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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC6445

Sampling Date: 05/26/23



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Total number of pages in report: 70



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
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Test results relate only to samples analyzed.

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Sample Summary

AECOM, INC.

Job No: FC6445

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

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FC6445-1	05/26/23	10:05 CHMY	05/27/23	AQ	Ground Water	AF-RHMW02-WGN01LF-2305W4
FC6445-2	05/26/23	11:00 AL	05/27/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2305W4
FC6445-3	05/26/23	11:45 MYCH	05/27/23	AQ	Ground Water	AF-RHMW03-WGN01LF-2305W4
FC6445-4	05/26/23	12:20 AL	05/27/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2305W4
FC6445-5	05/26/23	11:40 AL	05/27/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2305W4
FC6445-6	05/26/23	15:38 AL	05/27/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2305W4
FC6445-7	05/26/23	16:05 AL	05/27/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2305W4

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC6445

Site: N6274223F0104 RH Fire Suppression System

Report Date: 6/13/2023 3:12:56 PM

On 05/27/2023, 6 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 2.7 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6445 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: OP97143

Sample(s) FC6205-1MS, FC6205-1MSD were used as the QC samples indicated.

Matrix: AQ

Batch ID: OP97275

Sample(s) FC6649-1MS, FC6649-4DUP were used as the QC samples indicated.

Blank Spike Recovery(s) for 3:3 Fluorotelomer carboxylate are outside control limits.

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

RPD(s) for Duplicate for 6:2 Fluorotelomer sulfonate are outside control limits for sample OP97275-DUP. Probable cause is due to sample non-homogeneity.

Sample(s) FC6445-4 have surrogates outside control limits.

FC6445-4: Dilution required (ID recovery standard failure).

FC6445-4 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6445-4 for MeFOSAA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6445-4 for Perfluorodecanesulfonic acid: Associated Low Level CCV outside of control limits high, sample was ND.

FC6445-4 for PFEESA: Associated Low Level CCV outside of control limits high, sample was ND.

FC6445-4 for 13C4-PFBA: 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: FC6445
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/26/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC6445-1 AF-RHMW02-WGN01LF-2305W4

Perfluorohexanoic acid	0.95 J	3.7	1.9	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.86 J	3.7	1.9	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate	5.0 J	19	7.4	ng/l	EPA DRAFT 1633

FC6445-2 AF-RHMW17-WGN01LF-2305W4

Perfluorobutanoic acid	3.0 J	14	3.6	ng/l	EPA DRAFT 1633
Perfluoropentanoic acid	4.0 J	7.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	1.9 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.89 J	3.6	1.8	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate	10 J	18	7.1	ng/l	EPA DRAFT 1633

FC6445-3 AF-RHMW03-WGN01LF-2305W4

Perfluoropentanoic acid	4.3 J	7.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	2.6 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	1.8 J	3.6	1.8	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate	7.0 J	18	7.1	ng/l	EPA DRAFT 1633

FC6445-4 AF-RHMW17D-WGN01LF-2305W4

No hits reported in this sample.

FC6445-5 AF-RHMW17D-WQFB01-2305W4

No hits reported in this sample.

FC6445-6 AF-RHMW17S-WGN01LF-2305W4

Perfluorohexanoic acid	2.0 J	3.5	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	1.0 J	3.5	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid	0.93 J	3.5	0.88	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid	0.73 J	3.5	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid	1.2 J	3.5	1.8	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate	4.1 J	18	7.0	ng/l	EPA DRAFT 1633

FC6445-7 AF-RHMW17S-WQEB01-2305W4

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2305W4		
Lab Sample ID:	FC6445-1	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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	6Q18713.D	1	06/02/23 00:18	MV	05/31/23 13:00	OP97143	S6Q280
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	15	3.7	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.4	1.9	0.87	ng/l	
307-24-4	Perfluorohexanoic acid	0.95	3.7	1.9	0.46	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.86	3.7	1.9	0.46	ng/l	J
335-67-1	Perfluorooctanoic acid	0.93 U	3.7	0.93	0.46	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	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	3.7	1.9	0.65	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	0.50	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	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	5.0	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	3.7	1.9	0.62	ng/l	
31506-32-8	MeFOSA	3.7 U	7.4	3.7	0.93	ng/l	
4151-50-2	EtFOSA	3.7 U	7.4	3.7	0.93	ng/l	

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

4.1
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Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2305W4		
Lab Sample ID:	FC6445-1	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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

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	19 U	37	19	4.1	ng/l
1691-99-2	EtFOSE	19 U	37	19	6.9	ng/l

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.9 U	3.7	1.9	0.93	ng/l
919005-14-4	ADONA	3.7 U	7.4	3.7	1.7	ng/l
377-73-1	PFMPA	1.9 U	7.4	1.9	0.93	ng/l
863090-89-5	PFMBA	3.7 U	7.4	3.7	1.1	ng/l
151772-58-6	NFDHA	3.7 U	7.4	3.7	1.1	ng/l

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.3	ng/l
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.6	ng/l
113507-82-7	PFEESA	1.9 U	7.4	1.9	0.72	ng/l

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.3 U	19	9.3	4.2	ng/l
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	93	19	8.1	ng/l
812-70-4	7:3 Fluorotelomer carboxylate	19 U	93	19	7.3	ng/l

CAS No. ID Standard Recoveries Run# 1 Run# 2 Limits

13C4-PFBA	68%	20-150%
13C5-PFPeA	89%	20-150%
13C5-PFHxA	102%	20-150%
13C4-PFHpA	107%	20-150%
13C8-PFOA	103%	20-150%
13C9-PFNA	98%	20-150%
13C6-PFDA	105%	20-150%
13C7-PFUnDA	97%	20-150%
13C2-PFDoDA	92%	20-150%
13C2-PFTeDA	78%	20-150%
13C3-PFBS	100%	20-150%
13C3-PFHxS	102%	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

4.1
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Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2305W4	
Lab Sample ID:	FC6445-1	Date Sampled: 05/26/23
Matrix:	AQ - Ground Water	Date Received: 05/27/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	96%		20-150%
	13C8-FOSA	88%		20-150%
	d3-MeFOSA	77%		20-150%
	d5-EtFOSA	79%		20-150%
	d3-MeFOSAA	97%		20-150%
	d5-EtFOSAA	94%		20-150%
	d7-MeFOSE	83%		20-150%
	d9-EtFOSE	86%		20-150%
	13C2-4:2FTS	100%		20-180%
	13C2-6:2FTS	89%		20-180%
	13C2-8:2FTS	91%		20-180%
	13C3-HFPO-DA	87%		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-2305W4		
Lab Sample ID:	FC6445-2	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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	6Q18714.D	1	06/02/23 00:32	MV	05/31/23 13:00	OP97143	S6Q280
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	3.0	14	3.6	1.7	ng/l	J
2706-90-3	Perfluoropentanoic acid	4.0	7.1	1.8	0.84	ng/l	J
307-24-4	Perfluorohexanoic acid	1.9	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.89	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.89 U	3.6	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	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	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	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	10	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	3.6	1.8	0.60	ng/l	
31506-32-8	MeFOSA	3.6 U	7.1	3.6	0.89	ng/l	
4151-50-2	EtFOSA	3.6 U	7.1	3.6	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

4.2
4

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2305W4		Date Sampled:	05/26/23
Lab Sample ID:	FC6445-2		Date Received:	05/27/23
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	18 U	36	18	3.9	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.6	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.89	ng/l	
919005-14-4	ADONA	3.6 U	7.1	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.1	1.8	0.89	ng/l	
863090-89-5	PFMBA	3.6 U	7.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.1	3.6	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.1	3.6	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.1	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.1	1.8	0.70	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	8.9 U	18	8.9	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	89	18	7.8	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	89	18	7.0	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	91%		20-150%
	13C5-PFPeA	110%		20-150%
	13C5-PFHxA	116%		20-150%
	13C4-PFHpA	111%		20-150%
	13C8-PFOA	115%		20-150%
	13C9-PFNA	109%		20-150%
	13C6-PFDA	108%		20-150%
	13C7-PFUnDA	91%		20-150%
	13C2-PFDoDA	71%		20-150%
	13C2-PFTeDA	60%		20-150%
	13C3-PFBS	114%		20-150%
	13C3-PFHxS	111%		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
4

