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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC2294

Sampling Date: 01/30/23



Report to:

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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.

Norm Farmer
Technical Director

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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: FC2294

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC2294-1	01/30/23	09:50	NTMY01/31/23	AQ	Ground Water	AF-RHMW12A-WGN01LF-2301W5
FC2294-2	01/30/23	09:50	NTMY01/31/23	AQ	Ground Water	AF-RHMW12A-WGFD01LF-2301W5
FC2294-3	01/30/23	15:10	NTMY01/31/23	AQ	Ground Water	AF-RHMW03-WGN01LF-2301W5
FC2294-4	01/30/23	11:45	NTMY01/31/23	AQ	Ground Water	AF-RHMW02-WGN01LF-2301W5

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC2294

Site: N6274223F0104 RH Fire Suppression System

Report Date: 2/8/2023 4:14:46 PM

On 01/31/2023, 4 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 2.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC2294 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: OP95294

Sample(s) FC2294-2MS, FC2294-3DUP were used as the QC samples indicated.

RPD(s) for Duplicate for Perfluorohexanoic acid are outside control limits for sample OP95294-DUP. Probable cause is due to sample non-homogeneity.

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: FC2294
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/30/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC2294-1	AF-RHMW12A-WGN01LF-2301W5					
	Perfluoropentanoic acid	5.0 J	8.8	1.8	ng/l	EPA DRAFT 1633
	Perfluorohexanoic acid	1.5 J	4.4	0.88	ng/l	EPA DRAFT 1633
FC2294-2	AF-RHMW12A-WGFD01LF-2301W5					
	Perfluoropentanoic acid	4.8 J	8.8	1.8	ng/l	EPA DRAFT 1633
	Perfluorohexanoic acid	1.2 J	4.4	0.88	ng/l	EPA DRAFT 1633
FC2294-3	AF-RHMW03-WGN01LF-2301W5					
	Perfluoropentanoic acid	3.6 J	9.3	1.9	ng/l	EPA DRAFT 1633
	Perfluoroheptanoic acid	1.8 J	4.6	0.93	ng/l	EPA DRAFT 1633
	6:2 Fluorotelomer sulfonate	6.9 J	19	7.4	ng/l	EPA DRAFT 1633
FC2294-4	AF-RHMW02-WGN01LF-2301W5					
	6:2 Fluorotelomer sulfonate	3.8 J	18	7.1	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW12A-WGN01LF-2301W5		
Lab Sample ID:	FC2294-1	Date Sampled:	01/30/23
Matrix:	AQ - Ground Water	Date Received:	01/31/23
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	6Q13197.D	1	02/07/23 12:53	MV	02/03/23 09:00	OP95294	S6Q202
Run #2							

Run #	Initial Volume	Final Volume
Run #1	570 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	3.5 U	18	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	5.0	8.8	1.8	0.82	ng/l	J
307-24-4	Perfluorohexanoic acid	1.5	4.4	0.88	0.44	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	4.4	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.4	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.4	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.4	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.88 U	4.4	0.88	0.44	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.88 U	4.4	0.88	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	4.4	1.8	0.61	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.88 U	4.4	0.88	0.44	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.4	1.8	0.47	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.4	1.8	0.50	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.4	1.8	0.56	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.5 U	4.4	3.5	1.0	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.0 U	18	7.0	2.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	4.4	1.8	0.59	ng/l	
31506-32-8	MeFOSA	1.8 U	4.4	1.8	0.88	ng/l	
4151-50-2	EtFOSA	1.8 U	4.4	1.8	0.88	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW12A-WGN01LF-2301W5		
Lab Sample ID:	FC2294-1	Date Sampled:	01/30/23
Matrix:	AQ - Ground Water	Date Received:	01/31/23
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	3.5 U	4.4	3.5	0.88	ng/l	
2991-50-6	EtFOSAA	3.5 U	4.4	3.5	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	8.8 U	44	8.8	3.8	ng/l	
1691-99-2	EtFOSE	18 U	44	18	6.5	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	3.5 U	18	3.5	0.88	ng/l	
919005-14-4	ADONA	3.5 U	18	3.5	1.6	ng/l	
377-73-1	PFMPA	1.8 U	8.8	1.8	0.88	ng/l	
863090-89-5	PFMBA	3.5 U	8.8	3.5	1.0	ng/l	
151772-58-6	NFDHA	3.5 U	8.8	3.5	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.5 U	18	3.5	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.5 U	18	3.5	1.5	ng/l	
113507-82-7	PFEESA	1.8 U	8.8	1.8	0.68	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	8.8 U	22	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	110	18	6.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	51%		20-150%
	13C5-PFPeA	115%		20-150%
	13C5-PFHxA	112%		20-150%
	13C4-PFHpA	114%		20-150%
	13C8-PFOA	106%		20-150%
	13C9-PFNA	103%		20-150%
	13C6-PFDA	111%		20-150%
	13C7-PFUnDA	97%		20-150%
	13C2-PFDoDA	90%		20-150%
	13C2-PFTeDA	82%		20-150%
	13C3-PFBS	105%		20-150%
	13C3-PFHxS	108%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW12A-WGN01LF-2301W5		
Lab Sample ID:	FC2294-1	Date Sampled:	01/30/23
Matrix:	AQ - Ground Water	Date Received:	01/31/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	86%		20-150%
	13C8-FOSA	95%		20-150%
	d3-MeFOSA	75%		20-150%
	d5-EtFOSA	75%		20-150%
	d3-MeFOSAA	86%		20-150%
	d5-EtFOSAA	88%		20-150%
	d7-MeFOSE	66%		20-150%
	d9-EtFOSE	66%		20-150%
	13C2-4:2FTS	110%		20-150%
	13C2-6:2FTS	101%		20-150%
	13C2-8:2FTS	101%		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

