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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC2034

Sampling Date: 01/18/23



Report to:

AECOM, Inc
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Denver, CO 80237
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ATTN: Katie Abbott

Total number of pages in report: 26



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)
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Summary of Hits	5
Section 4: Sample Results	6
4.1: FC2034-1: AF-RHMW225401-WGN01B-2301W3	7
Section 5: Misc. Forms	10
5.1: Chain of Custody	11
5.2: QC Evaluation: DOD QSM5.x Limits	13
Section 6: MS Semi-volatiles - QC Data Summaries	14
6.1: Method Blank Summary	15
6.2: Blank Spike Summary	21
6.3: Matrix Spike/Matrix Spike Duplicate Summary	25

1

2

3

4

5

6



Sample Summary

AECOM, INC.

Job No: FC2034

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC2034-1	01/18/23	11:25 NT	01/19/23	AQ	Ground Water	AF-RHMW225401-WGN01B-2301W3

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC2034

Site: N6274223F0104 RH Fire Suppression System

Report Date: 1/31/2023 11:37:21 AM

On 01/19/2023, 1 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 3.2 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC2034 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: OP95069

Sample(s) FC1816-2MS, FC1816-2MSD were used as the QC samples indicated.

Sample(s) FC2034-1 have surrogates outside control limits.

OP95069-BS for 13C2-4:2FTS: Outside control limits.

OP95069-LLBS for 13C2-4:2FTS: Outside control limits.

OP95069-MB for 13C2-4:2FTS: Outside control limits.

OP95069-MB for 13C2-6:2FTS: Outside control limits.

FC2034-1 for 13C2-4:2FTS: Outside control limits.

FC2034-1: Confirmation run.

FC2034-1 for 4:2 Fluorotelomer sulfonate: Associated ID Standard 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:

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

Summary of Hits

Job Number: FC2034
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/18/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC2034-1 AF-RHMW225401-WGN01B-2301W3

Perfluoropentanoic acid	1.0 J	9.6	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	0.88 J	4.8	0.96	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.54 J	4.8	0.96	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid	0.88 J	4.8	0.96	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid	0.60 J	4.8	0.96	ng/l	EPA DRAFT 1633
Perfluorohexanesulfonic acid	1.1 J	4.8	1.9	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid	1.1 J	4.8	1.9	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AF-RHMW225401-WGN01B-2301W3		Date Sampled: 01/18/23
Lab Sample ID: FC2034-1		Date Received: 01/19/23
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: EPA DRAFT 1633 EPA 1633 DRAFT		
Project: N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q39708.D	1	01/25/23 17:36	NG	01/20/23 09:00	OP95069	S4Q571
Run #2 ^a	4Q39796.D	10	01/26/23 15:30	NG	01/20/23 09:00	OP95069	S4Q572

Run #	Initial Volume	Final Volume
Run #1	520 ml	5.0 ml
Run #2	520 ml	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.8 U	19	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.0	9.6	1.9	0.90	ng/l	J
307-24-4	Perfluorohexanoic acid	0.88	4.8	0.96	0.48	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.54	4.8	0.96	0.48	ng/l	J
335-67-1	Perfluorooctanoic acid	0.88	4.8	0.96	0.48	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	4.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.8	1.9	0.58	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.96 U	4.8	0.96	0.48	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.60	4.8	0.96	0.48	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.8	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.1	4.8	1.9	0.67	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	0.96 U	4.8	0.96	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.1	4.8	1.9	0.52	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.8	1.9	0.62	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.8	3.8	1.1	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate ^b	7.7 U	19	7.7	3.1	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.7 U	19	7.7	4.0	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	4.8	1.9	0.64	ng/l	
31506-32-8	MeFOSA	1.9 U	4.8	1.9	0.96	ng/l	
4151-50-2	EtFOSA	1.9 U	4.8	1.9	0.96	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-RHMW225401-WGN01B-2301W3		
Lab Sample ID:	FC2034-1	Date Sampled:	01/18/23
Matrix:	AQ - Ground Water	Date Received:	01/19/23
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
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	3.8 U	4.8	3.8	0.96	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.8	3.8	1.3	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	9.6 U	48	9.6	4.2	ng/l	
1691-99-2	EtFOSE	19 U	48	19	7.1	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	3.8 U	19	3.8	0.96	ng/l	
919005-14-4	ADONA	3.8 U	19	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	9.6	1.9	0.96	ng/l	
863090-89-5	PFMBA	3.8 U	9.6	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	9.6	3.8	1.2	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	19	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	19	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	9.6	1.9	0.75	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.6 U	24	9.6	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.4	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	122%	119%	20-150%
	13C5-PFPeA	121%	143%	20-150%
	13C5-PFHxA	121%	127%	20-150%
	13C4-PFHpA	114%	84%	20-150%
	13C8-PFOA	120%	108%	20-150%
	13C9-PFNA	114%	105%	20-150%
	13C6-PFDA	122%	119%	20-150%
	13C7-PFUnDA	116%	105%	20-150%
	13C2-PFDoDA	117%	113%	20-150%
	13C2-PFTeDA	107%	123%	20-150%
	13C3-PFBS	117%	103%	20-150%
	13C3-PFHxS	118%	105%	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

