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: FC3898

Sampling Date: 03/31/23

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: 35

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

Sections: 1 2 3 4 5 6

Table of Contents

Sample Summary

AECOM, INC.

Job No: FC3898

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FC3898-1	03/31/23	10:35	TM	04/01/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2303W4
FC3898-2	03/31/23	09:35	TM	04/01/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2303W4
FC3898-3	03/31/23	12:20	TMAY	04/01/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2303W4

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC3898

Site: N6274223F0104 RH Fire Suppression System **Report Date:** 4/10/2023 8:34:05 PM

On 04/01/2023, 2 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3.9 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC3898 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:** OP96279

Sample(s) FC3898-1MS, FC3898-3DUP, FC3898-1MS were used as the QC samples indicated.

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

Sample(s) FC3898-1 have surrogates outside control limits.

FC3898-1 for Perfluorobutanoic acid: Associated ID Standard outside control limits, Confirmed by batch QC.

FC3898-1 for 7:3 Fluorotelomer carboxylate: Associated Low Level CCV outside of control limits high, sample was ND.

FC3898-1 for 13C4-PFBA: Outside control limits.

FC3898-2 for 7:3 Fluorotelomer carboxylate: Associated Low Level CCV outside of control limits high, sample was ND.

FC3898-3 for 7:3 Fluorotelomer carboxylate: Associated Low Level CCV outside of control limits high, sample was ND.

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

Narrative prepared by:

_____

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

Summary of Hits

Job Number: FC3898
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 03/31/23

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC3898-1	**AF-RHMW17D-WGN01LF-2303W4**					
No hits reported in this sample.						
FC3898-2	**AF-RHMW17D-WQFB01-2303W4**					
No hits reported in this sample.						
FC3898-3	**AF-RHMW17-WGN01LF-2303W4**					
Perfluorobutanoic acid		2.8 J	19	3.7	ng/l	EPA DRAFT 1633
Perfluoropentanoic acid		7.0 J	9.3	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		3.9 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		1.0 J	4.6	0.93	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		4.7 J	19	7.4	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AF-RHMW17D-WGN01LF-2303W4
Lab Sample ID: FC3898-1 **Date Sampled:** 03/31/23
Matrix: AQ - Ground Water **Date Received:** 04/01/23
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	6Q16323.D	1	04/07/23 21:30	MV	04/06/23 10:00	OP96279	S6Q243
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid [a]	3.5 U	18	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	8.8	1.8	0.82	ng/l	
307-24-4	Perfluorohexanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
375-85-9	Perfluoroheptanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	4.4	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.4	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.4	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.4	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.88 U	4.4	0.88	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	4.4	1.8	0.61	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.88 U	4.4	0.88	0.44	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.4	1.8	0.47	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.4	1.8	0.50	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.4	1.8	0.56	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.5 U	4.4	3.5	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.0 U	18	7.0	2.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	4.4	1.8	0.59	ng/l	
31506-32-8	MeFOSA	1.8 U	4.4	1.8	0.88	ng/l	
4151-50-2	EtFOSA	1.8 U	4.4	1.8	0.88	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2303W4		
Lab Sample ID:	FC3898-1	**Date Sampled:**	03/31/23
Matrix:	AQ - Ground Water	**Date Received:**	04/01/23
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	3.5 U	4.4	3.5	0.88	ng/l	
2991-50-6	EtFOSAA	3.5 U	4.4	3.5	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	8.8 U	44	8.8	3.8	ng/l	
1691-99-2	EtFOSE	18 U	44	18	6.5	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.5 U	18	3.5	0.88	ng/l	
919005-14-4	ADONA	3.5 U	18	3.5	1.6	ng/l	
377-73-1	PFMPA	1.8 U	8.8	1.8	0.88	ng/l	
863090-89-5	PFMBA	3.5 U	8.8	3.5	1.0	ng/l	
151772-58-6	NFDHA	3.5 U	8.8	3.5	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.5 U	18	3.5	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.5 U	18	3.5	1.5	ng/l	
113507-82-7	PFEESA	1.8 U	8.8	1.8	0.68	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	8.8 U	22	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylat [b]	18 U	110	18	6.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	4% [c]		20-150%
	13C5-PFPeA	26%		20-150%
	13C5-PFHxA	106%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	117%		20-150%
	13C9-PFNA	109%		20-150%
	13C6-PFDA	122%		20-150%
	13C7-PFUnDA	109%		20-150%
	13C2-PFDoDA	94%		20-150%
	13C2-PFTeDA	72%		20-150%
	13C3-PFBS	92%		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-RHMW17D-WGN01LF-2303W4		
Lab Sample ID:	FC3898-1	**Date Sampled:**	03/31/23
Matrix:	AQ - Ground Water	**Date Received:**	04/01/23
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	95%		20-150%
	13C8-FOSA	84%		20-150%
	d3-MeFOSA	89%		20-150%
	d5-EtFOSA	94%		20-150%
	d3-MeFOSAA	137%		20-150%
	d5-EtFOSAA	146%		20-150%
	d7-MeFOSE	56%		20-150%
	d9-EtFOSE	66%		20-150%
	13C2-4:2FTS	112%		20-150%
	13C2-6:2FTS	116%		20-150%
	13C2-8:2FTS	108%		20-150%
	13C3-HFPO-DA	96%		20-150%

