The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC11753

Sampling Date: 12/06/23

Report to:

AECOM, Inc
7595 Technology Way
Denver, CO 80237
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ATTN: Katie Abbott

Total number of pages in report: 48

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: Terri McNulty-Patterson 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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SGS North America Inc.

Sample Summary

AECOM, INC.

Job No: FC11753

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FC11753-1	12/06/23	09:05	MGJW	12/07/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2312
FC11753-2	12/06/23	09:40	MGJW	12/07/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2312
FC11753-3	12/06/23	10:40	MGJW	12/07/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2312
FC11753-4	12/06/23	10:10	MGJW	12/07/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2312
FC11753-5	12/06/23	11:50	MGJW	12/07/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2312

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC11753

Site: N6274223F0104 RH Fire Suppression System **Report Date:** 12/14/2023 11:47:43 AM

On 12/07/2023, 3 Sample(s), 0 Trip Blank(s), 1 Equip. Blank(s) and 1 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC11753 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:** OP524

Sample(s) FC11753-3MS, FC11753-5DUP were used as the QC samples indicated.

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

Sample(s) FC11753-3 have surrogates outside control limits.

FC11753-3 for 13C4-PFBA: Outside control limits.

Matrix: AQ **Batch ID:** OP576

OP576-BS: Insufficient sample for MS/MSD.

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: FC11753
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 12/06/23

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC11753-1	**AF-RHMW17S-WGN01LF-2312**					
Perfluorooctanesulfonic acid		0.91 J	3.5	1.8	ng/l	EPA DRAFT 1633
FC11753-2	**AF-RHMW17S-WQEB01-2312**					
No hits reported in this sample.						
FC11753-3	**AF-RHMW17D-WGN01LF-2312**					
No hits reported in this sample.						
FC11753-4	**AF-RHMW17D-WQFB01-2312**					
No hits reported in this sample.						
FC11753-5	**AF-RHMW17-WGN01LF-2312**					
Perfluoropentanoic acid		1.5 J	7.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		0.99 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.64 J	3.6	1.8	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AF-RHMW17S-WGN01LF-2312
Lab Sample ID: FC11753-1 **Date Sampled:** 12/06/23
Matrix: AQ - Ground Water **Date Received:** 12/07/23
Method: EPA DRAFT 1633 EPA 1633 DRAFT **Percent Solids:** n/a
Project: N6274223F0104 RH Fire Suppression System

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q54993.D	1	12/11/23 02:24	AL	12/08/23 08:50	OP524	S4Q805
Run #2							

	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	0.91	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	
PERFLUOROOCTANE 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-RHMW17S-WGN01LF-2312		
Lab Sample ID:	FC11753-1	**Date Sampled:**	12/06/23
Matrix:	AQ - Ground Water	**Date Received:**	12/07/23
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
PERFLUOROOCTANE 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	
PERFLUOROOCTANE 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	70%		20-150%
	13C5-PFPeA	112%		20-150%
	13C5-PFHxA	88%		20-150%
	13C4-PFHpA	109%		20-150%
	13C8-PFOA	104%		20-150%
	13C9-PFNA	99%		20-150%
	13C6-PFDA	98%		20-150%
	13C7-PFUnDA	97%		20-150%
	13C2-PFDoDA	89%		20-150%
	13C2-PFTeDA	81%		20-150%
	13C3-PFBS	103%		20-150%
	13C3-PFHxS	106%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2312		
Lab Sample ID:	FC11753-1	**Date Sampled:**	12/06/23
Matrix:	AQ - Ground Water	**Date Received:**	12/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	92%		20-150%
	13C8-FOSA	80%		20-150%
	d3-MeFOSA	73%		20-150%
	d5-EtFOSA	81%		20-150%
	d3-MeFOSAA	99%		20-150%
	d5-EtFOSAA	98%		20-150%
	d7-MeFOSE	57%		20-150%
	d9-EtFOSE	73%		20-150%
	13C2-4:2FTS	102%		20-180%
	13C2-6:2FTS	110%		20-180%
	13C2-8:2FTS	107%		20-180%
	13C3-HFPO-DA	90%		20-150%

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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-WQEB01-2312		
Lab Sample ID:	FC11753-2	**Date Sampled:**	12/06/23
Matrix:	AQ - Equipment Blank	**Date Received:**	12/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q54994.D	1	12/11/23 02:39	AL	12/08/23 08:50	OP524	S4Q805
Run #2							

	Initial Volume	Final Volume
Run #1	560 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.1	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.89 U	3.6	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.1	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.6	1.8	0.60	ng/l	
31506-32-8	MeFOSA	3.6 U	7.1	3.6	0.89	ng/l	
4151-50-2	EtFOSA	3.6 U	7.1	3.6	0.89	ng/l	

