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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC1966

Sampling Dates: 01/13/23 - 01/16/23

Report to:

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Total number of pages in report: 51



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 that reads "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),
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Test results relate only to samples analyzed.

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Sample Summary

AECOM, INC.

Job No: FC1966

**N6274223F0104 RH Fire Suppression System
Project No: 60697810**

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FC1966-1	01/13/23	11:15 NT	01/17/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2301W2
FC1966-2	01/13/23	11:50 NT	01/17/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01LF-2301W2
FC1966-3	01/13/23	12:10 NT	01/17/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2301W2
FC1966-4	01/13/23	15:00 NT	01/17/23	AQ	Equipment Blank	AF-RHMW17D-WQEB01LF-2301W2
FC1966-5	01/16/23	11:00 TN	01/17/23	AQ	Ground Water	AF-RHMW02-WGN01LF-2301W3
FC1966-6	01/16/23	12:25 TN	01/17/23	AQ	Ground Water	AF-RHMW03-WGN01LF-2301W3

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC1966

Site: N6274223F0104 RH Fire Suppression System

Report Date: 1/25/2023 5:13:31 PM

On 01/17/2023, 5 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 3.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC1966 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.

Sample(s) FC1966-3 have surrogates outside control limits.

FC1966-3: Dilution required (ID recovery standard failure).

FC1966-3 for d3-MeFOSAA: Outside control limits.

FC1966-3 for d5-EtFOSAA: Outside control limits.

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

Narrative prepared by:

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

Summary of Hits

Job Number: FC1966
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/13/23 thru 01/16/23

Lab Sample ID	Client Sample ID	Result/ Analyte	LOQ	LOD	Units	Method
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FC1966-1 AF-RHMW17-WGN01LF-2301W2

Perfluorobutanoic acid	5.8 J	19	3.7	ng/l	EPA DRAFT 1633
Perfluoropentanoic acid	8.6 J	9.3	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	3.6 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.96 J	4.6	0.93	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate	22.9	19	7.4	ng/l	EPA DRAFT 1633

FC1966-2 AF-RHMW17D-WQFB01LF-2301W2

No hits reported in this sample.

FC1966-3 AF-RHMW17D-WGN01LF-2301W2

No hits reported in this sample.

FC1966-4 AF-RHMW17D-WQEB01LF-2301W2

Perfluorododecanoic acid	0.93 J	4.8	1.9	ng/l	EPA DRAFT 1633
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FC1966-5 AF-RHMW02-WGN01LF-2301W3

Perfluoropentanoic acid	5.5 J	9.4	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	0.60 J	4.7	0.94	ng/l	EPA DRAFT 1633

FC1966-6 AF-RHMW03-WGN01LF-2301W3

Perfluoropentanoic acid	2.2 J	9.4	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	1.5 J	4.7	0.94	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.81 J	4.7	0.94	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2301W2		
Lab Sample ID:	FC1966-1	Date Sampled:	01/13/23
Matrix:	AQ - Ground Water	Date Received:	01/17/23
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	6Q12011.D	1	01/24/23 04:06	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	5.8	19	3.7	1.8	ng/l	J
2706-90-3	Perfluoropentanoic acid	8.6	9.3	1.9	0.87	ng/l	J
307-24-4	Perfluorohexanoic acid	3.6	4.6	0.93	0.46	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.96	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	22.9	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

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2301W2		
Lab Sample ID:	FC1966-1	Date Sampled:	01/13/23
Matrix:	AQ - Ground Water	Date Received:	01/17/23
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
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	13C4-PFBA	114%		20-150%
	13C5-PFPeA	120%		20-150%
	13C5-PFHxA	122%		20-150%
	13C4-PFHpA	119%		20-150%
	13C8-PFOA	118%		20-150%
	13C9-PFNA	120%		20-150%
	13C6-PFDA	125%		20-150%
	13C7-PFUnDA	95%		20-150%
	13C2-PFDoDA	77%		20-150%
	13C2-PFTeDA	71%		20-150%
	13C3-PFBS	104%		20-150%
	13C3-PFHxS	106%		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-2301W2		Date Sampled:	01/13/23
Lab Sample ID:	FC1966-1		Date Received:	01/17/23
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	103%		20-150%
	13C8-FOSA	105%		20-150%
	d3-MeFOSA	84%		20-150%
	d5-EtFOSA	80%		20-150%
	d3-MeFOSAA	101%		20-150%
	d5-EtFOSAA	94%		20-150%
	d7-MeFOSE	82%		20-150%
	d9-EtFOSE	76%		20-150%
	13C2-4:2FTS	145%		20-150%
	13C2-6:2FTS	124%		20-150%
	13C2-8:2FTS	111%		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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01LF-2301W2		
Lab Sample ID:	FC1966-2	Date Sampled:	01/13/23
Matrix:	AQ - Field Blank Water	Date Received:	01/17/23
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	6Q12012.D	1	01/24/23 04:20	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	1.9 U	9.4	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
375-85-9	Perfluoroheptanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
335-67-1	Perfluorooctanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	4.7	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.7	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.7	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.7	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.94 U	4.7	0.94	0.47	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.94 U	4.7	0.94	0.47	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.7	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	4.7	1.9	0.66	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.94 U	4.7	0.94	0.47	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	4.7	1.9	0.51	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.7	1.9	0.54	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.7	1.9	0.60	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.7	3.8	1.1	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.9	ng/l	

