Laboratory Report of Analysis

To: Environmental Comp. Consultants (ECC)

Anchorage, AK 99504
(907)644-0428

Report Number: **1206762**

Client Project: **Gustavus**

Dear Admon Abuamsha,

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 Jennifer 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.

Stephen C. Ede
2021.01.11
12:56:40 -09'00'

Jennifer Dawkins Date
Project Manager
Jennifer.Dawkins@sgs.com

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Case Narrative

SGS Client: **Environmental Comp. Consultants (ECC)**
SGS Project: **1206762**
Project Name/Site: **Gustavus**
Project Contact: **Admon Abuamsha**

Refer to sample receipt form for information on sample condition.

1220-GUS-SL (1206762001) PS

EPA 537 PFAS- Full 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.

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
1220-GUS-SL	1206762001	12/18/2020	12/21/2020	Drinking Water
1220-GUS-CH	1206762002	12/18/2020	12/21/2020	Drinking Water
1220-GUS-FD	1206762003	12/18/2020	12/21/2020	Drinking Water

Method	Method Description

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1206762

P# 364451 dl

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

Section 1

CLIENT: ECC

CONTACT: Adnan Abuamsha — PHONE #: 907-830-4518

PROJECT NAME: Gustavus — PROJECT/ PWSID/ PERMIT#:

REPORTS TO: Adnan Abuamsha — E-MAIL: adnan@eccalaska.com — Profile #: 364451

INVOICE TO: ECC — QUOTE #: — P.O. #:

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp / Grab / MI (Multi-incremental)	Analysis*: EPA 537.1 PFAS	REMARKS/LOC ID
(1AB)	1220-GUS-SL	12/18/20	12:17	DW	2	Grab	x	
(2A)	1220-GUS-CH	12/18/20	14:16	DW	1	↓	x	LIMITED QUANTITY
(3A)	1220-GUS-FD	12/18/20	14:32	DW	1	↓	x	LIMITED QUANTITY

Section 3 — Preservative: TRIZMA

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

Section 5

	Date	Time	
Relinquished By: (1) Adnan Abuamsha	12/21/20	14:37	Received By:
Relinquished By: (2)			Received By:
Relinquished By: (3)			Received By:
Relinquished By: (4)	12/21/20	14:38	Received for Laboratory By: dl

Section 4

DOD Project? Yes (No)

Data Deliverable Requirements:

Cooler ID:

Requested Turnaround Time and/or Special Instructions: Standard

Temp Blank °C: 0.0 DZ — or Ambient [ ]

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

Delivery Method: Hand Delivery [X] Commerical Delivery [ ]

e-Sample Receipt Form

SGS Workorder #: **1206762** | 1206762

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		Yes — Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	N/A	
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 0.0 °C Therm. ID: D21
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	Yes	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)?	Yes	
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	Yes	
	N/A	***Exemption permitted for metals (e.g,200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	Yes	**Limited volume for sample 2 and 3, proceeded per client**
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	N/A	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	

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

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1206762001-A	Trizma	OK			
1206762001-B	Trizma	OK			
1206762002-A	Trizma	OK			
1206762003-A	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

1206762

SGS Job Number: FA82020

Sampling Date: 12/18/20

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: **19**

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), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6

Table of Contents

Sample Summary

SGS North America, Inc

1206762

Job No: FA82020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA82020-1	12/18/20	12:17		12/23/20	DW	Drinking Water	1220-GUS-SL
FA82020-2	12/18/20	14:16		12/23/20	DW	Drinking Water	1220-GUS-CH
FA82020-3	12/18/20	14:32		12/23/20	DW	Drinking Water	1220-GUS-FD

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc **Job No:** FA82020

Site: 1206762 **Report Date:** 1/9/2021 12:51:28 PM

3 Samples were collected on 12/18/2020 and were received at SGS North America Inc - Orlando on 12/23/2020 properly preserved, at 3.6 Deg. C and intact. These Samples received an SGS Orlando job number of FA82020. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Semi-volatiles By Method EPA 537.1 REV 1.0

Matrix: DW **Batch ID:** OP83553

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) FA82020-1DUP, FA82025-1MS were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Sample(s) FA82020-1, FA82020-2 have compound(s) reported with a “B” qualifier, indicating analyte is found in the associated method blank.

Matrix Spike Recovery(s) for Perfluorotetradecanoic acid are outside control limits. Probable cause is due to matrix interference.

