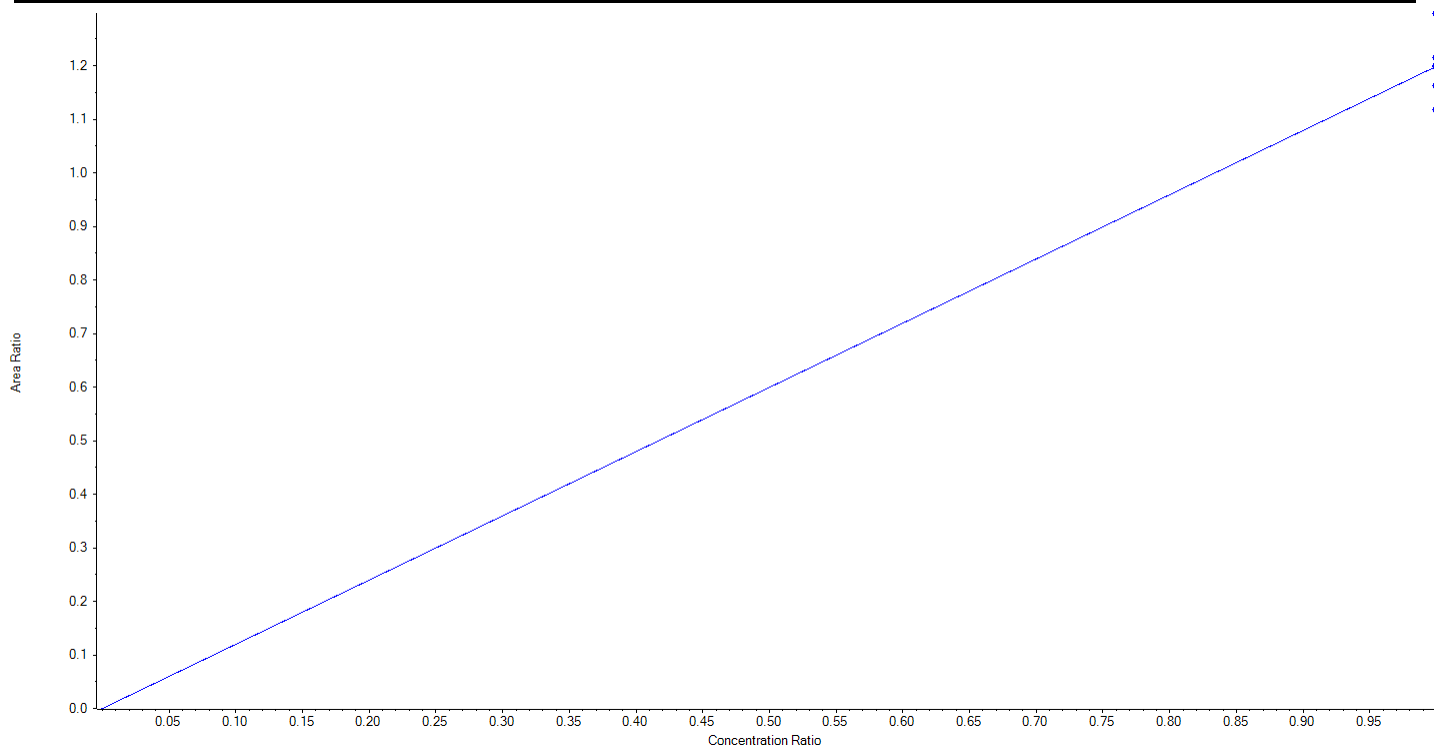
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C7-PFUnA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 570.0 / 525.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C2-PFDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.19909 x$ (std. dev. = 0.05948) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1352.63 | 108.2 |
| 3 | LE53 | L2 | True | 1250.00 | 1166.30 | 93.3 |
| 4 | LE54 | L3 | True | 1250.00 | 1267.39 | 101.4 |
| 5 | LE55 | L4 | True | 1250.00 | 1248.97 | 99.9 |
| 6 | LE56 | L5 | True | 1250.00 | 1251.82 | 100.2 |
| 7 | LE57 | L6 | True | 1250.00 | 1212.89 | 97.0 |





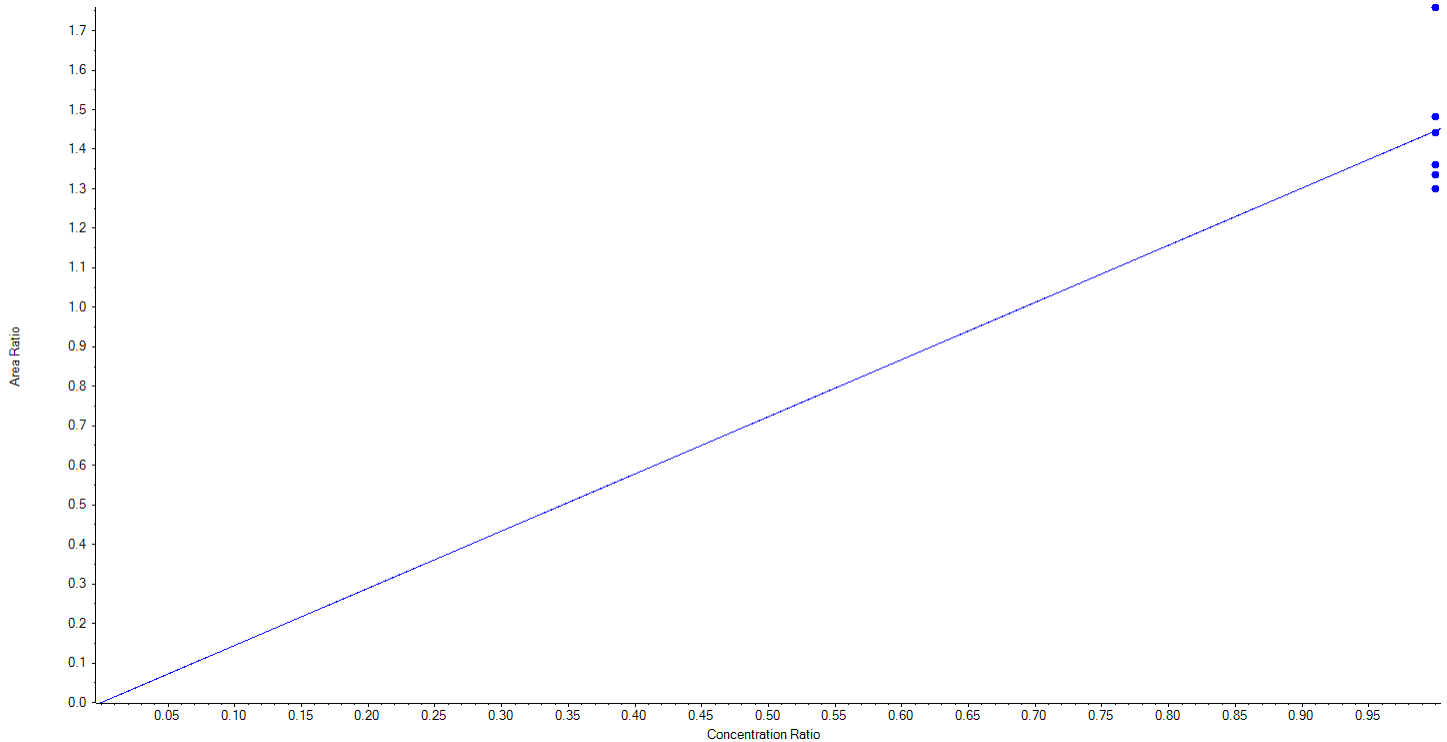
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C2-PFTeDA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 715.0 / 670.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C2-PFDA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.44630 x$ (std. dev. = 0.16726) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1153.92 | 92.3 |
| 3 | LE53 | L2 | True | 1250.00 | 1123.62 | 89.9 |
| 4 | LE54 | L3 | True | 1250.00 | 1176.03 | 94.1 |
| 5 | LE55 | L4 | True | 1250.00 | 1281.63 | 102.5 |
| 6 | LE56 | L5 | True | 1250.00 | 1245.03 | 99.6 |
| 7 | LE57 | L6 | True | 1250.00 | 1519.78 | 121.6 |





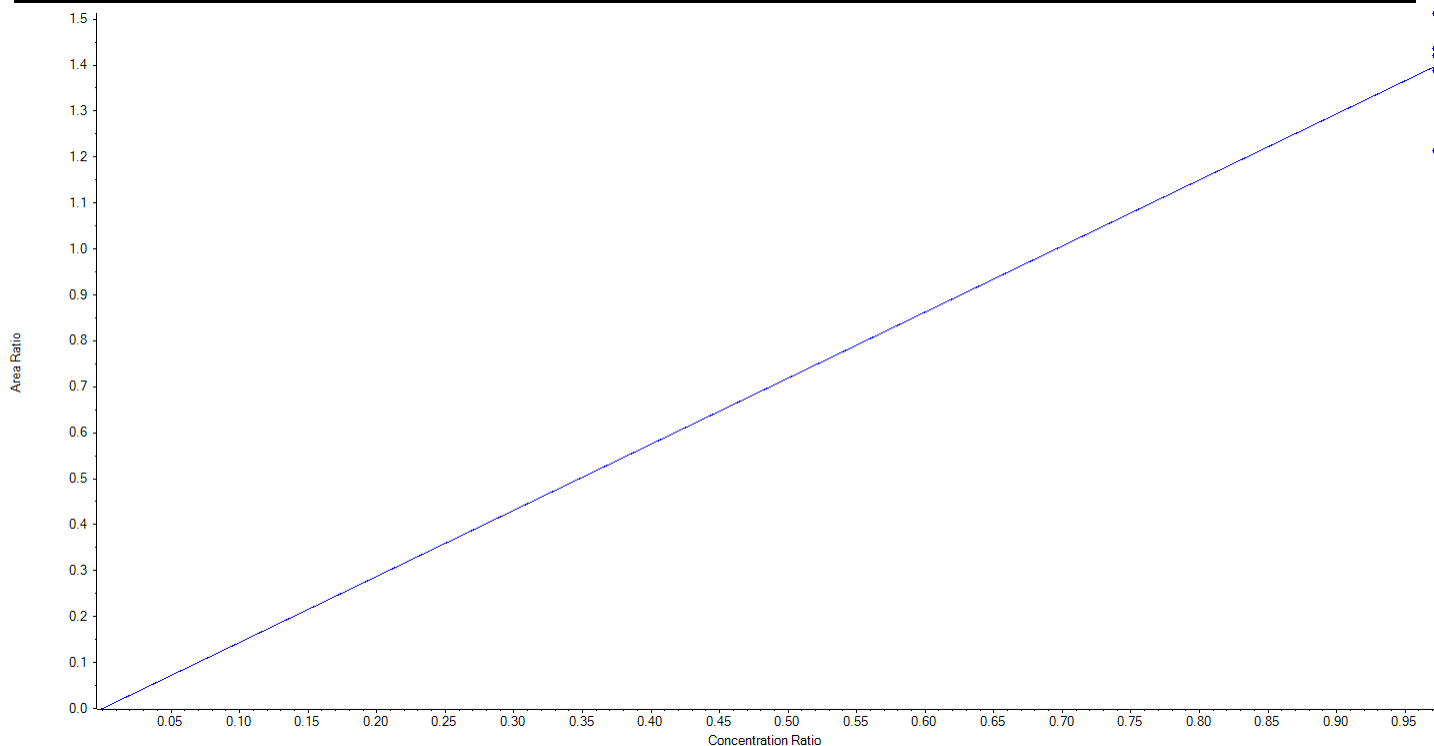
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C3-PFBS | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 302.0 / 99.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C4-PFOS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.43780 x$ (std. dev. = 0.10223) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1162.50 | 1009.00 | 86.8 |
| 3 | LE53 | L2 | True | 1162.50 | 1181.05 | 101.6 |
| 4 | LE54 | L3 | True | 1162.50 | 1181.64 | 101.7 |
| 5 | LE55 | L4 | True | 1162.50 | 1153.79 | 99.3 |
| 6 | LE56 | L5 | True | 1162.50 | 1256.86 | 108.1 |
| 7 | LE57 | L6 | True | 1162.50 | 1192.67 | 102.6 |





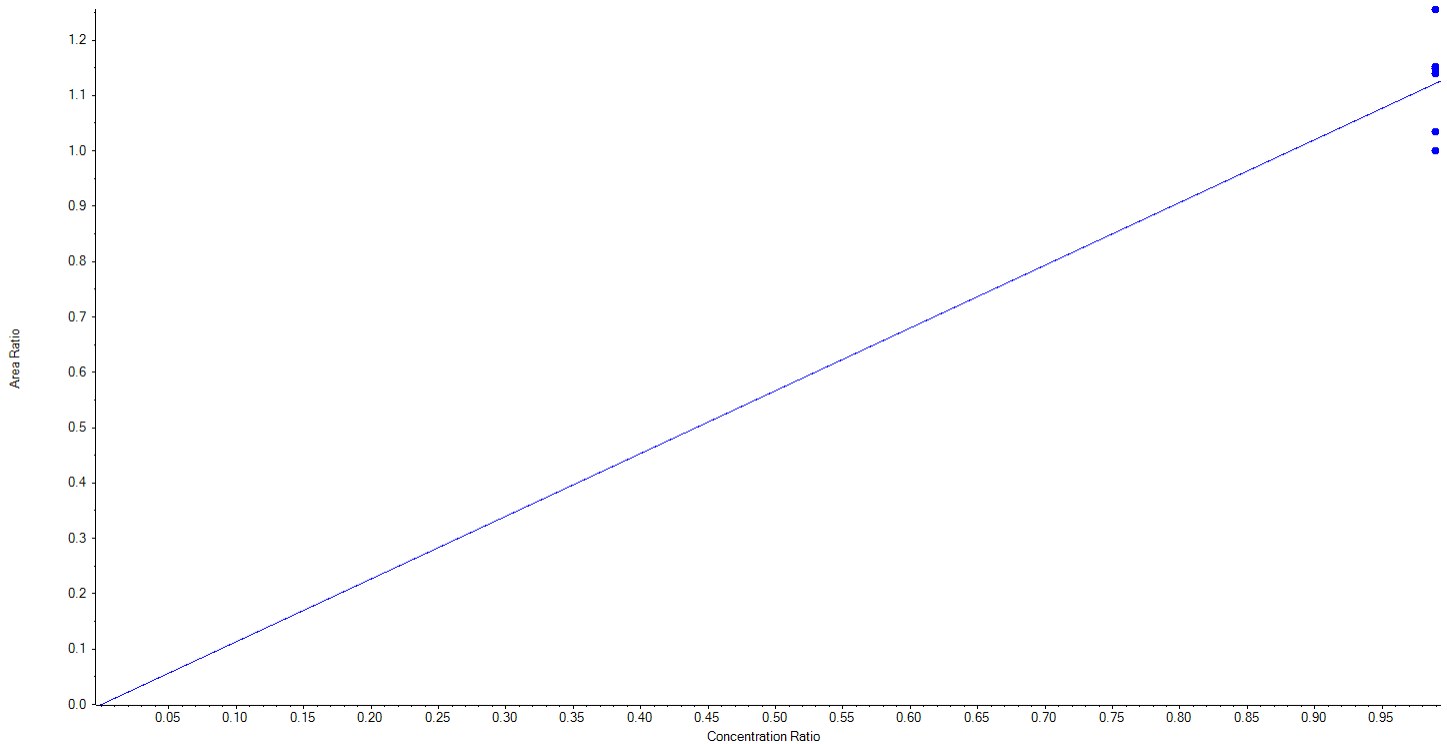
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C3-PFHxS | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 402.0 / 99.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C4-PFOS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.13351 x$ (std. dev. = 0.09242) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1182.50 | 1213.90 | 102.7 |
| 3 | LE53 | L2 | True | 1182.50 | 1201.08 | 101.6 |
| 4 | LE54 | L3 | True | 1182.50 | 1323.29 | 111.9 |
| 5 | LE55 | L4 | True | 1182.50 | 1091.44 | 92.3 |
| 6 | LE56 | L5 | True | 1182.50 | 1210.29 | 102.4 |
| 7 | LE57 | L6 | True | 1182.50 | 1054.99 | 89.2 |





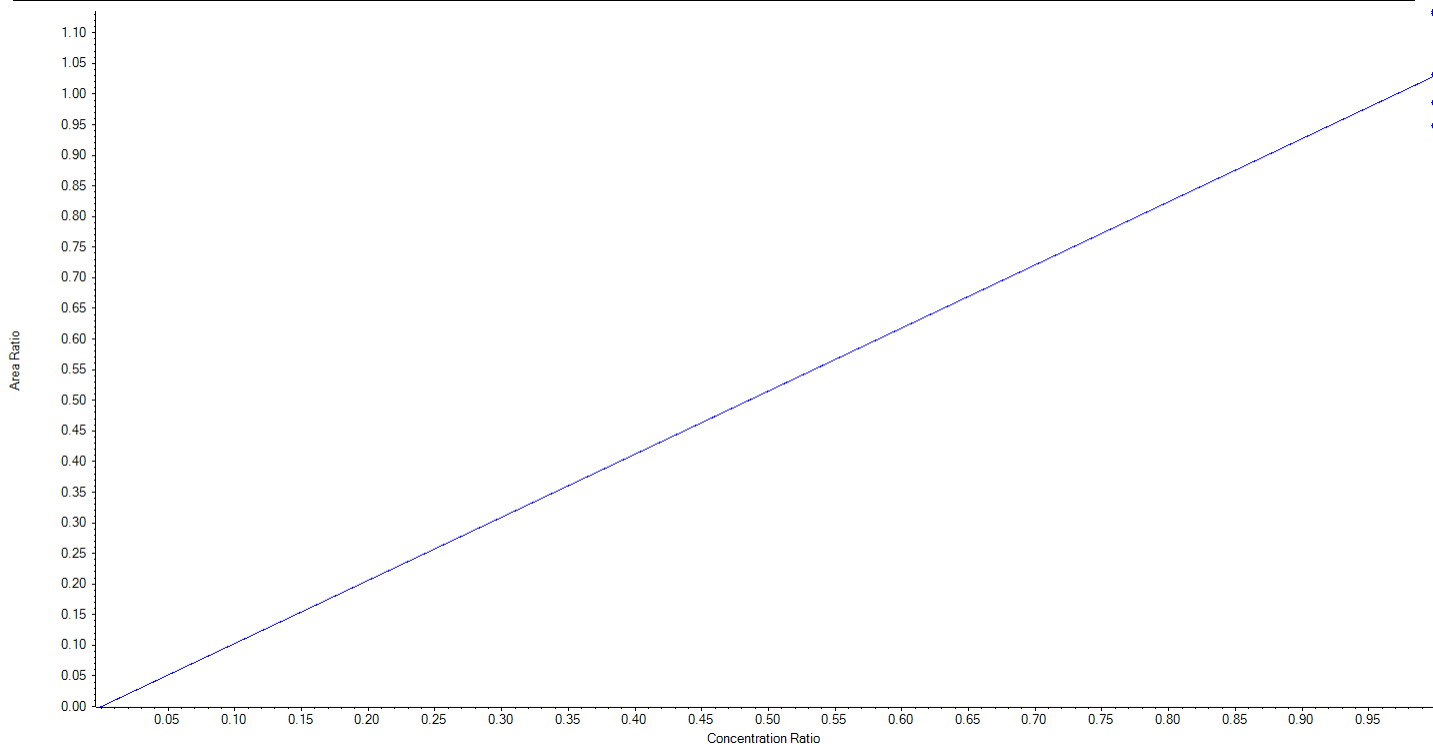
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C8-PFOS | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 507.0 / 99.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C4-PFOS | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 1.03007 x$ (std. dev. = 0.08536) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1195.00 | 1100.35 | 92.1 |
| 3 | LE53 | L2 | True | 1195.00 | 1316.39 | 110.2 |
| 4 | LE54 | L3 | True | 1195.00 | 1144.73 | 95.8 |
| 5 | LE55 | L4 | True | 1195.00 | 1099.86 | 92.0 |
| 6 | LE56 | L5 | True | 1195.00 | 1196.41 | 100.1 |
| 7 | LE57 | L6 | True | 1195.00 | 1312.27 | 109.8 |





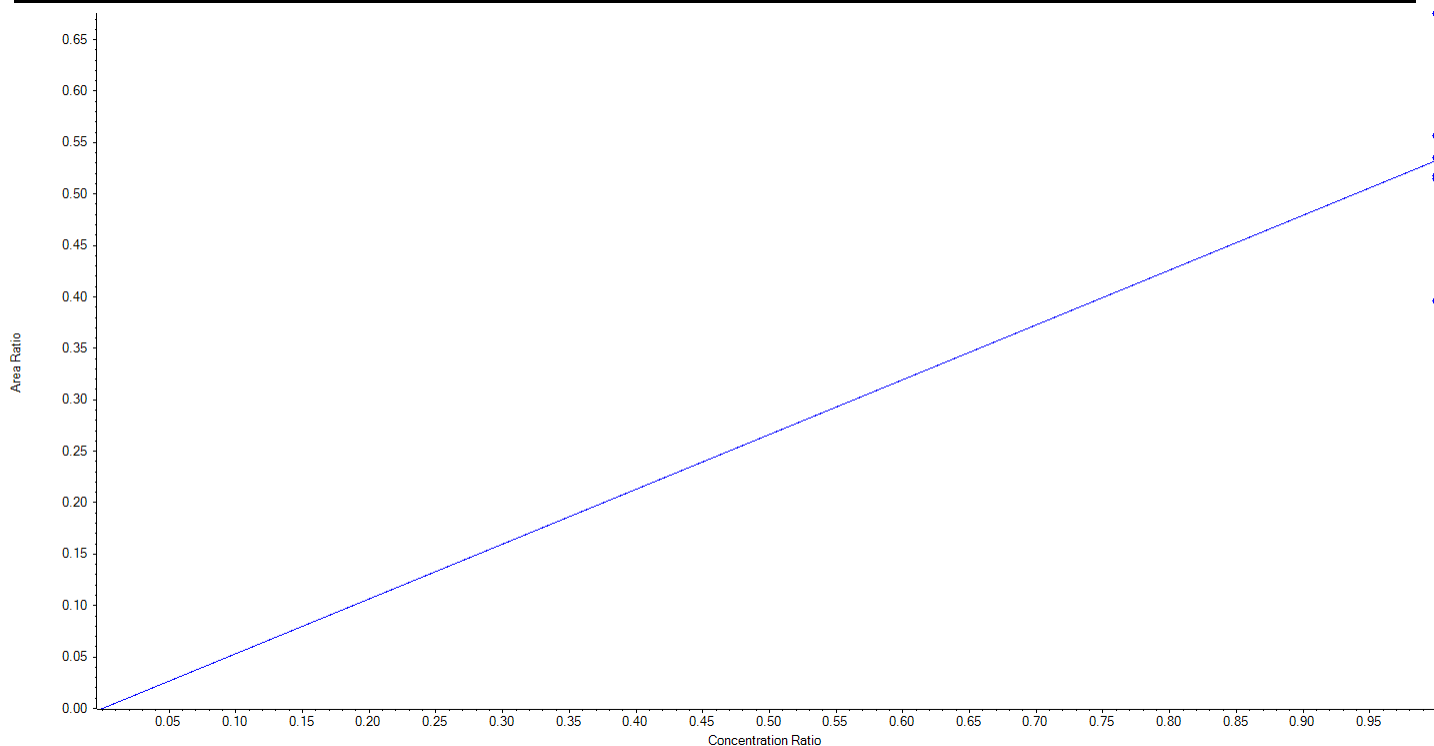
Calibration Summary Report

Created with Analyst Reporter
Printed: 30/11/2020 9:15:48 AM

| | | | |
|--------------------------|-----------------------|---------------------------|----------------------------|
| Analyte Name | 13C3-HFPO-DA | Data File | AE_11202020_5-369.wiff |
| MRM Transition | 287.0 / 169.0 | Result Table | 20-1519_SIS |
| Internal Standard | 13C2-PFOA | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Acquisition Method | 5-369.dam |

Regression Equation: $y = 0.53258 x$ (std. dev. = 0.08971) (weighting: None) r^2 :N/A

| Vial | Sample Name | Sample ID | Used for ICAL | Target Conc. (ng/L) | Calculated Conc. (ng/L) | Recovery (%) |
|------|-------------|-----------|---------------|---------------------|-------------------------|--------------|
| 2 | LE52 | L1 | True | 1250.00 | 1207.81 | 96.6 |
| 3 | LE53 | L2 | True | 1250.00 | 1215.21 | 97.2 |
| 4 | LE54 | L3 | True | 1250.00 | 928.96 | 74.3 |
| 5 | LE55 | L4 | True | 1250.00 | 1256.13 | 100.5 |
| 6 | LE56 | L5 | True | 1250.00 | 1306.70 | 104.5 |
| 7 | LE57 | L6 | True | 1250.00 | 1585.18 | 126.8 |



| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE52 | Injection Vial | 2 |
| Sample ID | L1 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|-----------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.28 | 234063.44 | 217.08 | 3244.4 | False | 13C3-PFBS | 302200.67 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.28 | 70819.68 | 210.25 | 1767.2 | False | 13C3-PFBS | 302200.67 | 1162.50 | PFBS | 0.303 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.54 | 363727.27 | 238.95 | 408.2 | False | 13C5-PFHxA | 1418969.86 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.54 | 22592.31 | 271.11 | 334.4 | False | 13C5-PFHxA | 1418969.86 | 1250.00 | PFHxA | 0.062 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.89 | 286725.19 | 265.30 | 526.2 | False | 13C4-PFHpA | 1291286.31 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.89 | 5791.94 | 251.32 | 1075051.6 | False | 13C4-PFHpA | 1291286.31 | 1250.00 | PFHpA | 0.020 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.90 | 213184.02 | 256.63 | 1174.4 | False | 13C3-PFHxS | 286625.91 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.90 | 77070.05 | 262.98 | 633.7 | False | 13C3-PFHxS | 286625.91 | 1182.50 | PFHxS | 0.362 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.27 | 329867.77 | 216.12 | 371.3 | False | 13C8-PFOA | 1634349.85 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.27 | 35793.89 | 249.80 | 364.2 | False | 13C8-PFOA | 1634349.85 | 1222.50 | PFOA | 0.109 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.65 | 337764.44 | 230.92 | 518.8 | False | 13C9-PFNA | 1635126.80 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.65 | 101558.41 | 238.41 | 1003.8 | False | 13C9-PFNA | 1635126.80 | 1250.00 | PFNA | 0.301 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.64 | 188830.05 | 193.97 | 551.2 | False | 13C8-PFOS | 236105.47 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.64 | 38319.50 | 231.69 | 748.7 | False | 13C8-PFOS | 236105.47 | 1195.00 | PFOS | 0.203 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 3.01 | 305854.01 | 269.14 | 427.3 | False | 13C6-PFDA | 1308032.07 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 3.01 | 19362.10 | 289.15 | 57876.5 | False | 13C6-PFDA | 1308032.07 | 1250.00 | PFDA | 0.063 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.33 | 366581.57 | 222.44 | 670.7 | False | 13C7-PFUnA | 1497833.05 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.33 | 23292.28 | 252.59 | 1882.1 | False | 13C7-PFUnA | 1497833.05 | 1250.00 | PFUnA | 0.064 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.62 | 392616.31 | 241.06 | 657.1 | False | 13C2-PFDoA | 1554085.19 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.62 | 43955.05 | 253.65 | 1097.5 | False | 13C2-PFDoA | 1554085.19 | 1250.00 | PFDoA | 0.112 | 0.122 | ✓ |
| PFTeDA_1 | 663.0 / 619.0 | 3.86 | 317247.26 | 204.97 | 1353.5 | False | 13C2-PFTeDA | 1557710.52 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 663.0 / 169.0 | 3.86 | 25084.67 | 245.96 | 1390.4 | False | 13C2-PFTeDA | 1557710.52 | 1250.00 | PFTeDA | 0.079 | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | 4.08 | 400206.79 | 227.74 | 1763.4 | False | 13C2-PFTeDA | 1557710.52 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | 4.08 | 23217.69 | 246.87 | 1714.0 | False | 13C2-PFTeDA | 1557710.52 | 1250.00 | PFTeDA | 0.058 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.16 | 34965.60 | 247.15 | 2785.2 | False | d3-MeFOSAA | 193150.11 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.15 | 35740.97 | 220.00 | 147842.6 | False | d3-MeFOSAA | 193150.11 | 1250.00 | NMeFOSAA | 1.022 | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | 3.32 | 40596.39 | 225.92 | 1027.3 | False | d5-EtFOSAA | 201508.36 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | 3.32 | 1897.18 | 191.42 | 336.3 | False | d5-EtFOSAA | 201508.36 | 1250.00 | NEiFOSAA | 0.047 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.63 | 350888.39 | 175.68 | 1660.6 | True | 13C3-HFPO-DA | 402991.98 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.63 | 6083.89 | 228.98 | 33240.0 | False | 13C3-HFPO-DA | 402991.98 | 1250.00 | HFPO-DA | 0.017 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.93 | 845721.30 | 241.18 | 5003.1 | False | 13C8-PFOA | 1634349.85 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.92 | 10095.82 | 234.68 | 4861.3 | False | 13C8-PFOA | 1634349.85 | 1222.50 | ADONA | 0.012 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.85 | 404401.57 | 274.71 | 1337.0 | False | 13C8-PFOA | 1634349.85 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.86 | 3076.49 | 280.76 | 1867.0 | False | 13C8-PFOA | 1634349.85 | 1222.50 | 9CI-PF3ONS | 0.008 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.48 | 307931.53 | 262.74 | 1555.6 | False | 13C8-PFOA | 1634349.85 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.48 | 1821.19 | 278.99 | 111.3 | False | 13C8-PFOA | 1634349.85 | 1222.50 | 11Cl-pf3OUdS | 0.006 | 0.006 | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE53 | Injection Vial | 3 |
| Sample ID | L2 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:10:08 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 388996.17 | 460.07 | 6317.5 | False | 13C3-PFBS | 301040.80 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.27 | 128729.01 | 482.31 | 2131.3 | False | 13C3-PFBS | 301040.80 | 1162.50 | PFBS | 0.331 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.52 | 664684.43 | 502.42 | 658.1 | False | 13C5-PFHxA | 1371947.96 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.52 | 34042.05 | 423.50 | 503.2 | False | 13C5-PFHxA | 1371947.96 | 1250.00 | PFHxA | 0.051 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.87 | 496213.10 | 522.68 | 649.7 | False | 13C4-PFHpA | 1215610.81 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.87 | 13258.88 | 506.42 | 48267.3 | False | 13C4-PFHpA | 1215610.81 | 1250.00 | PFHpA | 0.027 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.88 | 375014.31 | 541.15 | 1836.9 | False | 13C3-PFHxS | 241354.90 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.88 | 133606.22 | 535.36 | 733.3 | False | 13C3-PFHxS | 241354.90 | 1182.50 | PFHxS | 0.356 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.25 | 597749.88 | 528.54 | 536.9 | False | 13C8-PFOA | 1452469.68 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.24 | 66674.51 | 545.44 | 782.2 | False | 13C8-PFOA | 1452469.68 | 1222.50 | PFOA | 0.112 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.62 | 568411.92 | 496.90 | 703.1 | False | 13C9-PFNA | 1442015.53 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.62 | 185066.98 | 519.08 | 1185.9 | False | 13C9-PFNA | 1442015.53 | 1250.00 | PFNA | 0.326 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.62 | 407227.85 | 500.08 | 838.1 | False | 13C8-PFOS | 240387.97 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.62 | 74177.19 | 461.44 | 2359.7 | False | 13C8-PFOS | 240387.97 | 1195.00 | PFOS | 0.182 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.98 | 584877.31 | 497.38 | 595.1 | False | 13C6-PFDA | 1460381.24 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.97 | 36658.58 | 489.81 | 4120.7 | False | 13C6-PFDA | 1460381.24 | 1250.00 | PFDA | 0.063 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.30 | 656849.24 | 520.93 | 825.7 | False | 13C7-PFUnA | 1342901.95 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.30 | 39880.94 | 487.24 | 20592.2 | False | 13C7-PFUnA | 1342901.95 | 1250.00 | PFUnA | 0.061 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.59 | 698480.97 | 471.36 | 943.5 | False | 13C2-PFDoA | 1628729.92 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.59 | 77577.56 | 447.72 | 1474.4 | False | 13C2-PFDoA | 1628729.92 | 1250.00 | PFDoA | 0.111 | 0.122 | ✓ |
| PFTeDA_1 | 663.0 / 619.0 | 3.86 | 584045.03 | 486.93 | 1837.7 | False | 13C2-PFTeDA | 1560484.87 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 663.0 / 169.0 | 3.85 | 44062.20 | 484.00 | 1674.3 | False | 13C2-PFTeDA | 1560484.87 | 1250.00 | PFTeDA | 0.075 | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | 4.09 | 674889.33 | 467.88 | 2826.8 | False | 13C2-PFTeDA | 1560484.87 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | 4.09 | 40071.15 | 468.96 | 2528.3 | False | 13C2-PFTeDA | 1560484.87 | 1250.00 | PFTeDA | 0.059 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.12 | 64715.07 | 503.48 | 1599.8 | False | d3-MeFOSAA | 184114.47 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.12 | 69510.40 | 525.88 | 318863.5 | False | d3-MeFOSAA | 184114.47 | 1250.00 | NMeFOSAA | 1.074 | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | 3.29 | 75330.50 | 496.51 | 7741.0 | False | d5-EtFOSAA | 184144.45 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | 3.29 | 3785.33 | 462.50 | 666964.2 | False | d5-EtFOSAA | 184144.45 | 1250.00 | NEiFOSAA | 0.050 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.62 | 645912.40 | 466.86 | 2110.6 | True | 13C3-HFPO-DA | 416995.44 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.61 | 13066.90 | 488.94 | 8976244.8 | False | 13C3-HFPO-DA | 416995.44 | 1250.00 | HFPO-DA | 0.020 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.91 | 1434512.20 | 522.20 | 10526.5 | False | 13C8-PFOA | 1452469.68 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.90 | 19932.08 | 502.62 | 3434.0 | False | 13C8-PFOA | 1452469.68 | 1222.50 | ADONA | 0.014 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.82 | 695222.17 | 512.78 | 1362.4 | False | 13C8-PFOA | 1452469.68 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.83 | 6305.02 | 504.08 | 261.2 | False | 13C8-PFOA | 1452469.68 | 1222.50 | 9CI-PF3ONS | 0.009 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.45 | 531714.73 | 515.17 | 1895.0 | False | 13C8-PFOA | 1452469.68 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.45 | 3028.06 | 502.10 | 261.4 | False | 13C8-PFOA | 1452469.68 | 1222.50 | 11Cl-pf3OUdS | 0.006 | 0.006 | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE54 | Injection Vial | 4 |
| Sample ID | L3 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:20:35 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.26 | 842009.89 | 1089.65 | 10794.5 | False | 13C3-PFBS | 319740.61 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.26 | 266503.23 | 1053.68 | 3923.5 | False | 13C3-PFBS | 319740.61 | 1162.50 | PFBS | 0.317 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.51 | 1328180.16 | 1011.99 | 898.9 | False | 13C5-PFHxA | 1434691.98 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.50 | 86642.51 | 1033.27 | 1026.4 | False | 13C5-PFHxA | 1434691.98 | 1250.00 | PFHxA | 0.065 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.84 | 943779.30 | 935.50 | 973.9 | False | 13C4-PFHpA | 1335328.76 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.84 | 31678.04 | 1015.53 | 1057.7 | False | 13C4-PFHpA | 1335328.76 | 1250.00 | PFHpA | 0.034 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.85 | 733247.30 | 907.74 | 1946.4 | False | 13C3-PFHxS | 282289.58 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.85 | 278508.25 | 949.68 | 1451.5 | False | 13C3-PFHxS | 282289.58 | 1182.50 | PFHxS | 0.380 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.20 | 1186263.10 | 1031.25 | 683.2 | False | 13C8-PFOA | 1583852.74 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.20 | 125579.76 | 956.60 | 4459.7 | False | 13C8-PFOA | 1583852.74 | 1222.50 | PFOA | 0.106 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.57 | 1220955.36 | 1071.25 | 878.6 | False | 13C9-PFNA | 1527521.92 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.57 | 378964.56 | 1026.58 | 3443.5 | False | 13C9-PFNA | 1527521.92 | 1250.00 | PFNA | 0.310 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.56 | 757332.30 | 1088.39 | 1050.3 | False | 13C8-PFOS | 221914.20 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.56 | 144707.57 | 1001.00 | 2195.3 | False | 13C8-PFOS | 221914.20 | 1195.00 | PFOS | 0.191 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.92 | 1116059.67 | 942.52 | 743.4 | False | 13C6-PFDA | 1538228.25 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.91 | 72318.84 | 916.71 | 7878.9 | False | 13C6-PFDA | 1538228.25 | 1250.00 | PFDA | 0.065 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.25 | 1181920.97 | 982.15 | 1023.9 | False | 13C7-PFUnA | 1363645.81 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.25 | 81936.02 | 991.29 | 1862.2 | False | 13C7-PFUnA | 1363645.81 | 1250.00 | PFUnA | 0.069 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.56 | 1251064.17 | 1003.56 | 1340.8 | False | 13C2-PFDoA | 1496334.10 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.55 | 157262.89 | 1024.17 | 2059.0 | False | 13C2-PFDoA | 1496334.10 | 1250.00 | PFDoA | 0.126 | 0.122 | ✓ |
| PFTrDA_1 | 663.0 / 619.0 | 3.83 | 1098638.12 | 1058.05 | 2330.8 | False | 13C2-PFTeDA | 1526211.45 | 1250.00 | PFTrDA | | | |
| PFTrDA_2 | 663.0 / 169.0 | 3.82 | 82071.91 | 985.06 | 2691.1 | False | 13C2-PFTeDA | 1526211.45 | 1250.00 | PFTrDA | 0.075 | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | 4.07 | 1310776.96 | 1051.06 | 4598.2 | False | 13C2-PFTeDA | 1526211.45 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | 4.07 | 80435.11 | 1026.02 | 3632.0 | False | 13C2-PFTeDA | 1526211.45 | 1250.00 | PFTeDA | 0.061 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.07 | 125112.38 | 1038.92 | 5415.5 | False | d3-MeFOSAA | 176821.55 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.07 | 126856.55 | 1065.97 | 4453135.7 | False | d3-MeFOSAA | 176821.55 | 1250.00 | NMeFOSAA | 1.014 | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | 3.24 | 134677.19 | 1010.93 | 324870.8 | False | d5-EtFOSAA | 167550.54 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | 3.24 | 8748.60 | 1232.77 | 412.3 | False | d5-EtFOSAA | 167550.54 | 1250.00 | NEiFOSAA | 0.065 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.60 | 1356501.77 | 1152.99 | 3172.7 | True | 13C3-HFPO-DA | 431019.92 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.60 | 27336.96 | 1002.63 | 17611.7 | False | 13C3-HFPO-DA | 431019.92 | 1250.00 | HFPO-DA | 0.020 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.88 | 2877128.87 | 1018.61 | 11449.6 | False | 13C8-PFOA | 1583852.74 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.88 | 44598.47 | 1016.46 | 4533890.8 | False | 13C8-PFOA | 1583852.74 | 1222.50 | ADONA | 0.016 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.76 | 1447390.57 | 960.89 | 2346.3 | False | 13C8-PFOA | 1583852.74 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.76 | 15411.37 | 993.65 | 777.6 | False | 13C8-PFOA | 1583852.74 | 1222.50 | 9CI-PF3ONS | 0.011 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.41 | 1103742.27 | 985.16 | 2834.2 | False | 13C8-PFOA | 1583852.74 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.41 | 7456.86 | 1105.21 | 463.1 | False | 13C8-PFOA | 1583852.74 | 1222.50 | 11Cl-pf3OUdS | 0.007 | 0.006 | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE55 | Injection Vial | 5 |
| Sample ID | L4 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:31:03 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|------------|--------------|------------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 1943053.06 | 2763.17 | 7016.2 | False | 13C3-PFBS | 313463.57 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.27 | 647518.64 | 2788.23 | 3404.7 | False | 13C3-PFBS | 313463.57 | 1162.50 | PFBS | 0.333 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.53 | 3080612.02 | 2613.68 | 1395.6 | False | 13C5-PFHxA | 1332004.39 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.53 | 201593.20 | 2592.13 | 1183.9 | False | 13C5-PFHxA | 1332004.39 | 1250.00 | PFHxA | 0.065 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.88 | 2317942.64 | 2367.23 | 1445.2 | False | 13C4-PFHpA | 1330407.57 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.88 | 79327.67 | 2441.80 | 1773.4 | False | 13C4-PFHpA | 1330407.57 | 1250.00 | PFHpA | 0.034 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.89 | 1727017.29 | 2590.26 | 4392.5 | False | 13C3-PFHxS | 233769.49 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.89 | 599790.29 | 2460.55 | 2174.8 | False | 13C3-PFHxS | 233769.49 | 1182.50 | PFHxS | 0.347 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.26 | 2835989.10 | 2531.22 | 1042.2 | False | 13C8-PFOA | 1615222.09 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.26 | 302015.24 | 2283.01 | 5775.1 | False | 13C8-PFOA | 1615222.09 | 1222.50 | PFOA | 0.106 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.64 | 2833353.11 | 2579.82 | 980.5 | False | 13C9-PFNA | 1520527.24 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.64 | 897866.86 | 2477.65 | 2341.2 | False | 13C9-PFNA | 1520527.24 | 1250.00 | PFNA | 0.317 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.63 | 1816566.86 | 2824.86 | 1577.4 | False | 13C8-PFOS | 214074.51 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.63 | 387078.52 | 2816.84 | 4869.7 | False | 13C8-PFOS | 214074.51 | 1195.00 | PFOS | 0.213 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.99 | 2568140.91 | 2532.14 | 1117.1 | False | 13C6-PFDA | 1361439.92 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.99 | 167754.93 | 2401.36 | 9446.2 | False | 13C6-PFDA | 1361439.92 | 1250.00 | PFDA | 0.065 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.32 | 2923585.54 | 2757.43 | 1594.7 | False | 13C7-PFUnA | 1260044.63 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.32 | 192230.63 | 2525.11 | 3741.0 | False | 13C7-PFUnA | 1260044.63 | 1250.00 | PFUnA | 0.066 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.61 | 3080734.56 | 2674.22 | 2013.4 | False | 13C2-PFDoA | 1456991.89 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.61 | 387348.57 | 2636.67 | 2769.4 | False | 13C2-PFDoA | 1456991.89 | 1250.00 | PFDoA | 0.126 | 0.122 | ✓ |
| PFTTrDA_1 | 663.0 / 619.0 | 3.86 | 2732282.08 | 2733.80 | 3393.4 | False | 13C2-PFTTeDA | 1575886.08 | 1250.00 | PFTTrDA | | | |
| PFTTrDA_2 | 663.0 / 169.0 | 3.86 | 209327.33 | 2536.14 | 3682.5 | False | 13C2-PFTTeDA | 1575886.08 | 1250.00 | PFTTrDA | 0.077 | 0.079 | ✓ |
| PFTTeDA_1 | 713.0 / 669.0 | 4.10 | 3191208.95 | 2646.17 | 4516.2 | False | 13C2-PFTTeDA | 1575886.08 | 1250.00 | PFTTeDA | | | |
| PFTTeDA_2 | 713.0 / 169.0 | 4.10 | 200863.57 | 2567.07 | 4751.6 | False | 13C2-PFTTeDA | 1575886.08 | 1250.00 | PFTTeDA | 0.063 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.14 | 272276.48 | 2348.55 | 1106.5 | False | d3-MeFOSAA | 172492.35 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.14 | 280032.25 | 2505.66 | 11311.4 | False | d3-MeFOSAA | 172492.35 | 1250.00 | NMeFOSAA | 1.028 | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | 3.31 | 325674.42 | 2628.67 | 18715.0 | False | d5-EiFOSAA | 159247.17 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | 3.31 | 17053.20 | 2567.82 | 2344.5 | False | d5-EiFOSAA | 159247.17 | 1250.00 | NEiFOSAA | 0.052 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.62 | 3091303.36 | 2933.26 | 7542.2 | True | 13C3-HFPO-DA | 423813.60 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.62 | 71034.20 | 2670.46 | 28119221.6 | False | 13C3-HFPO-DA | 423813.60 | 1250.00 | HFPO-DA | 0.023 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.92 | 6676774.21 | 2412.95 | 85670.4 | False | 13C8-PFOA | 1615222.09 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.91 | 119152.33 | 2650.80 | 63832.8 | False | 13C8-PFOA | 1615222.09 | 1222.50 | ADONA | 0.018 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.84 | 3584283.84 | 2304.84 | 3100.0 | False | 13C8-PFOA | 1615222.09 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.84 | 37057.19 | 2193.83 | 510.9 | False | 13C8-PFOA | 1615222.09 | 1222.50 | 9CI-PF3ONS | 0.010 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.47 | 2640299.91 | 2317.54 | 4776.5 | False | 13C8-PFOA | 1615222.09 | 1222.50 | 11Cl-PF3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.47 | 14224.26 | 2047.43 | 578.4 | False | 13C8-PFOA | 1615222.09 | 1222.50 | 11Cl-PF3OUdS | 0.005 | 0.006 | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE56 | Injection Vial | 6 |
| Sample ID | L5 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:41:30 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|-------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.28 | 7087106.71 | 10463.56 | 22436.4 | False | 13C3-PFBS | 313541.38 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.28 | 2390483.96 | 10612.85 | 7599.6 | False | 13C3-PFBS | 313541.38 | 1162.50 | PFBS | 0.337 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.53 | 10497682.12 | 10514.64 | 3281.6 | False | 13C5-PFHxA | 1146694.56 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.53 | 719966.61 | 10759.12 | 2492.2 | False | 13C5-PFHxA | 1146694.56 | 1250.00 | PFHxA | 0.069 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.88 | 8424612.93 | 10078.22 | 2443.9 | False | 13C4-PFHpA | 1151012.82 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.88 | 281946.01 | 9803.95 | 35316.5 | False | 13C4-PFHpA | 1151012.82 | 1250.00 | PFHpA | 0.033 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.89 | 6705905.29 | 9890.89 | 5812.8 | False | 13C3-PFHxS | 238027.11 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.89 | 2428776.56 | 9768.47 | 3482.5 | False | 13C3-PFHxS | 238027.11 | 1182.50 | PFHxS | 0.362 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.25 | 9926979.67 | 10616.18 | 1800.1 | False | 13C8-PFOA | 1382082.79 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.25 | 1183290.49 | 10525.04 | 4419.6 | False | 13C8-PFOA | 1382082.79 | 1222.50 | PFOA | 0.119 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.62 | 9699729.13 | 9741.63 | 2075.1 | False | 13C9-PFNA | 1402687.30 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.63 | 3268624.88 | 9850.58 | 3602.6 | False | 13C9-PFNA | 1402687.30 | 1250.00 | PFNA | 0.337 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.62 | 6965091.33 | 11070.28 | 3133.6 | False | 13C8-PFOS | 213824.41 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.62 | 1540001.05 | 11289.27 | 6483.1 | False | 13C8-PFOS | 213824.41 | 1195.00 | PFOS | 0.221 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.98 | 9009555.41 | 9549.37 | 1878.7 | False | 13C6-PFDA | 1285145.35 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.98 | 638064.75 | 9673.64 | 3814.8 | False | 13C6-PFDA | 1285145.35 | 1250.00 | PFDA | 0.071 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.31 | 9941452.83 | 9875.97 | 2738.5 | False | 13C7-PFUnA | 1220048.53 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.31 | 753194.99 | 10234.47 | 3020.7 | False | 13C7-PFUnA | 1220048.53 | 1250.00 | PFUnA | 0.076 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.59 | 11622596.82 | 10423.20 | 3629.0 | False | 13C2-PFDoA | 1444903.66 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.59 | 1482267.97 | 10260.08 | 5965.1 | False | 13C2-PFDoA | 1444903.66 | 1250.00 | PFDoA | 0.128 | 0.122 | ✓ |
| PFTeDA_1 | 663.0 / 619.0 | 3.85 | 9917888.74 | 11067.57 | 5672.6 | False | 13C2-PFTeDA | 1463595.57 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 663.0 / 169.0 | 3.85 | 811750.35 | 10811.70 | 5606.5 | False | 13C2-PFTeDA | 1463595.57 | 1250.00 | PFTeDA | 0.082 | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | 4.08 | 11714844.17 | 10824.49 | 8253.8 | False | 13C2-PFTeDA | 1463595.57 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | 4.08 | 742842.10 | 10402.05 | 8953.2 | False | 13C2-PFTeDA | 1463595.57 | 1250.00 | PFTeDA | 0.063 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.13 | 1226715.21 | 10360.55 | 8456.6 | False | d3-MeFOSAA | 177616.09 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.13 | 1131118.37 | 10045.43 | 19865.3 | False | d3-MeFOSAA | 177616.09 | 1250.00 | NMeFOSAA | 0.922 | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | 3.30 | 1244554.72 | 10756.65 | 4828.9 | False | d5-EiFOSAA | 150278.26 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | 3.29 | 67926.34 | 10959.84 | 203118.3 | False | d5-EiFOSAA | 150278.26 | 1250.00 | NEiFOSAA | 0.055 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.63 | 11151944.15 | 10940.44 | 7686.7 | True | 13C3-HFPO-DA | 429823.89 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.63 | 287204.72 | 10684.14 | 54533.9 | False | 13C3-HFPO-DA | 429823.89 | 1250.00 | HFPO-DA | 0.026 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.91 | 22920812.61 | 10081.84 | 25278.8 | False | 13C8-PFOA | 1382082.79 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.91 | 368620.74 | 9757.47 | 41828.5 | False | 13C8-PFOA | 1382082.79 | 1222.50 | ADONA | 0.016 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.83 | 13057378.68 | 9747.88 | 4045.9 | False | 13C8-PFOA | 1382082.79 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.83 | 147059.31 | 9775.39 | 2944.6 | False | 13C8-PFOA | 1382082.79 | 1222.50 | 9CI-PF3ONS | 0.011 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.46 | 9728315.67 | 9995.93 | 5785.6 | False | 13C8-PFOA | 1382082.79 | 1222.50 | 11Cl-PF3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.46 | 54268.74 | 9050.24 | 1377.8 | False | 13C8-PFOA | 1382082.79 | 1222.50 | 11Cl-PF3OUdS | 0.006 | 0.006 | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE57 | Injection Vial | 7 |
| Sample ID | L6 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:51:58 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|-------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 13622949.32 | 24256.47 | 48442.4 | False | 13C3-PFBS | 262042.61 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.27 | 4508975.93 | 24102.67 | 11595.4 | False | 13C3-PFBS | 262042.61 | 1162.50 | PFBS | 0.331 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.52 | 20902743.45 | 24760.83 | 3742.5 | False | 13C5-PFHxA | 972606.91 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.52 | 1394032.42 | 24563.37 | 2866.2 | False | 13C5-PFHxA | 972606.91 | 1250.00 | PFHxA | 0.067 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.87 | 16779624.28 | 25081.07 | 3897.0 | False | 13C4-PFHpA | 923469.09 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.88 | 584833.75 | 25230.98 | 44076.1 | False | 13C4-PFHpA | 923469.09 | 1250.00 | PFHpA | 0.035 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.89 | 13246120.14 | 25455.82 | 7331.5 | False | 13C3-PFHxS | 182738.34 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.89 | 4900839.72 | 25665.46 | 4780.8 | False | 13C3-PFHxS | 182738.34 | 1182.50 | PFHxS | 0.370 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.25 | 19456864.23 | 24326.68 | 2498.3 | False | 13C8-PFOA | 1187446.78 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.25 | 2382316.45 | 24690.11 | 3813.4 | False | 13C8-PFOA | 1187446.78 | 1222.50 | PFOA | 0.122 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.63 | 20404182.14 | 25129.48 | 2862.7 | False | 13C9-PFNA | 1148290.81 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.63 | 6817984.37 | 25137.70 | 5730.0 | False | 13C9-PFNA | 1148290.81 | 1250.00 | PFNA | 0.334 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.63 | 14509669.33 | 23964.92 | 3311.7 | False | 13C8-PFOS | 206559.94 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.62 | 3138493.27 | 23842.25 | 4765.5 | False | 13C8-PFOS | 206559.94 | 1195.00 | PFOS | 0.216 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.99 | 17756496.68 | 25459.45 | 2600.9 | False | 13C6-PFDA | 953186.74 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.99 | 1246549.74 | 25479.33 | 4931.2 | False | 13C6-PFDA | 953186.74 | 1250.00 | PFDA | 0.070 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.31 | 18329635.22 | 24891.08 | 2976.5 | False | 13C7-PFUnA | 896674.68 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.31 | 1338768.35 | 24759.30 | 3549.9 | False | 13C7-PFUnA | 896674.68 | 1250.00 | PFUnA | 0.073 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.60 | 25571254.27 | 24436.60 | 3777.6 | False | 13C2-PFDoA | 1362586.42 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.60 | 3349534.21 | 24627.71 | 4501.0 | False | 13C2-PFDoA | 1362586.42 | 1250.00 | PFDoA | 0.131 | 0.122 | ✓ |
| PFTeDA_1 | 663.0 / 619.0 | 3.86 | 19540703.35 | 23698.68 | 6185.3 | False | 13C2-PFTeDA | 1355187.43 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 663.0 / 169.0 | 3.86 | 1675497.50 | 24187.14 | 7999.7 | False | 13C2-PFTeDA | 1355187.43 | 1250.00 | PFTeDA | 0.086 | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | 4.09 | 23933418.23 | 24032.67 | 13519.3 | False | 13C2-PFTeDA | 1355187.43 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | 4.09 | 1617211.86 | 24539.04 | 11353.1 | False | 13C2-PFTeDA | 1355187.43 | 1250.00 | PFTeDA | 0.068 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.13 | 2586958.78 | 24751.36 | 6479.8 | False | d3-MeFOSAA | 157008.01 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.13 | 2466344.02 | 24887.06 | 5558.2 | False | d3-MeFOSAA | 157008.01 | 1250.00 | NMeFOSAA | 0.953 | 1.002 | ✓ |
| NEIFOSAA_1 | 584.0 / 419.0 | 3.30 | 2462597.69 | 24131.33 | 3571.2 | False | d5-EtFOSAA | 132797.32 | 1250.00 | NEIFOSAA | | | |
| NEIFOSAA_2 | 584.0 / 483.0 | 3.30 | 130301.76 | 23835.65 | 2149.6 | False | d5-EtFOSAA | 132797.32 | 1250.00 | NEIFOSAA | 0.053 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.62 | 25074569.91 | 23580.78 | 9268.5 | True | 13C3-HFPO-DA | 452700.16 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.62 | 683987.85 | 24174.86 | 71667.1 | False | 13C3-HFPO-DA | 452700.16 | 1250.00 | HFPO-DA | 0.027 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.91 | 46715957.95 | 24973.03 | 22216.3 | False | 13C8-PFOA | 1187446.78 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.91 | 775604.38 | 25089.49 | 5302403.8 | False | 13C8-PFOA | 1187446.78 | 1222.50 | ADONA | 0.017 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.83 | 29325374.43 | 25448.89 | 8385.2 | False | 13C8-PFOA | 1187446.78 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.83 | 331931.70 | 25502.30 | 2305.8 | False | 13C8-PFOA | 1187446.78 | 1222.50 | 9CI-PF3ONS | 0.011 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.46 | 21043002.58 | 25173.46 | 9699.4 | False | 13C8-PFOA | 1187446.78 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.46 | 135544.79 | 26266.04 | 2641.6 | False | 13C8-PFOA | 1187446.78 | 1222.50 | 11Cl-pf3OUdS | 0.006 | 0.006 | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE52 | Injection Vial | 2 |
| Sample ID | L1 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.62 | 1554085.19 | 1172.32 | 6899.3 | False | 13C2-PFDA | 1154360.29 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.15 | 194927.50 | 1195.58 | 1754.5 | False | 13C4-PFOS | 248928.59 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.32 | 201577.38 | 1324.71 | 1781.5 | False | 13C4-PFOS | 248928.59 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.52 | 1389482.57 | 1422.96 | 1255.2 | True | 13C2-PFOA | 783114.75 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.88 | 1291286.31 | 1384.39 | 9687.2 | False | 13C2-PFOA | 783114.75 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.26 | 1634349.85 | 1398.48 | 1802.3 | False | 13C2-PFOA | 783114.75 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.64 | 1635126.80 | 1459.28 | 6473.5 | False | 13C2-PFOA | 783114.75 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 3.00 | 1308032.07 | 1130.49 | 29213.0 | False | 13C2-PFDA | 1154360.29 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.33 | 1497833.05 | 1352.63 | 7633.0 | False | 13C2-PFDA | 1154360.29 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.08 | 1541231.08 | 1153.92 | 8030.7 | True | 13C2-PFDA | 1154360.29 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.27 | 302200.67 | 1009.00 | 8508.4 | False | 13C4-PFOS | 248928.59 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.89 | 286625.91 | 1213.90 | 5270.0 | False | 13C4-PFOS | 248928.59 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.64 | 236105.47 | 1100.35 | 3360.4 | False | 13C4-PFOS | 248928.59 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.63 | 402991.98 | 1207.81 | 20779.7 | False | 13C2-PFOA | 783114.75 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE53 | Injection Vial | 3 |
| Sample ID | L2 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:10:08 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.59 | 1628729.92 | 1181.60 | 7848.2 | False | 13C2-PFDA | 1200303.42 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.12 | 183195.51 | 1320.28 | 1821.7 | False | 13C4-PFOS | 211849.98 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 184729.76 | 1426.47 | 1673.3 | False | 13C4-PFOS | 211849.98 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.51 | 1343520.60 | 1337.83 | 1061.1 | True | 13C2-PFOA | 805394.16 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.86 | 1215610.81 | 1267.20 | 27538.4 | False | 13C2-PFOA | 805394.16 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.23 | 1452469.68 | 1208.46 | 1459370.0 | False | 13C2-PFOA | 805394.16 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.61 | 1442015.53 | 1251.34 | 91424.8 | False | 13C2-PFOA | 805394.16 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.97 | 1460381.24 | 1213.85 | 2275.3 | False | 13C2-PFDA | 1200303.42 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.30 | 1342901.95 | 1166.30 | 6283.9 | False | 13C2-PFDA | 1200303.42 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.09 | 1560484.87 | 1123.62 | 11834.8 | False | 13C2-PFDA | 1200303.42 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 301040.80 | 1181.05 | 7174.9 | False | 13C4-PFOS | 211849.98 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.87 | 241354.90 | 1201.08 | 7949.1 | False | 13C4-PFOS | 211849.98 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 240387.97 | 1316.39 | 1997.3 | False | 13C4-PFOS | 211849.98 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.61 | 416995.44 | 1215.21 | 24250.9 | False | 13C2-PFOA | 805394.16 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE54 | Injection Vial | 4 |
| Sample ID | L3 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:20:35 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.55 | 1496334.10 | 1161.70 | 8097.9 | False | 13C2-PFDA | 1121623.50 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.06 | 175833.26 | 1193.70 | 1696.6 | False | 13C4-PFOS | 224897.07 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.23 | 167597.26 | 1219.09 | 2334.7 | False | 13C4-PFOS | 224897.07 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.50 | 1434691.98 | 1056.57 | 11424.4 | False | 13C2-PFOA | 1089000.60 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.83 | 1335328.76 | 1029.49 | 499557.2 | False | 13C2-PFOA | 1089000.60 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.20 | 1583852.74 | 974.59 | 2093.5 | False | 13C2-PFOA | 1089000.60 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.56 | 1527521.92 | 980.33 | 27931.4 | False | 13C2-PFOA | 1089000.60 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.91 | 1538228.25 | 1368.24 | 5224.4 | False | 13C2-PFDA | 1121623.50 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.25 | 1363645.81 | 1267.39 | 6849.4 | False | 13C2-PFDA | 1121623.50 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.06 | 1526211.45 | 1176.03 | 11632.6 | False | 13C2-PFDA | 1121623.50 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.25 | 319740.61 | 1181.64 | 24542.4 | False | 13C4-PFOS | 224897.07 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.84 | 282289.58 | 1323.29 | 35215.1 | False | 13C4-PFOS | 224897.07 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.55 | 221914.20 | 1144.73 | 3160.9 | False | 13C4-PFOS | 224897.07 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.59 | 431019.92 | 928.96 | 45877.8 | False | 13C2-PFOA | 1089000.60 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE55 | Injection Vial | 5 |
| Sample ID | L4 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:31:03 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|------------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.61 | 1456991.89 | 1206.37 | 8122.9 | False | 13C2-PFDA | 1051697.48 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 173178.79 | 1170.97 | 1641.0 | False | 13C4-PFOS | 225802.73 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.30 | 159101.25 | 1152.65 | 1205.2 | False | 13C4-PFOS | 225802.73 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.52 | 1311054.58 | 1327.76 | 760.8 | True | 13C2-PFOA | 791893.23 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.87 | 1330407.57 | 1410.52 | 78617.5 | False | 13C2-PFOA | 791893.23 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.25 | 1615222.09 | 1366.79 | 99503433.9 | False | 13C2-PFOA | 791893.23 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.63 | 1520527.24 | 1341.96 | 15859.9 | False | 13C2-PFOA | 791893.23 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.99 | 1361439.92 | 1291.51 | 10180.4 | False | 13C2-PFDA | 1051697.48 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.31 | 1260044.63 | 1248.97 | 6446.1 | False | 13C2-PFDA | 1051697.48 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.09 | 1559561.14 | 1281.63 | 7211.1 | True | 13C2-PFDA | 1051697.48 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 313463.57 | 1153.79 | 22905.2 | False | 13C4-PFOS | 225802.73 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.88 | 233769.49 | 1091.44 | 12250.9 | False | 13C4-PFOS | 225802.73 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.63 | 214074.51 | 1099.86 | 2696.9 | False | 13C4-PFOS | 225802.73 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 423813.60 | 1256.13 | 19763.9 | False | 13C2-PFOA | 791893.23 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE56 | Injection Vial | 6 |
| Sample ID | L5 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:41:30 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.59 | 1444903.66 | 1238.40 | 7724.0 | False | 13C2-PFDA | 1015997.35 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.12 | 177570.72 | 1307.59 | 1866.5 | False | 13C4-PFOS | 207337.80 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 150411.34 | 1186.74 | 1351.2 | False | 13C4-PFOS | 207337.80 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.52 | 1146694.56 | 1191.17 | 7048.5 | False | 13C2-PFOA | 772043.59 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.87 | 1151012.82 | 1251.70 | 5447716.2 | False | 13C2-PFOA | 772043.59 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1382082.79 | 1199.58 | 70666.5 | False | 13C2-PFOA | 772043.59 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1402687.30 | 1269.79 | 6964.7 | False | 13C2-PFOA | 772043.59 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 1285145.35 | 1261.97 | 45934.2 | False | 13C2-PFDA | 1015997.35 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.30 | 1220048.53 | 1251.82 | 5104.5 | False | 13C2-PFDA | 1015997.35 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.08 | 1463595.57 | 1245.03 | 13697.3 | False | 13C2-PFDA | 1015997.35 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.27 | 313541.38 | 1256.86 | 15400.6 | False | 13C4-PFOS | 207337.80 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.88 | 238027.11 | 1210.29 | 3370.4 | False | 13C4-PFOS | 207337.80 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 213824.41 | 1196.41 | 3699.8 | False | 13C4-PFOS | 207337.80 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 429823.89 | 1306.70 | 62241.1 | False | 13C2-PFOA | 772043.59 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE57 | Injection Vial | 7 |
| Sample ID | L6 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:51:58 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.60 | 1362586.42 | 1539.60 | 7775.2 | False | 13C2-PFDA | 770672.85 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 156907.25 | 1311.89 | 2563.3 | False | 13C4-PFOS | 182609.45 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 132874.56 | 1190.34 | 1300.0 | False | 13C4-PFOS | 182609.45 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.51 | 972606.91 | 1163.71 | 24106.1 | False | 13C2-PFOA | 670284.48 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.87 | 923469.09 | 1156.71 | 51873.7 | False | 13C2-PFOA | 670284.48 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1187446.78 | 1187.11 | 12396.2 | False | 13C2-PFOA | 670284.48 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1148290.81 | 1197.31 | 4110.4 | False | 13C2-PFOA | 670284.48 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 953186.74 | 1233.95 | 134364.4 | False | 13C2-PFDA | 770672.85 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.31 | 896674.68 | 1212.89 | 6882.9 | False | 13C2-PFDA | 770672.85 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.09 | 1355187.43 | 1519.78 | 8834.7 | False | 13C2-PFDA | 770672.85 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 262042.61 | 1192.67 | 5468.5 | False | 13C4-PFOS | 182609.45 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.88 | 182738.34 | 1054.99 | 4537.6 | False | 13C4-PFOS | 182609.45 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.62 | 206559.94 | 1312.27 | 12319.7 | False | 13C4-PFOS | 182609.45 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 452700.16 | 1585.18 | 422747.6 | False | 13C2-PFOA | 670284.48 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE59 ICC | Injection Vial | 9 |
| Sample ID | ICC | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:12:52 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Conc. (ng/L) | Target Conc. (ng/L) | Recovery (%) |
|----------------|----------------|------|--------------|---------------------|--------------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 2502.78 | 2500.00 | 100.11 |
| PFBS_2 | 298.9 / 99.0 | 1.27 | 2513.34 | 2500.00 | 100.53 |
| PFHxA_1 | 313.0 / 269.0 | 1.52 | 2524.45 | 2525.00 | 99.98 |
| PFHxA_2 | 313.0 / 119.0 | 1.52 | 2383.44 | 2525.00 | 94.39 |
| PFHpA_1 | 363.0 / 319.0 | 1.87 | 2200.07 | 2500.00 | 88.00 |
| PFHpA_2 | 363.0 / 169.0 | 1.87 | 2064.67 | 2500.00 | 82.59 |
| PFHxS_1 | 399.0 / 80.0 | 1.88 | 2329.73 | 2525.00 | 92.27 |
| PFHxS_2 | 399.0 / 99.0 | 1.88 | 2383.84 | 2525.00 | 94.41 |
| PFOA_1 | 413.0 / 369.0 | 2.25 | 2594.20 | 2500.00 | 103.77 |
| PFOA_2 | 413.0 / 169.0 | 2.25 | 2035.27 | 2500.00 | 81.41 |
| PFNA_1 | 463.0 / 419.0 | 2.62 | 2511.82 | 2500.00 | 100.47 |
| PFNA_2 | 463.0 / 219.0 | 2.62 | 2433.30 | 2500.00 | 97.33 |
| PFOS_1 | 499.0 / 80.0 | 2.62 | 2781.57 | 2525.00 | 110.16 |
| PFOS_2 | 499.0 / 99.0 | 2.62 | 2679.26 | 2525.00 | 106.11 |
| PFDA_1 | 513.0 / 469.0 | 2.98 | 2274.25 | 2500.00 | 90.97 |
| PFDA_2 | 513.0 / 219.0 | 2.98 | 2160.04 | 2500.00 | 86.40 |
| PFUnA_1 | 563.0 / 519.0 | 3.31 | 2271.01 | 2500.00 | 90.84 |
| PFUnA_2 | 563.0 / 269.0 | 3.31 | 2187.76 | 2500.00 | 87.51 |
| PFDoA_1 | 613.0 / 569.0 | 3.60 | 2451.62 | 2500.00 | 98.06 |
| PFDoA_2 | 613.0 / 319.0 | 3.60 | 2417.46 | 2500.00 | 96.70 |
| PFTrDA_1 | 663.0 / 619.0 | 3.86 | 2558.27 | 2500.00 | 102.33 |
| PFTrDA_2 | 663.0 / 169.0 | 3.86 | 2344.16 | 2500.00 | 93.77 |
| PFTeDA_1 | 713.0 / 669.0 | 4.09 | 2572.30 | 2500.00 | 102.89 |
| PFTeDA_2 | 713.0 / 169.0 | 4.09 | 2497.40 | 2500.00 | 99.90 |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.13 | 2165.95 | 2500.00 | 86.64 |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.13 | 2268.02 | 2500.00 | 90.72 |
| NEtFOSAA_1 | 584.0 / 419.0 | 3.30 | 2392.93 | 2500.00 | 95.72 |
| NEtFOSAA_2 | 584.0 / 483.0 | 3.30 | 1897.96 | 2500.00 | 75.92 |
| HFPO-DA_1 | 285.0 / 169.0 | 1.62 | 2925.96 | 2500.00 | 117.04 |
| HFPO-DA_2 | 285.0 / 118.8 | 1.62 | 2596.87 | 2500.00 | 103.87 |
| ADONA_1 | 377.0 / 251.0 | 1.91 | 2236.33 | 2500.00 | 89.45 |
| ADONA_2 | 377.0 / 85.0 | 1.91 | 1929.18 | 2500.00 | 77.17 |
| 9Cl-PF3ONS_1 | 531.0 / 351.0 | 2.83 | 2106.80 | 2500.00 | 84.27 |
| 9Cl-PF3ONS_2 | 531.0 / 83.0 | 2.83 | 2199.67 | 2500.00 | 87.99 |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.46 | 2126.14 | 2500.00 | 85.05 |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.46 | 2063.99 | 2500.00 | 82.56 |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE55 CCV | Injection Vial | 16 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:40:42 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Conc. (ng/L) | Target Conc. (ng/L) | Recovery (%) |
|----------------|----------------|------|--------------|---------------------|--------------|
| PFBS 1 | 298.9 / 80.0 | 1.27 | 2533.22 | 2500.00 | 101.33 |
| PFBS 2 | 298.9 / 99.0 | 1.27 | 2612.44 | 2500.00 | 104.50 |
| PFHxA 1 | 313.0 / 269.0 | 1.53 | 2824.96 | 2525.00 | 111.88 |
| PFHxA 2 | 313.0 / 119.0 | 1.52 | 2663.86 | 2525.00 | 105.50 |
| PFHpA 1 | 363.0 / 319.0 | 1.87 | 2576.84 | 2500.00 | 103.07 |
| PFHpA 2 | 363.0 / 169.0 | 1.87 | 2913.79 | 2500.00 | 116.55 |
| PFHxS 1 | 399.0 / 80.0 | 1.88 | 2514.10 | 2525.00 | 99.57 |
| PFHxS 2 | 399.0 / 99.0 | 1.88 | 2367.56 | 2525.00 | 93.76 |
| PFOA 1 | 413.0 / 369.0 | 2.24 | 2598.35 | 2500.00 | 103.93 |
| PFOA 2 | 413.0 / 169.0 | 2.24 | 2224.47 | 2500.00 | 88.98 |
| PFNA 1 | 463.0 / 419.0 | 2.62 | 2594.41 | 2500.00 | 103.78 |
| PFNA 2 | 463.0 / 219.0 | 2.62 | 2519.23 | 2500.00 | 100.77 |
| PFOS 1 | 499.0 / 80.0 | 2.61 | 2530.44 | 2525.00 | 100.22 |
| PFOS 2 | 499.0 / 99.0 | 2.61 | 2381.33 | 2525.00 | 94.31 |
| PFDA 1 | 513.0 / 469.0 | 2.97 | 2560.13 | 2500.00 | 102.41 |
| PFDA 2 | 513.0 / 219.0 | 2.97 | 2399.93 | 2500.00 | 96.00 |
| PFUnA 1 | 563.0 / 519.0 | 3.29 | 2561.06 | 2500.00 | 102.44 |
| PFUnA 2 | 563.0 / 269.0 | 3.30 | 2693.93 | 2500.00 | 107.76 |
| PFDoA 1 | 613.0 / 569.0 | 3.58 | 2407.76 | 2500.00 | 96.31 |
| PFDoA 2 | 613.0 / 319.0 | 3.58 | 2368.93 | 2500.00 | 94.76 |
| PFTTrDA 1 | 663.0 / 619.0 | 3.84 | 2631.41 | 2500.00 | 105.26 |
| PFTTrDA 2 | 663.0 / 169.0 | 3.83 | 2514.92 | 2500.00 | 100.60 |
| PFTeDA 1 | 713.0 / 669.0 | 4.06 | 2644.14 | 2500.00 | 105.77 |
| PFTeDA 2 | 713.0 / 169.0 | 4.06 | 2787.21 | 2500.00 | 111.49 |
| NMeFOSAA 1 | 570.0 / 419.0 | 3.12 | 2195.52 | 2500.00 | 87.82 |
| NMeFOSAA 2 | 570.0 / 512.0 | 3.12 | 2469.42 | 2500.00 | 98.78 |
| NEtFOSAA 1 | 584.0 / 419.0 | 3.29 | 2567.42 | 2500.00 | 102.70 |
| NEtFOSAA 2 | 584.0 / 483.0 | 3.29 | 2205.29 | 2500.00 | 88.21 |
| HFPO-DA 1 | 285.0 / 169.0 | 1.62 | 2609.85 | 2500.00 | 104.39 |
| HFPO-DA 2 | 285.0 / 118.8 | 1.62 | 2524.05 | 2500.00 | 100.96 |
| ADONA 1 | 377.0 / 251.0 | 1.91 | 2487.04 | 2500.00 | 99.48 |
| ADONA 2 | 377.0 / 85.0 | 1.91 | 2467.24 | 2500.00 | 98.69 |
| 9Cl-PF3ONS 1 | 531.0 / 351.0 | 2.82 | 2239.73 | 2500.00 | 89.59 |
| 9Cl-PF3ONS 2 | 531.0 / 83.0 | 2.82 | 2199.73 | 2500.00 | 87.99 |
| 11Cl-pf3OUdS 1 | 631.0 / 451.0 | 3.45 | 2310.77 | 2500.00 | 92.43 |
| 11Cl-pf3OUdS 2 | 631.0 / 83.0 | 3.45 | 2078.80 | 2500.00 | 83.15 |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE54 CCV | Injection Vial | 4 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:35:10 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Conc. (ng/L) | Target Conc. (ng/L) | Recovery (%) |
|----------------|----------------|------|--------------|---------------------|--------------|
| PFBS 1 | 298.9 / 80.0 | 1.28 | 985.41 | 1000.00 | 98.54 |
| PFBS 2 | 298.9 / 99.0 | 1.28 | 975.56 | 1000.00 | 97.56 |
| PFHxA 1 | 313.0 / 269.0 | 1.53 | 1083.74 | 1010.00 | 107.30 |
| PFHxA 2 | 313.0 / 119.0 | 1.53 | 1074.92 | 1010.00 | 106.43 |
| PFHpA 1 | 363.0 / 319.0 | 1.88 | 1160.74 | 1000.00 | 116.07 |
| PFHpA 2 | 363.0 / 169.0 | 1.88 | 1124.22 | 1000.00 | 112.42 |
| PFHxS 1 | 399.0 / 80.0 | 1.89 | 999.51 | 1010.00 | 98.96 |
| PFHxS 2 | 399.0 / 99.0 | 1.89 | 953.43 | 1010.00 | 94.40 |
| PFOA 1 | 413.0 / 369.0 | 2.25 | 1175.20 | 1000.00 | 117.52 |
| PFOA 2 | 413.0 / 169.0 | 2.25 | 1002.75 | 1000.00 | 100.28 |
| PFNA 1 | 463.0 / 419.0 | 2.63 | 1066.54 | 1000.00 | 106.65 |
| PFNA 2 | 463.0 / 219.0 | 2.63 | 1072.36 | 1000.00 | 107.24 |
| PFOS 1 | 499.0 / 80.0 | 2.63 | 957.27 | 1010.00 | 94.78 |
| PFOS 2 | 499.0 / 99.0 | 2.62 | 972.20 | 1010.00 | 96.26 |
| PFDA 1 | 513.0 / 469.0 | 2.99 | 915.47 | 1000.00 | 91.55 |
| PFDA 2 | 513.0 / 219.0 | 2.99 | 881.08 | 1000.00 | 88.11 |
| PFUnA 1 | 563.0 / 519.0 | 3.31 | 959.33 | 1000.00 | 95.93 |
| PFUnA 2 | 563.0 / 269.0 | 3.31 | 900.54 | 1000.00 | 90.05 |
| PFDoA 1 | 613.0 / 569.0 | 3.60 | 1059.23 | 1000.00 | 105.92 |
| PFDoA 2 | 613.0 / 319.0 | 3.60 | 959.03 | 1000.00 | 95.90 |
| PFTTrDA 1 | 663.0 / 619.0 | 3.85 | 1042.90 | 1000.00 | 104.29 |
| PFTTrDA 2 | 663.0 / 169.0 | 3.85 | 1003.19 | 1000.00 | 100.32 |
| PFTeDA 1 | 713.0 / 669.0 | 4.08 | 1024.80 | 1000.00 | 102.48 |
| PFTeDA 2 | 713.0 / 169.0 | 4.08 | 1005.84 | 1000.00 | 100.58 |
| NMeFOSAA 1 | 570.0 / 419.0 | 3.13 | 984.01 | 1000.00 | 98.40 |
| NMeFOSAA 2 | 570.0 / 512.0 | 3.13 | 1031.77 | 1000.00 | 103.18 |
| NEtFOSAA 1 | 584.0 / 419.0 | 3.30 | 1049.65 | 1000.00 | 104.97 |
| NEtFOSAA 2 | 584.0 / 483.0 | 3.30 | 912.57 | 1000.00 | 91.26 |
| HFPO-DA 1 | 285.0 / 169.0 | 1.63 | 865.83 | 1000.00 | 86.58 |
| HFPO-DA 2 | 285.0 / 118.8 | 1.63 | 862.45 | 1000.00 | 86.25 |
| ADONA 1 | 377.0 / 251.0 | 1.92 | 1050.52 | 1000.00 | 105.05 |
| ADONA 2 | 377.0 / 85.0 | 1.92 | 1108.06 | 1000.00 | 110.81 |
| 9Cl-PF3ONS 1 | 531.0 / 351.0 | 2.83 | 961.32 | 1000.00 | 96.13 |
| 9Cl-PF3ONS 2 | 531.0 / 83.0 | 2.84 | 983.31 | 1000.00 | 98.33 |
| 11Cl-pf3OUdS 1 | 631.0 / 451.0 | 3.46 | 999.75 | 1000.00 | 99.97 |
| 11Cl-pf3OUdS 2 | 631.0 / 83.0 | 3.46 | 807.21 | 1000.00 | 80.72 |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE59 ICC | Injection Vial | 9 |
| Sample ID | ICC | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:12:52 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Conc. (ng/L) | Target Conc. (ng/L) | Recovery (%) |
|-------------------------|----------------|------|--------------|---------------------|--------------|
| 13C2-PFD _o A | 615.0 / 570.0 | 3.60 | 1223.58 | 1250.00 | 97.89 |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 1309.73 | 1250.00 | 104.78 |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 1312.54 | 1250.00 | 105.00 |
| 13C5-PFH _x A | 318.0 / 273.0 | 1.51 | 1171.52 | 1250.00 | 93.72 |
| 13C4-PFH _p A | 367.0 / 322.0 | 1.86 | 1300.73 | 1250.00 | 104.06 |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1300.94 | 1222.50 | 106.42 |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1253.03 | 1250.00 | 100.24 |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 1315.30 | 1250.00 | 105.22 |
| 13C7-PFUnA | 570.0 / 525.0 | 3.31 | 1272.61 | 1250.00 | 101.81 |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.09 | 1267.11 | 1250.00 | 101.37 |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 1238.47 | 1162.50 | 106.54 |
| 13C3-PFH _x S | 402.0 / 99.0 | 1.87 | 1295.62 | 1182.50 | 109.57 |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 1195.24 | 1195.00 | 100.02 |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 1186.38 | 1250.00 | 94.91 |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE54 CCV | Injection Vial | 4 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:35:10 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Conc. (ng/L) | Target Conc. (ng/L) | Recovery (%) |
|--------------|----------------|------|--------------|---------------------|--------------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.60 | 1203.87 | 1250.00 | 96.31 |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 1203.57 | 1250.00 | 96.29 |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 1207.16 | 1250.00 | 96.57 |
| 13C5-PFHxA | 318.0 / 273.0 | 1.53 | 1298.96 | 1250.00 | 103.92 |
| 13C4-PFHpA | 367.0 / 322.0 | 1.87 | 1167.03 | 1250.00 | 93.36 |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1197.09 | 1222.50 | 97.92 |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1248.08 | 1250.00 | 99.85 |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 1377.17 | 1250.00 | 110.17 |
| 13C7-PFUnA | 570.0 / 525.0 | 3.31 | 1261.80 | 1250.00 | 100.94 |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.08 | 1178.36 | 1250.00 | 94.27 |
| 13C3-PFBS | 302.0 / 99.0 | 1.27 | 1173.15 | 1162.50 | 100.92 |
| 13C3-PFHxS | 402.0 / 99.0 | 1.88 | 1214.49 | 1182.50 | 102.71 |
| 13C8-PFOS | 507.0 / 99.0 | 2.62 | 1290.07 | 1195.00 | 107.96 |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.63 | 1406.27 | 1250.00 | 112.50 |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE55 CCV | Injection Vial | 16 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:40:42 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Conc. (ng/L) | Target Conc. (ng/L) | Recovery (%) |
|--------------|----------------|------|--------------|---------------------|--------------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.58 | 1233.99 | 1250.00 | 98.72 |
| d3-MeFOSAA | 573.0 / 419.0 | 3.11 | 1284.91 | 1250.00 | 102.79 |
| d5-EtFOSAA | 589.0 / 419.0 | 3.28 | 1295.63 | 1250.00 | 103.65 |
| 13C5-PFHxA | 318.0 / 273.0 | 1.52 | 1144.36 | 1250.00 | 91.55 |
| 13C4-PFHpA | 367.0 / 322.0 | 1.86 | 1076.83 | 1250.00 | 86.15 |
| 13C8-PFOA | 421.0 / 376.0 | 2.23 | 1189.15 | 1222.50 | 97.27 |
| 13C9-PFNA | 472.0 / 427.0 | 2.61 | 1176.65 | 1250.00 | 94.13 |
| 13C6-PFDA | 519.0 / 474.0 | 2.97 | 1172.64 | 1250.00 | 93.81 |
| 13C7-PFUnA | 570.0 / 525.0 | 3.29 | 1168.75 | 1250.00 | 93.50 |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.06 | 1199.50 | 1250.00 | 95.96 |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 1323.14 | 1162.50 | 113.82 |
| 13C3-PFHxS | 402.0 / 99.0 | 1.87 | 1301.47 | 1182.50 | 110.06 |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 1372.47 | 1195.00 | 114.85 |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 1235.26 | 1250.00 | 98.82 |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE59 ICC | Injection Vial | 9 |
| Sample ID | ICC | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:12:52 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 1712778.97 | 2502.78 | 10911.4 | False | 13C3-PFBS | 303472.68 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.27 | 567618.55 | 2513.34 | 4237.6 | False | 13C3-PFBS | 303472.68 | 1162.50 | PFBS | 0.331 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.52 | 2630765.62 | 2524.45 | 1184.9 | False | 13C5-PFHxA | 1176813.31 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.52 | 163775.91 | 2383.44 | 1140.6 | False | 13C5-PFHxA | 1176813.31 | 1250.00 | PFHxA | 0.062 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.87 | 2023664.62 | 2200.07 | 1371.3 | False | 13C4-PFHpA | 1248111.95 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.87 | 62571.60 | 2064.67 | 2751.7 | False | 13C4-PFHpA | 1248111.95 | 1250.00 | PFHpA | 0.031 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.88 | 1663389.06 | 2329.73 | 2161.2 | False | 13C3-PFHxS | 250286.02 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.88 | 622099.68 | 2383.84 | 2031.4 | False | 13C3-PFHxS | 250286.02 | 1182.50 | PFHxS | 0.374 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.25 | 2812248.55 | 2594.20 | 1051.2 | False | 13C8-PFOA | 1564044.54 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.25 | 260986.26 | 2035.27 | 1476.6 | False | 13C8-PFOA | 1564044.54 | 1222.50 | PFOA | 0.093 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.62 | 2622143.81 | 2511.82 | 1158.3 | False | 13C9-PFNA | 1444361.31 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.62 | 837773.24 | 2433.30 | 2100.7 | False | 13C9-PFNA | 1444361.31 | 1250.00 | PFNA | 0.319 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.62 | 1753974.64 | 2781.57 | 1727.6 | False | 13C8-PFOS | 209825.46 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.62 | 361016.64 | 2679.26 | 2496.1 | False | 13C8-PFOS | 209825.46 | 1195.00 | PFOS | 0.206 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.98 | 2296496.05 | 2274.25 | 904.8 | False | 13C6-PFDA | 1352455.55 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.98 | 149895.76 | 2160.04 | 3581.0 | False | 13C6-PFDA | 1352455.55 | 1250.00 | PFDA | 0.065 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.31 | 2406985.60 | 2271.01 | 1272.2 | False | 13C7-PFUnA | 1252351.78 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.31 | 165586.28 | 2187.76 | 1969.3 | False | 13C7-PFUnA | 1252351.78 | 1250.00 | PFUnA | 0.069 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.60 | 2802400.74 | 2451.62 | 1585.4 | False | 13C2-PFDoA | 1441473.28 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.60 | 351720.29 | 2417.46 | 2726.5 | False | 13C2-PFDoA | 1441473.28 | 1250.00 | PFDoA | 0.126 | 0.122 | ✓ |
| PFTTrDA_1 | 663.0 / 619.0 | 3.86 | 2447917.76 | 2558.27 | 3014.3 | False | 13C2-PFTeDA | 1504006.92 | 1250.00 | PFTTrDA | | | |
| PFTTrDA_2 | 663.0 / 169.0 | 3.86 | 185062.78 | 2344.16 | 4170.4 | False | 13C2-PFTeDA | 1504006.92 | 1250.00 | PFTTrDA | 0.076 | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | 4.09 | 2964426.15 | 2572.30 | 5673.1 | False | 13C2-PFTeDA | 1504006.92 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | 4.09 | 186618.84 | 2497.40 | 5892.5 | False | 13C2-PFTeDA | 1504006.92 | 1250.00 | PFTeDA | 0.063 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.13 | 254793.31 | 2165.95 | 1686.7 | False | d3-MeFOSAA | 174868.84 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.13 | 257738.67 | 2268.02 | 3191.5 | False | d3-MeFOSAA | 174868.84 | 1250.00 | NMeFOSAA | 1.012 | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | 3.30 | 305015.65 | 2392.93 | 4002.7 | False | d5-EiFOSAA | 163617.19 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | 3.30 | 13016.52 | 1897.96 | 2389.6 | False | d5-EiFOSAA | 163617.19 | 1250.00 | NEiFOSAA | 0.043 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.62 | 2963307.50 | 2925.96 | 5586.3 | False | 13C3-HFPO-DA | 407213.98 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.62 | 66380.07 | 2596.87 | 43178.2 | False | 13C3-HFPO-DA | 407213.98 | 1250.00 | HFPO-DA | 0.022 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.91 | 6007585.77 | 2236.33 | 16216.4 | False | 13C8-PFOA | 1564044.54 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.91 | 83968.71 | 1929.18 | 8493.3 | False | 13C8-PFOA | 1564044.54 | 1222.50 | ADONA | 0.014 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.83 | 3169900.39 | 2106.80 | 3317.0 | False | 13C8-PFOA | 1564044.54 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.83 | 35983.70 | 2199.67 | 928.3 | False | 13C8-PFOA | 1564044.54 | 1222.50 | 9CI-PF3ONS | 0.011 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.46 | 2345938.70 | 2126.14 | 4192.3 | False | 13C8-PFOA | 1564044.54 | 1222.50 | 11Cl-PF3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.46 | 13886.19 | 2063.99 | 666.2 | False | 13C8-PFOA | 1564044.54 | 1222.50 | 11Cl-PF3OUdS | 0.006 | 0.006 | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE55 CCV | Injection Vial | 16 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:40:42 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 1859611.97 | 2533.22 | 16941.9 | False | 13C3-PFBS | 325745.75 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.27 | 632210.15 | 2612.44 | 4668.2 | False | 13C3-PFBS | 325745.75 | 1162.50 | PFBS | 0.340 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.53 | 3195441.65 | 2824.96 | 1330.2 | False | 13C5-PFHxA | 1280362.71 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.52 | 199135.84 | 2663.86 | 1195.1 | False | 13C5-PFHxA | 1280362.71 | 1250.00 | PFHxA | 0.062 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.87 | 2179601.66 | 2576.84 | 1372.2 | False | 13C4-PFHpA | 1150862.45 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.87 | 82295.91 | 2913.79 | 20271.2 | False | 13C4-PFHpA | 1150862.45 | 1250.00 | PFHpA | 0.038 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.88 | 1811363.04 | 2514.10 | 16790.9 | False | 13C3-PFHxS | 252600.53 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.88 | 623553.50 | 2367.56 | 2226.7 | False | 13C3-PFHxS | 252600.53 | 1182.50 | PFHxS | 0.344 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.24 | 2867581.10 | 2598.35 | 1097.1 | False | 13C8-PFOA | 1592352.81 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.24 | 290170.47 | 2224.47 | 1395.8 | False | 13C8-PFOA | 1592352.81 | 1222.50 | PFOA | 0.101 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.62 | 2830539.90 | 2594.41 | 924.6 | False | 13C9-PFNA | 1510673.61 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.62 | 906869.02 | 2519.23 | 1701.4 | False | 13C9-PFNA | 1510673.61 | 1250.00 | PFNA | 0.320 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.61 | 1845935.77 | 2530.44 | 1968.1 | False | 13C8-PFOS | 242072.43 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.61 | 370584.44 | 2381.33 | 11966.6 | False | 13C8-PFOS | 242072.43 | 1195.00 | PFOS | 0.201 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.97 | 2472362.40 | 2560.13 | 1082.4 | False | 13C6-PFDA | 1296617.44 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.97 | 159672.11 | 2399.93 | 6533.9 | False | 13C6-PFDA | 1296617.44 | 1250.00 | PFDA | 0.065 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.29 | 2670814.17 | 2561.06 | 1527.9 | False | 13C7-PFUnA | 1236803.80 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.30 | 201273.36 | 2693.93 | 3088.7 | False | 13C7-PFUnA | 1236803.80 | 1250.00 | PFUnA | 0.075 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.58 | 2986716.53 | 2407.76 | 1778.3 | False | 13C2-PFDoA | 1563266.91 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.58 | 373875.98 | 2368.93 | 3443.5 | False | 13C2-PFDoA | 1563266.91 | 1250.00 | PFDoA | 0.125 | 0.122 | ✓ |
| PFTTrDA_1 | 663.0 / 619.0 | 3.84 | 2559676.36 | 2631.41 | 3205.8 | False | 13C2-PFTeDA | 1531042.91 | 1250.00 | PFTTrDA | | | |
| PFTTrDA_2 | 663.0 / 169.0 | 3.83 | 201714.64 | 2514.92 | 5429.9 | False | 13C2-PFTeDA | 1531042.91 | 1250.00 | PFTTrDA | 0.079 | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | 4.06 | 3098125.95 | 2644.14 | 4906.5 | False | 13C2-PFTeDA | 1531042.91 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | 4.06 | 211498.79 | 2787.21 | 8390.0 | False | 13C2-PFTeDA | 1531042.91 | 1250.00 | PFTeDA | 0.068 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.12 | 256766.52 | 2195.52 | 1579.5 | False | d3-MeFOSAA | 173876.42 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.12 | 278313.14 | 2469.42 | 9994318.5 | False | d3-MeFOSAA | 173876.42 | 1250.00 | NMeFOSAA | 1.084 | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | 3.29 | 324270.84 | 2567.42 | 95164.2 | False | d5-EtFOSAA | 162290.32 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | 3.29 | 14960.91 | 2205.29 | 70614.9 | False | d5-EtFOSAA | 162290.32 | 1250.00 | NEiFOSAA | 0.046 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.62 | 3088799.42 | 2609.85 | 5451.4 | False | 13C3-HFPO-DA | 472243.54 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.62 | 74832.39 | 2524.05 | 959.5 | False | 13C3-HFPO-DA | 472243.54 | 1250.00 | HFPO-DA | 0.024 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.91 | 6777550.87 | 2487.04 | 10539.3 | False | 13C8-PFOA | 1592352.81 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.91 | 109344.65 | 2467.24 | 11656.7 | False | 13C8-PFOA | 1592352.81 | 1222.50 | ADONA | 0.016 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.82 | 3432835.49 | 2239.73 | 2848.0 | False | 13C8-PFOA | 1592352.81 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.82 | 36636.04 | 2199.73 | 2736.6 | False | 13C8-PFOA | 1592352.81 | 1222.50 | 9CI-PF3ONS | 0.011 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.45 | 2595331.14 | 2310.77 | 3614.0 | False | 13C8-PFOA | 1592352.81 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.45 | 14240.14 | 2078.80 | 1318.4 | False | 13C8-PFOA | 1592352.81 | 1222.50 | 11Cl-pf3OUdS | 0.005 | 0.006 | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE54 CCV | Injection Vial | 4 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:35:10 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.28 | 735852.48 | 985.41 | 8439.9 | False | 13C3-PFBS | 305161.97 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.28 | 237417.26 | 975.56 | 3573.6 | False | 13C3-PFBS | 305161.97 | 1162.50 | PFBS | 0.323 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.53 | 1341742.28 | 1083.74 | 1486.0 | False | 13C5-PFHxA | 1358188.32 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.53 | 85323.52 | 1074.92 | 973.4 | False | 13C5-PFHxA | 1358188.32 | 1250.00 | PFHxA | 0.064 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.88 | 1013708.57 | 1160.74 | 906.0 | False | 13C4-PFHpA | 1165604.03 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.88 | 30840.66 | 1124.22 | 1016.5 | False | 13C4-PFHpA | 1165604.03 | 1250.00 | PFHpA | 0.030 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.89 | 711997.63 | 999.51 | 11650.5 | False | 13C3-PFHxS | 249057.42 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.89 | 246698.57 | 953.43 | 1217.1 | False | 13C3-PFHxS | 249057.42 | 1182.50 | PFHxS | 0.346 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.25 | 1266730.61 | 1175.20 | 696.4 | False | 13C8-PFOA | 1498034.87 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.25 | 124388.18 | 1002.75 | 796.6 | False | 13C8-PFOA | 1498034.87 | 1222.50 | PFOA | 0.098 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.63 | 1191962.47 | 1066.54 | 860.9 | False | 13C9-PFNA | 1497471.98 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.63 | 387688.52 | 1072.36 | 2267.0 | False | 13C9-PFNA | 1497471.98 | 1250.00 | PFNA | 0.325 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.63 | 728379.30 | 957.27 | 1900.4 | False | 13C8-PFOS | 240415.44 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.62 | 152362.67 | 972.20 | 7637.3 | False | 13C8-PFOS | 240415.44 | 1195.00 | PFOS | 0.209 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.99 | 1066123.88 | 915.47 | 851.9 | False | 13C6-PFDA | 1510521.14 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.99 | 68253.77 | 881.08 | 1908.8 | False | 13C6-PFDA | 1510521.14 | 1250.00 | PFDA | 0.064 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.31 | 1123276.18 | 959.33 | 855.1 | False | 13C7-PFUnA | 1324532.43 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.31 | 72338.95 | 900.54 | 1986.1 | False | 13C7-PFUnA | 1324532.43 | 1250.00 | PFUnA | 0.064 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.60 | 1329311.58 | 1059.23 | 1247.4 | False | 13C2-PFDoA | 1512838.50 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.60 | 149173.36 | 959.03 | 1900.0 | False | 13C2-PFDoA | 1512838.50 | 1250.00 | PFDoA | 0.112 | 0.122 | ✓ |
| PFTTrDA_1 | 663.0 / 619.0 | 3.85 | 1060301.79 | 1042.90 | 2364.4 | False | 13C2-PFTTeDA | 1491954.23 | 1250.00 | PFTTrDA | | | |
| PFTTrDA_2 | 663.0 / 169.0 | 3.85 | 81607.96 | 1003.19 | 4076.2 | False | 13C2-PFTTeDA | 1491954.23 | 1250.00 | PFTTrDA | 0.077 | 0.079 | ✓ |
| PFTTeDA_1 | 713.0 / 669.0 | 4.08 | 1252713.90 | 1024.80 | 3249.7 | False | 13C2-PFTTeDA | 1491954.23 | 1250.00 | PFTTeDA | | | |
| PFTTeDA_2 | 713.0 / 169.0 | 4.08 | 77169.05 | 1005.84 | 4215.7 | False | 13C2-PFTTeDA | 1491954.23 | 1250.00 | PFTTeDA | 0.062 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.13 | 114605.87 | 984.01 | 5502917.2 | False | d3-MeFOSAA | 170786.65 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.13 | 118851.59 | 1031.77 | 864.8 | False | d3-MeFOSAA | 170786.65 | 1250.00 | NMeFOSAA | 1.037 | 1.002 | ✓ |
| NEIFOSAA_1 | 584.0 / 419.0 | 3.30 | 133120.48 | 1049.65 | 7302904.3 | False | d5-EtFOSAA | 159710.13 | 1250.00 | NEIFOSAA | | | |
| NEIFOSAA_2 | 584.0 / 483.0 | 3.30 | 6237.41 | 912.57 | 3509.5 | False | d5-EtFOSAA | 159710.13 | 1250.00 | NEIFOSAA | 0.047 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.63 | 1245154.99 | 865.83 | 5510.9 | False | 13C3-HFPO-DA | 502421.67 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.63 | 27466.31 | 862.45 | 18231.8 | False | 13C3-HFPO-DA | 502421.67 | 1250.00 | HFPO-DA | 0.022 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.92 | 2800934.57 | 1050.52 | 6167.0 | False | 13C8-PFOA | 1498034.87 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.92 | 46030.07 | 1108.06 | 33592.1 | False | 13C8-PFOA | 1498034.87 | 1222.50 | ADONA | 0.016 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.83 | 1369583.38 | 961.32 | 2387.9 | False | 13C8-PFOA | 1498034.87 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.84 | 14405.75 | 983.12 | 1686.8 | False | 13C8-PFOA | 1498034.87 | 1222.50 | 9CI-PF3ONS | 0.011 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.46 | 1059314.73 | 999.75 | 3034.0 | False | 13C8-PFOA | 1498034.87 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.46 | 5111.14 | 807.21 | 3729.7 | False | 13C8-PFOA | 1498034.87 | 1222.50 | 11Cl-pf3OUdS | 0.005 | 0.006 | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE59 ICC | Injection Vial | 9 |
| Sample ID | ICC | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:12:52 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|------------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.60 | 1441473.28 | 1223.58 | 6487.4 | False | 13C2-PFDA | 1025857.97 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 174705.78 | 1309.73 | 1308.9 | False | 13C4-PFOS | 203658.69 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 163403.80 | 1312.54 | 1160.1 | False | 13C4-PFOS | 203658.69 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.51 | 1176813.31 | 1171.52 | 10655.7 | False | 13C2-PFOA | 805611.88 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.86 | 1248111.95 | 1300.73 | 23495374.2 | False | 13C2-PFOA | 805611.88 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1564044.54 | 1300.94 | 75733.7 | False | 13C2-PFOA | 805611.88 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1444361.31 | 1253.03 | 5408.1 | False | 13C2-PFOA | 805611.88 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 1352455.55 | 1315.30 | 11487394.3 | False | 13C2-PFDA | 1025857.97 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.31 | 1252351.78 | 1272.61 | 6817.7 | False | 13C2-PFDA | 1025857.97 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.09 | 1504006.92 | 1267.11 | 10566.8 | False | 13C2-PFDA | 1025857.97 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 303472.68 | 1238.47 | 11277.4 | False | 13C4-PFOS | 203658.69 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.87 | 250286.02 | 1295.62 | 17520.0 | False | 13C4-PFOS | 203658.69 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 209825.46 | 1195.24 | 3060.6 | False | 13C4-PFOS | 203658.69 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 407213.98 | 1186.38 | 27181.6 | False | 13C2-PFOA | 805611.88 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE54 CCV | Injection Vial | 4 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:35:10 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.60 | 1512838.50 | 1203.87 | 9027.9 | False | 13C2-PFDA | 1094280.46 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 170428.27 | 1203.57 | 1354.4 | False | 13C4-PFOS | 216196.55 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 159536.24 | 1207.16 | 1212.4 | False | 13C4-PFOS | 216196.55 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.53 | 1358188.32 | 1298.96 | 14767.1 | False | 13C2-PFOA | 838550.35 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.87 | 1165604.03 | 1167.03 | 4599.9 | False | 13C2-PFOA | 838550.35 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1498034.87 | 1197.09 | 39392.2 | False | 13C2-PFOA | 838550.35 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1497471.98 | 1248.08 | 11842.0 | False | 13C2-PFOA | 838550.35 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 1510521.14 | 1377.17 | 2818.6 | False | 13C2-PFDA | 1094280.46 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.31 | 1324532.43 | 1261.80 | 4900.3 | False | 13C2-PFDA | 1094280.46 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.08 | 1491954.23 | 1178.36 | 16711.9 | False | 13C2-PFDA | 1094280.46 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.27 | 305161.97 | 1173.15 | 42358.1 | False | 13C4-PFOS | 216196.55 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.88 | 249057.42 | 1214.49 | 1639.6 | False | 13C4-PFOS | 216196.55 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.62 | 240415.44 | 1290.07 | 1468.8 | False | 13C4-PFOS | 216196.55 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.63 | 502421.67 | 1406.27 | 64088.9 | False | 13C2-PFOA | 838550.35 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE55 CCV | Injection Vial | 16 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:40:42 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.58 | 1563266.91 | 1233.99 | 10023.5 | False | 13C2-PFDA | 1103154.56 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.11 | 172201.07 | 1284.91 | 1583.3 | False | 13C4-PFOS | 204617.67 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.28 | 162057.87 | 1295.63 | 1224.2 | False | 13C4-PFOS | 204617.67 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.52 | 1280362.71 | 1144.36 | 9070.2 | False | 13C2-PFOA | 897299.28 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.86 | 1150862.45 | 1076.83 | 19424.5 | False | 13C2-PFOA | 897299.28 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.23 | 1592352.81 | 1189.15 | 89954.3 | False | 13C2-PFOA | 897299.28 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.61 | 1510673.61 | 1176.65 | 14213.1 | False | 13C2-PFOA | 897299.28 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.97 | 1296617.44 | 1172.64 | 1872.4 | False | 13C2-PFDA | 1103154.56 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.29 | 1236803.80 | 1168.75 | 4770.9 | False | 13C2-PFDA | 1103154.56 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.06 | 1531042.91 | 1199.50 | 15366.7 | False | 13C2-PFDA | 1103154.56 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 325745.75 | 1323.14 | 10924.9 | False | 13C4-PFOS | 204617.67 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.87 | 252600.53 | 1301.47 | 12181.3 | False | 13C4-PFOS | 204617.67 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 242072.43 | 1372.47 | 1905.0 | False | 13C4-PFOS | 204617.67 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 472243.54 | 1235.26 | 7043.1 | False | 13C2-PFOA | 897299.28 | 1250.00 | | N/A | N/A | ✓ |

