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: FC3191

Sampling Date: 03/03/23

Report to:

AECOM, Inc
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Total number of pages in report: 48

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

Test results relate only to samples analyzed.

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SGS North America Inc.

Sample Summary

AECOM, INC.

Job No: FC3191

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FC3191-1	03/03/23	11:15	GA	03/04/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2302W4
FC3191-2	03/03/23	15:10	GA	03/04/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2302W4
FC3191-3	03/03/23	12:35	GA	03/04/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2302W4
FC3191-4	03/03/23	12:05	GA	03/04/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2302W4
FC3191-5	03/03/23	13:55	GA	03/04/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2302W4

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC3191

Site: N6274223F0104 RH Fire Suppression System **Report Date:** 3/10/2023 5:22:25 PM

On 03/04/2023, 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 4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC3191 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:** OP95747

Sample(s) FC3191-3MS, FC3191-5DUP, FC3191-3MS were used as the QC samples indicated.

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

RPD(s) for Duplicate for Perfluorooctanoic acid are outside control limits for sample OP95747-DUP. Probable cause is due to sample non-homogeneity.

Sample(s) FC3191-3 have surrogates outside control limits.

FC3191-3: Dilution required (ID recovery standard failure).

FC3191-3 for Perfluorobutanoic acid: Associated ID Standard outside control limits, Confirmed by batch QC.

FC3191-3 for 13C4-PFBA: Outside control limits.

FC3191-3 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: FC3191
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 03/03/23

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC3191-1	**AF-RHMW17S-WGN01LF-2302W4**					
Perfluorooctanoic acid		0.74 J	4.5	0.89	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		17.1 J	18	7.1	ng/l	EPA DRAFT 1633
FC3191-2	**AF-RHMW17S-WQEB01-2302W4**					
No hits reported in this sample.						
FC3191-3	**AF-RHMW17D-WGN01LF-2302W4**					
No hits reported in this sample.						
FC3191-4	**AF-RHMW17D-WQFB01-2302W4**					
No hits reported in this sample.						
FC3191-5	**AF-RHMW17-WGN01LF-2302W4**					
Perfluorobutanoic acid		3.5 J	18	3.6	ng/l	EPA DRAFT 1633
Perfluoropentanoic acid		10.6	9.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		6.2	4.5	0.91	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.99 J	4.5	0.91	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid		0.63 J	4.5	0.91	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		28.4	18	7.3	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2302W4		
Lab Sample ID:	FC3191-1	**Date Sampled:**	03/03/23
Matrix:	AQ - Ground Water	**Date Received:**	03/04/23
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	6Q14550.D	1	03/08/23 20:41	MV	03/06/23 09:00	OP95747	S6Q220
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	18	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	8.9	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	0.89 U	4.5	0.89	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	0.89 U	4.5	0.89	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.74	4.5	0.89	0.45	ng/l	J
375-95-1	Perfluorononanoic acid	1.8 U	4.5	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	0.89 U	4.5	0.89	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.5	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.5	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.5	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.89 U	4.5	0.89	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.89 U	4.5	0.89	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	4.5	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.89 U	4.5	0.89	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.5	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.5	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.5	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	17.1	18	7.1	3.1	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	4.5	1.8	0.60	ng/l	
31506-32-8	MeFOSA	1.8 U	4.5	1.8	0.89	ng/l	
4151-50-2	EtFOSA	1.8 U	4.5	1.8	0.89	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2302W4		
Lab Sample ID:	FC3191-1	**Date Sampled:**	03/03/23
Matrix:	AQ - Ground Water	**Date Received:**	03/04/23
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	8.9 U	45	8.9	3.9	ng/l	
1691-99-2	EtFOSE	18 U	45	18	6.6	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.6 U	18	3.6	0.89	ng/l	
919005-14-4	ADONA	3.6 U	18	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	8.9	1.8	0.89	ng/l	
863090-89-5	PFMBA	3.6 U	8.9	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	8.9	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	18	3.6	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	18	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	8.9	1.8	0.70	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	8.9 U	22	8.9	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.8	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	110	18	7.0	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	59%		20-150%
	13C5-PFPeA	91%		20-150%
	13C5-PFHxA	96%		20-150%
	13C4-PFHpA	97%		20-150%
	13C8-PFOA	91%		20-150%
	13C9-PFNA	99%		20-150%
	13C6-PFDA	92%		20-150%
	13C7-PFUnDA	89%		20-150%
	13C2-PFDoDA	77%		20-150%
	13C2-PFTeDA	52%		20-150%
	13C3-PFBS	102%		20-150%
	13C3-PFHxS	97%		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-2302W4		
Lab Sample ID:	FC3191-1	**Date Sampled:**	03/03/23
Matrix:	AQ - Ground Water	**Date Received:**	03/04/23
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	86%		20-150%
	13C8-FOSA	91%		20-150%
	d3-MeFOSA	71%		20-150%
	d5-EtFOSA	62%		20-150%
	d3-MeFOSAA	89%		20-150%
	d5-EtFOSAA	96%		20-150%
	d7-MeFOSE	71%		20-150%
	d9-EtFOSE	67%		20-150%
	13C2-4:2FTS	109%		20-150%
	13C2-6:2FTS	93%		20-150%
	13C2-8:2FTS	87%		20-150%
	13C3-HFPO-DA	89%		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-WQEB01-2302W4		
Lab Sample ID:	FC3191-2	**Date Sampled:**	03/03/23
Matrix:	AQ - Equipment Blank	**Date Received:**	03/04/23
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	6Q14551.D	1	03/08/23 20:55	MV	03/06/23 09:00	OP95747	S6Q220
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-RHMW17S-WQEB01-2302W4		
Lab Sample ID:	FC3191-2	**Date Sampled:**	03/03/23
Matrix:	AQ - Equipment Blank	**Date Received:**	03/04/23
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	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	101%		20-150%
	13C5-PFPeA	98%		20-150%
	13C5-PFHxA	97%		20-150%
	13C4-PFHpA	96%		20-150%
	13C8-PFOA	101%		20-150%
	13C9-PFNA	96%		20-150%
	13C6-PFDA	96%		20-150%
	13C7-PFUnDA	94%		20-150%
	13C2-PFDoDA	82%		20-150%
	13C2-PFTeDA	76%		20-150%
	13C3-PFBS	94%		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-RHMW17S-WQEB01-2302W4		
Lab Sample ID:	FC3191-2	**Date Sampled:**	03/03/23
Matrix:	AQ - Equipment Blank	**Date Received:**	03/04/23
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	96%		20-150%
	13C8-FOSA	82%		20-150%
	d3-MeFOSA	76%		20-150%
	d5-EtFOSA	75%		20-150%
	d3-MeFOSAA	100%		20-150%
	d5-EtFOSAA	86%		20-150%
	d7-MeFOSE	82%		20-150%
	d9-EtFOSE	80%		20-150%
	13C2-4:2FTS	111%		20-150%
	13C2-6:2FTS	99%		20-150%
	13C2-8:2FTS	105%		20-150%
	13C3-HFPO-DA	96%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2302W4		
Lab Sample ID:	FC3191-3	**Date Sampled:**	03/03/23
Matrix:	AQ - Ground Water	**Date Received:**	03/04/23
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	6Q14554.D	1	03/08/23 21:37	MV	03/06/23 09:00	OP95747	S6Q220
Run #2 [a]	6Q14650.D	5	03/09/23 20:44	MV	03/06/23 09:00	OP95747	S6Q221

