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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC6217

Sampling Date: 05/18/23



Report to:

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ATTN: Katie Abbott

Total number of pages in report: 40



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: FC6217

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC6217-1	05/18/23	10:55	TNCH 05/19/23	AQ	Ground Water	AF-RHMW02-WGN01LF-2305W3
FC6217-2	05/18/23	12:40	TNCH 05/19/23	AQ	Ground Water	AF-RHMW03-WGN01LF-2305W3

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC6217

Site: N6274223F0104 RH Fire Suppression System

Report Date: 5/30/2023 12:14:11 PM

On 05/19/2023, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 2.3 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6217 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: OP97007

Sample(s) FC6238-3MS, FC6238-5DUP were used as the QC samples indicated.

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

Matrix Spike Recovery(s) for 3:3 Fluorotelomer carboxylate, PFMBA, PFMPA are outside control limits. Probable cause is due to matrix interference.

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: FC6217
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/18/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC6217-1 AF-RHMW02-WGN01LF-2305W3

Perfluorohexanoic acid	1.0 J	3.5	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.69 J	3.5	1.8	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate	6.1 J	18	7.0	ng/l	EPA DRAFT 1633

FC6217-2 AF-RHMW03-WGN01LF-2305W3

Perfluoropentanoic acid	3.6 J	7.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	2.1 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	1.9 J	3.6	1.8	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate	7.6 J	18	7.1	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2305W3		
Lab Sample ID:	FC6217-1	Date Sampled:	05/18/23
Matrix:	AQ - Ground Water	Date Received:	05/19/23
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	6Q18351.D	1	05/24/23 21:57	MV	05/22/23 11:00	OP97007	S6Q276
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	3.5 U	14	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.0	1.8	0.82	ng/l	
307-24-4	Perfluorohexanoic acid	1.0	3.5	1.8	0.44	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.69	3.5	1.8	0.44	ng/l	J
335-67-1	Perfluorooctanoic acid	0.88 U	3.5	0.88	0.44	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.5	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.5	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

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

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.0 U	18	7.0	2.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	6.1	18	7.0	3.0	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

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

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

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2305W3		Date Sampled:	05/18/23
Lab Sample ID:	FC6217-1	Date Received:	05/19/23	
Matrix:	AQ - Ground Water	Percent Solids:	n/a	
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
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	3.5 U	4.4	3.5	0.88	ng/l	
2991-50-6	EtFOSAA	3.5 U	4.4	3.5	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

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

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

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

PER and POLYFLUOROETHER SULFONIC ACIDS

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

FLUOROTELOMER CARBOXYLIC ACIDS

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

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	66%		20-150%
	13C5-PFPeA	98%		20-150%
	13C5-PFHxA	113%		20-150%
	13C4-PFHpA	114%		20-150%
	13C8-PFOA	104%		20-150%
	13C9-PFNA	108%		20-150%
	13C6-PFDA	107%		20-150%
	13C7-PFUnDA	104%		20-150%
	13C2-PFDoDA	94%		20-150%
	13C2-PFTeDA	80%		20-150%
	13C3-PFBS	108%		20-150%
	13C3-PFHxS	110%		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-RHMW02-WGN01LF-2305W3	
Lab Sample ID:	FC6217-1	Date Sampled: 05/18/23
Matrix:	AQ - Ground Water	Date Received: 05/19/23
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	107%		20-150%
	13C8-FOSA	94%		20-150%
	d3-MeFOSA	82%		20-150%
	d5-EtFOSA	90%		20-150%
	d3-MeFOSAA	119%		20-150%
	d5-EtFOSAA	116%		20-150%
	d7-MeFOSE	77%		20-150%
	d9-EtFOSE	95%		20-150%
	13C2-4:2FTS	107%		20-180%
	13C2-6:2FTS	97%		20-180%
	13C2-8:2FTS	95%		20-180%
	13C3-HFPO-DA	94%		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-RHMW03-WGN01LF-2305W3		
Lab Sample ID:	FC6217-2	Date Sampled:	05/18/23
Matrix:	AQ - Ground Water	Date Received:	05/19/23
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	6Q18352.D	1	05/24/23 22:12	MV	05/22/23 11:00	OP97007	S6Q276
Run #2							