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Client Sample ID:	AF-RHMW12A-WGFD01LF-2301W5		
Lab Sample ID:	FC2294-2	Date Sampled:	01/30/23
Matrix:	AQ - Ground Water	Date Received:	01/31/23
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	6Q13198.D	1	02/07/23 13:08	MV	02/03/23 09:00	OP95294	S6Q202
Run #2							

Run #	Initial Volume	Final Volume
Run #1	570 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	3.5 U	18	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	4.8	8.8	1.8	0.82	ng/l	J
307-24-4	Perfluorohexanoic acid	1.2	4.4	0.88	0.44	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	4.4	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.4	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.4	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.4	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.88 U	4.4	0.88	0.44	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.88 U	4.4	0.88	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	4.4	1.8	0.61	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.88 U	4.4	0.88	0.44	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.4	1.8	0.47	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.4	1.8	0.50	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.4	1.8	0.56	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.5 U	4.4	3.5	1.0	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.0 U	18	7.0	2.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	4.4	1.8	0.59	ng/l	
31506-32-8	MeFOSA	1.8 U	4.4	1.8	0.88	ng/l	
4151-50-2	EtFOSA	1.8 U	4.4	1.8	0.88	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW12A-WGFD01LF-2301W5		
Lab Sample ID:	FC2294-2	Date Sampled:	01/30/23
Matrix:	AQ - Ground Water	Date Received:	01/31/23
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	3.5 U	4.4	3.5	0.88	ng/l	
2991-50-6	EtFOSAA	3.5 U	4.4	3.5	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	8.8 U	44	8.8	3.8	ng/l	
1691-99-2	EtFOSE	18 U	44	18	6.5	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	3.5 U	18	3.5	0.88	ng/l	
919005-14-4	ADONA	3.5 U	18	3.5	1.6	ng/l	
377-73-1	PFMPA	1.8 U	8.8	1.8	0.88	ng/l	
863090-89-5	PFMBA	3.5 U	8.8	3.5	1.0	ng/l	
151772-58-6	NFDHA	3.5 U	8.8	3.5	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.5 U	18	3.5	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.5 U	18	3.5	1.5	ng/l	
113507-82-7	PFEESA	1.8 U	8.8	1.8	0.68	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	8.8 U	22	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	110	18	6.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	37%		20-150%
	13C5-PFPeA	106%		20-150%
	13C5-PFHxA	105%		20-150%
	13C4-PFHpA	105%		20-150%
	13C8-PFOA	108%		20-150%
	13C9-PFNA	108%		20-150%
	13C6-PFDA	95%		20-150%
	13C7-PFUnDA	97%		20-150%
	13C2-PFDoDA	94%		20-150%
	13C2-PFTeDA	90%		20-150%
	13C3-PFBS	109%		20-150%
	13C3-PFHxS	112%		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-2301W5	
Lab Sample ID:	FC2294-2	Date Sampled: 01/30/23
Matrix:	AQ - Ground Water	Date Received: 01/31/23
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	105%		20-150%
	13C8-FOSA	118%		20-150%
	d3-MeFOSA	96%		20-150%
	d5-EtFOSA	97%		20-150%
	d3-MeFOSAA	103%		20-150%
	d5-EtFOSAA	109%		20-150%
	d7-MeFOSE	92%		20-150%
	d9-EtFOSE	88%		20-150%
	13C2-4:2FTS	114%		20-150%
	13C2-6:2FTS	116%		20-150%
	13C2-8:2FTS	108%		20-150%
	13C3-HFPO-DA	108%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2301W5		
Lab Sample ID:	FC2294-3	Date Sampled:	01/30/23
Matrix:	AQ - Ground Water	Date Received:	01/31/23
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	6Q13218.D	1	02/08/23 12:13	MV	02/03/23 09:00	OP95294	S6Q202
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	3.6	9.3	1.9	0.87	ng/l	J
307-24-4	Perfluorohexanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8	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	6.9	19	7.4	3.2	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	

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-RHMW03-WGN01LF-2301W5		
Lab Sample ID:	FC2294-3	Date Sampled:	01/30/23
Matrix:	AQ - Ground Water	Date Received:	01/31/23
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	96%		20-150%
	13C5-PFPeA	104%		20-150%
	13C5-PFHxA	103%		20-150%
	13C4-PFHpA	101%		20-150%
	13C8-PFOA	94%		20-150%
	13C9-PFNA	104%		20-150%
	13C6-PFDA	108%		20-150%
	13C7-PFUnDA	101%		20-150%
	13C2-PFDoDA	87%		20-150%
	13C2-PFTeDA	82%		20-150%
	13C3-PFBS	101%		20-150%
	13C3-PFHxS	99%		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-2301W5	
Lab Sample ID:	FC2294-3	Date Sampled: 01/30/23
Matrix:	AQ - Ground Water	Date Received: 01/31/23
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	97%		20-150%
	13C8-FOSA	94%		20-150%
	d3-MeFOSA	81%		20-150%
	d5-EtFOSA	75%		20-150%
	d3-MeFOSAA	100%		20-150%
	d5-EtFOSAA	96%		20-150%
	d7-MeFOSE	71%		20-150%
	d9-EtFOSE	73%		20-150%
	13C2-4:2FTS	84%		20-150%
	13C2-6:2FTS	88%		20-150%
	13C2-8:2FTS	87%		20-150%
	13C3-HFPO-DA	98%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2301W5		
Lab Sample ID:	FC2294-4	Date Sampled:	01/30/23
Matrix:	AQ - Ground Water	Date Received:	01/31/23
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	6Q13220.D	1	02/08/23 12:41	MV	02/03/23 09:00	OP95294	S6Q202
Run #2							

