

## Laboratory Report of Analysis

To: ADEC Contaminated Sites  
55 Cordova St  
Anchorage, AK 99516  
(907)269-8487

Report Number: **1222132**

Client Project: **PSG/WRG PFAS Sampling Event**

Dear Anne Palmieri,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Alexandra at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Alexandra Lambe  
Project Manager  
Alexandra.Lambe@sgs.com

Date

## Case Narrative

SGS Client: **ADEC Contaminated Sites**  
SGS Project: **1222132**  
Project Name/Site: **PSG/WRG PFAS Sampling Event**  
Project Contact: **Anne Palmieri**

Refer to sample receipt form for information on sample condition.

EPA 537 PFAS- 24 compound list were analyzed by SGS of Orlando, FL.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 06/06/2022 4:06:24PM

## Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
WRG-001-DW	1222132001	05/04/2022	05/09/2022	Drinking Water
WRG-002-DW	1222132002	05/05/2022	05/09/2022	Drinking Water
WRG-003-DW	1222132003	05/05/2022	05/09/2022	Drinking Water
WRG-004-DW	1222132004	05/05/2022	05/09/2022	Drinking Water
WRG-005-DW	1222132005	05/05/2022	05/09/2022	Drinking Water

Method

Method Description



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

1222132



.COM

Page 1 of 1

CLIENT: Alaska Dept. of Environmental Conservation

Instructions: Sections 1 - 5 must be filled out.  
Omissions may delay the onset of analysis.

CONTACT: Brandi Tolma  
PHONE #: 907-465-5378

Section 3

Preservative

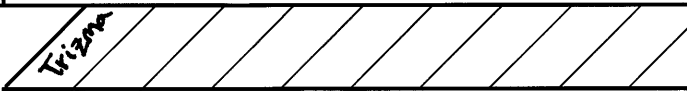
PROJECT NAME: PSG/WRG PPA5 Sampling Event  
PROJECT/PWSID/PERMIT#: -

# CONTAINERS

REPORTS TO: Marc Thomas  
E-MAIL: marc.thomas@alaska.gov  
Profile #: 384468 JL

Comp Grab MI (Multi-incremental)

INVOICE TO: Alaska Dept. of Environmental Conservation  
QUOTE #:  
P.O. #:



Analysis\*

NOTE:  
\*The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	Comp	Grab	MI (Multi-incremental)	Analysis*	REMARKS/LOC ID
	① AB WRG-001-DW	5/4/22	18:15	DW	2	G	X			
	② AB WRG-002-DW	5/5/22	09:25	DW	2	G	X			
	③ AB WRG-003-DW	5/5/22	11:08	DW	2	G	X			
	④ AB WRG-004-DW	5/5/22	11:10	DW	2	G	X			
	⑤ AB WRG-005-DW	5/5/22	11:12	DW	2	G	X			

Section 5	Relinquished By: (1) Brandi Tolma <i>[Signature]</i>	Date 5/6/22	Time 10:00	Received By:
	Relinquished By: (2)	Date	Time	Received By:
	Relinquished By: (3)	Date	Time	Received By:
	Relinquished By: (4) <i>[Signature]</i>	Date 5/9/22	Time 8:20	Received For Laboratory By: <i>[Signature]</i> CJS

Section 4 DOD Project? Yes No Data Deliverable Requirements:

Cooler ID: \_\_\_\_\_

Requested Turnaround Time and/or Special Instructions:

Temp Blank °C: 0.9 DAB  
or Ambient [ ]

Chain of Custody Seal: (Circle)  
IF  
INTACT BROKEN ABSENT

Delivery Method: Hand Delivery [ ] Commerical Delivery  *Atlet*



SGS Workorder #:

1222132

1222132

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
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<b>Chain of Custody / Temperature Requirements</b>		<i>Note: Temperature and COC seal information is found on the chain of custody form</i>
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DOD only: Did all sample coolers have a corresponding COC?	Yes	
If <0°C, were sample containers ice free?	N/A	
Note containers received with ice:		
Identify any containers received at non-compliant temperature:  <i>(Use form FS-0029 if more space is needed)</i>		

<b>Holding Time / Documentation / Sample Condition Requirements</b>		<i>Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.</i>
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Were samples received within analytical holding time?	Yes	
Do sample labels match COC? Record discrepancies:	Yes	
<i>Note: If information on containers differs from COC, default to COC information for login. If times differ &lt;1hr, record details &amp; login per COC.</i>		
Were analytical requests clear?	Yes	
<i>(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)</i>		
Were proper containers (type/mass/volume/preservative) used?	Yes	
Note: Exemption for metals analysis by 200.8/6020 in water.		

<b>Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)</b>		
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Were all soil VOAs received with a corresponding % solids container?	N/A	
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	N/A	
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with Methanol+BFB?	N/A	

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

<b>Additional notes (if applicable):</b>		
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## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1222132001-A	Trizma	OK			
1222132001-B	Trizma	OK			
1222132002-A	Trizma	OK			
1222132002-B	Trizma	OK			
1222132003-A	Trizma	OK			
1222132003-B	Trizma	OK			
1222132004-A	Trizma	OK			
1222132004-B	Trizma	OK			
1222132005-A	Trizma	OK			
1222132005-B	Trizma	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.

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

*e-Hardcopy 2.0*  
*Automated Report*

## Technical Report for

**SGS North America, Inc**

**1222132**

**SGS Job Number: FA95650**

**Sampling Dates: 05/04/22 - 05/05/22**



**Report to:**

**SGS North America, Inc  
200 W Potter Dr  
Anchorage, AK 99518  
julie.shumway@sgs.com**

**ATTN: Julie Shumway**

**Total number of pages in report: 33**



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: Andrea Colby 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.

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### Sample Summary

SGS North America, Inc  
1222132

Job No: FA95650

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA95650-1	05/04/22	18:15	05/12/22	AQ	Water	WRG-001-DW
FA95650-2	05/05/22	09:25	05/12/22	AQ	Water	WRG-002-DW
FA95650-3	05/05/22	11:08	05/12/22	AQ	Water	WRG-003-DW
FA95650-4	05/05/22	11:10	05/12/22	AQ	Water	WRG-004-DW
FA95650-5	05/05/22	11:12	05/12/22	AQ	Water	WRG-005-DW

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** SGS North America, Inc

**Job No:** FA95650

**Site:** 1222132

**Report Date** 6/6/2022 11:08:20 AM

On 05/12/2022, 5 Samples were received at SGS North America Inc - Orlando, at a maximum corrected temperature of 5.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA95650 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 537M QSM5.3 B-15

**Matrix:** AQ

**Batch ID:** OP91346

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Samples FA95635-11MS, FA95635-12DUP were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Samples FA95650-3, FA95650-4 have surrogates outside control limits.

