

Laboratory Report of Analysis

To: Environmental Comp. Consultants (ECC)

1500 Post Road Anchorage, AK 99501 (907)687-4277

Report Number: 1168510

Client Project: Eielson RCRA

Dear Kat Gannon,

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 Forest 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.

Forest Taylor Date
Project Manager
Forest.Taylor@sgs.com

Print Date: 09/19/2016 3:39:30PM

SGS North America Inc.

Case Narrative

Customer: ENVCOMP Environmental Comp. Consultants (ECC)

Project: 1168510 Eielson RCRA

Refer to the sample receipt form for information on sample condition.

^{*} QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to the associated field samples.



Janipie Juninia y	Samp	le Summary
-------------------	------	------------

Client Sample ID	Lab Sample ID	Collected	Received	<u>Matrix</u>
HW16054 Soil	1168510001	08/29/2016	08/31/2016	Solid/Soil (Wet Weight)
HW16055 Top	1168510002	08/29/2016	08/31/2016	Water (Surface, Eff., Ground)
HW16056 Bottom	1168510003	08/29/2016	08/31/2016	Water (Surface, Eff., Ground)
HW16058 Mid	1168510004	08/29/2016	08/31/2016	Water (Surface, Eff., Ground)
Field Blank soil	1168510005	08/29/2016	08/31/2016	Solid/Soil (Wet Weight)
Field Blank water	1168510006	08/29/2016	08/31/2016	Water (Surface, Eff., Ground)

Method Description

SC CHAIN

16851

Maryland New York New Jersey

Locations NationWide

Kentucky Indiana North Carolina West Virgina

www.us.sqs.com	etofanalysis	Page of	tive					REMARKS/	COCO								DOD Project? Yes No Data Deliverable Requirements:		Requested Turnaround Time and/or Special Instructions:		Chain of Custody Seal: (Circle)		Receipt Form) (See attached Sample Receipt Form)
Instructions Sections 1 - Er	the	Section3	Preservative	3	OZ	COMP 6 G	Note:	nore- mental R Soils	×			ンペン	le .				Section 4 DOD	/ ISUS	Requested Turnarour		Temp Blank °C:		(See attached Sample Receipt Form)
		PHONE NO:	1803ECH 687-4277	PWSID/ PERMIT#	E-MAIL:	QUOTE#:		DATE TIME MATRIX/ mm/dd/yy HH:MM CODE	1.5 lon S. 1	7. 14.	08/29/16 1:29 L	08/29/16 1.35pm L					Date Time Received By:	8/20/16 3.45 MM	Date Time Received By: $8/80 l$ $l6 \infty$	Date Time Received By:		Date Time Received For Laboratory By: (2/21/1) [1/4]	THE TANK THE
	CLIENT: TCC	W.	Kat (ramon)	A	10:	INVOICE TO:	# O'd	RESERVED SAMPLE IDENTIFICATION for lab use	(1) A-B lokards HW16054sill oxlad/	Q148 HW 16055 TOP	(3 4-8 +W 16056 wotton	(3)		(C) 1 E0			Relinquished By: (1)		RelinquisherBy: (2)	Relinquished By: (3)		Relinguished By: (4)	

[] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301 [] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms-and-conditions MC 1.424