4.1
4

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2301W3	
Lab Sample ID:	FC2034-1	Date Sampled: 01/18/23
Matrix:	AQ - Ground Water	Date Received: 01/19/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	118%	111%	20-150%
	13C8-FOSA	120%	104%	20-150%
	d3-MeFOSA	109%	100%	20-150%
	d5-EtFOSA	113%	100%	20-150%
	d3-MeFOSAA	135%	96%	20-150%
	d5-EtFOSAA	128%	97%	20-150%
	d7-MeFOSE	107%	91%	20-150%
	d9-EtFOSE	112%	90%	20-150%
	13C2-4:2FTS	184% ^c	194% ^c	20-150%
	13C2-6:2FTS	127%	91%	20-150%
	13C2-8:2FTS	116%	93%	20-150%
	13C3-HFPO-DA	118%	218% ^c	20-150%

- (a) Confirmation run.
- (b) Associated ID Standard outside control limits.
- (c) 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

Includes the following where applicable:

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



SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL: 407-425-0700 FAX: 407-425-0707
www.sgs.com

FC 2034
COC #: 2301W3AFSG07

SGS - ORLANDO JOB # :

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="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PFAS EPA Draft 1633</div> <div style="margin-left: 20px; text-align: center;"> <p>DT</p> <p>01-18-2023</p> </div> </div>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid 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 Manager: Watson Tanji Email: watson.tanji@aecom.com Phone #: 303-796-4624 / 808-954-4512		Project # 60697810 Fax #																									
Sampler(s) Name(s) (Printed) Sampler 1: <u>NOAH TORJE</u> Sampler 2:		Client Purchase Order #										INITIAL ASSESSMENT <u>[Signature]</u> LABEL VERIFICATION <u>[Signature]</u>										LAB USE ONLY					
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	PCI	NH3	NH4												NO3	NO2	PO4	NO3+NO2	DI WATER
1	AF-RHMW225401-WGN01B-2301W3	01-18-23	1125	sr/au/ta	GW	3		X																			
Turnaround Time (Business days)		Data Deliverable Information										Comments / Remarks															
10 Day (Business) Approved By: / Date: 7 Day <input checked="" type="checkbox"/> 5 Day 3 Day RUSH 2 Day RUSH 1 Day RUSH Other		<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4) <input checked="" type="checkbox"/> EDD'S										EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW United AWP 016 67243352															
Rush T/A Data Available VIA Email or Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.																									
Relinquished by Sampler/Affiliation 1 <u>[Signature]</u> / AECOM		Date Time: 01-18-23		Received By/Affiliation 2 <u>[Signature]</u> AECOM		Relinquished By/Affiliation 3 <u>[Signature]</u> AECOM		Date Time: 01/18/23		Received By/Affiliation 4 <u>[Signature]</u>		Date Time: 01-18-23		Received By/Affiliation 5 <u>[Signature]</u>		Date Time: 01-18-23		Received By/Affiliation 6 <u>[Signature]</u>		Date Time: 01-18-23		Received By/Affiliation 7 <u>[Signature]</u>		Date Time: 01-18-23		Received By/Affiliation 8 <u>[Signature]</u>	
Lab Use Only : Cooler Temperature (s) Celsius (corrected): <u>3.0° UNDEF</u>																											

5.1
5

1530
19 JAN 23
01-18-23



SGS Sample Receipt Summary

Job Number: FC2034

Client: AECOM

Project: : N6274223F0104 RH Fire Suppression System

Date / Time Received: 1/19/2023 3:30:00 PM

Delivery Method: : United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-71510563

Therm ID: IR 1;

Therm CF: 0.2;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.2);

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 #: pH 0-3 _____ 230315 _____ pH 10-12 _____ 219813A _____ Other: (Specify) _____
 Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: TORYW

Date: 1/19/2023 3:30:00 PM

Reviewer: CD

Date: 1/19/2023

FC2034: Chain of Custody

Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FC2034
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/18/23

QC Sample ID	CAS#	Analyte	Sample Result Type	Result Type	Units	Limits
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No DOD QSM5.x Limits found for methods in this job.