Run #	Initial Volume	Final Volume
Run #1	560 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	8.9	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	0.89 U	4.5	0.89	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	0.89 U	4.5	0.89	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.89 U	4.5	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	4.5	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	0.89 U	4.5	0.89	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.5	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.5	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.5	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.89 U	4.5	0.89	0.45	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.89 U	4.5	0.89	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	4.5	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.89 U	4.5	0.89	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.5	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.5	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.5	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.8	18	7.1	3.1	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	4.5	1.8	0.60	ng/l	
31506-32-8	MeFOSA	1.8 U	4.5	1.8	0.89	ng/l	
4151-50-2	EtFOSA	1.8 U	4.5	1.8	0.89	ng/l	

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

4.4
4

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2301W5		Date Sampled:	01/30/23
Lab Sample ID:	FC2294-4		Date Received:	01/31/23
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	0.89	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	8.9 U	45	8.9	3.9	ng/l	
1691-99-2	EtFOSE	18 U	45	18	6.6	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	3.6 U	18	3.6	0.89	ng/l	
919005-14-4	ADONA	3.6 U	18	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	8.9	1.8	0.89	ng/l	
863090-89-5	PFMBA	3.6 U	8.9	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	8.9	3.6	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	18	3.6	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	18	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	8.9	1.8	0.70	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	8.9 U	22	8.9	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.8	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	110	18	7.0	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	54%		20-150%
	13C5-PFPeA	108%		20-150%
	13C5-PFHxA	109%		20-150%
	13C4-PFHpA	111%		20-150%
	13C8-PFOA	111%		20-150%
	13C9-PFNA	115%		20-150%
	13C6-PFDA	116%		20-150%
	13C7-PFUnDA	96%		20-150%
	13C2-PFDoDA	90%		20-150%
	13C2-PFTeDA	82%		20-150%
	13C3-PFBS	114%		20-150%
	13C3-PFHxS	125%		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-RHMW02-WGN01LF-2301W5	
Lab Sample ID:	FC2294-4	Date Sampled: 01/30/23
Matrix:	AQ - Ground Water	Date Received: 01/31/23
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	104%		20-150%
	13C8-FOSA	111%		20-150%
	d3-MeFOSA	78%		20-150%
	d5-EtFOSA	77%		20-150%
	d3-MeFOSAA	108%		20-150%
	d5-EtFOSAA	101%		20-150%
	d7-MeFOSE	73%		20-150%
	d9-EtFOSE	74%		20-150%
	13C2-4:2FTS	125%		20-150%
	13C2-6:2FTS	102%		20-150%
	13C2-8:2FTS	83%		20-150%
	13C3-HFPO-DA	90%		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: 407-423-0707
www.sgs.com

FC2294

SGS - ORLANDO JOB # :

COC #: 2301W5AFSG05

PAGE 1 OF 1

Client / Reporting Information		Project Information		Analytical Information												Matrix Codes	
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System		<p style="text-align: center;">PFAS EPA Draft 1633</p> <p style="text-align: center;">11/30/2023</p>												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe	
Address: 1001 Bishop St. ste 1600		Street															
City: Honolulu	State: HI	Zip: 96813	City: Honolulu														State: Hawaii
Project Contact: Katie Abbott Email: katie.abbott@aecom.com		Project # 60697810															
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #															
Sampler(s) Name(s) (Printed) Sampler 1: N. TURNER Sampler 2:		Client Purchase Order #		<div style="display: flex; justify-content: space-between;"> <div> <p>INITIAL ASSESSMENT</p> <p>LABEL VERIFICATION</p> </div> <div style="font-size: 2em;"> </div> </div>													
SGS Orlando Sample #		COLLECTION			CONTAINER INFORMATION												LAB USE ONLY
#	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	IC1	HIGH	H303	H304	MACH/PLAG	DI WATER	MEDH	PFAS EPA Draft 1633		
1	AF-RHWW12A-WGN01LF-2301W5	11/30/23	0950	NT	GW	3		X							X		
2	AF-RHWW12A-WGFD01LF-2301W5	11/30/23	0950	NT	GW	3		X							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 AWB 016-73185173											
Rush T/A Data Available VIA Email or Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.															
Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	
1	11/30/2023	2	11/30/2023	3	11/30/2023	4	11/30/2023	5	11/30/2023	6	11/30/2023	7	11/30/2023	8	11/30/2023	9	
Lab Use Only : Cooler Temperature (s) Celsius (corrected):		FC2294															

PFAS_COCs_ALL.xls Rev 031316



5.1
5



SGS North America Inc - Orlando
Chain of Custody

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

FC2294

SGS - ORLANDO JOB # :

COC #: 2301W5AFSG02
 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="border: 1px solid black; padding: 5px; display: inline-block;"> 11/30/23 </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 #																																																																																																																																																																										
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order #																																																																																																																																																																										
Sampler(s) Name(s) (Printed)		Sampler 1: <u>Mat yin</u> Sampler 2:			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">COLLECTION</th> <th colspan="11">CONTAINER INFORMATION</th> </tr> <tr> <th>DATE</th> <th>TIME</th> <th>SAMPLED BY</th> <th>MATRIX</th> <th>TOTAL # OF BOTTLES</th> <th>OTHER</th> <th>NONE</th> <th>ICI</th> <th>KNO3</th> <th>PKGS</th> <th>H2SO4</th> <th>NACH-2/1AC</th> <th>P WATER</th> <th>MECH</th> </tr> </thead> <tbody> <tr> <td>11/30/23</td> <td>1510</td> <td>EW</td> <td>GW</td> <td>3</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>														COLLECTION			CONTAINER INFORMATION											DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	ICI	KNO3	PKGS	H2SO4	NACH-2/1AC	P WATER	MECH	11/30/23	1510	EW	GW	3	X																																																																																																																								
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SGS Orlando Sample # 3		Field ID / Point of Collection AF-RHMW03-WGN01LF-2301W5																																																																																																																																																																										
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 Untel AWB : 016-73185173																																																																																																																																																																							
Relinquished by Sampler/Affiliation 1 <u>Mat yin</u> <u>Mat yin</u>		Date Time: <u>11/30/23</u> Received By/Affiliation 2 <u>[Signature]</u> <u>Aireach</u>			Relinquished By/Affiliation 3 <u>[Signature]</u> <u>Aireach</u>			Date Time: <u>11/30/23 1820</u>			Received By/Affiliation 4 <u>[Signature]</u> <u>11/30/23</u>																																																																																																																																																																	
Relinquished by/Affiliation 5 _____		Date Time: _____ Received By/Affiliation 6 _____			Relinquished By/Affiliation 7 _____			Date Time: _____			Received By/Affiliation 8 <u>1520</u>																																																																																																																																																																	
Lab Use Only : Cooler Temperature (s) Celsius (corrected);														http://www.sgs.com/en/terms-and-conditions																																																																																																																																																														

