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: FC5088

Sampling Date: 04/07/23

Report to:

AECOM, Inc
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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.

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

Test results relate only to samples analyzed.

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SGS North America Inc.

Sample Summary

AECOM, INC.

Job No: FC5088

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FC5088-1	04/07/23	09:50	TM	04/08/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2304W1
FC5088-2	04/07/23	10:20	TM	04/08/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2304W1
FC5088-3	04/07/23	11:15	TM	04/08/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2304W1
FC5088-4	04/07/23	10:35	TM	04/08/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2304W1
FC5088-5	04/07/23	12:25	TM	04/08/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2304W1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC5088

Site: N6274223F0104 RH Fire Suppression System **Report Date:** 4/19/2023 6:34:01 PM

On 04/08/2023, 4 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3.7 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC5088 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:** OP96368

Sample(s) FC5088-3MS, FC5088-5DUP were used as the QC samples indicated.

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

RPD(s) for Duplicate for Perfluoroheptanoic acid are outside control limits for sample OP96368-DUP. Probable cause is due to sample non-homogeneity.

Sample(s) FC5088-1, FC5088-3 have surrogates outside control limits.

FC5088-1 for 13C2-4:2FTS: Outside control limits.

FC5088-1 for 4:2 Fluorotelomer sulfonate: Associated ID Standard outside control limits.

FC5088-1: Dilution required (ID recovery standard failure). Confirmation run.

FC5088-3 for 13C4-PFBA: Outside control limits.

FC5088-3 for Perfluorobutanoic acid: Associated ID Standard outside control limits, Confirmed by batch QC.

FC5088-3: Confirmation run.

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: FC5088
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 04/07/23

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC5088-1	**AF-RHMW17S-WGN01LF-2304W1**					
Perfluorobutanoic acid		4.7 J	19	3.7	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		3.1 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		1.6 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid		1.0 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluorononanoic acid		0.74 J	4.6	1.9	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid		0.76 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid		1.3 J	4.6	1.9	ng/l	EPA DRAFT 1633
FC5088-2	**AF-RHMW17S-WQEB01-2304W1**					
No hits reported in this sample.						
FC5088-3	**AF-RHMW17D-WGN01LF-2304W1**					
No hits reported in this sample.						
FC5088-4	**AF-RHMW17D-WQFB01-2304W1**					
No hits reported in this sample.						
FC5088-5	**AF-RHMW17-WGN01LF-2304W1**					
Perfluorobutanoic acid		4.7 J	19	3.7	ng/l	EPA DRAFT 1633
Perfluoropentanoic acid		7.9 J	9.3	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		4.1 J	4.6	0.93	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.92 J	4.6	0.93	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		19.2	19	7.4	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AF-RHMW17S-WGN01LF-2304W1
Lab Sample ID: FC5088-1 **Date Sampled:** 04/07/23
Matrix: AQ - Ground Water **Date Received:** 04/08/23
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	4Q43068.D	1	04/15/23 19:18	MV	04/12/23 11:00	OP96368	S4Q622
Run #2 [a]	4Q43153.D	5	04/18/23 12:22	MV	04/12/23 11:00	OP96368	S4Q624

	Initial Volume	Final Volume
Run #1	540 ml	5.0 ml
Run #2	540 ml	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	4.7	19	3.7	1.8	ng/l	J
2706-90-3	Perfluoropentanoic acid	1.9 U	9.3	1.9	0.87	ng/l	
307-24-4	Perfluorohexanoic acid	3.1	4.6	0.93	0.46	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.6	4.6	0.93	0.46	ng/l	J
335-67-1	Perfluorooctanoic acid	1.0	4.6	0.93	0.46	ng/l	J
375-95-1	Perfluorononanoic acid	0.74	4.6	1.9	0.56	ng/l	J
335-76-2	Perfluorodecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.6	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.76	4.6	0.93	0.46	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	4.6	1.9	0.65	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.93 U	4.6	0.93	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.3	4.6	1.9	0.50	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.6	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.6	1.9	0.59	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate [b]	7.4 U	19	7.4	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	4.6	1.9	0.62	ng/l	
31506-32-8	MeFOSA	1.9 U	4.6	1.9	0.93	ng/l	
4151-50-2	EtFOSA	1.9 U	4.6	1.9	0.93	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2304W1		
Lab Sample ID:	FC5088-1	**Date Sampled:**	04/07/23
Matrix:	AQ - Ground Water	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.7 U	4.6	3.7	0.93	ng/l	
2991-50-6	EtFOSAA	3.7 U	4.6	3.7	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.3 U	46	9.3	4.1	ng/l	
1691-99-2	EtFOSE	19 U	46	19	6.9	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.7 U	19	3.7	0.93	ng/l	
919005-14-4	ADONA	3.7 U	19	3.7	1.7	ng/l	
377-73-1	PFMPA	1.9 U	9.3	1.9	0.93	ng/l	
863090-89-5	PFMBA	3.7 U	9.3	3.7	1.1	ng/l	
151772-58-6	NFDHA	3.7 U	9.3	3.7	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	19	3.7	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	19	3.7	1.6	ng/l	
113507-82-7	PFEESA	1.9 U	9.3	1.9	0.72	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.3 U	23	9.3	4.2	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.1	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.3	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	72%	70%	20-150%
	13C5-PFPeA	106%	100%	20-150%
	13C5-PFHxA	109%	104%	20-150%
	13C4-PFHpA	110%	105%	20-150%
	13C8-PFOA	105%	107%	20-150%
	13C9-PFNA	100%	110%	20-150%
	13C6-PFDA	107%	115%	20-150%
	13C7-PFUnDA	99%	91%	20-150%
	13C2-PFDoDA	77%	88%	20-150%
	13C2-PFTeDA	56%	65%	20-150%
	13C3-PFBS	110%	119%	20-150%
	13C3-PFHxS	110%	122%	20-150%