* Sample used for QC is not from job FC2034

5.2
5

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Instrument Blank

Job Number: FC2034
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q571-IBLK	4Q39699.D	1	01/25/23	NG	n/a	n/a	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic acid	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	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	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	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Instrument Blank

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q571-IBLK	4Q39699.D	1	01/25/23	NG	n/a	n/a	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.010	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.025	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.13	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.13	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	101% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	105% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	95% 20-150%
	13C9-PFNA	102% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	109% 20-150%
	13C2-PFDoDA	102% 20-150%
	13C2-PFTeDA	105% 20-150%
	13C3-PFBS	96% 20-150%
	13C3-PFHxS	95% 20-150%
	13C8-PFOS	94% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSA	94% 20-150%
	d5-EtFOSA	100% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	94% 20-150%
	d7-MeFOSE	100% 20-150%
	d9-EtFOSE	102% 20-150%
	13C2-4:2FTS	125% 20-150%
	13C2-6:2FTS	106% 20-150%
	13C2-8:2FTS	108% 20-150%
	13C3-HFPO-DA	100% 20-150%

6.1.1

6

Method Blank Summary

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95069-MB	4Q39707.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	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	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	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	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Method Blank Summary

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95069-MB	4Q39707.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.010	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.025	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.13	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.13	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	122% 20-150%
	13C5-PFPeA	129% 20-150%
	13C5-PFHxA	126% 20-150%
	13C4-PFHpA	122% 20-150%
	13C8-PFOA	116% 20-150%
	13C9-PFNA	122% 20-150%
	13C6-PFDA	117% 20-150%
	13C7-PFUnDA	112% 20-150%
	13C2-PFDoDA	99% 20-150%
	13C2-PFTeDA	91% 20-150%
	13C3-PFBS	128% 20-150%
	13C3-PFHxS	133% 20-150%
	13C8-PFOS	122% 20-150%
	13C8-FOSA	112% 20-150%
	d3-MeFOSA	92% 20-150%
	d5-EtFOSA	98% 20-150%
	d3-MeFOSAA	126% 20-150%
	d5-EtFOSAA	117% 20-150%
	d7-MeFOSE	108% 20-150%
	d9-EtFOSE	108% 20-150%
	13C2-4:2FTS	190%* a 20-150%
	13C2-6:2FTS	151%* a 20-150%
	13C2-8:2FTS	134% 20-150%
	13C3-HFPO-DA	126% 20-150%

(a) Outside control limits.

Continuing Calibration Blank

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q571-ICCB	4Q39715.D	1	01/25/23	NG	n/a	n/a	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP95069-MS, OP95069-MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	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	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	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	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q571-ICCB	4Q39715.D	1	01/25/23	NG	n/a	n/a	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP95069-MS, OP95069-MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.010	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.025	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.13	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.13	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	98% 20-150%
	13C5-PFPeA	101% 20-150%
	13C5-PFHxA	101% 20-150%
	13C4-PFHpA	95% 20-150%
	13C8-PFOA	101% 20-150%
	13C9-PFNA	98% 20-150%
	13C6-PFDA	101% 20-150%
	13C7-PFUnDA	105% 20-150%
	13C2-PFDoDA	102% 20-150%
	13C2-PFTeDA	104% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	103% 20-150%
	13C8-PFOS	99% 20-150%
	13C8-FOSA	97% 20-150%
	d3-MeFOSA	92% 20-150%
	d5-EtFOSA	92% 20-150%
	d3-MeFOSAA	107% 20-150%
	d5-EtFOSAA	105% 20-150%
	d7-MeFOSE	102% 20-150%
	d9-EtFOSE	99% 20-150%
	13C2-4:2FTS	133% 20-150%
	13C2-6:2FTS	119% 20-150%
	13C2-8:2FTS	122% 20-150%
	13C3-HFPO-DA	97% 20-150%