PFAS_COCs_ALL.xls Rev 031318





Chain of Custody

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

Client / Reporting Information		Project Information		Analytical Information												Matrix Codes
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System														DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe
Address: 1001 Bishop St. ste 1600		Street														
City: Honolulu State: HI Zip: 96813		City Honolulu State Hawaii														
Project Contact: Katie Abbott Email: katie.abbott@aecom.com Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Project # 60697810														
Phone #: 303-796-4624 / 808-954-4612		Fax #		X PFAS EPA Draft 1633												LAB USE ONLY
Sampler(s) Name(s) (Printed) Sampler 1: <i>Matt Kim</i> Sampler 2:		Client Purchase Order #														
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	HNO3	H2SO4	NaOH+2HAC	DISTILLED WATER	MEDIA		
4	AF-RHMW02-WGN01LF-2301W5	11/30/23	1145	MY	GW	3			X							
Turnaround Time (Business days)				Data Deliverable Information				Comments / Remarks								
10 Day (Business) 7 Day <input checked="" type="checkbox"/> 5 Day 3 Day RUSH 2 Day RUSH 1 Day RUSH Other		Approved By: / Date:		<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 AWB: 016-73185173								
Rush T/A Data Available VIA Email or Lablink																
Sample Custody must be documented below each time samples change possession, including courier delivery.																
Relinquished by Sampler/Affiliation		Date Time:		Received By/Affiliation		Date Time:		Relinquished By/Affiliation		Date Time:		Received By/Affiliation		Date Time:		
1 <i>Matt Kim</i>		11/30/23		2 <i>[Signature]</i>		11/30/23		3 <i>[Signature]</i>		11/30/23		4 <i>[Signature]</i>		11/30/23		
5				6				7				8		1500		

5.1
5



SGS Sample Receipt Summary

Job Number: FC2294

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 1/31/2023 3:00:00 PM

Delivery Method: United Cargo/Airspace

Airbill #s: United Cargo AWB #: 016-73185173

Therm ID: IR 1;

Therm CF: 0.2;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.2);

Cooler Temps (Corrected) °C: Cooler 1: (2.4);

Cooler Information

Y or N

- | | | |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Temp criteria achieved | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Cooler temp verification | IR Gun | |
| 5. Cooler media | Ice (Bag) | |

Sample Information

Y or N N/A

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

Trip Blank Information

Y or N N/A

- | | | | |
|--------------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

W or S N/A

- | | | | |
|------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. Type Of TB Received | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|------------------------|--------------------------|--------------------------|-------------------------------------|

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: 1/31/2023 3:00:00 PM

Reviewer: CD

Date: 2/2/2023

FC2294: Chain of Custody

Page 4 of 4

5.1
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QC Evaluation: DOD QSM5.x Limits

Job Number: FC2294
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 01/30/23

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 FC2294

5.2
5

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: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q202-IBLK	6Q13187.D	1	02/07/23	MV	n/a	n/a	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

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	0.0015	0.0050	0.0010	ug/l	J
4151-50-2	EtFOSA	0.0025	0.0050	0.0010	ug/l	J
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	0.0121	0.050	0.0044	ug/l	J
1691-99-2	EtFOSE	0.0258	0.050	0.0074	ug/l	J
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-19	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: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q202-IBLK	6Q13187.D	1	02/07/23	MV	n/a	n/a	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

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	101% 20-150%
	13C5-PFPeA	102% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	99% 20-150%
	13C9-PFNA	100% 20-150%
	13C6-PFDA	111% 20-150%
	13C7-PFUnDA	109% 20-150%
	13C2-PFDoDA	105% 20-150%
	13C2-PFTeDA	106% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	108% 20-150%
	13C8-PFOS	103% 20-150%
	13C8-FOSA	109% 20-150%
	d3-MeFOSAA	104% 20-150%
	d5-EtFOSAA	102% 20-150%
	13C2-4:2FTS	105% 20-150%
	13C2-6:2FTS	102% 20-150%
	13C2-8:2FTS	95% 20-150%

6.1.1
6

Instrument Blank

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q202-IBLK	6Q13212.D	1	02/08/23	MV	n/a	n/a	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

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	0.0032	0.0050	0.0010	ug/l	J
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	0.0126	0.050	0.0044	ug/l	J
1691-99-2	EtFOSE	0.0253	0.050	0.0074	ug/l	J
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-19	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: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q202-IBLK	6Q13212.D	1	02/08/23	MV	n/a	n/a	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

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	101% 20-150%
	13C5-PFPeA	100% 20-150%
	13C5-PFHxA	104% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	92% 20-150%
	13C9-PFNA	108% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	104% 20-150%
	13C2-PFDoDA	108% 20-150%
	13C2-PFTeDA	110% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	103% 20-150%
	13C8-PFOS	88% 20-150%
	13C8-FOSA	94% 20-150%
	d3-MeFOSAA	102% 20-150%
	d5-EtFOSAA	95% 20-150%
	13C2-4:2FTS	112% 20-150%
	13C2-6:2FTS	103% 20-150%
	13C2-8:2FTS	90% 20-150%