F083-Kit_Request_and_COC_Templates-Blank Revised 2013-03-24





FAIRBANKS SAMPLE RECEIPT FORM

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

	, <u> </u>	
Review Criteria:	Condition:	Comments/Actions Taken
Were custody seals intact? Note # & location, if applicable.	Yes No N/A	exemption permitted if sampler hand carries/delivers.
COC accompanied samples?	Yes No N/A	
Temperature blank compliant* (i.e., 0-6°C)	Yes No	□Exemption permitted if chilled & collected <8hrs ago
If >6°C, were samples collected <8 hours ago?	Yes No N/A	couectea <8nrs ago
If <0°C, were all sample containers ice free?	Yes No NA	
Cooler ID: @		
Cooler ID: @w/Therm. ID:		
Cooler ID:w/Therm. ID:		
Cooler ID: w/Therm. ID:		
Cooler ID:@w/Therm. ID:		
If samples are received without a temperature blank, the "cooler temperature" will be		
documented in lieu of the temperature blank and "COOLER TEMP" will be noted to		Note: Identify containers received at
the right. In cases where neither a temp blank nor cooler temp can be obtained, note ambient () or chilled (). Please check one.		non-compliant temperature. Use form
		FS-0029 if more space is needed.
Delivery Method: Client (hand carried) Other:	Tracking/AB#:	
	Or see attached	
	Or N/A	
→For samples received with payment, note amount (\$) and who	ether cash / check / CC (cir	cle one) was received.
Were samples in good condition (no leaks/cracks/breakage)?	Yes No N/A	Note: some samples are sent to
Packing material used (specify all that apply) Bubble Wrap		Anchorage without inspection by SGS
Separate plastic bags Vermiculite Other:		Fairbanks personnel.
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	Yes No NA	
accordingly? Was Rush/Short HT email sent, if applicable?	Yes No N/A	
Additional notes (if applicable):		
Profile #: 328537		
Note to Clients any "no" singled above indicates and account and	with standard mass drives I	m imm at data analita
Note to Client: any "no" circled above indicates non-compliance	wun stanaara procedures and ma	y impaci aata quatity.



		11685	10		1 1 6 8 5 1 0	
Review Criteria	Y/N (yes	/no)	Exc	eptions Note	ed below	
			exemption perr	mitted if sampler	hand carries/delivers.	
Were Custody Seals intact? Note # 8	k location Y			1F-1B		
COC accompanied	samples? Y					
**exemption perm	itted if chilled	& collected <8h	nrs ago or chlling no	ot required (i.e.,	waste, oil)	
	Y	Cooler ID:	1	@ 1	.4 °C Therm ID:	241
	Y	Cooler ID:		@	°C Therm ID:	
Temperature blank compliant* (i.e., 0-6 °C	after CF)? Y	Cooler ID:		@	°C Therm ID:	
	Υ	Cooler ID:		@	°C Therm ID:	
	Υ	Cooler ID:		@	°C Therm ID:	
*If >6°C, were samples collected <8 ho	urs ago? Y					
	<u> </u>	i				
If <0°C, were sample containers	ice free? Y					
	<u> </u>	i				
If samples received without a temperature blank, the "cooler tempera be documented in lieu of the temperature blank & "COOLER TEMP" w noted to the right. In cases where neither a temp blank nor cooler ten obtained, note "ambient" or "chilled".	ll be					
Note: Identify containers received at non-compliant temperature. Us FS-0029 if more space is needed.	e form					
	·	Note: Refer t	o form F-083 "Sam	ple Guide" for h	old times.	
Were samples received within h	old time? Y					
Do samples match COC ** (i.e.,sample IDs,dates/times co	ollected)?					
**Note: If times differ <1hr, record details & login	per COC.					
Were analyses requested unam	biguous? Y]				
		_	***Exemption p	permitted for me	etals (e.g,200.8/6020A).	
Were proper containers (type/mass/volume/preservative*	**)used? Y					
IF APPLICABLE		I				
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with	samples? Y					
Were all VOA vials free of headspace (i.e., bubbles	≤ 6mm)? Y					
Were all soil VOAs field extracted with Me	OH+BFB? Y					
Note to Client: Any "no" answer above indicate	s non-compliar	ce with standa	ard procedures and	may impact data	a quality.	
	Sanal t	(:£ ! ! ! !	-)-			
Addi	cional notes	(п аррпсаы	Ε).			



Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	Container Condition	Container Id	Preservative	Container Condition
1168510001-A	No Preservative Required	ОК			
1168510001-B	No Preservative Required	ОК			
1168510002-A	No Preservative Required	ОК			
1168510002-B	No Preservative Required	ОК			
1168510003-A	No Preservative Required	ОК			
1168510003-B	No Preservative Required	ОК			
1168510004-A	No Preservative Required	ОК			
1168510004-B	No Preservative Required	ОК			
1168510005-A	No Preservative Required	ОК			
1168510006-A	No Preservative Required	ОК			

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.
- 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.

8/31/2016 Page 7 of 30



ACCUTEST Southeast

09/19/16

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.



e-Hardcopy 2.0
Automated Report

Technical Report for

SGS North America, Inc

PFCs

1168510

SGS Accutest Job Number: FA36635

Sampling Date: 08/29/16



SGS North America, Inc 200 W Potter Dr Anchorage, AK 99518 julie.shumway@sgs.com

ATTN: Julie Shumway

Total number of pages in report: 23

TNI TABORATORY

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.

