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

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC2175

Sampling Date: 01/24/23

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: 32

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: FC2175

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FC2175-1	01/24/23	10:20	NT	01/25/23	AQ	Ground Water	AF-HDMW225303-WGN01LF-2301W4
FC2175-2	01/24/23	12:30	NT	01/25/23	AQ	Ground Water	AF-RHMW10-WGN01LF-2301W4

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC2175

Site: N6274223F0104 RH Fire Suppression System **Report Date:** 2/7/2023 4:42:14 PM

On 01/25/2023, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 0.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC2175 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:** OP95216

Sample(s) FC2239-1MS, FC2270-2DUP were used as the QC samples indicated.

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

Narrative prepared by:

_____

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

Summary of Hits

Job Number: FC2175
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/24/23

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

FC2175-1 **AF-HDMW225303-WGN01LF-2301W4**

No hits reported in this sample.

FC2175-2 **AF-RHMW10-WGN01LF-2301W4**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2301W4		
Lab Sample ID:	FC2175-1	**Date Sampled:**	01/24/23
Matrix:	AQ - Ground Water	**Date Received:**	01/25/23
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	6Q12893.D	1	02/03/23 12:08	MV	01/30/23 09:00	OP95216	S6Q198
Run #2							

	Initial Volume	Final Volume
Run #1	530 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.8 U	19	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	9.4	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
375-85-9	Perfluoroheptanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
335-67-1	Perfluorooctanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	4.7	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.7	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.7	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.7	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.94 U	4.7	0.94	0.47	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.7	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	4.7	1.9	0.66	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.94 U	4.7	0.94	0.47	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	4.7	1.9	0.51	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.7	1.9	0.54	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.7	1.9	0.60	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.7	3.8	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	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	4.7	1.9	0.63	ng/l	
31506-32-8	MeFOSA	1.9 U	4.7	1.9	0.94	ng/l	
4151-50-2	EtFOSA	1.9 U	4.7	1.9	0.94	ng/l	

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

Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2301W4		
Lab Sample ID:	FC2175-1	**Date Sampled:**	01/24/23
Matrix:	AQ - Ground Water	**Date Received:**	01/25/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.8 U	4.7	3.8	0.94	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.7	3.8	1.3	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.4 U	47	9.4	4.1	ng/l	
1691-99-2	EtFOSE	19 U	47	19	7.0	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.8 U	19	3.8	0.94	ng/l	
919005-14-4	ADONA	3.8 U	19	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	9.4	1.9	0.94	ng/l	
863090-89-5	PFMBA	3.8 U	9.4	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	9.4	3.8	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	19	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	19	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	9.4	1.9	0.74	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.4 U	24	9.4	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.2	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.4	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	111%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	122%		20-150%
	13C4-PFHpA	112%		20-150%
	13C8-PFOA	107%		20-150%
	13C9-PFNA	100%		20-150%
	13C6-PFDA	100%		20-150%
	13C7-PFUnDA	102%		20-150%
	13C2-PFDoDA	102%		20-150%
	13C2-PFTeDA	94%		20-150%
	13C3-PFBS	109%		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-HDMW225303-WGN01LF-2301W4		
Lab Sample ID:	FC2175-1	**Date Sampled:**	01/24/23
Matrix:	AQ - Ground Water	**Date Received:**	01/25/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	91%		20-150%
	13C8-FOSA	100%		20-150%
	d3-MeFOSA	94%		20-150%
	d5-EtFOSA	95%		20-150%
	d3-MeFOSAA	94%		20-150%
	d5-EtFOSAA	92%		20-150%
	d7-MeFOSE	96%		20-150%
	d9-EtFOSE	99%		20-150%
	13C2-4:2FTS	129%		20-150%
	13C2-6:2FTS	125%		20-150%
	13C2-8:2FTS	117%		20-150%
	13C3-HFPO-DA	121%		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-RHMW10-WGN01LF-2301W4		
Lab Sample ID:	FC2175-2	**Date Sampled:**	01/24/23
Matrix:	AQ - Ground Water	**Date Received:**	01/25/23
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	6Q12894.D	1	02/03/23 12:21	MV	01/30/23 09:00	OP95216	S6Q198
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	19	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	9.6	1.9	0.90	ng/l	
307-24-4	Perfluorohexanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
375-85-9	Perfluoroheptanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
335-67-1	Perfluorooctanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	4.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.8	1.9	0.58	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.96 U	4.8	0.96	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	4.8	1.9	0.67	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.96 U	4.8	0.96	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	4.8	1.9	0.52	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.8	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	4.8	1.9	0.64	ng/l	
31506-32-8	MeFOSA	1.9 U	4.8	1.9	0.96	ng/l	
4151-50-2	EtFOSA	1.9 U	4.8	1.9	0.96	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-RHMW10-WGN01LF-2301W4		
Lab Sample ID:	FC2175-2	**Date Sampled:**	01/24/23
Matrix:	AQ - Ground Water	**Date Received:**	01/25/23
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	4.8	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	9.6 U	48	9.6	4.2	ng/l	
1691-99-2	EtFOSE	19 U	48	19	7.1	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.8 U	19	3.8	0.96	ng/l	
919005-14-4	ADONA	3.8 U	19	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	9.6	1.9	0.96	ng/l	
863090-89-5	PFMBA	3.8 U	9.6	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	9.6	3.8	1.2	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	19	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	19	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	9.6	1.9	0.75	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.6 U	24	9.6	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.4	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	106%		20-150%
	13C5-PFPeA	108%		20-150%
	13C5-PFHxA	112%		20-150%
	13C4-PFHpA	102%		20-150%
	13C8-PFOA	100%		20-150%
	13C9-PFNA	112%		20-150%
	13C6-PFDA	101%		20-150%
	13C7-PFUnDA	90%		20-150%
	13C2-PFDoDA	86%		20-150%
	13C2-PFTeDA	80%		20-150%
	13C3-PFBS	102%		20-150%
	13C3-PFHxS	101%		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-RHMW10-WGN01LF-2301W4		
Lab Sample ID:	FC2175-2	**Date Sampled:**	01/24/23
Matrix:	AQ - Ground Water	**Date Received:**	01/25/23
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	99%		20-150%
	13C8-FOSA	101%		20-150%
	d3-MeFOSA	99%		20-150%
	d5-EtFOSA	100%		20-150%
	d3-MeFOSAA	103%		20-150%
	d5-EtFOSAA	92%		20-150%
	d7-MeFOSE	97%		20-150%
	d9-EtFOSE	103%		20-150%
	13C2-4:2FTS	119%		20-150%
	13C2-6:2FTS	113%		20-150%
	13C2-8:2FTS	103%		20-150%
	13C3-HFPO-DA	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

