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: FC5818

Sampling Date: 05/03/23

Report to:

AECOM, Inc
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Total number of pages in report: 47

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: FC5818

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FC5818-1	05/03/23	09:35	AA	05/04/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2305W1
FC5818-2	05/03/23	10:10	AA	05/04/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2305W1
FC5818-3	05/03/23	10:50	AA	05/04/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2305W1
FC5818-4	05/03/23	10:25	AA	05/04/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2305W1
FC5818-5	05/03/23	12:50	AA	05/04/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2305W1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC5818

Site: N6274223F0104 RH Fire Suppression System **Report Date:** 5/12/2023 7:27:58 AM

On 05/04/2023, 4 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3.1 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC5818 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:** OP96747

Sample(s) FC5818-3MS, FC5818-5DUP, FC5818-3MS were used as the QC samples indicated.

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

Sample(s) FC5818-3 have surrogates outside control limits.

FC5818-3: Dilution required (ID recovery standard failure).

FC5818-3 for 13C4-PFBA: Outside control limits.

FC5818-3 for d3-MeFOSAA: Outside control limits.

FC5818-3 for d5-EtFOSAA: Outside control limits.

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: FC5818
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/03/23

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC5818-1	**AF-RHMW17S-WGN01LF-2305W1**					
Perfluoropentanoic acid		9.5	7.3	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		2.0 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		1.3 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid		1.1 J	3.6	0.91	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid		0.63 J	3.6	1.8	ng/l	EPA DRAFT 1633
FC5818-2	**AF-RHMW17S-WQEB01-2305W1**					
No hits reported in this sample.						
FC5818-3	**AF-RHMW17D-WGN01LF-2305W1**					
No hits reported in this sample.						
FC5818-4	**AF-RHMW17D-WQFB01-2305W1**					
No hits reported in this sample.						
FC5818-5	**AF-RHMW17-WGN01LF-2305W1**					
Perfluorobutanoic acid		2.9 J	14	3.6	ng/l	EPA DRAFT 1633
Perfluoropentanoic acid		3.0 J	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		0.76 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid		0.58 J	3.6	0.89	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AF-RHMW17S-WGN01LF-2305W1
Lab Sample ID: FC5818-1 **Date Sampled:** 05/03/23
Matrix: AQ - Ground Water **Date Received:** 05/04/23
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	4Q44163.D	1	05/09/23 20:42	MV	05/05/23 11:00	OP96747	S4Q639
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	15	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	9.5	7.3	1.8	0.85	ng/l	
307-24-4	Perfluorohexanoic acid	2.0	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.3	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	1.1	3.6	0.91	0.45	ng/l	J
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.55	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	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.76	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	0.63	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	0.64	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	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	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	7.3 U	18	7.3	3.2	ng/l	
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	3.6	1.8	0.61	ng/l	
31506-32-8	MeFOSA	3.6 U	7.3	3.6	0.91	ng/l	
4151-50-2	EtFOSA	3.6 U	7.3	3.6	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-RHMW17S-WGN01LF-2305W1		
Lab Sample ID:	FC5818-1	**Date Sampled:**	05/03/23
Matrix:	AQ - Ground Water	**Date Received:**	05/04/23
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	18 U	36	18	4.0	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.7	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.91	ng/l	
919005-14-4	ADONA	3.6 U	7.3	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.3	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	7.3	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.3	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.3	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.3	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.3	1.8	0.71	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.1 U	18	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	91	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	91	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	30%		20-150%
	13C5-PFPeA	91%		20-150%
	13C5-PFHxA	107%		20-150%
	13C4-PFHpA	108%		20-150%
	13C8-PFOA	105%		20-150%
	13C9-PFNA	101%		20-150%
	13C6-PFDA	93%		20-150%
	13C7-PFUnDA	78%		20-150%
	13C2-PFDoDA	72%		20-150%
	13C2-PFTeDA	45%		20-150%
	13C3-PFBS	95%		20-150%
	13C3-PFHxS	92%		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-2305W1		
Lab Sample ID:	FC5818-1	**Date Sampled:**	05/03/23
Matrix:	AQ - Ground Water	**Date Received:**	05/04/23
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	83%		20-150%
	13C8-FOSA	87%		20-150%
	d3-MeFOSA	66%		20-150%
	d5-EtFOSA	65%		20-150%
	d3-MeFOSAA	91%		20-150%
	d5-EtFOSAA	87%		20-150%
	d7-MeFOSE	61%		20-150%
	d9-EtFOSE	58%		20-150%
	13C2-4:2FTS	167%		20-180%
	13C2-6:2FTS	104%		20-180%
	13C2-8:2FTS	93%		20-180%
	13C3-HFPO-DA	85%		20-150%