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid [b]	18 U [c]	91	18	8.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	9.1	1.8	0.85	ng/l	
307-24-4	Perfluorohexanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.5	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.91 U	4.5	0.91	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	4.5	1.8	0.64	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.91 U	4.5	0.91	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.5	1.8	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.5	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.5	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	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	4.5	1.8	0.61	ng/l	
31506-32-8	MeFOSA	1.8 U	4.5	1.8	0.91	ng/l	
4151-50-2	EtFOSA	1.8 U	4.5	1.8	0.91	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2302W4		
Lab Sample ID:	FC3191-3	**Date Sampled:**	03/03/23
Matrix:	AQ - Ground Water	**Date Received:**	03/04/23
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	18 U [c]	23	18	6.0	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.1 U	45	9.1	4.0	ng/l	
1691-99-2	EtFOSE	18 U	45	18	6.7	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.6 U	18	3.6	0.91	ng/l	
919005-14-4	ADONA	3.6 U	18	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	9.1	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	9.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	9.1	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	18	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	18	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	9.1	1.8	0.71	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.1 U	23	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	110	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	2% [d]	3% [d]	20-150%
	13C5-PFPeA	29%	29%	20-150%
	13C5-PFHxA	96%	95%	20-150%
	13C4-PFHpA	100%	95%	20-150%
	13C8-PFOA	93%	106%	20-150%
	13C9-PFNA	98%	101%	20-150%
	13C6-PFDA	93%	107%	20-150%
	13C7-PFUnDA	106%	98%	20-150%
	13C2-PFDoDA	93%	91%	20-150%
	13C2-PFTeDA	72%	64%	20-150%
	13C3-PFBS	96%	117%	20-150%
	13C3-PFHxS	93%	108%	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-2302W4		
Lab Sample ID:	FC3191-3	**Date Sampled:**	03/03/23
Matrix:	AQ - Ground Water	**Date Received:**	03/04/23
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	112%	50%	20-150%
	13C8-FOSA	108%	52%	20-150%
	d3-MeFOSA	100%	54%	20-150%
	d5-EtFOSA	100%	51%	20-150%
	d3-MeFOSAA	138%	67%	20-150%
	d5-EtFOSAA	161% d	63%	20-150%
	d7-MeFOSE	98%	45%	20-150%
	d9-EtFOSE	92%	46%	20-150%
	13C2-4:2FTS	142%	146%	20-150%
	13C2-6:2FTS	105%	130%	20-150%
	13C2-8:2FTS	110%	114%	20-150%
	13C3-HFPO-DA	82%	94%	20-150%

(a) Dilution required (ID recovery standard failure).
(b) Associated ID Standard outside control limits, Confirmed by batch QC.
(c) Result is from Run# 2
(d) 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-WQFB01-2302W4		
Lab Sample ID:	FC3191-4	**Date Sampled:**	03/03/23
Matrix:	AQ - Field Blank Water	**Date Received:**	03/04/23
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	6Q14556.D	1	03/08/23 22:05	MV	03/06/23 09:00	OP95747	S6Q220
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	18	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	9.1	1.8	0.85	ng/l	
307-24-4	Perfluorohexanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.5	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.91 U	4.5	0.91	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	4.5	1.8	0.64	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.91 U	4.5	0.91	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.5	1.8	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.5	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.5	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	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	4.5	1.8	0.61	ng/l	
31506-32-8	MeFOSA	1.8 U	4.5	1.8	0.91	ng/l	
4151-50-2	EtFOSA	1.8 U	4.5	1.8	0.91	ng/l	

