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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC5783

Sampling Date: 05/02/23



Report to:

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Total number of pages in report: 32



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

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Test results relate only to samples analyzed.

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Sample Summary

AECOM, INC.

Job No: FC5783

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC5783-1	05/02/23	10:05	AYTN 05/03/23	AQ	Ground Water	AF-HDMW225303-WGN01LF-2305W1
FC5783-2	05/02/23	12:15	AYTN 05/03/23	AQ	Ground Water	AF-RHMW10-WGN01LF-2305W1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC5783

Site: N6274223F0104 RH Fire Suppression System

Report Date: 5/9/2023 4:18:42 PM

On 05/03/2023, 2 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 4.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC5783 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: OP96726

Sample(s) FC5783-1MS, FC5783-2DUP were used as the QC samples indicated.

RPD(s) for Duplicate for PFOSA are outside control limits for sample OP96726-DUP. Probable cause is due to sample non-homogeneity.

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: FC5783
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/02/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC5783-1	AF-HDMW225303-WGN01LF-2305W1					
PFOSA		0.66 J	3.7	1.9	ng/l	EPA DRAFT 1633
FC5783-2	AF-RHMW10-WGN01LF-2305W1					
PFOSA		0.66 J	3.5	1.8	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2305W1		
Lab Sample ID:	FC5783-1	Date Sampled:	05/02/23
Matrix:	AQ - Ground Water	Date Received:	05/03/23
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	4Q44094.D	1	05/08/23 17:32	MV	05/04/23 11:30	OP96726	S4Q638
Run #2							

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

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

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

PERFLUOROALKYL SULFONIC ACIDS

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

FLUOROTELOMER SULFONIC ACIDS

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

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	0.66	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

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Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2305W1		
Lab Sample ID:	FC5783-1	Date Sampled:	05/02/23
Matrix:	AQ - Ground Water	Date Received:	05/03/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

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

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

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

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

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

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

PER and POLYFLUOROETHER SULFONIC ACIDS

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

FLUOROTELOMER CARBOXYLIC ACIDS

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

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	100%		20-150%
	13C5-PFPeA	99%		20-150%
	13C5-PFHxA	96%		20-150%
	13C4-PFHpA	98%		20-150%
	13C8-PFOA	94%		20-150%
	13C9-PFNA	82%		20-150%
	13C6-PFDA	83%		20-150%
	13C7-PFUnDA	79%		20-150%
	13C2-PFDoDA	75%		20-150%
	13C2-PFTeDA	64%		20-150%
	13C3-PFBS	92%		20-150%
	13C3-PFHxS	88%		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
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Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2305W1		
Lab Sample ID:	FC5783-1	Date Sampled:	05/02/23
Matrix:	AQ - Ground Water	Date Received:	05/03/23
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	82%		20-150%
	13C8-FOSA	60%		20-150%
	d3-MeFOSA	62%		20-150%
	d5-EtFOSA	72%		20-150%
	d3-MeFOSAA	75%		20-150%
	d5-EtFOSAA	81%		20-150%
	d7-MeFOSE	50%		20-150%
	d9-EtFOSE	56%		20-150%
	13C2-4:2FTS	86%		20-180%
	13C2-6:2FTS	111%		20-180%
	13C2-8:2FTS	89%		20-180%
	13C3-HFPO-DA	89%		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-2305W1		
Lab Sample ID:	FC5783-2	Date Sampled:	05/02/23
Matrix:	AQ - Ground Water	Date Received:	05/03/23
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	4Q44096.D	1	05/08/23 18:00	MV	05/04/23 11:30	OP96726	S4Q638
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
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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	0.66	3.5	1.8	0.59	ng/l	J
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