Run #	Initial Volume	Final Volume
Run #1	560 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	3.6 U	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	3.6	7.1	1.8	0.84	ng/l	J
307-24-4	Perfluorohexanoic acid	2.1	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.9	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.89 U	3.6	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.6	18	7.1	3.1	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	3.6	1.8	0.60	ng/l	
31506-32-8	MeFOSA	3.6 U	7.1	3.6	0.89	ng/l	
4151-50-2	EtFOSA	3.6 U	7.1	3.6	0.89	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

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Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2305W3		Date Sampled:	05/18/23
Lab Sample ID:	FC6217-2		Date Received:	05/19/23
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
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	3.6 U	4.5	3.6	0.89	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	18 U	36	18	3.9	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.6	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.89	ng/l	
919005-14-4	ADONA	3.6 U	7.1	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.1	1.8	0.89	ng/l	
863090-89-5	PFMBA	3.6 U	7.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.1	3.6	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.1	3.6	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.1	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.1	1.8	0.70	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	8.9 U	18	8.9	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	89	18	7.8	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	89	18	7.0	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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13C4-PFBA	82%	20-150%
13C5-PFPeA	99%	20-150%
13C5-PFHxA	102%	20-150%
13C4-PFHpA	101%	20-150%
13C8-PFOA	109%	20-150%
13C9-PFNA	101%	20-150%
13C6-PFDA	91%	20-150%
13C7-PFUnDA	80%	20-150%
13C2-PFDoDA	71%	20-150%
13C2-PFTeDA	68%	20-150%
13C3-PFBS	108%	20-150%
13C3-PFHxS	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

Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2305W3	
Lab Sample ID:	FC6217-2	Date Sampled: 05/18/23
Matrix:	AQ - Ground Water	Date Received: 05/19/23
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	93%		20-150%
	13C8-FOSA	84%		20-150%
	d3-MeFOSA	79%		20-150%
	d5-EtFOSA	81%		20-150%
	d3-MeFOSAA	108%		20-150%
	d5-EtFOSAA	94%		20-150%
	d7-MeFOSE	79%		20-150%
	d9-EtFOSE	83%		20-150%
	13C2-4:2FTS	106%		20-180%
	13C2-6:2FTS	103%		20-180%
	13C2-8:2FTS	97%		20-180%
	13C3-HFPO-DA	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

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

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TEL: 407-425-6700 FAX: 407-425-0707
www.sgs.com

FC6217

COC #: 2305W3AFSG02

SGS - ORLANDO JOB # :

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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; margin-right: 5px;">PFAS EPA Draft 1633</div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> </div> </div>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - 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 #														
Sample(s) Name(s) (Printed) Sampler 1: Christina Beatty Sampler 2: Tyler Nishi Kawan		Client Purchase Order #														
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	PCB	NECH	PACB	PCBCL	NAOH/ZNAC	DI WATER	NECH	LAB USE ONLY
2	AF-RHMMW03-WGN01LF-2305W3	5/18/23	1240	TN, CH	GW	3		X								
<div style="display: flex; justify-content: space-between;"> <div> <p>Turnaround Time (Business days)</p> <p>10 Day (Business) _____ Approved By: / Date: _____</p> <p>7 Day _____</p> <p>5 Day _____</p> <p>3 Day RUSH _____</p> <p>2 Day RUSH _____</p> <p>1 Day RUSH _____</p> <p>Other _____</p> <p>Rush T/A Data Available VIA Email or Lablink</p> </div> <div> <p>Data Deliverable Information</p> <p><input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY)</p> <p><input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC)</p> <p><input type="checkbox"/> REDT1 (EPA LEVEL 3)</p> <p><input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4)</p> <p><input checked="" type="checkbox"/> EDDS</p> </div> <div> <p>Comments / Remarks</p> <p>EDMS upload database: JBPHE</p> <p>EDMS Coverage: AFFF Assessment Sampling GW</p> <p>United AWB 016-27919426</p> </div> </div>																
Sample Custody must be documented below each time samples change possession, including courier delivery.																
Relinquished by Sampler/Affiliation		Date Time:		Received By/Affiliation		Date Time:		Relinquished By/Affiliation		Date Time:		Received By/Affiliation		1415		
1 Andy Young / AECOM		5/18/23 1505		2 Brittany Tominez / AECOM		5/18/23 1530		3 Brittany Tominez / AECOM		5/18/23 1530		4 [Signature]		5/19/23		
Relinquished by/Affiliation		Date Time:		Received By/Affiliation		Date Time:		Relinquished By/Affiliation		Date Time:		Received By/Affiliation		8		
5				6				7				8				
Lab Use Only : Cooler Temperature (s) Celsius (corrected): _____ http://www.sgs.com/en/terms-and-conditions																

