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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC10290

Sampling Dates: 10/04/23 - 10/05/23



Report to:

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Total number of pages in report: 61



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

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Test results relate only to samples analyzed.

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Sample Summary

AECOM, INC.

Job No: FC10290

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

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FC10290-1	10/04/23	15:30 MD	10/07/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2310
FC10290-2	10/04/23	14:55 MD	10/07/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2310
FC10290-3	10/04/23	16:55 MD	10/07/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2310
FC10290-4	10/04/23	17:15 MD	10/07/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2310
FC10290-5	10/05/23	10:15 AA	10/07/23	AQ	Ground Water	AF-RHMW10-WGN01LF-2310
FC10290-6	10/05/23	12:20 CH	10/07/23	AQ	Ground Water	AF-RHMW225401-WGN01B-2310
FC10290-7	10/05/23	13:30 AA	10/07/23	AQ	Ground Water	AF-RHMW16-WGN01LF-2310

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC10290

Site: N6274223F0104 RH Fire Suppression System

Report Date: 10/19/2023 2:40:31

On 10/07/2023, 5 Sample(s) and 1 Field Blank(s) and 1 Equipment Blank were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 4.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC10290 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: OP99445

Sample(s) FC10290-5MS, FC10290-6DUP were used as the QC samples indicated.

RPD(s) for Duplicate for 6:2 Fluorotelomer sulfonate, Perfluorohexanesulfonic acid are outside control limits for sample OP99445-DUP. Probable cause is due to sample non-homogeneity.

Sample(s) FC10290-1 have surrogates outside control limits.

FC10290-1: Dilution required (ID recovery standard failure).

FC10290-1 for 13C2-4:2FTS: Outside control limits.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

Kim Benham, Client Services (*Signature on File*)

Summary of Hits

Job Number: FC10290
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 10/04/23 thru 10/05/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC10290-1 AF-RHMW17D-WGN01LF-2310

No hits reported in this sample.

FC10290-2 AF-RHMW17D-WQFB01-2310

No hits reported in this sample.

FC10290-3 AF-RHMW17S-WGN01LF-2310

Perfluorobutanoic acid	6.1 J	15	3.8	ng/l	EPA DRAFT 1633
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FC10290-4 AF-RHMW17S-WQEB01-2310

No hits reported in this sample.

FC10290-5 AF-RHMW10-WGN01LF-2310

No hits reported in this sample.

FC10290-6 AF-RHMW225401-WGN01B-2310

Perfluorohexanoic acid	0.74 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid	0.74 J	3.8	0.94	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid	0.61 J	3.8	1.9	ng/l	EPA DRAFT 1633

FC10290-7 AF-RHMW16-WGN01LF-2310

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2310		
Lab Sample ID:	FC10290-1	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q26285.D	1	10/12/23 16:59	MV	10/10/23 09:30	OP99445	S6Q370
Run #2 ^a	6Q26618.D	10	10/18/23 04:56	MV	10/10/23 09:30	OP99445	S6Q373

Run #	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	3.7 U	15	3.7	1.8	ng/l
2706-90-3	Perfluoropentanoic acid	1.9 U	7.4	1.9	0.87	ng/l
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.46	ng/l
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.46	ng/l
335-67-1	Perfluorooctanoic acid	0.93 U	3.7	0.93	0.46	ng/l
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.56	ng/l
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.46	ng/l
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.56	ng/l
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	0.56	ng/l
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.78	ng/l
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.46	ng/l

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.65	ng/l
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	0.50	ng/l
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.53	ng/l
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.59	ng/l
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	74 U ^b	190	74	30	ng/l
27619-97-2	6:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.2	ng/l
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.62	ng/l
31506-32-8	MeFOSA	3.7 U	7.4	3.7	0.93	ng/l
4151-50-2	EtFOSA	3.7 U	7.4	3.7	0.93	ng/l

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

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Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2310		
Lab Sample ID:	FC10290-1	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	19 U	37	19	4.1	ng/l	
1691-99-2	EtFOSE	19 U	37	19	6.9	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

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

PER and POLYFLUOROETHER SULFONIC ACIDS

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

FLUOROTELOMER CARBOXYLIC ACIDS

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

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	111%	93%	20-150%
	13C5-PFPeA	111%	89%	20-150%
	13C5-PFHxA	110%	88%	20-150%
	13C4-PFHpA	110%	95%	20-150%
	13C8-PFOA	113%	95%	20-150%
	13C9-PFNA	118%	82%	20-150%
	13C6-PFDA	117%	84%	20-150%
	13C7-PFUnDA	105%	80%	20-150%
	13C2-PFDoDA	94%	80%	20-150%
	13C2-PFTeDA	84%	80%	20-150%
	13C3-PFBS	123%	95%	20-150%
	13C3-PFHxS	113%	85%	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

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Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2310		
Lab Sample ID:	FC10290-1	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	121%	46%	20-150%
	13C8-FOSA	89%	29%	20-150%
	d3-MeFOSA	83%	31%	20-150%
	d5-EtFOSA	88%	24%	20-150%
	d3-MeFOSAA	141%	40%	20-150%
	d5-EtFOSAA	149%	39%	20-150%
	d7-MeFOSE	89%	28%	20-150%
	d9-EtFOSE	93%	30%	20-150%
	13C2-4:2FTS	286% ^c	105%	20-180%
	13C2-6:2FTS	128%	123%	20-180%
	13C2-8:2FTS	132%	86%	20-180%
	13C3-HFPO-DA	101%	84%	20-150%

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

(b) Result is from Run# 2

(c) Outside control limits.

