

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

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC5861

Sampling Date: 05/04/23



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)
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

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
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: FC5861-1: AF-RHMW225401-WGN01B-2305W1	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	23
6.3: Matrix Spike Summary	27
6.4: Duplicate Summary	29

1

2

3

4

5

6



Sample Summary

AECOM, INC.

Job No: FC5861

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC5861-1	05/04/23	11:00	CAMY	05/05/23	AQ Ground Water	AF-RHMW225401-WGN01B-2305W1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC5861

Site: N6274223F0104 RH Fire Suppression System

Report Date: 5/12/2023 1:36:16 PM

On 05/05/2023, 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 1.1 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC5861 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: OP96784

Sample(s) FC5890-1MS, FC5890-2DUP, FC5890-1MS were used as the QC samples indicated.

RPD(s) for Duplicate for 6:2 Fluorotelomer sulfonate are outside control limits for sample OP96784-DUP. Probable cause is due to sample non-homogeneity.

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: FC5861
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/04/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
---------------	------------------	-----------------	-----	-----	-------	--------

FC5861-1 AF-RHMW225401-WGN01B-2305W1

Perfluoropentanoic acid	1.3 J	7.7	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	0.92 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.68 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid	0.80 J	3.8	0.96	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid	0.58 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanesulfonic acid	1.1 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid	1.3 J	3.8	1.9	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2305W1		
Lab Sample ID:	FC5861-1	Date Sampled:	05/04/23
Matrix:	AQ - Ground Water	Date Received:	05/05/23
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	4Q44178.D	1	05/10/23 00:12	MV	05/08/23 10:30	OP96784	S4Q639
Run #2							

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

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

PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.8 U	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.3	7.7	1.9	0.90	ng/l	J
307-24-4	Perfluorohexanoic acid	0.92	3.8	1.9	0.48	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.68	3.8	1.9	0.48	ng/l	J
335-67-1	Perfluorooctanoic acid	0.80	3.8	0.96	0.48	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.58	3.8	1.9	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	3.8	1.9	0.67	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.3	3.8	1.9	0.52	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.8	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	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	3.8	1.9	0.64	ng/l	
31506-32-8	MeFOSA	3.8 U	7.7	3.8	0.96	ng/l	
4151-50-2	EtFOSA	3.8 U	7.7	3.8	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-2305W1		
Lab Sample ID:	FC5861-1	Date Sampled:	05/04/23
Matrix:	AQ - Ground Water	Date Received:	05/05/23
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	3.8 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	19 U	38	19	4.2	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.1	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.96	ng/l	
919005-14-4	ADONA	3.8 U	7.7	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.7	1.9	0.96	ng/l	
863090-89-5	PFMBA	3.8 U	7.7	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.7	3.8	1.2	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.7	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.7	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	7.7	1.9	0.75	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.6 U	19	9.6	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	96	19	8.4	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	96	19	7.5	ng/l	

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

	13C4-PFBA	104%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	109%		20-150%
	13C4-PFHpA	110%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	112%		20-150%
	13C6-PFDA	104%		20-150%
	13C7-PFUnDA	103%		20-150%
	13C2-PFDoDA	90%		20-150%
	13C2-PFTeDA	81%		20-150%
	13C3-PFBS	98%		20-150%
	13C3-PFHxS	95%		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-2305W1		
Lab Sample ID:	FC5861-1	Date Sampled:	05/04/23
Matrix:	AQ - Ground Water	Date Received:	05/05/23
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	101%		20-150%
	13C8-FOSA	72%		20-150%
	d3-MeFOSA	69%		20-150%
	d5-EtFOSA	69%		20-150%
	d3-MeFOSAA	100%		20-150%
	d5-EtFOSAA	107%		20-150%
	d7-MeFOSE	52%		20-150%
	d9-EtFOSE	57%		20-150%
	13C2-4:2FTS	124%		20-180%
	13C2-6:2FTS	134%		20-180%
	13C2-8:2FTS	140%		20-180%
	13C3-HFPO-DA	98%		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