Norm Farmer Technical Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (2937), TX (T104704404), PA (68-03573), VA (460177),

AK, AR, GA, KY, MA, NV, OK, UT, WA

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

Southeast • 4405 Vineland Road • Suite C-15 • Orlando, FL 32811 • tel: 407-425-6700 • fax: 407-425-0707 • http://www.accutest.com

Sections:

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	
Section 3: Summary of Hits	5
Section 4: Sample Results	
4.1: FA36635-1: HW16054 SOIL	7
4.2: FA36635-2: HW16055 TOP	8
4.3: FA36635-3: HW1605 BOTTOM	9
4.4: FA36635-4: HW1605 MID	10
4.5: FA36635-5: FIELD BLANK	11
4.6: FA36635-6: FIELD BLANK	
Section 5: Misc. Forms	13
5.1: Chain of Custody	14
Section 6: GC/MS Semi-volatiles - QC Data Summaries	17
6.1: Method Blank Summary	18
6.2: Blank Spike Summary	20
6.3: Matrix Spike/Matrix Spike Duplicate Summary	22

C

0.

O



Sample Summary

SGS North America, Inc

Job No:

FA36635

PFCs

Project No: 1168510

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
FA36635-1	08/29/16	13:51 JS	09/02/16	SO	Soil	HW16054 SOIL
FA36635-2	08/29/16	13:44 JS	09/02/16	AQ	Water	HW16055 TOP
FA36635-3	08/29/16	13:29 JS	09/02/16	AQ	Water	HW1605 BOTTOM
FA36635-4	08/29/16	13:35 JS	09/02/16	AQ	Water	HW1605 MID
FA36635-5	08/29/16	13:35 JS	09/02/16	SO	Soil	FIELD BLANK
FA36635-6	08/29/16	13:35 JS	09/02/16	AQ	Field Blank Water	FIELD BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc. Job No: FA36635

Site: PFC_s Report Date 9/19/2016 2:43:14 PM

5 Samples and 1 Field Blank were collected on 08/29/2016 and were received at SGS Accutest Southeast (SASE) on 09/02/2016 properly preserved, at 3.6 Deg. C and intact. These Samples received an SASE job number of FA36635. 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.

Extractables by GCMS By Method EPA 537 MOD

Batch ID: OP61824 Matrix: AQ

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA36635-4MS, FA36635-4MSD were used as the QC samples indicated.

Sample(s) OP61824-MB have surrogates outside control limits. Probable cause is due to matrix interference.

OP61824-MB for 13C2-PFHxA: Outside control limits.

Batch ID: OP61825

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA36634-3MS, FA36634-3MSD were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540G

Matrix: SO Batch ID: GN72258

Sample(s) FA36649-1DUP was used as the QC samples for Solids, Percent.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:	
	Date: September 19, 2016
Lovelie Metzgar, QA Officer (signature on file)	Duto <u>. Bestember 17, 2010</u>

Monday, September 19, 2016

Page 1 of 1

Summary of Hits Job Number: FA36635

Account: SGS North America, Inc

Project: PFCs Collected: 08/29/16

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA36635-1	HW16054 SOIL					
No hits reported	in this sample.					
FA36635-2	HW16055 TOP					
Perfluorooctanoid Perfluorooctanes		0.0166 J 0.249	0.019 0.019	0.0038 0.0038	ug/l ug/l	EPA 537 MOD EPA 537 MOD
FA36635-3	HW1605 BOTTO	М				
Perfluorooctanoid Perfluorooctanes		0.0190 0.0854	0.019 0.019	0.0038 0.0038	ug/l ug/l	EPA 537 MOD EPA 537 MOD
FA36635-4	HW1605 MID					
Perfluorooctanoid Perfluorooctanes		0.0185 J 0.183	0.019 0.019	0.0038 0.0038	ug/l ug/l	EPA 537 MOD EPA 537 MOD

FA36635-5 FIELD BLANK

No hits reported in this sample.

FA36635-6 FIELD BLANK

No hits reported in this sample.



