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

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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC3534

Sampling Date: 03/16/23

Report to:

AECOM, Inc
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Denver, CO 80237
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Total number of pages in report: 36

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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Sample Summary

AECOM, INC.

Job No: FC3534

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FC3534-1	03/16/23	10:40	AY	03/17/23	AQ	Ground Water	AF-RHMW02-WGN01LF-2303W2
FC3534-2	03/16/23	11:40	EM	03/17/23	AQ	Ground Water	AF-RHMW225401-WGN01B-2303W2
FC3534-3	03/16/23	12:05	AY	03/17/23	AQ	Ground Water	AF-RHMW03-WGN01LF-2303W2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC3534

Site: N6274223F0104 RH Fire Suppression System **Report Date:** 3/22/2023 2:05:41 PM

On 03/17/2023, 3 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 0.7 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC3534 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:** OP95968

Sample(s) FC3558-2MS, FC3558-3DUP were used as the QC samples indicated.

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

Narrative prepared by:

_____

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

Summary of Hits

Job Number: FC3534
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 03/16/23

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC3534-1	**AF-RHMW02-WGN01LF-2303W2**					
Perfluoropentanoic acid		7.0 J	9.4	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		0.52 J	4.7	0.94	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.60 J	4.7	0.94	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		18.2 J	19	7.5	ng/l	EPA DRAFT 1633
FC3534-2	**AF-RHMW225401-WGN01B-2303W2**					
Perfluoropentanoic acid		1.4 J	9.3	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		0.92 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.79 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid		1.6 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid		0.69 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluorohexanesulfonic acid		1.3 J	4.6	1.9	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid		1.1 J	4.6	1.9	ng/l	EPA DRAFT 1633
FC3534-3	**AF-RHMW03-WGN01LF-2303W2**					
Perfluoropentanoic acid		2.4 J	9.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		1.4 J	4.5	0.91	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.95 J	4.5	0.91	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		6.5 J	18	7.3	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AF-RHMW02-WGN01LF-2303W2
Lab Sample ID: FC3534-1
Matrix: AQ - Ground Water
Method: EPA DRAFT 1633 EPA 1633 DRAFT
Project: N6274223F0104 RH Fire Suppression System

Date Sampled: 03/16/23
Date Received: 03/17/23
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q15109.D	1	03/21/23 16:37	MV	03/20/23 09:00	OP95968	S6Q229
Run #2							