Raw Analytical Data

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE58 IB | Injection Vial | 8 |
| Sample ID | Instrument Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:02:24 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|----------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 294461.43 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 294461.43 | 1162.50 | PFBS | N/A | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.52 | 9059.26 | < 0 | 21.4 | True | 13C5-PFHxA | 1403525.57 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | N/A | N/A | N/A | N/A | True | 13C5-PFHxA | 1403525.57 | 1250.00 | PFHxA | N/A | 0.063 | |
| PFHpA_1 | 363.0 / 319.0 | 1.87 | 5291.39 | < 0 | 21.2 | True | 13C4-PFHpA | 1293597.31 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 1293597.31 | 1250.00 | PFHpA | N/A | 0.031 | |
| PFHxS_1 | 399.0 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 255628.98 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 255628.98 | 1182.50 | PFHxS | N/A | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1627028.19 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1627028.19 | 1222.50 | PFOA | N/A | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | N/A | N/A | N/A | N/A | True | 13C9-PFNA | 1525246.65 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C9-PFNA | 1525246.65 | 1250.00 | PFNA | N/A | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.60 | 13256.60 | < 0 | 68.7 | False | 13C8-PFOS | 238719.22 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOS | 238719.22 | 1195.00 | PFOS | N/A | 0.204 | |
| PFDA_1 | 513.0 / 469.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 1334040.54 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 1334040.54 | 1250.00 | PFDA | N/A | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.32 | 5459.49 | < 0 | 29.9 | False | 13C7-PFUnA | 1296976.05 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1296976.05 | 1250.00 | PFUnA | N/A | 0.068 | |
| PFDoA_1 | 613.0 / 569.0 | 3.60 | 11494.33 | < 0 | 42.8 | False | 13C2-PFDoA | 1500663.81 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.61 | 1167.98 | < 0 | 91.1 | False | 13C2-PFDoA | 1500663.81 | 1250.00 | PFDoA | 0.102 | 0.122 | ✓ |
| PFTTrDA_1 | 663.0 / 619.0 | 3.86 | 7584.03 | < 0 | 120.5 | False | 13C2-PFTTeDA | 1540409.99 | 1250.00 | PFTTrDA | | | |
| PFTTrDA_2 | 663.0 / 169.0 | 3.86 | 838.05 | < 0 | 82.8 | False | 13C2-PFTTeDA | 1540409.99 | 1250.00 | PFTTrDA | 0.111 | 0.079 | ✓ |
| PFTTeDA_1 | 713.0 / 669.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTTeDA | 1540409.99 | 1250.00 | PFTTeDA | | | |
| PFTTeDA_2 | 713.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTTeDA | 1540409.99 | 1250.00 | PFTTeDA | N/A | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.14 | 3126.31 | 2.58 | 2380.6 | False | d3-MeFOSAA | 170043.89 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.11 | 2507.76 | < 0 | 1880.1 | False | d3-MeFOSAA | 170043.89 | 1250.00 | NMeFOSAA | 0.802 | 1.002 | ✓ |
| NEtFOSAA_1 | 584.0 / 419.0 | 3.31 | 4550.73 | < 0 | 1842.9 | True | d5-EtFOSAA | 177462.84 | 1250.00 | NEtFOSAA | | | |
| NEtFOSAA_2 | 584.0 / 483.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 177462.84 | 1250.00 | NEtFOSAA | N/A | 0.054 | |
| HFPO-DA_1 | 285.0 / 169.0 | 1.58 | 2868.52 | < 0 | 51.6 | False | 13C3-HFPO-DA | 405902.90 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 405902.90 | 1250.00 | HFPO-DA | N/A | 0.022 | |
| ADONA_1 | 377.0 / 251.0 | 1.91 | 7943.64 | < 0 | 206.2 | False | 13C8-PFOA | 1627028.19 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1627028.19 | 1222.50 | ADONA | N/A | 0.015 | |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1627028.19 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1627028.19 | 1222.50 | 9CI-PF3ONS | N/A | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1627028.19 | 1222.50 | 11Cl-PF3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1627028.19 | 1222.50 | 11Cl-PF3OUdS | N/A | 0.006 | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | DB472PB-FS(0) | Injection Vial | 7 |
| Sample ID | Procedural Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:06:34 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|----------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 2443.28 | < 0 | 116.9 | True | 13C3-PFBS | 281044.08 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.26 | 762.89 | < 0 | 23.8 | False | 13C3-PFBS | 281044.08 | 1162.50 | PFBS | 0.312 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.53 | 69946.65 | 12.24 | 144.8 | True | 13C5-PFHxA | 1165669.67 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.53 | 2701.36 | 37.95 | 58.6 | True | 13C5-PFHxA | 1165669.67 | 1250.00 | PFHxA | 0.039 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.88 | 6969.11 | < 0 | 18.1 | True | 13C4-PFHpA | 1186932.42 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 1186932.42 | 1250.00 | PFHpA | N/A | 0.031 | |
| PFHxS_1 | 399.0 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 209101.80 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 209101.80 | 1182.50 | PFHxS | N/A | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.24 | 9937.14 | < 0 | 27.7 | True | 13C8-PFOA | 1563770.55 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1563770.55 | 1222.50 | PFOA | N/A | 0.112 | |
| PFNA_1 | 463.0 / 419.0 | N/A | N/A | N/A | N/A | True | 13C9-PFNA | 1343227.79 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C9-PFNA | 1343227.79 | 1250.00 | PFNA | N/A | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.57 | 4921.08 | < 0 | 241.4 | True | 13C8-PFOS | 235123.28 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOS | 235123.28 | 1195.00 | PFOS | N/A | 0.204 | |
| PFDA_1 | 513.0 / 469.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 1238367.31 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 1238367.31 | 1250.00 | PFDA | N/A | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1173071.25 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1173071.25 | 1250.00 | PFUnA | N/A | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1294672.48 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1294672.48 | 1250.00 | PFDoA | N/A | 0.122 | ✓ |
| PFTeDA_1 | 663.0 / 619.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1257686.49 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 663.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1257686.49 | 1250.00 | PFTeDA | N/A | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1257686.49 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1257686.49 | 1250.00 | PFTeDA | N/A | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 152664.79 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 152664.79 | 1250.00 | NMeFOSAA | N/A | 1.002 | ✓ |
| NEtFOSAA_1 | 584.0 / 419.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 134922.04 | 1250.00 | NEtFOSAA | | | |
| NEtFOSAA_2 | 584.0 / 483.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 134922.04 | 1250.00 | NEtFOSAA | N/A | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 419160.14 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 419160.14 | 1250.00 | HFPO-DA | N/A | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1563770.55 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1563770.55 | 1222.50 | ADONA | N/A | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1563770.55 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1563770.55 | 1222.50 | 9CI-PF3ONS | N/A | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1563770.55 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1563770.55 | 1222.50 | 11Cl-pf3OUdS | N/A | 0.006 | ✓ |

| | | | |
|--------------------|---------------------------|------------------|----------------------------|
| Sample Name | DB473LCS-FS(0) | Injection Vial | 8 |
| Sample ID | Laboratory Control Sample | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:17:01 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|-------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 5516726.56 | 8279.54 | 25764.2 | False | 13C3-PFBS | 307327.97 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.27 | 1768983.30 | 7983.09 | 9611.6 | False | 13C3-PFBS | 307327.97 | 1162.50 | PFBS | 0.321 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.51 | 8752518.50 | 9712.67 | 2056.6 | False | 13C5-PFHxA | 1034545.30 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.51 | 550580.73 | 9119.50 | 1895.3 | False | 13C5-PFHxA | 1034545.30 | 1250.00 | PFHxA | 0.063 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.85 | 6777392.21 | 8554.66 | 2107.6 | False | 13C4-PFHpA | 1090072.65 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.85 | 230244.98 | 8463.83 | 10733.9 | False | 13C4-PFHpA | 1090072.65 | 1250.00 | PFHpA | 0.034 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.86 | 5269619.87 | 8719.82 | 18935.7 | False | 13C3-PFHxS | 212152.99 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.86 | 1869455.28 | 8436.68 | 3746.3 | False | 13C3-PFHxS | 212152.99 | 1182.50 | PFHxS | 0.355 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.22 | 8517030.97 | 7977.01 | 1530.7 | False | 13C8-PFOA | 1573979.80 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.22 | 994194.35 | 7759.72 | 3120.0 | False | 13C8-PFOA | 1573979.80 | 1222.50 | PFOA | 0.117 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.60 | 7682221.24 | 8029.50 | 1605.8 | False | 13C9-PFNA | 1346005.13 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.60 | 2587806.92 | 8122.89 | 4013.4 | False | 13C9-PFNA | 1346005.13 | 1250.00 | PFNA | 0.337 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.59 | 5469833.00 | 7950.65 | 3753.7 | False | 13C8-PFOS | 233154.00 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.59 | 1172778.37 | 7877.51 | 9963.3 | False | 13C8-PFOS | 233154.00 | 1195.00 | PFOS | 0.214 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.96 | 7004728.94 | 7825.60 | 1706.5 | False | 13C6-PFDA | 1217835.17 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.96 | 467662.33 | 7482.23 | 3529.1 | False | 13C6-PFDA | 1217835.17 | 1250.00 | PFDA | 0.067 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.29 | 7288654.18 | 8565.32 | 2150.6 | False | 13C7-PFUnA | 1030149.15 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.29 | 538431.75 | 8664.12 | 5484.7 | False | 13C7-PFUnA | 1030149.15 | 1250.00 | PFUnA | 0.074 | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | 3.58 | 8017189.65 | 7623.98 | 2783.9 | False | 13C2-PFDoA | 1358399.79 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.59 | 1038194.84 | 7636.22 | 4822.9 | False | 13C2-PFDoA | 1358399.79 | 1250.00 | PFDoA | 0.129 | 0.122 | ✓ |
| PFTeDA_1 | 663.0 / 619.0 | 3.84 | 7361710.98 | 9054.09 | 5666.7 | False | 13C2-PFTeDA | 1324507.23 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 663.0 / 169.0 | 3.84 | 598008.13 | 8788.26 | 8359.8 | False | 13C2-PFTeDA | 1324507.23 | 1250.00 | PFTeDA | 0.081 | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | 4.08 | 8165018.48 | 8308.28 | 12749.8 | False | 13C2-PFTeDA | 1324507.23 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | 4.08 | 584604.26 | 9038.02 | 11934.1 | False | 13C2-PFTeDA | 1324507.23 | 1250.00 | PFTeDA | 0.072 | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.11 | 770824.55 | 7822.51 | 1780.2 | False | d3-MeFOSAA | 147703.43 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.11 | 859535.36 | 9173.05 | 6846.9 | False | d3-MeFOSAA | 147703.43 | 1250.00 | NMeFOSAA | 1.115 | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | 3.28 | 857616.00 | 8973.97 | 6495.7 | False | d5-EtFOSAA | 124043.65 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | 3.28 | 51358.46 | 10036.05 | 2600.6 | False | d5-EtFOSAA | 124043.65 | 1250.00 | NEiFOSAA | 0.060 | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | 1.60 | 8632683.56 | 7413.57 | 8212.2 | True | 13C3-HFPO-DA | 486892.74 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | 1.60 | 215579.41 | 7075.37 | 1081469.3 | False | 13C3-HFPO-DA | 486892.74 | 1250.00 | HFPO-DA | 0.025 | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.88 | 18760520.56 | 7172.37 | 4405.0 | True | 13C8-PFOA | 1573979.80 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | 1.89 | 332582.73 | 7683.14 | 1312.5 | False | 13C8-PFOA | 1573979.80 | 1222.50 | ADONA | 0.018 | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | 2.80 | 9584492.02 | 6289.96 | 6543.0 | False | 13C8-PFOA | 1573979.80 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | 2.80 | 113105.35 | 6637.39 | 2164.3 | False | 13C8-PFOA | 1573979.80 | 1222.50 | 9CI-PF3ONS | 0.012 | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | 3.45 | 7093300.82 | 6398.05 | 5016.0 | False | 13C8-PFOA | 1573979.80 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | 3.45 | 43985.92 | 6447.66 | 10905.3 | False | 13C8-PFOA | 1573979.80 | 1222.50 | 11Cl-pf3OUdS | 0.006 | 0.006 | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2203-FS1(0) | Injection Vial | 9 |
| Sample ID | CBD-AOA-MW06-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:27:28 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|-------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.28 | 227564.31 | 390.67 | 147.0 | True | 13C3-PFBS | 198860.45 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.28 | 47174.60 | 214.30 | 343.0 | False | 13C3-PFBS | 198860.45 | 1162.50 | PFBS | 0.207 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.53 | 417830.33 | 616.63 | 135.7 | False | 13C5-PFHxA | 716209.35 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.53 | 19502.43 | 464.92 | 115.8 | False | 13C5-PFHxA | 716209.35 | 1250.00 | PFHxA | 0.047 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.88 | 323773.66 | 501.21 | 135.5 | False | 13C4-PFHpA | 824534.76 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.87 | 12069.67 | 654.64 | 186.0 | False | 13C4-PFHpA | 824534.76 | 1250.00 | PFHpA | 0.037 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.89 | 1894831.04 | 3626.12 | 514.6 | False | 13C3-PFHxS | 183308.94 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.89 | 620972.84 | 3246.87 | 818.8 | False | 13C3-PFHxS | 183308.94 | 1182.50 | PFHxS | 0.328 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.25 | 11375610.85 | 14993.09 | 643.4 | False | 13C8-PFOA | 1124014.79 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.25 | 1035370.42 | 11325.26 | 1096.4 | False | 13C8-PFOA | 1124014.79 | 1222.50 | PFOA | 0.091 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.63 | 124241.87 | 99.17 | 187.4 | False | 13C9-PFNA | 1093340.85 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.62 | 49057.82 | 165.34 | 248.8 | False | 13C9-PFNA | 1093340.85 | 1250.00 | PFNA | 0.395 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.62 | 924546.73 | 2019.83 | 425.3 | False | 13C8-PFOS | 150728.75 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.62 | 139488.06 | 1430.34 | 1234.3 | False | 13C8-PFOS | 150728.75 | 1195.00 | PFOS | 0.151 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.98 | 15315.44 | < 0 | 42.6 | False | 13C6-PFDA | 1059980.51 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.99 | 1700.31 | 32.01 | 208.1 | False | 13C6-PFDA | 1059980.51 | 1250.00 | PFDA | 0.111 | 0.066 | |
| PFUnA_1 | 563.0 / 519.0 | 3.30 | 28101.43 | < 0 | 127.5 | False | 13C7-PFUnA | 879695.98 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.30 | 922.31 | 12.05 | 50.2 | False | 13C7-PFUnA | 879695.98 | 1250.00 | PFUnA | 0.033 | 0.068 | |
| PFDoA_1 | 613.0 / 569.0 | 3.59 | 5190.59 | < 0 | 35.0 | True | 13C2-PFDoA | 813762.89 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.59 | 488.69 | < 0 | 29.6 | True | 13C2-PFDoA | 813762.89 | 1250.00 | PFDoA | 0.094 | 0.122 | ✓ |
| PFTTrDA_1 | 663.0 / 619.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTTeDA | 335278.86 | 1250.00 | PFTTrDA | | | |
| PFTTrDA_2 | 663.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTTeDA | 335278.86 | 1250.00 | PFTTrDA | N/A | 0.079 | ✓ |
| PFTTeDA_1 | 713.0 / 669.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTTeDA | 335278.86 | 1250.00 | PFTTeDA | | | |
| PFTTeDA_2 | 713.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTTeDA | 335278.86 | 1250.00 | PFTTeDA | N/A | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.14 | 939.17 | < 0 | 270991.0 | False | d3-MeFOSAA | 125214.76 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 125214.76 | 1250.00 | NMeFOSAA | N/A | 1.002 | |
| NEtFOSAA_1 | 584.0 / 419.0 | 3.30 | 2065.41 | < 0 | 2066.7 | False | d5-EtFOSAA | 123291.93 | 1250.00 | NEtFOSAA | | | |
| NEtFOSAA_2 | 584.0 / 483.0 | N/A | N/A | N/A | N/A | False | d5-EtFOSAA | 123291.93 | 1250.00 | NEtFOSAA | N/A | 0.054 | |
| HFPO-DA_1 | 285.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 328954.80 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 328954.80 | 1250.00 | HFPO-DA | N/A | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1124014.79 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1124014.79 | 1222.50 | ADONA | N/A | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1124014.79 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1124014.79 | 1222.50 | 9CI-PF3ONS | N/A | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1124014.79 | 1222.50 | 11Cl-PF3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1124014.79 | 1222.50 | 11Cl-PF3OUdS | N/A | 0.006 | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2205-FS1(0) | Injection Vial | 10 |
| Sample ID | CBD-AOA-MW12-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:37:55 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|-----------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 173687.00 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 173687.00 | 1162.50 | PFBS | N/A | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.52 | 134388.44 | 266.88 | 31.4 | False | 13C5-PFHxA | 479071.58 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.53 | 4311.63 | 152.48 | 27.8 | False | 13C5-PFHxA | 479071.58 | 1250.00 | PFHxA | 0.032 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.87 | 27920.11 | 36.17 | 18.9 | False | 13C4-PFHpA | 495655.70 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.87 | 633.29 | 123.89 | 33.0 | False | 13C4-PFHpA | 495655.70 | 1250.00 | PFHpA | 0.023 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.89 | 26460.17 | 59.79 | 44.4 | True | 13C3-PFHxS | 144325.49 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.89 | 9765.32 | 70.45 | 43.4 | False | 13C3-PFHxS | 144325.49 | 1182.50 | PFHxS | 0.369 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.25 | 78798.24 | 47.01 | 57.9 | False | 13C8-PFOA | 892168.42 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.25 | 12856.96 | 157.55 | 109.1 | False | 13C8-PFOA | 892168.42 | 1222.50 | PFOA | 0.163 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.63 | 9366.56 | < 0 | 27.2 | False | 13C9-PFNA | 1063147.52 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C9-PFNA | 1063147.52 | 1250.00 | PFNA | N/A | 0.321 | |
| PFOS_1 | 499.0 / 80.0 | 2.62 | 26681.88 | < 0 | 31.2 | False | 13C8-PFOS | 169015.01 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.56 | 6413.15 | 36.37 | 32.9 | False | 13C8-PFOS | 169015.01 | 1195.00 | PFOS | 0.240 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.98 | 9321.98 | < 0 | 33.0 | False | 13C6-PFDA | 1032877.10 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 1032877.10 | 1250.00 | PFDA | N/A | 0.066 | |
| PFUnA_1 | 563.0 / 519.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1020931.85 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1020931.85 | 1250.00 | PFUnA | N/A | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1325984.73 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1325984.73 | 1250.00 | PFDoA | N/A | 0.122 | ✓ |
| PFTrDA_1 | 663.0 / 619.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1124252.92 | 1250.00 | PFTrDA | | | |
| PFTrDA_2 | 663.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1124252.92 | 1250.00 | PFTrDA | N/A | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1124252.92 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1124252.92 | 1250.00 | PFTeDA | N/A | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 119144.17 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 119144.17 | 1250.00 | NMeFOSAA | N/A | 1.002 | ✓ |
| NEtFOSAA_1 | 584.0 / 419.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 180104.41 | 1250.00 | NEtFOSAA | | | |
| NEtFOSAA_2 | 584.0 / 483.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 180104.41 | 1250.00 | NEtFOSAA | N/A | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 368143.67 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 368143.67 | 1250.00 | HFPO-DA | N/A | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 892168.42 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 892168.42 | 1222.50 | ADONA | N/A | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 892168.42 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 892168.42 | 1222.50 | 9CI-PF3ONS | N/A | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 892168.42 | 1222.50 | 11Cl-PF3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 892168.42 | 1222.50 | 11Cl-PF3OUdS | N/A | 0.006 | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2206-FS1(0) | Injection Vial | 11 |
| Sample ID | CBD-AOA-MW11-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:48:23 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|----------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 134222.17 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 134222.17 | 1162.50 | PFBS | N/A | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.50 | 83604.67 | 233.52 | 14.8 | False | 13C5-PFHxA | 332253.01 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.50 | 4966.80 | 254.44 | 20.6 | False | 13C5-PFHxA | 332253.01 | 1250.00 | PFHxA | 0.059 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 180908.53 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 180908.53 | 1250.00 | PFHpA | N/A | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 79643.02 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 79643.02 | 1182.50 | PFHxS | N/A | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.23 | 71391.72 | 62.93 | 38.4 | False | 13C8-PFOA | 721059.90 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.24 | 6329.71 | 88.18 | 25.6 | False | 13C8-PFOA | 721059.90 | 1222.50 | PFOA | 0.089 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.62 | 19481.91 | < 0 | 61.7 | False | 13C9-PFNA | 800600.71 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.62 | 3077.47 | < 0 | 32.4 | False | 13C9-PFNA | 800600.71 | 1250.00 | PFNA | 0.158 | 0.321 | |
| PFOS_1 | 499.0 / 80.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOS | 138005.21 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOS | 138005.21 | 1195.00 | PFOS | N/A | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 947065.83 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 947065.83 | 1250.00 | PFDA | N/A | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1100833.64 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1100833.64 | 1250.00 | PFUnA | N/A | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1071879.38 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1071879.38 | 1250.00 | PFDoA | N/A | 0.122 | ✓ |
| PFTTrDA_1 | 663.0 / 619.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 815711.23 | 1250.00 | PFTTrDA | | | |
| PFTTrDA_2 | 663.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 815711.23 | 1250.00 | PFTTrDA | N/A | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 815711.23 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 815711.23 | 1250.00 | PFTeDA | N/A | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 69945.11 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 69945.11 | 1250.00 | NMeFOSAA | N/A | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | N/A | N/A | N/A | N/A | True | d5-EiFOSAA | 151043.22 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | N/A | N/A | N/A | N/A | True | d5-EiFOSAA | 151043.22 | 1250.00 | NEiFOSAA | N/A | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 248209.96 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 248209.96 | 1250.00 | HFPO-DA | N/A | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 721059.90 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 721059.90 | 1222.50 | ADONA | N/A | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 721059.90 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 721059.90 | 1222.50 | 9CI-PF3ONS | N/A | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 721059.90 | 1222.50 | 11Cl-PF3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 721059.90 | 1222.50 | 11Cl-PF3OUdS | N/A | 0.006 | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2207-FS1(0) | Injection Vial | 12 |
| Sample ID | CBD-AOA-MW11P-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:58:51 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|-----------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 116933.04 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 116933.04 | 1162.50 | PFBS | N/A | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.50 | 148285.01 | 449.55 | 59.2 | False | 13C5-PFHxA | 338007.14 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.50 | 6635.00 | 334.66 | 33.6 | False | 13C5-PFHxA | 338007.14 | 1250.00 | PFHxA | 0.045 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 177416.90 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 177416.90 | 1250.00 | PFHpA | N/A | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 75880.53 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 75880.53 | 1182.50 | PFHxS | N/A | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 649357.35 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 649357.35 | 1222.50 | PFOA | N/A | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.63 | 14320.44 | < 0 | 42.2 | False | 13C9-PFNA | 1083065.83 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.62 | 6681.22 | 1.33 | 94.7 | False | 13C9-PFNA | 1083065.83 | 1250.00 | PFNA | 0.467 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.61 | 25587.14 | < 0 | 39.1 | False | 13C8-PFOS | 138359.11 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.62 | 3508.59 | 16.60 | 28.2 | False | 13C8-PFOS | 138359.11 | 1195.00 | PFOS | 0.137 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.98 | 17453.16 | < 0 | 67.6 | False | 13C6-PFDA | 1053434.89 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.99 | 1169.62 | 22.39 | 19.3 | False | 13C6-PFDA | 1053434.89 | 1250.00 | PFDA | 0.067 | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.31 | 9773.43 | < 0 | 38.9 | False | 13C7-PFUnA | 1281054.98 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1281054.98 | 1250.00 | PFUnA | N/A | 0.068 | |
| PFDoA_1 | 613.0 / 569.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1428372.85 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1428372.85 | 1250.00 | PFDoA | N/A | 0.122 | ✓ |
| PFTTrDA_1 | 663.0 / 619.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1264990.45 | 1250.00 | PFTTrDA | | | |
| PFTTrDA_2 | 663.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1264990.45 | 1250.00 | PFTTrDA | N/A | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1264990.45 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1264990.45 | 1250.00 | PFTeDA | N/A | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 154904.79 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 154904.79 | 1250.00 | NMeFOSAA | N/A | 1.002 | ✓ |
| NEiFOSAA_1 | 584.0 / 419.0 | N/A | N/A | N/A | N/A | True | d5-EiFOSAA | 210591.75 | 1250.00 | NEiFOSAA | | | |
| NEiFOSAA_2 | 584.0 / 483.0 | N/A | N/A | N/A | N/A | True | d5-EiFOSAA | 210591.75 | 1250.00 | NEiFOSAA | N/A | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 250221.06 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 250221.06 | 1250.00 | HFPO-DA | N/A | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 649357.35 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 649357.35 | 1222.50 | ADONA | N/A | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 649357.35 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 649357.35 | 1222.50 | 9CI-PF3ONS | N/A | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 649357.35 | 1222.50 | 11Cl-PF3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 649357.35 | 1222.50 | 11Cl-PF3OUdS | N/A | 0.006 | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | G2209-FS1(0) | Injection Vial | 13 |
| Sample ID | CBD-AOA-EB01-102820-GW | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:09:19 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|-----------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 4773.73 | < 0 | 155.4 | True | 13C3-PFBS | 352572.69 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.26 | 8809.42 | < 0 | 80.4 | True | 13C3-PFBS | 352572.69 | 1162.50 | PFBS | 1.845 | 0.325 | |
| PFHxA_1 | 313.0 / 269.0 | 1.52 | 114356.39 | 74.16 | 80.0 | True | 13C5-PFHxA | 1006409.63 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.53 | 3970.19 | 65.84 | 66.7 | True | 13C5-PFHxA | 1006409.63 | 1250.00 | PFHxA | 0.035 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 1197679.44 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 1197679.44 | 1250.00 | PFHpA | N/A | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 227140.71 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 227140.71 | 1182.50 | PFHxS | N/A | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1417418.88 | 1222.50 | PFOA | N/A | 0.112 | ✓ |
| PFOA_2 | 413.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1417418.88 | 1222.50 | PFOA | N/A | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | N/A | N/A | N/A | N/A | True | 13C9-PFNA | 1673056.16 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C9-PFNA | 1673056.16 | 1250.00 | PFNA | N/A | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.63 | 20365.27 | < 0 | 110.5 | False | 13C8-PFOS | 205565.65 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOS | 205565.65 | 1195.00 | PFOS | N/A | 0.204 | |
| PFDA_1 | 513.0 / 469.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 1360575.38 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 1360575.38 | 1250.00 | PFDA | N/A | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1364110.78 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | N/A | N/A | N/A | N/A | True | 13C7-PFUnA | 1364110.78 | 1250.00 | PFUnA | N/A | 0.068 | ✓ |
| PFDoA_1 | 613.0 / 569.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1387375.66 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1387375.66 | 1250.00 | PFDoA | N/A | 0.122 | ✓ |
| PFTeDA_1 | 663.0 / 619.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1357658.63 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 663.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1357658.63 | 1250.00 | PFTeDA | N/A | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1357658.63 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1357658.63 | 1250.00 | PFTeDA | N/A | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 174433.37 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 174433.37 | 1250.00 | NMeFOSAA | N/A | 1.002 | ✓ |
| NEtFOSAA_1 | 584.0 / 419.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 168045.41 | 1250.00 | NEtFOSAA | | | |
| NEtFOSAA_2 | 584.0 / 483.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 168045.41 | 1250.00 | NEtFOSAA | N/A | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 388251.84 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 388251.84 | 1250.00 | HFPO-DA | N/A | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1417418.88 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1417418.88 | 1222.50 | ADONA | N/A | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1417418.88 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1417418.88 | 1222.50 | 9CI-PF3ONS | N/A | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1417418.88 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1417418.88 | 1222.50 | 11Cl-pf3OUdS | N/A | 0.006 | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2210-FS1(0) | Injection Vial | 14 |
| Sample ID | CBD-AOA-MW14-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:19:47 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|------------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | 1.27 | 116817.41 | 154.99 | 97.9 | False | 13C3-PFBS | 181888.30 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | 1.24 | 49361.81 | 262.39 | 130.7 | False | 13C3-PFBS | 181888.30 | 1162.50 | PFBS | 0.423 | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | 1.51 | 510435.56 | 1096.96 | 109.0 | False | 13C5-PFHxA | 510773.87 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | 1.52 | 30159.91 | 1010.24 | 120.9 | False | 13C5-PFHxA | 510773.87 | 1250.00 | PFHxA | 0.059 | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | 1.85 | 217263.46 | 441.63 | 114.3 | False | 13C4-PFHpA | 621499.73 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | 1.86 | 9436.23 | 676.28 | 67.9 | False | 13C4-PFHpA | 621499.73 | 1250.00 | PFHpA | 0.043 | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.87 | 1051732.53 | 2123.60 | 225.7 | True | 13C3-PFHxS | 173578.93 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | 1.87 | 353186.43 | 1952.50 | 473.0 | False | 13C3-PFHxS | 173578.93 | 1182.50 | PFHxS | 0.336 | 0.363 | ✓ |
| PFOA_1 | 413.0 / 369.0 | 2.23 | 841698.00 | 1287.52 | 226.0 | False | 13C8-PFOA | 913908.60 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | 2.23 | 97338.61 | 1291.87 | 331.9 | False | 13C8-PFOA | 913908.60 | 1222.50 | PFOA | 0.116 | 0.112 | ✓ |
| PFNA_1 | 463.0 / 419.0 | 2.61 | 232956.38 | 238.13 | 251.6 | False | 13C9-PFNA | 1100664.21 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.61 | 83493.66 | 296.67 | 393.1 | False | 13C9-PFNA | 1100664.21 | 1250.00 | PFNA | 0.358 | 0.321 | ✓ |
| PFOS_1 | 499.0 / 80.0 | 2.60 | 578584.76 | 1028.63 | 216.2 | False | 13C8-PFOS | 178677.69 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | 2.60 | 111359.69 | 955.70 | 583.7 | False | 13C8-PFOS | 178677.69 | 1195.00 | PFOS | 0.192 | 0.204 | ✓ |
| PFDA_1 | 513.0 / 469.0 | 2.97 | 22364.37 | < 0 | 74.2 | False | 13C6-PFDA | 1070149.47 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | 2.97 | 517.66 | 10.18 | 13.1 | False | 13C6-PFDA | 1070149.47 | 1250.00 | PFDA | 0.023 | 0.066 | |
| PFUnA_1 | 563.0 / 519.0 | 3.29 | 64227.95 | < 0 | 270.6 | False | 13C7-PFUnA | 1092633.43 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.29 | 2133.53 | 27.04 | 67.2 | False | 13C7-PFUnA | 1092633.43 | 1250.00 | PFUnA | 0.033 | 0.068 | |
| PFDoA_1 | 613.0 / 569.0 | 3.58 | 4723.70 | < 0 | 38.1 | False | 13C2-PFDoA | 1256854.30 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C2-PFDoA | 1256854.30 | 1250.00 | PFDoA | N/A | 0.122 | |
| PFTeDA_1 | 663.0 / 619.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1093115.40 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 663.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1093115.40 | 1250.00 | PFTeDA | N/A | 0.079 | ✓ |
| PFTeDA_1 | 713.0 / 669.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1093115.40 | 1250.00 | PFTeDA | | | |
| PFTeDA_2 | 713.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C2-PFTeDA | 1093115.40 | 1250.00 | PFTeDA | N/A | 0.062 | ✓ |
| NMeFOSAA_1 | 570.0 / 419.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 119821.76 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | N/A | N/A | N/A | N/A | True | d3-MeFOSAA | 119821.76 | 1250.00 | NMeFOSAA | N/A | 1.002 | ✓ |
| NEtFOSAA_1 | 584.0 / 419.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 201222.65 | 1250.00 | NEtFOSAA | | | |
| NEtFOSAA_2 | 584.0 / 483.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 201222.65 | 1250.00 | NEtFOSAA | N/A | 0.054 | ✓ |
| HFPO-DA_1 | 285.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 393304.09 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 393304.09 | 1250.00 | HFPO-DA | N/A | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 913908.60 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 913908.60 | 1222.50 | ADONA | N/A | 0.015 | ✓ |
| 9CI-PF3ONS_1 | 531.0 / 351.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 913908.60 | 1222.50 | 9CI-PF3ONS | | | |
| 9CI-PF3ONS_2 | 531.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 913908.60 | 1222.50 | 9CI-PF3ONS | N/A | 0.010 | ✓ |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 913908.60 | 1222.50 | 11Cl-pf3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 913908.60 | 1222.50 | 11Cl-pf3OUdS | N/A | 0.006 | ✓ |



| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE58 IB | Injection Vial | 6 |
| Sample ID | Instrument Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:56:05 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|----------------|----------------|------|----------|--------------|-----------|----------|--------------|------------|-----------------|--------------|-----------|--------------------|----------|
| PFBS_1 | 298.9 / 80.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 275952.86 | 1162.50 | PFBS | | | |
| PFBS_2 | 298.9 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFBS | 275952.86 | 1162.50 | PFBS | N/A | 0.325 | ✓ |
| PFHxA_1 | 313.0 / 269.0 | N/A | N/A | N/A | N/A | True | 13C5-PFHxA | 1276722.04 | 1250.00 | PFHxA | | | |
| PFHxA_2 | 313.0 / 119.0 | N/A | N/A | N/A | N/A | True | 13C5-PFHxA | 1276722.04 | 1250.00 | PFHxA | N/A | 0.063 | ✓ |
| PFHpA_1 | 363.0 / 319.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 1263775.58 | 1250.00 | PFHpA | | | |
| PFHpA_2 | 363.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C4-PFHpA | 1263775.58 | 1250.00 | PFHpA | N/A | 0.031 | ✓ |
| PFHxS_1 | 399.0 / 80.0 | 1.86 | 2541.83 | < 0 | 802.3 | False | 13C3-PFHxS | 238780.29 | 1182.50 | PFHxS | | | |
| PFHxS_2 | 399.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C3-PFHxS | 238780.29 | 1182.50 | PFHxS | N/A | 0.363 | |
| PFOA_1 | 413.0 / 369.0 | 2.25 | 10759.85 | < 0 | 30.2 | True | 13C8-PFOA | 1484297.51 | 1222.50 | PFOA | | | |
| PFOA_2 | 413.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1484297.51 | 1222.50 | PFOA | N/A | 0.112 | |
| PFNA_1 | 463.0 / 419.0 | 2.62 | 5530.63 | < 0 | 20.9 | False | 13C9-PFNA | 1593287.93 | 1250.00 | PFNA | | | |
| PFNA_2 | 463.0 / 219.0 | 2.59 | 3002.51 | < 0 | 56.0 | False | 13C9-PFNA | 1593287.93 | 1250.00 | PFNA | 0.543 | 0.321 | |
| PFOS_1 | 499.0 / 80.0 | 2.54 | 6203.84 | < 0 | 268.5 | False | 13C8-PFOS | 217204.62 | 1195.00 | PFOS | | | |
| PFOS_2 | 499.0 / 99.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOS | 217204.62 | 1195.00 | PFOS | N/A | 0.204 | |
| PFDA_1 | 513.0 / 469.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 1269281.42 | 1250.00 | PFDA | | | |
| PFDA_2 | 513.0 / 219.0 | N/A | N/A | N/A | N/A | True | 13C6-PFDA | 1269281.42 | 1250.00 | PFDA | N/A | 0.066 | ✓ |
| PFUnA_1 | 563.0 / 519.0 | 3.31 | 6794.29 | < 0 | 44.9 | False | 13C7-PFUnA | 1178690.17 | 1250.00 | PFUnA | | | |
| PFUnA_2 | 563.0 / 269.0 | 3.29 | 734.81 | 5.00 | 360.2 | False | 13C7-PFUnA | 1178690.17 | 1250.00 | PFUnA | 0.108 | 0.068 | |
| PFDoA_1 | 613.0 / 569.0 | 3.58 | 11649.37 | < 0 | 55.8 | False | 13C2-PFDoA | 1287885.13 | 1250.00 | PFDoA | | | |
| PFDoA_2 | 613.0 / 319.0 | 3.58 | 674.32 | < 0 | 37.7 | False | 13C2-PFDoA | 1287885.13 | 1250.00 | PFDoA | 0.058 | 0.122 | ✓ |
| PFTTrDA_1 | 663.0 / 619.0 | 3.84 | 8687.09 | < 0 | 127.5 | False | 13C2-PFTTeDA | 1426107.16 | 1250.00 | PFTTrDA | | | |
| PFTTrDA_2 | 663.0 / 169.0 | 3.83 | 431.22 | < 0 | 73.8 | False | 13C2-PFTTeDA | 1426107.16 | 1250.00 | PFTTrDA | 0.050 | 0.079 | ✓ |
| PFTTeDA_1 | 713.0 / 669.0 | 4.05 | 33118.69 | < 0 | 319.5 | False | 13C2-PFTTeDA | 1426107.16 | 1250.00 | PFTTeDA | | | |
| PFTTeDA_2 | 713.0 / 169.0 | 4.07 | 836.86 | < 0 | 111.8 | False | 13C2-PFTTeDA | 1426107.16 | 1250.00 | PFTTeDA | 0.025 | 0.062 | |
| NMeFOSAA_1 | 570.0 / 419.0 | 3.12 | 2264.74 | < 0 | 373576.3 | False | d3-MeFOSAA | 150297.76 | 1250.00 | NMeFOSAA | | | |
| NMeFOSAA_2 | 570.0 / 512.0 | 3.13 | 3395.07 | < 0 | 33714.7 | False | d3-MeFOSAA | 150297.76 | 1250.00 | NMeFOSAA | 1.499 | 1.002 | ✓ |
| NEtFOSAA_1 | 584.0 / 419.0 | 3.28 | 3844.30 | < 0 | 44699.7 | False | d5-EtFOSAA | 149967.33 | 1250.00 | NEtFOSAA | | | |
| NEtFOSAA_2 | 584.0 / 483.0 | N/A | N/A | N/A | N/A | True | d5-EtFOSAA | 149967.33 | 1250.00 | NEtFOSAA | N/A | 0.054 | |
| HFPO-DA_1 | 285.0 / 169.0 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 434067.48 | 1250.00 | HFPO-DA | | | |
| HFPO-DA_2 | 285.0 / 118.8 | N/A | N/A | N/A | N/A | True | 13C3-HFPO-DA | 434067.48 | 1250.00 | HFPO-DA | N/A | 0.022 | ✓ |
| ADONA_1 | 377.0 / 251.0 | 1.91 | 10403.99 | < 0 | 276.3 | False | 13C8-PFOA | 1484297.51 | 1222.50 | ADONA | | | |
| ADONA_2 | 377.0 / 85.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1484297.51 | 1222.50 | ADONA | N/A | 0.015 | |
| 9Cl-PF3ONS_1 | 531.0 / 351.0 | 2.82 | 5307.40 | 23.62 | 59.6 | False | 13C8-PFOA | 1484297.51 | 1222.50 | 9Cl-PF3ONS | | | |
| 9Cl-PF3ONS_2 | 531.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1484297.51 | 1222.50 | 9Cl-PF3ONS | N/A | 0.010 | |
| 11Cl-pf3OUdS_1 | 631.0 / 451.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1484297.51 | 1222.50 | 11Cl-PF3OUdS | | | |
| 11Cl-pf3OUdS_2 | 631.0 / 83.0 | N/A | N/A | N/A | N/A | True | 13C8-PFOA | 1484297.51 | 1222.50 | 11Cl-PF3OUdS | N/A | 0.006 | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | LE58 IB | Injection Vial | 8 |
| Sample ID | Instrument Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:02:24 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|------------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.60 | 1500663.81 | 1212.93 | 6819.9 | False | 13C2-PFDA | 1077361.75 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 169655.70 | 1179.54 | 2971.3 | False | 13C4-PFOS | 219600.40 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 177495.39 | 1322.23 | 1327.3 | False | 13C4-PFOS | 219600.40 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.51 | 1403525.57 | 1596.73 | 9331.7 | False | 13C2-PFOA | 704946.82 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.86 | 1293597.31 | 1540.65 | 50722033.8 | False | 13C2-PFOA | 704946.82 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1627028.19 | 1546.59 | 15459.5 | False | 13C2-PFOA | 704946.82 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1525246.65 | 1512.15 | 8010.1 | False | 13C2-PFOA | 704946.82 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 1334040.54 | 1235.37 | 25016.6 | False | 13C2-PFDA | 1077361.75 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.31 | 1296976.05 | 1254.95 | 6571.6 | False | 13C2-PFDA | 1077361.75 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.09 | 1540409.99 | 1235.73 | 8823.5 | False | 13C2-PFDA | 1077361.75 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 294461.43 | 1114.46 | 5285.2 | False | 13C4-PFOS | 219600.40 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.87 | 255628.98 | 1227.21 | 955288.5 | False | 13C4-PFOS | 219600.40 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.62 | 238719.22 | 1261.11 | 2233.3 | False | 13C4-PFOS | 219600.40 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 405902.90 | 1351.43 | 12485.6 | False | 13C2-PFOA | 704946.82 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | LE58 IB | Injection Vial | 6 |
| Sample ID | Instrument Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:56:05 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|------------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.58 | 1287885.13 | 1176.06 | 8109.3 | False | 13C2-PFDA | 953587.57 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.11 | 149782.21 | 1127.07 | 1342.5 | False | 13C4-PFOS | 202902.39 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.28 | 149980.31 | 1209.21 | 1379.6 | False | 13C4-PFOS | 202902.39 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.52 | 1276722.04 | 1458.19 | 19116.9 | False | 13C2-PFOA | 702178.04 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.87 | 1263775.58 | 1511.07 | 30748031.9 | False | 13C2-PFOA | 702178.04 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1484297.51 | 1416.48 | 307368.7 | False | 13C2-PFOA | 702178.04 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.61 | 1593287.93 | 1585.84 | 10319.5 | False | 13C2-PFOA | 702178.04 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.97 | 1269281.42 | 1327.96 | 268794.2 | False | 13C2-PFDA | 953587.57 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.29 | 1178690.17 | 1288.53 | 4304.6 | False | 13C2-PFDA | 953587.57 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.06 | 1426107.16 | 1292.53 | 9806.8 | False | 13C2-PFDA | 953587.57 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 275952.86 | 1130.36 | 9093.1 | False | 13C4-PFOS | 202902.39 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.88 | 238780.29 | 1240.66 | 5961.4 | False | 13C4-PFOS | 202902.39 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 217204.62 | 1241.89 | 1854.6 | False | 13C4-PFOS | 202902.39 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 434067.48 | 1450.90 | 4527861.5 | False | 13C2-PFOA | 702178.04 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | DB472PB-FS(0) | Injection Vial | 7 |
| Sample ID | Procedural Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:06:34 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.58 | 1294672.48 | 1187.25 | 8698.5 | False | 13C2-PFDA | 949580.44 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.11 | 151471.67 | 1248.35 | 1745.5 | False | 13C4-PFOS | 185256.33 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.28 | 134924.99 | 1191.44 | 1723.8 | False | 13C4-PFOS | 185256.33 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.52 | 1165669.67 | 1152.86 | 5476.2 | False | 13C2-PFOA | 810892.44 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.87 | 1186932.42 | 1228.92 | 13646.5 | False | 13C2-PFOA | 810892.44 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1563770.55 | 1292.25 | 1892.9 | False | 13C2-PFOA | 810892.44 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1343227.79 | 1157.71 | 58453.7 | False | 13C2-PFOA | 810892.44 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.97 | 1238367.31 | 1301.09 | 6508.8 | False | 13C2-PFDA | 949580.44 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.29 | 1173071.25 | 1287.80 | 3953.3 | False | 13C2-PFDA | 949580.44 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.04 | 1257686.49 | 1144.70 | 8718.6 | False | 13C2-PFDA | 949580.44 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.27 | 281044.08 | 1260.87 | 5456.8 | False | 13C4-PFOS | 185256.33 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.88 | 209101.80 | 1189.95 | 5723.2 | False | 13C4-PFOS | 185256.33 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 235123.28 | 1472.39 | 4015.3 | False | 13C4-PFOS | 185256.33 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.63 | 419160.14 | 1213.23 | 48799.9 | False | 13C2-PFOA | 810892.44 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|---------------------------|------------------|----------------------------|
| Sample Name | DB473LCS-FS(0) | Injection Vial | 8 |
| Sample ID | Laboratory Control Sample | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:17:01 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.58 | 1358399.79 | 1281.25 | 6725.6 | False | 13C2-PFDA | 923224.97 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.10 | 147126.66 | 1168.92 | 1127.9 | False | 13C4-PFOS | 192170.08 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.27 | 124856.72 | 1062.87 | 1443.8 | False | 13C4-PFOS | 192170.08 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.50 | 1034545.30 | 1038.95 | 11278.5 | False | 13C2-PFOA | 798581.26 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.84 | 1090072.65 | 1146.03 | 15647.3 | False | 13C2-PFOA | 798581.26 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.21 | 1573979.80 | 1320.73 | 1323527.0 | False | 13C2-PFOA | 798581.26 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.59 | 1346005.13 | 1177.99 | 390386.7 | False | 13C2-PFOA | 798581.26 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.95 | 1217835.17 | 1316.04 | 6456.9 | False | 13C2-PFDA | 923224.97 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.29 | 1030149.15 | 1163.19 | 5210.0 | False | 13C2-PFDA | 923224.97 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.08 | 1324507.23 | 1239.93 | 9055.8 | False | 13C2-PFDA | 923224.97 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.25 | 307327.97 | 1329.19 | 7129.1 | False | 13C4-PFOS | 192170.08 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.85 | 212152.99 | 1163.88 | 16324.9 | False | 13C4-PFOS | 192170.08 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.59 | 233154.00 | 1407.53 | 3576.4 | False | 13C4-PFOS | 192170.08 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.60 | 499147.80 | 1467.03 | 11963.3 | False | 13C2-PFOA | 798581.26 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2203-FS1(0) | Injection Vial | 9 |
| Sample ID | CBD-AOA-MW06-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:27:28 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.59 | 813762.89 | 824.17 | 7191.8 | False | 13C2-PFDA | 859791.94 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 125071.81 | 1262.02 | 3331.9 | False | 13C4-PFOS | 151311.50 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 123233.05 | 1332.32 | 1634.6 | False | 13C4-PFOS | 151311.50 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.53 | 716209.35 | 824.16 | 1673.4 | False | 13C2-PFOA | 696936.33 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.87 | 824534.76 | 993.29 | 2647.9 | False | 13C2-PFOA | 696936.33 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1124014.79 | 1080.72 | 2740.9 | False | 13C2-PFOA | 696936.33 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1093340.85 | 1096.41 | 9524.4 | False | 13C2-PFOA | 696936.33 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 1059980.51 | 1229.97 | 45288.1 | False | 13C2-PFDA | 859791.94 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.30 | 879695.98 | 1066.59 | 8710.3 | False | 13C2-PFDA | 859791.94 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.08 | 335278.86 | 337.03 | 7050.4 | False | 13C2-PFDA | 859791.94 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.27 | 198860.45 | 1092.31 | 3167.7 | False | 13C4-PFOS | 151311.50 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.88 | 183308.94 | 1277.19 | 1078.3 | False | 13C4-PFOS | 151311.50 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.62 | 150728.75 | 1155.64 | 637.2 | False | 13C4-PFOS | 151311.50 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.63 | 328954.80 | 1107.82 | 1447.1 | False | 13C2-PFOA | 696936.33 | 1250.00 | | N/A | N/A | ✓ |



| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2205-FS1(0) | Injection Vial | 10 |
| Sample ID | CBD-AOA-MW12-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:37:55 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.60 | 1325984.73 | 1289.56 | 9076.2 | False | 13C2-PFDA | 895389.81 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.13 | 119090.99 | 1151.93 | 2239.0 | False | 13C4-PFOS | 157845.74 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 180002.93 | 1865.52 | 1727.2 | False | 13C4-PFOS | 157845.74 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.52 | 479071.58 | 671.25 | 2227.1 | False | 13C2-PFOA | 572376.28 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.86 | 495655.70 | 727.04 | 1985.4 | False | 13C2-PFOA | 572376.28 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 892168.42 | 1044.48 | 2162.1 | False | 13C2-PFOA | 572376.28 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1063147.52 | 1298.15 | 7757.5 | False | 13C2-PFOA | 572376.28 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 1032877.10 | 1150.87 | 13684.7 | False | 13C2-PFDA | 895389.81 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.31 | 1020931.85 | 1188.62 | 3767.6 | False | 13C2-PFDA | 895389.81 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.08 | 1124252.92 | 1085.18 | 10307.0 | False | 13C2-PFDA | 895389.81 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 173687.00 | 914.54 | 1551.6 | False | 13C4-PFOS | 157845.74 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.87 | 144325.49 | 963.95 | 986.4 | False | 13C4-PFOS | 157845.74 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.62 | 169015.01 | 1242.20 | 727.9 | False | 13C4-PFOS | 157845.74 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 368143.67 | 1509.61 | 2371.2 | False | 13C2-PFOA | 572376.28 | 1250.00 | | N/A | N/A | ✓ |



| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2206-FS1(0) | Injection Vial | 11 |
| Sample ID | CBD-AOA-MW11-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:48:23 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.59 | 1071879.38 | 1081.07 | 9932.2 | False | 13C2-PFDA | 863392.21 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.12 | 70065.28 | 822.36 | 1134.8 | False | 13C4-PFOS | 130083.02 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.28 | 148072.99 | 1862.12 | 536.2 | True | 13C4-PFOS | 130083.02 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.49 | 336973.36 | 626.47 | 818.7 | True | 13C2-PFOA | 431380.13 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.83 | 180908.53 | 352.09 | 1233.5 | False | 13C2-PFOA | 431380.13 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.22 | 721059.90 | 1120.07 | 1687.6 | False | 13C2-PFOA | 431380.13 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.61 | 800600.71 | 1297.08 | 2627.4 | False | 13C2-PFOA | 431380.13 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.97 | 947065.83 | 1094.36 | 3529.3 | False | 13C2-PFDA | 863392.21 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.30 | 1100833.64 | 1329.14 | 4519.9 | False | 13C2-PFDA | 863392.21 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.08 | 815711.23 | 816.54 | 9225.1 | False | 13C2-PFDA | 863392.21 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.21 | 134222.17 | 857.58 | 1099.0 | False | 13C4-PFOS | 130083.02 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.84 | 79643.02 | 645.46 | 318.5 | False | 13C4-PFOS | 130083.02 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 138005.21 | 1230.76 | 524.2 | False | 13C4-PFOS | 130083.02 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.60 | 248209.96 | 1350.48 | 1614.5 | False | 13C2-PFOA | 431380.13 | 1250.00 | | N/A | N/A | ✓ |



| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2207-FS1(0) | Injection Vial | 12 |
| Sample ID | CBD-AOA-MW11P-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:58:51 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.60 | 1428372.85 | 1348.15 | 7078.4 | False | 13C2-PFDA | 922607.76 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.12 | 154262.69 | 1764.86 | 2469.4 | False | 13C4-PFOS | 133453.56 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 210588.56 | 2581.42 | 1592.8 | False | 13C4-PFOS | 133453.56 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.49 | 338007.14 | 641.16 | 1939.8 | False | 13C2-PFOA | 422789.60 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.82 | 177416.90 | 352.32 | 1261.5 | False | 13C2-PFOA | 422789.60 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.22 | 649357.35 | 1029.19 | 1750.7 | False | 13C2-PFOA | 422789.60 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.61 | 1083065.83 | 1790.37 | 2727.0 | False | 13C2-PFOA | 422789.60 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.98 | 1053434.89 | 1139.15 | 4511.8 | False | 13C2-PFDA | 922607.76 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.30 | 1281054.98 | 1447.46 | 3930.0 | False | 13C2-PFDA | 922607.76 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.08 | 1264990.45 | 1185.01 | 15489.4 | False | 13C2-PFDA | 922607.76 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.21 | 116933.04 | 728.24 | 1170.2 | False | 13C4-PFOS | 133453.56 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.83 | 75880.53 | 599.44 | 370.7 | False | 13C4-PFOS | 133453.56 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 138359.11 | 1202.76 | 608.2 | False | 13C4-PFOS | 133453.56 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.60 | 250221.06 | 1389.08 | 1516.0 | False | 13C2-PFOA | 422789.60 | 1250.00 | | N/A | N/A | ✓ |

| | | | |
|--------------------|------------------------|------------------|----------------------------|
| Sample Name | G2209-FS1(0) | Injection Vial | 13 |
| Sample ID | CBD-AOA-EB01-102820-GW | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:09:19 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|------------|----------|-----------|------------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.59 | 1387375.66 | 1166.56 | 7162.4 | False | 13C2-PFDA | 1035624.71 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.12 | 173593.80 | 1373.51 | 1901.4 | False | 13C4-PFOS | 192966.31 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.29 | 167950.05 | 1423.81 | 2062.9 | False | 13C4-PFOS | 192966.31 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.52 | 1006409.63 | 858.04 | 5582.0 | False | 13C2-PFOA | 940663.70 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.86 | 1197679.44 | 1068.97 | 48986322.7 | False | 13C2-PFOA | 940663.70 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.24 | 1417418.88 | 1009.72 | 3217.2 | False | 13C2-PFOA | 940663.70 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.62 | 1673056.16 | 1243.05 | 70789.9 | False | 13C2-PFOA | 940663.70 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.97 | 1360575.38 | 1310.72 | 1608.4 | False | 13C2-PFDA | 1035624.71 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.30 | 1364110.78 | 1373.11 | 5807.1 | False | 13C2-PFDA | 1035624.71 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.07 | 1357658.63 | 1133.02 | 9330.4 | False | 13C2-PFDA | 1035624.71 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 352572.69 | 1518.58 | 10593.2 | False | 13C4-PFOS | 192966.31 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.87 | 227140.71 | 1240.96 | 2758.7 | False | 13C4-PFOS | 192966.31 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.61 | 205565.65 | 1235.86 | 959.6 | False | 13C4-PFOS | 192966.31 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.62 | 388251.84 | 968.74 | 1910.0 | False | 13C2-PFOA | 940663.70 | 1250.00 | | N/A | N/A | ✓ |



| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2210-FS1(0) | Injection Vial | 14 |
| Sample ID | CBD-AOA-MW14-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:19:47 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|------------|--------------|-----------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.58 | 1256854.30 | 1131.70 | 6879.2 | False | 13C2-PFDA | 967092.18 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.11 | 118644.67 | 1202.88 | 2759.7 | False | 13C4-PFOS | 150592.72 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.27 | 201242.71 | 2186.10 | 3326.3 | False | 13C4-PFOS | 150592.72 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.51 | 510773.87 | 634.49 | 1101.6 | False | 13C2-PFOA | 645614.70 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.85 | 621499.73 | 808.22 | 2004.8 | False | 13C2-PFOA | 645614.70 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.22 | 913908.60 | 948.56 | 2421.9 | False | 13C2-PFOA | 645614.70 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.60 | 1100664.21 | 1191.50 | 6266.3 | False | 13C2-PFOA | 645614.70 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 2.96 | 1070149.47 | 1103.99 | 4948.1 | False | 13C2-PFDA | 967092.18 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.29 | 1092633.43 | 1177.78 | 5242.2 | False | 13C2-PFDA | 967092.18 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.07 | 1093115.40 | 976.90 | 8872.1 | False | 13C2-PFDA | 967092.18 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.26 | 181888.30 | 1003.85 | 1612.0 | False | 13C4-PFOS | 150592.72 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.86 | 173578.93 | 1215.17 | 944.0 | False | 13C4-PFOS | 150592.72 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.60 | 178677.69 | 1376.47 | 641.9 | False | 13C4-PFOS | 150592.72 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.61 | 393304.09 | 1429.83 | 1583.4 | False | 13C2-PFOA | 645614.70 | 1250.00 | | N/A | N/A | ✓ |

