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: FC6651

Sampling Dates: 06/01/23 - 06/02/23

Report to:

AECOM, Inc
7595 Technology Way
Denver, CO 80237
katie.abbott@aecom.com; mark.kromis@aecom.com;
watson.tanji@aecom.com; kristin.rutherford@aecom.com
ATTN: Katie Abbott

Total number of pages in report: 45

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

Test results relate only to samples analyzed.

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Sample Summary

AECOM, INC.

Job No: FC6651

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FC6651-1	06/02/23	09:20	AYAL	06/06/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2305W5
FC6651-2	06/02/23	10:00	AYAL	06/06/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2305W5
FC6651-3	06/01/23	10:20	AYMY	06/06/23	AQ	Ground Water	AF-RHMW02-WGN01LF-2305W5
FC6651-4	06/02/23	12:40	BS	06/06/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2305W5
FC6651-5	06/01/23	12:50	AYMY	06/06/23	AQ	Ground Water	AF-RHMW03-WGN01LF-2305W5

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC6651

Site: N6274223F0104 RH Fire Suppression System **Report Date:** 6/13/2023 3:33:48 PM

On 06/06/2023, 5 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 4.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6651 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:** OP97275

Sample(s) FC6649-1MS, FC6649-4DUP were used as the QC samples indicated.

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

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

RPD(s) for Duplicate for 6:2 Fluorotelomer sulfonate are outside control limits for sample OP97275-DUP. Probable cause is due to sample non-homogeneity.

FC6651-1 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6651-1 for MeFOSAA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-1 for Perfluorodecanesulfonic acid: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-1 for PFEESA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-2 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6651-2 for MeFOSAA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-2 for Perfluorodecanesulfonic acid: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-2 for PFEESA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-3 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6651-3 for MeFOSAA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-3 for Perfluorodecanesulfonic acid: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-3 for PFEESA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-4 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6651-4 for MeFOSAA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-4 for Perfluorodecanesulfonic acid: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-4 for PFEESA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-5 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6651-5 for MeFOSAA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-5 for Perfluorodecanesulfonic acid: Associated Low Level CCV outside of control limits high, sample was ND.

FC6651-5 for PFEESA: Associated Low Level CCV outside of control limits high, sample was ND.

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: FC6651
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 06/01/23 thru 06/02/23

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC6651-1	**AF-RHMW17S-WGN01LF-2305W5**					
Perfluoropentanoic acid		13.3	7.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		1.9 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.78 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid		1.4 J	3.6	0.89	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid		0.56 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid		1.0 J	3.6	1.8	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		3.2 J	18	7.1	ng/l	EPA DRAFT 1633
FC6651-2	**AF-RHMW17S-WQEB01-2305W5**					
No hits reported in this sample.						
FC6651-3	**AF-RHMW02-WGN01LF-2305W5**					
Perfluorobutanoic acid		66.5	14	3.6	ng/l	EPA DRAFT 1633
Perfluoropentanoic acid		51.5	7.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		1.2 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.64 J	3.6	1.8	ng/l	EPA DRAFT 1633
FC6651-4	**AF-RHMW17-WGN01LF-2305W5**					
Perfluoropentanoic acid		2.6 J	7.0	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		1.7 J	3.5	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.57 J	3.5	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid		0.83 J	3.5	0.88	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		13.0 J	18	7.0	ng/l	EPA DRAFT 1633
FC6651-5	**AF-RHMW03-WGN01LF-2305W5**					
Perfluoropentanoic acid		5.2 J	7.5	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		2.0 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		1.5 J	3.8	1.9	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		8.7 J	19	7.5	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AF-RHMW17S-WGN01LF-2305W5
Lab Sample ID: FC6651-1 **Date Sampled:** 06/02/23
Matrix: AQ - Ground Water **Date Received:** 06/06/23
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	6Q19278.D	1	06/13/23 00:39	MV	06/09/23 11:30	OP97275	S6Q287
Run #2							

	Initial Volume	Final Volume
Run #1	560 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	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	13.3	7.1	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	1.9	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.78	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	1.4	3.6	0.89	0.45	ng/l	J
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	0.56	3.6	1.8	0.45	ng/l	J
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	1.0	3.6	1.8	0.48	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid [a]	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	3.2	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	
PERFLUOROOCTANE 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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2305W5		
Lab Sample ID:	FC6651-1	**Date Sampled:**	06/02/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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 [a]	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	
PERFLUOROOCTANE 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 [a]	1.8 U	7.1	1.8	0.70	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [b]	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
	13C4-PFBA	65%		20-150%
	13C5-PFPeA	111%		20-150%
	13C5-PFHxA	121%		20-150%
	13C4-PFHpA	118%		20-150%
	13C8-PFOA	115%		20-150%
	13C9-PFNA	128%		20-150%
	13C6-PFDA	113%		20-150%
	13C7-PFUnDA	102%		20-150%
	13C2-PFDoDA	94%		20-150%
	13C2-PFTeDA	73%		20-150%
	13C3-PFBS	109%		20-150%
	13C3-PFHxS	119%		20-150%