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2305W4	
Lab Sample ID:	FC6445-2	Date Sampled: 05/26/23
Matrix:	AQ - Ground Water	Date Received: 05/27/23
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	107%		20-150%
	13C8-FOSA	99%		20-150%
	d3-MeFOSA	94%		20-150%
	d5-EtFOSA	95%		20-150%
	d3-MeFOSAA	144%		20-150%
	d5-EtFOSAA	149%		20-150%
	d7-MeFOSE	93%		20-150%
	d9-EtFOSE	105%		20-150%
	13C2-4:2FTS	151%		20-180%
	13C2-6:2FTS	154%		20-180%
	13C2-8:2FTS	125%		20-180%
	13C3-HFPO-DA	105%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2305W4		
Lab Sample ID:	FC6445-3	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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	6Q18715.D	1	06/02/23 00:47	MV	05/31/23 13:00	OP97143	S6Q280
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	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	4.3	7.1	1.8	0.84	ng/l	J
307-24-4	Perfluorohexanoic acid	2.6	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.8	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.89 U	3.6	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	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	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	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	7.0	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	3.6	1.8	0.60	ng/l	
31506-32-8	MeFOSA	3.6 U	7.1	3.6	0.89	ng/l	
4151-50-2	EtFOSA	3.6 U	7.1	3.6	0.89	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2305W4		
Lab Sample ID:	FC6445-3	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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	3.6 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	18 U	36	18	3.9	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.6	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.89	ng/l	
919005-14-4	ADONA	3.6 U	7.1	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.1	1.8	0.89	ng/l	
863090-89-5	PFMBA	3.6 U	7.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.1	3.6	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.1	3.6	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.1	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.1	1.8	0.70	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	8.9 U	18	8.9	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	89	18	7.8	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	89	18	7.0	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	93%		20-150%
	13C5-PFPeA	103%		20-150%
	13C5-PFHxA	107%		20-150%
	13C4-PFHpA	114%		20-150%
	13C8-PFOA	114%		20-150%
	13C9-PFNA	100%		20-150%
	13C6-PFDA	106%		20-150%
	13C7-PFUnDA	92%		20-150%
	13C2-PFDoDA	81%		20-150%
	13C2-PFTeDA	73%		20-150%
	13C3-PFBS	113%		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-RHMW03-WGN01LF-2305W4		Date Sampled:	05/26/23
Lab Sample ID:	FC6445-3		Date Received:	05/27/23
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	96%		20-150%
	13C8-FOSA	83%		20-150%
	d3-MeFOSA	76%		20-150%
	d5-EtFOSA	78%		20-150%
	d3-MeFOSAA	97%		20-150%
	d5-EtFOSAA	90%		20-150%
	d7-MeFOSE	73%		20-150%
	d9-EtFOSE	80%		20-150%
	13C2-4:2FTS	106%		20-180%
	13C2-6:2FTS	98%		20-180%
	13C2-8:2FTS	100%		20-180%
	13C3-HFPO-DA	102%		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-2305W4		
Lab Sample ID:	FC6445-4	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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	6Q19266.D	1	06/12/23 21:51	MV	06/09/23 11:30	OP97275	S6Q287
Run #2 ^a	6Q19267.D	1	06/12/23 22:05	MV	06/09/23 11:30	OP97275	S6Q287

Run #	Initial Volume	Final Volume
Run #1	510 ml	5.0 ml
Run #2	60.0 ml	5.0 ml

CAS No. Compound Result LOQ LOD DL Units Q

PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	33 U ^b	130	33	16	ng/l
2706-90-3	Perfluoropentanoic acid	2.0 U	7.8	2.0	0.92	ng/l
307-24-4	Perfluorohexanoic acid	2.0 U	3.9	2.0	0.49	ng/l
375-85-9	Perfluoroheptanoic acid	2.0 U	3.9	2.0	0.49	ng/l
335-67-1	Perfluorooctanoic acid	0.98 U	3.9	0.98	0.49	ng/l
375-95-1	Perfluorononanoic acid	2.0 U	3.9	2.0	0.60	ng/l
335-76-2	Perfluorodecanoic acid	2.0 U	3.9	2.0	0.49	ng/l
2058-94-8	Perfluoroundecanoic acid	2.0 U	3.9	2.0	0.59	ng/l
307-55-1	Perfluorododecanoic acid	2.0 U	3.9	2.0	0.59	ng/l
72629-94-8	Perfluorotridecanoic acid	2.0 U	3.9	2.0	0.82	ng/l
376-06-7	Perfluorotetradecanoic acid	2.0 U	3.9	2.0	0.49	ng/l

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	2.0 U	3.9	2.0	0.49	ng/l
2706-91-4	Perfluoropentanesulfonic acid	3.9 U	4.9	3.9	1.1	ng/l
355-46-4	Perfluorohexanesulfonic acid	2.0 U	3.9	2.0	0.69	ng/l
375-92-8	Perfluoroheptanesulfonic acid	2.0 U	3.9	2.0	0.49	ng/l
1763-23-1	Perfluorooctanesulfonic acid	2.0 U	3.9	2.0	0.53	ng/l
68259-12-1	Perfluorononanesulfonic acid	2.0 U	3.9	2.0	0.56	ng/l
335-77-3	Perfluorodecanesulfonic acid ^c	2.0 U	3.9	2.0	0.63	ng/l
79780-39-5	Perfluorododecanesulfonic aci	3.9 U	4.9	3.9	1.1	ng/l

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.8 U	20	7.8	3.2	ng/l
27619-97-2	6:2 Fluorotelomer sulfonate	7.8 U	20	7.8	3.4	ng/l
39108-34-4	8:2 Fluorotelomer sulfonate	7.8 U	20	7.8	4.0	ng/l

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	2.0 U	3.9	2.0	0.66	ng/l
31506-32-8	MeFOSA	3.9 U	7.8	3.9	0.98	ng/l
4151-50-2	EtFOSA	3.9 U	7.8	3.9	0.98	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-WGN01LF-2305W4		
Lab Sample ID:	FC6445-4	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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 ^c	3.9 U	4.9	3.9	0.98	ng/l	
2991-50-6	EtFOSAA	3.9 U	4.9	3.9	1.3	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	20 U	39	20	4.3	ng/l	
1691-99-2	EtFOSE	20 U	39	20	7.3	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	2.0 U	3.9	2.0	0.98	ng/l	
919005-14-4	ADONA	3.9 U	7.8	3.9	1.8	ng/l	
377-73-1	PFMPA	2.0 U	7.8	2.0	0.98	ng/l	
863090-89-5	PFMBA	3.9 U	7.8	3.9	1.1	ng/l	
151772-58-6	NFDHA	3.9 U	7.8	3.9	1.2	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.9 U	7.8	3.9	1.4	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.9 U	7.8	3.9	1.7	ng/l	
113507-82-7	PFEESA ^c	2.0 U	7.8	2.0	0.76	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylat ^d	9.8 U	20	9.8	4.4	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	20 U	98	20	8.6	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	20 U	98	20	7.7	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	4% ^e	117%	20-150%
	13C5-PFPeA	29%	111%	20-150%
	13C5-PFHxA	99%	107%	20-150%
	13C4-PFHpA	107%	111%	20-150%
	13C8-PFOA	110%	125%	20-150%
	13C9-PFNA	119%	135%	20-150%
	13C6-PFDA	120%	107%	20-150%
	13C7-PFUnDA	107%	104%	20-150%
	13C2-PFDoDA	95%	98%	20-150%
	13C2-PFTeDA	82%	86%	20-150%
	13C3-PFBS	117%	120%	20-150%
	13C3-PFHxS	130%	118%	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-RHMW17D-WGN01LF-2305W4		Date Sampled: 05/26/23
Lab Sample ID: FC6445-4		Date Received: 05/27/23
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	108%	88%	20-150%
	13C8-FOSA	86%	77%	20-150%
	d3-MeFOSA	89%	78%	20-150%
	d5-EtFOSA	93%	76%	20-150%
	d3-MeFOSAA	115%	94%	20-150%
	d5-EtFOSAA	122%	88%	20-150%
	d7-MeFOSE	66%	66%	20-150%
	d9-EtFOSE	75%	68%	20-150%
	13C2-4:2FTS	158%	135%	20-180%
	13C2-6:2FTS	111%	133%	20-180%
	13C2-8:2FTS	121%	112%	20-180%
	13C3-HFPO-DA	91%	110%	20-150%

- (a) Dilution required (ID recovery standard failure).
- (b) Result is from Run# 2
- (c) Associated Low Level CCV outside of control limits high, sample was ND.
- (d) Associated BS recovery outside control limits.
- (e) Outside control limits.