Chromatograms



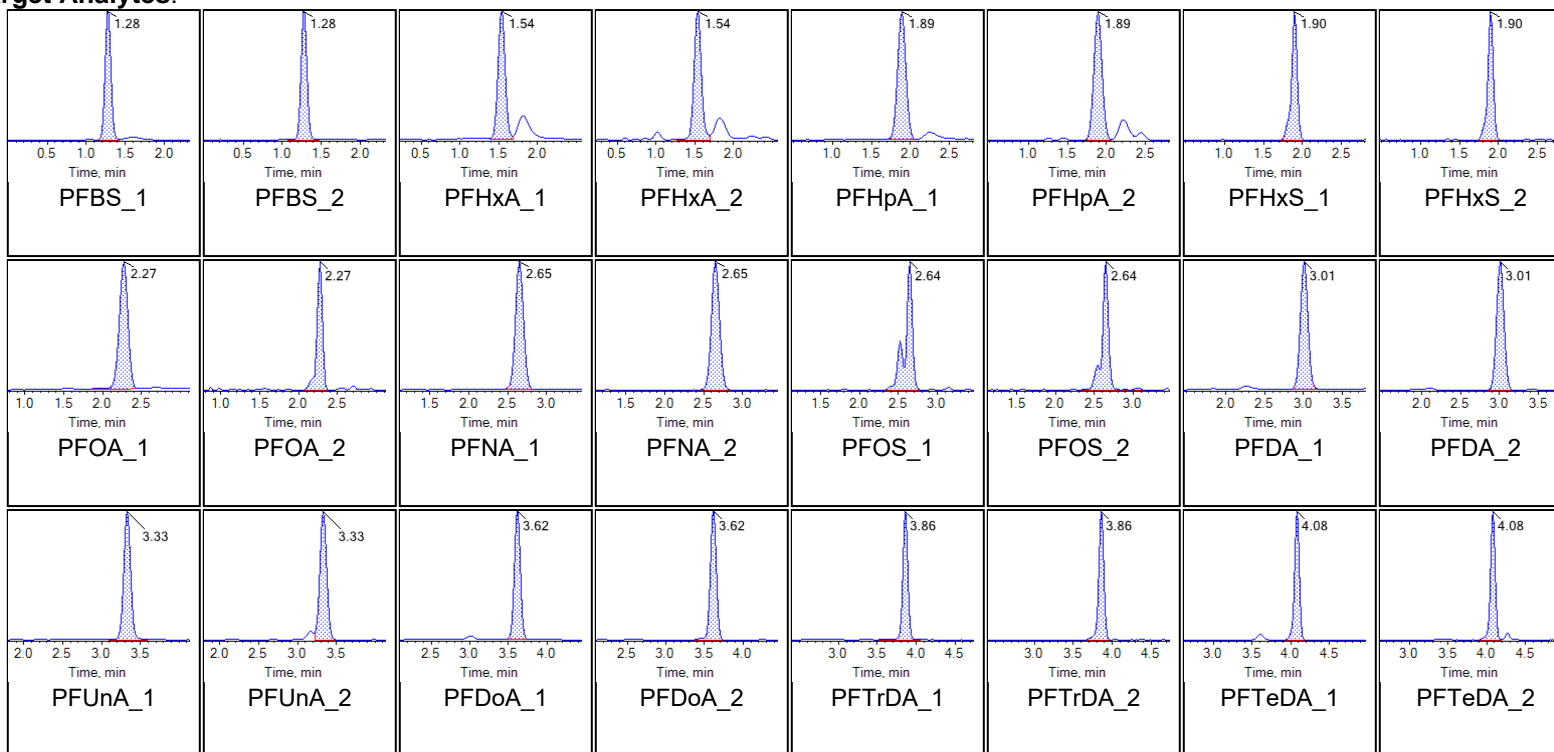
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | LE52 | Injection Vial | 2 |
| Sample ID | L1 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

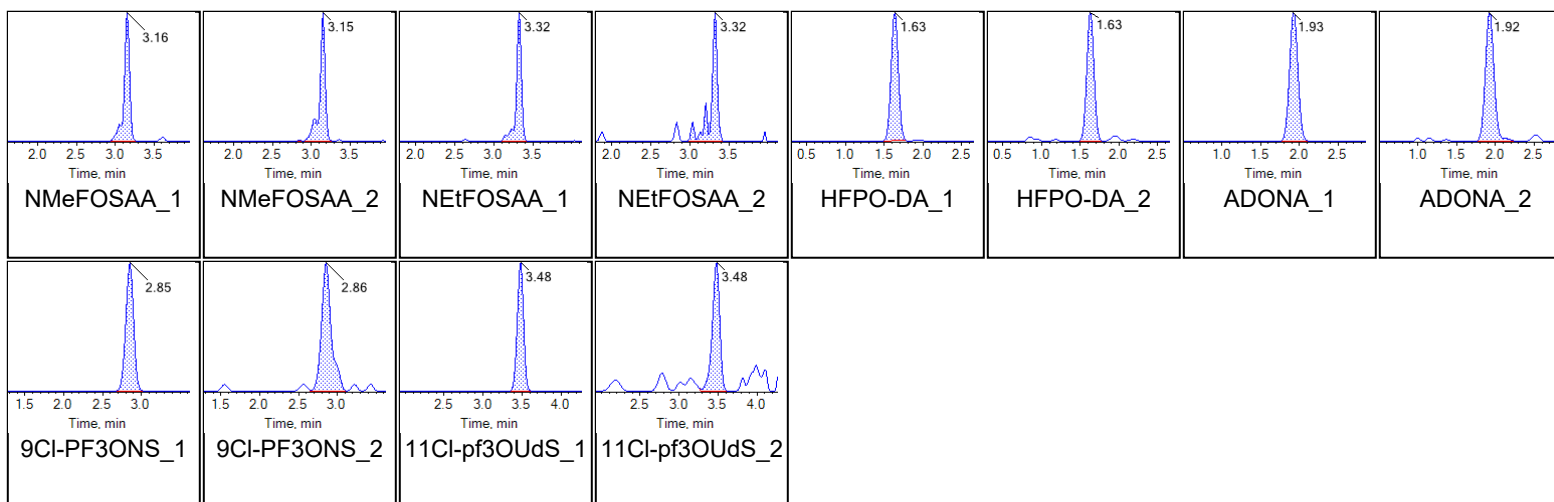
Chromatograms

Target Analytes:

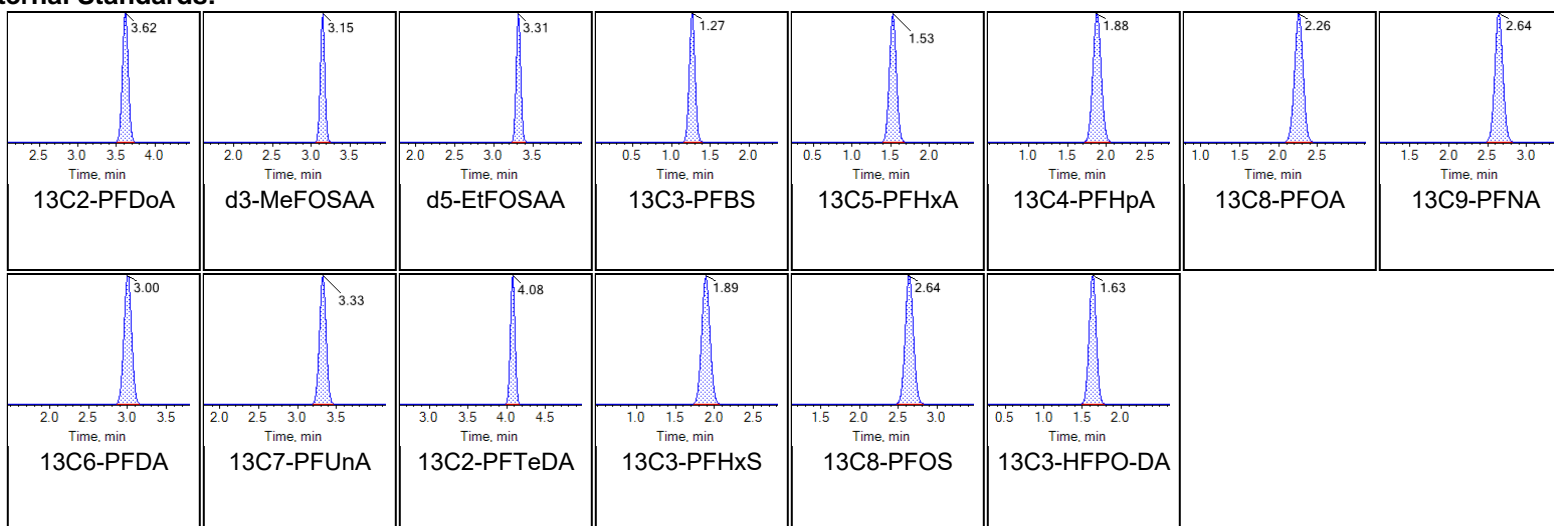




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





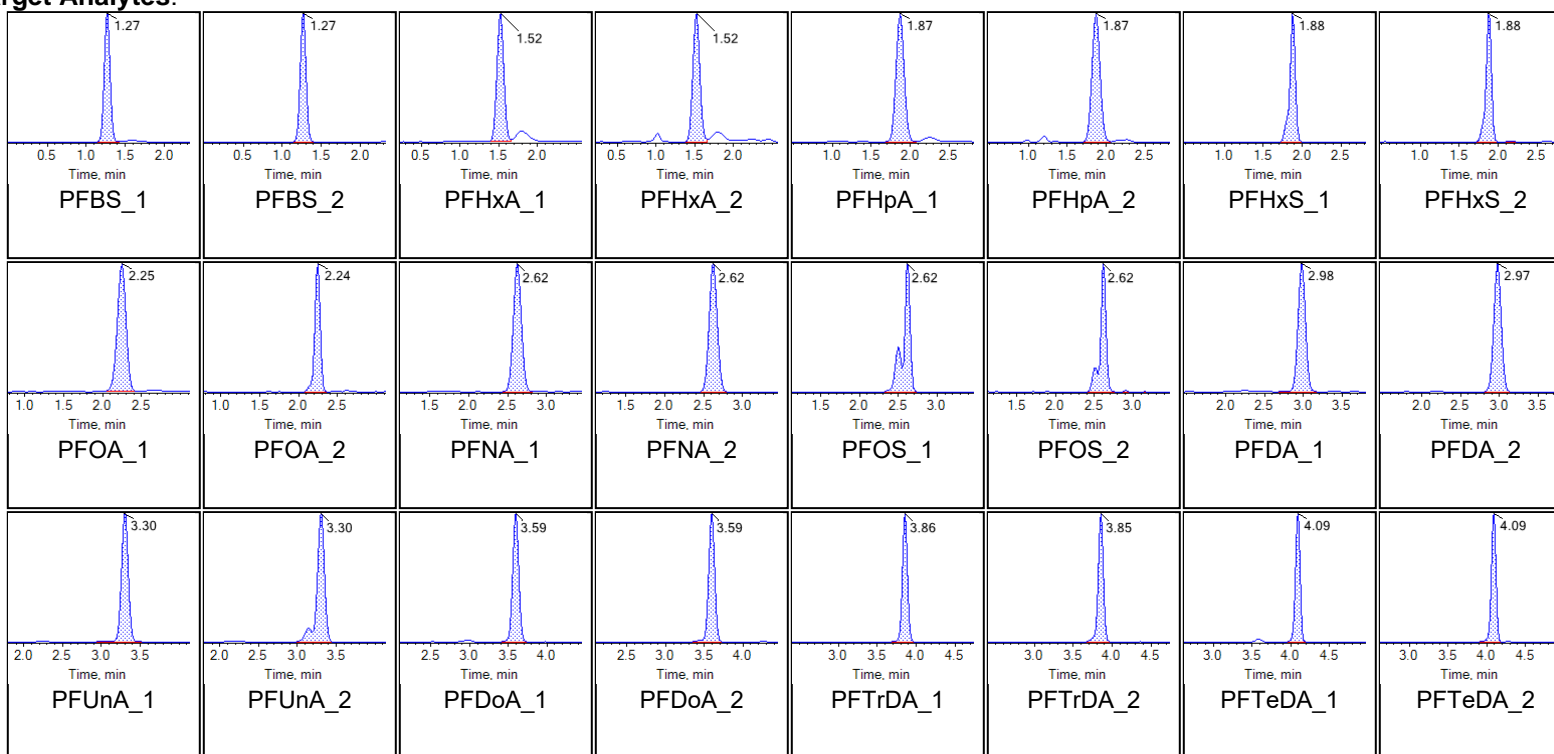
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE53 | Injection Vial | 3 |
| Sample ID | L2 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:10:08 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

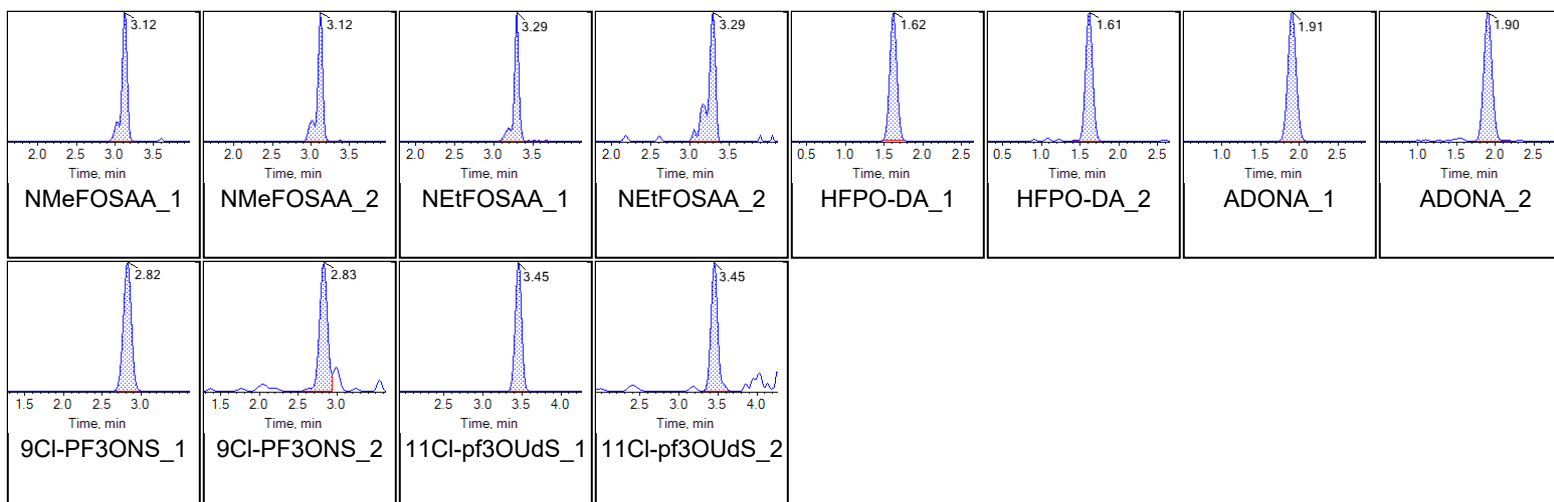
Chromatograms

Target Analytes:

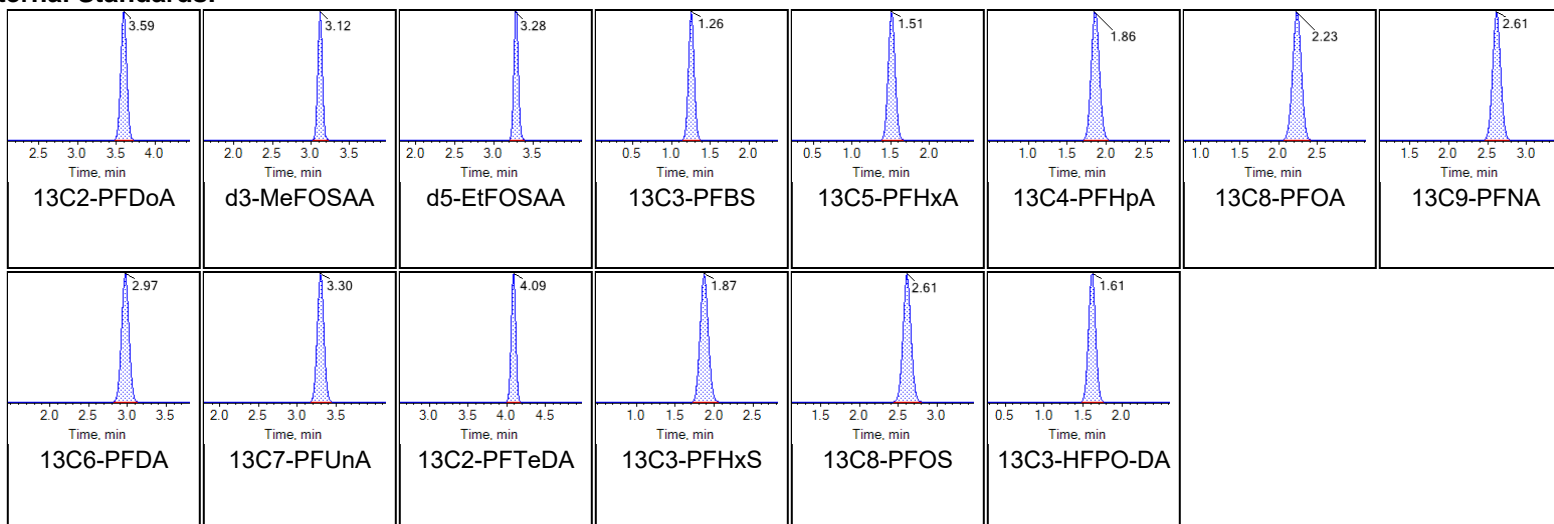




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

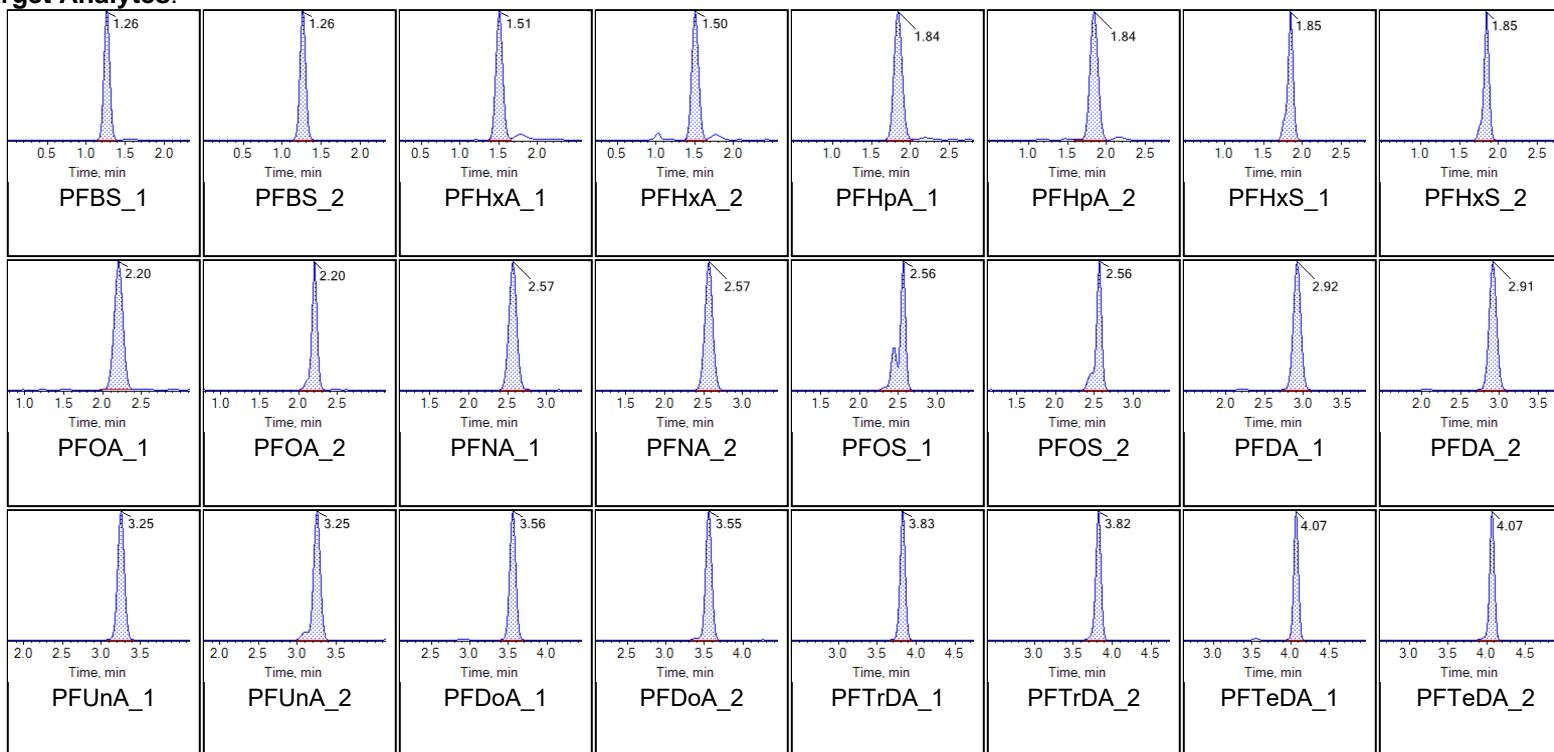
Internal Standards:



| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE54 | Injection Vial | 4 |
| Sample ID | L3 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:20:35 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

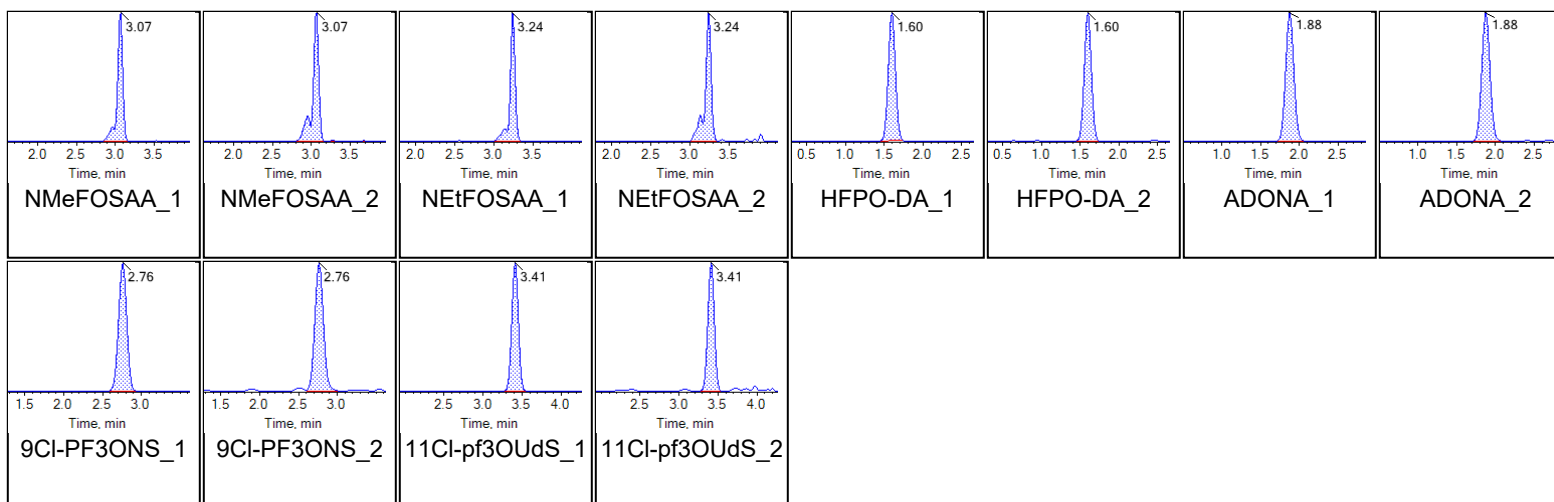
Chromatograms

Target Analytes:

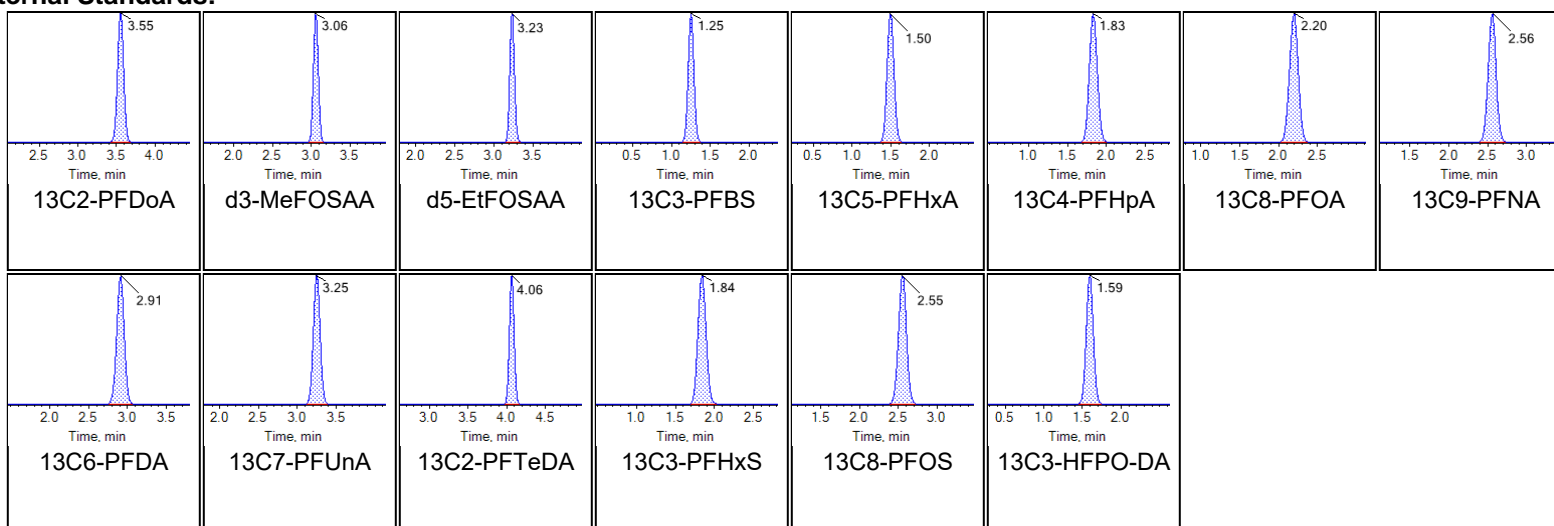




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





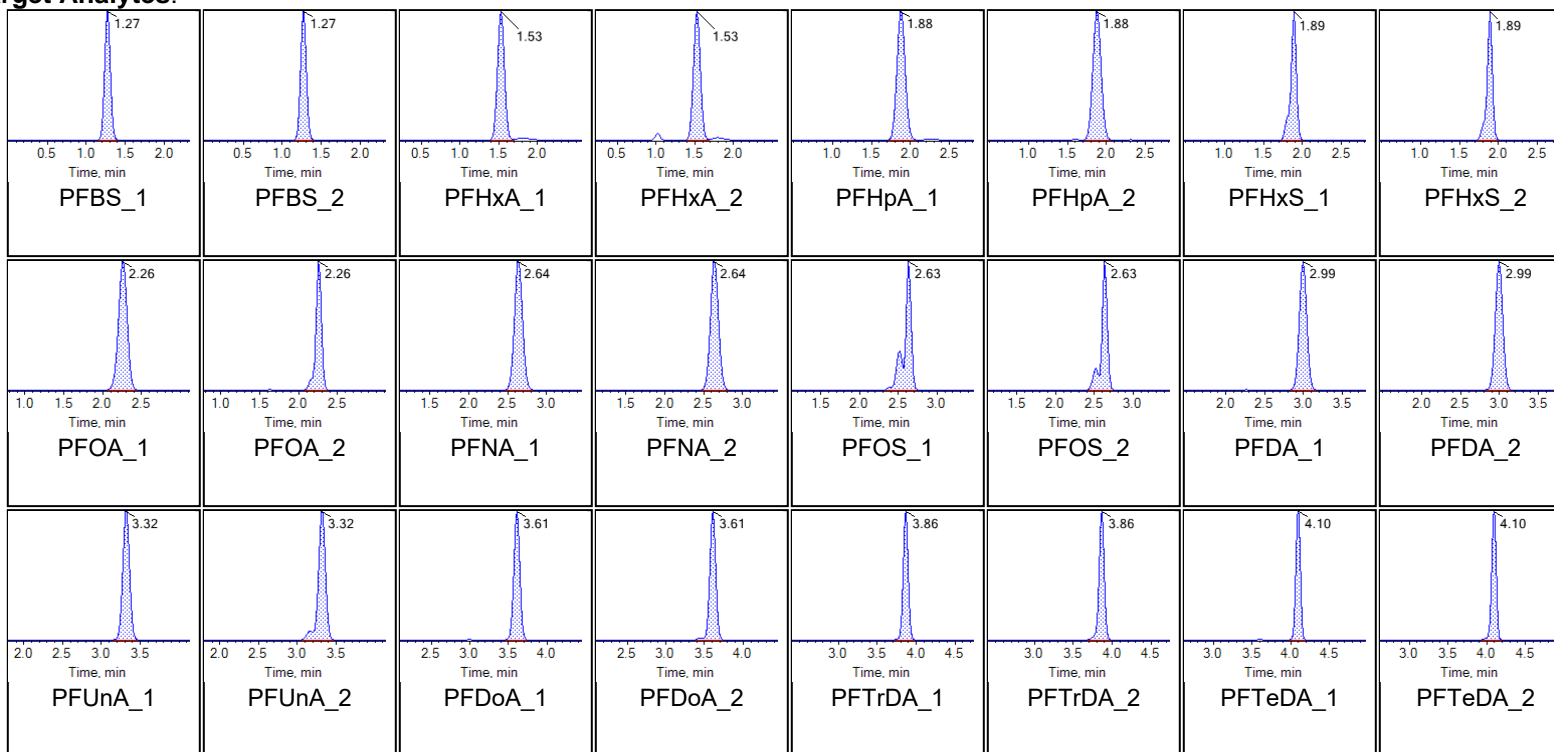
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE55 | Injection Vial | 5 |
| Sample ID | L4 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:31:03 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

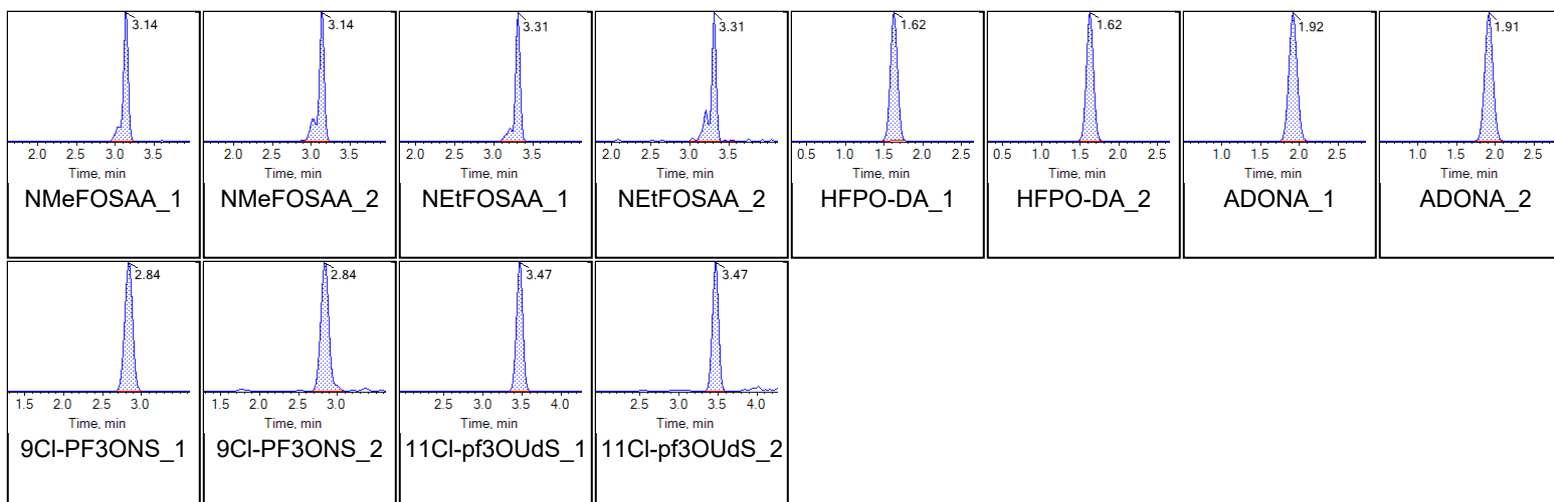
Chromatograms

Target Analytes:

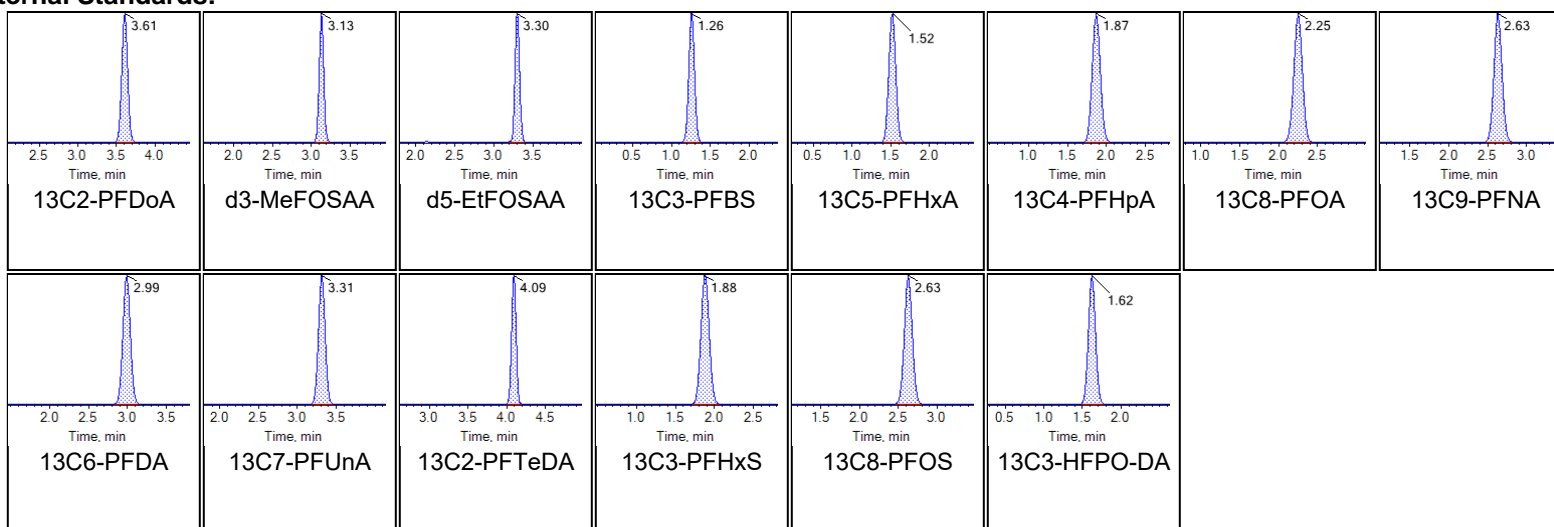




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





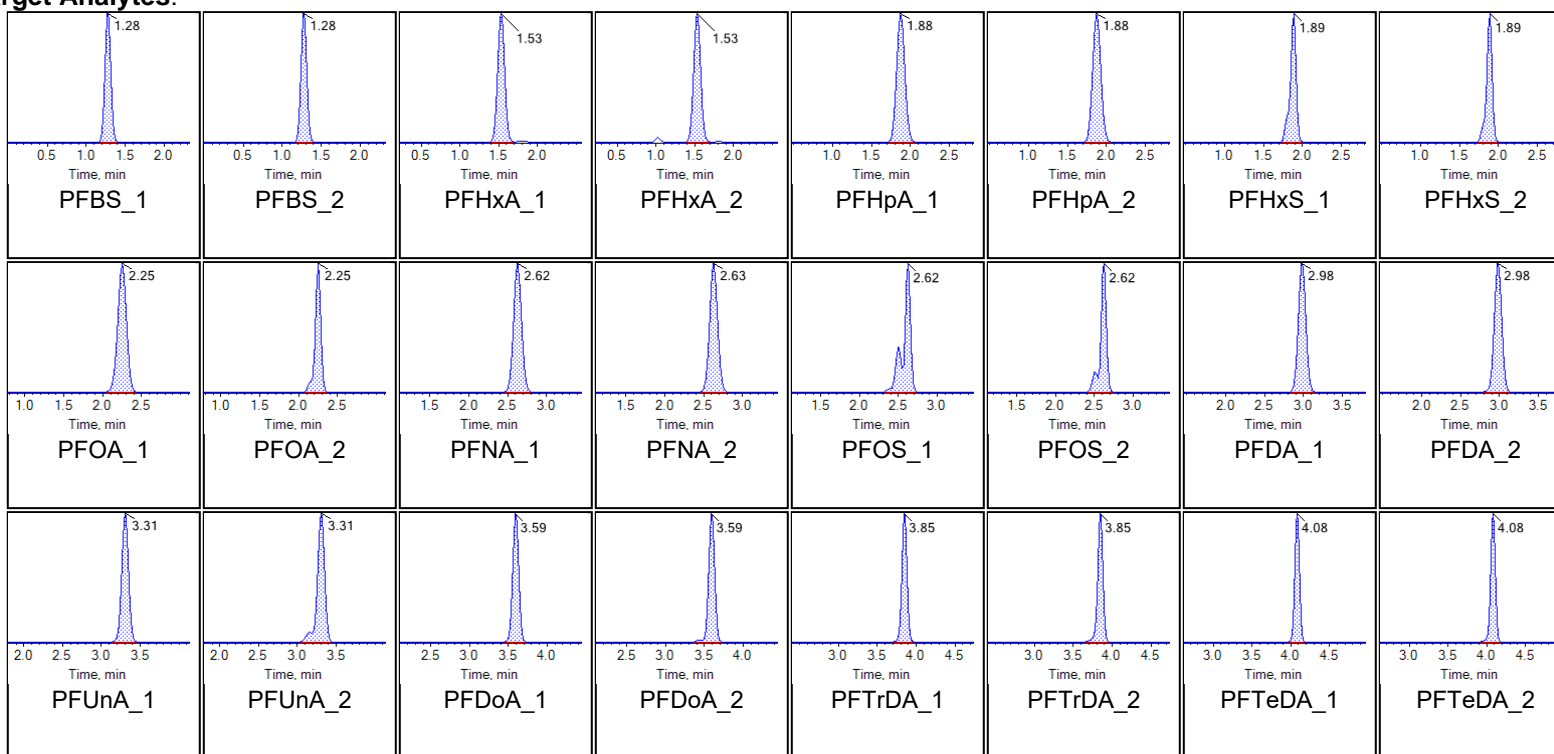
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE56 | Injection Vial | 6 |
| Sample ID | L5 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:41:30 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

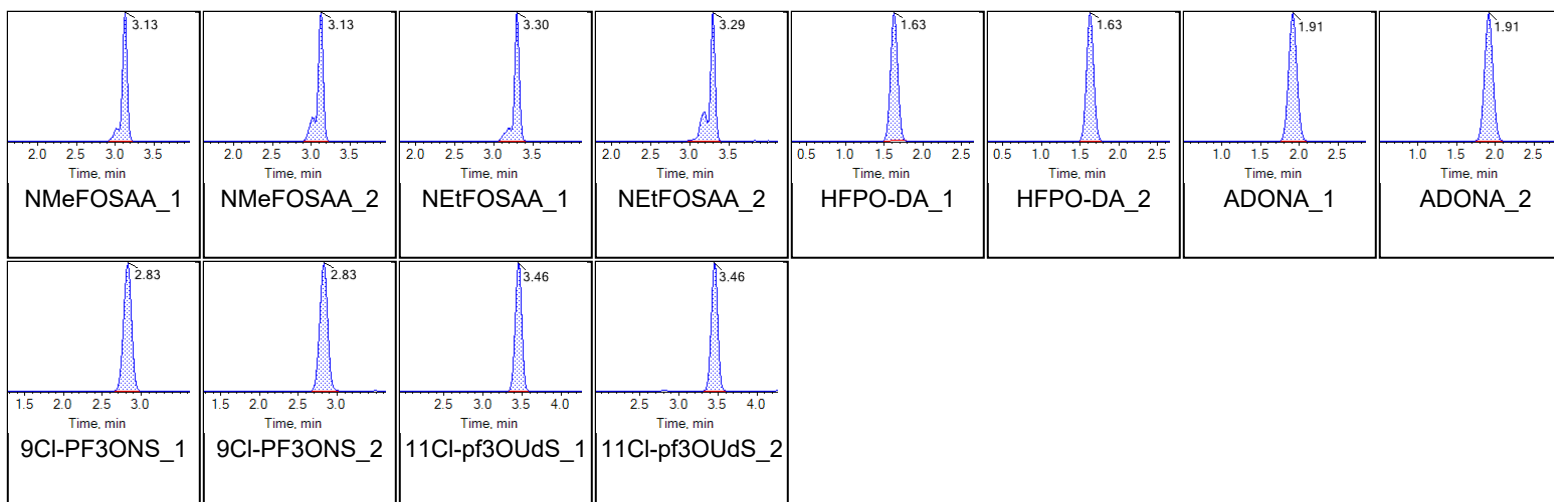
Chromatograms

Target Analytes:

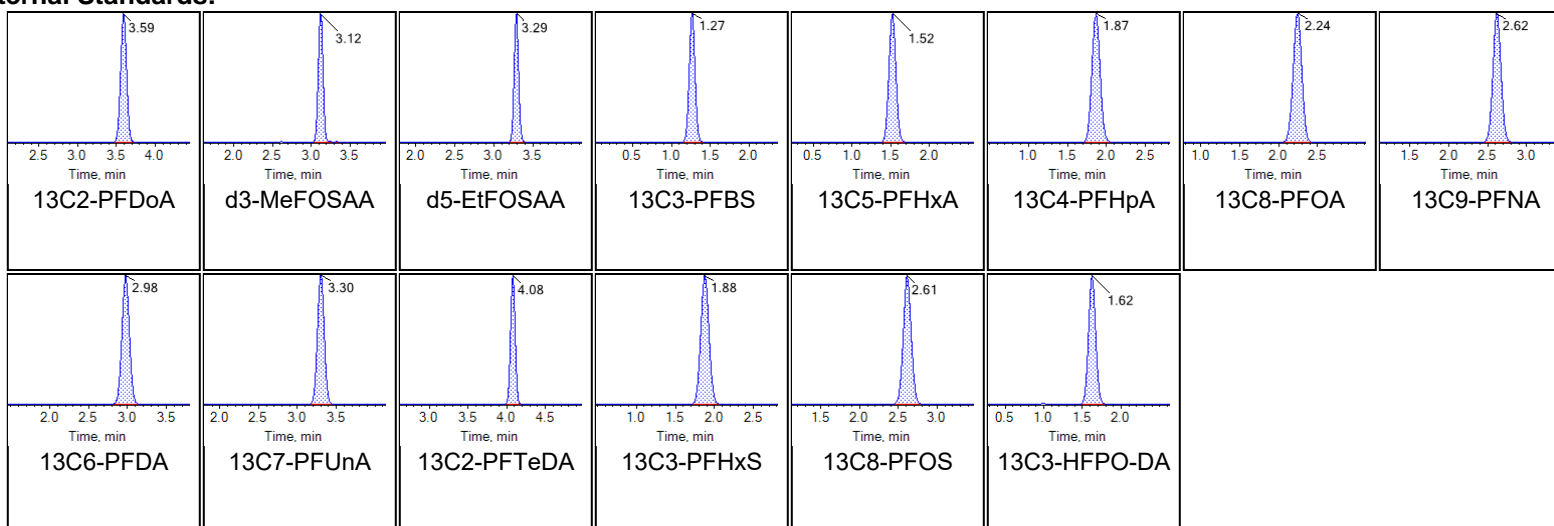




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





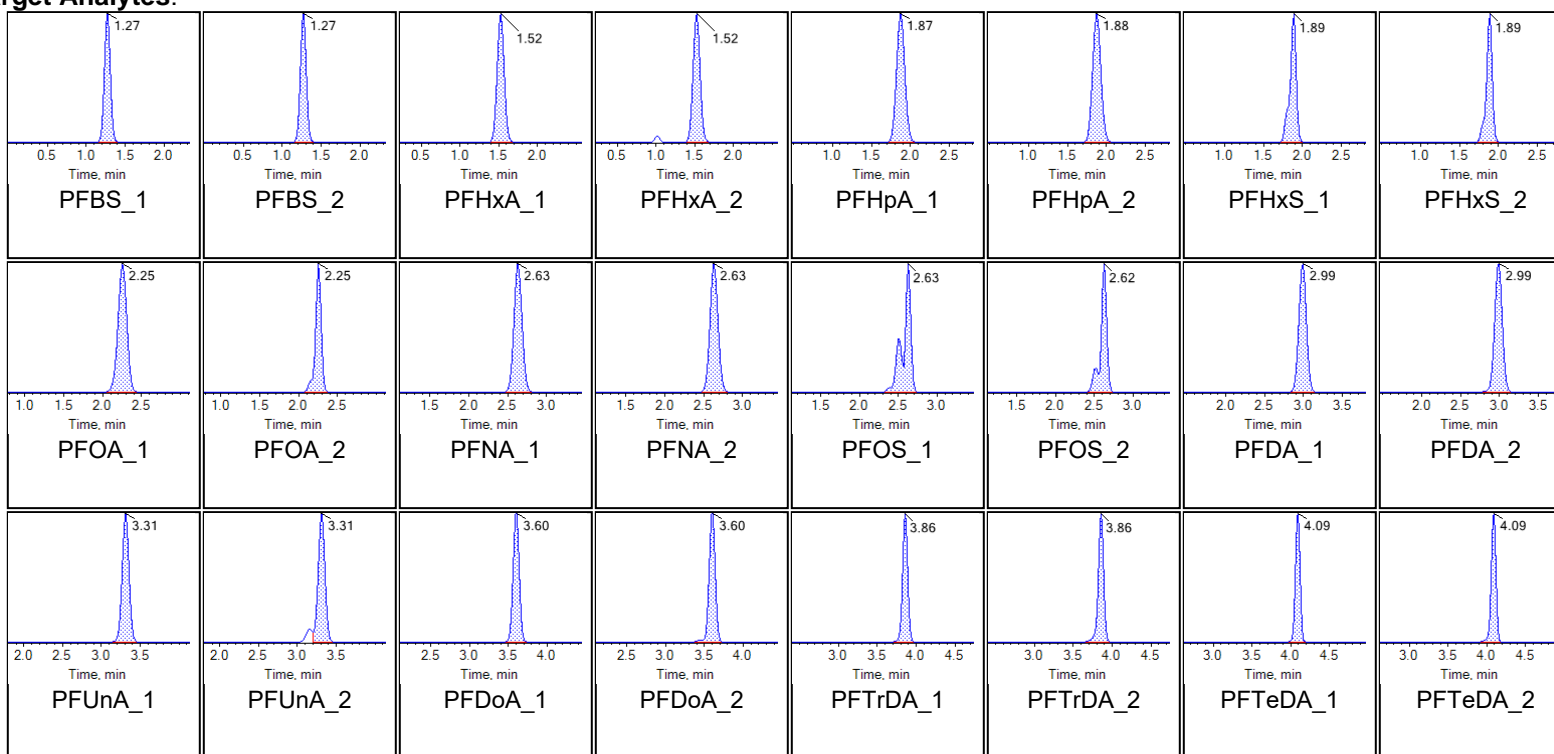
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE57 | Injection Vial | 7 |
| Sample ID | L6 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:51:58 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

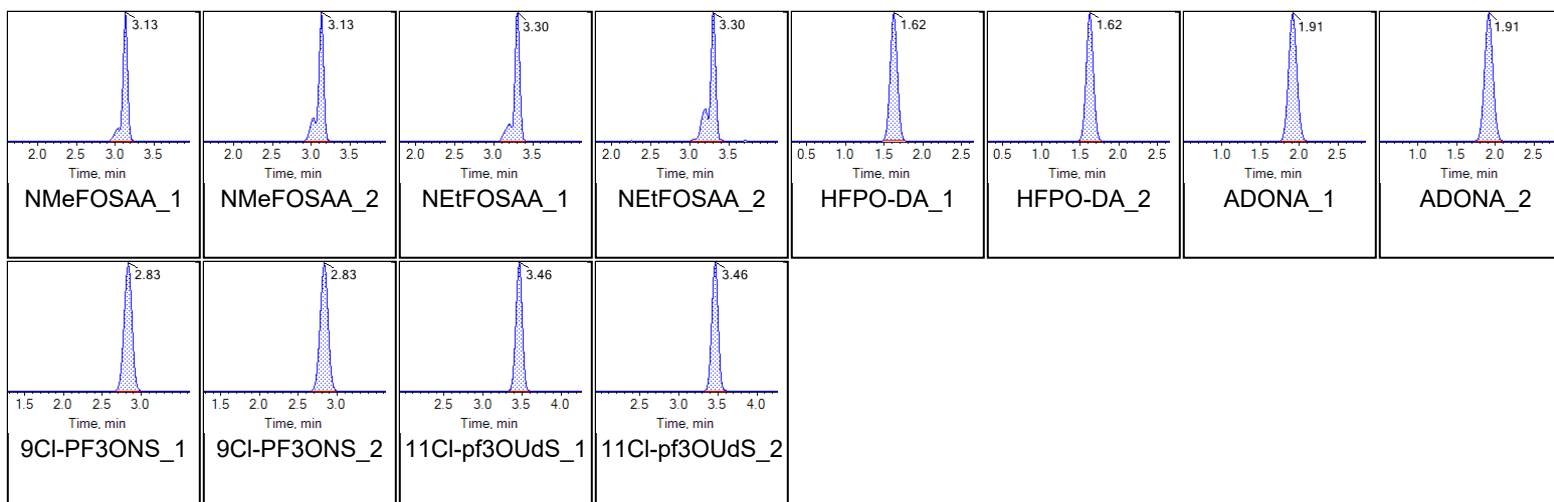
Chromatograms

Target Analytes:

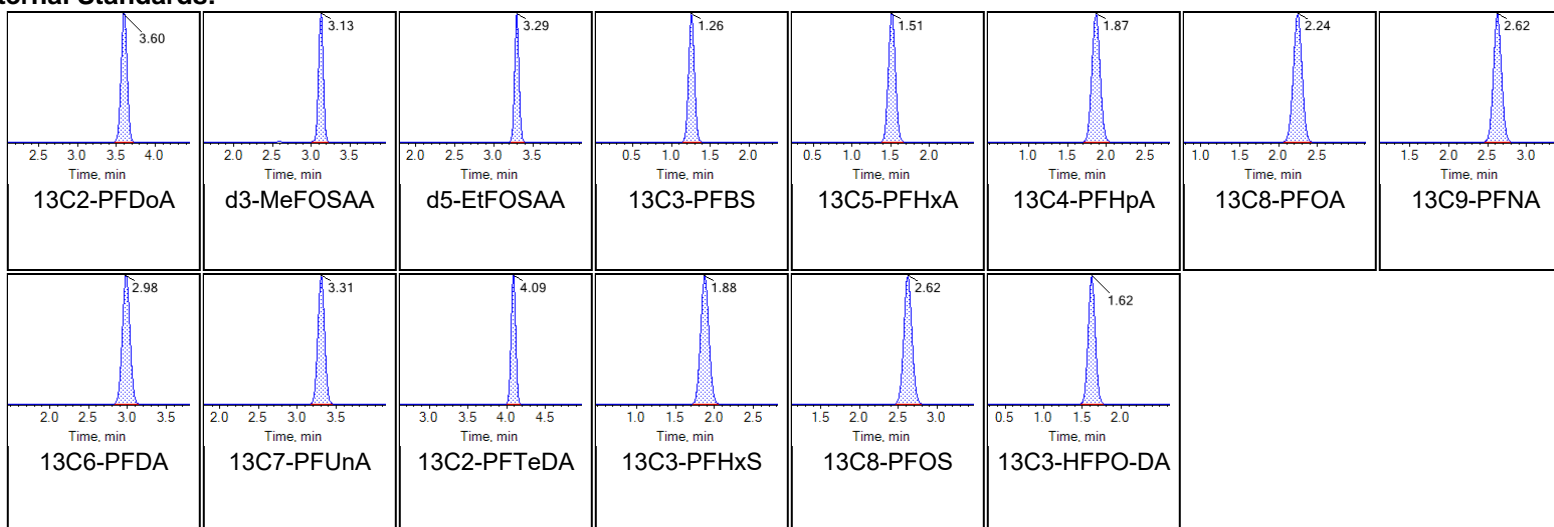




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





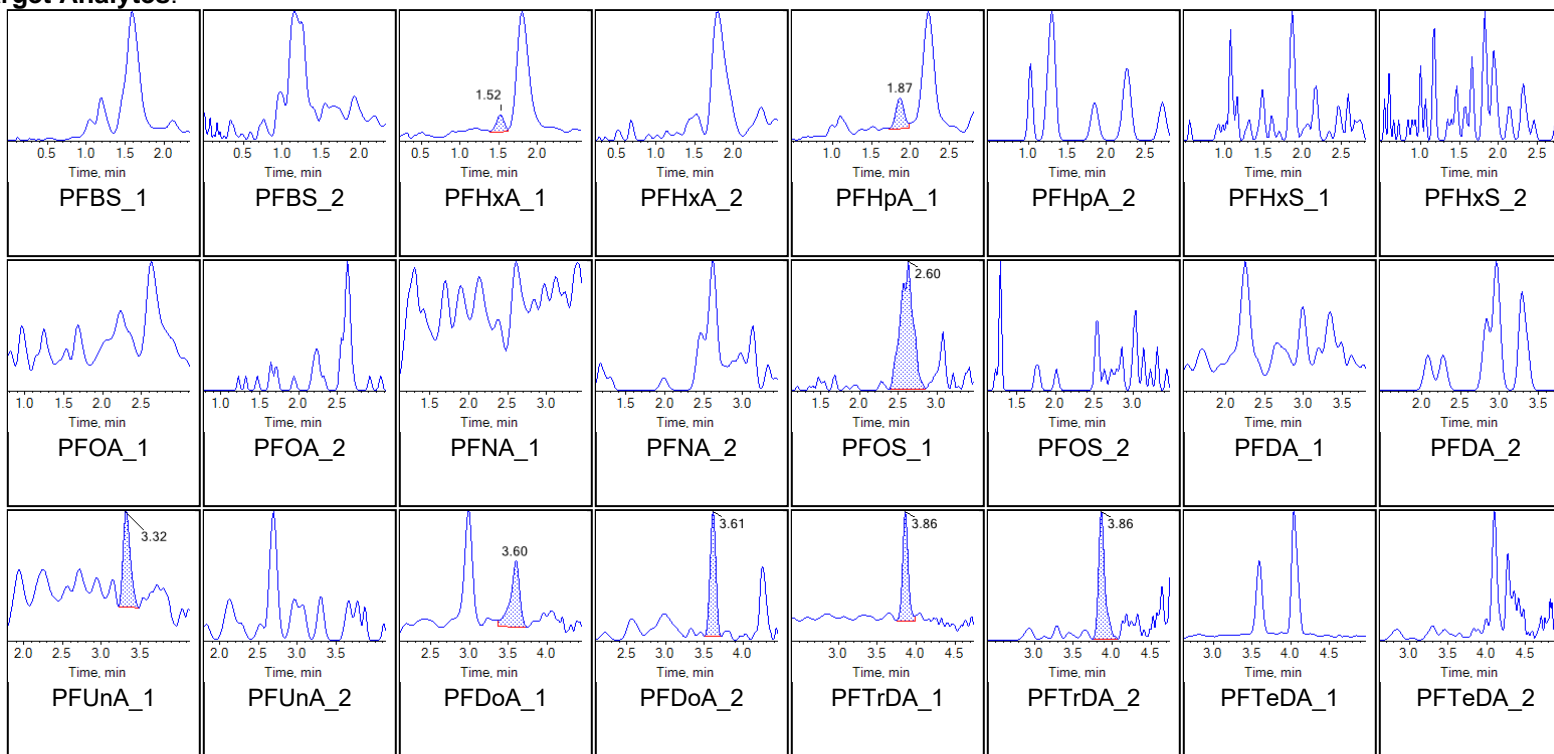
Chromatogram Report

Created with Analyst Reporter
 Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE58 IB | Injection Vial | 8 |
| Sample ID | Instrument Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:02:24 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