PFAS_COCs_ALL.xls Rev 031318

FC6217: Chain of Custody

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SGS Sample Receipt Summary

Job Number: FC6217

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 5/19/2023 2:15:00 PM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-27919426

Therm ID: IR 1;

Therm CF: -0.1;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.4);

Cooler Temps (Corrected) °C: Cooler 1: (2.3);

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 _____

Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: ZANEB

Date: 5/19/2023 2:15:00 PM

Reviewer: CD

Date: 5/22/2023

FC6217: Chain of Custody

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QC Evaluation: DOD QSM5.x Limits

Job Number: FC6217
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/18/23

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 FC6217

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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: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-IBLK	6Q18337.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

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

Instrument Blank

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-IBLK	6Q18337.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	105% 20-150%
	13C8-PFOA	104% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	103% 20-150%
	13C3-PFBS	104% 20-150%
	13C3-PFHxS	106% 20-150%
	13C8-PFOS	103% 20-150%
	13C8-FOSA	102% 20-150%
	d3-MeFOSA	97% 20-150%
	d5-EtFOSA	97% 20-150%
	d3-MeFOSAA	113% 20-150%
	d5-EtFOSAA	107% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	104% 20-150%
	13C2-4:2FTS	117% 20-180%
	13C2-6:2FTS	113% 20-180%
	13C2-8:2FTS	108% 20-180%
	13C3-HFPO-DA	103% 20-150%

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Instrument Blank

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-IBLK	6Q18381.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

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

Instrument Blank

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-IBLK	6Q18381.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	102% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	100% 20-150%
	13C8-PFOA	94% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	103% 20-150%
	13C2-PFDoDA	102% 20-150%
	13C2-PFTeDA	103% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	107% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSA	93% 20-150%
	d5-EtFOSA	97% 20-150%
	d3-MeFOSAA	108% 20-150%
	d5-EtFOSAA	103% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	98% 20-150%
	13C2-4:2FTS	112% 20-180%
	13C2-6:2FTS	105% 20-180%
	13C2-8:2FTS	104% 20-180%
	13C3-HFPO-DA	101% 20-150%

Continuing Calibration Blank

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18347.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

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

Continuing Calibration Blank

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18347.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	99% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	100% 20-150%
	13C8-PFOA	97% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	106% 20-150%
	13C7-PFUnDA	102% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	104% 20-150%
	13C3-PFBS	98% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	103% 20-150%
	13C8-FOSA	105% 20-150%
	d3-MeFOSA	97% 20-150%
	d5-EtFOSA	103% 20-150%
	d3-MeFOSAA	118% 20-150%
	d5-EtFOSAA	107% 20-150%
	d7-MeFOSE	101% 20-150%
	d9-EtFOSE	105% 20-150%
	13C2-4:2FTS	117% 20-180%
	13C2-6:2FTS	110% 20-180%
	13C2-8:2FTS	104% 20-180%
	13C3-HFPO-DA	99% 20-150%

Method Blank Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-MB	6Q18350.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