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2305W4		
Lab Sample ID:	FC6445-5	Date Sampled:	05/26/23
Matrix:	AQ - Field Blank Water	Date Received:	05/27/23
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	6Q18717.D	1	06/02/23 01:15	MV	05/31/23 13:00	OP97143	S6Q280
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	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.7	1.9	0.90	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
335-67-1	Perfluorooctanoic acid	0.96 U	3.8	0.96	0.48	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.8	1.9	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	3.8	1.9	0.67	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.52	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.8	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	3.8	1.9	0.64	ng/l	
31506-32-8	MeFOSA	3.8 U	7.7	3.8	0.96	ng/l	
4151-50-2	EtFOSA	3.8 U	7.7	3.8	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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2305W4		
Lab Sample ID:	FC6445-5	Date Sampled:	05/26/23
Matrix:	AQ - Field Blank Water	Date Received:	05/27/23
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	19 U	38	19	4.2	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.1	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.96	ng/l	
919005-14-4	ADONA	3.8 U	7.7	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.7	1.9	0.96	ng/l	
863090-89-5	PFMBA	3.8 U	7.7	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.7	3.8	1.2	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.7	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.7	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	7.7	1.9	0.75	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.6 U	19	9.6	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	96	19	8.4	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	96	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	109%		20-150%
	13C5-PFPeA	107%		20-150%
	13C5-PFHxA	104%		20-150%
	13C4-PFHpA	108%		20-150%
	13C8-PFOA	114%		20-150%
	13C9-PFNA	105%		20-150%
	13C6-PFDA	117%		20-150%
	13C7-PFUnDA	113%		20-150%
	13C2-PFDoDA	104%		20-150%
	13C2-PFTeDA	92%		20-150%
	13C3-PFBS	109%		20-150%
	13C3-PFHxS	105%		20-150%

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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2305W4		
Lab Sample ID:	FC6445-5	Date Sampled:	05/26/23
Matrix:	AQ - Field Blank Water	Date Received:	05/27/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	108%		20-150%
	13C8-FOSA	97%		20-150%
	d3-MeFOSA	101%		20-150%
	d5-EtFOSA	110%		20-150%
	d3-MeFOSAA	109%		20-150%
	d5-EtFOSAA	110%		20-150%
	d7-MeFOSE	104%		20-150%
	d9-EtFOSE	109%		20-150%
	13C2-4:2FTS	110%		20-180%
	13C2-6:2FTS	117%		20-180%
	13C2-8:2FTS	111%		20-180%
	13C3-HFPO-DA	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-RHMW17S-WGN01LF-2305W4		
Lab Sample ID:	FC6445-6	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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	6Q18718.D	1	06/02/23 01:30	MV	05/31/23 13:00	OP97143	S6Q280
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	14	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.0	1.8	0.82	ng/l	
307-24-4	Perfluorohexanoic acid	2.0	3.5	1.8	0.44	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.0	3.5	1.8	0.44	ng/l	J
335-67-1	Perfluorooctanoic acid	0.93	3.5	0.88	0.44	ng/l	J
375-95-1	Perfluorononanoic acid	1.8 U	3.5	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.5	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.73	3.5	1.8	0.44	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.5	1.8	0.61	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.5	1.8	0.44	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.2	3.5	1.8	0.47	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.5	1.8	0.50	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.5	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	4.1	18	7.0	3.0	ng/l	J
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	3.5	1.8	0.59	ng/l	
31506-32-8	MeFOSA	3.5 U	7.0	3.5	0.88	ng/l	
4151-50-2	EtFOSA	3.5 U	7.0	3.5	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

4.6
4

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2305W4		
Lab Sample ID:	FC6445-6	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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	18 U	35	18	3.8	ng/l	
1691-99-2	EtFOSE	18 U	35	18	6.5	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.5	1.8	0.88	ng/l	
919005-14-4	ADONA	3.5 U	7.0	3.5	1.6	ng/l	
377-73-1	PFMPA	1.8 U	7.0	1.8	0.88	ng/l	
863090-89-5	PFMBA	3.5 U	7.0	3.5	1.0	ng/l	
151772-58-6	NFDHA	3.5 U	7.0	3.5	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.5 U	7.0	3.5	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.5 U	7.0	3.5	1.5	ng/l	
113507-82-7	PFEESA	1.8 U	7.0	1.8	0.68	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	8.8 U	18	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	88	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	88	18	6.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	33%		20-150%
	13C5-PFPeA	97%		20-150%
	13C5-PFHxA	111%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	113%		20-150%
	13C9-PFNA	115%		20-150%
	13C6-PFDA	107%		20-150%
	13C7-PFUnDA	104%		20-150%
	13C2-PFDoDA	92%		20-150%
	13C2-PFTeDA	76%		20-150%
	13C3-PFBS	102%		20-150%
	13C3-PFHxS	97%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2305W4		
Lab Sample ID:	FC6445-6	Date Sampled:	05/26/23
Matrix:	AQ - Ground Water	Date Received:	05/27/23
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	105%		20-150%
	d3-MeFOSA	95%		20-150%
	d5-EtFOSA	95%		20-150%
	d3-MeFOSAA	113%		20-150%
	d5-EtFOSAA	108%		20-150%
	d7-MeFOSE	95%		20-150%
	d9-EtFOSE	100%		20-150%
	13C2-4:2FTS	115%		20-180%
	13C2-6:2FTS	102%		20-180%
	13C2-8:2FTS	92%		20-180%
	13C3-HFPO-DA	97%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2305W4		
Lab Sample ID:	FC6445-7	Date Sampled:	05/26/23
Matrix:	AQ - Equipment Blank	Date Received:	05/27/23
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	6Q18719.D	1	06/02/23 01:44	MV	05/31/23 13:00	OP97143	S6Q280
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	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.1	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.89 U	3.6	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	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	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	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	7.1 U	18	7.1	3.1	ng/l	
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	3.6	1.8	0.60	ng/l	
31506-32-8	MeFOSA	3.6 U	7.1	3.6	0.89	ng/l	
4151-50-2	EtFOSA	3.6 U	7.1	3.6	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

4.7
4

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2305W4	
Lab Sample ID:	FC6445-7	Date Sampled: 05/26/23
Matrix:	AQ - Equipment Blank	Date Received: 05/27/23
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	3.6 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	18 U	36	18	3.9	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.6	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.89	ng/l	
919005-14-4	ADONA	3.6 U	7.1	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.1	1.8	0.89	ng/l	
863090-89-5	PFMBA	3.6 U	7.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.1	3.6	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.1	3.6	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.1	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.1	1.8	0.70	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	8.9 U	18	8.9	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	89	18	7.8	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	89	18	7.0	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	111%		20-150%
	13C5-PFPeA	109%		20-150%
	13C5-PFHxA	108%		20-150%
	13C4-PFHpA	112%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	113%		20-150%
	13C6-PFDA	115%		20-150%
	13C7-PFUnDA	108%		20-150%
	13C2-PFDoDA	104%		20-150%
	13C2-PFTeDA	100%		20-150%
	13C3-PFBS	106%		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

4.7
4

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2305W4		Date Sampled:	05/26/23
Lab Sample ID:	FC6445-7		Date Received:	05/27/23
Matrix:	AQ - Equipment Blank		Percent Solids:	n/a
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
Project:	N6274223F0104 RH Fire Suppression System			

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	106%		20-150%
	13C8-FOSA	103%		20-150%
	d3-MeFOSA	95%		20-150%
	d5-EtFOSA	105%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	102%		20-150%
	d7-MeFOSE	104%		20-150%
	d9-EtFOSE	107%		20-150%
	13C2-4:2FTS	111%		20-180%
	13C2-6:2FTS	119%		20-180%
	13C2-8:2FTS	105%		20-180%
	13C3-HFPO-DA	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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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



SGS North America Inc - Orlando
Chain of Custody

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

FC6445
SGS - ORLANDO JOB # :

COC #: 2305W4AFSG01

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="float: right; text-align: right;"> <p>5-26-23</p> </div>													DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge CI - 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 Lanij Email: watson.lanij@aecom.com Phone #: 303-796-4624 / 808-954-4512			Project # 60697810																
Sampler(s) Name(s) (Printed) Sampler 1: <i>Christina</i> Sampler 2: <i>Matt</i>			Client Purchase Order #			PFAS EPA Draft 1633 INITIAL ASSESSMENT LABEL VERIFICATION													LAB USE ONLY
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION													LAB USE ONLY	
		DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	PHONE	ICI	INCH	INCH3	RESQ4	NACH-25/AC	IN WATER	MICH				
	AF-RHMW02-WGN01LF-2305W4	5-26-23	1005	<i>Christina</i>	GW	3	X												
Turnaround Time (Business days)			Data Deliverable Information			Comments / Remarks													
10 Day (Business)	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 AWR 016-94067613													
7 Day																			
5 Day																			
3 Day RUSH																			
2 Day RUSH																			
1 Day RUSH																			
Other																			
Rush T/A Data Available VIA Email or Lablink													Sample Custody must be documented below each time samples change possession, including courier delivery.						
Relinquished by Sampler/Affiliation		Date Time:	Received By/Affiliation		Date Time:	Relinquished By/Affiliation		Date Time:	Received By/Affiliation		Date Time:	Received By/Affiliation		Date Time:					
<i>Christina AECOM</i>		5-26-23 13:30	<i>AME D. AECOM</i>		5-26-23 14:00	<i>AME AECOM</i>		5-26-23 14:00	<i>[Signature]</i>		5-26-23 15:00	<i>[Signature]</i>		5-26-23 15:00					
Relinquished by/Affiliation		Date Time:	Received By/Affiliation		Date Time:	Relinquished By/Affiliation		Date Time:	Received By/Affiliation		Date Time:	Received By/Affiliation		Date Time:					
5			6			7			8			9							
Lab Use Only : Cooler Temperature (s) Celsius (corrected): <i>2.800</i>													http://www.sgs.com/en/terms-and-conditions						

