

The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC2741

Sampling Date: 02/15/23



Report to:

AECOM, Inc
7595 Technology Way
Denver, CO 80237
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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)
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.

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Sample Summary

AECOM, INC.

Job No: FC2741

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC2741-1	02/15/23	12:10 NT	02/16/23	AQ	Ground Water	AF-RHMW225401-WGN01B-2302W2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC2741

Site: N6274223F0104 RH Fire Suppression System

Report Date: 2/24/2023 1:49:07 PM

On 02/16/2023, 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 5.2 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC2741 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: OP95527

Sample(s) FC2520-6MS, FC2520-6MSD were used as the QC samples indicated.

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: FC2741
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 02/15/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC2741-1 AF-RHMW225401-WGN01B-2302W2

Perfluoropentanoic acid	1.7 J	9.3	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	1.1 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.94 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid	1.5 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid	0.76 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluorohexanesulfonic acid	1.3 J	4.6	1.9	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid	1.4 J	4.6	1.9	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2302W2		
Lab Sample ID:	FC2741-1	Date Sampled:	02/15/23
Matrix:	AQ - Ground Water	Date Received:	02/16/23
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	4Q41096.D	1	02/23/23 01:31	AL	02/20/23 09:00	OP95527	S4Q587
Run #2							

Run #	Initial Volume	Final Volume
Run #1	540 ml	5.0 ml
Run #2		

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

375-22-4	Perfluorobutanoic acid	3.7 U	19	3.7	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.7	9.3	1.9	0.87	ng/l	J
307-24-4	Perfluorohexanoic acid	1.1	4.6	0.93	0.46	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.94	4.6	0.93	0.46	ng/l	J
335-67-1	Perfluorooctanoic acid	1.5	4.6	0.93	0.46	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
335-76-2	Perfluorodecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.6	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.76	4.6	0.93	0.46	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.3	4.6	1.9	0.65	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	0.93 U	4.6	0.93	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.4	4.6	1.9	0.50	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.6	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.6	1.9	0.59	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	4.6	1.9	0.62	ng/l	
31506-32-8	MeFOSA	1.9 U	4.6	1.9	0.93	ng/l	
4151-50-2	EtFOSA	1.9 U	4.6	1.9	0.93	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-2302W2		
Lab Sample ID:	FC2741-1	Date Sampled:	02/15/23
Matrix:	AQ - Ground Water	Date Received:	02/16/23
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	3.7 U	4.6	3.7	0.93	ng/l	
2991-50-6	EtFOSAA	3.7 U	4.6	3.7	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	9.3 U	46	9.3	4.1	ng/l	
1691-99-2	EtFOSE	19 U	46	19	6.9	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	3.7 U	19	3.7	0.93	ng/l	
919005-14-4	ADONA	3.7 U	19	3.7	1.7	ng/l	
377-73-1	PFMPA	1.9 U	9.3	1.9	0.93	ng/l	
863090-89-5	PFMBA	3.7 U	9.3	3.7	1.1	ng/l	
151772-58-6	NFDHA	3.7 U	9.3	3.7	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	19	3.7	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	19	3.7	1.6	ng/l	
113507-82-7	PFEESA	1.9 U	9.3	1.9	0.72	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.3 U	23	9.3	4.2	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.1	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.3	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	106%		20-150%
	13C5-PFPeA	100%		20-150%
	13C5-PFHxA	105%		20-150%
	13C4-PFHpA	102%		20-150%
	13C8-PFOA	101%		20-150%
	13C9-PFNA	103%		20-150%
	13C6-PFDA	98%		20-150%
	13C7-PFUnDA	101%		20-150%
	13C2-PFDoDA	83%		20-150%
	13C2-PFTeDA	74%		20-150%
	13C3-PFBS	97%		20-150%
	13C3-PFHxS	99%		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

Client Sample ID:	AF-RHMW225401-WGN01B-2302W2	
Lab Sample ID:	FC2741-1	Date Sampled: 02/15/23
Matrix:	AQ - Ground Water	Date Received: 02/16/23
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	92%		20-150%
	13C8-FOSA	97%		20-150%
	d3-MeFOSA	90%		20-150%
	d5-EtFOSA	91%		20-150%
	d3-MeFOSAA	87%		20-150%
	d5-EtFOSAA	90%		20-150%
	d7-MeFOSE	88%		20-150%
	d9-EtFOSE	91%		20-150%
	13C2-4:2FTS	109%		20-150%
	13C2-6:2FTS	105%		20-150%
	13C2-8:2FTS	114%		20-150%
	13C3-HFPO-DA	109%		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