FA95650-3 for Perfluorotetradecanoic acid: Associated ID Standard outside control limits due to matrix interference. Confirmed by re-extraction and reanalysis.

FA95650-3 for 13C2-PFTeDA: Outside control limits.

FA95650-4: Dilution required due to matrix interference (ID recovery standard failure).

FA95650-4 for 13C2-PFTeDA: Outside control limits.

**Matrix:** AQ

**Batch ID:** OP91441

Sample FA95650-3 has surrogates outside control limits.

FA95650-3: Confirmation run.

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

Narrative prepared by:

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Gabriela Benitez, Quality Assurance Coordinator (*Signature on File*)

## Summary of Hits

**Job Number:** FA95650  
**Account:** SGS North America, Inc  
**Project:** 1222132  
**Collected:** 05/04/22 thru 05/05/22



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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**FA95650-1      WRG-001-DW**

No hits reported in this sample.

**FA95650-2      WRG-002-DW**

No hits reported in this sample.

**FA95650-3      WRG-003-DW**

Perfluorohexanesulfonic acid	0.0026 J	0.0036	0.0018	ug/l	EPA 537M QSM5.3 B-15
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**FA95650-4      WRG-004-DW**

Perfluorohexanesulfonic acid	0.0024 J	0.0036	0.0018	ug/l	EPA 537M QSM5.3 B-15
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**FA95650-5      WRG-005-DW**

No hits reported in this sample.

Sample Results

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Report of Analysis

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# Report of Analysis

<b>Client Sample ID:</b> WRG-001-DW	
<b>Lab Sample ID:</b> FA95650-1	<b>Date Sampled:</b> 05/04/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 05/12/22
<b>Method:</b> EPA 537M QSM5.3 B-15 EPA 537 MOD	<b>Percent Solids:</b> n/a
<b>Project:</b> 1222132	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q29302.D	1	05/28/22 23:40	MV	05/24/22 09:00	OP91346	S4Q420
Run #2							

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

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

**PERFLUOROALKYL CARBOXYLIC ACIDS**

375-22-4	Perfluorobutanoic acid	0.0036 U	0.0071	0.0036	0.0018	ug/l	
2706-90-3	Perfluoropentanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
307-24-4	Perfluorohexanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-67-1	Perfluorooctanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-95-1	Perfluorononanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-76-2	Perfluorodecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
307-55-1	Perfluorododecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	

**PERFLUOROALKYLSULFONIC ACIDS**

375-73-5	Perfluorobutanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
68259-12-1	Perfluorononanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-77-3	Perfluorodecanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	

**PERFLUOROOCCTANESULFONAMIDES**

754-91-6	PFOSA	0.0018 U	0.0036	0.0018	0.00089	ug/l	
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**PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS**

2355-31-9	MeFOSAA	0.0036 U	0.0071	0.0036	0.0018	ug/l	
2991-50-6	EtFOSAA	0.0036 U	0.0071	0.0036	0.0018	ug/l	

**FLUOROTELOMER SULFONATES**

757124-72-4	4:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/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

<b>Client Sample ID:</b>	WRG-001-DW	<b>Date Sampled:</b>	05/04/22
<b>Lab Sample ID:</b>	FA95650-1	<b>Date Received:</b>	05/12/22
<b>Matrix:</b>	AQ - Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M QSM5.3 B-15 EPA 537 MOD		
<b>Project:</b>	1222132		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	92%		50-150%
	13C5-PFPeA	105%		50-150%
	13C5-PFHxA	110%		50-150%
	13C4-PFHpA	113%		50-150%
	13C8-PFOA	121%		50-150%
	13C9-PFNA	119%		50-150%
	13C6-PFDA	121%		50-150%
	13C7-PFUnDA	111%		50-150%
	13C2-PFDoDA	105%		50-150%
	13C2-PFTeDA	89%		50-150%
	13C3-PFBS	105%		50-150%
	13C3-PFHxS	110%		50-150%
	13C8-PFOS	111%		50-150%
	13C8-FOSA	114%		50-150%
	d3-MeFOSAA	119%		50-150%
	d5-EtFOSAA	113%		50-150%
	13C2-4:2FTS	107%		50-150%
	13C2-6:2FTS	116%		50-150%
	13C2-8:2FTS	112%		50-150%

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

<b>Client Sample ID:</b> WRG-002-DW	
<b>Lab Sample ID:</b> FA95650-2	<b>Date Sampled:</b> 05/05/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 05/12/22
<b>Method:</b> EPA 537M QSM5.3 B-15 EPA 537 MOD	<b>Percent Solids:</b> n/a
<b>Project:</b> 1222132	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q29303.D	1	05/28/22 23:57	MV	05/24/22 09:00	OP91346	S4Q420
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

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

**PERFLUOROALKYL CARBOXYLIC ACIDS**

375-22-4	Perfluorobutanoic acid	0.0037 U	0.0074	0.0037	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
307-24-4	Perfluorohexanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
335-76-2	Perfluorodecanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
307-55-1	Perfluorododecanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	

**PERFLUOROALKYLSULFONIC ACIDS**

375-73-5	Perfluorobutanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
68259-12-1	Perfluorononanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
335-77-3	Perfluorodecanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	

**PERFLUOROOCCTANESULFONAMIDES**

754-91-6	PFOSA	0.0019 U	0.0037	0.0019	0.00093	ug/l	
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**PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS**

2355-31-9	MeFOSAA	0.0037 U	0.0074	0.0037	0.0019	ug/l	
2991-50-6	EtFOSAA	0.0037 U	0.0074	0.0037	0.0019	ug/l	

**FLUOROTELOMER SULFONATES**

757124-72-4	4:2 Fluorotelomer sulfonate	0.0037 U	0.0074	0.0037	0.0019	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	0.0037 U	0.0074	0.0037	0.0019	ug/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

<b>Client Sample ID:</b>	WRG-002-DW	<b>Date Sampled:</b>	05/05/22
<b>Lab Sample ID:</b>	FA95650-2	<b>Date Received:</b>	05/12/22
<b>Matrix:</b>	AQ - Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 537M QSM5.3 B-15 EPA 537 MOD		
<b>Project:</b>	1222132		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	0.0037 U	0.0074	0.0037	0.0019	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	89%		50-150%
	13C5-PFPeA	105%		50-150%
	13C5-PFHxA	105%		50-150%
	13C4-PFHpA	106%		50-150%
	13C8-PFOA	109%		50-150%
	13C9-PFNA	105%		50-150%
	13C6-PFDA	109%		50-150%
	13C7-PFUnDA	101%		50-150%
	13C2-PFDoDA	97%		50-150%
	13C2-PFTeDA	89%		50-150%
	13C3-PFBS	106%		50-150%
	13C3-PFHxS	103%		50-150%
	13C8-PFOS	98%		50-150%
	13C8-FOSA	101%		50-150%
	d3-MeFOSAA	102%		50-150%
	d5-EtFOSAA	101%		50-150%
	13C2-4:2FTS	100%		50-150%
	13C2-6:2FTS	104%		50-150%
	13C2-8:2FTS	99%		50-150%

