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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC8547

Sampling Date: 08/04/23



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Total number of pages in report: 54



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 unless noted in the narrative, comments or footnotes.

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Technical Director

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Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)

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AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Summary of Hits	5
Section 4: Sample Results	6
4.1: FC8547-1: AF-RHMW04-WGN01LF-2308	7
4.2: FC8547-2: AF-RHMW17S-WGN01LF-2308	10
4.3: FC8547-3: AF-RHMW17S-WQEB01-2308	13
4.4: FC8547-4: AF-RHMW17-WGN01LF-2308	16
4.5: FC8547-5: AF-RHMW06-WGN01LF-2308	19
4.6: FC8547-6: AF-RHMW17D-WGN01LF-2308	22
4.7: FC8547-7: AF-RHMW17D-WQFB01-2308	25
Section 5: Misc. Forms	28
5.1: Chain of Custody	29
5.2: QC Evaluation: DOD QSM5.x Limits	35
Section 6: MS Semi-volatiles - QC Data Summaries	36
6.1: Method Blank Summary	37
6.2: Blank Spike Summary	47
6.3: Matrix Spike Summary	51
6.4: Duplicate Summary	53

1

2

3

4

5

6



Sample Summary

AECOM, INC.

Job No: FC8547

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

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FC8547-1	08/04/23	09:30 JV	08/08/23	AQ	Ground Water	AF-RHMW04-WGN01LF-2308
FC8547-2	08/04/23	09:55 JV	08/08/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2308
FC8547-3	08/04/23	10:20 JVTN	08/08/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2308
FC8547-4	08/04/23	11:25 JV	08/08/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2308
FC8547-5	08/04/23	11:40 TN	08/08/23	AQ	Ground Water	AF-RHMW06-WGN01LF-2308
FC8547-6	08/04/23	13:05 JV	08/08/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2308
FC8547-7	08/04/23	12:25 JV	08/08/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2308

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC8547

Site: N6274223F0104 RH Fire Suppression System

Report Date 8/16/2023 4:35:22 PM

On 08/08/2023, 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 4.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC8547 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: OP98380

Sample(s) FC8547-2MS, FC8547-4DUP were used as the QC samples indicated.

Sample(s) FC8547-6 have surrogates outside control limits.

FC8547-6: Dilution required (ID recovery standard failure).

FC8547-6 for 13C2-4:2FTS: 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: FC8547
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 08/04/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC8547-1 AF-RHMW04-WGN01LF-2308

No hits reported in this sample.

FC8547-2 AF-RHMW17S-WGN01LF-2308

Perfluorobutanoic acid	6.8 J	14	3.5	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	1.4 J	3.5	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid	1.0 J	3.5	1.8	ng/l	EPA DRAFT 1633

FC8547-3 AF-RHMW17S-WQEB01-2308

No hits reported in this sample.

FC8547-4 AF-RHMW17-WGN01LF-2308

No hits reported in this sample.

FC8547-5 AF-RHMW06-WGN01LF-2308

No hits reported in this sample.

FC8547-6 AF-RHMW17D-WGN01LF-2308

No hits reported in this sample.

FC8547-7 AF-RHMW17D-WQFB01-2308

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW04-WGN01LF-2308		
Lab Sample ID:	FC8547-1	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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	6Q22812.D	1	08/13/23 19:55	MV	08/11/23 09:00	OP98380	S6Q331
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	3.6 U	15	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.3	1.8	0.85	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	0.91 U	3.6	0.91	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.55	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	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.76	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	0.64	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	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.7	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	3.6	1.8	0.61	ng/l	
31506-32-8	MeFOSA	3.6 U	7.3	3.6	0.91	ng/l	
4151-50-2	EtFOSA	3.6 U	7.3	3.6	0.91	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW04-WGN01LF-2308		
Lab Sample ID:	FC8547-1	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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	0.91	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	18 U	36	18	4.0	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.7	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.91	ng/l	
919005-14-4	ADONA	3.6 U	7.3	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.3	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	7.3	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.3	3.6	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.3	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.3	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.3	1.8	0.71	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.1 U	18	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	91	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	91	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	109%		20-150%
	13C5-PFPeA	118%		20-150%
	13C5-PFHxA	117%		20-150%
	13C4-PFHpA	118%		20-150%
	13C8-PFOA	115%		20-150%
	13C9-PFNA	107%		20-150%
	13C6-PFDA	116%		20-150%
	13C7-PFUnDA	102%		20-150%
	13C2-PFDoDA	99%		20-150%
	13C2-PFTeDA	91%		20-150%
	13C3-PFBS	112%		20-150%
	13C3-PFHxS	103%		20-150%

