

# 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

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**Work Order:** 1195744  
Noorvik

**Client:** Maniilaq Association

**Report Date:** October 17, 2019

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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.



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[illegible]



027 OTZ 3725 5002

027-3725 5002

9/24

Shipper's Name and Address SGS CT and ENVIRONM 200 W Potter Drive Anchorage, AK 99518 USA Tel: 907-562-2343		Shipper's Account Number 27400215947 Customer's ID Number 9069		Not Negotiable <b>Air Waybill</b> Issued By <b>Alaska.</b> 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  Agent's IATA Code Account No. Airport of Departure (Addr. of First Carrier) and Requested Routing Kotzebue		Accounting Information SGS CT and ENVIRONMENTAL SVS 200 W Potter Drive Anchorage, AK 99518 USA GoldStreak		9069	
To By First Carrier ANC Alaska Airlines		To / By	To / By	Currency USD PZ	WT/VAL X
Airport of Destination Anchorage		Flight/Date AS 153/25	Flight/Date	Declared Value For Carriage NVD	Declared Value For Customs NCV
Handling Information		Amount of Insurance XXX		SCI	
No of Pieces	Gross Weight	kg lb	Commodity Item No.	Chargeable Weight	Rate / Charge
2	15.0	L		16.0	
Total		AS AGREED		WATER SAMPLES	
Dims: 17 x 10 x 9 x 2		GSX		Volume: 1.771	
2	15.0			AS AGREED	
Prepaid		Weight Charge		Collect	
AS AGREED				XBC 10.00	
Valuation Charge					
Tax					
Total Other Charges Due Agent					
Total Other Charges Due Carrier					
Total Prepaid		Total Collect		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.	
AS AGREED				For: SGS CT and ENVIRONMENTAL SVS	
				Signature of Shipper or his Agent	
				THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS	
				THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS	
25 Sep 2019 15:59		Kotzebue		Alaska Airlines	
Executed On (Date)		at (Place)		Signature of Issuing Carrier or its Agent	
				027-3725 5002	

#396448

**Alert Expeditors Inc.**

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

Date <u>9-26-14</u>		From <u>SLC ST2</u>	
To <u>SLC Lab Inc</u>		Advance Charges <input type="checkbox"/>	
Collect <input type="checkbox"/>	Prepay <input type="checkbox"/>	Account <input type="checkbox"/>	
Job # <u>ST2</u>	PO# <u>A. 8718-5002</u>		
<u>Sample</u>			
Shipped Signature <u>[Signature]</u>			
Received By: <u>[Signature]</u>			Total Charge



## e-Sample Receipt Form

SGS Workorder #:

1195744



1 1 9 5 7 4 4

Review Criteria		Condition (Yes, No, N/A)	Exceptions Noted below	
<b>Chain of Custody / Temperature Requirements</b>			N/A	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	Yes	1L 1R		
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	@ 2.4 °C	Therm. ID: D61
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.				
<b>Holding Time / Documentation / Sample Condition Requirements</b>		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			
Were proper containers (type/mass/volume/preservative***) used?		Yes	N/A	***Exemption permitted for metals (e.g., 200.8/6020A).
<b>Volatile / LL-Hg Requirements</b>				
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>
1195744001-A	Trizma	OK			
1195744001-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.





## FINAL LAB REPORT

**1195744**

31901683

16-Oct-2019

Prepared by

**SGS NORTH AMERICA**

Prepared for

**SGS North America Inc.**

Julie Shumway

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*This report is approved by*

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Senior Project Manager

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## Laboratory Qualifiers

### Report Definitions

DL	Method, Instrument, or Estimated Detection Limit per Analytical Method
CL	Control Limits for the recovery result of a parameter
LOQ	Reporting Limit
DF	Dilution Factor
RPD	Relative Percent Difference
LCS(D)	Laboratory Control Spike (Duplicate)
MS(D)	Matrix Spike (Duplicate)
MB	Method Blank

### Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
J	Estimated Concentration.
E	Amount detected is greater than the Upper Calibration Limit
TIC	Tentatively Identified Compound
ND	Not Detected
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

Samples requiring manual integrations for various congeners and/or standards are marked and dated by the analyst. A code definition is provided below:

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

**Note** Results pages that include a value for "Solids (%)" have been adjusted for moisture content.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
EPA 537 - PFAS	31901683001	09/24/2019 12:14	10/01/2019 10:00	Drinking Water

### Results of EPA 537 - PFAS

Client Sample ID: **EPA 537 - PFAS**  
 Client Project ID: **1195744**  
 Lab Sample ID: 31901683001-A  
 Lab Project ID: 31901683

Collection Date: 09/24/2019 12:14  
 Received Date: 10/01/2019 10:00  
 Matrix: Drinking Water  
 Solids (%):

### Results by EPA 537 v1.1

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
PFHpA	ND	U	0.227	2.27	ng/L	1	10/15/2019 18:08
PFOA	<b>0.230</b>	J	0.227	2.27	ng/L	1	10/15/2019 18:08
PFNA	ND	U	0.227	2.27	ng/L	1	10/15/2019 18:08
PFBS	ND	U	0.227	2.27	ng/L	1	10/15/2019 18:08
PFHxS	ND	U	0.227	2.27	ng/L	1	10/15/2019 18:08
PFOS	ND	U	0.227	2.27	ng/L	1	10/15/2019 18:08
<b>Surrogates</b>							
13C2-PFHxA	87.3			70.0-130	%	1	10/15/2019 18:08
13C2-PFDA	92.1			70.0-130	%	1	10/15/2019 18:08
d5-NEtFOSAA	77.8			70.0-130	%	1	10/15/2019 18:08

### Batch Information

Analytical Batch: **XLC1404**  
 Analytical Method: **EPA 537 v1.1**  
 Instrument: **TQS2**  
 Analyst: **FNS**

Prep Batch: **HXX2427**  
 Prep Method: **EPA 537 v1.1 Prep**  
 Prep Date/Time: **10/04/2019 14:26**  
 Prep Initial Wt./Vol.: **220 mL**  
 Prep Extract Vol: **1 mL**



# SGS North America Inc.

## Sample Receipt Checklist (SRC)

Client: **SGS-NA-AK**

Work Order No.: **31901683**

1. ☒ Shipped  
☐ Hand Delivered
2. ☒ COC Present on Receipt  
☐ No COC  
☐ Additional Transmittal Forms
3. ☒ Custody Tape on Container  
☐ No Custody Tape
4. ☒ Samples Intact  
☐ Samples Broken / Leaking
5. ☒ Chilled on Receipt      Actual Temp.(s) in °C: 1.1  
☐ Ambient on Receipt  
☐ Walk-in on Ice; Coming down to temp.  
☒ Temperature Blank Present  
☐ WV samples-proxy not allowed
6. ☒ Sufficient Sample Submitted  
☐ Insufficient Sample Submitted
7. ☐ Chlorine absent  
☐ HNO<sub>3</sub> < 2  
☐ HCL < 2  
☒ Additional Preservatives verified (see notes)
8. ☒ Received Within Holding Time  
☐ Not Received Within Holding Time
9. ☐ No Discrepancies Noted  
☒ Discrepancies Noted  
☐ NCDENR notified of Discrepancies\*
10. ☐ No Headspace present in VOC vials  
☐ Headspace present in VOC vials >6mm

Notes: **UPS Next Day Air:**  
**1z A86 19W 01 6843 9308**

Thermometer ID#: IR4-Probe

Trizma

\*

N/A

Comments:

\* = Sample ID label placed on ziplock bag, not actual sample bottles.

Inspected and Logged in by: AMO

Date: 10/1/2019