(a) Associated ID Standard outside control limits, Confirmed by batch QC.
(b) Associated Low Level CCV outside of control limits high, sample was ND.
(c) Outside control limits.

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

Report of Analysis

Client Sample ID: AF-RHMW17D-WQFB01-2303W4
Lab Sample ID: FC3898-2
Matrix: AQ - Field Blank Water
Method: EPA DRAFT 1633 EPA 1633 DRAFT
Project: N6274223F0104 RH Fire Suppression System

Date Sampled: 03/31/23
Date Received: 04/01/23
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q16325.D	1	04/07/23 21:58	MV	04/06/23 10:00	OP96279	S6Q243
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	

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-WQFB01-2303W4
Lab Sample ID: FC3898-2 **Date Sampled:** 03/31/23
Matrix: AQ - Field Blank Water **Date Received:** 04/01/23
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 carboxylat [a]	18 U	110	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	108%		20-150%
	13C5-PFPeA	109%		20-150%
	13C5-PFHxA	109%		20-150%
	13C4-PFHpA	105%		20-150%
	13C8-PFOA	105%		20-150%
	13C9-PFNA	97%		20-150%
	13C6-PFDA	97%		20-150%
	13C7-PFUnDA	84%		20-150%
	13C2-PFDoDA	78%		20-150%
	13C2-PFTeDA	60%		20-150%
	13C3-PFBS	109%		20-150%
	13C3-PFHxS	107%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2303W4		
Lab Sample ID:	FC3898-2	**Date Sampled:**	03/31/23
Matrix:	AQ - Field Blank Water	**Date Received:**	04/01/23
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	106%		20-150%
	13C8-FOSA	69%		20-150%
	d3-MeFOSA	77%		20-150%
	d5-EtFOSA	79%		20-150%
	d3-MeFOSAA	104%		20-150%
	d5-EtFOSAA	103%		20-150%
	d7-MeFOSE	61%		20-150%
	d9-EtFOSE	73%		20-150%
	13C2-4:2FTS	137%		20-150%
	13C2-6:2FTS	129%		20-150%
	13C2-8:2FTS	127%		20-150%
	13C3-HFPO-DA	101%		20-150%

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

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-2303W4
Lab Sample ID: FC3898-3
Matrix: AQ - Ground Water
Method: EPA DRAFT 1633 EPA 1633 DRAFT
Project: N6274223F0104 RH Fire Suppression System