4.2
4

Report of Analysis

Client Sample ID:	AF-RHMW10-WGN01LF-2305W1		
Lab Sample ID:	FC5783-2	Date Sampled:	05/02/23
Matrix:	AQ - Ground Water	Date Received:	05/03/23
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	3.5 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 carboxylate	8.8 U	18	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	88	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	88	18	6.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	96%		20-150%
	13C5-PFPeA	104%		20-150%
	13C5-PFHxA	103%		20-150%
	13C4-PFHpA	103%		20-150%
	13C8-PFOA	102%		20-150%
	13C9-PFNA	93%		20-150%
	13C6-PFDA	99%		20-150%
	13C7-PFUnDA	92%		20-150%
	13C2-PFDoDA	89%		20-150%
	13C2-PFTeDA	73%		20-150%
	13C3-PFBS	99%		20-150%
	13C3-PFHxS	97%		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-2305W1	
Lab Sample ID:	FC5783-2	Date Sampled: 05/02/23
Matrix:	AQ - Ground Water	Date Received: 05/03/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	100%		20-150%
	13C8-FOSA	59%		20-150%
	d3-MeFOSA	68%		20-150%
	d5-EtFOSA	81%		20-150%
	d3-MeFOSAA	104%		20-150%
	d5-EtFOSAA	103%		20-150%
	d7-MeFOSE	51%		20-150%
	d9-EtFOSE	58%		20-150%
	13C2-4:2FTS	102%		20-180%
	13C2-6:2FTS	109%		20-180%
	13C2-8:2FTS	114%		20-180%
	13C3-HFPO-DA	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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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



SGS North America Inc - Orlando
Chain of Custody

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

FC5783

COC #: 2305W1AFSG04

SGS - ORLANDO JOB # :

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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 SS - 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 Manager: Watson Tani Email: watson.tani@aecom.com Phone #: 303-796-4624 / 808-954-4512			Project # 60697810 Fax #														
Sampler(s) Name(s) (Printed) Sampler 1: <i>Andy Yang</i> Sampler 2: <i>Tyler Nishikawa</i>			Client Purchase Order #				PFAS EPA Draft 1633 X										
SGS Orlando Sample	Field ID / Point of Collection	DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NOPE	HCl	NH3	NH4	PHOS	PHOS	NACH-ZNAC	DI WATER	MESH	LAB USE ONLY
①	AF-HDMW225303-WGN01LF-2305W1	5/2/23	1005	AY, TN	GW	3		X									
Turnaround Time (Business days)			Data Deliverable Information				Comments / Remarks										
10 Day (Business) Approved By: / Date: 7 Day <input checked="" type="checkbox"/> 5 Day 3 Day RUSH 2 Day RUSH 1 Day RUSH Other			<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> EDD'S LABEL VERIFICATION				EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW United AWR 016 4908115 SP										
Rush T/A Data Available VIA Email or Loblisk			Sample Custody must be documented below each time samples change possession, including courier delivery.														
Relinquished by Sampler/Affiliation 1 <i>Tyler Nishikawa</i>	Date Time: <i>5/2/23 1:30</i>	Received By/Affiliation 2 <i>Andy Yang</i>	Date Time: <i>5/2/23 1:40</i>	Relinquished By/Affiliation 3 <i>Andy Yang</i>	Date Time: <i>5/2/23 1:40</i>	Received By/Affiliation 4 <i>United Cargo</i>	Date Time:	Relinquished by Affiliation 5 <i>United Cargo</i>	Date Time:	Received By/Affiliation 6 <i>AC</i>	Date Time: <i>5/2/23</i>	Relinquished By/Affiliation 7	Date Time:	Received By/Affiliation 8			
Lab Use Only: Cooler Temperature (s) Celsius (corrected):			http://www.sgs.com/en/terms-and-conditions														

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4.4 IL#1

FC5783: Chain of Custody

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SGS North America Inc - Orlando
Chain of Custody

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

FC5783

COC #: 2305W1AFSG03

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 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 #																				
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order #						PFAS EPA Draft 1633 X	LAB USE ONLY													
Sampler(s) Name(s) (Printed) Sampler 1: <i>Prady Yang</i> Sampler 2: <i>Taka Nishikawa</i>																						
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	PCU	NIOSH	INCOB	PCB/CAL	NAOH/ZNAC	DI WATER	MICH							
②	AF-RHMMW10-WGN01LF-2305W1	5/2/23	12:15	<i>ATJ</i>	GW	3	X															
Turnaround Time (Business days)		Data Deliverable Information				Comments / Remarks																
10 Day (Business) 7 Day <input checked="" type="checkbox"/> 5 Day 3 Day RUSH 2 Day RUSH 1 Day RUSH Other		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 <i>United AWC 016 4908115</i>												
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 1 <i>Taka Nishikawa / AECOM</i>		Date Time: 5/2/23 1:30		Received By/Affiliation 2 <i>IL / AECOM</i>		Relinquished By/Affiliation 3 <i>IL / AECOM</i>		Date Time: 5/2/23 1:40		Received By/Affiliation 4 <i>United Cargo</i>												
Relinquished by/Affiliation 5 <i>United Cargo</i>		Date Time:		Received By/Affiliation 6 <i>AJ / C-05103/23 1540</i>		Relinquished By/Affiliation 7		Date Time:		Received By/Affiliation 8												
Lab Use Only: Cooler Temperature (s) Celsius (corrected):		http://www.sgs.com/en/terms-and-conditions																				

