April 22, 2019

RE: Spring 2019 - PFAS Groundwater Results

Thank you very much for participating in NORTECH's well search and initial groundwater assessment. The laboratory results of your groundwater sample detected two regulated per- and poly-fluoroalkyl substances (PFAS) below the current lifetime health advisory (LHA) level for these compounds. There is no action you need to take at this time.

The sum concentration of regulated PFAS compounds Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic Acid (PFOA) was 0.0216 micrograms per liter (μg/L). This combined result is below the current LHA.

The Environmental Protection Agency (EPA) and Alaska Department of Environmental Conservation (ADEC) have set an LHA level of 0.070 μg/L. The LHA of 0.070 μg/L is for the sum of PFAS compounds PFOS and PFOA in drinking water.

As required by ADEC, we will be notifying ADEC of your laboratory test results. If you have any additional questions regarding the results of this report, please feel free to contact me or Julie Keener, at the NORTECH office, 907-452-5688, Monday through Friday, 8 am to 5 pm.

Again, thank you for participating in this groundwater assessment and we hope that you have a good summer.

Sincerely,
NORTECH

Scott Hummel
Chemist

Attached: SGS Work Order Laboratory Report: 1199068
To: Nortech  
2450 College Road  
Fairbanks, AK 99709  
(907)452-5688

Report Number: 1199068  
Client Project: PFC- Well Search NAPA-Van Horn

Dear Scott Hummel,

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.  

[Signature]
Alaska Division Technical Director

Stephen Ede  
2019.03.19  
13:42:31 -08'00'

Jennifer Dawkins  
Project Manager  
Jennifer.Dawkins@sgs.com
Case Narrative

SGS Client: Nortech
SGS Project: 1199068
Project Name/Site: PFC- Well Search NAPA-Van Horn
Project Contact: Scott Hummel

Refer to sample receipt form for information on sample condition.

EPA 537- QSM 5.1 24 Compound List was 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.
<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>1-1</td>
<td>1199068001</td>
<td>02/26/2019</td>
<td>03/01/2019</td>
<td>Water (Surface, Eff., Ground)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method</th>
<th>Method Description</th>
</tr>
</thead>
</table>

---

Print Date: 03/19/2019 11:52:50AM

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

**Client:** Nortech  
**Phone No:** 907-452-5666

**Project Name:** PFC - well search  
**Permit #:** 17-1001

**Reports To:** Scott Hummel  
**Contact:** Scott Hummel

**Invoice To:** Nortech  
**Quote #:** P.O. #: 17-1001

**Sample Identification:** 04-13  
**Date:** 2-26-19  
**Time:** 10:55  
**Matrix/Matrix Code:** Water  
**Grab:** X

**Reserved for lab use:**

<table>
<thead>
<tr>
<th>SAMPLE IDENTIFICATION</th>
<th>DATE</th>
<th>TIME</th>
<th>MATRIX/MATRIX CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>04-13</td>
<td>2/26/19</td>
<td>10:55</td>
<td>Water</td>
</tr>
</tbody>
</table>

**Relinquished By:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Received By</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-28-19</td>
<td>1530</td>
<td>D</td>
</tr>
<tr>
<td>2-28-19</td>
<td>1530</td>
<td>D</td>
</tr>
<tr>
<td>3-11-19</td>
<td>1010</td>
<td>C</td>
</tr>
</tbody>
</table>
# FAIRBANKS SAMPLE RECEIPT FORM

Note: This form is to be completed by Fairbanks Receiving Staff for all samples.