	Initial Volume	Final Volume
Run #1	530 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	19	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	7.0	9.4	1.9	0.89	ng/l	J
307-24-4	Perfluorohexanoic acid	0.52	4.7	0.94	0.47	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.60	4.7	0.94	0.47	ng/l	J
335-67-1	Perfluorooctanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	4.7	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.7	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.7	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.7	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.94 U	4.7	0.94	0.47	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.7	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	4.7	1.9	0.66	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.94 U	4.7	0.94	0.47	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	4.7	1.9	0.51	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.7	1.9	0.54	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.7	1.9	0.60	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.7	3.8	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	18.2	19	7.5	3.3	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.9	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	4.7	1.9	0.63	ng/l	
31506-32-8	MeFOSA	1.9 U	4.7	1.9	0.94	ng/l	
4151-50-2	EtFOSA	1.9 U	4.7	1.9	0.94	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-2303W2		
Lab Sample ID:	FC3534-1	**Date Sampled:**	03/16/23
Matrix:	AQ - Ground Water	**Date Received:**	03/17/23
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
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.8 U	4.7	3.8	0.94	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.7	3.8	1.3	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.4 U	47	9.4	4.1	ng/l	
1691-99-2	EtFOSE	19 U	47	19	7.0	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.8 U	19	3.8	0.94	ng/l	
919005-14-4	ADONA	3.8 U	19	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	9.4	1.9	0.94	ng/l	
863090-89-5	PFMBA	3.8 U	9.4	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	9.4	3.8	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	19	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	19	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	9.4	1.9	0.74	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.4 U	24	9.4	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.2	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.4	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	82%		20-150%
	13C5-PFPeA	88%		20-150%
	13C5-PFHxA	94%		20-150%
	13C4-PFHpA	95%		20-150%
	13C8-PFOA	103%		20-150%
	13C9-PFNA	111%		20-150%
	13C6-PFDA	86%		20-150%
	13C7-PFUnDA	82%		20-150%
	13C2-PFDoDA	70%		20-150%
	13C2-PFTeDA	67%		20-150%
	13C3-PFBS	92%		20-150%
	13C3-PFHxS	96%		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-2303W2		
Lab Sample ID:	FC3534-1	**Date Sampled:**	03/16/23
Matrix:	AQ - Ground Water	**Date Received:**	03/17/23
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	97%		20-150%
	13C8-FOSA	95%		20-150%
	d3-MeFOSA	67%		20-150%
	d5-EtFOSA	72%		20-150%
	d3-MeFOSAA	91%		20-150%
	d5-EtFOSAA	90%		20-150%
	d7-MeFOSE	79%		20-150%
	d9-EtFOSE	78%		20-150%
	13C2-4:2FTS	99%		20-150%
	13C2-6:2FTS	94%		20-150%
	13C2-8:2FTS	94%		20-150%
	13C3-HFPO-DA	91%		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-2303W2		
Lab Sample ID:	FC3534-2	**Date Sampled:**	03/16/23
Matrix:	AQ - Ground Water	**Date Received:**	03/17/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q15110.D	1	03/21/23 16:51	MV	03/20/23 09:00	OP95968	S6Q229
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.7 U	19	3.7	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.4	9.3	1.9	0.87	ng/l	J
307-24-4	Perfluorohexanoic acid	0.92	4.6	0.93	0.46	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.79	4.6	0.93	0.46	ng/l	J
335-67-1	Perfluorooctanoic acid	1.6	4.6	0.93	0.46	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
335-76-2	Perfluorodecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.6	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.69	4.6	0.93	0.46	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.3	4.6	1.9	0.65	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	0.93 U	4.6	0.93	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.1	4.6	1.9	0.50	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.6	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.6	1.9	0.59	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	4.6	1.9	0.62	ng/l	
31506-32-8	MeFOSA	1.9 U	4.6	1.9	0.93	ng/l	
4151-50-2	EtFOSA	1.9 U	4.6	1.9	0.93	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2303W2		
Lab Sample ID:	FC3534-2	**Date Sampled:**	03/16/23
Matrix:	AQ - Ground Water	**Date Received:**	03/17/23
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
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.7 U	4.6	3.7	0.93	ng/l	
2991-50-6	EtFOSAA	3.7 U	4.6	3.7	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.3 U	46	9.3	4.1	ng/l	
1691-99-2	EtFOSE	19 U	46	19	6.9	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.7 U	19	3.7	0.93	ng/l	
919005-14-4	ADONA	3.7 U	19	3.7	1.7	ng/l	
377-73-1	PFMPA	1.9 U	9.3	1.9	0.93	ng/l	
863090-89-5	PFMBA	3.7 U	9.3	3.7	1.1	ng/l	
151772-58-6	NFDHA	3.7 U	9.3	3.7	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	19	3.7	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	19	3.7	1.6	ng/l	
113507-82-7	PFEESA	1.9 U	9.3	1.9	0.72	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.3 U	23	9.3	4.2	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.1	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.3	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	100%		20-150%
	13C5-PFPeA	98%		20-150%
	13C5-PFHxA	98%		20-150%
	13C4-PFHpA	96%		20-150%
	13C8-PFOA	101%		20-150%
	13C9-PFNA	102%		20-150%
	13C6-PFDA	99%		20-150%
	13C7-PFUnDA	92%		20-150%
	13C2-PFDoDA	75%		20-150%
	13C2-PFTeDA	69%		20-150%
	13C3-PFBS	97%		20-150%
	13C3-PFHxS	99%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2303W2		
Lab Sample ID:	FC3534-2	**Date Sampled:**	03/16/23
Matrix:	AQ - Ground Water	**Date Received:**	03/17/23
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	91%		20-150%
	13C8-FOSA	100%		20-150%
	d3-MeFOSA	77%		20-150%
	d5-EtFOSA	74%		20-150%
	d3-MeFOSAA	92%		20-150%
	d5-EtFOSAA	93%		20-150%
	d7-MeFOSE	89%		20-150%
	d9-EtFOSE	81%		20-150%
	13C2-4:2FTS	112%		20-150%
	13C2-6:2FTS	119%		20-150%
	13C2-8:2FTS	107%		20-150%
	13C3-HFPO-DA	93%		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-2303W2		
Lab Sample ID:	FC3534-3	**Date Sampled:**	03/16/23
Matrix:	AQ - Ground Water	**Date Received:**	03/17/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q15111.D	1	03/21/23 17:05	MV	03/20/23 09:00	OP95968	S6Q229
Run #2							