PFAS_COCs_ALL.xls Rev 031318

FC6445: Chain of Custody

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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 CI - 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: Anthony L Sampler 2:			Client Purchase Order #			SGS ORLANDO Quote #			SKIFF #						
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION								LAB USE ONLY		
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	PLUME	PC	INCH	PAGE	PERCK		NAOH/2NAC	BY WATER
2	AF-RHMW17-WGND1LF-2305W4	5/26/23	1100	AL	GW	3		X							
Turnaround Time (Business days)			Data Deliverable Information						Comments / Remarks						
<input type="checkbox"/> 10 Day (Business) <input type="checkbox"/> 7 Day <input checked="" type="checkbox"/> 5 Day <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> 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 AIRS 016-94667613						
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						
Anthony Laycock AECOM		5/26/23	Alex Edwards AECOM			Alex Edwards AECOM		5/26/23	Alex Edwards AECOM						
5			6			7			8						
Lab Use Only : Cooler Temperature (s) Celsius (corrected):			http://www.sgs.com/en/terms-and-conditions												

5.1
5



Chain of Custody

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

Form containing Client/Reporting Information, Project Information, Analytical Information, Matrix Codes, and Turnaround Time sections. Includes handwritten data for sample 3 at 5/26/23, 1145.

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FC6445: Chain of Custody

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Handwritten notes and signatures at the bottom right of the form.



Chain of Custody

SGS - ORLANDO JOB # :

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 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 #														
Sample(s) Name(s) (Printed) Sampler 1: Anthony L Sampler 2:			Client Purchase Order #			PFAS EPA Draft 1633												
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	ROSE	PCB	NO3	NO2	PHOS	AMMONIUM	DI WATER	WICH	LAB USE ONLY		
4	AF-RHMMW17D-WGN01LF-2305W4	5/26/23	1220	AL	GW	3		X								X		
5	AF-RHMMW17D-WQFB01-2305W4	5/26/23	1140	AL	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 UNTESTED ALWB 016-94667613												
Rush T/A Data Available VIA Email or Lablink																		
Sample Custody must be documented below each time samples change possession, including courier delivery.																		
Relinquished by Sampler/Affiliation 1 Anthony Laycock/AECom		Date Time: 1715 5/26/23		Received By/Affiliation 2 Alex Edmonds/AECom			Relinquished By/Affiliation 3 Alex Edmonds/AECom		Date Time: 5/26/23		Received By/Affiliation 4 [Signature]					Date Time: 5/27/23		
Relinquished by/Affiliation 5		Date Time:		Received By/Affiliation 6			Relinquished By/Affiliation 7		Date Time:		Received By/Affiliation 8					Date Time:		
Lab Use Only : Cooler Temperature (s) Celsius (corrected):															http://www.sgs.com/en/terms-and-conditions			

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SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL: 407-425-4900 FAX: 407-425-0707
www.sgs.com

FC6445

COC #: 2305W4AFSG12

SGS - ORLANDO JOB # :

PAGE 1 OF 1

Client / Reporting Information		Project Information		Analytical Information												Matrix Codes				
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System														DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe				
Address: 1001 Bishop St. ste 1600		Street																		
City: Honolulu State: HI Zip: 96813		City: Honolulu State: Hawaii																		
Project Contact: Katie Abbott Email: katie.abbott@aecom.com		Project # 60697810																		
Project Manager: Watson Tani Email: watson.tani@aecom.com		Fax #																		
Sampler(s) Name(s) (Printed) Sampler 1: Anthony L. Sampler 2:		Client Purchase Order #		PFAS EPA Draft 1633																
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	PC1	NACH	INCH	INCH	INCH	INCH	INCH	INCH	INCH	INCH	LAB USE ONLY	
6	AF-RHMM17S-WGN01LF-2305W4	5/26/23	1538	AL	GW	3			X										X	
7	AF-RHMM17S-WQEB01-2305W4	5/26/23	1605	AL	GW	3			X										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 AIR 016-94667613												
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:		Received By/Affiliation		Date Time:		
1 Anthony Laycock AECOM		5/26/23		2 Alex Edwards AFEOM		5/26/23		3 Alex Edwards		5/26/23		4 [Signature]		5/26/23		5 [Signature]		5/26/23		
5				6				7				8								
Lab Use Only: Cooler Temperature (s) Celsius (corrected): _____																				

PFAS_COCs_ALL.xls Rev 031318

FC6445: Chain of Custody

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SGS Sample Receipt Summary

Job Number: FC6445

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 5/27/2023 3:00:00 PM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-94667613

Therm ID: IR 1;

Therm CF: -0.1;

of Coolers: 1

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

Cooler Temps (Corrected) °C: Cooler 1: (2.7);

Cooler Information

Y or N

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

Trip Blank Information

Y or N N/A

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

Sample Information

Y or N N/A

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

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____
 Test Strip Lot #'s: pH 0-3 230320 pH 10-12 _____ Other: (Specify) pH 1.0 - 12.0 222221
 Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: NATHANS

Date: 5/27/2023 3:00:00 PM

Reviewer: CD

Date: 5/31/2023

FC6445: Chain of Custody

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QC Evaluation: DOD QSM5.x Limits

Job Number: FC6445
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/26/23

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 FC6445

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: FC6445
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-IBLK	6Q18677.D	1	06/01/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-IBLK	6Q18677.D	1	06/01/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	101% 20-150%
	13C5-PFHxA	104% 20-150%
	13C4-PFHpA	105% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	104% 20-150%
	13C6-PFDA	102% 20-150%
	13C7-PFUnDA	97% 20-150%
	13C2-PFDoDA	95% 20-150%
	13C2-PFTeDA	100% 20-150%
	13C3-PFBS	93% 20-150%
	13C3-PFHxS	96% 20-150%
	13C8-PFOS	98% 20-150%
	13C8-FOSA	100% 20-150%
	d3-MeFOSA	100% 20-150%
	d5-EtFOSA	104% 20-150%
	d3-MeFOSAA	107% 20-150%
	d5-EtFOSAA	107% 20-150%
	d7-MeFOSE	103% 20-150%
	d9-EtFOSE	105% 20-150%
	13C2-4:2FTS	106% 20-180%
	13C2-6:2FTS	104% 20-180%
	13C2-8:2FTS	105% 20-180%
	13C3-HFPO-DA	102% 20-150%

6.1.1
6

Instrument Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-IBLK	6Q18782.D	1	06/02/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-IBLK	6Q18782.D	1	06/02/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	104% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	97% 20-150%
	13C9-PFNA	94% 20-150%
	13C6-PFDA	110% 20-150%
	13C7-PFUnDA	107% 20-150%
	13C2-PFDoDA	109% 20-150%
	13C2-PFTeDA	105% 20-150%
	13C3-PFBS	103% 20-150%
	13C3-PFHxS	105% 20-150%
	13C8-PFOS	96% 20-150%
	13C8-FOSA	101% 20-150%
	d3-MeFOSA	99% 20-150%
	d5-EtFOSA	102% 20-150%
	d3-MeFOSAA	103% 20-150%
	d5-EtFOSAA	107% 20-150%
	d7-MeFOSE	103% 20-150%
	d9-EtFOSE	104% 20-150%
	13C2-4:2FTS	120% 20-180%
	13C2-6:2FTS	115% 20-180%
	13C2-8:2FTS	114% 20-180%
	13C3-HFPO-DA	103% 20-150%

