

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

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC6141

Sampling Date: 05/16/23



Report to:

AECOM, Inc
7595 Technology Way
Denver, CO 80237
katie.abbott@aecom.com; mark.kromis@aecom.com;
watson.tanji@aecom.com; kristin.rutherford@aecom.com
ATTN: Katie Abbott

Total number of pages in report: 40



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Summary of Hits	5
Section 4: Sample Results	6
4.1: FC6141-1: AF-RHMW225401-WGN01B-2305W3	7
4.2: FC6141-2: AF-HDMW225303-WGN01LF-2305W3	10
4.3: FC6141-3: AF-RHMW10-WGN01LF-2305W3	13
Section 5: Misc. Forms	16
5.1: Chain of Custody	17
5.2: QC Evaluation: DOD QSM5.x Limits	21
Section 6: MS Semi-volatiles - QC Data Summaries	22
6.1: Method Blank Summary	23
6.2: Blank Spike Summary	33
6.3: Matrix Spike Summary	37
6.4: Duplicate Summary	39

1

2

3

4

5

6



Sample Summary

AECOM, INC.

Job No: FC6141

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC6141-1	05/16/23	10:20 MYAL	05/17/23	AQ	Ground Water	AF-RHMW225401-WGN01B-2305W3
FC6141-2	05/16/23	10:50 RS	05/17/23	AQ	Ground Water	AF-HDMW225303-WGN01LF-2305W3
FC6141-3	05/16/23	12:25 RS	05/17/23	AQ	Ground Water	AF-RHMW10-WGN01LF-2305W3

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC6141

Site: N6274223F0104 RH Fire Suppression System

Report Date: 5/24/2023 10:37:33 AM

On 05/17/2023, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 1.2 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6141 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: OP96959

Sample(s) FC5734-3MS, FC5734-4DUP 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 Perfluorooctanoic acid are outside control limits for sample OP96959-DUP. Probable cause is due to sample non-homogeneity.

FC6141-1 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits; LLBS recovery was within control limits and sample was ND.

FC6141-2 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits; LLBS recovery was within control limits and sample was ND.

FC6141-3 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits; LLBS recovery was within control limits and 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: FC6141
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/16/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
---------------	------------------	-----------------	-----	-----	-------	--------

FC6141-1 AF-RHMW225401-WGN01B-2305W3

Perfluoropentanoic acid	1.3 J	7.5	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	0.88 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.83 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid	1.5 J	3.8	0.94	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid	0.66 J	3.8	1.9	ng/l	EPA DRAFT 1633
Perfluorohexanesulfonic acid	1.1 J	3.8	1.9	ng/l	EPA DRAFT 1633

FC6141-2 AF-HDMW225303-WGN01LF-2305W3

PFOSA	1.1 J	3.7	1.9	ng/l	EPA DRAFT 1633
-------	-------	-----	-----	------	----------------

FC6141-3 AF-RHMW10-WGN01LF-2305W3

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2305W3		
Lab Sample ID:	FC6141-1	Date Sampled:	05/16/23
Matrix:	AQ - Ground Water	Date Received:	05/17/23
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	6Q18270.D	1	05/23/23 07:50	MV	05/18/23 11:30	OP96959	S6Q274
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
---------	----------	--------	-----	-----	----	-------	---

PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.8 U	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.3	7.5	1.9	0.89	ng/l	J
307-24-4	Perfluorohexanoic acid	0.88	3.8	1.9	0.47	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.83	3.8	1.9	0.47	ng/l	J
335-67-1	Perfluorooctanoic acid	1.5	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	0.66	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	1.1	3.8	1.9	0.66	ng/l	J
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