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

4.1
4

Report of Analysis

Client Sample ID:	AF-RHMW04-WGN01LF-2308		
Lab Sample ID:	FC8547-1	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	105%		20-150%
	13C8-FOSA	73%		20-150%
	d3-MeFOSA	80%		20-150%
	d5-EtFOSA	84%		20-150%
	d3-MeFOSAA	93%		20-150%
	d5-EtFOSAA	86%		20-150%
	d7-MeFOSE	78%		20-150%
	d9-EtFOSE	89%		20-150%
	13C2-4:2FTS	105%		20-180%
	13C2-6:2FTS	115%		20-180%
	13C2-8:2FTS	102%		20-180%
	13C3-HFPO-DA	117%		20-150%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2308		
Lab Sample ID:	FC8547-2	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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	6Q22813.D	1	08/13/23 20:09	MV	08/11/23 09:00	OP98380	S6Q331
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	6.8	14	3.5	1.7	ng/l	J
2706-90-3	Perfluoropentanoic acid	1.8 U	7.0	1.8	0.82	ng/l	
307-24-4	Perfluorohexanoic acid	1.4	3.5	1.8	0.44	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	3.5	0.88	0.44	ng/l	
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	1.8 U	3.5	1.8	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	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	1.0	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	7.0 U	18	7.0	3.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	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

4.2
4

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2308		
Lab Sample ID:	FC8547-2	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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
	13C4-PFBA	86%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	111%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	112%		20-150%
	13C9-PFNA	103%		20-150%
	13C6-PFDA	113%		20-150%
	13C7-PFUnDA	112%		20-150%
	13C2-PFDoDA	103%		20-150%
	13C2-PFTeDA	87%		20-150%
	13C3-PFBS	105%		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

4.2
4

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2308		
Lab Sample ID:	FC8547-2	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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	78%		20-150%
	d3-MeFOSA	76%		20-150%
	d5-EtFOSA	75%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	96%		20-150%
	d7-MeFOSE	79%		20-150%
	d9-EtFOSE	85%		20-150%
	13C2-4:2FTS	91%		20-180%
	13C2-6:2FTS	102%		20-180%
	13C2-8:2FTS	93%		20-180%
	13C3-HFPO-DA	103%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2308		
Lab Sample ID:	FC8547-3	Date Sampled:	08/04/23
Matrix:	AQ - Equipment Blank	Date Received:	08/08/23
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	6Q22815.D	1	08/13/23 20:38	MV	08/11/23 09:00	OP98380	S6Q331
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	3.8 U	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.5	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
335-67-1	Perfluorooctanoic acid	0.94 U	3.8	0.94	0.47	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

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

FLUOROTELOMER SULFONIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	3.8	1.9	0.63	ng/l	
31506-32-8	MeFOSA	3.8 U	7.5	3.8	0.94	ng/l	
4151-50-2	EtFOSA	3.8 U	7.5	3.8	0.94	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2308		
Lab Sample ID:	FC8547-3	Date Sampled:	08/04/23
Matrix:	AQ - Equipment Blank	Date Received:	08/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	3.8 U	4.7	3.8	0.94	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.7	3.8	1.3	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	19 U	38	19	4.1	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.0	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.94	ng/l	
919005-14-4	ADONA	3.8 U	7.5	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.5	1.9	0.94	ng/l	
863090-89-5	PFMBA	3.8 U	7.5	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.5	3.8	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.5	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.5	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	7.5	1.9	0.74	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.4 U	19	9.4	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	94	19	8.2	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	94	19	7.4	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	126%		20-150%
	13C5-PFPeA	125%		20-150%
	13C5-PFHxA	130%		20-150%
	13C4-PFHpA	127%		20-150%
	13C8-PFOA	128%		20-150%
	13C9-PFNA	114%		20-150%
	13C6-PFDA	132%		20-150%
	13C7-PFUnDA	114%		20-150%
	13C2-PFDoDA	107%		20-150%
	13C2-PFTeDA	101%		20-150%
	13C3-PFBS	126%		20-150%
	13C3-PFHxS	122%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2308	
Lab Sample ID:	FC8547-3	Date Sampled: 08/04/23
Matrix:	AQ - Equipment Blank	Date Received: 08/08/23
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	120%		20-150%
	13C8-FOSA	88%		20-150%
	d3-MeFOSA	99%		20-150%
	d5-EtFOSA	103%		20-150%
	d3-MeFOSAA	111%		20-150%
	d5-EtFOSAA	105%		20-150%
	d7-MeFOSE	101%		20-150%
	d9-EtFOSE	110%		20-150%
	13C2-4:2FTS	119%		20-180%
	13C2-6:2FTS	126%		20-180%
	13C2-8:2FTS	108%		20-180%
	13C3-HFPO-DA	120%		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-2308		
Lab Sample ID:	FC8547-4	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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	6Q22816.D	1	08/13/23 20:52	MV	08/11/23 09:00	OP98380	S6Q331
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	1.8 U	3.5	1.8	0.44	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	3.5	0.88	0.44	ng/l	
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	1.8 U	3.5	1.8	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	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	1.8 U	3.5	1.8	0.47	ng/l	
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	7.0 U	18	7.0	3.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	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