6.12
6

Instrument Blank

Job Number: FC6445
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-IBLK	6Q19248.D	1	06/12/23	MV	n/a	n/a	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-IBLK	6Q19248.D	1	06/12/23	MV	n/a	n/a	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	97% 20-150%
	13C5-PFHxA	99% 20-150%
	13C4-PFHpA	100% 20-150%
	13C8-PFOA	97% 20-150%
	13C9-PFNA	100% 20-150%
	13C6-PFDA	100% 20-150%
	13C7-PFUnDA	89% 20-150%
	13C2-PFDoDA	93% 20-150%
	13C2-PFTeDA	91% 20-150%
	13C3-PFBS	103% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	102% 20-150%
	13C8-FOSA	101% 20-150%
	d3-MeFOSA	103% 20-150%
	d5-EtFOSA	107% 20-150%
	d3-MeFOSAA	99% 20-150%
	d5-EtFOSAA	109% 20-150%
	d7-MeFOSE	100% 20-150%
	d9-EtFOSE	95% 20-150%
	13C2-4:2FTS	121% 20-180%
	13C2-6:2FTS	122% 20-180%
	13C2-8:2FTS	118% 20-180%
	13C3-HFPO-DA	93% 20-150%

6.1.3

6

Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-ICCB	6Q18712.D	1	06/02/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-ICCB	6Q18712.D	1	06/02/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	101% 20-150%
	13C5-PFPeA	99% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	105% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	94% 20-150%
	13C6-PFDA	103% 20-150%
	13C7-PFUnDA	101% 20-150%
	13C2-PFDoDA	107% 20-150%
	13C2-PFTeDA	108% 20-150%
	13C3-PFBS	98% 20-150%
	13C3-PFHxS	96% 20-150%
	13C8-PFOS	97% 20-150%
	13C8-FOSA	96% 20-150%
	d3-MeFOSA	96% 20-150%
	d5-EtFOSA	99% 20-150%
	d3-MeFOSAA	102% 20-150%
	d5-EtFOSAA	104% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	98% 20-150%
	13C2-4:2FTS	106% 20-180%
	13C2-6:2FTS	101% 20-180%
	13C2-8:2FTS	106% 20-180%
	13C3-HFPO-DA	104% 20-150%

Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-ICCB	6Q19262.D	1	06/12/23	MV	n/a	n/a	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-ICCB	6Q19262.D	1	06/12/23	MV	n/a	n/a	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits	
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	98%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	96%	20-150%
	13C9-PFNA	109%	20-150%
	13C6-PFDA	101%	20-150%
	13C7-PFUnDA	100%	20-150%
	13C2-PFDoDA	96%	20-150%
	13C2-PFTeDA	96%	20-150%
	13C3-PFBS	109%	20-150%
	13C3-PFHxS	108%	20-150%
	13C8-PFOS	104%	20-150%
	13C8-FOSA	100%	20-150%
	d3-MeFOSA	96%	20-150%
	d5-EtFOSA	99%	20-150%
	d3-MeFOSAA	105%	20-150%
	d5-EtFOSAA	101%	20-150%
	d7-MeFOSE	100%	20-150%
	d9-EtFOSE	86%	20-150%
	13C2-4:2FTS	128%	20-180%
	13C2-6:2FTS	124%	20-180%
	13C2-8:2FTS	112%	20-180%
	13C3-HFPO-DA	96%	20-150%

Method Blank Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97143-MB	6Q18703.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97143-MB	6Q18703.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	117% 20-150%
	13C5-PFPeA	121% 20-150%
	13C5-PFHxA	120% 20-150%
	13C4-PFHpA	126% 20-150%
	13C8-PFOA	123% 20-150%
	13C9-PFNA	110% 20-150%
	13C6-PFDA	116% 20-150%
	13C7-PFUnDA	121% 20-150%
	13C2-PFDoDA	118% 20-150%
	13C2-PFTeDA	117% 20-150%
	13C3-PFBS	116% 20-150%
	13C3-PFHxS	113% 20-150%
	13C8-PFOS	115% 20-150%
	13C8-FOSA	86% 20-150%
	d3-MeFOSA	94% 20-150%
	d5-EtFOSA	105% 20-150%
	d3-MeFOSAA	125% 20-150%
	d5-EtFOSAA	118% 20-150%
	d7-MeFOSE	83% 20-150%
	d9-EtFOSE	100% 20-150%
	13C2-4:2FTS	122% 20-180%
	13C2-6:2FTS	125% 20-180%
	13C2-8:2FTS	127% 20-180%
	13C3-HFPO-DA	123% 20-150%

6.1.6

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Method Blank Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-MB	6Q19265.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-MB	6Q19265.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	105% 20-150%
	13C5-PFPeA	101% 20-150%
	13C5-PFHxA	99% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	103% 20-150%
	13C9-PFNA	116% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	101% 20-150%
	13C2-PFDoDA	99% 20-150%
	13C2-PFTeDA	86% 20-150%
	13C3-PFBS	97% 20-150%
	13C3-PFHxS	97% 20-150%
	13C8-PFOS	101% 20-150%
	13C8-FOSA	76% 20-150%
	d3-MeFOSA	72% 20-150%
	d5-EtFOSA	81% 20-150%
	d3-MeFOSAA	104% 20-150%
	d5-EtFOSAA	92% 20-150%
	d7-MeFOSE	58% 20-150%
	d9-EtFOSE	68% 20-150%
	13C2-4:2FTS	119% 20-180%
	13C2-6:2FTS	119% 20-180%
	13C2-8:2FTS	99% 20-180%
	13C3-HFPO-DA	95% 20-150%

6.1.7

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Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-ICCB	6Q18700.D	1	06/01/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97143-BS, OP97143-LLBS, OP97143-MB, OP97143-MS, OP97143-MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-ICCB	6Q18700.D	1	06/01/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97143-BS, OP97143-LLBS, OP97143-MB, OP97143-MS, OP97143-MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	99% 20-150%
	13C5-PFHxA	101% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	102% 20-150%
	13C9-PFNA	92% 20-150%
	13C6-PFDA	99% 20-150%
	13C7-PFUnDA	102% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	99% 20-150%
	13C3-PFBS	103% 20-150%
	13C3-PFHxS	97% 20-150%
	13C8-PFOS	103% 20-150%
	13C8-FOSA	103% 20-150%
	d3-MeFOSA	98% 20-150%
	d5-EtFOSA	102% 20-150%
	d3-MeFOSAA	107% 20-150%
	d5-EtFOSAA	110% 20-150%
	d7-MeFOSE	109% 20-150%
	d9-EtFOSE	105% 20-150%
	13C2-4:2FTS	113% 20-180%
	13C2-6:2FTS	116% 20-180%
	13C2-8:2FTS	108% 20-180%
	13C3-HFPO-DA	104% 20-150%

6.1.8

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Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-ICCB	6Q18778.D	1	06/02/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q280-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q280-ICCB	6Q18778.D	1	06/02/23	MV	n/a	n/a	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q280-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	105% 20-150%
	13C5-PFHxA	104% 20-150%
	13C4-PFHpA	109% 20-150%
	13C8-PFOA	104% 20-150%
	13C9-PFNA	94% 20-150%
	13C6-PFDA	97% 20-150%
	13C7-PFUnDA	103% 20-150%
	13C2-PFDoDA	99% 20-150%
	13C2-PFTeDA	102% 20-150%
	13C3-PFBS	99% 20-150%
	13C3-PFHxS	98% 20-150%
	13C8-PFOS	102% 20-150%
	13C8-FOSA	101% 20-150%
	d3-MeFOSA	95% 20-150%
	d5-EtFOSA	101% 20-150%
	d3-MeFOSAA	108% 20-150%
	d5-EtFOSAA	111% 20-150%
	d7-MeFOSE	102% 20-150%
	d9-EtFOSE	97% 20-150%
	13C2-4:2FTS	113% 20-180%
	13C2-6:2FTS	117% 20-180%
	13C2-8:2FTS	111% 20-180%
	13C3-HFPO-DA	108% 20-150%

Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-ICCB	6Q19273.D	1	06/12/23	MV	n/a	n/a	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97275-DUP

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	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	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	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	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q287-ICCB	6Q19273.D	1	06/12/23	MV	n/a	n/a	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97275-DUP

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits	
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	96%	20-150%
	13C5-PFHxA	92%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	100%	20-150%
	13C9-PFNA	96%	20-150%
	13C6-PFDA	100%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	98%	20-150%
	13C2-PFTeDA	88%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	102%	20-150%
	13C8-PFOS	97%	20-150%
	13C8-FOSA	100%	20-150%
	d3-MeFOSA	91%	20-150%
	d5-EtFOSA	97%	20-150%
	d3-MeFOSAA	102%	20-150%
	d5-EtFOSAA	94%	20-150%
	d7-MeFOSE	86%	20-150%
	d9-EtFOSE	82%	20-150%
	13C2-4:2FTS	113%	20-180%
	13C2-6:2FTS	123%	20-180%
	13C2-8:2FTS	108%	20-180%
	13C3-HFPO-DA	90%	20-150%