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E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2312		
Lab Sample ID:	FC11753-2	**Date Sampled:**	12/06/23
Matrix:	AQ - Equipment Blank	**Date Received:**	12/07/23
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
PERFLUOROOCTANE 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	
PERFLUOROOCTANE 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	96%		20-150%
	13C5-PFPeA	101%		20-150%
	13C5-PFHxA	98%		20-150%
	13C4-PFHpA	96%		20-150%
	13C8-PFOA	95%		20-150%
	13C9-PFNA	94%		20-150%
	13C6-PFDA	94%		20-150%
	13C7-PFUnDA	87%		20-150%
	13C2-PFDoDA	76%		20-150%
	13C2-PFTeDA	81%		20-150%
	13C3-PFBS	96%		20-150%
	13C3-PFHxS	106%		20-150%

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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-WQEB01-2312		
Lab Sample ID:	FC11753-2	**Date Sampled:**	12/06/23
Matrix:	AQ - Equipment Blank	**Date Received:**	12/07/23
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	90%		20-150%
	13C8-FOSA	61%		20-150%
	d3-MeFOSA	70%		20-150%
	d5-EtFOSA	84%		20-150%
	d3-MeFOSAA	103%		20-150%
	d5-EtFOSAA	102%		20-150%
	d7-MeFOSE	53%		20-150%
	d9-EtFOSE	70%		20-150%
	13C2-4:2FTS	128%		20-180%
	13C2-6:2FTS	144%		20-180%
	13C2-8:2FTS	131%		20-180%
	13C3-HFPO-DA	88%		20-150%

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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-2312
Lab Sample ID: FC11753-3 **Date Sampled:** 12/06/23
Matrix: AQ - Ground Water **Date Received:** 12/07/23
Method: EPA DRAFT 1633 EPA 1633 DRAFT **Percent Solids:** n/a
Project: N6274223F0104 RH Fire Suppression System

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q54995.D	1	12/11/23 02:54	AL	12/08/23 08:50	OP524	S4Q805
Run #2	7Q357.D	1	12/13/23 19:07	MV	12/12/23 09:45	OP576	S7Q11

	Initial Volume	Final Volume
Run #1	560 ml	5.0 ml
Run #2	60.0 ml	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	33 U [a]	130	33	16	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.1	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.89 U	3.6	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.1	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.6	1.8	0.60	ng/l	
31506-32-8	MeFOSA	3.6 U	7.1	3.6	0.89	ng/l	
4151-50-2	EtFOSA	3.6 U	7.1	3.6	0.89	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2312		
Lab Sample ID:	FC11753-3	**Date Sampled:**	12/06/23
Matrix:	AQ - Ground Water	**Date Received:**	12/07/23
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
PERFLUOROOCTANE 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	
PERFLUOROOCTANE 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	5% [b]	81%	20-150%
	13C5-PFPeA	44%	81%	20-150%
	13C5-PFHxA	82%	81%	20-150%
	13C4-PFHpA	98%	81%	20-150%
	13C8-PFOA	96%	81%	20-150%
	13C9-PFNA	100%	77%	20-150%
	13C6-PFDA	98%	80%	20-150%
	13C7-PFUnDA	96%	75%	20-150%
	13C2-PFDoDA	87%	73%	20-150%
	13C2-PFTeDA	77%	69%	20-150%
	13C3-PFBS	86%	76%	20-150%
	13C3-PFHxS	94%	80%	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-2312		
Lab Sample ID:	FC11753-3	**Date Sampled:**	12/06/23
Matrix:	AQ - Ground Water	**Date Received:**	12/07/23
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	88%	113%	20-150%
	13C8-FOSA	82%	68%	20-150%
	d3-MeFOSA	94%	66%	20-150%
	d5-EtFOSA	100%	62%	20-150%
	d3-MeFOSAA	123%	66%	20-150%
	d5-EtFOSAA	126%	63%	20-150%
	d7-MeFOSE	67%	58%	20-150%
	d9-EtFOSE	85%	59%	20-150%
	13C2-4:2FTS	155%	110%	20-180%
	13C2-6:2FTS	118%	83%	20-180%
	13C2-8:2FTS	114%	90%	20-180%
	13C3-HFPO-DA	70%	73%	20-150%

(a) Result is from Run# 2

(b) 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-WQFB01-2312		
Lab Sample ID:	FC11753-4	**Date Sampled:**	12/06/23
Matrix:	AQ - Field Blank Water	**Date Received:**	12/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q54997.D	1	12/11/23 03:23	AL	12/08/23 08:50	OP524	S4Q805
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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	
PERFLUOROOCTANE 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	

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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-WQFB01-2312		
Lab Sample ID:	FC11753-4	**Date Sampled:**	12/06/23
Matrix:	AQ - Field Blank Water	**Date Received:**	12/07/23
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
PERFLUOROOCTANE 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	
PERFLUOROOCTANE 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	107%		20-150%
	13C5-PFPeA	108%		20-150%
	13C5-PFHxA	102%		20-150%
	13C4-PFHpA	105%		20-150%
	13C8-PFOA	102%		20-150%
	13C9-PFNA	104%		20-150%
	13C6-PFDA	96%		20-150%
	13C7-PFUnDA	100%		20-150%
	13C2-PFDoDA	89%		20-150%
	13C2-PFTeDA	85%		20-150%
	13C3-PFBS	103%		20-150%
	13C3-PFHxS	107%		20-150%