FA82020-1: Insufficient sample for re-extraction.

FA82020-3: Dilution required due to matrix interference (internal standard failure).

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Jenna Kravitz, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA82020
Account: SGS North America, Inc
Project: 1206762
Collected: 12/18/20

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA82020-1	**1220-GUS-SL**					
Perfluorohexanoic acid [a]		0.0014 JB	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid [a]		0.0013 J	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid [a]		0.0031	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluorononanoic acid [a]		0.00097 J	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid [a]		0.00098 J	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid [a]		0.0050	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluorooctanesulfonic acid [a]		0.0327	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
FA82020-2	**1220-GUS-CH**					
Perfluorohexanoic acid		0.0012 JB	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid		0.00083 J	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid		0.0021	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluorooctanesulfonic acid		0.0014 J	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
FA82020-3	**1220-GUS-FD**					
Perfluorohexanesulfonic acid		0.0011 J	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0
Perfluorooctanesulfonic acid		0.00081 J	0.0019	0.0015	ug/l	EPA 537.1 REV 1.0

(a) Insufficient sample for re-extraction.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1220-GUS-SL		
Lab Sample ID:	FA82020-1	**Date Sampled:**	12/18/20
Matrix:	DW - Drinking Water	**Date Received:**	12/23/20
Method:	EPA 537.1 REV 1.0 EPA 537	**Percent Solids:**	n/a
Project:	1206762		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	Q78124.D	1	01/04/21 19:18	NG	12/29/20 08:30	OP83553	SQ1706
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	1.0 ml
Run #2		

Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS								
307-24-4	Perfluorohexanoic acid	0.0014		0.0019	0.0015	0.00077	ug/l	JB
375-85-9	Perfluoroheptanoic acid	0.0013		0.0019	0.0015	0.00077	ug/l	J
335-67-1	Perfluorooctanoic acid	0.0031		0.0019	0.0015	0.00077	ug/l	
375-95-1	Perfluorononanoic acid	0.00097		0.0019	0.0015	0.00077	ug/l	J
335-76-2	Perfluorodecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
307-55-1	Perfluorododecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
PERFLUOROALKYLSULFONIC ACIDS								
375-73-5	Perfluorobutanesulfonic acid	0.00098		0.0019	0.0015	0.00077	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.0050		0.0019	0.0015	0.00077	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0327		0.0019	0.0015	0.00077	ug/l	
PERFLUOROOCTANESULFONAMIDOACETIC ACIDS								
2355-31-9	MeFOSAA	0.0038 U		0.0077	0.0038	0.0019	ug/l	
2991-50-6	EtFOSAA	0.0038 U		0.0077	0.0038	0.0019	ug/l	
NEXT GENERATION PFAS ANALYTES								
13252-13-6	HFPO-DA (GenX)	0.0077 U		0.0096	0.0077	0.0038	ug/l	
919005-14-4	ADONA	0.0038 U		0.0077	0.0038	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0038 U		0.0077	0.0038	0.0019	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0038 U		0.0077	0.0038	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	112%		70-130%
	13C2-PFDA	110%		70-130%
	d5-EtFOSAA	103%		70-130%
	13C3-HFPO-DA	105%		70-130%

U = Not detected LOD = Limit of Detection
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1220-GUS-SL		
Lab Sample ID:	FA82020-1	**Date Sampled:**	12/18/20
Matrix:	DW - Drinking Water	**Date Received:**	12/23/20
Method:	EPA 537.1 REV 1.0 EPA 537	**Percent Solids:**	n/a
Project:	1206762		

Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q

(a) Insufficient sample for re-extraction.

U = Not detected LOD = Limit of Detection
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 1220-GUS-CH
Lab Sample ID: FA82020-2
Matrix: DW - Drinking Water
Method: EPA 537.1 REV 1.0 EPA 537
Project: 1206762

Date Sampled: 12/18/20
Date Received: 12/23/20
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q78126.D	1	01/04/21 19:50	NG	12/29/20 08:30	OP83553	SQ1706
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	1.0 ml
Run #2		

Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS								
307-24-4	Perfluorohexanoic acid	0.0012		0.0019	0.0015	0.00077	ug/l	JB
375-85-9	Perfluoroheptanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
335-67-1	Perfluorooctanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
375-95-1	Perfluorononanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
335-76-2	Perfluorodecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
307-55-1	Perfluorododecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
PERFLUOROALKYLSULFONIC ACIDS								
375-73-5	Perfluorobutanesulfonic acid	0.00083		0.0019	0.0015	0.00077	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.0021		0.0019	0.0015	0.00077	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0014		0.0019	0.0015	0.00077	ug/l	J
PERFLUOROOCTANESULFONAMIDOACETIC ACIDS								
2355-31-9	MeFOSAA	0.0038 U		0.0077	0.0038	0.0019	ug/l	
2991-50-6	EtFOSAA	0.0038 U		0.0077	0.0038	0.0019	ug/l	
NEXT GENERATION PFAS ANALYTES								
13252-13-6	HFPO-DA (GenX)	0.0077 U		0.0096	0.0077	0.0038	ug/l	
919005-14-4	ADONA	0.0038 U		0.0077	0.0038	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0038 U		0.0077	0.0038	0.0019	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0038 U		0.0077	0.0038	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	113%		70-130%
	13C2-PFDA	123%		70-130%
	d5-EtFOSAA	104%		70-130%
	13C3-HFPO-DA	106%		70-130%

U = Not detected LOD = Limit of Detection
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1220-GUS-FD		
Lab Sample ID:	FA82020-3	**Date Sampled:**	12/18/20
Matrix:	DW - Drinking Water	**Date Received:**	12/23/20
Method:	EPA 537.1 REV 1.0 EPA 537	**Percent Solids:**	n/a
Project:	1206762		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q78127.D	1	01/04/21 20:06	NG	12/29/20 08:30	OP83553	SQ1706
Run #2 [a]	Q78157.D	5	01/05/21 11:34	NG	12/29/20 08:30	OP83553	SQ1707

	Initial Volume	Final Volume
Run #1	260 ml	1.0 ml
Run #2	260 ml	1.0 ml

Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS								
307-24-4	Perfluorohexanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
335-67-1	Perfluorooctanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
375-95-1	Perfluorononanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
335-76-2	Perfluorodecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
307-55-1	Perfluorododecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
PERFLUOROALKYLSULFONIC ACIDS								
375-73-5	Perfluorobutanesulfonic acid	0.0015 U		0.0019	0.0015	0.00077	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0011		0.0019	0.0015	0.00077	ug/l	J
1763-23-1	Perfluorooctanesulfonic acid	0.00081		0.0019	0.0015	0.00077	ug/l	J
PERFLUOROOCTANESULFONAMIDOACETIC ACIDS								
2355-31-9	MeFOSAA	0.019 U [b]		0.038	0.019	0.0096	ug/l	
2991-50-6	EtFOSAA	0.019 U [b]		0.038	0.019	0.0096	ug/l	
NEXT GENERATION PFAS ANALYTES								
13252-13-6	HFPO-DA (GenX)	0.0077 U		0.0096	0.0077	0.0038	ug/l	
919005-14-4	ADONA	0.0038 U		0.0077	0.0038	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0038 U		0.0077	0.0038	0.0019	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0038 U		0.0077	0.0038	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	115%	115%	70-130%
	13C2-PFDA	85%	104%	70-130%
	d5-EtFOSAA	77%	71%	70-130%
	13C3-HFPO-DA	108%	117%	70-130%

U = Not detected LOD = Limit of Detection
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1220-GUS-FD		
Lab Sample ID:	FA82020-3	**Date Sampled:**	12/18/20
Matrix:	DW - Drinking Water	**Date Received:**	12/23/20
Method:	EPA 537.1 REV 1.0 EPA 537	**Percent Solids:**	n/a
Project:	1206762		

Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	LOQ	LOD	DL	Units	Q

(a) Dilution required due to matrix interference (internal standard failure).
(b) Result is from Run# 2

U = Not detected LOD = Limit of Detection
MCL = Maximum Contamination Level (40 CFR 141)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS North America Inc.
CHAIN OF CUSTODY RECORD

FA82020

Locations Nationwide
Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
www.us.sgs.com

CLIENT:	SGS North America Inc. - Alaska Division	SGS Reference:	SGS Florida
CONTACT:	Julie Shumway	PHONE NO:	(907) 562-2343
PROJECT NAME:	1206762	PWSID#:	
		NPDL#:	
REPORTS TO: Julie Shumway		E-MAIL:	Julie.Shumway@sgs.com; Env.Alaska.RefLabTeam@sgs.com
INVOICE TO:	SGS - Alaska	QUOTE #:	
		P.O. #:	1206762