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

FC2175

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

SGS - ORLANDO JOB # :

COC #: 2301W4AFSG04
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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: NOAH TURNER 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	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
1	AF-HDMW225303-WGN01LF-2301W4	01/24/23	1020	CW/MH/NT	GW	3		X								X	

NT 01/24/2023

NT 01/24/2023

INITIAL ASSESSMENT

LABEL VERIFICATION

Turnaround Time (Business days)

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

Data Deliverable Information

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

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United AWB 016-51848403

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	AECOM	01/24/2023 1330	2 NEECOM	3 AECOM	1/24/23 1630	4 1/25/23 1540
5	Relinquished by/Affiliation	Date Time:	6 Received By/Affiliation	7 Relinquished By/Affiliation	Date Time:	8 Received By/Affiliation

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 0.6

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

PFAS_COCs_ALL.xls Rev 031318

FC2175: Chain of Custody
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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

FC2175
SGS - ORLANDO JOB # :

COC #: 2301W4AFSG03
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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: NOAH TURNER 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	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
1	AF-RHMW10-WGN01LF-2301W4	1/24/23	1230	CW/NH/NT	GW	3		X								X	

NT 01/24/2023

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 016-51848403

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	AECOM	01/24/2023 1505	2 AECOM	3	1/24/23 1845	4 1/25/23 1540
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

PFAS_COCs_ALL.xls Rev 031318

FC2175: Chain of Custody
Page 2 of 3

SGS Sample Receipt Summary

Job Number: FC2175 **Client:** AECOM **Project:** N6274223F0104 RH Fire Suppression System

Date / Time Received: 1/25/2023 3:40:00 PM **Delivery Method:** United Cargo/Airspace **Airbill #'s:** United Cargo AWB #: 016-51848403

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (0.6);

Cooler Temps (Corrected) °C: Cooler 1: (0.8);

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

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

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

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

Misc. Information

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

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

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: NATHANS Date: 1/25/2023 3:40:00 PM Reviewer: CD Date: 1/26/2023

5.1

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FC2175: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5.x Limits

Job Number: FC2175
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/24/23

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 FC2175

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: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q198-IBLK	6Q12887.D	1	02/03/23	MV	n/a	n/a	S6Q198