	Initial Volume	Final Volume
Run #1	550 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	18	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	2.4	9.1	1.8	0.85	ng/l	J
307-24-4	Perfluorohexanoic acid	1.4	4.5	0.91	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.95	4.5	0.91	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.5	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.91 U	4.5	0.91	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	4.5	1.8	0.64	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.91 U	4.5	0.91	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.5	1.8	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.5	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.5	1.8	0.58	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	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	6.5	18	7.3	3.2	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.7	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	4.5	1.8	0.61	ng/l	
31506-32-8	MeFOSA	1.8 U	4.5	1.8	0.91	ng/l	
4151-50-2	EtFOSA	1.8 U	4.5	1.8	0.91	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-RHMW03-WGN01LF-2303W2		
Lab Sample ID:	FC3534-3	**Date Sampled:**	03/16/23
Matrix:	AQ - Ground Water	**Date Received:**	03/17/23
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
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.6 U	4.5	3.6	0.91	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.1 U	45	9.1	4.0	ng/l	
1691-99-2	EtFOSE	18 U	45	18	6.7	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.6 U	18	3.6	0.91	ng/l	
919005-14-4	ADONA	3.6 U	18	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	9.1	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	9.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	9.1	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	18	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	18	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	9.1	1.8	0.71	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.1 U	23	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	110	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	105%		20-150%
	13C5-PFPeA	108%		20-150%
	13C5-PFHxA	114%		20-150%
	13C4-PFHpA	108%		20-150%
	13C8-PFOA	113%		20-150%
	13C9-PFNA	101%		20-150%
	13C6-PFDA	107%		20-150%
	13C7-PFUnDA	101%		20-150%
	13C2-PFDoDA	84%		20-150%
	13C2-PFTeDA	80%		20-150%
	13C3-PFBS	106%		20-150%
	13C3-PFHxS	102%		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-2303W2		
Lab Sample ID:	FC3534-3	**Date Sampled:**	03/16/23
Matrix:	AQ - Ground Water	**Date Received:**	03/17/23
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	88%		20-150%
	13C8-FOSA	95%		20-150%
	d3-MeFOSA	72%		20-150%
	d5-EtFOSA	76%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	95%		20-150%
	d7-MeFOSE	83%		20-150%
	d9-EtFOSE	82%		20-150%
	13C2-4:2FTS	94%		20-150%
	13C2-6:2FTS	108%		20-150%
	13C2-8:2FTS	97%		20-150%
	13C3-HFPO-DA	107%		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

FC3534 COC #: 2303W2AFSG01
SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote #	SKIFF #

Client / Reporting Information

Company Name: AECOM
Address: 1001 Bishop St. ste 1600
City: Honolulu State: HI Zip: 96813
Project Contact: Katie Abbott Email: katie.abbott@aecom.com
Project Manager: Watson Tanji Email: watson.tanji@aecom.com
Phone #: 303-796-4624 / 808-954-4512
Sampler(s) Name(s) (Printed)
Sampler 1: Andy Young Sampler 2: Matt Tim

Project Information

Project Name: N6274223F0104 RH Fire Suppression System
Street
City Honolulu State Hawaii
Project # 60697810
Fax #
Client Purchase Order #

Analytical Information

Matrix Codes

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

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
1	AF-RHMW02-WGN01LF-2303W2	3/16/23	1040	AY,MY	GW	3		X								X	

3/16/23

INITIAL ASSESSMENT

LABEL VERIFICATION

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

[ ] COMMERCIAL "A" (RESULTS ONLY)
[ ] COMMERCIAL "B" (RESULTS PLUS QC)
[ ] REDT1 (EPA LEVEL 3)
[x] FULLT1 (EPA LEVEL 4)
[x] EDD'S

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United AWB 016-77148061

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1 Andy Young/AECOM	3/16/23 1345	2 Miranda DeGarmo / AECOM	3 Miranda DeGarmo / AECOM	3/16/23 1410	4 3/17/23 1600
Relinquished by/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
5		6	7		8