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

4.2  
4



# Report of Analysis

<b>Client Sample ID:</b> WRG-003-DW	
<b>Lab Sample ID:</b> FA95650-3	<b>Date Sampled:</b> 05/05/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 05/12/22
<b>Method:</b> EPA 537M QSM5.3 B-15 EPA 537 MOD	<b>Percent Solids:</b> n/a
<b>Project:</b> 1222132	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q29304.D	1	05/29/22 00:13	MV	05/24/22 09:00	OP91346	S4Q420
Run #2 <sup>a</sup>	6Q947.D	1	06/02/22 19:37	NG	06/01/22 07:00	OP91441	S6Q16

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2	280 ml	1.0 ml

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

**PERFLUOROALKYL CARBOXYLIC ACIDS**

375-22-4	Perfluorobutanoic acid	0.0036 U	0.0071	0.0036	0.0018	ug/l	
2706-90-3	Perfluoropentanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
307-24-4	Perfluorohexanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-67-1	Perfluorooctanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-95-1	Perfluorononanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-76-2	Perfluorodecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
307-55-1	Perfluorododecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
376-06-7	Perfluorotetradecanoic acid <sup>b</sup>	0.0018 U	0.0036	0.0018	0.00089	ug/l	

**PERFLUOROALKYLSULFONIC ACIDS**

375-73-5	Perfluorobutanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0026	0.0036	0.0018	0.00089	ug/l	J
375-92-8	Perfluoroheptanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
68259-12-1	Perfluorononanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-77-3	Perfluorodecanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	

**PERFLUOROOCCTANESULFONAMIDES**

754-91-6	PFOSA	0.0018 U	0.0036	0.0018	0.00089	ug/l	
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**PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS**

2355-31-9	MeFOSAA	0.0036 U	0.0071	0.0036	0.0018	ug/l	
2991-50-6	EtFOSAA	0.0036 U	0.0071	0.0036	0.0018	ug/l	

**FLUOROTELOMER SULFONATES**

757124-72-4	4:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/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

<b>Client Sample ID:</b> WRG-003-DW	
<b>Lab Sample ID:</b> FA95650-3	<b>Date Sampled:</b> 05/05/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 05/12/22
<b>Method:</b> EPA 537M QSM5.3 B-15 EPA 537 MOD	<b>Percent Solids:</b> n/a
<b>Project:</b> 1222132	

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	84%	74%	50-150%
	13C5-PFPeA	94%	80%	50-150%
	13C5-PFHxA	96%	83%	50-150%
	13C4-PFHpA	99%	83%	50-150%
	13C8-PFOA	105%	80%	50-150%
	13C9-PFNA	104%	72%	50-150%
	13C6-PFDA	101%	65%	50-150%
	13C7-PFUnDA	84%	55%	50-150%
	13C2-PFDoDA	69%	50%	50-150%
	13C2-PFTeDA	25% <sup>c</sup>	38% <sup>c</sup>	50-150%
	13C3-PFBS	95%	81%	50-150%
	13C3-PFHxS	98%	80%	50-150%
	13C8-PFOS	93%	60%	50-150%
	13C8-FOSA	54%	48% <sup>c</sup>	50-150%
	d3-MeFOSAA	88%	58%	50-150%
	d5-EtFOSAA	78%	55%	50-150%
	13C2-4:2FTS	93%	77%	50-150%
	13C2-6:2FTS	100%	75%	50-150%
	13C2-8:2FTS	94%	55%	50-150%

- (a) Confirmation run.
- (b) Associated ID Standard outside control limits due to matrix interference. Confirmed by re-extraction and reanalysis.
- (c) Outside control limits.

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

4.3  
4

# Report of Analysis

<b>Client Sample ID:</b> WRG-004-DW	
<b>Lab Sample ID:</b> FA95650-4	<b>Date Sampled:</b> 05/05/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 05/12/22
<b>Method:</b> EPA 537M QSM5.3 B-15 EPA 537 MOD	<b>Percent Solids:</b> n/a
<b>Project:</b> 1222132	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q29305.D	1	05/29/22 00:30	MV	05/24/22 09:00	OP91346	S4Q420
Run #2 <sup>a</sup>	4Q29390.D	5	05/31/22 14:05	MV	05/24/22 09:00	OP91346	S4Q422

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2	280 ml	1.0 ml

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

**PERFLUOROALKYL CARBOXYLIC ACIDS**

375-22-4	Perfluorobutanoic acid	0.0036 U	0.0071	0.0036	0.0018	ug/l	
2706-90-3	Perfluoropentanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
307-24-4	Perfluorohexanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-67-1	Perfluorooctanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-95-1	Perfluorononanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-76-2	Perfluorodecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
307-55-1	Perfluorododecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0089 U <sup>b</sup>	0.018	0.0089	0.0045	ug/l	

**PERFLUOROALKYLSULFONIC ACIDS**

375-73-5	Perfluorobutanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0024	0.0036	0.0018	0.00089	ug/l	J
375-92-8	Perfluoroheptanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
68259-12-1	Perfluorononanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-77-3	Perfluorodecanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	

**PERFLUOROOCCTANESULFONAMIDES**

754-91-6	PFOSA	0.0018 U	0.0036	0.0018	0.00089	ug/l	
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**PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS**

2355-31-9	MeFOSAA	0.0036 U	0.0071	0.0036	0.0018	ug/l	
2991-50-6	EtFOSAA	0.0036 U	0.0071	0.0036	0.0018	ug/l	

**FLUOROTELOMER SULFONATES**

757124-72-4	4:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	

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

4.4  
4

# Report of Analysis

<b>Client Sample ID:</b> WRG-004-DW	
<b>Lab Sample ID:</b> FA95650-4	<b>Date Sampled:</b> 05/05/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 05/12/22
<b>Method:</b> EPA 537M QSM5.3 B-15 EPA 537 MOD	<b>Percent Solids:</b> n/a
<b>Project:</b> 1222132	

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	85%	101%	50-150%
	13C5-PFPeA	98%	108%	50-150%
	13C5-PFHxA	101%	108%	50-150%
	13C4-PFHpA	103%	107%	50-150%
	13C8-PFOA	108%	112%	50-150%
	13C9-PFNA	105%	109%	50-150%
	13C6-PFDA	96%	108%	50-150%
	13C7-PFUnDA	77%	94%	50-150%
	13C2-PFDoDA	58%	82%	50-150%
	13C2-PFTeDA	11% <sup>c</sup>	59%	50-150%
	13C3-PFBS	99%	114%	50-150%
	13C3-PFHxS	101%	112%	50-150%
	13C8-PFOS	89%	110%	50-150%
	13C8-FOSA	53%	57%	50-150%
	d3-MeFOSAA	80%	99%	50-150%
	d5-EtFOSAA	71%	88%	50-150%
	13C2-4:2FTS	96%	101%	50-150%
	13C2-6:2FTS	101%	103%	50-150%
	13C2-8:2FTS	91%	99%	50-150%

- (a) Dilution required due to matrix interference (ID recovery standard failure).
- (b) Result is from Run# 2
- (c) Outside control limits.