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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-WQFB01-2312		
Lab Sample ID:	FC11753-4	**Date Sampled:**	12/06/23
Matrix:	AQ - Field Blank Water	**Date Received:**	12/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	92%		20-150%
	13C8-FOSA	63%		20-150%
	d3-MeFOSA	77%		20-150%
	d5-EtFOSA	86%		20-150%
	d3-MeFOSAA	114%		20-150%
	d5-EtFOSAA	109%		20-150%
	d7-MeFOSE	55%		20-150%
	d9-EtFOSE	74%		20-150%
	13C2-4:2FTS	133%		20-180%
	13C2-6:2FTS	138%		20-180%
	13C2-8:2FTS	130%		20-180%
	13C3-HFPO-DA	93%		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-2312		
Lab Sample ID:	FC11753-5	**Date Sampled:**	12/06/23
Matrix:	AQ - Ground Water	**Date Received:**	12/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q54998.D	1	12/11/23 03:38	AL	12/08/23 08:50	OP524	S4Q805
Run #2							

	Initial Volume	Final Volume
Run #1	560 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.5	7.1	1.8	0.84	ng/l	J
307-24-4	Perfluorohexanoic acid	0.99	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.64	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.89 U	3.6	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.1	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.6	1.8	0.60	ng/l	
31506-32-8	MeFOSA	3.6 U	7.1	3.6	0.89	ng/l	
4151-50-2	EtFOSA	3.6 U	7.1	3.6	0.89	ng/l	

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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-2312		
Lab Sample ID:	FC11753-5	**Date Sampled:**	12/06/23
Matrix:	AQ - Ground Water	**Date Received:**	12/07/23
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
PERFLUOROOCTANE 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	
PERFLUOROOCTANE 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	106%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	112%		20-150%
	13C4-PFHpA	108%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	103%		20-150%
	13C6-PFDA	105%		20-150%
	13C7-PFUnDA	106%		20-150%
	13C2-PFDoDA	92%		20-150%
	13C2-PFTeDA	87%		20-150%
	13C3-PFBS	112%		20-150%
	13C3-PFHxS	111%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2312		
Lab Sample ID:	FC11753-5	**Date Sampled:**	12/06/23
Matrix:	AQ - Ground Water	**Date Received:**	12/07/23
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	73%		20-150%
	d3-MeFOSA	77%		20-150%
	d5-EtFOSA	88%		20-150%
	d3-MeFOSAA	109%		20-150%
	d5-EtFOSAA	105%		20-150%
	d7-MeFOSE	56%		20-150%
	d9-EtFOSE	75%		20-150%
	13C2-4:2FTS	128%		20-180%
	13C2-6:2FTS	149%		20-180%
	13C2-8:2FTS	137%		20-180%
	13C3-HFPO-DA	99%		20-150%

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LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

SGS North America Inc - Orlando

Chain of Custody

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

FC11753

COC #: 2312AFSG12

SGS - ORLANDO JOB # :

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SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: AECOM
Address: 1001 Bishop St. ste 1600
City: Honolulu State: HI Zip: 96813
Project Contact: Katie Abbott Email: katie.abbott@aecom.com
Project Manager: Watson Tanji Email: watson.tanji@aecom.com
Phone #: 303-796-4624 / 808-954-4512
Sampler(s) Name(s) (Printed)
Sampler 1: Max Guthin Sampler 2: Johnann Williams

Project Information

Project Name: N6274223F0104 RH Fire Suppression System
Street
City Honolulu State Hawaii
Project # 23F0104 - 60697810
Fax #
Client Purchase Order # 151253

Analytical Information

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	MeOH-ZMA	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
1	AF-RHMW17S-WGN01LF-2312	12/06/23	0905	M. Guthin	GW	3		X								X	
2	AF-RHMW17S-WQEB01-2312	12/06/23	0905	M Guthin	WW	3		X								X	
			0940														

Max Guthin 12/6/23

Max Guthin 12/6/23

INITIAL ASSESSMENT

LABEL VERIFICATION

Turnaround Time (Business days)

10 Day (Business)
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Approved By: / Date:
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [x] FULLT1 (EPA LEVEL 4)
- [x] EDD'S

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United Airp: 01b-9750 V131

12/14/23

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
1	Max Guthin	12/6/23 1335	2 Alex Edmonds, AECOM	3 Alex Edmonds AECOM	12/6/23	4 12/7/23 1830
5	Relinquished by/Affiliation	Date Time:	6 Received By/Affiliation	7 Relinquished By/Affiliation	Date Time:	8 Received By/Affiliation

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 3.6 IR1

http://www.sgs.com/en/terms-and-conditions

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3.6 IR1

SGS North America Inc - Orlando
Chain of Custody

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

FC11753 COC #: 2312AFSG11
SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: AECOM
Address: 1001 Bishop St. ste 1600
City: Honolulu State: HI Zip: 96813
Project Contact: Katie Abbott Email: katie.abbott@aecom.com
Project Manager: Watson Tanji Email: watson.tanji@aecom.com
Phone #: 303-796-4624 / 808-954-4512
Sampler(s) Name(s) (Printed)
Sampler 1: Max Griffin Sampler 2: Johnnie Williams