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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-WQEB01-2305W1		
Lab Sample ID:	FC5818-2	**Date Sampled:**	05/03/23
Matrix:	AQ - Equipment Blank	**Date Received:**	05/04/23
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	4Q44164.D	1	05/09/23 20:56	MV	05/05/23 11:00	OP96747	S4Q639
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	1.9 U	7.5	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
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	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	7.5 U	19	7.5	3.3	ng/l	
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	

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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-WQEB01-2305W1		
Lab Sample ID:	FC5818-2	**Date Sampled:**	05/03/23
Matrix:	AQ - Equipment Blank	**Date Received:**	05/04/23
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	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	1.9 U	7.5	1.9	0.74	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	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	107%		20-150%
	13C5-PFPeA	110%		20-150%
	13C5-PFHxA	104%		20-150%
	13C4-PFHpA	105%		20-150%
	13C8-PFOA	97%		20-150%
	13C9-PFNA	91%		20-150%
	13C6-PFDA	95%		20-150%
	13C7-PFUnDA	90%		20-150%
	13C2-PFDoDA	79%		20-150%
	13C2-PFTeDA	70%		20-150%
	13C3-PFBS	98%		20-150%
	13C3-PFHxS	87%		20-150%

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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-WQEB01-2305W1		
Lab Sample ID:	FC5818-2	**Date Sampled:**	05/03/23
Matrix:	AQ - Equipment Blank	**Date Received:**	05/04/23
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	84%		20-150%
	13C8-FOSA	75%		20-150%
	d3-MeFOSA	67%		20-150%
	d5-EtFOSA	70%		20-150%
	d3-MeFOSAA	90%		20-150%
	d5-EtFOSAA	89%		20-150%
	d7-MeFOSE	57%		20-150%
	d9-EtFOSE	61%		20-150%
	13C2-4:2FTS	125%		20-180%
	13C2-6:2FTS	122%		20-180%
	13C2-8:2FTS	105%		20-180%
	13C3-HFPO-DA	92%		20-150%

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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-RHMW17D-WGN01LF-2305W1		
Lab Sample ID:	FC5818-3	**Date Sampled:**	05/03/23
Matrix:	AQ - Ground Water	**Date Received:**	05/04/23
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	4Q44167.D	1	05/09/23 21:38	MV	05/05/23 11:00	OP96747	S4Q639
Run #2 [a]	6Q17727.D	5	05/10/23 23:13	MV	05/05/23 11:00	OP96747	S6Q267

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	18 U [b]	70	18	8.4	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.0	1.8	0.82	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	3.5	0.88	0.44	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.5	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.5	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.5	1.8	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.5	1.8	0.61	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.5	1.8	0.44	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.5	1.8	0.47	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.5	1.8	0.50	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.5	1.8	0.56	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.5 U	4.4	3.5	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.0 U	18	7.0	2.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.0	ng/l	
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-RHMW17D-WGN01LF-2305W1		
Lab Sample ID:	FC5818-3	**Date Sampled:**	05/03/23
Matrix:	AQ - Ground Water	**Date Received:**	05/04/23
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	18 U [b]	22	18	4.4	ng/l	
2991-50-6	EtFOSAA	18 U [b]	22	18	5.8	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	1.8 U	7.0	1.8	0.68	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	8.8 U	18	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	88	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	88	18	6.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	4% [c]	4% [c]	20-150%
	13C5-PFPeA	26%	26%	20-150%
	13C5-PFHxA	101%	101%	20-150%
	13C4-PFHpA	115%	119%	20-150%
	13C8-PFOA	121%	113%	20-150%
	13C9-PFNA	108%	115%	20-150%
	13C6-PFDA	122%	102%	20-150%
	13C7-PFUnDA	114%	101%	20-150%
	13C2-PFDoDA	103%	88%	20-150%
	13C2-PFTeDA	64%	64%	20-150%
	13C3-PFBS	98%	107%	20-150%
	13C3-PFHxS	101%	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-RHMW17D-WGN01LF-2305W1		
Lab Sample ID:	FC5818-3	**Date Sampled:**	05/03/23
Matrix:	AQ - Ground Water	**Date Received:**	05/04/23
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	114%	56%	20-150%
	13C8-FOSA	122%	44%	20-150%
	d3-MeFOSA	117%	48%	20-150%
	d5-EtFOSA	122%	49%	20-150%
	d3-MeFOSAA	169% [c]	64%	20-150%
	d5-EtFOSAA	181% [c]	63%	20-150%
	d7-MeFOSE	85%	33%	20-150%
	d9-EtFOSE	86%	38%	20-150%
	13C2-4:2FTS	152%	101%	20-180%
	13C2-6:2FTS	124%	133%	20-180%
	13C2-8:2FTS	121%	105%	20-180%
	13C3-HFPO-DA	80%	101%	20-150%

(a) Dilution required (ID recovery standard failure).
(b) Result is from Run# 2
(c) 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-RHMW17D-WQFB01-2305W1
Lab Sample ID: FC5818-4 **Date Sampled:** 05/03/23
Matrix: AQ - Field Blank Water **Date Received:** 05/04/23
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	4Q44169.D	1	05/09/23 22:06	MV	05/05/23 11:00	OP96747	S4Q639
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	1.9 U	7.5	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
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	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	7.5 U	19	7.5	3.3	ng/l	
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	

