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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC10326

Sampling Date: 10/06/23



Report to:

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Total number of pages in report: 41



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.

Norm Farmer
Technical Director

Client Service contact: Elvin Kumar 407-425-6700

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

DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),

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

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Test results relate only to samples analyzed.

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: FC10326-1: AF-RHMW04-WGN01LF-2310	7
4.2: FC10326-2: AF-RHMW02-WGN01LF-2310	10
4.3: FC10326-3: AF-RHMW02-WGFD01LF-2310	13
4.4: FC10326-4: AF-RHMW06-WGN01LF-2310	16
4.5: FC10326-5: AF-RHMW03-WGN01LF-2310	19
Section 5: Misc. Forms	22
5.1: Chain of Custody	23
5.2: QC Evaluation: DOD QSM5.x Limits	28
Section 6: MS Semi-volatiles - QC Data Summaries	29
6.1: Method Blank Summary	30
6.2: Blank Spike Summary	34
6.3: Matrix Spike Summary	38
6.4: Duplicate Summary	40

1

2

3

4

5

6



Sample Summary

AECOM, INC.

Job No: FC10326

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC10326-1	10/06/23	09:50	AYES	10/11/23	AQ Ground Water	AF-RHMW04-WGN01LF-2310
FC10326-2	10/06/23	10:20	CH	10/11/23	AQ Ground Water	AF-RHMW02-WGN01LF-2310
FC10326-3	10/06/23	10:20	CH	10/11/23	AQ Ground Water	AF-RHMW02-WGFD01LF-2310
FC10326-4	10/06/23	12:20	AYES	10/11/23	AQ Ground Water	AF-RHMW06-WGN01LF-2310
FC10326-5	10/06/23	12:35	CH	10/11/23	AQ Ground Water	AF-RHMW03-WGN01LF-2310

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC10326

Site: N6274223F0104 RH Fire Suppression System

Report Date: 10/18/2023 10:01:28 AM

On 10/11/2023, 5 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 4.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC10326 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: OP99514

Sample(s) FC10326-1MS, FC10326-4DUP were used as the QC samples indicated.

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: FC10326
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 10/06/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC10326-1	AF-RHMW04-WGN01LF-2310					
	Perfluorooctanesulfonic acid	0.86 J	3.6	1.8	ng/l	EPA DRAFT 1633
FC10326-2	AF-RHMW02-WGN01LF-2310					
	Perfluoropentanoic acid	36.1	7.5	1.9	ng/l	EPA DRAFT 1633
	6:2 Fluorotelomer sulfonate	3.8 J	19	7.5	ng/l	EPA DRAFT 1633
FC10326-3	AF-RHMW02-WGFD01LF-2310					
	Perfluorobutanoic acid	53.4	16	4.0	ng/l	EPA DRAFT 1633
	Perfluoropentanoic acid	45.4	8.0	2.0	ng/l	EPA DRAFT 1633
FC10326-4	AF-RHMW06-WGN01LF-2310					
No hits reported in this sample.						
FC10326-5	AF-RHMW03-WGN01LF-2310					
	Perfluoropentanoic acid	3.4 J	8.0	2.0	ng/l	EPA DRAFT 1633
	Perfluorohexanoic acid	3.6 J	4.0	2.0	ng/l	EPA DRAFT 1633
	Perfluoroheptanoic acid	2.0 J	4.0	2.0	ng/l	EPA DRAFT 1633
	Perfluorooctanoic acid	0.52 J	4.0	1.0	ng/l	EPA DRAFT 1633
	Perfluorododecanoic acid	1.1 J	4.0	2.0	ng/l	EPA DRAFT 1633
	6:2 Fluorotelomer sulfonate	6.7 J	20	8.0	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW04-WGN01LF-2310		
Lab Sample ID:	FC10326-1	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
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	6Q26489.D	1	10/16/23 21:15	MV	10/13/23 09:50	OP99514	S6Q372
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	0.86	3.6	1.8	0.49	ng/l	J
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-2310		
Lab Sample ID:	FC10326-1	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
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
	13C4-PFBA	98%		20-150%
	13C5-PFPeA	105%		20-150%
	13C5-PFHxA	108%		20-150%
	13C4-PFHpA	110%		20-150%
	13C8-PFOA	99%		20-150%
	13C9-PFNA	106%		20-150%
	13C6-PFDA	107%		20-150%
	13C7-PFUnDA	110%		20-150%
	13C2-PFDoDA	106%		20-150%
	13C2-PFTeDA	94%		20-150%
	13C3-PFBS	102%		20-150%
	13C3-PFHxS	99%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW04-WGN01LF-2310	
Lab Sample ID:	FC10326-1	Date Sampled: 10/06/23
Matrix:	AQ - Ground Water	Date Received: 10/11/23
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	93%		20-150%
	13C8-FOSA	82%		20-150%
	d3-MeFOSA	71%		20-150%
	d5-EtFOSA	71%		20-150%
	d3-MeFOSAA	104%		20-150%
	d5-EtFOSAA	102%		20-150%
	d7-MeFOSE	78%		20-150%
	d9-EtFOSE	81%		20-150%
	13C2-4:2FTS	121%		20-180%
	13C2-6:2FTS	122%		20-180%
	13C2-8:2FTS	111%		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-RHMW02-WGN01LF-2310		
Lab Sample ID:	FC10326-2	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
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	6Q26491.D	1	10/16/23 21:43	MV	10/13/23 09:50	OP99514	S6Q372
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	36.1	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	3.8	19	7.5	3.3	ng/l	J
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

