

Laboratory Report of Analysis

To: US Air Force Eielson-EC (Bioenvironmental Engr) 2630 Central Ave Eielson AFB, AK 99702 (907)377-6687

Report Number: 1199552

Client Project: **PFAS DW Sampling**

Dear Kathleen Lelevier,

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.	Alaska Division Technical Director	Stephen C. Ede 2019.08.21 14:13:33 -08'00'
Jennifer Dawkins Project Manager Jennifer.Dawkins@sgs.com	Date	

Print Date: 08/21/2019 12:33:32PM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518 t 907.562.2343 f 907.561.5301 www.us.sgs.com Results via Engage

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Case Narrative

SGS Client: US Air Force Eielson-EC (Bioenvironmental Engr) SGS Project: 1199552 Project Name/Site: PFAS DW Sampling Project Contact: Kathleen Lelevier

Refer to sample receipt form for information on sample condition.

GP19071 Well (1199552001) PS

EPA 537 PFOA PFOS were analyzed by SGS of Wilmington, NC.

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

Print Date: 08/21/2019 12:33:34PM

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	S	Sample Summary	,	
Client Sample ID	Lab Sample ID	Collected	Received	Matrix
GP19071 Well	1199552001	07/23/2019	07/24/2019	Drinking Water
GP19072 Field Blank	1199552002	07/23/2019	07/24/2019	Drinking Water
GP19073 Well	1199552003	07/23/2019	07/24/2019	Drinking Water
GP19074 F Field Blank	1199552004	07/23/2019	07/24/2019	Drinking Water
GP19075 WTP POE	1199552005	07/23/2019	07/24/2019	Drinking Water
GP19076 WTP Field Blank	1199552006	07/23/2019	07/24/2019	Drinking Water
GP19077 Well A	1199552007	07/23/2019	07/24/2019	Drinking Water
GP19078 Well A Field Blank	1199552008	07/23/2019	07/24/2019	Drinking Water
GP19079 Well B	1199552009	07/23/2019	07/24/2019	Drinking Water
GP19080 Well B Field Blank	1199552010	07/23/2019	07/24/2019	Drinking Water
GP19081 Well E	1199552011	07/23/2019	07/24/2019	Drinking Water
GP19082 Well E Field Blank	1199552012	07/23/2019	07/24/2019	Drinking Water
GP19083 Well F	1199552013	07/23/2019	07/24/2019	Drinking Water
GP19084 Well F Field Blank	1199552014	07/23/2019	07/24/2019	Drinking Water
GP19085 Well 7	1199552015	07/23/2019	07/24/2019	Drinking Water
GP19086 Well 7 Field Blank	1199552016	07/23/2019	07/24/2019	Drinking Water

Method

Method Description

Print Date: 08/21/2019 12:33:36PM

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9552	AFB	#: 907-377-6687 or	-	kathleen.e.lelevier.ci	#: 3641 , Unit S213 Box 10, APO, AP 9	ate of Collection	7/23/2019	7/23/2019	7/23/2019	7/23/2019 11	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	e Time	23-19 1530	e Time	e Time		e Time	14.19 8-20	
	ental Engineering, Eielsor	PHONE Lelevier	PROJECT V Sampling PERMIT#:	athleen Lelevier E-MAIL: al Engineering, 2630 Centr	QUOTE Medicine Flight, Analytical Division	ample Location D	Well	Field Blank	Well	Field Blank	WTP POE	WTP Field Blank	Well A	Well A Field Blank	Well B	Well B Field Blank	Q L Q		Dat	Dat		Dat	4	
SG	CLIENT: Bioenvironm	CONTACT: Kathleen	PROJECT PFAS DV	REPORTS TO: Ki Bioenvironment	INVOICE TO: Theater Preventative	RESERVED Si for lab use	(DAR GP19071	(Z) A GP19072	(2) A R GP19073	5(4) A GP19074	5 E A B GP19075	0(6)A GP19076	7740 GP19077	8 A GP19078	A G GP19079	(0) A GP19080	Relinquished By: (1)	Kathleen Lelevier	Relinquished By: (2)	Relinquished By: (3)	\$	Relinquished By: (4)		
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F083-Blank_COC_DWLong_20190104