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2310		
Lab Sample ID:	FC10290-2	Date Sampled:	10/04/23
Matrix:	AQ - Field Blank Water	Date Received:	10/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q26286.D	1	10/12/23 17:13	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	3.6 U	15	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.3	1.8	0.85	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.91 U	3.6	0.91	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.64	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	

FLUOROTELOMER SULFONIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDES

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

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

4.2
4

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2310		
Lab Sample ID:	FC10290-2	Date Sampled:	10/04/23
Matrix:	AQ - Field Blank Water	Date Received:	10/07/23
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
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

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

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

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

PER and POLYFLUOROETHER SULFONIC ACIDS

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

FLUOROTELOMER CARBOXYLIC ACIDS

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

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	110%		20-150%
	13C5-PFPeA	114%		20-150%
	13C5-PFHxA	112%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	102%		20-150%
	13C9-PFNA	104%		20-150%
	13C6-PFDA	106%		20-150%
	13C7-PFUnDA	91%		20-150%
	13C2-PFDoDA	83%		20-150%
	13C2-PFTeDA	67%		20-150%
	13C3-PFBS	114%		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-RHMW17D-WQFB01-2310		
Lab Sample ID:	FC10290-2	Date Sampled:	10/04/23
Matrix:	AQ - Field Blank Water	Date Received:	10/07/23
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	91%		20-150%
	13C8-FOSA	75%		20-150%
	d3-MeFOSA	75%		20-150%
	d5-EtFOSA	82%		20-150%
	d3-MeFOSAA	98%		20-150%
	d5-EtFOSAA	91%		20-150%
	d7-MeFOSE	79%		20-150%
	d9-EtFOSE	79%		20-150%
	13C2-4:2FTS	133%		20-180%
	13C2-6:2FTS	114%		20-180%
	13C2-8:2FTS	104%		20-180%
	13C3-HFPO-DA	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-RHMW17S-WGN01LF-2310		
Lab Sample ID:	FC10290-3	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q26287.D	1	10/12/23 17:28	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	6.1	15	3.8	1.8	ng/l	J
2706-90-3	Perfluoropentanoic acid	1.9 U	7.5	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
335-67-1	Perfluorooctanoic acid	0.94 U	3.8	0.94	0.47	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

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

FLUOROTELOMER SULFONIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDES

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

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2310		
Lab Sample ID:	FC10290-3	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

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

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

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

PER and POLYFLUOROETHER SULFONIC ACIDS

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

FLUOROTELOMER CARBOXYLIC ACIDS

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

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	85%		20-150%
	13C5-PFPeA	114%		20-150%
	13C5-PFHxA	110%		20-150%
	13C4-PFHpA	114%		20-150%
	13C8-PFOA	116%		20-150%
	13C9-PFNA	113%		20-150%
	13C6-PFDA	109%		20-150%
	13C7-PFUnDA	92%		20-150%
	13C2-PFDoDA	70%		20-150%
	13C2-PFTeDA	58%		20-150%
	13C3-PFBS	114%		20-150%
	13C3-PFHxS	119%		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-2310		
Lab Sample ID:	FC10290-3	Date Sampled:	10/04/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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	105%		20-150%
	13C8-FOSA	86%		20-150%
	d3-MeFOSA	71%		20-150%
	d5-EtFOSA	71%		20-150%
	d3-MeFOSAA	92%		20-150%
	d5-EtFOSAA	80%		20-150%
	d7-MeFOSE	72%		20-150%
	d9-EtFOSE	69%		20-150%
	13C2-4:2FTS	121%		20-180%
	13C2-6:2FTS	115%		20-180%
	13C2-8:2FTS	108%		20-180%
	13C3-HFPO-DA	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-RHMW17S-WQEB01-2310		
Lab Sample ID:	FC10290-4	Date Sampled:	10/04/23
Matrix:	AQ - Equipment Blank	Date Received:	10/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q26288.D	1	10/12/23 17:42	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	3.8 U	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.7	1.9	0.90	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
335-67-1	Perfluorooctanoic acid	0.96 U	3.8	0.96	0.48	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.8	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.8	1.9	0.67	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.52	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.8	1.9	0.62	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.8	3.8	1.1	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.1	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.7 U	19	7.7	4.0	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	3.8	1.9	0.64	ng/l	
31506-32-8	MeFOSA	3.8 U	7.7	3.8	0.96	ng/l	
4151-50-2	EtFOSA	3.8 U	7.7	3.8	0.96	ng/l	

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

4.4
4

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2310		
Lab Sample ID:	FC10290-4	Date Sampled:	10/04/23
Matrix:	AQ - Equipment Blank	Date Received:	10/07/23
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
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	3.8 U	4.8	3.8	0.96	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.8	3.8	1.3	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	19 U	38	19	4.2	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.1	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

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

PER and POLYFLUOROETHER SULFONIC ACIDS

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

FLUOROTELOMER CARBOXYLIC ACIDS

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

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	108%		20-150%
	13C5-PFPeA	107%		20-150%
	13C5-PFHxA	107%		20-150%
	13C4-PFHpA	108%		20-150%
	13C8-PFOA	110%		20-150%
	13C9-PFNA	117%		20-150%
	13C6-PFDA	116%		20-150%
	13C7-PFUnDA	106%		20-150%
	13C2-PFDoDA	102%		20-150%
	13C2-PFTeDA	85%		20-150%
	13C3-PFBS	110%		20-150%
	13C3-PFHxS	111%		20-150%