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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-WQFB01-2302W4
Lab Sample ID: FC3191-4 **Date Sampled:** 03/03/23
Matrix: AQ - Field Blank Water **Date Received:** 03/04/23
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	9.1 U	45	9.1	4.0	ng/l	
1691-99-2	EtFOSE	18 U	45	18	6.7	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.6 U	18	3.6	0.91	ng/l	
919005-14-4	ADONA	3.6 U	18	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	9.1	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	9.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	9.1	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	18	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	18	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	9.1	1.8	0.71	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.1 U	23	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	110	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	99%		20-150%
	13C5-PFPeA	94%		20-150%
	13C5-PFHxA	91%		20-150%
	13C4-PFHpA	95%		20-150%
	13C8-PFOA	96%		20-150%
	13C9-PFNA	99%		20-150%
	13C6-PFDA	105%		20-150%
	13C7-PFUnDA	93%		20-150%
	13C2-PFDoDA	84%		20-150%
	13C2-PFTeDA	92%		20-150%
	13C3-PFBS	97%		20-150%
	13C3-PFHxS	97%		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-WQFB01-2302W4		
Lab Sample ID:	FC3191-4	**Date Sampled:**	03/03/23
Matrix:	AQ - Field Blank Water	**Date Received:**	03/04/23
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	92%		20-150%
	13C8-FOSA	88%		20-150%
	d3-MeFOSA	79%		20-150%
	d5-EtFOSA	80%		20-150%
	d3-MeFOSAA	88%		20-150%
	d5-EtFOSAA	92%		20-150%
	d7-MeFOSE	86%		20-150%
	d9-EtFOSE	84%		20-150%
	13C2-4:2FTS	109%		20-150%
	13C2-6:2FTS	113%		20-150%
	13C2-8:2FTS	109%		20-150%
	13C3-HFPO-DA	91%		20-150%

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

Report of Analysis

Client Sample ID: AF-RHMW17-WGN01LF-2302W4
Lab Sample ID: FC3191-5
Matrix: AQ - Ground Water
Method: EPA DRAFT 1633 EPA 1633 DRAFT
Project: N6274223F0104 RH Fire Suppression System

Date Sampled: 03/03/23
Date Received: 03/04/23
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q14557.D	1	03/08/23 22:19	MV	03/06/23 09:00	OP95747	S6Q220
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	3.5	18	3.6	1.7	ng/l	J
2706-90-3	Perfluoropentanoic acid	10.6	9.1	1.8	0.85	ng/l	
307-24-4	Perfluorohexanoic acid	6.2	4.5	0.91	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	0.99	4.5	0.91	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.63	4.5	0.91	0.45	ng/l	J
375-95-1	Perfluorononanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.5	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.5	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.91 U	4.5	0.91	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.91 U	4.5	0.91	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	4.5	1.8	0.64	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.91 U	4.5	0.91	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.5	1.8	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.5	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.5	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	28.4	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	4.5	1.8	0.61	ng/l	
31506-32-8	MeFOSA	1.8 U	4.5	1.8	0.91	ng/l	
4151-50-2	EtFOSA	1.8 U	4.5	1.8	0.91	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2302W4		
Lab Sample ID:	FC3191-5	**Date Sampled:**	03/03/23
Matrix:	AQ - Ground Water	**Date Received:**	03/04/23
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	9.1 U	45	9.1	4.0	ng/l	
1691-99-2	EtFOSE	18 U	45	18	6.7	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.6 U	18	3.6	0.91	ng/l	
919005-14-4	ADONA	3.6 U	18	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	9.1	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	9.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	9.1	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	18	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	18	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	9.1	1.8	0.71	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.1 U	23	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	110	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	106%		20-150%
	13C5-PFPeA	117%		20-150%
	13C5-PFHxA	115%		20-150%
	13C4-PFHpA	118%		20-150%
	13C8-PFOA	109%		20-150%
	13C9-PFNA	103%		20-150%
	13C6-PFDA	114%		20-150%
	13C7-PFUnDA	101%		20-150%
	13C2-PFDoDA	83%		20-150%
	13C2-PFTeDA	67%		20-150%
	13C3-PFBS	106%		20-150%
	13C3-PFHxS	105%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2302W4		
Lab Sample ID:	FC3191-5	**Date Sampled:**	03/03/23
Matrix:	AQ - Ground Water	**Date Received:**	03/04/23
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	91%		20-150%
	13C8-FOSA	93%		20-150%
	d3-MeFOSA	79%		20-150%
	d5-EtFOSA	75%		20-150%
	d3-MeFOSAA	96%		20-150%
	d5-EtFOSAA	93%		20-150%
	d7-MeFOSE	83%		20-150%
	d9-EtFOSE	83%		20-150%
	13C2-4:2FTS	126%		20-150%
	13C2-6:2FTS	123%		20-150%
	13C2-8:2FTS	99%		20-150%
	13C3-HFPO-DA	116%		20-150%

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

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

FC3191

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www.sgs.com

SGS - ORLANDO JOB # :

COC #: 2302W4AFSG12

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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) GA
Sampler 1: GABRIEL ALLEN 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
1	AF-RHMW17S-WGN01LF-2302W4	03/03/23	1115	GA	GW	3		X								X
2	AF-RHMW17S-WQEB01-2302W4	03/03/23	1510	GA	GW	3		X								X

INITIAL ASSESSMENT
LABEL VERIFICATION

LAB USE ONLY

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 016-53687196

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 GABRIEL ALLEN/AECOM	03/03/23 1515	2 AECOM	3 AECOM	3/3/23 1540	4 3/4/23 1500
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): 3.8 3.8

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

PFAS_COCs_ALL.xls Rev 031318

FC3191: Chain of Custody
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SGS North America Inc - Orlando
Chain of Custody

FC3191

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

SGS - ORLANDO JOB # :

COC #: 2302W4AFSG11

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SGS - ORLANDO Quote #	SKIFF #