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E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2305W5		
Lab Sample ID:	FC6651-1	**Date Sampled:**	06/02/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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	105%		20-150%
	d3-MeFOSA	86%		20-150%
	d5-EtFOSA	87%		20-150%
	d3-MeFOSAA	110%		20-150%
	d5-EtFOSAA	107%		20-150%
	d7-MeFOSE	75%		20-150%
	d9-EtFOSE	71%		20-150%
	13C2-4:2FTS	99%		20-180%
	13C2-6:2FTS	94%		20-180%
	13C2-8:2FTS	95%		20-180%
	13C3-HFPO-DA	110%		20-150%

(a) Associated Low Level CCV outside of control limits high, sample was ND.
(b) Associated BS recovery outside control limits.

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2305W5		
Lab Sample ID:	FC6651-2	**Date Sampled:**	06/02/23
Matrix:	AQ - Equipment Blank	**Date Received:**	06/06/23
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	6Q19279.D	1	06/13/23 00:53	MV	06/09/23 11:30	OP97275	S6Q287
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.8 U	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.7	1.9	0.90	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
335-67-1	Perfluorooctanoic acid	0.96 U	3.8	0.96	0.48	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.8	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.8	1.9	0.67	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.52	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid [a]	1.9 U	3.8	1.9	0.62	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.8	3.8	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.1	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.7 U	19	7.7	4.0	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	3.8	1.9	0.64	ng/l	
31506-32-8	MeFOSA	3.8 U	7.7	3.8	0.96	ng/l	
4151-50-2	EtFOSA	3.8 U	7.7	3.8	0.96	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2305W5		
Lab Sample ID:	FC6651-2	**Date Sampled:**	06/02/23
Matrix:	AQ - Equipment Blank	**Date Received:**	06/06/23
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 [a]	3.8 U	4.8	3.8	0.96	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.8	3.8	1.3	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	19 U	38	19	4.2	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.1	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.96	ng/l	
919005-14-4	ADONA	3.8 U	7.7	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.7	1.9	0.96	ng/l	
863090-89-5	PFMBA	3.8 U	7.7	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.7	3.8	1.2	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.7	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.7	3.8	1.7	ng/l	
113507-82-7	PFEESA [a]	1.9 U	7.7	1.9	0.75	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [b]	9.6 U	19	9.6	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	96	19	8.4	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	96	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	117%		20-150%
	13C5-PFPeA	120%		20-150%
	13C5-PFHxA	122%		20-150%
	13C4-PFHpA	116%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	118%		20-150%
	13C6-PFDA	122%		20-150%
	13C7-PFUnDA	105%		20-150%
	13C2-PFDoDA	101%		20-150%
	13C2-PFTeDA	96%		20-150%
	13C3-PFBS	111%		20-150%
	13C3-PFHxS	111%		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-RHMW17S-WQEB01-2305W5		
Lab Sample ID:	FC6651-2	**Date Sampled:**	06/02/23
Matrix:	AQ - Equipment Blank	**Date Received:**	06/06/23
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	108%		20-150%
	13C8-FOSA	95%		20-150%
	d3-MeFOSA	91%		20-150%
	d5-EtFOSA	93%		20-150%
	d3-MeFOSAA	102%		20-150%
	d5-EtFOSAA	96%		20-150%
	d7-MeFOSE	75%		20-150%
	d9-EtFOSE	80%		20-150%
	13C2-4:2FTS	135%		20-180%
	13C2-6:2FTS	129%		20-180%
	13C2-8:2FTS	107%		20-180%
	13C3-HFPO-DA	113%		20-150%

(a) Associated Low Level CCV outside of control limits high, sample was ND.
(b) Associated BS recovery outside control limits.