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

Method Blank Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-MB	6Q18350.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	112% 20-150%
	13C5-PFPeA	113% 20-150%
	13C5-PFHxA	108% 20-150%
	13C4-PFHpA	120% 20-150%
	13C8-PFOA	118% 20-150%
	13C9-PFNA	104% 20-150%
	13C6-PFDA	119% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	105% 20-150%
	13C2-PFTeDA	103% 20-150%
	13C3-PFBS	111% 20-150%
	13C3-PFHxS	110% 20-150%
	13C8-PFOS	112% 20-150%
	13C8-FOSA	86% 20-150%
	d3-MeFOSA	82% 20-150%
	d5-EtFOSA	90% 20-150%
	d3-MeFOSAA	126% 20-150%
	d5-EtFOSAA	110% 20-150%
	d7-MeFOSE	83% 20-150%
	d9-EtFOSE	94% 20-150%
	13C2-4:2FTS	122% 20-180%
	13C2-6:2FTS	125% 20-180%
	13C2-8:2FTS	115% 20-180%
	13C3-HFPO-DA	106% 20-150%

6.1.4
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Continuing Calibration Blank

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18359.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97007-DUP

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: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18359.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97007-DUP

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	100% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	104% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	100% 20-150%
	13C2-PFTeDA	107% 20-150%
	13C3-PFBS	95% 20-150%
	13C3-PFHxS	97% 20-150%
	13C8-PFOS	102% 20-150%
	13C8-FOSA	101% 20-150%
	d3-MeFOSA	97% 20-150%
	d5-EtFOSA	101% 20-150%
	d3-MeFOSAA	119% 20-150%
	d5-EtFOSAA	108% 20-150%
	d7-MeFOSE	101% 20-150%
	d9-EtFOSE	104% 20-150%
	13C2-4:2FTS	109% 20-180%
	13C2-6:2FTS	107% 20-180%
	13C2-8:2FTS	101% 20-180%
	13C3-HFPO-DA	99% 20-150%

6.1.5

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Continuing Calibration Blank

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18371.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q276-IBLK

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: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18371.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q276-IBLK

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	99% 20-150%
	13C5-PFPeA	105% 20-150%
	13C5-PFHxA	112% 20-150%
	13C4-PFHpA	110% 20-150%
	13C8-PFOA	101% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	104% 20-150%
	13C7-PFUnDA	105% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	103% 20-150%
	13C3-PFBS	95% 20-150%
	13C3-PFHxS	95% 20-150%
	13C8-PFOS	104% 20-150%
	13C8-FOSA	103% 20-150%
	d3-MeFOSA	96% 20-150%
	d5-EtFOSA	104% 20-150%
	d3-MeFOSAA	115% 20-150%
	d5-EtFOSAA	105% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	103% 20-150%
	13C2-4:2FTS	116% 20-180%
	13C2-6:2FTS	105% 20-180%
	13C2-8:2FTS	104% 20-180%
	13C3-HFPO-DA	101% 20-150%

Continuing Calibration Blank

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18408.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97007-MS

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: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18408.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97007-MS

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	100% 20-150%
	13C5-PFPeA	102% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	106% 20-150%
	13C8-PFOA	96% 20-150%
	13C9-PFNA	100% 20-150%
	13C6-PFDA	102% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	95% 20-150%
	13C2-PFTeDA	100% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	104% 20-150%
	13C8-FOSA	104% 20-150%
	d3-MeFOSAA	115% 20-150%
	d5-EtFOSAA	109% 20-150%
	13C2-4:2FTS	115% 20-180%
	13C2-6:2FTS	110% 20-180%
	13C2-8:2FTS	111% 20-180%