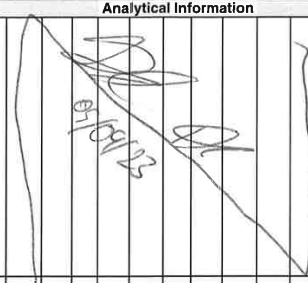


SGS North America Inc - Orlando
Chain of Custody

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

FC5861
SGS - ORLANDO JOB # :

COC #: 2305W 1AFSG07
PAGE 1 OF 1

Client / Reporting Information		Project Information		Analytical Information										Matrix Codes									
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge LI - 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		Project # 60697810																					
Phone #: 303-796-4624 / 800-954-4512		Fax #		PFAS EPA Draft: 1633																			
Sampler(s) Name(s) (Printed) Sampler 1: <i>AMBER KUSH</i> Sampler 2: <i>MAT 9/11</i>		Client Purchase Order #																					
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	PHONE	PCB	PCB	PCB	PCB	PCB	PCB	PCB	PCB	PCB	PCB	PCB	PCB	PCB	LAB USE ONLY	
/	AF-RHMMW225401-WGN01B-2305W1	05/14/23	1100	<i>AMBER KUSH</i>	GW	3																	
Turnaround Time (Business days)		Approved By: / Date:		Data Deliverable Information										Comments / Remarks									
<input type="checkbox"/> 10 Day (Business) <input type="checkbox"/> 7 Day <input checked="" type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH Other _____				<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS GC) <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 Unitel AWS: 016-92539134									
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>GABRIEL MORALES</i>		Date Time: 05/14/23		Received By/Affiliation 2 <i>Katie Abbott</i>		Date Time: 5/14/23		Relinquished By/Affiliation 3 <i>Katie Abbott</i>		Date Time: 5/14/23		Received By/Affiliation 4 <i>MAT 9/11</i>		Date Time: 5/14/23		Relinquished By/Affiliation 5		Date Time: 5/14/23		Received By/Affiliation 6 <i>MAT 9/11</i>		Date Time: 5/14/23	
Relinquished by/Affiliation 5		Date Time:		Received By/Affiliation 6		Date Time:		Relinquished By/Affiliation 7		Date Time:		Received By/Affiliation 8		Date Time:		Relinquished By/Affiliation 9		Date Time:		Received By/Affiliation 10		Date Time:	
Lab Use Only: Cooler Temperature (s) Celsius (corrected):		1.25																					

PFAS_COCs_ALL.xls Rev 031318

<http://www.sgs.com/en/terms-and-conditions>

FC5861: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: FC5861

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 5/5/2023 3:30:00 PM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-92539134

Therm ID: IR 1;

Therm CF: -0.1;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.2);

Cooler Temps (Corrected) °C: Cooler 1: (1.1);

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 230320

pH 10-12 25BDH07

Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: NATHANS

Date: 5/5/2023 3:30:00 PM

Reviewer: CD

Date: 5/7/2023

FC5861: Chain of Custody

Page 2 of 2

5.1
5

QC Evaluation: DOD QSM5.x Limits

Job Number: FC5861
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/04/23

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 FC5861

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: FC5861
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-IBLK	4Q44136.D	1	05/09/23	MV	n/a	n/a	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

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 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	0.0040	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: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-IBLK	4Q44136.D	1	05/09/23	MV	n/a	n/a	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

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	98% 20-150%
	13C4-PFHpA	103% 20-150%
	13C8-PFOA	102% 20-150%
	13C9-PFNA	107% 20-150%
	13C6-PFDA	97% 20-150%
	13C7-PFUnDA	99% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	93% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	93% 20-150%
	13C8-PFOS	104% 20-150%
	13C8-FOSA	109% 20-150%
	d3-MeFOSA	94% 20-150%
	d5-EtFOSA	103% 20-150%
	d3-MeFOSAA	100% 20-150%
	d5-EtFOSAA	108% 20-150%
	d7-MeFOSE	85% 20-150%
	d9-EtFOSE	90% 20-150%
	13C2-4:2FTS	103% 20-180%
	13C2-6:2FTS	111% 20-180%
	13C2-8:2FTS	116% 20-180%
	13C3-HFPO-DA	93% 20-150%