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FC5783: Chain of Custody

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SGS Sample Receipt Summary

Job Number: FC5783

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 5/3/2023 3:40:00 PM

Delivery Method: United Cargo/Airspace

Airbill #s: United Cargo AWB #: 016-49081115

Therm ID: IR 1;

Therm CF: -0.1;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (4.5);

Cooler Temps (Corrected) °C: Cooler 1: (4.4);

Cooler Information

Y or N

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

Trip Blank Information

Y or N

N/A

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

Sample Information

Y or N

N/A

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

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____

Number of 5035 Field Kits: _____

Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230320

pH 10-12 25BDH07

Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP

Date: 5/3/2023 3:40:00 PM

Reviewer: CD

Date: 5/4/2023

FC5783: Chain of Custody

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QC Evaluation: DOD QSM5.x Limits

Job Number: FC5783
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/02/23

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 FC5783

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: FC5783
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q638-IBLK	4Q44079.D	1	05/08/23	MV	n/a	n/a	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

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	

Instrument Blank

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q638-IBLK	4Q44079.D	1	05/08/23	MV	n/a	n/a	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

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	97% 20-150%
	13C5-PFPeA	107% 20-150%
	13C5-PFHxA	99% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	101% 20-150%
	13C9-PFNA	102% 20-150%
	13C6-PFDA	96% 20-150%
	13C7-PFUnDA	99% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	87% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	93% 20-150%
	13C8-PFOS	103% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSA	97% 20-150%
	d5-EtFOSA	99% 20-150%
	d3-MeFOSAA	101% 20-150%
	d5-EtFOSAA	97% 20-150%
	d7-MeFOSE	85% 20-150%
	d9-EtFOSE	85% 20-150%
	13C2-4:2FTS	102% 20-180%
	13C2-6:2FTS	91% 20-180%
	13C2-8:2FTS	103% 20-180%
	13C3-HFPO-DA	101% 20-150%

6.1.1
6

Continuing Calibration Blank

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q638-ICCB	4Q44090.D	1	05/08/23	MV	n/a	n/a	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

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: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q638-ICCB	4Q44090.D	1	05/08/23	MV	n/a	n/a	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

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	100% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	104% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	90% 20-150%
	13C3-PFBS	94% 20-150%
	13C3-PFHxS	91% 20-150%
	13C8-PFOS	106% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSA	94% 20-150%
	d5-EtFOSA	99% 20-150%
	d3-MeFOSAA	105% 20-150%
	d5-EtFOSAA	108% 20-150%
	d7-MeFOSE	88% 20-150%
	d9-EtFOSE	82% 20-150%
	13C2-4:2FTS	98% 20-180%
	13C2-6:2FTS	107% 20-180%
	13C2-8:2FTS	106% 20-180%
	13C3-HFPO-DA	96% 20-150%

Method Blank Summary

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-MB	4Q44093.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

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: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-MB	4Q44093.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

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	102% 20-150%
	13C5-PFHxA	100% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	102% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	100% 20-150%
	13C7-PFUnDA	98% 20-150%
	13C2-PFDoDA	88% 20-150%
	13C2-PFTeDA	71% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	98% 20-150%
	13C8-PFOS	95% 20-150%
	13C8-FOSA	64% 20-150%
	d3-MeFOSA	63% 20-150%
	d5-EtFOSA	68% 20-150%
	d3-MeFOSAA	100% 20-150%
	d5-EtFOSAA	95% 20-150%
	d7-MeFOSE	51% 20-150%
	d9-EtFOSE	56% 20-150%
	13C2-4:2FTS	123% 20-180%
	13C2-6:2FTS	111% 20-180%
	13C2-8:2FTS	105% 20-180%
	13C3-HFPO-DA	93% 20-150%