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

FC2175-1, FC2175-2

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	0.0025	0.0050	0.0010	ug/l	J
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	0.0086	0.050	0.0044	ug/l	J
1691-99-2	EtFOSE	0.0154	0.050	0.0074	ug/l	J
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Instrument Blank

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q198-IBLK	6Q12887.D	1	02/03/23	MV	n/a	n/a	S6Q198

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

FC2175-1, FC2175-2

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

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	102%	20-150%
	13C5-PFHxA	101%	20-150%
	13C4-PFHpA	99%	20-150%
	13C8-PFOA	94%	20-150%
	13C9-PFNA	101%	20-150%
	13C6-PFDA	112%	20-150%
	13C7-PFUnDA	107%	20-150%
	13C2-PFDoDA	99%	20-150%
	13C2-PFTeDA	107%	20-150%
	13C3-PFBS	105%	20-150%
	13C3-PFHxS	105%	20-150%
	13C8-PFOS	99%	20-150%
	13C8-FOSA	107%	20-150%
	d3-MeFOSA	98%	20-150%
	d5-EtFOSA	99%	20-150%
	d3-MeFOSAA	101%	20-150%
	d5-EtFOSAA	102%	20-150%
	d7-MeFOSE	105%	20-150%
	d9-EtFOSE	107%	20-150%
	13C2-4:2FTS	114%	20-150%
	13C2-6:2FTS	115%	20-150%
	13C2-8:2FTS	114%	20-150%
	13C3-HFPO-DA	98%	20-150%

Method Blank Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-MB	6Q12892.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198

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

FC2175-1, FC2175-2

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

Method Blank Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-MB	6Q12892.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198

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

FC2175-1, FC2175-2

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

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	101%	20-150%
	13C5-PFPeA	108%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	107%	20-150%
	13C8-PFOA	105%	20-150%
	13C9-PFNA	107%	20-150%
	13C6-PFDA	113%	20-150%
	13C7-PFUnDA	112%	20-150%
	13C2-PFDoDA	94%	20-150%
	13C2-PFTeDA	90%	20-150%
	13C3-PFBS	91%	20-150%
	13C3-PFHxS	94%	20-150%
	13C8-PFOS	93%	20-150%
	13C8-FOSA	92%	20-150%
	d3-MeFOSA	79%	20-150%
	d5-EtFOSA	81%	20-150%
	d3-MeFOSAA	85%	20-150%
	d5-EtFOSAA	84%	20-150%
	d7-MeFOSE	88%	20-150%
	d9-EtFOSE	94%	20-150%
	13C2-4:2FTS	105%	20-150%
	13C2-6:2FTS	109%	20-150%
	13C2-8:2FTS	107%	20-150%
	13C3-HFPO-DA	107%	20-150%

Continuing Calibration Blank

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q198-ICCB	6Q12901.D	1	02/03/23	MV	n/a	n/a	S6Q198

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

OP95216-DUP

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

Continuing Calibration Blank

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q198-ICCB	6Q12901.D	1	02/03/23	MV	n/a	n/a	S6Q198

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

OP95216-DUP

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

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	98%	20-150%
	13C5-PFPeA	99%	20-150%
	13C5-PFHxA	92%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	102%	20-150%
	13C9-PFNA	92%	20-150%
	13C6-PFDA	105%	20-150%
	13C7-PFUnDA	99%	20-150%
	13C2-PFDoDA	99%	20-150%
	13C2-PFTeDA	104%	20-150%
	13C3-PFBS	95%	20-150%
	13C3-PFHxS	88%	20-150%
	13C8-PFOS	105%	20-150%
	13C8-FOSA	109%	20-150%
	d3-MeFOSAA	103%	20-150%
	d5-EtFOSAA	108%	20-150%
	13C2-4:2FTS	110%	20-150%
	13C2-6:2FTS	96%	20-150%
	13C2-8:2FTS	94%	20-150%

Blank Spike Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-LLBS	6Q12891.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198