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

# Report of Analysis

<b>Client Sample ID:</b> WRG-005-DW	
<b>Lab Sample ID:</b> FA95650-5	<b>Date Sampled:</b> 05/05/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 05/12/22
<b>Method:</b> EPA 537M QSM5.3 B-15 EPA 537 MOD	<b>Percent Solids:</b> n/a
<b>Project:</b> 1222132	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q29306.D	1	05/29/22 00:47	MV	05/24/22 09:00	OP91346	S4Q420
Run #2							

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

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

**PERFLUOROALKYL CARBOXYLIC ACIDS**

375-22-4	Perfluorobutanoic acid	0.0036 U	0.0071	0.0036	0.0018	ug/l	
2706-90-3	Perfluoropentanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
307-24-4	Perfluorohexanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-67-1	Perfluorooctanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-95-1	Perfluorononanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-76-2	Perfluorodecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
307-55-1	Perfluorododecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	

**PERFLUOROALKYLSULFONIC ACIDS**

375-73-5	Perfluorobutanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
68259-12-1	Perfluorononanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	
335-77-3	Perfluorodecanesulfonic acid	0.0018 U	0.0036	0.0018	0.00089	ug/l	

**PERFLUOROOCCTANESULFONAMIDES**

754-91-6	PFOSA	0.0018 U	0.0036	0.0018	0.00089	ug/l	
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**PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS**

2355-31-9	MeFOSAA	0.0036 U	0.0071	0.0036	0.0018	ug/l	
2991-50-6	EtFOSAA	0.0036 U	0.0071	0.0036	0.0018	ug/l	

**FLUOROTELOMER SULFONATES**

757124-72-4	4:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	

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

4.5  
4

# Report of Analysis

<b>Client Sample ID:</b> WRG-005-DW	
<b>Lab Sample ID:</b> FA95650-5	<b>Date Sampled:</b> 05/05/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 05/12/22
<b>Method:</b> EPA 537M QSM5.3 B-15 EPA 537 MOD	<b>Percent Solids:</b> n/a
<b>Project:</b> 1222132	

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	0.0036 U	0.0071	0.0036	0.0018	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	98%		50-150%
	13C5-PFPeA	113%		50-150%
	13C5-PFHxA	114%		50-150%
	13C4-PFHpA	113%		50-150%
	13C8-PFOA	116%		50-150%
	13C9-PFNA	114%		50-150%
	13C6-PFDA	115%		50-150%
	13C7-PFUnDA	109%		50-150%
	13C2-PFDoDA	103%		50-150%
	13C2-PFTeDA	103%		50-150%
	13C3-PFBS	112%		50-150%
	13C3-PFHxS	114%		50-150%
	13C8-PFOS	106%		50-150%
	13C8-FOSA	113%		50-150%
	d3-MeFOSAA	108%		50-150%
	d5-EtFOSAA	107%		50-150%
	13C2-4:2FTS	104%		50-150%
	13C2-6:2FTS	109%		50-150%
	13C2-8:2FTS	107%		50-150%

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.  
CHAIN OF CUSTODY RECORD



Locations Nationwide  
Alaska Florida  
New Jersey Colorado  
Texas North Carolina  
Virginia Louisiana  
[www.us.sgs.com](http://www.us.sgs.com)

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: <b>SGS Orlando, FL</b>				Page 1 of 1					
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless									
PROJECT NAME: 1222132		PWSID#: _____		CONTAINER	Preservative Used:	Terra	TYPE	C = COMP G = GRAB MI = Multi Incremental Soils	EPA 537 PFAS - 24 compound list	MS	MSD	SGS lab #	Location ID
REPORTS TO: Julie Shumway		E-MAIL: <a href="mailto:Julie.Shumway@sgs.com">Julie.Shumway@sgs.com</a>											
INVOICE TO: SGS - Alaska		QUOTE #: _____											
env.alaska.accounting@sgs.com		P.O. #: 1222132											
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE									
1	WRG-001-DW	5/4/2022	18:15:00	DW	1			X				1222132001	
2	WRG-002-DW	5/5/2022	09:25:00	DW	1			X				1222132002	
3	WRG-003-DW	5/5/2022	11:08:00	DW	1			X				1222132003	
4	WRG-004-DW	5/5/2022	11:10:00	DW	1			X				1222132004	
5	WRG-005-DW	5/5/2022	11:12:00	DW	1			X				1222132005	
Relinquished By: (1)		Date	Time	Received By:		DOD Project?		YES	Data Deliverable Requirements:				
<i>J. Shumway</i>		5/11/22	0908	<i>Ami</i>		Report to DL (J Flags)?		YES	Level 2 + SGS EDD				
Relinquished By: (2)		Date	Time	Received By:		Cooler ID:							
						Requested Turnaround Time and-or Special Instructions:							
Relinquished By: (3)		Date	Time	Received By:		Temp Blank °C:		5.0 CIRI		Chain of Custody Seal: (Circle)			
Relinquished By: (4)		Date	Time	Received For Laboratory By:		or Ambient [ ]		INTACT <input type="checkbox"/> BROKEN <input type="checkbox"/> ABSENT <input type="checkbox"/>					

[ X 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301  
[ . 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

[http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm)

INITIAL ASSESSMENT *NG*  
LABEL VERIFICATION *cm*

F088\_COC\_REF\_LAB\_20190411

FA95650: Chain of Custody  
Page 1 of 2

5.1  
5



## SGS Sample Receipt Summary

Job Number: FA95650

Client: SGS ALASKA

Project: 1222132

Date / Time Received: 5/12/2022 3:30:00 PM

Delivery Method: FEDEX

Airbill #'s: 1483 4802 2726

Therm ID: IR 1;

Therm CF: 0.4;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (5.0);

Cooler Temps (Corrected) °C: Cooler 1: (5.4);

**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 \_\_\_\_\_  
 Test Strip Lot #: pH 0-3 230315  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Number of 5035 Field Kits: \_\_\_\_\_  
 pH 10-12 219813A

Number of Lab Filtered Metals: \_\_\_\_\_  
 Other: (Specify) \_\_\_\_\_

Comments

SM001  
Rev. Date 05/24/17

Technician: SAMUELM

Date: 5/12/2022 3:30:00 PM

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

FA95650: Chain of Custody

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5.1  
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# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FA95650  
**Account:** SGS North America, Inc  
**Project:** 1222132  
**Collected:** 05/04/22 thru 05/05/22