6.1.10
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Blank Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97143-LLBS	6Q18702.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0329	110	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0168	112	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0086	115	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0078	104	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0081	108	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0085	113	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0081	108	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0080	107	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0079	105	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0075	100	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0081	108	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0071	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0079	112	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0077	112	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0072	101	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0073	105	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0075	104	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0072	99	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0071	98	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0308	110	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0314	110	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0324	113	40-150
754-91-6	PFOSA	0.0075	0.0085	113	40-150
31506-32-8	MeFOSA	0.015	0.0172	115	40-150
4151-50-2	EtFOSA	0.015	0.0146	97	40-150
2355-31-9	MeFOSAA	0.0075	0.0085	113	40-150
2991-50-6	EtFOSAA	0.0075	0.0082	109	40-150
24448-09-7	MeFOSE	0.0375	0.0393	105	40-150
1691-99-2	EtFOSE	0.0375	0.0389	104	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0169	113	40-150
919005-14-4	ADONA	0.0142	0.0160	113	40-150
377-73-1	PFMPA	0.015	0.0172	115	40-150
863090-89-5	PFMBA	0.015	0.0172	115	40-150
151772-58-6	NFDHA	0.015	0.0175	117	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0151	108	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0149	105	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97143-LLBS	6Q18702.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0147	110	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0387	103	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.197	105	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.201	107	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	107%	20-150%
	13C5-PFPeA	106%	20-150%
	13C5-PFHxA	106%	20-150%
	13C4-PFHpA	111%	20-150%
	13C8-PFOA	106%	20-150%
	13C9-PFNA	102%	20-150%
	13C6-PFDA	118%	20-150%
	13C7-PFUnDA	114%	20-150%
	13C2-PFDoDA	113%	20-150%
	13C2-PFTeDA	109%	20-150%
	13C3-PFBS	108%	20-150%
	13C3-PFHxS	104%	20-150%
	13C8-PFOS	114%	20-150%
	13C8-FOSA	99%	20-150%
	d3-MeFOSA	94%	20-150%
	d5-EtFOSA	105%	20-150%
	d3-MeFOSAA	118%	20-150%
	d5-EtFOSAA	121%	20-150%
	d7-MeFOSE	90%	20-150%
	d9-EtFOSE	100%	20-150%
	13C2-4:2FTS	115%	20-180%
	13C2-6:2FTS	118%	20-180%
	13C2-8:2FTS	114%	20-180%
	13C3-HFPO-DA	108%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-LLBS	6Q19264.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0264	88	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0129	86	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0068	91	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0060	80	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0083	111	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0061	81	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0059	79	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0071	95	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0063	84	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0063	84	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0062	83	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0053	80	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0062	88	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0056	82	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0060	84	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0060	86	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0059	82	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0057	79	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0056	77	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0242	86	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0263	92	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0235	82	40-150
754-91-6	PFOSA	0.0075	0.0063	84	40-150
31506-32-8	MeFOSA	0.015	0.0134	89	40-150
4151-50-2	EtFOSA	0.015	0.0131	87	40-150
2355-31-9	MeFOSAA	0.0075	0.0067	89	40-150
2991-50-6	EtFOSAA	0.0075	0.0065	87	40-150
24448-09-7	MeFOSE	0.0375	0.0329	88	40-150
1691-99-2	EtFOSE	0.0375	0.0315	84	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0120	80	40-150
919005-14-4	ADONA	0.0142	0.0119	84	40-150
377-73-1	PFMPA	0.015	0.0127	85	40-150
863090-89-5	PFMBA	0.015	0.0126	84	40-150
151772-58-6	NFDHA	0.015	0.0134	89	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0111	79	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0115	81	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-LLBS	6Q19264.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0131	98	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0246	66	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.171	91	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.170	91	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	115%	20-150%
	13C5-PFPeA	113%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	114%	20-150%
	13C8-PFOA	122%	20-150%
	13C9-PFNA	116%	20-150%
	13C6-PFDA	130%	20-150%
	13C7-PFUnDA	114%	20-150%
	13C2-PFDoDA	115%	20-150%
	13C2-PFTeDA	106%	20-150%
	13C3-PFBS	113%	20-150%
	13C3-PFHxS	109%	20-150%
	13C8-PFOS	120%	20-150%
	13C8-FOSA	92%	20-150%
	d3-MeFOSA	81%	20-150%
	d5-EtFOSA	87%	20-150%
	d3-MeFOSAA	114%	20-150%
	d5-EtFOSAA	117%	20-150%
	d7-MeFOSE	68%	20-150%
	d9-EtFOSE	78%	20-150%
	13C2-4:2FTS	131%	20-180%
	13C2-6:2FTS	125%	20-180%
	13C2-8:2FTS	114%	20-180%
	13C3-HFPO-DA	116%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97143-BS	6Q18701.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.105	105	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0535	107	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0265	106	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0254	102	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0254	102	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0257	103	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0266	106	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0230	92	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0267	107	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0266	106	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0268	107	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0222	100	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0242	103	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0233	102	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0257	108	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0243	105	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0250	104	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0246	102	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0244	101	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.100	107	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.105	111	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.101	105	40-150
754-91-6	PFOSA	0.025	0.0253	101	40-150
31506-32-8	MeFOSA	0.05	0.0489	98	40-150
4151-50-2	EtFOSA	0.05	0.0479	96	40-150
2355-31-9	MeFOSAA	0.025	0.0255	102	40-150
2991-50-6	EtFOSAA	0.025	0.0247	99	40-150
24448-09-7	MeFOSE	0.125	0.126	101	40-150
1691-99-2	EtFOSE	0.125	0.123	98	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0514	103	40-150
919005-14-4	ADONA	0.0473	0.0527	112	40-150
377-73-1	PFMPA	0.05	0.0256	51	40-150
863090-89-5	PFMBA	0.05	0.0596	119	40-150
151772-58-6	NFDHA	0.05	0.0511	102	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0500	107	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0492	104	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97143-BS	6Q18701.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0479	108	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0669	54	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.614	98	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.659	105	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	24%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	114%	20-150%
	13C4-PFHpA	116%	20-150%
	13C8-PFOA	114%	20-150%
	13C9-PFNA	115%	20-150%
	13C6-PFDA	112%	20-150%
	13C7-PFUnDA	120%	20-150%
	13C2-PFDoDA	107%	20-150%
	13C2-PFTeDA	104%	20-150%
	13C3-PFBS	114%	20-150%
	13C3-PFHxS	112%	20-150%
	13C8-PFOS	106%	20-150%
	13C8-FOSA	96%	20-150%
	d3-MeFOSA	98%	20-150%
	d5-EtFOSA	99%	20-150%
	d3-MeFOSAA	114%	20-150%
	d5-EtFOSAA	117%	20-150%
	d7-MeFOSE	85%	20-150%
	d9-EtFOSE	96%	20-150%
	13C2-4:2FTS	118%	20-180%
	13C2-6:2FTS	116%	20-180%
	13C2-8:2FTS	118%	20-180%
	13C3-HFPO-DA	116%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-BS	6Q19263.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0892	89	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0448	90	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0239	96	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0212	85	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0256	102	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0214	86	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0188	75	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0216	86	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0243	97	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0222	89	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0226	90	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0204	92	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0209	89	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0192	84	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0205	86	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0209	90	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0211	88	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0226	94	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0193	80	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0859	92	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0985	104	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0865	90	40-150
754-91-6	PFOSA	0.025	0.0216	86	40-150
31506-32-8	MeFOSA	0.05	0.0459	92	40-150
4151-50-2	EtFOSA	0.05	0.0462	92	40-150
2355-31-9	MeFOSAA	0.025	0.0241	96	40-150
2991-50-6	EtFOSAA	0.025	0.0218	87	40-150
24448-09-7	MeFOSE	0.125	0.108	86	40-150
1691-99-2	EtFOSE	0.125	0.103	82	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0418	84	40-150
919005-14-4	ADONA	0.0473	0.0411	87	40-150
377-73-1	PFMPA	0.05	0.0243	49	40-150
863090-89-5	PFMBA	0.05	0.0463	93	40-150
151772-58-6	NFDHA	0.05	0.0437	87	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0400	86	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0387	82	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-BS	6Q19263.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0450	101	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0476	38*	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.595	95	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.562	90	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	30%	20-150%
	13C5-PFPeA	102%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	108%	20-150%
	13C8-PFOA	97%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	127%	20-150%
	13C7-PFUnDA	112%	20-150%
	13C2-PFDoDA	106%	20-150%
	13C2-PFTeDA	98%	20-150%
	13C3-PFBS	116%	20-150%
	13C3-PFHxS	117%	20-150%
	13C8-PFOS	108%	20-150%
	13C8-FOSA	86%	20-150%
	d3-MeFOSA	82%	20-150%
	d5-EtFOSA	81%	20-150%
	d3-MeFOSAA	109%	20-150%
	d5-EtFOSAA	105%	20-150%
	d7-MeFOSE	64%	20-150%
	d9-EtFOSE	73%	20-150%
	13C2-4:2FTS	135%	20-180%
	13C2-6:2FTS	119%	20-180%
	13C2-8:2FTS	120%	20-180%
	13C3-HFPO-DA	108%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-MS	6Q19269.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287
FC6649-1	6Q19268.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	FC6649-1 ug/l	Spike Q	MS ug/l	MS %	Limits	
375-22-4	Perfluorobutanoic acid	0.015 U		0.0909	0.0740	81	40-150
2706-90-3	Perfluoropentanoic acid	0.0074 U		0.0455	0.0392	86	40-150
307-24-4	Perfluorohexanoic acid	0.0037 U		0.0227	0.0190	84	40-150
375-85-9	Perfluoroheptanoic acid	0.0037 U		0.0227	0.0195	86	40-150
335-67-1	Perfluorooctanoic acid	0.0037 U		0.0227	0.0212	93	40-150
375-95-1	Perfluorononanoic acid	0.0037 U		0.0227	0.0188	83	40-150
335-76-2	Perfluorodecanoic acid	0.0037 U		0.0227	0.0184	81	40-150
2058-94-8	Perfluoroundecanoic acid	0.0037 U		0.0227	0.0215	95	40-150
307-55-1	Perfluorododecanoic acid	0.0037 U		0.0227	0.0198	87	40-150
72629-94-8	Perfluorotridecanoic acid	0.0037 U		0.0227	0.0181	80	40-150
376-06-7	Perfluorotetradecanoic acid	0.0037 U		0.0227	0.0200	88	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0037 U		0.0202	0.0173	86	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0046 U		0.0214	0.0196	92	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0037 U		0.0208	0.0188	91	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0037 U		0.0217	0.0191	88	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0037 U		0.0211	0.0191	91	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0037 U		0.0219	0.0193	88	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0037 U		0.0219	0.0167	76	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0046 U		0.022	0.0104	47	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.019 U		0.0852	0.0702	82	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0038 U	J	0.0864	0.0856	95	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		0.0873	0.0697	80	40-150
754-91-6	PFOSA	0.0037 U		0.0227	0.0202	89	40-150
31506-32-8	MeFOSA	0.0074 U		0.0455	0.0391	86	40-150
4151-50-2	EtFOSA	0.0074 U		0.0455	0.0395	87	40-150
2355-31-9	MeFOSAA	0.0046 U		0.0227	0.0223	98	40-150
2991-50-6	EtFOSAA	0.0046 U		0.0227	0.0197	87	40-150
24448-09-7	MeFOSE	0.037 U		0.114	0.103	91	40-150
1691-99-2	EtFOSE	0.037 U		0.114	0.101	89	40-150
13252-13-6	HFPO-DA (GenX)	0.0037 U		0.0455	0.0367	81	40-150
919005-14-4	ADONA	0.0074 U		0.043	0.0446	104	40-150
377-73-1	PFMPA	0.0074 U		0.0455	0.0106	23*	40-150
863090-89-5	PFMBA	0.0074 U		0.0455	0.0645	142	40-150
151772-58-6	NFDHA	0.0074 U		0.0455	0.0342	75	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074 U		0.0425	0.0448	105	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0074 U		0.043	0.0363	85	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-MS	6Q19269.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287
FC6649-1	6Q19268.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	FC6649-1 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0074 U	0.0405	0.0396	98	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	0.114	0.0230	20*	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.093 U	0.568	0.513	90	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.093 U	0.568	0.655	115	40-150