<table>
<thead>
<tr>
<th>Review Criteria</th>
<th>Condition:</th>
<th>Comments/Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were custody seals intact? Note # &amp; location, if applicable.</td>
<td>Yes</td>
<td>Exception permitted if sampler hand carried/delivered.</td>
</tr>
<tr>
<td>COC accompanied samples?</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td><strong>Temperature blank compliant</strong> (i.e., 0-6°C)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>If &gt;6°C, were samples collected &lt;8 hours ago?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>If &lt;0°C, were all sample containers ice free?</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Cooler ID: [ ] w/Therm. ID:</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Cooler ID: [ ] w/Therm. ID:</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Cooler ID: [ ] w/Therm. ID:</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Cooler ID: [ ] w/Therm. ID:</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>If samples were received without a temperature blank, the &quot;cooler temperature&quot; will be documented in lieu of the temperature blank and &quot;COOLER TEMP&quot; will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note ambient ( ) or chilled ( ). Please check one.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery Method: [ ] (hand carried) Other:________________</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Tracking/AB#: Or see attached Or N/A</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

For samples received with payment, note amount ($) and whether cash / check / CC (circle one) was received.

- Were samples in good condition (no leaks/cracks/breakage)? Yes No N/A
- Packing material used (specify all that apply): Bubble Wrap Separate plastic bags Vermiculite Other: __________
- Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples? Yes No N/A
- For RUSH/SHORT Hold Time, were COC/Bottles flagged accordingly? Yes No N/A
- For RUSH/SHORT Hold Time, was Rush/Short HT email sent, if applicable? Yes No N/A

Additional notes (if applicable):

**Profile #:** [ ]

Note to Client: any "no" circled above indicates non-compliance with standard procedures and may impact data quality.
# e-Sample Receipt Form

**SGS Workorder #:** 1199068

## Review Criteria

<table>
<thead>
<tr>
<th>Chain of Custody / Temperature Requirements</th>
<th>Condition (Yes, No, N/A)</th>
<th>Exceptions Noted below</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were Custody Seals intact? Note # &amp; location?</td>
<td>Yes</td>
<td>Exemption permitted if sampler hand carries/delivers.</td>
</tr>
<tr>
<td>COC accompanied samples?</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required.**

<table>
<thead>
<tr>
<th>Temperature blank compliant* (i.e., 0-6 °C after CF)?</th>
<th>Yes</th>
<th>Cooler ID: 1 @ 3.6°C Therm. ID: D56</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If &gt;6°C, were samples collected &lt;8 hours ago?</strong></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>If &lt;0°C, were sample containers ice free?</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

*If samples received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "COOLER TEMP" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note “ambient” or "chilled".*

**Note:** Identify containers received at non-compliant temperature. Use form FS-0029 if more space is needed.

## Holding Time / Documentation / Sample Condition Requirements

<table>
<thead>
<tr>
<th>Were samples received within holding time?</th>
<th>Yes</th>
<th></th>
</tr>
</thead>
</table>

**Do samples match COC** (i.e., sample IDs, dates/times collected)?

**Note:** If times differ <1hr, record details & login per COC.

<table>
<thead>
<tr>
<th>Were analyses requested unambiguous? (i.e., method is specified for analyses with &gt;1 option for analysis)</th>
<th>Yes</th>
<th></th>
</tr>
</thead>
</table>

**Were proper containers (type/mass/volume/preservative***used?**

**Note:** Exemption permitted for metals (e.g., 200.8/6020A).

### Volatile / LL-Hg Requirements

<table>
<thead>
<tr>
<th>Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?</th>
<th>N/A</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Were all soil VOAs field extracted with MeOH+BFB?</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Container Id</th>
<th>Preservative</th>
<th>Container Condition</th>
<th>Container Id</th>
<th>Preservative</th>
<th>Container Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1199068001-A</td>
<td>No Preservative Required</td>
<td>OK</td>
<td>1199068001-B</td>
<td>No Preservative Required</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.
- **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.

3/4/2019
The results set forth herein are provided by SGS North America Inc.

Technical Report for

SGS North America, Inc
1199068

SGS Job Number: FA62042

Sampling Date: 02/26/19

Report to:

andrea.colby@sgs.com

Total number of pages in report: 22

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.