Project Information

Project Name: N6274223F0104 RH Fire Suppression System
Street
City Honolulu State Hawaii
Project # 23F0104 - 60697810
Fax #
Client Purchase Order # 151253

Analytical Information

PFAS EPA Draft 1633

Max Griffin 12/06/23

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MEOH	LAB USE ONLY
3	AF-RHMW17D-WGN01LF-2312	12/6/23	1049	M.Griffin	GW	3		X							X	
4	AF-RHMW17D-WQFB01-2312	12/6/23	1010	M.Griffin	WW	3		X							X	

12/06/23
Max Griffin

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [x] FULLT1 (EPA LEVEL 4)
- [x] EDD'S

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United AWB: 016-97504131

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
1	Max Griffin	12/6/23 1355	2 Alex Edmonds /AECOM	3 Alex Edmonds	12/12/23 1415	4
5	Relinquished by/Affiliation	Date Time:	6 Received By/Affiliation	7 Relinquished By/Affiliation	Date Time:	8 Received By/Affiliation

Lab Use Only : Cooler Temperature (s) Celsius (corrected):

http://www.sgs.com/en/terms-and-conditions

PFAS_COCs_ALL_12042023.xls Rev 031318

SGS North America Inc - Orlando
Chain of Custody

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

FC11753

SGS - ORLANDO JOB # :

COC #: 2312AFSG10

PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: AECOM
Address: 1001 Bishop St. ste 1600
City: Honolulu State: HI Zip: 96813
Project Contact: Katie Abbott Email: katie.abbott@aecom.com
Project Manager: Watson Tanji Email: watson.tanji@aecom.com
Phone #: 303-796-4624 / 808-954-4512
Sampler(s) Name(s) (Printed)
Sampler 1: Max Guthrie Sampler 2: Johanna Williams

Project Information

Project Name: N6274223F0104 RH Fire Suppression System
Street
City Honolulu State Hawaii
Project # 23F0104 - 60697810
Fax #
Client Purchase Order # 151253

Analytical Information

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	CONTAINER INFORMATION: OTHER	NONE	HCl	NaOH	HNO3	H2SO4	MeOH+ZnAc	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
5	AF-RHMW17-WGN01LF-2312	12/6/23	1150	M.Guthrie	GW	3		X								X	

Max Guthrie 12/6/23

Max Guthrie 12/6/23

Turnaround Time (Business days)

10 Day (Business)
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Approved By: / Date:
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [x] FULLT1 (EPA LEVEL 4)
- [x] EDD'S

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
UMRA Awards: 016-9750413)

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
1	Max Guthrie	12/6/23 1855	2 Alex Edmonds AECOM	3 Alex Edmonds AECOM	12/6/23 2145	4 12/7/23 1830
5	Relinquished by/Affiliation	Date Time:	6 Received By/Affiliation	7 Relinquished By/Affiliation	Date Time:	8 Received By/Affiliation

Lab Use Only : Cooler Temperature (s) Celsius (corrected):

http://www.sgs.com/en/terms-and-conditions

PFAS_COCs_ALL_12042023.xls Rev 031318

SGS - Orlando Sample Receipt Summary

Job Number: fc11753 **Client:** AECOM **Project:** N6274223F0104 RH FIRE SUPPRESSION

Date / Time Received: 12/7/2023 6:30:00 PM **Delivery Method:** UNITED CARGO **Airbill #'s:** UNITED WAB: 016-97504131

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (4.0);

Cooler Information	Y	or	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. Temp criteria achieved:	☑		☐
4. Cooler temp verification:	IR Gun		
5. Cooler media:	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑

	W	or	S	N/A
3. Type of TB Received	☐		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples presented properly	☑		☐	
3. Suffiient volume/containers recv'd for analysis	☑		☐	
4. Condition of sample:	Intact			
5. Sample recv'd within HT	☑		☐	
6. Dates/Times/IDs on COC match sample label	☐		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☐
11. % Solids Jar Received?	☐		☐	☐
12. Residual Chlorine Present?	☐		☐	☐

Misc Information

Number of Encores: 25 Gram 5 Gram

Number of Lab Filtered Metals:

Test Strip Lot #s: pH 0-3: 226422 pH 10-12: Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #

Comments

Sample Receipt Summary 112723 EK Technician: ZANEB Date: 12/7/2023 7:15:47 PM Reviewer: Date:

QC Evaluation: DOD QSM5.x Limits

Job Number: FC11753
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 12/06/23

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No DOD QSM5.x Limits found for methods in this job.