Continuing Calibration Blank

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-ICCB	4Q44174.D	1	05/09/23	MV	n/a	n/a	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

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	

Continuing Calibration Blank

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-ICCB	4Q44174.D	1	05/09/23	MV	n/a	n/a	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

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	102% 20-150%
	13C5-PFPeA	102% 20-150%
	13C5-PFHxA	100% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	102% 20-150%
	13C9-PFNA	106% 20-150%
	13C6-PFDA	99% 20-150%
	13C7-PFUnDA	108% 20-150%
	13C2-PFDoDA	103% 20-150%
	13C2-PFTeDA	102% 20-150%
	13C3-PFBS	94% 20-150%
	13C3-PFHxS	95% 20-150%
	13C8-PFOS	94% 20-150%
	13C8-FOSA	102% 20-150%
	d3-MeFOSA	88% 20-150%
	d5-EtFOSA	91% 20-150%
	d3-MeFOSAA	107% 20-150%
	d5-EtFOSAA	108% 20-150%
	d7-MeFOSE	76% 20-150%
	d9-EtFOSE	79% 20-150%
	13C2-4:2FTS	115% 20-180%
	13C2-6:2FTS	129% 20-180%
	13C2-8:2FTS	143% 20-180%
	13C3-HFPO-DA	89% 20-150%

Continuing Calibration Blank

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-ICCB	4Q44185.D	1	05/10/23	MV	n/a	n/a	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

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	

Continuing Calibration Blank

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-ICCB	4Q44185.D	1	05/10/23	MV	n/a	n/a	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

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	103% 20-150%
	13C5-PFPeA	99% 20-150%
	13C5-PFHxA	100% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	101% 20-150%
	13C9-PFNA	101% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	109% 20-150%
	13C2-PFDoDA	105% 20-150%
	13C2-PFTeDA	98% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	104% 20-150%
	13C8-PFOS	91% 20-150%
	13C8-FOSA	95% 20-150%
	d3-MeFOSA	89% 20-150%
	d5-EtFOSA	87% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	114% 20-150%
	d7-MeFOSE	74% 20-150%
	d9-EtFOSE	77% 20-150%
	13C2-4:2FTS	148% 20-180%
	13C2-6:2FTS	146% 20-180%
	13C2-8:2FTS	153% 20-180%
	13C3-HFPO-DA	89% 20-150%

Method Blank Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-MB	4Q44177.D	1	05/09/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

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	

Method Blank Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-MB	4Q44177.D	1	05/09/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

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	113% 20-150%
	13C5-PFPeA	115% 20-150%
	13C5-PFHxA	113% 20-150%
	13C4-PFHpA	111% 20-150%
	13C8-PFOA	110% 20-150%
	13C9-PFNA	109% 20-150%
	13C6-PFDA	115% 20-150%
	13C7-PFUnDA	113% 20-150%
	13C2-PFDoDA	107% 20-150%
	13C2-PFTeDA	92% 20-150%
	13C3-PFBS	108% 20-150%
	13C3-PFHxS	105% 20-150%
	13C8-PFOS	110% 20-150%
	13C8-FOSA	92% 20-150%
	d3-MeFOSA	80% 20-150%
	d5-EtFOSA	85% 20-150%
	d3-MeFOSAA	128% 20-150%
	d5-EtFOSAA	117% 20-150%
	d7-MeFOSE	70% 20-150%
	d9-EtFOSE	75% 20-150%
	13C2-4:2FTS	154% 20-180%
	13C2-6:2FTS	147% 20-180%
	13C2-8:2FTS	153% 20-180%
	13C3-HFPO-DA	100% 20-150%

