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## Technical Report for

**AECOM, INC.**

**N6274223F0104 RH Fire Suppression System**

**60697810**

**SGS Job Number: FC6891**

**Sampling Date: 06/09/23**



### Report to:

**AECOM, Inc**  
**7595 Technology Way**  
**Denver, CO 80237**  
**katie.abbott@aecom.com; mark.kromis@aecom.com;**  
**watson.tanji@aecom.com; kristin.rutherford@aecom.com**  
**ATTN: Katie Abbott**

**Total number of pages in report: 30**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

**Norm Farmer**  
**Technical Director**

**Client Service contact: Elvin Kumar 407-425-6700**

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)  
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Test results relate only to samples analyzed.

# Table of Contents

-1-

|   |           |
|---|-----------|
| <b>Section 1: Sample Summary</b> .....                        | <b>3</b>  |
| <b>Section 2: Case Narrative/Conformance Summary</b> .....    | <b>4</b>  |
| <b>Section 3: Summary of Hits</b> .....                       | <b>5</b>  |
| <b>Section 4: Sample Results</b> .....                        | <b>6</b>  |
| <b>4.1:</b> FC6891-1: AF-RHMW02-WGN01LF-2306 .....            | 7         |
| <b>4.2:</b> FC6891-2: AF-RHMW03-WGN01LF-2306 .....            | 10        |
| <b>Section 5: Misc. Forms</b> .....                           | <b>13</b> |
| <b>5.1:</b> Chain of Custody .....                            | 14        |
| <b>5.2:</b> QC Evaluation: DOD QSM5.x Limits .....            | 17        |
| <b>Section 6: MS Semi-volatiles - QC Data Summaries</b> ..... | <b>18</b> |
| <b>6.1:</b> Method Blank Summary .....                        | 19        |
| <b>6.2:</b> Blank Spike Summary .....                         | 23        |
| <b>6.3:</b> Matrix Spike Summary .....                        | 27        |
| <b>6.4:</b> Duplicate Summary .....                           | 29        |

1

2

3

4

5

6



## Sample Summary

AECOM, INC.

Job No: FC6891

N6274223F0104 RH Fire Suppression System  
Project No: 60697810

| Sample Number | Collected Date | Time By | Received     | Matrix Code | Type         | Client Sample ID       |
|---------------|----------------|---------|--------------|-------------|--------------|------------------------|
| FC6891-1      | 06/09/23       | 10:20   | MYCW06/14/23 | AQ          | Ground Water | AF-RHMW02-WGN01LF-2306 |
| FC6891-2      | 06/09/23       | 12:05   | MYEM06/14/23 | AQ          | Ground Water | AF-RHMW03-WGN01LF-2306 |

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** AECOM, INC.

**Job No:** FC6891

**Site:** N6274223F0104 RH Fire Suppression System

**Report Date:** 6/21/2023 5:04:38 PM

On 06/14/2023, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3.9 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6891 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### MS Semi-volatiles By Method EPA DRAFT 1633

**Matrix:** AQ

**Batch ID:** OP97425

Sample(s) FC6474-2MS, FC6474-3DUP were used as the QC samples indicated.

Blank Spike Recovery(s) for 3:3 Fluorotelomer carboxylate are outside control limits.

FC6891-1 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6891-2 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

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Kim Benham, Client Services (*Signature on File*)

# Summary of Hits

**Job Number:** FC6891  
**Account:** AECOM, INC.  
**Project:** N6274223F0104 RH Fire Suppression System  
**Collected:** 06/09/23



| Lab Sample ID | Client Sample ID | Result/<br>Qual | LOQ | LOD | Units | Method |
|---------------|------------------|-----------------|-----|-----|-------|--------|
|---------------|------------------|-----------------|-----|-----|-------|--------|

**FC6891-1      AF-RHMW02-WGN01LF-2306**

|                         |        |     |     |      |                |
|-------------------------|--------|-----|-----|------|----------------|
| Perfluorobutanoic acid  | 37.9   | 14  | 3.5 | ng/l | EPA DRAFT 1633 |
| Perfluoropentanoic acid | 34.7   | 7.0 | 1.8 | ng/l | EPA DRAFT 1633 |
| Perfluorohexanoic acid  | 0.60 J | 3.5 | 1.8 | ng/l | EPA DRAFT 1633 |

**FC6891-2      AF-RHMW03-WGN01LF-2306**

|                             |       |     |     |      |                |
|-----------------------------|-------|-----|-----|------|----------------|
| Perfluoropentanoic acid     | 3.3 J | 7.0 | 1.8 | ng/l | EPA DRAFT 1633 |
| Perfluorohexanoic acid      | 1.5 J | 3.5 | 1.8 | ng/l | EPA DRAFT 1633 |
| Perfluoroheptanoic acid     | 1.4 J | 3.5 | 1.8 | ng/l | EPA DRAFT 1633 |
| 6:2 Fluorotelomer sulfonate | 6.6 J | 18  | 7.0 | ng/l | EPA DRAFT 1633 |

**Sample Results**

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**Report of Analysis**

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# Report of Analysis

|                   |  |                 |          |
|-------------------|--|-----------------|----------|
| Client Sample ID: | AF-RHMW02-WGN01LF-2306                   |                 |          |
| Lab Sample ID:    | FC6891-1                                 | Date Sampled:   | 06/09/23 |
| Matrix:           | AQ - Ground Water                        | Date Received:  | 06/14/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: | n/a      |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |          |

| Run #  | File ID   | DF | Analyzed       | By | Prep Date      | Prep Batch | Analytical Batch |
|--------|-----------|----|----------------|----|----------------|------------|------------------|
| Run #1 | 6Q19679.D | 1  | 06/21/23 15:14 | MV | 06/20/23 13:00 | OP97425    | S6Q293           |
| Run #2 |           |    |                |    |                |            |                  |

| Run #  | Initial Volume | Final Volume |
|--------|----------------|--------------|
| Run #1 | 570 ml         | 5.0 ml       |
| Run #2 |                |              |

| CAS No. | Compound | Result | LOQ | LOD | DL | Units | Q |
|---------|----------|--------|-----|-----|----|-------|---|
|---------|----------|--------|-----|-----|----|-------|---|

**PERFLUOROALKYL CARBOXYLIC ACIDS**

|            |                             |        |     |      |      |      |   |
|------------|-----------------------------|--------|-----|------|------|------|---|
| 375-22-4   | Perfluorobutanoic acid      | 37.9   | 14  | 3.5  | 1.7  | ng/l |   |
| 2706-90-3  | Perfluoropentanoic acid     | 34.7   | 7.0 | 1.8  | 0.82 | ng/l |   |
| 307-24-4   | Perfluorohexanoic acid      | 0.60   | 3.5 | 1.8  | 0.44 | ng/l | J |
| 375-85-9   | Perfluoroheptanoic acid     | 1.8 U  | 3.5 | 1.8  | 0.44 | ng/l |   |
| 335-67-1   | Perfluorooctanoic acid      | 0.88 U | 3.5 | 0.88 | 0.44 | ng/l |   |
| 375-95-1   | Perfluorononanoic acid      | 1.8 U  | 3.5 | 1.8  | 0.54 | ng/l |   |
| 335-76-2   | Perfluorodecanoic acid      | 1.8 U  | 3.5 | 1.8  | 0.44 | ng/l |   |
| 2058-94-8  | Perfluoroundecanoic acid    | 1.8 U  | 3.5 | 1.8  | 0.53 | ng/l |   |
| 307-55-1   | Perfluorododecanoic acid    | 1.8 U  | 3.5 | 1.8  | 0.53 | ng/l |   |
| 72629-94-8 | Perfluorotridecanoic acid   | 1.8 U  | 3.5 | 1.8  | 0.74 | ng/l |   |
| 376-06-7   | Perfluorotetradecanoic acid | 1.8 U  | 3.5 | 1.8  | 0.44 | ng/l |   |

**PERFLUOROALKYL SULFONIC ACIDS**

|            |                               |       |     |     |      |      |  |
|------------|-------------------------------|-------|-----|-----|------|------|--|
| 375-73-5   | Perfluorobutanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.44 | ng/l |  |
| 2706-91-4  | Perfluoropentanesulfonic acid | 3.5 U | 4.4 | 3.5 | 0.98 | ng/l |  |
| 355-46-4   | Perfluorohexanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.61 | ng/l |  |
| 375-92-8   | Perfluoroheptanesulfonic acid | 1.8 U | 3.5 | 1.8 | 0.44 | ng/l |  |
| 1763-23-1  | Perfluorooctanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.47 | ng/l |  |
| 68259-12-1 | Perfluorononanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.50 | ng/l |  |
| 335-77-3   | Perfluorodecanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.56 | ng/l |  |
| 79780-39-5 | Perfluorododecanesulfonic aci | 3.5 U | 4.4 | 3.5 | 1.0  | ng/l |  |

**FLUOROTELOMER SULFONIC ACIDS**

|             |                             |       |    |     |     |      |  |
|-------------|-----------------------------|-------|----|-----|-----|------|--|
| 757124-72-4 | 4:2 Fluorotelomer sulfonate | 7.0 U | 18 | 7.0 | 2.8 | ng/l |  |
| 27619-97-2  | 6:2 Fluorotelomer sulfonate | 7.0 U | 18 | 7.0 | 3.0 | ng/l |  |
| 39108-34-4  | 8:2 Fluorotelomer sulfonate | 7.0 U | 18 | 7.0 | 3.6 | ng/l |  |

**PERFLUOROOCCTANE SULFONAMIDES**

|            |        |       |     |     |      |      |  |
|------------|--------|-------|-----|-----|------|------|--|
| 754-91-6   | PFOSA  | 1.8 U | 3.5 | 1.8 | 0.59 | ng/l |  |
| 31506-32-8 | MeFOSA | 3.5 U | 7.0 | 3.5 | 0.88 | ng/l |  |
| 4151-50-2  | EtFOSA | 3.5 U | 7.0 | 3.5 | 0.88 | ng/l |  |