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
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www.sgs.com

FC2741
SGS - ORLANDO JOB # :

COC #: 2302W2AFSG07
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; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PFAS EPA Draft 1633</div> <div style="text-align: center;"> <p><i>2/15/23</i></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 # 60697810															
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #															
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order #															
Sampler(s) Name(s) (Printed) Sampler 1: <i>Wosh Park</i> Sampler 2: <i>Christina Womack</i>																	
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION										LAB USE ONLY		
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NHCl	HNO3	H2SO4	NACHO-ZnAC	DISTILL WATER		MEDIA	
1	AF-RHMW225401-WGN01B-2302W2	2/15/23	1210	<i>NT</i>	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 INITIAL ASSESSMENT) <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 AWB 016-24825323 _____											
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 <i>Christina Shively (AECOM)</i>	Date Time: <i>1600</i> <i>2/15/23</i>	Received By/Affiliation 2 <i>Kevin G...</i> AECOM	Relinquished By/Affiliation 3 <i>Kevin G...</i> AECOM	Date Time: <i>1630</i> <i>2/15/23</i>	Received By/Affiliation 4 <i>Kevin G...</i> AECOM	Relinquished By/Affiliation 5 _____	Date Time: _____	Received By/Affiliation 6 _____	Relinquished By/Affiliation 7 _____	Date Time: _____	Received By/Affiliation 8 _____						
Lab Use Only: Cooler Temperature (s) Celsius (corrected): <i>5.0</i>		http://www.sgs.com/en/terms-and-conditions															

PFAS_COCs_ALL.xls Rev 031318

FC2741: Chain of Custody

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SGS Sample Receipt Summary

Job Number: FC2741

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 2/16/2023 2:00:00 PM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-24825323

Therm ID: IR 1;

Therm CF: 0.2;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (5.0);

Cooler Temps (Corrected) °C: Cooler 1: (5.2);

Cooler Information

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

Trip Blank Information

Y or N N/A

- 1. Trip Blank present / cooler
 - 2. Trip Blank listed on COC
- W or S N/A
- 3. Type Of TB Received

Sample Information

Y or N N/A

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

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 230315

pH 10-12 219813A

Other: (Specify) _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: CARLOSD

Date: 2/16/2023 2:00:00 PM

Reviewer: CD

Date: 2/17/2023

FC2741: Chain of Custody

Page 2 of 2

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QC Evaluation: DOD QSM5.x Limits

Job Number: FC2741
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 02/15/23

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 FC2741

5.2
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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: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q587-IBLK	4Q41065.D	1	02/22/23	AL	n/a	n/a	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

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	

Instrument Blank

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q587-IBLK	4Q41065.D	1	02/22/23	AL	n/a	n/a	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

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	100% 20-150%
	13C5-PFPeA	97% 20-150%
	13C5-PFHxA	100% 20-150%
	13C4-PFHpA	100% 20-150%
	13C8-PFOA	104% 20-150%
	13C9-PFNA	101% 20-150%
	13C6-PFDA	101% 20-150%
	13C7-PFUnDA	104% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	97% 20-150%
	13C3-PFBS	103% 20-150%
	13C3-PFHxS	105% 20-150%
	13C8-PFOS	104% 20-150%
	13C8-FOSA	102% 20-150%
	d3-MeFOSA	102% 20-150%
	d5-EtFOSA	103% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	103% 20-150%
	d7-MeFOSE	102% 20-150%
	d9-EtFOSE	101% 20-150%
	13C2-4:2FTS	122% 20-150%
	13C2-6:2FTS	121% 20-150%
	13C2-8:2FTS	122% 20-150%
	13C3-HFPO-DA	96% 20-150%

6.1.1

6

Continuing Calibration Blank

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q587-ICCB	4Q41092.D	1	02/23/23	AL	n/a	n/a	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

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	

Continuing Calibration Blank

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q587-ICCB	4Q41092.D	1	02/23/23	AL	n/a	n/a	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