Blank Spike Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-LLBS	4Q44176.D	1	05/09/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0268	89	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0131	87	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0067	89	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0067	89	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0063	84	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0067	89	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0067	89	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0077	103	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0064	85	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0068	91	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0065	87	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0058	87	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0061	86	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0065	95	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0063	88	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0064	92	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0064	89	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0062	86	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0061	84	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0238	85	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0259	91	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0298	103	40-150
754-91-6	PFOSA	0.0075	0.0072	96	40-150
31506-32-8	MeFOSA	0.015	0.0141	94	40-150
4151-50-2	EtFOSA	0.015	0.0141	94	40-150
2355-31-9	MeFOSAA	0.0075	0.0070	93	40-150
2991-50-6	EtFOSAA	0.0075	0.0061	81	40-150
24448-09-7	MeFOSE	0.0375	0.0356	95	40-150
1691-99-2	EtFOSE	0.0375	0.0289	77	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0138	92	40-150
919005-14-4	ADONA	0.0142	0.0139	98	40-150
377-73-1	PFMPA	0.015	0.0138	92	40-150
863090-89-5	PFMBA	0.015	0.0134	89	40-150
151772-58-6	NFDHA	0.015	0.0103	69	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0138	98	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0131	92	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-LLBS	4Q44176.D	1	05/09/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0121	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0251	67	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.164	87	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.187	100	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	112%	20-150%
	13C5-PFPeA	116%	20-150%
	13C5-PFHxA	113%	20-150%
	13C4-PFHpA	116%	20-150%
	13C8-PFOA	115%	20-150%
	13C9-PFNA	110%	20-150%
	13C6-PFDA	109%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	103%	20-150%
	13C2-PFTeDA	94%	20-150%
	13C3-PFBS	105%	20-150%
	13C3-PFHxS	104%	20-150%
	13C8-PFOS	108%	20-150%
	13C8-FOSA	73%	20-150%
	d3-MeFOSA	68%	20-150%
	d5-EtFOSA	72%	20-150%
	d3-MeFOSAA	114%	20-150%
	d5-EtFOSAA	112%	20-150%
	d7-MeFOSE	52%	20-150%
	d9-EtFOSE	59%	20-150%
	13C2-4:2FTS	144%	20-180%
	13C2-6:2FTS	145%	20-180%
	13C2-8:2FTS	132%	20-180%
	13C3-HFPO-DA	102%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-BS	4Q44175.D	1	05/09/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0895	90	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0456	91	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0223	89	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0232	93	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0218	87	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0230	92	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0229	92	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0231	92	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0226	90	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0219	88	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0236	94	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0197	89	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0206	88	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0222	97	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0219	92	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0223	96	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0219	91	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0215	89	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0197	81	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0879	94	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0866	91	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0939	98	40-150
754-91-6	PFOSA	0.025	0.0225	90	40-150
31506-32-8	MeFOSA	0.05	0.0496	99	40-150
4151-50-2	EtFOSA	0.05	0.0461	92	40-150
2355-31-9	MeFOSAA	0.025	0.0203	81	40-150
2991-50-6	EtFOSAA	0.025	0.0208	83	40-150
24448-09-7	MeFOSE	0.125	0.109	87	40-150
1691-99-2	EtFOSE	0.125	0.114	91	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0477	95	40-150
919005-14-4	ADONA	0.0473	0.0485	103	40-150
377-73-1	PFMPA	0.05	0.0469	94	40-150
863090-89-5	PFMBA	0.05	0.0452	90	40-150
151772-58-6	NFDHA	0.05	0.0381	76	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0495	106	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0460	97	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-BS	4Q44175.D	1	05/09/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0393	88	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0890	71	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.566	91	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.662	106	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	111%	20-150%
	13C5-PFPeA	113%	20-150%
	13C5-PFHxA	111%	20-150%
	13C4-PFHpA	109%	20-150%
	13C8-PFOA	106%	20-150%
	13C9-PFNA	103%	20-150%
	13C6-PFDA	108%	20-150%
	13C7-PFUnDA	112%	20-150%
	13C2-PFDoDA	106%	20-150%
	13C2-PFTeDA	89%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	100%	20-150%
	13C8-PFOS	106%	20-150%
	13C8-FOSA	74%	20-150%
	d3-MeFOSA	63%	20-150%
	d5-EtFOSA	74%	20-150%
	d3-MeFOSAA	119%	20-150%
	d5-EtFOSAA	117%	20-150%
	d7-MeFOSE	53%	20-150%
	d9-EtFOSE	56%	20-150%
	13C2-4:2FTS	129%	20-180%
	13C2-6:2FTS	143%	20-180%
	13C2-8:2FTS	143%	20-180%
	13C3-HFPO-DA	97%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-MS	4Q44180.D	1	05/10/23	MV	05/08/23	OP96784	S4Q639
FC5890-1	4Q44179.D	1	05/10/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