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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-WGN01LF-2304W1		
Lab Sample ID:	FC5088-1	**Date Sampled:**	04/07/23
Matrix:	AQ - Ground Water	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	100%	87%	20-150%
	13C8-FOSA	84%	73%	20-150%
	d3-MeFOSA	77%	69%	20-150%
	d5-EtFOSA	77%	68%	20-150%
	d3-MeFOSAA	97%	81%	20-150%
	d5-EtFOSAA	88%	89%	20-150%
	d7-MeFOSE	63%	60%	20-150%
	d9-EtFOSE	60%	54%	20-150%
	13C2-4:2FTS	155% [c]	105%	20-150%
	13C2-6:2FTS	102%	107%	20-150%
	13C2-8:2FTS	98%	120%	20-150%
	13C3-HFPO-DA	102%	107%	20-150%

(a) Dilution required (ID recovery standard failure). Confirmation run.
(b) Associated ID Standard outside control limits.
(c) Outside control limits.

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2304W1		
Lab Sample ID:	FC5088-2	**Date Sampled:**	04/07/23
Matrix:	AQ - Equipment Blank	**Date Received:**	04/08/23
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	4Q43069.D	1	04/15/23 19:32	MV	04/12/23 11:00	OP96368	S4Q622
Run #2							

	Initial Volume	Final Volume
Run #1	520 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.8 U	19	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	9.6	1.9	0.90	ng/l	
307-24-4	Perfluorohexanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
375-85-9	Perfluoroheptanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
335-67-1	Perfluorooctanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	4.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.8	1.9	0.58	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.96 U	4.8	0.96	0.48	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.96 U	4.8	0.96	0.48	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.8	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	4.8	1.9	0.67	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.96 U	4.8	0.96	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	4.8	1.9	0.52	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.8	1.9	0.62	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.8	3.8	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.1	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.7 U	19	7.7	4.0	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	4.8	1.9	0.64	ng/l	
31506-32-8	MeFOSA	1.9 U	4.8	1.9	0.96	ng/l	
4151-50-2	EtFOSA	1.9 U	4.8	1.9	0.96	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-RHMW17S-WQEB01-2304W1		
Lab Sample ID:	FC5088-2	**Date Sampled:**	04/07/23
Matrix:	AQ - Equipment Blank	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.8 U	4.8	3.8	0.96	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.8	3.8	1.3	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.6 U	48	9.6	4.2	ng/l	
1691-99-2	EtFOSE	19 U	48	19	7.1	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.8 U	19	3.8	0.96	ng/l	
919005-14-4	ADONA	3.8 U	19	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	9.6	1.9	0.96	ng/l	
863090-89-5	PFMBA	3.8 U	9.6	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	9.6	3.8	1.2	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	19	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	19	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	9.6	1.9	0.75	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.6 U	24	9.6	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.4	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	113%		20-150%
	13C5-PFPeA	118%		20-150%
	13C5-PFHxA	114%		20-150%
	13C4-PFHpA	117%		20-150%
	13C8-PFOA	113%		20-150%
	13C9-PFNA	107%		20-150%
	13C6-PFDA	113%		20-150%
	13C7-PFUnDA	102%		20-150%
	13C2-PFDoDA	100%		20-150%
	13C2-PFTeDA	83%		20-150%
	13C3-PFBS	112%		20-150%
	13C3-PFHxS	114%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2304W1		
Lab Sample ID:	FC5088-2	**Date Sampled:**	04/07/23
Matrix:	AQ - Equipment Blank	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	108%		20-150%
	13C8-FOSA	94%		20-150%
	d3-MeFOSA	100%		20-150%
	d5-EtFOSA	109%		20-150%
	d3-MeFOSAA	111%		20-150%
	d5-EtFOSAA	116%		20-150%
	d7-MeFOSE	87%		20-150%
	d9-EtFOSE	86%		20-150%
	13C2-4:2FTS	129%		20-150%
	13C2-6:2FTS	121%		20-150%
	13C2-8:2FTS	113%		20-150%
	13C3-HFPO-DA	109%		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-2304W1		
Lab Sample ID:	FC5088-3	**Date Sampled:**	04/07/23
Matrix:	AQ - Ground Water	**Date Received:**	04/08/23
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	4Q43070.D	1	04/15/23 19:46	MV	04/12/23 11:00	OP96368	S4Q622
Run #2 [a]	4Q43166.D	1	04/18/23 15:39	MV	04/12/23 11:00	OP96368	S4Q624