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

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2305W5		
Lab Sample ID:	FC6651-3	**Date Sampled:**	06/01/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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	6Q19280.D	1	06/13/23 01:07	MV	06/09/23 11:30	OP97275	S6Q287
Run #2							

	Initial Volume	Final Volume
Run #1	560 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	66.5	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	51.5	7.1	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	1.2	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.64	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 [a]	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	7.1 U	18	7.1	3.1	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	
PERFLUOROOCTANE 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

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2305W5		
Lab Sample ID:	FC6651-3	**Date Sampled:**	06/01/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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 [a]	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	
PERFLUOROOCTANE 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 [a]	1.8 U	7.1	1.8	0.70	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [b]	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
	13C4-PFBA	76%		20-150%
	13C5-PFPeA	89%		20-150%
	13C5-PFHxA	102%		20-150%
	13C4-PFHpA	107%		20-150%
	13C8-PFOA	100%		20-150%
	13C9-PFNA	104%		20-150%
	13C6-PFDA	107%		20-150%
	13C7-PFUnDA	104%		20-150%
	13C2-PFDoDA	93%		20-150%
	13C2-PFTeDA	67%		20-150%
	13C3-PFBS	107%		20-150%
	13C3-PFHxS	104%		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-2305W5		
Lab Sample ID:	FC6651-3	**Date Sampled:**	06/01/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	101%		20-150%
	13C8-FOSA	103%		20-150%
	d3-MeFOSA	77%		20-150%
	d5-EtFOSA	82%		20-150%
	d3-MeFOSAA	104%		20-150%
	d5-EtFOSAA	107%		20-150%
	d7-MeFOSE	70%		20-150%
	d9-EtFOSE	70%		20-150%
	13C2-4:2FTS	108%		20-180%
	13C2-6:2FTS	98%		20-180%
	13C2-8:2FTS	97%		20-180%
	13C3-HFPO-DA	78%		20-150%

(a) Associated Low Level CCV outside of control limits high, sample was ND.
(b) Associated BS recovery outside control limits.

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

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2305W5		
Lab Sample ID:	FC6651-4	**Date Sampled:**	06/02/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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	6Q19281.D	1	06/13/23 01:21	MV	06/09/23 11:30	OP97275	S6Q287
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.5 U	14	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	2.6	7.0	1.8	0.82	ng/l	J
307-24-4	Perfluorohexanoic acid	1.7	3.5	1.8	0.44	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.57	3.5	1.8	0.44	ng/l	J
335-67-1	Perfluorooctanoic acid	0.83	3.5	0.88	0.44	ng/l	J
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 [a]	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	13.0	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	
PERFLUOROOCTANE 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-RHMW17-WGN01LF-2305W5		
Lab Sample ID:	FC6651-4	**Date Sampled:**	06/02/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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 [a]	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	
PERFLUOROOCTANE 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 [a]	1.8 U	7.0	1.8	0.68	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [b]	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
	13C4-PFBA	104%		20-150%
	13C5-PFPeA	114%		20-150%
	13C5-PFHxA	110%		20-150%
	13C4-PFHpA	112%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	127%		20-150%
	13C6-PFDA	114%		20-150%
	13C7-PFUnDA	100%		20-150%
	13C2-PFDoDA	85%		20-150%
	13C2-PFTeDA	57%		20-150%
	13C3-PFBS	110%		20-150%
	13C3-PFHxS	115%		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-RHMW17-WGN01LF-2305W5		
Lab Sample ID:	FC6651-4	**Date Sampled:**	06/02/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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	111%		20-150%
	13C8-FOSA	111%		20-150%
	d3-MeFOSA	87%		20-150%
	d5-EtFOSA	89%		20-150%
	d3-MeFOSAA	132%		20-150%
	d5-EtFOSAA	126%		20-150%
	d7-MeFOSE	76%		20-150%
	d9-EtFOSE	83%		20-150%
	13C2-4:2FTS	141%		20-180%
	13C2-6:2FTS	131%		20-180%
	13C2-8:2FTS	106%		20-180%
	13C3-HFPO-DA	104%		20-150%

(a) Associated Low Level CCV outside of control limits high, sample was ND.
(b) Associated BS recovery outside control limits.