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	96%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	98%	20-150%
	13C8-PFOA	101%	20-150%
	13C9-PFNA	98%	20-150%
	13C6-PFDA	97%	20-150%
	13C7-PFUnDA	103%	20-150%
	13C2-PFDoDA	93%	20-150%
	13C2-PFTeDA	92%	20-150%
	13C3-PFBS	105%	20-150%
	13C3-PFHxS	110%	20-150%
	13C8-PFOS	98%	20-150%
	13C8-FOSA	104%	20-150%
	d3-MeFOSA	95%	20-150%
	d5-EtFOSA	99%	20-150%
	d3-MeFOSAA	104%	20-150%
	d5-EtFOSAA	101%	20-150%
	d7-MeFOSE	102%	20-150%
	d9-EtFOSE	102%	20-150%
	13C2-4:2FTS	114%	20-150%
	13C2-6:2FTS	125%	20-150%
	13C2-8:2FTS	139%	20-150%
	13C3-HFPO-DA	100%	20-150%

Method Blank Summary

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95527-MB	4Q41076.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

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: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95527-MB	4Q41076.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

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	98% 20-150%
	13C5-PFPeA	96% 20-150%
	13C5-PFHxA	93% 20-150%
	13C4-PFHpA	95% 20-150%
	13C8-PFOA	95% 20-150%
	13C9-PFNA	91% 20-150%
	13C6-PFDA	89% 20-150%
	13C7-PFUnDA	80% 20-150%
	13C2-PFDoDA	73% 20-150%
	13C2-PFTeDA	67% 20-150%
	13C3-PFBS	93% 20-150%
	13C3-PFHxS	103% 20-150%
	13C8-PFOS	91% 20-150%
	13C8-FOSA	90% 20-150%
	d3-MeFOSA	84% 20-150%
	d5-EtFOSA	85% 20-150%
	d3-MeFOSAA	95% 20-150%
	d5-EtFOSAA	83% 20-150%
	d7-MeFOSE	82% 20-150%
	d9-EtFOSE	83% 20-150%
	13C2-4:2FTS	115% 20-150%
	13C2-6:2FTS	103% 20-150%
	13C2-8:2FTS	104% 20-150%
	13C3-HFPO-DA	93% 20-150%

Continuing Calibration Blank

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q587-ICCB	4Q41073.D	1	02/22/23	AL	n/a	n/a	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP95527-BS, OP95527-LLBS, OP95527-MB

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: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q587-ICCB	4Q41073.D	1	02/22/23	AL	n/a	n/a	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP95527-BS, OP95527-LLBS, OP95527-MB

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	100% 20-150%
	13C5-PFPeA	97% 20-150%
	13C5-PFHxA	99% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	99% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	94% 20-150%
	13C2-PFTeDA	93% 20-150%
	13C3-PFBS	104% 20-150%
	13C3-PFHxS	100% 20-150%
	13C8-PFOS	94% 20-150%
	13C8-FOSA	94% 20-150%
	d3-MeFOSAA	99% 20-150%
	d5-EtFOSAA	95% 20-150%
	13C2-4:2FTS	132% 20-150%
	13C2-6:2FTS	119% 20-150%
	13C2-8:2FTS	124% 20-150%

Continuing Calibration Blank

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q587-ICCB	4Q41083.D	1	02/22/23	AL	n/a	n/a	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP95527-MS, OP95527-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: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q587-ICCB	4Q41083.D	1	02/22/23	AL	n/a	n/a	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP95527-MS, OP95527-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	100% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	101% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	99% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	95% 20-150%
	13C7-PFUnDA	104% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	89% 20-150%
	13C3-PFBS	95% 20-150%
	13C3-PFHxS	96% 20-150%
	13C8-PFOS	98% 20-150%
	13C8-FOSA	98% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	99% 20-150%
	13C2-4:2FTS	115% 20-150%
	13C2-6:2FTS	109% 20-150%
	13C2-8:2FTS	122% 20-150%