* Sample used for QC is not from job FC11753

MS Semi-volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Instrument Blank

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q805-IBLK	4Q54947.D	1	12/10/23	AL	n/a	n/a	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

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	
757124-72-4	4:2 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	0.0018	0.0080	0.0010	ug/l	J
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	0.0046	0.040	0.0044	ug/l	J
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	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q805-IBLK	4Q54947.D	1	12/10/23	AL	n/a	n/a	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

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	
914637-49-3	5:3 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	101%	20-150%
	13C5-PFHxA	100%	20-150%
	13C4-PFHpA	99%	20-150%
	13C8-PFOA	97%	20-150%
	13C9-PFNA	101%	20-150%
	13C6-PFDA	98%	20-150%
	13C7-PFUnDA	104%	20-150%
	13C2-PFDoDA	96%	20-150%
	13C2-PFTeDA	101%	20-150%
	13C3-PFBS	96%	20-150%
	13C3-PFHxS	98%	20-150%
	13C8-PFOS	98%	20-150%
	13C8-FOSA	93%	20-150%
	d3-MeFOSAA	88%	20-150%
	d5-EtFOSAA	85%	20-150%
	13C2-4:2FTS	92%	20-180%
	13C2-6:2FTS	83%	20-180%
	13C2-8:2FTS	81%	20-180%

Instrument Blank

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S7Q11-IBLK	7Q349.D	1	12/13/23	MV	n/a	n/a	S7Q11

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	101%	20-150%
	13C5-PFHxA	100%	20-150%
	13C4-PFHpA	101%	20-150%
	13C8-PFOA	97%	20-150%
	13C9-PFNA	101%	20-150%
	13C6-PFDA	104%	20-150%
	13C7-PFUnDA	104%	20-150%
	13C2-PFDoDA	102%	20-150%
	13C2-PFTeDA	108%	20-150%
	13C3-PFBS	95%	20-150%
	13C3-PFHxS	102%	20-150%
	13C8-PFOS	98%	20-150%
	13C8-FOSA	98%	20-150%
	d3-MeFOSA	95%	20-150%
	d5-EtFOSA	95%	20-150%
	d3-MeFOSAA	97%	20-150%
	d5-EtFOSAA	97%	20-150%
	d7-MeFOSE	97%	20-150%
	d9-EtFOSE	96%	20-150%
	13C2-4:2FTS	94%	20-180%
	13C2-6:2FTS	100%	20-180%
	13C2-8:2FTS	101%	20-180%
	13C3-HFPO-DA	96%	20-150%

Continuing Calibration Blank

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q805-ICCB	4Q54989.D	1	12/11/23	AL	n/a	n/a	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

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	
757124-72-4	4:2 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	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q805-ICCB	4Q54989.D	1	12/11/23	AL	n/a	n/a	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

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	
914637-49-3	5:3 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	99%	20-150%
	13C5-PFPeA	98%	20-150%
	13C5-PFHxA	97%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	99%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	102%	20-150%
	13C7-PFUnDA	103%	20-150%
	13C2-PFDoDA	95%	20-150%
	13C2-PFTeDA	97%	20-150%
	13C3-PFBS	99%	20-150%
	13C3-PFHxS	94%	20-150%
	13C8-PFOS	93%	20-150%
	13C8-FOSA	95%	20-150%
	d3-MeFOSAA	110%	20-150%
	d5-EtFOSAA	108%	20-150%
	13C2-4:2FTS	125%	20-180%
	13C2-6:2FTS	127%	20-180%
	13C2-8:2FTS	129%	20-180%

Continuing Calibration Blank

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q805-ICCB	4Q55001.D	1	12/11/23	AL	n/a	n/a	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

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	
757124-72-4	4:2 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	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q805-ICCB	4Q55001.D	1	12/11/23	AL	n/a	n/a	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

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	
914637-49-3	5:3 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	99%	20-150%
	13C5-PFPeA	98%	20-150%
	13C5-PFHxA	98%	20-150%
	13C4-PFHpA	101%	20-150%
	13C8-PFOA	100%	20-150%
	13C9-PFNA	97%	20-150%
	13C6-PFDA	95%	20-150%
	13C7-PFUnDA	104%	20-150%
	13C2-PFDoDA	97%	20-150%
	13C2-PFTeDA	100%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	101%	20-150%
	13C8-PFOS	91%	20-150%
	13C8-FOSA	99%	20-150%
	d3-MeFOSAA	108%	20-150%
	d5-EtFOSAA	114%	20-150%
	13C2-4:2FTS	140%	20-180%
	13C2-6:2FTS	139%	20-180%
	13C2-8:2FTS	132%	20-180%

Method Blank Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-MB	4Q54992.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

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	
757124-72-4	4:2 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	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-MB	4Q54992.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

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	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	117%	20-150%
	13C5-PFPeA	120%	20-150%
	13C5-PFHxA	115%	20-150%
	13C4-PFHpA	118%	20-150%
	13C8-PFOA	117%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	117%	20-150%
	13C7-PFUnDA	120%	20-150%
	13C2-PFDoDA	103%	20-150%
	13C2-PFTeDA	99%	20-150%
	13C3-PFBS	129%	20-150%
	13C3-PFHxS	137%	20-150%
	13C8-PFOS	102%	20-150%
	13C8-FOSA	68%	20-150%
	d3-MeFOSA	73%	20-150%
	d5-EtFOSA	90%	20-150%
	d3-MeFOSAA	130%	20-150%
	d5-EtFOSAA	125%	20-150%
	d7-MeFOSE	52%	20-150%
	d9-EtFOSE	71%	20-150%
	13C2-4:2FTS	135%	20-180%
	13C2-6:2FTS	167%	20-180%
	13C2-8:2FTS	180%	20-180%
	13C3-HFPO-DA	106%	20-150%

Method Blank Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP576-MB	7Q356.D	1	12/13/23	MV	12/12/23	OP576	S7Q11