Client / Reporting Information	Project Information	Analytical Information	Matrix Codes
Company Name: AECOM	**Project Name:** N6274223F0104 RH Fire Suppression System		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL- Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe
Address: 1001 Bishop St. ste 1600	**Street**		
City: Honolulu **State:** HI **Zip:** 96813	**City** Honolulu **State** Hawaii		
Project Contact: Katie Abbott **Email:** katie.abbott@aecom.com **Project Manager:** Watson Tanji **Email:** watson.tanji@aecom.com	**Project #** 60697810		
Phone #: 303-796-4624 / 808-954-4512	**Fax #**		
Sampler(s) Name(s) (Printed) **Sampler 1** GABRIEL ALLEN (GA) **Sampler 2:**	**Client Purchase Order #**		

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
3	AF-RHMW17D-WGN01LF-2302W4	03/03/23	1235	GA	GW	3		X								X	
4	AF-RHMW17D-WQFB01-2302W4	"	1205	GA	GW	3		X								X	

03/03/23

Turnaround Time (Business days)	Data Deliverable Information	Comments / Remarks
10 Day (Business) Approved By: / Date:	[ ] COMMERCIAL "A" (RESULTS ONLY)	EDMS upload database: JBPHE
7 Day	[ ] COMMERCIAL "B" (RESULTS PLUS QC)	EDMS Coverage: AFFF Assessment Sampling GW
[5 Day]	[ ] REDT1 (EPA LEVEL 3)	
3 Day *RUSH*	[x] FULLT1 (EPA LEVEL 4)	United AWB 016-53687196
2 Day *RUSH*	[x] EDD'S	
1 Day *RUSH*		
Other		
Rush T/A Data Available VIA Email or Lablink		

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

Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1 GABRIEL ALLEN / AECOM	03/03/23 1510	2 AECOM	3	3/3/23 1540	4 3/4/23
Relinquished by/Affiliation	**Date Time:**	**Received By/Affiliation**	**Relinquished By/Affiliation**	**Date Time:**	**Received By/Affiliation**
5		6	7		8 1520

Lab Use Only : Cooler Temperature (s) Celsius (corrected): _____ http://www.sgs.com/en/terms-and-conditions

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SGS

SGS North America Inc. - Orlando
Chain of Custody

FC3191 FC3191

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

SGS - ORLANDO JOB # :

COC #: 2302W4AFSG10

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SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information	Project Information	Analytical Information	Matrix Codes
Company Name: AECOM	**Project Name:** N6274223F0104 RH Fire Suppression System		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL- Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe
Address: 1001 Bishop St. ste 1600	**Street**		
City: Honolulu **State:** HI **Zip:** 96813	**City** Honolulu **State** Hawaii		
Project Contact: Katie Abbott **Email:** katie.abbott@aecom.com	**Project #** 60697810		
Project Manager: Watson Tanji **Email:** watson.tanji@aecom.com			
Phone #: 303-796-4624 / 808-954-4512	**Fax #**		
Sampler(s) Name(s) (Printed) Sampler 1: GABRIEL KLEIN (GK) Sampler 2:	**Client Purchase Order #**		

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
5	AF-RHMW17-WGN01LF-2302W4	03/03/23	1355	GA	GW	3		X								X	

03/03/23

Turnaround Time (Business days)	Data Deliverable Information	Comments / Remarks
10 Day (Business) Approved By: / Date:	[ ] COMMERCIAL "A" (RESULTS ONLY)	EDMS upload database: JBPHE
7 Day	[ ] COMMERCIAL "B" (RESULTS PLUS QC)	EDMS Coverage: AFFF Assessment Sampling GW
[5 Day]	[ ] REDT1 (EPA LEVEL 3)	United AWB 016-53685196
3 Day *RUSH*	[x] FULLT1 (EPA LEVEL 4)	
2 Day *RUSH*	[x] EDD'S	
1 Day *RUSH*		
Other		
Rush T/A Data Available VIA Email or Lablink		

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

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	GABRIEL KLEIN / AECOM	3/03/23 1515	2 AECOM	3 AECOM	3/3/23 1540	4 3/4/23 1500
	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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FC3191: Chain of Custody
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SGS Sample Receipt Summary

Job Number: FC3191 **Client:** AECOM **Project:** N6274223F0104 RH Fire Suppression System

Date / Time Received: 3/4/2023 3:00:00 PM **Delivery Method:** United Cargo/Airspace **Airbill #'s:** United Cargo AWB #: 016-53687196

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

Cooler Temps (Raw Measured) °C: Cooler 1: (3.8);

Cooler Temps (Corrected) °C: Cooler 1: (4.0);

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: 3/4/2023 3:00:00 PM Reviewer: CD Date: 3/6/2023

FC3191: Chain of Custody
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QC Evaluation: DOD QSM5.x Limits

Job Number: FC3191
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 03/03/23

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 FC3191

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Instrument Blank

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q221-IBLK	6Q14618.D	1	03/09/23	MV	n/a	n/a	S6Q221

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

FC3191-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.0020	0.0013	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	103%	20-150%
	13C5-PFPeA	99%	20-150%
	13C5-PFHxA	101%	20-150%
	13C4-PFHpA	97%	20-150%
	13C8-PFOA	93%	20-150%
	13C9-PFNA	99%	20-150%
	13C6-PFDA	91%	20-150%
	13C7-PFUnDA	89%	20-150%
	13C2-PFDoDA	94%	20-150%
	13C2-PFTeDA	90%	20-150%
	13C3-PFBS	102%	20-150%
	13C3-PFHxS	97%	20-150%
	13C8-PFOS	105%	20-150%
	13C8-FOSA	114%	20-150%
	d3-MeFOSA	99%	20-150%
	d5-EtFOSA	107%	20-150%
	d3-MeFOSAA	101%	20-150%
	d5-EtFOSAA	110%	20-150%
	d7-MeFOSE	98%	20-150%
	d9-EtFOSE	103%	20-150%
	13C2-4:2FTS	110%	20-150%
	13C2-6:2FTS	123%	20-150%
	13C2-8:2FTS	110%	20-150%
	13C3-HFPO-DA	100%	20-150%