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

FC2175-1, FC2175-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.04	0.0396	99	40-150
2706-90-3	Perfluoropentanoic acid	0.02	0.0205	103	40-150
307-24-4	Perfluorohexanoic acid	0.01	0.0104	104	40-150
375-85-9	Perfluoroheptanoic acid	0.01	0.0096	96	40-150
335-67-1	Perfluorooctanoic acid	0.01	0.0107	107	40-150
375-95-1	Perfluorononanoic acid	0.01	0.0103	103	40-150
335-76-2	Perfluorodecanoic acid	0.01	0.0105	105	40-150
2058-94-8	Perfluoroundecanoic acid	0.01	0.0106	106	40-150
307-55-1	Perfluorododecanoic acid	0.01	0.0103	103	40-150
72629-94-8	Perfluorotridecanoic acid	0.01	0.0098	98	40-150
376-06-7	Perfluorotetradecanoic acid	0.01	0.0112	112	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00887	0.0090	101	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00941	0.0091	97	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00914	0.0095	104	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00953	0.0100	105	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00928	0.0094	101	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00962	0.0098	102	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00965	0.0082	85	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0097	0.0081	84	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0375	0.0377	101	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.038	0.0388	102	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0384	0.0358	93	40-150
754-91-6	PFOSA	0.01	0.0106	106	40-150
31506-32-8	MeFOSA	0.01	0.0097	97	40-150
4151-50-2	EtFOSA	0.01	0.0092	92	40-150
2355-31-9	MeFOSAA	0.01	0.010	100	40-150
2991-50-6	EtFOSAA	0.01	0.0087	87	40-150
24448-09-7	MeFOSE	0.1	0.0914	91	40-150
1691-99-2	EtFOSE	0.1	0.0878	88	40-150
13252-13-6	HFPO-DA (GenX)	0.04	0.0424	106	40-150
919005-14-4	ADONA	0.0378	0.0360	95	40-150
377-73-1	PFMPA	0.02	0.0206	103	40-150
863090-89-5	PFMBA	0.02	0.0195	98	40-150
151772-58-6	NFDHA	0.02	0.0219	110	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0374	0.0390	104	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0378	0.0364	96	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-LLBS	6Q12891.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198

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

FC2175-1, FC2175-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0178	0.0176	99	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.05	0.0421	84	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.25	0.233	93	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.25	0.238	95	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	106%	20-150%
	13C5-PFPeA	108%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	108%	20-150%
	13C8-PFOA	99%	20-150%
	13C9-PFNA	102%	20-150%
	13C6-PFDA	106%	20-150%
	13C7-PFUnDA	103%	20-150%
	13C2-PFDoDA	100%	20-150%
	13C2-PFTeDA	80%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	110%	20-150%
	13C8-PFOS	105%	20-150%
	13C8-FOSA	101%	20-150%
	d3-MeFOSA	85%	20-150%
	d5-EtFOSA	83%	20-150%
	d3-MeFOSAA	107%	20-150%
	d5-EtFOSAA	99%	20-150%
	d7-MeFOSE	90%	20-150%
	d9-EtFOSE	94%	20-150%
	13C2-4:2FTS	124%	20-150%
	13C2-6:2FTS	114%	20-150%
	13C2-8:2FTS	123%	20-150%
	13C3-HFPO-DA	113%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-BS	6Q12890.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198

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

FC2175-1, FC2175-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0962	96	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0487	97	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0231	92	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0239	96	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0234	94	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0224	90	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0241	96	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0245	98	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0242	97	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0248	99	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0246	98	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0206	93	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0227	96	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0216	95	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0242	102	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0221	95	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0221	92	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0221	92	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0217	89	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.0894	95	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0914	96	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0970	101	40-150
754-91-6	PFOSA	0.025	0.0227	91	40-150
31506-32-8	MeFOSA	0.025	0.0217	87	40-150
4151-50-2	EtFOSA	0.025	0.0209	84	40-150
2355-31-9	MeFOSAA	0.025	0.0242	97	40-150
2991-50-6	EtFOSAA	0.025	0.0221	88	40-150
24448-09-7	MeFOSE	0.25	0.239	96	40-150
1691-99-2	EtFOSE	0.25	0.213	85	40-150
13252-13-6	HFPO-DA (GenX)	0.1	0.0967	97	40-150
919005-14-4	ADONA	0.0945	0.0939	99	40-150
377-73-1	PFMPA	0.05	0.0226	45	40-150
863090-89-5	PFMBA	0.05	0.0508	102	40-150
151772-58-6	NFDHA	0.05	0.0483	97	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0935	0.0859	92	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0945	0.0858	91	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-BS	6Q12890.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198