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

Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2305W5		
Lab Sample ID:	FC6651-5	**Date Sampled:**	06/01/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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	6Q19282.D	1	06/13/23 01:35	MV	06/09/23 11:30	OP97275	S6Q287
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	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	5.2	7.5	1.9	0.89	ng/l	J
307-24-4	Perfluorohexanoic acid	2.0	3.8	1.9	0.47	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.5	3.8	1.9	0.47	ng/l	J
335-67-1	Perfluorooctanoic acid	0.94 U	3.8	0.94	0.47	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.8	1.9	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	3.8	1.9	0.66	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.47	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.51	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.54	ng/l	
335-77-3	Perfluorodecanesulfonic acid [a]	1.9 U	3.8	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	8.7	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	3.8	1.9	0.63	ng/l	
31506-32-8	MeFOSA	3.8 U	7.5	3.8	0.94	ng/l	
4151-50-2	EtFOSA	3.8 U	7.5	3.8	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-RHMW03-WGN01LF-2305W5		
Lab Sample ID:	FC6651-5	**Date Sampled:**	06/01/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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 [a]	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	19 U	38	19	4.1	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.0	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.94	ng/l	
919005-14-4	ADONA	3.8 U	7.5	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.5	1.9	0.94	ng/l	
863090-89-5	PFMBA	3.8 U	7.5	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.5	3.8	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.5	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.5	3.8	1.7	ng/l	
113507-82-7	PFEESA [a]	1.9 U	7.5	1.9	0.74	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [b]	9.4 U	19	9.4	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	94	19	8.2	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	94	19	7.4	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	101%		20-150%
	13C5-PFPeA	111%		20-150%
	13C5-PFHxA	104%		20-150%
	13C4-PFHpA	111%		20-150%
	13C8-PFOA	113%		20-150%
	13C9-PFNA	138%		20-150%
	13C6-PFDA	108%		20-150%
	13C7-PFUnDA	94%		20-150%
	13C2-PFDoDA	89%		20-150%
	13C2-PFTeDA	67%		20-150%
	13C3-PFBS	118%		20-150%
	13C3-PFHxS	116%		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-2305W5		
Lab Sample ID:	FC6651-5	**Date Sampled:**	06/01/23
Matrix:	AQ - Ground Water	**Date Received:**	06/06/23
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	113%		20-150%
	13C8-FOSA	109%		20-150%
	d3-MeFOSA	89%		20-150%
	d5-EtFOSA	94%		20-150%
	d3-MeFOSAA	114%		20-150%
	d5-EtFOSAA	119%		20-150%
	d7-MeFOSE	80%		20-150%
	d9-EtFOSE	89%		20-150%
	13C2-4:2FTS	115%		20-180%
	13C2-6:2FTS	119%		20-180%
	13C2-8:2FTS	119%		20-180%
	13C3-HFPO-DA	109%		20-150%

(a) Associated Low Level CCV outside of control limits high, sample was ND.
(b) Associated BS recovery outside control limits.

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

SGS North America Inc - Orlando
Chain of Custody

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

COC #: 2305W5AFSG12
PAGE 1 OF 1
SGS - ORLANDO JOB # :
SGS - ORLANDO Quote #
SKIFF # FC6651

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: Sampler 2:

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	CONTAINER INFORMATION: OTHER	NONE	HCl	MeOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
1	AF-RHMW17S-WGN01LF-2305W5	6/2/23	0920	AA/ALB	GW	3		x								x	
2	AF-RHMW17S-WQEB01-2305W5	6/2/23	1000		GW	3		x								x	

INITIAL ASSESSMENT SP
LABEL VERIFICATION SP
4.6°C

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 15277183

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 Ben Snider AECOM	6/2/23 1200	2 Sam Kelley AECOM	3 Sam Kelley AECOM	6/5/23 1520	4 United Cargo
5 United Cargo	Date Time:	6 06/06/23 1730	7	Date Time:	8

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

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

PFAS_COCs_ALL.xls Rev 031318

FC6651: Chain of Custody
Page 1 of 5

SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL32811
TEL: 407-425-6700 FAX: 407-425-0707
www.sgs.com

COC #: 2305W5AFSG01
PAGE 1 OF 1
SGS - ORLANDO JOB # :
SGS - ORLANDO Quote #
SKIFF # FC6651

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: Andy Young

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	COLLECTION TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	CONTAINER INFORMATION: OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
3	AF-RHMW02-WGN01LF-2305W5	06/01/23	1020	AM/EM	GW	3		X								X	

EM 6/1/23
EM 06/01/23

Turnaround Time (Business days)

10 Day (Business)
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Approved By: / Date:
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 016-15277153

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	06/01/23 1230	2	3	6/5/23 1508	4 United Cargo
5	United Cargo	Date Time:	6 06/06/23 1730	7	Date Time:	8

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

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

PFAS_COCs_ALL.xls Rev 031318

FC6651: Chain of Custody
Page 2 of 5

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

COC #: 2305W5AFSG10
PAGE 1 OF 1
SGS - ORLANDO JOB # :
SGS - ORLANDO Quote # | SKIFF # FC6651

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: Ben Snider Sampler 2: Anthony Laycock

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	COLLECTION 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
4	AF-RHMW17-WGN01LF-2305W5	6/2/23	1240	BS	GW	3		X								X	

Turnaround Time (Business days)

10 Day (Business)
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Approved By: / Date:
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
Drilled AWB 016-15271,83

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	Anthony Laycock AECOM	6/2/23 1520	2 Miranda DeGarmo / AECOM	3 Miranda DeGarmo	6/5/23 1520	4 United Cargo
5	United Cargo	Date Time:	6 06/06/23 1730	7	Date Time:	8