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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-RHMW17D-WQFB01-2305W1		
Lab Sample ID:	FC5818-4	**Date Sampled:**	05/03/23
Matrix:	AQ - Field Blank Water	**Date Received:**	05/04/23
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	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	1.9 U	7.5	1.9	0.74	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	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	114%		20-150%
	13C5-PFPeA	114%		20-150%
	13C5-PFHxA	107%		20-150%
	13C4-PFHpA	107%		20-150%
	13C8-PFOA	114%		20-150%
	13C9-PFNA	103%		20-150%
	13C6-PFDA	99%		20-150%
	13C7-PFUnDA	101%		20-150%
	13C2-PFDoDA	88%		20-150%
	13C2-PFTeDA	63%		20-150%
	13C3-PFBS	108%		20-150%
	13C3-PFHxS	113%		20-150%

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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-RHMW17D-WQFB01-2305W1		
Lab Sample ID:	FC5818-4	**Date Sampled:**	05/03/23
Matrix:	AQ - Field Blank Water	**Date Received:**	05/04/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	93%		20-150%
	13C8-FOSA	86%		20-150%
	d3-MeFOSA	81%		20-150%
	d5-EtFOSA	88%		20-150%
	d3-MeFOSAA	108%		20-150%
	d5-EtFOSAA	106%		20-150%
	d7-MeFOSE	69%		20-150%
	d9-EtFOSE	74%		20-150%
	13C2-4:2FTS	145%		20-180%
	13C2-6:2FTS	149%		20-180%
	13C2-8:2FTS	147%		20-180%
	13C3-HFPO-DA	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
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Report of Analysis

Client Sample ID: AF-RHMW17-WGN01LF-2305W1
Lab Sample ID: FC5818-5 **Date Sampled:** 05/03/23
Matrix: AQ - Ground Water **Date Received:** 05/04/23
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	4Q44170.D	1	05/09/23 22:20	MV	05/05/23 11:00	OP96747	S4Q639
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	2.9	14	3.6	1.7	ng/l	J
2706-90-3	Perfluoropentanoic acid	3.0	7.1	1.8	0.84	ng/l	J
307-24-4	Perfluorohexanoic acid	1.9	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.76	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.58	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	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.1 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	

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LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
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Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2305W1		
Lab Sample ID:	FC5818-5	**Date Sampled:**	05/03/23
Matrix:	AQ - Ground Water	**Date Received:**	05/04/23
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	0.89	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	1.8 U	7.1	1.8	0.70	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	8.9 U	18	8.9	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	89	18	7.8	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	89	18	7.0	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	94%		20-150%
	13C5-PFPeA	104%		20-150%
	13C5-PFHxA	101%		20-150%
	13C4-PFHpA	106%		20-150%
	13C8-PFOA	100%		20-150%
	13C9-PFNA	96%		20-150%
	13C6-PFDA	94%		20-150%
	13C7-PFUnDA	83%		20-150%
	13C2-PFDoDA	66%		20-150%
	13C2-PFTeDA	53%		20-150%
	13C3-PFBS	105%		20-150%
	13C3-PFHxS	98%		20-150%

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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-2305W1		
Lab Sample ID:	FC5818-5	**Date Sampled:**	05/03/23
Matrix:	AQ - Ground Water	**Date Received:**	05/04/23
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	82%		20-150%
	13C8-FOSA	91%		20-150%
	d3-MeFOSA	70%		20-150%
	d5-EtFOSA	72%		20-150%
	d3-MeFOSAA	100%		20-150%
	d5-EtFOSAA	104%		20-150%
	d7-MeFOSE	66%		20-150%
	d9-EtFOSE	63%		20-150%
	13C2-4:2FTS	129%		20-180%
	13C2-6:2FTS	129%		20-180%
	13C2-8:2FTS	94%		20-180%
	13C3-HFPO-DA	90%		20-150%

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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

FC5818

COC #: 2305W1AFSG12

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Chain of Custody

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www.sgs.com

SGS - ORLANDO JOB # :

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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: Sampler 2:

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	NACH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633
1	AF-RHMW17S-WGN01LF-2305W1	5/3/23	0935	AF	GW	3		X								X
2	AF-RHMW17S-WQEB01-2305W1	5/3/23	1010	AF	GW	3		X								X

INITIAL ASSESSMENT

LABEL VERIFICATION

LAB USE ONLY

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 016-92539123

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 Avie Asoli	5/3/23 1705	2 Alex Edmonds AECOM	3 Alex Edmond	5/3/23 1600	4 SGS 5/4/23
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): 3.2 IR1

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

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FC5818: Chain of Custody
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FC5818