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
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OP91346	EPA 537M QSM5.3 B-15						
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OP91346-BS	375-22-4	Perfluorobutanoic acid	BSP	REC	88	%	73-129
OP91346-BS	2706-90-3	Perfluoropentanoic acid	BSP	REC	90	%	72-129
OP91346-BS	307-24-4	Perfluorohexanoic acid	BSP	REC	90	%	72-129
OP91346-BS	375-85-9	Perfluoroheptanoic acid	BSP	REC	89	%	72-130
OP91346-BS	335-67-1	Perfluorooctanoic acid	BSP	REC	88	%	71-133
OP91346-BS	375-95-1	Perfluorononanoic acid	BSP	REC	89	%	69-130
OP91346-BS	335-76-2	Perfluorodecanoic acid	BSP	REC	87	%	71-129
OP91346-BS	2058-94-8	Perfluoroundecanoic acid	BSP	REC	88	%	69-133
OP91346-BS	307-55-1	Perfluorododecanoic acid	BSP	REC	91	%	72-134
OP91346-BS	72629-94-8	Perfluorotridecanoic acid	BSP	REC	82	%	65-144
OP91346-BS	376-06-7	Perfluorotetradecanoic acid	BSP	REC	91	%	71-132
OP91346-BS	375-73-5	Perfluorobutanesulfonic acid	BSP	REC	89	%	72-130
OP91346-BS	2706-91-4	Perfluoropentanesulfonic acid	BSP	REC	89	%	71-127
OP91346-BS	355-46-4	Perfluorohexanesulfonic acid	BSP	REC	89	%	68-131
OP91346-BS	375-92-8	Perfluoroheptanesulfonic acid	BSP	REC	94	%	69-134
OP91346-BS	1763-23-1	Perfluorooctanesulfonic acid	BSP	REC	87	%	65-140
OP91346-BS	68259-12-1	Perfluorononanesulfonic acid	BSP	REC	89	%	69-127
OP91346-BS	335-77-3	Perfluorodecanesulfonic acid	BSP	REC	80	%	53-142
OP91346-BS	754-91-6	PFOSA	BSP	REC	90	%	67-137
OP91346-BS	2355-31-9	MeFOSAA	BSP	REC	90	%	65-136
OP91346-BS	2991-50-6	EtFOSAA	BSP	REC	90	%	61-135
OP91346-BS	757124-72-4	4:2 Fluorotelomer sulfonate	BSP	REC	91	%	63-143
OP91346-BS	27619-97-2	6:2 Fluorotelomer sulfonate	BSP	REC	91	%	64-140
OP91346-BS	39108-34-4	8:2 Fluorotelomer sulfonate	BSP	REC	88	%	67-138
OP91346-MS*	375-22-4	Perfluorobutanoic acid	MS	REC	92	%	73-129
OP91346-MS*	2706-90-3	Perfluoropentanoic acid	MS	REC	95	%	72-129
OP91346-MS*	307-24-4	Perfluorohexanoic acid	MS	REC	92	%	72-129
OP91346-MS*	375-85-9	Perfluoroheptanoic acid	MS	REC	92	%	72-130
OP91346-MS*	335-67-1	Perfluorooctanoic acid	MS	REC	94	%	71-133
OP91346-MS*	375-95-1	Perfluorononanoic acid	MS	REC	95	%	69-130
OP91346-MS*	335-76-2	Perfluorodecanoic acid	MS	REC	90	%	71-129
OP91346-MS*	2058-94-8	Perfluoroundecanoic acid	MS	REC	91	%	69-133
OP91346-MS*	307-55-1	Perfluorododecanoic acid	MS	REC	95	%	72-134
OP91346-MS*	72629-94-8	Perfluorotridecanoic acid	MS	REC	90	%	65-144
OP91346-MS*	376-06-7	Perfluorotetradecanoic acid	MS	REC	94	%	71-132
OP91346-MS*	375-73-5	Perfluorobutanesulfonic acid	MS	REC	94	%	72-130
OP91346-MS*	2706-91-4	Perfluoropentanesulfonic acid	MS	REC	96	%	71-127
OP91346-MS*	355-46-4	Perfluorohexanesulfonic acid	MS	REC	95	%	68-131
OP91346-MS*	375-92-8	Perfluoroheptanesulfonic acid	MS	REC	101	%	69-134
OP91346-MS*	1763-23-1	Perfluorooctanesulfonic acid	MS	REC	92	%	65-140
OP91346-MS*	68259-12-1	Perfluorononanesulfonic acid	MS	REC	91	%	69-127
OP91346-MS*	335-77-3	Perfluorodecanesulfonic acid	MS	REC	84	%	53-142

\* Sample used for QC is not from job FA95650

# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FA95650  
**Account:** SGS North America, Inc  
**Project:** 1222132  
**Collected:** 05/04/22 thru 05/05/22

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP91346-MS*	754-91-6	PFOSA	MS	REC	94	%	67-137
OP91346-MS*	2355-31-9	MeFOSAA	MS	REC	95	%	65-136
OP91346-MS*	2991-50-6	EtFOSAA	MS	REC	97	%	61-135
OP91346-MS*	757124-72-4	4:2 Fluorotelomer sulfonate	MS	REC	96	%	63-143
OP91346-MS*	27619-97-2	6:2 Fluorotelomer sulfonate	MS	REC	96	%	64-140
OP91346-MS*	39108-34-4	8:2 Fluorotelomer sulfonate	MS	REC	94	%	67-138
OP91346-DUP*	375-22-4	Perfluorobutanoic acid	DUP	RPD	6	%	30
OP91346-DUP*	2706-90-3	Perfluoropentanoic acid	DUP	RPD	3	%	30
OP91346-DUP*	307-24-4	Perfluorohexanoic acid	DUP	RPD	6	%	30
OP91346-DUP*	375-85-9	Perfluoroheptanoic acid	DUP	RPD	4	%	30
OP91346-DUP*	335-67-1	Perfluorooctanoic acid	DUP	RPD	6	%	30
OP91346-DUP*	375-95-1	Perfluorononanoic acid	DUP	RPD	0	%	30
OP91346-DUP*	335-76-2	Perfluorodecanoic acid	DUP	RPD	0	%	30
OP91346-DUP*	2058-94-8	Perfluoroundecanoic acid	DUP	RPD	0	%	30
OP91346-DUP*	307-55-1	Perfluorododecanoic acid	DUP	RPD	0	%	30
OP91346-DUP*	72629-94-8	Perfluorotridecanoic acid	DUP	RPD	0	%	30
OP91346-DUP*	376-06-7	Perfluorotetradecanoic acid	DUP	RPD	0	%	30
OP91346-DUP*	375-73-5	Perfluorobutanesulfonic acid	DUP	RPD	8	%	30
OP91346-DUP*	2706-91-4	Perfluoropentanesulfonic acid	DUP	RPD	7	%	30
OP91346-DUP*	355-46-4	Perfluorohexanesulfonic acid	DUP	RPD	4	%	30
OP91346-DUP*	375-92-8	Perfluoroheptanesulfonic acid	DUP	RPD	4	%	30
OP91346-DUP*	1763-23-1	Perfluorooctanesulfonic acid	DUP	RPD	0	%	30
OP91346-DUP*	68259-12-1	Perfluorononanesulfonic acid	DUP	RPD	0	%	30
OP91346-DUP*	335-77-3	Perfluorodecanesulfonic acid	DUP	RPD	0	%	30
OP91346-DUP*	754-91-6	PFOSA	DUP	RPD	0	%	30
OP91346-DUP*	2355-31-9	MeFOSAA	DUP	RPD	0	%	30
OP91346-DUP*	2991-50-6	EtFOSAA	DUP	RPD	0	%	30
OP91346-DUP*	757124-72-4	4:2 Fluorotelomer sulfonate	DUP	RPD	0	%	30
OP91346-DUP*	27619-97-2	6:2 Fluorotelomer sulfonate	DUP	RPD	0	%	30
OP91346-DUP*	39108-34-4	8:2 Fluorotelomer sulfonate	DUP	RPD	0	%	30