Blank Spike Summary

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-LLBS	4Q44092.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0271	90	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0132	88	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0065	87	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0067	89	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0061	81	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0059	79	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0067	89	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0068	91	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0073	97	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0057	76	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0063	84	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0057	86	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0070	99	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0067	98	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0066	92	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0066	95	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0064	89	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0067	93	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0058	80	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0240	85	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0253	89	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0266	92	40-150
754-91-6	PFOSA	0.0075	0.0072	96	40-150
31506-32-8	MeFOSA	0.015	0.0139	93	40-150
4151-50-2	EtFOSA	0.015	0.0133	89	40-150
2355-31-9	MeFOSAA	0.0075	0.0059	79	40-150
2991-50-6	EtFOSAA	0.0075	0.0067	89	40-150
24448-09-7	MeFOSE	0.0375	0.0351	94	40-150
1691-99-2	EtFOSE	0.0375	0.0381	102	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0134	89	40-150
919005-14-4	ADONA	0.0142	0.0134	95	40-150
377-73-1	PFMPA	0.015	0.0140	93	40-150
863090-89-5	PFMBA	0.015	0.0134	89	40-150
151772-58-6	NFDHA	0.015	0.0131	87	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0133	95	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: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-LLBS	4Q44092.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0115	86	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0250	67	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.150	80	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.164	87	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	107%	20-150%
	13C5-PFPeA	109%	20-150%
	13C5-PFHxA	109%	20-150%
	13C4-PFHpA	111%	20-150%
	13C8-PFOA	107%	20-150%
	13C9-PFNA	109%	20-150%
	13C6-PFDA	106%	20-150%
	13C7-PFUnDA	102%	20-150%
	13C2-PFDoDA	93%	20-150%
	13C2-PFTeDA	77%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	93%	20-150%
	13C8-PFOS	104%	20-150%
	13C8-FOSA	62%	20-150%
	d3-MeFOSA	60%	20-150%
	d5-EtFOSA	64%	20-150%
	d3-MeFOSAA	106%	20-150%
	d5-EtFOSAA	102%	20-150%
	d7-MeFOSE	45%	20-150%
	d9-EtFOSE	52%	20-150%
	13C2-4:2FTS	113%	20-180%
	13C2-6:2FTS	104%	20-180%
	13C2-8:2FTS	101%	20-180%
	13C3-HFPO-DA	100%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-BS	4Q44091.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0887	89	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0444	89	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0214	86	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0233	93	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0223	89	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0214	86	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0228	91	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0233	93	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0229	92	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0213	85	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0222	89	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0192	87	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0211	90	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0202	88	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0220	92	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0213	92	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0201	84	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0203	84	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0192	79	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0813	87	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0877	92	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0978	102	40-150
754-91-6	PFOSA	0.025	0.0217	87	40-150
31506-32-8	MeFOSA	0.05	0.0450	90	40-150
4151-50-2	EtFOSA	0.05	0.0450	90	40-150
2355-31-9	MeFOSAA	0.025	0.0211	84	40-150
2991-50-6	EtFOSAA	0.025	0.0223	89	40-150
24448-09-7	MeFOSE	0.125	0.114	91	40-150
1691-99-2	EtFOSE	0.125	0.122	98	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0448	90	40-150
919005-14-4	ADONA	0.0473	0.0441	93	40-150
377-73-1	PFMPA	0.05	0.0469	94	40-150
863090-89-5	PFMBA	0.05	0.0449	90	40-150
151772-58-6	NFDHA	0.05	0.0396	79	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0429	92	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0416	88	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-BS	4Q44091.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0390	88	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0928	74	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.540	86	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.575	92	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	105%	20-150%
	13C5-PFPeA	100%	20-150%
	13C5-PFHxA	100%	20-150%
	13C4-PFHpA	97%	20-150%
	13C8-PFOA	104%	20-150%
	13C9-PFNA	101%	20-150%
	13C6-PFDA	103%	20-150%
	13C7-PFUnDA	99%	20-150%
	13C2-PFDoDA	94%	20-150%
	13C2-PFTeDA	83%	20-150%
	13C3-PFBS	97%	20-150%
	13C3-PFHxS	94%	20-150%
	13C8-PFOS	99%	20-150%
	13C8-FOSA	70%	20-150%
	d3-MeFOSA	66%	20-150%
	d5-EtFOSA	71%	20-150%
	d3-MeFOSAA	98%	20-150%
	d5-EtFOSAA	98%	20-150%
	d7-MeFOSE	53%	20-150%
	d9-EtFOSE	59%	20-150%
	13C2-4:2FTS	100%	20-180%
	13C2-6:2FTS	97%	20-180%
	13C2-8:2FTS	87%	20-180%
	13C3-HFPO-DA	94%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-MS	4Q44095.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638
FC5783-1	4Q44094.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