Blank Spike Summary

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95527-LLBS	4Q41075.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.04	0.0468	117	40-150
2706-90-3	Perfluoropentanoic acid	0.02	0.0245	123	40-150
307-24-4	Perfluorohexanoic acid	0.01	0.0113	113	40-150
375-85-9	Perfluoroheptanoic acid	0.01	0.0121	121	40-150
335-67-1	Perfluorooctanoic acid	0.01	0.0116	116	40-150
375-95-1	Perfluorononanoic acid	0.01	0.0122	122	40-150
335-76-2	Perfluorodecanoic acid	0.01	0.0112	112	40-150
2058-94-8	Perfluoroundecanoic acid	0.01	0.0112	112	40-150
307-55-1	Perfluorododecanoic acid	0.01	0.0124	124	40-150
72629-94-8	Perfluorotridecanoic acid	0.01	0.0112	112	40-150
376-06-7	Perfluorotetradecanoic acid	0.01	0.0122	122	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00887	0.0103	116	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00941	0.0106	113	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00914	0.0093	102	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00953	0.010	105	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00928	0.0094	101	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00962	0.0104	108	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00965	0.0098	102	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0097	0.0084	87	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0375	0.0443	118	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.038	0.0446	117	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0384	0.0470	122	40-150
754-91-6	PFOSA	0.01	0.0111	111	40-150
31506-32-8	MeFOSA	0.01	0.0111	111	40-150
4151-50-2	EtFOSA	0.01	0.0108	108	40-150
2355-31-9	MeFOSAA	0.01	0.0136	136	40-150
2991-50-6	EtFOSAA	0.01	0.0125	125	40-150
24448-09-7	MeFOSE	0.1	0.116	116	40-150
1691-99-2	EtFOSE	0.1	0.110	110	40-150
13252-13-6	HFPO-DA (GenX)	0.04	0.0444	111	40-150
919005-14-4	ADONA	0.0378	0.0488	129	40-150
377-73-1	PFMPA	0.02	0.0241	121	40-150
863090-89-5	PFMBA	0.02	0.0249	125	40-150
151772-58-6	NFDHA	0.02	0.0256	128	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0374	0.0482	129	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0378	0.0419	111	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95527-LLBS	4Q41075.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0178	0.0203	114	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.05	0.0587	117	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.25	0.356	142	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.25	0.307	123	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	98%	20-150%
	13C5-PFPeA	92%	20-150%
	13C5-PFHxA	95%	20-150%
	13C4-PFHpA	92%	20-150%
	13C8-PFOA	93%	20-150%
	13C9-PFNA	92%	20-150%
	13C6-PFDA	91%	20-150%
	13C7-PFUnDA	87%	20-150%
	13C2-PFDoDA	75%	20-150%
	13C2-PFTeDA	66%	20-150%
	13C3-PFBS	97%	20-150%
	13C3-PFHxS	97%	20-150%
	13C8-PFOS	96%	20-150%
	13C8-FOSA	96%	20-150%
	d3-MeFOSA	85%	20-150%
	d5-EtFOSA	81%	20-150%
	d3-MeFOSAA	96%	20-150%
	d5-EtFOSAA	89%	20-150%
	d7-MeFOSE	83%	20-150%
	d9-EtFOSE	86%	20-150%
	13C2-4:2FTS	112%	20-150%
	13C2-6:2FTS	108%	20-150%
	13C2-8:2FTS	113%	20-150%
	13C3-HFPO-DA	95%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95527-BS	4Q41074.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.120	120	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0620	124	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0283	113	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0308	123	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0299	120	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0308	123	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0304	122	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0295	118	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0296	118	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0306	122	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0300	120	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0268	121	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0278	118	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0237	104	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0260	109	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0235	101	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0281	117	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0264	109	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0243	100	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.110	117	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.126	133	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.111	116	40-150
754-91-6	PFOSA	0.025	0.0302	121	40-150
31506-32-8	MeFOSA	0.025	0.0295	118	40-150
4151-50-2	EtFOSA	0.025	0.0259	104	40-150
2355-31-9	MeFOSAA	0.025	0.0300	120	40-150
2991-50-6	EtFOSAA	0.025	0.0297	119	40-150
24448-09-7	MeFOSE	0.25	0.296	118	40-150
1691-99-2	EtFOSE	0.25	0.290	116	40-150
13252-13-6	HFPO-DA (GenX)	0.1	0.130	130	40-150
919005-14-4	ADONA	0.0945	0.133	141	40-150
377-73-1	PFMPA	0.05	0.0602	120	40-150
863090-89-5	PFMBA	0.05	0.0629	126	40-150
151772-58-6	NFDHA	0.05	0.0645	129	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0935	0.135	144	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0945	0.123	130	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95527-BS	4Q41074.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0557	125	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.143	114	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.881	141	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.801	128	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	110%	20-150%
	13C5-PFPeA	106%	20-150%
	13C5-PFHxA	106%	20-150%
	13C4-PFHpA	103%	20-150%
	13C8-PFOA	105%	20-150%
	13C9-PFNA	108%	20-150%
	13C6-PFDA	103%	20-150%
	13C7-PFUnDA	96%	20-150%
	13C2-PFDoDA	86%	20-150%
	13C2-PFTeDA	80%	20-150%
	13C3-PFBS	99%	20-150%
	13C3-PFHxS	108%	20-150%
	13C8-PFOS	104%	20-150%
	13C8-FOSA	106%	20-150%
	d3-MeFOSA	93%	20-150%
	d5-EtFOSA	91%	20-150%
	d3-MeFOSAA	113%	20-150%
	d5-EtFOSAA	97%	20-150%
	d7-MeFOSE	92%	20-150%
	d9-EtFOSE	93%	20-150%
	13C2-4:2FTS	119%	20-150%
	13C2-6:2FTS	105%	20-150%
	13C2-8:2FTS	129%	20-150%
	13C3-HFPO-DA	100%	20-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95527-MS	4Q41085.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587
OP95527-MSD	4Q41086.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587
FC2520-6	4Q41084.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