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

# Report of Analysis

|                   |  |                 |          |
|-------------------|--|-----------------|----------|
| Client Sample ID: | AF-RHMW02-WGN01LF-2306                   |                 |          |
| Lab Sample ID:    | FC6891-1                                 | Date Sampled:   | 06/09/23 |
| Matrix:           | AQ - Ground Water                        | Date Received:  | 06/14/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: | n/a      |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |          |

| CAS No. | Compound | Result | LOQ | LOD | DL | Units | Q |
|---------|----------|--------|-----|-----|----|-------|---|
|---------|----------|--------|-----|-----|----|-------|---|

**PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS**

|           |         |       |     |     |      |      |  |
|-----------|---------|-------|-----|-----|------|------|--|
| 2355-31-9 | MeFOSAA | 3.5 U | 4.4 | 3.5 | 0.88 | ng/l |  |
| 2991-50-6 | EtFOSAA | 3.5 U | 4.4 | 3.5 | 1.2  | ng/l |  |

**PERFLUOROOCCTANE SULFONAMIDO ETHANOLS**

|            |        |      |    |    |     |      |  |
|------------|--------|------|----|----|-----|------|--|
| 24448-09-7 | MeFOSE | 18 U | 35 | 18 | 3.8 | ng/l |  |
| 1691-99-2  | EtFOSE | 18 U | 35 | 18 | 6.5 | ng/l |  |

**PER and POLYFLUOROETHER CARBOXYLIC ACIDS**

|             |                |       |     |     |      |      |  |
|-------------|----------------|-------|-----|-----|------|------|--|
| 13252-13-6  | HFPO-DA (GenX) | 1.8 U | 3.5 | 1.8 | 0.88 | ng/l |  |
| 919005-14-4 | ADONA          | 3.5 U | 7.0 | 3.5 | 1.6  | ng/l |  |
| 377-73-1    | PFMPA          | 1.8 U | 7.0 | 1.8 | 0.88 | ng/l |  |
| 863090-89-5 | PFMBA          | 3.5 U | 7.0 | 3.5 | 1.0  | ng/l |  |
| 151772-58-6 | NFDHA          | 3.5 U | 7.0 | 3.5 | 1.1  | ng/l |  |

**PER and POLYFLUOROETHER SULFONIC ACIDS**

|             |                            |       |     |     |      |      |  |
|-------------|----------------------------|-------|-----|-----|------|------|--|
| 756426-58-1 | 9Cl-PF3ONS (F-53B Major)   | 3.5 U | 7.0 | 3.5 | 1.2  | ng/l |  |
| 763051-92-9 | 11Cl-PF3OUdS (F-53B Minor) | 3.5 U | 7.0 | 3.5 | 1.5  | ng/l |  |
| 113507-82-7 | PFEESA                     | 1.8 U | 7.0 | 1.8 | 0.68 | ng/l |  |

**FLUOROTELOMER CARBOXYLIC ACIDS**

|             |   |       |    |     |     |      |  |
|-------------|---|-------|----|-----|-----|------|--|
| 356-02-5    | 3:3 Fluorotelomer carboxylat <sup>a</sup> | 8.8 U | 18 | 8.8 | 4.0 | ng/l |  |
| 914637-49-3 | 5:3 Fluorotelomer carboxylate             | 18 U  | 88 | 18  | 7.7 | ng/l |  |
| 812-70-4    | 7:3 Fluorotelomer carboxylate             | 18 U  | 88 | 18  | 6.9 | ng/l |  |

| CAS No. | ID Standard Recoveries | Run# 1 | Run# 2 | Limits  |
|---------|------------------------|--------|--------|---------|
|         | 13C4-PFBA              | 84%    |        | 20-150% |
|         | 13C5-PFPeA             | 107%   |        | 20-150% |
|         | 13C5-PFHxA             | 117%   |        | 20-150% |
|         | 13C4-PFHpA             | 112%   |        | 20-150% |
|         | 13C8-PFOA              | 108%   |        | 20-150% |
|         | 13C9-PFNA              | 126%   |        | 20-150% |
|         | 13C6-PFDA              | 103%   |        | 20-150% |
|         | 13C7-PFUnDA            | 111%   |        | 20-150% |
|         | 13C2-PFDoDA            | 102%   |        | 20-150% |
|         | 13C2-PFTeDA            | 70%    |        | 20-150% |
|         | 13C3-PFBS              | 119%   |        | 20-150% |
|         | 13C3-PFHxS             | 113%   |        | 20-150% |

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound



## Report of Analysis

|                          |  |                        |          |
|--------------------------|--|------------------------|----------|
| <b>Client Sample ID:</b> | AF-RHMW02-WGN01LF-2306                   |                        |          |
| <b>Lab Sample ID:</b>    | FC6891-1                                 | <b>Date Sampled:</b>   | 06/09/23 |
| <b>Matrix:</b>           | AQ - Ground Water                        | <b>Date Received:</b>  | 06/14/23 |
| <b>Method:</b>           | EPA DRAFT 1633 EPA 1633 DRAFT            | <b>Percent Solids:</b> | n/a      |
| <b>Project:</b>          | N6274223F0104 RH Fire Suppression System |                        |          |

| CAS No. | ID Standard Recoveries | Run# 1 | Run# 2 | Limits  |
|---------|------------------------|--------|--------|---------|
|         | 13C8-PFOS              | 100%   |        | 20-150% |
|         | 13C8-FOSA              | 93%    |        | 20-150% |
|         | d3-MeFOSA              | 85%    |        | 20-150% |
|         | d5-EtFOSA              | 86%    |        | 20-150% |
|         | d3-MeFOSAA             | 101%   |        | 20-150% |
|         | d5-EtFOSAA             | 90%    |        | 20-150% |
|         | d7-MeFOSE              | 65%    |        | 20-150% |
|         | d9-EtFOSE              | 77%    |        | 20-150% |
|         | 13C2-4:2FTS            | 112%   |        | 20-180% |
|         | 13C2-6:2FTS            | 103%   |        | 20-180% |
|         | 13C2-8:2FTS            | 100%   |        | 20-180% |
|         | 13C3-HFPO-DA           | 91%    |        | 20-150% |

(a) Associated BS recovery outside control limits.

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

# Report of Analysis

|                   |  |                 |          |
|-------------------|--|-----------------|----------|
| Client Sample ID: | AF-RHMW03-WGN01LF-2306                   |                 |          |
| Lab Sample ID:    | FC6891-2                                 | Date Sampled:   | 06/09/23 |
| Matrix:           | AQ - Ground Water                        | Date Received:  | 06/14/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: | n/a      |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |          |

| Run #  | File ID   | DF | Analyzed       | By | Prep Date      | Prep Batch | Analytical Batch |
|--------|-----------|----|----------------|----|----------------|------------|------------------|
| Run #1 | 6Q19680.D | 1  | 06/21/23 15:28 | MV | 06/20/23 13:00 | OP97425    | S6Q293           |
| Run #2 |           |    |                |    |                |            |                  |

| Run #  | Initial Volume | Final Volume |
|--------|----------------|--------------|
| Run #1 | 570 ml         | 5.0 ml       |
| Run #2 |                |              |

| CAS No. | Compound | Result | LOQ | LOD | DL | Units | Q |
|---------|----------|--------|-----|-----|----|-------|---|
|---------|----------|--------|-----|-----|----|-------|---|

**PERFLUOROALKYL CARBOXYLIC ACIDS**

|            |                             |        |     |      |      |      |   |
|------------|-----------------------------|--------|-----|------|------|------|---|
| 375-22-4   | Perfluorobutanoic acid      | 3.5 U  | 14  | 3.5  | 1.7  | ng/l |   |
| 2706-90-3  | Perfluoropentanoic acid     | 3.3    | 7.0 | 1.8  | 0.82 | ng/l | J |
| 307-24-4   | Perfluorohexanoic acid      | 1.5    | 3.5 | 1.8  | 0.44 | ng/l | J |
| 375-85-9   | Perfluoroheptanoic acid     | 1.4    | 3.5 | 1.8  | 0.44 | ng/l | J |
| 335-67-1   | Perfluorooctanoic acid      | 0.88 U | 3.5 | 0.88 | 0.44 | ng/l |   |
| 375-95-1   | Perfluorononanoic acid      | 1.8 U  | 3.5 | 1.8  | 0.54 | ng/l |   |
| 335-76-2   | Perfluorodecanoic acid      | 1.8 U  | 3.5 | 1.8  | 0.44 | ng/l |   |
| 2058-94-8  | Perfluoroundecanoic acid    | 1.8 U  | 3.5 | 1.8  | 0.53 | ng/l |   |
| 307-55-1   | Perfluorododecanoic acid    | 1.8 U  | 3.5 | 1.8  | 0.53 | ng/l |   |
| 72629-94-8 | Perfluorotridecanoic acid   | 1.8 U  | 3.5 | 1.8  | 0.74 | ng/l |   |
| 376-06-7   | Perfluorotetradecanoic acid | 1.8 U  | 3.5 | 1.8  | 0.44 | ng/l |   |

**PERFLUOROALKYL SULFONIC ACIDS**

|            |                               |       |     |     |      |      |  |
|------------|-------------------------------|-------|-----|-----|------|------|--|
| 375-73-5   | Perfluorobutanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.44 | ng/l |  |
| 2706-91-4  | Perfluoropentanesulfonic acid | 3.5 U | 4.4 | 3.5 | 0.98 | ng/l |  |
| 355-46-4   | Perfluorohexanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.61 | ng/l |  |
| 375-92-8   | Perfluoroheptanesulfonic acid | 1.8 U | 3.5 | 1.8 | 0.44 | ng/l |  |
| 1763-23-1  | Perfluorooctanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.47 | ng/l |  |
| 68259-12-1 | Perfluorononanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.50 | ng/l |  |
| 335-77-3   | Perfluorodecanesulfonic acid  | 1.8 U | 3.5 | 1.8 | 0.56 | ng/l |  |
| 79780-39-5 | Perfluorododecanesulfonic aci | 3.5 U | 4.4 | 3.5 | 1.0  | ng/l |  |