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

FC2175-1, FC2175-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0405	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0776	62	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.556	89	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.563	90	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	23%	20-150%
	13C5-PFPeA	109%	20-150%
	13C5-PFHxA	114%	20-150%
	13C4-PFHpA	108%	20-150%
	13C8-PFOA	114%	20-150%
	13C9-PFNA	115%	20-150%
	13C6-PFDA	117%	20-150%
	13C7-PFUnDA	110%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	104%	20-150%
	13C3-PFBS	109%	20-150%
	13C3-PFHxS	110%	20-150%
	13C8-PFOS	115%	20-150%
	13C8-FOSA	123%	20-150%
	d3-MeFOSA	112%	20-150%
	d5-EtFOSA	112%	20-150%
	d3-MeFOSAA	119%	20-150%
	d5-EtFOSAA	119%	20-150%
	d7-MeFOSE	109%	20-150%
	d9-EtFOSE	118%	20-150%
	13C2-4:2FTS	117%	20-150%
	13C2-6:2FTS	123%	20-150%
	13C2-8:2FTS	117%	20-150%
	13C3-HFPO-DA	116%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-MS	6Q12899.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198
FC2239-1	6Q12898.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198

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

FC2175-1, FC2175-2

CAS No.	Compound	FC2239-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.020	U	0.098	0.0996	102	40-150
2706-90-3	Perfluoropentanoic acid	0.0098	U	0.049	0.0509	104	40-150
307-24-4	Perfluorohexanoic acid	0.00086	J	0.0245	0.0237	93	40-150
375-85-9	Perfluoroheptanoic acid	0.0049	U	0.0245	0.0253	103	40-150
335-67-1	Perfluorooctanoic acid	0.00093	J	0.0245	0.0270	106	40-150
375-95-1	Perfluorononanoic acid	0.0049	U	0.0245	0.0242	99	40-150
335-76-2	Perfluorodecanoic acid	0.0049	U	0.0245	0.0241	98	40-150
2058-94-8	Perfluoroundecanoic acid	0.0049	U	0.0245	0.0254	104	40-150
307-55-1	Perfluorododecanoic acid	0.0049	U	0.0245	0.0269	110	40-150
72629-94-8	Perfluorotridecanoic acid	0.0049	U	0.0245	0.0224	91	40-150
376-06-7	Perfluorotetradecanoic acid	0.0049	U	0.0245	0.0269	110	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0049	U	0.0217	0.0228	105	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0049	U	0.0231	0.0240	104	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0010	J	0.0224	0.0250	107	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0049	U	0.0234	0.0235	101	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0049	U	0.0227	0.0309	136	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0049	U	0.0236	0.0224	95	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0049	U	0.0237	0.0209	88	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0049	U	0.0238	0.0204	86	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.020	U	0.0919	0.0942	102	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.020	U	0.0931	0.0945	101	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.020	U	0.0941	0.0977	104	40-150
754-91-6	PFOSA	0.0049	U	0.0245	0.0246	100	40-150
31506-32-8	MeFOSA	0.0049	U	0.0245	0.0236	96	40-150
4151-50-2	EtFOSA	0.0049	U	0.0245	0.0235	96	40-150
2355-31-9	MeFOSAA	0.0049	U	0.0245	0.0242	99	40-150
2991-50-6	EtFOSAA	0.0049	U	0.0245	0.0233	95	40-150
24448-09-7	MeFOSE	0.049	U	0.245	0.251	102	40-150
1691-99-2	EtFOSE	0.049	U	0.245	0.241	98	40-150
13252-13-6	HFPO-DA (GenX)	0.020	U	0.098	0.0900	92	40-150
919005-14-4	ADONA	0.020	U	0.0926	0.0856	92	40-150
377-73-1	PFMPA	0.0098	U	0.049	0.0482	98	40-150
863090-89-5	PFMBA	0.0098	U	0.049	0.0504	103	40-150
151772-58-6	NFDHA	0.0098	U	0.049	0.0483	99	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.020	U	0.0917	0.0806	88	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.020	U	0.0926	0.0746	81	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-MS	6Q12899.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198
FC2239-1	6Q12898.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198

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

FC2175-1, FC2175-2

CAS No.	Compound	FC2239-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0098	U	0.0436	0.0417	96	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.025	U	0.123	0.104	85	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.12	U	0.613	0.540	88	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.12	U	0.613	0.549	90	40-150