CAS No.	ID Standard Recoveries	MS	FC6649-1	Limits
	13C4-PFBA	4%* a	4%* a	20-150%
	13C5-PFPeA	26%	25%	20-150%
	13C5-PFHxA	98%	95%	20-150%
	13C4-PFHpA	107%	105%	20-150%
	13C8-PFOA	117%	115%	20-150%
	13C9-PFNA	105%	113%	20-150%
	13C6-PFDA	109%	107%	20-150%
	13C7-PFUnDA	97%	99%	20-150%
	13C2-PFDoDA	96%	102%	20-150%
	13C2-PFTeDA	70%	74%	20-150%
	13C3-PFBS	109%	105%	20-150%
	13C3-PFHxS	110%	109%	20-150%
	13C8-PFOS	100%	102%	20-150%
	13C8-FOSA	84%	91%	20-150%
	d3-MeFOSA	85%	87%	20-150%
	d5-EtFOSA	87%	98%	20-150%
	d3-MeFOSAA	114%	125%	20-150%
	d5-EtFOSAA	116%	126%	20-150%
	d7-MeFOSE	63%	69%	20-150%
	d9-EtFOSE	68%	73%	20-150%
	13C2-4:2FTS	149%	141%	20-180%
	13C2-6:2FTS	102%	97%	20-180%
	13C2-8:2FTS	114%	113%	20-180%
	13C3-HFPO-DA	90%	83%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97143-MS	6Q18706.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280
OP97143-MSD	6Q18707.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280
FC6205-1	6Q18705.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	FC6205-1 ug/l	Spike Q	ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
375-22-4	Perfluorobutanoic acid	0.0077	J	0.0943	0.114	113	0.0943	0.109	107	4	40-150/30
2706-90-3	Perfluoropentanoic acid	0.0265		0.0472	0.0804	114	0.0472	0.0769	107	4	40-150/30
307-24-4	Perfluorohexanoic acid	0.0180		0.0236	0.0449	114	0.0236	0.0424	103	6	40-150/30
375-85-9	Perfluoroheptanoic acid	0.0132		0.0236	0.0379	105	0.0236	0.0378	104	0	40-150/30
335-67-1	Perfluorooctanoic acid	0.0133		0.0236	0.0396	112	0.0236	0.0414	119	4	40-150/30
375-95-1	Perfluorononanoic acid	0.0034	J	0.0236	0.0298	112	0.0236	0.0302	114	1	40-150/30
335-76-2	Perfluorodecanoic acid	0.0039	U	0.0236	0.0292	124	0.0236	0.0254	108	14	40-150/30
2058-94-8	Perfluoroundecanoic acid	0.0039	U	0.0236	0.0279	118	0.0236	0.0264	112	6	40-150/30
307-55-1	Perfluorododecanoic acid	0.0039	U	0.0236	0.0263	112	0.0236	0.0237	100	10	40-150/30
72629-94-8	Perfluorotridecanoic acid	0.0039	U	0.0236	0.0260	110	0.0236	0.0225	95	14	40-150/30
376-06-7	Perfluorotetradecanoic acid	0.0039	U	0.0236	0.0300	127	0.0236	0.0267	113	12	40-150/30
375-73-5	Perfluorobutanesulfonic acid	0.0019	J	0.0209	0.0241	106	0.0209	0.0230	101	5	40-150/30
2706-91-4	Perfluoropentanesulfonic acid	0.0034	J	0.0222	0.0278	110	0.0222	0.0262	103	6	40-150/30
355-46-4	Perfluorohexanesulfonic acid	0.0350		0.0216	0.0575	104	0.0216	0.0574	104	0	40-150/30
375-92-8	Perfluoroheptanesulfonic acid	0.0012	J	0.0225	0.0286	122	0.0225	0.0249	105	14	40-150/30
1763-23-1	Perfluorooctanesulfonic acid	0.0551		0.0219	0.0866	144	0.0219	0.0813	120	6	40-150/30
68259-12-1	Perfluorononanesulfonic acid	0.0039	U	0.0227	0.0255	112	0.0227	0.0221	97	14	40-150/30
335-77-3	Perfluorodecanesulfonic acid	0.0039	U	0.0228	0.0253	111	0.0228	0.0221	97	14	40-150/30
79780-39-5	Perfluorododecanesulfonic aci	0.0049	U	0.0229	0.0250	109	0.0229	0.0228	100	9	40-150/30
757124-72-44:2	Fluorotelomer sulfonate	0.020	U	0.0884	0.103	116	0.0884	0.0948	107	8	40-150/30
27619-97-2	6:2 Fluorotelomer sulfonate	0.020	U	0.0896	0.105	117	0.0896	0.100	112	5	40-150/30
39108-34-4	8:2 Fluorotelomer sulfonate	0.020	U	0.0906	0.100	110	0.0906	0.0973	107	3	40-150/30
754-91-6	PFOSA	0.0033	J	0.0236	0.0339	130	0.0236	0.0295	111	14	40-150/30
31506-32-8	MeFOSA	0.0078	U	0.0472	0.0497	105	0.0472	0.0486	103	2	40-150/30
4151-50-2	EtFOSA	0.0078	U	0.0472	0.0456	97	0.0472	0.0448	95	2	40-150/30
2355-31-9	MeFOSAA	0.0049	U	0.0236	0.0276	117	0.0236	0.0268	114	3	40-150/30
2991-50-6	EtFOSAA	0.0049	U	0.0236	0.0259	110	0.0236	0.0285	121	10	40-150/30
24448-09-7	MeFOSE	0.039	U	0.118	0.128	109	0.118	0.118	100	8	40-150/30
1691-99-2	EtFOSE	0.039	U	0.118	0.122	103	0.118	0.119	101	2	40-150/30
13252-13-6	HFPO-DA (GenX)	0.0039	U	0.0472	0.0549	116	0.0472	0.0479	102	14	40-150/30
919005-14-4	ADONA	0.0078	U	0.0446	0.0511	115	0.0446	0.0471	106	8	40-150/30
377-73-1	PFMPA	0.0078	U	0.0472	0.0557	118	0.0472	0.0524	111	6	40-150/30
863090-89-5	PFMBA	0.0078	U	0.0472	0.0558	118	0.0472	0.0528	112	6	40-150/30
151772-58-6	NFDHA	0.0078	U	0.0472	0.0554	117	0.0472	0.0514	109	7	40-150/30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0078	U	0.0441	0.0482	109	0.0441	0.0427	97	12	40-150/30
763051-92-911	Cl-PF3OUdS (F-53B Minor)	0.0078	U	0.0446	0.0471	106	0.0446	0.0438	98	7	40-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97143-MS	6Q18706.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280
OP97143-MSD	6Q18707.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280
FC6205-1	6Q18705.D	1	06/01/23	MV	05/31/23	OP97143	S6Q280