\* Sample used for QC is not from job FA95650

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MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

# Instrument Blank

**Job Number:** FA95650  
**Account:** SGS/SAK/SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q420-IBLK	4Q29246.D	1	05/28/22	MV	n/a	n/a	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0010	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0080	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0080	0.0020	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	103% 50-150%
	13C5-PFPeA	103% 50-150%
	13C5-PFHxA	105% 50-150%
	13C4-PFHpA	106% 50-150%
	13C8-PFOA	109% 50-150%
	13C9-PFNA	108% 50-150%
	13C6-PFDA	114% 50-150%
	13C7-PFUnDA	109% 50-150%

# Instrument Blank

**Job Number:** FA95650  
**Account:** SGS/SAKA SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q420-IBLK	4Q29246.D	1	05/28/22	MV	n/a	n/a	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	ID Standard Recoveries	Limits
	13C2-PFDoDA	107% 50-150%
	13C2-PFTeDA	102% 50-150%
	13C3-PFBS	103% 50-150%
	13C3-PFHxS	106% 50-150%
	13C8-PFOS	105% 50-150%
	13C8-FOSA	112% 50-150%
	d3-MeFOSA	114% 50-150%
	d3-MeFOSAA	110% 50-150%
	d5-EtFOSAA	109% 50-150%
	13C2-4:2FTS	97% 50-150%
	13C2-6:2FTS	104% 50-150%
	13C2-8:2FTS	106% 50-150%
	13C3-HFPO-DA	99% 50-150%

6.1.1  
6

# Instrument Blank

**Job Number:** FA95650  
**Account:** SGS/SAK/SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q422-IBLK	4Q29378.D	1	05/31/22	MV	n/a	n/a	S4Q422

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-4

CAS No.	Compound	Result	RL	MDL	Units	Q
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	105% 50-150%
	13C5-PFPeA	108% 50-150%
	13C5-PFHxA	110% 50-150%
	13C4-PFHpA	109% 50-150%
	13C8-PFOA	111% 50-150%
	13C9-PFNA	108% 50-150%
	13C6-PFDA	113% 50-150%
	13C7-PFUnDA	110% 50-150%
	13C2-PFDoDA	107% 50-150%
	13C2-PFTeDA	99% 50-150%
	13C3-PFBS	107% 50-150%
	13C3-PFHxS	108% 50-150%
	13C8-PFOS	108% 50-150%
	13C8-FOSA	98% 50-150%
	d3-MeFOSA	87% 50-150%
	d3-MeFOSAA	106% 50-150%
	d5-EtFOSAA	105% 50-150%
	13C2-4:2FTS	98% 50-150%
	13C2-6:2FTS	99% 50-150%
	13C2-8:2FTS	101% 50-150%
	13C3-HFPO-DA	116% 50-150%

6.12  
6

## Method Blank Summary

**Job Number:** FA95650  
**Account:** SGS/SAK/SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP91346-MB	4Q29280.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0010	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0080	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0080	0.0020	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	101% 50-150%
	13C5-PFPeA	102% 50-150%
	13C5-PFHxA	103% 50-150%
	13C4-PFHpA	102% 50-150%
	13C8-PFOA	107% 50-150%
	13C9-PFNA	106% 50-150%
	13C6-PFDA	111% 50-150%
	13C7-PFUnDA	106% 50-150%



# Method Blank Summary

**Job Number:** FA95650  
**Account:** SGS/SAK North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP91346-MB	4Q29280.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	ID Standard Recoveries	Limits
	13C2-PFDoDA	101% 50-150%
	13C2-PFTeDA	94% 50-150%
	13C3-PFBS	102% 50-150%
	13C3-PFHxS	104% 50-150%
	13C8-PFOS	102% 50-150%
	13C8-FOSA	102% 50-150%
	d3-MeFOSAA	106% 50-150%
	d5-EtFOSAA	104% 50-150%
	13C2-4:2FTS	97% 50-150%
	13C2-6:2FTS	102% 50-150%
	13C2-8:2FTS	102% 50-150%
	13C3-HFPO-DA	88% 50-150%

6.1.3

6

# Blank Spike Summary

**Job Number:** FA95650  
**Account:** SGS/SAK/SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP91346-BS	4Q29279.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.08	0.0705	88	73-129
2706-90-3	Perfluoropentanoic acid	0.08	0.0719	90	72-129
307-24-4	Perfluorohexanoic acid	0.08	0.0718	90	72-129
375-85-9	Perfluoroheptanoic acid	0.08	0.0708	89	72-130
335-67-1	Perfluorooctanoic acid	0.08	0.0705	88	71-133
375-95-1	Perfluorononanoic acid	0.08	0.0710	89	69-130
335-76-2	Perfluorodecanoic acid	0.08	0.0693	87	71-129
2058-94-8	Perfluoroundecanoic acid	0.08	0.0705	88	69-133
307-55-1	Perfluorododecanoic acid	0.08	0.0725	91	72-134
72629-94-8	Perfluorotridecanoic acid	0.08	0.0655	82	65-144
376-06-7	Perfluorotetradecanoic acid	0.08	0.0724	91	71-132
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0713	89	72-130
2706-91-4	Perfluoropentanesulfonic acid	0.08	0.0710	89	71-127
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0713	89	68-131
375-92-8	Perfluoroheptanesulfonic acid	0.08	0.0751	94	69-134
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0699	87	65-140
68259-12-1	Perfluorononanesulfonic acid	0.08	0.0711	89	69-127
335-77-3	Perfluorodecanesulfonic acid	0.08	0.0642	80	53-142
754-91-6	PFOSA	0.08	0.0722	90	67-137
2355-31-9	MeFOSAA	0.08	0.0719	90	65-136
2991-50-6	EtFOSAA	0.08	0.0721	90	61-135
757124-72-44:2	Fluorotelomer sulfonate	0.08	0.0731	91	63-143
27619-97-2	6:2 Fluorotelomer sulfonate	0.08	0.0725	91	64-140
39108-34-4	8:2 Fluorotelomer sulfonate	0.08	0.0705	88	67-138

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	110%	50-150%
	13C5-PFPeA	112%	50-150%
	13C5-PFHxA	112%	50-150%
	13C4-PFHpA	112%	50-150%
	13C8-PFOA	114%	50-150%
	13C9-PFNA	114%	50-150%
	13C6-PFDA	115%	50-150%
	13C7-PFUnDA	113%	50-150%

\* = Outside of Control Limits.