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2308		
Lab Sample ID:	FC8547-4	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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
	13C4-PFBA	104%		20-150%
	13C5-PFPeA	117%		20-150%
	13C5-PFHxA	125%		20-150%
	13C4-PFHpA	120%		20-150%
	13C8-PFOA	117%		20-150%
	13C9-PFNA	109%		20-150%
	13C6-PFDA	112%		20-150%
	13C7-PFUnDA	106%		20-150%
	13C2-PFDoDA	101%		20-150%
	13C2-PFTeDA	94%		20-150%
	13C3-PFBS	107%		20-150%
	13C3-PFHxS	104%		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-RHMW17-WGN01LF-2308		
Lab Sample ID:	FC8547-4	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	106%		20-150%
	13C8-FOSA	84%		20-150%
	d3-MeFOSA	87%		20-150%
	d5-EtFOSA	90%		20-150%
	d3-MeFOSAA	93%		20-150%
	d5-EtFOSAA	89%		20-150%
	d7-MeFOSE	88%		20-150%
	d9-EtFOSE	96%		20-150%
	13C2-4:2FTS	103%		20-180%
	13C2-6:2FTS	114%		20-180%
	13C2-8:2FTS	95%		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

Report of Analysis

Client Sample ID:	AF-RHMW06-WGN01LF-2308		
Lab Sample ID:	FC8547-5	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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	6Q22820.D	1	08/13/23 21:49	MV	08/11/23 09:00	OP98380	S6Q331
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

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	1.8 U	3.5	1.8	0.44	ng/l
375-85-9	Perfluoroheptanoic acid	1.8 U	3.5	1.8	0.44	ng/l
335-67-1	Perfluorooctanoic acid	0.88 U	3.5	0.88	0.44	ng/l
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	1.8 U	3.5	1.8	0.44	ng/l
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l
355-46-4	Perfluorohexanesulfonic acid	1.8 U	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	1.8 U	3.5	1.8	0.47	ng/l
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	7.0 U	18	7.0	3.0	ng/l
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW06-WGN01LF-2308		
Lab Sample ID:	FC8547-5	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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	121%		20-150%
	13C5-PFPeA	129%		20-150%
	13C5-PFHxA	128%		20-150%
	13C4-PFHpA	132%		20-150%
	13C8-PFOA	124%		20-150%
	13C9-PFNA	122%		20-150%
	13C6-PFDA	110%		20-150%
	13C7-PFUnDA	106%		20-150%
	13C2-PFDoDA	106%		20-150%
	13C2-PFTeDA	92%		20-150%
	13C3-PFBS	129%		20-150%
	13C3-PFHxS	123%		20-150%

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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW06-WGN01LF-2308		
Lab Sample ID:	FC8547-5	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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	116%		20-150%
	13C8-FOSA	85%		20-150%
	d3-MeFOSA	93%		20-150%
	d5-EtFOSA	100%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	89%		20-150%
	d7-MeFOSE	93%		20-150%
	d9-EtFOSE	101%		20-150%
	13C2-4:2FTS	127%		20-180%
	13C2-6:2FTS	136%		20-180%
	13C2-8:2FTS	108%		20-180%
	13C3-HFPO-DA	129%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2308		
Lab Sample ID:	FC8547-6	Date Sampled:	08/04/23
Matrix:	AQ - Ground Water	Date Received:	08/08/23
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
	13C4-PFBA	122%	119%	20-150%
	13C5-PFPeA	126%	124%	20-150%
	13C5-PFHxA	127%	125%	20-150%
	13C4-PFHpA	130%	127%	20-150%
	13C8-PFOA	127%	122%	20-150%
	13C9-PFNA	129%	115%	20-150%
	13C6-PFDA	122%	115%	20-150%
	13C7-PFUnDA	113%	113%	20-150%
	13C2-PFDoDA	106%	102%	20-150%
	13C2-PFTeDA	87%	92%	20-150%
	13C3-PFBS	128%	114%	20-150%
	13C3-PFHxS	125%	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-RHMW17D-WGN01LF-2308		Date Sampled:	08/04/23
Lab Sample ID:	FC8547-6		Date Received:	08/08/23
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	127%	50%	20-150%
	13C8-FOSA	90%	36%	20-150%
	d3-MeFOSA	93%	39%	20-150%
	d5-EtFOSA	97%	41%	20-150%
	d3-MeFOSAA	132%	53%	20-150%
	d5-EtFOSAA	129%	48%	20-150%
	d7-MeFOSE	94%	39%	20-150%
	d9-EtFOSE	104%	43%	20-150%
	13C2-4:2FTS	204% ^c	113%	20-180%
	13C2-6:2FTS	124%	99%	20-180%
	13C2-8:2FTS	92%	99%	20-180%
	13C3-HFPO-DA	110%	122%	20-150%

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

(b) Result is from Run# 2

(c) Outside control limits.