Blank Spike Summary

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95069-LLBS	4Q39706.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.04	0.0325	81	40-150
2706-90-3	Perfluoropentanoic acid	0.02	0.0181	91	40-150
307-24-4	Perfluorohexanoic acid	0.01	0.0094	94	40-150
375-85-9	Perfluoroheptanoic acid	0.01	0.0090	90	40-150
335-67-1	Perfluorooctanoic acid	0.01	0.0093	93	40-150
375-95-1	Perfluorononanoic acid	0.01	0.0085	85	40-150
335-76-2	Perfluorodecanoic acid	0.01	0.0088	88	40-150
2058-94-8	Perfluoroundecanoic acid	0.01	0.0085	85	40-150
307-55-1	Perfluorododecanoic acid	0.01	0.0084	84	40-150
72629-94-8	Perfluorotridecanoic acid	0.01	0.0083	83	40-150
376-06-7	Perfluorotetradecanoic acid	0.01	0.0086	86	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00887	0.0074	83	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00941	0.0074	79	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00914	0.0086	94	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00953	0.0085	89	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00928	0.0082	88	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00962	0.0087	90	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00965	0.0083	86	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0097	0.0070	72	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0375	0.0297	79	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.038	0.0341	90	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0384	0.0343	89	40-150
754-91-6	PFOSA	0.01	0.0095	95	40-150
31506-32-8	MeFOSA	0.01	0.0088	88	40-150
4151-50-2	EtFOSA	0.01	0.0077	77	40-150
2355-31-9	MeFOSAA	0.01	0.0092	92	40-150
2991-50-6	EtFOSAA	0.01	0.0089	89	40-150
24448-09-7	MeFOSE	0.1	0.0882	88	40-150
1691-99-2	EtFOSE	0.1	0.0924	92	40-150
13252-13-6	HFPO-DA (GenX)	0.04	0.0347	87	40-150
919005-14-4	ADONA	0.0378	0.0349	92	40-150
377-73-1	PFMPA	0.02	0.0174	87	40-150
863090-89-5	PFMBA	0.02	0.0181	91	40-150
151772-58-6	NFDHA	0.02	0.0179	90	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0374	0.0316	84	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0378	0.0308	81	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95069-LLBS	4Q39706.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0178	0.0158	89	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.05	0.0412	82	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.25	0.218	87	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.25	0.218	87	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	122%	20-150%
	13C5-PFPeA	125%	20-150%
	13C5-PFHxA	126%	20-150%
	13C4-PFHpA	119%	20-150%
	13C8-PFOA	115%	20-150%
	13C9-PFNA	118%	20-150%
	13C6-PFDA	116%	20-150%
	13C7-PFUnDA	116%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	88%	20-150%
	13C3-PFBS	115%	20-150%
	13C3-PFHxS	112%	20-150%
	13C8-PFOS	107%	20-150%
	13C8-FOSA	109%	20-150%
	d3-MeFOSA	87%	20-150%
	d5-EtFOSA	86%	20-150%
	d3-MeFOSAA	121%	20-150%
	d5-EtFOSAA	114%	20-150%
	d7-MeFOSE	90%	20-150%
	d9-EtFOSE	89%	20-150%
	13C2-4:2FTS	174%* a	20-150%
	13C2-6:2FTS	133%	20-150%
	13C2-8:2FTS	122%	20-150%
	13C3-HFPO-DA	123%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95069-BS	4Q39705.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0880	88	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0485	97	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0245	98	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0240	96	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0252	101	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0239	96	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0227	91	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0230	92	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0254	102	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0259	104	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0229	92	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0207	93	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0192	82	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0218	95	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0216	91	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0209	90	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0223	93	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0219	91	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0212	87	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0835	89	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0865	91	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0989	103	40-150
754-91-6	PFOSA	0.025	0.0234	94	40-150
31506-32-8	MeFOSA	0.025	0.0218	87	40-150
4151-50-2	EtFOSA	0.025	0.0217	87	40-150
2355-31-9	MeFOSAA	0.025	0.0236	94	40-150
2991-50-6	EtFOSAA	0.025	0.0230	92	40-150
24448-09-7	MeFOSE	0.25	0.241	96	40-150
1691-99-2	EtFOSE	0.25	0.243	97	40-150
13252-13-6	HFPO-DA (GenX)	0.1	0.0918	92	40-150
919005-14-4	ADONA	0.0945	0.0895	95	40-150
377-73-1	PFMPA	0.05	0.0342	68	40-150
863090-89-5	PFMBA	0.05	0.0493	99	40-150
151772-58-6	NFDHA	0.05	0.0489	98	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0935	0.0891	95	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0945	0.0896	95	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95069-BS	4Q39705.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0428	96	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0973	78	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.496	79	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.567	91	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	43%	20-150%
	13C5-PFPeA	122%	20-150%
	13C5-PFHxA	123%	20-150%
	13C4-PFHpA	71%	20-150%
	13C8-PFOA	115%	20-150%
	13C9-PFNA	124%	20-150%
	13C6-PFDA	127%	20-150%
	13C7-PFUnDA	119%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	110%	20-150%
	13C3-PFBS	122%	20-150%
	13C3-PFHxS	117%	20-150%
	13C8-PFOS	110%	20-150%
	13C8-FOSA	118%	20-150%
	d3-MeFOSA	109%	20-150%
	d5-EtFOSA	105%	20-150%
	d3-MeFOSAA	117%	20-150%
	d5-EtFOSAA	105%	20-150%
	d7-MeFOSE	103%	20-150%
	d9-EtFOSE	102%	20-150%
	13C2-4:2FTS	173%* a	20-150%
	13C2-6:2FTS	119%	20-150%
	13C2-8:2FTS	109%	20-150%
	13C3-HFPO-DA	121%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95069-MS	4Q39723.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571
OP95069-MSD	4Q39724.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571
FC1816-2	4Q39722.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571
FC1816-2 ^a	4Q39800.D	10	01/26/23	NG	01/20/23	OP95069	S4Q572

