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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC11160

Sampling Date: 11/09/23



Report to:

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Total number of pages in report: 31



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

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

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

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Test results relate only to samples analyzed.

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Sample Summary

AECOM, INC.

Job No: FC11160

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC11160-1	11/09/23	09:20 MD	11/10/23	AQ	Ground Water	AF-RHMW12A-WGN01LF-2311
FC11160-2	11/09/23	09:20 MD	11/10/23	AQ	Ground Water	AF-RHMW12A-WGFD01LF-2311

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC11160

Site: N6274223F0104 RH Fire Suppression System

Report Date: 11/17/2023 12:37:08 PM

On 11/10/2023, 2 Sample(s), 0 Trip Blank(s), 0 Equip. Blanks and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC11160 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: OP58

Sample(s) FC11101-1MS, FC11101-2DUP were used as the QC samples indicated.

Blank Spike Recovery(s) for 3:3 Fluorotelomer carboxylate are outside control limits.

RPD(s) for Duplicate for 6:2 Fluorotelomer sulfonate are outside control limits for sample OP58-DUP. Probable cause is due to sample non-homogeneity.

FC11160-1 for 3:3 Fluorotelomer carboxylate: Associated BS outside control limits high, sample was ND.

FC11160-2 for 3:3 Fluorotelomer carboxylate: Associated BS outside control limits high, sample was ND.

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: FC11160
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 11/09/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC11160-1 AF-RHMW12A-WGN01LF-2311

No hits reported in this sample.

FC11160-2 AF-RHMW12A-WGFD01LF-2311

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW12A-WGN01LF-2311		
Lab Sample ID:	FC11160-1	Date Sampled:	11/09/23
Matrix:	AQ - Ground Water	Date Received:	11/10/23
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	4Q53888.D	1	11/15/23 16:06	AL	11/13/23 11:10	OP58	S4Q786
Run #2							

Run #	Initial Volume	Final Volume
Run #1	525 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	15	3.8	1.8	ng/l
2706-90-3	Perfluoropentanoic acid	1.9 U	7.6	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	0.95 U	3.8	0.95	0.48	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	0.48	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	0.80	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	0.51	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	0.61	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	7.6 U	19	7.6	3.1	ng/l
27619-97-2	6:2 Fluorotelomer sulfonate	7.6 U	19	7.6	3.3	ng/l
39108-34-4	8:2 Fluorotelomer sulfonate	7.6 U	19	7.6	3.9	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	7.6	3.8	0.95	ng/l
4151-50-2	EtFOSA	3.8 U	7.6	3.8	0.95	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-RHMW12A-WGN01LF-2311		
Lab Sample ID:	FC11160-1	Date Sampled:	11/09/23
Matrix:	AQ - Ground Water	Date Received:	11/10/23
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	0.95	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	0.95	ng/l	
919005-14-4	ADONA	3.8 U	7.6	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.6	1.9	0.95	ng/l	
863090-89-5	PFMBA	3.8 U	7.6	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.6	3.8	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.6	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.6	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	7.6	1.9	0.74	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylat ^a	9.5 U	19	9.5	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	95	19	8.3	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	95	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	51%		20-150%
	13C5-PFPeA	101%		20-150%
	13C5-PFHxA	98%		20-150%
	13C4-PFHpA	102%		20-150%
	13C8-PFOA	95%		20-150%
	13C9-PFNA	99%		20-150%
	13C6-PFDA	98%		20-150%
	13C7-PFUnDA	99%		20-150%
	13C2-PFDoDA	86%		20-150%
	13C2-PFTeDA	80%		20-150%
	13C3-PFBS	100%		20-150%
	13C3-PFHxS	94%		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-RHMW12A-WGN01LF-2311	
Lab Sample ID:	FC11160-1	Date Sampled: 11/09/23
Matrix:	AQ - Ground Water	Date Received: 11/10/23
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	98%		20-150%
	13C8-FOSA	93%		20-150%
	d3-MeFOSA	76%		20-150%
	d5-EtFOSA	86%		20-150%
	d3-MeFOSAA	104%		20-150%
	d5-EtFOSAA	97%		20-150%
	d7-MeFOSE	82%		20-150%
	d9-EtFOSE	85%		20-150%
	13C2-4:2FTS	100%		20-180%
	13C2-6:2FTS	114%		20-180%
	13C2-8:2FTS	108%		20-180%
	13C3-HFPO-DA	99%		20-150%

(a) Associated BS outside control limits high, sample was ND.