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2308		
Lab Sample ID:	FC8547-7	Date Sampled:	08/04/23
Matrix:	AQ - Field Blank Water	Date Received:	08/08/23
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	6Q22822.D	1	08/13/23 22:18	MV	08/11/23 09:00	OP98380	S6Q331
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	1.9 U	3.7	1.9	0.46	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
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	7.4 U	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	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

4.7
4

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2308		
Lab Sample ID:	FC8547-7	Date Sampled:	08/04/23
Matrix:	AQ - Field Blank Water	Date Received:	08/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	3.7 U	4.6	3.7	0.93	ng/l	
2991-50-6	EtFOSAA	3.7 U	4.6	3.7	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	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
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	13C4-PFBA	128%		20-150%
	13C5-PFPeA	129%		20-150%
	13C5-PFHxA	131%		20-150%
	13C4-PFHpA	130%		20-150%
	13C8-PFOA	132%		20-150%
	13C9-PFNA	119%		20-150%
	13C6-PFDA	125%		20-150%
	13C7-PFUnDA	105%		20-150%
	13C2-PFDoDA	95%		20-150%
	13C2-PFTeDA	84%		20-150%
	13C3-PFBS	128%		20-150%
	13C3-PFHxS	124%		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-RHMW17D-WQFB01-2308		
Lab Sample ID:	FC8547-7	Date Sampled:	08/04/23
Matrix:	AQ - Field Blank Water	Date Received:	08/08/23
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	121%		20-150%
	13C8-FOSA	83%		20-150%
	d3-MeFOSA	88%		20-150%
	d5-EtFOSA	93%		20-150%
	d3-MeFOSAA	102%		20-150%
	d5-EtFOSAA	91%		20-150%
	d7-MeFOSE	89%		20-150%
	d9-EtFOSE	99%		20-150%
	13C2-4:2FTS	122%		20-180%
	13C2-6:2FTS	136%		20-180%
	13C2-8:2FTS	107%		20-180%
	13C3-HFPO-DA	124%		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: 407-425-0700
www.sgs.com

COC #: 2308AFSG12

PAGE 1 OF 1

SGS - ORLANDO JOB # :

FC8547

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 Tani Email: watson.tani@aecom.com		Fax #																
Sampler(s) Name(s) (Printed)		Client Purchase Order #				PFAS EPA Draft 1633												LAB USE ONLY
Sampler 1: 302465 VILAS/S/S/S Sampler 2:																		
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION												LAB USE ONLY	
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NOX	NO2	NO3	PHOS	PO4	PO4	NO3+NO2	DI WATER	MECH		
2	AF-RHMM 17S-WGN01LF-2308	8/14/23	0845	JU	GW	3		X									X	
3	AF-RHMM 17S-WQEB01-2308	8/14/23	1022	JU	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 Untkd ANB: 016-795619Z												
Rush T/A Data Available VIA Email or Lablink																		
Sample Custody must be documented below each time samples change possession, including courier delivery.																		
Relinquished by/Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:		
1	8/14/23 1400	2	8/14/23 1400	3	8/14/23 1020	4		5		6		7		8				
Lab Use Only: Cooler Temperature (s) Celsius (corrected):																		
http://www.sgs.com/en/terms-and-conditions																		

PFAS_COCs_ALL_082023.xls Rev 031318

FC8547: Chain of Custody

Page 2 of 6



SGS Sample Receipt Summary

Job Number: FC8547

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 8/8/2023 9:45:00 AM

Delivery Method: United Cargo/Airspace

Airbill #s: United Cargo AWB #: 016-78556192

Therm ID: IR 1;

Therm CF: -0.2;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (4.8);

Cooler Temps (Corrected) °C: Cooler 1: (4.6);

Cooler Information

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

Sample Information

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

Trip Blank Information

	Y	or	N	N/A
1. Trip Blank present / cooler	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
	W	or	S	N/A
3. Type Of TB Received	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____
 Test Strip Lot #s: pH 0-3 _____ 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: SHAYLAP