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-3

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.13	0.016	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	99%	20-150%
	13C5-PFPeA	100%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	97%	20-150%
	13C8-PFOA	100%	20-150%
	13C9-PFNA	99%	20-150%
	13C6-PFDA	99%	20-150%
	13C7-PFUnDA	95%	20-150%
	13C2-PFDoDA	77%	20-150%
	13C2-PFTeDA	63%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	99%	20-150%
	13C8-PFOS	96%	20-150%
	13C8-FOSA	58%	20-150%
	d3-MeFOSA	54%	20-150%
	d5-EtFOSA	55%	20-150%
	d3-MeFOSAA	87%	20-150%
	d5-EtFOSAA	75%	20-150%
	d7-MeFOSE	51%	20-150%
	d9-EtFOSE	56%	20-150%
	13C2-4:2FTS	121%	20-180%
	13C2-6:2FTS	105%	20-180%
	13C2-8:2FTS	117%	20-180%
	13C3-HFPO-DA	94%	20-150%

Blank Spike Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-LLBS	4Q54991.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0323	108	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0161	107	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0081	108	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0083	111	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0086	115	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0088	117	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0087	116	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0082	109	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0088	117	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0087	116	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0076	101	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0071	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0073	103	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0070	102	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0081	113	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0073	105	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0089	123	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0080	111	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0079	109	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0281	0.0356	127	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0294	103	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0359	125	40-150
754-91-6	PFOSA	0.0075	0.0087	116	40-150
31506-32-8	MeFOSA	0.015	0.0136	91	40-150
4151-50-2	EtFOSA	0.015	0.0153	102	40-150
2355-31-9	MeFOSAA	0.0075	0.0092	123	40-150
2991-50-6	EtFOSAA	0.0075	0.0082	109	40-150
24448-09-7	MeFOSE	0.0375	0.0361	96	40-150
1691-99-2	EtFOSE	0.0375	0.0405	108	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0142	95	40-150
919005-14-4	ADONA	0.0142	0.0172	121	40-150
377-73-1	PFMPA	0.015	0.0165	110	40-150
863090-89-5	PFMBA	0.015	0.0155	103	40-150
151772-58-6	NFDHA	0.015	0.0163	109	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.014	0.0163	116	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0142	0.0164	116	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-LLBS	4Q54991.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0142	106	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0285	76	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.188	0.186	99	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.202	108	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	112%	20-150%
	13C5-PFPeA	110%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	107%	20-150%
	13C8-PFOA	114%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	102%	20-150%
	13C7-PFUnDA	100%	20-150%
	13C2-PFDoDA	96%	20-150%
	13C2-PFTeDA	96%	20-150%
	13C3-PFBS	111%	20-150%
	13C3-PFHxS	112%	20-150%
	13C8-PFOS	106%	20-150%
	13C8-FOSA	70%	20-150%
	d3-MeFOSA	79%	20-150%
	d5-EtFOSA	81%	20-150%
	d3-MeFOSAA	128%	20-150%
	d5-EtFOSAA	125%	20-150%
	d7-MeFOSE	51%	20-150%
	d9-EtFOSE	67%	20-150%
	13C2-4:2FTS	117%	20-180%
	13C2-6:2FTS	156%	20-180%
	13C2-8:2FTS	139%	20-180%
	13C3-HFPO-DA	99%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP576-LLBS	7Q355.D	1	12/13/23	MV	12/12/23	OP576	S7Q11