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 0.8 IR#1

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

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FC3534: Chain of Custody
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Chain of Custody

FC3534

SGS - ORLANDO JOB # :

C0C #: 2303W2AFSG07

PAGE 1 OF 1

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

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: AECOM
Address: 1001 Bishop St. ste 1600
City: Honolulu State: HI Zip: 96813
Project Contact: Katie Abbott Email: katie.abbott@aecom.com
Project Manager: Watson Tanji Email: watson.tanji@aecom.com
Phone #: 303-796-4624 / 808-954-4512
Sampler(s) Name(s) (Printed)
Sampler 1: Eli Martin Sampler 2: Chris Womack

Project Information

Project Name: N6274223F0104 RH Fire Suppression System
Street
City Honolulu State Hawaii
Project # 60697810
Fax #
Client Purchase Order #

Analytical Information

PFAS EPA Draft 1633

Matrix Codes

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

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
2	AF-RHMW225401-WGN01B-2303W2	03/16/23	1140	LW AL EM	GW	3		X								X	

EM 03/16/23

EM 03/16/23

INITIAL ASSESSMENT

LABEL VERIFICATION

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

[ ] COMMERCIAL "A" (RESULTS ONLY)
[ ] COMMERCIAL "B" (RESULTS PLUS QC)
[ ] REDT1 (EPA LEVEL 3)
[x] FULLT1 (EPA LEVEL 4)
[x] EDD'S

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United AWB 316-77148061

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Eli Martin / AECOM	03/16/23 1345	2 Miranda DeGarmo / AECOM	3 Miranda DeGarmo	3/16/23 1410	4 3/17/23 1600
5	Relinquished by/Affiliation	Date Time:	6 Received By/Affiliation	7 Relinquished By/Affiliation	Date Time:	8 Received By/Affiliation

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 0.8 LRT1

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FC3534: Chain of Custody
Page 2 of 4

SGS North America Inc - Orlando
Chain of Custody

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

FC3534

SGS - ORLANDO JOB # :

COC #: 2303W2AFSG02

PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

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 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 Manager:** Watson Tanji **Email:** watson.tanji@aecom.com	**Project #** 60697810		
Phone #: 303-796-4624 / 808-954-4512	**Fax #**		
Sampler(s) Name(s) (Printed) **Sampler 1:** Andy Young **Sampler 2:** Matt Yim	**Client Purchase Order #**		

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
3	AF-RHMW03-WGN01LF-2303W2	3/16/23	1205	AY, MY	GW	3		X								X	

AY 3/16/23

AY 3/16/23

INITIAL ASSESSMENT

LABEL VERIFICATION

Turnaround Time (Business days)	Data Deliverable Information	Comments / Remarks
10 Day (Business) Approved By: / Date:	[ ] COMMERCIAL "A" (RESULTS ONLY)	EDMS upload database: JBPHE
7 Day	[ ] COMMERCIAL "B" (RESULTS PLUS QC)	EDMS Coverage: AFFF Assessment Sampling GW
[5 Day]	[ ] REDT1 (EPA LEVEL 3)	United AWB 016-77145861
3 Day *RUSH*	[x] FULLT1 (EPA LEVEL 4)	
2 Day *RUSH*	[x] EDD'S	
1 Day *RUSH*		
Other		
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	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1 Andy Young / AECOM	3/16/23 1345	2 Miranda DeGrimo / AECOM	3 Miranda DeGrimo / AECOM	3/16/23 1400	4 3/17/23 1600
Relinquished by/Affiliation	**Date Time:**	**Received By/Affiliation**	**Relinquished By/Affiliation**	**Date Time:**	**Received By/Affiliation**
5		6	7		8

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 0.8 IR#1

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FC3534: Chain of Custody
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SGS Sample Receipt Summary

Job Number: FC3534 **Client:** AECOM **Project:** N6274223F0104 RH Fire Suppression System

Date / Time Received: 3/17/2023 4:00:00 PM **Delivery Method:** United Cargo/Airspace **Airbill #'s:** United Cargo AWB #: 016-77148061

Therm ID: IR 1; **Therm CF:** -0.1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (0.8);