	Initial Volume	Final Volume
Run #1	570 ml	5.0 ml
Run #2	570 ml	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid [b]	3.5 U	18	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	8.8	1.8	0.82	ng/l	
307-24-4	Perfluorohexanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
375-85-9	Perfluoroheptanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	4.4	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	4.4	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	4.4	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	4.4	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.88 U	4.4	0.88	0.44	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.88 U	4.4	0.88	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	4.4	1.8	0.61	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.88 U	4.4	0.88	0.44	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	4.4	1.8	0.47	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	4.4	1.8	0.50	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	4.4	1.8	0.56	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.5 U	4.4	3.5	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.0 U	18	7.0	2.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	4.4	1.8	0.59	ng/l	
31506-32-8	MeFOSA	1.8 U	4.4	1.8	0.88	ng/l	
4151-50-2	EtFOSA	1.8 U	4.4	1.8	0.88	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2304W1		
Lab Sample ID:	FC5088-3	**Date Sampled:**	04/07/23
Matrix:	AQ - Ground Water	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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	8.8 U	44	8.8	3.8	ng/l	
1691-99-2	EtFOSE	18 U	44	18	6.5	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.5 U	18	3.5	0.88	ng/l	
919005-14-4	ADONA	3.5 U	18	3.5	1.6	ng/l	
377-73-1	PFMPA	1.8 U	8.8	1.8	0.88	ng/l	
863090-89-5	PFMBA	3.5 U	8.8	3.5	1.0	ng/l	
151772-58-6	NFDHA	3.5 U	8.8	3.5	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.5 U	18	3.5	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.5 U	18	3.5	1.5	ng/l	
113507-82-7	PFEESA	1.8 U	8.8	1.8	0.68	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	8.8 U	22	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	110	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	110	18	6.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	2% [C]	2% [C]	20-150%
	13C5-PFPeA	43%	43%	20-150%
	13C5-PFHxA	111%	112%	20-150%
	13C4-PFHpA	112%	119%	20-150%
	13C8-PFOA	109%	110%	20-150%
	13C9-PFNA	108%	107%	20-150%
	13C6-PFDA	109%	113%	20-150%
	13C7-PFUnDA	105%	109%	20-150%
	13C2-PFDoDA	92%	96%	20-150%
	13C2-PFTeDA	69%	73%	20-150%
	13C3-PFBS	102%	103%	20-150%
	13C3-PFHxS	101%	102%	20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2304W1		
Lab Sample ID:	FC5088-3	**Date Sampled:**	04/07/23
Matrix:	AQ - Ground Water	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	117%	116%	20-150%
	13C8-FOSA	111%	116%	20-150%
	d3-MeFOSA	127%	131%	20-150%
	d5-EtFOSA	128%	132%	20-150%
	d3-MeFOSAA	136%	145%	20-150%
	d5-EtFOSAA	142%	151% [c]	20-150%
	d7-MeFOSE	93%	98%	20-150%
	d9-EtFOSE	93%	96%	20-150%
	13C2-4:2FTS	139%	135%	20-150%
	13C2-6:2FTS	107%	96%	20-150%
	13C2-8:2FTS	111%	110%	20-150%
	13C3-HFPO-DA	104%	108%	20-150%

(a) Confirmation run.
(b) Associated ID Standard outside control limits, Confirmed by batch QC.
(c) Outside control limits.

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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-WQFB01-2304W1		
Lab Sample ID:	FC5088-4	**Date Sampled:**	04/07/23
Matrix:	AQ - Field Blank Water	**Date Received:**	04/08/23
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	4Q43072.D	1	04/15/23 20:14	MV	04/12/23 11:00	OP96368	S4Q622
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.8 U	19	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	9.4	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
375-85-9	Perfluoroheptanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
335-67-1	Perfluorooctanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	4.7	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.7	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.7	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.7	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.94 U	4.7	0.94	0.47	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.94 U	4.7	0.94	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	4.7	1.9	0.66	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.94 U	4.7	0.94	0.47	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	4.7	1.9	0.51	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.7	1.9	0.54	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.7	1.9	0.60	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.7	3.8	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.9	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	4.7	1.9	0.63	ng/l	
31506-32-8	MeFOSA	1.9 U	4.7	1.9	0.94	ng/l	
4151-50-2	EtFOSA	1.9 U	4.7	1.9	0.94	ng/l	

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Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2304W1		
Lab Sample ID:	FC5088-4	**Date Sampled:**	04/07/23
Matrix:	AQ - Field Blank Water	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE 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	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.4 U	47	9.4	4.1	ng/l	
1691-99-2	EtFOSE	19 U	47	19	7.0	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.8 U	19	3.8	0.94	ng/l	
919005-14-4	ADONA	3.8 U	19	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	9.4	1.9	0.94	ng/l	
863090-89-5	PFMBA	3.8 U	9.4	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	9.4	3.8	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	19	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	19	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	9.4	1.9	0.74	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.4 U	24	9.4	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.2	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.4	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	113%		20-150%
	13C5-PFPeA	110%		20-150%
	13C5-PFHxA	111%		20-150%
	13C4-PFHpA	115%		20-150%
	13C8-PFOA	107%		20-150%
	13C9-PFNA	101%		20-150%
	13C6-PFDA	104%		20-150%
	13C7-PFUnDA	105%		20-150%
	13C2-PFDoDA	98%		20-150%
	13C2-PFTeDA	90%		20-150%
	13C3-PFBS	109%		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-RHMW17D-WQFB01-2304W1		
Lab Sample ID:	FC5088-4	**Date Sampled:**	04/07/23
Matrix:	AQ - Field Blank Water	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	97%		20-150%
	13C8-FOSA	82%		20-150%
	d3-MeFOSA	88%		20-150%
	d5-EtFOSA	90%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	102%		20-150%
	d7-MeFOSE	74%		20-150%
	d9-EtFOSE	74%		20-150%
	13C2-4:2FTS	124%		20-150%
	13C2-6:2FTS	129%		20-150%
	13C2-8:2FTS	118%		20-150%
	13C3-HFPO-DA	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-RHMW17-WGN01LF-2304W1		
Lab Sample ID:	FC5088-5	**Date Sampled:**	04/07/23
Matrix:	AQ - Ground Water	**Date Received:**	04/08/23
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	4Q43075.D	1	04/15/23 20:56	MV	04/12/23 11:00	OP96368	S4Q622
Run #2							

	Initial Volume	Final Volume
Run #1	540 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	4.7	19	3.7	1.8	ng/l	J
2706-90-3	Perfluoropentanoic acid	7.9	9.3	1.9	0.87	ng/l	J
307-24-4	Perfluorohexanoic acid	4.1	4.6	0.93	0.46	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.92	4.6	0.93	0.46	ng/l	J
335-67-1	Perfluorooctanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
335-76-2	Perfluorodecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	4.6	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	4.6	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	0.93 U	4.6	0.93	0.46	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.93 U	4.6	0.93	0.46	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	4.6	1.9	0.65	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	0.93 U	4.6	0.93	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	4.6	1.9	0.50	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	4.6	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	4.6	1.9	0.59	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	19.2	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	4.6	1.9	0.62	ng/l	
31506-32-8	MeFOSA	1.9 U	4.6	1.9	0.93	ng/l	
4151-50-2	EtFOSA	1.9 U	4.6	1.9	0.93	ng/l	