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

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Client Sample ID:	AF-RHMW12A-WGFD01LF-2311		
Lab Sample ID:	FC11160-2	Date Sampled:	11/09/23
Matrix:	AQ - Ground Water	Date Received:	11/10/23
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	4Q53889.D	1	11/15/23 16:21	AL	11/13/23 11:10	OP58	S4Q786
Run #2							

Run #	Initial Volume	Final Volume
Run #1	525 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	7.6	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	0.95 U	3.8	0.95	0.48	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	0.48	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	0.80	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	0.51	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	0.61	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	7.6 U	19	7.6	3.1	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.6 U	19	7.6	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.6 U	19	7.6	3.9	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	7.6	3.8	0.95	ng/l	
4151-50-2	EtFOSA	3.8 U	7.6	3.8	0.95	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-RHMW12A-WGFD01LF-2311		Date Sampled:	11/09/23
Lab Sample ID:	FC11160-2	Date Received:	11/10/23	
Matrix:	AQ - Ground Water	Percent Solids:	n/a	
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
Project:	N6274223F0104 RH Fire Suppression System			

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

2355-31-9	MeFOSAA	3.8 U	4.8	3.8	0.95	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	0.95	ng/l	
919005-14-4	ADONA	3.8 U	7.6	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.6	1.9	0.95	ng/l	
863090-89-5	PFMBA	3.8 U	7.6	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.6	3.8	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.6	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.6	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	7.6	1.9	0.74	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylat ^a	9.5 U	19	9.5	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	95	19	8.3	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	95	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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13C4-PFBA	48%			20-150%
13C5-PFPeA	95%			20-150%
13C5-PFHxA	94%			20-150%
13C4-PFHpA	99%			20-150%
13C8-PFOA	92%			20-150%
13C9-PFNA	95%			20-150%
13C6-PFDA	93%			20-150%
13C7-PFUnDA	90%			20-150%
13C2-PFDoDA	77%			20-150%
13C2-PFTeDA	74%			20-150%
13C3-PFBS	96%			20-150%
13C3-PFHxS	100%			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-RHMW12A-WGFD01LF-2311	
Lab Sample ID:	FC11160-2	Date Sampled: 11/09/23
Matrix:	AQ - Ground Water	Date Received: 11/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	90%		20-150%
	13C8-FOSA	89%		20-150%
	d3-MeFOSA	73%		20-150%
	d5-EtFOSA	76%		20-150%
	d3-MeFOSAA	95%		20-150%
	d5-EtFOSAA	85%		20-150%
	d7-MeFOSE	74%		20-150%
	d9-EtFOSE	75%		20-150%
	13C2-4:2FTS	118%		20-180%
	13C2-6:2FTS	110%		20-180%
	13C2-8:2FTS	91%		20-180%
	13C3-HFPO-DA	92%		20-150%

(a) Associated BS outside control limits high, sample was ND.

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

QC Evaluation: DOD QSM5.x Limits

Job Number: FC11160
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 11/09/23

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 FC11160

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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: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q786-IBLK	4Q53867.D	1	11/15/23	AL	n/a	n/a	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

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	0.0018	0.0080	0.0010	ug/l	J
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	0.0049	0.040	0.0044	ug/l	J
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	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: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q786-IBLK	4Q53867.D	1	11/15/23	AL	n/a	n/a	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	107% 20-150%
	13C8-PFOA	102% 20-150%
	13C9-PFNA	105% 20-150%
	13C6-PFDA	102% 20-150%
	13C7-PFUnDA	114% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	99% 20-150%
	13C3-PFBS	117% 20-150%
	13C3-PFHxS	114% 20-150%
	13C8-PFOS	102% 20-150%
	13C8-FOSA	110% 20-150%
	d3-MeFOSAA	127% 20-150%
	d5-EtFOSAA	115% 20-150%
	13C2-4:2FTS	177% 20-180%
	13C2-6:2FTS	162% 20-180%
	13C2-8:2FTS	158% 20-180%

6.1.1
6

Continuing Calibration Blank

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q786-ICCB	4Q53880.D	1	11/15/23	AL	n/a	n/a	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

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: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q786-ICCB	4Q53880.D	1	11/15/23	AL	n/a	n/a	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	101% 20-150%
	13C5-PFPeA	102% 20-150%
	13C5-PFHxA	99% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	99% 20-150%
	13C9-PFNA	105% 20-150%
	13C6-PFDA	99% 20-150%
	13C7-PFUnDA	103% 20-150%
	13C2-PFDoDA	95% 20-150%
	13C2-PFTeDA	97% 20-150%
	13C3-PFBS	94% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	100% 20-150%
	13C8-FOSA	97% 20-150%
	d3-MeFOSAA	114% 20-150%
	d5-EtFOSAA	99% 20-150%
	13C2-4:2FTS	148% 20-180%
	13C2-6:2FTS	131% 20-180%
	13C2-8:2FTS	145% 20-180%