4.1
4

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2305W3		
Lab Sample ID:	FC6141-1	Date Sampled:	05/16/23
Matrix:	AQ - Ground Water	Date Received:	05/17/23
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	3.8 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 carboxylat ^a	9.4 U	19	9.4	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	94	19	8.2	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	94	19	7.4	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	104%		20-150%
	13C5-PFPeA	114%		20-150%
	13C5-PFHxA	110%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	103%		20-150%
	13C9-PFNA	104%		20-150%
	13C6-PFDA	94%		20-150%
	13C7-PFUnDA	100%		20-150%
	13C2-PFDoDA	85%		20-150%
	13C2-PFTeDA	73%		20-150%
	13C3-PFBS	105%		20-150%
	13C3-PFHxS	110%		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

4.1
4

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2305W3	
Lab Sample ID:	FC6141-1	Date Sampled: 05/16/23
Matrix:	AQ - Ground Water	Date Received: 05/17/23
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	97%		20-150%
	d3-MeFOSA	81%		20-150%
	d5-EtFOSA	85%		20-150%
	d3-MeFOSAA	117%		20-150%
	d5-EtFOSAA	108%		20-150%
	d7-MeFOSE	76%		20-150%
	d9-EtFOSE	81%		20-150%
	13C2-4:2FTS	130%		20-180%
	13C2-6:2FTS	126%		20-180%
	13C2-8:2FTS	129%		20-180%
	13C3-HFPO-DA	109%		20-150%

(a) Associated BS recovery outside control limits; LLBS recovery was within control limits and 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

4.2
4

Client Sample ID:	AF-HDMW225303-WGN01LF-2305W3		
Lab Sample ID:	FC6141-2	Date Sampled:	05/16/23
Matrix:	AQ - Ground Water	Date Received:	05/17/23
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	6Q18271.D	1	05/23/23 08:04	MV	05/18/23 11:30	OP96959	S6Q274
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	1.1	3.7	1.9	0.62	ng/l	J
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

Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2305W3		
Lab Sample ID:	FC6141-2	Date Sampled:	05/16/23
Matrix:	AQ - Ground Water	Date Received:	05/17/23
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 carboxylat ^a	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%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	111%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	106%		20-150%
	13C9-PFNA	104%		20-150%
	13C6-PFDA	103%		20-150%
	13C7-PFUnDA	91%		20-150%
	13C2-PFDoDA	78%		20-150%
	13C2-PFTeDA	74%		20-150%
	13C3-PFBS	117%		20-150%
	13C3-PFHxS	117%		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-HDMW225303-WGN01LF-2305W3	
Lab Sample ID:	FC6141-2	Date Sampled: 05/16/23
Matrix:	AQ - Ground Water	Date Received: 05/17/23
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	103%		20-150%
	13C8-FOSA	80%		20-150%
	d3-MeFOSA	76%		20-150%
	d5-EtFOSA	74%		20-150%
	d3-MeFOSAA	100%		20-150%
	d5-EtFOSAA	104%		20-150%
	d7-MeFOSE	63%		20-150%
	d9-EtFOSE	73%		20-150%
	13C2-4:2FTS	134%		20-180%
	13C2-6:2FTS	142%		20-180%
	13C2-8:2FTS	138%		20-180%
	13C3-HFPO-DA	109%		20-150%

(a) Associated BS recovery outside control limits; LLBS recovery was within control limits and 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

Client Sample ID:	AF-RHMW10-WGN01LF-2305W3		
Lab Sample ID:	FC6141-3	Date Sampled:	05/16/23
Matrix:	AQ - Ground Water	Date Received:	05/17/23
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	6Q18272.D	1	05/23/23 08:19	MV	05/18/23 11:30	OP96959	S6Q274
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
---------	----------	--------	-----	-----	----	-------	---

PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.5 U	14	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.0	1.8	0.82	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	3.5	0.88	0.44	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.5	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.5	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.5	1.8	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.5	1.8	0.61	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.5	1.8	0.44	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.5	1.8	0.47	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.5	1.8	0.50	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.5	1.8	0.56	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.5 U	4.4	3.5	1.0	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.0 U	18	7.0	2.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.8 U	3.5	1.8	0.59	ng/l	
31506-32-8	MeFOSA	3.5 U	7.0	3.5	0.88	ng/l	
4151-50-2	EtFOSA	3.5 U	7.0	3.5	0.88	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW10-WGN01LF-2305W3		Date Sampled:	05/16/23
Lab Sample ID:	FC6141-3	Date Received:	05/17/23	
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
---------	----------	--------	-----	-----	----	-------	---

PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	3.5 U	4.4	3.5	0.88	ng/l	
2991-50-6	EtFOSAA	3.5 U	4.4	3.5	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	18 U	35	18	3.8	ng/l	
1691-99-2	EtFOSE	18 U	35	18	6.5	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.5	1.8	0.88	ng/l	
919005-14-4	ADONA	3.5 U	7.0	3.5	1.6	ng/l	
377-73-1	PFMPA	1.8 U	7.0	1.8	0.88	ng/l	
863090-89-5	PFMBA	3.5 U	7.0	3.5	1.0	ng/l	
151772-58-6	NFDHA	3.5 U	7.0	3.5	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.5 U	7.0	3.5	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.5 U	7.0	3.5	1.5	ng/l	
113507-82-7	PFEESA	1.8 U	7.0	1.8	0.68	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylat ^a	8.8 U	18	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	88	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	88	18	6.9	ng/l	

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

13C4-PFBA	101%	20-150%
13C5-PFPeA	107%	20-150%
13C5-PFHxA	107%	20-150%
13C4-PFHpA	106%	20-150%
13C8-PFOA	105%	20-150%
13C9-PFNA	105%	20-150%
13C6-PFDA	102%	20-150%
13C7-PFUnDA	105%	20-150%
13C2-PFDoDA	86%	20-150%
13C2-PFTeDA	79%	20-150%
13C3-PFBS	107%	20-150%
13C3-PFHxS	108%	20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW10-WGN01LF-2305W3		Date Sampled:	05/16/23
Lab Sample ID:	FC6141-3		Date Received:	05/17/23
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
Project:	N6274223F0104 RH Fire Suppression System			

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	110%		20-150%
	13C8-FOSA	87%		20-150%
	d3-MeFOSA	78%		20-150%
	d5-EtFOSA	79%		20-150%
	d3-MeFOSAA	118%		20-150%
	d5-EtFOSAA	117%		20-150%
	d7-MeFOSE	65%		20-150%
	d9-EtFOSE	74%		20-150%
	13C2-4:2FTS	125%		20-180%
	13C2-6:2FTS	134%		20-180%
	13C2-8:2FTS	124%		20-180%
	13C3-HFPO-DA	102%		20-150%

(a) Associated BS recovery outside control limits; LLBS recovery was within control limits and 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



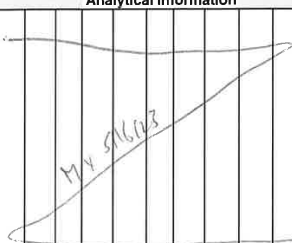
SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811
 TEL: 407-425-6700 FAX: 407-425-0717
 www.sgs.com

FC6141
 COC #: 2305W3AFSG07

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. ste 1600		Street																																
City: Honolulu State: HI Zip: 96813		City Honolulu State Hawaii																																
Project Contact: Katie Abbott Email: katie.abbott@aecom.com		Project # 60697810																																
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #																																
Sampler(s) Name(s) (Printed) Sampler 1: Matt Yin Sampler 2: Anthony Lopez		Client Purchase Order #		PFAS EPA Draft 1633 INITIAL ASSESSMENT LAB VERIFICATION SP										LAB USE ONLY																				
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME												SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NOTE	PH	INCH	INCH	INCH	INCH	INCH	INCH	INCH	INCH	INCH	INCH				
1	AF-RHMW225401-WGN01B-2305W3	5/16/23	1020												MYAL	GW	3		X															
Turnaround Time (Business days)																				Data Deliverable Information		Comments / Remarks												
10 Day (Business)		Approved By: / Date:													<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 United AWP 816-17895404									
7 Day																																		
5 Day																																		
3 Day RUSH																																		
2 Day RUSH																																		
1 Day RUSH																																		
Other																																		
Rush T/A 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		Date Time		Relinquished By/Affiliation		Date Time		Received By/Affiliation		Date Time		Relinquished By/Affiliation		Date Time		Received By/Affiliation														
1 Matt Yin AECOM		5/16/23		2 Alex Edmonds AECOM		5/16/23		3 Alex Edmonds AECOM		5/16/23		4 United Cargo		5/16/23		5 United Cargo		5/17/23		6 [Signature] 05/17/23		7 [Signature] 05/17/23												
Lab Use Only: Cooler Temperature (s) Celsius (corrected):																																		