**FLUOROTELOMER SULFONIC ACIDS**

|             |                             |       |    |     |     |      |   |
|-------------|-----------------------------|-------|----|-----|-----|------|---|
| 757124-72-4 | 4:2 Fluorotelomer sulfonate | 7.0 U | 18 | 7.0 | 2.8 | ng/l |   |
| 27619-97-2  | 6:2 Fluorotelomer sulfonate | 6.6   | 18 | 7.0 | 3.0 | ng/l | J |
| 39108-34-4  | 8:2 Fluorotelomer sulfonate | 7.0 U | 18 | 7.0 | 3.6 | ng/l |   |

**PERFLUOROOCCTANE SULFONAMIDES**

|            |        |       |     |     |      |      |  |
|------------|--------|-------|-----|-----|------|------|--|
| 754-91-6   | PFOSA  | 1.8 U | 3.5 | 1.8 | 0.59 | ng/l |  |
| 31506-32-8 | MeFOSA | 3.5 U | 7.0 | 3.5 | 0.88 | ng/l |  |
| 4151-50-2  | EtFOSA | 3.5 U | 7.0 | 3.5 | 0.88 | ng/l |  |

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.2  
4

# Report of Analysis

|                   |  |                 |          |
|-------------------|--|-----------------|----------|
| Client Sample ID: | AF-RHMW03-WGN01LF-2306                   |                 |          |
| Lab Sample ID:    | FC6891-2                                 | Date Sampled:   | 06/09/23 |
| Matrix:           | AQ - Ground Water                        | Date Received:  | 06/14/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: | n/a      |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |          |

CAS No. Compound Result LOQ LOD DL Units Q

**PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS**

|           |         |       |     |     |      |      |
|-----------|---------|-------|-----|-----|------|------|
| 2355-31-9 | MeFOSAA | 3.5 U | 4.4 | 3.5 | 0.88 | ng/l |
| 2991-50-6 | EtFOSAA | 3.5 U | 4.4 | 3.5 | 1.2  | ng/l |

**PERFLUOROOCCTANE SULFONAMIDO ETHANOLS**

|            |        |      |    |    |     |      |
|------------|--------|------|----|----|-----|------|
| 24448-09-7 | MeFOSE | 18 U | 35 | 18 | 3.8 | ng/l |
| 1691-99-2  | EtFOSE | 18 U | 35 | 18 | 6.5 | ng/l |

**PER and POLYFLUOROETHER CARBOXYLIC ACIDS**

|             |                |       |     |     |      |      |
|-------------|----------------|-------|-----|-----|------|------|
| 13252-13-6  | HFPO-DA (GenX) | 1.8 U | 3.5 | 1.8 | 0.88 | ng/l |
| 919005-14-4 | ADONA          | 3.5 U | 7.0 | 3.5 | 1.6  | ng/l |
| 377-73-1    | PFMPA          | 1.8 U | 7.0 | 1.8 | 0.88 | ng/l |
| 863090-89-5 | PFMBA          | 3.5 U | 7.0 | 3.5 | 1.0  | ng/l |
| 151772-58-6 | NFDHA          | 3.5 U | 7.0 | 3.5 | 1.1  | ng/l |

**PER and POLYFLUOROETHER SULFONIC ACIDS**

|             |                            |       |     |     |      |      |
|-------------|----------------------------|-------|-----|-----|------|------|
| 756426-58-1 | 9Cl-PF3ONS (F-53B Major)   | 3.5 U | 7.0 | 3.5 | 1.2  | ng/l |
| 763051-92-9 | 11Cl-PF3OUdS (F-53B Minor) | 3.5 U | 7.0 | 3.5 | 1.5  | ng/l |
| 113507-82-7 | PFEESA                     | 1.8 U | 7.0 | 1.8 | 0.68 | ng/l |

**FLUOROTELOMER CARBOXYLIC ACIDS**

|             |   |       |    |     |     |      |
|-------------|---|-------|----|-----|-----|------|
| 356-02-5    | 3:3 Fluorotelomer carboxylat <sup>a</sup> | 8.8 U | 18 | 8.8 | 4.0 | ng/l |
| 914637-49-3 | 5:3 Fluorotelomer carboxylate             | 18 U  | 88 | 18  | 7.7 | ng/l |
| 812-70-4    | 7:3 Fluorotelomer carboxylate             | 18 U  | 88 | 18  | 6.9 | ng/l |

CAS No. ID Standard Recoveries Run# 1 Run# 2 Limits

|             |      |         |
|-------------|------|---------|
| 13C4-PFBA   | 102% | 20-150% |
| 13C5-PFPeA  | 115% | 20-150% |
| 13C5-PFHxA  | 117% | 20-150% |
| 13C4-PFHpA  | 113% | 20-150% |
| 13C8-PFOA   | 106% | 20-150% |
| 13C9-PFNA   | 119% | 20-150% |
| 13C6-PFDA   | 106% | 20-150% |
| 13C7-PFUnDA | 88%  | 20-150% |
| 13C2-PFDoDA | 89%  | 20-150% |
| 13C2-PFTeDA | 68%  | 20-150% |
| 13C3-PFBS   | 117% | 20-150% |
| 13C3-PFHxS  | 116% | 20-150% |

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.2  
4

## Report of Analysis

|                   |  |  |                 |          |
|-------------------|--|--|-----------------|----------|
| Client Sample ID: | AF-RHMW03-WGN01LF-2306                   |  | Date Sampled:   | 06/09/23 |
| Lab Sample ID:    | FC6891-2                                 |  | Date Received:  | 06/14/23 |
| Matrix:           | AQ - Ground Water                        |  | Percent Solids: | n/a      |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            |  |                 |          |
| Project:          | N6274223F0104 RH Fire Suppression System |  |                 |          |

| CAS No. | ID Standard Recoveries | Run# 1 | Run# 2 | Limits  |
|---------|------------------------|--------|--------|---------|
|         | 13C8-PFOS              | 108%   |        | 20-150% |
|         | 13C8-FOSA              | 86%    |        | 20-150% |
|         | d3-MeFOSA              | 88%    |        | 20-150% |
|         | d5-EtFOSA              | 85%    |        | 20-150% |
|         | d3-MeFOSAA             | 106%   |        | 20-150% |
|         | d5-EtFOSAA             | 94%    |        | 20-150% |
|         | d7-MeFOSE              | 63%    |        | 20-150% |
|         | d9-EtFOSE              | 75%    |        | 20-150% |
|         | 13C2-4:2FTS            | 99%    |        | 20-180% |
|         | 13C2-6:2FTS            | 101%   |        | 20-180% |
|         | 13C2-8:2FTS            | 100%   |        | 20-180% |
|         | 13C3-HFPO-DA           | 100%   |        | 20-150% |

(a) Associated BS recovery outside control limits.

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

**Misc. Forms**

**Custody Documents and Other Forms**

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**Includes the following where applicable:**

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits



SGS North America Inc - Orlando

FC6891

COC #: 2306AFSG01

Chain of Custody

SGS - ORLANDO JOB #:

PAGE 1 OF 1

4405 Vineland Road, Suite C-15 Orlando, FL 32811  
TEL: 407-425-6700 FAX: 407-425-0707  
www.sgs.com

| Client / Reporting Information  |                                  | Project Information  |  |                              |   |                    |                       | SGS - ORLANDO Quote #   | SKIFF # |              |   |       |           |          |      |                      |  |  |  |  |  |
|---|----------------------------------|--|--|------------------------------|---|--------------------|-----------------------|---|---------|--------------|---|-------|-----------|----------|------|----------------------|--|--|--|--|--|
| Analytical Information  |                                  |  |  |                              |   |                    |                       |   |         | Matrix Codes |   |       |           |          |      |                      |  |  |  |  |  |
| Company Name: AECOM   |                                  | Project Name: N6274223F0104 RH Fire Suppression System   |  |                              |   |                    |                       |   |         |              | DW - Drinking Water<br>GW - Ground Water<br>WW - Water<br>SW - Surface Water<br>SO - Soil<br>SL - Sludge<br>OI - Oil<br>LIQ - Other Liquid<br>AIR - Air<br>SOL - Other Solid<br>WP - Wipe |       |           |          |      |                      |  |  |  |  |  |
| Address: 1001 Bishop St. ste 1600   |                                  | Street   |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| City: Honolulu State: HI Zip: 96813   |                                  | City: Honolulu State: Hawaii   |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| Project Contact: Katie Abbott Email: katie.abbott@aecom.com<br>Project Manager: Watson Tanil Email: watson.tanil@aecom.com  |                                  | Project # 60697810   |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| Phone #: 303-796-4624 / 808-954-4512  |                                  | Fax #  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| Sampler(s) Name(s) (Printed)<br>Sampler 1: <i>Mary Jim</i> Sampler 2: <i>Christa Wunavik</i>  |                                  | Client Purchase Order #  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| SGS Orlando Sample #  | Field ID / Point of Collection   | DATE   | TIME   | SAMPLED BY                   | MATRIX  | TOTAL # OF BOTTLES | CONTAINER INFORMATION |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| 1   | AF-RHMW02-WGN01LF-2306           | 6/9/13   | 1020   | M.Y. Lim                     | GW  | 3                  | OTHER                 | KOHLER  | PC      | PCB          | PCNS  | PCSSA | PCWH-ZINC | PC WATER | PCSH | PFAS EPA Draft: 1633 |  |  |  |  |  |
|   |                                  |  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
|   |                                  |  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
|   |                                  |  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
|   |                                  |  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
|   |                                  |  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
|   |                                  |  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| Turnaround Time (Business days)   |                                  | Data Deliverable Information   |  |                              |   |                    |                       | Comments / Remarks  |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| 10 Day (Business) _____ Approved By: / Date: _____<br>7 Day _____<br><input checked="" type="checkbox"/> 5 Day _____<br>3 Day RUSH _____<br>2 Day RUSH _____<br>1 Day RUSH _____<br>Other _____<br>Rush T/A Data Available VIA Email or Lablink |                                  | <input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY)<br><input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC)<br><input type="checkbox"/> REDT1 (EPA LEVEL 3)<br><input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4)<br><input checked="" type="checkbox"/> EDD'S |  |                              |   |                    |                       | EDMS upload database: JBPHE<br>EDMS Coverage: AFFF Assessment Sampling GW |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| Sample Custody must be documented below each time samples change possession, including courier delivery.  |                                  |  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| Relinquished by Sampler/Affiliation<br>1 <i>Mary Jim AECOM</i>  | Date Time:<br><i>6/9/13 1320</i> | Received By/Affiliation<br>2 <i>Miranda DeRosa / AECOM</i>   | Relinquished By/Affiliation<br>3 <i>Eli Marini</i> | Date Time:<br><i>6/10/13</i> | Received By/Affiliation<br>4 <i>[Signature] / AECOM</i> |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| Relinquished by/Affiliation<br>5  | Date Time:                       | Received By/Affiliation<br>6   | Relinquished By/Affiliation<br>7                   | Date Time:                   | Received By/Affiliation<br>8                            |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |
| Lab Use Only: Cooler Temperature (s) Celsius (corrected): <i>4.0 FC#1</i>   |                                  |  |  |                              |   |                    |                       |   |         |              |   |       |           |          |      |                      |  |  |  |  |  |