Date: 8/8/2023 9:45:00 AM

Reviewer: SP

Date: 8/10/2023

FC8547: Chain of Custody

Page 6 of 6

QC Evaluation: DOD QSM5.x Limits

Job Number: FC8547
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 08/04/23

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 FC8547

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: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-IBLK	6Q22793.D	1	08/13/23	MV	n/a	n/a	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

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: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-IBLK	6Q22793.D	1	08/13/23	MV	n/a	n/a	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

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	100% 20-150%
	13C5-PFHxA	101% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	104% 20-150%
	13C9-PFNA	94% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	99% 20-150%
	13C2-PFDoDA	105% 20-150%
	13C2-PFTeDA	98% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	98% 20-150%
	13C8-PFOS	99% 20-150%
	13C8-FOSA	89% 20-150%
	d3-MeFOSAA	81% 20-150%
	d5-EtFOSAA	79% 20-150%
	13C2-4:2FTS	87% 20-180%
	13C2-6:2FTS	89% 20-180%
	13C2-8:2FTS	86% 20-180%

6.1.1
6

Instrument Blank

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q332-IBLK	6Q22852.D	1	08/14/23	MV	n/a	n/a	S6Q332

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-6

CAS No.	Compound	Result	RL	MDL	Units	Q
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	101% 20-150%
	13C4-PFHpA	99% 20-150%
	13C8-PFOA	103% 20-150%
	13C9-PFNA	106% 20-150%
	13C6-PFDA	113% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	107% 20-150%
	13C2-PFTeDA	101% 20-150%
	13C3-PFBS	95% 20-150%
	13C3-PFHxS	98% 20-150%
	13C8-PFOS	97% 20-150%
	13C8-FOSA	89% 20-150%
	d3-MeFOSA	93% 20-150%
	d5-EtFOSA	92% 20-150%
	d3-MeFOSAA	91% 20-150%
	d5-EtFOSAA	85% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	99% 20-150%
	13C2-4:2FTS	99% 20-180%
	13C2-6:2FTS	101% 20-180%
	13C2-8:2FTS	85% 20-180%
	13C3-HFPO-DA	106% 20-150%

6.1.2

6

Continuing Calibration Blank

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-ICCB	6Q22807.D	1	08/13/23	MV	n/a	n/a	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4

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: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-ICCB	6Q22807.D	1	08/13/23	MV	n/a	n/a	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4

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	101% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	104% 20-150%
	13C8-PFOA	93% 20-150%
	13C9-PFNA	100% 20-150%
	13C6-PFDA	101% 20-150%
	13C7-PFUnDA	100% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	95% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	93% 20-150%
	13C8-PFOS	108% 20-150%
	13C8-FOSA	101% 20-150%
	d3-MeFOSAA	100% 20-150%
	d5-EtFOSAA	94% 20-150%
	13C2-4:2FTS	92% 20-180%
	13C2-6:2FTS	93% 20-180%
	13C2-8:2FTS	98% 20-180%

Continuing Calibration Blank

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-ICCB	6Q22819.D	1	08/13/23	MV	n/a	n/a	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-5, FC8547-6, FC8547-7

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: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-ICCB	6Q22819.D	1	08/13/23	MV	n/a	n/a	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-5, FC8547-6, FC8547-7

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	102% 20-150%
	13C5-PFHxA	99% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	104% 20-150%
	13C9-PFNA	100% 20-150%
	13C6-PFDA	99% 20-150%
	13C7-PFUnDA	107% 20-150%
	13C2-PFDoDA	105% 20-150%
	13C2-PFTeDA	98% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	100% 20-150%
	13C8-PFOS	96% 20-150%
	13C8-FOSA	95% 20-150%
	d3-MeFOSAA	95% 20-150%
	d5-EtFOSAA	86% 20-150%
	13C2-4:2FTS	101% 20-180%
	13C2-6:2FTS	100% 20-180%
	13C2-8:2FTS	96% 20-180%

Continuing Calibration Blank

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q332-ICCB	6Q22887.D	1	08/14/23	MV	n/a	n/a	S6Q332

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-6

CAS No.	Compound	Result	RL	MDL	Units	Q
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	101% 20-150%
	13C5-PFPeA	102% 20-150%
	13C5-PFHxA	99% 20-150%
	13C4-PFHpA	97% 20-150%
	13C8-PFOA	107% 20-150%
	13C9-PFNA	101% 20-150%
	13C6-PFDA	102% 20-150%
	13C7-PFUnDA	101% 20-150%
	13C2-PFDoDA	102% 20-150%
	13C2-PFTeDA	106% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	99% 20-150%
	13C8-PFOS	93% 20-150%
	13C8-FOSA	100% 20-150%
	d3-MeFOSA	95% 20-150%
	d5-EtFOSA	100% 20-150%
	d3-MeFOSAA	96% 20-150%
	d5-EtFOSAA	76% 20-150%
	d7-MeFOSE	113% 20-150%
	d9-EtFOSE	120% 20-150%
	13C2-4:2FTS	103% 20-180%
	13C2-6:2FTS	108% 20-180%
	13C2-8:2FTS	85% 20-180%
	13C3-HFPO-DA	104% 20-150%