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Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2310		
Lab Sample ID:	FC10326-2	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
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	82%		20-150%
	13C5-PFPeA	102%		20-150%
	13C5-PFHxA	109%		20-150%
	13C4-PFHpA	117%		20-150%
	13C8-PFOA	99%		20-150%
	13C9-PFNA	99%		20-150%
	13C6-PFDA	112%		20-150%
	13C7-PFUnDA	103%		20-150%
	13C2-PFDoDA	92%		20-150%
	13C2-PFTeDA	79%		20-150%
	13C3-PFBS	104%		20-150%
	13C3-PFHxS	109%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW02-WGN01LF-2310	
Lab Sample ID:	FC10326-2	Date Sampled: 10/06/23
Matrix:	AQ - Ground Water	Date Received: 10/11/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	95%		20-150%
	13C8-FOSA	93%		20-150%
	d3-MeFOSA	81%		20-150%
	d5-EtFOSA	83%		20-150%
	d3-MeFOSAA	98%		20-150%
	d5-EtFOSAA	90%		20-150%
	d7-MeFOSE	84%		20-150%
	d9-EtFOSE	86%		20-150%
	13C2-4:2FTS	109%		20-180%
	13C2-6:2FTS	99%		20-180%
	13C2-8:2FTS	101%		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-RHMW02-WGFD01LF-2310		
Lab Sample ID:	FC10326-3	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
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	6Q26492.D	1	10/16/23 21:58	MV	10/13/23 09:50	OP99514	S6Q372
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	53.4	16	4.0	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	45.4	8.0	2.0	0.94	ng/l	
307-24-4	Perfluorohexanoic acid	2.0 U	4.0	2.0	0.50	ng/l	
375-85-9	Perfluoroheptanoic acid	2.0 U	4.0	2.0	0.50	ng/l	
335-67-1	Perfluorooctanoic acid	1.0 U	4.0	1.0	0.50	ng/l	
375-95-1	Perfluorononanoic acid	2.0 U	4.0	2.0	0.61	ng/l	
335-76-2	Perfluorodecanoic acid	2.0 U	4.0	2.0	0.50	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.0 U	4.0	2.0	0.60	ng/l	
307-55-1	Perfluorododecanoic acid	2.0 U	4.0	2.0	0.60	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.0 U	4.0	2.0	0.84	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.0 U	4.0	2.0	0.50	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

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

FLUOROTELOMER SULFONIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	2.0 U	4.0	2.0	0.67	ng/l	
31506-32-8	MeFOSA	4.0 U	8.0	4.0	1.0	ng/l	
4151-50-2	EtFOSA	4.0 U	8.0	4.0	1.0	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW02-WGFD01LF-2310		
Lab Sample ID:	FC10326-3	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

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

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

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	20 U	40	20	4.4	ng/l	
1691-99-2	EtFOSE	20 U	40	20	7.4	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	2.0 U	4.0	2.0	1.0	ng/l	
919005-14-4	ADONA	4.0 U	8.0	4.0	1.9	ng/l	
377-73-1	PFMPA	2.0 U	8.0	2.0	1.0	ng/l	
863090-89-5	PFMBA	4.0 U	8.0	4.0	1.1	ng/l	
151772-58-6	NFDHA	4.0 U	8.0	4.0	1.2	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	4.0 U	8.0	4.0	1.4	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	4.0 U	8.0	4.0	1.8	ng/l	
113507-82-7	PFEESA	2.0 U	8.0	2.0	0.78	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	10 U	20	10	4.5	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	20 U	100	20	8.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	20 U	100	20	7.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	85%		20-150%
	13C5-PFPeA	96%		20-150%
	13C5-PFHxA	110%		20-150%
	13C4-PFHpA	110%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	98%		20-150%
	13C6-PFDA	105%		20-150%
	13C7-PFUnDA	93%		20-150%
	13C2-PFDoDA	89%		20-150%
	13C2-PFTeDA	76%		20-150%
	13C3-PFBS	99%		20-150%
	13C3-PFHxS	95%		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