Cooler Temps (Corrected) °C: Cooler 1: (0.7);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

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

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

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

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: ZANEB Date: 3/17/2023 4:00:00 PM Reviewer: CD Date: 3/20/2023

QC Evaluation: DOD QSM5.x Limits

Job Number: FC3534
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 03/16/23

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

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

* Sample used for QC is not from job FC3534

MS Semi-volatiles

6

QC Data Summaries

Includes the following where applicable:

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

Instrument Blank

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q229-IBLK	6Q15103.D	1	03/21/23	MV	n/a	n/a	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Instrument Blank

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q229-IBLK	6Q15103.D	1	03/21/23	MV	n/a	n/a	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

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

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	95%	20-150%
	13C5-PFHxA	97%	20-150%
	13C4-PFHpA	94%	20-150%
	13C8-PFOA	104%	20-150%
	13C9-PFNA	96%	20-150%
	13C6-PFDA	96%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	101%	20-150%
	13C2-PFTeDA	105%	20-150%
	13C3-PFBS	103%	20-150%
	13C3-PFHxS	102%	20-150%
	13C8-PFOS	100%	20-150%
	13C8-FOSA	108%	20-150%
	d3-MeFOSA	102%	20-150%
	d5-EtFOSA	104%	20-150%
	d3-MeFOSAA	102%	20-150%
	d5-EtFOSAA	100%	20-150%
	d7-MeFOSE	108%	20-150%
	d9-EtFOSE	103%	20-150%
	13C2-4:2FTS	124%	20-150%
	13C2-6:2FTS	117%	20-150%
	13C2-8:2FTS	111%	20-150%
	13C3-HFPO-DA	94%	20-150%

Method Blank Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-MB	6Q15108.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Method Blank Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-MB	6Q15108.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

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

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	97%	20-150%
	13C5-PFHxA	97%	20-150%
	13C4-PFHpA	98%	20-150%
	13C8-PFOA	102%	20-150%
	13C9-PFNA	103%	20-150%
	13C6-PFDA	97%	20-150%
	13C7-PFUnDA	90%	20-150%
	13C2-PFDoDA	75%	20-150%
	13C2-PFTeDA	74%	20-150%
	13C3-PFBS	98%	20-150%
	13C3-PFHxS	98%	20-150%
	13C8-PFOS	92%	20-150%
	13C8-FOSA	94%	20-150%
	d3-MeFOSA	78%	20-150%
	d5-EtFOSA	81%	20-150%
	d3-MeFOSAA	85%	20-150%
	d5-EtFOSAA	75%	20-150%
	d7-MeFOSE	91%	20-150%
	d9-EtFOSE	88%	20-150%
	13C2-4:2FTS	120%	20-150%
	13C2-6:2FTS	131%	20-150%
	13C2-8:2FTS	103%	20-150%
	13C3-HFPO-DA	95%	20-150%

Continuing Calibration Blank

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q229-ICCB	6Q15117.D	1	03/21/23	MV	n/a	n/a	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

OP95968-DUP

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q229-ICCB	6Q15117.D	1	03/21/23	MV	n/a	n/a	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

OP95968-DUP

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

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	101%	20-150%
	13C5-PFPeA	96%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	98%	20-150%
	13C8-PFOA	101%	20-150%
	13C9-PFNA	104%	20-150%
	13C6-PFDA	95%	20-150%
	13C7-PFUnDA	100%	20-150%
	13C2-PFDoDA	102%	20-150%
	13C2-PFTeDA	109%	20-150%
	13C3-PFBS	98%	20-150%
	13C3-PFHxS	103%	20-150%
	13C8-PFOS	100%	20-150%
	13C8-FOSA	97%	20-150%
	d3-MeFOSA	96%	20-150%
	d5-EtFOSA	97%	20-150%
	d3-MeFOSAA	100%	20-150%
	d5-EtFOSAA	103%	20-150%
	d7-MeFOSE	104%	20-150%
	d9-EtFOSE	108%	20-150%
	13C2-4:2FTS	116%	20-150%
	13C2-6:2FTS	114%	20-150%
	13C2-8:2FTS	108%	20-150%
	13C3-HFPO-DA	93%	20-150%