1.2 IR#1
 PFAS_COCs_ALL.xls Rev 031318



5.1
5

SGS Sample Receipt Summary

Job Number: FC6141

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 5/17/2023 3:00:00 PM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-17895404

Therm ID: IR 1;

Therm CF: -0.1;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.3);

Cooler Temps (Corrected) °C: Cooler 1: (1.2);

Cooler Information

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

Trip Blank Information

Y or N N/A

- 1. Trip Blank present / cooler
 - 2. Trip Blank listed on COC
- W or S N/A
- 3. Type Of TB Received

Sample Information

Y or N N/A

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

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____
 Test Strip Lot #'s: pH 0-3 230320 pH 10-12 _____ Other: (Specify) pH 1.0 - 12.0 222221
 Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP

Date: 5/17/2023 3:00:00 PM

Reviewer: SP

Date: 5/18/2023

FC6141: Chain of Custody

Page 4 of 4

QC Evaluation: DOD QSM5.x Limits

Job Number: FC6141
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/16/23

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

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

* Sample used for QC is not from job FC6141

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: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q274-IBLK	6Q18235.D	1	05/22/23	MV	n/a	n/a	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q274-IBLK	6Q18235.D	1	05/22/23	MV	n/a	n/a	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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	97% 20-150%
	13C5-PFHxA	95% 20-150%
	13C4-PFHpA	99% 20-150%
	13C8-PFOA	98% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	97% 20-150%
	13C7-PFUnDA	101% 20-150%
	13C2-PFDoDA	95% 20-150%
	13C2-PFTeDA	95% 20-150%
	13C3-PFBS	93% 20-150%
	13C3-PFHxS	97% 20-150%
	13C8-PFOS	102% 20-150%
	13C8-FOSA	103% 20-150%
	d3-MeFOSA	99% 20-150%
	d5-EtFOSA	100% 20-150%
	d3-MeFOSAA	101% 20-150%
	d5-EtFOSAA	103% 20-150%
	d7-MeFOSE	90% 20-150%
	d9-EtFOSE	96% 20-150%
	13C2-4:2FTS	96% 20-180%
	13C2-6:2FTS	101% 20-180%
	13C2-8:2FTS	100% 20-180%
	13C3-HFPO-DA	94% 20-150%

6.1.1
6

Continuing Calibration Blank

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q274-ICCB	6Q18263.D	1	05/23/23	MV	n/a	n/a	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q274-ICCB	6Q18263.D	1	05/23/23	MV	n/a	n/a	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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	106% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	107% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	91% 20-150%
	13C6-PFDA	101% 20-150%
	13C7-PFUnDA	103% 20-150%
	13C2-PFDoDA	93% 20-150%
	13C2-PFTeDA	98% 20-150%
	13C3-PFBS	96% 20-150%
	13C3-PFHxS	99% 20-150%
	13C8-PFOS	102% 20-150%
	13C8-FOSA	108% 20-150%
	d3-MeFOSA	96% 20-150%
	d5-EtFOSA	100% 20-150%
	d3-MeFOSAA	113% 20-150%
	d5-EtFOSAA	115% 20-150%
	d7-MeFOSE	92% 20-150%
	d9-EtFOSE	95% 20-150%
	13C2-4:2FTS	117% 20-180%
	13C2-6:2FTS	118% 20-180%
	13C2-8:2FTS	116% 20-180%
	13C3-HFPO-DA	100% 20-150%