4.3
4

Report of Analysis

Client Sample ID:	AF-RHMW02-WGFD01LF-2310		
Lab Sample ID:	FC10326-3	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	95%		20-150%
	13C8-FOSA	91%		20-150%
	d3-MeFOSA	77%		20-150%
	d5-EtFOSA	73%		20-150%
	d3-MeFOSAA	92%		20-150%
	d5-EtFOSAA	92%		20-150%
	d7-MeFOSE	82%		20-150%
	d9-EtFOSE	77%		20-150%
	13C2-4:2FTS	85%		20-180%
	13C2-6:2FTS	96%		20-180%
	13C2-8:2FTS	96%		20-180%
	13C3-HFPO-DA	89%		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-2310		
Lab Sample ID:	FC10326-4	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
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	6Q26493.D	1	10/16/23 22:12	MV	10/13/23 09:50	OP99514	S6Q372
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

4.4
4

Report of Analysis

Client Sample ID:	AF-RHMW06-WGN01LF-2310		Date Sampled:	10/06/23
Lab Sample ID:	FC10326-4		Date Received:	10/11/23
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
Project:	N6274223F0104 RH Fire Suppression System			

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

2355-31-9	MeFOSAA	3.6 U	4.5	3.6	0.91	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	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	101%		20-150%
	13C5-PFPeA	105%		20-150%
	13C5-PFHxA	108%		20-150%
	13C4-PFHpA	110%		20-150%
	13C8-PFOA	100%		20-150%
	13C9-PFNA	97%		20-150%
	13C6-PFDA	98%		20-150%
	13C7-PFUnDA	84%		20-150%
	13C2-PFDoDA	81%		20-150%
	13C2-PFTeDA	75%		20-150%
	13C3-PFBS	106%		20-150%
	13C3-PFHxS	108%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW06-WGN01LF-2310	
Lab Sample ID:	FC10326-4	Date Sampled: 10/06/23
Matrix:	AQ - Ground Water	Date Received: 10/11/23
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	93%		20-150%
	13C8-FOSA	84%		20-150%
	d3-MeFOSA	77%		20-150%
	d5-EtFOSA	74%		20-150%
	d3-MeFOSAA	87%		20-150%
	d5-EtFOSAA	84%		20-150%
	d7-MeFOSE	77%		20-150%
	d9-EtFOSE	83%		20-150%
	13C2-4:2FTS	107%		20-180%
	13C2-6:2FTS	105%		20-180%
	13C2-8:2FTS	108%		20-180%
	13C3-HFPO-DA	101%		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-2310		
Lab Sample ID:	FC10326-5	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
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	6Q26495.D	1	10/16/23 22:41	MV	10/13/23 09:50	OP99514	S6Q372
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	4.0 U	16	4.0	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	3.4	8.0	2.0	0.94	ng/l	J
307-24-4	Perfluorohexanoic acid	3.6	4.0	2.0	0.50	ng/l	J
375-85-9	Perfluoroheptanoic acid	2.0	4.0	2.0	0.50	ng/l	J
335-67-1	Perfluorooctanoic acid	0.52	4.0	1.0	0.50	ng/l	J
375-95-1	Perfluorononanoic acid	2.0 U	4.0	2.0	0.61	ng/l	
335-76-2	Perfluorodecanoic acid	2.0 U	4.0	2.0	0.50	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.0 U	4.0	2.0	0.60	ng/l	
307-55-1	Perfluorododecanoic acid	1.1	4.0	2.0	0.60	ng/l	J
72629-94-8	Perfluorotridecanoic acid	2.0 U	4.0	2.0	0.84	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.0 U	4.0	2.0	0.50	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

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

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	8.0 U	20	8.0	3.2	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	6.7	20	8.0	3.5	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	8.0 U	20	8.0	4.1	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	2.0 U	4.0	2.0	0.67	ng/l	
31506-32-8	MeFOSA	4.0 U	8.0	4.0	1.0	ng/l	
4151-50-2	EtFOSA	4.0 U	8.0	4.0	1.0	ng/l	