Section 4

Sample Results	
Report of Analysis	

Report of Analysis

Client Sample ID: HW16054 SOIL

Lab Sample ID: FA36635-1

Matrix: SO - Soil

Method: EPA 537 MOD IN HOUSE

Project: PFCs

 File ID
 DF
 Analyzed
 By
 Prep Date
 Prep Batch
 Analytical Batch

 Q25596.D
 1
 09/16/16
 NAF
 09/12/16
 OP61825
 SQ722

Date Sampled:

Date Received:

Percent Solids:

08/29/16

09/02/16

78.6

Run #1 Run #2

Initial Weight Final Volume

Run #1 1.20 g 5.0 ml

Run #2

CAS No. Compound Result RL MDL Units Q

PERFLUOROALKYLCARBOXYLIC ACIDS

335-67-1 Perfluorooctanoic acid ND 13 5.3 ug/kg

PERFLUOROALKYLSULFONATES

1763-23-1 Perfluorooctanesulfonic acid ND 13 5.3 ug/kg

CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits

13C2-PFHxA 115% 70-130% 13C2-PFDA 105% 70-130%

ND = Not detected

MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HW16055 TOP

Lab Sample ID: FA36635-2 Matrix: AQ - Water

Method:

Project:

Date Sampled: 08/29/16 Date Received: 09/02/16 EPA 537 MOD IN HOUSE **Percent Solids:** n/a

File ID DF **Analytical Batch** Analyzed By **Prep Date Prep Batch** Run #1 Q25580.D 09/16/16 NAF 09/12/16 OP61824 SQ722

Run #2

Initial Volume Final Volume Run #1 130 ml 1.0 ml

Run #2

CAS No. Compound RLUnits Result **MDL** Q

PERFLUOROALKYLCARBOXYLIC ACIDS

335-67-1 Perfluorooctanoic acid 0.0166 0.019 0.0038 J ug/1

PERFLUOROALKYLSULFONATES

1763-23-1 Perfluorooctanesulfonic acid 0.249 0.019 0.0038 ug/l

CAS No. **Surrogate Recoveries** Run#1 Run#2 Limits

> 13C2-PFHxA 103% 70-130% 13C2-PFDA 104% 70-130%

ND = Not detected

MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: HW1605 BOTTOM

Lab Sample ID: FA36635-3 **Matrix:** AQ - Water

Method: EPA 537 MOD IN HOUSE

Project: PFCs

 Date Sampled:
 08/29/16

 Date Received:
 09/02/16

 Percent Solids:
 n/a

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 Q25581.D 1 09/16/16 NAF 09/12/16 OP61824 SQ722

Run #2

Initial Volume Final Volume

Run #1 130 ml 1.0 ml

Run #2

CAS No. Compound Result RL MDL Units Q

PERFLUOROALKYLCARBOXYLIC ACIDS

335-67-1 Perfluorooctanoic acid 0.0190 0.019 0.0038 ug/l

PERFLUOROALKYLSULFONATES

1763-23-1 Perfluorooctanesulfonic acid 0.0854 0.019 0.0038 ug/l

CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits

13C2-PFHxA 88% 70-130% 13C2-PFDA 94% 70-130%

ND = Not detected

MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Report of Analysis

Client Sample ID: HW1605 MID Lab Sample ID: FA36635-4

Date Sampled: 08/29/16 Matrix: AQ - Water Date Received: **Percent Solids:**

Method: EPA 537 MOD IN HOUSE

Project:

DF **Analytical Batch** File ID Analyzed By **Prep Date Prep Batch** 09/16/16 Run #1 Q25582.D NAF 09/12/16 OP61824 SQ722

Run #2

Initial Volume Final Volume

Run #1 130 ml 1.0 ml

Run #2

CAS No. Compound RLUnits Result **MDL** Q

PERFLUOROALKYLCARBOXYLIC ACIDS

335-67-1 Perfluorooctanoic acid 0.0185 0.019 0.0038 J ug/1

PERFLUOROALKYLSULFONATES

1763-23-1 Perfluorooctanesulfonic acid 0.183 0.019 0.0038 ug/l

CAS No. **Surrogate Recoveries** Run#1 Run#2 Limits

> 13C2-PFHxA 104% 70-130% 13C2-PFDA 109% 70-130%

ND = Not detected

MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound

Page 1 of 1

09/02/16

n/a

Report of Analysis

Client Sample ID: FIELD BLANK Lab Sample ID: FA36635-5

Method: EPA 537 MOD IN HOUSE

Project:

Date Sampled: 08/29/16 Matrix: SO - Soil Date Received: 09/02/16 **Percent Solids:** 100.0