Method Blank Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-MB	4Q53873.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

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

Method Blank Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-MB	4Q53873.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

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	103% 20-150%
	13C5-PFPeA	98% 20-150%
	13C5-PFHxA	96% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	103% 20-150%
	13C9-PFNA	98% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	100% 20-150%
	13C2-PFDoDA	87% 20-150%
	13C2-PFTeDA	76% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	106% 20-150%
	13C8-PFOS	94% 20-150%
	13C8-FOSA	81% 20-150%
	d3-MeFOSA	62% 20-150%
	d5-EtFOSA	65% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	97% 20-150%
	d7-MeFOSE	68% 20-150%
	d9-EtFOSE	73% 20-150%
	13C2-4:2FTS	151% 20-180%
	13C2-6:2FTS	157% 20-180%
	13C2-8:2FTS	145% 20-180%
	13C3-HFPO-DA	97% 20-150%

Blank Spike Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-LLBS	4Q53872.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0285	95	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0136	91	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0070	93	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0068	91	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0068	91	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0076	101	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0071	95	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0068	91	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0077	103	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0074	99	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0082	109	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0054	81	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0071	101	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0066	96	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0075	105	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0070	101	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0077	107	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0077	106	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0063	87	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0286	102	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0285	100	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0312	108	40-150
754-91-6	PFOSA	0.0075	0.0071	95	40-150
31506-32-8	MeFOSA	0.015	0.0144	96	40-150
4151-50-2	EtFOSA	0.015	0.0138	92	40-150
2355-31-9	MeFOSAA	0.0075	0.0063	84	40-150
2991-50-6	EtFOSAA	0.0075	0.0076	101	40-150
24448-09-7	MeFOSE	0.0375	0.0337	90	40-150
1691-99-2	EtFOSE	0.0375	0.0389	104	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0138	92	40-150
919005-14-4	ADONA	0.0142	0.0158	111	40-150
377-73-1	PFMPA	0.015	0.0162	108	40-150
863090-89-5	PFMBA	0.015	0.0155	103	40-150
151772-58-6	NFDHA	0.015	0.0192	128	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0143	102	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0127	90	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-LLBS	4Q53872.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

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	0.0342	91	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.171	91	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.180	96	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	97%	20-150%
	13C5-PFPeA	96%	20-150%
	13C5-PFHxA	94%	20-150%
	13C4-PFHpA	96%	20-150%
	13C8-PFOA	98%	20-150%
	13C9-PFNA	101%	20-150%
	13C6-PFDA	105%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	95%	20-150%
	13C2-PFTeDA	81%	20-150%
	13C3-PFBS	98%	20-150%
	13C3-PFHxS	98%	20-150%
	13C8-PFOS	88%	20-150%
	13C8-FOSA	97%	20-150%
	d3-MeFOSA	78%	20-150%
	d5-EtFOSA	84%	20-150%
	d3-MeFOSAA	116%	20-150%
	d5-EtFOSAA	108%	20-150%
	d7-MeFOSE	83%	20-150%
	d9-EtFOSE	86%	20-150%
	13C2-4:2FTS	122%	20-180%
	13C2-6:2FTS	143%	20-180%
	13C2-8:2FTS	134%	20-180%
	13C3-HFPO-DA	92%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-BS	4Q53871.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0959	96	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0466	93	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0230	92	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0238	95	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0235	94	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0236	94	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0238	95	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0243	97	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0261	104	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0259	104	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0242	97	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0190	86	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0228	97	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0219	96	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0219	92	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0215	93	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0237	99	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0218	90	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0218	90	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0927	99	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	0.0983	102	40-150
754-91-6	PFOSA	0.025	0.0228	91	40-150
31506-32-8	MeFOSA	0.05	0.0501	100	40-150
4151-50-2	EtFOSA	0.05	0.0481	96	40-150
2355-31-9	MeFOSAA	0.025	0.0238	95	40-150
2991-50-6	EtFOSAA	0.025	0.0258	103	40-150
24448-09-7	MeFOSE	0.125	0.111	89	40-150
1691-99-2	EtFOSE	0.125	0.122	98	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0460	92	40-150
919005-14-4	ADONA	0.0473	0.0545	115	40-150
377-73-1	PFMPA	0.05	0.0392	78	40-150
863090-89-5	PFMBA	0.05	0.0534	107	40-150
151772-58-6	NFDHA	0.05	0.0593	119	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0459	98	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0443	94	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-BS	4Q53871.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0501	113	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.225	180*	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.609	97	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.609	97	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	36%	20-150%
	13C5-PFPeA	87%	20-150%
	13C5-PFHxA	85%	20-150%
	13C4-PFHpA	87%	20-150%
	13C8-PFOA	86%	20-150%
	13C9-PFNA	86%	20-150%
	13C6-PFDA	85%	20-150%
	13C7-PFUnDA	85%	20-150%
	13C2-PFDoDA	76%	20-150%
	13C2-PFTeDA	74%	20-150%
	13C3-PFBS	91%	20-150%
	13C3-PFHxS	90%	20-150%
	13C8-PFOS	89%	20-150%
	13C8-FOSA	93%	20-150%
	d3-MeFOSA	78%	20-150%
	d5-EtFOSA	80%	20-150%
	d3-MeFOSAA	105%	20-150%
	d5-EtFOSAA	96%	20-150%
	d7-MeFOSE	80%	20-150%
	d9-EtFOSE	83%	20-150%
	13C2-4:2FTS	122%	20-180%
	13C2-6:2FTS	122%	20-180%
	13C2-8:2FTS	130%	20-180%
	13C3-HFPO-DA	83%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-MS	4Q53882.D	1	11/15/23	AL	11/13/23	OP58	S4Q786
FC11101-1	4Q53881.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