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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2310		
Lab Sample ID:	FC10326-5	Date Sampled:	10/06/23
Matrix:	AQ - Ground Water	Date Received:	10/11/23
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	4.0 U	5.0	4.0	1.0	ng/l
2991-50-6	EtFOSAA	4.0 U	5.0	4.0	1.3	ng/l

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	20 U	40	20	4.4	ng/l
1691-99-2	EtFOSE	20 U	40	20	7.4	ng/l

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	2.0 U	4.0	2.0	1.0	ng/l
919005-14-4	ADONA	4.0 U	8.0	4.0	1.9	ng/l
377-73-1	PFMPA	2.0 U	8.0	2.0	1.0	ng/l
863090-89-5	PFMBA	4.0 U	8.0	4.0	1.1	ng/l
151772-58-6	NFDHA	4.0 U	8.0	4.0	1.2	ng/l

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	4.0 U	8.0	4.0	1.4	ng/l
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	4.0 U	8.0	4.0	1.8	ng/l
113507-82-7	PFEESA	2.0 U	8.0	2.0	0.78	ng/l

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	10 U	20	10	4.5	ng/l
914637-49-3	5:3 Fluorotelomer carboxylate	20 U	100	20	8.7	ng/l
812-70-4	7:3 Fluorotelomer carboxylate	20 U	100	20	7.9	ng/l

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

13C4-PFBA	102%	20-150%
13C5-PFPeA	106%	20-150%
13C5-PFHxA	104%	20-150%
13C4-PFHpA	110%	20-150%
13C8-PFOA	112%	20-150%
13C9-PFNA	105%	20-150%
13C6-PFDA	91%	20-150%
13C7-PFUnDA	97%	20-150%
13C2-PFDoDA	82%	20-150%
13C2-PFTeDA	73%	20-150%
13C3-PFBS	116%	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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW03-WGN01LF-2310	
Lab Sample ID:	FC10326-5	Date Sampled: 10/06/23
Matrix:	AQ - Ground Water	Date Received: 10/11/23
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	94%		20-150%
	13C8-FOSA	87%		20-150%
	d3-MeFOSA	80%		20-150%
	d5-EtFOSA	74%		20-150%
	d3-MeFOSAA	93%		20-150%
	d5-EtFOSAA	91%		20-150%
	d7-MeFOSE	78%		20-150%
	d9-EtFOSE	77%		20-150%
	13C2-4:2FTS	108%		20-180%
	13C2-6:2FTS	102%		20-180%
	13C2-8:2FTS	105%		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

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: 407-425-5700 FAX: 407-425-0707
www.sgs.com

FC10326

COC #: 2310AFSG01

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		<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small; margin-right: 5px;">PFAS EPA Draft 1633</div> </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 # 23F0104 - 60697810														
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #														
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order # 151253														
Sampler(s) Name(s) (Printed)																
Sampler 1: <i>Christina</i> Sampler 2: <i>Haley</i>																
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION										LAB USE ONLY	
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	INONE	ICI	INCH	INCS	INSDA	INCH-ZINC	INWATER		INMESH
2	AF-RHMW02-WGN01LF-2310	10/6/23	1020	CAH	GW	3		X								X
3	AF-RHMW02-WGFD01LF-2310	10/6/23	1020	CAH	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 _____ <small>Rush TIA Data Available VIA Email or Lablink</small>		<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 <div style="font-size: large; font-weight: bold; margin-top: 10px;">AWB# 016-97170754</div>										
<small>Sample Custody must be documented below each time samples change possession, including courier delivery.</small>																
Relinquished By/Sampler/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Date Time:					
<i>[Signature]</i>	10/4/23	2 Alex Edwards AE	10/16/23	3 Alex Edwards AE	10/16/23	4 UC		5 UC		6 UC						
Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Date Time:	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Date Time:					
		6 UC	10/16/23	7		8										
Lab Use Only: Cooler Temperature (s) Celsius (corrected):										http://www.sgs.com/en/terms-and-conditions						