Continuing Calibration Blank

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q274-ICCB	6Q18274.D	1	05/23/23	MV	n/a	n/a	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q274-ICCB	6Q18274.D	1	05/23/23	MV	n/a	n/a	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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	105% 20-150%
	13C5-PFHxA	100% 20-150%
	13C4-PFHpA	107% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	97% 20-150%
	13C6-PFDA	104% 20-150%
	13C7-PFUnDA	105% 20-150%
	13C2-PFDoDA	103% 20-150%
	13C2-PFTeDA	98% 20-150%
	13C3-PFBS	104% 20-150%
	13C3-PFHxS	104% 20-150%
	13C8-PFOS	102% 20-150%
	13C8-FOSA	103% 20-150%
	d3-MeFOSA	96% 20-150%
	d5-EtFOSA	93% 20-150%
	d3-MeFOSAA	112% 20-150%
	d5-EtFOSAA	116% 20-150%
	d7-MeFOSE	86% 20-150%
	d9-EtFOSE	92% 20-150%
	13C2-4:2FTS	122% 20-180%
	13C2-6:2FTS	125% 20-180%
	13C2-8:2FTS	126% 20-180%
	13C3-HFPO-DA	100% 20-150%

Method Blank Summary

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-MB	6Q18255.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-MB	6Q18255.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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	106% 20-150%
	13C5-PFPeA	104% 20-150%
	13C5-PFHxA	104% 20-150%
	13C4-PFHpA	107% 20-150%
	13C8-PFOA	105% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	101% 20-150%
	13C7-PFUnDA	96% 20-150%
	13C2-PFDoDA	83% 20-150%
	13C2-PFTeDA	76% 20-150%
	13C3-PFBS	99% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	105% 20-150%
	13C8-FOSA	64% 20-150%
	d3-MeFOSA	62% 20-150%
	d5-EtFOSA	69% 20-150%
	d3-MeFOSAA	100% 20-150%
	d5-EtFOSAA	96% 20-150%
	d7-MeFOSE	51% 20-150%
	d9-EtFOSE	62% 20-150%
	13C2-4:2FTS	120% 20-180%
	13C2-6:2FTS	117% 20-180%
	13C2-8:2FTS	118% 20-180%
	13C3-HFPO-DA	102% 20-150%

6.1.4

6

Continuing Calibration Blank

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q274-ICCB	6Q18251.D	1	05/23/23	MV	n/a	n/a	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP96959-BS, OP96959-LLBS, OP96959-DUP, OP96959-MB, OP96959-MS

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: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q274-ICCB	6Q18251.D	1	05/23/23	MV	n/a	n/a	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP96959-BS, OP96959-LLBS, OP96959-DUP, OP96959-MB, OP96959-MS

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	102% 20-150%
	13C5-PFHxA	100% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	98% 20-150%
	13C9-PFNA	101% 20-150%
	13C6-PFDA	104% 20-150%
	13C7-PFUnDA	112% 20-150%
	13C2-PFDoDA	98% 20-150%
	13C2-PFTeDA	101% 20-150%
	13C3-PFBS	97% 20-150%
	13C3-PFHxS	102% 20-150%
	13C8-PFOS	96% 20-150%
	13C8-FOSA	105% 20-150%
	d3-MeFOSA	95% 20-150%
	d5-EtFOSA	96% 20-150%
	d3-MeFOSAA	110% 20-150%
	d5-EtFOSAA	108% 20-150%
	d7-MeFOSE	89% 20-150%
	d9-EtFOSE	93% 20-150%
	13C2-4:2FTS	117% 20-180%
	13C2-6:2FTS	111% 20-180%
	13C2-8:2FTS	111% 20-180%
	13C3-HFPO-DA	98% 20-150%