Blank Spike Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-LLBS	6Q15107.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.04	0.0360	90	40-150
2706-90-3	Perfluoropentanoic acid	0.02	0.0184	92	40-150
307-24-4	Perfluorohexanoic acid	0.01	0.0091	91	40-150
375-85-9	Perfluoroheptanoic acid	0.01	0.0093	93	40-150
335-67-1	Perfluorooctanoic acid	0.01	0.0099	99	40-150
375-95-1	Perfluorononanoic acid	0.01	0.0090	90	40-150
335-76-2	Perfluorodecanoic acid	0.01	0.0094	94	40-150
2058-94-8	Perfluoroundecanoic acid	0.01	0.0093	93	40-150
307-55-1	Perfluorododecanoic acid	0.01	0.0092	92	40-150
72629-94-8	Perfluorotridecanoic acid	0.01	0.0088	88	40-150
376-06-7	Perfluorotetradecanoic acid	0.01	0.0097	97	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00887	0.0085	96	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00941	0.0085	90	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00914	0.0085	93	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00953	0.0086	90	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00928	0.0087	94	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00962	0.0093	97	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00965	0.0094	97	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0097	0.0089	92	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0375	0.0359	96	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.038	0.0362	95	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0384	0.0461	120	40-150
754-91-6	PFOSA	0.01	0.0104	104	40-150
31506-32-8	MeFOSA	0.01	0.0097	97	40-150
4151-50-2	EtFOSA	0.01	0.0095	95	40-150
2355-31-9	MeFOSAA	0.01	0.0099	99	40-150
2991-50-6	EtFOSAA	0.01	0.0082	82	40-150
24448-09-7	MeFOSE	0.1	0.0927	93	40-150
1691-99-2	EtFOSE	0.1	0.0939	94	40-150
13252-13-6	HFPO-DA (GenX)	0.04	0.0371	93	40-150
919005-14-4	ADONA	0.0378	0.0370	98	40-150
377-73-1	PFMPA	0.02	0.0186	93	40-150
863090-89-5	PFMBA	0.02	0.0186	93	40-150
151772-58-6	NFDHA	0.02	0.0191	96	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0374	0.0360	96	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0378	0.0342	90	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-LLBS	6Q15107.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0178	0.0163	92	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.05	0.0472	94	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.25	0.242	97	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.25	0.250	100	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	105%	20-150%
	13C5-PFPeA	99%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	99%	20-150%
	13C8-PFOA	107%	20-150%
	13C9-PFNA	108%	20-150%
	13C6-PFDA	108%	20-150%
	13C7-PFUnDA	108%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	99%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	103%	20-150%
	13C8-PFOS	97%	20-150%
	13C8-FOSA	105%	20-150%
	d3-MeFOSA	86%	20-150%
	d5-EtFOSA	85%	20-150%
	d3-MeFOSAA	104%	20-150%
	d5-EtFOSAA	98%	20-150%
	d7-MeFOSE	101%	20-150%
	d9-EtFOSE	96%	20-150%
	13C2-4:2FTS	118%	20-150%
	13C2-6:2FTS	119%	20-150%
	13C2-8:2FTS	107%	20-150%
	13C3-HFPO-DA	95%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-BS	6Q15106.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0936	94	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0483	97	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0240	96	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0256	102	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0244	98	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0234	94	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0216	86	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0229	92	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0229	92	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0240	96	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0235	94	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0201	91	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0218	93	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0209	91	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0233	98	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0234	101	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0231	96	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0238	99	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0237	98	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.0881	94	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.103	108	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.116	121	40-150
754-91-6	PFOSA	0.025	0.0268	107	40-150
31506-32-8	MeFOSA	0.025	0.0264	106	40-150
4151-50-2	EtFOSA	0.025	0.0233	93	40-150
2355-31-9	MeFOSAA	0.025	0.0235	94	40-150
2991-50-6	EtFOSAA	0.025	0.0211	84	40-150
24448-09-7	MeFOSE	0.25	0.226	90	40-150
1691-99-2	EtFOSE	0.25	0.250	100	40-150
13252-13-6	HFPO-DA (GenX)	0.1	0.0922	92	40-150
919005-14-4	ADONA	0.0945	0.0916	97	40-150
377-73-1	PFMPA	0.05	0.0473	95	40-150
863090-89-5	PFMBA	0.05	0.0482	96	40-150
151772-58-6	NFDHA	0.05	0.0497	99	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0935	0.0871	93	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0945	0.0885	94	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-BS	6Q15106.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0439	99	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.116	93	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.651	104	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.652	104	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	64%	20-150%
	13C5-PFPeA	102%	20-150%
	13C5-PFHxA	103%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	106%	20-150%
	13C9-PFNA	98%	20-150%
	13C6-PFDA	114%	20-150%
	13C7-PFUnDA	109%	20-150%
	13C2-PFDoDA	107%	20-150%
	13C2-PFTeDA	101%	20-150%
	13C3-PFBS	109%	20-150%
	13C3-PFHxS	110%	20-150%
	13C8-PFOS	99%	20-150%
	13C8-FOSA	106%	20-150%
	d3-MeFOSA	94%	20-150%
	d5-EtFOSA	95%	20-150%
	d3-MeFOSAA	107%	20-150%
	d5-EtFOSAA	114%	20-150%
	d7-MeFOSE	107%	20-150%
	d9-EtFOSE	101%	20-150%
	13C2-4:2FTS	123%	20-150%
	13C2-6:2FTS	117%	20-150%
	13C2-8:2FTS	110%	20-150%
	13C3-HFPO-DA	102%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-MS	6Q15114.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229
FC3558-2	6Q15113.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	FC3558-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.018	U	0.0877	0.0835	95	40-150
2706-90-3	Perfluoropentanoic acid	0.0089	U	0.0439	0.0427	97	40-150
307-24-4	Perfluorohexanoic acid	0.0045	U	0.0219	0.0217	99	40-150
375-85-9	Perfluoroheptanoic acid	0.0045	U	0.0219	0.0214	98	40-150
335-67-1	Perfluorooctanoic acid	0.0045	U	0.0219	0.0225	103	40-150
375-95-1	Perfluorononanoic acid	0.0045	U	0.0219	0.0216	98	40-150
335-76-2	Perfluorodecanoic acid	0.0045	U	0.0219	0.0196	89	40-150
2058-94-8	Perfluoroundecanoic acid	0.0045	U	0.0219	0.0201	92	40-150
307-55-1	Perfluorododecanoic acid	0.0045	U	0.0219	0.0201	92	40-150
72629-94-8	Perfluorotridecanoic acid	0.0045	U	0.0219	0.0189	86	40-150
376-06-7	Perfluorotetradecanoic acid	0.0045	U	0.0219	0.0218	99	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0045	U	0.0195	0.0185	95	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0045	U	0.0206	0.0214	104	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0045	U	0.02	0.0203	101	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0045	U	0.0209	0.0229	110	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0045	U	0.0204	0.0197	97	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0045	U	0.0211	0.0231	109	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0045	U	0.0212	0.0239	113	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0045	U	0.0213	0.0213	100	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.018	U	0.0822	0.0743	90	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	0.0833	0.0869	104	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	0.0842	0.0987	117	40-150
754-91-6	PFOSA	0.0045	U	0.0219	0.0207	94	40-150
31506-32-8	MeFOSA	0.0045	U	0.0219	0.0226	103	40-150
4151-50-2	EtFOSA	0.0045	U	0.0219	0.0221	101	40-150
2355-31-9	MeFOSAA	0.0045	U	0.0219	0.0220	100	40-150
2991-50-6	EtFOSAA	0.0045	U	0.0219	0.0187	85	40-150
24448-09-7	MeFOSE	0.045	U	0.219	0.208	95	40-150
1691-99-2	EtFOSE	0.045	U	0.219	0.222	101	40-150
13252-13-6	HFPO-DA (GenX)	0.018	U	0.0877	0.0778	89	40-150
919005-14-4	ADONA	0.018	U	0.0829	0.0804	97	40-150
377-73-1	PFMPA	0.0089	U	0.0439	0.0422	96	40-150
863090-89-5	PFMBA	0.0089	U	0.0439	0.0418	95	40-150
151772-58-6	NFDHA	0.0089	U	0.0439	0.0393	90	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.018	U	0.082	0.0813	99	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.018	U	0.0829	0.0740	89	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-MS	6Q15114.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229
FC3558-2	6Q15113.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	FC3558-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0089	U	0.039	0.0352	90	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.022	U	0.11	0.124	113	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.11	U	0.548	0.563	103	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.11	U	0.548	0.557	102	40-150