PFAS_COCs_ALL_10022023.xls Rev 031318

FC10326: Chain of Custody

Page 2 of 5





SGS North America Inc - Orlando

Chain of Custody

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www.sgs.com

FC10326

DOC #: 2310AFSG02

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		<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small; margin-right: 5px;">PPFAS EPA Draft 1633</div> </div>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge 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 Abbot Email: katie.abbot@aecom.com		Project # 23F0104 - 60697810															
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #															
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order # 151253															
Sampler(s) Name(s) (Printed) Sampler 1: <i>Chris Wernack</i> Sampler 2: <i>Chris Wernack</i>																	
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION										LAB USE ONLY		
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NOX	HCl	NO ₂	NO ₃	PERO ₂	MACH/ZINC	DI/WATER		MEDIA	
5	AF-RHMW03-WGN01LF-2310	10/6/23	1235	CB	GW	3		X									
Turnaround Time (Business days)		Data Deliverable Information				Comments / Remarks											
10 Day (Business) Approved By: / Date: _____ 7 Day _____ <input checked="" type="checkbox"/> 5 Day _____ 3 Day RUSH _____ 2 Day RUSH _____ 1 Day RUSH _____ Other _____ Rush TIA Data Available VIA Email or Lablink		<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 AMZ 018-971770754											
Sample Custody must be documented below each time samples change possession, including courier delivery.																	
Relinquished by Sampler/Affiliation	Date Time: 10/6/23	Received By/Affiliation	Date Time: 10/6/23	Relinquished By/Affiliation	Date Time: 10/6/23	Received By/Affiliation	Date Time: 10/6/23	Relinquished By/Affiliation	Date Time: 10/6/23	Received By/Affiliation	Date Time: 10/6/23	Relinquished By/Affiliation	Date Time: 10/6/23	Received By/Affiliation	Date Time: 10/6/23		
1 UC		2 Alex Edmonds AECOM		3 Alex Edmonds AECOM		4 UC		5 UC		6 UC		7		8			
Lab Use Only: Cooler Temperature (s) Celsius (corrected):												http://www.sgs.com/en/terms-and-conditions					

PFAS_COCS_ALL_10022023.xls Rev 031318

5.1
5



QC Evaluation: DOD QSM5.x Limits

Job Number: FC10326
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 10/06/23

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 FC10326

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: FC10326
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q372-IBLK	6Q26481.D	1	10/16/23	MV	n/a	n/a	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

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: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q372-IBLK	6Q26481.D	1	10/16/23	MV	n/a	n/a	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

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	105%	20-150%
	13C4-PFHpA	105%	20-150%
	13C8-PFOA	103%	20-150%
	13C9-PFNA	93%	20-150%
	13C6-PFDA	112%	20-150%
	13C7-PFUnDA	110%	20-150%
	13C2-PFDoDA	106%	20-150%
	13C2-PFTeDA	109%	20-150%
	13C3-PFBS	103%	20-150%
	13C3-PFHxS	103%	20-150%
	13C8-PFOS	107%	20-150%
	13C8-FOSA	99%	20-150%
	d3-MeFOSAA	97%	20-150%
	d5-EtFOSAA	100%	20-150%
	13C2-4:2FTS	104%	20-180%
	13C2-6:2FTS	112%	20-180%
	13C2-8:2FTS	106%	20-180%

6.1.1
6

Method Blank Summary

Job Number: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-MB	6Q26488.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

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: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-MB	6Q26488.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

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	120% 20-150%
	13C5-PFPeA	119% 20-150%
	13C5-PFHxA	122% 20-150%
	13C4-PFHpA	122% 20-150%
	13C8-PFOA	123% 20-150%
	13C9-PFNA	113% 20-150%
	13C6-PFDA	113% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	104% 20-150%
	13C2-PFTeDA	94% 20-150%
	13C3-PFBS	119% 20-150%
	13C3-PFHxS	122% 20-150%
	13C8-PFOS	120% 20-150%
	13C8-FOSA	93% 20-150%
	d3-MeFOSA	88% 20-150%
	d5-EtFOSA	90% 20-150%
	d3-MeFOSAA	111% 20-150%
	d5-EtFOSAA	111% 20-150%
	d7-MeFOSE	90% 20-150%
	d9-EtFOSE	100% 20-150%
	13C2-4:2FTS	129% 20-180%
	13C2-6:2FTS	117% 20-180%
	13C2-8:2FTS	131% 20-180%
	13C3-HFPO-DA	120% 20-150%

