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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC1980

Sampling Date: 01/17/23

Report to:

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

Total number of pages in report: 47



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

A handwritten signature in black ink, appearing to read 'Norm Farmer'.

Norm Farmer
Technical Director

Client Service contact: Elvin Kumar 407-425-6700

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

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Test results relate only to samples analyzed.

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Sample Summary

AECOM, INC.

Job No: FC1980

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC1980-1	01/17/23	11:55 NT	01/18/23	AQ	Ground Water	AF-HDMW225303-WGN01LF-2301W3
FC1980-2	01/17/23	12:30 NT	01/18/23	AQ	Ground Water	AF-RHMW12A-WGN01LF-2301W3
FC1980-3	01/17/23	12:30 NT	01/18/23	AQ	Ground Water	AF-RHMW12A-WGFD01LF-2301W3
FC1980-4	01/17/23	14:25 NT	01/18/23	AQ	Ground Water	AF-RHMW16-WGN01LF-2301W3
FC1980-5	01/17/23	14:50 NT	01/18/23	AQ	Ground Water	AF-RHMW10-WGN01LF-2301W3

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC1980

Site: N6274223F0104 RH Fire Suppression System

Report Date: 1/25/2023 5:15:44 PM

On 01/18/2023, 5 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC1980 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: OP95057

Sample(s) FC1966-5MS, FC1980-2DUP were used as the QC samples indicated.

Matrix Spike Recovery(s) for Perfluoropentanoic acid are outside control limits. Probable cause is due to matrix interference.

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: FC1980
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/17/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC1980-1 AF-HDMW225303-WGN01LF-2301W3

No hits reported in this sample.

FC1980-2 AF-RHMW12A-WGN01LF-2301W3

Perfluoropentanoic acid	4.7 J	9.4	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	1.2 J	4.7	0.94	ng/l	EPA DRAFT 1633

FC1980-3 AF-RHMW12A-WGFD01LF-2301W3

Perfluoropentanoic acid	4.1 J	9.4	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	1.1 J	4.7	0.94	ng/l	EPA DRAFT 1633

FC1980-4 AF-RHMW16-WGN01LF-2301W3

No hits reported in this sample.

FC1980-5 AF-RHMW10-WGN01LF-2301W3

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2301W3		
Lab Sample ID:	FC1980-1	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q12020.D	1	01/24/23 06:12	MV	01/19/23 09:00	OP95057	S6Q186
Run #2							

Run #	Initial Volume	Final Volume
Run #1	500 ml	5.0 ml
Run #2		

CAS No. Compound Result LOQ LOD DL Units Q

PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	4.0 U	20	4.0	1.9	ng/l
2706-90-3	Perfluoropentanoic acid	2.0 U	10	2.0	0.94	ng/l
307-24-4	Perfluorohexanoic acid	1.0 U	5.0	1.0	0.50	ng/l
375-85-9	Perfluoroheptanoic acid	1.0 U	5.0	1.0	0.50	ng/l
335-67-1	Perfluorooctanoic acid	1.0 U	5.0	1.0	0.50	ng/l
375-95-1	Perfluorononanoic acid	2.0 U	5.0	2.0	0.61	ng/l
335-76-2	Perfluorodecanoic acid	1.0 U	5.0	1.0	0.50	ng/l
2058-94-8	Perfluoroundecanoic acid	2.0 U	5.0	2.0	0.60	ng/l
307-55-1	Perfluorododecanoic acid	2.0 U	5.0	2.0	0.60	ng/l
72629-94-8	Perfluorotridecanoic acid	2.0 U	5.0	2.0	0.84	ng/l
376-06-7	Perfluorotetradecanoic acid	1.0 U	5.0	1.0	0.50	ng/l

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.0 U	5.0	1.0	0.50	ng/l
2706-91-4	Perfluoropentanesulfonic acid	4.0 U	5.0	4.0	1.1	ng/l
355-46-4	Perfluorohexanesulfonic acid	2.0 U	5.0	2.0	0.70	ng/l
375-92-8	Perfluoroheptanesulfonic acid	1.0 U	5.0	1.0	0.50	ng/l
1763-23-1	Perfluorooctanesulfonic acid	2.0 U	5.0	2.0	0.54	ng/l
68259-12-1	Perfluorononanesulfonic acid	2.0 U	5.0	2.0	0.57	ng/l
335-77-3	Perfluorodecanesulfonic acid	2.0 U	5.0	2.0	0.64	ng/l
79780-39-5	Perfluorododecanesulfonic aci	4.0 U	5.0	4.0	1.1	ng/l

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	8.0 U	20	8.0	3.2	ng/l
27619-97-2	6:2 Fluorotelomer sulfonate	8.0 U	20	8.0	3.5	ng/l
39108-34-4	8:2 Fluorotelomer sulfonate	8.0 U	20	8.0	4.1	ng/l

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	2.0 U	5.0	2.0	0.67	ng/l
31506-32-8	MeFOSA	2.0 U	5.0	2.0	1.0	ng/l
4151-50-2	EtFOSA	2.0 U	5.0	2.0	1.0	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