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Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2304W1		
Lab Sample ID:	FC5088-5	**Date Sampled:**	04/07/23
Matrix:	AQ - Ground Water	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.7 U	4.6	3.7	0.93	ng/l	
2991-50-6	EtFOSAA	3.7 U	4.6	3.7	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	9.3 U	46	9.3	4.1	ng/l	
1691-99-2	EtFOSE	19 U	46	19	6.9	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	3.7 U	19	3.7	0.93	ng/l	
919005-14-4	ADONA	3.7 U	19	3.7	1.7	ng/l	
377-73-1	PFMPA	1.9 U	9.3	1.9	0.93	ng/l	
863090-89-5	PFMBA	3.7 U	9.3	3.7	1.1	ng/l	
151772-58-6	NFDHA	3.7 U	9.3	3.7	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	19	3.7	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	19	3.7	1.6	ng/l	
113507-82-7	PFEESA	1.9 U	9.3	1.9	0.72	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.3 U	23	9.3	4.2	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	120	19	8.1	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	120	19	7.3	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	114%		20-150%
	13C5-PFPeA	110%		20-150%
	13C5-PFHxA	112%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	100%		20-150%
	13C6-PFDA	103%		20-150%
	13C7-PFUnDA	83%		20-150%
	13C2-PFDoDA	68%		20-150%
	13C2-PFTeDA	48%		20-150%
	13C3-PFBS	109%		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-RHMW17-WGN01LF-2304W1		
Lab Sample ID:	FC5088-5	**Date Sampled:**	04/07/23
Matrix:	AQ - Ground Water	**Date Received:**	04/08/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	94%		20-150%
	13C8-FOSA	85%		20-150%
	d3-MeFOSA	84%		20-150%
	d5-EtFOSA	80%		20-150%
	d3-MeFOSAA	101%		20-150%
	d5-EtFOSAA	102%		20-150%
	d7-MeFOSE	67%		20-150%
	d9-EtFOSE	66%		20-150%
	13C2-4:2FTS	123%		20-150%
	13C2-6:2FTS	114%		20-150%
	13C2-8:2FTS	93%		20-150%
	13C3-HFPO-DA	108%		20-150%

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

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

FC5088
SGS - ORLANDO JOB # :

COC #: 2304W1AFSG03
PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information	Project Information	Analytical Information	Matrix Codes
Company Name: AECOM	**Project Name:** N6274223F0104 RH Fire Suppression System		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe
Address: 1001 Bishop St. ste 1600	**Street**		
City: Honolulu **State:** HI **Zip:** 96813	**City** Honolulu **State** Hawaii		
Project Contact: Katie Abbott **Email:** katie.abbott@aecom.com **Project Manager:** Watson Tanji **Email:** watson.tanji@aecom.com	**Project #** 60697810		
Phone #: 303-796-4624 / 808-954-4512	**Fax #**		
Sampler(s) Name(s) (Printed) **Sampler 1:** TESSA MURPHY **Sampler 2:** MATT YIM	**Client Purchase Order #**		

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
1	AF-RHMW17S-WGN01LF-2304W1	4/7/23	0950	TM	GW	3		X								X	
2	AF-RHMW17S-WQEB01-2304W1	4/7/23	1020	TM	GW	3		X								X	

TM 4/7/23

INITIAL ASSESSMENT

LABEL VERIFICATION

3.8 Kg

Turnaround Time (Business days)	Data Deliverable Information	Comments / Remarks
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	[ ] COMMERCIAL "A" (RESULTS ONLY) [ ] COMMERCIAL "B" (RESULTS PLUS QC) [ ] REDT1 (EPA LEVEL 3) [x] FULLT1 (EPA LEVEL 4) [x] EDD'S	EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW United AWB 016-76408522

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 TESSA MURPHY/AECOM	4/7/23 1335	2 AECOM	3 AECOM	4/7/23 1500	4 4/8/23 1530
Relinquished by/Affiliation	**Date Time:**	**Received By/Affiliation**	**Relinquished By/Affiliation**	**Date Time:**	**Received By/Affiliation**
5		6	7		8

PFAS_COCs_ALL.xls Rev 031318

FC5088: Chain of Custody
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SGS North America Inc - Orlando
Chain of Custody

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TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

FC5088

COC #: 2304W1AFSG02

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: TESSA MURPHY Sampler 2: MATT YIM

Project Information

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

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:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
3	AF-RHMW17D-WGN01LF-2304W1	4/7/23	1115	TM	GW	3		X								X	
4	AF-RHMW17D-WQFB01-2304W1	4/7/23	1035	TM	GW	3		X								X	

TM 4/7/23

TM 4/7/23

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 Avos ok. 7640 8522

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	TESSA MURPHY/AECOM	4/7/23 1335	2 AECOM	3 AECOM	4/7/23 1540	4 4/8/23 1540
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.xls Rev 031318

FC5088: Chain of Custody
Page 2 of 4

SGS North America Inc - Orlando
Chain of Custody

FC5088

SGS - ORLANDO JOB # :

COC #: 2304W1AFSG01

PAGE 1 OF 1

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

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information	Project Information	Analytical Information	Matrix Codes
Company Name: AECOM	**Project Name:** N6274223F0104 RH Fire Suppression System		
Address: 1001 Bishop St. ste 1600	**Street**		
City: Honolulu **State:** HI **Zip:** 96813	**City** Honolulu **State** Hawaii		
Project Contact: Katie Abbott **Email:** katie.abbott@aecom.com **Project Manager:** Watson Tanji **Email:** watson.tanji@aecom.com	**Project #** 60697810		
Phone #: 303-796-4624 / 808-954-4512	**Fax #**		
Sampler(s) Name(s) (Printed) **Sampler 1:** TESSA MURPHY **Sampler 2:** MATT YIM	**Client Purchase Order #**		