CAS No.	Compound	FC5783-1 ug/l	Spike Q	ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	0.1	0.0889	89	40-150	
2706-90-3	Perfluoropentanoic acid	0.0074 U	0.05	0.0445	89	40-150	
307-24-4	Perfluorohexanoic acid	0.0037 U	0.025	0.0219	88	40-150	
375-85-9	Perfluoroheptanoic acid	0.0037 U	0.025	0.0216	86	40-150	
335-67-1	Perfluorooctanoic acid	0.0037 U	0.025	0.0223	89	40-150	
375-95-1	Perfluorononanoic acid	0.0037 U	0.025	0.0213	85	40-150	
335-76-2	Perfluorodecanoic acid	0.0037 U	0.025	0.0231	92	40-150	
2058-94-8	Perfluoroundecanoic acid	0.0037 U	0.025	0.0226	90	40-150	
307-55-1	Perfluorododecanoic acid	0.0037 U	0.025	0.0225	90	40-150	
72629-94-8	Perfluorotridecanoic acid	0.0037 U	0.025	0.0222	89	40-150	
376-06-7	Perfluorotetradecanoic acid	0.0037 U	0.025	0.0232	93	40-150	
375-73-5	Perfluorobutanesulfonic acid	0.0037 U	0.0222	0.0189	85	40-150	
2706-91-4	Perfluoropentanesulfonic acid	0.0046 U	0.0235	0.0210	89	40-150	
355-46-4	Perfluorohexanesulfonic acid	0.0037 U	0.0229	0.0202	88	40-150	
375-92-8	Perfluoroheptanesulfonic acid	0.0037 U	0.0238	0.0253	106	40-150	
1763-23-1	Perfluorooctanesulfonic acid	0.0037 U	0.0232	0.0220	95	40-150	
68259-12-1	Perfluorononanesulfonic acid	0.0037 U	0.0241	0.0209	87	40-150	
335-77-3	Perfluorodecanesulfonic acid	0.0037 U	0.0241	0.0210	87	40-150	
79780-39-5	Perfluorododecanesulfonic aci	0.0046 U	0.0243	0.0183	75	40-150	
757124-72-44:2	Fluorotelomer sulfonate	0.019 U	0.0938	0.0828	88	40-150	
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U	0.095	0.0921	97	40-150	
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U	0.096	0.0959	100	40-150	
754-91-6	PFOSA	0.00066 J	0.025	0.0246	96	40-150	
31506-32-8	MeFOSA	0.0074 U	0.05	0.0436	87	40-150	
4151-50-2	EtFOSA	0.0074 U	0.05	0.0453	91	40-150	
2355-31-9	MeFOSAA	0.0046 U	0.025	0.0220	88	40-150	
2991-50-6	EtFOSAA	0.0046 U	0.025	0.0234	94	40-150	
24448-09-7	MeFOSE	0.037 U	0.125	0.109	87	40-150	
1691-99-2	EtFOSE	0.037 U	0.125	0.122	98	40-150	
13252-13-6	HFPO-DA (GenX)	0.0037 U	0.05	0.0446	89	40-150	
919005-14-4	ADONA	0.0074 U	0.0473	0.0446	94	40-150	
377-73-1	PFMPA	0.0074 U	0.05	0.0460	92	40-150	
863090-89-5	PFMBA	0.0074 U	0.05	0.0453	91	40-150	
151772-58-6	NFDHA	0.0074 U	0.05	0.0406	81	40-150	
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074 U	0.0468	0.0403	86	40-150	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0074 U	0.0473	0.0355	75	40-150	

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-MS	4Q44095.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638
FC5783-1	4Q44094.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

CAS No.	Compound	FC5783-1 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0074 U	0.0445	0.0405	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	0.125	0.0885	71	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.093 U	0.625	0.538	86	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.093 U	0.625	0.568	91	40-150