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.25	0.247	99	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	101%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	102%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	103%	20-150%
	13C9-PFNA	100%	20-150%
	13C6-PFDA	106%	20-150%
	13C7-PFUnDA	99%	20-150%
	13C2-PFDoDA	94%	20-150%
	13C2-PFTeDA	80%	20-150%
	13C3-PFBS	102%	20-150%
	13C3-PFHxS	103%	20-150%
	13C8-PFOS	101%	20-150%
	13C8-FOSA	79%	20-150%
	d3-MeFOSA	69%	20-150%
	d5-EtFOSA	69%	20-150%
	d3-MeFOSAA	96%	20-150%
	d5-EtFOSAA	92%	20-150%
	d7-MeFOSE	63%	20-150%
	d9-EtFOSE	65%	20-150%
	13C2-4:2FTS	123%	20-180%
	13C2-6:2FTS	113%	20-180%
	13C2-8:2FTS	124%	20-180%
	13C3-HFPO-DA	105%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-BS	4Q54990.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.110	110	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0526	105	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0269	108	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0266	106	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0270	108	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0266	106	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0269	108	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0275	110	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0282	113	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0282	113	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0274	110	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0238	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0233	99	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0240	105	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0254	107	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0228	98	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0296	123	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0257	107	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0253	104	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.103	110	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.111	117	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.118	123	40-150
754-91-6	PFOSA	0.025	0.0258	103	40-150
31506-32-8	MeFOSA	0.05	0.0479	96	40-150
4151-50-2	EtFOSA	0.05	0.0455	91	40-150
2355-31-9	MeFOSAA	0.025	0.0289	116	40-150
2991-50-6	EtFOSAA	0.025	0.0286	114	40-150
24448-09-7	MeFOSE	0.125	0.120	96	40-150
1691-99-2	EtFOSE	0.125	0.121	97	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0515	103	40-150
919005-14-4	ADONA	0.0473	0.0584	124	40-150
377-73-1	PFMPA	0.05	0.0491	98	40-150
863090-89-5	PFMBA	0.05	0.0501	100	40-150
151772-58-6	NFDHA	0.05	0.0541	108	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0468	0.0556	119	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0473	0.0519	110	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-BS	4Q54990.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0474	107	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.117	94	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.615	98	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.665	106	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	76%	20-150%
	13C5-PFPeA	112%	20-150%
	13C5-PFHxA	106%	20-150%
	13C4-PFHpA	109%	20-150%
	13C8-PFOA	109%	20-150%
	13C9-PFNA	110%	20-150%
	13C6-PFDA	108%	20-150%
	13C7-PFUnDA	110%	20-150%
	13C2-PFDoDA	100%	20-150%
	13C2-PFTeDA	98%	20-150%
	13C3-PFBS	106%	20-150%
	13C3-PFHxS	114%	20-150%
	13C8-PFOS	103%	20-150%
	13C8-FOSA	75%	20-150%
	d3-MeFOSA	78%	20-150%
	d5-EtFOSA	87%	20-150%
	d3-MeFOSAA	122%	20-150%
	d5-EtFOSAA	115%	20-150%
	d7-MeFOSE	57%	20-150%
	d9-EtFOSE	76%	20-150%
	13C2-4:2FTS	134%	20-180%
	13C2-6:2FTS	136%	20-180%
	13C2-8:2FTS	138%	20-180%
	13C3-HFPO-DA	99%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP576-BS [a]	7Q354.D	1	12/13/23	MV	12/12/23	OP576	S7Q11

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.833	0.896	108	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	95%	20-150%
	13C5-PFPeA	95%	20-150%
	13C5-PFHxA	95%	20-150%
	13C4-PFHpA	94%	20-150%
	13C8-PFOA	93%	20-150%
	13C9-PFNA	97%	20-150%
	13C6-PFDA	93%	20-150%
	13C7-PFUnDA	95%	20-150%
	13C2-PFDoDA	92%	20-150%
	13C2-PFTeDA	79%	20-150%
	13C3-PFBS	92%	20-150%
	13C3-PFHxS	94%	20-150%
	13C8-PFOS	89%	20-150%
	13C8-FOSA	72%	20-150%
	d3-MeFOSA	66%	20-150%
	d5-EtFOSA	63%	20-150%
	d3-MeFOSAA	87%	20-150%
	d5-EtFOSAA	85%	20-150%
	d7-MeFOSE	55%	20-150%
	d9-EtFOSE	57%	20-150%
	13C2-4:2FTS	107%	20-180%
	13C2-6:2FTS	104%	20-180%
	13C2-8:2FTS	106%	20-180%
	13C3-HFPO-DA	89%	20-150%

(a) Insufficient sample for MS/MSD.

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-MS	4Q54996.D	1	12/11/23	AL	12/08/23	OP524	S4Q805
FC11753-3	4Q54995.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

CAS No.	Compound	FC11753-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.014	U	0.0909	0.0982	108	40-150
2706-90-3	Perfluoropentanoic acid	0.0071	U	0.0455	0.0460	101	40-150
307-24-4	Perfluorohexanoic acid	0.0036	U	0.0227	0.0232	102	40-150
375-85-9	Perfluoroheptanoic acid	0.0036	U	0.0227	0.0236	104	40-150
335-67-1	Perfluorooctanoic acid	0.0036	U	0.0227	0.0229	101	40-150
375-95-1	Perfluorononanoic acid	0.0036	U	0.0227	0.0222	98	40-150
335-76-2	Perfluorodecanoic acid	0.0036	U	0.0227	0.0222	98	40-150
2058-94-8	Perfluoroundecanoic acid	0.0036	U	0.0227	0.0258	114	40-150
307-55-1	Perfluorododecanoic acid	0.0036	U	0.0227	0.0263	116	40-150
72629-94-8	Perfluorotridecanoic acid	0.0036	U	0.0227	0.0244	107	40-150
376-06-7	Perfluorotetradecanoic acid	0.0036	U	0.0227	0.0235	103	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0036	U	0.0202	0.0215	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0045	U	0.0214	0.0232	108	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0036	U	0.0208	0.0213	103	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0036	U	0.0217	0.0229	106	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0036	U	0.0211	0.0237	112	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0036	U	0.0219	0.0303	139	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0036	U	0.0219	0.0253	115	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0045	U	0.022	0.0218	99	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.018	U	0.0852	0.0908	107	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	0.0864	0.0930	108	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	0.0873	0.103	118	40-150
754-91-6	PFOSA	0.0036	U	0.0227	0.0233	103	40-150
31506-32-8	MeFOSA	0.0071	U	0.0455	0.0369	81	40-150
4151-50-2	EtFOSA	0.0071	U	0.0455	0.0398	88	40-150
2355-31-9	MeFOSAA	0.0045	U	0.0227	0.0265	117	40-150
2991-50-6	EtFOSAA	0.0045	U	0.0227	0.0233	103	40-150
24448-09-7	MeFOSE	0.036	U	0.114	0.106	93	40-150
1691-99-2	EtFOSE	0.036	U	0.114	0.104	92	40-150
13252-13-6	HFPO-DA (GenX)	0.0036	U	0.0455	0.0468	103	40-150
919005-14-4	ADONA	0.0071	U	0.043	0.0670	156*	40-150
377-73-1	PFMPA	0.0071	U	0.0455	0.0156	34*	40-150
863090-89-5	PFMBA	0.0071	U	0.0455	0.0571	126	40-150
151772-58-6	NFDHA	0.0071	U	0.0455	0.0288	63	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0071	U	0.0425	0.0590	139	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0071	U	0.043	0.0533	124	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-MS	4Q54996.D	1	12/11/23	AL	12/08/23	OP524	S4Q805
FC11753-3	4Q54995.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