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SGS North America Inc - Orlando  
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811  
TEL: 407-425-6700 FAX: 407-425-0707  
www.sgs.com

**FC6891**  
SGS - ORLANDO JOB # :

COC #: 2306AFSG02

PAGE 1 OF 1

| Client / Reporting Information  |                                | Project Information                                    |      | Analytical Information   |        |                    |       |      |     |       |       |       |       |       |       | Matrix Codes  |        |        |        |  |  |  |  |  |   |  |  |  |  |
|---|--------------------------------|--|------|--|--------|--------------------|-------|------|-----|-------|-------|-------|-------|-------|-------|---|--------|--------|--------|--|--|--|--|--|---|--|--|--|--|
| Company Name: AECOM   |                                | Project Name: N6274223F0104 RH Fire Suppression System |      | <div style="border: 1px solid black; padding: 5px; width: fit-content;">           M9 6/10/23<br/>           M9 6/10/23         </div> |        |                    |       |      |     |       |       |       |       |       |       | DW - Drinking Water<br>GW - Ground Water<br>WW - Water<br>SW - Surface Water<br>SO - Soil<br>SL - Sludge<br>OI - Oil<br>LIQ - Other Liquid<br>AIR - Air<br>SOL - Other Solid<br>WP - Wipe |        |        |        |  |  |  |  |  |   |  |  |  |  |
| Address: 1001 Bishop St. ste 1600   |                                | Street   |      |  |        |                    |       |      |     |       |       |       |       |       |       |   |        |        |        |  |  |  |  |  |   |  |  |  |  |
| City: Honolulu State: HI Zip: 96813   |                                | City: Honolulu State: Hawaii                           |      |  |        |                    |       |      |     |       |       |       |       |       |       |   |        |        |        |  |  |  |  |  |   |  |  |  |  |
| Project Contact: Katie Abbott Email: katie.abbott@aecom.com   |                                | Project # 60697810                                     |      |  |        |                    |       |      |     |       |       |       |       |       |       |   |        |        |        |  |  |  |  |  |   |  |  |  |  |
| Project Manager: Watson Tanji Email: watson.tanji@aecom.com   |                                | Fax #  |      | PFAS EPA Draft: 1633<br>X  |        |                    |       |      |     |       |       |       |       |       |       | LAB USE ONLY  |        |        |        |  |  |  |  |  |   |  |  |  |  |
| Sampler(s) Name(s) (Printed)<br>Sampler 1: <i>Matt Yib</i> Sampler 2: <i>Eli Martin</i>   |                                | Client Purchase Order #                                |      |  |        |                    |       |      |     |       |       |       |       |       |       |   |        |        |        |  |  |  |  |  |   |  |  |  |  |
| SGS Orlando Sample #  | Field ID / Point of Collection | DATE   | TIME | SAMPLED BY   | MATRIX | TOTAL # OF BOTTLES | OTHER | NONE | PCB | INCH3 | INCH4 | INCH5 | INCH6 | INCH7 | INCH8 | INCH9   | INCH10 | INCH11 | INCH12 |  |  |  |  |  |   |  |  |  |  |
| 2   | AF-RH MW03-WGN01LF-2306        | 6/9/23   | 1205 | MV, EM   | GW     | 3                  |       | X    |     |       |       |       |       |       |       |   |        |        |        |  |  |  |  |  |   |  |  |  |  |
| Turnaround Time ( Business days )<br>10 Day (Business) Approved By: / Date: _____<br>7 Day _____<br><input checked="" type="checkbox"/> 5 Day _____<br>3 Day RUSH _____<br>2 Day RUSH _____<br>1 Day RUSH _____<br>Other _____<br>Rush T/A Data Available VIA Email or LabLink  |                                |  |      |  |        |                    |       |      |     |       |       |       |       |       |       |   |        |        |        | Data Deliverable Information<br><input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY)<br><input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC)<br><input type="checkbox"/> REDT1 (EPA LEVEL 3)<br><input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4)<br><input checked="" type="checkbox"/> EDD'S |  |  |  |  | Comments / Remarks<br>EDMS upload database: JBPHE<br>EDMS Coverage: AFFF Assessment Sampling GW |  |  |  |  |
| Relinquished By/Affiliation: 1 <i>Matt Yib / AECOM</i> Date Time: 6/9/23 1325<br>Received By/Affiliation: 2 <i>Miranda DeGarmo / AECOM</i><br>Relinquished By/Affiliation: 3 <i>Eli Martin / AECOM</i> Date Time: 6/12/23<br>Received By/Affiliation: 4 <i>[Signature] / AECOM</i><br>Relinquished By/Affiliation: 5 _____ Date Time: _____<br>Received By/Affiliation: 6 _____<br>Relinquished By/Affiliation: 7 _____ Date Time: _____<br>Received By/Affiliation: 8 <i>[Signature] / AECOM</i> |                                |  |      |  |        |                    |       |      |     |       |       |       |       |       |       |   |        |        |        |  |  |  |  |  |   |  |  |  |  |
| Lab Use Only : Cooler Temperature (s) Celsius (corrected): _____  |                                |  |      |  |        |                    |       |      |     |       |       |       |       |       |       |   |        |        |        |  |  |  |  |  |   |  |  |  |  |

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FC6891: Chain of Custody

Page 2 of 3



## SGS Sample Receipt Summary

Job Number: FC6891

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 6/14/2023 2:00:00 PM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-94047671

Therm ID: IR 1;

Therm CF: -0.1;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (4.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.9);

**Cooler Information**

Y or N

- |                             |                                     |                          |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Temp criteria achieved   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Cooler temp verification | IR Gun                              |                          |
| 5. Cooler media             | Ice (Bag)                           |                          |

**Sample Information**

Y or N N/A

- |   |                                     |                                     |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Sample labels present on bottles                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 2. Samples preserved properly                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 3. Sufficient volume/containers recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Condition of sample                              | Intact                              |                                     |                                     |
| 5. Sample recvd within HT                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 6. Dates/Times/IDs on COC match Sample Label        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 7. VOCs have headspace                              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 8. Bottles received for unspecified tests           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 9. Compositing instructions clear                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 10. Voa Soil Kits/Jars received past 48hrs?         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 11. % Solids Jar received?                          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 12. Residual Chlorine Present?                      | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Trip Blank Information**

Y or N N/A

- |                                |                          |                          |                                     |
|--------------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

W or S N/A

- |                        |                          |                          |                                     |
|------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. Type Of TB Received | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|------------------------|--------------------------|--------------------------|-------------------------------------|

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_ Number of 5035 Field Kits: \_\_\_\_\_ Number of Lab Filtered Metals: \_\_\_\_\_  
 Test Strip Lot #s: pH 0-3 \_\_\_\_\_ 230320 \_\_\_\_\_ pH 10-12 \_\_\_\_\_ Other: (Specify) pH 1.0 - 12.0 \_\_\_\_\_ 222221 \_\_\_\_\_  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Comments

SM001  
Rev. Date 05/24/17

Technician: NATHANS

Date: 6/14/2023 2:00:00 PM

Reviewer: CD

Date: 6/15/2023

FC6891: Chain of Custody

Page 3 of 3

5.1  
5



# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FC6891  
**Account:** AECOM, INC.  
**Project:** N6274223F0104 RH Fire Suppression System  
**Collected:** 06/09/23

| QC Sample ID | CAS# | Analyte | Sample Result Type | Result Type | Units | Limits |
|--------------|------|---------|--------------------|-------------|-------|--------|
|--------------|------|---------|--------------------|-------------|-------|--------|

No DOD QSM5.x Limits found for methods in this job.