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(AZ08006), 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.
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# Sample Summary

SGS North America, Inc

1199068

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Collected Date</th>
<th>Time By</th>
<th>Matrix Received</th>
<th>Code Type</th>
<th>Client Sample ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA62042-1</td>
<td>02/26/19</td>
<td>10:55 JS</td>
<td>03/05/19</td>
<td>AQ</td>
<td>Water</td>
</tr>
</tbody>
</table>
SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc
Job No: FA62042
Site: 1199068
Report Date: 3/11/2019 11:35:01

A sample was collected on 02/26/2019 and received at SGS North America Inc - Orlando on 03/05/2019 properly preserved, at 3.6 Deg. C and intact. This sample received an SGS Orlando job number of FA62042. 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 537M BY ID**

Matrix: AQ  
Batch ID: OP740SS  

All sample(s) were extracted within the recommended method holding time.
All sample(s) were analyzed within the recommended method holding time.
Sample(s) FA62041-1, FA62042-1DUP were used as the QC samples indicated.
All method blanks for this batch meet method specific criteria.
Blank Spike Recovery(s) for Perfluorodecanesulfonic acid are outside control limits.
OP74055-B8 for Perfluorodecanesulfonic acid: Sporadic marginal failure.
Matrix Spike Recovery(s) for Perfluorodecanesulfonic acid are outside control limits. Probable cause is due to matrix interference.

**BD(s) for Duplicate for Perfluoroctanoic acid are outside control limits for sample OP74055-DUP.** Probable cause is due to sample non-homogeneity.
FA62042-1 for Perfluorodecanesulfonic acid: Associated BS recovery outside control limits.

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:

Ariel Hartney, Client Services (Signature on File)
### Summary of Hits

**Job Number:** FA62042  
**Account:** SGS North America, Inc  
**Project:** 1199068  
**Collected:** 02/26/19

<table>
<thead>
<tr>
<th>Lab Sample ID</th>
<th>Client Sample ID</th>
<th>Result/Qual</th>
<th>RL</th>
<th>MDL</th>
<th>Units</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA62042-1</td>
<td></td>
<td>0.00641</td>
<td>0.0038</td>
<td></td>
<td>ug/l</td>
<td>EPA 537M BY ID</td>
</tr>
</tbody>
</table>

Perfluorohexanesulfonic acid
Sample Results

Report of Analysis
**Client Sample ID:** [Redacted]  
**Lab Sample ID:** FA62042-1  
**Matrix:** AQ - Water  
**Date Sampled:** 02/26/19  
**Date Received:** 03/05/19  
**Method:** EPA 537M BY ID  
**EPA 537 MOD**  
**Percent Solids:** n/a  
**Project:** 1199068

<table>
<thead>
<tr>
<th>Run #1</th>
<th>File ID</th>
<th>DF</th>
<th>Analyzed</th>
<th>By</th>
<th>Prep Date</th>
<th>Prep Batch</th>
<th>Analytical Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>3Q1689.D</td>
<td>3</td>
<td>03/08/19 00:19</td>
<td>NAF</td>
<td>03/06/19 09:30</td>
<td>OP74055</td>
<td>S3Q46</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Run #2</th>
<th>Initial Volume</th>
<th>Final Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>260 ml</td>
<td>1.0 ml</td>
<td></td>
</tr>
</tbody>
</table>