6.12

6

Method Blank Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-MB	6Q13195.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

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	

Method Blank Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-MB	6Q13195.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

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	113% 20-150%
	13C5-PFPeA	118% 20-150%
	13C5-PFHxA	116% 20-150%
	13C4-PFHpA	124% 20-150%
	13C8-PFOA	108% 20-150%
	13C9-PFNA	115% 20-150%
	13C6-PFDA	124% 20-150%
	13C7-PFUnDA	121% 20-150%
	13C2-PFDoDA	106% 20-150%
	13C2-PFTeDA	95% 20-150%
	13C3-PFBS	107% 20-150%
	13C3-PFHxS	102% 20-150%
	13C8-PFOS	107% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSA	83% 20-150%
	d5-EtFOSA	85% 20-150%
	d3-MeFOSAA	104% 20-150%
	d5-EtFOSAA	108% 20-150%
	d7-MeFOSE	83% 20-150%
	d9-EtFOSE	81% 20-150%
	13C2-4:2FTS	112% 20-150%
	13C2-6:2FTS	113% 20-150%
	13C2-8:2FTS	101% 20-150%
	13C3-HFPO-DA	116% 20-150%

Method Blank Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-MB	6Q13217.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

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	

Method Blank Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-MB	6Q13217.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

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	112% 20-150%
	13C5-PFPeA	119% 20-150%
	13C5-PFHxA	124% 20-150%
	13C4-PFHpA	113% 20-150%
	13C8-PFOA	112% 20-150%
	13C9-PFNA	107% 20-150%
	13C6-PFDA	122% 20-150%
	13C7-PFUnDA	116% 20-150%
	13C2-PFDoDA	109% 20-150%
	13C2-PFTeDA	86% 20-150%
	13C3-PFBS	112% 20-150%
	13C3-PFHxS	113% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	101% 20-150%
	d3-MeFOSA	79% 20-150%
	d5-EtFOSA	76% 20-150%
	d3-MeFOSAA	108% 20-150%
	d5-EtFOSAA	109% 20-150%
	d7-MeFOSE	75% 20-150%
	d9-EtFOSE	78% 20-150%
	13C2-4:2FTS	128% 20-150%
	13C2-6:2FTS	125% 20-150%
	13C2-8:2FTS	115% 20-150%
	13C3-HFPO-DA	115% 20-150%

6.1.4
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Continuing Calibration Blank

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q202-ICCB	6Q13201.D	1	02/07/23	MV	n/a	n/a	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q202-IBLK, S6Q202-RT

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: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q202-ICCB	6Q13201.D	1	02/07/23	MV	n/a	n/a	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q202-IBLK, S6Q202-RT

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	102% 20-150%
	13C5-PFPeA	105% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	106% 20-150%
	13C8-PFOA	103% 20-150%
	13C9-PFNA	104% 20-150%
	13C6-PFDA	110% 20-150%
	13C7-PFUnDA	100% 20-150%
	13C2-PFDoDA	100% 20-150%
	13C2-PFTeDA	98% 20-150%
	13C3-PFBS	97% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	99% 20-150%
	13C8-FOSA	94% 20-150%
	d3-MeFOSAA	93% 20-150%
	d5-EtFOSAA	94% 20-150%
	13C2-4:2FTS	108% 20-150%
	13C2-6:2FTS	106% 20-150%
	13C2-8:2FTS	94% 20-150%