---

\* Sample used for QC is not from job FC6891

5.2  
5

## MS Semi-volatiles

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### QC Data Summaries

---

**Includes the following where applicable:**

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

# Instrument Blank

Job Number: FC6891  
Account: AECOMCOD AECOM, INC.  
Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| S6Q293-IBLK | 6Q19668.D | 1  | 06/21/23 | MV | n/a       | n/a        | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | Result | RL     | MDL     | Units | Q |
|----------------|-------------------------------|--------|--------|---------|-------|---|
| 375-22-4       | Perfluorobutanoic acid        | ND     | 0.016  | 0.0019  | ug/l  |   |
| 2706-90-3      | Perfluoropentanoic acid       | ND     | 0.0080 | 0.00094 | ug/l  |   |
| 307-24-4       | Perfluorohexanoic acid        | ND     | 0.0040 | 0.00050 | ug/l  |   |
| 375-85-9       | Perfluoroheptanoic acid       | ND     | 0.0040 | 0.00050 | ug/l  |   |
| 335-67-1       | Perfluorooctanoic acid        | ND     | 0.0040 | 0.00050 | ug/l  |   |
| 375-95-1       | Perfluorononanoic acid        | ND     | 0.0040 | 0.00061 | ug/l  |   |
| 335-76-2       | Perfluorodecanoic acid        | ND     | 0.0040 | 0.00050 | ug/l  |   |
| 2058-94-8      | Perfluoroundecanoic acid      | ND     | 0.0040 | 0.00060 | ug/l  |   |
| 307-55-1       | Perfluorododecanoic acid      | ND     | 0.0040 | 0.00060 | ug/l  |   |
| 72629-94-8     | Perfluorotridecanoic acid     | ND     | 0.0040 | 0.00084 | ug/l  |   |
| 376-06-7       | Perfluorotetradecanoic acid   | ND     | 0.0040 | 0.00050 | ug/l  |   |
| 375-73-5       | Perfluorobutanesulfonic acid  | ND     | 0.0040 | 0.00050 | ug/l  |   |
| 2706-91-4      | Perfluoropentanesulfonic acid | ND     | 0.0050 | 0.0011  | ug/l  |   |
| 355-46-4       | Perfluorohexanesulfonic acid  | ND     | 0.0040 | 0.00070 | ug/l  |   |
| 375-92-8       | Perfluoroheptanesulfonic acid | ND     | 0.0040 | 0.00050 | ug/l  |   |
| 1763-23-1      | Perfluorooctanesulfonic acid  | ND     | 0.0040 | 0.00054 | ug/l  |   |
| 68259-12-1     | Perfluorononanesulfonic acid  | ND     | 0.0040 | 0.00057 | ug/l  |   |
| 335-77-3       | Perfluorodecanesulfonic acid  | ND     | 0.0040 | 0.00064 | ug/l  |   |
| 79780-39-5     | Perfluorododecanesulfonic aci | ND     | 0.0050 | 0.0011  | ug/l  |   |
| 757124-72-44:2 | Fluorotelomer sulfonate       | ND     | 0.020  | 0.0032  | ug/l  |   |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | ND     | 0.020  | 0.0035  | ug/l  |   |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | ND     | 0.020  | 0.0041  | ug/l  |   |
| 754-91-6       | PFOSA                         | ND     | 0.0040 | 0.00067 | ug/l  |   |
| 31506-32-8     | MeFOSA                        | ND     | 0.0080 | 0.0010  | ug/l  |   |
| 4151-50-2      | EtFOSA                        | ND     | 0.0080 | 0.0010  | ug/l  |   |
| 2355-31-9      | MeFOSAA                       | ND     | 0.0050 | 0.0010  | ug/l  |   |
| 2991-50-6      | EtFOSAA                       | ND     | 0.0050 | 0.0013  | ug/l  |   |
| 24448-09-7     | MeFOSE                        | ND     | 0.040  | 0.0044  | ug/l  |   |
| 1691-99-2      | EtFOSE                        | ND     | 0.040  | 0.0074  | ug/l  |   |
| 13252-13-6     | HFPO-DA (GenX)                | ND     | 0.0040 | 0.0010  | ug/l  |   |
| 919005-14-4    | ADONA                         | ND     | 0.0080 | 0.0019  | ug/l  |   |
| 377-73-1       | PFMPA                         | ND     | 0.0080 | 0.0010  | ug/l  |   |
| 863090-89-5    | PFMBA                         | ND     | 0.0080 | 0.0011  | ug/l  |   |
| 151772-58-6    | NFDHA                         | ND     | 0.0080 | 0.0012  | ug/l  |   |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | ND     | 0.0080 | 0.0014  | ug/l  |   |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | ND     | 0.0080 | 0.0018  | ug/l  |   |

# Instrument Blank

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| S6Q293-IBLK | 6Q19668.D | 1  | 06/21/23 | MV | n/a       | n/a        | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | Result | RL     | MDL     | Units | Q |
|----------------|-------------------------------|--------|--------|---------|-------|---|
| 113507-82-7    | PFEESA                        | ND     | 0.0080 | 0.00078 | ug/l  |   |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | ND     | 0.020  | 0.0045  | ug/l  |   |
| 914637-49-35:3 | Fluorotelomer carboxylate     | ND     | 0.10   | 0.0087  | ug/l  |   |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | ND     | 0.10   | 0.0079  | ug/l  |   |

| CAS No. | ID Standard Recoveries | Limits       |
|---------|------------------------|--------------|
|         | 13C4-PFBA              | 101% 20-150% |
|         | 13C5-PFPeA             | 105% 20-150% |
|         | 13C5-PFHxA             | 105% 20-150% |
|         | 13C4-PFHpA             | 100% 20-150% |
|         | 13C8-PFOA              | 104% 20-150% |
|         | 13C9-PFNA              | 111% 20-150% |
|         | 13C6-PFDA              | 97% 20-150%  |
|         | 13C7-PFUnDA            | 92% 20-150%  |
|         | 13C2-PFDoDA            | 91% 20-150%  |
|         | 13C2-PFTeDA            | 83% 20-150%  |
|         | 13C3-PFBS              | 96% 20-150%  |
|         | 13C3-PFHxS             | 101% 20-150% |
|         | 13C8-PFOS              | 96% 20-150%  |
|         | 13C8-FOSA              | 96% 20-150%  |
|         | d3-MeFOSA              | 94% 20-150%  |
|         | d5-EtFOSA              | 97% 20-150%  |
|         | d3-MeFOSAA             | 94% 20-150%  |
|         | d5-EtFOSAA             | 88% 20-150%  |
|         | d7-MeFOSE              | 79% 20-150%  |
|         | d9-EtFOSE              | 80% 20-150%  |
|         | 13C2-4:2FTS            | 112% 20-180% |
|         | 13C2-6:2FTS            | 107% 20-180% |
|         | 13C2-8:2FTS            | 91% 20-180%  |
|         | 13C3-HFPO-DA           | 95% 20-150%  |

6.1.1  
6

# Method Blank Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|            |           |    |          |    |           |            |                  |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
| OP97425-MB | 6Q19673.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | Result  | RL     | MDL     | Units | Q |
|----------------|-------------------------------|---------|--------|---------|-------|---|
| 375-22-4       | Perfluorobutanoic acid        | ND      | 0.016  | 0.0019  | ug/l  |   |
| 2706-90-3      | Perfluoropentanoic acid       | ND      | 0.0080 | 0.00094 | ug/l  |   |
| 307-24-4       | Perfluorohexanoic acid        | 0.00080 | 0.0040 | 0.00050 | ug/l  | J |
| 375-85-9       | Perfluoroheptanoic acid       | ND      | 0.0040 | 0.00050 | ug/l  |   |
| 335-67-1       | Perfluorooctanoic acid        | ND      | 0.0040 | 0.00050 | ug/l  |   |
| 375-95-1       | Perfluorononanoic acid        | ND      | 0.0040 | 0.00061 | ug/l  |   |
| 335-76-2       | Perfluorodecanoic acid        | ND      | 0.0040 | 0.00050 | ug/l  |   |
| 2058-94-8      | Perfluoroundecanoic acid      | ND      | 0.0040 | 0.00060 | ug/l  |   |
| 307-55-1       | Perfluorododecanoic acid      | ND      | 0.0040 | 0.00060 | ug/l  |   |
| 72629-94-8     | Perfluorotridecanoic acid     | ND      | 0.0040 | 0.00084 | ug/l  |   |
| 376-06-7       | Perfluorotetradecanoic acid   | ND      | 0.0040 | 0.00050 | ug/l  |   |
| 375-73-5       | Perfluorobutanesulfonic acid  | ND      | 0.0040 | 0.00050 | ug/l  |   |
| 2706-91-4      | Perfluoropentanesulfonic acid | ND      | 0.0050 | 0.0011  | ug/l  |   |
| 355-46-4       | Perfluorohexanesulfonic acid  | ND      | 0.0040 | 0.00070 | ug/l  |   |
| 375-92-8       | Perfluoroheptanesulfonic acid | ND      | 0.0040 | 0.00050 | ug/l  |   |
| 1763-23-1      | Perfluorooctanesulfonic acid  | ND      | 0.0040 | 0.00054 | ug/l  |   |
| 68259-12-1     | Perfluorononanesulfonic acid  | ND      | 0.0040 | 0.00057 | ug/l  |   |
| 335-77-3       | Perfluorodecanesulfonic acid  | ND      | 0.0040 | 0.00064 | ug/l  |   |
| 79780-39-5     | Perfluorododecanesulfonic aci | ND      | 0.0050 | 0.0011  | ug/l  |   |
| 757124-72-44:2 | Fluorotelomer sulfonate       | ND      | 0.020  | 0.0032  | ug/l  |   |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | ND      | 0.020  | 0.0035  | ug/l  |   |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | ND      | 0.020  | 0.0041  | ug/l  |   |
| 754-91-6       | PFOSA                         | ND      | 0.0040 | 0.00067 | ug/l  |   |
| 31506-32-8     | MeFOSA                        | ND      | 0.0080 | 0.0010  | ug/l  |   |
| 4151-50-2      | EtFOSA                        | ND      | 0.0080 | 0.0010  | ug/l  |   |
| 2355-31-9      | MeFOSAA                       | ND      | 0.0050 | 0.0010  | ug/l  |   |
| 2991-50-6      | EtFOSAA                       | ND      | 0.0050 | 0.0013  | ug/l  |   |
| 24448-09-7     | MeFOSE                        | ND      | 0.040  | 0.0044  | ug/l  |   |
| 1691-99-2      | EtFOSE                        | ND      | 0.040  | 0.0074  | ug/l  |   |
| 13252-13-6     | HFPO-DA (GenX)                | ND      | 0.0040 | 0.0010  | ug/l  |   |
| 919005-14-4    | ADONA                         | ND      | 0.0080 | 0.0019  | ug/l  |   |
| 377-73-1       | PFMPA                         | ND      | 0.0080 | 0.0010  | ug/l  |   |
| 863090-89-5    | PFMBA                         | ND      | 0.0080 | 0.0011  | ug/l  |   |
| 151772-58-6    | NFDHA                         | ND      | 0.0080 | 0.0012  | ug/l  |   |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | ND      | 0.0080 | 0.0014  | ug/l  |   |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | ND      | 0.0080 | 0.0018  | ug/l  |   |