CAS No.	Compound	FC2520-6 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	0.0122	J	0.0877	0.117	119	0.0877	0.114	116	3	40-150/30
2706-90-3	Perfluoropentanoic acid	0.0041	J	0.0439	0.0606	129	0.0439	0.0584	124	4	40-150/30
307-24-4	Perfluorohexanoic acid	0.0011	J	0.0219	0.0256	112	0.0219	0.0247	108	4	40-150/30
375-85-9	Perfluoroheptanoic acid	0.0044	U	0.0219	0.0275	125	0.0219	0.0258	118	6	40-150/30
335-67-1	Perfluorooctanoic acid	0.0044	U	0.0219	0.0258	118	0.0219	0.0252	115	2	40-150/30
375-95-1	Perfluorononanoic acid	0.0044	U	0.0219	0.0264	120	0.0219	0.0246	112	7	40-150/30
335-76-2	Perfluorodecanoic acid	0.0044	U	0.0219	0.0268	122	0.0219	0.0265	121	1	40-150/30
2058-94-8	Perfluoroundecanoic acid	0.0044	U	0.0219	0.0261	119	0.0219	0.0249	114	5	40-150/30
307-55-1	Perfluorododecanoic acid	0.0044	U	0.0219	0.0288	131	0.0219	0.0277	126	4	40-150/30
72629-94-8	Perfluorotridecanoic acid	0.0044	U	0.0219	0.0280	128	0.0219	0.0278	127	1	40-150/30
376-06-7	Perfluorotetradecanoic acid	0.0044	U	0.0219	0.0286	130	0.0219	0.0284	130	1	40-150/30
375-73-5	Perfluorobutanesulfonic acid	0.0044	U	0.0195	0.0243	125	0.0195	0.0236	121	3	40-150/30
2706-91-4	Perfluoropentanesulfonic acid	0.0044	U	0.0206	0.0248	120	0.0206	0.0235	114	5	40-150/30
355-46-4	Perfluorohexanesulfonic acid	0.0044	U	0.02	0.0231	115	0.02	0.0227	113	2	40-150/30
375-92-8	Perfluoroheptanesulfonic acid	0.0044	U	0.0209	0.0230	110	0.0209	0.0258	123	11	40-150/30
1763-23-1	Perfluorooctanesulfonic acid	0.00083	J	0.0204	0.0210	99	0.0204	0.0223	105	6	40-150/30
68259-12-1	Perfluorononanesulfonic acid	0.0044	U	0.0211	0.0234	111	0.0211	0.0279	132	18	40-150/30
335-77-3	Perfluorodecanesulfonic acid	0.0044	U	0.0212	0.0205	97	0.0212	0.0213	101	4	40-150/30
79780-39-5	Perfluorododecanesulfonic aci	0.0044	U	0.0213	0.0186	87	0.0213	0.0224	105	19	40-150/30
757124-72-44:2	Fluorotelomer sulfonate	0.018	U	0.0822	0.103	125	0.0822	0.0897	109	14	40-150/30
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	0.0833	0.102	122	0.0833	0.0996	120	2	40-150/30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	0.0842	0.103	122	0.0842	0.0947	112	8	40-150/30
754-91-6	PFOSA	0.00061	J	0.0219	0.0276	123	0.0219	0.0267	119	3	40-150/30
31506-32-8	MeFOSA	0.0044	U	0.0219	0.0264	120	0.0219	0.0227	104	15	40-150/30
4151-50-2	EtFOSA	0.0044	U	0.0219	0.0239	109	0.0219	0.0232	106	3	40-150/30
2355-31-9	MeFOSAA	0.0044	U	0.0219	0.0292	133	0.0219	0.0256	117	13	40-150/30
2991-50-6	EtFOSAA	0.0044	U	0.0219	0.0273	124	0.0219	0.0276	126	1	40-150/30
24448-09-7	MeFOSE	0.044	U	0.219	0.265	121	0.219	0.254	116	4	40-150/30
1691-99-2	EtFOSE	0.044	U	0.219	0.268	122	0.219	0.259	118	3	40-150/30
13252-13-6	HFPO-DA (GenX)	0.018	U	0.0877	0.105	120	0.0877	0.100	114	5	40-150/30
919005-14-4	ADONA	0.018	U	0.0829	0.0980	118	0.0829	0.0976	118	0	40-150/30
377-73-1	PFMPA	0.0088	U	0.0439	0.0543	124	0.0439	0.0533	122	2	40-150/30
863090-89-5	PFMBA	0.0088	U	0.0439	0.0565	129	0.0439	0.0540	123	5	40-150/30
151772-58-6	NFDHA	0.0088	U	0.0439	0.0566	129	0.0439	0.0547	125	3	40-150/30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.018	U	0.082	0.0929	113	0.082	0.0938	114	1	40-150/30
763051-92-911	Cl-PF3OUdS (F-53B Minor)	0.018	U	0.0829	0.0784	95	0.0829	0.0779	94	1	40-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC2741
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95527-MS	4Q41085.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587
OP95527-MSD	4Q41086.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587
FC2520-6	4Q41084.D	1	02/22/23	AL	02/20/23	OP95527	S4Q587