**PFAS List**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Compound</th>
<th>Result</th>
<th>RL</th>
<th>Units</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>375-22-4</td>
<td>Perfluorobutanoic acid</td>
<td>ND</td>
<td>0.0077</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>2706-90-3</td>
<td>Perfluoropentanoic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>307-24-4</td>
<td>Perfluorohexanoic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>375-85-9</td>
<td>Perfluoroheptanoic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>335-67-1</td>
<td>Perfluorooctanoic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>375-95-1</td>
<td>Perfluorononanoic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>335-76-2</td>
<td>Perfluorodecanoic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>2058-94-8</td>
<td>Perfluoroundecanoic acid</td>
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<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>307-55-1</td>
<td>Perfluorododecanoic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>72629-94-8</td>
<td>Perfluorotridecanoic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
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</tr>
<tr>
<td>376-06-7</td>
<td>Perfluorotetradecanoic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Compound</th>
<th>Result</th>
<th>RL</th>
<th>Units</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>375-73-5</td>
<td>Perfluorobutanesulfonic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>2706-91-4</td>
<td>Perfluoropentanesulfonic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>355-46-4</td>
<td>Perfluorohexanesulfonic acid</td>
<td>0.00641</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>375-92-8</td>
<td>Perfluoroheptanesulfonic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>1763-23-1</td>
<td>Perfluoroocanesulfonic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>68259-12-1</td>
<td>Perfluorononanesulfonic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>335-77-3</td>
<td>Perfluorodecanesulfonic acid</td>
<td>ND</td>
<td>0.0038</td>
<td>ug/l</td>
<td></td>
</tr>
</tbody>
</table>

**FLUOROTELOMER SULFONATES**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Compound</th>
<th>Result</th>
<th>RL</th>
<th>Units</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>757124-72-4</td>
<td>4:2 Fluorotelomer sulfonate</td>
<td>ND</td>
<td>0.0077</td>
<td>ug/l</td>
<td></td>
</tr>
<tr>
<td>27619-97-2</td>
<td>6:2 Fluorotelomer sulfonate</td>
<td>ND</td>
<td>0.0077</td>
<td>ug/l</td>
<td></td>
</tr>
</tbody>
</table>

**RL = Reporting Limit**  
**ND = Not detected**  
**J = Indicates an estimated value**  
**B = Indicates analyte found in associated method blank**  
**E = Indicates value exceeds calibration range**  
**N = Indicates presumptive evidence of a compound**
**PFAS List**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Compound</th>
<th>Result</th>
<th>RL</th>
<th>Units</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>39108-34-4</td>
<td>8:2 Fluorotelomer sulfonate</td>
<td>ND</td>
<td>0.0077</td>
<td>ug/l</td>
<td></td>
</tr>
</tbody>
</table>

**CAS No.**

<table>
<thead>
<tr>
<th>ID Standard Recoveries</th>
<th>Run# 1</th>
<th>Run# 2</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>13C4-PFBA</td>
<td>86%</td>
<td></td>
<td>30-140%</td>
</tr>
<tr>
<td>13C5-PFPeA</td>
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<td>40-140%</td>
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<tr>
<td>13C5-PFHxA</td>
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<td>13C4-PFHxA</td>
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<tr>
<td>13C8-PFOA</td>
<td>118%</td>
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<td>50-150%</td>
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<tr>
<td>13C9-PFNA</td>
<td>117%</td>
<td></td>
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</tr>
<tr>
<td>13C6-PFDA</td>
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<tr>
<td>13C2-PFTeDA</td>
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<td>40-150%</td>
</tr>
<tr>
<td>13C3-PFBS</td>
<td>90%</td>
<td></td>
<td>50-150%</td>
</tr>
<tr>
<td>13C3-PFHxS</td>
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<td>50-150%</td>
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<tr>
<td>13C8-PFOS</td>
<td>78%</td>
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<tr>
<td>13C8-FOSA</td>
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<td>30-140%</td>
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<td>d3-MeFOSAA</td>
<td>98%</td>
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<td>50-150%</td>
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<tr>
<td>13C2-6:2FTS</td>
<td>128%</td>
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</tr>
<tr>
<td>13C2-8:2FTS</td>
<td>108%</td>
<td></td>
<td>50-150%</td>
</tr>
</tbody>
</table>

(a) Associated BS recovery outside control limits.