PFAS EPA Draft 1633

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	COLLECTION TIME	SAMPLED BY:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
S	AF-RHMW17-WGN01LF-2304W1	4/7/23	1225	TM	GW	3		X								X	

TM 4/7/23

4/7/23

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 016-76408522

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	TESSA MURPHY/AECOM	4/7/23 1335	2 AECOM	3 AECOM	4/7/23 1500	4 4/8/23
5	Relinquished by/Affiliation	Date Time:	6 Received By/Affiliation	7 Relinquished By/Affiliation	Date Time:	8 Received By/Affiliation

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FC5088: Chain of Custody
Page 3 of 4

SGS Sample Receipt Summary

Job Number: FC5088 **Client:** AECOM **Project:** N6274223F0104 RH Fire Suppression System

Date / Time Received: 4/8/2023 3:30:00 PM **Delivery Method:** United Cargo/Airspace **Airbill #'s:** United Cargo AWB #: 016-76408522

Therm ID: IR 1; **Therm CF:** -0.1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.8);

Cooler Temps (Corrected) °C: Cooler 1: (3.7);

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

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

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

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

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230320 pH 10-12 25BDH07 Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: NATHANS Date: 4/8/2023 3:30:00 PM Reviewer: CD Date: 4/13/2023

FC5088: Chain of Custody
Page 4 of 4

QC Evaluation: DOD QSM5.x Limits

Job Number: FC5088
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 04/07/23

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 FC5088

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: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q622-IBLK	4Q43009.D	1	04/15/23	MV	n/a	n/a	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	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	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Instrument Blank

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q622-IBLK	4Q43009.D	1	04/15/23	MV	n/a	n/a	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.010	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.025	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.13	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.13	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	104%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	103%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	98%	20-150%
	13C9-PFNA	92%	20-150%
	13C6-PFDA	97%	20-150%
	13C7-PFUnDA	95%	20-150%
	13C2-PFDoDA	92%	20-150%
	13C2-PFTeDA	86%	20-150%
	13C3-PFBS	104%	20-150%
	13C3-PFHxS	107%	20-150%
	13C8-PFOS	101%	20-150%
	13C8-FOSA	84%	20-150%
	d3-MeFOSA	100%	20-150%
	d5-EtFOSA	102%	20-150%
	d3-MeFOSAA	106%	20-150%
	d5-EtFOSAA	107%	20-150%
	d7-MeFOSE	81%	20-150%
	d9-EtFOSE	81%	20-150%
	13C2-4:2FTS	112%	20-150%
	13C2-6:2FTS	110%	20-150%
	13C2-8:2FTS	116%	20-150%
	13C3-HFPO-DA	104%	20-150%

Instrument Blank

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q624-IBLK	4Q43148.D	1	04/18/23	MV	n/a	n/a	S4Q624

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

FC5088-3

CAS No.	Compound	Result	RL	MDL	Units	Q

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	103%	20-150%
	13C5-PFPeA	98%	20-150%
	13C5-PFHxA	102%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	101%	20-150%
	13C9-PFNA	98%	20-150%
	13C6-PFDA	103%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	98%	20-150%
	13C2-PFTeDA	91%	20-150%
	13C3-PFBS	104%	20-150%
	13C3-PFHxS	110%	20-150%
	13C8-PFOS	96%	20-150%
	13C8-FOSA	85%	20-150%
	d3-MeFOSA	97%	20-150%
	d5-EtFOSA	102%	20-150%
	d3-MeFOSAA	107%	20-150%
	d5-EtFOSAA	108%	20-150%
	d7-MeFOSE	80%	20-150%
	d9-EtFOSE	81%	20-150%
	13C2-4:2FTS	122%	20-150%
	13C2-6:2FTS	119%	20-150%
	13C2-8:2FTS	119%	20-150%
	13C3-HFPO-DA	103%	20-150%

Continuing Calibration Blank

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q622-ICCB	4Q43064.D	1	04/15/23	MV	n/a	n/a	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	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	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q622-ICCB	4Q43064.D	1	04/15/23	MV	n/a	n/a	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.010	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.025	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.13	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.13	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	103%	20-150%
	13C5-PFPeA	105%	20-150%
	13C5-PFHxA	102%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	96%	20-150%
	13C9-PFNA	102%	20-150%
	13C6-PFDA	93%	20-150%
	13C7-PFUnDA	97%	20-150%
	13C2-PFDoDA	92%	20-150%
	13C2-PFTeDA	87%	20-150%
	13C3-PFBS	105%	20-150%
	13C3-PFHxS	107%	20-150%
	13C8-PFOS	97%	20-150%
	13C8-FOSA	83%	20-150%
	d3-MeFOSA	89%	20-150%
	d5-EtFOSA	92%	20-150%
	d3-MeFOSAA	102%	20-150%
	d5-EtFOSAA	105%	20-150%
	d7-MeFOSE	73%	20-150%
	d9-EtFOSE	75%	20-150%
	13C2-4:2FTS	108%	20-150%
	13C2-6:2FTS	121%	20-150%
	13C2-8:2FTS	108%	20-150%
	13C3-HFPO-DA	101%	20-150%

Continuing Calibration Blank

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q622-ICCB	4Q43074.D	1	04/15/23	MV	n/a	n/a	S4Q622

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

FC5088-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	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	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q622-ICCB	4Q43074.D	1	04/15/23	MV	n/a	n/a	S4Q622

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

FC5088-5

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.010	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.025	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.13	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.13	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	105%	20-150%
	13C5-PFPeA	100%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	98%	20-150%
	13C9-PFNA	90%	20-150%
	13C6-PFDA	103%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	99%	20-150%
	13C2-PFTeDA	92%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	96%	20-150%
	13C8-PFOS	102%	20-150%
	13C8-FOSA	86%	20-150%
	d3-MeFOSA	95%	20-150%
	d5-EtFOSA	100%	20-150%
	d3-MeFOSAA	108%	20-150%
	d5-EtFOSAA	113%	20-150%
	d7-MeFOSE	79%	20-150%
	d9-EtFOSE	80%	20-150%
	13C2-4:2FTS	116%	20-150%
	13C2-6:2FTS	117%	20-150%
	13C2-8:2FTS	110%	20-150%
	13C3-HFPO-DA	99%	20-150%