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Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2301W3		
Lab Sample ID:	FC1980-1	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
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
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	4.0 U	5.0	4.0	1.0	ng/l	
2991-50-6	EtFOSAA	4.0 U	5.0	4.0	1.3	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	10 U	50	10	4.4	ng/l	
1691-99-2	EtFOSE	20 U	50	20	7.4	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	4.0 U	20	4.0	1.0	ng/l	
919005-14-4	ADONA	4.0 U	20	4.0	1.9	ng/l	
377-73-1	PFMPA	2.0 U	10	2.0	1.0	ng/l	
863090-89-5	PFMBA	4.0 U	10	4.0	1.1	ng/l	
151772-58-6	NFDHA	4.0 U	10	4.0	1.2	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	4.0 U	20	4.0	1.4	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	4.0 U	20	4.0	1.8	ng/l	
113507-82-7	PFEESA	2.0 U	10	2.0	0.78	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	10 U	25	10	4.5	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	20 U	130	20	8.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	20 U	130	20	7.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	116%		20-150%
	13C5-PFPeA	119%		20-150%
	13C5-PFHxA	115%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	113%		20-150%
	13C9-PFNA	107%		20-150%
	13C6-PFDA	108%		20-150%
	13C7-PFUnDA	98%		20-150%
	13C2-PFDoDA	86%		20-150%
	13C2-PFTeDA	83%		20-150%
	13C3-PFBS	110%		20-150%
	13C3-PFHxS	121%		20-150%

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

Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2301W3		
Lab Sample ID:	FC1980-1	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
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	96%		20-150%
	d3-MeFOSA	90%		20-150%
	d5-EtFOSA	89%		20-150%
	d3-MeFOSAA	97%		20-150%
	d5-EtFOSAA	96%		20-150%
	d7-MeFOSE	92%		20-150%
	d9-EtFOSE	86%		20-150%
	13C2-4:2FTS	133%		20-150%
	13C2-6:2FTS	130%		20-150%
	13C2-8:2FTS	99%		20-150%
	13C3-HFPO-DA	117%		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-RHMW12A-WGN01LF-2301W3		
Lab Sample ID:	FC1980-2	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q12021.D	1	01/24/23 06:26	MV	01/19/23 09:00	OP95057	S6Q186
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.8 U	19	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	4.7	9.4	1.9	0.89	ng/l	J
307-24-4	Perfluorohexanoic acid	1.2	4.7	0.94	0.47	ng/l	J
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	

PERFLUOROOCCTANE 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

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Report of Analysis

Client Sample ID:	AF-RHMW12A-WGN01LF-2301W3		
Lab Sample ID:	FC1980-2	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
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
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PERFLUOROOCCTANE 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	

PERFLUOROOCCTANE 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
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	13C4-PFBA	117%		20-150%
	13C5-PFPeA	120%		20-150%
	13C5-PFHxA	122%		20-150%
	13C4-PFHpA	117%		20-150%
	13C8-PFOA	112%		20-150%
	13C9-PFNA	116%		20-150%
	13C6-PFDA	99%		20-150%
	13C7-PFUnDA	101%		20-150%
	13C2-PFDoDA	86%		20-150%
	13C2-PFTeDA	83%		20-150%
	13C3-PFBS	115%		20-150%
	13C3-PFHxS	113%		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-RHMW12A-WGN01LF-2301W3		
Lab Sample ID:	FC1980-2	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
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	109%		20-150%
	13C8-FOSA	111%		20-150%
	d3-MeFOSA	102%		20-150%
	d5-EtFOSA	105%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	112%		20-150%
	d7-MeFOSE	101%		20-150%
	d9-EtFOSE	98%		20-150%
	13C2-4:2FTS	143%		20-150%
	13C2-6:2FTS	127%		20-150%
	13C2-8:2FTS	116%		20-150%
	13C3-HFPO-DA	123%		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-RHMW12A-WGFD01LF-2301W3		
Lab Sample ID:	FC1980-3	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q12023.D	1	01/24/23 06:54	MV	01/19/23 09:00	OP95057	S6Q186
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.8 U	19	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	4.1	9.4	1.9	0.89	ng/l	J
307-24-4	Perfluorohexanoic acid	1.1	4.7	0.94	0.47	ng/l	J
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	

PERFLUOROOCCTANE 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-RHMW12A-WGFD01LF-2301W3		
Lab Sample ID:	FC1980-3	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
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
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PERFLUOROOCCTANE 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	

PERFLUOROOCCTANE 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
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	13C4-PFBA	118%		20-150%
	13C5-PFPeA	127%		20-150%
	13C5-PFHxA	125%		20-150%
	13C4-PFHpA	122%		20-150%
	13C8-PFOA	115%		20-150%
	13C9-PFNA	119%		20-150%
	13C6-PFDA	118%		20-150%
	13C7-PFUnDA	104%		20-150%
	13C2-PFDoDA	87%		20-150%
	13C2-PFTeDA	82%		20-150%
	13C3-PFBS	108%		20-150%
	13C3-PFHxS	116%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW12A-WGFD01LF-2301W3		
Lab Sample ID:	FC1980-3	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	108%		20-150%
	13C8-FOSA	115%		20-150%
	d3-MeFOSA	100%		20-150%
	d5-EtFOSA	101%		20-150%
	d3-MeFOSAA	117%		20-150%
	d5-EtFOSAA	100%		20-150%
	d7-MeFOSE	99%		20-150%
	d9-EtFOSE	97%		20-150%
	13C2-4:2FTS	138%		20-150%
	13C2-6:2FTS	137%		20-150%
	13C2-8:2FTS	128%		20-150%
	13C3-HFPO-DA	133%		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-RHMW16-WGN01LF-2301W3		
Lab Sample ID:	FC1980-4	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q12024.D	1	01/24/23 07:08	MV	01/19/23 09:00	OP95057	S6Q186
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.7 U	19	3.7	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	9.3	1.9	0.87	ng/l	
307-24-4	Perfluorohexanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
375-85-9	Perfluoroheptanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
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	7.4 U	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	