Method Blank Summary

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-MB	6Q22811.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

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: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-MB	6Q22811.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

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	113% 20-150%
	13C5-PFPeA	116% 20-150%
	13C5-PFHxA	118% 20-150%
	13C4-PFHpA	111% 20-150%
	13C8-PFOA	118% 20-150%
	13C9-PFNA	109% 20-150%
	13C6-PFDA	114% 20-150%
	13C7-PFUnDA	108% 20-150%
	13C2-PFDoDA	110% 20-150%
	13C2-PFTeDA	91% 20-150%
	13C3-PFBS	115% 20-150%
	13C3-PFHxS	116% 20-150%
	13C8-PFOS	119% 20-150%
	13C8-FOSA	71% 20-150%
	d3-MeFOSA	75% 20-150%
	d5-EtFOSA	84% 20-150%
	d3-MeFOSAA	110% 20-150%
	d5-EtFOSAA	98% 20-150%
	d7-MeFOSE	70% 20-150%
	d9-EtFOSE	80% 20-150%
	13C2-4:2FTS	118% 20-180%
	13C2-6:2FTS	120% 20-180%
	13C2-8:2FTS	108% 20-180%
	13C3-HFPO-DA	116% 20-150%

Blank Spike Summary

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-LLBS	6Q22810.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0336	112	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0177	118	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0102	136	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0085	113	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0088	117	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0089	119	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0081	108	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0089	119	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0087	116	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0092	123	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0088	117	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0071	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0087	123	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0081	118	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0083	116	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0080	115	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0076	105	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0075	104	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0078	107	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0338	120	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0321	113	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0367	127	40-150
754-91-6	PFOSA	0.0075	0.0091	121	40-150
31506-32-8	MeFOSA	0.015	0.0169	113	40-150
4151-50-2	EtFOSA	0.015	0.0154	103	40-150
2355-31-9	MeFOSAA	0.0075	0.0093	124	40-150
2991-50-6	EtFOSAA	0.0075	0.0089	119	40-150
24448-09-7	MeFOSE	0.0375	0.0425	113	40-150
1691-99-2	EtFOSE	0.0375	0.0432	115	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0174	116	40-150
919005-14-4	ADONA	0.0142	0.0173	122	40-150
377-73-1	PFMPA	0.015	0.0174	116	40-150
863090-89-5	PFMBA	0.015	0.0174	116	40-150
151772-58-6	NFDHA	0.015	0.0175	117	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0168	120	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0158	111	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-LLBS	6Q22810.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0154	115	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0332	89	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.190	101	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.198	106	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	113%	20-150%
	13C5-PFPeA	116%	20-150%
	13C5-PFHxA	115%	20-150%
	13C4-PFHpA	119%	20-150%
	13C8-PFOA	117%	20-150%
	13C9-PFNA	105%	20-150%
	13C6-PFDA	120%	20-150%
	13C7-PFUnDA	118%	20-150%
	13C2-PFDoDA	109%	20-150%
	13C2-PFTeDA	102%	20-150%
	13C3-PFBS	117%	20-150%
	13C3-PFHxS	108%	20-150%
	13C8-PFOS	111%	20-150%
	13C8-FOSA	70%	20-150%
	d3-MeFOSA	71%	20-150%
	d5-EtFOSA	82%	20-150%
	d3-MeFOSAA	95%	20-150%
	d5-EtFOSAA	91%	20-150%
	d7-MeFOSE	75%	20-150%
	d9-EtFOSE	85%	20-150%
	13C2-4:2FTS	107%	20-180%
	13C2-6:2FTS	116%	20-180%
	13C2-8:2FTS	111%	20-180%
	13C3-HFPO-DA	112%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-BS	6Q22809.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.115	115	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0583	117	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0303	121	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0296	118	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0266	106	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0289	116	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0278	111	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0296	118	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0280	112	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0295	118	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0283	113	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0250	113	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0276	117	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0265	116	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0273	115	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0289	125	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0262	109	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0273	113	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0271	112	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.112	119	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.104	109	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.102	106	40-150