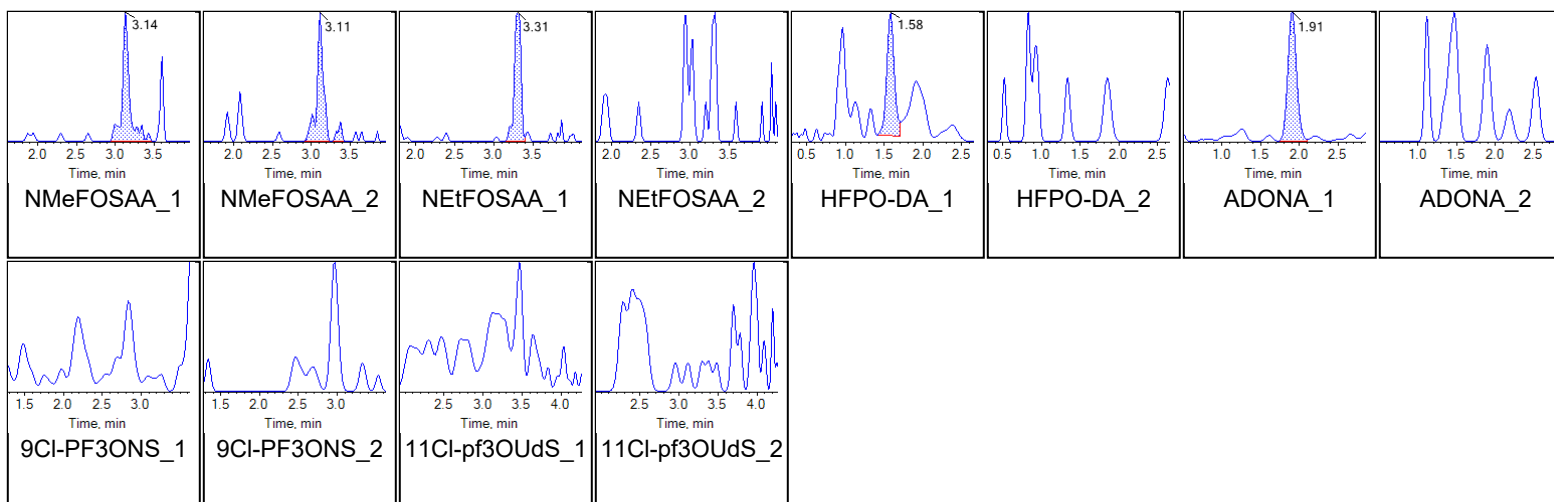
Chromatograms

Target Analytes:

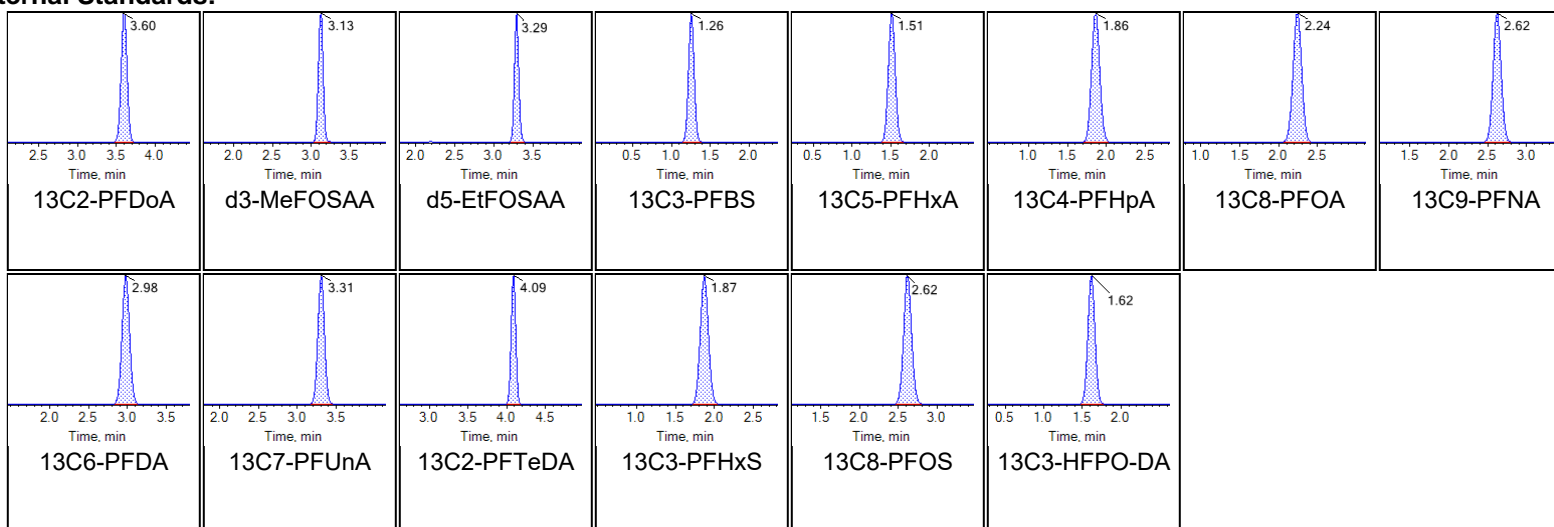




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

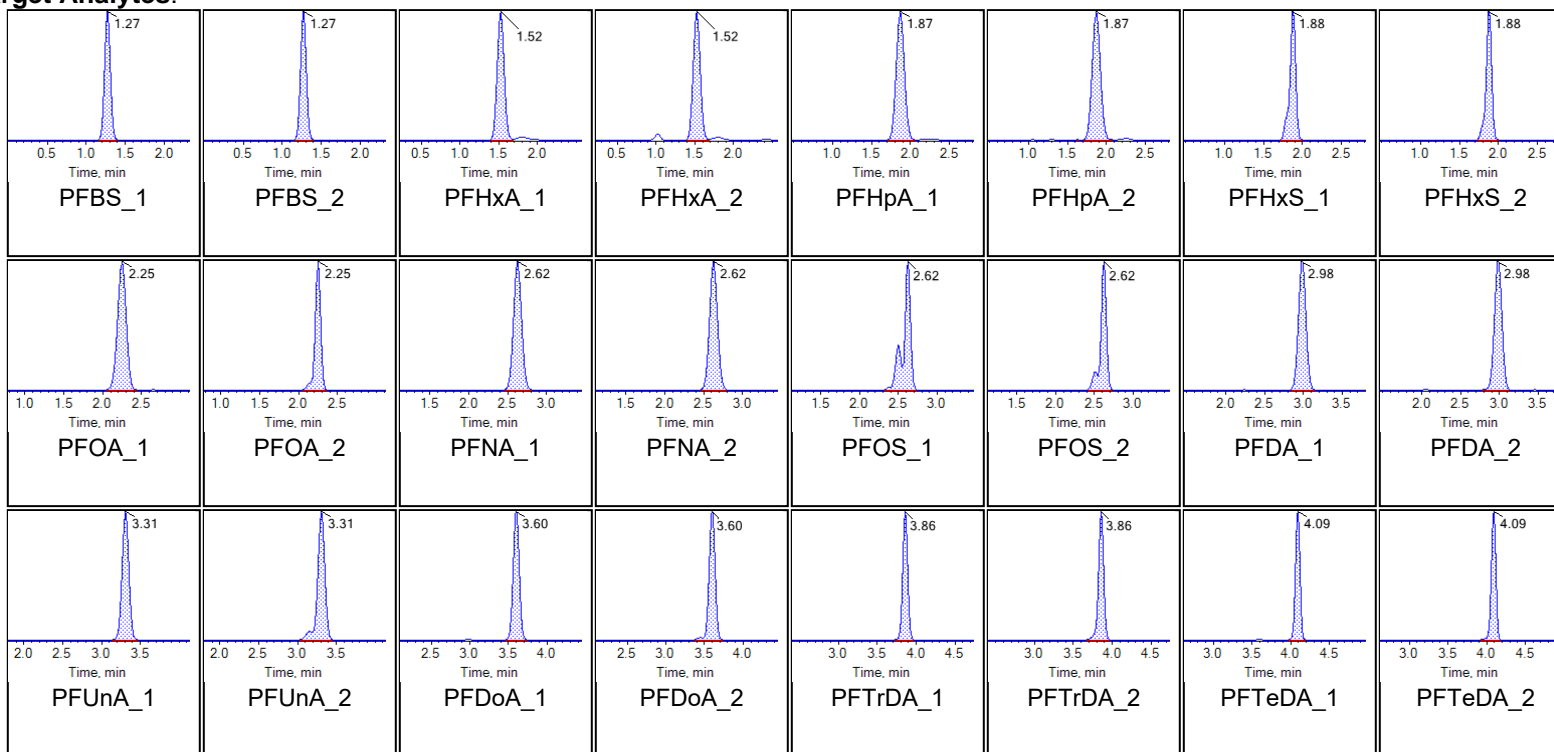
Internal Standards:



| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE59 ICC | Injection Vial | 9 |
| Sample ID | ICC | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:12:52 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

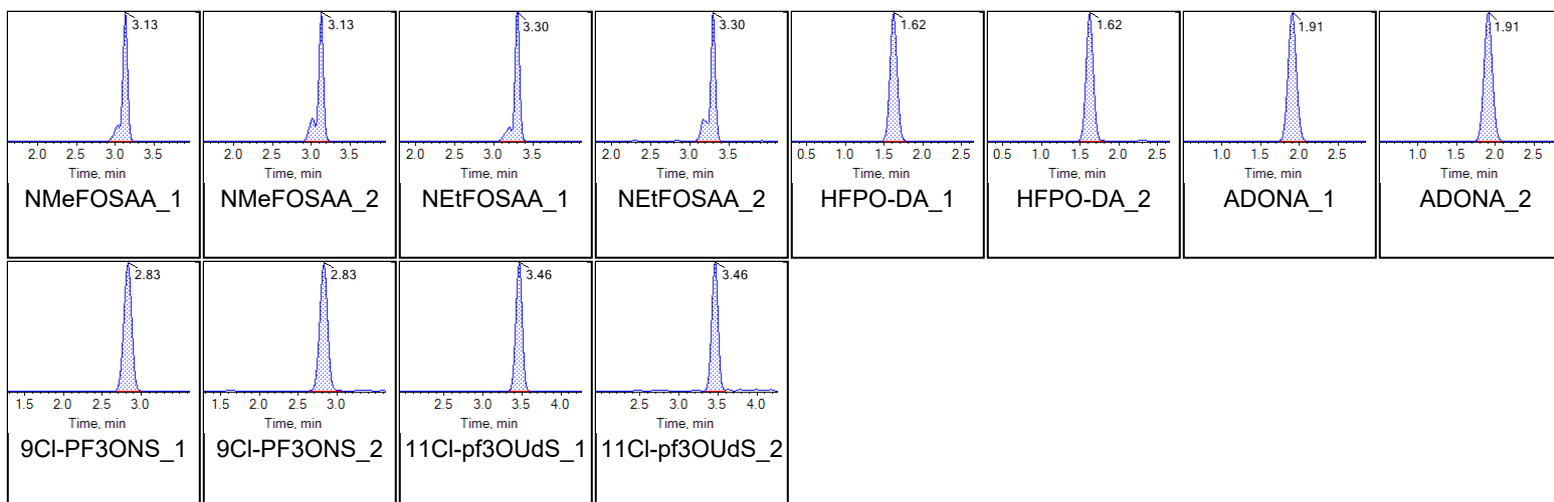
Chromatograms

Target Analytes:

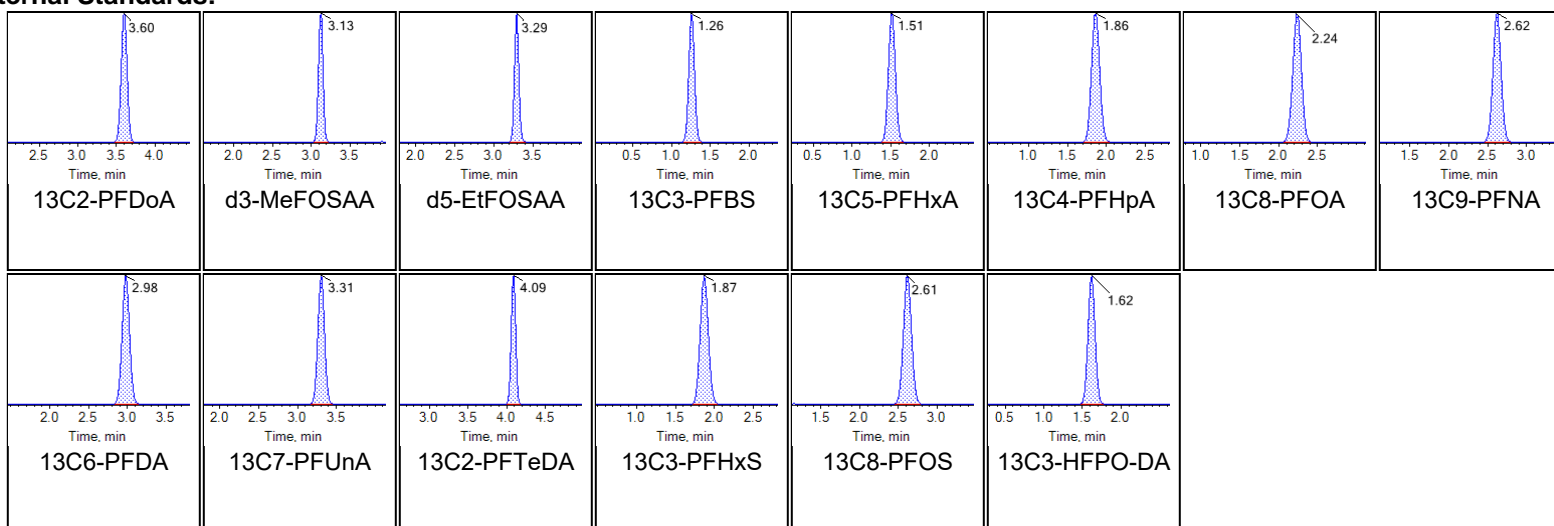




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





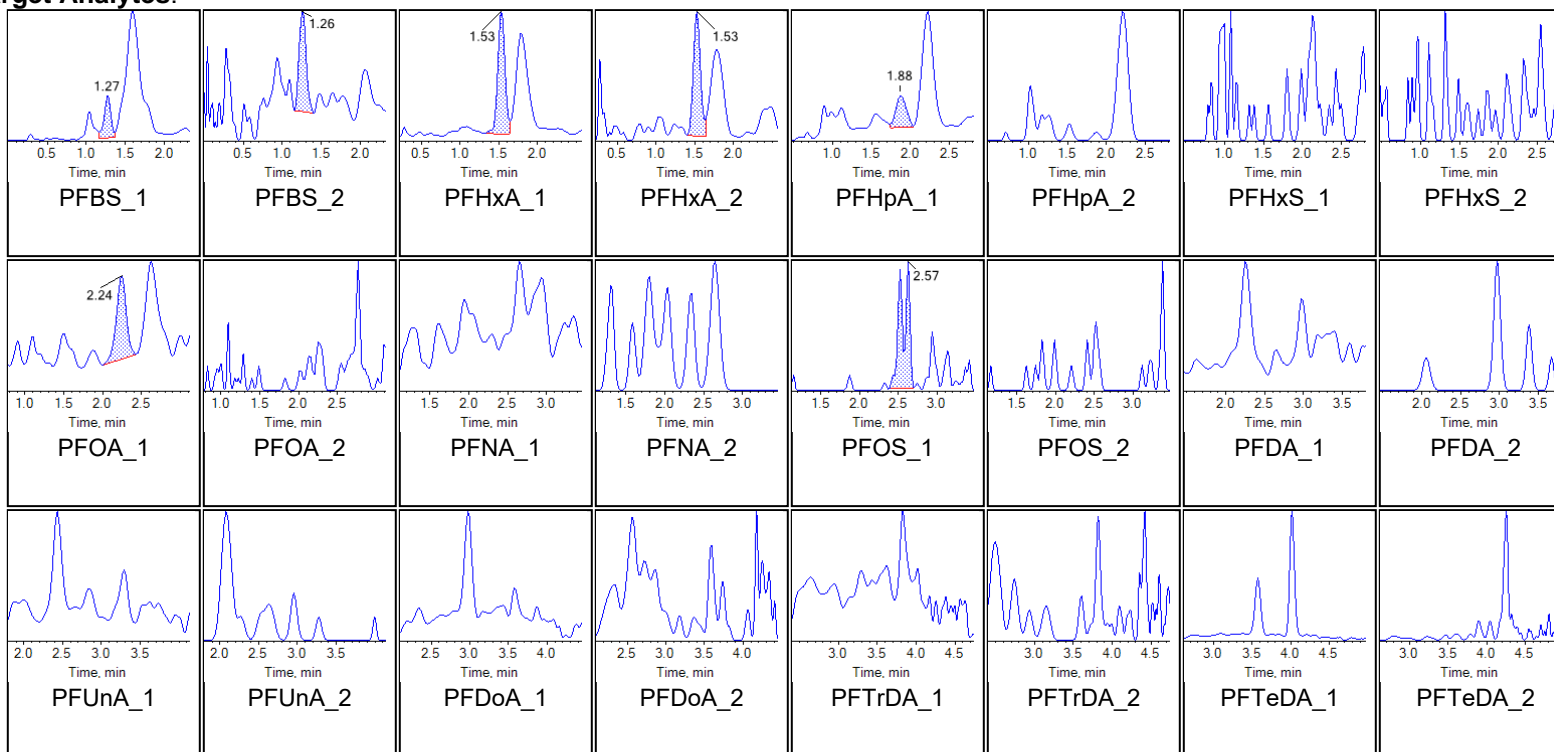
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | DB472PB-FS(0) | Injection Vial | 7 |
| Sample ID | Procedural Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:06:34 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

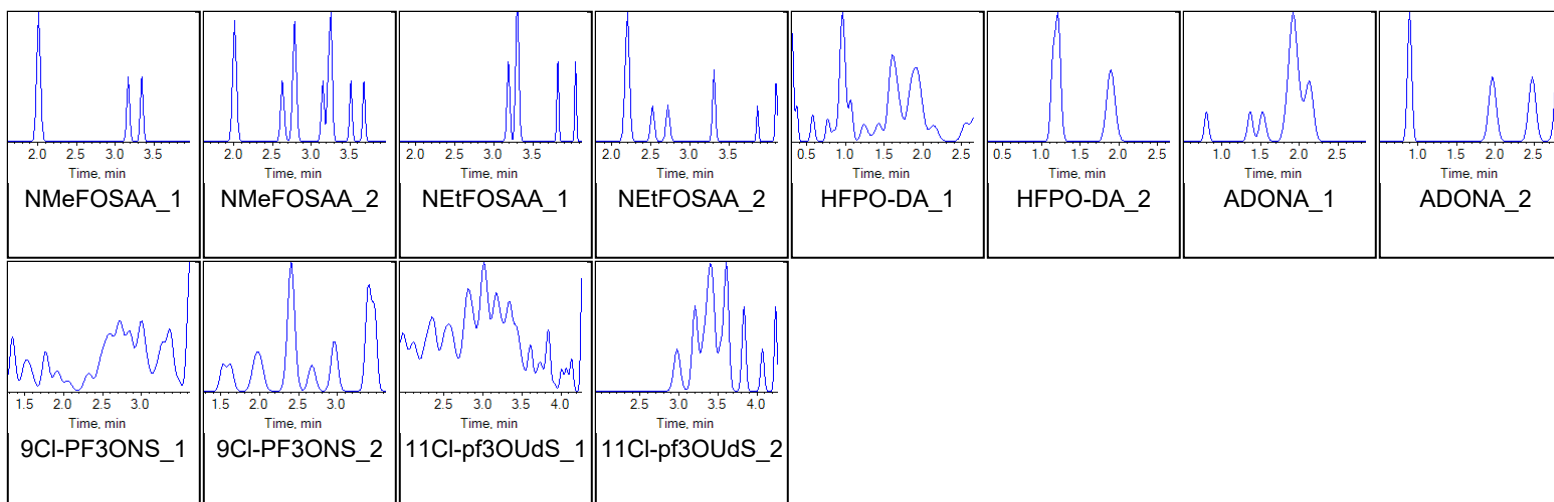
Chromatograms

Target Analytes:

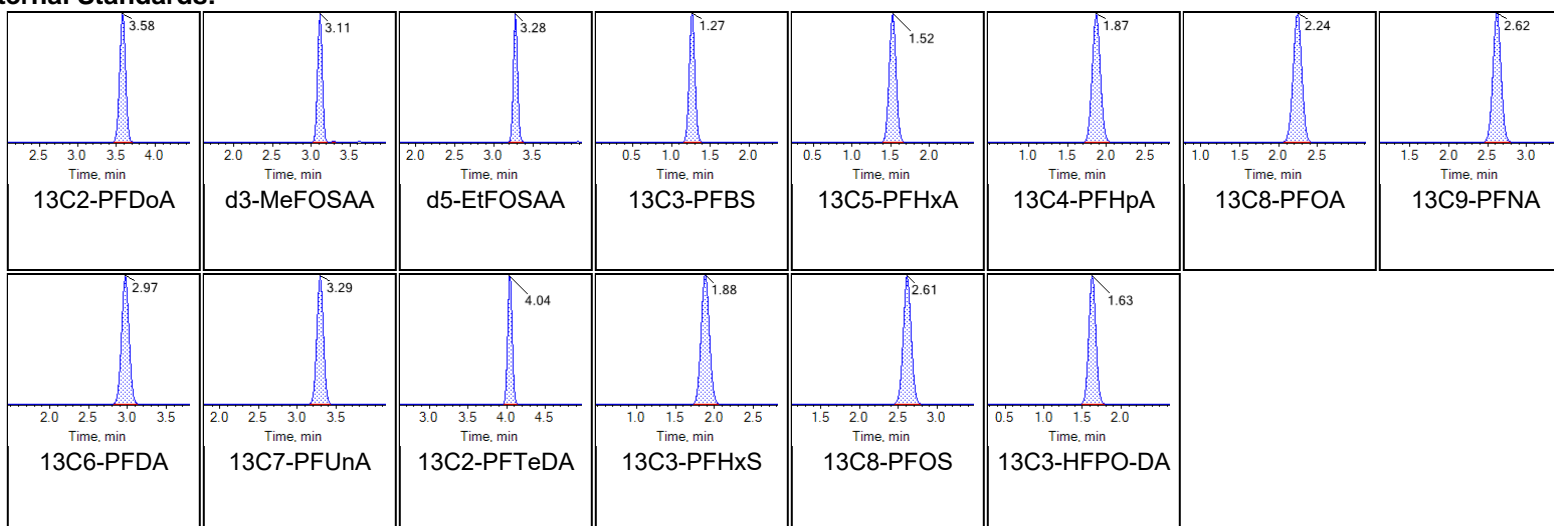




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





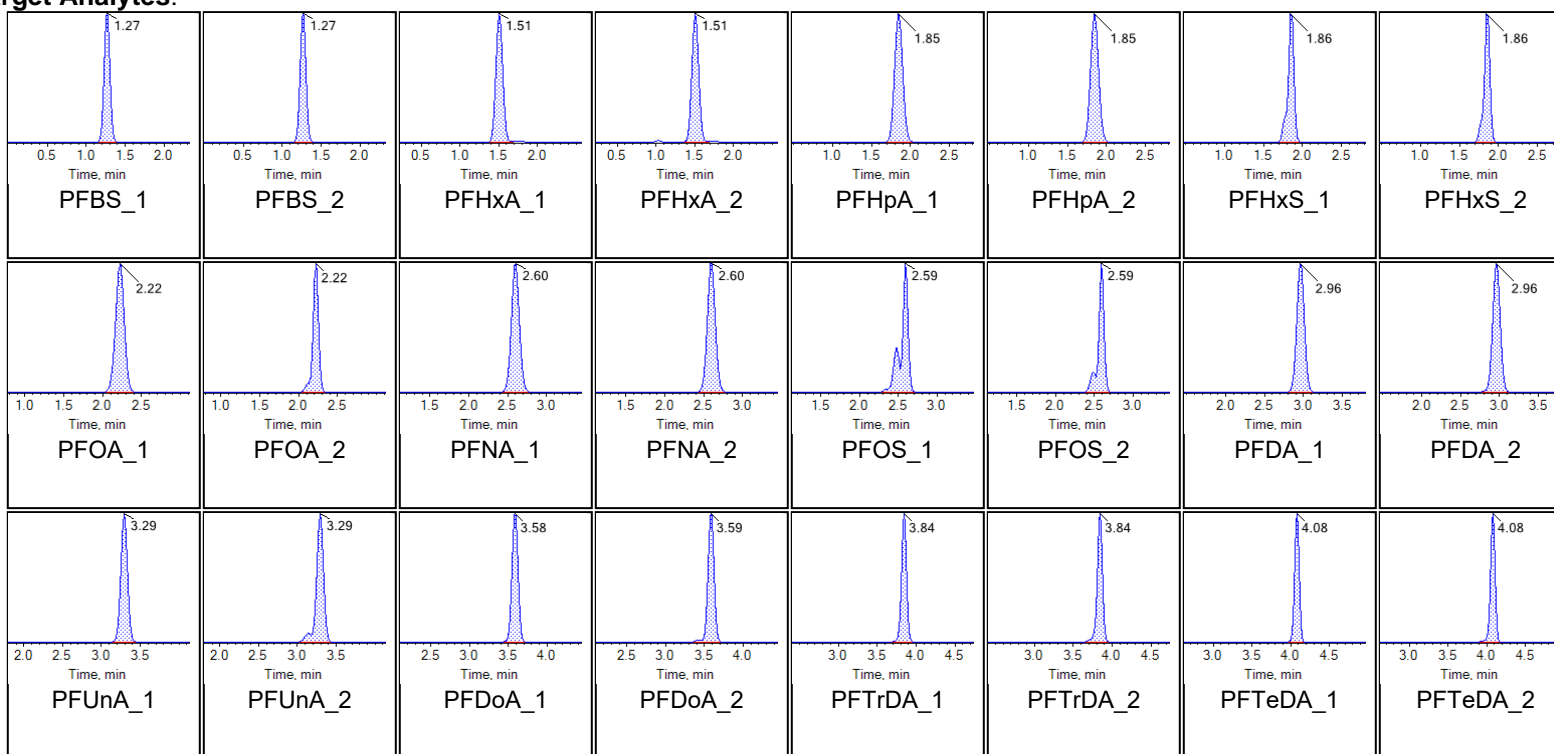
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|---------------------------|-------------------------|----------------------------|
| Sample Name | DB473LCS-FS(0) | Injection Vial | 8 |
| Sample ID | Laboratory Control Sample | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:17:01 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

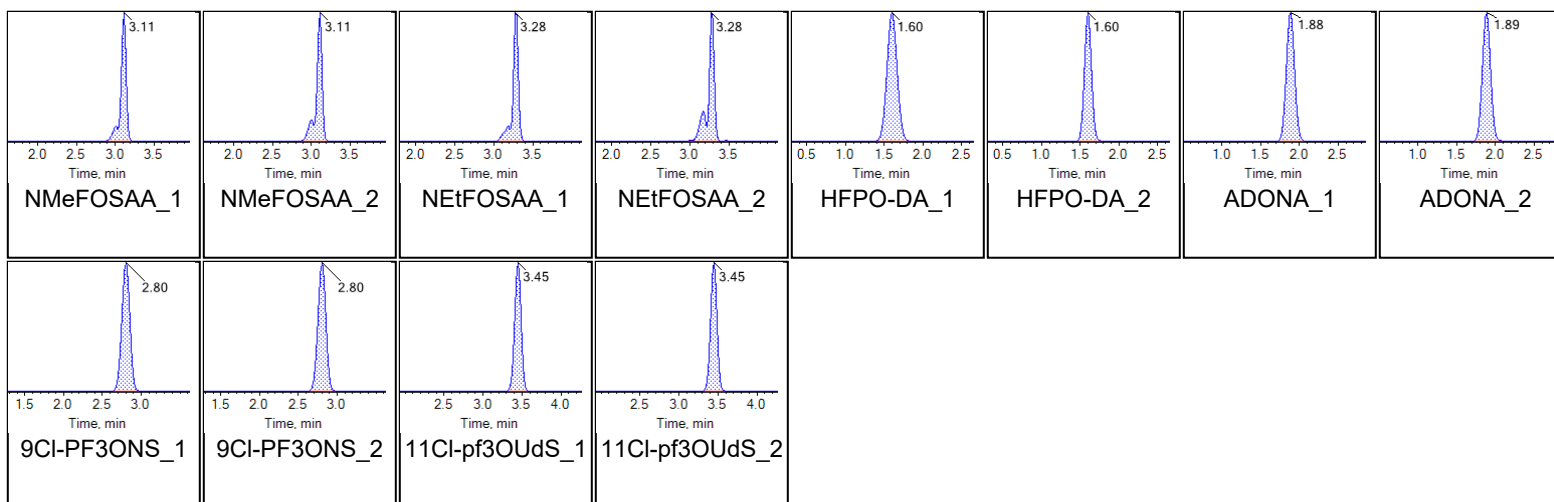
Chromatograms

Target Analytes:

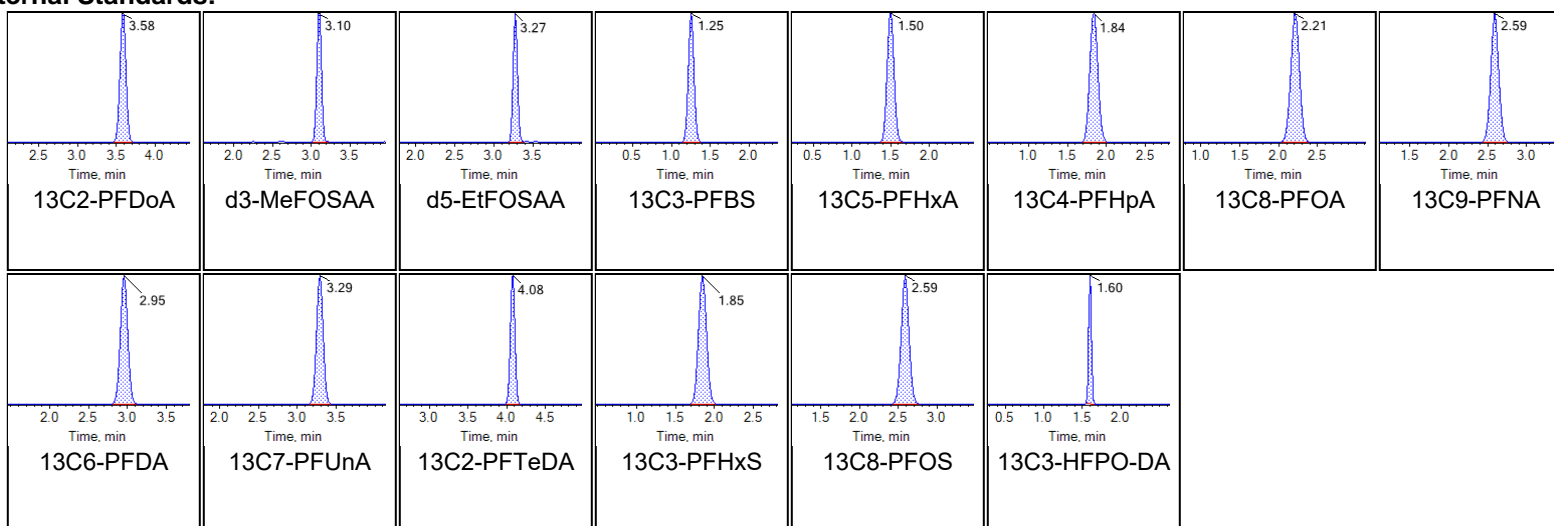




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

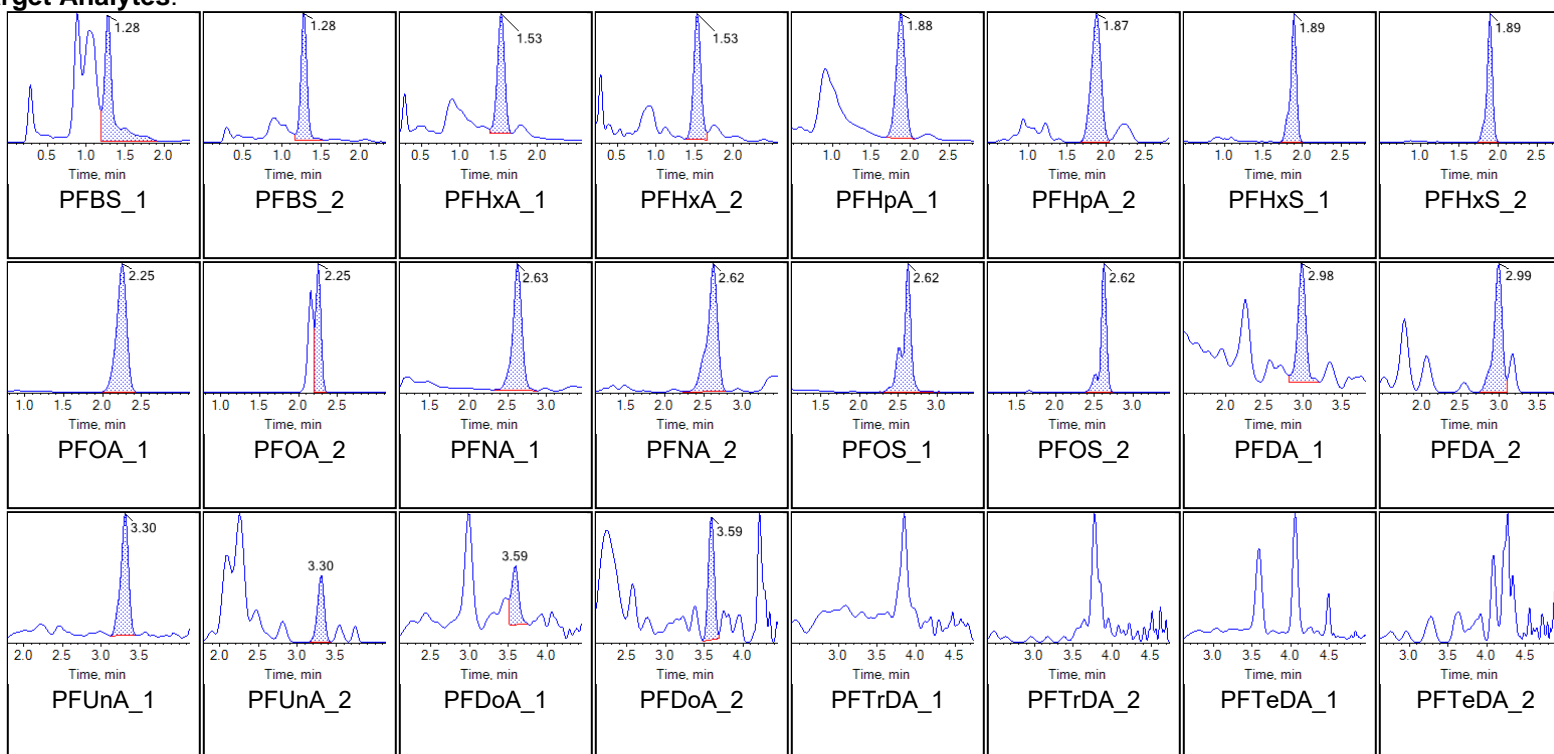
Internal Standards:



| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2203-FS1(0) | Injection Vial | 9 |
| Sample ID | CBD-AOA-MW06-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:27:28 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

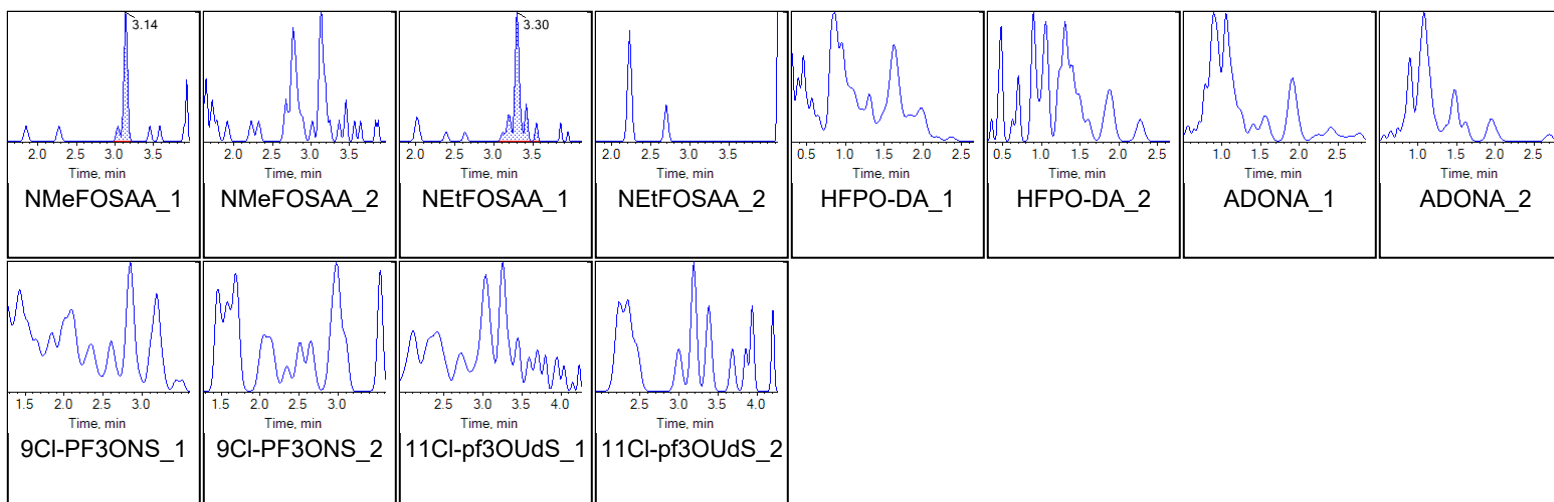
Chromatograms

Target Analytes:

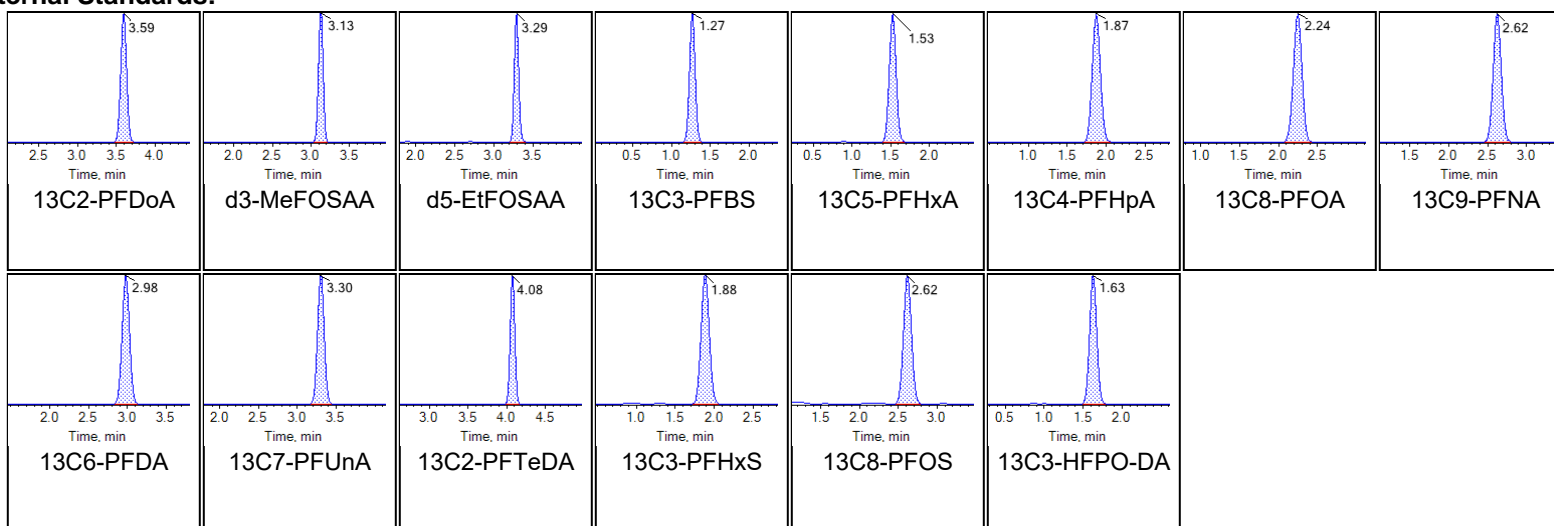




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





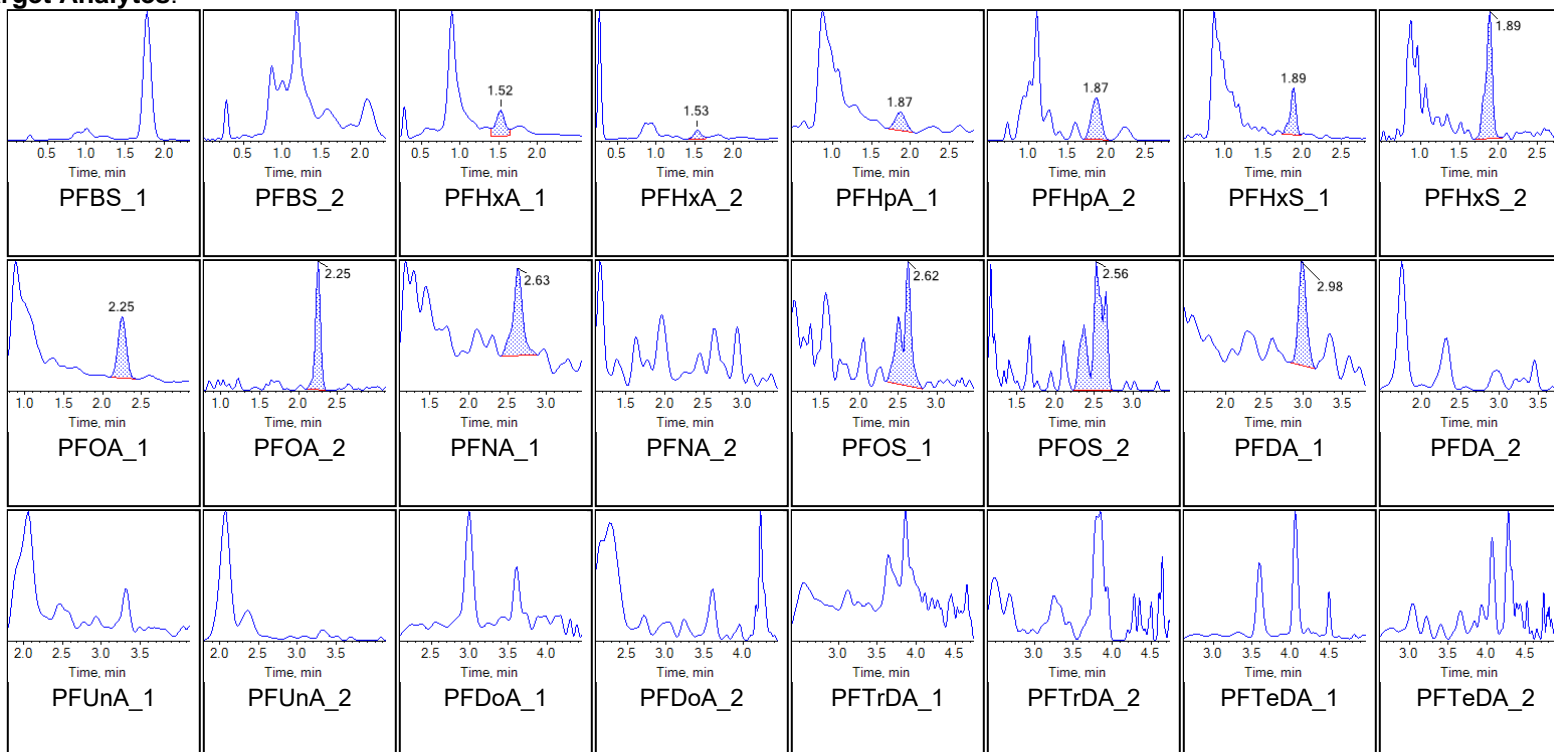
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2205-FS1(0) | Injection Vial | 10 |
| Sample ID | CBD-AOA-MW12-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:37:55 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

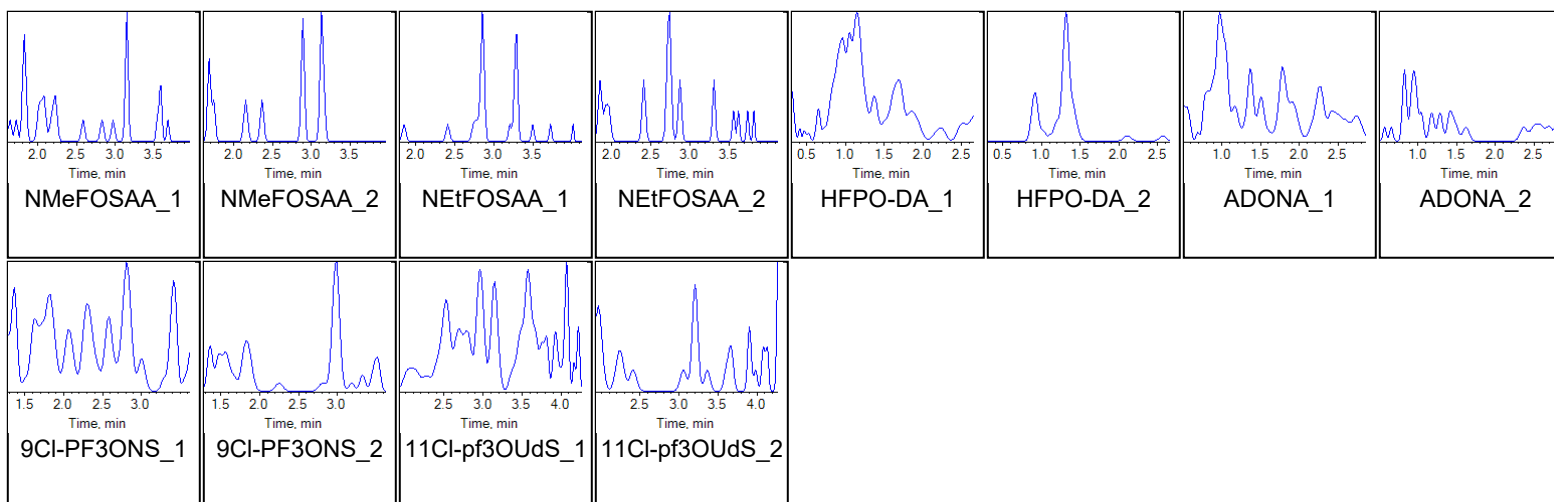
Chromatograms

Target Analytes:

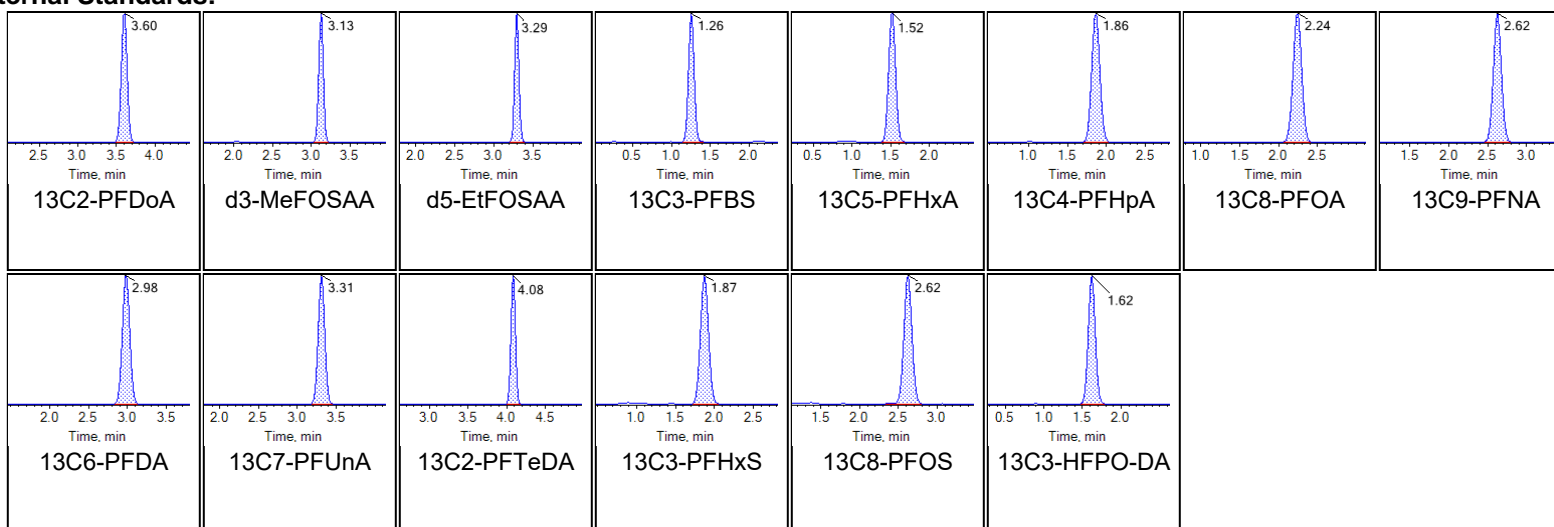




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





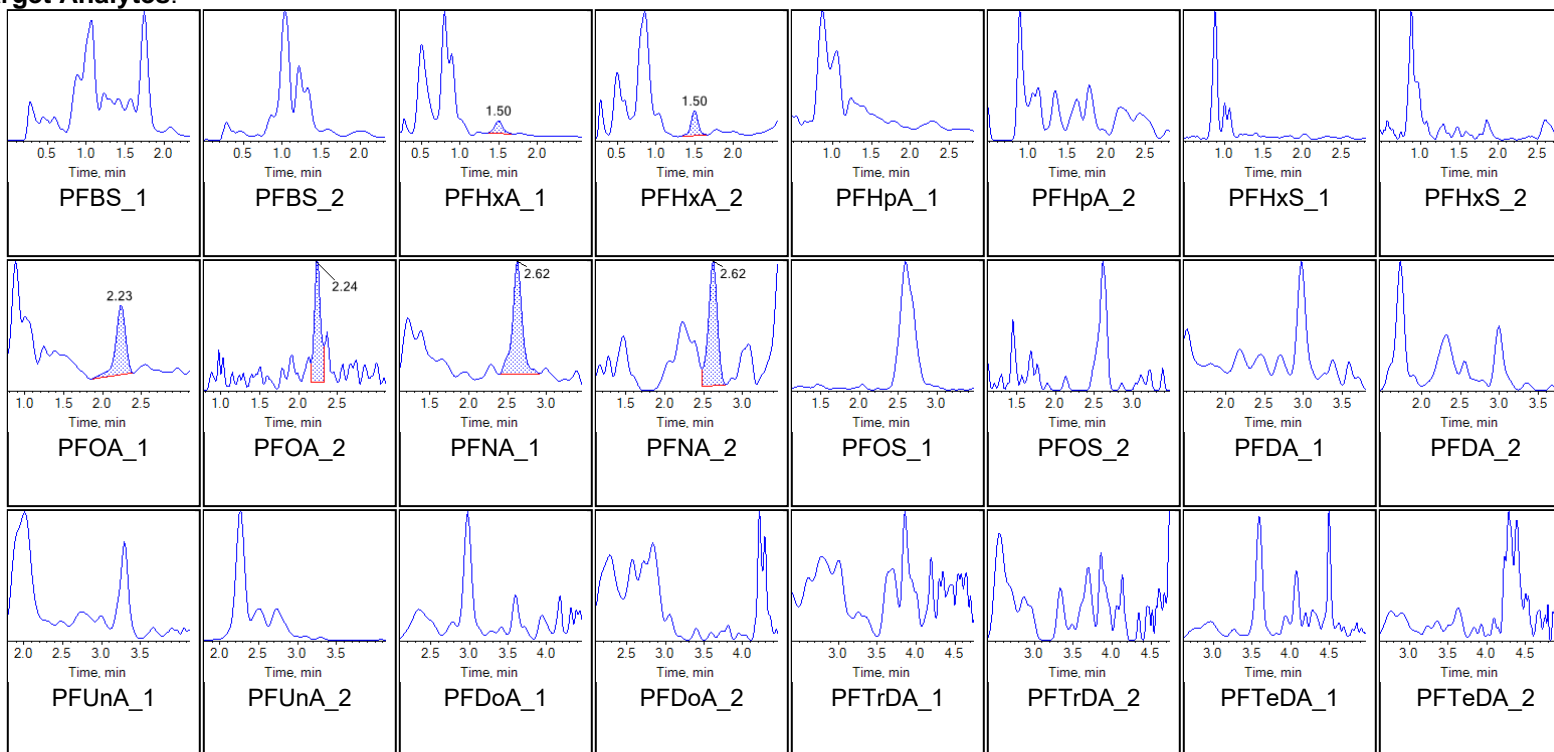
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2206-FS1(0) | Injection Vial | 11 |
| Sample ID | CBD-AOA-MW11-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:48:23 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