PERFLUOROOCCTANE 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

4.4
4

Report of Analysis

Client Sample ID:	AF-RHMW16-WGN01LF-2301W3		
Lab Sample ID:	FC1980-4	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
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
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PERFLUOROOCCTANE 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	

PERFLUOROOCCTANE 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 carboxylate	19 U	120	19	7.3	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	114%		20-150%
	13C5-PFPeA	122%		20-150%
	13C5-PFHxA	120%		20-150%
	13C4-PFHpA	120%		20-150%
	13C8-PFOA	118%		20-150%
	13C9-PFNA	113%		20-150%
	13C6-PFDA	120%		20-150%
	13C7-PFUnDA	108%		20-150%
	13C2-PFDoDA	98%		20-150%
	13C2-PFTeDA	95%		20-150%
	13C3-PFBS	114%		20-150%
	13C3-PFHxS	117%		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

4.4
4

Report of Analysis

Client Sample ID:	AF-RHMW16-WGN01LF-2301W3		Date Sampled:	01/17/23
Lab Sample ID:	FC1980-4		Date Received:	01/18/23
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
Project:	N6274223F0104 RH Fire Suppression System			

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	113%		20-150%
	13C8-FOSA	112%		20-150%
	d3-MeFOSA	103%		20-150%
	d5-EtFOSA	108%		20-150%
	d3-MeFOSAA	114%		20-150%
	d5-EtFOSAA	120%		20-150%
	d7-MeFOSE	105%		20-150%
	d9-EtFOSE	103%		20-150%
	13C2-4:2FTS	136%		20-150%
	13C2-6:2FTS	139%		20-150%
	13C2-8:2FTS	120%		20-150%
	13C3-HFPO-DA	131%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW10-WGN01LF-2301W3		
Lab Sample ID:	FC1980-5	Date Sampled:	01/17/23
Matrix:	AQ - Ground Water	Date Received:	01/18/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q12027.D	1	01/24/23 07:50	MV	01/19/23 09:00	OP95057	S6Q186
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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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	

PERFLUOROOCCTANE 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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW10-WGN01LF-2301W3		Date Sampled:	01/17/23
Lab Sample ID:	FC1980-5	Date Received:	01/18/23	
Matrix:	AQ - Ground Water	Percent Solids:	n/a	
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
Project:	N6274223F0104 RH Fire Suppression System			

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROOCCTANE 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	

PERFLUOROOCCTANE 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	116%		20-150%
	13C5-PFPeA	122%		20-150%
	13C5-PFHxA	123%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	116%		20-150%
	13C9-PFNA	124%		20-150%
	13C6-PFDA	104%		20-150%
	13C7-PFUnDA	90%		20-150%
	13C2-PFDoDA	86%		20-150%
	13C2-PFTeDA	76%		20-150%
	13C3-PFBS	112%		20-150%
	13C3-PFHxS	109%		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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW10-WGN01LF-2301W3		Date Sampled:	01/17/23
Lab Sample ID:	FC1980-5		Date Received:	01/18/23
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
Project:	N6274223F0104 RH Fire Suppression System			

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	106%		20-150%
	13C8-FOSA	113%		20-150%
	d3-MeFOSA	110%		20-150%
	d5-EtFOSA	104%		20-150%
	d3-MeFOSAA	114%		20-150%
	d5-EtFOSAA	105%		20-150%
	d7-MeFOSE	105%		20-150%
	d9-EtFOSE	102%		20-150%
	13C2-4:2FTS	136%		20-150%
	13C2-6:2FTS	132%		20-150%
	13C2-8:2FTS	126%		20-150%
	13C3-HFPO-DA	126%		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

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

FC1980

SGS - ORLANDO JOB # :