Date Sampled: 03/31/23
Date Received: 04/01/23
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q16326.D	1	04/07/23 22:12	MV	04/06/23 10:00	OP96279	S6Q243
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	2.8	19	3.7	1.8	ng/l	J
2706-90-3	Perfluoropentanoic acid	7.0	9.3	1.9	0.87	ng/l	J
307-24-4	Perfluorohexanoic acid	3.9	4.6	0.93	0.46	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.0	4.6	0.93	0.46	ng/l	J
335-67-1	Perfluorooctanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
335-76-2	Perfluorodecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.6	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.93 U	4.6	0.93	0.46	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	4.6	1.9	0.65	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.93 U	4.6	0.93	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	4.6	1.9	0.50	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.6	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.6	1.9	0.59	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	4.7	19	7.4	3.2	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	4.6	1.9	0.62	ng/l	
31506-32-8	MeFOSA	1.9 U	4.6	1.9	0.93	ng/l	
4151-50-2	EtFOSA	1.9 U	4.6	1.9	0.93	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2303W4		
Lab Sample ID:	FC3898-3	**Date Sampled:**	03/31/23
Matrix:	AQ - Ground Water	**Date Received:**	04/01/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.7 U	4.6	3.7	0.93	ng/l	
2991-50-6	EtFOSAA	3.7 U	4.6	3.7	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.3 U	46	9.3	4.1	ng/l	
1691-99-2	EtFOSE	19 U	46	19	6.9	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.7 U	19	3.7	0.93	ng/l	
919005-14-4	ADONA	3.7 U	19	3.7	1.7	ng/l	
377-73-1	PFMPA	1.9 U	9.3	1.9	0.93	ng/l	
863090-89-5	PFMBA	3.7 U	9.3	3.7	1.1	ng/l	
151772-58-6	NFDHA	3.7 U	9.3	3.7	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	19	3.7	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	19	3.7	1.6	ng/l	
113507-82-7	PFEESA	1.9 U	9.3	1.9	0.72	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.3 U	23	9.3	4.2	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.1	ng/l	
812-70-4	7:3 Fluorotelomer carboxylat [a]	19 U	120	19	7.3	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	104%		20-150%
	13C5-PFPeA	108%		20-150%
	13C5-PFHxA	107%		20-150%
	13C4-PFHpA	109%		20-150%
	13C8-PFOA	100%		20-150%
	13C9-PFNA	111%		20-150%
	13C6-PFDA	85%		20-150%
	13C7-PFUnDA	68%		20-150%
	13C2-PFDoDA	50%		20-150%
	13C2-PFTeDA	45%		20-150%
	13C3-PFBS	107%		20-150%
	13C3-PFHxS	98%		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-2303W4		
Lab Sample ID:	FC3898-3	**Date Sampled:**	03/31/23
Matrix:	AQ - Ground Water	**Date Received:**	04/01/23
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	70%		20-150%
	13C8-FOSA	75%		20-150%
	d3-MeFOSA	67%		20-150%
	d5-EtFOSA	63%		20-150%
	d3-MeFOSAA	81%		20-150%
	d5-EtFOSAA	88%		20-150%
	d7-MeFOSE	47%		20-150%
	d9-EtFOSE	58%		20-150%
	13C2-4:2FTS	124%		20-150%
	13C2-6:2FTS	121%		20-150%
	13C2-8:2FTS	85%		20-150%
	13C3-HFPO-DA	105%		20-150%

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

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

SGS North America Inc - Orlando
Chain of Custody

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

FC3898
SGS - ORLANDO JOB # :

COC #: 2303W4AFSG11
PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: AECOM
Address: 1001 Bishop St. ste 1600
City: Honolulu State: HI Zip: 96813
Project Contact: Katie Abbott Email: katie.abbott@aecom.com
Project Manager: Watson Tanji Email: watson.tanji@aecom.com
Phone #: 303-796-4624 / 808-954-4512
Sampler(s) Name(s) (Printed)
Sampler 1: 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	COLLECTION TIME	SAMPLED BY:	MATRIX	CONTAINER INFORMATION: TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633
1	AF-RHMW17D-WGN01LF-2303W4		1035	TM	GW	3		X								X
2	AF-RHMW17D-WQFB01-2303W4		0935	TM	GW	3		X								X