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

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

PFAS_COCs_ALL.xls Rev 031318

FC6651: Chain of Custody
Page 3 of 5

SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
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www.sgs.com

COC #: 2305W5AFSG02
PAGE 1 OF 1

SGS - ORLANDO JOB # :

SGS - ORLANDO Quote #	SKIFF #
	FC6651

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: Andy Young

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	COLLECTION TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	CONTAINER INFORMATION: OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
5	AF-RHMW03-WGN01LF-2305W5	06/01/23	1250	AYMYEN	GW	3		X								X	

EM 6/1/23

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 016-15277183

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	06/01/23	2 AECOM	3	6/5/23 1500	4 United Cargo
5	United Cargo	Date Time:	6 06/06/23 1730	7	Date Time:	8

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

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

PFAS_COCs_ALL.xls Rev 031318

FC6651: Chain of Custody
Page 4 of 5

SGS Sample Receipt Summary

Job Number: FC6651 **Client:** AECOM **Project:** N6274223F0104 RH Fire Suppression System

Date / Time Received: 6/6/2023 5:30:00 PM **Delivery Method:** United Cargo/Airspace **Airbill #'s:** United Cargo AWB #: 016-15277183

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

Cooler Temps (Raw Measured) °C: Cooler 1: (4.7);

Cooler Temps (Corrected) °C: Cooler 1: (4.6);

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: SHAYLAP Date: 6/6/2023 5:30:00 PM Reviewer: SP Date: 6/7/2023

FC6651: Chain of Custody
Page 5 of 5

QC Evaluation: DOD QSM5.x Limits

Job Number: FC6651
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 06/01/23 thru 06/02/23

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 FC6651

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: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-IBLK	6Q19248.D	1	06/12/23	MV	n/a	n/a	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

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	
757124-72-4	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	0.0040	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	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-IBLK	6Q19248.D	1	06/12/23	MV	n/a	n/a	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

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	
914637-49-3	5:3 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	97%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	97%	20-150%
	13C9-PFNA	100%	20-150%
	13C6-PFDA	100%	20-150%
	13C7-PFUnDA	89%	20-150%
	13C2-PFDoDA	93%	20-150%
	13C2-PFTeDA	91%	20-150%
	13C3-PFBS	103%	20-150%
	13C3-PFHxS	101%	20-150%
	13C8-PFOS	102%	20-150%
	13C8-FOSA	101%	20-150%
	d3-MeFOSA	103%	20-150%
	d5-EtFOSA	107%	20-150%
	d3-MeFOSAA	99%	20-150%
	d5-EtFOSAA	109%	20-150%
	d7-MeFOSE	100%	20-150%
	d9-EtFOSE	95%	20-150%
	13C2-4:2FTS	121%	20-180%
	13C2-6:2FTS	122%	20-180%
	13C2-8:2FTS	118%	20-180%
	13C3-HFPO-DA	93%	20-150%

Continuing Calibration Blank

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-ICCB	6Q19273.D	1	06/12/23	MV	n/a	n/a	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

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	
757124-72-4	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	0.0040	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	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-ICCB	6Q19273.D	1	06/12/23	MV	n/a	n/a	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

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	
914637-49-3	5:3 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	96%	20-150%
	13C5-PFHxA	92%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	100%	20-150%
	13C9-PFNA	96%	20-150%
	13C6-PFDA	100%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	98%	20-150%
	13C2-PFTeDA	88%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	102%	20-150%
	13C8-PFOS	97%	20-150%
	13C8-FOSA	100%	20-150%
	d3-MeFOSA	91%	20-150%
	d5-EtFOSA	97%	20-150%
	d3-MeFOSAA	102%	20-150%
	d5-EtFOSAA	94%	20-150%
	d7-MeFOSE	86%	20-150%
	d9-EtFOSE	82%	20-150%
	13C2-4:2FTS	113%	20-180%
	13C2-6:2FTS	123%	20-180%
	13C2-8:2FTS	108%	20-180%
	13C3-HFPO-DA	90%	20-150%

Method Blank Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-MB	6Q19265.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

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	
757124-72-4	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	0.0040	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	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-MB	6Q19265.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