CAS No.	ID Standard Recoveries	MS	FC3558-2	Limits
	13C4-PFBA	101%	97%	20-150%
	13C5-PFPeA	98%	95%	20-150%
	13C5-PFHxA	100%	94%	20-150%
	13C4-PFHpA	98%	100%	20-150%
	13C8-PFOA	104%	98%	20-150%
	13C9-PFNA	101%	91%	20-150%
	13C6-PFDA	97%	99%	20-150%
	13C7-PFUnDA	97%	97%	20-150%
	13C2-PFDoDA	90%	91%	20-150%
	13C2-PFTeDA	77%	81%	20-150%
	13C3-PFBS	104%	99%	20-150%
	13C3-PFHxS	94%	95%	20-150%
	13C8-PFOS	87%	87%	20-150%
	13C8-FOSA	100%	101%	20-150%
	d3-MeFOSA	85%	91%	20-150%
	d5-EtFOSA	84%	88%	20-150%
	d3-MeFOSAA	115%	121%	20-150%
	d5-EtFOSAA	124%	120%	20-150%
	d7-MeFOSE	98%	106%	20-150%
	d9-EtFOSE	92%	99%	20-150%
	13C2-4:2FTS	115%	115%	20-150%
	13C2-6:2FTS	97%	100%	20-150%
	13C2-8:2FTS	94%	97%	20-150%
	13C3-HFPO-DA	97%	88%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-DUP	6Q15118.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229
FC3558-3	6Q15115.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	FC3558-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.019 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0094 U		ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0047 U		ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0047 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0047 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0047 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0047 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0047 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0047 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0047 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0047 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0047 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0047 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0047 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0047 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0047 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0047 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0047 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0047 U		ND		nc	30
757124-72-4	4:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
754-91-6	PFOSA	0.0047 U		ND		nc	30
31506-32-8	MeFOSA	0.0047 U		ND		nc	30
4151-50-2	EtFOSA	0.0047 U		ND		nc	30
2355-31-9	MeFOSAA	0.0047 U		ND		nc	30
2991-50-6	EtFOSAA	0.0047 U		ND		nc	30
24448-09-7	MeFOSE	0.047 U		ND		nc	30
1691-99-2	EtFOSE	0.047 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.019 U		ND		nc	30
919005-14-4	ADONA	0.019 U		ND		nc	30
377-73-1	PFMPA	0.0094 U		ND		nc	30
863090-89-5	PFMBA	0.0094 U		ND		nc	30
151772-58-6	NFDHA	0.0094 U		ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.019 U		ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.019 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC3534
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95968-DUP	6Q15118.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229
FC3558-3	6Q15115.D	1	03/21/23	MV	03/20/23	OP95968	S6Q229