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

4.4
4

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2310	
Lab Sample ID:	FC10290-4	Date Sampled: 10/04/23
Matrix:	AQ - Equipment Blank	Date Received: 10/07/23
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	106%		20-150%
	13C8-FOSA	87%		20-150%
	d3-MeFOSA	89%		20-150%
	d5-EtFOSA	89%		20-150%
	d3-MeFOSAA	106%		20-150%
	d5-EtFOSAA	103%		20-150%
	d7-MeFOSE	91%		20-150%
	d9-EtFOSE	90%		20-150%
	13C2-4:2FTS	135%		20-180%
	13C2-6:2FTS	128%		20-180%
	13C2-8:2FTS	111%		20-180%
	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

Report of Analysis

Client Sample ID:	AF-RHMW10-WGN01LF-2310	
Lab Sample ID:	FC10290-5	Date Sampled: 10/05/23
Matrix:	AQ - Ground Water	Date Received: 10/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q26291.D	1	10/12/23 18:25	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

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

CAS No. Compound Result LOQ LOD DL Units Q

PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.7 U	15	3.7	1.8	ng/l
2706-90-3	Perfluoropentanoic acid	1.9 U	7.4	1.9	0.87	ng/l
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.46	ng/l
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.46	ng/l
335-67-1	Perfluorooctanoic acid	0.93 U	3.7	0.93	0.46	ng/l
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.56	ng/l
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.46	ng/l
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.56	ng/l
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	0.56	ng/l
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.78	ng/l
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.46	ng/l

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.65	ng/l
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	0.50	ng/l
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.53	ng/l
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.59	ng/l
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.0	ng/l
27619-97-2	6:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.2	ng/l
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.62	ng/l
31506-32-8	MeFOSA	3.7 U	7.4	3.7	0.93	ng/l
4151-50-2	EtFOSA	3.7 U	7.4	3.7	0.93	ng/l

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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW10-WGN01LF-2310		
Lab Sample ID:	FC10290-5	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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

PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	19 U	37	19	4.1	ng/l
1691-99-2	EtFOSE	19 U	37	19	6.9	ng/l

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

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

PER and POLYFLUOROETHER SULFONIC ACIDS

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

FLUOROTELOMER CARBOXYLIC ACIDS

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

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

13C4-PFBA	106%	20-150%
13C5-PFPeA	111%	20-150%
13C5-PFHxA	106%	20-150%
13C4-PFHpA	108%	20-150%
13C8-PFOA	112%	20-150%
13C9-PFNA	110%	20-150%
13C6-PFDA	116%	20-150%
13C7-PFUnDA	108%	20-150%
13C2-PFDoDA	108%	20-150%
13C2-PFTeDA	102%	20-150%
13C3-PFBS	115%	20-150%
13C3-PFHxS	113%	20-150%

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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW10-WGN01LF-2310	
Lab Sample ID:	FC10290-5	Date Sampled: 10/05/23
Matrix:	AQ - Ground Water	Date Received: 10/07/23
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	115%		20-150%
	13C8-FOSA	84%		20-150%
	d3-MeFOSA	86%		20-150%
	d5-EtFOSA	87%		20-150%
	d3-MeFOSAA	126%		20-150%
	d5-EtFOSAA	104%		20-150%
	d7-MeFOSE	88%		20-150%
	d9-EtFOSE	95%		20-150%
	13C2-4:2FTS	138%		20-180%
	13C2-6:2FTS	132%		20-180%
	13C2-8:2FTS	129%		20-180%
	13C3-HFPO-DA	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-RHMW225401-WGN01B-2310		
Lab Sample ID:	FC10290-6	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q26293.D	1	10/12/23 18:54	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	3.8 U	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.5	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	0.74	3.8	1.9	0.47	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
335-67-1	Perfluorooctanoic acid	0.74	3.8	0.94	0.47	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.61	3.8	1.9	0.47	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.7	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.8	1.9	0.66	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.47	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.51	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.54	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.8	1.9	0.60	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.7	3.8	1.1	ng/l	

FLUOROTELOMER SULFONIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDES

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

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

4.6
4

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2310		
Lab Sample ID:	FC10290-6	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

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

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

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

PER and POLYFLUOROETHER SULFONIC ACIDS

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

FLUOROTELOMER CARBOXYLIC ACIDS

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

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	99%		20-150%
	13C5-PFPeA	108%		20-150%
	13C5-PFHxA	107%		20-150%
	13C4-PFHpA	105%		20-150%
	13C8-PFOA	112%		20-150%
	13C9-PFNA	105%		20-150%
	13C6-PFDA	109%		20-150%
	13C7-PFUnDA	103%		20-150%
	13C2-PFDoDA	95%		20-150%
	13C2-PFTeDA	95%		20-150%
	13C3-PFBS	118%		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-RHMW225401-WGN01B-2310	
Lab Sample ID:	FC10290-6	Date Sampled: 10/05/23
Matrix:	AQ - Ground Water	Date Received: 10/07/23
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	100%		20-150%
	13C8-FOSA	85%		20-150%
	d3-MeFOSA	81%		20-150%
	d5-EtFOSA	83%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	109%		20-150%
	d7-MeFOSE	83%		20-150%
	d9-EtFOSE	82%		20-150%
	13C2-4:2FTS	156%		20-180%
	13C2-6:2FTS	124%		20-180%
	13C2-8:2FTS	117%		20-180%
	13C3-HFPO-DA	106%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW16-WGN01LF-2310		
Lab Sample ID:	FC10290-7	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q26295.D	1	10/12/23 19:22	MV	10/10/23 09:30	OP99445	S6Q370
Run #2							

