**COMPLETE PFAS SAMPLING RESULTS**

<table>
<thead>
<tr>
<th>Contaminant of Concern (ng/L)</th>
<th>ADEC Action Levels</th>
<th>Public Water System Source by Community</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ambler</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>PFOA</td>
<td>Combination of the analytes should not exceed 70 ng/L</td>
<td>0.31</td>
</tr>
<tr>
<td>PFOS</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>PFHpA</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>PFNA</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>PFHxS</td>
<td>0.34</td>
<td>0.39</td>
</tr>
<tr>
<td>PFBS</td>
<td>0.27</td>
<td>0.28</td>
</tr>
</tbody>
</table>

**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.

If you have any questions regarding the PFAS Project, please contact Charlotte Sheridan, Staff Environmental Health Specialist at (907)-442-7783.

**Meansurement Equivalents**
- 1 ng/L = 1 ppt
- One nanogram per liter equals one part per trillion

**Detectable Concentration**
- ND = Not Detected
- Results are “Not Detected” when the concentration is lower than the Detection Limit.
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.
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

Information in this email and any attachments is confidential and intended solely for the use of the individual(s) to whom it is addressed or otherwise directed. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of the Company. Finally, the recipient should check this email and any attachments for the presence of viruses. The Company accepts no liability for any damage caused by any virus transmitted by this email. All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at https://www.sgs.com/en/terms-and-conditions

<1195121_COC.pdf>
<table>
<thead>
<tr>
<th>SAMPLE IDENTIFICATION</th>
<th>DATE/HH:MM</th>
<th>MATRIX</th>
<th>CONTAINERS</th>
<th>EPA 557: PFAS*</th>
<th>Analysis</th>
<th>REMARKS/LOC ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Raw water)</td>
<td>09/14/19 1:20</td>
<td>W 2 G X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 4

<table>
<thead>
<tr>
<th>DOD Project? Yes/No</th>
<th>Data Deliverable Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 5

<table>
<thead>
<tr>
<th>Relinquished By: (1)</th>
<th>Date</th>
<th>Time</th>
<th>Received By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaylyn Kingsberger</td>
<td>09/14/19</td>
<td>1:20</td>
<td>Charlotte Sheridan</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relinquished By: (2)</th>
<th>Date</th>
<th>Time</th>
<th>Received By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlotte Sheridan</td>
<td>9/5/19</td>
<td>4:25PM</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relinquished By: (3)</th>
<th>Date</th>
<th>Time</th>
<th>Received By:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9/6/19</td>
<td>08:12</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relinquished By: (4)</th>
<th>Date</th>
<th>Time</th>
<th>Received For Laboratory By:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9/6/19</td>
<td>08:12</td>
<td>JK</td>
</tr>
</tbody>
</table>

Shipping Information:

- Delivery Method: Hand Delivery [ ] Commercial Delivery [ ]
<table>
<thead>
<tr>
<th>Date</th>
<th>9-6-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
<td>SGS OTZ</td>
</tr>
<tr>
<td>To</td>
<td>SGS Labs Inc.</td>
</tr>
<tr>
<td>Collect</td>
<td>Prepay (X)</td>
</tr>
<tr>
<td></td>
<td>Account (X)</td>
</tr>
<tr>
<td></td>
<td>Advance Charges (X)</td>
</tr>
<tr>
<td>Job #</td>
<td>OTZ</td>
</tr>
<tr>
<td>PO #</td>
<td>AS 2725-3915</td>
</tr>
<tr>
<td>Samples</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1195213</td>
</tr>
<tr>
<td>Shipped Signature</td>
<td></td>
</tr>
<tr>
<td>Received By:</td>
<td>5:12</td>
</tr>
<tr>
<td>Total Charge</td>
<td></td>
</tr>
<tr>
<td>Review Criteria</td>
<td>Condition (Yes, No, N/A)</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td><strong>Chain of Custody / Temperature Requirements</strong></td>
<td></td>
</tr>
<tr>
<td>Were Custody Seals intact?</td>
<td>Yes</td>
</tr>
<tr>
<td>Note # &amp; location</td>
<td></td>
</tr>
<tr>
<td>COC accompanied samples?</td>
<td>Yes</td>
</tr>
<tr>
<td>DOD: Were samples received in COC corresponding coolers?</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Exemption permitted if chilled &amp; collected &lt;8 hours ago, or for samples where chilling is not required</strong></td>
<td></td>
</tr>
<tr>
<td>Temperature blank compliant* (i.e., 0-6 °C after CF)?</td>
<td>Yes</td>
</tr>
<tr>
<td>If samples received without a temperature blank, the &quot;cooler temperature&quot; will be documented instead &amp; &quot;COOLER TEMP&quot; will be noted to the right, &quot;ambient&quot; or &quot;chilled&quot; will be noted if neither is available.</td>
<td></td>
</tr>
<tr>
<td>*If &gt;6°C, were samples collected &lt;8 hours ago?</td>
<td>N/A</td>
</tr>
<tr>
<td>If &lt;0°C, were sample containers ice free?</td>
<td>N/A</td>
</tr>
<tr>
<td>Note: Identify containers received at non-compliant temperature. Use form FS-0029 if more space is needed.</td>
<td></td>
</tr>
<tr>
<td><strong>Holding Time / Documentation / Sample Condition Requirements</strong></td>
<td></td>
</tr>
<tr>
<td>Were samples received within holding time?</td>
<td>Yes</td>
</tr>
<tr>
<td>Do samples match COC** (i.e., sample IDs, dates/times collected)?</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Note: If sample information on containers differs from COC, SGS will default to COC information</strong></td>
<td></td>
</tr>
<tr>
<td>Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals))</td>
<td>Yes</td>
</tr>
<tr>
<td>Were proper containers (type/mass/volume/preservative***) used?</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Volatile / LL-Hg Requirements</strong></td>
<td></td>
</tr>
<tr>
<td>Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?</td>
<td>N/A</td>
</tr>
<tr>
<td>Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?</td>
<td>N/A</td>
</tr>
<tr>
<td>Were all soil VOAs field extracted with MeOH+BFB hasil</td>
<td>N/A</td>
</tr>
<tr>
<td>Note to Client: Any &quot;No&quot;, answer above indicates non-compliance with standard procedures and may impact data quality.</td>
<td></td>
</tr>
<tr>
<td>Additional notes (if applicable):</td>
<td></td>
</tr>
</tbody>
</table>
# Sample Containers and Preservatives