Additional Comments: All soils report out in dry weight unless

Page 1 of 1

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used:	Trizma	EPA 537 PFAS- Full List				MS	MSD	SGS lab #	Location ID
1	1220-GUS-SL	12/18/2020	12:17:00	DW	2			X						1206762001	
2	1220-GUS-CH	12/18/2020	14:16:00	DW	1			X						1206762002	initial assessment: BG
3	1220-GUS-FD	12/18/2020	14:32	DW	1			X						1206762003	label verification: JS

TYPE: C = COMP G = GRAB MI = Multi Incremental Soils

Relinquished By: (1)	Date	Time	Received By:	DOD Project?	YES NO (J6) / Data Deliverable Requirements:
J Shumway	12/22/20	0852	Fedex	Report to DL (J Flags)? If J- Report as DL/LOD/LOQ.	YES / Level 2 + EDD
Relinquished By: (2)	Date	Time	Received By:	Cooler ID:	
Fedex	12/23/20	1150		Requested Turnaround Time and-or Special Instructions:	
Relinquished By: (3)	Date	Time	Received By:	Temp Blank °C: 3.6J	Chain of Custody Seal: (Circle)
Relinquished By: (4)	Date	Time	Received For Laboratory By:	or Ambient [ ]	INTACT BROKEN ABSENT

[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

F088_COC_REF_LAB_20190411

FA82020: Chain of Custody
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SGS Sample Receipt Summary

Job Number: FA82020 **Client:** SGS NORTH AMERICA, INC - ALASKA DI **Project:** 1206762

Date / Time Received: 12/23/2020 11:50:00 AM **Delivery Method:** FEDEX **Airbill #'s:** 148348012450

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (3.6);

Cooler Information	Y	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	N	N/A
1. Trip Blank present / cooler	☐	☐	☑
2. Trip Blank listed on COC	☐	☐	☑

	W	S	N/A
3. Type Of TB Received	☐	☐	☑

Sample Information	Y	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 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: BRYANG Date: 12/23/2020 11:50:00 Reviewer: _____ Date: _____

FA82020: Chain of Custody
Page 2 of 2

MS Semi-volatiles

6

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: FA82020
Account: SGSAKA SGS North America, Inc
Project: 1206762

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83553-MB	Q78104.D	1	01/04/21	NG	12/29/20	OP83553	SQ1706

The QC reported here applies to the following samples: **Method:** EPA 537.1 REV 1.0

FA82020-1, FA82020-2, FA82020-3

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	0.0012	0.0020	0.00080	ug/l	J
375-85-9	Perfluoroheptanoic acid	ND	0.0020	0.00080	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0020	0.00080	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0020	0.00080	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0020	0.00080	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0020	0.00080	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0020	0.00080	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0020	0.00080	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0020	0.00080	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0020	0.00080	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0020	0.00080	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0020	0.00080	ug/l	
2355-31-9	MeFOSAA	ND	0.0080	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.010	0.0040	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	Surrogate Recoveries		Limits
	13C2-PFHxA	126%	70-130%
	13C2-PFDA	122%	70-130%

Blank Spike Summary

Job Number: FA82020
Account: SGSAKA SGS North America, Inc
Project: 1206762

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83553-BS	Q78103.D	1	01/04/21	NG	12/29/20	OP83553	SQ1706

The QC reported here applies to the following samples: **Method:** EPA 537.1 REV 1.0

FA82020-1, FA82020-2, FA82020-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
307-24-4	Perfluorohexanoic acid	0.08	0.0783	98	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0770	96	70-130
335-67-1	Perfluorooctanoic acid	0.08	0.0802	100	70-130
375-95-1	Perfluorononanoic acid	0.08	0.0813	102	70-130
335-76-2	Perfluorodecanoic acid	0.08	0.0844	106	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.0767	96	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0693	87	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.0649	81	70-130
376-06-7	Perfluorotetradecanoic acid	0.08	0.0587	73	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0796	100	70-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0755	94	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0794	99	70-130
2355-31-9	MeFOSAA	0.08	0.0710	89	70-130
2991-50-6	EtFOSAA	0.08	0.0687	86	70-130
13252-13-6	HFPO-DA (GenX)	0.08	0.0763	95	70-130
919005-14-4	ADONA	0.08	0.0721	90	70-130
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.08	0.0755	94	70-130
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.08	0.0688	86	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	121%	70-130%
	13C2-PFDA	118%	70-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FA82020
Account: SGSAKA SGS North America, Inc
Project: 1206762