Blank Spike Summary

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-LLBS	6Q18254.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0287	96	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0143	95	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0076	101	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0072	96	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0069	92	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0068	91	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0076	101	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0073	97	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0069	92	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0074	99	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0071	95	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0061	92	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	0.0078	109	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0073	105	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0077	107	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0073	101	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0061	84	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0287	102	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0274	96	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0301	105	40-150
754-91-6	PFOSA	0.0075	0.0077	103	40-150
31506-32-8	MeFOSA	0.015	0.0151	101	40-150
4151-50-2	EtFOSA	0.015	0.0150	100	40-150
2355-31-9	MeFOSAA	0.0075	0.0075	100	40-150
2991-50-6	EtFOSAA	0.0075	0.0075	100	40-150
24448-09-7	MeFOSE	0.0375	0.0348	93	40-150
1691-99-2	EtFOSE	0.0375	0.0361	96	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0141	94	40-150
919005-14-4	ADONA	0.0142	0.0144	102	40-150
377-73-1	PFMPA	0.015	0.0141	94	40-150
863090-89-5	PFMBA	0.015	0.0141	94	40-150
151772-58-6	NFDHA	0.015	0.0149	99	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0136	97	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0123	87	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-LLBS	6Q18254.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0124	93	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0233	62	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.170	91	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.170	91	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	102%	20-150%
	13C5-PFPeA	106%	20-150%
	13C5-PFHxA	106%	20-150%
	13C4-PFHpA	103%	20-150%
	13C8-PFOA	101%	20-150%
	13C9-PFNA	104%	20-150%
	13C6-PFDA	102%	20-150%
	13C7-PFUnDA	100%	20-150%
	13C2-PFDoDA	93%	20-150%
	13C2-PFTeDA	83%	20-150%
	13C3-PFBS	111%	20-150%
	13C3-PFHxS	109%	20-150%
	13C8-PFOS	93%	20-150%
	13C8-FOSA	78%	20-150%
	d3-MeFOSA	69%	20-150%
	d5-EtFOSA	71%	20-150%
	d3-MeFOSAA	108%	20-150%
	d5-EtFOSAA	104%	20-150%
	d7-MeFOSE	57%	20-150%
	d9-EtFOSE	66%	20-150%
	13C2-4:2FTS	116%	20-180%
	13C2-6:2FTS	129%	20-180%
	13C2-8:2FTS	124%	20-180%
	13C3-HFPO-DA	107%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-BS	6Q18253.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0964	96	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0472	94	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0232	93	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0232	93	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0241	96	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0244	98	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0226	90	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0223	89	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0233	93	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0236	94	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0261	104	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0213	96	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0223	95	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0214	94	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0227	95	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0217	94	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0236	98	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0232	96	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0213	88	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0970	103	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0937	99	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0994	104	40-150
754-91-6	PFOSA	0.025	0.0251	100	40-150
31506-32-8	MeFOSA	0.05	0.0511	102	40-150
4151-50-2	EtFOSA	0.05	0.0498	100	40-150
2355-31-9	MeFOSAA	0.025	0.0244	98	40-150
2991-50-6	EtFOSAA	0.025	0.0253	101	40-150
24448-09-7	MeFOSE	0.125	0.120	96	40-150
1691-99-2	EtFOSE	0.125	0.115	92	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0501	100	40-150
919005-14-4	ADONA	0.0473	0.0477	101	40-150
377-73-1	PFMPA	0.05	0.0204	41	40-150
863090-89-5	PFMBA	0.05	0.0498	100	40-150
151772-58-6	NFDHA	0.05	0.0490	98	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0448	96	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0461	98	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-BS	6Q18253.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0405	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0364	29*	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.537	86	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.570	91	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	22%	20-150%
	13C5-PFPeA	99%	20-150%
	13C5-PFHxA	108%	20-150%
	13C4-PFHpA	106%	20-150%
	13C8-PFOA	101%	20-150%
	13C9-PFNA	104%	20-150%
	13C6-PFDA	102%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	95%	20-150%
	13C2-PFTeDA	83%	20-150%
	13C3-PFBS	112%	20-150%
	13C3-PFHxS	113%	20-150%
	13C8-PFOS	103%	20-150%
	13C8-FOSA	85%	20-150%
	d3-MeFOSA	80%	20-150%
	d5-EtFOSA	80%	20-150%
	d3-MeFOSAA	113%	20-150%
	d5-EtFOSAA	103%	20-150%
	d7-MeFOSE	67%	20-150%
	d9-EtFOSE	80%	20-150%
	13C2-4:2FTS	117%	20-180%
	13C2-6:2FTS	134%	20-180%
	13C2-8:2FTS	125%	20-180%
	13C3-HFPO-DA	104%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-MS	6Q18259.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274
FC5734-3	6Q18258.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