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

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

375-22-4	Perfluorobutanoic acid	3.7 U	15	3.7	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.4	1.9	0.87	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
335-67-1	Perfluorooctanoic acid	0.93 U	3.7	0.93	0.46	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.65	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	0.50	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.59	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.62	ng/l	
31506-32-8	MeFOSA	3.7 U	7.4	3.7	0.93	ng/l	
4151-50-2	EtFOSA	3.7 U	7.4	3.7	0.93	ng/l	

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

4.7
4

Report of Analysis

Client Sample ID:	AF-RHMW16-WGN01LF-2310		
Lab Sample ID:	FC10290-7	Date Sampled:	10/05/23
Matrix:	AQ - Ground Water	Date Received:	10/07/23
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
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	19 U	37	19	4.1	ng/l	
1691-99-2	EtFOSE	19 U	37	19	6.9	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

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

PER and POLYFLUOROETHER SULFONIC ACIDS

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

FLUOROTELOMER CARBOXYLIC ACIDS

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

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	93%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	112%		20-150%
	13C4-PFHpA	112%		20-150%
	13C8-PFOA	120%		20-150%
	13C9-PFNA	119%		20-150%
	13C6-PFDA	106%		20-150%
	13C7-PFUnDA	97%		20-150%
	13C2-PFDoDA	89%		20-150%
	13C2-PFTeDA	79%		20-150%
	13C3-PFBS	120%		20-150%
	13C3-PFHxS	125%		20-150%

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

4.7
4

Report of Analysis

Client Sample ID:	AF-RHMW16-WGN01LF-2310	
Lab Sample ID:	FC10290-7	Date Sampled: 10/05/23
Matrix:	AQ - Ground Water	Date Received: 10/07/23
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	106%		20-150%
	13C8-FOSA	88%		20-150%
	d3-MeFOSA	88%		20-150%
	d5-EtFOSA	90%		20-150%
	d3-MeFOSAA	108%		20-150%
	d5-EtFOSAA	107%		20-150%
	d7-MeFOSE	85%		20-150%
	d9-EtFOSE	89%		20-150%
	13C2-4:2FTS	146%		20-180%
	13C2-6:2FTS	129%		20-180%
	13C2-8:2FTS	124%		20-180%
	13C3-HFPO-DA	106%		20-150%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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

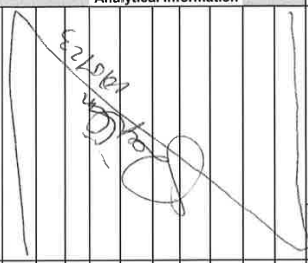
4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL 407-425-6700 FAX 407-425-0707
www.sgs.com

FC10290

COC #: 2310AFSG03

SGS - ORLANDO JOB # :

PAGE 1 OF 1

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes												
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System				DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe												
Address: 1001 Bishop St. sle 1600		Street																
City: Honolulu State: HI Zip: 96813		City Honolulu State Hawaii																
Project Contact: Katie Abbott Email: katie.abbott@aecom.com		Project # 23F0104 - 60897810																
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #																
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order # 151253		PFAS EPA Draft 1633		LAB USE ONLY												
Sampler(s) Name(s) (Printed) Sampler 1: <i>Alex Aspin</i> Sampler 2:		COLLECTION		CONTAINER INFORMATION														
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	
5	AF-RHMW10-WGN01LF-2310	10/15/23	1015	AA	GW	3	X											
Turnaround Time (Business days)		Data Deliverable Information		Comments / Remarks														
10 Day (Business) Approved By: / Date: 7 Day <input checked="" type="checkbox"/> 5 Day 3 Day RUSH 2 Day RUSH 1 Day RUSH Other		<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4) <input checked="" type="checkbox"/> EDD'S		EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW <i>AWBT# 016-977418090</i>														
Rush TIA Data Available VIA Email or Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.																
Relinquished by Sampler/Affiliation	Date Time	Received By/Affiliation	Relinquished By/Affiliation	Date Time	Received By/Affiliation	Relinquished By/Affiliation	Date Time	Received By/Affiliation										
1 <i>Alex Aspin AECOM</i>	<i>10/15/23</i>	2 <i>Alex Edmond AECOM</i>	3 <i>Alex Edmond AECOM</i>	<i>10/15/23</i>	4 <i>UC</i>	5 <i>UC</i>												
Relinquished by/Affiliation	Date Time	Received By/Affiliation	Relinquished By/Affiliation	Date Time	Received By/Affiliation	Relinquished By/Affiliation	Date Time	Received By/Affiliation										
6 <i>UC</i>		7 <i>UC</i>	8 <i>UC</i>															
Lab Use Only : Cooler Temperature (s) Celsius (corrected):		http://www.sgs.com/en/terms-and-conditions																

PFAS_COCs_ALL_10022023.xls Rev 031318

FC10290: Chain of Custody

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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

FC10290

COC #: 2310AFSG07

SGS - ORLANDO JOB # :