TM 3/31/23

INITIAL ASSESSMENT

LABEL VERIFICATION

4.0 IR#C

Turnaround Time (Business days)

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

Data Deliverable Information

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

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United awb: 010-2770 6486

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	TESSA MURPHY/AECOM	3/31/23 1326	2 Kyra Vega	3	1400 3.31.23	4
	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): 4.0 IR#C

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

PFAS_COCs_ALL.xls Rev 031318

FC3898: Chain of Custody
Page 1 of 5

Revised COC

SGS North America Inc - Orlando
Chain of Custody

FC3898

SGS - ORLANDO JOB # :

COC #: 2303W4AFSG11

PAGE 1 OF 1

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

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: Sampler 2:	Client Purchase Order #		

PFAS EPA Draft 1633

TM 3/31/23

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	MeOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MEOH	LAB USE ONLY
1	AF-RHMW17D-WGN01LF-2303W4	3/31/23	1035	TM	GW	3		X							X	
2	AF-RHMW17D-WQFB01-2303W4	3/31/23	0935	TM	GW	3		X							X	
		3/24/23														

TM 3/31/23

INITIAL ASSESSMENT

LABEL VERIFICATION

4.0 IR#1

Turnaround Time (Business days)	Data Deliverable Information	Comments / Remarks
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	[ ] COMMERCIAL "A" (RESULTS ONLY) [ ] COMMERCIAL "B" (RESULTS PLUS QC) [ ] REDT1 (EPA LEVEL 3) [x] FULLT1 (EPA LEVEL 4) [x] EDD'S	EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW United awb: 016-27706 4486

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	TESSA MURPHY/AECOM	3/31/23 1326	2 Kya Vega	3	1400 3.31.23	4
	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): 4.0 IR#1

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

PFAS_COCs_ALL.xls Rev 031318

5.1 5

FC3898: Chain of Custody
Page 2 of 5

SGS North America Inc - Orlando
Chain of Custody

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

FC3898

SGS - ORLANDO JOB # :

COC #: 2303W4AFSG10

PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

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

Analytical Information: PFAS EPA Draft 1633

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	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-RHMW17-WGN01LF-2303W4	3/31/23	1220	TM, AY	GW	3		x								x	

TM 3/31/23

TM 3/31/23

Turnaround Time (Business days)

- 10 Day (Business) — Approved By: / Date:
- 7 Day
- [5 Day]
- 3 Day *RUSH*
- 2 Day *RUSH*
- 1 Day *RUSH*
- Other

Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

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

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United awb: 016-27706486

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	TESSA MURPHY/AECOM	3/31/23 1326	2 Yaya Vega	3.31.23 1326 3	3.31.23 1400	4 4/1/23 1515
	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): 4.0 IR#1

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

PFAS_COCs_ALL.xls Rev 031318

SGS Sample Receipt Summary

Job Number: FC3898 **Client:** AECOM **Project:** N6274223F0104 RH Fire Suppression System

Date / Time Received: 4/1/2023 3:15:00 PM **Delivery Method:** United Cargo/Airspace **Airbill #'s:** United Cargo AWB #: 016-27706486

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

Cooler Temps (Raw Measured) °C: Cooler 1: (4.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.9);

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

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

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

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

Misc. Information

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

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

Residual Chlorine Test Strip Lot #: _____

Comments Sampling Dates missing for samples:
AF-RHMW17D-WGN01LF-2303W4
AF-RHMW17D-WQFB01-2303W4

Technician: PhilipD Date: 4/1/2023 3:15:00 PM Reviewer: CD Date: 4/10/2023

SM001
Rev. Date 05/24/17

CSR: Elvin Kumar **Response Date:** 04/04/23

Response: revised COC received with sampling dates. Appended to the original COC

SM001
Rev. Date 05/24/17

FC3898: Chain of Custody
Page 5 of 5

QC Evaluation: DOD QSM5.x Limits

Job Number: FC3898
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 03/31/23