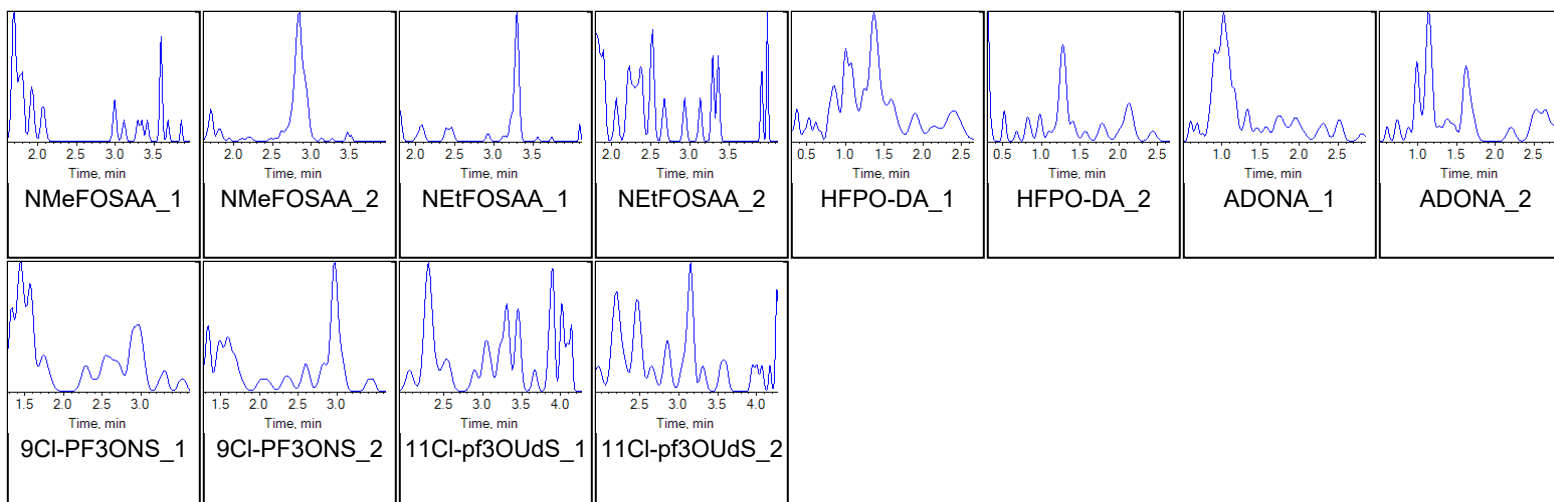
Chromatograms

Target Analytes:

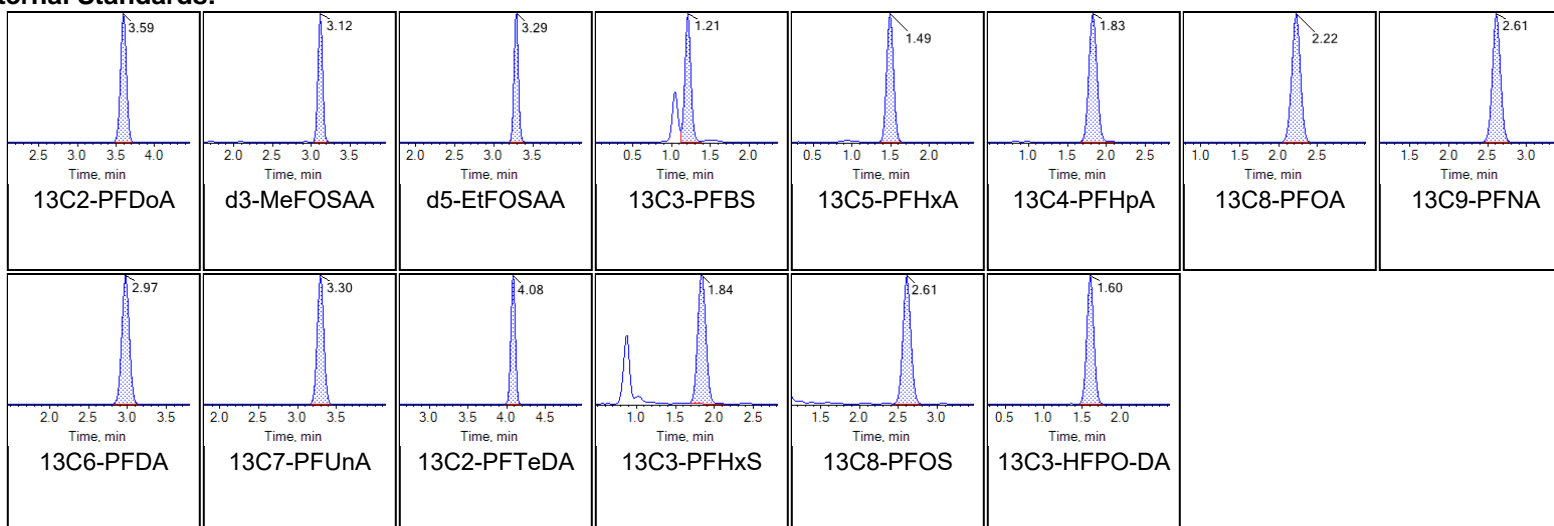




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





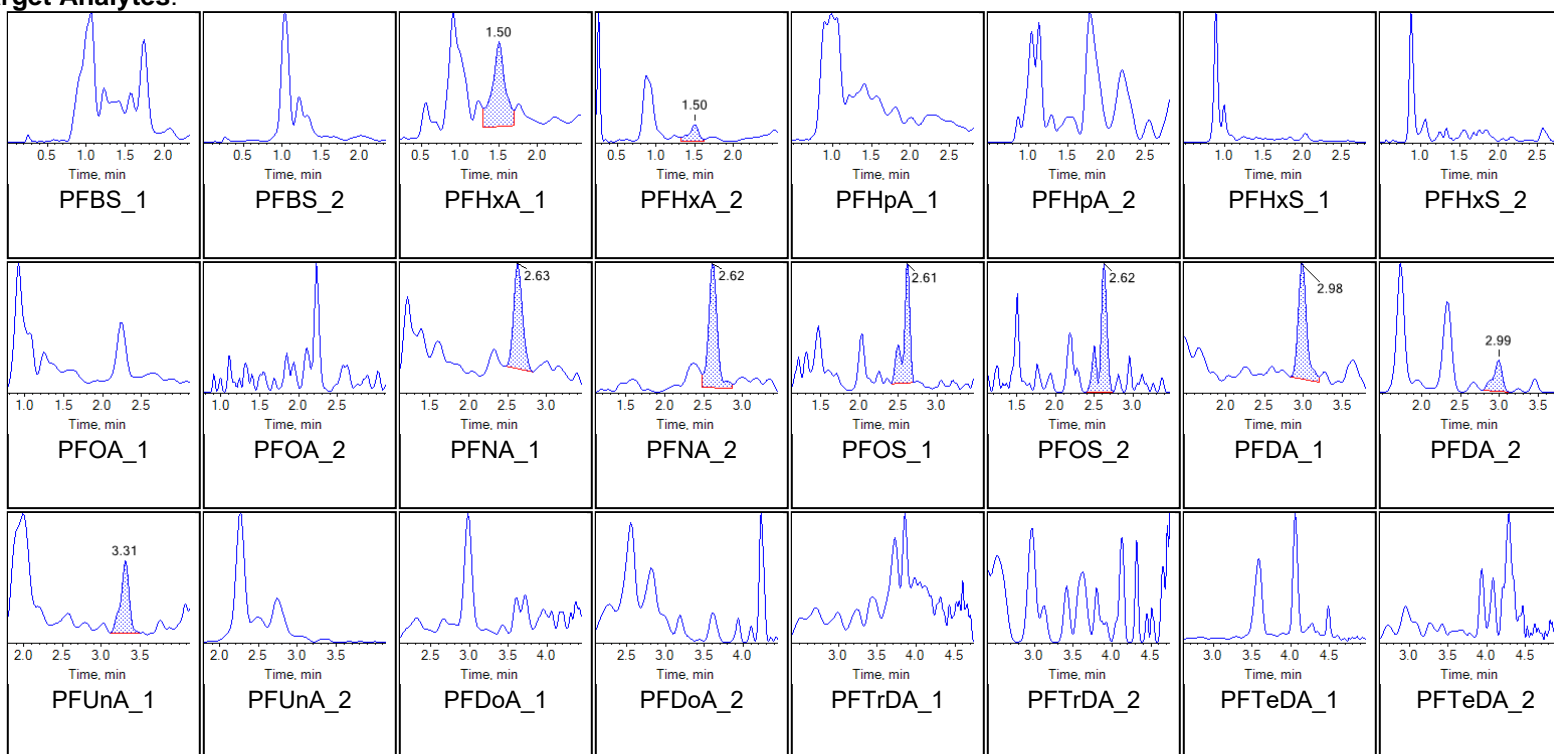
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2207-FS1(0) | Injection Vial | 12 |
| Sample ID | CBD-AOA-MW11P-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:58:51 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

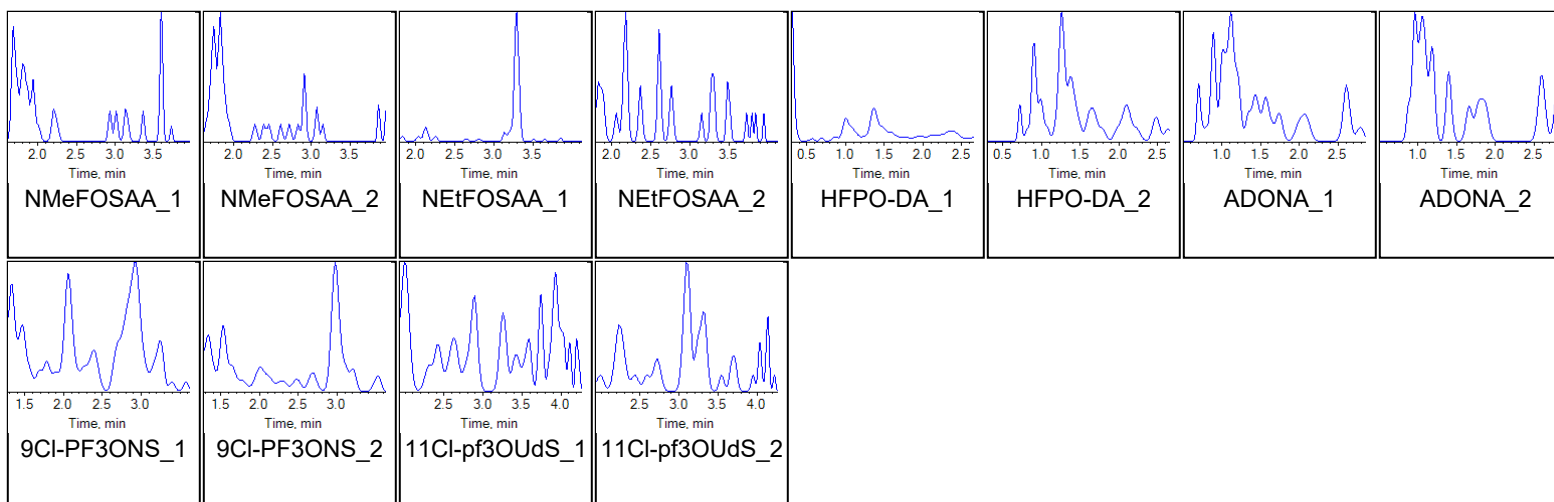
Chromatograms

Target Analytes:

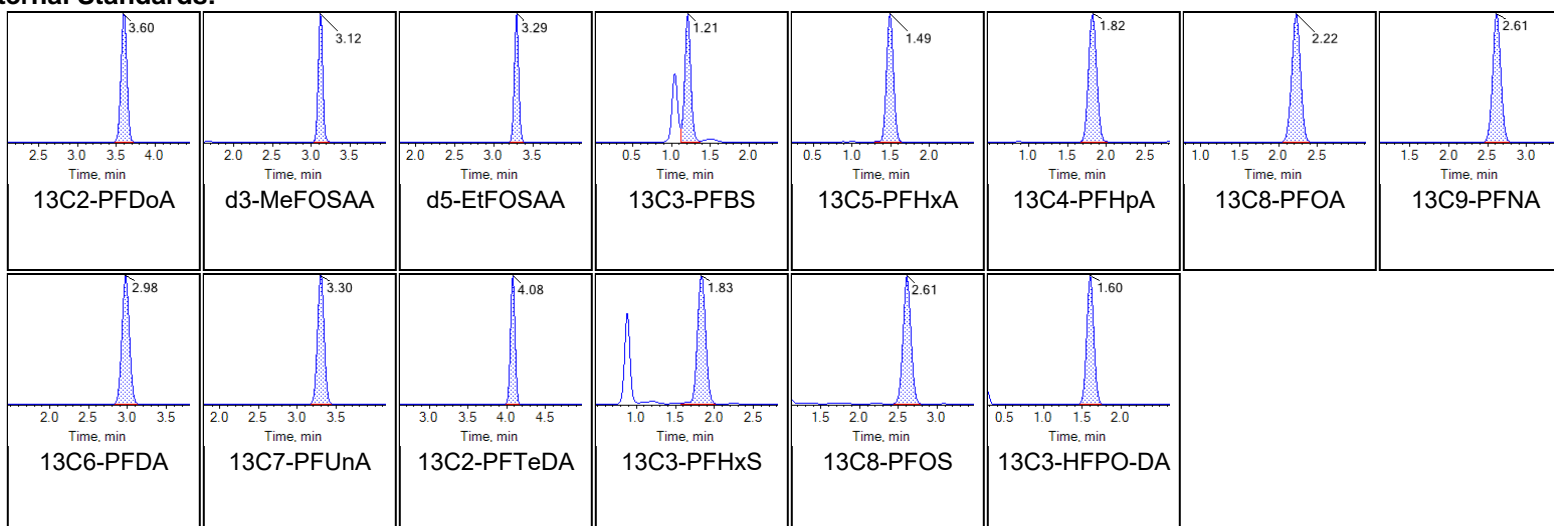




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





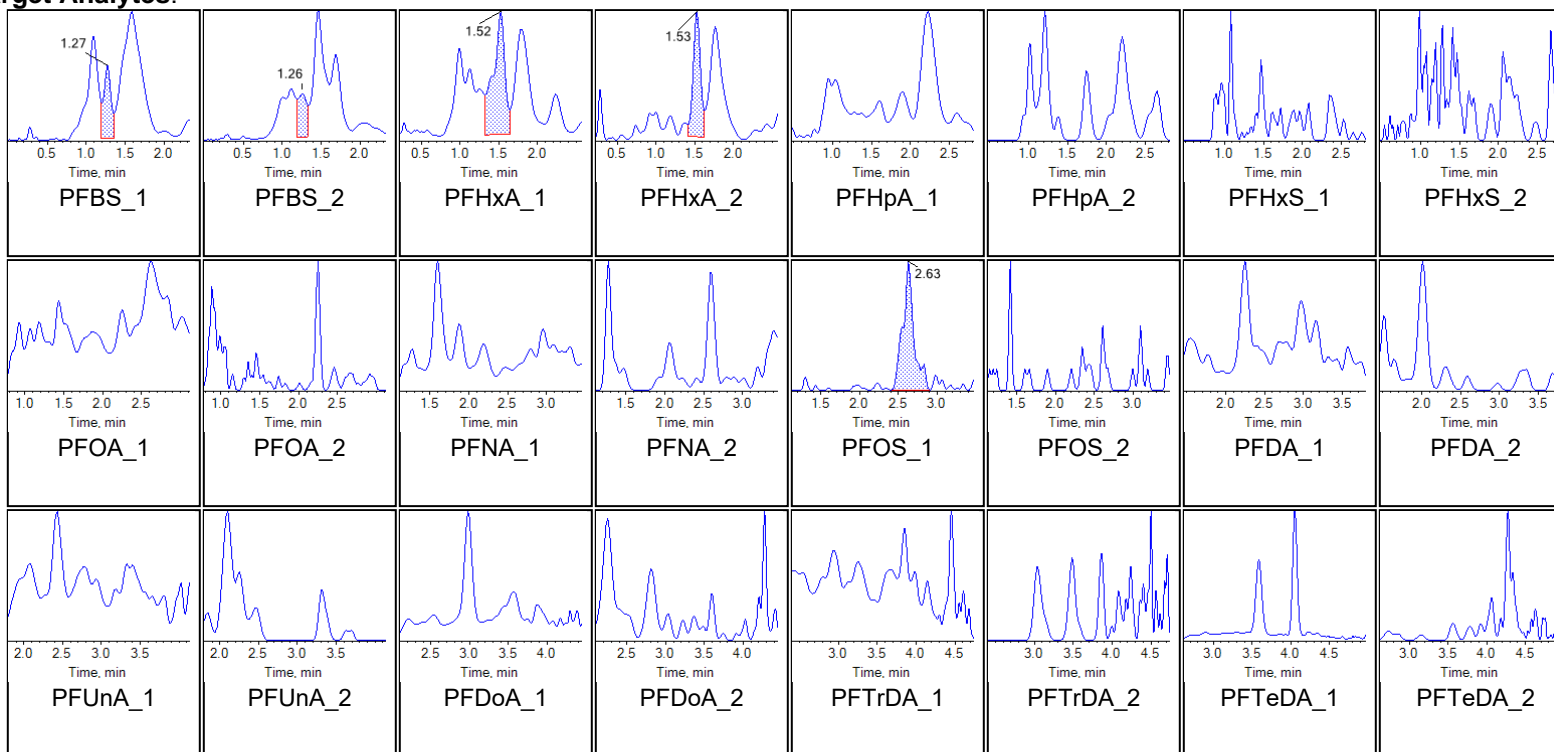
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | G2209-FS1(0) | Injection Vial | 13 |
| Sample ID | CBD-AOA-EB01-102820-GW | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:09:19 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

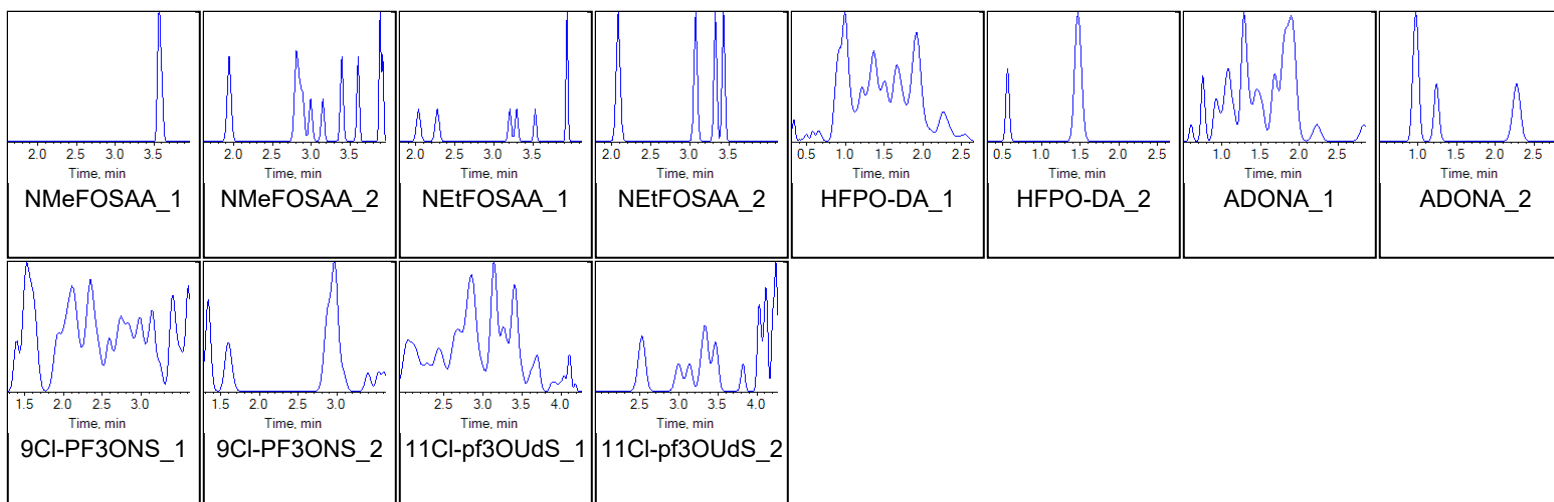
Chromatograms

Target Analytes:

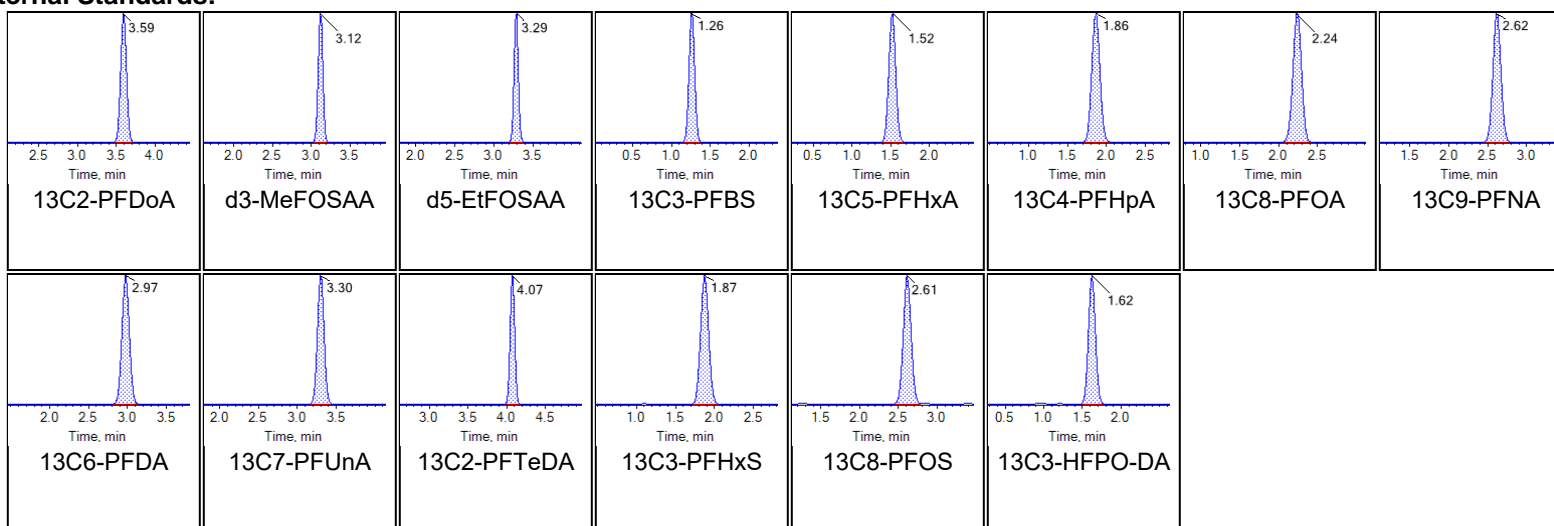




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

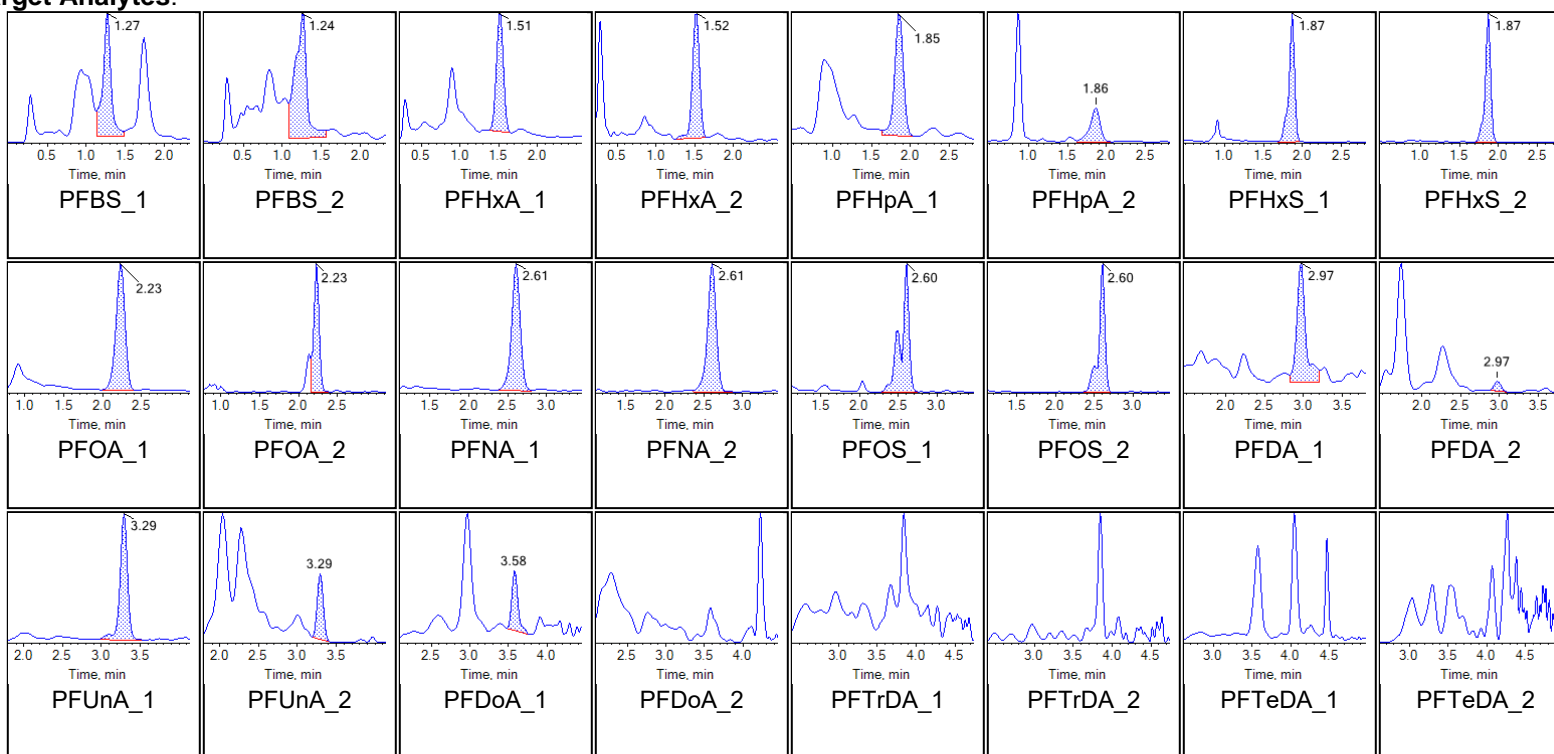
Internal Standards:



| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2210-FS1(0) | Injection Vial | 14 |
| Sample ID | CBD-AOA-MW14-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:19:47 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

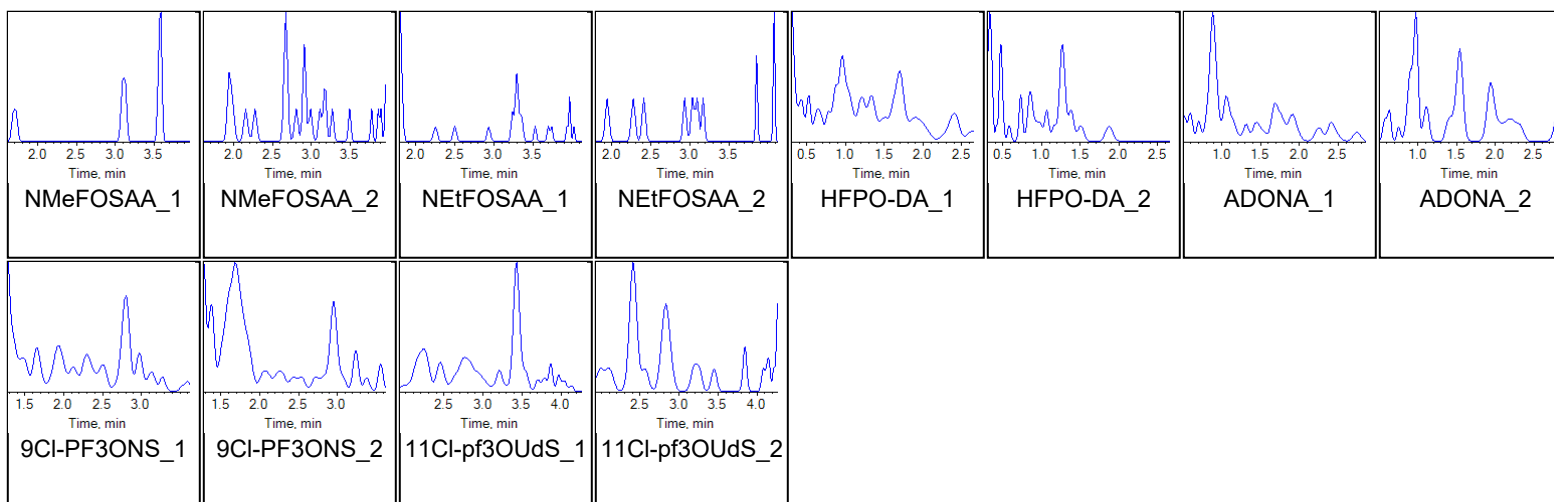
Chromatograms

Target Analytes:

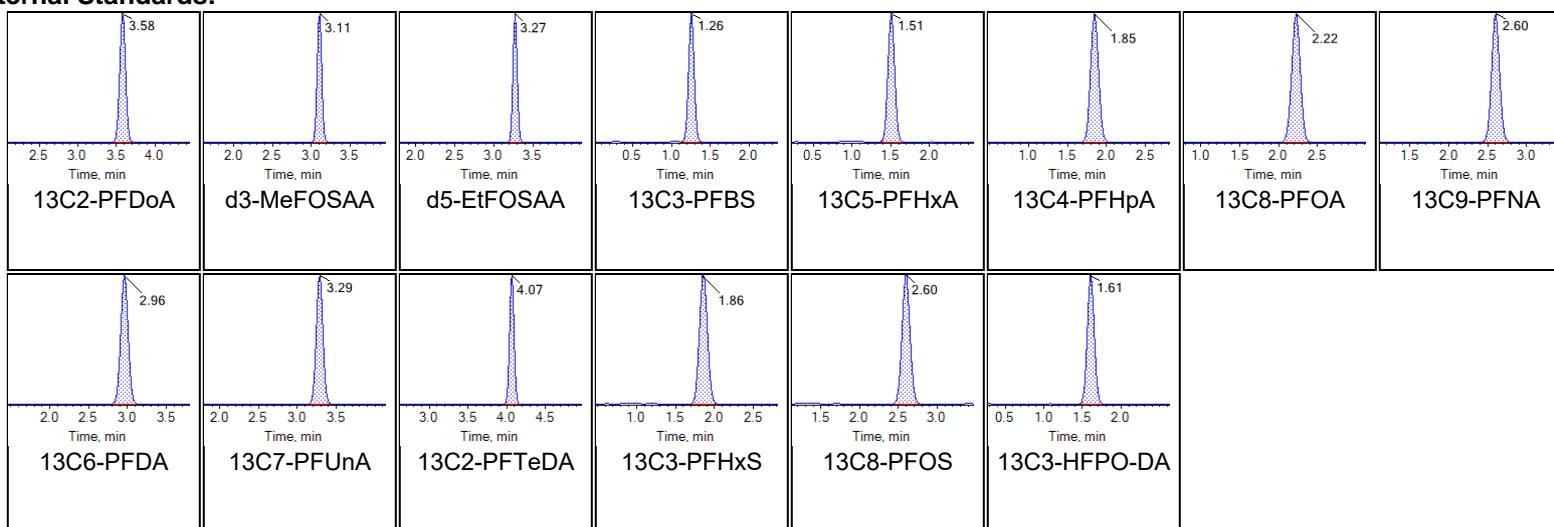




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

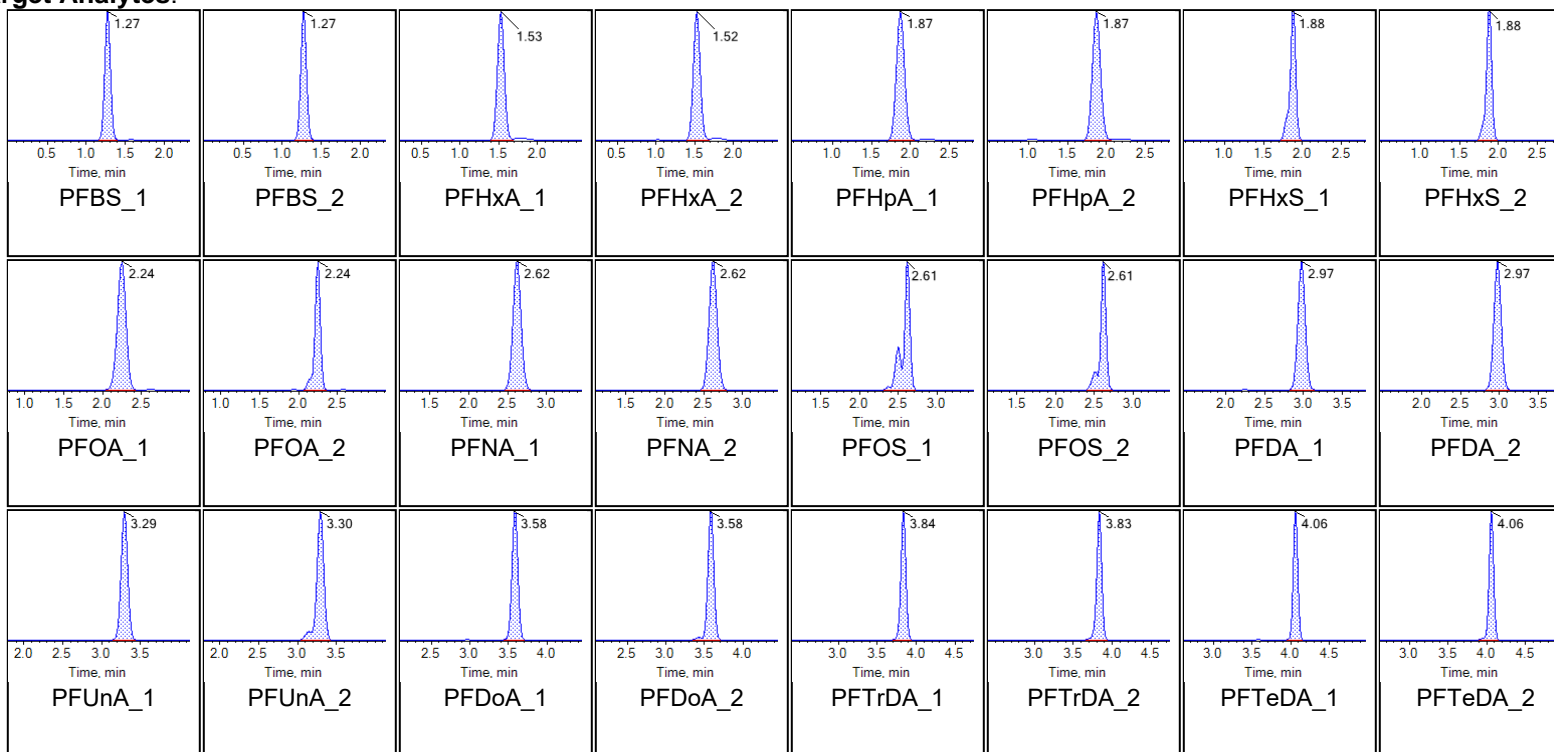
Internal Standards:



| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | LE55 CCV | Injection Vial | 16 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:40:42 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

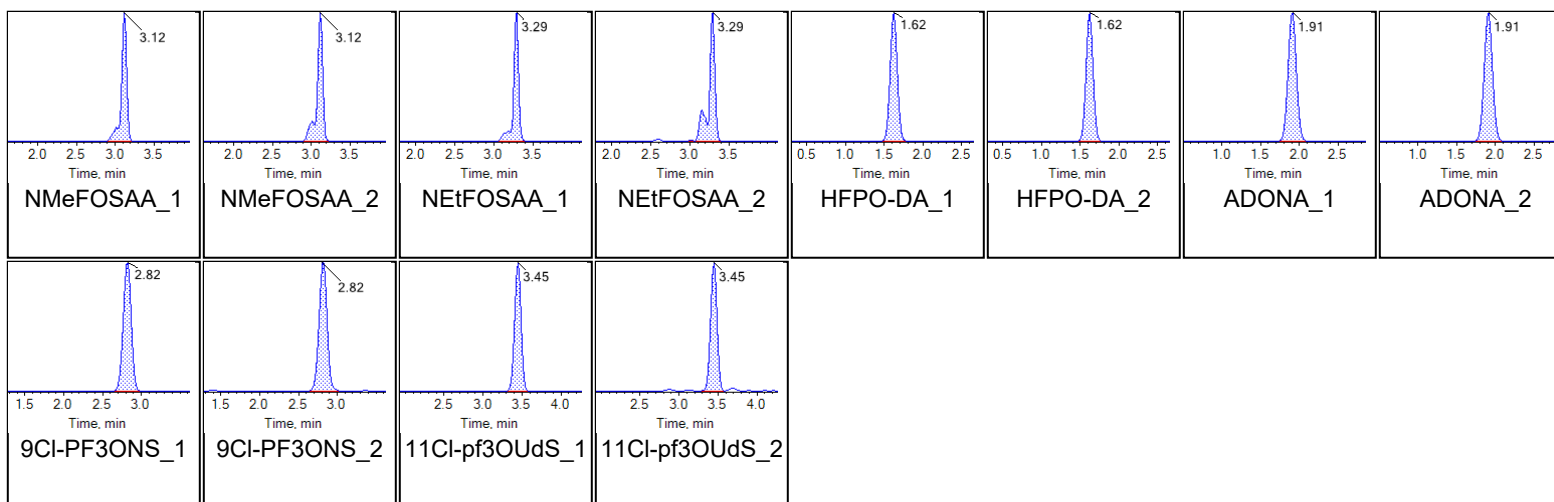
Chromatograms

Target Analytes:

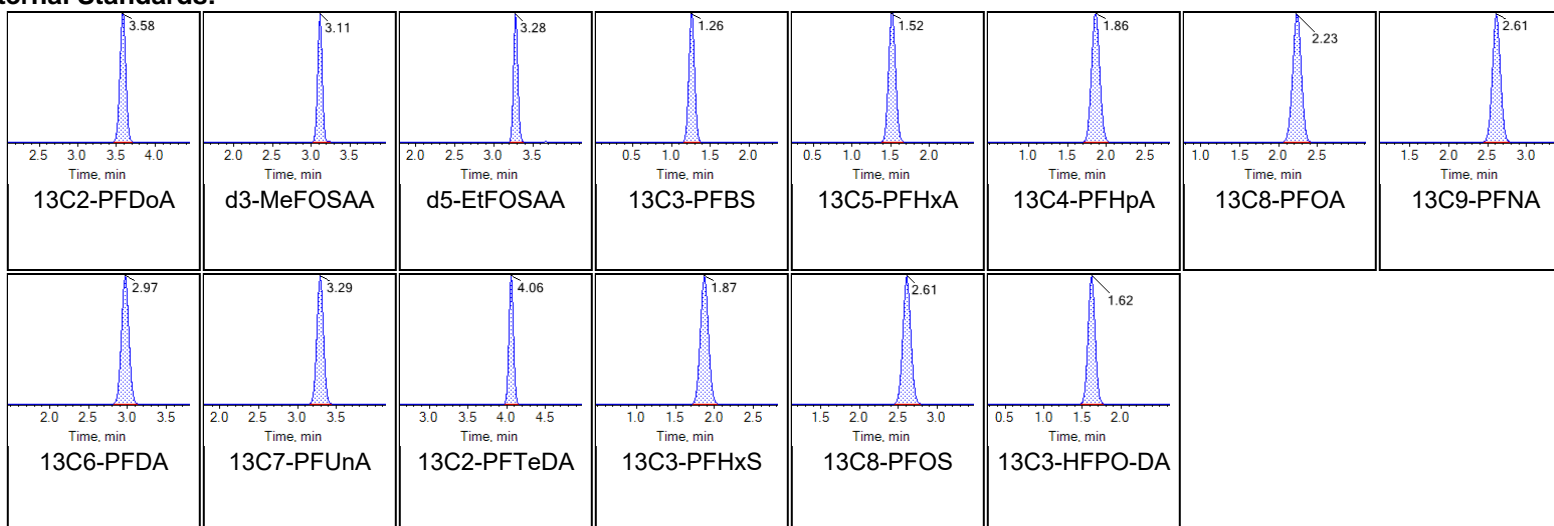




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

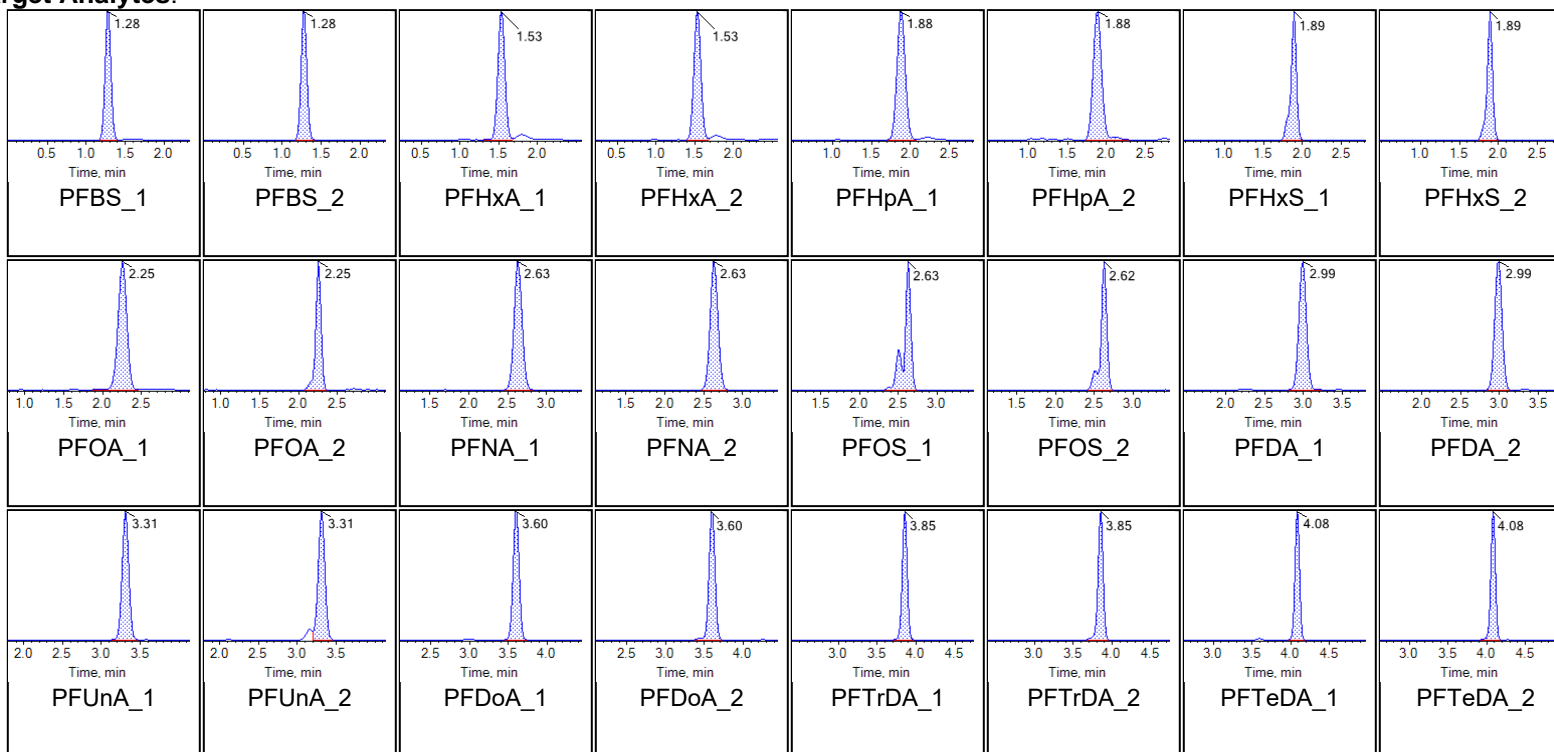
Internal Standards:



| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | LE54 CCV | Injection Vial | 4 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:35:10 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

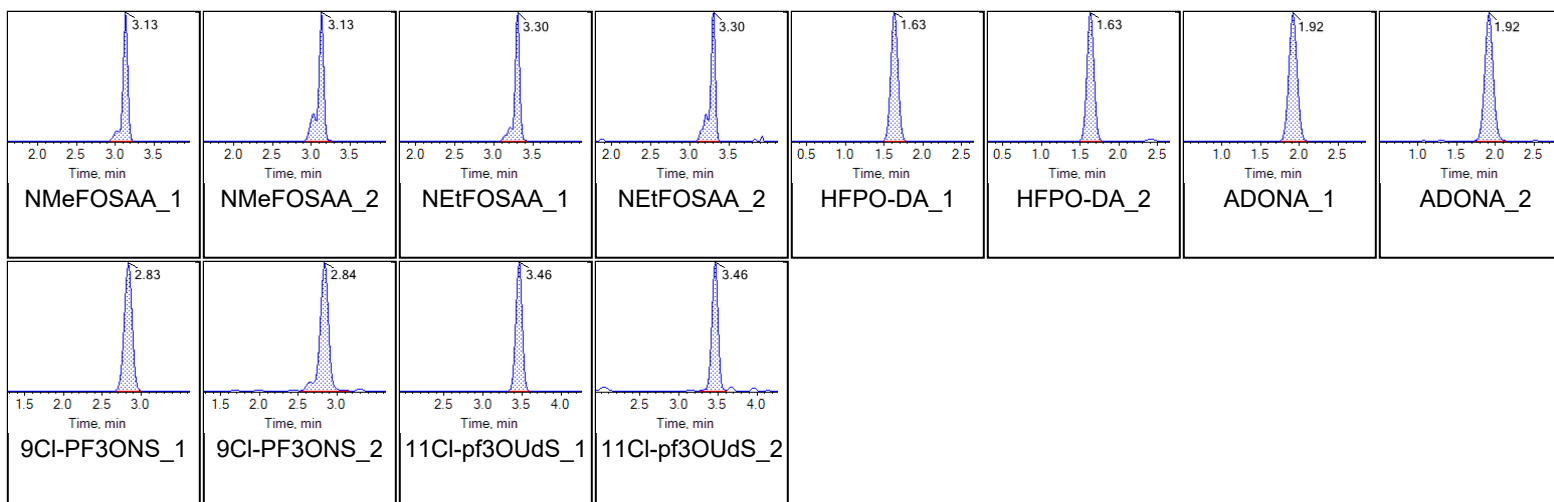
Chromatograms

Target Analytes:

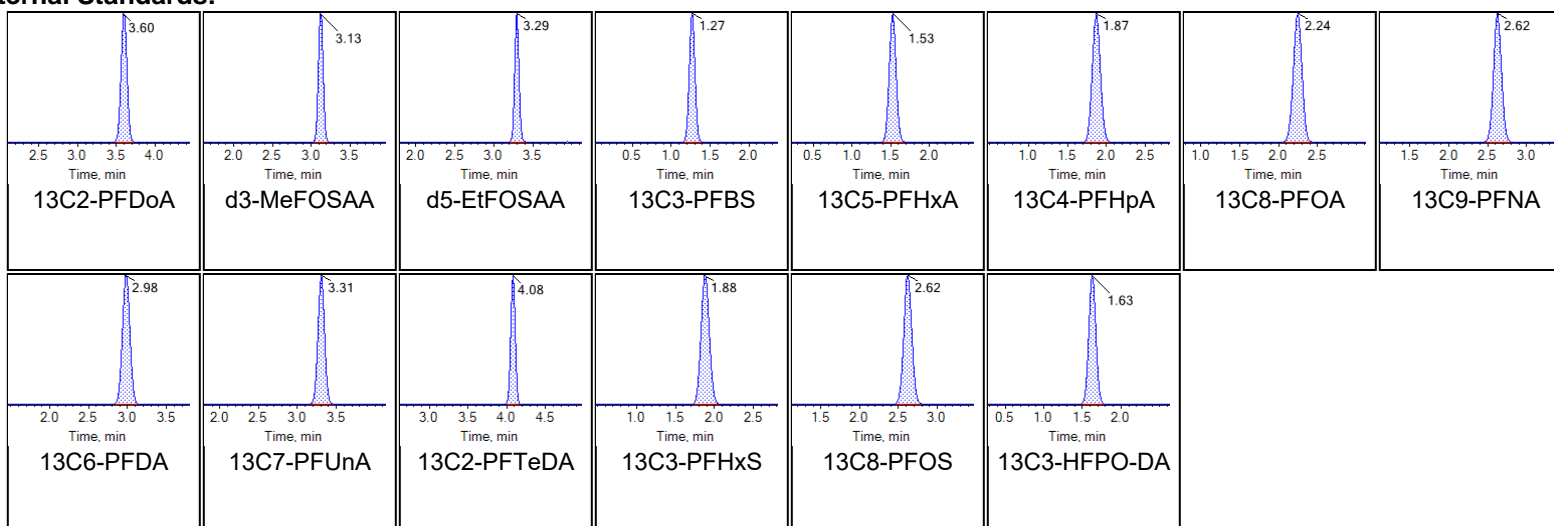




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





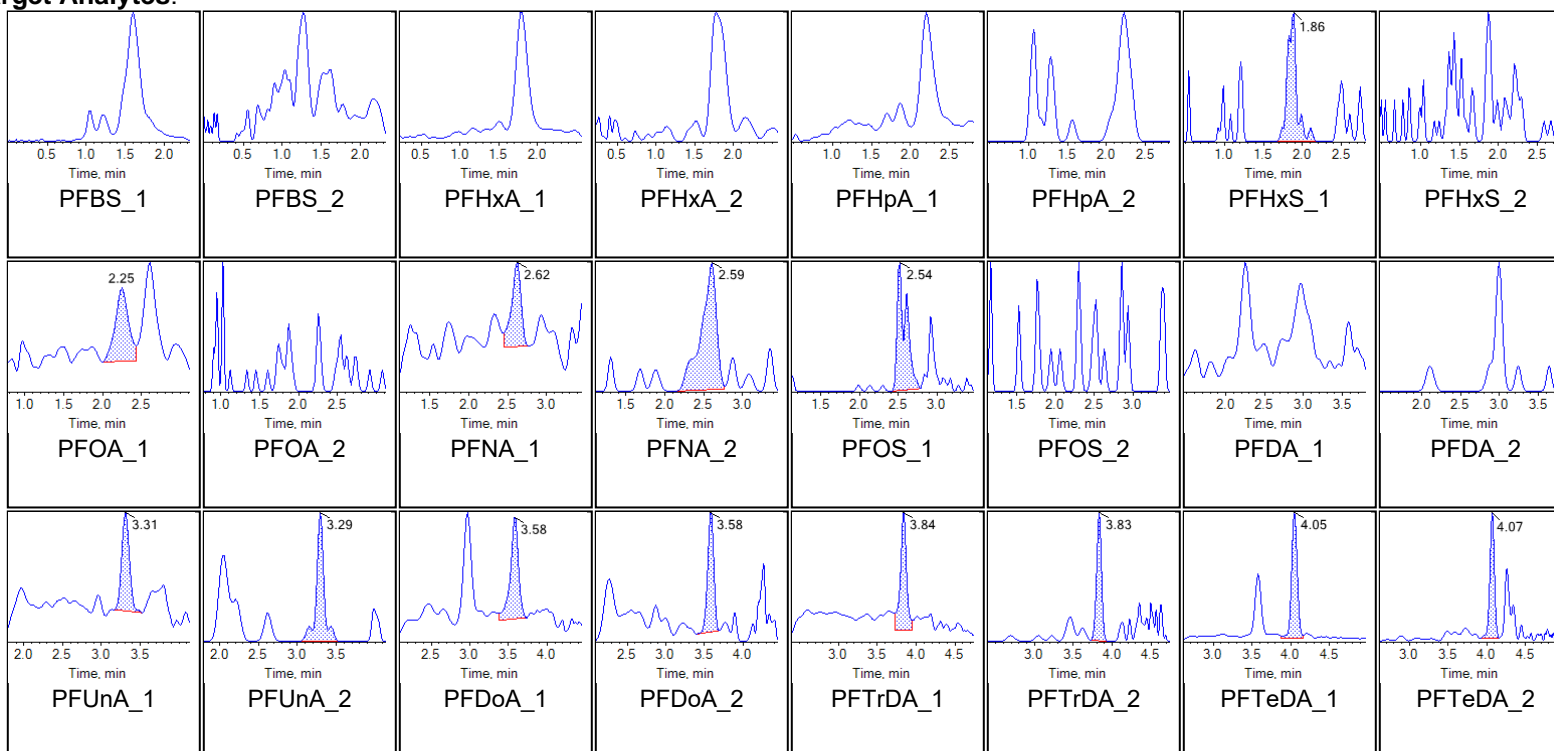
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | LE58 IB | Injection Vial | 6 |
| Sample ID | Instrument Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:56:05 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519 |