# Method Blank Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP97425-MB | 6Q19673.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | Result | RL     | MDL     | Units | Q |
|----------------|-------------------------------|--------|--------|---------|-------|---|
| 113507-82-7    | PFEESA                        | ND     | 0.0080 | 0.00078 | ug/l  |   |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | ND     | 0.020  | 0.0045  | ug/l  |   |
| 914637-49-35:3 | Fluorotelomer carboxylate     | ND     | 0.10   | 0.0087  | ug/l  |   |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | ND     | 0.10   | 0.0079  | ug/l  |   |

| CAS No. | ID Standard Recoveries | Limits       |
|---------|------------------------|--------------|
|         | 13C4-PFBA              | 115% 20-150% |
|         | 13C5-PFPeA             | 121% 20-150% |
|         | 13C5-PFHxA             | 114% 20-150% |
|         | 13C4-PFHpA             | 110% 20-150% |
|         | 13C8-PFOA              | 112% 20-150% |
|         | 13C9-PFNA              | 110% 20-150% |
|         | 13C6-PFDA              | 115% 20-150% |
|         | 13C7-PFUnDA            | 115% 20-150% |
|         | 13C2-PFDoDA            | 117% 20-150% |
|         | 13C2-PFTeDA            | 101% 20-150% |
|         | 13C3-PFBS              | 126% 20-150% |
|         | 13C3-PFHxS             | 121% 20-150% |
|         | 13C8-PFOS              | 105% 20-150% |
|         | 13C8-FOSA              | 74% 20-150%  |
|         | d3-MeFOSA              | 76% 20-150%  |
|         | d5-EtFOSA              | 87% 20-150%  |
|         | d3-MeFOSAA             | 101% 20-150% |
|         | d5-EtFOSAA             | 100% 20-150% |
|         | d7-MeFOSE              | 54% 20-150%  |
|         | d9-EtFOSE              | 66% 20-150%  |
|         | 13C2-4:2FTS            | 138% 20-180% |
|         | 13C2-6:2FTS            | 144% 20-180% |
|         | 13C2-8:2FTS            | 123% 20-180% |
|         | 13C3-HFPO-DA           | 108% 20-150% |

# Blank Spike Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|              |           |    |          |    |           |            |                  |
|--------------|-----------|----|----------|----|-----------|------------|------------------|
| Sample       | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
| OP97425-LLBS | 6Q19672.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|----------------|-------------------------------|---------------|-------------|----------|--------|
| 375-22-4       | Perfluorobutanoic acid        | 0.03          | 0.0266      | 89       | 40-150 |
| 2706-90-3      | Perfluoropentanoic acid       | 0.015         | 0.0134      | 89       | 40-150 |
| 307-24-4       | Perfluorohexanoic acid        | 0.0075        | 0.0071      | 95       | 40-150 |
| 375-85-9       | Perfluoroheptanoic acid       | 0.0075        | 0.0068      | 91       | 40-150 |
| 335-67-1       | Perfluorooctanoic acid        | 0.0075        | 0.0069      | 92       | 40-150 |
| 375-95-1       | Perfluorononanoic acid        | 0.0075        | 0.0066      | 88       | 40-150 |
| 335-76-2       | Perfluorodecanoic acid        | 0.0075        | 0.0069      | 92       | 40-150 |
| 2058-94-8      | Perfluoroundecanoic acid      | 0.0075        | 0.0069      | 92       | 40-150 |
| 307-55-1       | Perfluorododecanoic acid      | 0.0075        | 0.0076      | 101      | 40-150 |
| 72629-94-8     | Perfluorotridecanoic acid     | 0.0075        | 0.0067      | 89       | 40-150 |
| 376-06-7       | Perfluorotetradecanoic acid   | 0.0075        | 0.0071      | 95       | 40-150 |
| 375-73-5       | Perfluorobutanesulfonic acid  | 0.00665       | 0.0060      | 90       | 40-150 |
| 2706-91-4      | Perfluoropentanesulfonic acid | 0.00706       | 0.0064      | 91       | 40-150 |
| 355-46-4       | Perfluorohexanesulfonic acid  | 0.00686       | 0.0059      | 86       | 40-150 |
| 375-92-8       | Perfluoroheptanesulfonic acid | 0.00715       | 0.0057      | 80       | 40-150 |
| 1763-23-1      | Perfluorooctanesulfonic acid  | 0.00696       | 0.0054      | 78       | 40-150 |
| 68259-12-1     | Perfluorononanesulfonic acid  | 0.00722       | 0.0058      | 80       | 40-150 |
| 335-77-3       | Perfluorodecanesulfonic acid  | 0.00724       | 0.0058      | 80       | 40-150 |
| 79780-39-5     | Perfluorododecanesulfonic aci | 0.00728       | 0.0050      | 69       | 40-150 |
| 757124-72-44:2 | Fluorotelomer sulfonate       | 0.0281        | 0.0264      | 94       | 40-150 |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | 0.0285        | 0.0265      | 93       | 40-150 |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | 0.0288        | 0.0282      | 98       | 40-150 |
| 754-91-6       | PFOSA                         | 0.0075        | 0.0072      | 96       | 40-150 |
| 31506-32-8     | MeFOSA                        | 0.015         | 0.0132      | 88       | 40-150 |
| 4151-50-2      | EtFOSA                        | 0.015         | 0.0132      | 88       | 40-150 |
| 2355-31-9      | MeFOSAA                       | 0.0075        | 0.0064      | 85       | 40-150 |
| 2991-50-6      | EtFOSAA                       | 0.0075        | 0.0064      | 85       | 40-150 |
| 24448-09-7     | MeFOSE                        | 0.0375        | 0.0333      | 89       | 40-150 |
| 1691-99-2      | EtFOSE                        | 0.0375        | 0.0320      | 85       | 40-150 |
| 13252-13-6     | HFPO-DA (GenX)                | 0.015         | 0.0130      | 87       | 40-150 |
| 919005-14-4    | ADONA                         | 0.0142        | 0.0128      | 90       | 40-150 |
| 377-73-1       | PFMPA                         | 0.015         | 0.0140      | 93       | 40-150 |
| 863090-89-5    | PFMBA                         | 0.015         | 0.0136      | 91       | 40-150 |
| 151772-58-6    | NFDHA                         | 0.015         | 0.0144      | 96       | 40-150 |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | 0.014         | 0.0112      | 80       | 40-150 |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | 0.0142        | 0.0119      | 84       | 40-150 |

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample       | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------------|-----------|----|----------|----|-----------|------------|------------------|
| OP97425-LLBS | 6Q19672.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | Spike ug/l | BSP ug/l | BSP % | Limits |
|----------------|-------------------------------|------------|----------|-------|--------|
| 113507-82-7    | PFEESA                        | 0.0134     | 0.0122   | 91    | 40-150 |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | 0.0375     | 0.0209   | 56    | 40-150 |
| 914637-49-35:3 | Fluorotelomer carboxylate     | 0.188      | 0.156    | 83    | 40-150 |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | 0.188      | 0.175    | 93    | 40-150 |

| CAS No. | ID Standard Recoveries | BSP  | Limits  |
|---------|------------------------|------|---------|
|         | 13C4-PFBA              | 108% | 20-150% |
|         | 13C5-PFPeA             | 113% | 20-150% |
|         | 13C5-PFHxA             | 105% | 20-150% |
|         | 13C4-PFHpA             | 107% | 20-150% |
|         | 13C8-PFOA              | 103% | 20-150% |
|         | 13C9-PFNA              | 114% | 20-150% |
|         | 13C6-PFDA              | 107% | 20-150% |
|         | 13C7-PFUnDA            | 106% | 20-150% |
|         | 13C2-PFDoDA            | 98%  | 20-150% |
|         | 13C2-PFTeDA            | 85%  | 20-150% |
|         | 13C3-PFBS              | 106% | 20-150% |
|         | 13C3-PFHxS             | 105% | 20-150% |
|         | 13C8-PFOS              | 117% | 20-150% |
|         | 13C8-FOSA              | 71%  | 20-150% |
|         | d3-MeFOSA              | 75%  | 20-150% |
|         | d5-EtFOSA              | 78%  | 20-150% |
|         | d3-MeFOSAA             | 100% | 20-150% |
|         | d5-EtFOSAA             | 101% | 20-150% |
|         | d7-MeFOSE              | 49%  | 20-150% |
|         | d9-EtFOSE              | 63%  | 20-150% |
|         | 13C2-4:2FTS            | 116% | 20-180% |
|         | 13C2-6:2FTS            | 120% | 20-180% |
|         | 13C2-8:2FTS            | 106% | 20-180% |
|         | 13C3-HFPO-DA           | 107% | 20-150% |

\* = Outside of Control Limits.