ND = Not detected  
J = Indicates an estimated value  
RL = Reporting Limit  
B = Indicates analyte found in associated method blank  
E = Indicates value exceeds calibration range  
N = Indicates presumptive evidence of a compound
Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
### Chain of Custody Record

**CLIENT:** SGS North America Inc. - Alaska Division  
**SGS Reference:** SGS, FL

**PROJECT NAME:** 1199068  
**PWSID:**

**REPORTS TO:**  
**E-MAIL:** Julie.Shumway@ags.com

**INVOICE TO:**  
**F.D. #:** 1199068  
**Location ID:**

**SAMPLE IDENTIFICATION:**  
**DATE:** 2/26/2019  
**TIME:** 10:35  
**MATRIX:** Water  
**SITE:** 1  
**SITE DESCRIPTION:**

**Received By:**  
**DATE:** 3/4/2019  
**TIME:** 11:15  
**REMARKS:** UPS

**Requested By:**  
**DATE:**  
**TIME:**  
**REMARKS:**

**Invoiced By:**  
**DATE:**  
**TIME:**  
**REMARKS:**

**Finishing By:**  
**DATE:**  
**TIME:**  
**REMARKS:**  
**LOCATION:**

**CONTACT:** Julie Shumway  
**PHONE NO.:** (907) 562-2343

**Additional Comments:** All soils report in dry weight unless otherwise requested.

**SGS North America Inc.**  
**Locations Nationwide:**  
Alaska  
Florida  
New Jersey  
Colorado  
Texas  
North Carolina  
Virginia  
Louisiana  

**CONTACT:** Julie Shumway  
**PHONE NO.:** (907) 562-2343  
**E-MAIL:** Julie.Shumway@ags.com

**LOCATION:**

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

**P.O. #:**  
**MAIL TO:**

**DOD Project #:**  
**Report to PWS #:**

**DATA DELIVERABLE REQUESTS:**

**REMARKS:**

**DATA DELIVERABLE REQUIREMENTS:**

**REQUESTED TURNAROUND TIME AND/or SPECIAL INSTRUCTIONS:**

**REMARKS:**

**TEMP BLANK:** 3°C  
**INTACT/BROKEN/ABSENT:**

**CHAIN OF CUSTODY SEAL:**

---

**FA62042: Chain of Custody**  
**Page 1 of 2**
## SGS Sample Receipt Summary

**Job Number:** FA62042  
**Client:** SGS ALASKA  
**Date / Time Received:** 3/5/2019 1:15:00 PM  
**Delivery Method:** UPS  
**Airbill #s:** 1za8619w0166092034  

### Cooler Information

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<tr>
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<th>Y</th>
<th>N</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Custody Seals Present</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. Custody Seals Intact</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. Temp criteria achieved</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Cooler temp verification</td>
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<td></td>
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</tr>
<tr>
<td>5. Cooler media</td>
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</tbody>
</table>

### Sample Information

<table>
<thead>
<tr>
<th>Sample Information</th>
<th>Y</th>
<th>N</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sample labels present on bottles</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. Samples preserved properly</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. Sufficient volume/containers recv'd for analysis:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Condition of sample</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Sample recv'd within HT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Dates/Times/IDs on COC match Sample Label</td>
<td></td>
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</tr>
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### Trip Blank Information

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<thead>
<tr>
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<th>Y</th>
<th>N</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Trip Blank present / cooler</td>
<td></td>
<td></td>
<td>Y/N</td>
</tr>
<tr>
<td>2. Trip Blank listed on COC</td>
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<td></td>
<td>Y/N</td>
</tr>
<tr>
<td>3. Type Of TB Received</td>
<td></td>
<td></td>
<td>Y/N</td>
</tr>
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### Misc. Information

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<th>Misc. Information</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Number of Encores:</td>
<td>25-Gram</td>
<td>5-Gram</td>
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<tr>
<td>Test Strip Lot #:</td>
<td>pH0-3</td>
<td>230315</td>
<td>pH 10-12</td>
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<tr>
<td>Residual Chlorine Test Strip Lot #:</td>
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<td></td>
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### Comments