CAS No.	Compound	FC5734-3 ug/l	Spike Q	MS ug/l	MS %	Limits	
375-22-4	Perfluorobutanoic acid	0.015 U		0.0909	0.0872	96	40-150
2706-90-3	Perfluoropentanoic acid	0.0076 U		0.0455	0.0432	95	40-150
307-24-4	Perfluorohexanoic acid	0.0011 J		0.0227	0.0223	93	40-150
375-85-9	Perfluoroheptanoic acid	0.00090 J		0.0227	0.0213	90	40-150
335-67-1	Perfluorooctanoic acid	0.0017 J		0.0227	0.0238	97	40-150
375-95-1	Perfluorononanoic acid	0.0038 U		0.0227	0.0232	102	40-150
335-76-2	Perfluorodecanoic acid	0.0038 U		0.0227	0.0229	101	40-150
2058-94-8	Perfluoroundecanoic acid	0.0038 U		0.0227	0.0214	94	40-150
307-55-1	Perfluorododecanoic acid	0.0038 U		0.0227	0.0213	94	40-150
72629-94-8	Perfluorotridecanoic acid	0.0038 U		0.0227	0.0185	81	40-150
376-06-7	Perfluorotetradecanoic acid	0.0038 U		0.0227	0.0219	96	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0024 J		0.0202	0.0210	92	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0048 U		0.0214	0.0203	95	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0017 J		0.0208	0.0200	88	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0038 U		0.0217	0.0211	97	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0038 U		0.0211	0.0204	97	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0038 U		0.0219	0.0183	84	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0038 U		0.0219	0.0148	67	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0048 U		0.022	0.0112	51	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.019 U		0.0852	0.0871	102	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U		0.0864	0.0832	96	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U		0.0873	0.0801	92	40-150
754-91-6	PFOSA	0.0038 U		0.0227	0.0202	89	40-150
31506-32-8	MeFOSA	0.0076 U		0.0455	0.0457	101	40-150
4151-50-2	EtFOSA	0.0076 U		0.0455	0.0437	96	40-150
2355-31-9	MeFOSAA	0.0048 U		0.0227	0.0240	106	40-150
2991-50-6	EtFOSAA	0.0048 U		0.0227	0.0227	100	40-150
24448-09-7	MeFOSE	0.038 U		0.114	0.111	98	40-150
1691-99-2	EtFOSE	0.038 U		0.114	0.106	93	40-150
13252-13-6	HFPO-DA (GenX)	0.0038 U		0.0455	0.0444	98	40-150
919005-14-4	ADONA	0.0076 U		0.043	0.0432	101	40-150
377-73-1	PFMPA	0.0076 U		0.0455	0.0188	41	40-150
863090-89-5	PFMBA	0.0076 U		0.0455	0.0448	99	40-150
151772-58-6	NFDHA	0.0076 U		0.0455	0.0430	95	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0076 U		0.0425	0.0371	87	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0076 U		0.043	0.0289	67	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-MS	6Q18259.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274
FC5734-3	6Q18258.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

CAS No.	Compound	FC5734-3 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0076 U	0.0405	0.0368	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	0.114	0.0507	45	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.095 U	0.568	0.535	94	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.095 U	0.568	0.522	92	40-150