CAS No.	Compound	FC5890-1 ug/l	Spike Q	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	0.0926	0.0859	93	40-150
2706-90-3	Perfluoropentanoic acid	0.0102	0.0463	0.0544	95	40-150
307-24-4	Perfluorohexanoic acid	0.0036 U	0.0231	0.0215	93	40-150
375-85-9	Perfluoroheptanoic acid	0.0036 U	0.0231	0.0215	93	40-150
335-67-1	Perfluorooctanoic acid	0.0036 U	0.0231	0.0214	92	40-150
375-95-1	Perfluorononanoic acid	0.0036 U	0.0231	0.0195	84	40-150
335-76-2	Perfluorodecanoic acid	0.0036 U	0.0231	0.0201	87	40-150
2058-94-8	Perfluoroundecanoic acid	0.0036 U	0.0231	0.0214	92	40-150
307-55-1	Perfluorododecanoic acid	0.00062 J	0.0231	0.0199	83	40-150
72629-94-8	Perfluorotridecanoic acid	0.0036 U	0.0231	0.0173	75	40-150
376-06-7	Perfluorotetradecanoic acid	0.0036 U	0.0231	0.0212	92	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0036 U	0.0205	0.0177	86	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0045 U	0.0218	0.0209	96	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0036 U	0.0212	0.0210	99	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0036 U	0.0221	0.0211	96	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0036 U	0.0215	0.0213	99	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0036 U	0.0223	0.0191	86	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0036 U	0.0223	0.0177	79	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0045 U	0.0225	0.0141	63	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.018 U	0.0868	0.0817	94	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U	0.088	0.0892	101	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U	0.0889	0.0997	112	40-150
754-91-6	PFOSA	0.0036 U	0.0231	0.0223	96	40-150
31506-32-8	MeFOSA	0.0073 U	0.0463	0.0439	95	40-150
4151-50-2	EtFOSA	0.0073 U	0.0463	0.0429	93	40-150
2355-31-9	MeFOSAA	0.0045 U	0.0231	0.0188	81	40-150
2991-50-6	EtFOSAA	0.0045 U	0.0231	0.0199	86	40-150
24448-09-7	MeFOSE	0.036 U	0.116	0.108	93	40-150
1691-99-2	EtFOSE	0.036 U	0.116	0.0976	84	40-150
13252-13-6	HFPO-DA (GenX)	0.0036 U	0.0463	0.0437	94	40-150
919005-14-4	ADONA	0.0073 U	0.0438	0.0520	119	40-150
377-73-1	PFMPA	0.0073 U	0.0463	0.0320	69	40-150
863090-89-5	PFMBA	0.0073 U	0.0463	0.0507	110	40-150
151772-58-6	NFDHA	0.0073 U	0.0463	0.0192	41	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0073 U	0.0433	0.0432	100	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0073 U	0.0438	0.0398	91	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-MS	4Q44180.D	1	05/10/23	MV	05/08/23	OP96784	S4Q639
FC5890-1	4Q44179.D	1	05/10/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

CAS No.	Compound	FC5890-1 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0073 U	0.0412	0.0357	87	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	0.116	0.0606	52	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.091 U	0.579	0.685	118	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.091 U	0.579	0.782	135	40-150