COC #: 2301W3AFSG04

PAGE 1 OF 1

Client / Reporting Information			Project Information			Analytical Information												Matrix Codes					
Company Name: AECOM			Project Name: N6274223F0104 RH Fire Suppression System			<div style="display: flex; justify-content: space-between;"> PFAS EPA Draft 1633 NYT 01-17-2023 </div>												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OL - 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			Fax #																				
Sampler(s) Name(s) (Printed) Sampler 1: NGAH TURNER Sampler 2:			Client Purchase Order #			INITIAL ASSESSMENT <i>PK</i> LABEL VERIFICATION <i>PK</i>																	
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NH3	NH3-N	NH3-NH4	PHOS	PHOS-P	PHOS-T	PHOS-TOTAL	PHOS-TOTAL-N	PHOS-TOTAL-P	PHOS-TOTAL-T	PHOS-TOTAL-OTHER	PHOS-TOTAL-UNSPECIFIED	PHOS-TOTAL-UNSPECIFIED-OTHER	LAB USE ONLY
1	AF-HDMW225303-WGN01LF-2301W3	01-17-2023	11:55	NT/CH/TN	GW	3		X															
Turnaround Time (Business days)			Data Deliverable Information			Comments / Remarks																	
10 Day (Business) _____ Approved By: / Date: _____ 7 Day _____ <input checked="" type="checkbox"/> 5 Day _____ 3 Day RUSH _____ 2 Day RUSH _____ 1 Day RUSH _____ Other _____			<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4) <input checked="" type="checkbox"/> EDD'S			EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW United AWP 016-62483116																	
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 <i>NT/CH/TN/AECOM</i>	Date Time: 01-17-2023 15:24	Received By/Affiliation <i>Watson Tanji/AECOM</i>	Relinquished By/Affiliation <i>Watson Tanji/AECOM</i>	Date Time: 01/17/23	Received By/Affiliation <i>NT/CH/TN/AECOM</i>	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Received By/Affiliation	Date Time:
5		6	7		8																		

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

FC1980: Chain of Custody

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SGS North America Inc - Orlando

Chain of Custody

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

FC1980

SGS - ORLANDO JOB # :

COC #: 2301W3AFSG05

PAGE 1 OF 1

Client / Reporting Information			Project Information										Analytical Information										Matrix Codes			
Company Name: AECOM			Project Name: N6274223F0104 RH Fire Suppression System										<div style="display: flex; flex-direction: column; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PFAS EPA Draft 1633</div> </div>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OL - 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 Tani Email: watson.tani@aecom.com			Project # 60697810																							
Phone #: 303-796-4624 / 808-954-4512			Fax #																							
Sampler(s) Name(s) (Printed) Sampler 1: <i>Hunter Nishikawa</i> Sampler 2:			Client Purchase Order #																							
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	CONTAINER INFORMATION											LAB USE ONLY								
							OTHER	MSME	PCl	NaOH	INDS	PERDA	NaOH-ZnAC	DI WATER	MECH											
2	AF-RHWW12A-WGN01LF-2301W3	11/17/23	1230	<i>H.W.J.A.</i>	GW	3		X																		
3	AF-RHWW12A-WGFD01LF-2301W3	11/17/23	1230	<i>H.W.J.A.</i>	GW	3		X																		
Turnaround Time (Business days)			Data Deliverable Information										Comments / Remarks													
10 Day (Business) _____ Approved By: / Date: _____ 7 Day _____ <input checked="" type="checkbox"/> 5 Day _____ 3 Day RUSH _____ 2 Day RUSH _____ 1 Day RUSH _____ Other _____			<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4) <input checked="" type="checkbox"/> ED'S										EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW <i>United AWB 016-62483116</i>													
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 1 <i>Hunter Nishikawa AECOM</i>		Date Time: 11/17/23 1525	Received By/Affiliation 2 <i>Kem Ganeri AECOM</i>				Relinquished By/Affiliation 3 <i>Kem Ganeri AECOM</i>		Date Time/1530	Received By/Affiliation 4 <i>Hunter Nishikawa AECOM</i>				Date Time/11/17/23	Received By/Affiliation 5 _____											
Relinquished by/Affiliation 5 _____		Date Time: _____	Received By/Affiliation 6 _____				Relinquished By/Affiliation 7 _____		Date Time: _____	Received By/Affiliation 8 _____																

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

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FC1980: Chain of Custody

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SGS North America Inc - Orlando
Chain of Custody

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

FC1980
SGS - ORLANDO JOB # :

COC # 2301W3AFSG06
PAGE 1 OF 1

Client / Reporting Information			Project Information										Analytical Information										Matrix Codes
Company Name: AECOM			Project Name: N6274223F0104 RH Fire Suppression System										<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PFAS EPA Draft 1633</div> <div style="text-align: center;"> <p>10/17/23</p> </div> </div>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OL - 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 Tani Email: watson.tani@aecom.com			Project # 60697810																				
Phone #: 303-796-4624 / 808-954-4512			Fax #																				
Sampler(s) Name(s) (Printed) Sampler 1: Hunter Nishimura Sampler 2:			Client Purchase Order #																				
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION				CONTAINER INFORMATION										LAB USE ONLY							
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NAME	PC	NECH	INCS	PERO4	NACH2NAC	CHARTER	MECH								
4	AF-RHMW16-WGN01LF-2301W3	11/17/23	1425	HT, NW, JN	GW	3		X															
<div style="display: flex; justify-content: space-between;"> <div> <p>INITIAL ASSESSMENT</p> <p>LABEL VERIFICATION</p> </div> <div style="text-align: right;"> <p>PH</p> <p>HT, NW, JN 11/17/23</p> <p>JK</p> </div> </div>																							
Turnaround Time (Business days)						Data Deliverable Information						Comments / Remarks											
10 Day (Business) _____ Approved By: / Date: _____ 7 Day _____ <input checked="" type="checkbox"/> 5 Day _____ 3 Day RUSH _____ 2 Day RUSH _____ 1 Day RUSH _____ Other _____						<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4) <input checked="" type="checkbox"/> EDD'S						EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW											
Rush T/A Data Available VIA Email or Lablink																							
Relinquished by Sampler/Affiliation		Date Time:		Received By/Affiliation				Date Time:		Relinquished By/Affiliation		Date Time:		Received By/Affiliation		Date Time:		Relinquished By/Affiliation		Date Time:		Received By/Affiliation	
1 Hunter Nishimura / AECOM		11/17/23 1525		2 [Signature] AECOM				11/17/23		3 [Signature] AECOM		11/17/23		4 [Signature] AECOM		11/17/23		5 [Signature] AECOM		11/17/23		6 [Signature] AECOM	
5				6						7				8				9				10	
Lab Use Only : Cooler Temperature (s) Celsius (corrected):										http://www.sgs.com/en/terms-and-conditions													