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 FC3898

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: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q243-IBLK	6Q16317.D	1	04/07/23	MV	n/a	n/a	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

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

Instrument Blank

Job Number: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q243-IBLK	6Q16317.D	1	04/07/23	MV	n/a	n/a	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

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	102%	20-150%
	13C5-PFPeA	100%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	102%	20-150%
	13C8-PFOA	97%	20-150%
	13C9-PFNA	96%	20-150%
	13C6-PFDA	106%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	107%	20-150%
	13C2-PFTeDA	102%	20-150%
	13C3-PFBS	97%	20-150%
	13C3-PFHxS	97%	20-150%
	13C8-PFOS	95%	20-150%
	13C8-FOSA	88%	20-150%
	d3-MeFOSAA	112%	20-150%
	d5-EtFOSAA	104%	20-150%
	13C2-4:2FTS	110%	20-150%
	13C2-6:2FTS	122%	20-150%
	13C2-8:2FTS	105%	20-150%

Method Blank Summary

Job Number: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-MB	6Q16322.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

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: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-MB	6Q16322.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

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	110%	20-150%
	13C5-PFPeA	111%	20-150%
	13C5-PFHxA	114%	20-150%
	13C4-PFHpA	113%	20-150%
	13C8-PFOA	106%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	117%	20-150%
	13C7-PFUnDA	109%	20-150%
	13C2-PFDoDA	99%	20-150%
	13C2-PFTeDA	99%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	95%	20-150%
	13C8-PFOS	113%	20-150%
	13C8-FOSA	74%	20-150%
	d3-MeFOSA	77%	20-150%
	d5-EtFOSA	85%	20-150%
	d3-MeFOSAA	114%	20-150%
	d5-EtFOSAA	107%	20-150%
	d7-MeFOSE	64%	20-150%
	d9-EtFOSE	74%	20-150%
	13C2-4:2FTS	115%	20-150%
	13C2-6:2FTS	120%	20-150%
	13C2-8:2FTS	105%	20-150%
	13C3-HFPO-DA	106%	20-150%