6.1.7

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Blank Spike Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-LLBS	6Q18349.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0272	91	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0137	91	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0070	93	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0068	91	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0068	91	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0068	91	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0067	89	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0067	89	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0068	91	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0071	95	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0069	92	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0061	92	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0069	98	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0060	88	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0064	90	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0061	88	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0064	89	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0059	82	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0065	89	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0241	86	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0251	88	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0283	98	40-150
754-91-6	PFOSA	0.0075	0.0075	100	40-150
31506-32-8	MeFOSA	0.015	0.0149	99	40-150
4151-50-2	EtFOSA	0.015	0.0141	94	40-150
2355-31-9	MeFOSAA	0.0075	0.0065	87	40-150
2991-50-6	EtFOSAA	0.0075	0.0065	87	40-150
24448-09-7	MeFOSE	0.0375	0.0338	90	40-150
1691-99-2	EtFOSE	0.0375	0.0350	93	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0140	93	40-150
919005-14-4	ADONA	0.0142	0.0135	95	40-150
377-73-1	PFMPA	0.015	0.0137	91	40-150
863090-89-5	PFMBA	0.015	0.0137	91	40-150
151772-58-6	NFDHA	0.015	0.0135	90	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0131	93	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0130	92	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-LLBS	6Q18349.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0122	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0231	62	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.149	79	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.154	82	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	106%	20-150%
	13C5-PFPeA	107%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	107%	20-150%
	13C8-PFOA	111%	20-150%
	13C9-PFNA	109%	20-150%
	13C6-PFDA	110%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	99%	20-150%
	13C2-PFTeDA	98%	20-150%
	13C3-PFBS	105%	20-150%
	13C3-PFHxS	108%	20-150%
	13C8-PFOS	112%	20-150%
	13C8-FOSA	68%	20-150%
	d3-MeFOSA	67%	20-150%
	d5-EtFOSA	73%	20-150%
	d3-MeFOSAA	121%	20-150%
	d5-EtFOSAA	120%	20-150%
	d7-MeFOSE	59%	20-150%
	d9-EtFOSE	70%	20-150%
	13C2-4:2FTS	121%	20-180%
	13C2-6:2FTS	124%	20-180%
	13C2-8:2FTS	116%	20-180%
	13C3-HFPO-DA	104%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-BS	6Q18348.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0855	86	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0433	87	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0221	88	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0210	84	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0218	87	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0204	82	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0221	88	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0219	88	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0211	84	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0224	90	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0202	81	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0185	83	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0198	84	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0181	79	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0197	83	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0198	85	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0184	77	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0195	81	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0191	79	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0752	80	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0845	89	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0885	92	40-150
754-91-6	PFOSA	0.025	0.0244	98	40-150
31506-32-8	MeFOSA	0.05	0.0448	90	40-150
4151-50-2	EtFOSA	0.05	0.0404	81	40-150
2355-31-9	MeFOSAA	0.025	0.0200	80	40-150
2991-50-6	EtFOSAA	0.025	0.0222	89	40-150
24448-09-7	MeFOSE	0.125	0.109	87	40-150
1691-99-2	EtFOSE	0.125	0.104	83	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0425	85	40-150
919005-14-4	ADONA	0.0473	0.0410	87	40-150
377-73-1	PFMPA	0.05	0.0193	39* a	40-150
863090-89-5	PFMBA	0.05	0.0463	93	40-150
151772-58-6	NFDHA	0.05	0.0447	89	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0394	84	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0394	83	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-BS	6Q18348.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0369	83	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0389	31* a	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.509	81	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.525	84	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	26%	20-150%
	13C5-PFPeA	105%	20-150%
	13C5-PFHxA	114%	20-150%
	13C4-PFHpA	118%	20-150%
	13C8-PFOA	119%	20-150%
	13C9-PFNA	121%	20-150%
	13C6-PFDA	112%	20-150%
	13C7-PFUnDA	113%	20-150%
	13C2-PFDoDA	107%	20-150%
	13C2-PFTeDA	107%	20-150%
	13C3-PFBS	122%	20-150%
	13C3-PFHxS	123%	20-150%
	13C8-PFOS	126%	20-150%
	13C8-FOSA	95%	20-150%
	d3-MeFOSA	93%	20-150%
	d5-EtFOSA	103%	20-150%
	d3-MeFOSAA	136%	20-150%
	d5-EtFOSAA	123%	20-150%
	d7-MeFOSE	82%	20-150%
	d9-EtFOSE	98%	20-150%
	13C2-4:2FTS	142%	20-180%
	13C2-6:2FTS	134%	20-180%
	13C2-8:2FTS	129%	20-180%
	13C3-HFPO-DA	113%	20-150%

(a) Associated BS recovery outside control limits; LLBS recovery was within control limits and sample was ND.