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2741-1

CAS No.	Compound	FC2520-6 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	0.0468	120	0.039	0.0458	117	2	40-150/30
356-02-5	3:3 Fluorotelomer carboxylate	0.022 U	0.11	0.128	117	0.11	0.123	112	4	40-150/30
914637-49-35:3	Fluorotelomer carboxylate	0.11 U	0.548	0.682	124	0.548	0.670	122	2	40-150/30
812-70-4	7:3 Fluorotelomer carboxylate	0.11 U	0.548	0.677	123	0.548	0.668	122	1	40-150/30

CAS No.	ID Standard Recoveries	MS	MSD	FC2520-6	Limits
	13C4-PFBA	105%	102%	108%	20-150%
	13C5-PFPeA	98%	99%	106%	20-150%
	13C5-PFHxA	102%	102%	105%	20-150%
	13C4-PFHpA	97%	100%	104%	20-150%
	13C8-PFOA	96%	97%	105%	20-150%
	13C9-PFNA	92%	90%	104%	20-150%
	13C6-PFDA	96%	90%	89%	20-150%
	13C7-PFUnDA	87%	84%	85%	20-150%
	13C2-PFDoDA	71%	69%	68%	20-150%
	13C2-PFTeDA	72%	72%	67%	20-150%
	13C3-PFBS	99%	101%	99%	20-150%
	13C3-PFHxS	100%	96%	100%	20-150%
	13C8-PFOS	102%	79%	89%	20-150%
	13C8-FOSA	104%	86%	96%	20-150%
	d3-MeFOSA	82%	77%		20-150%
	d5-EtFOSA	79%	73%		20-150%
	d3-MeFOSAA	92%	81%	88%	20-150%
	d5-EtFOSAA	84%	74%	81%	20-150%
	d7-MeFOSE	84%	75%		20-150%
	d9-EtFOSE	85%	75%		20-150%
	13C2-4:2FTS	106%	114%	119%	20-150%
	13C2-6:2FTS	102%	104%	111%	20-150%
	13C2-8:2FTS	110%	112%	118%	20-150%
	13C3-HFPO-DA	110%	108%		20-150%

* = Outside of Control Limits.