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83553-MS	Q78120.D	1	01/04/21	NG	12/29/20	OP83553	SQ1706
FA82025-1	Q78119.D	1	01/04/21	NG	12/29/20	OP83553	SQ1706

The QC reported here applies to the following samples: **Method:** EPA 537.1 REV 1.0

FA82020-1, FA82020-2, FA82020-3

CAS No.	Compound	FA82025-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
307-24-4	Perfluorohexanoic acid	0.0147		0.08	0.0897	94	70-130
375-85-9	Perfluoroheptanoic acid	0.0099		0.08	0.0847	94	70-130
335-67-1	Perfluorooctanoic acid	0.0186		0.08	0.0988	100	70-130
375-95-1	Perfluorononanoic acid	0.0022		0.08	0.0832	101	70-130
335-76-2	Perfluorodecanoic acid	ND		0.08	0.0860	108	70-130
2058-94-8	Perfluoroundecanoic acid	ND		0.08	0.0827	103	70-130
307-55-1	Perfluorododecanoic acid	ND		0.08	0.0689	86	70-130
72629-94-8	Perfluorotridecanoic acid	ND		0.08	0.0634	79	70-130
376-06-7	Perfluorotetradecanoic acid	ND		0.08	0.0548	69*	70-130
375-73-5	Perfluorobutanesulfonic acid	0.0052		0.08	0.0845	99	70-130
355-46-4	Perfluorohexanesulfonic acid	0.0355		0.08	0.110	93	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.0363		0.08	0.112	95	70-130
2355-31-9	MeFOSAA	ND		0.08	0.0690	86	70-130
2991-50-6	EtFOSAA	ND		0.08	0.0711	89	70-130
13252-13-6	HFPO-DA (GenX)	ND		0.08	0.0748	94	70-130
919005-14-4	ADONA	ND		0.08	0.0766	96	70-130
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.08	0.0760	95	70-130
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND		0.08	0.0716	90	70-130

CAS No.	Surrogate Recoveries	MS	FA82025-1	Limits
	13C2-PFHxA	116%	114%	70-130%
	13C2-PFDA	117%	121%	70-130%
	d5-EtFOSAA		102%	70-130%
	13C3-HFPO-DA		108%	70-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA82020
Account: SGSAKA SGS North America, Inc
Project: 1206762

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83553-DUP	Q78125.D	1	01/04/21	NG	12/29/20	OP83553	SQ1706
FA82020-1 [a]	Q78124.D	1	01/04/21	NG	12/29/20	OP83553	SQ1706

The QC reported here applies to the following samples: **Method:** EPA 537.1 REV 1.0

FA82020-1, FA82020-2, FA82020-3

CAS No.	Compound	FA82020-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
307-24-4	Perfluorohexanoic acid	0.0014	JB	0.0015	JB	7	30
375-85-9	Perfluoroheptanoic acid	0.0013	J	0.0011	J	17	30
335-67-1	Perfluorooctanoic acid	0.0031		0.0034		9	30
375-95-1	Perfluorononanoic acid	0.00097	J	0.00090	J	7	30
335-76-2	Perfluorodecanoic acid	0.0019	U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0019	U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0019	U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0019	U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0019	U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.00098	J	0.0012	J	20	30
355-46-4	Perfluorohexanesulfonic acid	0.0050		0.0052		4	30
1763-23-1	Perfluorooctanesulfonic acid	0.0327		0.0337		3	30
2355-31-9	MeFOSAA	0.0077	U	ND		nc	30
2991-50-6	EtFOSAA	0.0077	U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0096	U	ND		nc	30
919005-14-4	ADONA	0.0077	U	ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0077	U	ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0077	U	ND		nc	30

CAS No.	Surrogate Recoveries	DUP	FA82020-1	Limits
	13C2-PFHxA	114%	112%	70-130%
	13C2-PFDA	108%	110%	70-130%
	d5-EtFOSAA		103%	70-130%
	13C3-HFPO-DA		105%	70-130%

(a) Insufficient sample for re-extraction.

* = Outside of Control Limits.

SGS DW Chemistry Certified Analyses
Applicable to PWSID Samples

ADEC DW-Chemical Certificate AK00971, expires 6-30-2021

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 6-30-2021

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			