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-1, FC6445-2, FC6445-3, FC6445-5, FC6445-6, FC6445-7

CAS No.	Compound	FC6205-1 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
113507-82-7	PFEESA	0.0078 U	0.042	0.0493	117	0.042	0.0464	111	6	40-150/30
356-02-5	3:3 Fluorotelomer carboxylate	0.020 U	0.118	0.114	97	0.118	0.105	89	8	40-150/30
914637-49-35:3	Fluorotelomer carboxylate	0.098 U	0.59	0.598	101	0.59	0.589	100	2	40-150/30
812-70-4	7:3 Fluorotelomer carboxylate	0.098 U	0.59	0.614	104	0.59	0.613	104	0	40-150/30

CAS No.	ID Standard Recoveries	MS	MSD	FC6205-1	Limits
	13C4-PFBA	103%	105%	106%	20-150%
	13C5-PFPeA	100%	105%	107%	20-150%
	13C5-PFHxA	100%	104%	111%	20-150%
	13C4-PFHpA	106%	106%	111%	20-150%
	13C8-PFOA	105%	103%	107%	20-150%
	13C9-PFNA	96%	99%	100%	20-150%
	13C6-PFDA	96%	98%	95%	20-150%
	13C7-PFU _n DA	96%	97%	101%	20-150%
	13C2-PFDoDA	99%	101%	98%	20-150%
	13C2-PFTeDA	89%	89%	96%	20-150%
	13C3-PFBS	103%	106%	103%	20-150%
	13C3-PFHxS	98%	100%	105%	20-150%
	13C8-PFOS	90%	93%	108%	20-150%
	13C8-FOSA	66%	70%	66%	20-150%
	d3-MeFOSA	71%	72%	73%	20-150%
	d5-EtFOSA	74%	80%	81%	20-150%
	d3-MeFOSAA	100%	93%	108%	20-150%
	d5-EtFOSAA	100%	91%	106%	20-150%
	d7-MeFOSE	66%	72%	67%	20-150%
	d9-EtFOSE	76%	82%	79%	20-150%
	13C2-4:2FTS	101%	112%	115%	20-180%
	13C2-6:2FTS	106%	107%	112%	20-180%
	13C2-8:2FTS	104%	108%	107%	20-180%
	13C3-HFPO-DA	101%	108%	105%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-DUP	6Q19275.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287
FC6649-4	6Q19274.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	FC6649-4 ug/l	DUP Q	ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	ND		nc		30
2706-90-3	Perfluoropentanoic acid	0.0075 U	ND		nc		30
307-24-4	Perfluorohexanoic acid	0.0038 U	ND		nc		30
375-85-9	Perfluoroheptanoic acid	0.0038 U	ND		nc		30
335-67-1	Perfluorooctanoic acid	0.0038 U	ND		nc		30
375-95-1	Perfluorononanoic acid	0.0038 U	ND		nc		30
335-76-2	Perfluorodecanoic acid	0.0038 U	ND		nc		30
2058-94-8	Perfluoroundecanoic acid	0.0038 U	ND		nc		30
307-55-1	Perfluorododecanoic acid	0.0038 U	ND		nc		30
72629-94-8	Perfluorotridecanoic acid	0.0038 U	ND		nc		30
376-06-7	Perfluorotetradecanoic acid	0.0038 U	ND		nc		30
375-73-5	Perfluorobutanesulfonic acid	0.0038 U	ND		nc		30
2706-91-4	Perfluoropentanesulfonic acid	0.0047 U	ND		nc		30
355-46-4	Perfluorohexanesulfonic acid	0.0038 U	ND		nc		30
375-92-8	Perfluoroheptanesulfonic acid	0.0038 U	ND		nc		30
1763-23-1	Perfluorooctanesulfonic acid	0.0038 U	ND		nc		30
68259-12-1	Perfluorononanesulfonic acid	0.0038 U	ND		nc		30
335-77-3	Perfluorodecanesulfonic acid	0.0038 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	0.0085 U	J	0.0055 U	J	43*	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U	ND		nc		30
754-91-6	PFOSA	0.0038 U	ND		nc		30
31506-32-8	MeFOSA	0.0075 U	ND		nc		30
4151-50-2	EtFOSA	0.0075 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	0.038 U	ND		nc		30
1691-99-2	EtFOSE	0.038 U	ND		nc		30
13252-13-6	HFPO-DA (GenX)	0.0038 U	ND		nc		30
919005-14-4	ADONA	0.0075 U	ND		nc		30
377-73-1	PFMPA	0.0075 U	ND		nc		30
863090-89-5	PFMBA	0.0075 U	ND		nc		30
151772-58-6	NFDHA	0.0075 U	ND		nc		30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0075 U	ND		nc		30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0075 U	ND		nc		30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6445
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97275-DUP	6Q19275.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287
FC6649-4	6Q19274.D	1	06/12/23	MV	06/09/23	OP97275	S6Q287

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6445-4

CAS No.	Compound	FC6649-4 ug/l	DUP Q ug/l	Q RPD	Limits
113507-82-7	PFEESA	0.0075 U	ND	nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	ND	nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.094 U	ND	nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.094 U	ND	nc	30

CAS No.	ID Standard Recoveries	DUP	FC6649-4	Limits
	13C4-PFBA	114%	107%	20-150%
	13C5-PFPeA	116%	113%	20-150%
	13C5-PFHxA	113%	117%	20-150%
	13C4-PFHpA	115%	110%	20-150%
	13C8-PFOA	110%	116%	20-150%
	13C9-PFNA	127%	107%	20-150%
	13C6-PFDA	123%	101%	20-150%
	13C7-PFUnDA	94%	95%	20-150%
	13C2-PFDoDA	94%	88%	20-150%
	13C2-PFTeDA	89%	84%	20-150%
	13C3-PFBS	119%	118%	20-150%
	13C3-PFHxS	109%	114%	20-150%
	13C8-PFOS	106%	105%	20-150%
	13C8-FOSA	94%	92%	20-150%
	d3-MeFOSA	86%	79%	20-150%
	d5-EtFOSA	97%	80%	20-150%
	d3-MeFOSAA	107%	102%	20-150%
	d5-EtFOSAA	110%	97%	20-150%
	d7-MeFOSE	71%	67%	20-150%
	d9-EtFOSE	84%	69%	20-150%
	13C2-4:2FTS	134%	135%	20-180%
	13C2-6:2FTS	130%	127%	20-180%
	13C2-8:2FTS	114%	109%	20-180%
	13C3-HFPO-DA	105%	102%	20-150%

* = Outside of Control Limits.