Continuing Calibration Blank

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q622-ICCB	4Q43078.D	1	04/15/23	MV	n/a	n/a	S4Q622

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

FC5088-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0050	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	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	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q622-ICCB	4Q43078.D	1	04/15/23	MV	n/a	n/a	S4Q622

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

FC5088-5

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.010	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.025	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.13	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.13	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	103%	20-150%
	13C5-PFPeA	102%	20-150%
	13C5-PFHxA	102%	20-150%
	13C4-PFHpA	106%	20-150%
	13C8-PFOA	100%	20-150%
	13C9-PFNA	99%	20-150%
	13C6-PFDA	99%	20-150%
	13C7-PFUnDA	97%	20-150%
	13C2-PFDoDA	96%	20-150%
	13C2-PFTeDA	86%	20-150%
	13C3-PFBS	98%	20-150%
	13C3-PFHxS	97%	20-150%
	13C8-PFOS	100%	20-150%
	13C8-FOSA	85%	20-150%
	d3-MeFOSA	93%	20-150%
	d5-EtFOSA	98%	20-150%
	d3-MeFOSAA	106%	20-150%
	d5-EtFOSAA	110%	20-150%
	d7-MeFOSE	77%	20-150%
	d9-EtFOSE	77%	20-150%
	13C2-4:2FTS	121%	20-150%
	13C2-6:2FTS	116%	20-150%
	13C2-8:2FTS	104%	20-150%
	13C3-HFPO-DA	101%	20-150%

Continuing Calibration Blank

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q624-ICCB	4Q43162.D	1	04/18/23	MV	n/a	n/a	S4Q624

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

FC5088-3

CAS No.	Compound	Result	RL	MDL	Units	Q

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	103%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	101%	20-150%
	13C4-PFHpA	106%	20-150%
	13C8-PFOA	99%	20-150%
	13C9-PFNA	101%	20-150%
	13C6-PFDA	102%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	98%	20-150%
	13C2-PFTeDA	88%	20-150%
	13C3-PFBS	103%	20-150%
	13C3-PFHxS	103%	20-150%
	13C8-PFOS	100%	20-150%
	13C8-FOSA	86%	20-150%
	d3-MeFOSAA	111%	20-150%
	d5-EtFOSAA	111%	20-150%
	13C2-4:2FTS	123%	20-150%
	13C2-6:2FTS	116%	20-150%
	13C2-8:2FTS	117%	20-150%

Method Blank Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-MB	4Q43067.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.020	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.010	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	0.00064	0.0050	0.00050	ug/l	J
375-85-9	Perfluoroheptanoic acid	ND	0.0050	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0050	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0050	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0050	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0050	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0050	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0050	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0050	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0050	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0050	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0050	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0050	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0050	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0050	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	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	0.0050	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0050	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0050	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.050	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.050	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0010	ug/l	
919005-14-4	ADONA	ND	0.020	0.0019	ug/l	
377-73-1	PFMPA	ND	0.010	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.010	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.010	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.020	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.020	0.0018	ug/l	

Method Blank Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-MB	4Q43067.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.010	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.025	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.13	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.13	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	114%	20-150%
	13C5-PFPeA	113%	20-150%
	13C5-PFHxA	113%	20-150%
	13C4-PFHpA	115%	20-150%
	13C8-PFOA	111%	20-150%
	13C9-PFNA	100%	20-150%
	13C6-PFDA	120%	20-150%
	13C7-PFUnDA	111%	20-150%
	13C2-PFDoDA	101%	20-150%
	13C2-PFTeDA	80%	20-150%
	13C3-PFBS	111%	20-150%
	13C3-PFHxS	107%	20-150%
	13C8-PFOS	106%	20-150%
	13C8-FOSA	90%	20-150%
	d3-MeFOSA	89%	20-150%
	d5-EtFOSA	86%	20-150%
	d3-MeFOSAA	110%	20-150%
	d5-EtFOSAA	109%	20-150%
	d7-MeFOSE	76%	20-150%
	d9-EtFOSE	74%	20-150%
	13C2-4:2FTS	130%	20-150%
	13C2-6:2FTS	126%	20-150%
	13C2-8:2FTS	118%	20-150%
	13C3-HFPO-DA	109%	20-150%