Blank Spike Summary

Job Number: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-LLBS	6Q26487.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0293	98	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0145	97	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0074	99	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0071	95	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0069	92	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0076	101	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0079	105	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0075	100	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0074	99	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0075	100	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0076	101	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0065	98	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0065	92	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0061	89	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0072	101	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0059	85	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0066	91	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0072	99	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0065	89	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0282	100	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0303	106	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0325	113	40-150
754-91-6	PFOSA	0.0075	0.0077	103	40-150
31506-32-8	MeFOSA	0.015	0.0167	111	40-150
4151-50-2	EtFOSA	0.015	0.0159	106	40-150
2355-31-9	MeFOSAA	0.0075	0.0073	97	40-150
2991-50-6	EtFOSAA	0.0075	0.0071	95	40-150
24448-09-7	MeFOSE	0.0375	0.0367	98	40-150
1691-99-2	EtFOSE	0.0375	0.0359	96	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0141	94	40-150
919005-14-4	ADONA	0.0142	0.0135	95	40-150
377-73-1	PFMPA	0.015	0.0140	93	40-150
863090-89-5	PFMBA	0.015	0.0141	94	40-150
151772-58-6	NFDHA	0.015	0.0139	93	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0128	91	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0128	90	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-LLBS	6Q26487.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0122	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0285	76	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.174	93	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.166	89	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	112%	20-150%
	13C5-PFPeA	117%	20-150%
	13C5-PFHxA	119%	20-150%
	13C4-PFHpA	118%	20-150%
	13C8-PFOA	112%	20-150%
	13C9-PFNA	107%	20-150%
	13C6-PFDA	106%	20-150%
	13C7-PFUnDA	107%	20-150%
	13C2-PFDoDA	100%	20-150%
	13C2-PFTeDA	95%	20-150%
	13C3-PFBS	116%	20-150%
	13C3-PFHxS	113%	20-150%
	13C8-PFOS	114%	20-150%
	13C8-FOSA	88%	20-150%
	d3-MeFOSA	71%	20-150%
	d5-EtFOSA	75%	20-150%
	d3-MeFOSAA	108%	20-150%
	d5-EtFOSAA	105%	20-150%
	d7-MeFOSE	82%	20-150%
	d9-EtFOSE	85%	20-150%
	13C2-4:2FTS	115%	20-180%
	13C2-6:2FTS	114%	20-180%
	13C2-8:2FTS	109%	20-180%
	13C3-HFPO-DA	117%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-BS	6Q26486.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

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	0.0433	87	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0216	86	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0210	84	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0233	93	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0213	85	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0214	86	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0215	86	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0226	90	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0227	91	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0224	90	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0200	90	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0204	87	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0205	90	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0225	94	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0214	92	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0206	86	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0226	94	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0209	86	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0803	86	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0869	91	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0961	100	40-150
754-91-6	PFOSA	0.025	0.0227	91	40-150
31506-32-8	MeFOSA	0.05	0.0488	98	40-150
4151-50-2	EtFOSA	0.05	0.0493	99	40-150
2355-31-9	MeFOSAA	0.025	0.0214	86	40-150
2991-50-6	EtFOSAA	0.025	0.0197	79	40-150
24448-09-7	MeFOSE	0.125	0.111	89	40-150
1691-99-2	EtFOSE	0.125	0.110	88	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0438	88	40-150
919005-14-4	ADONA	0.0473	0.0433	92	40-150
377-73-1	PFMPA	0.05	0.0350	70	40-150
863090-89-5	PFMBA	0.05	0.0409	82	40-150
151772-58-6	NFDHA	0.05	0.0433	87	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0405	87	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0423	90	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-BS	6Q26486.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0362	81	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.133	106	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.509	81	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.499	80	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	57%	20-150%
	13C5-PFPeA	120%	20-150%
	13C5-PFHxA	121%	20-150%
	13C4-PFHpA	118%	20-150%
	13C8-PFOA	116%	20-150%
	13C9-PFNA	114%	20-150%
	13C6-PFDA	121%	20-150%
	13C7-PFUnDA	118%	20-150%
	13C2-PFDoDA	113%	20-150%
	13C2-PFTeDA	104%	20-150%
	13C3-PFBS	114%	20-150%
	13C3-PFHxS	112%	20-150%
	13C8-PFOS	107%	20-150%
	13C8-FOSA	86%	20-150%
	d3-MeFOSA	80%	20-150%
	d5-EtFOSA	75%	20-150%
	d3-MeFOSAA	114%	20-150%
	d5-EtFOSAA	113%	20-150%
	d7-MeFOSE	80%	20-150%
	d9-EtFOSE	84%	20-150%
	13C2-4:2FTS	124%	20-180%
	13C2-6:2FTS	122%	20-180%
	13C2-8:2FTS	109%	20-180%
	13C3-HFPO-DA	114%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-MS	6Q26490.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372
FC10326-1	6Q26489.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