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

4.2
4

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01LF-2301W2		
Lab Sample ID:	FC1966-2	Date Sampled:	01/13/23
Matrix:	AQ - Field Blank Water	Date Received:	01/17/23
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	125%		20-150%
	13C5-PFHxA	113%		20-150%
	13C4-PFHpA	122%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	117%		20-150%
	13C6-PFDA	114%		20-150%
	13C7-PFUnDA	104%		20-150%
	13C2-PFDoDA	90%		20-150%
	13C2-PFTeDA	66%		20-150%
	13C3-PFBS	119%		20-150%
	13C3-PFHxS	110%		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

4.2
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Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01LF-2301W2	
Lab Sample ID:	FC1966-2	Date Sampled: 01/13/23
Matrix:	AQ - Field Blank Water	Date Received: 01/17/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	99%		20-150%
	13C8-FOSA	103%		20-150%
	d3-MeFOSA	95%		20-150%
	d5-EtFOSA	100%		20-150%
	d3-MeFOSAA	109%		20-150%
	d5-EtFOSAA	105%		20-150%
	d7-MeFOSE	100%		20-150%
	d9-EtFOSE	102%		20-150%
	13C2-4:2FTS	133%		20-150%
	13C2-6:2FTS	134%		20-150%
	13C2-8:2FTS	126%		20-150%
	13C3-HFPO-DA	129%		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-2301W2		Date Sampled: 01/13/23
Lab Sample ID: FC1966-3		Date Received: 01/17/23
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: EPA DRAFT 1633 EPA 1633 DRAFT		
Project: N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q12015.D	1	01/24/23 05:02	MV	01/19/23 09:00	OP95057	S6Q186
Run #2 ^a	6Q12052.D	5	01/24/23 14:42	MV	01/19/23 09:00	OP95057	S6Q186

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

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2301W2		
Lab Sample ID:	FC1966-3	Date Sampled:	01/13/23
Matrix:	AQ - Ground Water	Date Received:	01/17/23
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	19 U ^b	23	19	4.6	ng/l	
2991-50-6	EtFOSAA	19 U ^b	23	19	6.2	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	111%	111%	20-150%
	13C5-PFPeA	118%	117%	20-150%
	13C5-PFHxA	114%	113%	20-150%
	13C4-PFHpA	114%	109%	20-150%
	13C8-PFOA	107%	119%	20-150%
	13C9-PFNA	101%	121%	20-150%
	13C6-PFDA	106%	127%	20-150%
	13C7-PFUnDA	102%	118%	20-150%
	13C2-PFDoDA	81%	96%	20-150%
	13C2-PFTeDA	66%	79%	20-150%
	13C3-PFBS	111%	106%	20-150%
	13C3-PFHxS	109%	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-RHMW17D-WGN01LF-2301W2		Date Sampled: 01/13/23
Lab Sample ID: FC1966-3		Date Received: 01/17/23
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	115%	56%	20-150%
	13C8-FOSA	104%	49%	20-150%
	d3-MeFOSA	99%	56%	20-150%
	d5-EtFOSA	95%	43%	20-150%
	d3-MeFOSAA	160% ^c	58%	20-150%
	d5-EtFOSAA	167% ^c	59%	20-150%
	d7-MeFOSE	100%	44%	20-150%
	d9-EtFOSE	97%	42%	20-150%
	13C2-4:2FTS	126%	152% ^c	20-150%
	13C2-6:2FTS	113%	135%	20-150%
	13C2-8:2FTS	110%	106%	20-150%
	13C3-HFPO-DA	117%	121%	20-150%

(a) Dilution required (ID recovery standard failure).

(b) Result is from Run# 2

(c) Outside control limits.