Continuing Calibration Blank

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q221-ICCB	6Q14644.D	1	03/09/23	MV	n/a	n/a	S6Q221

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

FC3191-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.0020	0.0013	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	102%	20-150%
	13C5-PFPeA	102%	20-150%
	13C5-PFHxA	104%	20-150%
	13C4-PFHpA	102%	20-150%
	13C8-PFOA	100%	20-150%
	13C9-PFNA	94%	20-150%
	13C6-PFDA	94%	20-150%
	13C7-PFUnDA	94%	20-150%
	13C2-PFDoDA	95%	20-150%
	13C2-PFTeDA	92%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	96%	20-150%
	13C8-PFOS	98%	20-150%
	13C8-FOSA	99%	20-150%
	d3-MeFOSA	92%	20-150%
	d5-EtFOSA	90%	20-150%
	d3-MeFOSAA	100%	20-150%
	d5-EtFOSAA	100%	20-150%
	d7-MeFOSE	97%	20-150%
	d9-EtFOSE	88%	20-150%
	13C2-4:2FTS	102%	20-150%
	13C2-6:2FTS	124%	20-150%
	13C2-8:2FTS	128%	20-150%
	13C3-HFPO-DA	98%	20-150%

Continuing Calibration Blank

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q221-ICCB	6Q14653.D	1	03/09/23	MV	n/a	n/a	S6Q221

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

FC3191-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.0020	0.0013	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	99%	20-150%
	13C5-PFPeA	97%	20-150%
	13C5-PFHxA	100%	20-150%
	13C4-PFHpA	107%	20-150%
	13C8-PFOA	97%	20-150%
	13C9-PFNA	97%	20-150%
	13C6-PFDA	97%	20-150%
	13C7-PFUnDA	100%	20-150%
	13C2-PFDoDA	91%	20-150%
	13C2-PFTeDA	87%	20-150%
	13C3-PFBS	96%	20-150%
	13C3-PFHxS	98%	20-150%
	13C8-PFOS	96%	20-150%
	13C8-FOSA	98%	20-150%
	d3-MeFOSA	86%	20-150%
	d5-EtFOSA	92%	20-150%
	d3-MeFOSAA	96%	20-150%
	d5-EtFOSAA	99%	20-150%
	d7-MeFOSE	88%	20-150%
	d9-EtFOSE	83%	20-150%
	13C2-4:2FTS	116%	20-150%
	13C2-6:2FTS	130%	20-150%
	13C2-8:2FTS	103%	20-150%
	13C3-HFPO-DA	100%	20-150%

Continuing Calibration Blank

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q220-ICCB	6Q14541.D	1	03/08/23	MV	n/a	n/a	S6Q220

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

FC3191-1, FC3191-2

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	

Continuing Calibration Blank

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q220-ICCB	6Q14541.D	1	03/08/23	MV	n/a	n/a	S6Q220

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

FC3191-1, FC3191-2

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	99%	20-150%
	13C5-PFHxA	103%	20-150%
	13C4-PFHpA	107%	20-150%
	13C8-PFOA	101%	20-150%
	13C9-PFNA	105%	20-150%
	13C6-PFDA	98%	20-150%
	13C7-PFUnDA	99%	20-150%
	13C2-PFDoDA	97%	20-150%
	13C2-PFTeDA	94%	20-150%
	13C3-PFBS	98%	20-150%
	13C3-PFHxS	100%	20-150%
	13C8-PFOS	96%	20-150%
	13C8-FOSA	105%	20-150%
	d3-MeFOSAA	97%	20-150%
	d5-EtFOSAA	94%	20-150%
	13C2-4:2FTS	123%	20-150%
	13C2-6:2FTS	110%	20-150%
	13C2-8:2FTS	128%	20-150%

Continuing Calibration Blank

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q220-ICCB	6Q14553.D	1	03/08/23	MV	n/a	n/a	S6Q220

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

FC3191-3, FC3191-4, FC3191-5

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: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q220-ICCB	6Q14553.D	1	03/08/23	MV	n/a	n/a	S6Q220

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

FC3191-3, FC3191-4, FC3191-5

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	94%	20-150%
	13C5-PFHxA	93%	20-150%
	13C4-PFHpA	98%	20-150%
	13C8-PFOA	95%	20-150%
	13C9-PFNA	99%	20-150%
	13C6-PFDA	92%	20-150%
	13C7-PFUnDA	95%	20-150%
	13C2-PFDoDA	92%	20-150%
	13C2-PFTeDA	91%	20-150%
	13C3-PFBS	98%	20-150%
	13C3-PFHxS	104%	20-150%
	13C8-PFOS	92%	20-150%
	13C8-FOSA	95%	20-150%
	d3-MeFOSAA	94%	20-150%
	d5-EtFOSAA	96%	20-150%
	13C2-4:2FTS	129%	20-150%
	13C2-6:2FTS	114%	20-150%
	13C2-8:2FTS	115%	20-150%

Method Blank Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-MB	6Q14548.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220

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

FC3191-1, FC3191-2, FC3191-3

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

Method Blank Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-MB	6Q14548.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220

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

FC3191-1, FC3191-2, FC3191-3

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

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	111%	20-150%
	13C5-PFPeA	110%	20-150%
	13C5-PFHxA	111%	20-150%
	13C4-PFHpA	112%	20-150%
	13C8-PFOA	110%	20-150%
	13C9-PFNA	98%	20-150%
	13C6-PFDA	112%	20-150%
	13C7-PFUnDA	105%	20-150%
	13C2-PFDoDA	88%	20-150%
	13C2-PFTeDA	82%	20-150%
	13C3-PFBS	115%	20-150%
	13C3-PFHxS	99%	20-150%
	13C8-PFOS	119%	20-150%
	13C8-FOSA	95%	20-150%
	d3-MeFOSA	74%	20-150%
	d5-EtFOSA	72%	20-150%
	d3-MeFOSAA	115%	20-150%
	d5-EtFOSAA	98%	20-150%
	d7-MeFOSE	78%	20-150%
	d9-EtFOSE	80%	20-150%
	13C2-4:2FTS	124%	20-150%
	13C2-6:2FTS	130%	20-150%
	13C2-8:2FTS	120%	20-150%
	13C3-HFPO-DA	105%	20-150%