CAS No.	ID Standard Recoveries	MS	FC5734-3	Limits
	13C4-PFBA	20%	41%	20-150%
	13C5-PFPeA	101%	109%	20-150%
	13C5-PFHxA	107%	107%	20-150%
	13C4-PFHpA	108%	111%	20-150%
	13C8-PFOA	106%	104%	20-150%
	13C9-PFNA	95%	110%	20-150%
	13C6-PFDA	91%	94%	20-150%
	13C7-PFUnDA	84%	87%	20-150%
	13C2-PFDoDA	71%	72%	20-150%
	13C2-PFTeDA	50%	51%	20-150%
	13C3-PFBS	107%	109%	20-150%
	13C3-PFHxS	105%	108%	20-150%
	13C8-PFOS	102%	94%	20-150%
	13C8-FOSA	102%	90%	20-150%
	d3-MeFOSA	86%	84%	20-150%
	d5-EtFOSA	86%	80%	20-150%
	d3-MeFOSAA	101%	102%	20-150%
	d5-EtFOSAA	97%	96%	20-150%
	d7-MeFOSE	71%	67%	20-150%
	d9-EtFOSE	76%	71%	20-150%
	13C2-4:2FTS	115%	121%	20-180%
	13C2-6:2FTS	119%	118%	20-180%
	13C2-8:2FTS	117%	113%	20-180%
	13C3-HFPO-DA	105%	105%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-DUP	6Q18261.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274
FC5734-4	6Q18260.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

CAS No.	Compound	FC5734-4 ug/l	DUP Q	ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	ND		nc		30
2706-90-3	Perfluoropentanoic acid	0.0075 U	ND		nc		30
307-24-4	Perfluorohexanoic acid	0.00093 J	0.0011 J		17		30
375-85-9	Perfluoroheptanoic acid	0.00087 J	0.00088 J		1		30
335-67-1	Perfluorooctanoic acid	0.0021 J	0.0015 J		33*		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	0.0025 J	0.0025 J		0		30
2706-91-4	Perfluoropentanesulfonic acid	0.0047 U	ND		nc		30
355-46-4	Perfluorohexanesulfonic acid	0.0018 J	0.0017 J		6		30
375-92-8	Perfluoroheptanesulfonic acid	0.0038 U	ND		nc		30
1763-23-1	Perfluorooctanesulfonic acid	0.0012 J	0.0015 J		22		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	ND		nc		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: FC6141
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96959-DUP	6Q18261.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274
FC5734-4	6Q18260.D	1	05/23/23	MV	05/18/23	OP96959	S6Q274

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

CAS No.	Compound	FC5734-4 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	FC5734-4	Limits
	13C4-PFBA	76%	65%	20-150%
	13C5-PFPeA	108%	104%	20-150%
	13C5-PFHxA	103%	107%	20-150%
	13C4-PFHpA	104%	104%	20-150%
	13C8-PFOA	103%	97%	20-150%
	13C9-PFNA	84%	96%	20-150%
	13C6-PFDA	83%	83%	20-150%
	13C7-PFUnDA	74%	72%	20-150%
	13C2-PFDoDA	58%	64%	20-150%
	13C2-PFTeDA	52%	51%	20-150%
	13C3-PFBS	103%	100%	20-150%
	13C3-PFHxS	104%	97%	20-150%
	13C8-PFOS	90%	82%	20-150%
	13C8-FOSA	84%	77%	20-150%
	d3-MeFOSA	73%	72%	20-150%
	d5-EtFOSA	68%	72%	20-150%
	d3-MeFOSAA	86%	83%	20-150%
	d5-EtFOSAA	80%	81%	20-150%
	d7-MeFOSE	63%	64%	20-150%
	d9-EtFOSE	66%	69%	20-150%
	13C2-4:2FTS	122%	117%	20-180%
	13C2-6:2FTS	128%	118%	20-180%
	13C2-8:2FTS	117%	106%	20-180%
	13C3-HFPO-DA	101%	99%	20-150%

* = Outside of Control Limits.