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQEB01LF-2301W2		
Lab Sample ID:	FC1966-4	Date Sampled:	01/13/23
Matrix:	AQ - Equipment Blank	Date Received:	01/17/23
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	6Q12016.D	1	01/24/23 05:16	MV	01/19/23 09:00	OP95057	S6Q186
Run #2							

Run #	Initial Volume	Final Volume
Run #1	520 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	1.9 U	9.6	1.9	0.90	ng/l	
307-24-4	Perfluorohexanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
375-85-9	Perfluoroheptanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
335-67-1	Perfluorooctanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	4.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	0.93	4.8	1.9	0.58	ng/l	J
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.96 U	4.8	0.96	0.48	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.96 U	4.8	0.96	0.48	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.8	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	4.8	1.9	0.67	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.96 U	4.8	0.96	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	4.8	1.9	0.52	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.8	1.9	0.62	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.8	3.8	1.1	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.1	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.7 U	19	7.7	4.0	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	4.8	1.9	0.64	ng/l	
31506-32-8	MeFOSA	1.9 U	4.8	1.9	0.96	ng/l	
4151-50-2	EtFOSA	1.9 U	4.8	1.9	0.96	ng/l	

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-RHMW17D-WQEB01LF-2301W2		
Lab Sample ID:	FC1966-4	Date Sampled:	01/13/23
Matrix:	AQ - Equipment Blank	Date Received:	01/17/23
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	4.8	3.8	0.96	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.8	3.8	1.3	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	9.6 U	48	9.6	4.2	ng/l	
1691-99-2	EtFOSE	19 U	48	19	7.1	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	3.8 U	19	3.8	0.96	ng/l	
919005-14-4	ADONA	3.8 U	19	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	9.6	1.9	0.96	ng/l	
863090-89-5	PFMBA	3.8 U	9.6	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	9.6	3.8	1.2	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	19	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	19	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	9.6	1.9	0.75	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.6 U	24	9.6	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.4	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	114%		20-150%
	13C5-PFPeA	118%		20-150%
	13C5-PFHxA	115%		20-150%
	13C4-PFHpA	117%		20-150%
	13C8-PFOA	111%		20-150%
	13C9-PFNA	119%		20-150%
	13C6-PFDA	110%		20-150%
	13C7-PFUnDA	104%		20-150%
	13C2-PFDoDA	87%		20-150%
	13C2-PFTeDA	76%		20-150%
	13C3-PFBS	114%		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-RHMW17D-WQEB01LF-2301W2		
Lab Sample ID:	FC1966-4	Date Sampled:	01/13/23
Matrix:	AQ - Equipment Blank	Date Received:	01/17/23
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	110%		20-150%
	13C8-FOSA	99%		20-150%
	d3-MeFOSA	87%		20-150%
	d5-EtFOSA	88%		20-150%
	d3-MeFOSAA	110%		20-150%
	d5-EtFOSAA	106%		20-150%
	d7-MeFOSE	90%		20-150%
	d9-EtFOSE	92%		20-150%
	13C2-4:2FTS	149%		20-150%
	13C2-6:2FTS	146%		20-150%
	13C2-8:2FTS	130%		20-150%
	13C3-HFPO-DA	122%		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-RHMW02-WGN01LF-2301W3		
Lab Sample ID:	FC1966-5	Date Sampled:	01/16/23
Matrix:	AQ - Ground Water	Date Received:	01/17/23
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	6Q12017.D	1	01/24/23 05:30	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	5.5	9.4	1.9	0.89	ng/l	J
307-24-4	Perfluorohexanoic acid	0.60	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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2301W3		Date Sampled:	01/16/23
Lab Sample ID:	FC1966-5	Date Received:	01/17/23	
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	3.8 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
	13C4-PFBA	108%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	119%		20-150%
	13C4-PFHpA	118%		20-150%
	13C8-PFOA	120%		20-150%
	13C9-PFNA	113%		20-150%
	13C6-PFDA	112%		20-150%
	13C7-PFUnDA	104%		20-150%
	13C2-PFDoDA	93%		20-150%
	13C2-PFTeDA	79%		20-150%
	13C3-PFBS	105%		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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2301W3		Date Sampled:	01/16/23
Lab Sample ID:	FC1966-5		Date Received:	01/17/23
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	103%		20-150%
	13C8-FOSA	104%		20-150%
	d3-MeFOSA	93%		20-150%
	d5-EtFOSA	90%		20-150%
	d3-MeFOSAA	107%		20-150%
	d5-EtFOSAA	103%		20-150%
	d7-MeFOSE	97%		20-150%
	d9-EtFOSE	87%		20-150%
	13C2-4:2FTS	110%		20-150%
	13C2-6:2FTS	111%		20-150%
	13C2-8:2FTS	104%		20-150%
	13C3-HFPO-DA	100%		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-RHMW03-WGN01LF-2301W3		
Lab Sample ID:	FC1966-6	Date Sampled:	01/16/23
Matrix:	AQ - Ground Water	Date Received:	01/17/23
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	6Q12019.D	1	01/24/23 05:58	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	2.2	9.4	1.9	0.89	ng/l	J
307-24-4	Perfluorohexanoic acid	1.5	4.7	0.94	0.47	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.81	4.7	0.94	0.47	ng/l	J
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