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SGS Sample Receipt Summary

Job Number: FC1980

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 1/18/2023 2:00:00 PM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-62483116

Therm ID: IR 1;

Therm CF: 0.2;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.8);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

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

Comments

SM001
Rev. Date 05/24/17

Technician: NATHANS

Date: 1/18/2023 2:00:00 PM

Reviewer: CD

Date: 1/19/2023

FC1980: Chain of Custody

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QC Evaluation: DOD QSM5.x Limits

Job Number: FC1980
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/17/23

QC Sample ID	CAS#	Analyte	Sample Result Type	Result Type	Units	Limits
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No DOD QSM5.x Limits found for methods in this job.

* Sample used for QC is not from job FC1980

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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: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q186-IBLK	6Q11990.D	1	01/23/23	MV	n/a	n/a	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

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	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Instrument Blank

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q186-IBLK	6Q11990.D	1	01/23/23	MV	n/a	n/a	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

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	
914637-49-35:3	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	99% 20-150%
	13C5-PFPeA	105% 20-150%
	13C5-PFHxA	105% 20-150%
	13C4-PFHpA	103% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	98% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	98% 20-150%
	13C2-PFDoDA	98% 20-150%
	13C2-PFTeDA	99% 20-150%
	13C3-PFBS	98% 20-150%
	13C3-PFHxS	100% 20-150%
	13C8-PFOS	96% 20-150%
	13C8-FOSA	104% 20-150%
	d3-MeFOSA	99% 20-150%
	d5-EtFOSA	100% 20-150%
	d3-MeFOSAA	108% 20-150%
	d5-EtFOSAA	113% 20-150%
	d7-MeFOSE	100% 20-150%
	d9-EtFOSE	101% 20-150%
	13C2-4:2FTS	109% 20-150%
	13C2-6:2FTS	112% 20-150%
	13C2-8:2FTS	115% 20-150%
	13C3-HFPO-DA	103% 20-150%

6.1.1

6

Instrument Blank

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q186-IBLK	6Q12092.D	1	01/25/23	MV	n/a	n/a	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

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	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Instrument Blank

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q186-IBLK	6Q12092.D	1	01/25/23	MV	n/a	n/a	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

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	
914637-49-35:3	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	99% 20-150%
	13C5-PFPeA	99% 20-150%
	13C5-PFHxA	97% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	105% 20-150%
	13C9-PFNA	107% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	103% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	96% 20-150%
	13C3-PFBS	96% 20-150%
	13C3-PFHxS	104% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSA	96% 20-150%
	d5-EtFOSA	99% 20-150%
	d3-MeFOSAA	111% 20-150%
	d5-EtFOSAA	113% 20-150%
	d7-MeFOSE	102% 20-150%
	d9-EtFOSE	93% 20-150%
	13C2-4:2FTS	116% 20-150%
	13C2-6:2FTS	116% 20-150%
	13C2-8:2FTS	108% 20-150%
	13C3-HFPO-DA	102% 20-150%

Continuing Calibration Blank

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q186-ICCB	6Q12014.D	1	01/24/23	MV	n/a	n/a	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4

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	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q186-ICCB	6Q12014.D	1	01/24/23	MV	n/a	n/a	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4

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	
914637-49-35:3	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	105% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	103% 20-150%
	13C8-PFOA	107% 20-150%
	13C9-PFNA	112% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	100% 20-150%
	13C2-PFDoDA	102% 20-150%
	13C2-PFTeDA	100% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	99% 20-150%
	13C8-PFOS	99% 20-150%
	13C8-FOSA	97% 20-150%
	d3-MeFOSA	94% 20-150%
	d5-EtFOSA	98% 20-150%
	d3-MeFOSAA	100% 20-150%
	d5-EtFOSAA	108% 20-150%
	d7-MeFOSE	102% 20-150%
	d9-EtFOSE	92% 20-150%
	13C2-4:2FTS	118% 20-150%
	13C2-6:2FTS	98% 20-150%
	13C2-8:2FTS	105% 20-150%
	13C3-HFPO-DA	103% 20-150%

Method Blank Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-MB	6Q12009.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

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	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Method Blank Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-MB	6Q12009.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