Blank Spike Summary

Job Number: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-LLBS	6Q16321.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.04	0.0375	94	40-150
2706-90-3	Perfluoropentanoic acid	0.02	0.0193	97	40-150
307-24-4	Perfluorohexanoic acid	0.01	0.0098	98	40-150
375-85-9	Perfluoroheptanoic acid	0.01	0.0096	96	40-150
335-67-1	Perfluorooctanoic acid	0.01	0.0087	87	40-150
375-95-1	Perfluorononanoic acid	0.01	0.0091	91	40-150
335-76-2	Perfluorodecanoic acid	0.01	0.0093	93	40-150
2058-94-8	Perfluoroundecanoic acid	0.01	0.0085	85	40-150
307-55-1	Perfluorododecanoic acid	0.01	0.0094	94	40-150
72629-94-8	Perfluorotridecanoic acid	0.01	0.0096	96	40-150
376-06-7	Perfluorotetradecanoic acid	0.01	0.0093	93	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00887	0.0087	98	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00941	0.0089	95	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00914	0.0088	96	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00953	0.0085	89	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00928	0.0085	92	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00962	0.0086	89	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00965	0.0094	97	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0097	0.0082	85	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0375	0.0352	94	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.038	0.0365	96	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0384	0.0366	95	40-150
754-91-6	PFOSA	0.01	0.0096	96	40-150
31506-32-8	MeFOSA	0.01	0.0097	97	40-150
4151-50-2	EtFOSA	0.01	0.0105	105	40-150
2355-31-9	MeFOSAA	0.01	0.010	100	40-150
2991-50-6	EtFOSAA	0.01	0.0098	98	40-150
24448-09-7	MeFOSE	0.1	0.103	103	40-150
1691-99-2	EtFOSE	0.1	0.0979	98	40-150
13252-13-6	HFPO-DA (GenX)	0.04	0.0362	91	40-150
919005-14-4	ADONA	0.0378	0.0357	94	40-150
377-73-1	PFMPA	0.02	0.0189	95	40-150
863090-89-5	PFMBA	0.02	0.0178	89	40-150
151772-58-6	NFDHA	0.02	0.0164	82	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0374	0.0359	96	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0378	0.0328	87	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-LLBS	6Q16321.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0178	0.0163	92	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.05	0.0322	64	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.25	0.187	75	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.25	0.205	82	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	110%	20-150%
	13C5-PFPeA	115%	20-150%
	13C5-PFHxA	124%	20-150%
	13C4-PFHpA	118%	20-150%
	13C8-PFOA	110%	20-150%
	13C9-PFNA	117%	20-150%
	13C6-PFDA	115%	20-150%
	13C7-PFUnDA	112%	20-150%
	13C2-PFDoDA	98%	20-150%
	13C2-PFTeDA	95%	20-150%
	13C3-PFBS	109%	20-150%
	13C3-PFHxS	104%	20-150%
	13C8-PFOS	108%	20-150%
	13C8-FOSA	71%	20-150%
	d3-MeFOSA	77%	20-150%
	d5-EtFOSA	79%	20-150%
	d3-MeFOSAA	121%	20-150%
	d5-EtFOSAA	114%	20-150%
	d7-MeFOSE	54%	20-150%
	d9-EtFOSE	63%	20-150%
	13C2-4:2FTS	137%	20-150%
	13C2-6:2FTS	130%	20-150%
	13C2-8:2FTS	128%	20-150%
	13C3-HFPO-DA	116%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-BS	6Q16320.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0949	95	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0488	98	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0252	101	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0244	98	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0262	105	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0229	92	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0228	91	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0257	103	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0230	92	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0230	92	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0235	94	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0234	106	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0210	89	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0203	89	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0223	94	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0198	85	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0220	91	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0227	94	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0215	89	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.0916	98	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0868	91	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0994	104	40-150
754-91-6	PFOSA	0.025	0.0235	94	40-150
31506-32-8	MeFOSA	0.025	0.0265	106	40-150
4151-50-2	EtFOSA	0.025	0.0261	104	40-150
2355-31-9	MeFOSAA	0.025	0.0244	98	40-150
2991-50-6	EtFOSAA	0.025	0.0268	107	40-150
24448-09-7	MeFOSE	0.25	0.256	102	40-150
1691-99-2	EtFOSE	0.25	0.242	97	40-150
13252-13-6	HFPO-DA (GenX)	0.1	0.0960	96	40-150
919005-14-4	ADONA	0.0945	0.0951	101	40-150
377-73-1	PFMPA	0.05	0.0292	58	40-150
863090-89-5	PFMBA	0.05	0.0466	93	40-150
151772-58-6	NFDHA	0.05	0.0478	96	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0935	0.0941	101	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0945	0.0869	92	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-BS	6Q16320.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0445	100	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0524	42	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.552	88	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.573	92	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	35%	20-150%
	13C5-PFPeA	108%	20-150%
	13C5-PFHxA	111%	20-150%
	13C4-PFHpA	112%	20-150%
	13C8-PFOA	107%	20-150%
	13C9-PFNA	116%	20-150%
	13C6-PFDA	112%	20-150%
	13C7-PFUnDA	107%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	96%	20-150%
	13C3-PFBS	111%	20-150%
	13C3-PFHxS	118%	20-150%
	13C8-PFOS	115%	20-150%
	13C8-FOSA	79%	20-150%
	d3-MeFOSA	83%	20-150%
	d5-EtFOSA	85%	20-150%
	d3-MeFOSAA	115%	20-150%
	d5-EtFOSAA	106%	20-150%
	d7-MeFOSE	60%	20-150%
	d9-EtFOSE	70%	20-150%
	13C2-4:2FTS	135%	20-150%
	13C2-6:2FTS	136%	20-150%
	13C2-8:2FTS	127%	20-150%
	13C3-HFPO-DA	105%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-MS	6Q16324.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243
FC3898-1	6Q16323.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