6.1.5

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Blank Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-LLBS	6Q13194.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.04	0.0389	97	40-150
2706-90-3	Perfluoropentanoic acid	0.02	0.0193	97	40-150
307-24-4	Perfluorohexanoic acid	0.01	0.0100	100	40-150
375-85-9	Perfluoroheptanoic acid	0.01	0.0095	95	40-150
335-67-1	Perfluorooctanoic acid	0.01	0.0100	100	40-150
375-95-1	Perfluorononanoic acid	0.01	0.0084	84	40-150
335-76-2	Perfluorodecanoic acid	0.01	0.0096	96	40-150
2058-94-8	Perfluoroundecanoic acid	0.01	0.0097	97	40-150
307-55-1	Perfluorododecanoic acid	0.01	0.0093	93	40-150
72629-94-8	Perfluorotridecanoic acid	0.01	0.0086	86	40-150
376-06-7	Perfluorotetradecanoic acid	0.01	0.0103	103	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00887	0.0088	99	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00941	0.0088	94	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00914	0.0087	95	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00953	0.0066	69	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00928	0.0091	98	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00962	0.0085	88	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00965	0.0083	86	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0097	0.0065	67	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0375	0.0338	90	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.038	0.0399	105	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0384	0.0382	99	40-150
754-91-6	PFOSA	0.01	0.0090	90	40-150
31506-32-8	MeFOSA	0.01	0.0097	97	40-150
4151-50-2	EtFOSA	0.01	0.0096	96	40-150
2355-31-9	MeFOSAA	0.01	0.0094	94	40-150
2991-50-6	EtFOSAA	0.01	0.0091	91	40-150
24448-09-7	MeFOSE	0.1	0.0952	95	40-150
1691-99-2	EtFOSE	0.1	0.0836	84	40-150
13252-13-6	HFPO-DA (GenX)	0.04	0.0353	88	40-150
919005-14-4	ADONA	0.0378	0.0374	99	40-150
377-73-1	PFMPA	0.02	0.0200	100	40-150
863090-89-5	PFMBA	0.02	0.0209	105	40-150
151772-58-6	NFDHA	0.02	0.0223	112	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0374	0.0367	98	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0378	0.0337	89	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-LLBS	6Q13194.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0178	0.0171	96	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.05	0.0371	74	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.25	0.246	98	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.25	0.197	79	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	102%	20-150%
	13C5-PFPeA	111%	20-150%
	13C5-PFHxA	110%	20-150%
	13C4-PFHpA	110%	20-150%
	13C8-PFOA	105%	20-150%
	13C9-PFNA	111%	20-150%
	13C6-PFDA	111%	20-150%
	13C7-PFUnDA	115%	20-150%
	13C2-PFDoDA	116%	20-150%
	13C2-PFTeDA	92%	20-150%
	13C3-PFBS	110%	20-150%
	13C3-PFHxS	114%	20-150%
	13C8-PFOS	112%	20-150%
	13C8-FOSA	112%	20-150%
	d3-MeFOSA	84%	20-150%
	d5-EtFOSA	84%	20-150%
	d3-MeFOSAA	115%	20-150%
	d5-EtFOSAA	104%	20-150%
	d7-MeFOSE	80%	20-150%
	d9-EtFOSE	83%	20-150%
	13C2-4:2FTS	122%	20-150%
	13C2-6:2FTS	112%	20-150%
	13C2-8:2FTS	115%	20-150%
	13C3-HFPO-DA	109%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-LLBS	6Q13216.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.04	0.0391	98	40-150
2706-90-3	Perfluoropentanoic acid	0.02	0.0189	95	40-150
307-24-4	Perfluorohexanoic acid	0.01	0.0099	99	40-150
375-85-9	Perfluoroheptanoic acid	0.01	0.0096	96	40-150
335-67-1	Perfluorooctanoic acid	0.01	0.0098	98	40-150
375-95-1	Perfluorononanoic acid	0.01	0.0090	90	40-150
335-76-2	Perfluorodecanoic acid	0.01	0.0104	104	40-150
2058-94-8	Perfluoroundecanoic acid	0.01	0.0097	97	40-150
307-55-1	Perfluorododecanoic acid	0.01	0.0094	94	40-150
72629-94-8	Perfluorotridecanoic acid	0.01	0.0093	93	40-150
376-06-7	Perfluorotetradecanoic acid	0.01	0.0110	110	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00887	0.0095	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00941	0.0084	89	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00914	0.0085	93	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00953	0.0086	90	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00928	0.0084	91	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00962	0.0085	88	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00965	0.0079	82	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0097	0.0076	78	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0375	0.0344	92	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.038	0.0351	92	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0384	0.0413	108	40-150
754-91-6	PFOSA	0.01	0.0092	92	40-150
31506-32-8	MeFOSA	0.01	0.0105	105	40-150
4151-50-2	EtFOSA	0.01	0.0086	86	40-150
2355-31-9	MeFOSAA	0.01	0.0097	97	40-150
2991-50-6	EtFOSAA	0.01	0.0084	84	40-150
24448-09-7	MeFOSE	0.1	0.0926	93	40-150
1691-99-2	EtFOSE	0.1	0.0845	85	40-150
13252-13-6	HFPO-DA (GenX)	0.04	0.0399	100	40-150
919005-14-4	ADONA	0.0378	0.0366	97	40-150
377-73-1	PFMPA	0.02	0.0193	97	40-150
863090-89-5	PFMBA	0.02	0.0207	104	40-150
151772-58-6	NFDHA	0.02	0.0199	100	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0374	0.0344	92	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0378	0.0322	85	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-LLBS	6Q13216.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