COC #: 2305W1AFSG11

PAGE 1 OF 1

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

SGS - ORLANDO JOB # :

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: **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	CONTAINER INFORMATION TOTAL # OF BOTTLES	OTHER	NONE	HCl	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
3	AF-RHMW17D-WGN01LF-2305W1	5/3/23	1050	AA	GW	3		X							X	
4	AF-RHMW17D-WQFB01-2305W1	5/3/23	1025	AA	GW	3		X							X	

5/3/23

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 016-92539123

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 Arie Asaili	5/3/23 1745	2 Alex Edwards AECOM	3 Alex Edwards AECOM	5/3/23 1745	4 Joshua Sgs 05/04/23 0800
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):

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

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5.1.5

FC 5818

COC #: 2305W1AFSG10

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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

SGS - ORLANDO JOB # :

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information	Project Information
Company Name: AECOM	**Project Name:** N6274223F0104 RH Fire Suppression System
Address: 1001 Bishop St. ste 1600	**Street**
City: Honolulu **State:** HI **Zip:** 96813	**City** Honolulu **State** Hawaii
Project Contact: Katie Abbott **Email:** katie.abbott@aecom.com	**Project #** 60697810
Project Manager: Watson Tanji **Email:** watson.tanji@aecom.com	
Phone #: 303-796-4624 / 808-954-4512	**Fax #**
Sampler(s) Name(s) (Printed)	**Client Purchase Order #**
Sampler 1: **Sampler 2:**	

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:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
5	AF-RHMW17-WGN01LF-2305W1	5/3/23	1250	AA	GW	3		X								X	

5/3/23

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 0169253912 3

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	Avie Asuli	5/3/23 1600	2 Alex Edmonds/AECOM	3 Alex Edmonds/AECOM	5/3/23 1600	4 FEDEX SGS 1600 5/4/23
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):

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

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FC5818: Chain of Custody
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SGS Sample Receipt Summary

Job Number: FC5818 **Client:** AECOM **Project:** : N6274223F0104 RH Fire Suppression System

Date / Time Received: 5/4/2023 4:00:00 PM **Delivery Method:** United Cargo/Airspace **Airbill #'s:** United Cargo AWB #: 016-92539123

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

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (3.1);

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

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

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

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

Misc. Information

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

Test Strip Lot #s: pH 0-3 230320 pH 10-12 25BDH07 Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: TORYW Date: 5/4/2023 4:00:00 PM Reviewer: CD Date: 5/5/2023

FC5818: Chain of Custody
Page 4 of 4

QC Evaluation: DOD QSM5.x Limits

Job Number: FC5818
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/03/23

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 FC5818

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: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

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

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

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: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

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

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

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	101%	20-150%
	13C5-PFPeA	105%	20-150%
	13C5-PFHxA	98%	20-150%
	13C4-PFHpA	103%	20-150%
	13C8-PFOA	102%	20-150%
	13C9-PFNA	107%	20-150%
	13C6-PFDA	97%	20-150%
	13C7-PFUnDA	99%	20-150%
	13C2-PFDoDA	97%	20-150%
	13C2-PFTeDA	93%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	93%	20-150%
	13C8-PFOS	104%	20-150%
	13C8-FOSA	109%	20-150%
	d3-MeFOSA	94%	20-150%
	d5-EtFOSA	103%	20-150%
	d3-MeFOSAA	100%	20-150%
	d5-EtFOSAA	108%	20-150%
	d7-MeFOSE	85%	20-150%
	d9-EtFOSE	90%	20-150%
	13C2-4:2FTS	103%	20-180%
	13C2-6:2FTS	111%	20-180%
	13C2-8:2FTS	116%	20-180%
	13C3-HFPO-DA	93%	20-150%

Instrument Blank

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q267-IBLK	6Q17712.D	1	05/10/23	MV	n/a	n/a	S6Q267

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

FC5818-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	104%	20-150%
	13C4-PFHpA	99%	20-150%
	13C8-PFOA	97%	20-150%
	13C9-PFNA	109%	20-150%
	13C6-PFDA	100%	20-150%
	13C7-PFUnDA	98%	20-150%
	13C2-PFDoDA	99%	20-150%
	13C2-PFTeDA	94%	20-150%
	13C3-PFBS	93%	20-150%
	13C3-PFHxS	107%	20-150%
	13C8-PFOS	98%	20-150%
	13C8-FOSA	91%	20-150%
	d3-MeFOSA	92%	20-150%
	d5-EtFOSA	96%	20-150%
	d3-MeFOSAA	107%	20-150%
	d5-EtFOSAA	101%	20-150%
	d7-MeFOSE	90%	20-150%
	d9-EtFOSE	90%	20-150%
	13C2-4:2FTS	105%	20-180%
	13C2-6:2FTS	107%	20-180%
	13C2-8:2FTS	109%	20-180%
	13C3-HFPO-DA	104%	20-150%