---

SM001  
Rev. Date 05/24/17  
Technician: PETERH  
Date: 3/5/2019 1:15:00 PM  
Reviewer:   
Date:   

---

FA62042: Chain of Custody  
Page 2 of 2
MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
The QC reported here applies to the following samples:

Method: EPA 537M BY ID

FA62042-1

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Compound</th>
<th>Result</th>
<th>RL Units</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>375-22-4</td>
<td>Perfluorobutanoic acid</td>
<td>0.00464</td>
<td>0.0080 ug/l</td>
<td>J</td>
</tr>
<tr>
<td>2706-90-3</td>
<td>Perfluoropentanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
</tr>
<tr>
<td>307-24-4</td>
<td>Perfluorohexanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
</tr>
<tr>
<td>375-85-9</td>
<td>Perfluoroheptanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
</tr>
<tr>
<td>335-67-1</td>
<td>Perfluorooctanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
</tr>
<tr>
<td>375-95-1</td>
<td>Perfluorononanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
</tr>
<tr>
<td>335-76-2</td>
<td>Perfluorodecanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
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<tr>
<td>2058-94-8</td>
<td>Perfluoroundecanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
</tr>
<tr>
<td>307-55-1</td>
<td>Perfluorododecanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
</tr>
<tr>
<td>72629-94-8</td>
<td>Perfluorotridecanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
</tr>
<tr>
<td>376-06-7</td>
<td>Perfluorotetradecanoic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
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<td>375-73-5</td>
<td>Perfluorobutanesulfonic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
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<tr>
<td>2706-91-4</td>
<td>Perfluoropentanesulfonic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
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<tr>
<td>355-46-4</td>
<td>Perfluorohexanesulfonic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
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<tr>
<td>375-92-8</td>
<td>Perfluorooctanesulfonic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
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<tr>
<td>1763-23-1</td>
<td>Perfluorooctanesulfonic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
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</tr>
<tr>
<td>68259-12-1</td>
<td>Perfluorononanesulfonic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
</tr>
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<td>335-77-3</td>
<td>Perfluorodecanesulfonic acid</td>
<td>ND</td>
<td>0.0040 ug/l</td>
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<tr>
<td>754-91-6</td>
<td>PFOSA</td>
<td>ND</td>
<td>0.0040 ug/l</td>
<td></td>
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<tr>
<td>2355-31-9</td>
<td>MeFOSAA</td>
<td>ND</td>
<td>0.020 ug/l</td>
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<td>EtFOSAA</td>
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<tr>
<td>757124-72-4</td>
<td>Fluorotelomer sulfonate</td>
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<td>27619-97-2</td>
<td>6:2 Fluorotelomer sulfonate</td>
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<td>39108-34-4</td>
<td>8:2 Fluorotelomer sulfonate</td>
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<td>0.0080 ug/l</td>
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CAS No. ID Standard Recoveries

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>ID</th>
<th>Standard Recoveries</th>
<th>Limits</th>
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</thead>
<tbody>
<tr>
<td>13C4-PFBA</td>
<td>89%</td>
<td>30-140%</td>
<td></td>
</tr>
<tr>
<td>13C5-PFPeA</td>
<td>91%</td>
<td>40-140%</td>
<td></td>
</tr>
<tr>
<td>13C5-PFHxA</td>
<td>100%</td>
<td>50-150%</td>
<td></td>
</tr>
<tr>
<td>13C4-PFHpA</td>
<td>103%</td>
<td>50-150%</td>
<td></td>
</tr>
<tr>
<td>13C8-PFOA</td>
<td>117%</td>
<td>50-150%</td>
<td></td>
</tr>
<tr>
<td>13C9-PFNA</td>
<td>115%</td>
<td>50-150%</td>
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</tr>
<tr>
<td>13C6-PFDA</td>
<td>90%</td>
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<td>13C7-PFUUnDA</td>
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The QC reported here applies to the following samples: FA62042-1