4.6
4

Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2301W3		
Lab Sample ID:	FC1966-6	Date Sampled:	01/16/23
Matrix:	AQ - Ground Water	Date Received:	01/17/23
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
	13C4-PFBA	113%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	115%		20-150%
	13C4-PFHpA	114%		20-150%
	13C8-PFOA	106%		20-150%
	13C9-PFNA	106%		20-150%
	13C6-PFDA	107%		20-150%
	13C7-PFUnDA	92%		20-150%
	13C2-PFDoDA	80%		20-150%
	13C2-PFTeDA	79%		20-150%
	13C3-PFBS	103%		20-150%
	13C3-PFHxS	103%		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

4.6
4

Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2301W3	
Lab Sample ID:	FC1966-6	Date Sampled: 01/16/23
Matrix:	AQ - Ground Water	Date Received: 01/17/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	92%		20-150%
	13C8-FOSA	93%		20-150%
	d3-MeFOSA	83%		20-150%
	d5-EtFOSA	82%		20-150%
	d3-MeFOSAA	93%		20-150%
	d5-EtFOSAA	105%		20-150%
	d7-MeFOSE	87%		20-150%
	d9-EtFOSE	81%		20-150%
	13C2-4:2FTS	101%		20-150%
	13C2-6:2FTS	105%		20-150%
	13C2-8:2FTS	95%		20-150%
	13C3-HFPO-DA	121%		20-150%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

SGS Sample Receipt Summary

Job Number: FC1966

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 1/17/2023 4:30:00 PM

Delivery Method: United Cargo/Airspace

Airbill #s: United Cargo AWB #: 016-98251790

Therm ID: IR 1;

Therm CF: 0.2;

of Coolers: 1

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

Cooler Temps (Corrected) °C: Cooler 1: (3.4);

Cooler Information

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

Trip Blank Information

Y or N

N/A

- 1. Trip Blank present / cooler
 - 2. Trip Blank listed on COC
- W or S N/A
- 3. Type Of TB Received

Sample Information

Y or N

N/A

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

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____

Number of 5035 Field Kits: _____

Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 _____ 230315 _____

pH 10-12 _____ 219813A _____

Other: (Specify) _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: NATHANS

Date: 1/17/2023 4:30:00 PM

Reviewer: CD

Date: 1/19/2023

FC1966: Chain of Custody

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QC Evaluation: DOD QSM5.x Limits

Job Number: FC1966
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/13/23 thru 01/16/23

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 FC1966

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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: FC1966
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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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%

Instrument Blank

Job Number: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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%

6.12
6

Continuing Calibration Blank

Job Number: FC1966
 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

FC1966-3, FC1966-4, FC1966-5, FC1966-6

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: FC1966
 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

FC1966-3, FC1966-4, FC1966-5, FC1966-6

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%

Continuing Calibration Blank

Job Number: FC1966
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q186-ICCB	6Q12050.D	1	01/24/23	MV	n/a	n/a	S6Q186

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC1966-3

CAS No.	Compound	Result	RL	MDL	Units	Q
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	104% 20-150%
	13C5-PFHxA	105% 20-150%
	13C4-PFHpA	106% 20-150%
	13C8-PFOA	101% 20-150%
	13C9-PFNA	110% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	105% 20-150%
	13C2-PFDoDA	94% 20-150%
	13C2-PFTeDA	93% 20-150%
	13C3-PFBS	96% 20-150%
	13C3-PFHxS	100% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	97% 20-150%
	d3-MeFOSA	94% 20-150%
	d5-EtFOSA	95% 20-150%
	d3-MeFOSAA	100% 20-150%
	d5-EtFOSAA	112% 20-150%
	d7-MeFOSE	97% 20-150%
	d9-EtFOSE	95% 20-150%
	13C2-4:2FTS	118% 20-150%
	13C2-6:2FTS	107% 20-150%
	13C2-8:2FTS	100% 20-150%
	13C3-HFPO-DA	104% 20-150%

6.1.4

6

Method Blank Summary

Job Number: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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%

Continuing Calibration Blank

Job Number: FC1966
 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: FC1966
 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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

CAS No.	Compound	FC1966-5 ug/l	Spike Q	ug/l	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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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	J	2	30
307-24-4	Perfluorohexanoic acid	0.0012 J	0.0014 J	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: FC1966
 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

FC1966-1, FC1966-2, FC1966-3, FC1966-4, FC1966-5, FC1966-6

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.