Continuing Calibration Blank

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-ICCB	4Q44159.D	1	05/09/23	MV	n/a	n/a	S4Q639

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

FC5818-1, FC5818-2

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	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: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-ICCB	4Q44159.D	1	05/09/23	MV	n/a	n/a	S4Q639

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

FC5818-1, FC5818-2

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	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	104%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	105%	20-150%
	13C8-PFOA	101%	20-150%
	13C9-PFNA	98%	20-150%
	13C6-PFDA	95%	20-150%
	13C7-PFUnDA	97%	20-150%
	13C2-PFDoDA	102%	20-150%
	13C2-PFTeDA	88%	20-150%
	13C3-PFBS	97%	20-150%
	13C3-PFHxS	94%	20-150%
	13C8-PFOS	105%	20-150%
	13C8-FOSA	102%	20-150%
	d3-MeFOSA	95%	20-150%
	d5-EtFOSA	96%	20-150%
	d3-MeFOSAA	106%	20-150%
	d5-EtFOSAA	105%	20-150%
	d7-MeFOSE	83%	20-150%
	d9-EtFOSE	82%	20-150%
	13C2-4:2FTS	115%	20-180%
	13C2-6:2FTS	124%	20-180%
	13C2-8:2FTS	140%	20-180%
	13C3-HFPO-DA	87%	20-150%

Continuing Calibration Blank

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-ICCB	4Q44166.D	1	05/09/23	MV	n/a	n/a	S4Q639

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

FC5818-3, FC5818-4, FC5818-5

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: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q639-ICCB	4Q44166.D	1	05/09/23	MV	n/a	n/a	S4Q639

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

FC5818-3, FC5818-4, FC5818-5

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	103%	20-150%
	13C5-PFHxA	97%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	101%	20-150%
	13C9-PFNA	109%	20-150%
	13C6-PFDA	94%	20-150%
	13C7-PFUnDA	94%	20-150%
	13C2-PFDoDA	93%	20-150%
	13C2-PFTeDA	86%	20-150%
	13C3-PFBS	94%	20-150%
	13C3-PFHxS	91%	20-150%
	13C8-PFOS	103%	20-150%
	13C8-FOSA	107%	20-150%
	d3-MeFOSA	92%	20-150%
	d5-EtFOSA	96%	20-150%
	d3-MeFOSAA	112%	20-150%
	d5-EtFOSAA	116%	20-150%
	d7-MeFOSE	84%	20-150%
	d9-EtFOSE	83%	20-150%
	13C2-4:2FTS	117%	20-180%
	13C2-6:2FTS	121%	20-180%
	13C2-8:2FTS	134%	20-180%
	13C3-HFPO-DA	88%	20-150%

Continuing Calibration Blank

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q267-ICCB	6Q17726.D	1	05/10/23	MV	n/a	n/a	S6Q267

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

FC5818-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	107%	20-150%
	13C5-PFHxA	110%	20-150%
	13C4-PFHpA	107%	20-150%
	13C8-PFOA	95%	20-150%
	13C9-PFNA	100%	20-150%
	13C6-PFDA	96%	20-150%
	13C7-PFUnDA	93%	20-150%
	13C2-PFDoDA	89%	20-150%
	13C2-PFTeDA	96%	20-150%
	13C3-PFBS	107%	20-150%
	13C3-PFHxS	110%	20-150%
	13C8-PFOS	90%	20-150%
	13C8-FOSA	98%	20-150%
	d3-MeFOSA	95%	20-150%
	d5-EtFOSA	95%	20-150%
	d3-MeFOSAA	106%	20-150%
	d5-EtFOSAA	106%	20-150%
	d7-MeFOSE	89%	20-150%
	d9-EtFOSE	94%	20-150%
	13C2-4:2FTS	103%	20-180%
	13C2-6:2FTS	105%	20-180%
	13C2-8:2FTS	110%	20-180%
	13C3-HFPO-DA	112%	20-150%

Continuing Calibration Blank

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q267-ICCB	6Q17731.D	1	05/11/23	MV	n/a	n/a	S6Q267

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

FC5818-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	103%	20-150%
	13C5-PFPeA	101%	20-150%
	13C5-PFHxA	100%	20-150%
	13C4-PFHpA	102%	20-150%
	13C8-PFOA	101%	20-150%
	13C9-PFNA	95%	20-150%
	13C6-PFDA	108%	20-150%
	13C7-PFUnDA	103%	20-150%
	13C2-PFDoDA	104%	20-150%
	13C2-PFTeDA	95%	20-150%
	13C3-PFBS	98%	20-150%
	13C3-PFHxS	103%	20-150%
	13C8-PFOS	99%	20-150%
	13C8-FOSA	99%	20-150%
	d3-MeFOSA	91%	20-150%
	d5-EtFOSA	89%	20-150%
	d3-MeFOSAA	115%	20-150%
	d5-EtFOSAA	96%	20-150%
	d7-MeFOSE	94%	20-150%
	d9-EtFOSE	94%	20-150%
	13C2-4:2FTS	106%	20-180%
	13C2-6:2FTS	107%	20-180%
	13C2-8:2FTS	111%	20-180%
	13C3-HFPO-DA	101%	20-150%