PAGE 1 OF 1

Client / Reporting Information		Project Information		Analytical Information										Matrix Codes				
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe				
Address: 1001 Bishop St. ste 1600		Street																
City: Honolulu	State: HI	Zip: 96813	City Honolulu State Hawaii															
Project Contact: Katie Abbott Email: katie.abbott@aecom.com		Project # 23FO104 - 60697810																
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #																
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order # 151253		PFAS EPA Draft 1633														
Sampler(s) Name(s) (Printed) Sampler 1: <i>CHAST</i> Sampler 2: <i>Heavette</i>																		
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION										LAB USE ONLY			
		DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	DYER	NONE	ICI	INCH	INCH3	INCH3	PEEK4	NACH-ZNAC		DI WATER	MECH	
6	AF-RHMW225401-WGN01B-2310	10/5/23	1220	<i>CH</i>	GW	3		X										
Turnaround Time (Business days)		Data Deliverable Information		Comments / Remarks														
10 Day (Business) Approved By: / Date: _____ 7 Day _____ <input checked="" type="checkbox"/> 5 Day _____ 3 Day RUSH _____ 2 Day RUSH _____ 1 Day RUSH _____ Other _____ Rush T/A Data Available VIA Email or Lablink		<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4) <input checked="" type="checkbox"/> EDD'S		EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW <i>AWB# 016-97418096</i>														
Relinquished by Sampler/Affiliation		Date Time		Received By/Affiliation		Date Time		Relinquished By/Affiliation		Date Time		Received By/Affiliation						
<i>AE.com</i>		<i>11/5/23</i>		<i>Alex Edmonds AE.com</i>		<i>10/5/23</i>		<i>Alex Edmonds AE.com</i>		<i>10/5/23</i>		<i>AE.com</i>						
Relinquished by/Affiliation		Date Time		Received By/Affiliation		Date Time		Relinquished By/Affiliation		Date Time		Received By/Affiliation						
<i>AE.com</i>		<i>10/7/23</i>		<i>AE.com</i>		<i>10/7/23</i>		<i>AE.com</i>		<i>10/7/23</i>		<i>AE.com</i>						
Lab Use Only : Cooler Temperature (s) Celsius (corrected):												http://www.sgs.com/en/terms-and-conditions						

PFAS_COCs_ALL_10022023.xls Rev 031318

FC10290: Chain of Custody

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5.1
5

QC Evaluation: DOD QSM5.x Limits

Job Number: FC10290
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 10/04/23 thru 10/05/23

QC Sample ID	CAS#	Analyte	Sample Result Type	Result Type	Units	Limits
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No DOD QSM5.x Limits found for methods in this job.

* Sample used for QC is not from job FC10290

5.2
5

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Instrument Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-IBLK	6Q26258.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-IBLK	6Q26258.D	1	10/12/23	MV	n/a	n/a	S6Q370

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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	99% 20-150%
	13C5-PFHxA	100% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	98% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	101% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	107% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	99% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	100% 20-150%
	d3-MeFOSAA	95% 20-150%
	d5-EtFOSAA	97% 20-150%
	13C2-4:2FTS	125% 20-180%
	13C2-6:2FTS	110% 20-180%
	13C2-8:2FTS	116% 20-180%

6.1.1
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Instrument Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-IBLK	6Q26350.D	1	10/13/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-IBLK	6Q26350.D	1	10/13/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	98% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	107% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	98% 20-150%
	13C9-PFNA	103% 20-150%
	13C6-PFDA	100% 20-150%
	13C7-PFUnDA	100% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	99% 20-150%
	13C3-PFBS	99% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	99% 20-150%
	13C8-FOSA	105% 20-150%
	d3-MeFOSAA	104% 20-150%
	d5-EtFOSAA	100% 20-150%
	13C2-4:2FTS	120% 20-180%
	13C2-6:2FTS	114% 20-180%
	13C2-8:2FTS	105% 20-180%

Instrument Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-IBLK	6Q26581.D	1	10/17/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1

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

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

6.1.3
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Instrument Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-IBLK	6Q26675.D	1	10/18/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	101% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	99% 20-150%
	13C8-PFOA	97% 20-150%
	13C9-PFNA	94% 20-150%
	13C6-PFDA	92% 20-150%
	13C7-PFUnDA	98% 20-150%
	13C2-PFDoDA	93% 20-150%
	13C2-PFTeDA	92% 20-150%
	13C3-PFBS	98% 20-150%
	13C3-PFHxS	92% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	96% 20-150%
	d3-MeFOSAA	95% 20-150%
	d5-EtFOSAA	101% 20-150%
	13C2-4:2FTS	105% 20-180%
	13C2-6:2FTS	101% 20-180%
	13C2-8:2FTS	102% 20-180%

6.1.4

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Continuing Calibration Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26279.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26279.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	97% 20-150%
	13C5-PFHxA	97% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	99% 20-150%
	13C9-PFNA	103% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	94% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	95% 20-150%
	13C3-PFBS	106% 20-150%
	13C3-PFHxS	103% 20-150%
	13C8-PFOS	97% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	104% 20-150%
	13C2-4:2FTS	130% 20-180%
	13C2-6:2FTS	116% 20-180%
	13C2-8:2FTS	113% 20-180%

Continuing Calibration Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26290.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26290.D	1	10/12/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-5, FC10290-6, FC10290-7

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	98% 20-150%
	13C5-PFPeA	97% 20-150%
	13C5-PFHxA	94% 20-150%
	13C4-PFHpA	95% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	96% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	105% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	98% 20-150%
	13C8-PFOS	99% 20-150%
	13C8-FOSA	96% 20-150%
	d3-MeFOSAA	102% 20-150%
	d5-EtFOSAA	101% 20-150%
	13C2-4:2FTS	119% 20-180%
	13C2-6:2FTS	116% 20-180%
	13C2-8:2FTS	111% 20-180%