CAS No.	Compound	FC11101-1 ug/l	Spike Q	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	0.0935	0.0899	96	40-150
2706-90-3	Perfluoropentanoic acid	0.0076 U	0.0467	0.0445	95	40-150
307-24-4	Perfluorohexanoic acid	0.0038 U	0.0234	0.0222	95	40-150
375-85-9	Perfluoroheptanoic acid	0.0038 U	0.0234	0.0222	95	40-150
335-67-1	Perfluorooctanoic acid	0.0038 U	0.0234	0.0220	94	40-150
375-95-1	Perfluorononanoic acid	0.0038 U	0.0234	0.0216	92	40-150
335-76-2	Perfluorodecanoic acid	0.0038 U	0.0234	0.0203	87	40-150
2058-94-8	Perfluoroundecanoic acid	0.0038 U	0.0234	0.0227	97	40-150
307-55-1	Perfluorododecanoic acid	0.0038 U	0.0234	0.0233	100	40-150
72629-94-8	Perfluorotridecanoic acid	0.0038 U	0.0234	0.0218	93	40-150
376-06-7	Perfluorotetradecanoic acid	0.0038 U	0.0234	0.0233	100	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0038 U	0.0207	0.0194	94	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0048 U	0.022	0.0207	94	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0038 U	0.0214	0.0209	98	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0038 U	0.0223	0.0213	96	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0038 U	0.0217	0.0214	99	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0038 U	0.0225	0.0217	97	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0038 U	0.0225	0.0197	87	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0048 U	0.0227	0.0193	85	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.019 U	0.0876	0.0788	90	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U	0.0888	0.0982	111	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U	0.0897	0.0943	105	40-150
754-91-6	PFOSA	0.0038 U	0.0234	0.0211	90	40-150
31506-32-8	MeFOSA	0.0076 U	0.0467	0.0498	107	40-150
4151-50-2	EtFOSA	0.0076 U	0.0467	0.0469	100	40-150
2355-31-9	MeFOSAA	0.0048 U	0.0234	0.0205	88	40-150
2991-50-6	EtFOSAA	0.0048 U	0.0234	0.0274	117	40-150
24448-09-7	MeFOSE	0.038 U	0.117	0.108	92	40-150
1691-99-2	EtFOSE	0.038 U	0.117	0.113	97	40-150
13252-13-6	HFPO-DA (GenX)	0.0038 U	0.0467	0.0451	97	40-150
919005-14-4	ADONA	0.0076 U	0.0442	0.0501	113	40-150
377-73-1	PFMPA	0.0076 U	0.0467	0.0514	110	40-150
863090-89-5	PFMBA	0.0076 U	0.0467	0.0505	108	40-150
151772-58-6	NFDHA	0.0076 U	0.0467	0.0533	114	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0076 U	0.0437	0.0386	88	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0076 U	0.0442	0.0363	82	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-MS	4Q53882.D	1	11/15/23	AL	11/13/23	OP58	S4Q786
FC11101-1	4Q53881.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