# Blank Spike Summary

**Job Number:** FA95650  
**Account:** SGS/SAK/SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP91346-BS	4Q29279.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	ID Standard Recoveries	BSP	Limits
	13C2-PFDoDA	107%	50-150%
	13C2-PFTeDA	98%	50-150%
	13C3-PFBS	111%	50-150%
	13C3-PFHxS	114%	50-150%
	13C8-PFOS	110%	50-150%
	13C8-FOSA	102%	50-150%
	d3-MeFOSAA	112%	50-150%
	d5-EtFOSAA	109%	50-150%
	13C2-4:2FTS	112%	50-150%
	13C2-6:2FTS	114%	50-150%
	13C2-8:2FTS	115%	50-150%
	13C3-HFPO-DA	96%	50-150%

\* = Outside of Control Limits.

# Matrix Spike Summary

**Job Number:** FA95650  
**Account:** SGS/SAK/SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP91346-MS	4Q29295.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420
FA95635-11	4Q29294.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	Compound	FA95635-11 Spike		MS ug/l	MS %	Limits
		ug/l	Q ug/l			
375-22-4	Perfluorobutanoic acid	0.0042	J 0.16	0.152	92	73-129
2706-90-3	Perfluoropentanoic acid	0.0103	0.16	0.163	95	72-129
307-24-4	Perfluorohexanoic acid	0.0106	0.16	0.158	92	72-129
375-85-9	Perfluoroheptanoic acid	0.0064	J 0.16	0.154	92	72-130
335-67-1	Perfluorooctanoic acid	0.0103	0.16	0.160	94	71-133
375-95-1	Perfluorononanoic acid	0.0080	U 0.16	0.152	95	69-130
335-76-2	Perfluorodecanoic acid	0.0080	U 0.16	0.144	90	71-129
2058-94-8	Perfluoroundecanoic acid	0.0080	U 0.16	0.146	91	69-133
307-55-1	Perfluorododecanoic acid	0.0080	U 0.16	0.152	95	72-134
72629-94-8	Perfluorotridecanoic acid	0.0080	U 0.16	0.144	90	65-144
376-06-7	Perfluorotetradecanoic acid	0.0080	U 0.16	0.151	94	71-132
375-73-5	Perfluorobutanesulfonic acid	0.0041	J 0.16	0.154	94	72-130
2706-91-4	Perfluoropentanesulfonic acid	0.0080	U 0.16	0.153	96	71-127
355-46-4	Perfluorohexanesulfonic acid	0.0393	0.16	0.191	95	68-131
375-92-8	Perfluoroheptanesulfonic acid	0.0080	U 0.16	0.161	101	69-134
1763-23-1	Perfluorooctanesulfonic acid	0.0034	J 0.16	0.151	92	65-140
68259-12-1	Perfluorononanesulfonic acid	0.0080	U 0.16	0.146	91	69-127
335-77-3	Perfluorodecanesulfonic acid	0.0080	U 0.16	0.134	84	53-142
754-91-6	PFOSA	0.0080	U 0.16	0.151	94	67-137
2355-31-9	MeFOSAA	0.016	U 0.16	0.152	95	65-136
2991-50-6	EtFOSAA	0.016	U 0.16	0.155	97	61-135
757124-72-44:2	Fluorotelomer sulfonate	0.016	U 0.16	0.153	96	63-143
27619-97-2	6:2 Fluorotelomer sulfonate	0.016	U 0.16	0.154	96	64-140
39108-34-4	8:2 Fluorotelomer sulfonate	0.016	U 0.16	0.151	94	67-138

CAS No.	ID Standard Recoveries	MS	FA95635-11	Limits
	13C4-PFBA	111%	108%	50-150%
	13C5-PFPeA	115%	112%	50-150%
	13C5-PFHxA	117%	113%	50-150%
	13C4-PFHpA	117%	116%	50-150%
	13C8-PFOA	118%	118%	50-150%
	13C9-PFNA	117%	117%	50-150%
	13C6-PFDA	117%	118%	50-150%
	13C7-PFUnDA	115%	111%	50-150%

\* = Outside of Control Limits.

# Matrix Spike Summary

**Job Number:** FA95650  
**Account:** SGS/KA SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP91346-MS	4Q29295.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420
FA95635-11	4Q29294.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	ID Standard Recoveries	MS	FA95635-11	Limits
	13C2-PFDoDA	114%	109%	50-150%
	13C2-PFTeDA	112%	106%	50-150%
	13C3-PFBS	114%	110%	50-150%
	13C3-PFHxS	113%	114%	50-150%
	13C8-PFOS	112%	107%	50-150%
	13C8-FOSA	118%	120%	50-150%
	d3-MeFOSAA	117%	114%	50-150%
	d5-EtFOSAA	116%	109%	50-150%
	13C2-4:2FTS	118%	108%	50-150%
	13C2-6:2FTS	118%	113%	50-150%
	13C2-8:2FTS	118%	110%	50-150%
	13C3-HFPO-DA	98%		50-150%

\* = Outside of Control Limits.