754-91-6	PFOSA	0.025	0.0282	113	40-150
31506-32-8	MeFOSA	0.05	0.0551	110	40-150
4151-50-2	EtFOSA	0.05	0.0553	111	40-150
2355-31-9	MeFOSAA	0.025	0.0290	116	40-150
2991-50-6	EtFOSAA	0.025	0.0276	110	40-150
24448-09-7	MeFOSE	0.125	0.139	111	40-150
1691-99-2	EtFOSE	0.125	0.138	110	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0578	116	40-150
919005-14-4	ADONA	0.0473	0.0533	113	40-150
377-73-1	PFMPA	0.05	0.0590	118	40-150
863090-89-5	PFMBA	0.05	0.0580	116	40-150
151772-58-6	NFDHA	0.05	0.0567	113	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0529	113	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0539	114	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-BS	6Q22809.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0526	118	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.107	86	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.591	95	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.592	95	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	115%	20-150%
	13C5-PFPeA	120%	20-150%
	13C5-PFHxA	120%	20-150%
	13C4-PFHpA	119%	20-150%
	13C8-PFOA	121%	20-150%
	13C9-PFNA	113%	20-150%
	13C6-PFDA	109%	20-150%
	13C7-PFUnDA	107%	20-150%
	13C2-PFDoDA	100%	20-150%
	13C2-PFTeDA	101%	20-150%
	13C3-PFBS	118%	20-150%
	13C3-PFHxS	116%	20-150%
	13C8-PFOS	116%	20-150%
	13C8-FOSA	68%	20-150%
	d3-MeFOSA	72%	20-150%
	d5-EtFOSA	75%	20-150%
	d3-MeFOSAA	100%	20-150%
	d5-EtFOSAA	101%	20-150%
	d7-MeFOSE	72%	20-150%
	d9-EtFOSE	85%	20-150%
	13C2-4:2FTS	110%	20-180%
	13C2-6:2FTS	121%	20-180%
	13C2-8:2FTS	117%	20-180%
	13C3-HFPO-DA	122%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-MS	6Q22814.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331
FC8547-2	6Q22813.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	FC8547-2 ug/l	Spike Q	MS ug/l	MS %	Limits	
375-22-4	Perfluorobutanoic acid	0.0068	J	0.0893	0.119	126	40-150
2706-90-3	Perfluoropentanoic acid	0.0070	U	0.0446	0.0498	112	40-150
307-24-4	Perfluorohexanoic acid	0.0014	J	0.0223	0.0273	116	40-150
375-85-9	Perfluoroheptanoic acid	0.0035	U	0.0223	0.0273	122	40-150
335-67-1	Perfluorooctanoic acid	0.0035	U	0.0223	0.0275	123	40-150
375-95-1	Perfluorononanoic acid	0.0035	U	0.0223	0.0274	123	40-150
335-76-2	Perfluorodecanoic acid	0.0035	U	0.0223	0.0261	117	40-150
2058-94-8	Perfluoroundecanoic acid	0.0035	U	0.0223	0.0287	129	40-150
307-55-1	Perfluorododecanoic acid	0.0035	U	0.0223	0.0271	121	40-150
72629-94-8	Perfluorotridecanoic acid	0.0035	U	0.0223	0.0233	104	40-150
376-06-7	Perfluorotetradecanoic acid	0.0035	U	0.0223	0.0266	119	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0035	U	0.0198	0.0237	120	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0044	U	0.021	0.0268	128	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0035	U	0.0204	0.0249	122	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0035	U	0.0213	0.0255	120	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0010	J	0.0207	0.0271	126	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0035	U	0.0215	0.0247	115	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0035	U	0.0215	0.0229	106	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0044	U	0.0217	0.0234	108	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.018	U	0.0837	0.103	123	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	0.0848	0.0957	113	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	0.0857	0.0974	114	40-150
754-91-6	PFOSA	0.0035	U	0.0223	0.0263	118	40-150
31506-32-8	MeFOSA	0.0070	U	0.0446	0.0540	121	40-150
4151-50-2	EtFOSA	0.0070	U	0.0446	0.0501	112	40-150
2355-31-9	MeFOSAA	0.0044	U	0.0223	0.0271	121	40-150
2991-50-6	EtFOSAA	0.0044	U	0.0223	0.0280	125	40-150
24448-09-7	MeFOSE	0.035	U	0.112	0.139	125	40-150
1691-99-2	EtFOSE	0.035	U	0.112	0.133	119	40-150
13252-13-6	HFPO-DA (GenX)	0.0035	U	0.0446	0.0485	109	40-150
919005-14-4	ADONA	0.0070	U	0.0422	0.0521	123	40-150
377-73-1	PFMPA	0.0070	U	0.0446	0.0491	110	40-150
863090-89-5	PFMBA	0.0070	U	0.0446	0.0525	118	40-150
151772-58-6	NFDHA	0.0070	U	0.0446	0.0499	112	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0070	U	0.0417	0.0514	123	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0070	U	0.0422	0.0491	116	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-MS	6Q22814.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331
FC8547-2	6Q22813.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	FC8547-2 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0070 U	0.0397	0.0470	118	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	0.112	0.123	110	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.088 U	0.558	0.561	101	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.088 U	0.558	0.606	109	40-150