Continuing Calibration Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-ICCB	6Q26608.D	1	10/18/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	101% 20-150%
	13C5-PFHxA	105% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	109% 20-150%
	13C9-PFNA	91% 20-150%
	13C6-PFDA	109% 20-150%
	13C7-PFUnDA	103% 20-150%
	13C2-PFDoDA	105% 20-150%
	13C2-PFTeDA	106% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	97% 20-150%
	13C8-FOSA	97% 20-150%
	d3-MeFOSAA	98% 20-150%
	d5-EtFOSAA	100% 20-150%
	13C2-4:2FTS	109% 20-180%
	13C2-6:2FTS	116% 20-180%
	13C2-8:2FTS	107% 20-180%

6.1.7

6

Method Blank Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-MB	6Q26282.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	0.0059	0.020	0.0035	ug/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-MB	6Q26282.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	108% 20-150%
	13C5-PFPeA	107% 20-150%
	13C5-PFHxA	107% 20-150%
	13C4-PFHpA	104% 20-150%
	13C8-PFOA	107% 20-150%
	13C9-PFNA	114% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	100% 20-150%
	13C2-PFDoDA	87% 20-150%
	13C2-PFTeDA	84% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	102% 20-150%
	13C8-PFOS	107% 20-150%
	13C8-FOSA	76% 20-150%
	d3-MeFOSA	74% 20-150%
	d5-EtFOSA	83% 20-150%
	d3-MeFOSAA	102% 20-150%
	d5-EtFOSAA	95% 20-150%
	d7-MeFOSE	72% 20-150%
	d9-EtFOSE	79% 20-150%
	13C2-4:2FTS	129% 20-180%
	13C2-6:2FTS	111% 20-180%
	13C2-8:2FTS	117% 20-180%
	13C3-HFPO-DA	105% 20-150%

Continuing Calibration Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26346.D	1	10/13/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q370-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q370-ICCB	6Q26346.D	1	10/13/23	MV	n/a	n/a	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q370-IBLK

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	98% 20-150%
	13C5-PFPeA	97% 20-150%
	13C5-PFHxA	94% 20-150%
	13C4-PFHpA	96% 20-150%
	13C8-PFOA	106% 20-150%
	13C9-PFNA	102% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	102% 20-150%
	13C2-PFDoDA	104% 20-150%
	13C2-PFTeDA	105% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	102% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	100% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	96% 20-150%
	13C2-4:2FTS	113% 20-180%
	13C2-6:2FTS	112% 20-180%
	13C2-8:2FTS	109% 20-180%

Continuing Calibration Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-ICCB	6Q26671.D	1	10/18/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q373-IBLK

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	104% 20-150%
	13C5-PFHxA	107% 20-150%
	13C4-PFHpA	105% 20-150%
	13C8-PFOA	107% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	104% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	106% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	107% 20-150%
	13C8-PFOS	98% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSAA	98% 20-150%
	d5-EtFOSAA	101% 20-150%
	13C2-4:2FTS	108% 20-180%
	13C2-6:2FTS	121% 20-180%
	13C2-8:2FTS	105% 20-180%

6.1.10

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Continuing Calibration Blank

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q373-ICCB	6Q26686.D	1	10/18/23	MV	n/a	n/a	S6Q373

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q373-IBLK

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 20-150%
	13C5-PFPeA	101% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	99% 20-150%
	13C8-PFOA	104% 20-150%
	13C9-PFNA	101% 20-150%
	13C6-PFDA	105% 20-150%
	13C7-PFUnDA	104% 20-150%
	13C2-PFDoDA	102% 20-150%
	13C2-PFTeDA	99% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	106% 20-150%
	13C8-PFOS	95% 20-150%
	13C8-FOSA	95% 20-150%
	d3-MeFOSAA	95% 20-150%
	d5-EtFOSAA	101% 20-150%
	13C2-4:2FTS	103% 20-180%
	13C2-6:2FTS	109% 20-180%
	13C2-8:2FTS	101% 20-180%