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	0.0370	74	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.25	0.236	94	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.25	0.197	79	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	103%	20-150%
	13C5-PFPeA	116%	20-150%
	13C5-PFHxA	119%	20-150%
	13C4-PFHpA	111%	20-150%
	13C8-PFOA	102%	20-150%
	13C9-PFNA	107%	20-150%
	13C6-PFDA	106%	20-150%
	13C7-PFUnDA	111%	20-150%
	13C2-PFDoDA	112%	20-150%
	13C2-PFTeDA	88%	20-150%
	13C3-PFBS	108%	20-150%
	13C3-PFHxS	114%	20-150%
	13C8-PFOS	111%	20-150%
	13C8-FOSA	108%	20-150%
	d3-MeFOSA	78%	20-150%
	d5-EtFOSA	84%	20-150%
	d3-MeFOSAA	120%	20-150%
	d5-EtFOSAA	117%	20-150%
	d7-MeFOSE	79%	20-150%
	d9-EtFOSE	85%	20-150%
	13C2-4:2FTS	130%	20-150%
	13C2-6:2FTS	122%	20-150%
	13C2-8:2FTS	108%	20-150%
	13C3-HFPO-DA	111%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-BS	6Q13193.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.102	102	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0520	104	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0258	103	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0252	101	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0244	98	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0239	96	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0252	101	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0280	112	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0259	104	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0248	99	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0277	111	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0239	108	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0259	110	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0253	111	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0254	107	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0232	100	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0238	99	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0225	93	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0213	88	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0926	99	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0974	103	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.102	106	40-150
754-91-6	PFOSA	0.025	0.0254	102	40-150
31506-32-8	MeFOSA	0.025	0.0258	103	40-150
4151-50-2	EtFOSA	0.025	0.0250	100	40-150
2355-31-9	MeFOSAA	0.025	0.0255	102	40-150
2991-50-6	EtFOSAA	0.025	0.0229	92	40-150
24448-09-7	MeFOSE	0.25	0.241	96	40-150
1691-99-2	EtFOSE	0.25	0.233	93	40-150
13252-13-6	HFPO-DA (GenX)	0.1	0.0960	96	40-150
919005-14-4	ADONA	0.0945	0.0917	97	40-150
377-73-1	PFMPA	0.05	0.0221	44	40-150
863090-89-5	PFMBA	0.05	0.0562	112	40-150
151772-58-6	NFDHA	0.05	0.0548	110	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0935	0.0923	99	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0945	0.0858	91	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-BS	6Q13193.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0466	105	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0703	56	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.621	99	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.524	84	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	20%	20-150%
	13C5-PFPeA	107%	20-150%
	13C5-PFHxA	110%	20-150%
	13C4-PFHpA	106%	20-150%
	13C8-PFOA	113%	20-150%
	13C9-PFNA	107%	20-150%
	13C6-PFDA	106%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	104%	20-150%
	13C2-PFTeDA	99%	20-150%
	13C3-PFBS	99%	20-150%
	13C3-PFHxS	101%	20-150%
	13C8-PFOS	105%	20-150%
	13C8-FOSA	105%	20-150%
	d3-MeFOSA	95%	20-150%
	d5-EtFOSA	88%	20-150%
	d3-MeFOSAA	106%	20-150%
	d5-EtFOSAA	110%	20-150%
	d7-MeFOSE	90%	20-150%
	d9-EtFOSE	88%	20-150%
	13C2-4:2FTS	109%	20-150%
	13C2-6:2FTS	106%	20-150%
	13C2-8:2FTS	99%	20-150%
	13C3-HFPO-DA	113%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-BS	6Q13215.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.103	103	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0513	103	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0252	101	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0258	103	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0249	100	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0253	101	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0268	107	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0263	105	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0274	110	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0275	110	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0264	106	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0251	113	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0234	99	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0221	97	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0259	109	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0247	106	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0232	96	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0232	96	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0232	96	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.102	109	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.101	106	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.104	108	40-150
754-91-6	PFOSA	0.025	0.0249	100	40-150
31506-32-8	MeFOSA	0.025	0.0249	100	40-150
4151-50-2	EtFOSA	0.025	0.0235	94	40-150
2355-31-9	MeFOSAA	0.025	0.0279	112	40-150
2991-50-6	EtFOSAA	0.025	0.0231	92	40-150
24448-09-7	MeFOSE	0.25	0.248	99	40-150
1691-99-2	EtFOSE	0.25	0.238	95	40-150
13252-13-6	HFPO-DA (GenX)	0.1	0.101	101	40-150
919005-14-4	ADONA	0.0945	0.0956	101	40-150
377-73-1	PFMPA	0.05	0.0222	44	40-150
863090-89-5	PFMBA	0.05	0.0558	112	40-150
151772-58-6	NFDHA	0.05	0.0505	101	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0935	0.0922	99	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0945	0.0918	97	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-BS	6Q13215.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0437	98	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0706	56	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.626	100	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.531	85	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	20%	20-150%
	13C5-PFPeA	110%	20-150%
	13C5-PFHxA	118%	20-150%
	13C4-PFHpA	110%	20-150%
	13C8-PFOA	106%	20-150%
	13C9-PFNA	102%	20-150%
	13C6-PFDA	112%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	103%	20-150%
	13C2-PFTeDA	96%	20-150%
	13C3-PFBS	103%	20-150%
	13C3-PFHxS	110%	20-150%
	13C8-PFOS	100%	20-150%
	13C8-FOSA	101%	20-150%
	d3-MeFOSA	91%	20-150%
	d5-EtFOSA	91%	20-150%
	d3-MeFOSAA	109%	20-150%
	d5-EtFOSAA	113%	20-150%
	d7-MeFOSE	84%	20-150%
	d9-EtFOSE	87%	20-150%
	13C2-4:2FTS	116%	20-150%
	13C2-6:2FTS	112%	20-150%
	13C2-8:2FTS	108%	20-150%
	13C3-HFPO-DA	110%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-MS	6Q13199.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202
FC2294-2	6Q13198.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	FC2294-2 ug/l	Spike Q	MS ug/l	MS %	Limits	
375-22-4	Perfluorobutanoic acid	0.018 U		0.0893	0.0903	101	40-150
2706-90-3	Perfluoropentanoic acid	0.0048 J		0.0446	0.0494	100	40-150
307-24-4	Perfluorohexanoic acid	0.0012 J		0.0223	0.0228	97	40-150
375-85-9	Perfluoroheptanoic acid	0.0044 U		0.0223	0.0213	95	40-150
335-67-1	Perfluorooctanoic acid	0.0044 U		0.0223	0.0223	100	40-150
375-95-1	Perfluorononanoic acid	0.0044 U		0.0223	0.0243	109	40-150
335-76-2	Perfluorodecanoic acid	0.0044 U		0.0223	0.0232	104	40-150
2058-94-8	Perfluoroundecanoic acid	0.0044 U		0.0223	0.0243	109	40-150
307-55-1	Perfluorododecanoic acid	0.0044 U		0.0223	0.0236	106	40-150
72629-94-8	Perfluorotridecanoic acid	0.0044 U		0.0223	0.0233	104	40-150
376-06-7	Perfluorotetradecanoic acid	0.0044 U		0.0223	0.0261	117	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0044 U		0.0198	0.0201	102	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0044 U		0.021	0.0217	103	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0044 U		0.0204	0.0215	105	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0044 U		0.0213	0.0215	101	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0044 U		0.0207	0.0211	102	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0044 U		0.0215	0.0206	96	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0044 U		0.0215	0.0179	83	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0044 U		0.0217	0.0164	76	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.018 U		0.0837	0.0830	99	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U		0.0848	0.0873	103	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U		0.0857	0.0996	116	40-150
754-91-6	PFOSA	0.0044 U		0.0223	0.0215	96	40-150
31506-32-8	MeFOSA	0.0044 U		0.0223	0.0216	97	40-150
4151-50-2	EtFOSA	0.0044 U		0.0223	0.0212	95	40-150
2355-31-9	MeFOSAA	0.0044 U		0.0223	0.0201	90	40-150
2991-50-6	EtFOSAA	0.0044 U		0.0223	0.0210	94	40-150
24448-09-7	MeFOSE	0.044 U		0.223	0.218	98	40-150
1691-99-2	EtFOSE	0.044 U		0.223	0.222	99	40-150
13252-13-6	HFPO-DA (GenX)	0.018 U		0.0893	0.0911	102	40-150
919005-14-4	ADONA	0.018 U		0.0844	0.0844	100	40-150
377-73-1	PFMPA	0.0088 U		0.0446	0.0277	62	40-150
863090-89-5	PFMBA	0.0088 U		0.0446	0.0479	107	40-150
151772-58-6	NFDHA	0.0088 U		0.0446	0.0462	103	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.018 U		0.0835	0.0751	90	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.018 U		0.0844	0.0669	79	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-MS	6Q13199.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202
FC2294-2	6Q13198.D	1	02/07/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	FC2294-2 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0088 U	0.0397	0.0398	100	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.022 U	0.112	0.106	95	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.11 U	0.558	0.547	98	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.11 U	0.558	0.428	77	40-150