CAS No.	Compound	FC3898-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.018	U	0.0909	0.0781	86	40-150
2706-90-3	Perfluoropentanoic acid	0.0088	U	0.0455	0.0471	104	40-150
307-24-4	Perfluorohexanoic acid	0.0044	U	0.0227	0.0243	107	40-150
375-85-9	Perfluoroheptanoic acid	0.0044	U	0.0227	0.0229	101	40-150
335-67-1	Perfluorooctanoic acid	0.0044	U	0.0227	0.0245	108	40-150
375-95-1	Perfluorononanoic acid	0.0044	U	0.0227	0.0252	111	40-150
335-76-2	Perfluorodecanoic acid	0.0044	U	0.0227	0.0246	108	40-150
2058-94-8	Perfluoroundecanoic acid	0.0044	U	0.0227	0.0244	107	40-150
307-55-1	Perfluorododecanoic acid	0.0044	U	0.0227	0.0242	106	40-150
72629-94-8	Perfluorotridecanoic acid	0.0044	U	0.0227	0.0217	95	40-150
376-06-7	Perfluorotetradecanoic acid	0.0044	U	0.0227	0.0242	106	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0044	U	0.0202	0.0215	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0044	U	0.0214	0.0253	118	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0044	U	0.0208	0.0231	111	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0044	U	0.0217	0.0198	91	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0044	U	0.0211	0.0263	125	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0044	U	0.0219	0.0260	119	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0044	U	0.0219	0.0224	102	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0044	U	0.022	0.0183	83	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.018	U	0.0852	0.0910	107	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	0.0864	0.0859	99	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	0.0873	0.116	133	40-150
754-91-6	PFOSA	0.0044	U	0.0227	0.0250	110	40-150
31506-32-8	MeFOSA	0.0044	U	0.0227	0.0231	102	40-150
4151-50-2	EtFOSA	0.0044	U	0.0227	0.0244	107	40-150
2355-31-9	MeFOSAA	0.0044	U	0.0227	0.0237	104	40-150
2991-50-6	EtFOSAA	0.0044	U	0.0227	0.0242	106	40-150
24448-09-7	MeFOSE	0.044	U	0.227	0.241	106	40-150
1691-99-2	EtFOSE	0.044	U	0.227	0.225	99	40-150
13252-13-6	HFPO-DA (GenX)	0.018	U	0.0909	0.0920	101	40-150
919005-14-4	ADONA	0.018	U	0.0859	0.111	129	40-150
377-73-1	PFMPA	0.0088	U	0.0455	0.0123	27*	40-150
863090-89-5	PFMBA	0.0088	U	0.0455	0.0707	156*	40-150
151772-58-6	NFDHA	0.0088	U	0.0455	0.0382	84	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.018	U	0.085	0.101	119	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.018	U	0.0859	0.0864	101	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-MS	6Q16324.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243
FC3898-1	6Q16323.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

CAS No.	Compound	FC3898-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0088	U	0.0405	0.0494	122	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.022	U	0.114	0.0307	27*	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.11	U	0.568	0.589	104	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.11	U	0.568	0.639	112	40-150