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	
914637-49-3	5:3 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	105%	20-150%
	13C5-PFPeA	101%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	98%	20-150%
	13C8-PFOA	103%	20-150%
	13C9-PFNA	116%	20-150%
	13C6-PFDA	107%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	99%	20-150%
	13C2-PFTeDA	86%	20-150%
	13C3-PFBS	97%	20-150%
	13C3-PFHxS	97%	20-150%
	13C8-PFOS	101%	20-150%
	13C8-FOSA	76%	20-150%
	d3-MeFOSA	72%	20-150%
	d5-EtFOSA	81%	20-150%
	d3-MeFOSAA	104%	20-150%
	d5-EtFOSAA	92%	20-150%
	d7-MeFOSE	58%	20-150%
	d9-EtFOSE	68%	20-150%
	13C2-4:2FTS	119%	20-180%
	13C2-6:2FTS	119%	20-180%
	13C2-8:2FTS	99%	20-180%
	13C3-HFPO-DA	95%	20-150%

Continuing Calibration Blank

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-ICCB	6Q19262.D	1	06/12/23	MV	n/a	n/a	S6Q287

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

OP97275-BS, OP97275-LLBS, OP97275-MB, OP97275-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	
757124-72-4	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	0.0040	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	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-ICCB	6Q19262.D	1	06/12/23	MV	n/a	n/a	S6Q287

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

OP97275-BS, OP97275-LLBS, OP97275-MB, OP97275-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	
914637-49-3	5:3 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	98%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	96%	20-150%
	13C9-PFNA	109%	20-150%
	13C6-PFDA	101%	20-150%
	13C7-PFUnDA	100%	20-150%
	13C2-PFDoDA	96%	20-150%
	13C2-PFTeDA	96%	20-150%
	13C3-PFBS	109%	20-150%
	13C3-PFHxS	108%	20-150%
	13C8-PFOS	104%	20-150%
	13C8-FOSA	100%	20-150%
	d3-MeFOSA	96%	20-150%
	d5-EtFOSA	99%	20-150%
	d3-MeFOSAA	105%	20-150%
	d5-EtFOSAA	101%	20-150%
	d7-MeFOSE	100%	20-150%
	d9-EtFOSE	86%	20-150%
	13C2-4:2FTS	128%	20-180%
	13C2-6:2FTS	124%	20-180%
	13C2-8:2FTS	112%	20-180%
	13C3-HFPO-DA	96%	20-150%

Blank Spike Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-LLBS	6Q19264.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0264	88	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0129	86	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0068	91	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0060	80	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0083	111	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0061	81	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0059	79	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0071	95	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0063	84	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0063	84	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0062	83	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0053	80	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0062	88	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0056	82	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0060	84	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0060	86	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0059	82	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0057	79	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0056	77	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0281	0.0242	86	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0263	92	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0235	82	40-150
754-91-6	PFOSA	0.0075	0.0063	84	40-150
31506-32-8	MeFOSA	0.015	0.0134	89	40-150
4151-50-2	EtFOSA	0.015	0.0131	87	40-150
2355-31-9	MeFOSAA	0.0075	0.0067	89	40-150
2991-50-6	EtFOSAA	0.0075	0.0065	87	40-150
24448-09-7	MeFOSE	0.0375	0.0329	88	40-150
1691-99-2	EtFOSE	0.0375	0.0315	84	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0120	80	40-150
919005-14-4	ADONA	0.0142	0.0119	84	40-150
377-73-1	PFMPA	0.015	0.0127	85	40-150
863090-89-5	PFMBA	0.015	0.0126	84	40-150
151772-58-6	NFDHA	0.015	0.0134	89	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.014	0.0111	79	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0142	0.0115	81	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-LLBS	6Q19264.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0131	98	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0246	66	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.188	0.171	91	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.170	91	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	115%	20-150%
	13C5-PFPeA	113%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	114%	20-150%
	13C8-PFOA	122%	20-150%
	13C9-PFNA	116%	20-150%
	13C6-PFDA	130%	20-150%
	13C7-PFUnDA	114%	20-150%
	13C2-PFDoDA	115%	20-150%
	13C2-PFTeDA	106%	20-150%
	13C3-PFBS	113%	20-150%
	13C3-PFHxS	109%	20-150%
	13C8-PFOS	120%	20-150%
	13C8-FOSA	92%	20-150%
	d3-MeFOSA	81%	20-150%
	d5-EtFOSA	87%	20-150%
	d3-MeFOSAA	114%	20-150%
	d5-EtFOSAA	117%	20-150%
	d7-MeFOSE	68%	20-150%
	d9-EtFOSE	78%	20-150%
	13C2-4:2FTS	131%	20-180%
	13C2-6:2FTS	125%	20-180%
	13C2-8:2FTS	114%	20-180%
	13C3-HFPO-DA	116%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-BS	6Q19263.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0892	89	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0448	90	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0239	96	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0212	85	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0256	102	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0214	86	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0188	75	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0216	86	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0243	97	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0222	89	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0226	90	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0204	92	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0209	89	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0192	84	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0205	86	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0209	90	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0211	88	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0226	94	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0193	80	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.0859	92	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0985	104	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0865	90	40-150
754-91-6	PFOSA	0.025	0.0216	86	40-150
31506-32-8	MeFOSA	0.05	0.0459	92	40-150
4151-50-2	EtFOSA	0.05	0.0462	92	40-150
2355-31-9	MeFOSAA	0.025	0.0241	96	40-150
2991-50-6	EtFOSAA	0.025	0.0218	87	40-150
24448-09-7	MeFOSE	0.125	0.108	86	40-150
1691-99-2	EtFOSE	0.125	0.103	82	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0418	84	40-150
919005-14-4	ADONA	0.0473	0.0411	87	40-150
377-73-1	PFMPA	0.05	0.0243	49	40-150
863090-89-5	PFMBA	0.05	0.0463	93	40-150
151772-58-6	NFDHA	0.05	0.0437	87	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0468	0.0400	86	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0473	0.0387	82	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-BS	6Q19263.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0450	101	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0476	38*	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.595	95	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.562	90	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	30%	20-150%
	13C5-PFPeA	102%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	108%	20-150%
	13C8-PFOA	97%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	127%	20-150%
	13C7-PFUnDA	112%	20-150%
	13C2-PFDoDA	106%	20-150%
	13C2-PFTeDA	98%	20-150%
	13C3-PFBS	116%	20-150%
	13C3-PFHxS	117%	20-150%
	13C8-PFOS	108%	20-150%
	13C8-FOSA	86%	20-150%
	d3-MeFOSA	82%	20-150%
	d5-EtFOSA	81%	20-150%
	d3-MeFOSAA	109%	20-150%
	d5-EtFOSAA	105%	20-150%
	d7-MeFOSE	64%	20-150%
	d9-EtFOSE	73%	20-150%
	13C2-4:2FTS	135%	20-180%
	13C2-6:2FTS	119%	20-180%
	13C2-8:2FTS	120%	20-180%
	13C3-HFPO-DA	108%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-MS	6Q19269.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287
FC6649-1	6Q19268.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