6.1.11

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Blank Spike Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-LLBS	6Q26281.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0316	105	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0151	101	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0074	99	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0074	99	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0082	109	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0073	97	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0074	99	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0081	108	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0085	113	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0079	105	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0087	116	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0068	102	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0078	111	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0078	114	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0078	109	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0072	103	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0074	103	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0075	104	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0063	87	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0307	109	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0311	109	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0309	107	40-150
754-91-6	PFOSA	0.0075	0.0082	109	40-150
31506-32-8	MeFOSA	0.015	0.0171	114	40-150
4151-50-2	EtFOSA	0.015	0.0151	101	40-150
2355-31-9	MeFOSAA	0.0075	0.0079	105	40-150
2991-50-6	EtFOSAA	0.0075	0.0073	97	40-150
24448-09-7	MeFOSE	0.0375	0.0367	98	40-150
1691-99-2	EtFOSE	0.0375	0.0405	108	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0162	108	40-150
919005-14-4	ADONA	0.0142	0.0148	104	40-150
377-73-1	PFMPA	0.015	0.0150	100	40-150
863090-89-5	PFMBA	0.015	0.0146	97	40-150
151772-58-6	NFDHA	0.015	0.0148	99	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0140	100	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0135	95	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-LLBS	6Q26281.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0129	97	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0289	77	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.170	91	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.181	97	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	112%	20-150%
	13C5-PFPeA	112%	20-150%
	13C5-PFHxA	112%	20-150%
	13C4-PFHpA	111%	20-150%
	13C8-PFOA	113%	20-150%
	13C9-PFNA	115%	20-150%
	13C6-PFDA	123%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	100%	20-150%
	13C2-PFTeDA	88%	20-150%
	13C3-PFBS	119%	20-150%
	13C3-PFHxS	113%	20-150%
	13C8-PFOS	111%	20-150%
	13C8-FOSA	76%	20-150%
	d3-MeFOSA	67%	20-150%
	d5-EtFOSA	72%	20-150%
	d3-MeFOSAA	109%	20-150%
	d5-EtFOSAA	106%	20-150%
	d7-MeFOSE	69%	20-150%
	d9-EtFOSE	71%	20-150%
	13C2-4:2FTS	141%	20-180%
	13C2-6:2FTS	126%	20-180%
	13C2-8:2FTS	122%	20-180%
	13C3-HFPO-DA	107%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-BS	6Q26280.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0983	98	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0471	94	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0236	94	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0252	101	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0248	99	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0218	87	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0246	98	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0252	101	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0241	96	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0241	96	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0224	90	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0229	103	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0237	101	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0215	94	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0237	99	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0225	97	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0224	93	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0211	87	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0216	89	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0964	103	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.103	108	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0919	96	40-150
754-91-6	PFOSA	0.025	0.0247	99	40-150
31506-32-8	MeFOSA	0.05	0.0505	101	40-150
4151-50-2	EtFOSA	0.05	0.0464	93	40-150
2355-31-9	MeFOSAA	0.025	0.0250	100	40-150
2991-50-6	EtFOSAA	0.025	0.0245	98	40-150
24448-09-7	MeFOSE	0.125	0.108	86	40-150
1691-99-2	EtFOSE	0.125	0.120	96	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0473	95	40-150
919005-14-4	ADONA	0.0473	0.0451	95	40-150
377-73-1	PFMPA	0.05	0.0365	73	40-150
863090-89-5	PFMBA	0.05	0.0451	90	40-150
151772-58-6	NFDHA	0.05	0.0451	90	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0410	88	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0357	76	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-BS	6Q26280.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

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

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0409	92	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.145	116	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.567	91	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.585	94	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	53%	20-150%
	13C5-PFPeA	112%	20-150%
	13C5-PFHxA	112%	20-150%
	13C4-PFHpA	106%	20-150%
	13C8-PFOA	108%	20-150%
	13C9-PFNA	122%	20-150%
	13C6-PFDA	115%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	102%	20-150%
	13C2-PFTeDA	101%	20-150%
	13C3-PFBS	107%	20-150%
	13C3-PFHxS	106%	20-150%
	13C8-PFOS	111%	20-150%
	13C8-FOSA	86%	20-150%
	d3-MeFOSA	84%	20-150%
	d5-EtFOSA	86%	20-150%
	d3-MeFOSAA	112%	20-150%
	d5-EtFOSAA	112%	20-150%
	d7-MeFOSE	81%	20-150%
	d9-EtFOSE	82%	20-150%
	13C2-4:2FTS	130%	20-180%
	13C2-6:2FTS	114%	20-180%
	13C2-8:2FTS	116%	20-180%
	13C3-HFPO-DA	113%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-MS	6Q26292.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370
FC10290-5	6Q26291.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	FC10290-5 ug/l	Spike Q	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	0.0893	0.0887	99	40-150
2706-90-3	Perfluoropentanoic acid	0.0074 U	0.0446	0.0424	95	40-150
307-24-4	Perfluorohexanoic acid	0.0037 U	0.0223	0.0216	97	40-150
375-85-9	Perfluoroheptanoic acid	0.0037 U	0.0223	0.0221	99	40-150
335-67-1	Perfluorooctanoic acid	0.0037 U	0.0223	0.0225	101	40-150
375-95-1	Perfluorononanoic acid	0.0037 U	0.0223	0.0207	93	40-150
335-76-2	Perfluorodecanoic acid	0.0037 U	0.0223	0.0210	94	40-150
2058-94-8	Perfluoroundecanoic acid	0.0037 U	0.0223	0.0250	112	40-150
307-55-1	Perfluorododecanoic acid	0.0037 U	0.0223	0.0230	103	40-150
72629-94-8	Perfluorotridecanoic acid	0.0037 U	0.0223	0.0218	98	40-150
376-06-7	Perfluorotetradecanoic acid	0.0037 U	0.0223	0.0209	94	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0037 U	0.0198	0.0194	98	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0046 U	0.021	0.0204	97	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0037 U	0.0204	0.0193	95	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0037 U	0.0213	0.0214	101	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0037 U	0.0207	0.0221	107	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0037 U	0.0215	0.0210	98	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0037 U	0.0215	0.0205	95	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0046 U	0.0217	0.0215	99	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.019 U	0.0837	0.0880	105	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U	0.0848	0.0918	108	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U	0.0857	0.0851	99	40-150
754-91-6	PFOSA	0.0037 U	0.0223	0.0217	97	40-150
31506-32-8	MeFOSA	0.0074 U	0.0446	0.0477	107	40-150
4151-50-2	EtFOSA	0.0074 U	0.0446	0.0449	101	40-150
2355-31-9	MeFOSAA	0.0046 U	0.0223	0.0240	108	40-150
2991-50-6	EtFOSAA	0.0046 U	0.0223	0.0233	104	40-150
24448-09-7	MeFOSE	0.037 U	0.112	0.101	90	40-150
1691-99-2	EtFOSE	0.037 U	0.112	0.112	100	40-150
13252-13-6	HFPO-DA (GenX)	0.0037 U	0.0446	0.0441	99	40-150
919005-14-4	ADONA	0.0074 U	0.0422	0.0399	95	40-150
377-73-1	PFMPA	0.0074 U	0.0446	0.0402	90	40-150
863090-89-5	PFMBA	0.0074 U	0.0446	0.0403	90	40-150
151772-58-6	NFDHA	0.0074 U	0.0446	0.0425	95	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074 U	0.0417	0.0398	95	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0074 U	0.0422	0.0358	85	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-MS	6Q26292.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370
FC10290-5	6Q26291.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	FC10290-5 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0074 U	0.0397	0.0358	90	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	0.112	0.0941	84	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.093 U	0.558	0.483	87	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.093 U	0.558	0.526	94	40-150