Instrument Blank

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q220-IBLK	6Q14525.D	1	03/08/23	MV	n/a	n/a	S6Q220

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

OP95747-MS

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

Instrument Blank

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q220-IBLK	6Q14525.D	1	03/08/23	MV	n/a	n/a	S6Q220

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

OP95747-MS

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	94%	20-150%
	13C5-PFHxA	92%	20-150%
	13C4-PFHpA	94%	20-150%
	13C8-PFOA	99%	20-150%
	13C9-PFNA	116%	20-150%
	13C6-PFDA	100%	20-150%
	13C7-PFUnDA	103%	20-150%
	13C2-PFDoDA	101%	20-150%
	13C2-PFTeDA	107%	20-150%
	13C3-PFBS	109%	20-150%
	13C3-PFHxS	109%	20-150%
	13C8-PFOS	99%	20-150%
	13C8-FOSA	106%	20-150%
	d3-MeFOSAA	103%	20-150%
	d5-EtFOSAA	102%	20-150%
	13C2-4:2FTS	107%	20-150%
	13C2-6:2FTS	106%	20-150%
	13C2-8:2FTS	113%	20-150%

Leachate Blank Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95772-LB	6Q14623.D	1	03/09/23	MV	03/07/23	OP95772	S6Q221

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

S6Q221-IBLK, S6Q221-ICCB

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.067	0.033	ug/l	
2991-50-6	EtFOSAA	ND	0.017	0.011	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C5-PFHxA	72%	20-150%
	13C4-PFHpA	74%	20-150%
	13C8-PFOA	70%	20-150%
	13C9-PFNA	65%	20-150%
	13C6-PFDA	73%	20-150%
	13C7-PFUnDA	69%	20-150%
	13C2-PFDoDA	64%	20-150%
	13C2-PFTeDA	71%	20-150%
	13C3-PFBS	67%	20-150%
	13C3-PFHxS	65%	20-150%
	13C8-PFOS	66%	20-150%
	d3-MeFOSAA	67%	20-150%
	d5-EtFOSAA	65%	20-150%
	13C3-HFPO-DA	77%	20-150%

Blank Spike Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-LLBS	6Q14547.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220

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

FC3191-1, FC3191-2, FC3191-3, FC3191-4, FC3191-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.04	0.0332	83	40-150
2706-90-3	Perfluoropentanoic acid	0.02	0.0176	88	40-150
307-24-4	Perfluorohexanoic acid	0.01	0.0088	88	40-150
375-85-9	Perfluoroheptanoic acid	0.01	0.0082	82	40-150
335-67-1	Perfluorooctanoic acid	0.01	0.0087	87	40-150
375-95-1	Perfluorononanoic acid	0.01	0.0092	92	40-150
335-76-2	Perfluorodecanoic acid	0.01	0.0090	90	40-150
2058-94-8	Perfluoroundecanoic acid	0.01	0.0084	84	40-150
307-55-1	Perfluorododecanoic acid	0.01	0.0085	85	40-150
72629-94-8	Perfluorotridecanoic acid	0.01	0.0081	81	40-150
376-06-7	Perfluorotetradecanoic acid	0.01	0.0082	82	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00887	0.0072	81	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00941	0.0085	90	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00914	0.0073	80	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00953	0.0082	86	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00928	0.0086	93	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00962	0.0088	91	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00965	0.0084	87	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0097	0.0079	81	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0375	0.0335	89	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.038	0.0323	85	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0384	0.0364	95	40-150
754-91-6	PFOSA	0.01	0.0095	95	40-150
31506-32-8	MeFOSA	0.01	0.0092	92	40-150
4151-50-2	EtFOSA	0.01	0.0085	85	40-150
2355-31-9	MeFOSAA	0.01	0.0094	94	40-150
2991-50-6	EtFOSAA	0.01	0.0092	92	40-150
24448-09-7	MeFOSE	0.1	0.0857	86	40-150
1691-99-2	EtFOSE	0.1	0.0864	86	40-150
13252-13-6	HFPO-DA (GenX)	0.04	0.0348	87	40-150
919005-14-4	ADONA	0.0378	0.0352	93	40-150
377-73-1	PFMPA	0.02	0.0175	88	40-150
863090-89-5	PFMBA	0.02	0.0186	93	40-150
151772-58-6	NFDHA	0.02	0.0164	82	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0374	0.0340	91	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0378	0.0327	87	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-LLBS	6Q14547.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220

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

FC3191-1, FC3191-2, FC3191-3, FC3191-4, FC3191-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0178	0.0156	88	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.05	0.0395	79	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.25	0.223	89	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.25	0.223	89	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	96%	20-150%
	13C5-PFPeA	95%	20-150%
	13C5-PFHxA	98%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	94%	20-150%
	13C9-PFNA	84%	20-150%
	13C6-PFDA	92%	20-150%
	13C7-PFUnDA	93%	20-150%
	13C2-PFDoDA	88%	20-150%
	13C2-PFTeDA	86%	20-150%
	13C3-PFBS	96%	20-150%
	13C3-PFHxS	96%	20-150%
	13C8-PFOS	92%	20-150%
	13C8-FOSA	93%	20-150%
	d3-MeFOSA	78%	20-150%
	d5-EtFOSA	76%	20-150%
	d3-MeFOSAA	92%	20-150%
	d5-EtFOSAA	98%	20-150%
	d7-MeFOSE	84%	20-150%
	d9-EtFOSE	79%	20-150%
	13C2-4:2FTS	113%	20-150%
	13C2-6:2FTS	106%	20-150%
	13C2-8:2FTS	103%	20-150%
	13C3-HFPO-DA	93%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-BS	6Q14546.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220