CAS No.	ID Standard Recoveries	MS	FC3898-1	Limits
	13C4-PFBA	4%* [a]	4%* [a]	20-150%
	13C5-PFPeA	24%	26%	20-150%
	13C5-PFHxA	94%	106%	20-150%
	13C4-PFHpA	110%	113%	20-150%
	13C8-PFOA	108%	117%	20-150%
	13C9-PFNA	100%	109%	20-150%
	13C6-PFDA	103%	122%	20-150%
	13C7-PFUnDA	104%	109%	20-150%
	13C2-PFDoDA	94%	94%	20-150%
	13C2-PFTeDA	72%	72%	20-150%
	13C3-PFBS	94%	92%	20-150%
	13C3-PFHxS	92%	101%	20-150%
	13C8-PFOS	94%	95%	20-150%
	13C8-FOSA	83%	84%	20-150%
	d3-MeFOSA	95%	89%	20-150%
	d5-EtFOSA	95%	94%	20-150%
	d3-MeFOSAA	137%	137%	20-150%
	d5-EtFOSAA	144%	146%	20-150%
	d7-MeFOSE	65%	56%	20-150%
	d9-EtFOSE	72%	66%	20-150%
	13C2-4:2FTS	107%	112%	20-150%
	13C2-6:2FTS	125%	116%	20-150%
	13C2-8:2FTS	94%	108%	20-150%
	13C3-HFPO-DA	87%	96%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-DUP	6Q16327.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243
FC3898-3	6Q16326.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

CAS No.	Compound	FC3898-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.0028	J	0.0034	J	19	30
2706-90-3	Perfluoropentanoic acid	0.0070	J	0.0068	J	3	30
307-24-4	Perfluorohexanoic acid	0.0039	J	0.0040	J	3	30
375-85-9	Perfluoroheptanoic acid	0.0010	J	0.00097	J	3	30
335-67-1	Perfluorooctanoic acid	0.0046	U	ND		nc	30
375-95-1	Perfluorononanoic acid	0.0046	U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0046	U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0046	U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0046	U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0046	U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0046	U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0046	U	ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0046	U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0046	U	ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0046	U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0046	U	ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0046	U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0046	U	ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0046	U	ND		nc	30
757124-72-4	4:2 Fluorotelomer sulfonate	0.019	U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0047	J	0.0050	J	6	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019	U	ND		nc	30
754-91-6	PFOSA	0.0046	U	ND		nc	30
31506-32-8	MeFOSA	0.0046	U	ND		nc	30
4151-50-2	EtFOSA	0.0046	U	ND		nc	30
2355-31-9	MeFOSAA	0.0046	U	ND		nc	30
2991-50-6	EtFOSAA	0.0046	U	ND		nc	30
24448-09-7	MeFOSE	0.046	U	ND		nc	30
1691-99-2	EtFOSE	0.046	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	0.0093	U	ND		nc	30
863090-89-5	PFMBA	0.0093	U	ND		nc	30
151772-58-6	NFDHA	0.0093	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: FC3898
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96279-DUP	6Q16327.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243
FC3898-3	6Q16326.D	1	04/07/23	MV	04/06/23	OP96279	S6Q243

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

FC3898-1, FC3898-2, FC3898-3

CAS No.	Compound	FC3898-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0093	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.023	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.12	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.12	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC3898-3	Limits
	13C4-PFBA	103%	104%	20-150%
	13C5-PFPeA	107%	108%	20-150%
	13C5-PFHxA	107%	107%	20-150%
	13C4-PFHpA	106%	109%	20-150%
	13C8-PFOA	103%	100%	20-150%
	13C9-PFNA	90%	111%	20-150%
	13C6-PFDA	93%	85%	20-150%
	13C7-PFUnDA	63%	68%	20-150%
	13C2-PFDoDA	50%	50%	20-150%
	13C2-PFTeDA	40%	45%	20-150%
	13C3-PFBS	94%	107%	20-150%
	13C3-PFHxS	88%	98%	20-150%
	13C8-PFOS	85%	70%	20-150%
	13C8-FOSA	80%	75%	20-150%
	d3-MeFOSA	69%	67%	20-150%
	d5-EtFOSA	65%	63%	20-150%
	d3-MeFOSAA	84%	81%	20-150%
	d5-EtFOSAA	92%	88%	20-150%
	d7-MeFOSE	51%	47%	20-150%
	d9-EtFOSE	59%	58%	20-150%
	13C2-4:2FTS	115%	124%	20-150%
	13C2-6:2FTS	125%	121%	20-150%
	13C2-8:2FTS	68%	85%	20-150%
	13C3-HFPO-DA	102%	105%	20-150%

* = Outside of Control Limits.