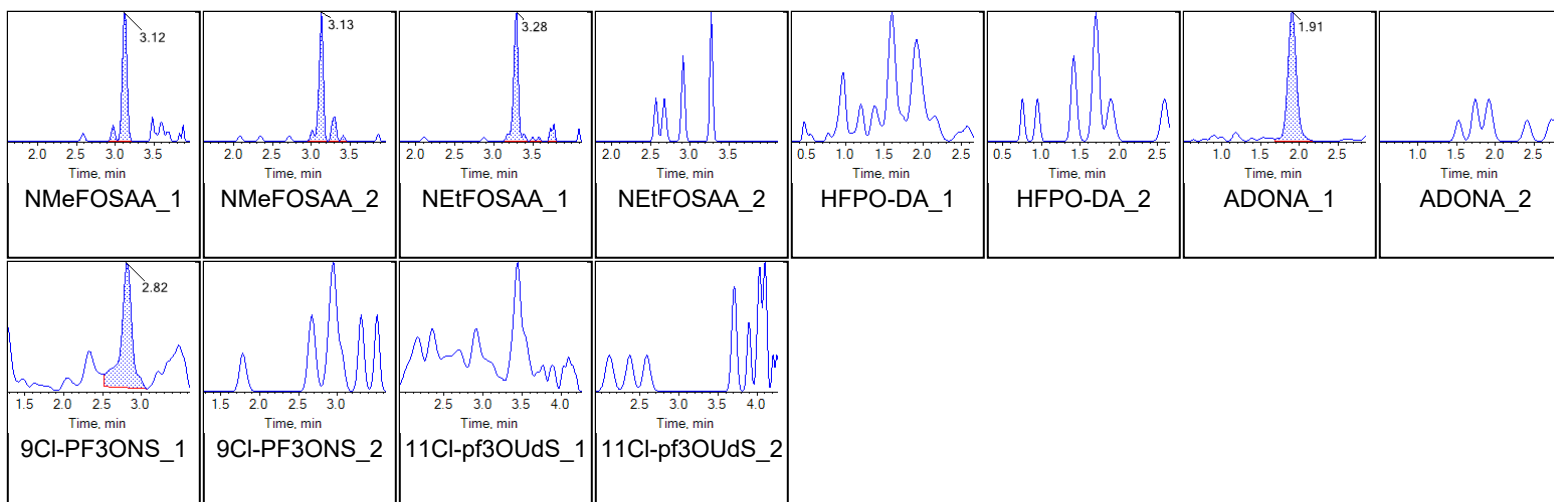
Chromatograms

Target Analytes:

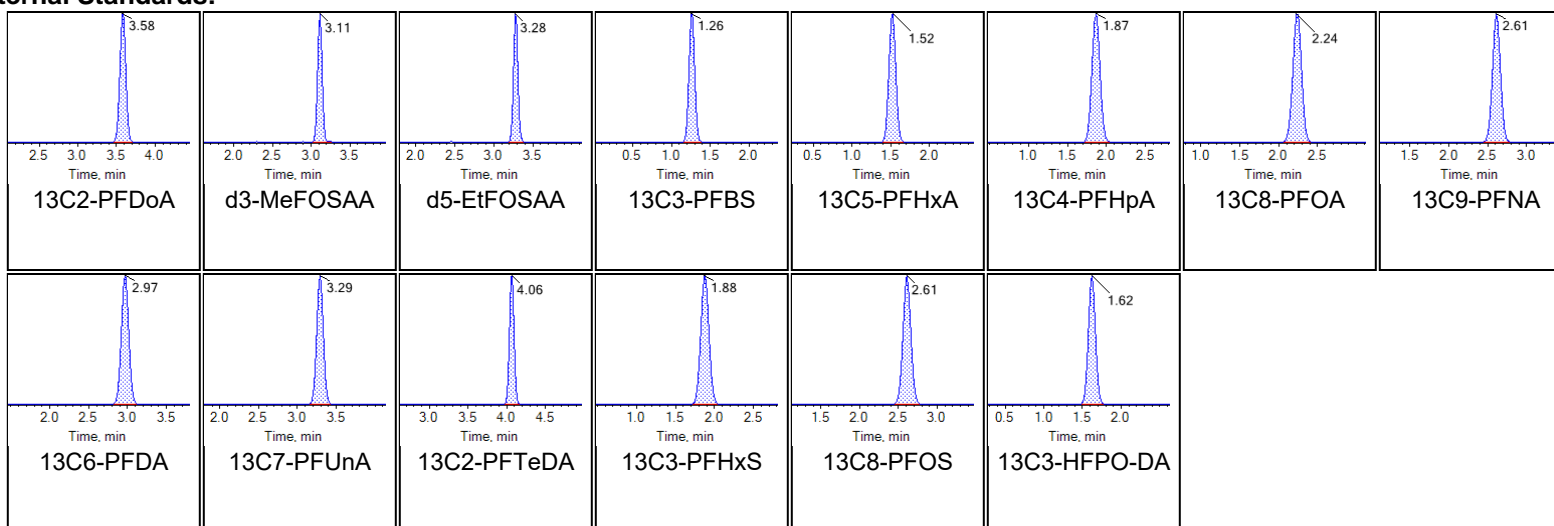




Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:26:52 AM

Internal Standards:





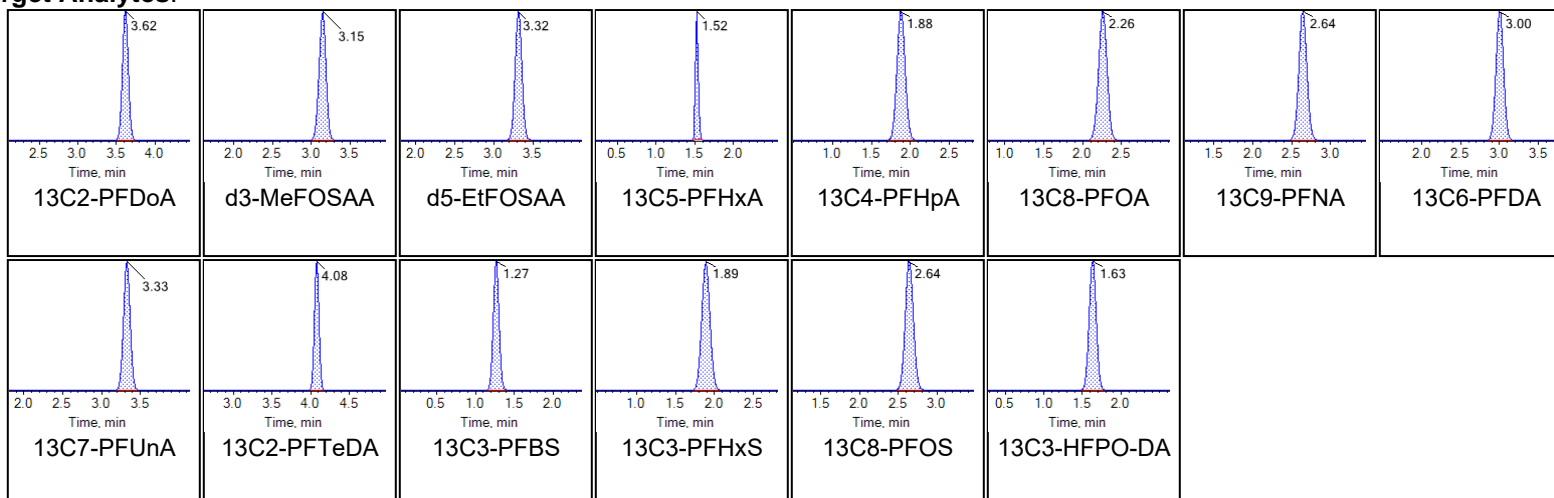
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

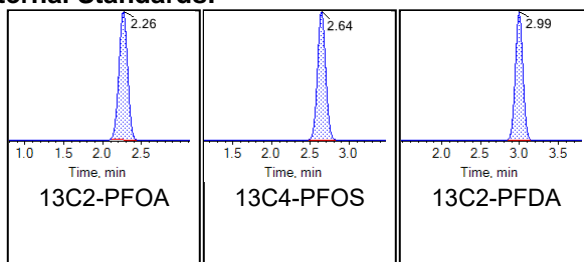
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | LE52 | Injection Vial | 2 |
| Sample ID | L1 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 9:59:40 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



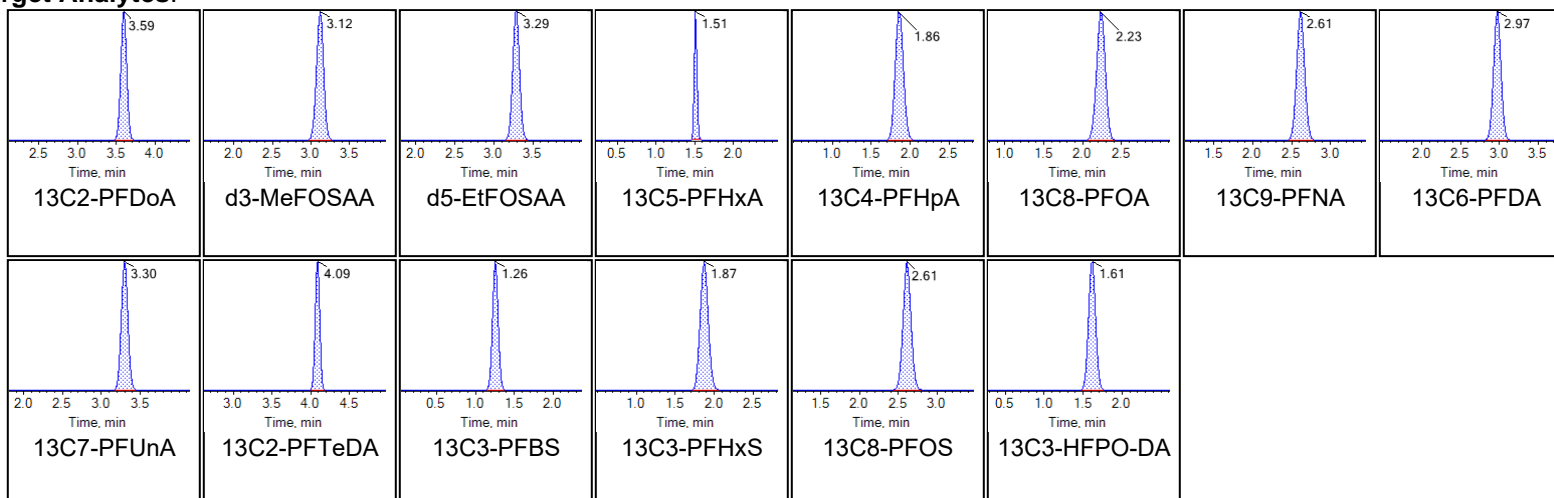
Internal Standards:



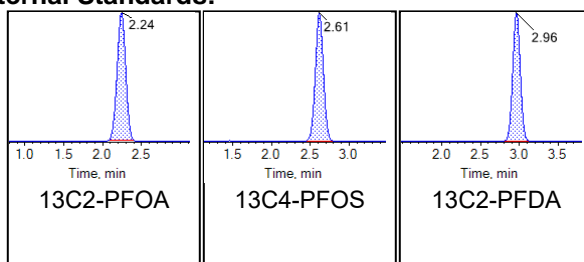
| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE53 | Injection Vial | 3 |
| Sample ID | L2 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:10:08 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



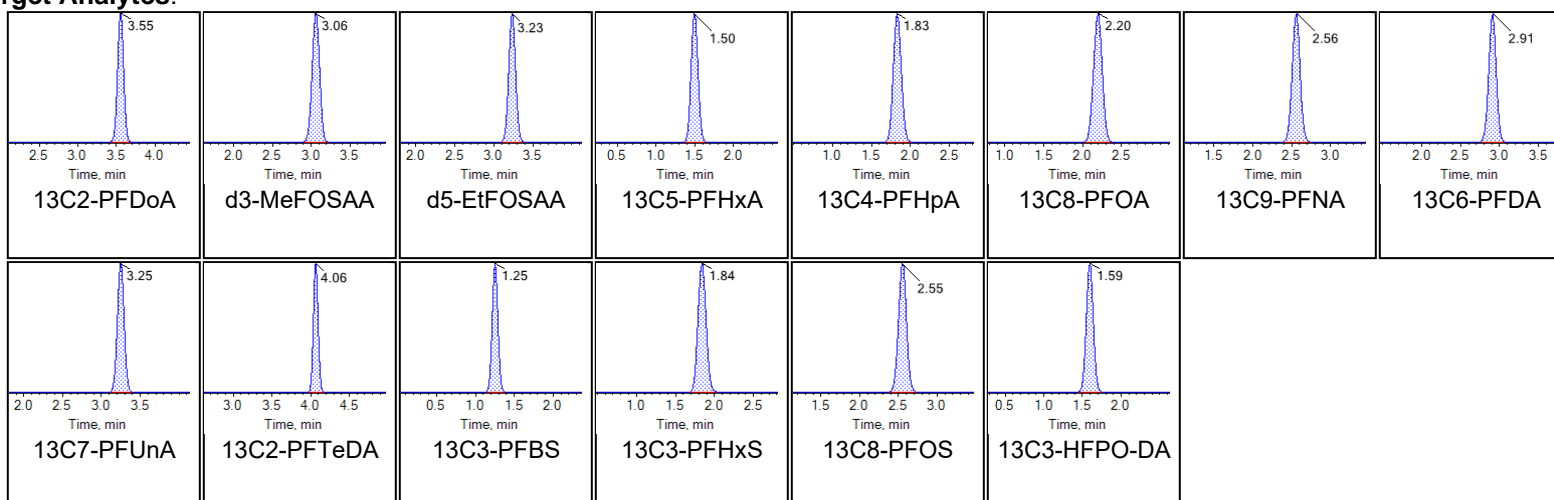
Internal Standards:



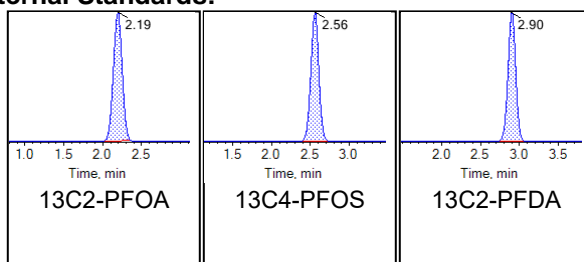
| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE54 | Injection Vial | 4 |
| Sample ID | L3 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:20:35 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



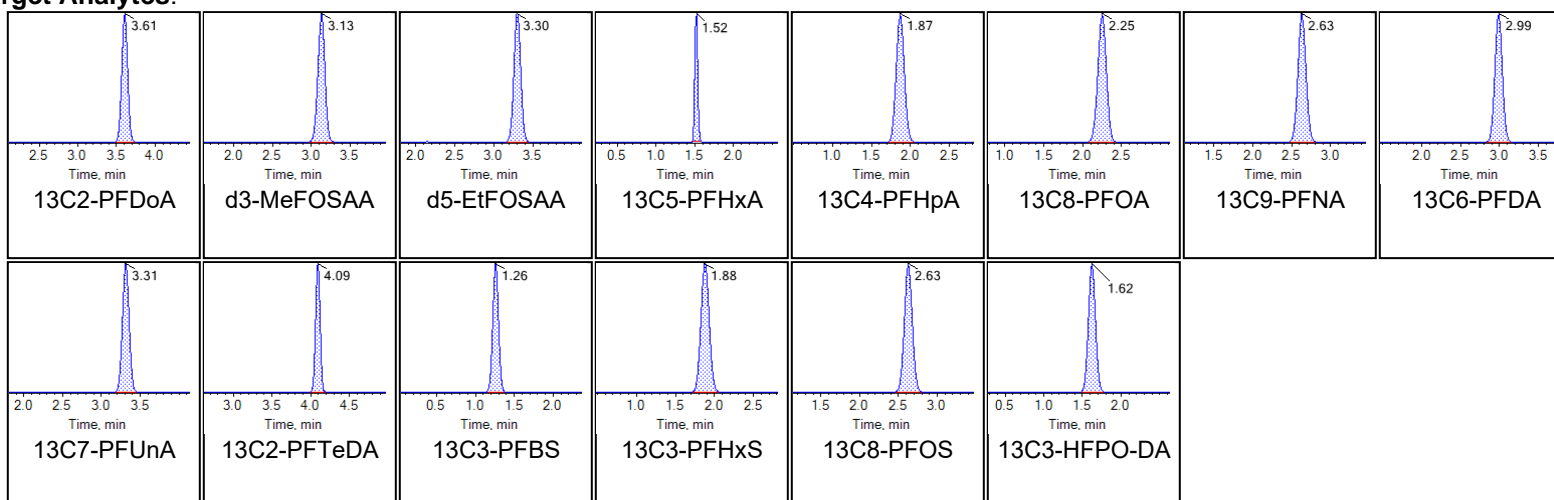
Internal Standards:



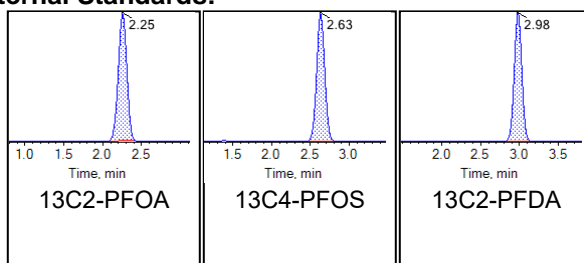
| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE55 | Injection Vial | 5 |
| Sample ID | L4 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:31:03 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

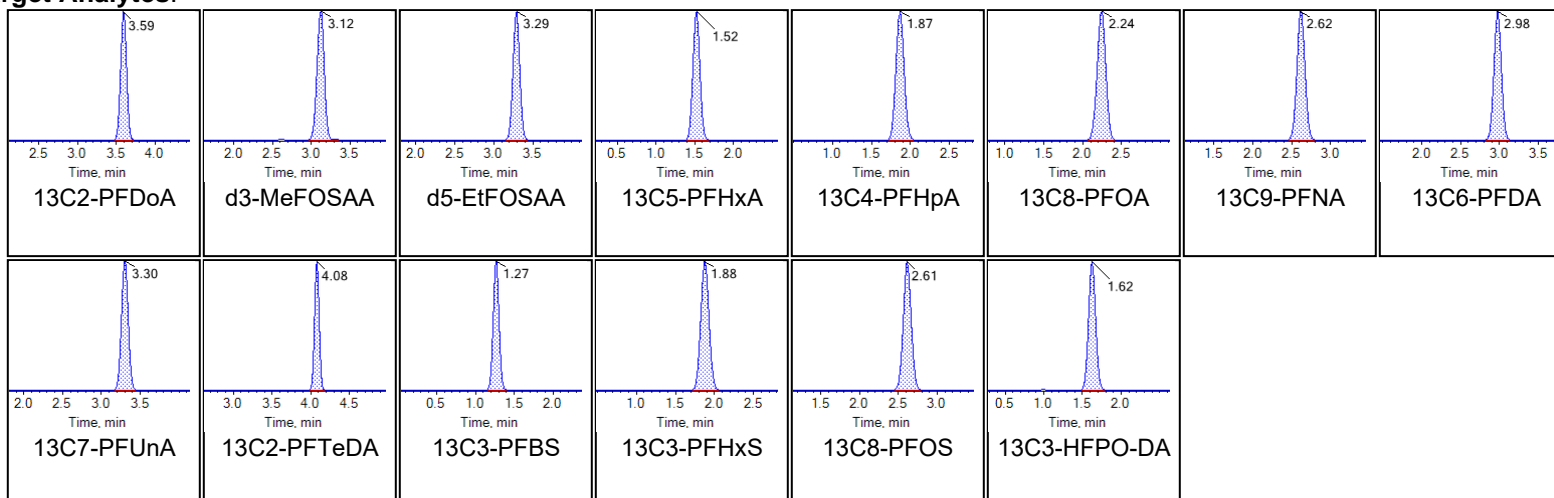
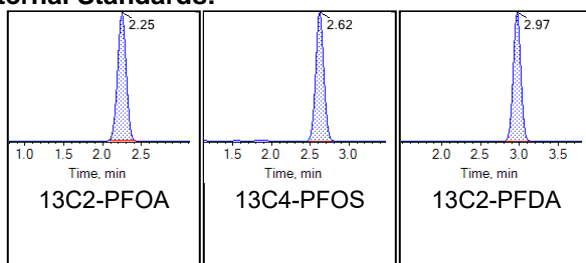
Target Analytes:



Internal Standards:



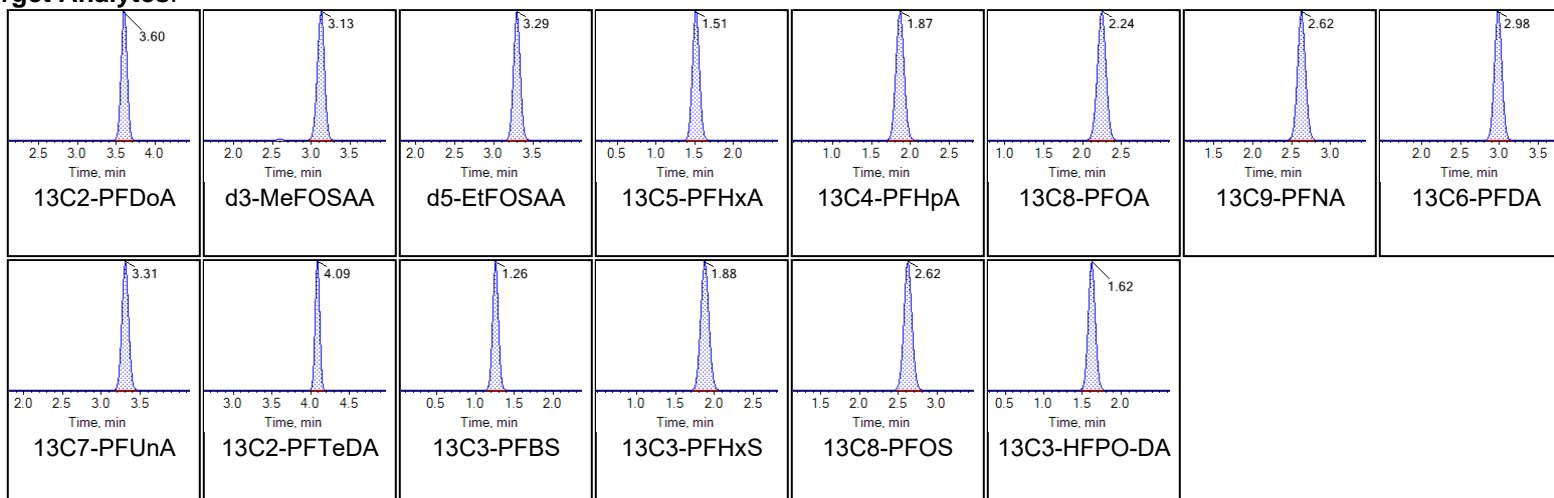
| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE56 | Injection Vial | 6 |
| Sample ID | L5 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:41:30 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms**Target Analytes:****Internal Standards:**

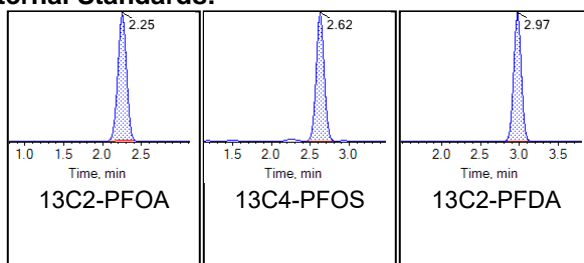
| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE57 | Injection Vial | 7 |
| Sample ID | L6 | Injection Volume | 10.00 |
| Sample Type | Standard | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 10:51:58 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



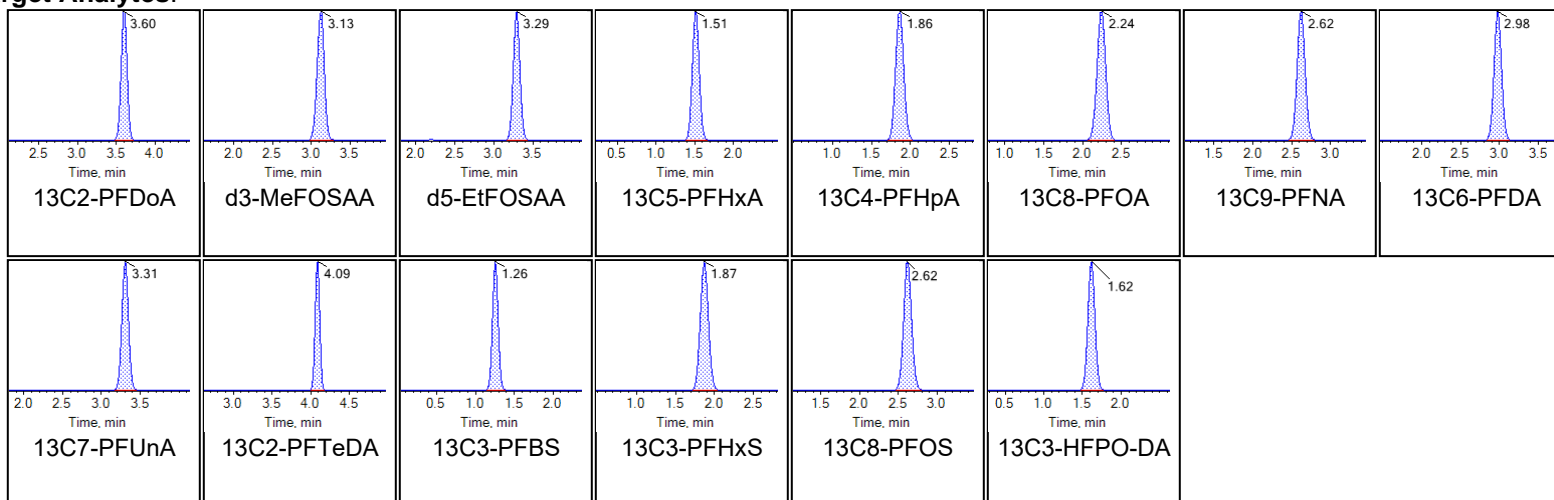
Internal Standards:



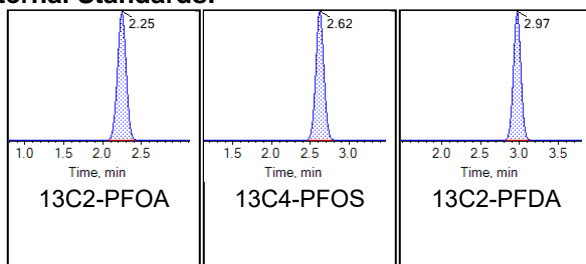
| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE58 IB | Injection Vial | 8 |
| Sample ID | Instrument Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:02:24 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



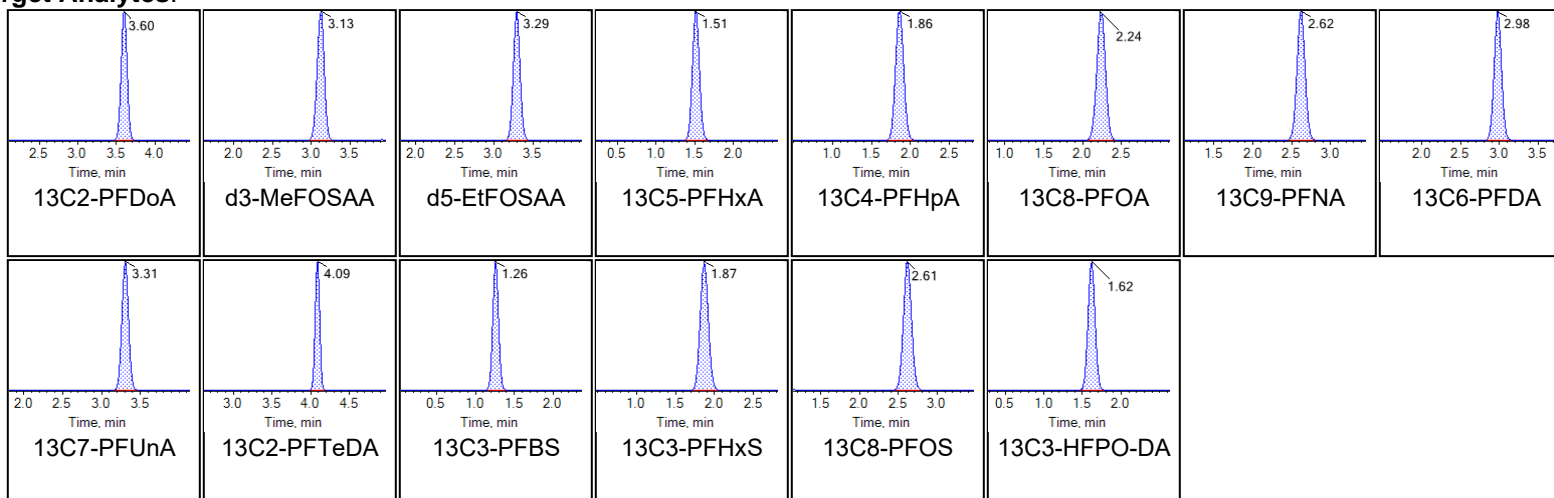
Internal Standards:



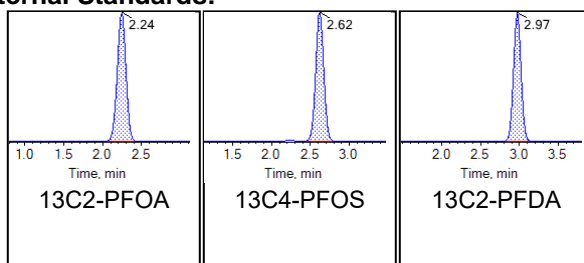
| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | LE59 ICC | Injection Vial | 9 |
| Sample ID | ICC | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/20/2020 11:12:52 PM | Data File | AE_11202020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





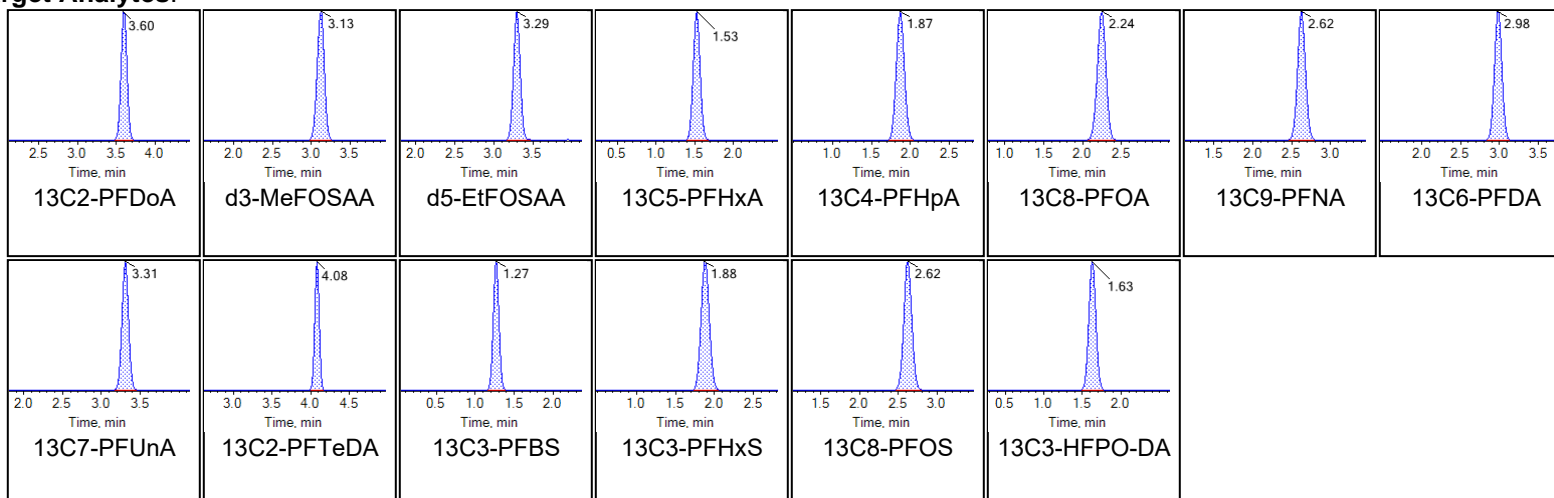
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

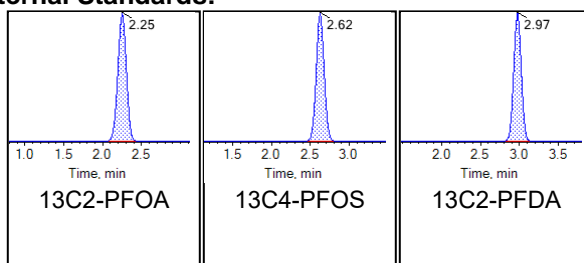
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | LE54 CCV | Injection Vial | 4 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:35:10 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





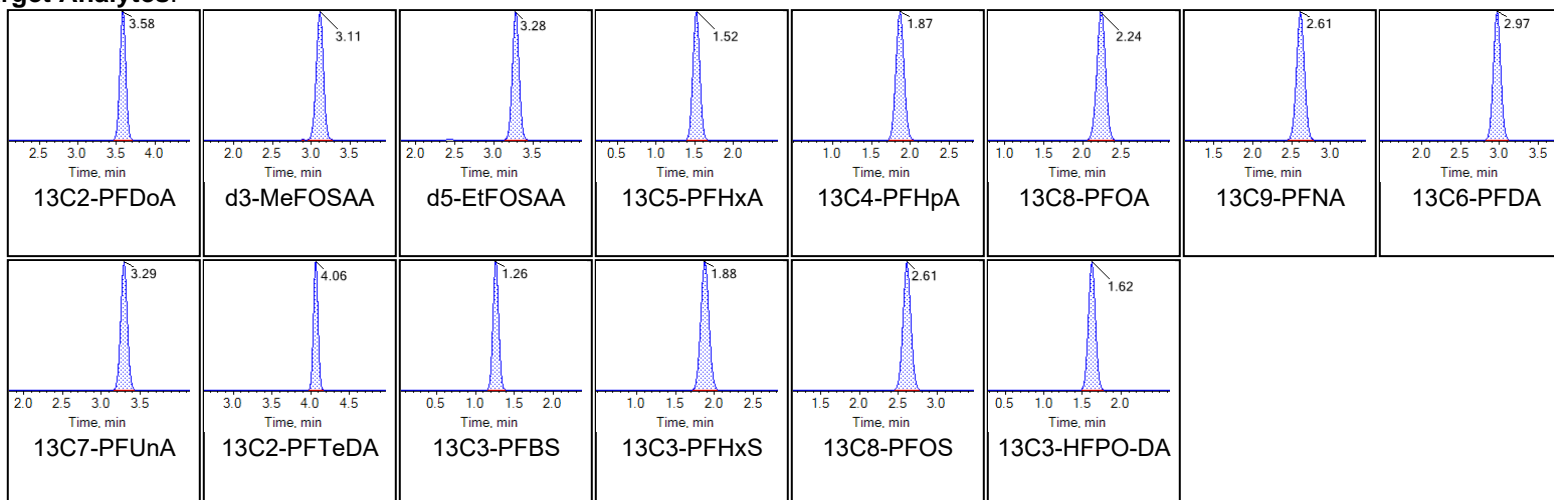
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

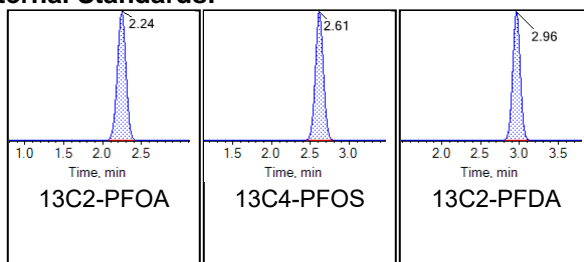
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | LE58 IB | Injection Vial | 6 |
| Sample ID | Instrument Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 5:56:05 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





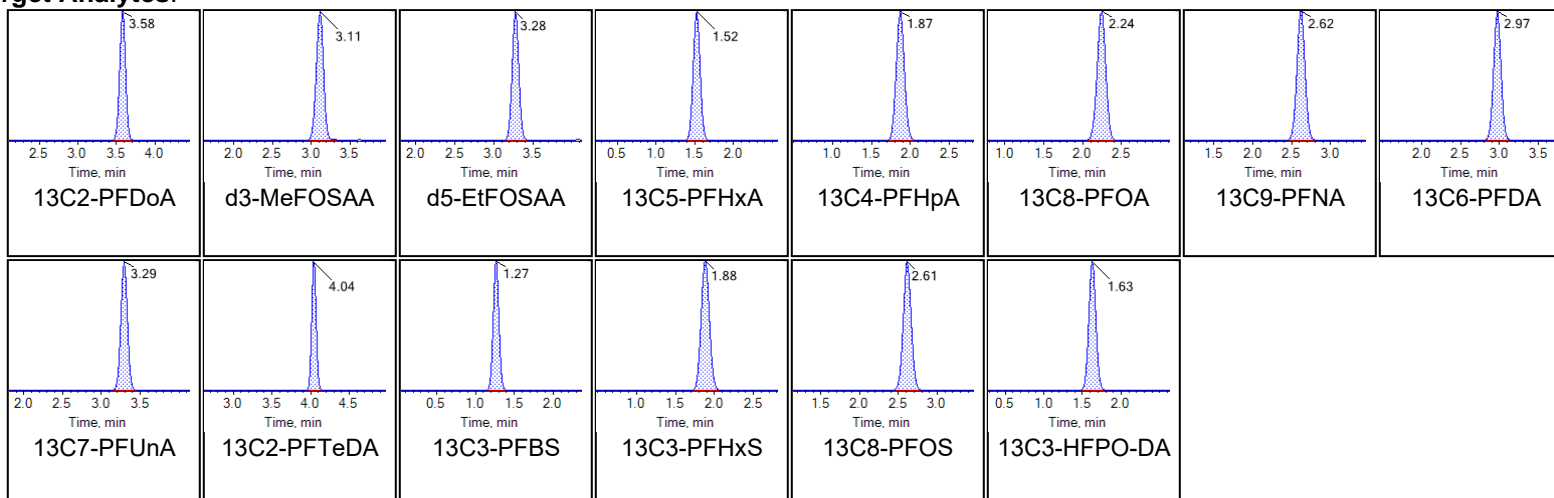
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

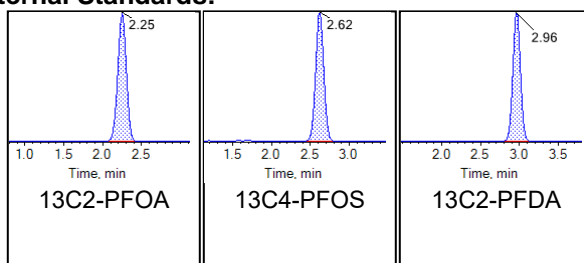
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | DB472PB-FS(0) | Injection Vial | 7 |
| Sample ID | Procedural Blank | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:06:34 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





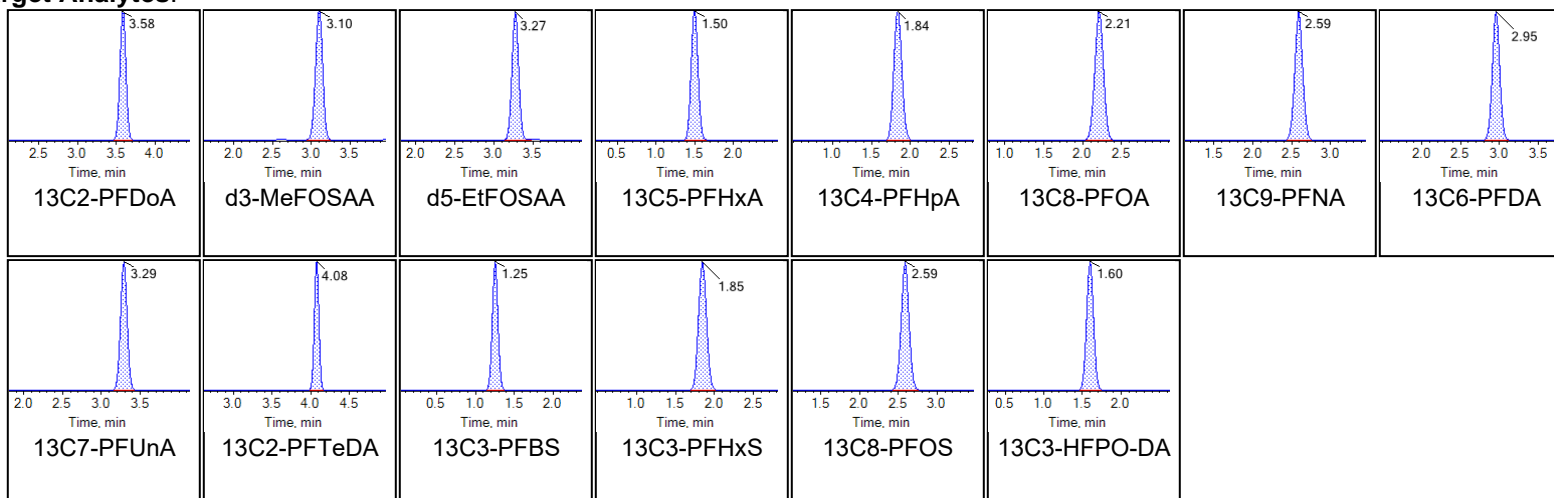
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

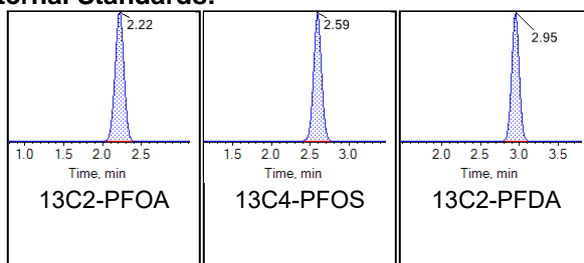
| | | | |
|---------------------------|---------------------------|-------------------------|----------------------------|
| Sample Name | DB473LCS-FS(0) | Injection Vial | 8 |
| Sample ID | Laboratory Control Sample | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:17:01 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





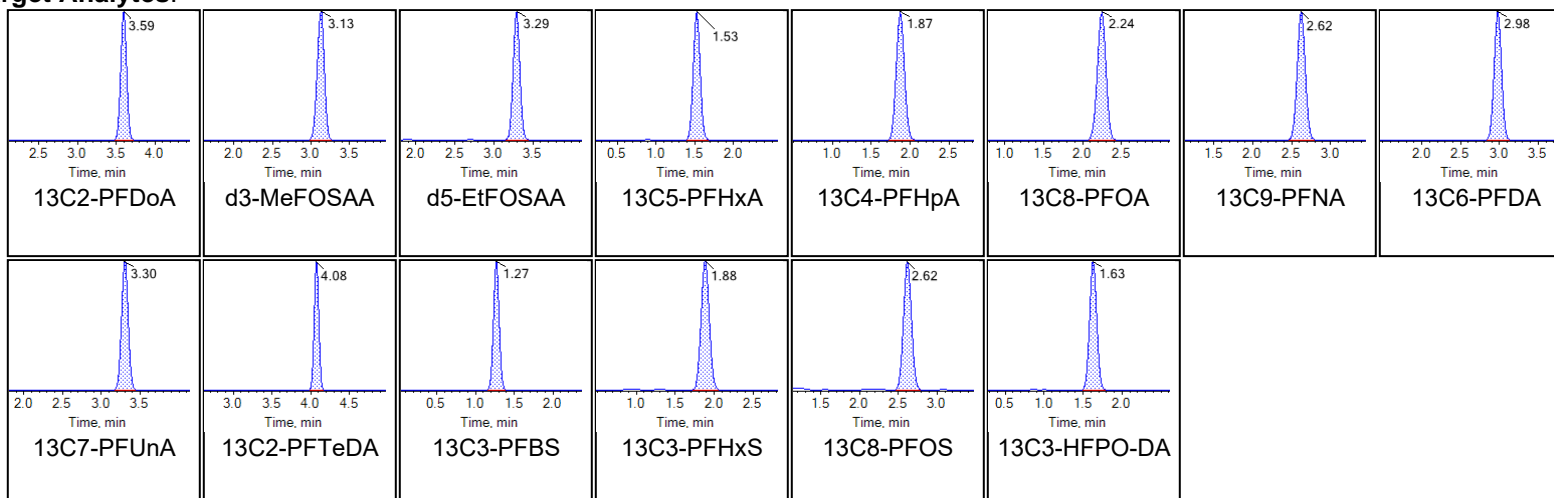
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

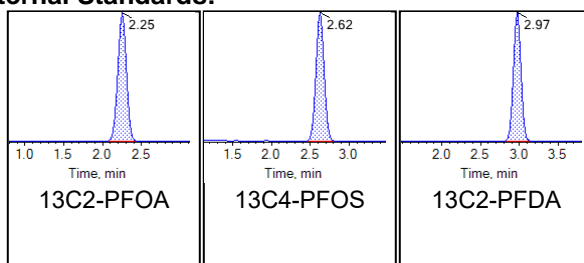
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2203-FS1(0) | Injection Vial | 9 |
| Sample ID | CBD-AOA-MW06-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:27:28 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



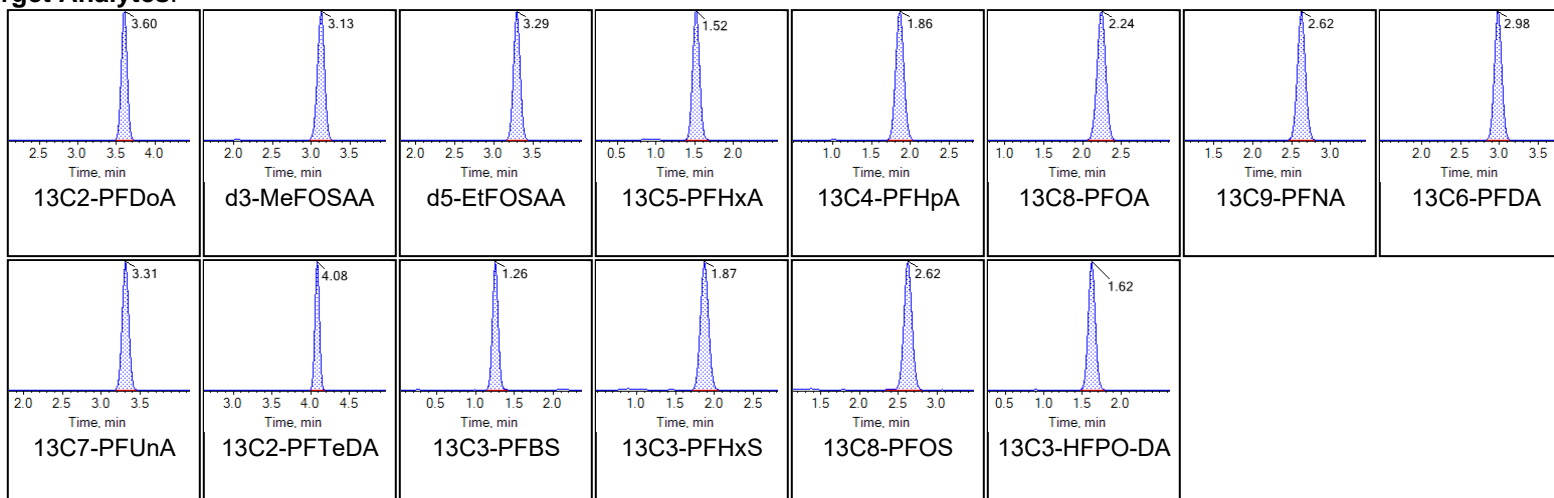
Internal Standards:



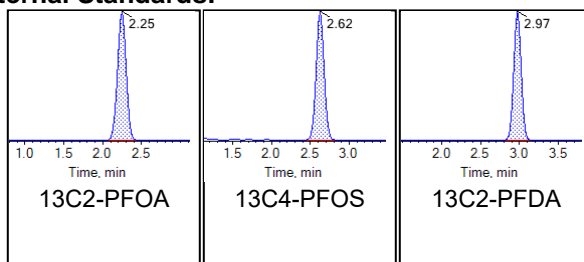
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2205-FS1(0) | Injection Vial | 10 |
| Sample ID | CBD-AOA-MW12-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:37:55 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





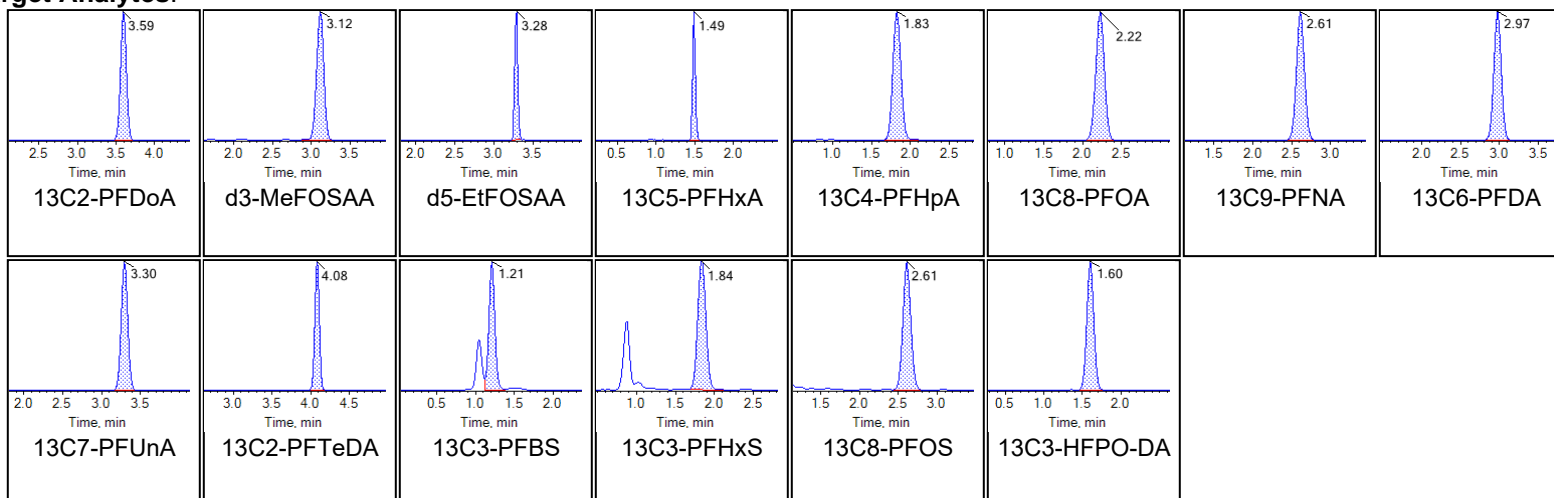
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

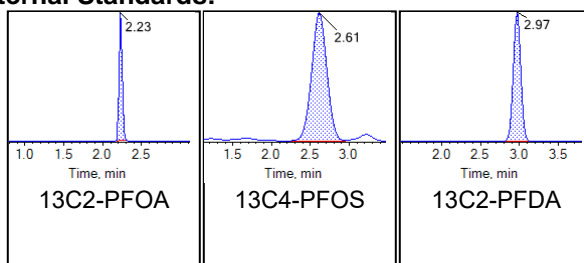
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2206-FS1(0) | Injection Vial | 11 |
| Sample ID | CBD-AOA-MW11-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:48:23 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





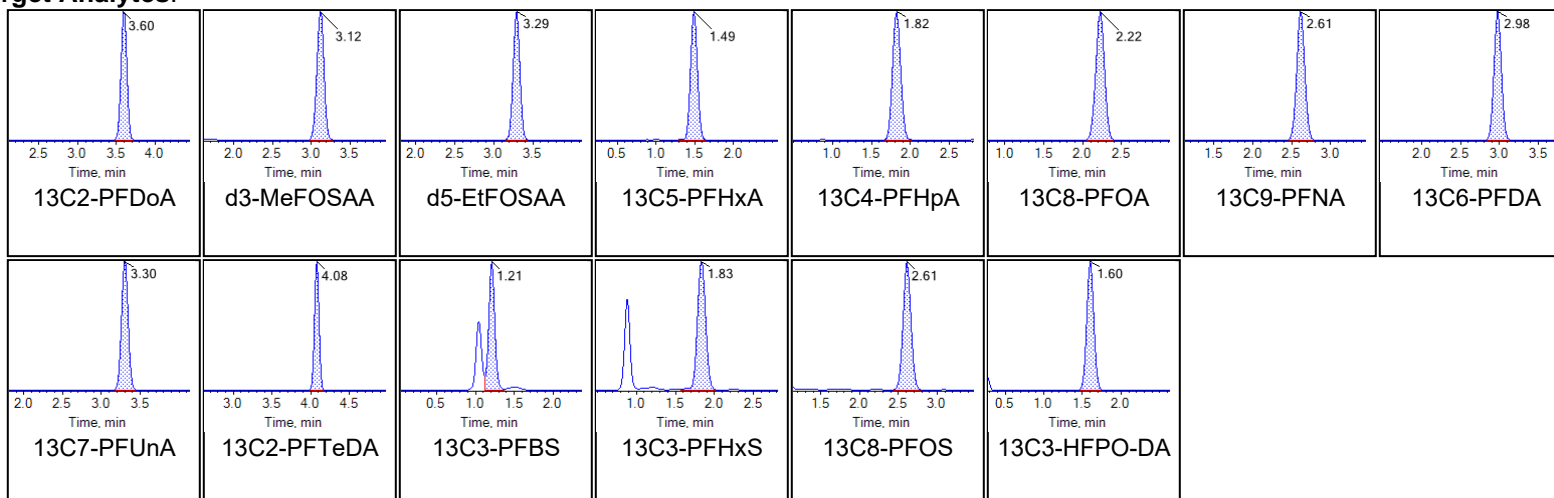
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