CAS No.	Compound	FC10326-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	0.0926	0.0886	96	40-150
2706-90-3	Perfluoropentanoic acid	0.0073 U	0.0463	0.0438	95	40-150
307-24-4	Perfluorohexanoic acid	0.0036 U	0.0231	0.0218	94	40-150
375-85-9	Perfluoroheptanoic acid	0.0036 U	0.0231	0.0224	97	40-150
335-67-1	Perfluorooctanoic acid	0.0036 U	0.0231	0.0212	92	40-150
375-95-1	Perfluorononanoic acid	0.0036 U	0.0231	0.0228	98	40-150
335-76-2	Perfluorodecanoic acid	0.0036 U	0.0231	0.0238	103	40-150
2058-94-8	Perfluoroundecanoic acid	0.0036 U	0.0231	0.0230	99	40-150
307-55-1	Perfluorododecanoic acid	0.0036 U	0.0231	0.0230	99	40-150
72629-94-8	Perfluorotridecanoic acid	0.0036 U	0.0231	0.0208	90	40-150
376-06-7	Perfluorotetradecanoic acid	0.0036 U	0.0231	0.0226	98	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0036 U	0.0205	0.0209	102	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0045 U	0.0218	0.0199	91	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0036 U	0.0212	0.0192	91	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0036 U	0.0221	0.0204	92	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00086 J	0.0215	0.0202	90	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0036 U	0.0223	0.0199	89	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0036 U	0.0223	0.0194	87	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0045 U	0.0225	0.0194	86	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.018 U	0.0868	0.0815	94	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U	0.088	0.0815	93	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U	0.0889	0.0854	96	40-150
754-91-6	PFOSA	0.0036 U	0.0231	0.0225	97	40-150
31506-32-8	MeFOSA	0.0073 U	0.0463	0.0446	96	40-150
4151-50-2	EtFOSA	0.0073 U	0.0463	0.0452	98	40-150
2355-31-9	MeFOSAA	0.0045 U	0.0231	0.0225	97	40-150
2991-50-6	EtFOSAA	0.0045 U	0.0231	0.0211	91	40-150
24448-09-7	MeFOSE	0.036 U	0.116	0.112	97	40-150
1691-99-2	EtFOSE	0.036 U	0.116	0.107	92	40-150
13252-13-6	HFPO-DA (GenX)	0.0036 U	0.0463	0.0439	95	40-150
919005-14-4	ADONA	0.0073 U	0.0438	0.0415	95	40-150
377-73-1	PFMPA	0.0073 U	0.0463	0.0424	92	40-150
863090-89-5	PFMBA	0.0073 U	0.0463	0.0418	90	40-150
151772-58-6	NFDHA	0.0073 U	0.0463	0.0419	91	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0073 U	0.0433	0.0428	99	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0073 U	0.0438	0.0397	91	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-MS	6Q26490.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372
FC10326-1	6Q26489.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

CAS No.	Compound	FC10326-1 ug/l	Spike Q	ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0073 U	0.0412	0.0370	90	40-150	
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	0.116	0.0873	75	40-150	
914637-49-35:3	Fluorotelomer carboxylate	0.091 U	0.579	0.497	86	40-150	
812-70-4	7:3 Fluorotelomer carboxylate	0.091 U	0.579	0.526	91	40-150	

CAS No.	ID Standard Recoveries	MS	FC10326-1	Limits
	13C4-PFBA	89%	98%	20-150%
	13C5-PFPeA	104%	105%	20-150%
	13C5-PFHxA	105%	108%	20-150%
	13C4-PFHpA	102%	110%	20-150%
	13C8-PFOA	95%	99%	20-150%
	13C9-PFNA	95%	106%	20-150%
	13C6-PFDA	95%	107%	20-150%
	13C7-PFUnDA	103%	110%	20-150%
	13C2-PFDoDA	96%	106%	20-150%
	13C2-PFTeDA	89%	94%	20-150%
	13C3-PFBS	98%	102%	20-150%
	13C3-PFHxS	103%	99%	20-150%
	13C8-PFOS	102%	93%	20-150%
	13C8-FOSA	87%	82%	20-150%
	d3-MeFOSA	78%	71%	20-150%
	d5-EtFOSA	75%	71%	20-150%
	d3-MeFOSAA	109%	104%	20-150%
	d5-EtFOSAA	113%	102%	20-150%
	d7-MeFOSE	79%	78%	20-150%
	d9-EtFOSE	85%	81%	20-150%
	13C2-4:2FTS	115%	121%	20-180%
	13C2-6:2FTS	111%	122%	20-180%
	13C2-8:2FTS	110%	111%	20-180%
	13C3-HFPO-DA	99%	102%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-DUP	6Q26494.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372
FC10326-4	6Q26493.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