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<th>CAS No.</th>
<th>ID</th>
<th>Standard Recoveries</th>
<th>Limits</th>
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<tbody>
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<td>50-150%</td>
</tr>
<tr>
<td>13C2-PFTeDA</td>
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<td>65%</td>
<td>40-150%</td>
</tr>
<tr>
<td>13C3-PFBS</td>
<td></td>
<td>90%</td>
<td>50-150%</td>
</tr>
<tr>
<td>13C3-PFHxS</td>
<td></td>
<td>88%</td>
<td>50-150%</td>
</tr>
<tr>
<td>13C8-PFOS</td>
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<td>13C8-FOSA</td>
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<td>50-150%</td>
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<td>13C2-4:2FTS</td>
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<td>50-150%</td>
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<td>13C2-6:2FTS</td>
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<td>102%</td>
<td>50-150%</td>
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</table>
The QC reported here applies to the following samples:

FA62042-1

<table>
<thead>
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<th>CAS No.</th>
<th>Compound</th>
<th>Result</th>
<th>RL</th>
<th>Units</th>
<th>Q</th>
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<tbody>
<tr>
<td>375-22-4</td>
<td>Perfluorobutanoic acid</td>
<td>ND</td>
<td>0.016</td>
<td>ug/l</td>
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<td>307-24-4</td>
<td>Perfluorohexanoic acid</td>
<td>ND</td>
<td>0.0080</td>
<td>ug/l</td>
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<tr>
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<td>0.0080</td>
<td>ug/l</td>
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<tr>
<td>335-67-1</td>
<td>Perfluorooctanoic acid</td>
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<td>0.0080</td>
<td>ug/l</td>
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<tr>
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<tr>
<td>335-76-2</td>
<td>Perfluorodecanoic acid</td>
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<td>ug/l</td>
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<tr>
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<tr>
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<td>ug/l</td>
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<tr>
<td>375-92-8</td>
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<td>ug/l</td>
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<td>ug/l</td>
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<tr>
<td>754-91-6</td>
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<td>0.0080</td>
<td>ug/l</td>
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<tr>
<td>757124-72-4</td>
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<td>0.016</td>
<td>ug/l</td>
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<tr>
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<td>0.016</td>
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<td>0.016</td>
<td>ug/l</td>
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</table>

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>ID Standard Recoveries</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>13C4-PFBA</td>
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<td>50-150%</td>
</tr>
<tr>
<td>13C5-PFPeA</td>
<td>96%</td>
<td>50-150%</td>
</tr>
<tr>
<td>13C5-PFHxA</td>
<td>104%</td>
<td>50-150%</td>
</tr>
<tr>
<td>13C4-PFHpA</td>
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<td>13C9-PFNA</td>
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<tr>
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<td>114%</td>
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<td>115%</td>
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The QC reported here applies to the following samples:

FA62042-1

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<th>CAS No.</th>
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<th>Limits</th>
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<td>100% 50-150%</td>
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<td>13C3-PFBS</td>
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<tr>
<td>13C3-PFHxS</td>
<td>102% 50-150%</td>
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<td>13C8-PFOS</td>
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Method: EPA 537M QSM5.1 B-15
## Blank Spike Summary

**Job Number:** FA62042  
**Account:** SGS SGS North America, Inc  
**Project:** 1199068

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<th>Prep Batch</th>
<th>Analytical Batch</th>
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The QC reported here applies to the following samples:  
**Method:** EPA 537M BY ID

**Sample ID:** FA62042-1

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<td>114%</td>
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<tr>
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<td>13C7-PFUnda</td>
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* = Outside of Control Limits.
## Blank Spike Summary

**Job Number:** FA62042  
**Account:** SGS SGS North America, Inc  
**Project:** 1199068

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<th>Sample</th>
<th>File ID</th>
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<th>By</th>
<th>Prep Date</th>
<th>Prep Batch</th>
<th>Analytical Batch</th>
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<tbody>
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The QC reported here applies to the following samples:  

**Method:** EPA 537M BY ID

FA62042-1

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<th>ID Standard Recoveries</th>
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<tbody>
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<td>13C2-8:2FTS</td>
<td>105% 50-150%</td>
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(a) Sporadic marginal failure.