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-MS	6Q18415.D	2	05/25/23	MV	05/22/23	OP97007	S6Q276
FC6238-3	6Q18355.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

CAS No.	Compound	FC6238-3 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	0.1	0.0886	89	40-150
2706-90-3	Perfluoropentanoic acid	0.0073 U	0.05	0.0485	97	40-150
307-24-4	Perfluorohexanoic acid	0.0036 U	0.025	0.0222	89	40-150
375-85-9	Perfluoroheptanoic acid	0.0036 U	0.025	0.0214	86	40-150
335-67-1	Perfluorooctanoic acid	0.0036 U	0.025	0.0250	100	40-150
375-95-1	Perfluorononanoic acid	0.0036 U	0.025	0.0227	91	40-150
335-76-2	Perfluorodecanoic acid	0.0036 U	0.025	0.0217	87	40-150
2058-94-8	Perfluoroundecanoic acid	0.0036 U	0.025	0.0210	84	40-150
307-55-1	Perfluorododecanoic acid	0.0036 U	0.025	0.0226	90	40-150
72629-94-8	Perfluorotridecanoic acid	0.0036 U	0.025	0.0226	90	40-150
376-06-7	Perfluorotetradecanoic acid	0.0036 U	0.025	0.0224	90	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0036 U	0.0222	0.0188	85	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0045 U	0.0235	0.0226	96	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0036 U	0.0229	0.0214	94	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0036 U	0.0238	0.0180	76	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0036 U	0.0232	0.0280	121	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0036 U	0.0241	0.0288	120	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0036 U	0.0241	0.0250	104	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0045 U	0.0243	0.0179	74	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.018 U	0.0938	0.0794	85	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U	0.095	0.0910	96	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U	0.096	0.0834	87	40-150
754-91-6	PFOSA	0.0036 U	0.025	0.0227	91	40-150
31506-32-8	MeFOSA	0.0073 U	0.05	0.0462	92	40-150
4151-50-2	EtFOSA	0.0073 U	0.05	0.0434	87	40-150
2355-31-9	MeFOSAA	0.0045 U	0.025	0.0218	87	40-150
2991-50-6	EtFOSAA	0.0045 U	0.025	0.0218	87	40-150
24448-09-7	MeFOSE	0.036 U	0.125	0.117	94	40-150
1691-99-2	EtFOSE	0.036 U	0.125	0.123	98	40-150
13252-13-6	HFPO-DA (GenX)	0.0036 U	0.05	0.0490	98	40-150
919005-14-4	ADONA	0.0073 U	0.0473	0.0582	123	40-150
377-73-1	PFMPA	0.0073 U	0.05	ND	0*	40-150
863090-89-5	PFMBA	0.0073 U	0.05	0.0759	152*	40-150
151772-58-6	NFDHA	0.0073 U	0.05	0.0396	79	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0073 U	0.0468	0.0532	114	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0073 U	0.0473	0.0492	104	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-MS	6Q18415.D	2	05/25/23	MV	05/22/23	OP97007	S6Q276
FC6238-3	6Q18355.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

CAS No.	Compound	FC6238-3 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0073 U	0.0445	0.0437	98	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	0.125	ND	0*	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.091 U	0.625	0.591	95	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.091 U	0.625	0.652	104	40-150