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9552	on AFB		E #: 907-377-6687 c	5T/ #	L: kathleen.e.lelevier. Itral Ave, Eielson AFB	E#: 36	on, Unit 5213 Box 10, APO, A Date of Collection	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019		ate Time	-23.19 1530	ate Time	ate Time		ate Time	1.24.19 0:50	
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F083-Blank_COC_DWLong_20190104

e-Sample Receipt F	Form
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000	e-Sam <u>ple Re</u>	eceip	t Form	
SGS	SGS Workorder #:	1	199552	1 1 9 9 5 5 2
Rev	iew Criteria	tion (Yes,	No, N/A	Exceptions Noted below
Chain of	Custody / Temperature Requirement	nts	N/A Exemption	n permitted if sampler hand carries/delivers.
	Were Custody Seals intact? Note # & location	n Yes		
DOD: Ware of	COC accompanied samples	? Yes		
DOD. Were sa	**Exemption permitted if chilled	Colle	cted <8 hours ago, or for	samples where chilling is not required
Temperatu	re blank compliant* (i.e., 0-6 °C after CF)	Yes	Cooler ID: 1	3.0 °C Therm. ID: D23
			Cooler ID:	@ °C Therm. ID:
If samples received without a te	emperature blank, the "cooler temperature" will be		Cooler ID:	@ °C Therm. ID:
documented instead & "COOLER TE be no	.MP" will be noted to the right. "ambient" or "chilled" wil ted if neither is available.		Cooler ID:	@ °C Therm. ID:
			Cooler ID:	@ °C Therm. ID:
*lf >6°	C, were samples collected <8 hours ago?	N/A		
	If <0°C, were sample containers ice free?	N/A		
Note: Identify containe	rs received at non-compliant temperature	-		
U	se form FS-0029 if more space is needed			
Holding Time / Do	cumentation / Sample Condition Require	ments	Note: Refer to form F-083 "S	Sample Guide" for specific holding times.
VV	ere samples received within holding time's	Yes		
Do samples match COC	** (i.e.,sample IDs,dates/times collected)	? Yes		
**Note: If times diffe	er <1hr, record details & login per COC.			
***Note: If sample information on co	ntainers differs from COC, SGS will default to COC info	ormation		
Were analytical requests cl	ear? (i.e., method is specified for analyses	Yes		
with mult	uple option for analysis (Ex: BTEX, Metals)		
			***Evemp	tion normitted for metals (o g 200 8/6020A)
Were proper containers	(type/mass/volume/preservative***)used	Yes		
	(),,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	Volatile / LL-Hg Requirem	<u>nents</u>		
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 \leq 6mm)?	? N/A		
Were all s	oil VOAs field extracted with MeOH+BFB?	? N/A		
Note to Clier	It: Any "No", answer above indicates non-comp	liance	with standard procedures	and may impact data quality.
	Additional note	s (if a	pplicable):	
Samples were expose to re	oom temperature for less than 5 minute	s duri	ing labeling	