CAS No.	ID Standard Recoveries	MS	FC5890-1	Limits
	13C4-PFBA	76%	66%	20-150%
	13C5-PFPeA	88%	87%	20-150%
	13C5-PFHxA	113%	114%	20-150%
	13C4-PFHpA	120%	120%	20-150%
	13C8-PFOA	114%	114%	20-150%
	13C9-PFNA	114%	106%	20-150%
	13C6-PFDA	113%	107%	20-150%
	13C7-PFUnDA	105%	108%	20-150%
	13C2-PFDoDA	101%	93%	20-150%
	13C2-PFTeDA	65%	63%	20-150%
	13C3-PFBS	121%	108%	20-150%
	13C3-PFHxS	106%	106%	20-150%
	13C8-PFOS	100%	104%	20-150%
	13C8-FOSA	104%	83%	20-150%
	d3-MeFOSA	85%	72%	20-150%
	d5-EtFOSA	86%	71%	20-150%
	d3-MeFOSAA	130%	125%	20-150%
	d5-EtFOSAA	127%	125%	20-150%
	d7-MeFOSE	76%	59%	20-150%
	d9-EtFOSE	77%	61%	20-150%
	13C2-4:2FTS	181%* a	153%	20-180%
	13C2-6:2FTS	161%	141%	20-180%
	13C2-8:2FTS	127%	118%	20-180%
	13C3-HFPO-DA	89%	85%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-DUP	4Q44182.D	1	05/10/23	MV	05/08/23	OP96784	S4Q639
FC5890-2	4Q44181.D	1	05/10/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

CAS No.	Compound	FC5890-2 ug/l	DUP Q ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0073 U	ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0036 U	ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0036 U	ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0036 U	ND		nc	30
375-95-1	Perfluorononanoic acid	0.0036 U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0036 U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0036 U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0036 U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0036 U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0036 U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0036 U	ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0045 U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0036 U	ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0036 U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0036 U	ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0036 U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0036 U	ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0045 U	ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.018 U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0033 J	ND		200*	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U	ND		nc	30
754-91-6	PFOSA	0.0036 U	ND		nc	30
31506-32-8	MeFOSA	0.0073 U	ND		nc	30
4151-50-2	EtFOSA	0.0073 U	ND		nc	30
2355-31-9	MeFOSAA	0.0045 U	ND		nc	30
2991-50-6	EtFOSAA	0.0045 U	ND		nc	30
24448-09-7	MeFOSE	0.036 U	ND		nc	30
1691-99-2	EtFOSE	0.036 U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0036 U	ND		nc	30
919005-14-4	ADONA	0.0073 U	ND		nc	30
377-73-1	PFMPA	0.0073 U	ND		nc	30
863090-89-5	PFMBA	0.0073 U	ND		nc	30
151772-58-6	NFDHA	0.0073 U	ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0073 U	ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0073 U	ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC5861
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96784-DUP	4Q44182.D	1	05/10/23	MV	05/08/23	OP96784	S4Q639
FC5890-2	4Q44181.D	1	05/10/23	MV	05/08/23	OP96784	S4Q639

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5861-1

CAS No.	Compound	FC5890-2 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0073 U	ND			nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	ND			nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.091 U	ND			nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.091 U	ND			nc	30

CAS No.	ID Standard Recoveries	DUP	FC5890-2	Limits
	13C4-PFBA	62%	63%	20-150%
	13C5-PFPeA	84%	81%	20-150%
	13C5-PFHxA	111%	107%	20-150%
	13C4-PFHpA	119%	107%	20-150%
	13C8-PFOA	107%	101%	20-150%
	13C9-PFNA	110%	102%	20-150%
	13C6-PFDA	107%	100%	20-150%
	13C7-PFUnDA	109%	102%	20-150%
	13C2-PFDoDA	98%	92%	20-150%
	13C2-PFTeDA	68%	62%	20-150%
	13C3-PFBS	103%	101%	20-150%
	13C3-PFHxS	95%	93%	20-150%
	13C8-PFOS	103%	101%	20-150%
	13C8-FOSA	94%	84%	20-150%
	d3-MeFOSA	78%	69%	20-150%
	d5-EtFOSA	73%	72%	20-150%
	d3-MeFOSAA	119%	118%	20-150%
	d5-EtFOSAA	118%	126%	20-150%
	d7-MeFOSE	62%	59%	20-150%
	d9-EtFOSE	63%	65%	20-150%
	13C2-4:2FTS	147%	168%	20-180%
	13C2-6:2FTS	146%	128%	20-180%
	13C2-8:2FTS	120%	114%	20-180%
	13C3-HFPO-DA	83%	79%	20-150%

* = Outside of Control Limits.