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC3534-1, FC3534-2, FC3534-3

CAS No.	Compound	FC3558-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0094	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.024	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.12	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.12	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC3558-3	Limits
	13C4-PFBA	102%	107%	20-150%
	13C5-PFPeA	99%	107%	20-150%
	13C5-PFHxA	98%	112%	20-150%
	13C4-PFHpA	103%	112%	20-150%
	13C8-PFOA	88%	101%	20-150%
	13C9-PFNA	94%	100%	20-150%
	13C6-PFDA	88%	105%	20-150%
	13C7-PFUnDA	86%	107%	20-150%
	13C2-PFDoDA	83%	100%	20-150%
	13C2-PFTeDA	56%	96%	20-150%
	13C3-PFBS	99%	102%	20-150%
	13C3-PFHxS	106%	102%	20-150%
	13C8-PFOS	83%	93%	20-150%
	13C8-FOSA	86%	100%	20-150%
	d3-MeFOSA	81%	88%	20-150%
	d5-EtFOSA	80%	94%	20-150%
	d3-MeFOSAA	89%	101%	20-150%
	d5-EtFOSAA	92%	103%	20-150%
	d7-MeFOSE	89%	99%	20-150%
	d9-EtFOSE	89%	100%	20-150%
	13C2-4:2FTS	114%	121%	20-150%
	13C2-6:2FTS	113%	117%	20-150%
	13C2-8:2FTS	96%	103%	20-150%
	13C3-HFPO-DA	101%	107%	20-150%

* = Outside of Control Limits.