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	
914637-49-35:3	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	109% 20-150%
	13C5-PFPeA	117% 20-150%
	13C5-PFHxA	114% 20-150%
	13C4-PFHpA	116% 20-150%
	13C8-PFOA	101% 20-150%
	13C9-PFNA	105% 20-150%
	13C6-PFDA	115% 20-150%
	13C7-PFUnDA	108% 20-150%
	13C2-PFDoDA	91% 20-150%
	13C2-PFTeDA	82% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	103% 20-150%
	13C8-PFOS	107% 20-150%
	13C8-FOSA	102% 20-150%
	d3-MeFOSA	79% 20-150%
	d5-EtFOSA	79% 20-150%
	d3-MeFOSAA	109% 20-150%
	d5-EtFOSAA	98% 20-150%
	d7-MeFOSE	91% 20-150%
	d9-EtFOSE	87% 20-150%
	13C2-4:2FTS	125% 20-150%
	13C2-6:2FTS	128% 20-150%
	13C2-8:2FTS	125% 20-150%
	13C3-HFPO-DA	116% 20-150%

6.1.4
6

Continuing Calibration Blank

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q186-ICCB	6Q12080.D	1	01/24/23	MV	n/a	n/a	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q186-IBLK

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	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q186-ICCB	6Q12080.D	1	01/24/23	MV	n/a	n/a	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q186-IBLK

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	
914637-49-35:3	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	99% 20-150%
	13C5-PFPeA	105% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	103% 20-150%
	13C8-PFOA	109% 20-150%
	13C9-PFNA	103% 20-150%
	13C6-PFDA	104% 20-150%
	13C7-PFUnDA	102% 20-150%
	13C2-PFDoDA	103% 20-150%
	13C2-PFTeDA	106% 20-150%
	13C3-PFBS	99% 20-150%
	13C3-PFHxS	110% 20-150%
	13C8-PFOS	103% 20-150%
	13C8-FOSA	100% 20-150%
	d3-MeFOSA	103% 20-150%
	d5-EtFOSA	103% 20-150%
	d3-MeFOSAA	109% 20-150%
	d5-EtFOSAA	110% 20-150%
	d7-MeFOSE	108% 20-150%
	d9-EtFOSE	104% 20-150%
	13C2-4:2FTS	132% 20-150%
	13C2-6:2FTS	127% 20-150%
	13C2-8:2FTS	114% 20-150%
	13C3-HFPO-DA	105% 20-150%

Blank Spike Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-LLBS	6Q12008.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

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	0.0191	96	40-150
307-24-4	Perfluorohexanoic acid	0.01	0.0095	95	40-150
375-85-9	Perfluoroheptanoic acid	0.01	0.0097	97	40-150
335-67-1	Perfluorooctanoic acid	0.01	0.0094	94	40-150
375-95-1	Perfluorononanoic acid	0.01	0.0096	96	40-150
335-76-2	Perfluorodecanoic acid	0.01	0.0095	95	40-150
2058-94-8	Perfluoroundecanoic acid	0.01	0.0088	88	40-150
307-55-1	Perfluorododecanoic acid	0.01	0.0088	88	40-150
72629-94-8	Perfluorotridecanoic acid	0.01	0.0093	93	40-150
376-06-7	Perfluorotetradecanoic acid	0.01	0.0097	97	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00887	0.0093	105	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00941	0.0089	95	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00914	0.0090	98	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00953	0.0087	91	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00928	0.0083	89	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00962	0.0082	85	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00965	0.0092	95	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0097	0.0079	81	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0375	0.0337	90	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.038	0.0348	92	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0384	0.0348	91	40-150
754-91-6	PFOSA	0.01	0.0092	92	40-150
31506-32-8	MeFOSA	0.01	0.0090	90	40-150
4151-50-2	EtFOSA	0.01	0.0095	95	40-150
2355-31-9	MeFOSAA	0.01	0.010	100	40-150
2991-50-6	EtFOSAA	0.01	0.0101	101	40-150
24448-09-7	MeFOSE	0.1	0.0955	96	40-150
1691-99-2	EtFOSE	0.1	0.0902	90	40-150
13252-13-6	HFPO-DA (GenX)	0.04	0.0390	98	40-150
919005-14-4	ADONA	0.0378	0.0346	92	40-150
377-73-1	PFMPA	0.02	0.0189	95	40-150
863090-89-5	PFMBA	0.02	0.0181	91	40-150
151772-58-6	NFDHA	0.02	0.0175	88	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0374	0.0342	91	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0378	0.0357	94	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-LLBS	6Q12008.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0178	0.0165	93	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.05	0.0395	79	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.25	0.204	82	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.25	0.221	88	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	112%	20-150%
	13C5-PFPeA	118%	20-150%
	13C5-PFHxA	122%	20-150%
	13C4-PFHpA	117%	20-150%
	13C8-PFOA	115%	20-150%
	13C9-PFNA	107%	20-150%
	13C6-PFDA	116%	20-150%
	13C7-PFUnDA	114%	20-150%
	13C2-PFDoDA	109%	20-150%
	13C2-PFTeDA	99%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	106%	20-150%
	13C8-PFOS	114%	20-150%
	13C8-FOSA	110%	20-150%
	d3-MeFOSA	106%	20-150%
	d5-EtFOSA	96%	20-150%
	d3-MeFOSAA	112%	20-150%
	d5-EtFOSAA	108%	20-150%
	d7-MeFOSE	103%	20-150%
	d9-EtFOSE	104%	20-150%
	13C2-4:2FTS	132%	20-150%
	13C2-6:2FTS	125%	20-150%
	13C2-8:2FTS	125%	20-150%
	13C3-HFPO-DA	120%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-BS	6Q12007.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0946	95	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0485	97	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0223	89	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0242	97	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0250	100	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0240	96	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0235	94	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0237	95	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0243	97	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0234	94	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0259	104	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0215	97	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0219	93	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0219	96	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0231	97	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0219	94	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0212	88	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0218	90	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0187	77	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0874	93	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0901	95	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0968	101	40-150
754-91-6	PFOSA	0.025	0.0228	91	40-150
31506-32-8	MeFOSA	0.025	0.0234	94	40-150
4151-50-2	EtFOSA	0.025	0.0227	91	40-150
2355-31-9	MeFOSAA	0.025	0.0243	97	40-150
2991-50-6	EtFOSAA	0.025	0.0228	91	40-150
24448-09-7	MeFOSE	0.25	0.237	95	40-150
1691-99-2	EtFOSE	0.25	0.254	102	40-150
13252-13-6	HFPO-DA (GenX)	0.1	0.0964	96	40-150
919005-14-4	ADONA	0.0945	0.0914	97	40-150
377-73-1	PFMPA	0.05	0.0484	97	40-150
863090-89-5	PFMBA	0.05	0.0446	89	40-150
151772-58-6	NFDHA	0.05	0.0469	94	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0935	0.0885	95	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0945	0.0884	94	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-BS	6Q12007.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0441	99	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.104	83	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.549	88	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.557	89	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	114%	20-150%
	13C5-PFPeA	117%	20-150%
	13C5-PFHxA	118%	20-150%
	13C4-PFHpA	114%	20-150%
	13C8-PFOA	107%	20-150%
	13C9-PFNA	118%	20-150%
	13C6-PFDA	115%	20-150%
	13C7-PFUnDA	114%	20-150%
	13C2-PFDoDA	111%	20-150%
	13C2-PFTeDA	83%	20-150%
	13C3-PFBS	112%	20-150%
	13C3-PFHxS	112%	20-150%
	13C8-PFOS	118%	20-150%
	13C8-FOSA	117%	20-150%
	d3-MeFOSA	99%	20-150%
	d5-EtFOSA	93%	20-150%
	d3-MeFOSAA	121%	20-150%
	d5-EtFOSAA	116%	20-150%
	d7-MeFOSE	89%	20-150%
	d9-EtFOSE	81%	20-150%
	13C2-4:2FTS	140%	20-150%
	13C2-6:2FTS	130%	20-150%
	13C2-8:2FTS	121%	20-150%
	13C3-HFPO-DA	119%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-MS	6Q12018.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186
FC1966-5	6Q12017.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