CAS No.	Compound	FC6649-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015	U	0.0909	0.0740	81	40-150
2706-90-3	Perfluoropentanoic acid	0.0074	U	0.0455	0.0392	86	40-150
307-24-4	Perfluorohexanoic acid	0.0037	U	0.0227	0.0190	84	40-150
375-85-9	Perfluoroheptanoic acid	0.0037	U	0.0227	0.0195	86	40-150
335-67-1	Perfluorooctanoic acid	0.0037	U	0.0227	0.0212	93	40-150
375-95-1	Perfluorononanoic acid	0.0037	U	0.0227	0.0188	83	40-150
335-76-2	Perfluorodecanoic acid	0.0037	U	0.0227	0.0184	81	40-150
2058-94-8	Perfluoroundecanoic acid	0.0037	U	0.0227	0.0215	95	40-150
307-55-1	Perfluorododecanoic acid	0.0037	U	0.0227	0.0198	87	40-150
72629-94-8	Perfluorotridecanoic acid	0.0037	U	0.0227	0.0181	80	40-150
376-06-7	Perfluorotetradecanoic acid	0.0037	U	0.0227	0.0200	88	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0037	U	0.0202	0.0173	86	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0046	U	0.0214	0.0196	92	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0037	U	0.0208	0.0188	91	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0037	U	0.0217	0.0191	88	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0037	U	0.0211	0.0191	91	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0037	U	0.0219	0.0193	88	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0037	U	0.0219	0.0167	76	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0046	U	0.022	0.0104	47	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.019	U	0.0852	0.0702	82	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0038	J	0.0864	0.0856	95	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.019	U	0.0873	0.0697	80	40-150
754-91-6	PFOSA	0.0037	U	0.0227	0.0202	89	40-150
31506-32-8	MeFOSA	0.0074	U	0.0455	0.0391	86	40-150
4151-50-2	EtFOSA	0.0074	U	0.0455	0.0395	87	40-150
2355-31-9	MeFOSAA	0.0046	U	0.0227	0.0223	98	40-150
2991-50-6	EtFOSAA	0.0046	U	0.0227	0.0197	87	40-150
24448-09-7	MeFOSE	0.037	U	0.114	0.103	91	40-150
1691-99-2	EtFOSE	0.037	U	0.114	0.101	89	40-150
13252-13-6	HFPO-DA (GenX)	0.0037	U	0.0455	0.0367	81	40-150
919005-14-4	ADONA	0.0074	U	0.043	0.0446	104	40-150
377-73-1	PFMPA	0.0074	U	0.0455	0.0106	23*	40-150
863090-89-5	PFMBA	0.0074	U	0.0455	0.0645	142	40-150
151772-58-6	NFDHA	0.0074	U	0.0455	0.0342	75	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0074	U	0.0425	0.0448	105	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0074	U	0.043	0.0363	85	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-MS	6Q19269.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287
FC6649-1	6Q19268.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