CAS No.	ID Standard Recoveries	MS	FC8547-2	Limits
	13C4-PFBA	78%	86%	20-150%
	13C5-PFPeA	109%	113%	20-150%
	13C5-PFHxA	114%	111%	20-150%
	13C4-PFHpA	113%	113%	20-150%
	13C8-PFOA	116%	112%	20-150%
	13C9-PFNA	106%	103%	20-150%
	13C6-PFDA	112%	113%	20-150%
	13C7-PFUnDA	110%	112%	20-150%
	13C2-PFDoDA	110%	103%	20-150%
	13C2-PFTeDA	96%	87%	20-150%
	13C3-PFBS	109%	105%	20-150%
	13C3-PFHxS	104%	106%	20-150%
	13C8-PFOS	110%	108%	20-150%
	13C8-FOSA	74%	78%	20-150%
	d3-MeFOSA	72%	76%	20-150%
	d5-EtFOSA	81%	75%	20-150%
	d3-MeFOSAA	107%	105%	20-150%
	d5-EtFOSAA	103%	96%	20-150%
	d7-MeFOSE	74%	79%	20-150%
	d9-EtFOSE	84%	85%	20-150%
	13C2-4:2FTS	93%	91%	20-180%
	13C2-6:2FTS	101%	102%	20-180%
	13C2-8:2FTS	96%	93%	20-180%
	13C3-HFPO-DA	111%	103%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-DUP	6Q22817.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331
FC8547-4	6Q22816.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	FC8547-4 ug/l	DUP Q ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.014 U	ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0070 U	ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0035 U	ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0035 U	ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0035 U	ND		nc	30
375-95-1	Perfluorononanoic acid	0.0035 U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0035 U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0035 U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0035 U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0035 U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0035 U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0035 U	ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0044 U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0035 U	ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0035 U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0035 U	ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0035 U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0035 U	ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0044 U	ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.018 U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U	ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U	ND		nc	30
754-91-6	PFOSA	0.0035 U	ND		nc	30
31506-32-8	MeFOSA	0.0070 U	ND		nc	30
4151-50-2	EtFOSA	0.0070 U	ND		nc	30
2355-31-9	MeFOSAA	0.0044 U	ND		nc	30
2991-50-6	EtFOSAA	0.0044 U	ND		nc	30
24448-09-7	MeFOSE	0.035 U	ND		nc	30
1691-99-2	EtFOSE	0.035 U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0035 U	ND		nc	30
919005-14-4	ADONA	0.0070 U	ND		nc	30
377-73-1	PFMPA	0.0070 U	ND		nc	30
863090-89-5	PFMBA	0.0070 U	ND		nc	30
151772-58-6	NFDHA	0.0070 U	ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0070 U	ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0070 U	ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC8547
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-DUP	6Q22817.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331
FC8547-4	6Q22816.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	FC8547-4 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0070	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018	U	ND		nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.088	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.088	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC8547-4	Limits
	13C4-PFBA	101%	104%	20-150%
	13C5-PFPeA	116%	117%	20-150%
	13C5-PFHxA	116%	125%	20-150%
	13C4-PFHpA	119%	120%	20-150%
	13C8-PFOA	110%	117%	20-150%
	13C9-PFNA	100%	109%	20-150%
	13C6-PFDA	105%	112%	20-150%
	13C7-PFUnDA	100%	106%	20-150%
	13C2-PFDoDA	92%	101%	20-150%
	13C2-PFTeDA	84%	94%	20-150%
	13C3-PFBS	115%	107%	20-150%
	13C3-PFHxS	107%	104%	20-150%
	13C8-PFOS	102%	106%	20-150%
	13C8-FOSA	74%	84%	20-150%
	d3-MeFOSA	80%	87%	20-150%
	d5-EtFOSA	87%	90%	20-150%
	d3-MeFOSAA	93%	93%	20-150%
	d5-EtFOSAA	80%	89%	20-150%
	d7-MeFOSE	72%	88%	20-150%
	d9-EtFOSE	82%	96%	20-150%
	13C2-4:2FTS	107%	103%	20-180%
	13C2-6:2FTS	114%	114%	20-180%
	13C2-8:2FTS	96%	95%	20-180%
	13C3-HFPO-DA	118%	110%	20-150%

* = Outside of Control Limits.