CAS No.	ID Standard Recoveries	MS	FC6238-3	Limits
	13C4-PFBA	3%*	4%* a	20-150%
	13C5-PFPeA	21%	25%	20-150%
	13C5-PFHxA	88%	101%	20-150%
	13C4-PFHpA	107%	116%	20-150%
	13C8-PFOA	99%	107%	20-150%
	13C9-PFNA	101%	113%	20-150%
	13C6-PFDA	103%	112%	20-150%
	13C7-PFUnDA	100%	107%	20-150%
	13C2-PFDoDA	88%	96%	20-150%
	13C2-PFTeDA	75%	78%	20-150%
	13C3-PFBS	85%	101%	20-150%
	13C3-PFHxS	97%	108%	20-150%
	13C8-PFOS	85%	92%	20-150%
	13C8-FOSA	92%	76%	20-150%
	d3-MeFOSA	91%	80%	20-150%
	d5-EtFOSA	99%	85%	20-150%
	d3-MeFOSAA	170%*	132%	20-150%
	d5-EtFOSAA	177%*	138%	20-150%
	d7-MeFOSE	71%	66%	20-150%
	d9-EtFOSE	80%	76%	20-150%
	13C2-4:2FTS	90%	127%	20-180%
	13C2-6:2FTS	108%	125%	20-180%
	13C2-8:2FTS	112%	116%	20-180%
	13C3-HFPO-DA	80%	93%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-DUP	6Q18361.D	1	05/25/23	MV	05/22/23	OP97007	S6Q276
FC6238-5	6Q18360.D	1	05/25/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

CAS No.	Compound	FC6238-5 ug/l	DUP Q	ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.014 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0029 J	0.0024	J	19	30	
307-24-4	Perfluorohexanoic acid	0.0014 J	0.0013	J	7	30	
375-85-9	Perfluoroheptanoic acid	0.0035 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0035 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0035 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0035 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0035 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0035 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0035 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0035 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0035 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0044 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0035 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0035 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0035 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0035 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0035 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0044 U		ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.018 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0080 J	0.0074	J	8	30	
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U		ND		nc	30
754-91-6	PFOSA	0.0035 U		ND		nc	30
31506-32-8	MeFOSA	0.0070 U		ND		nc	30
4151-50-2	EtFOSA	0.0070 U		ND		nc	30
2355-31-9	MeFOSAA	0.0044 U		ND		nc	30
2991-50-6	EtFOSAA	0.0044 U		ND		nc	30
24448-09-7	MeFOSE	0.035 U		ND		nc	30
1691-99-2	EtFOSE	0.035 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0035 U		ND		nc	30
919005-14-4	ADONA	0.0070 U		ND		nc	30
377-73-1	PFMPA	0.0070 U		ND		nc	30
863090-89-5	PFMBA	0.0070 U		ND		nc	30
151772-58-6	NFDHA	0.0070 U		ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0070 U		ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0070 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6217
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-DUP	6Q18361.D	1	05/25/23	MV	05/22/23	OP97007	S6Q276
FC6238-5	6Q18360.D	1	05/25/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6217-1, FC6217-2

CAS No.	Compound	FC6238-5 ug/l	DUP Q ug/l	Q	RPD	Limits
113507-82-7PFEESA		0.0070 U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	ND		nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.088 U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.088 U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC6238-5	Limits
	13C4-PFBA	97%	93%	20-150%
	13C5-PFPeA	110%	110%	20-150%
	13C5-PFHxA	113%	111%	20-150%
	13C4-PFHpA	111%	117%	20-150%
	13C8-PFOA	104%	107%	20-150%
	13C9-PFNA	113%	101%	20-150%
	13C6-PFDA	105%	114%	20-150%
	13C7-PFUnDA	98%	108%	20-150%
	13C2-PFDoDA	85%	90%	20-150%
	13C2-PFTeDA	72%	80%	20-150%
	13C3-PFBS	113%	111%	20-150%
	13C3-PFHxS	112%	113%	20-150%
	13C8-PFOS	96%	104%	20-150%
	13C8-FOSA	89%	97%	20-150%
	d3-MeFOSA	79%	87%	20-150%
	d5-EtFOSA	82%	87%	20-150%
	d3-MeFOSAA	138%	142%	20-150%
	d5-EtFOSAA	140%	148%	20-150%
	d7-MeFOSE	77%	87%	20-150%
	d9-EtFOSE	90%	99%	20-150%
	13C2-4:2FTS	173%	170%	20-180%
	13C2-6:2FTS	155%	152%	20-180%
	13C2-8:2FTS	126%	130%	20-180%
	13C3-HFPO-DA	100%	103%	20-150%

* = Outside of Control Limits.