# Duplicate Summary

**Job Number:** FA95650  
**Account:** SGS/SAK/SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP91346-DUP	4Q29300.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420
FA95635-12	4Q29299.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	Compound	FA95635-12 DUP		Q	RPD	Limits
		ug/l	Q ug/l			
375-22-4	Perfluorobutanoic acid	0.0112	J	0.0106	J	6 30
2706-90-3	Perfluoropentanoic acid	0.0331		0.0321		3 30
307-24-4	Perfluorohexanoic acid	0.0250		0.0236		6 30
375-85-9	Perfluoroheptanoic acid	0.0167		0.0161		4 30
335-67-1	Perfluorooctanoic acid	0.0167		0.0158		6 30
375-95-1	Perfluorononanoic acid	0.0080	U	ND		nc 30
335-76-2	Perfluorodecanoic acid	0.0080	U	ND		nc 30
2058-94-8	Perfluoroundecanoic acid	0.0080	U	ND		nc 30
307-55-1	Perfluorododecanoic acid	0.0080	U	ND		nc 30
72629-94-8	Perfluorotridecanoic acid	0.0080	U	ND		nc 30
376-06-7	Perfluorotetradecanoic acid	0.0080	U	ND		nc 30
375-73-5	Perfluorobutanesulfonic acid	0.0027	J	0.0025	J	8 30
2706-91-4	Perfluoropentanesulfonic acid	0.0042	J	0.0039	J	7 30
355-46-4	Perfluorohexanesulfonic acid	0.0859		0.0827		4 30
375-92-8	Perfluoroheptanesulfonic acid	0.0024	J	0.0025	J	4 30
1763-23-1	Perfluorooctanesulfonic acid	0.0080	U	ND		nc 30
68259-12-1	Perfluorononanesulfonic acid	0.0080	U	ND		nc 30
335-77-3	Perfluorodecanesulfonic acid	0.0080	U	ND		nc 30
754-91-6	PFOSA	0.0080	U	ND		nc 30
2355-31-9	MeFOSAA	0.016	U	ND		nc 30
2991-50-6	EtFOSAA	0.016	U	ND		nc 30
757124-72-44:2	Fluorotelomer sulfonate	0.016	U	ND		nc 30
27619-97-2	6:2 Fluorotelomer sulfonate	0.016	U	ND		nc 30
39108-34-4	8:2 Fluorotelomer sulfonate	0.016	U	ND		nc 30

CAS No.	ID Standard Recoveries	DUP	FA95635-12	Limits
	13C4-PFBA	103%	96%	50-150%
	13C5-PFPeA	111%	104%	50-150%
	13C5-PFHxA	113%	105%	50-150%
	13C4-PFHpA	113%	106%	50-150%
	13C8-PFOA	116%	110%	50-150%
	13C9-PFNA	115%	107%	50-150%
	13C6-PFDA	115%	110%	50-150%
	13C7-PFUnDA	112%	105%	50-150%

\* = Outside of Control Limits.

# Duplicate Summary

**Job Number:** FA95650  
**Account:** SGS/SAKKA SGS North America, Inc  
**Project:** 1222132

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP91346-DUP	4Q29300.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420
FA95635-12	4Q29299.D	1	05/28/22	MV	05/24/22	OP91346	S4Q420

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA95650-1, FA95650-2, FA95650-3, FA95650-4, FA95650-5

CAS No.	ID Standard Recoveries	DUP	FA95635-12	Limits
	13C2-PFDoDA	109%	103%	50-150%
	13C2-PFTeDA	107%	98%	50-150%
	13C3-PFBS	111%	102%	50-150%
	13C3-PFHxS	111%	104%	50-150%
	13C8-PFOS	107%	103%	50-150%
	13C8-FOSA	114%	112%	50-150%
	d3-MeFOSAA	114%	109%	50-150%
	d5-EtFOSAA	115%	108%	50-150%
	13C2-4:2FTS	108%	101%	50-150%
	13C2-6:2FTS	111%	105%	50-150%
	13C2-8:2FTS	108%	104%	50-150%
	13C3-HFPO-DA	98%		50-150%

\* = Outside of Control Limits.

**SGS DW Chemistry Certified Analyses  
Applicable to PWSID Samples**

ADEC DW-Chemical Certificate AK00971, expires 6-30-2022

Method/ Test Name	Reference	Analyte	Method/ Test Name	Reference	Analyte
200.8	EPA	Aluminum	524.2	EPA	Benzene-R
200.8	EPA	Antimony	524.2	EPA	Bromodichloromethane-T
200.8	EPA	Arsenic	524.2	EPA	Bromoform-T
200.8	EPA	Barium	524.2	EPA	Carbon Tetrachloride-R
200.8	EPA	Beryllium	524.2	EPA	Chlorobenzene-R
200.8	EPA	Cadmium	524.2	EPA	Chloroform-T
200.8	EPA	Chromium	524.2	EPA	cis-1,2-Dichloroethylene-R
200.8	EPA	Copper	524.2	EPA	Dibromochloromethane-T
200.8	EPA	Lead	524.2	EPA	Dichloromethane (Methylene Chloride)-R
200.8	EPA	Manganese	524.2	EPA	Ethylbenzene-R
200.8	EPA	Mercury	524.2	EPA	Styrene-R
200.8	EPA	Nickel	524.2	EPA	Tetrachloroethylene-R
200.8	EPA	Selenium	524.2	EPA	Toluene-R
200.8	EPA	Silver	524.2	EPA	Total THM-T
200.8	EPA	Thallium	524.2	EPA	Total Xylenes-R
200.8	EPA	Zinc	524.2	EPA	trans-1,2 Dichloroethylene
300.0	EPA	Chloride	524.2	EPA	Trichloroethylene-R
300.0	EPA	Fluoride	524.2	EPA	Vinyl Chloride-R
300.0	EPA	Nitrate-N	2120B	SM 21st ed	Color
300.0	EPA	Nitrate-Nitrite as N	2130B	SM 21st ed	Turbidity
300.0	EPA	Nitrite-N	2320B	SM 21st ed	Alkalinity
300.0	EPA	Sulfate	2510B	SM 21st ed	Conductivity
524.2	EPA	1,1,1-Trichloroethane-R	2540C	SM 21st ed	TDS
524.2	EPA	1,1,2-Trichloroethane-R	4500-CN-C,E	SM 21st ed	Cyanide
524.2	EPA	1,1-Dichloroethylene-R	4500-H-B	SM 21st ed	pH
524.2	EPA	1,2,4-Trichlorobenzene-R	4500-NO3-F	SM 21st ed	Nitrate-N
524.2	EPA	1,2-Dichlorobenzene-R	4500-NO3-F	SM 21st ed	Nitrite-N
524.2	EPA	1,2-Dichloroethane-R	4500-P-E	SM 21st ed	Ortho-phosphate
524.2	EPA	1,2-Dichloropropane-R	5310B	SM 21st ed	Dissolved Organic Carbon (DOC)
524.2	EPA	1,4-Dichlorobenzene-R	5310B	SM 21st ed	Total Organic Carbon (TOC)

ADEC DW-Micro Certificate AK00971, expires 6-30-2022

Method/ Test Name	Reference	Analyte	Method/ Test Name	Reference	Analyte
9215 B HPC Pour Plate	SM	Heterotrophic	9223 B Colilert-18 MPN	SM	E. coli
9223 B Colilert MPN	SM	E. coli	9223 B Colilert-18 PA	SM	E. coli
9223 B Colilert PA	SM	E. coli	9223 B Colilert-18 PA	SM	Total Coliform
9223 B Colilert PA	SM	Total Coliform			