DF **Analytical Batch** File ID Analyzed By **Prep Date Prep Batch** 09/16/16 Run #1 Q25597.D NAF 09/12/16 OP61825 SQ722 Run #2

Final Volume Initial Weight Run #1 5.0 ml 1.50 g

13C2-PFDA

Run #2

CAS No. Compound Result RLMDL Units Q PERFLUOROALKYLCARBOXYLIC ACIDS 335-67-1 Perfluorooctanoic acid 8.3 3.3 ug/kg PERFLUOROALKYLSULFONATES 1763-23-1 Perfluorooctanesulfonic acid ND 8.3 3.3 ug/kg CAS No. **Surrogate Recoveries** Run#1 Run# 2 Limits 13C2-PFHxA 119% 70-130%

114%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

70-130%

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: FIELD BLANK

Lab Sample ID:FA36635-6Date Sampled:08/29/16Matrix:AQ - Field Blank WaterDate Received:09/02/16Method:EPA 537 MOD IN HOUSEPercent Solids:n/a

Project: PFCs

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 Q25585.D 1 09/16/16 NAF 09/12/16 OP61824 SQ722

Run #2

Initial Volume Final Volume

Run #1 130 ml 1.0 ml

Run #2

CAS No. Compound Result RL MDL Units Q

PERFLUOROALKYLCARBOXYLIC ACIDS

335-67-1 Perfluorooctanoic acid ND 0.019 0.0038 ug/l

PERFLUOROALKYLSULFONATES

1763-23-1 Perfluorooctanesulfonic acid ND 0.019 0.0038 ug/l

CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits

13C2-PFHxA 119% 70-130% 13C2-PFDA 105% 70-130%

ND = Not detected

MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound

Page 19 of 30



Section 5

Misc. Forms Custody Documents and Ot	her Forms
Includes the following where ap	plicable:



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



Locations Nationwide

Alaska New Jersey New York

North Carolina

Indiana West Virgina Kentucky www.us.sgs.com

CLIENT:	SGS North An	nerica Inc Ala	ska Division		SGS	S Refere	nce:					SGS	FL		
CONTACT:	Julie Shumway PH	ONE NO:	(907) 562-7	2343		ional Co ested.	omme	nts: A	MI soil	s repo	N CONC	20,700,000,000,000	weight unles	s otherwise	Page of
PROJECT NAME: REPORTS TO	1168510 PWS PER C	MIT#: AIL: <u>Ju</u> OTE #:	ie.Shumway@s		# C O N T A	Preserv- ative Used: TYPE C= COMP G= GRAB									
RESERVED for lab /use	SGS - Alaska P.O SAMPLE IDENTIFICATION	DATE mm/dd/vv	TIME	MATRIX/	E R S	Incre- mental Soits	PFOS	PFOA			MS	MSD	SGS lab #	Loc ID	REMARKS
Control of the Contro	HW16054 soil	08/29/16	1351	soil	2	<u> </u>	Х	Х		<u> </u>			1168509001		
· ·	HW16055 top	08/29/16	1344	water	2		х	X					1168509002		
Large Vision (1997)	HW1605 bottom	08/29/16	1329	water	2	ļ	Х	Х					1168509003		
4	HW1605 mid	08/29/16	1335	water	2		X	X					1168509004		
S	Field Blank soil	08/29/16	1335	soil	1		Х	Х					1168509005		
6	Field Blank water	08/29/16	1335	water	- 1		X_	х	ļ				1168509006		
annamana sa							<u> </u>								
Party Control Control							 								
our reversity		i e								i					
Relinquish	ullly	9 /1/16	1847	Received By	r:	Fx		·		Project to DL		YES	☑NO	Data Delivera	ble Requirements:
Relinquished	1 By: (2)	Date /	Time	Received By		sr) q	10	16	Reque	sted Tu	irnarou	ınd Tim	e and-or Special	Instructions:	
Relinquished	i By: (3)	Date	Time	Received By											
									Temp	Blank °	C)			Chain of C	ustody Seal: (Circle)
Relinquished	i By: (4)	Date	Time	Received Fo	r Labor	atory By:					or A	mbient	[]	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: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms and conditions.htm