CAS No.	ID Standard Recoveries	MS	FC2239-1	Limits
	13C4-PFBA	101%	108%	20-150%
	13C5-PFPeA	113%	118%	20-150%
	13C5-PFHxA	118%	112%	20-150%
	13C4-PFHpA	112%	117%	20-150%
	13C8-PFOA	105%	102%	20-150%
	13C9-PFNA	101%	121%	20-150%
	13C6-PFDA	114%	112%	20-150%
	13C7-PFUnDA	105%	115%	20-150%
	13C2-PFDoDA	93%	107%	20-150%
	13C2-PFTeDA	77%	88%	20-150%
	13C3-PFBS	110%	109%	20-150%
	13C3-PFHxS	113%	111%	20-150%
	13C8-PFOS	95%	113%	20-150%
	13C8-FOSA	99%	104%	20-150%
	d3-MeFOSA	83%	94%	20-150%
	d5-EtFOSA	83%	88%	20-150%
	d3-MeFOSAA	95%	94%	20-150%
	d5-EtFOSAA	91%	105%	20-150%
	d7-MeFOSE	80%	96%	20-150%
	d9-EtFOSE	82%	96%	20-150%
	13C2-4:2FTS	121%	127%	20-150%
	13C2-6:2FTS	124%	127%	20-150%
	13C2-8:2FTS	119%	116%	20-150%
	13C3-HFPO-DA	124%	123%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-DUP	6Q12907.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198
FC2270-2	6Q12906.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198
FC2270-2 [a]	6Q13141.D	5	02/06/23	MV	01/30/23	OP95216	S6Q201

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

FC2175-1, FC2175-2

CAS No.	Compound	FC2270-2 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.019 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0096 U		ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0048 U		ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0048 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0048 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0048 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0048 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0048 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0048 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0048 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0048 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0048 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0048 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0048 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0048 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0048 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0048 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0048 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0048 U		ND		nc	30
757124-72-4	4:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0064	J	0.0061	J	5	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
754-91-6	PFOSA	0.0048 U		ND		nc	30
31506-32-8	MeFOSA	0.0048 U		ND		nc	30
4151-50-2	EtFOSA	0.0048 U		ND		nc	30
2355-31-9	MeFOSAA	0.0048 U		ND		nc	30
2991-50-6	EtFOSAA	0.024 U [b]		ND		nc	30
24448-09-7	MeFOSE	0.048 U		ND		nc	30
1691-99-2	EtFOSE	0.048 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.019 U		ND		nc	30
919005-14-4	ADONA	0.019 U		ND		nc	30
377-73-1	PFMPA	0.0096 U		ND		nc	30
863090-89-5	PFMBA	0.0096 U		ND		nc	30
151772-58-6	NFDHA	0.0096 U		ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.019 U		ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.019 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC2175
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95216-DUP	6Q12907.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198
FC2270-2	6Q12906.D	1	02/03/23	MV	01/30/23	OP95216	S6Q198
FC2270-2 [a]	6Q13141.D	5	02/06/23	MV	01/30/23	OP95216	S6Q201

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

FC2175-1, FC2175-2

CAS No.	Compound	FC2270-2 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0096	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.024	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.12	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.12	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC2270-2	FC2270-2	Limits
	13C4-PFBA	104%	110%	110%	20-150%
	13C5-PFPeA	108%	117%	112%	20-150%
	13C5-PFHxA	105%	116%	107%	20-150%
	13C4-PFHpA	108%	115%	110%	20-150%
	13C8-PFOA	96%	110%	108%	20-150%
	13C9-PFNA	102%	121%	97%	20-150%
	13C6-PFDA	117%	99%	118%	20-150%
	13C7-PFUnDA	103%	99%	110%	20-150%
	13C2-PFDoDA	100%	88%	85%	20-150%
	13C2-PFTeDA	80%	63%	71%	20-150%
	13C3-PFBS	99%	99%	124%	20-150%
	13C3-PFHxS	105%	109%	131%	20-150%
	13C8-PFOS	109%	108%	67%	20-150%
	13C8-FOSA	127%	108%	51%	20-150%
	d3-MeFOSA	110%	92%	43%	20-150%
	d5-EtFOSA	104%	87%	44%	20-150%
	d3-MeFOSAA	167%* [c]	136%	62%	20-150%
	d5-EtFOSAA	176%* [c]	152%* [c]	60%	20-150%
	d7-MeFOSE	106%	96%	46%	20-150%
	d9-EtFOSE	111%	96%	48%	20-150%
	13C2-4:2FTS	116%	117%	122%	20-150%
	13C2-6:2FTS	96%	100%	126%	20-150%
	13C2-8:2FTS	94%	100%	96%	20-150%
	13C3-HFPO-DA	110%	117%	124%	20-150%

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

* = Outside of Control Limits.