CAS No.	ID Standard Recoveries	MS	FC5783-1	Limits
	13C4-PFBA	105%	100%	20-150%
	13C5-PFPeA	106%	99%	20-150%
	13C5-PFHxA	103%	96%	20-150%
	13C4-PFHpA	104%	98%	20-150%
	13C8-PFOA	105%	94%	20-150%
	13C9-PFNA	91%	82%	20-150%
	13C6-PFDA	89%	83%	20-150%
	13C7-PFUnDA	88%	79%	20-150%
	13C2-PFDoDA	80%	75%	20-150%
	13C2-PFTeDA	69%	64%	20-150%
	13C3-PFBS	106%	92%	20-150%
	13C3-PFHxS	99%	88%	20-150%
	13C8-PFOS	84%	82%	20-150%
	13C8-FOSA	67%	60%	20-150%
	d3-MeFOSA	74%	62%	20-150%
	d5-EtFOSA	77%	72%	20-150%
	d3-MeFOSAA	91%	75%	20-150%
	d5-EtFOSAA	88%	81%	20-150%
	d7-MeFOSE	57%	50%	20-150%
	d9-EtFOSE	62%	56%	20-150%
	13C2-4:2FTS	106%	86%	20-180%
	13C2-6:2FTS	102%	111%	20-180%
	13C2-8:2FTS	96%	89%	20-180%
	13C3-HFPO-DA	99%	89%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-DUP	4Q44097.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638
FC5783-2	4Q44096.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

CAS No.	Compound	FC5783-2 ug/l	DUP Q ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.014 U	ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0070 U	ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0035 U	ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0035 U	ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0035 U	ND		nc	30
375-95-1	Perfluorononanoic acid	0.0035 U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0035 U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0035 U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0035 U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0035 U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0035 U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0035 U	ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0044 U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0035 U	ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0035 U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0035 U	ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0035 U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0035 U	ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0044 U	ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.018 U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U	ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U	ND		nc	30
754-91-6	PFOSA	0.00066 J	ND		200*	30
31506-32-8	MeFOSA	0.0070 U	ND		nc	30
4151-50-2	EtFOSA	0.0070 U	ND		nc	30
2355-31-9	MeFOSAA	0.0044 U	ND		nc	30
2991-50-6	EtFOSAA	0.0044 U	ND		nc	30
24448-09-7	MeFOSE	0.035 U	ND		nc	30
1691-99-2	EtFOSE	0.035 U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0035 U	ND		nc	30
919005-14-4	ADONA	0.0070 U	ND		nc	30
377-73-1	PFMPA	0.0070 U	ND		nc	30
863090-89-5	PFMBA	0.0070 U	ND		nc	30
151772-58-6	NFDHA	0.0070 U	ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0070 U	ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0070 U	ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC5783
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP96726-DUP	4Q44097.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638
FC5783-2	4Q44096.D	1	05/08/23	MV	05/04/23	OP96726	S4Q638

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC5783-1, FC5783-2

CAS No.	Compound	FC5783-2 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7PFEESA		0.0070 U		ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U		ND		nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.088 U		ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.088 U		ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC5783-2	Limits
	13C4-PFBA	98%	96%	20-150%
	13C5-PFPeA	102%	104%	20-150%
	13C5-PFHxA	102%	103%	20-150%
	13C4-PFHpA	102%	103%	20-150%
	13C8-PFOA	98%	102%	20-150%
	13C9-PFNA	93%	93%	20-150%
	13C6-PFDA	86%	99%	20-150%
	13C7-PFUnDA	81%	92%	20-150%
	13C2-PFDoDA	78%	89%	20-150%
	13C2-PFTeDA	72%	73%	20-150%
	13C3-PFBS	93%	99%	20-150%
	13C3-PFHxS	90%	97%	20-150%
	13C8-PFOS	92%	100%	20-150%
	13C8-FOSA	69%	59%	20-150%
	d3-MeFOSA	71%	68%	20-150%
	d5-EtFOSA	73%	81%	20-150%
	d3-MeFOSAA	99%	104%	20-150%
	d5-EtFOSAA	90%	103%	20-150%
	d7-MeFOSE	56%	51%	20-150%
	d9-EtFOSE	61%	58%	20-150%
	13C2-4:2FTS	101%	102%	20-180%
	13C2-6:2FTS	107%	109%	20-180%
	13C2-8:2FTS	87%	114%	20-180%
	13C3-HFPO-DA	91%	94%	20-150%

* = Outside of Control Limits.