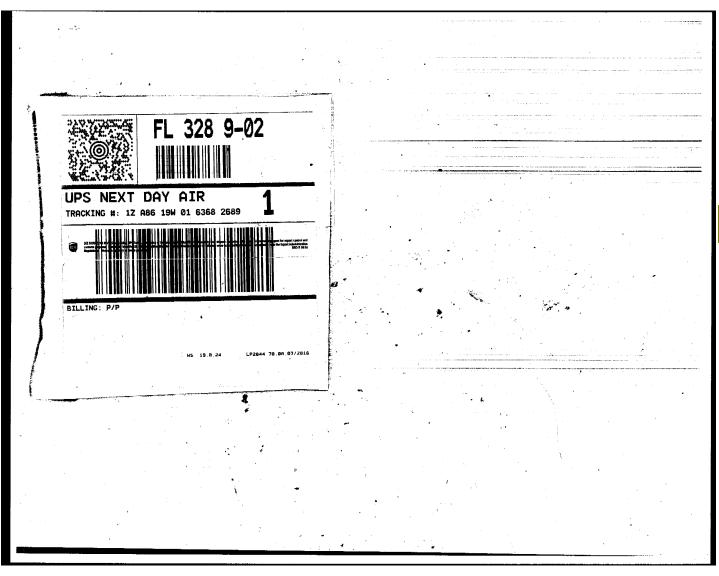
3.6

1168510_PFOS & PFOA_09.01.16.xls

FA36635: Chain of Custody Page 1 of 3

AIRBILL NUMBERS: 12 A 86 (9W 01 6368 268	
<u>COOLER INFORMATION</u>	TEMPERATURE INFORMATION
CUSTODY SEAL NOT PRESENT OR NOT INTACT	IR THERM ID CORR. FACTOR -O.4
CHAIN OF CUSTODY NOT RECEIVED (COC)	OBSERVED TEMPS: 40
ANALYSIS REQUESTED IS UNCLEAR OR MISSING	CORRECTED TEMPS: 3-6 (USED FOR LIMS)
SAMPLE DATES OR TIMES UNCLEAR OR MISSING	SAMPLE INFORMATION
TEMPERATURE CRITERIA NOT MET	INCORRECT NUMBER OF CONTAINERS USED
·	SAMPLE RECEIVED IMPROPERLY PRESERVED
TRIP BLANK INFORMATION	INSUFFICIENT VOLUME FOR ANALYSIS
TRIP BLANK PROVIDED	DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
TEIP BLANK NOT PROVIDED	ID'S ON COC DO NOT MATCH LABEL
TRIP BLANK NOT ON COC	VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
TRIP BLANK INTACT	BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
TRIP BLANK NOT INTACT	NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
RECEIVED WATER TRIP BLANK	UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
RECEIVED SOIL TRIP BLANK	SAMPLE CONTAINER(S) RECEIVED BROKEN
	5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
MISC. INFORMATION	BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
UMBER OF ENCORES ? 25-GRAM 5-GRAM	% SOLIDS JAR NOT RECEIVED
UMBER OF 5035 FIELD KITS ?	RESIDUAL CHLORINE PRESENT LOT#
UMBER OF LAB FILTERED METALS ?	{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}
EST STRIP LOT#s pH 0-3 230315 pH 10-	12 <u>219813A</u> OTHER (specify)
UMMARY OF COMMENTS:	
and of contribution	
MINING OF COMMENTS:	

FA36635: Chain of Custody Page 2 of 3



FA36635: Chain of Custody Page 3 of 3



Section 6

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method: EPA 537 MOD

Method Blank Summary Job Number: FA36635

SGSAKA SGS North America, Inc Account:

PFCs Project:

Sample OP61825-MB	File ID Q25589.D	DF 1	Analyzed 09/16/16	By NAF	Prep Date 09/12/16	Prep Batch OP61825	Analytical Batch SQ722

The QC reported here applies to the following samples:

FA36635-1, FA36635-5

CAS No.	Compound	Result	RL	MDL	Units Q
	Perfluorooctanoic acid	ND	13	5.0	ug/kg
	Perfluorooctanesulfonic acid	ND	13	5.0	ug/kg

CAS No.	Surrogate Recoveries	Limits

13C2-PFHxA	106%	70-130%
13C2-PFDA	101%	70-130%

Method: EPA 537 MOD

Method Blank Summary

Job Number: FA36635

Account: SGSAKA SGS North America, Inc

Project: PFCs

Sample OP61824-MB	File ID Q25577.D	DF 1	Analyzed 09/16/16	By NAF	Prep Date 09/12/16	Prep Batch OP61824	Analytical Batch SQ722

The QC reported here applies to the following samples:

FA36635-2, FA36635-3, FA36635-4, FA36635-6

CAS No.	Compound	Result	RL	MDL	Units Q
	Perfluorooctanoic acid Perfluorooctanesulfonic acid	ND ND		0.0038 0.0038	U

CAS No. Surrogate Recoveries Limits

13C2-PFHxA 136% * a 70-130% 13C2-PFDA 102% 70-130%

(a) Outside control limits.