Blank Spike Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-LLBS	4Q43066.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0329	110	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0170	113	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0086	115	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0087	116	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0080	107	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0075	100	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0084	112	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0080	107	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0080	107	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0076	101	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0082	109	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0073	110	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0090	128	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0074	108	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0087	122	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0081	116	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0079	109	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0078	108	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0068	93	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0281	0.0307	109	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0352	124	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0350	122	40-150
754-91-6	PFOSA	0.0075	0.0088	117	40-150
31506-32-8	MeFOSA	0.015	0.0154	103	40-150
4151-50-2	EtFOSA	0.015	0.0164	109	40-150
2355-31-9	MeFOSAA	0.0075	0.0075	100	40-150
2991-50-6	EtFOSAA	0.0075	0.0077	103	40-150
24448-09-7	MeFOSE	0.0375	0.0416	111	40-150
1691-99-2	EtFOSE	0.0375	0.0409	109	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0168	112	40-150
919005-14-4	ADONA	0.0142	0.0164	116	40-150
377-73-1	PFMPA	0.015	0.0169	113	40-150
863090-89-5	PFMBA	0.015	0.0166	111	40-150
151772-58-6	NFDHA	0.015	0.0188	125	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.014	0.0153	109	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0142	0.0156	110	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-LLBS	4Q43066.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0149	112	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0387	103	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.188	0.218	116	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.216	115	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	113%	20-150%
	13C5-PFPeA	114%	20-150%
	13C5-PFHxA	113%	20-150%
	13C4-PFHpA	115%	20-150%
	13C8-PFOA	109%	20-150%
	13C9-PFNA	113%	20-150%
	13C6-PFDA	111%	20-150%
	13C7-PFUnDA	109%	20-150%
	13C2-PFDoDA	95%	20-150%
	13C2-PFTeDA	77%	20-150%
	13C3-PFBS	119%	20-150%
	13C3-PFHxS	116%	20-150%
	13C8-PFOS	114%	20-150%
	13C8-FOSA	89%	20-150%
	d3-MeFOSA	91%	20-150%
	d5-EtFOSA	91%	20-150%
	d3-MeFOSAA	112%	20-150%
	d5-EtFOSAA	115%	20-150%
	d7-MeFOSE	78%	20-150%
	d9-EtFOSE	78%	20-150%
	13C2-4:2FTS	138%	20-150%
	13C2-6:2FTS	132%	20-150%
	13C2-8:2FTS	127%	20-150%
	13C3-HFPO-DA	109%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-BS	4Q43065.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.107	107	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0562	112	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0274	110	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0285	114	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0261	104	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0284	114	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0283	113	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0257	103	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0280	112	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0259	104	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0275	110	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0238	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0277	118	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0248	109	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0276	116	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0244	105	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0259	108	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0246	102	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0230	95	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.102	109	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.105	111	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.102	106	40-150
754-91-6	PFOSA	0.025	0.0275	110	40-150
31506-32-8	MeFOSA	0.05	0.0547	109	40-150
4151-50-2	EtFOSA	0.05	0.0546	109	40-150
2355-31-9	MeFOSAA	0.025	0.0268	107	40-150
2991-50-6	EtFOSAA	0.025	0.0292	117	40-150
24448-09-7	MeFOSE	0.125	0.134	107	40-150
1691-99-2	EtFOSE	0.125	0.140	112	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0549	110	40-150
919005-14-4	ADONA	0.0473	0.0547	116	40-150
377-73-1	PFMPA	0.05	0.0559	112	40-150
863090-89-5	PFMBA	0.05	0.0565	113	40-150
151772-58-6	NFDHA	0.05	0.0588	118	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0468	0.0501	107	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0473	0.0507	107	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-BS	4Q43065.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0492	111	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.130	104	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.717	115	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.719	115	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	120%	20-150%
	13C5-PFPeA	119%	20-150%
	13C5-PFHxA	119%	20-150%
	13C4-PFHpA	118%	20-150%
	13C8-PFOA	119%	20-150%
	13C9-PFNA	108%	20-150%
	13C6-PFDA	112%	20-150%
	13C7-PFUnDA	107%	20-150%
	13C2-PFDoDA	96%	20-150%
	13C2-PFTeDA	81%	20-150%
	13C3-PFBS	121%	20-150%
	13C3-PFHxS	120%	20-150%
	13C8-PFOS	104%	20-150%
	13C8-FOSA	82%	20-150%
	d3-MeFOSA	81%	20-150%
	d5-EtFOSA	83%	20-150%
	d3-MeFOSAA	100%	20-150%
	d5-EtFOSAA	101%	20-150%
	d7-MeFOSE	74%	20-150%
	d9-EtFOSE	72%	20-150%
	13C2-4:2FTS	128%	20-150%
	13C2-6:2FTS	137%	20-150%
	13C2-8:2FTS	133%	20-150%
	13C3-HFPO-DA	116%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-MS	4Q43071.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622
FC5088-3	4Q43070.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622
FC5088-3 [a]	4Q43166.D	1	04/18/23	MV	04/12/23	OP96368	S4Q624

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	FC5088-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.018	U	0.0926	0.0869	94	40-150
2706-90-3	Perfluoropentanoic acid	0.0088	U	0.0463	0.0575	124	40-150
307-24-4	Perfluorohexanoic acid	0.0044	U	0.0231	0.0282	122	40-150
375-85-9	Perfluoroheptanoic acid	0.0044	U	0.0231	0.0289	125	40-150
335-67-1	Perfluorooctanoic acid	0.0044	U	0.0231	0.0287	124	40-150
375-95-1	Perfluorononanoic acid	0.0044	U	0.0231	0.0285	123	40-150
335-76-2	Perfluorodecanoic acid	0.0044	U	0.0231	0.0272	118	40-150
2058-94-8	Perfluoroundecanoic acid	0.0044	U	0.0231	0.0270	117	40-150
307-55-1	Perfluorododecanoic acid	0.0044	U	0.0231	0.0299	129	40-150
72629-94-8	Perfluorotridecanoic acid	0.0044	U	0.0231	0.0236	102	40-150
376-06-7	Perfluorotetradecanoic acid	0.0044	U	0.0231	0.0297	128	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0044	U	0.0205	0.0263	128	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0044	U	0.0218	0.0286	131	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0044	U	0.0212	0.0277	131	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0044	U	0.0221	0.0263	119	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0044	U	0.0215	0.0267	124	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0044	U	0.0223	0.0273	123	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0044	U	0.0223	0.0313	140	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0044	U	0.0225	0.0175	78	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.018	U	0.0868	0.109	126	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	0.088	0.107	122	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	0.0889	0.119	134	40-150
754-91-6	PFOSA	0.0044	U	0.0231	0.0274	118	40-150
31506-32-8	MeFOSA	0.0044	U	0.0463	0.0532	115	40-150
4151-50-2	EtFOSA	0.0044	U	0.0463	0.0578	125	40-150
2355-31-9	MeFOSAA	0.0044	U	0.0231	0.0268	116	40-150
2991-50-6	EtFOSAA	0.0044	U	0.0231	0.0287	124	40-150
24448-09-7	MeFOSE	0.044	U	0.116	0.137	118	40-150
1691-99-2	EtFOSE	0.044	U	0.116	0.146	126	40-150
13252-13-6	HFPO-DA (GenX)	0.018	U	0.0463	0.0550	119	40-150
919005-14-4	ADONA	0.018	U	0.0438	0.0589	135	40-150
377-73-1	PFMPA	0.0088	U	0.0463	0.0078	17*	40-150
863090-89-5	PFMBA	0.0088	U	0.0463	0.102	220*	40-150
151772-58-6	NFDHA	0.0088	U	0.0463	0.0524	113	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.018	U	0.0433	0.0548	127	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.018	U	0.0438	0.0496	113	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-MS	4Q43071.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622
FC5088-3	4Q43070.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622
FC5088-3 [a]	4Q43166.D	1	04/18/23	MV	04/12/23	OP96368	S4Q624