<table>
<thead>
<tr>
<th>Container Id</th>
<th>Preservative</th>
<th>Container Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1195213001-A</td>
<td>Trizma</td>
<td>OK</td>
</tr>
<tr>
<td>1195213001-B</td>
<td>Trizma</td>
<td>OK</td>
</tr>
</tbody>
</table>

## 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.
This report is approved by

Tamara Burkamper
tamara.morgan@sgs.com
Senior Project Manager

This document is issued by the Company under its General Conditions of Service accessible at https://www.sgs.com/en/terms_and_conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

SGS remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please do not hesitate to contact us.

The management and staff of SGS welcomes customer feedback, both positive and negative, as we continually improve our services. Please visit our web site at www.sgs.com/ultraTrace and click on the ‘Email Us’ link or go to our survey at https://www.surveymonkey.com/r/SGSAP_VoiceOfCustomer?sm=1UtLV2Wv4pUSBSUlshp3%3f%34. Thank you for choosing SGS.

Any holder of this document is advised that it is a final submission and supersedes and voids all prior reports with the same report or identification number. The information contained herein 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 in conducting the work herein is to its Client and does not exonerate parties to a transaction from exercising all of their rights and obligations under such applicable transaction documents. This report may be reproduced in full only. The Company expressly disclaims any and all liability for the Client’s use of or reliance upon the data contained herein. Any alteration, forgery or falsification of the content or appearance of this document which is not expressly authorized by the Company is unlawful and offenders may be prosecuted to the fullest extent of the law. Results reported relate only to the items tested.
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.
<table>
<thead>
<tr>
<th>Client Sample ID</th>
<th>Lab Sample ID</th>
<th>Collected</th>
<th>Received</th>
<th>Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Water</td>
<td>31901571001</td>
<td>09/04/2019 13:20</td>
<td>09/10/2019 10:15</td>
<td>Drinking Water</td>
</tr>
</tbody>
</table>

Print Date: 09/30/2019  
N.C. Certification # 481
Case Narrative

Raw Water
Surrogate recovery for d5-NEIFOSAA 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
- **Matrix:** Drinking Water
- **Collection Date:** 09/04/2019 13:20
- **Received Date:** 09/10/2019 10:15

### Results by EPA 537 v1.1

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Result</th>
<th>Qual</th>
<th>DL</th>
<th>LOQ/CL</th>
<th>Units</th>
<th>DF</th>
<th>Date Analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFHpA</td>
<td>ND</td>
<td>U</td>
<td>0.208</td>
<td>2.08</td>
<td>ng/L</td>
<td>1</td>
<td>09/26/2019 17:58</td>
</tr>
<tr>
<td>PFOA</td>
<td>0.410</td>
<td>J</td>
<td>0.208</td>
<td>2.08</td>
<td>ng/L</td>
<td>1</td>
<td>09/26/2019 17:58</td>
</tr>
<tr>
<td>PFNA</td>
<td>ND</td>
<td>U</td>
<td>0.208</td>
<td>2.08</td>
<td>ng/L</td>
<td>1</td>
<td>09/26/2019 17:58</td>
</tr>
<tr>
<td>PFBS</td>
<td>ND</td>
<td>U</td>
<td>0.208</td>
<td>2.08</td>
<td>ng/L</td>
<td>1</td>
<td>09/26/2019 17:58</td>
</tr>
<tr>
<td>PFHxS</td>
<td>ND</td>
<td>U</td>
<td>0.208</td>
<td>2.08</td>
<td>ng/L</td>
<td>1</td>
<td>09/26/2019 17:58</td>
</tr>
<tr>
<td>PFOS</td>
<td>0.434</td>
<td>J</td>
<td>0.208</td>
<td>2.08</td>
<td>ng/L</td>
<td>1</td>
<td>09/26/2019 17:58</td>
</tr>
</tbody>
</table>