CAS No.	Compound	FC6649-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0074	U	0.0405	0.0396	98	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.019	U	0.114	0.0230	20*	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.093	U	0.568	0.513	90	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.093	U	0.568	0.655	115	40-150

CAS No.	ID Standard Recoveries	MS	FC6649-1	Limits
	13C4-PFBA	4%* [a]	4%* [a]	20-150%
	13C5-PFPeA	26%	25%	20-150%
	13C5-PFHxA	98%	95%	20-150%
	13C4-PFHpA	107%	105%	20-150%
	13C8-PFOA	117%	115%	20-150%
	13C9-PFNA	105%	113%	20-150%
	13C6-PFDA	109%	107%	20-150%
	13C7-PFUnDA	97%	99%	20-150%
	13C2-PFDoDA	96%	102%	20-150%
	13C2-PFTeDA	70%	74%	20-150%
	13C3-PFBS	109%	105%	20-150%
	13C3-PFHxS	110%	109%	20-150%
	13C8-PFOS	100%	102%	20-150%
	13C8-FOSA	84%	91%	20-150%
	d3-MeFOSA	85%	87%	20-150%
	d5-EtFOSA	87%	98%	20-150%
	d3-MeFOSAA	114%	125%	20-150%
	d5-EtFOSAA	116%	126%	20-150%
	d7-MeFOSE	63%	69%	20-150%
	d9-EtFOSE	68%	73%	20-150%
	13C2-4:2FTS	149%	141%	20-180%
	13C2-6:2FTS	102%	97%	20-180%
	13C2-8:2FTS	114%	113%	20-180%
	13C3-HFPO-DA	90%	83%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-DUP	6Q19275.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287
FC6649-4	6Q19274.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

CAS No.	Compound	FC6649-4 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.015 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0075 U		ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0038 U		ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0038 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0038 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0038 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0038 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0038 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0038 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0038 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0038 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0038 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0047 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0038 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0038 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0038 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0038 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0038 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	0.0085	J	0.0055	J	43*	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
754-91-6	PFOSA	0.0038 U		ND		nc	30
31506-32-8	MeFOSA	0.0075 U		ND		nc	30
4151-50-2	EtFOSA	0.0075 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	0.038 U		ND		nc	30
1691-99-2	EtFOSE	0.038 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0038 U		ND		nc	30
919005-14-4	ADONA	0.0075 U		ND		nc	30
377-73-1	PFMPA	0.0075 U		ND		nc	30
863090-89-5	PFMBA	0.0075 U		ND		nc	30
151772-58-6	NFDHA	0.0075 U		ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0075 U		ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0075 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6651
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-DUP	6Q19275.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287
FC6649-4	6Q19274.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

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

FC6651-1, FC6651-2, FC6651-3, FC6651-4, FC6651-5

CAS No.	Compound	FC6649-4 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0075	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.019	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.094	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.094	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC6649-4	Limits
	13C4-PFBA	114%	107%	20-150%
	13C5-PFPeA	116%	113%	20-150%
	13C5-PFHxA	113%	117%	20-150%
	13C4-PFHpA	115%	110%	20-150%
	13C8-PFOA	110%	116%	20-150%
	13C9-PFNA	127%	107%	20-150%
	13C6-PFDA	123%	101%	20-150%
	13C7-PFUnDA	94%	95%	20-150%
	13C2-PFDoDA	94%	88%	20-150%
	13C2-PFTeDA	89%	84%	20-150%
	13C3-PFBS	119%	118%	20-150%
	13C3-PFHxS	109%	114%	20-150%
	13C8-PFOS	106%	105%	20-150%
	13C8-FOSA	94%	92%	20-150%
	d3-MeFOSA	86%	79%	20-150%
	d5-EtFOSA	97%	80%	20-150%
	d3-MeFOSAA	107%	102%	20-150%
	d5-EtFOSAA	110%	97%	20-150%
	d7-MeFOSE	71%	67%	20-150%
	d9-EtFOSE	84%	69%	20-150%
	13C2-4:2FTS	134%	135%	20-180%
	13C2-6:2FTS	130%	127%	20-180%
	13C2-8:2FTS	114%	109%	20-180%
	13C3-HFPO-DA	105%	102%	20-150%

* = Outside of Control Limits.