

COMPLETE PFAS SAMPLING RESULTS

Contaminant of Concern (ng/L)	ADEC Action Levels	Public Water System Source by Community														
		Ambler		Buckland	Deering	Kiana		Kivalina	Kobuk	Kotzebue		Noatak		Noorvik	Selawik	Shungnak
		2002 Well	1982 Well	Buckland River	Inmachuk River	Upper Well	Lower Well	Wulik River	Main Well	Devils Lake	Vortac Lake	Well # 5	Well # 6	Kobuk River	Selawik River	Kobuk River
PFOA	Combination of the analytes should not exceed 70 ng/L	0.31	0.36	ND	ND	ND	ND	ND	0.32	ND	ND	ND	ND	0.23	0.41	ND
PFOS		ND	ND	ND	ND	ND	ND	ND	0.29	ND	ND	ND	ND	ND	0.43	ND
PFHpA	No Action Levels	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PFNA		ND	ND	ND	0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PFHxS		0.34	0.39	ND	ND	ND	ND	ND	ND	5.43	ND	ND	ND	ND	ND	ND
PFBS		0.27	0.28	ND	0.38	ND	ND	ND	ND	ND	3.82	ND	ND	ND	ND	ND

 **Detectable Concentration**

ND = Not Detected

Results are “Not Detected” when the concentration is lower than the Detection Limit.

Measurement Equivalents

1 ng/L = 1 ppt

One nanogram per liter equals one part per trillion

Contaminants Name and Acronym

Perfluorooctanoic Acid (PFOA)

Perfluorooctane Sulfonate (PFOS)

Perfluoroheptanoic Acid (PFHpA)

Perfluorononanoic Acid (PFNA)

Perfluorohexane Sulfonate (PFHxS)

Perfluorobutane Sulfonate (PFBS)

Presented are the complete PFAS sampling results from each public water system source in the Northwest Arctic Borough (2019). The Department of Environmental Conservation (ADEC) recommends drinking water samples check for 6 different PFAS contaminants. On the left are all six of the PFAS contaminant acronyms that were analyzed. The second table column shows the ADEC Action Levels which mirror the EPA Health Advisory Limit of 70 ng/L for the sum of PFOA and PFOS concentrations (PFOA and PFOS results are outlined red in the table). 11 communities were investigated and 15 different water sources were sampled.

According to ADEC’s current health guidelines, all public water system sources in the Northwest Arctic Borough have safe PFAS levels.

Generic
Maniilaq Association

Work Order:	1195121
	Raw Water Sample
Client:	Maniilaq Association
Report Date:	September 25, 2019

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. If you have any questions regarding this report, or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343. This document is issued by the Company under its General Conditions of Service accessible at <<http://www.sgs.com/en/Terms-and-Conditions.aspx>>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO 17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification, and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

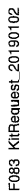
The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content.
All DRO/RRO analyses are integrated per SOP.

Profile: 364493 NSW 9/4/19

<http://www.sgs.com/terms-and-conditions>



027 OTZ 3725 3812

027-3725 3812

Shipper's Name and Address Maniilaq Association 733 2nd Avenue Kotzebue, AK 99752 USA Tel: 907-442-3311		Shipper's Account Number		Not Negotiable Air Waybill Issued By <i>Alaska.</i> AIR CARGO P.O. BOX 68900 SEATTLE, WA 98168 800-225-2752 ALASKACARGO.COM	
Consignee's Name and Address SGS CT and ENVIRONM 200 W Potter Drive Anchorage, AK 99518 USA Tel: 907-562-2343		Consignee's Account Number 27400215947		Also notify Tel:	
Issuing Carrier's Agent and City		Accounting Information Maniilaq Association 733 2nd Avenue Kotzebue, AK 99752 USA 10756 SRN/ENVIROMENTAL GoldStreak			
Agent's IATA Code		Account No.			
Airport of Departure (Addr. of First Carrier) and Requested Routing Kotzebue					
To	By First Carrier	To / By	To / By	Currency	WT/VAL Other Declared Value For Carriage Declared Value For Customs
ANC	Alaska Airlines			USD PZ	X X X NVD NCV
Airport of Destination Anchorage		Flight/Date AS 7011/03		Amount of Insurance XXX	
Handling Information HFPU SEAN PETERSON 907-854-0505 STORE IN COOLER WHEN POSSIBLE SCI					
No of Pieces	Gross Weight	kg lb	Commodity Item No.	Chargeable Weight	Rate / Charge
1	7.0	L		8.0	
				Total	
				AS AGREED	
				Nature and Quantity of Goods (Incl. Dimensions or Volume) WATER SAMPLES Dims: 17 x 10 x 9 x 1 GSX COL Volume: 0.885	
1	7.0				AS AGREED
Prepaid		Weight Charge		Other Charges	
AS AGREED				XBC 10.00	
Valuation Charge					
Tax					
Total Other Charges Due Agent					
Total Other Charges Due Carrier					
Total Prepaid		Total Collect			
AS AGREED					
Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations. I consent to the inspection of this cargo.					
For: Maniilaq Association Signature of Shipper or his Agent <i>Chris Peterson</i>					
<input checked="" type="checkbox"/> THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS <input type="checkbox"/> THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS					
03 Sep 2019 16:06		Kotzebue		Alaska Airlines	
Executed On (Date)		at (Place)		Signature of Issuing Carrier or its Agent	
027-3725 3812					

Alert Expeditors Inc.