CAS No.	ID Standard Recoveries	MS	FC10290-5	Limits
	13C4-PFBA	95%	106%	20-150%
	13C5-PFPeA	114%	111%	20-150%
	13C5-PFHxA	111%	106%	20-150%
	13C4-PFHpA	112%	108%	20-150%
	13C8-PFOA	114%	112%	20-150%
	13C9-PFNA	117%	110%	20-150%
	13C6-PFDA	122%	116%	20-150%
	13C7-PFUnDA	109%	108%	20-150%
	13C2-PFDoDA	107%	108%	20-150%
	13C2-PFTeDA	109%	102%	20-150%
	13C3-PFBS	119%	115%	20-150%
	13C3-PFHxS	116%	113%	20-150%
	13C8-PFOS	95%	115%	20-150%
	13C8-FOSA	88%	84%	20-150%
	d3-MeFOSA	78%	86%	20-150%
	d5-EtFOSA	79%	87%	20-150%
	d3-MeFOSAA	105%	126%	20-150%
	d5-EtFOSAA	100%	104%	20-150%
	d7-MeFOSE	82%	88%	20-150%
	d9-EtFOSE	84%	95%	20-150%
	13C2-4:2FTS	143%	138%	20-180%
	13C2-6:2FTS	130%	132%	20-180%
	13C2-8:2FTS	130%	129%	20-180%
	13C3-HFPO-DA	109%	109%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-DUP	6Q26294.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370
FC10290-6	6Q26293.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	FC10290-6 ug/l	DUP Q	ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.015 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0075 U		ND		nc	30
307-24-4	Perfluorohexanoic acid	0.00074 J		0.00087 J		16	30
375-85-9	Perfluoroheptanoic acid	0.0038 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.00074 J		0.00084 J		13	30
375-95-1	Perfluorononanoic acid	0.0038 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0038 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0038 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0038 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0038 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0038 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.00061 J		0.00057 J		7	30
2706-91-4	Perfluoropentanesulfonic acid	0.0047 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0038 U		0.00079 J		200*	30
375-92-8	Perfluoroheptanesulfonic acid	0.0038 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0038 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0038 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0038 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0047 U		ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.019 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U		0.0112 J		200*	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		ND		nc	30
754-91-6	PFOSA	0.0038 U		ND		nc	30
31506-32-8	MeFOSA	0.0075 U		ND		nc	30
4151-50-2	EtFOSA	0.0075 U		ND		nc	30
2355-31-9	MeFOSAA	0.0047 U		ND		nc	30
2991-50-6	EtFOSAA	0.0047 U		ND		nc	30
24448-09-7	MeFOSE	0.038 U		ND		nc	30
1691-99-2	EtFOSE	0.038 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0038 U		ND		nc	30
919005-14-4	ADONA	0.0075 U		ND		nc	30
377-73-1	PFMPA	0.0075 U		ND		nc	30
863090-89-5	PFMBA	0.0075 U		ND		nc	30
151772-58-6	NFDHA	0.0075 U		ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0075 U		ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0075 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC10290
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP99445-DUP	6Q26294.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370
FC10290-6	6Q26293.D	1	10/12/23	MV	10/10/23	OP99445	S6Q370

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC10290-1, FC10290-2, FC10290-3, FC10290-4, FC10290-5, FC10290-6, FC10290-7

CAS No.	Compound	FC10290-6 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0075 U	ND			nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	ND			nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.094 U	ND			nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.094 U	ND			nc	30

CAS No.	ID Standard Recoveries	DUP	FC10290-6	Limits
	13C4-PFBA	100%	99%	20-150%
	13C5-PFPeA	117%	108%	20-150%
	13C5-PFHxA	113%	107%	20-150%
	13C4-PFHpA	116%	105%	20-150%
	13C8-PFOA	113%	112%	20-150%
	13C9-PFNA	120%	105%	20-150%
	13C6-PFDA	110%	109%	20-150%
	13C7-PFUnDA	100%	103%	20-150%
	13C2-PFDoDA	93%	95%	20-150%
	13C2-PFTeDA	77%	95%	20-150%
	13C3-PFBS	108%	118%	20-150%
	13C3-PFHxS	105%	109%	20-150%
	13C8-PFOS	112%	100%	20-150%
	13C8-FOSA	87%	85%	20-150%
	d3-MeFOSA	79%	81%	20-150%
	d5-EtFOSA	83%	83%	20-150%
	d3-MeFOSAA	110%	105%	20-150%
	d5-EtFOSAA	101%	109%	20-150%
	d7-MeFOSE	82%	83%	20-150%
	d9-EtFOSE	83%	82%	20-150%
	13C2-4:2FTS	130%	156%	20-180%
	13C2-6:2FTS	110%	124%	20-180%
	13C2-8:2FTS	110%	117%	20-180%
	13C3-HFPO-DA	117%	106%	20-150%

* = Outside of Control Limits.