CAS No.	Compound	FC1966-5 ug/l	Spike Q	MS ug/l	MS %	Limits	
375-22-4	Perfluorobutanoic acid	0.019 U		0.0943	0.117	124	40-150
2706-90-3	Perfluoropentanoic acid	0.0055 J		0.0472	0.0767	151*	40-150
307-24-4	Perfluorohexanoic acid	0.00060 J		0.0236	0.0226	93	40-150
375-85-9	Perfluoroheptanoic acid	0.0047 U		0.0236	0.0222	94	40-150
335-67-1	Perfluorooctanoic acid	0.0047 U		0.0236	0.0237	100	40-150
375-95-1	Perfluorononanoic acid	0.0047 U		0.0236	0.0229	97	40-150
335-76-2	Perfluorodecanoic acid	0.0047 U		0.0236	0.0238	101	40-150
2058-94-8	Perfluoroundecanoic acid	0.0047 U		0.0236	0.0224	95	40-150
307-55-1	Perfluorododecanoic acid	0.0047 U		0.0236	0.0223	95	40-150
72629-94-8	Perfluorotridecanoic acid	0.0047 U		0.0236	0.0234	99	40-150
376-06-7	Perfluorotetradecanoic acid	0.0047 U		0.0236	0.0213	90	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0047 U		0.0209	0.0212	101	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0047 U		0.0222	0.0207	93	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0047 U		0.0216	0.0204	95	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0047 U		0.0225	0.0235	105	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0047 U		0.0219	0.0209	95	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0047 U		0.0227	0.0208	92	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0047 U		0.0228	0.0199	87	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0047 U		0.0229	0.0185	81	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.019 U		0.0884	0.0798	90	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U		0.0896	0.0886	99	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		0.0906	0.0852	94	40-150
754-91-6	PFOSA	0.0047 U		0.0236	0.0232	98	40-150
31506-32-8	MeFOSA	0.0047 U		0.0236	0.0233	99	40-150
4151-50-2	EtFOSA	0.0047 U		0.0236	0.0221	94	40-150
2355-31-9	MeFOSAA	0.0047 U		0.0236	0.0238	101	40-150
2991-50-6	EtFOSAA	0.0047 U		0.0236	0.0216	92	40-150
24448-09-7	MeFOSE	0.047 U		0.236	0.218	92	40-150
1691-99-2	EtFOSE	0.047 U		0.236	0.217	92	40-150
13252-13-6	HFPO-DA (GenX)	0.019 U		0.0943	0.0865	92	40-150
919005-14-4	ADONA	0.019 U		0.0892	0.0933	105	40-150
377-73-1	PFMPA	0.0094 U		0.0472	0.0407	86	40-150
863090-89-5	PFMBA	0.0094 U		0.0472	0.0444	94	40-150
151772-58-6	NFDHA	0.0094 U		0.0472	0.0425	90	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.019 U		0.0882	0.0774	88	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.019 U		0.0892	0.0765	86	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-MS	6Q12018.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186
FC1966-5	6Q12017.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