CAS No.	Compound	FC10326-4 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	0.0073 U	ND	nc		30
307-24-4	Perfluorohexanoic acid	0.0036 U	ND	nc		30
375-85-9	Perfluoroheptanoic acid	0.0036 U	ND	nc		30
335-67-1	Perfluorooctanoic acid	0.0036 U	ND	nc		30
375-95-1	Perfluorononanoic acid	0.0036 U	ND	nc		30
335-76-2	Perfluorodecanoic acid	0.0036 U	ND	nc		30
2058-94-8	Perfluoroundecanoic acid	0.0036 U	ND	nc		30
307-55-1	Perfluorododecanoic acid	0.0036 U	ND	nc		30
72629-94-8	Perfluorotridecanoic acid	0.0036 U	ND	nc		30
376-06-7	Perfluorotetradecanoic acid	0.0036 U	ND	nc		30
375-73-5	Perfluorobutanesulfonic acid	0.0036 U	ND	nc		30
2706-91-4	Perfluoropentanesulfonic acid	0.0045 U	ND	nc		30
355-46-4	Perfluorohexanesulfonic acid	0.0036 U	ND	nc		30
375-92-8	Perfluoroheptanesulfonic acid	0.0036 U	ND	nc		30
1763-23-1	Perfluorooctanesulfonic acid	0.0036 U	ND	nc		30
68259-12-1	Perfluorononanesulfonic acid	0.0036 U	ND	nc		30
335-77-3	Perfluorodecanesulfonic acid	0.0036 U	ND	nc		30
79780-39-5	Perfluorododecanesulfonic aci	0.0045 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	0.0036 U	ND	nc		30
31506-32-8	MeFOSA	0.0073 U	ND	nc		30
4151-50-2	EtFOSA	0.0073 U	ND	nc		30
2355-31-9	MeFOSAA	0.0045 U	ND	nc		30
2991-50-6	EtFOSAA	0.0045 U	ND	nc		30
24448-09-7	MeFOSE	0.036 U	ND	nc		30
1691-99-2	EtFOSE	0.036 U	ND	nc		30
13252-13-6	HFPO-DA (GenX)	0.0036 U	ND	nc		30
919005-14-4	ADONA	0.0073 U	ND	nc		30
377-73-1	PFMPA	0.0073 U	ND	nc		30
863090-89-5	PFMBA	0.0073 U	ND	nc		30
151772-58-6	NFDHA	0.0073 U	ND	nc		30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0073 U	ND	nc		30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0073 U	ND	nc		30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC10326
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99514-DUP	6Q26494.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372
FC10326-4	6Q26493.D	1	10/16/23	MV	10/13/23	OP99514	S6Q372

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10326-1, FC10326-2, FC10326-3, FC10326-4, FC10326-5

CAS No.	Compound	FC10326-4 ug/l	DUP Q ug/l	Q RPD	Limits
113507-82-7PFEESA		0.0073 U	ND	nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	ND	nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.091 U	ND	nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.091 U	ND	nc	30

CAS No.	ID Standard Recoveries	DUP	FC10326-4	Limits
	13C4-PFBA	100%	101%	20-150%
	13C5-PFPeA	109%	105%	20-150%
	13C5-PFHxA	112%	108%	20-150%
	13C4-PFHpA	109%	110%	20-150%
	13C8-PFOA	105%	100%	20-150%
	13C9-PFNA	98%	97%	20-150%
	13C6-PFDA	99%	98%	20-150%
	13C7-PFUnDA	99%	84%	20-150%
	13C2-PFDoDA	93%	81%	20-150%
	13C2-PFTeDA	82%	75%	20-150%
	13C3-PFBS	101%	106%	20-150%
	13C3-PFHxS	99%	108%	20-150%
	13C8-PFOS	98%	93%	20-150%
	13C8-FOSA	85%	84%	20-150%
	d3-MeFOSA	82%	77%	20-150%
	d5-EtFOSA	83%	74%	20-150%
	d3-MeFOSAA	103%	87%	20-150%
	d5-EtFOSAA	90%	84%	20-150%
	d7-MeFOSE	84%	77%	20-150%
	d9-EtFOSE	85%	83%	20-150%
	13C2-4:2FTS	103%	107%	20-180%
	13C2-6:2FTS	101%	105%	20-180%
	13C2-8:2FTS	101%	108%	20-180%
	13C3-HFPO-DA	109%	101%	20-150%

* = Outside of Control Limits.