### Surrogates

<table>
<thead>
<tr>
<th>Surrogate</th>
<th>Result</th>
<th>TRR %</th>
<th>LOQ/CL</th>
<th>Units</th>
<th>DF</th>
<th>Date Analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td>13C2-PFHxA</td>
<td>88.4</td>
<td>70.0-130</td>
<td>%</td>
<td>1</td>
<td>09/26/2019 17:58</td>
<td></td>
</tr>
<tr>
<td>13C2-PFDA</td>
<td>72.4</td>
<td>70.0-130</td>
<td>%</td>
<td>1</td>
<td>09/26/2019 17:58</td>
<td></td>
</tr>
<tr>
<td>d5-NEifOSAA</td>
<td>59.8*</td>
<td>70.0-130</td>
<td>%</td>
<td>1</td>
<td>09/26/2019 17:58</td>
<td></td>
</tr>
</tbody>
</table>

### 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

---

Print Date: 09/30/2019  
N.C. Certification # 481
---

**SGS North America Inc.**
**CHAIN OF CUSTODY RECORD**

**CLIENT:** SGS North America Inc. - Alaska Division

**PROJECT NAME:** 1195213

**PWSID#:**

**NPDL#:**

**REPORTS TO:** Julie Shumway

**E-MAIL:** Julie.Shumway@sgs.com

**Env.Alaska.RefLabTeam@sgs.com**

**INVOICE TO:**

**QUOTE #:**

**SGS - Alaska**

**P.O. #:** 1195213

---

<table>
<thead>
<tr>
<th>Reserved for lab use</th>
<th>SAMPLE IDENTIFICATION</th>
<th>DATE mm/dd/yy</th>
<th>TIME HHMM</th>
<th>MATRIX/ MATRIX CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Water</td>
<td>09/04/2019</td>
<td>13:20:00 DW</td>
<td>2</td>
<td>GRA X</td>
</tr>
</tbody>
</table>

**SGS Reference:** 390157

**SGS NC**

**Preservative Used:**

**TYPE:**

**C =** COMP

**G =** GRAB

**M =** Multi

**I =** Incremental

**Soils:**

**EPA 507 PRAS**

**MS**

**MSD**

**SGS lab #** 1195213001

---

**Resinquished By:** (1)

**Date**

**Time**

**Received By:**

**DOD Project?** NO

**Report to DL (J Flags)?**

**If J-Report as DL/LOD/LOQ.** NO

**Data Deliverable Requirements:**

**Level 1**

**Cooler ID:**

**Requested Turnaround Time and-or Special Instructions:**

**Temp Blank °C:** 1.0°

**Chain of Custody Seal: (Circle)**

**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: (310) 350-1903 Fax: (910) 350-1557

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

---

F088_COC_REF_LAB_20190411 13
Client: **SGS-NA-AK**  
Work Order No.: **31901571**

1. **x** Shipped  
   __ Hand Delivered

2. **x** COC Present on Receipt  
   __ No COC  
   __ Additional Transmittal Forms

3. **x** Custody Tape on Container  
   __ No Custody Tape

4. **x** Samples Intact  
   __ Samples Broken / Leaking

5. **x** Chilled on Receipt  
   __ Actual Temp.(s) in °C: **1.0**  
   __ Ambient on Receipt  
   __ Walk-in on Ice; Coming down to temp.  
   __ Temperature Blank Present  
   __ WV samples-proxy not allowed

6. **x** Sufficient Sample Submitted  
   __ Insufficient Sample Submitted

7. __ Chlorine absent  
   __ HNO₃ < 2  
   __ HCL < 2  
   **x** Additional Preservatives verified (see notes)

8. **x** Received Within Holding Time  
   __ Not Received Within Holding Time

9. **x** No Discrepancies Noted  
   __ Discrepancies Noted  
   __ NCDENR notified of Discrepancies*

10. __ No Headspace present in VOC vials  
    __ Headspace present in VOC vials >6mm

Comments:

________________________
________________________
________________________

Inspected and Logged in by: **AMO**  
**Date:** __9/10/2019__

*NCDENR must be notified when collection, holding time or preservation requirements are not met.*