Method Blank Summary

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-MB	4Q44162.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

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: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-MB	4Q44162.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

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	109%	20-150%
	13C5-PFPeA	107%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	108%	20-150%
	13C8-PFOA	109%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	108%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	80%	20-150%
	13C2-PFTeDA	74%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	106%	20-150%
	13C8-PFOS	101%	20-150%
	13C8-FOSA	72%	20-150%
	d3-MeFOSA	66%	20-150%
	d5-EtFOSA	72%	20-150%
	d3-MeFOSAA	108%	20-150%
	d5-EtFOSAA	98%	20-150%
	d7-MeFOSE	53%	20-150%
	d9-EtFOSE	60%	20-150%
	13C2-4:2FTS	131%	20-180%
	13C2-6:2FTS	147%	20-180%
	13C2-8:2FTS	122%	20-180%
	13C3-HFPO-DA	93%	20-150%

Blank Spike Summary

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-LLBS	4Q44161.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0266	89	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0129	86	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0069	92	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0064	85	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0062	83	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0054	72	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0071	95	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0065	87	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0067	89	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0063	84	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0071	95	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0060	90	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0063	89	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0058	85	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0068	95	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0065	93	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0057	79	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0062	86	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0055	76	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0281	0.0266	95	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0256	90	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0265	92	40-150
754-91-6	PFOSA	0.0075	0.0069	92	40-150
31506-32-8	MeFOSA	0.015	0.0136	91	40-150
4151-50-2	EtFOSA	0.015	0.0128	85	40-150
2355-31-9	MeFOSAA	0.0075	0.0060	80	40-150
2991-50-6	EtFOSAA	0.0075	0.0049	65	40-150
24448-09-7	MeFOSE	0.0375	0.0349	93	40-150
1691-99-2	EtFOSE	0.0375	0.0373	99	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0135	90	40-150
919005-14-4	ADONA	0.0142	0.0140	99	40-150
377-73-1	PFMPA	0.015	0.0133	89	40-150
863090-89-5	PFMBA	0.015	0.0131	87	40-150
151772-58-6	NFDHA	0.015	0.0099	66	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.014	0.0135	96	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0142	0.0139	98	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-LLBS	4Q44161.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0111	83	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0247	66	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.188	0.169	90	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.195	104	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	113%	20-150%
	13C5-PFPeA	110%	20-150%
	13C5-PFHxA	108%	20-150%
	13C4-PFHpA	111%	20-150%
	13C8-PFOA	111%	20-150%
	13C9-PFNA	111%	20-150%
	13C6-PFDA	115%	20-150%
	13C7-PFUnDA	110%	20-150%
	13C2-PFDoDA	104%	20-150%
	13C2-PFTeDA	89%	20-150%
	13C3-PFBS	110%	20-150%
	13C3-PFHxS	114%	20-150%
	13C8-PFOS	117%	20-150%
	13C8-FOSA	91%	20-150%
	d3-MeFOSA	84%	20-150%
	d5-EtFOSA	89%	20-150%
	d3-MeFOSAA	119%	20-150%
	d5-EtFOSAA	124%	20-150%
	d7-MeFOSE	72%	20-150%
	d9-EtFOSE	79%	20-150%
	13C2-4:2FTS	145%	20-180%
	13C2-6:2FTS	149%	20-180%
	13C2-8:2FTS	139%	20-180%
	13C3-HFPO-DA	93%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-BS	4Q44160.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0925	93	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0454	91	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0219	88	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0229	92	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0239	96	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0177	71	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0231	92	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0237	95	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0225	90	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0219	88	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0240	96	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0210	95	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0205	87	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0174	76	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0242	102	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0214	92	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0219	91	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0206	85	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0185	76	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.0931	99	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0845	89	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0986	103	40-150
754-91-6	PFOSA	0.025	0.0225	90	40-150
31506-32-8	MeFOSA	0.05	0.0475	95	40-150
4151-50-2	EtFOSA	0.05	0.0481	96	40-150
2355-31-9	MeFOSAA	0.025	0.0228	91	40-150
2991-50-6	EtFOSAA	0.025	0.0229	92	40-150
24448-09-7	MeFOSE	0.125	0.116	93	40-150
1691-99-2	EtFOSE	0.125	0.109	87	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0479	96	40-150
919005-14-4	ADONA	0.0473	0.0508	108	40-150
377-73-1	PFMPA	0.05	0.0468	94	40-150
863090-89-5	PFMBA	0.05	0.0452	90	40-150
151772-58-6	NFDHA	0.05	0.0365	73	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0468	0.0494	106	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0473	0.0479	101	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-BS	4Q44160.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0387	87	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0863	69	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.581	93	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.650	104	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	110%	20-150%
	13C5-PFPeA	113%	20-150%
	13C5-PFHxA	114%	20-150%
	13C4-PFHpA	112%	20-150%
	13C8-PFOA	107%	20-150%
	13C9-PFNA	113%	20-150%
	13C6-PFDA	104%	20-150%
	13C7-PFUnDA	104%	20-150%
	13C2-PFDoDA	93%	20-150%
	13C2-PFTeDA	77%	20-150%
	13C3-PFBS	103%	20-150%
	13C3-PFHxS	107%	20-150%
	13C8-PFOS	107%	20-150%
	13C8-FOSA	79%	20-150%
	d3-MeFOSA	68%	20-150%
	d5-EtFOSA	72%	20-150%
	d3-MeFOSAA	107%	20-150%
	d5-EtFOSAA	108%	20-150%
	d7-MeFOSE	57%	20-150%
	d9-EtFOSE	61%	20-150%
	13C2-4:2FTS	122%	20-180%
	13C2-6:2FTS	141%	20-180%
	13C2-8:2FTS	125%	20-180%
	13C3-HFPO-DA	95%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-MS	4Q44168.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639
FC5818-3	4Q44167.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639
FC5818-3 [a]	6Q17727.D	5	05/10/23	MV	05/05/23	OP96747	S6Q267