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	FC1816-2 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
375-22-4	Perfluorobutanoic acid	0.018 U	0.0877	0.0800	91	0.0877	0.0793	90	1	40-150/30
2706-90-3	Perfluoropentanoic acid	0.0088 U	0.0439	0.0439	100	0.0439	0.0433	99	1	40-150/30
307-24-4	Perfluorohexanoic acid	0.0022 J	0.0219	0.0214	88	0.0219	0.0213	87	0	40-150/30
375-85-9	Perfluoroheptanoic acid	0.0044 U	0.0219	0.0236	108	0.0219	0.0223	102	6	40-150/30
335-67-1	Perfluorooctanoic acid	0.0064	0.0219	0.0225	73	0.0219	0.0235	78	4	40-150/30
375-95-1	Perfluorononanoic acid	0.0044 U	0.0219	0.0218	99	0.0219	0.0214	98	2	40-150/30
335-76-2	Perfluorodecanoic acid	0.0044 U	0.0219	0.0204	93	0.0219	0.0196	89	4	40-150/30
2058-94-8	Perfluoroundecanoic acid	0.0044 U	0.0219	0.0213	97	0.0219	0.0196	89	8	40-150/30
307-55-1	Perfluorododecanoic acid	0.0044 U	0.0219	0.0207	94	0.0219	0.0212	97	2	40-150/30
72629-94-8	Perfluorotridecanoic acid	0.0044 U	0.0219	0.0212	97	0.0219	0.0217	99	2	40-150/30
376-06-7	Perfluorotetradecanoic acid	0.0044 U	0.0219	0.0209	95	0.0219	0.0216	98	3	40-150/30
375-73-5	Perfluorobutanesulfonic acid	0.0044 U	0.0195	0.0192	99	0.0195	0.0198	102	3	40-150/30
2706-91-4	Perfluoropentanesulfonic acid	0.0044 U	0.0206	0.0181	88	0.0206	0.0177	86	2	40-150/30
355-46-4	Perfluorohexanesulfonic acid	0.0024 J	0.02	0.0205	90	0.02	0.0191	83	7	40-150/30
375-92-8	Perfluoroheptanesulfonic acid	0.0044 U	0.0209	0.0202	97	0.0209	0.0220	105	9	40-150/30
1763-23-1	Perfluorooctanesulfonic acid	0.0044 U	0.0204	0.0206	101	0.0204	0.0184	90	11	40-150/30
68259-12-1	Perfluorononanesulfonic acid	0.0044 U	0.0211	0.0192	91	0.0211	0.0189	90	2	40-150/30
335-77-3	Perfluorodecanesulfonic acid	0.0044 U	0.0212	0.0203	96	0.0212	0.0193	91	5	40-150/30
79780-39-5	Perfluorododecanesulfonic aci	0.0044 U	0.0213	0.0209	98	0.0213	0.0188	88	11	40-150/30
757124-72-44:2	Fluorotelomer sulfonate	0.018 U	0.0822	0.0743	90	0.0822	0.0764	93	3	40-150/30
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U	0.0833	0.0809	97	0.0833	0.0801	96	1	40-150/30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U	0.0842	0.0918	109	0.0842	0.0748	89	20	40-150/30
754-91-6	PFOSA	0.0044 U	0.0219	0.0216	98	0.0219	0.0207	94	4	40-150/30
31506-32-8	MeFOSA	0.0044 U	0.0219	0.0200	91	0.0219	0.0184	84	8	40-150/30
4151-50-2	EtFOSA	0.0044 U	0.0219	0.0208	95	0.0219	0.0191	87	9	40-150/30
2355-31-9	MeFOSAA	0.0044 U	0.0219	0.0226	103	0.0219	0.0228	104	1	40-150/30
2991-50-6	EtFOSAA	0.0044 U	0.0219	0.0202	92	0.0219	0.0217	99	7	40-150/30
24448-09-7	MeFOSE	0.044 U	0.219	0.220	100	0.219	0.218	99	1	40-150/30
1691-99-2	EtFOSE	0.044 U	0.219	0.218	99	0.219	0.218	99	0	40-150/30
13252-13-6	HFPO-DA (GenX)	0.018 U	0.0877	0.0842	96	0.0877	0.0823	94	2	40-150/30
919005-14-4	ADONA	0.018 U	0.0829	0.0820	99	0.0829	0.0815	98	1	40-150/30
377-73-1	PFMPA	0.0088 U	0.0439	0.0416	95	0.0439	0.0411	94	1	40-150/30
863090-89-5	PFMBA	0.0088 U	0.0439	0.0441	101	0.0439	0.0435	99	1	40-150/30
151772-58-6	NFDHA	0.0088 U	0.0439	0.0417	95	0.0439	0.0433	99	4	40-150/30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.018 U	0.082	0.0756	92	0.082	0.0715	87	6	40-150/30
763051-92-911	Cl-PF3OUdS (F-53B Minor)	0.018 U	0.0829	0.0749	90	0.0829	0.0729	88	3	40-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC2034
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95069-MS	4Q39723.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571
OP95069-MSD	4Q39724.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571
FC1816-2	4Q39722.D	1	01/25/23	NG	01/20/23	OP95069	S4Q571
FC1816-2 ^a	4Q39800.D	10	01/26/23	NG	01/20/23	OP95069	S4Q572