#396727

Citywide Delivery • 440-3351
8421 Flamingo Drive • Anchorage, Alaska 99502

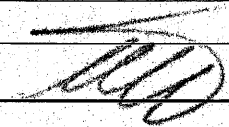
Date 9-4-19
From Manilla - Assoc.

To SGS Labs Inc

Collect ☐ Prepay ☐ Advance Charges ☐
Account ☐

Job # JTZ PO# AS 3725-3812

Samples

Shipped Signature 

Received By: J. J. Total Charge 027 \$



e-Sample Receipt Form

SGS Workorder #:

1195121



1 1 9 5 1 2 1

Review Criteria		Condition (Yes, No, N/A)	Exceptions Noted below	
Chain of Custody / Temperature Requirements			N/A	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	Yes	2S		
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	@ 5.4 °C	Therm. ID: D30
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?		N/A		
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)?	No	No collection time on COC. Times are on sample labels. Both have different times. Used the earliest collection time.		
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			
Were proper containers (type/mass/volume/preservative***) used?		Yes	N/A	***Exemption permitted for metals (e.g., 200.8/6020A).
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

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1195121001-A	Trizma	OK			
1195121001-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

1195121

SGS Job Number: FA67830

Sampling Date: 09/03/19

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: 10



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.

A handwritten signature in black ink, appearing to read "Caitlin Brice".

Caitlin Brice, M.S.
General Manager

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

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

Table of Contents

-1-

Section 1: Sample Summary 3

Section 2: Summary of Hits 4

Section 3: Sample Results 5

3.1: FA67830-1: BUCKLAND-01 6

Section 4: Misc. Forms 7

4.1: Certification Exceptions 8

4.2: Chain of Custody 9



Sample Summary

SGS North America, Inc
1195121

Job No: FA67830

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
---------------	----------------	---------	----------	-------------	------	------------------

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the RL

FA67830-1	09/03/19	08:24	09/07/19	AQ	Water	BUCKLAND-01
-----------	----------	-------	----------	----	-------	-------------

Summary of Hits

Job Number: FA67830
Account: SGS North America, Inc
Project: 1195121
Collected: 09/03/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

FA67830-1 BUCKLAND-01

No hits reported in this sample.



Orlando, FL

Section 3



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	BUCKLAND-01	Date Sampled:	09/03/19
Lab Sample ID:	FA67830-1	Date Received:	09/07/19
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	EPA 537M BY ID EPA 537 MOD		
Project:	1195121		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q36148.D	1	09/17/19 09:41	NAF	09/14/19 08:00	OP76840	S2Q563
Run #2							

	Initial Volume	Final Volume
Run #1	250 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	RL	Units	Q
---------	----------	--------	----	-------	---

PERFLUOROALKYLCARBOXYLIC ACIDS

375-85-9	Perfluoroheptanoic acid	ND	0.0040	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	ug/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	109%		50-150%
	13C8-PFOA	115%		50-150%
	13C9-PFNA	119%		50-150%
	13C3-PFBS	96%		50-150%
	13C3-PFHxS	97%		50-150%
	13C8-PFOS	81%		50-150%

ND = Not detected

RL = Reporting Limit

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:

- Certification Exceptions
- Chain of Custody

Parameter Certification Exceptions

Job Number: FA67830
Account: SGSAKA SGS North America, Inc
Project: 1195121

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Perfluorooctanesulfonic acid	1763-23-1	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorooctanoic acid	335-67-1	EPA 537M BY ID	AQ	Certified by SOP MS014

4.1
4

[illegible]

Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
www.us.sds.com

4.2

http://www.sqs.com/terms_and_conditions.htm

FA67830: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA67830

Client: SGS ALASKA

Project: 1195121

Date / Time Received: 9/7/2019 9:30:00 AM

Delivery Method: FX

Airbill #s:

Therm ID: IR 1;

Therm CF: 1;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (0.4);

Cooler Temps (Corrected) °C: Cooler 1: (1.4);

Cooler Information

Y or N

- | | | |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Temp criteria achieved | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Cooler temp verification | <u>IR Gun</u> | |
| 5. Cooler media | <u>Ice (Bag)</u> | |

Trip Blank Information

Y or N N/A

- | | | | |
|--------------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | <u>W or S</u> | <u>N/A</u> | |
| 3. Type Of TB Received | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Information

Y or N N/A

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

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____
 Test Strip Lot #s: 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: PETERH

Date: 9/7/2019 9:30:00 AM

Reviewer: _____

Date: _____

FA67830: Chain of Custody

Page 2 of 2