CAS No.	Compound	FC11101-1 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0076 U	0.0416	0.0468	113	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	0.117	0.124	106	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.095 U	0.584	0.568	97	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.095 U	0.584	0.586	100	40-150

CAS No.	ID Standard Recoveries	MS	FC11101-1	Limits
	13C4-PFBA	84%	93%	20-150%
	13C5-PFPeA	98%	95%	20-150%
	13C5-PFHxA	98%	95%	20-150%
	13C4-PFHpA	100%	94%	20-150%
	13C8-PFOA	95%	93%	20-150%
	13C9-PFNA	101%	96%	20-150%
	13C6-PFDA	93%	85%	20-150%
	13C7-PFUnDA	90%	78%	20-150%
	13C2-PFDoDA	82%	65%	20-150%
	13C2-PFTeDA	73%	58%	20-150%
	13C3-PFBS	97%	91%	20-150%
	13C3-PFHxS	100%	91%	20-150%
	13C8-PFOS	87%	88%	20-150%
	13C8-FOSA	98%	90%	20-150%
	d3-MeFOSA	63%	63%	20-150%
	d5-EtFOSA	66%	70%	20-150%
	d3-MeFOSAA	103%	103%	20-150%
	d5-EtFOSAA	89%	86%	20-150%
	d7-MeFOSE	76%	66%	20-150%
	d9-EtFOSE	79%	66%	20-150%
	13C2-4:2FTS	119%	107%	20-180%
	13C2-6:2FTS	111%	111%	20-180%
	13C2-8:2FTS	114%	108%	20-180%
	13C3-HFPO-DA	95%	90%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-DUP	4Q53884.D	1	11/15/23	AL	11/13/23	OP58	S4Q786
FC11101-2	4Q53883.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

CAS No.	Compound	FC11101-2 ug/l	DUP Q	ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.015 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0073 U		ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0037 U		ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0037 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0037 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0037 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0037 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0037 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0037 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0037 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0037 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0037 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0046 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0037 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0037 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0037 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0037 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0037 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0046 U		ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.018 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0037 U	J	0.0076 U	J	69*	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U		ND		nc	30
754-91-6	PFOSA	0.0037 U		ND		nc	30
31506-32-8	MeFOSA	0.0073 U		ND		nc	30
4151-50-2	EtFOSA	0.0073 U		ND		nc	30
2355-31-9	MeFOSAA	0.0046 U		ND		nc	30
2991-50-6	EtFOSAA	0.0046 U		ND		nc	30
24448-09-7	MeFOSE	0.037 U		ND		nc	30
1691-99-2	EtFOSE	0.037 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0037 U		ND		nc	30
919005-14-4	ADONA	0.0073 U		ND		nc	30
377-73-1	PFMPA	0.0073 U		ND		nc	30
863090-89-5	PFMBA	0.0073 U		ND		nc	30
151772-58-6	NFDHA	0.0073 U		ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0073 U		ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0073 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC11160
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58-DUP	4Q53884.D	1	11/15/23	AL	11/13/23	OP58	S4Q786
FC11101-2	4Q53883.D	1	11/15/23	AL	11/13/23	OP58	S4Q786

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC11160-1, FC11160-2

CAS No.	Compound	FC11101-2 ug/l	DUP Q ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0073 U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	ND		nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.092 U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.092 U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC11101-2	Limits
	13C4-PFBA	3%* a	2%* a	20-150%
	13C5-PFPeA	20%	11%* a	20-150%
	13C5-PFHxA	92%	84%	20-150%
	13C4-PFHpA	98%	102%	20-150%
	13C8-PFOA	94%	101%	20-150%
	13C9-PFNA	93%	101%	20-150%
	13C6-PFDA	104%	91%	20-150%
	13C7-PFUnDA	103%	90%	20-150%
	13C2-PFDoDA	92%	78%	20-150%
	13C2-PFTeDA	74%	65%	20-150%
	13C3-PFBS	96%	103%	20-150%
	13C3-PFHxS	101%	108%	20-150%
	13C8-PFOS	98%	102%	20-150%
	13C8-FOSA	109%	111%	20-150%
	d3-MeFOSA	100%	99%	20-150%
	d5-EtFOSA	103%	104%	20-150%
	d3-MeFOSAA	130%	123%	20-150%
	d5-EtFOSAA	132%	131%	20-150%
	d7-MeFOSE	86%	83%	20-150%
	d9-EtFOSE	88%	84%	20-150%
	13C2-4:2FTS	214%* a	162%	20-180%
	13C2-6:2FTS	143%	151%	20-180%
	13C2-8:2FTS	137%	135%	20-180%
	13C3-HFPO-DA	79%	73%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.