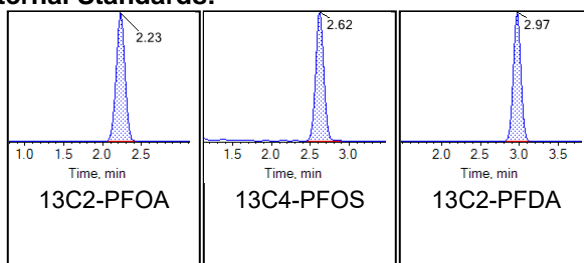
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2207-FS1(0) | Injection Vial | 12 |
| Sample ID | CBD-AOA-MW11P-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 6:58:51 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





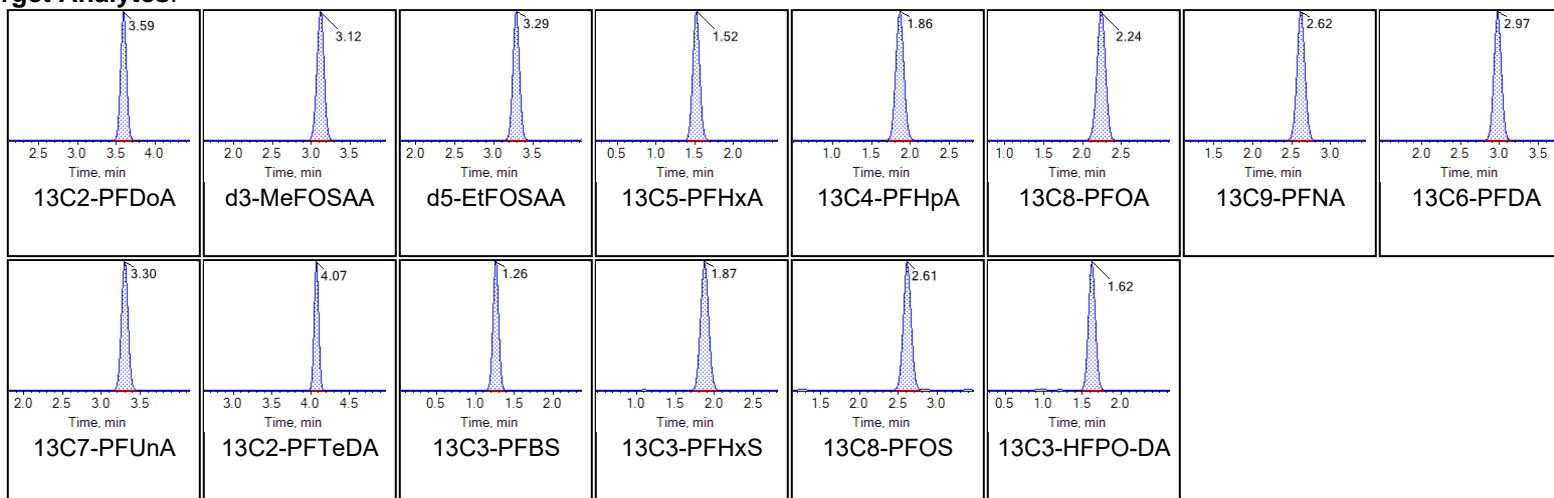
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

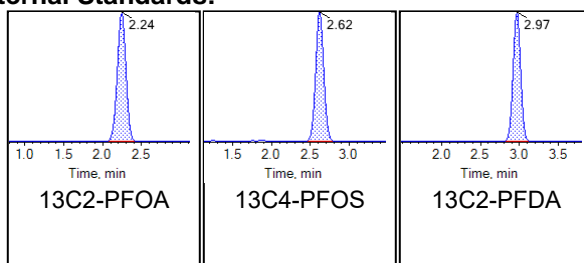
| | | | |
|---------------------------|------------------------|-------------------------|----------------------------|
| Sample Name | G2209-FS1(0) | Injection Vial | 13 |
| Sample ID | CBD-AOA-EB01-102820-GW | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:09:19 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





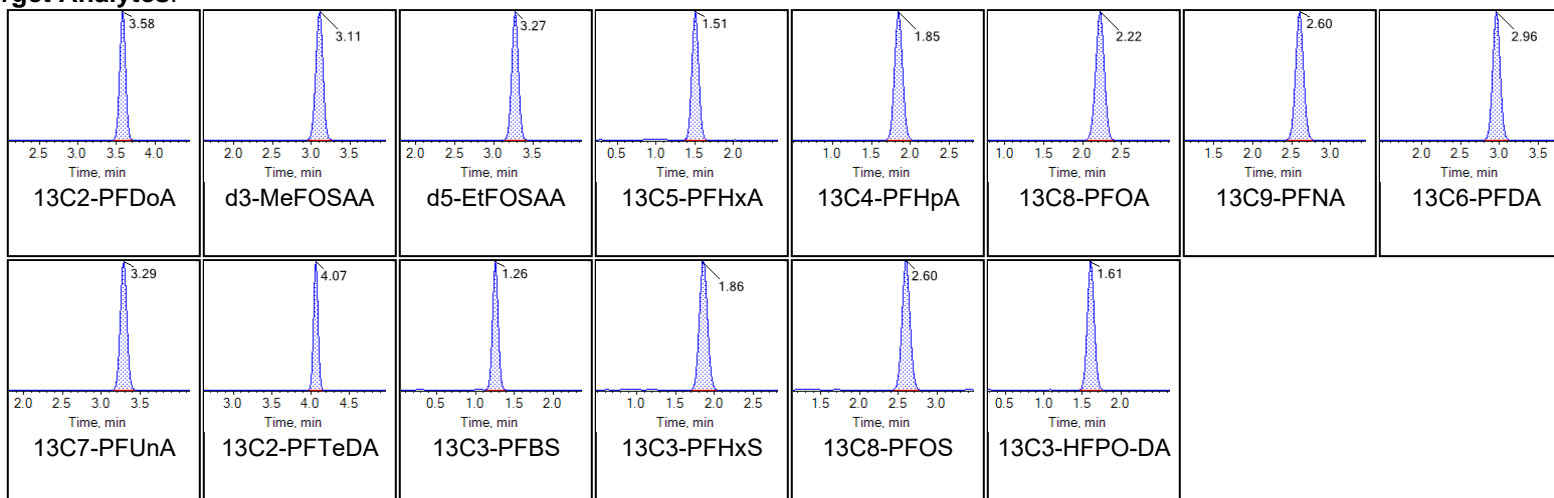
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

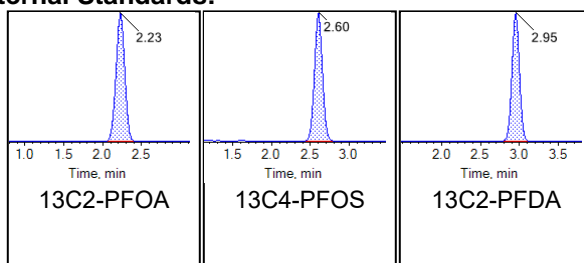
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | G2210-FS1(0) | Injection Vial | 14 |
| Sample ID | CBD-AOA-MW14-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:19:47 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:





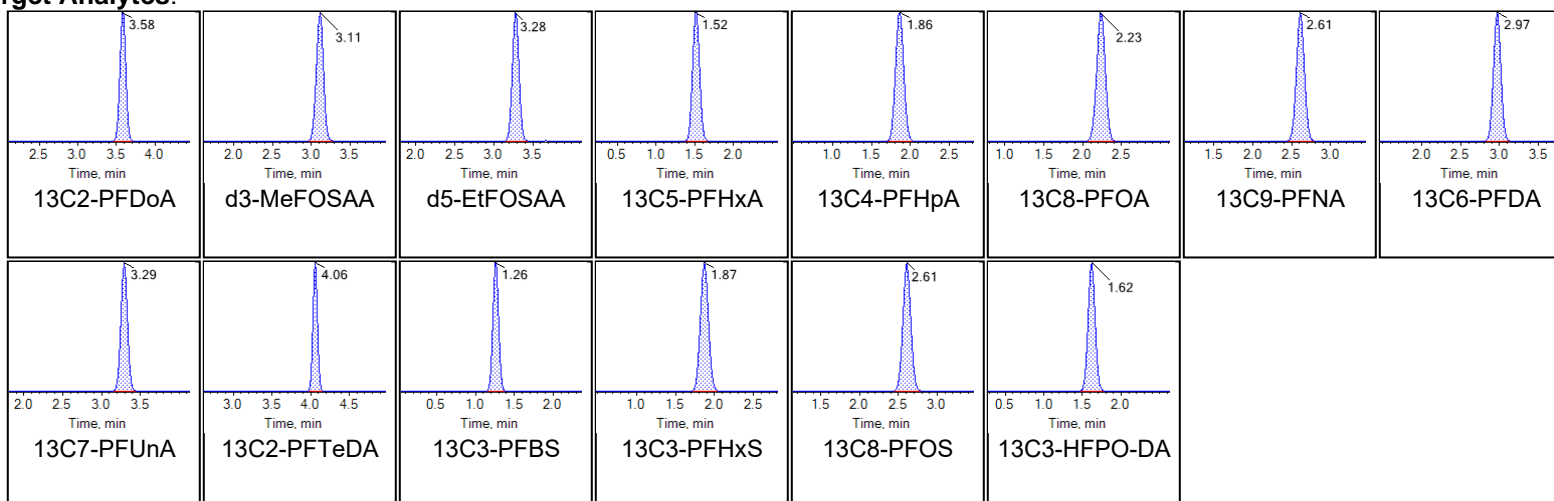
Chromatogram Report

Created with Analyst Reporter
Printed: 30/11/2020 9:17:35 AM

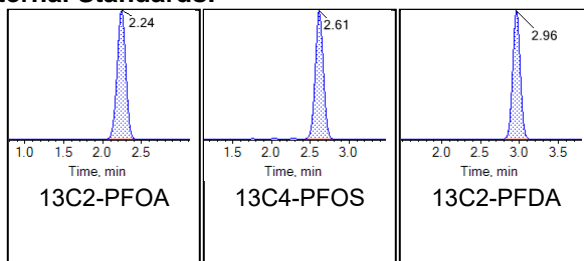
| | | | |
|---------------------------|-----------------------|-------------------------|----------------------------|
| Sample Name | LE55 CCV | Injection Vial | 16 |
| Sample ID | CCV | Injection Volume | 10.00 |
| Sample Type | Quality Control | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/25/2020 7:40:42 PM | Data File | AE_11262020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |

Chromatograms

Target Analytes:



Internal Standards:



Unused Data

| | | | |
|--------------------|-----------------------|------------------|----------------------------|
| Sample Name | G2210-FS(0) | Injection Vial | 2 |
| Sample ID | CBD-AOA-MW14-1020 | Injection Volume | 10.00 |
| Sample Type | Unknown | Instrument Name | Triple Quad 6500+ Low Mass |
| Acquisition Date | 11/30/2020 8:44:07 AM | Data File | AE_11292020_5-369.wiff |
| Acquisition Method | 5-369.dam | Result Table | 20-1519_SIS |
| Sample Comment | | | |

Results Summary

| Analyte | MRM Transition | RT | Area | Conc. (ng/L) | S/N Ratio | Modified | IS | IS Area | IS Conc. (ng/L) | Ratio Group | Ion Ratio | Expected Ion Ratio | Ratio OK |
|--------------|----------------|------|-----------|--------------|-----------|----------|-----------|-----------|-----------------|-------------|-----------|--------------------|----------|
| 13C2-PFDoA | 615.0 / 570.0 | 3.70 | 881033.30 | 1128.08 | 6931.9 | False | 13C2-PFDA | 680089.81 | 1250.00 | | | | |
| d3-MeFOSAA | 573.0 / 419.0 | 3.22 | 86992.72 | 1328.95 | 1462.5 | False | 13C4-PFOS | 99943.46 | 1195.00 | | N/A | N/A | ✓ |
| d5-EtFOSAA | 589.0 / 419.0 | 3.39 | 118100.23 | 1933.08 | 4397.8 | False | 13C4-PFOS | 99943.46 | 1195.00 | | N/A | N/A | ✓ |
| 13C5-PFHxA | 318.0 / 273.0 | 1.57 | 364791.76 | 563.44 | 1685.8 | False | 13C2-PFOA | 519234.89 | 1250.00 | | N/A | N/A | ✓ |
| 13C4-PFHpA | 367.0 / 322.0 | 1.93 | 457598.58 | 739.91 | 2108.4 | False | 13C2-PFOA | 519234.89 | 1250.00 | | N/A | N/A | ✓ |
| 13C8-PFOA | 421.0 / 376.0 | 2.32 | 704688.78 | 909.43 | 3339.2 | False | 13C2-PFOA | 519234.89 | 1250.00 | | N/A | N/A | ✓ |
| 13C9-PFNA | 472.0 / 427.0 | 2.71 | 783131.59 | 1054.10 | 2832.5 | False | 13C2-PFOA | 519234.89 | 1250.00 | | N/A | N/A | ✓ |
| 13C6-PFDA | 519.0 / 474.0 | 3.07 | 787953.83 | 1155.91 | 8024.2 | False | 13C2-PFDA | 680089.81 | 1250.00 | | N/A | N/A | ✓ |
| 13C7-PFUnA | 570.0 / 525.0 | 3.40 | 821035.96 | 1258.50 | 6914.2 | False | 13C2-PFDA | 680089.81 | 1250.00 | | N/A | N/A | ✓ |
| 13C2-PFTeDA | 715.0 / 670.0 | 4.21 | 895435.33 | 1137.94 | 13935.3 | False | 13C2-PFDA | 680089.81 | 1250.00 | | N/A | N/A | ✓ |
| 13C3-PFBS | 302.0 / 99.0 | 1.30 | 143754.69 | 1195.47 | 1608.4 | False | 13C4-PFOS | 99943.46 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-PFHxS | 402.0 / 99.0 | 1.94 | 147472.09 | 1555.60 | 1137.6 | False | 13C4-PFOS | 99943.46 | 1195.00 | | N/A | N/A | ✓ |
| 13C8-PFOS | 507.0 / 99.0 | 2.70 | 118335.68 | 1373.60 | 494.8 | False | 13C4-PFOS | 99943.46 | 1195.00 | | N/A | N/A | ✓ |
| 13C3-HFPO-DA | 287.0 / 169.0 | 1.68 | 323592.01 | 1462.72 | 1308.3 | False | 13C2-PFOA | 519234.89 | 1250.00 | | N/A | N/A | ✓ |

| Leachate_Date | Leachate_Time | Extraction_Date | Extraction_Time | Analysis_Date | Analysis_Time | Lab_Sample_ID | Dilution | Run_Number | PERCENT_MOISTURE | PERCENT_LIPID | Chem_Name | Analyte_ID | Analyte_Value | Original_Analyte_Value | Result_Units | Lab_Qualifier | Validator_Qualifier | Final_Flag |
|---------------|---------------|-----------------|-----------------|---------------|---------------|---------------|----------|------------|------------------|---------------|--|-------------|---------------|------------------------|--------------|---------------|---------------------|------------|
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorohexanoic Acid (PFHxA) | 307-24-4 | 1.5 | 1.5 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluoroheptanoic acid (PFHpA) | 375-85-9 | 1 | 1 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorooctanoic acid (PFOA) | 335-67-1 | 1.5 | 1.5 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorononanoic acid (PFNA) | 375-95-1 | 1 | 1 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorodecanoic Acid (PFDA) | 335-76-2 | 0.5 | 0.5 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluoroundecanoic Acid (PFUnA) | 2058-94-8 | 0.5 | 0.5 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorododecanoic Acid (PFDoA) | 307-55-1 | 0.5 | 0.5 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorotridecanoic Acid (PFTeDA) | 72629-94-8 | 0.5 | 0.5 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorotetradecanoic Acid (PFTeDA) | 376-06-7 | 2 | 2 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA) | 2355-31-9 | 1 | 1 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA) | 2991-50-6 | 1 | 1 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorobutanesulfonic acid (PFBS) | 375-73-5 | 0.5 | 0.5 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorohexanesulfonic acid (PFHxS) | 355-46-4 | 0.4 | 0.4 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluorooctane Sulfonate (PFOS) | 1763-23-1 | 1 | 1 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA) | 13252-13-6 | 0.5 | 0.5 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 4,8-dioxo-3H-perfluorononanoic acid (ADONA) | 919005-14-4 | 1 | 1 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 11-chloroicosafuoro-3-oxadecane-1-sulfonic acid (11Cl-PF3OUdS) | 763051-92-9 | 1 | 1 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) | 756426-58-1 | 0.5 | 0.5 | NG L | U | U | U |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C5-PFHxA | BDO-2217 | 92 | 92 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C4-PFHpA | BDO-2218 | 98 | 98 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C8-PFOA | BDO-2219 | 106 | 106 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C9-PFNA | BDO-2221 | 93 | 93 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C6-PFDA | BDO-2222 | 104 | 104 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C7-PFUnA | BDO-2223 | 103 | 103 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C2-PFDoA | BDO-2112 | 95 | 95 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C2-PFTEdA | BDO-2224 | 92 | 92 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | d3-MeFOSAA | BDO-1838 | 100 | 100 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | d5-EtFOSAA | BDO-1839 | 95 | 95 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C3-PFBS | BDO-2226 | 108 | 108 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C3-PFHxS | BDO-2227 | 101 | 101 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C8-PFOS | BDO-2228 | 123 | 123 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:06:34 | DB472PB-FS | 1 | 1 | | | 13C3-HFPO-DA | BDO-2276 | 97 | 97 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorohexanoic Acid (PFHxA) | 307-24-4 | 96 | 96 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluoroheptanoic acid (PFHpA) | 375-85-9 | 86 | 86 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorooctanoic acid (PFOA) | 335-67-1 | 79 | 79 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorononanoic acid (PFNA) | 375-95-1 | 80 | 80 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorodecanoic Acid (PFDA) | 335-76-2 | 78 | 78 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluoroundecanoic Acid (PFUnA) | 2058-94-8 | 86 | 86 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorododecanoic Acid (PFDoA) | 307-55-1 | 76 | 76 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorotridecanoic Acid (PFTeDA) | 72629-94-8 | 91 | 91 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorotetradecanoic Acid (PFTeDA) | 376-06-7 | 83 | 83 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA) | 2355-31-9 | 78 | 78 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA) | 2991-50-6 | 90 | 90 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorobutanesulfonic acid (PFBS) | 375-73-5 | 83 | 83 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorohexanesulfonic acid (PFHxS) | 355-46-4 | 87 | 87 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluorooctane Sulfonate (PFOS) | 1763-23-1 | 80 | 80 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA) | 13252-13-6 | 74 | 74 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 4,8-dioxo-3H-perfluorononanoic acid (ADONA) | 919005-14-4 | 72 | 72 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 11-chloroicosafuoro-3-oxadecane-1-sulfonic acid (11Cl-PF3OUdS) | 763051-92-9 | 64 | 64 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) | 756426-58-1 | 63 | 63 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C5-PFHxA | BDO-2217 | 83 | 83 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C4-PFHpA | BDO-2218 | 92 | 92 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C8-PFOA | BDO-2219 | 108 | 108 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C9-PFNA | BDO-2221 | 94 | 94 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C6-PFDA | BDO-2222 | 105 | 105 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C7-PFUnA | BDO-2223 | 93 | 93 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C2-PFDoA | BDO-2112 | 103 | 103 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C2-PFTEdA | BDO-2224 | 99 | 99 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | d3-MeFOSAA | BDO-1838 | 94 | 94 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | d5-EtFOSAA | BDO-1839 | 85 | 85 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C3-PFBS | BDO-2226 | 114 | 114 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C3-PFHxS | BDO-2227 | 99 | 99 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C8-PFOS | BDO-2228 | 118 | 118 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:17:01 | DB473LCs-FS | 1 | 1 | | | 13C3-HFPO-DA | BDO-2276 | 117 | 117 | PCT REC | | | |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | Perfluorohexanoic Acid (PFHxA) | 307-24-4 | 2.28 | 2.28 | NG L | JT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | Perfluoroheptanoic acid (PFHpA) | 375-85-9 | 1.86 | 1.86 | NG L | JT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | Perfluorooctanoic acid (PFOA) | 335-67-1 | 55.5 | 55.5 | NG L | T | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | Perfluorononanoic acid (PFNA) | 375-95-1 | 0.36 | 0.36 | NG L | JT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | Perfluorodecanoic Acid (PFDA) | 335-76-2 | 0.46 | 0.46 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | Perfluoroundecanoic Acid (PFUnA) | 2058-94-8 | 0.46 | 0.46 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | Perfluorododecanoic Acid (PFDoA) | 307-55-1 | 0.46 | 0.46 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | Perfluorotridecanoic Acid (PFTeDA) | 72629-94-8 | 0.46 | 0.46 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | Perfluorotetradecanoic Acid (PFTeDA) | 376-06-7 | 1.85 | 1.85 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:27:28 | G2203-FS1 | 1 | 2 | | | N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA) | 2355-31-9 | 0.92 | 0.92 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201 | | | | | | | | | | | | | | |

| Leachate_Date | Leachate_Time | Extraction_Date | Extraction_Time | Analysis_Date | Analysis_Time | Lab_Sample_ID | Dilution | Run_Number | PERCENT_MOISTURE | PERCENT_LIPID | Chem_Name | Analyte_ID | Analyte_Value | Original_Analyte_Value | Result_Units | Lab_Qualifier | Validator_Qualifier | Final_Flag |
|---------------|---------------|-----------------|-----------------|---------------|---------------|---------------|----------|------------|------------------|---------------|---|-------------|---------------|------------------------|--------------|---------------|---------------------|------------|
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluorooctanoic acid (PFOA) | 335-67-1 | 1.42 | 1.42 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluorononanoic acid (PFNA) | 375-95-1 | 0.94 | 0.94 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluorodecanoic acid (PFDA) | 335-76-2 | 0.47 | 0.47 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluoroundecanoic acid (PFUnA) | 2058-94-8 | 0.47 | 0.47 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluorododecanoic acid (PFDoA) | 307-55-1 | 0.47 | 0.47 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluorotridecanoic acid (PFTeDA) | 72629-94-8 | 0.47 | 0.47 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluorotetradecanoic acid (PFTeDA) | 376-06-7 | 1.89 | 1.89 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA) | 2355-31-9 | 0.94 | 0.94 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA) | 2991-50-6 | 0.94 | 0.94 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluorobutanesulfonic acid (PFBS) | 375-73-5 | 0.47 | 0.47 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluorohexanesulfonic acid (PFHxS) | 355-46-4 | 0.22 | 0.22 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluorooctane Sulfonate (PFOS) | 1763-23-1 | 0.94 | 0.94 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA) | 13252-13-6 | 0.47 | 0.47 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 4,8-dioxo-3H-perfluorononanoic acid (ADONA) | 919005-14-4 | 0.94 | 0.94 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 11-chloroicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | 763051-92-9 | 0.94 | 0.94 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) | 756426-58-1 | 0.47 | 0.47 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C5-PFHxA | BDO-2217 | 54 | 54 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C4-PFHpA | BDO-2218 | 58 | 58 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C8-PFOA | BDO-2219 | 85 | 85 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C9-PFNA | BDO-2221 | 104 | 104 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C6-PFDA | BDO-2222 | 92 | 92 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C7-PFUnA | BDO-2223 | 95 | 95 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C2-PFDoA | BDO-2112 | 103 | 103 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C2-PFTEdA | BDO-2224 | 87 | 87 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | d3-MeFOSAA | BDO-1838 | 92 | 92 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | d5-EtFOSAA | BDO-1839 | 149 | 149 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C3-PFB5 | BDO-2226 | 79 | 79 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C3-PFHxS | BDO-2227 | 82 | 82 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C8-PFOS | BDO-2228 | 104 | 104 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:37:55 | G2205-F51 | 1 | 2 | | | 13C3-HFPO-DA | BDO-2276 | 121 | 121 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorohexanoic Acid (PFHxA) | 307-24-4 | 0.93 | 0.93 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorheptanoic acid (PFHpA) | 375-85-9 | 1 | 1 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorooctanoic acid (PFOA) | 335-67-1 | 1.5 | 1.5 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorononanoic acid (PFNA) | 375-95-1 | 1 | 1 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorodecanoic acid (PFDA) | 335-76-2 | 0.5 | 0.5 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluoroundecanoic acid (PFUnA) | 2058-94-8 | 0.5 | 0.5 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorododecanoic acid (PFDoA) | 307-55-1 | 0.5 | 0.5 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorotridecanoic acid (PFTeDA) | 72629-94-8 | 0.5 | 0.5 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorotetradecanoic acid (PFTeDA) | 376-06-7 | 2 | 2 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA) | 2355-31-9 | 1 | 1 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA) | 2991-50-6 | 1 | 1 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorobutanesulfonic acid (PFBS) | 375-73-5 | 0.5 | 0.5 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorohexanesulfonic acid (PFHxS) | 355-46-4 | 0.4 | 0.4 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluorooctane Sulfonate (PFOS) | 1763-23-1 | 1 | 1 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA) | 13252-13-6 | 0.5 | 0.5 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 4,8-dioxo-3H-perfluorononanoic acid (ADONA) | 919005-14-4 | 1 | 1 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 11-chloroicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | 763051-92-9 | 1 | 1 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) | 756426-58-1 | 0.5 | 0.5 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C5-PFHxA | BDO-2217 | 50 | 50 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C4-PFHpA | BDO-2218 | 28 | 28 | PCT_REC | N | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C8-PFOA | BDO-2219 | 92 | 92 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C9-PFNA | BDO-2221 | 104 | 104 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C6-PFDA | BDO-2222 | 88 | 88 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C7-PFUnA | BDO-2223 | 106 | 106 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C2-PFDoA | BDO-2112 | 86 | 86 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C2-PFTEdA | BDO-2224 | 65 | 65 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | d3-MeFOSAA | BDO-1838 | 66 | 66 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | d5-EtFOSAA | BDO-1839 | 149 | 149 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C3-PFB5 | BDO-2226 | 74 | 74 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C3-PFHxS | BDO-2227 | 55 | 55 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C8-PFOS | BDO-2228 | 103 | 103 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:48:23 | G2206-F51 | 1 | 2 | | | 13C3-HFPO-DA | BDO-2276 | 108 | 108 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | Perfluorohexanoic Acid (PFHxA) | 307-24-4 | 1.73 | 1.73 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | Perfluorheptanoic acid (PFHpA) | 375-85-9 | 0.96 | 0.96 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | Perfluorooctanoic acid (PFOA) | 335-67-1 | 1.44 | 1.44 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | Perfluorononanoic acid (PFNA) | 375-95-1 | 0.96 | 0.96 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | Perfluorodecanoic acid (PFDA) | 335-76-2 | 0.48 | 0.48 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | Perfluoroundecanoic acid (PFUnA) | 2058-94-8 | 0.48 | 0.48 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | Perfluorododecanoic acid (PFDoA) | 307-55-1 | 0.48 | 0.48 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | Perfluorotridecanoic acid (PFTeDA) | 72629-94-8 | 0.48 | 0.48 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | Perfluorotetradecanoic acid (PFTeDA) | 376-06-7 | 1.92 | 1.92 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA) | 2355-31-9 | 0.96 | 0.96 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 18:58:51 | G2207-F51 | 1 | 2 | | | N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA) | 2 | | | | | | |

| Leachate_Date | Leachate_Time | Extraction_Date | Extraction_Time | Analysis_Date | Analysis_Time | Lab_Sample_ID | Dilution | Run_Number | PERCENT_MOISTURE | PERCENT_LIPID | Chem_Name | Analyte_ID | Analyte_Value | Original_Analyte_Value | Result_Units | Lab_Qualifier | Validator_Qualifier | Final_Flag |
|---------------|---------------|-----------------|-----------------|---------------|---------------|---------------|----------|------------|------------------|---------------|--|-------------|---------------|------------------------|--------------|---------------|---------------------|------------|
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | Perfluorodecanoic Acid (PFDA) | 335-76-2 | 0.44 | 0.44 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | Perfluoroundecanoic Acid (PFUnA) | 2058-94-8 | 0.44 | 0.44 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | Perfluorododecanoic Acid (PFDoA) | 307-55-1 | 0.44 | 0.44 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | Perfluorotridecanoic Acid (PFTeDA) | 72629-94-8 | 0.44 | 0.44 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | Perfluorotetradecanoic Acid (PFTeDA) | 376-06-7 | 1.79 | 1.79 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA) | 2355-31-9 | 0.89 | 0.89 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA) | 2991-50-6 | 0.89 | 0.89 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | Perfluorobutanesulfonic acid (PFBS) | 375-73-5 | 0.44 | 0.44 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | Perfluorohexanesulfonic acid (PFHxS) | 355-46-4 | 0.35 | 0.35 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | Perfluorooctane Sulfonate (PFOS) | 1763-23-1 | 0.89 | 0.89 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA) | 13252-13-6 | 0.44 | 0.44 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 4,8-dioxo-3H-perfluorononanoic acid (ADONA) | 919005-14-4 | 0.89 | 0.89 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | 763051-92-9 | 0.89 | 0.89 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) | 756426-58-1 | 0.44 | 0.44 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C5-PFHxA | BDO-2217 | 69 | 69 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C4-PFHpA | BDO-2218 | 86 | 86 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C8-PFOA | BDO-2219 | 83 | 83 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C9-PFNA | BDO-2221 | 100 | 100 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C6-PFDA | BDO-2222 | 105 | 105 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C7-PFUnA | BDO-2223 | 110 | 110 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C2-PFDoA | BDO-2112 | 93 | 93 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C2-PFTeDA | BDO-2224 | 91 | 91 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | d3-MeFOSAA | BDO-1838 | 110 | 110 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | d5-EtFOSAA | BDO-1839 | 114 | 114 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C3-PFBS | BDO-2226 | 131 | 131 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C3-PFHxS | BDO-2227 | 105 | 105 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C8-PFOS | BDO-2228 | 103 | 103 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:09:19 | G2209-F51 | 1 | 2 | | | 13C3-HFPO-DA | BDO-2276 | 78 | 78 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorohexanoic Acid (PFHxA) | 307-24-4 | 4.3 | 4.3 | NG L | JT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluoroheptanoic acid (PFHpA) | 375-85-9 | 1.73 | 1.73 | NG L | JT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorooctanoic acid (PFOA) | 335-67-1 | 5.05 | 5.05 | NG L | T | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorononanoic acid (PFNA) | 375-95-1 | 0.93 | 0.93 | NG L | JT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorodecanoic Acid (PFDA) | 335-76-2 | 0.49 | 0.49 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluoroundecanoic Acid (PFUnA) | 2058-94-8 | 0.49 | 0.49 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorododecanoic Acid (PFDoA) | 307-55-1 | 0.49 | 0.49 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorotridecanoic Acid (PFTeDA) | 72629-94-8 | 0.49 | 0.49 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorotetradecanoic Acid (PFTeDA) | 376-06-7 | 1.96 | 1.96 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA) | 2355-31-9 | 0.98 | 0.98 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA) | 2991-50-6 | 0.98 | 0.98 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorobutanesulfonic acid (PFBS) | 375-73-5 | 0.6 | 0.6 | NG L | JT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorohexanesulfonic acid (PFHxS) | 355-46-4 | 8.33 | 8.33 | NG L | T | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluorooctane Sulfonate (PFOS) | 1763-23-1 | 4.03 | 4.03 | NG L | JT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA) | 13252-13-6 | 0.49 | 0.49 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 4,8-dioxo-3H-perfluorononanoic acid (ADONA) | 919005-14-4 | 0.98 | 0.98 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 11-chlorooicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | 763051-92-9 | 0.49 | 0.49 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) | 756426-58-1 | 0.49 | 0.49 | NG L | UT | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C5-PFHxA | BDO-2217 | 51 | 51 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C4-PFHpA | BDO-2218 | 65 | 65 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C8-PFOA | BDO-2219 | 78 | 78 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C9-PFNA | BDO-2221 | 95 | 95 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C6-PFDA | BDO-2222 | 88 | 88 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C7-PFUnA | BDO-2223 | 94 | 94 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C2-PFDoA | BDO-2112 | 91 | 91 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C2-PFTeDA | BDO-2224 | 78 | 78 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | d3-MeFOSAA | BDO-1838 | 96 | 96 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | d5-EtFOSAA | BDO-1839 | 175 | 175 | PCT_REC | N | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C3-PFBS | BDO-2226 | 86 | 86 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C3-PFHxS | BDO-2227 | 103 | 103 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C8-PFOS | BDO-2228 | 115 | 115 | PCT_REC | | Exclude | Exclude |
| | | 20201123 | 12:15:00 | 20201125 | 19:19:47 | G2210-F51 | 1 | 2 | | | 13C3-HFPO-DA | BDO-2276 | 114 | 114 | PCT_REC | | Exclude | Exclude |

**DATA VALIDATION SUMMARY REPORT
NAVAL RESEARCH LABORATORY, MARYLAND**

Client: CH2M HILL, Inc., Herndon, Virginia
 SDG: 20-1519
 Laboratory: Battelle Norwell Operations, Norwell, Massachusetts
 Site: Naval Research Laboratory (NRL), Chesapeake Beach, Maryland
 Date: January 11, 2021

| PFAS | | | |
|--------|------------------------|----------------------|--------|
| EDS ID | Client Sample ID | Laboratory Sample ID | Matrix |
| 1 | CBD-AOA-MW06-1020 | G2203-FS1 | Water |
| 2 | CBD-AOA-MW12-1020 | G2205-FS1 | Water |
| 3 | CBD-AOA-MW11-1020 | G2206-FS1 | Water |
| 4 | CBD-AOA-MW11P-1020 | G2207-FS1 | Water |
| 5 | CBD-AOA-EB01-102820-GW | G2209-FS1 | Water |
| 6 | CBD-AOA-MW14-1020 | G2210-FS1 | Water |

A Stage 2B/4 data validation was performed on the analytical data for five water samples and one aqueous equipment blank sample collected on October 27-28, 2020 by CH2M HILL at the Naval Research Laboratory Site 10 Fire Testing Area in Maryland. The samples were analyzed under the Analysis of Poly and Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS).

Specific method references are as follows:

Analysis
PFAS

Method References
Battelle SOP 5-369-08

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the Final Sampling and Analysis Plan Site 10 Fire Testing Area Site Inspection, Naval Research Laboratory, August 2020, and the DoD Final General Data Validation Guidelines, November 2019, including the following Module:

- The Department of Defense (DoD) Data Validation Guidelines Module 3, Data Validation Procedure for Per- and Polyfluoroalkyl Substances Analysis by Quality Systems Manual for Environmental Laboratories (QSM) Table B-15, May 2020;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Date Completeness, Case Narrative & Custody Documentation
- Holding times
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Laboratory Fortified Blank (LFB)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

A full (Stage 2B/4) data validation was performed with this review including a recalculation of 10% of the detected results in the samples.

Data Usability Assessment

There were no serious deficiencies of data.

The data are acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Per- and Polyfluoroalkyl Substances (PFAS)

Data Completeness, Case Narrative & Custody Documentation

- The case narrative and chain-of-custody documentation were included in the data package as required. All criteria were met.

Holding Times

- All samples were extracted outside of holding times for water samples at 26 and 27 days. All samples were qualified as estimated (J/UJ).

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) and/or correlation coefficients criteria were met.

Continuing Calibration

- All percent recovery (%R) criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC sample results are summarized below.

| Blank ID | Compound | Conc. ng/L | Qualifier | Affected Samples |
|------------------------|-----------|------------|-----------|------------------|
| CBD-AOA-EB01-102820-GW | None - ND | - | - | - |
| CBD-AOA-FB01-102820 | None - ND | - | - | - |

Surrogate Spike Recoveries

- Several samples exhibited percent recoveries that exceeded QC limits. However, all results were previously qualified (J/UJ) due to holding time exceedances. See summary forms behind Form Is for specifics.

Laboratory Fortified Blank (LFB)

- The LFB samples exhibited acceptable percent recoveries (%R).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All samples were re-extracted outside of holding times from SDG 20-1375 to verify surrogate recovery deficiencies. Use the original analysis results in SDG 20-1375 for reporting purposes.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

| Compound | CBD-AOA-MW11-1020 ng/L | CBD-AOA-MW11P-1020 ng/L | RPD | Qualifier |
|----------|---------------------------|----------------------------|-----|----------------|
| PFHxA | 0.934 | 1.73 | 60% | None - <5X LOQ |

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed:

Nancy Weaver
Nancy Weaver
Senior Chemist

Dated: 1/14/21

| Qualifier | Definition |
|-----------|---|
| U | The analyte was not detected and was reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample. |
| J | The reported result was an estimated value with an unknown bias. |
| J+ | The result was an estimated quantity, but the result may be biased high. |
| J- | The result was an estimated quantity, but the result may be biased low. |
| N | The analysis indicates the presence of an analyte for which there was presumptive evidence to make a "tentative identification." |
| NJ | The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value was the estimated concentration in the sample. |
| UJ | The analyte was not detected and was reported as less than the LOD or as defined by the customer. However, the associated numerical value is approximate. |
| X | <p>The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided.</p> <p>Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.</p> |



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW06-1020

Battelle ID G2203-FS1
 Sample Type SA
 Collection Date 10/27/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.270
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|------------------|-----------------------|---------------------|-------------------------|------------------|-----------------------|------------------|------------------|-----------------|
| PFHxA | 307-24-4 | 2.28 JT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.488 | 1.39 | 4.63 |
| PFHxA | 375-85-9 | 1.86 JT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.244 | 0.926 | 4.63 |
| PFOA | 335-67-1 | 55.5 T | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.473 | 1.39 | 4.63 |
| PFNA | 375-95-1 | 0.367 JT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.286 | 0.926 | 4.63 |
| PFDA | 335-76-2 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.131 | 0.463 | 4.63 |
| PFUnA | 2058-94-8 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.203 | 0.463 | 4.63 |
| PFDoA | 307-55-1 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.178 | 0.463 | 4.63 |
| PFTDA | 72629-94-8 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.143 | 0.463 | 4.63 |
| PFTeDA | 376-06-7 | 1.85 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.679 | 1.85 | 4.63 |
| NMeFOSAA | 2355-31-9 | 0.926 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.324 | 0.926 | 4.63 |
| NetFOSAA | 2991-50-6 | 0.926 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.463 | 0.926 | 4.63 |
| PFBS | 375-73-5 | 1.45 JT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.133 | 0.463 | 4.63 |
| PFHxS | 355-46-4 | 13.4 T | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.104 | 0.370 | 4.63 |
| PFOS | 1763-23-1 | 7.48 T | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.405 | 0.926 | 4.63 |
| HFPO-DA | 13252-13-6 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.230 | 0.463 | 4.63 |
| Adona | 919005-14-4 | 0.926 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.245 | 0.926 | 4.63 |
| 9CI-PF3ONS | 756426-58-1 | 0.463 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.248 | 0.463 | 4.63 |
| 11CI-PF3OUdS | 763051-92-9 | 0.926 UT | G2203-FS1(0) | 1.000 | 11/25/2020 | 0.214 | 0.926 | 4.63 |

USE ORIGINAL
RESULTS IN
20-1375

HT

mw111121

Analyzed by: Schumitz, Denise
 Printed: 12/1/2020



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-MW12-1020

Battelle ID G2205-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.265
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|-------------------------|------------------------|---------------------|-------------------------|------------------|-----------------------|------------------|------------------|-----------------|
| PFHxA | 307-24-4 | 1.01 JT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.497 | 1.42 | 4.72 |
| PFHxA | 375-85-9 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.240 | 0.943 | 4.72 |
| PFOA | 335-67-1 | 1.42 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.482 | 1.42 | 4.72 |
| PFNA | 375-95-1 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.292 | 0.943 | 4.72 |
| PFDA | 335-76-2 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.134 | 0.472 | 4.72 |
| PFUnA | 2058-94-8 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.207 | 0.472 | 4.72 |
| PFDoA | 307-55-1 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.181 | 0.472 | 4.72 |
| PFTrDA | 72629-94-8 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.145 | 0.472 | 4.72 |
| PFTeDA | 376-06-7 | 1.89 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.692 | 1.89 | 4.72 |
| NMeFOSAA | 2355-31-9 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.330 | 0.943 | 4.72 |
| NETFOSAA | 2991-50-6 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.472 | 0.943 | 4.72 |
| PFB5 | 375-73-5 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.136 | 0.472 | 4.72 |
| PFHxS | 355-46-4 | 0.226 JT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.106 | 0.377 | 4.72 |
| PFOS | 1763-23-1 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.412 | 0.943 | 4.72 |
| HFPO-DA | 13252-13-6 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.234 | 0.472 | 4.72 |
| Adona | 919005-14-4 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.250 | 0.943 | 4.72 |
| 9CI-PF3ONS | 756426-58-1 | 0.472 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.253 | 0.472 | 4.72 |
| 11CI-PF3OUds | 763051-92-9 | 0.943 UT | G2205-FS1(0) | 1.000 | 11/25/2020 | 0.218 | 0.943 | 4.72 |

2
 Use original results in 20-1375

HT

11/11/20

Analyzed by: Schumitz, Denise
 Printed: 12/1/2020



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

3

Client ID CBD-AOA-MW11-1020

Battelle ID G2206-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sclex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.250
 Size Unit-Basis L

Use original results in 20-1375

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|-------------------|-----------------------|---------------------|-------------------------|------------------|-----------------------|------------------|------------------|-----------------|
| PFHxA | 307-24-4 | 0.934 JT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.527 | 1.50 | 5.00 |
| PFHpA | 375-85-9 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.263 | 1.00 | 5.00 |
| PFOA | 335-67-1 | 1.50 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.511 | 1.50 | 5.00 |
| PFNA | 375-95-1 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.309 | 1.00 | 5.00 |
| PFDA | 335-76-2 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.142 | 0.500 | 5.00 |
| PFUnA | 2058-94-8 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.219 | 0.500 | 5.00 |
| PFDoA | 307-55-1 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.192 | 0.500 | 5.00 |
| PFTrDA | 72629-84-8 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.154 | 0.500 | 5.00 |
| PFTeDA | 376-06-7 | 2.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.733 | 2.00 | 5.00 |
| NMeFOSAA | 2355-31-9 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.350 | 1.00 | 5.00 |
| NEtFOSAA | 2991-50-6 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.500 | 1.00 | 5.00 |
| PFBS | 375-73-5 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.144 | 0.500 | 5.00 |
| PFHxS | 355-46-4 | 0.400 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.112 | 0.400 | 5.00 |
| PFOS | 1763-23-1 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.437 | 1.00 | 5.00 |
| HFPO-DA | 13252-13-6 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.248 | 0.500 | 5.00 |
| Adona | 919005-14-4 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.265 | 1.00 | 5.00 |
| 9Cl-PF3ONS | 756426-58-1 | 0.500 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.268 | 0.500 | 5.00 |
| 11Cl-PF3OUdS | 763051-92-9 | 1.00 UT | G2206-FS1(0) | 1.000 | 11/25/2020 | 0.231 | 1.00 | 5.00 |

J
W

HT

MW 11/1/21



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

3

Client ID CBD-AOA-MW11-1020
 Battelle ID G2206-F51
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

use original

| <u>Surrogate Recoveries (%)</u> | <u>Recovery</u> | <u>Extract ID</u> | <u>Analysis Date</u> |
|---------------------------------|-----------------|-------------------------|-----------------------|
| 13C5-PFHxA | 50 | G2206-F51(0) | 11/25/2020 |
| 13C4-PFHpA | 28 | G2206-F51(0) | 11/25/2020 |
| 13C8-PFOA | 92 | G2206-F51(0) | 11/25/2020 |
| 13C9-PFNA | 104 | G2206-F51(0) | 11/25/2020 |
| 13C6-PFDA | 88 | G2206-F51(0) | 11/25/2020 |
| 13C7-PFUnA | 106 | G2206-F51(0) | 11/25/2020 |
| 13C2-PFDoA | 86 | G2206-F51(0) | 11/25/2020 |
| 13C2-PFTeDA | 65 | G2206-F51(0) | 11/25/2020 |
| d3-MeFOSAA | 66 | G2206-F51(0) | 11/25/2020 |
| d9-EtFOSAA | 149 | G2206-F51(0) | 11/25/2020 |
| 13C3-PFBS | 74 | G2206-F51(0) | 11/25/2020 |
| 13C3-PFbs | 55 | G2206-F51(0) | 11/25/2020 |
| 13C8-PFOS | 103 | G2206-F51(0) | 11/25/2020 |
| 13C3-HFPO-DA | 108 | G2206-F51(0) | 11/25/2020 |

nmiluzi

Analyzed by: Schumitz, Denise
 Printed: 12/1/2020



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

4

Client ID CBD-AOA-MW11P-1020

Battelle ID G2207-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.260
 Size Unit-Basis L

Use original results in 20-1375

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|--------------|-------------|---------------|--------------|-------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 1.73 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.507 | 1.44 | 4.81 |
| PFHpA | 375-85-9 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.253 | 0.962 | 4.81 |
| PFOA | 335-67-1 | 1.44 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.491 | 1.44 | 4.81 |
| PFNA | 375-95-1 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.297 | 0.962 | 4.81 |
| PFDA | 335-76-2 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.137 | 0.481 | 4.81 |
| PFUnA | 2058-94-8 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.211 | 0.481 | 4.81 |
| PFDoA | 307-55-1 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.185 | 0.481 | 4.81 |
| PFTrDA | 72629-94-8 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.148 | 0.481 | 4.81 |
| PFTeDA | 376-06-7 | 1.92 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.705 | 1.92 | 4.81 |
| NMeFOSAA | 2355-31-9 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.397 | 0.962 | 4.81 |
| NEtFOSAA | 2991-50-6 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.481 | 0.962 | 4.81 |
| PFBS | 375-73-5 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.138 | 0.481 | 4.81 |
| PFHxS | 355-46-4 | 0.385 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.108 | 0.385 | 4.81 |
| PFOS | 1763-23-1 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.420 | 0.962 | 4.81 |
| HFPO-DA | 13252-13-6 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.238 | 0.481 | 4.81 |
| Adona | 919005-14-4 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.255 | 0.962 | 4.81 |
| 9CI-PF3ONS | 756426-58-1 | 0.481 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.258 | 0.481 | 4.81 |
| 11CI-PF3OUdS | 763051-92-9 | 0.962 UT | G2207-FS1(0) | 1.000 | 11/25/2020 | 0.222 | 0.962 | 4.81 |

mwilutz

Analyzed by: Schumitz, Denise
 Printed: 12/1/2020



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

5

Use original results in 20-1325

Client ID CBD-AOA-EB01-102820-GW

Battelle ID G2209-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix AQ
 Sample Size 0.280
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|-------------------------|------------------------|---------------------|-------------------------|------------------|-----------------------|------------------|------------------|-----------------|
| PFHxA | 307-24-4 | 1.34 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.471 | 1.34 | 4.46 |
| PFHpA | 375-85-9 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.235 | 0.893 | 4.46 |
| PFOA | 335-67-1 | 1.34 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.456 | 1.34 | 4.46 |
| PFNA | 375-95-1 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.276 | 0.893 | 4.46 |
| PFDA | 335-76-2 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.127 | 0.446 | 4.46 |
| PFUnA | 2058-94-8 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.196 | 0.446 | 4.46 |
| PFDoA | 307-55-1 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.171 | 0.446 | 4.46 |
| PFTeDA | 72629-94-8 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.138 | 0.446 | 4.46 |
| PFTeDA | 376-06-7 | 1.79 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.654 | 1.79 | 4.46 |
| NMeFOSAA | 2355-31-9 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.313 | 0.893 | 4.46 |
| NEtFOSAA | 2991-50-6 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.446 | 0.893 | 4.46 |
| PFBS | 375-73-5 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.129 | 0.446 | 4.46 |
| PFHxS | 355-46-4 | 0.357 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.100 | 0.357 | 4.46 |
| PFOS | 1763-23-1 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.390 | 0.893 | 4.46 |
| HFPO-DA | 13252-13-6 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.221 | 0.446 | 4.46 |
| Adona | 919005-14-4 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.237 | 0.893 | 4.46 |
| 9CI-PF3ONS | 756426-58-1 | 0.446 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.239 | 0.446 | 4.46 |
| 11CI-PF3OUdS | 763051-92-9 | 0.893 UT | G2209-FS1(0) | 1.000 | 11/25/2020 | 0.206 | 0.893 | 4.46 |

11/11/21

Analyzed by: Schumitz, Denise
 Printed: 12/1/2020



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

6

Use original results in 20-1375

Client ID CBD-AOA-MW14-1020

Battelle ID G2210-FS1
 Sample Type SA
 Collection Date 10/28/2020
 Extraction Date 11/23/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.255
 Size Unit-Basis L

| Analyte | CAS No. | Result (ng/L) | Extract ID | DF | Analysis Date | DL | LOD | LOQ |
|-------------------|-----------------------|---------------|--------------|-------|---------------|-------|-------|------|
| PFHxA | 307-24-4 | 4.30 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.517 | 1.47 | 4.90 |
| PFHpA | 375-85-9 | 1.73 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.258 | 0.980 | 4.90 |
| PFOA | 335-67-1 | 5.05 T | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.501 | 1.47 | 4.90 |
| PFNA | 375-95-1 | 0.934 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.303 | 0.980 | 4.90 |
| PFDA | 335-76-2 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.139 | 0.490 | 4.90 |
| PFUnA | 2058-94-8 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.215 | 0.490 | 4.90 |
| PFDoA | 307-55-1 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.188 | 0.490 | 4.90 |
| PFTtDA | 72629-94-8 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.151 | 0.490 | 4.90 |
| PFTeDA | 376-06-7 | 1.96 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.719 | 1.96 | 4.90 |
| NMeFOSAA | 2355-31-9 | 0.980 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.343 | 0.980 | 4.90 |
| NEtFOSAA | 2991-50-6 | 0.980 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.490 | 0.980 | 4.90 |
| PFBS | 375-73-5 | 0.808 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.141 | 0.490 | 4.90 |
| PFHxS | 355-46-4 | 8.33 T | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.110 | 0.392 | 4.90 |
| PFOS | 1763-23-1 | 4.03 JT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.428 | 0.980 | 4.90 |
| HFPO-DA | 13252-13-6 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.243 | 0.490 | 4.90 |
| Adona | 919005-14-4 | 0.980 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.260 | 0.980 | 4.90 |
| 9Cl-PF3ONS | 756426-58-1 | 0.490 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.263 | 0.490 | 4.90 |
| 11Cl-PF3OUdS | 763051-92-9 | 0.980 UT | G2210-FS1(0) | 1.000 | 11/25/2020 | 0.226 | 0.980 | 4.90 |

MW14121
 Analyzed by: Schumitz, Denise
 Printed: 12/1/2020

| LOCATION_NAME | SITE_NAME | INSTALLATION_ID | LOCATION_TYPE | LOCATION_TYPE_DESCRIPTION | SDG | COORD_X | COORD_Y | ANALYTICAL_METHOD_GRP_DESC | SAMPLE_NAME | SAMPLE_MATRIX | SAMPLE_MATRIX_DESC | COLLECT_DATE |
|---------------|------------|----------------------|---------------|---------------------------|---------|-----------|----------|----------------------------|------------------------|---------------|----------------------|--------------|
| | | CHESAPEAKE_BEACH_NRL | | | 20-1519 | | | Perfluoroalkyl Compounds | CBD-AOA-EB01-102820-GW | WQ | Water for QC samples | 28-Oct-20 |
| CBD-AOA-MW06 | SITE 00010 | CHESAPEAKE_BEACH_NRL | WLM | Monitoring well | 20-1519 | 1446208.4 | 362614.2 | Perfluoroalkyl Compounds | CBD-AOA-MW06-1020 | WG | Ground water | 27-Oct-20 |
| CBD-AOA-MW11 | SITE 00010 | CHESAPEAKE_BEACH_NRL | WLM | Monitoring well | 20-1519 | 1445639.7 | 362615.9 | Perfluoroalkyl Compounds | CBD-AOA-MW11-1020 | WG | Ground water | 28-Oct-20 |
| CBD-AOA-MW11 | SITE 00010 | CHESAPEAKE_BEACH_NRL | WLM | Monitoring well | 20-1519 | 1445639.7 | 362615.9 | Perfluoroalkyl Compounds | CBD-AOA-MW11P-1020 | WG | Ground water | 28-Oct-20 |
| CBD-AOA-MW12 | SITE 00010 | CHESAPEAKE_BEACH_NRL | WLM | Monitoring well | 20-1519 | 1444536.7 | 361512.9 | Perfluoroalkyl Compounds | CBD-AOA-MW12-1020 | WG | Ground water | 28-Oct-20 |
| CBD-AOA-MW14 | SITE 00010 | CHESAPEAKE_BEACH_NRL | WLM | Monitoring well | 20-1519 | 1446350.7 | 360501.9 | Perfluoroalkyl Compounds | CBD-AOA-MW14-1020 | WG | Ground water | 28-Oct-20 |