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

FC3191-1, FC3191-2, FC3191-3, FC3191-4, FC3191-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0867	87	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0448	90	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0241	96	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0230	92	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0202	81	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0233	93	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0207	83	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0236	94	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0248	99	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0206	82	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0229	92	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0199	90	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0220	94	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0212	93	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0191	80	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0196	84	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0206	86	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0197	82	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0197	81	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.0915	98	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0907	95	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0915	95	40-150
754-91-6	PFOSA	0.025	0.0227	91	40-150
31506-32-8	MeFOSA	0.025	0.0239	96	40-150
4151-50-2	EtFOSA	0.025	0.0220	88	40-150
2355-31-9	MeFOSAA	0.025	0.0228	91	40-150
2991-50-6	EtFOSAA	0.025	0.0237	95	40-150
24448-09-7	MeFOSE	0.25	0.221	88	40-150
1691-99-2	EtFOSE	0.25	0.221	88	40-150
13252-13-6	HFPO-DA (GenX)	0.1	0.0956	96	40-150
919005-14-4	ADONA	0.0945	0.0901	95	40-150
377-73-1	PFMPA	0.05	0.0242	48	40-150
863090-89-5	PFMBA	0.05	0.0467	93	40-150
151772-58-6	NFDHA	0.05	0.0464	93	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0935	0.0915	98	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0945	0.0896	95	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-BS	6Q14546.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220

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

FC3191-1, FC3191-2, FC3191-3, FC3191-4, FC3191-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0437	98	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0958	77	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.624	100	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.642	103	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	22%	20-150%
	13C5-PFPeA	87%	20-150%
	13C5-PFHxA	83%	20-150%
	13C4-PFHpA	90%	20-150%
	13C8-PFOA	87%	20-150%
	13C9-PFNA	77%	20-150%
	13C6-PFDA	79%	20-150%
	13C7-PFUnDA	72%	20-150%
	13C2-PFDoDA	68%	20-150%
	13C2-PFTeDA	64%	20-150%
	13C3-PFBS	83%	20-150%
	13C3-PFHxS	81%	20-150%
	13C8-PFOS	87%	20-150%
	13C8-FOSA	83%	20-150%
	d3-MeFOSA	71%	20-150%
	d5-EtFOSA	65%	20-150%
	d3-MeFOSAA	81%	20-150%
	d5-EtFOSAA	83%	20-150%
	d7-MeFOSE	68%	20-150%
	d9-EtFOSE	64%	20-150%
	13C2-4:2FTS	93%	20-150%
	13C2-6:2FTS	88%	20-150%
	13C2-8:2FTS	90%	20-150%
	13C3-HFPO-DA	83%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-MS	6Q14555.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220
FC3191-3	6Q14554.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220
FC3191-3 [a]	6Q14650.D	5	03/09/23	MV	03/06/23	OP95747	S6Q221

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

FC3191-1, FC3191-2, FC3191-3, FC3191-4, FC3191-5

CAS No.	Compound	FC3191-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.091	U [b]	0.0909	0.0535	59	40-150
2706-90-3	Perfluoropentanoic acid	0.0091	U	0.0455	0.0409	90	40-150
307-24-4	Perfluorohexanoic acid	0.0045	U	0.0227	0.0198	87	40-150
375-85-9	Perfluoroheptanoic acid	0.0045	U	0.0227	0.0205	90	40-150
335-67-1	Perfluorooctanoic acid	0.0045	U	0.0227	0.0209	92	40-150
375-95-1	Perfluorononanoic acid	0.0045	U	0.0227	0.0207	91	40-150
335-76-2	Perfluorodecanoic acid	0.0045	U	0.0227	0.0206	91	40-150
2058-94-8	Perfluoroundecanoic acid	0.0045	U	0.0227	0.0204	90	40-150
307-55-1	Perfluorododecanoic acid	0.0045	U	0.0227	0.0209	92	40-150
72629-94-8	Perfluorotridecanoic acid	0.0045	U	0.0227	0.0163	72	40-150
376-06-7	Perfluorotetradecanoic acid	0.0045	U	0.0227	0.0202	89	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0045	U	0.0202	0.0182	90	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0045	U	0.0214	0.0192	90	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0045	U	0.0208	0.0182	88	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0045	U	0.0217	0.0271	125	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0045	U	0.0211	0.0160	76	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0045	U	0.0219	0.0175	80	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0045	U	0.0219	0.0151	69	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0045	U	0.022	0.0112	51	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.018	U	0.0852	0.0846	99	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	0.0864	0.0863	100	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	0.0873	0.0856	98	40-150
754-91-6	PFOSA	0.0045	U	0.0227	0.0213	94	40-150
31506-32-8	MeFOSA	0.0045	U	0.0227	0.0219	96	40-150
4151-50-2	EtFOSA	0.0045	U	0.0227	0.0207	91	40-150
2355-31-9	MeFOSAA	0.0045	U	0.0227	0.0207	91	40-150
2991-50-6	EtFOSAA	0.023	U [b]	0.0227	0.0196	86	40-150
24448-09-7	MeFOSE	0.045	U	0.227	0.223	98	40-150
1691-99-2	EtFOSE	0.045	U	0.227	0.210	92	40-150
13252-13-6	HFPO-DA (GenX)	0.018	U	0.0909	0.0817	90	40-150
919005-14-4	ADONA	0.018	U	0.0859	0.0853	99	40-150
377-73-1	PFMPA	0.0091	U	0.0455	0.0057	13*	40-150
863090-89-5	PFMBA	0.0091	U	0.0455	0.0912	201*	40-150
151772-58-6	NFDHA	0.0091	U	0.0455	0.0336	74	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.018	U	0.085	0.0885	104	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.018	U	0.0859	0.0718	84	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-MS	6Q14555.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220
FC3191-3	6Q14554.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220
FC3191-3 [a]	6Q14650.D	5	03/09/23	MV	03/06/23	OP95747	S6Q221