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

CAS No.	Compound	FC5818-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.070 U [b]		0.0893	0.0728	82	40-150
2706-90-3	Perfluoropentanoic acid	0.0070 U		0.0446	0.0395	88	40-150
307-24-4	Perfluorohexanoic acid	0.0035 U		0.0223	0.0196	88	40-150
375-85-9	Perfluoroheptanoic acid	0.0035 U		0.0223	0.0204	91	40-150
335-67-1	Perfluorooctanoic acid	0.0035 U		0.0223	0.0193	86	40-150
375-95-1	Perfluorononanoic acid	0.0035 U		0.0223	0.0185	83	40-150
335-76-2	Perfluorodecanoic acid	0.0035 U		0.0223	0.0201	90	40-150
2058-94-8	Perfluoroundecanoic acid	0.0035 U		0.0223	0.0210	94	40-150
307-55-1	Perfluorododecanoic acid	0.0035 U		0.0223	0.0211	95	40-150
72629-94-8	Perfluorotridecanoic acid	0.0035 U		0.0223	0.0152	68	40-150
376-06-7	Perfluorotetradecanoic acid	0.0035 U		0.0223	0.0201	90	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0035 U		0.0198	0.0183	92	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0044 U		0.021	0.0191	91	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0035 U		0.0204	0.0191	94	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0035 U		0.0213	0.0238	112	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0035 U		0.0207	0.0195	94	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0035 U		0.0215	0.0169	79	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0035 U		0.0215	0.0175	81	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0044 U		0.0217	0.0096	44	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.018 U		0.0837	0.0820	98	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U		0.0848	0.0849	100	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U		0.0857	0.0929	108	40-150
754-91-6	PFOSA	0.0035 U		0.0223	0.0213	95	40-150
31506-32-8	MeFOSA	0.0070 U		0.0446	0.0424	95	40-150
4151-50-2	EtFOSA	0.0070 U		0.0446	0.0405	91	40-150
2355-31-9	MeFOSAA	0.022 U [b]		0.0223	0.0216	97	40-150
2991-50-6	EtFOSAA	0.022 U [b]		0.0223	0.0197	88	40-150
24448-09-7	MeFOSE	0.035 U		0.112	0.101	90	40-150
1691-99-2	EtFOSE	0.035 U		0.112	0.104	93	40-150
13252-13-6	HFPO-DA (GenX)	0.0035 U		0.0446	0.0421	94	40-150
919005-14-4	ADONA	0.0070 U		0.0422	0.0552	131	40-150
377-73-1	PFMPA	0.0070 U		0.0446	0.0108	24*	40-150
863090-89-5	PFMBA	0.0070 U		0.0446	0.0674	151*	40-150
151772-58-6	NFDHA	0.0070 U		0.0446	0.0242	54	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0070 U		0.0417	0.0530	127	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0070 U		0.0422	0.0371	88	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-MS	4Q44168.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639
FC5818-3	4Q44167.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639
FC5818-3 [a]	6Q17727.D	5	05/10/23	MV	05/05/23	OP96747	S6Q267

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

CAS No.	Compound	FC5818-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0070	U	0.0397	0.0385	97	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.018	U	0.112	0.0177	16*	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.088	U	0.558	0.620	111	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.088	U	0.558	0.723	130	40-150