CAS No.	Compound	FC1966-5 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0094 U	0.042	0.0384	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.024 U	0.118	0.126	107	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.12 U	0.59	0.602	102	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.12 U	0.59	0.586	99	40-150

CAS No.	ID Standard Recoveries	MS	FC1966-5	Limits
	13C4-PFBA	102%	108%	20-150%
	13C5-PFPeA	115%	113%	20-150%
	13C5-PFHxA	117%	119%	20-150%
	13C4-PFHpA	122%	118%	20-150%
	13C8-PFOA	108%	120%	20-150%
	13C9-PFNA	104%	113%	20-150%
	13C6-PFDA	99%	112%	20-150%
	13C7-PFUnDA	93%	104%	20-150%
	13C2-PFDoDA	86%	93%	20-150%
	13C2-PFTeDA	89%	79%	20-150%
	13C3-PFBS	104%	105%	20-150%
	13C3-PFHxS	114%	107%	20-150%
	13C8-PFOS	98%	103%	20-150%
	13C8-FOSA	96%	104%	20-150%
	d3-MeFOSA	89%	93%	20-150%
	d5-EtFOSA	91%	90%	20-150%
	d3-MeFOSAA	99%	107%	20-150%
	d5-EtFOSAA	102%	103%	20-150%
	d7-MeFOSE	96%	97%	20-150%
	d9-EtFOSE	91%	87%	20-150%
	13C2-4:2FTS	124%	110%	20-150%
	13C2-6:2FTS	107%	111%	20-150%
	13C2-8:2FTS	108%	104%	20-150%
	13C3-HFPO-DA	106%	100%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-DUP	6Q12022.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186
FC1980-2	6Q12021.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

CAS No.	Compound	FC1980-2 ug/l	DUP Q	ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.019 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0047 J		0.0046 J		2	30
307-24-4	Perfluorohexanoic acid	0.0012 J		0.0014 J		15	30
375-85-9	Perfluoroheptanoic acid	0.0047 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0047 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0047 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0047 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0047 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0047 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0047 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0047 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0047 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0047 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0047 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0047 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0047 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0047 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0047 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0047 U		ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.019 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
754-91-6	PFOSA	0.0047 U		ND		nc	30
31506-32-8	MeFOSA	0.0047 U		ND		nc	30
4151-50-2	EtFOSA	0.0047 U		ND		nc	30
2355-31-9	MeFOSAA	0.0047 U		ND		nc	30
2991-50-6	EtFOSAA	0.0047 U		ND		nc	30
24448-09-7	MeFOSE	0.047 U		ND		nc	30
1691-99-2	EtFOSE	0.047 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	0.0094 U		ND		nc	30
863090-89-5	PFMBA	0.0094 U		ND		nc	30
151772-58-6	NFDHA	0.0094 U		ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.019 U		ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.019 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC1980
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95057-DUP	6Q12022.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186
FC1980-2	6Q12021.D	1	01/24/23	MV	01/19/23	OP95057	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1980-1, FC1980-2, FC1980-3, FC1980-4, FC1980-5

CAS No.	Compound	FC1980-2 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0094	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.024	U	ND		nc	30
914637-49-35:3	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	FC1980-2	Limits
	13C4-PFBA	110%	117%	20-150%
	13C5-PFPeA	115%	120%	20-150%
	13C5-PFHxA	113%	122%	20-150%
	13C4-PFHpA	113%	117%	20-150%
	13C8-PFOA	108%	112%	20-150%
	13C9-PFNA	112%	116%	20-150%
	13C6-PFDA	106%	99%	20-150%
	13C7-PFUnDA	99%	101%	20-150%
	13C2-PFDoDA	89%	86%	20-150%
	13C2-PFTeDA	85%	83%	20-150%
	13C3-PFBS	114%	115%	20-150%
	13C3-PFHxS	112%	113%	20-150%
	13C8-PFOS	112%	109%	20-150%
	13C8-FOSA	108%	111%	20-150%
	d3-MeFOSA	103%	102%	20-150%
	d5-EtFOSA	100%	105%	20-150%
	d3-MeFOSAA	114%	105%	20-150%
	d5-EtFOSAA	112%	112%	20-150%
	d7-MeFOSE	102%	101%	20-150%
	d9-EtFOSE	101%	98%	20-150%
	13C2-4:2FTS	140%	143%	20-150%
	13C2-6:2FTS	136%	127%	20-150%
	13C2-8:2FTS	125%	116%	20-150%
	13C3-HFPO-DA	117%	123%	20-150%

* = Outside of Control Limits.