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2034-1

CAS No.	Compound	FC1816-2 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
113507-82-7	PFEESA	0.0088 U	0.039	0.0400	102	0.039	0.0385	99	4	40-150/30
356-02-5	3:3 Fluorotelomer carboxylate	0.022 U	0.11	0.100	91	0.11	0.0974	89	3	40-150/30
914637-49-35:3	Fluorotelomer carboxylate	0.11 U	0.548	0.534	97	0.548	0.520	95	3	40-150/30
812-70-4	7:3 Fluorotelomer carboxylate	0.11 U	0.548	0.534	97	0.548	0.511	93	4	40-150/30

CAS No.	ID Standard Recoveries	MS	MSD	FC1816-2	FC1816-2	Limits
	13C4-PFBA	68%	74%	73%	71%	20-150%
	13C5-PFPeA	121%	118%	125%	118%	20-150%
	13C5-PFHxA	120%	118%	124%	127%	20-150%
	13C4-PFHpA	112%	113%	122%	121%	20-150%
	13C8-PFOA	110%	114%	114%	107%	20-150%
	13C9-PFNA	106%	113%	115%	109%	20-150%
	13C6-PFDA	113%	117%	121%	148%	20-150%
	13C7-PFUnDA	110%	110%	117%	140%	20-150%
	13C2-PFD _o DA	103%	102%	109%	125%	20-150%
	13C2-PFT _e DA	104%	103%	107%	129%	20-150%
	13C3-PFBS	117%	117%	115%	128%	20-150%
	13C3-PFHxS	117%	122%	120%	140%	20-150%
	13C8-PFOS	103%	103%	109%	100%	20-150%
	13C8-FOSA	109%	108%	115%	111%	20-150%
	d3-MeFOSA	101%	101%			20-150%
	d5-EtFOSA	96%	99%			20-150%
	d3-MeFOSAA	110%	109%	120%	115%	20-150%
	d5-EtFOSAA	113%	105%	112%	150%	20-150%
	d7-MeFOSE	104%	99%			20-150%
	d9-EtFOSE	105%	99%			20-150%
	13C2-4:2FTS	162%* b	159%* b	185%* b	195%* b	20-150%
	13C2-6:2FTS	141%	141%	135%	145%	20-150%
	13C2-8:2FTS	115%	129%	123%	165%* b	20-150%
	13C3-HFPO-DA	120%	117%			20-150%

(a) Confirmation run.

(b) Outside control limits.

* = Outside of Control Limits.