CAS No.	ID Standard Recoveries	MS	FC2294-2	Limits
	13C4-PFBA	24%	37%	20-150%
	13C5-PFPeA	109%	106%	20-150%
	13C5-PFHxA	111%	105%	20-150%
	13C4-PFHpA	110%	105%	20-150%
	13C8-PFOA	106%	108%	20-150%
	13C9-PFNA	110%	108%	20-150%
	13C6-PFDA	110%	95%	20-150%
	13C7-PFUnDA	102%	97%	20-150%
	13C2-PFDoDA	91%	94%	20-150%
	13C2-PFTeDA	83%	90%	20-150%
	13C3-PFBS	115%	109%	20-150%
	13C3-PFHxS	114%	112%	20-150%
	13C8-PFOS	101%	105%	20-150%
	13C8-FOSA	100%	118%	20-150%
	d3-MeFOSA	87%	96%	20-150%
	d5-EtFOSA	81%	97%	20-150%
	d3-MeFOSAA	111%	103%	20-150%
	d5-EtFOSAA	103%	109%	20-150%
	d7-MeFOSE	73%	92%	20-150%
	d9-EtFOSE	69%	88%	20-150%
	13C2-4:2FTS	118%	114%	20-150%
	13C2-6:2FTS	113%	116%	20-150%
	13C2-8:2FTS	96%	108%	20-150%
	13C3-HFPO-DA	109%	108%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-DUP	6Q13219.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202
FC2294-3	6Q13218.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	FC2294-3 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	0.0036 J		0.0035 J		3	30
307-24-4	Perfluorohexanoic acid	0.0046 U		0.0021 J		200*	30
375-85-9	Perfluoroheptanoic acid	0.0018 J		0.0017 J		6	30
335-67-1	Perfluorooctanoic acid	0.0046 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0046 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0046 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0046 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0046 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0046 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0046 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0046 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0046 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0046 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0046 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0046 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0046 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0046 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0046 U		ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.019 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0069 J		0.0061 J		12	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
754-91-6	PFOSA	0.0046 U		ND		nc	30
31506-32-8	MeFOSA	0.0046 U		ND		nc	30
4151-50-2	EtFOSA	0.0046 U		ND		nc	30
2355-31-9	MeFOSAA	0.0046 U		ND		nc	30
2991-50-6	EtFOSAA	0.0046 U		ND		nc	30
24448-09-7	MeFOSE	0.046 U		ND		nc	30
1691-99-2	EtFOSE	0.046 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.019 U		ND		nc	30
919005-14-4	ADONA	0.019 U		ND		nc	30
377-73-1	PFMPA	0.0093 U		ND		nc	30
863090-89-5	PFMBA	0.0093 U		ND		nc	30
151772-58-6	NFDHA	0.0093 U		ND		nc	30
756426-58-19	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: FC2294
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP95294-DUP	6Q13219.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202
FC2294-3	6Q13218.D	1	02/08/23	MV	02/03/23	OP95294	S6Q202

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC2294-1, FC2294-2, FC2294-3, FC2294-4

CAS No.	Compound	FC2294-3 ug/l	DUP Q ug/l	Q RPD	Limits
113507-82-7	PFEESA	0.0093 U	ND	nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.023 U	ND	nc	30
914637-49-35:3	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	FC2294-3	Limits
	13C4-PFBA	99%	96%	20-150%
	13C5-PFPeA	109%	104%	20-150%
	13C5-PFHxA	109%	103%	20-150%
	13C4-PFHpA	105%	101%	20-150%
	13C8-PFOA	100%	94%	20-150%
	13C9-PFNA	98%	104%	20-150%
	13C6-PFDA	94%	108%	20-150%
	13C7-PFUnDA	81%	101%	20-150%
	13C2-PFDoDA	73%	87%	20-150%
	13C2-PFTeDA	70%	82%	20-150%
	13C3-PFBS	103%	101%	20-150%
	13C3-PFHxS	107%	99%	20-150%
	13C8-PFOS	97%	97%	20-150%
	13C8-FOSA	101%	94%	20-150%
	d3-MeFOSA	76%	81%	20-150%
	d5-EtFOSA	76%	75%	20-150%
	d3-MeFOSAA	102%	100%	20-150%
	d5-EtFOSAA	94%	96%	20-150%
	d7-MeFOSE	75%	71%	20-150%
	d9-EtFOSE	72%	73%	20-150%
	13C2-4:2FTS	89%	84%	20-150%
	13C2-6:2FTS	90%	88%	20-150%
	13C2-8:2FTS	87%	87%	20-150%
	13C3-HFPO-DA	104%	98%	20-150%

* = Outside of Control Limits.