

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: 1195213
Native Village of Selawik

Client: Maniilaq Association

Report Date: September 30, 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.

Warner, Nicole (Anchorage)

From: Sean Peterson <speterson@zendergroup.org>
Sent: Wednesday, September 18, 2019 5:41 PM
To: Warner, Nicole (Anchorage)
Subject: [EXTERNAL] Re: Maniilaq

Follow Up Flag: Follow up
Flag Status: Flagged

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments. ***

Yes they are paying for all of the samples

Sent from my iPhone

On Sep 18, 2019, at 5:35 PM, Warner, Nicole (Anchorage) <NICOLE.WARNER@sgs.com> wrote:

Good afternoon!

I wanted to verify something with you—it looks like for one of the workorders for PFCs that came back, Maniilaq Association was put as the company to invoice. Should this be the case for all the PFC's in this project event?

Thank you!

-Nicole

Nicole Warner
SGS North America, Inc
Project Manager
200 W Potter Dr
Anchorage, AK 99518
Phone: 907-562-2343
Mobile: 550-3217
E-mail: Nicole.warner@sgs.com

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<1195121_COC.pdf>

[illegible]

027-3725 3915

Alaska.
AIR CARGO
P.O. BOX 68900 SEATTLE, WA 98168
800-225-2752 ALASKACARGO.COM

Tel: 907-562-2343

Tel: 907-562-2343



1195213

SCI	
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[illegible]

027-3725 3915		
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Alert Expeditors Inc.

#396764

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

Date 9-6-19 SGS OTZ
From _____

To SGS Labs Arac

Collect ☐	Prepay ☐ Account ☐	Advance Charges ☐
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Job # <u>OTZ</u>	PO# <u>AS 3725-3915</u>
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Samples

1195213



Shipped Signature [Signature]

Received By: [Signature] 8:12 5

Total Charge



e-Sample Receipt Form

SGS Workorder #:

1195213



1 1 9 5 2 1 3

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	@ 1.0 °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?		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)?	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).
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>
1195213001-A	Trizma	OK			
1195213001-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

1195213

31901571

30-Sep-2019

Prepared by

SGS NORTH AMERICA

Prepared for

SGS North America Inc.

Julie Shumway

200 W. Potter Dr.

Anchorage, AK 99518

Phone: 907-562-2343

Email: julie.shumway@sgs.com

This report is approved by

Tamara Burkamper

tamara.morgan@sgs.com

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>
Raw Water	31901571001	09/04/2019 13:20	09/10/2019 10:15	Drinking Water

Case Narrative**Raw Water**

Surrogate recovery for d5-NEtFOSAA is low due to probable matrix interference demonstrated by duplicate extraction and analysis of Matrix Spike.

Results of Raw Water

Client Sample ID: **Raw Water**
 Client Project ID: **1195213**
 Lab Sample ID: 31901571001-A
 Lab Project ID: 31901571

Collection Date: 09/04/2019 13:20
 Received Date: 09/10/2019 10:15
 Matrix: Drinking Water
 Solids (%):

Results by EPA 537 v1.1

Parameter	Result	Qual	DL	LOQ/CL	Units	DF	Date Analyzed
PFHpA	ND	U	0.208	2.08	ng/L	1	09/26/2019 17:58
PFOA	0.410	J	0.208	2.08	ng/L	1	09/26/2019 17:58
PFNA	ND	U	0.208	2.08	ng/L	1	09/26/2019 17:58
PFBS	ND	U	0.208	2.08	ng/L	1	09/26/2019 17:58
PFHxS	ND	U	0.208	2.08	ng/L	1	09/26/2019 17:58
PFOS	0.434	J	0.208	2.08	ng/L	1	09/26/2019 17:58
Surrogates							
13C2-PFHxA	88.4			70.0-130	%	1	09/26/2019 17:58
13C2-PFDA	72.4			70.0-130	%	1	09/26/2019 17:58
d5-NEtFOSAA	59.8*			70.0-130	%	1	09/26/2019 17:58

Batch Information

Analytical Batch: **XLC1391**
 Analytical Method: **EPA 537 v1.1**
 Instrument: **TQS2**
 Analyst: **FNS**

Prep Batch: **HXX2414**
 Prep Method: **EPA 537 v1.1 Prep**
 Prep Date/Time: **09/17/2019 17:48**
 Prep Initial Wt./Vol.: **240 mL**
 Prep Extract Vol: **1 mL**

Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
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[] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

F088 COC REF LAB 20190411

Sample Receipt Checklist (SRC)

Work Order No.: **31901571**

- Comments: _____
- _____
- _____
- _____

Date: 9/10/2019