CAS No.	Compound	FC11753-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0071	U	0.0405	0.0441	109	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.018	U	0.114	0.227	200*	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.089	U	0.568	0.669	118	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.089	U	0.568	0.686	121	40-150

CAS No.	ID Standard Recoveries	MS	FC11753-3	Limits
	13C4-PFBA	8%* [a]	5%* [a]	20-150%
	13C5-PFPeA	48%	44%	20-150%
	13C5-PFHxA	94%	82%	20-150%
	13C4-PFHpA	110%	98%	20-150%
	13C8-PFOA	111%	96%	20-150%
	13C9-PFNA	111%	100%	20-150%
	13C6-PFDA	116%	98%	20-150%
	13C7-PFUnDA	112%	96%	20-150%
	13C2-PFDoDA	95%	87%	20-150%
	13C2-PFTeDA	88%	77%	20-150%
	13C3-PFBS	97%	86%	20-150%
	13C3-PFHxS	114%	94%	20-150%
	13C8-PFOS	98%	88%	20-150%
	13C8-FOSA	95%	82%	20-150%
	d3-MeFOSA	107%	94%	20-150%
	d5-EtFOSA	124%	100%	20-150%
	d3-MeFOSAA	137%	123%	20-150%
	d5-EtFOSAA	161%* [a]	126%	20-150%
	d7-MeFOSE	76%	67%	20-150%
	d9-EtFOSE	97%	85%	20-150%
	13C2-4:2FTS	175%	155%	20-180%
	13C2-6:2FTS	143%	118%	20-180%
	13C2-8:2FTS	133%	114%	20-180%
	13C3-HFPO-DA	74%	70%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-DUP	4Q54999.D	1	12/11/23	AL	12/08/23	OP524	S4Q805
FC11753-5	4Q54998.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

CAS No.	Compound	FC11753-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.014	U	ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0015	J	0.0016	J	6	30
307-24-4	Perfluorohexanoic acid	0.00099	J	0.00093	J	6	30
375-85-9	Perfluoroheptanoic acid	0.00064	J	0.00059	J	8	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
757124-72-4	4:2 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	0.0071	U	ND		nc	30
4151-50-2	EtFOSA	0.0071	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	0.0071	U	ND		nc	30
377-73-1	PFMPA	0.0071	U	ND		nc	30
863090-89-5	PFMBA	0.0071	U	ND		nc	30
151772-58-6	NFDHA	0.0071	U	ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0071	U	ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0071	U	ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC11753
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP524-DUP	4Q54999.D	1	12/11/23	AL	12/08/23	OP524	S4Q805
FC11753-5	4Q54998.D	1	12/11/23	AL	12/08/23	OP524	S4Q805

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC11753-1, FC11753-2, FC11753-3, FC11753-4, FC11753-5

CAS No.	Compound	FC11753-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0071	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.089	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.089	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC11753-5	Limits
	13C4-PFBA	107%	106%	20-150%
	13C5-PFPeA	111%	113%	20-150%
	13C5-PFHxA	109%	112%	20-150%
	13C4-PFHpA	111%	108%	20-150%
	13C8-PFOA	107%	110%	20-150%
	13C9-PFNA	105%	103%	20-150%
	13C6-PFDA	116%	105%	20-150%
	13C7-PFUnDA	112%	106%	20-150%
	13C2-PFDoDA	99%	92%	20-150%
	13C2-PFTeDA	98%	87%	20-150%
	13C3-PFBS	102%	112%	20-150%
	13C3-PFHxS	113%	111%	20-150%
	13C8-PFOS	96%	95%	20-150%
	13C8-FOSA	80%	73%	20-150%
	d3-MeFOSA	74%	77%	20-150%
	d5-EtFOSA	89%	88%	20-150%
	d3-MeFOSAA	110%	109%	20-150%
	d5-EtFOSAA	107%	105%	20-150%
	d7-MeFOSE	60%	56%	20-150%
	d9-EtFOSE	78%	75%	20-150%
	13C2-4:2FTS	133%	128%	20-180%
	13C2-6:2FTS	145%	149%	20-180%
	13C2-8:2FTS	124%	137%	20-180%
	13C3-HFPO-DA	99%	99%	20-150%

* = Outside of Control Limits.