# Blank Spike Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|            |           |    |          |    |           |            |                  |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
| OP97425-BS | 6Q19671.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | Spike ug/l | BSP ug/l | BSP % | Limits |
|----------------|-------------------------------|------------|----------|-------|--------|
| 375-22-4       | Perfluorobutanoic acid        | 0.1        | 0.0894   | 89    | 40-150 |
| 2706-90-3      | Perfluoropentanoic acid       | 0.05       | 0.0463   | 93    | 40-150 |
| 307-24-4       | Perfluorohexanoic acid        | 0.025      | 0.0257   | 103   | 40-150 |
| 375-85-9       | Perfluoroheptanoic acid       | 0.025      | 0.0241   | 96    | 40-150 |
| 335-67-1       | Perfluorooctanoic acid        | 0.025      | 0.0221   | 88    | 40-150 |
| 375-95-1       | Perfluorononanoic acid        | 0.025      | 0.0214   | 86    | 40-150 |
| 335-76-2       | Perfluorodecanoic acid        | 0.025      | 0.0243   | 97    | 40-150 |
| 2058-94-8      | Perfluoroundecanoic acid      | 0.025      | 0.0247   | 99    | 40-150 |
| 307-55-1       | Perfluorododecanoic acid      | 0.025      | 0.0242   | 97    | 40-150 |
| 72629-94-8     | Perfluorotridecanoic acid     | 0.025      | 0.0207   | 83    | 40-150 |
| 376-06-7       | Perfluorotetradecanoic acid   | 0.025      | 0.0252   | 101   | 40-150 |
| 375-73-5       | Perfluorobutanesulfonic acid  | 0.0222     | 0.0201   | 91    | 40-150 |
| 2706-91-4      | Perfluoropentanesulfonic acid | 0.0235     | 0.0211   | 90    | 40-150 |
| 355-46-4       | Perfluorohexanesulfonic acid  | 0.0229     | 0.0192   | 84    | 40-150 |
| 375-92-8       | Perfluoroheptanesulfonic acid | 0.0238     | 0.0221   | 93    | 40-150 |
| 1763-23-1      | Perfluorooctanesulfonic acid  | 0.0232     | 0.0210   | 91    | 40-150 |
| 68259-12-1     | Perfluorononanesulfonic acid  | 0.0241     | 0.0223   | 93    | 40-150 |
| 335-77-3       | Perfluorodecanesulfonic acid  | 0.0241     | 0.0199   | 82    | 40-150 |
| 79780-39-5     | Perfluorododecanesulfonic aci | 0.0243     | 0.0193   | 80    | 40-150 |
| 757124-72-44:2 | Fluorotelomer sulfonate       | 0.0938     | 0.0882   | 94    | 40-150 |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | 0.095      | 0.0926   | 97    | 40-150 |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | 0.096      | 0.0867   | 90    | 40-150 |
| 754-91-6       | PFOSA                         | 0.025      | 0.0228   | 91    | 40-150 |
| 31506-32-8     | MeFOSA                        | 0.05       | 0.0439   | 88    | 40-150 |
| 4151-50-2      | EtFOSA                        | 0.05       | 0.0469   | 94    | 40-150 |
| 2355-31-9      | MeFOSAA                       | 0.025      | 0.0227   | 91    | 40-150 |
| 2991-50-6      | EtFOSAA                       | 0.025      | 0.0224   | 90    | 40-150 |
| 24448-09-7     | MeFOSE                        | 0.125      | 0.121    | 97    | 40-150 |
| 1691-99-2      | EtFOSE                        | 0.125      | 0.106    | 85    | 40-150 |
| 13252-13-6     | HFPO-DA (GenX)                | 0.05       | 0.0476   | 95    | 40-150 |
| 919005-14-4    | ADONA                         | 0.0473     | 0.0442   | 94    | 40-150 |
| 377-73-1       | PFMPA                         | 0.05       | 0.0235   | 47    | 40-150 |
| 863090-89-5    | PFMBA                         | 0.05       | 0.0479   | 96    | 40-150 |
| 151772-58-6    | NFDHA                         | 0.05       | 0.0495   | 99    | 40-150 |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | 0.0468     | 0.0439   | 94    | 40-150 |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | 0.0473     | 0.0414   | 88    | 40-150 |

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP97425-BS | 6Q19671.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | Spike ug/l | BSP ug/l | BSP % | Limits |
|----------------|-------------------------------|------------|----------|-------|--------|
| 113507-82-7    | PFEESA                        | 0.0445     | 0.0470   | 106   | 40-150 |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | 0.125      | 0.0396   | 32*   | 40-150 |
| 914637-49-35:3 | Fluorotelomer carboxylate     | 0.625      | 0.549    | 88    | 40-150 |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | 0.625      | 0.593    | 95    | 40-150 |

| CAS No. | ID Standard Recoveries | BSP  | Limits  |
|---------|------------------------|------|---------|
|         | 13C4-PFBA              | 25%  | 20-150% |
|         | 13C5-PFPeA             | 103% | 20-150% |
|         | 13C5-PFHxA             | 97%  | 20-150% |
|         | 13C4-PFHpA             | 100% | 20-150% |
|         | 13C8-PFOA              | 101% | 20-150% |
|         | 13C9-PFNA              | 107% | 20-150% |
|         | 13C6-PFDA              | 102% | 20-150% |
|         | 13C7-PFUnDA            | 97%  | 20-150% |
|         | 13C2-PFDoDA            | 98%  | 20-150% |
|         | 13C2-PFTeDA            | 81%  | 20-150% |
|         | 13C3-PFBS              | 106% | 20-150% |
|         | 13C3-PFHxS             | 108% | 20-150% |
|         | 13C8-PFOS              | 92%  | 20-150% |
|         | 13C8-FOSA              | 64%  | 20-150% |
|         | d3-MeFOSA              | 69%  | 20-150% |
|         | d5-EtFOSA              | 69%  | 20-150% |
|         | d3-MeFOSAA             | 94%  | 20-150% |
|         | d5-EtFOSAA             | 93%  | 20-150% |
|         | d7-MeFOSE              | 43%  | 20-150% |
|         | d9-EtFOSE              | 57%  | 20-150% |
|         | 13C2-4:2FTS            | 119% | 20-180% |
|         | 13C2-6:2FTS            | 111% | 20-180% |
|         | 13C2-8:2FTS            | 113% | 20-180% |
|         | 13C3-HFPO-DA           | 96%  | 20-150% |

\* = Outside of Control Limits.

# Matrix Spike Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP97425-MS | 6Q19676.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |
| FC6474-2   | 6Q19675.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | FC6474-2<br>ug/l | Spike<br>Q | MS<br>ug/l | MS<br>% | Limits |
|----------------|-------------------------------|------------------|------------|------------|---------|--------|
| 375-22-4       | Perfluorobutanoic acid        | 0.015 U          | 0.0909     | 0.0774     | 85      | 40-150 |
| 2706-90-3      | Perfluoropentanoic acid       | 0.0074 U         | 0.0455     | 0.0402     | 88      | 40-150 |
| 307-24-4       | Perfluorohexanoic acid        | 0.0037 U         | 0.0227     | 0.0175     | 77      | 40-150 |
| 375-85-9       | Perfluoroheptanoic acid       | 0.0037 U         | 0.0227     | 0.0183     | 81      | 40-150 |
| 335-67-1       | Perfluorooctanoic acid        | 0.0037 U         | 0.0227     | 0.0176     | 77      | 40-150 |
| 375-95-1       | Perfluorononanoic acid        | 0.0037 U         | 0.0227     | 0.0192     | 84      | 40-150 |
| 335-76-2       | Perfluorodecanoic acid        | 0.0037 U         | 0.0227     | 0.0191     | 84      | 40-150 |
| 2058-94-8      | Perfluoroundecanoic acid      | 0.0037 U         | 0.0227     | 0.0180     | 79      | 40-150 |
| 307-55-1       | Perfluorododecanoic acid      | 0.0037 U         | 0.0227     | 0.0207     | 91      | 40-150 |
| 72629-94-8     | Perfluorotridecanoic acid     | 0.0037 U         | 0.0227     | 0.0178     | 78      | 40-150 |
| 376-06-7       | Perfluorotetradecanoic acid   | 0.0037 U         | 0.0227     | 0.0213     | 94      | 40-150 |
| 375-73-5       | Perfluorobutanesulfonic acid  | 0.0037 U         | 0.0202     | 0.0159     | 79      | 40-150 |
| 2706-91-4      | Perfluoropentanesulfonic acid | 0.0046 U         | 0.0214     | 0.0176     | 82      | 40-150 |
| 355-46-4       | Perfluorohexanesulfonic acid  | 0.0037 U         | 0.0208     | 0.0162     | 78      | 40-150 |
| 375-92-8       | Perfluoroheptanesulfonic acid | 0.0037 U         | 0.0217     | 0.0203     | 94      | 40-150 |
| 1763-23-1      | Perfluorooctanesulfonic acid  | 0.0037 U         | 0.0211     | 0.0172     | 82      | 40-150 |
| 68259-12-1     | Perfluorononanesulfonic acid  | 0.0037 U         | 0.0219     | 0.0178     | 81      | 40-150 |
| 335-77-3       | Perfluorodecanesulfonic acid  | 0.0037 U         | 0.0219     | 0.0161     | 73      | 40-150 |
| 79780-39-5     | Perfluorododecanesulfonic aci | 0.0046 U         | 0.022      | 0.0162     | 73      | 40-150 |
| 757124-72-44:2 | Fluorotelomer sulfonate       | 0.019 U          | 0.0852     | 0.0743     | 87      | 40-150 |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | 0.019 U          | 0.0864     | 0.0762     | 88      | 40-150 |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | 0.019 U          | 0.0873     | 0.0799     | 92      | 40-150 |
| 754-91-6       | PFOSA                         | 0.0037 U         | 0.0227     | 0.0211     | 93      | 40-150 |
| 31506-32-8     | MeFOSA                        | 0.0074 U         | 0.0455     | 0.0394     | 87      | 40-150 |
| 4151-50-2      | EtFOSA                        | 0.0074 U         | 0.0455     | 0.0395     | 87      | 40-150 |
| 2355-31-9      | MeFOSAA                       | 0.0046 U         | 0.0227     | 0.0209     | 92      | 40-150 |
| 2991-50-6      | EtFOSAA                       | 0.0046 U         | 0.0227     | 0.0189     | 83      | 40-150 |
| 24448-09-7     | MeFOSE                        | 0.037 U          | 0.114      | 0.102      | 90      | 40-150 |
| 1691-99-2      | EtFOSE                        | 0.037 U          | 0.114      | 0.0942     | 83      | 40-150 |
| 13252-13-6     | HFPO-DA (GenX)                | 0.0037 U         | 0.0455     | 0.0431     | 95      | 40-150 |
| 919005-14-4    | ADONA                         | 0.0074 U         | 0.043      | 0.0382     | 89      | 40-150 |
| 377-73-1       | PFMPA                         | 0.0074 U         | 0.0455     | 0.0313     | 69      | 40-150 |
| 863090-89-5    | PFMBA                         | 0.0074 U         | 0.0455     | 0.0402     | 88      | 40-150 |
| 151772-58-6    | NFDHA                         | 0.0074 U         | 0.0455     | 0.0366     | 81      | 40-150 |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | 0.0074 U         | 0.0425     | 0.0338     | 80      | 40-150 |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | 0.0074 U         | 0.043      | 0.0347     | 81      | 40-150 |

\* = Outside of Control Limits.