CAS No.	ID Standard Recoveries	MS	FC5818-3	FC5818-3	Limits
	13C4-PFBA	3%* [c]	4%* [c]	4%* [c]	20-150%
	13C5-PFPeA	21%	26%	26%	20-150%
	13C5-PFHxA	87%	101%	101%	20-150%
	13C4-PFHpA	104%	115%	119%	20-150%
	13C8-PFOA	106%	121%	113%	20-150%
	13C9-PFNA	112%	108%	115%	20-150%
	13C6-PFDA	103%	122%	102%	20-150%
	13C7-PFUnDA	96%	114%	101%	20-150%
	13C2-PFDoDA	83%	103%	88%	20-150%
	13C2-PFTeDA	44%	64%	64%	20-150%
	13C3-PFBS	86%	98%	107%	20-150%
	13C3-PFHxS	93%	101%	111%	20-150%
	13C8-PFOS	115%	114%	56%	20-150%
	13C8-FOSA	106%	122%	44%	20-150%
	d3-MeFOSA	106%	117%	48%	20-150%
	d5-EtFOSA	111%	122%	49%	20-150%
	d3-MeFOSAA	156%* [c]	169%* [c]	64%	20-150%
	d5-EtFOSAA	178%* [c]	181%* [c]	63%	20-150%
	d7-MeFOSE	74%	85%	33%	20-150%
	d9-EtFOSE	75%	86%	38%	20-150%
	13C2-4:2FTS	119%	152%	101%	20-180%
	13C2-6:2FTS	108%	124%	133%	20-180%
	13C2-8:2FTS	110%	121%	105%	20-180%
	13C3-HFPO-DA	71%	80%	101%	20-150%

(a) Dilution required (ID recovery standard failure).
(b) Result is from Run #2.
(c) Outside control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-DUP	4Q44171.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639
FC5818-5	4Q44170.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

CAS No.	Compound	FC5818-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.0029	J	0.0028	J	4	30
2706-90-3	Perfluoropentanoic acid	0.0030	J	0.0030	J	0	30
307-24-4	Perfluorohexanoic acid	0.0019	J	0.0017	J	11	30
375-85-9	Perfluoroheptanoic acid	0.00076	J	0.00064	J	17	30
335-67-1	Perfluorooctanoic acid	0.00058	J	0.00048	J	19	30
375-95-1	Perfluorononanoic acid	0.0036	U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0036	U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0036	U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0036	U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0036	U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0036	U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0036	U	ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0045	U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0036	U	ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0036	U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0036	U	ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0036	U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0036	U	ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0045	U	ND		nc	30
757124-72-4	4:2 Fluorotelomer sulfonate	0.018	U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	ND		nc	30
754-91-6	PFOSA	0.0036	U	ND		nc	30
31506-32-8	MeFOSA	0.0071	U	ND		nc	30
4151-50-2	EtFOSA	0.0071	U	ND		nc	30
2355-31-9	MeFOSAA	0.0045	U	ND		nc	30
2991-50-6	EtFOSAA	0.0045	U	ND		nc	30
24448-09-7	MeFOSE	0.036	U	ND		nc	30
1691-99-2	EtFOSE	0.036	U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0036	U	ND		nc	30
919005-14-4	ADONA	0.0071	U	ND		nc	30
377-73-1	PFMPA	0.0071	U	ND		nc	30
863090-89-5	PFMBA	0.0071	U	ND		nc	30
151772-58-6	NFDHA	0.0071	U	ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0071	U	ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0071	U	ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC5818
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96747-DUP	4Q44171.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639
FC5818-5	4Q44170.D	1	05/09/23	MV	05/05/23	OP96747	S4Q639

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

FC5818-1, FC5818-2, FC5818-3, FC5818-4, FC5818-5

CAS No.	Compound	FC5818-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0071	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.089	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.089	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC5818-5	Limits
	13C4-PFBA	94%	94%	20-150%
	13C5-PFPeA	109%	104%	20-150%
	13C5-PFHxA	105%	101%	20-150%
	13C4-PFHpA	108%	106%	20-150%
	13C8-PFOA	104%	100%	20-150%
	13C9-PFNA	103%	96%	20-150%
	13C6-PFDA	98%	94%	20-150%
	13C7-PFUnDA	88%	83%	20-150%
	13C2-PFDoDA	74%	66%	20-150%
	13C2-PFTeDA	67%	53%	20-150%
	13C3-PFBS	101%	105%	20-150%
	13C3-PFHxS	103%	98%	20-150%
	13C8-PFOS	97%	82%	20-150%
	13C8-FOSA	92%	91%	20-150%
	d3-MeFOSA	74%	70%	20-150%
	d5-EtFOSA	75%	72%	20-150%
	d3-MeFOSAA	106%	100%	20-150%
	d5-EtFOSAA	103%	104%	20-150%
	d7-MeFOSE	66%	66%	20-150%
	d9-EtFOSE	66%	63%	20-150%
	13C2-4:2FTS	126%	129%	20-180%
	13C2-6:2FTS	123%	129%	20-180%
	13C2-8:2FTS	102%	94%	20-180%
	13C3-HFPO-DA	92%	90%	20-150%

* = Outside of Control Limits.