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

FC3191-1, FC3191-2, FC3191-3, FC3191-4, FC3191-5

CAS No.	Compound	FC3191-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0091	U	0.0405	0.0379	94	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.023	U	0.114	0.0506	45	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.11	U	0.568	0.554	98	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.11	U	0.568	0.547	96	40-150

CAS No.	ID Standard Recoveries	MS	FC3191-3	FC3191-3	Limits
	13C4-PFBA	2%* [c]	2%* [c]	3%* [c]	20-150%
	13C5-PFPeA	22%	29%	29%	20-150%
	13C5-PFHxA	99%	96%	95%	20-150%
	13C4-PFHpA	104%	100%	95%	20-150%
	13C8-PFOA	95%	93%	106%	20-150%
	13C9-PFNA	101%	98%	101%	20-150%
	13C6-PFDA	104%	93%	107%	20-150%
	13C7-PFUnDA	101%	106%	98%	20-150%
	13C2-PFDoDA	85%	93%	91%	20-150%
	13C2-PFTeDA	65%	72%	64%	20-150%
	13C3-PFBS	94%	96%	117%	20-150%
	13C3-PFHxS	106%	93%	108%	20-150%
	13C8-PFOS	110%	112%	50%	20-150%
	13C8-FOSA	100%	108%	52%	20-150%
	d3-MeFOSA	93%	100%	54%	20-150%
	d5-EtFOSA	94%	100%	51%	20-150%
	d3-MeFOSAA	124%	138%	67%	20-150%
	d5-EtFOSAA	144%	161%* [c]	63%	20-150%
	d7-MeFOSE	78%	98%	45%	20-150%
	d9-EtFOSE	77%	92%	46%	20-150%
	13C2-4:2FTS	135%	142%	146%	20-150%
	13C2-6:2FTS	104%	105%	130%	20-150%
	13C2-8:2FTS	104%	110%	114%	20-150%
	13C3-HFPO-DA	90%	82%	94%	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: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-DUP	6Q14558.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220
FC3191-5	6Q14557.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220

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

FC3191-1, FC3191-2, FC3191-3, FC3191-4, FC3191-5

CAS No.	Compound	FC3191-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.0035	J	0.0033	J	6	30
2706-90-3	Perfluoropentanoic acid	0.0106		0.0105		1	30
307-24-4	Perfluorohexanoic acid	0.0062		0.0060		3	30
375-85-9	Perfluoroheptanoic acid	0.00099	J	0.0010	J	1	30
335-67-1	Perfluorooctanoic acid	0.00063	J	0.00091	J	36*	30
375-95-1	Perfluorononanoic acid	0.0045 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0045 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0045 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0045 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0045 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0045 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0045 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0045 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0045 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0045 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0045 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0045 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0045 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	0.0284		0.0314		10	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U		ND		nc	30
754-91-6	PFOSA	0.0045 U		ND		nc	30
31506-32-8	MeFOSA	0.0045 U		ND		nc	30
4151-50-2	EtFOSA	0.0045 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	0.045 U		ND		nc	30
1691-99-2	EtFOSE	0.045 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.018 U		ND		nc	30
919005-14-4	ADONA	0.018 U		ND		nc	30
377-73-1	PFMPA	0.0091 U		ND		nc	30
863090-89-5	PFMBA	0.0091 U		ND		nc	30
151772-58-6	NFDHA	0.0091 U		ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.018 U		ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.018 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC3191
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95747-DUP	6Q14558.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220
FC3191-5	6Q14557.D	1	03/08/23	MV	03/06/23	OP95747	S6Q220

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

FC3191-1, FC3191-2, FC3191-3, FC3191-4, FC3191-5

CAS No.	Compound	FC3191-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0091	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.023	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.11	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.11	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC3191-5	Limits
	13C4-PFBA	91%	106%	20-150%
	13C5-PFPeA	90%	117%	20-150%
	13C5-PFHxA	91%	115%	20-150%
	13C4-PFHpA	91%	118%	20-150%
	13C8-PFOA	102%	109%	20-150%
	13C9-PFNA	99%	103%	20-150%
	13C6-PFDA	79%	114%	20-150%
	13C7-PFUnDA	71%	101%	20-150%
	13C2-PFDoDA	53%	83%	20-150%
	13C2-PFTeDA	48%	67%	20-150%
	13C3-PFBS	88%	106%	20-150%
	13C3-PFHxS	88%	105%	20-150%
	13C8-PFOS	92%	91%	20-150%
	13C8-FOSA	92%	93%	20-150%
	d3-MeFOSA	75%	79%	20-150%
	d5-EtFOSA	68%	75%	20-150%
	d3-MeFOSAA	83%	96%	20-150%
	d5-EtFOSAA	81%	93%	20-150%
	d7-MeFOSE	70%	83%	20-150%
	d9-EtFOSE	67%	83%	20-150%
	13C2-4:2FTS	103%	126%	20-150%
	13C2-6:2FTS	100%	123%	20-150%
	13C2-8:2FTS	95%	99%	20-150%
	13C3-HFPO-DA	87%	116%	20-150%

* = Outside of Control Limits.