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	FC5088-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0088	U	0.0412	0.0515	125	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.022	U	0.116	0.0734	63	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.11	U	0.579	0.869	150	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.11	U	0.579	0.768	133	40-150

CAS No.	ID Standard Recoveries	MS	FC5088-3	FC5088-3	Limits
	13C4-PFBA	2%*	2%* [b]	2%* [b]	20-150%
	13C5-PFPeA	41%	43%	43%	20-150%
	13C5-PFHxA	101%	111%	112%	20-150%
	13C4-PFHpA	104%	112%	119%	20-150%
	13C8-PFOA	103%	109%	110%	20-150%
	13C9-PFNA	99%	108%	107%	20-150%
	13C6-PFDA	104%	109%	113%	20-150%
	13C7-PFUnDA	101%	105%	109%	20-150%
	13C2-PFDoDA	87%	92%	96%	20-150%
	13C2-PFTeDA	55%	69%	73%	20-150%
	13C3-PFBS	104%	102%	103%	20-150%
	13C3-PFHxS	103%	101%	102%	20-150%
	13C8-PFOS	106%	117%	116%	20-150%
	13C8-FOSA	101%	111%	116%	20-150%
	d3-MeFOSA	111%	127%	131%	20-150%
	d5-EtFOSA	107%	128%	132%	20-150%
	d3-MeFOSAA	126%	136%	145%	20-150%
	d5-EtFOSAA	125%	142%	151%* [b]	20-150%
	d7-MeFOSE	74%	93%	98%	20-150%
	d9-EtFOSE	72%	93%	96%	20-150%
	13C2-4:2FTS	134%	139%	135%	20-150%
	13C2-6:2FTS	109%	107%	96%	20-150%
	13C2-8:2FTS	107%	111%	110%	20-150%
	13C3-HFPO-DA	97%	104%	108%	20-150%

(a) Confirmation run.
(b) Outside control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-DUP	4Q43076.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622
FC5088-5	4Q43075.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	FC5088-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.0047	J	0.0050	J	6	30
2706-90-3	Perfluoropentanoic acid	0.0079	J	0.0083	J	5	30
307-24-4	Perfluorohexanoic acid	0.0041	J	0.0045		9	30
375-85-9	Perfluoroheptanoic acid	0.00092	J	0.0013	J	34*	30
335-67-1	Perfluorooctanoic acid	0.0046 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0046 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0046 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0046 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0046 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0046 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0046 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0046 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0046 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0046 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0046 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0046 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0046 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0046 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0046 U		ND		nc	30
757124-72-4	4:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0192		0.0187		3	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
754-91-6	PFOSA	0.0046 U		ND		nc	30
31506-32-8	MeFOSA	0.0046 U		ND		nc	30
4151-50-2	EtFOSA	0.0046 U		ND		nc	30
2355-31-9	MeFOSAA	0.0046 U		ND		nc	30
2991-50-6	EtFOSAA	0.0046 U		ND		nc	30
24448-09-7	MeFOSE	0.046 U		ND		nc	30
1691-99-2	EtFOSE	0.046 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.019 U		ND		nc	30
919005-14-4	ADONA	0.019 U		ND		nc	30
377-73-1	PFMPA	0.0093 U		ND		nc	30
863090-89-5	PFMBA	0.0093 U		ND		nc	30
151772-58-6	NFDHA	0.0093 U		ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.019 U		ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.019 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC5088
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96368-DUP	4Q43076.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622
FC5088-5	4Q43075.D	1	04/15/23	MV	04/12/23	OP96368	S4Q622

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

FC5088-1, FC5088-2, FC5088-3, FC5088-4, FC5088-5

CAS No.	Compound	FC5088-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0093	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.023	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.12	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.12	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC5088-5	Limits
	13C4-PFBA	111%	114%	20-150%
	13C5-PFPeA	107%	110%	20-150%
	13C5-PFHxA	109%	112%	20-150%
	13C4-PFHpA	110%	113%	20-150%
	13C8-PFOA	107%	110%	20-150%
	13C9-PFNA	98%	100%	20-150%
	13C6-PFDA	101%	103%	20-150%
	13C7-PFUnDA	78%	83%	20-150%
	13C2-PFDoDA	53%	68%	20-150%
	13C2-PFTeDA	43%	48%	20-150%
	13C3-PFBS	108%	109%	20-150%
	13C3-PFHxS	116%	109%	20-150%
	13C8-PFOS	97%	94%	20-150%
	13C8-FOSA	85%	85%	20-150%
	d3-MeFOSA	73%	84%	20-150%
	d5-EtFOSA	70%	80%	20-150%
	d3-MeFOSAA	94%	101%	20-150%
	d5-EtFOSAA	88%	102%	20-150%
	d7-MeFOSE	59%	67%	20-150%
	d9-EtFOSE	60%	66%	20-150%
	13C2-4:2FTS	121%	123%	20-150%
	13C2-6:2FTS	128%	114%	20-150%
	13C2-8:2FTS	96%	93%	20-150%
	13C3-HFPO-DA	105%	108%	20-150%

* = Outside of Control Limits.