# Matrix Spike Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP97425-MS | 6Q19676.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |
| FC6474-2   | 6Q19675.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | FC6474-2<br>ug/l | Spike<br>Q | MS<br>ug/l | MS<br>% | Limits |
|----------------|-------------------------------|------------------|------------|------------|---------|--------|
| 113507-82-7    | PFEESA                        | 0.0074 U         | 0.0405     | 0.0328     | 81      | 40-150 |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | 0.019 U          | 0.114      | 0.0515     | 45      | 40-150 |
| 914637-49-35:3 | Fluorotelomer carboxylate     | 0.093 U          | 0.568      | 0.400      | 70      | 40-150 |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | 0.093 U          | 0.568      | 0.422      | 74      | 40-150 |

| CAS No. | ID Standard Recoveries | MS   | FC6474-2 | Limits  |
|---------|------------------------|------|----------|---------|
|         | 13C4-PFBA              | 42%  | 46%      | 20-150% |
|         | 13C5-PFPeA             | 123% | 109%     | 20-150% |
|         | 13C5-PFHxA             | 132% | 101%     | 20-150% |
|         | 13C4-PFHpA             | 122% | 99%      | 20-150% |
|         | 13C8-PFOA              | 108% | 104%     | 20-150% |
|         | 13C9-PFNA              | 98%  | 102%     | 20-150% |
|         | 13C6-PFDA              | 101% | 106%     | 20-150% |
|         | 13C7-PFUnDA            | 95%  | 98%      | 20-150% |
|         | 13C2-PFDoDA            | 89%  | 91%      | 20-150% |
|         | 13C2-PFTeDA            | 81%  | 85%      | 20-150% |
|         | 13C3-PFBS              | 115% | 116%     | 20-150% |
|         | 13C3-PFHxS             | 119% | 112%     | 20-150% |
|         | 13C8-PFOS              | 107% | 100%     | 20-150% |
|         | 13C8-FOSA              | 72%  | 67%      | 20-150% |
|         | d3-MeFOSA              | 79%  |          | 20-150% |
|         | d5-EtFOSA              | 84%  |          | 20-150% |
|         | d3-MeFOSAA             | 95%  | 98%      | 20-150% |
|         | d5-EtFOSAA             | 99%  | 94%      | 20-150% |
|         | d7-MeFOSE              | 56%  |          | 20-150% |
|         | d9-EtFOSE              | 71%  |          | 20-150% |
|         | 13C2-4:2FTS            | 132% | 136%     | 20-180% |
|         | 13C2-6:2FTS            | 122% | 128%     | 20-180% |
|         | 13C2-8:2FTS            | 113% | 113%     | 20-180% |
|         | 13C3-HFPO-DA           | 110% |          | 20-150% |

\* = Outside of Control Limits.

# Duplicate Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| OP97425-DUP | 6Q19678.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |
| FC6474-3    | 6Q19677.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | FC6474-3<br>ug/l | DUP<br>Q ug/l | Q | RPD | Limits |
|----------------|-------------------------------|------------------|---------------|---|-----|--------|
| 375-22-4       | Perfluorobutanoic acid        | 0.015 U          | ND            |   | nc  | 30     |
| 2706-90-3      | Perfluoropentanoic acid       | 0.0074 U         | ND            |   | nc  | 30     |
| 307-24-4       | Perfluorohexanoic acid        | 0.0037 U         | ND            |   | nc  | 30     |
| 375-85-9       | Perfluoroheptanoic acid       | 0.0037 U         | ND            |   | nc  | 30     |
| 335-67-1       | Perfluorooctanoic acid        | 0.0037 U         | ND            |   | nc  | 30     |
| 375-95-1       | Perfluorononanoic acid        | 0.0037 U         | ND            |   | nc  | 30     |
| 335-76-2       | Perfluorodecanoic acid        | 0.0037 U         | ND            |   | nc  | 30     |
| 2058-94-8      | Perfluoroundecanoic acid      | 0.0037 U         | ND            |   | nc  | 30     |
| 307-55-1       | Perfluorododecanoic acid      | 0.0037 U         | ND            |   | nc  | 30     |
| 72629-94-8     | Perfluorotridecanoic acid     | 0.0037 U         | ND            |   | nc  | 30     |
| 376-06-7       | Perfluorotetradecanoic acid   | 0.0037 U         | ND            |   | nc  | 30     |
| 375-73-5       | Perfluorobutanesulfonic acid  | 0.0037 U         | ND            |   | nc  | 30     |
| 2706-91-4      | Perfluoropentanesulfonic acid | 0.0046 U         | ND            |   | nc  | 30     |
| 355-46-4       | Perfluorohexanesulfonic acid  | 0.0037 U         | ND            |   | nc  | 30     |
| 375-92-8       | Perfluoroheptanesulfonic acid | 0.0037 U         | ND            |   | nc  | 30     |
| 1763-23-1      | Perfluorooctanesulfonic acid  | 0.0017 J         | 0.0015 J      |   | 13  | 30     |
| 68259-12-1     | Perfluorononanesulfonic acid  | 0.0037 U         | ND            |   | nc  | 30     |
| 335-77-3       | Perfluorodecanesulfonic acid  | 0.0037 U         | ND            |   | nc  | 30     |
| 79780-39-5     | Perfluorododecanesulfonic aci | 0.0046 U         | ND            |   | nc  | 30     |
| 757124-72-44:2 | Fluorotelomer sulfonate       | 0.019 U          | ND            |   | nc  | 30     |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | 0.019 U          | ND            |   | nc  | 30     |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | 0.019 U          | ND            |   | nc  | 30     |
| 754-91-6       | PFOSA                         | 0.0037 U         | ND            |   | nc  | 30     |
| 31506-32-8     | MeFOSA                        | 0.0074 U         | ND            |   | nc  | 30     |
| 4151-50-2      | EtFOSA                        | 0.0074 U         | ND            |   | nc  | 30     |
| 2355-31-9      | MeFOSAA                       | 0.0046 U         | ND            |   | nc  | 30     |
| 2991-50-6      | EtFOSAA                       | 0.0046 U         | ND            |   | nc  | 30     |
| 24448-09-7     | MeFOSE                        | 0.037 U          | ND            |   | nc  | 30     |
| 1691-99-2      | EtFOSE                        | 0.037 U          | ND            |   | nc  | 30     |
| 13252-13-6     | HFPO-DA (GenX)                | 0.0037 U         | ND            |   | nc  | 30     |
| 919005-14-4    | ADONA                         | 0.0074 U         | ND            |   | nc  | 30     |
| 377-73-1       | PFMPA                         | 0.0074 U         | ND            |   | nc  | 30     |
| 863090-89-5    | PFMBA                         | 0.0074 U         | ND            |   | nc  | 30     |
| 151772-58-6    | NFDHA                         | 0.0074 U         | ND            |   | nc  | 30     |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | 0.0074 U         | ND            |   | nc  | 30     |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | 0.0074 U         | ND            |   | nc  | 30     |

\* = Outside of Control Limits.

# Duplicate Summary

Job Number: FC6891  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| OP97425-DUP | 6Q19678.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |
| FC6474-3    | 6Q19677.D | 1  | 06/21/23 | MV | 06/20/23  | OP97425    | S6Q293           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6891-1, FC6891-2

| CAS No.        | Compound                      | FC6474-3<br>ug/l | DUP<br>Q ug/l | Q | RPD | Limits |
|----------------|-------------------------------|------------------|---------------|---|-----|--------|
| 113507-82-7    | PFEESA                        | 0.0074 U         | ND            |   | nc  | 30     |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | 0.019 U          | ND            |   | nc  | 30     |
| 914637-49-35:3 | Fluorotelomer carboxylate     | 0.093 U          | ND            |   | nc  | 30     |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | 0.093 U          | ND            |   | nc  | 30     |

| CAS No. | ID Standard Recoveries | DUP  | FC6474-3 | Limits  |
|---------|------------------------|------|----------|---------|
|         | 13C4-PFBA              | 54%  | 53%      | 20-150% |
|         | 13C5-PFPeA             | 118% | 125%     | 20-150% |
|         | 13C5-PFHxA             | 112% | 115%     | 20-150% |
|         | 13C4-PFHpA             | 114% | 116%     | 20-150% |
|         | 13C8-PFOA              | 104% | 109%     | 20-150% |
|         | 13C9-PFNA              | 112% | 108%     | 20-150% |
|         | 13C6-PFDA              | 98%  | 112%     | 20-150% |
|         | 13C7-PFUnDA            | 89%  | 101%     | 20-150% |
|         | 13C2-PFDoDA            | 88%  | 99%      | 20-150% |
|         | 13C2-PFTeDA            | 76%  | 76%      | 20-150% |
|         | 13C3-PFBS              | 105% | 111%     | 20-150% |
|         | 13C3-PFHxS             | 106% | 120%     | 20-150% |
|         | 13C8-PFOS              | 93%  | 102%     | 20-150% |
|         | 13C8-FOSA              | 66%  | 76%      | 20-150% |
|         | d3-MeFOSA              | 67%  |          | 20-150% |
|         | d5-EtFOSA              | 72%  |          | 20-150% |
|         | d3-MeFOSAA             | 91%  | 100%     | 20-150% |
|         | d5-EtFOSAA             | 83%  | 90%      | 20-150% |
|         | d7-MeFOSE              | 47%  |          | 20-150% |
|         | d9-EtFOSE              | 64%  |          | 20-150% |
|         | 13C2-4:2FTS            | 130% | 128%     | 20-180% |
|         | 13C2-6:2FTS            | 123% | 131%     | 20-180% |
|         | 13C2-8:2FTS            | 117% | 124%     | 20-180% |
|         | 13C3-HFPO-DA           | 107% |          | 20-150% |

\* = Outside of Control Limits.