6.2

Page 1 of 1

Method: EPA 537 MOD

Blank Spike Summary Job Number: FA36635

Account: SGSAKA SGS North America, Inc

Project: PFCs

Sample OP61825-BS	File ID Q25588.D	DF 1	Analyzed 09/16/16	By NAF	Prep Date 09/12/16	Prep Batch OP61825	Analytical Batch SQ722

The QC reported here applies to the following samples:

FA36635-1, FA36635-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
	Perfluorooctanoic acid	100	102	102	70-130
	Perfluorooctanesulfonic acid	100	106	106	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	111%	70-130%
	13C2-PFDA	103%	70-130%

^{* =} Outside of Control Limits.

Method: EPA 537 MOD

Blank Spike Summary Job Number: FA36635

Account: SGSAKA SGS North America, Inc

Project: PFCs

Sample OP61824-BS	File ID Q25576.D	DF 1	Analyzed 09/16/16	By NAF	Prep Date 09/12/16	Prep Batch OP61824	Analytical Batch SQ722

The QC reported here applies to the following samples:

FA36635-2, FA36635-3, FA36635-4, FA36635-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	Perfluorooctanoic acid Perfluorooctanesulfonic acid	0.10.	0.158 0.154	103 100	70-130 70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	129%	70-130%
	13C2-PFDA	92%	70-130%

^{* =} Outside of Control Limits.

6.3.1

Page 1 of 1

Method: EPA 537 MOD

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA36635

Account: SGSAKA SGS North America, Inc

Project: PFCs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61825-MS	Q25593.D	1	09/16/16	NAF	09/12/16	OP61825	SQ722
OP61825-MSD	Q25594.D	1	09/16/16	NAF	09/12/16	OP61825	SQ722
FA36634-3	Q25592.D	1	09/16/16	NAF	09/12/16	OP61825	SQ722

The QC reported here applies to the following samples:

FA36635-1, FA36635-5

CAS No.	Compound	FA36634-3 ug/kg (Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
335-67-1 1763-23-1	Perfluorooctanoic acid Perfluorooctanesulfonic acid	ND 5.72 J	114 114	114 136	100 114	106 106	108 117	102 105	5 15	70-130/30 70-130/30
CAS No.	Surrogate Recoveries MS		MSD	FA	36634-3	Limits				
	13C2-PFHxA 13C2-PFDA	104% 101%	105% 102%		2% 0%	70-1309 70-1309	-			

^{* =} Outside of Control Limits.

6.3.2

Page 1 of 1

Method: EPA 537 MOD

6

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA36635

Account: SGSAKA SGS North America, Inc

Project: PFCs

Sample OP61824-MS OP61824-MSD	File ID Q25583.D Q25584.D	DF 1 1	Analyzed 09/16/16 09/16/16	By NAF NAF	Prep Date 09/12/16 09/12/16	Prep Batch OP61824 OP61824	Analytical Batch SQ722 SO722
FA36635-4	Q25582.D	1	09/16/16	NAF	09/12/16	OP61824	SQ722

The QC reported here applies to the following samples:

FA36635-2, FA36635-3, FA36635-4, FA36635-6

CAS No.	Compound	FA36635-4 ug/l Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
335-67-1 1763-23-1	Perfluorooctanoic acid Perfluorooctanesulfonic acid	0.0185 J 0.183	0.308 0.308	0.336 0.433	103 81	0.308 0.308	0.340 0.397	104 70	1 9	70-130/30 70-130/30
CAS No.	Surrogate Recoveries	MS	MSD	FA	36635-4	Limits				
	13C2-PFHxA 13C2-PFDA	117% 95%	105% 92%	104 109		70-130% 70-130%	-			

^{* =} Outside of Control Limits.