* = Outside of Control Limits.
## Matrix Spike Summary

**Job Number:** FA62042  
**Account:** SGS SGS North America, Inc  
**Project:** 1199068

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<tr>
<th>Sample</th>
<th>File ID</th>
<th>DF</th>
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<th>By</th>
<th>Prep Date</th>
<th>Prep Batch</th>
<th>Analytical Batch</th>
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<tr>
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<td>NAF</td>
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The QC reported here applies to the following samples:

**Method:** EPA 537M BY ID

FA62042-1

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<th>FA62041-1</th>
<th>Spike</th>
<th>MS</th>
<th>Limits</th>
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*a* = Outside of Control Limits.
# Matrix Spike Summary

**Job Number:** FA62042  
**Account:** SGSAKA SGS North America, Inc  
**Project:** 1199068

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<th>File ID</th>
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<th>Analyzed</th>
<th>By</th>
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<th>Prep Batch</th>
<th>Analytical Batch</th>
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The QC reported here applies to the following samples:  

**Method:** EPA 537M BY ID

FA62042-1

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<th>ID Standard Recoveries</th>
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<th>Limits</th>
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<tr>
<td>13C3-PFHxS</td>
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<td>91%</td>
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<td>13C8-PFOS</td>
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<td>13C8-FOSA</td>
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</tr>
<tr>
<td>d3-MeFOSAA</td>
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<tr>
<td>13C2-4:2FTS</td>
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</tr>
</tbody>
</table>

(a) Insufficient sample for re-extraction.

* = Outside of Control Limits.
## Duplicate Summary

**Job Number:** FA62042  
**Account:** SGS SGS North America, Inc  
**Project:** 1199068

<table>
<thead>
<tr>
<th>Sample</th>
<th>File ID</th>
<th>DF</th>
<th>Analyzed</th>
<th>By</th>
<th>Prep Date</th>
<th>Prep Batch</th>
<th>Analytical Batch</th>
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<tbody>
<tr>
<td>OP74055-DUP</td>
<td>3QP1690.D</td>
<td>1</td>
<td>03/08/19</td>
<td>NAF</td>
<td>03/06/19</td>
<td>OP74055</td>
<td>S3Q46</td>
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<td>NAF</td>
<td>03/06/19</td>
<td>OP74055</td>
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The QC reported here applies to the following samples:  
**Method:** EPA 537M BY ID

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<th>CAS No.</th>
<th>Compound</th>
<th>FA62042-1</th>
<th>DUP</th>
<th>Q</th>
<th>RPD</th>
<th>Limits</th>
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<tbody>
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<th>ID Standard Recoveries</th>
<th>DUP</th>
<th>FA62042-1</th>
<th>Limits</th>
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<td>13C5-PFPeA</td>
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<td>13C5-PFHHxA</td>
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<td>99%</td>
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<tr>
<td>13C4-PFHpA</td>
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<td>13C8-PFOA</td>
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<td>13C7-PFUuDA</td>
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**Duplicate Summary**

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**Project:** 1199068

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FA62042-1

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<tr>
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<th>FA62042-1</th>
<th>Limits</th>
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<tr>
<td>13C3-PFBS</td>
<td>92% 90%</td>
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<tr>
<td>13C3-PFHxS</td>
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<td>106% 108%</td>
<td>50-150%</td>
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