е-заттріе кесетрі гопп ғыс	e-Samp	le Receipt	Form FBK
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CCC		e-Sample R	eceipt F	orm FBK				
202	SGS Wo	orkorder #:	1	1995	52	1 1	9955	2
Re	eview Criteria	c	ondition (Yes,	No, N/A	Exce	eptions N	oted below	
<u>Chain c</u>	of Custody / Tempera	ture Requiren	nents		Exemption per	mitted if sar	npler hand carries/del	ivers.
	Were Custody Seals inta	act? Note # & loca	ation Yes					
	COC a	ccompanied samp	les? Yes					
DOD: Were	samples received in COC c	orresponding cool	ers? Yes					
_	**Exempti	on permitted if chil	led & colle	cted <8 hour	s ago, or for sam	ples where o	chilling is not required	1
Tempera	ture blank compliant* (i.e	e., 0-6 °C after C	F)? Yes	Cooler ID:	1	@	0.9 °C Therm. ID): D54
lf		4		Cooler ID:		@	°C Therm. ID):
locumented instead & "COOLER	TEMP" will be noted to the right	. "ambient" or "chilled	" will	Cooler ID:		@	°C Therm. ID):
be	noted if neither is available.			Cooler ID:		@	°C Therm. ID):
*16		atad O haura aa						
"IT >	o o, were samples colled	neu <o ag<="" nours="" td=""><td>N/A</td><td></td><td></td><td></td><td></td><td></td></o>	N/A					
	If <0°C were complex	containors ico fra	2					
	ii <0 0, were sample (N/A	1				
Note: Identify contain	pers received at non-com	nliant temperatu	Ire					
note. Identity contain	Use form FS-0029 if mo	re space is need	lie. ded.					
Lieldine Time (1		Condition Dom		Nata Dafan	to fame E 000 10		I famous different differen	
Do samples match CC	Documentation / Sample	Condition Requ	Irements	Note: Refer	to form F-083 "S	ample Guide	e for specific holding	limes
**Note: If times d	iffer <1hr record details	& login per COC	,u): 170					
**Note: If sample information on	containers differs from COC_SC	S will default to COC	information					
Were samples in	and condition (no leaks	s/cracks/breakag	re)? Yes					
	good contaition (no loake	s, or dono, broandy	,0).					
Were analytical requests	clear? (i.e., method is sp	pecified for analy	ses					
with m	ultiple option for analysis	(Ex: BTEX, Met	als)					
Were Trip Blanks	s (i.e., VOAs, II-Ha) in c	ooler with sampl	es? N/A					
Were all water VOA via	als free of headspace (i e	bubbles < 6m	m)? N/A					
Were al	l soil VOAs field extracte	d with MeOH+BI	-B? N/A					
For Rush/Short	Hold Time, was RUSH/S	hort HT email se	ent? N/A					
Note to Cli	ent: Any "No" answer aboy	e indicates non-co	moliance	with standard	d procedures and	may impact	t data quality	
			Jinpliance	with Standard		may impaoi	t data quanty.	
		Additional n	otes (if a	pplicable):				
SCS Drofi	lo #	22224	0					
363 FIUI		23331	0		2 3 3	3 1	8	
						<u> </u>	~	



Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container</u> <u>Condition</u>	Container Id	<u>Preservative</u>	<u>Container</u> <u>Condition</u>
1199552001-A	Trizma	OK			
1199552001-B	Trizma	ОК			
1199552002-A	Trizma	ОК			
1199552003-A	Trizma	OK			
1199552003-B	Trizma	OK			
1199552004-A	Trizma	OK			
1199552005-A	Trizma	OK			
1199552005-B	Trizma	OK			
1199552006-A	Trizma	OK			
1199552007-A	Trizma	OK			
1199552007-B	Trizma	OK			
1199552008-A	Trizma	OK			
1199552009-A	Trizma	OK			
1199552009-B	Trizma	OK			
1199552010-A	Trizma	ОК			
1199552011-A	Trizma	OK			
1199552011-B	Trizma	OK			
1199552012-A	Trizma	OK			
1199552013-A	Trizma	OK			
1199552013-B	Trizma	OK			
1199552014-A	Trizma	OK			
1199552015-A	Trizma	OK			
1199552015-B	Trizma	OK			
1199552016-A	Trizma	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.

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.



Orlando, FL

The results set forth herein are provided by SGS North America Inc.

Technical Report for

SGS North America, Inc

1199552

SGS Job Number: FA67036



Sampling Date: 07/23/19

Report to:

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

ATTN: Julie Shumway

Total number of pages in report: **38**



aitlinkin

Caitlin Brice, M.S. General Manager

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(AZ0806), 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.

SGS North America Inc. • 4405 Vineland Road • Suite C-15 • Orlando, FL 32811 • tel: 407-425-6700 • fax: 407-425-670

Please share your ideas about how we can serve you better at: EHS.US.CustomerCare@sgs.com



08/21/19

Automated Report

e-Hardcopy 2.0

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FA67036

Job No:

Sample Summary

SGS North America, Inc

1199552

Sample	Collected			Matri	ix	Client
Number	Date	Time By	Received	Code	Туре	Sample ID
FA67036-1	07/23/19	10:25	07/26/19	DW	Drinking Water	GP19071 WELL/31901313001
FA67036-2	07/23/19	10:20	07/26/19	DW	Drinking Water FB	GP19072 FIELD BLANK/31901313002
FA67036-3	07/23/19	11:35	07/26/19	DW	Drinking Water	GP19073 WELL/31901313003
FA67036-4	07/23/19	11:30	07/26/19	DW	Drinking Water FB	GP19074 FIELD BLANK/31901313004
FA67036-5	07/23/19	12:00	07/26/19	DW	Drinking Water	GP19075 WTP POE/31901313005
FA67036-6	07/23/19	11:55	07/26/19	DW	Drinking Water FB	GP19076 WTP FIELD BLANK/31901313006
FA67036-7	07/23/19	12:30	07/26/19	DW	Drinking Water	GP19077 WELL A /31901313007
FA67036-8	07/23/19	12:25	07/26/19	DW	Drinking Water FB	GP19078 WELL A FIELD BLANK/31901313008
FA67036-9	07/23/19	13:10	07/26/19	DW	Drinking Water	GP19079 WELL B /31901313009
FA67036-10	07/23/19	13:05	07/26/19	DW	Drinking Water FB	GP19080 WELL B FIELD BLANK/31901313010
FA67036-11	07/23/19	12:10	07/26/19	DW	Drinking Water	GP19081 WELL E /31901313011
FA67036-12	07/23/19	12:05	07/26/19	DW	Drinking Water FB	GP19082 WELL E FIELD BLANK/31901313012
FA67036-13	07/23/19	12:45	07/26/19	DW	Drinking Water	GP19083 WELL F /31901313013

FA67036



Sample Summary (continued)

SGS North America, Inc

1199552

Job No: FA67036

Sample Number	Collected Date	Time By	Received	Matr Code	ix Type	Client Sample ID
FA67036-14	07/23/19	12:50	07/26/19	DW	Drinking Water FB	GP19084 WELL F FIELD BLANK/31901313014
FA67036-15	07/23/19	13:45	07/26/19	DW	Drinking Water	GP19085 WELL 7 /31901313015
FA67036-16	07/23/19	13:35	07/26/19	DW	Drinking Water FB	GP19086 WELL 7 FIELD BLANK/31901313016

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS North America, Inc	Job No:	FA67036
Site:	1199552	Report Date	8/21/2019 2:06:55

8 Samples and 8 Field Blanks were collected on 07/23/2019 and were received at SGS North America Inc - Orlando on 07/26/2019 properly preserved and intact. These Samples received an SGS Orlando job number of FA67036. 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 537.1 REV 1.0

Matrix: DW	Batch ID:	OP76396
All samples were extracted within the recom	mended metho	od holding time.
All samples were analyzed within the recomm	mended metho	od holding time.
Sample(s) JC91980-4AMS, JC91980-4AMS	D were used a	as the QC samples indicated.
All method blanks for this batch meet metho	d specific crite	eria.
Matrix: DW	Batch ID:	OP76397
All samples were extracted within the recom	mended metho	od holding time.
All samples were analyzed within the recomm	mended metho	od holding time.
Sample(s) FA67040-1MS, FA67040-1MSD	were used as t	the QC samples indicated.
All method blanks for this batch meet metho	d specific crite	erio

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)

N

Summary of Hits Job Number: FA67036

Account: SGS North America, Inc **Project:** 1199552 **Collected:** 07/23/19

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA67036-1	GP19071	WELL/3	1901313001			
Perfluorooctanoi	c acid	0.331	0.0019	0.00094 a	ug/l	EPA 537.1 REV 1.0
FA67036-2	GP19072	FIELD B	BLANK/319	01313002		
No hits reported	in this sample.					
FA67036-3	GP19073	WELL/3	1901313003			
Perfluorooctanoi	c acid	0.00265	0.0021	0.0010 a	ug/l	EPA 537.1 REV 1.0
FA67036-4	GP19074	FIELD B	LANK/319	01313004		
No hits reported	in this sample.					
FA67036-5	GP19075 WTP PC	DE/31901313005				
No hits reported	in this sample.					
FA67036-6	GP19076 WTP FI	ELD BLANK/3	1901313006			
No hits reported	in this sample.					
FA67036-7	GP19077 WELL A	A 31	901313007			
Perfluorooctanoio Perfluorooctanes	c acid ulfonic acid	0.0213 0.103	0.0039 0.0039	0.0020 0.0020	ug/l ug/l	EPA 537.1 REV 1.0 EPA 537.1 REV 1.0
FA67036-8	GP19078 WELL A	A FIELD BLAN	K/31901313	008		
No hits reported	in this sample.					
FA67036-9	GP19079 WELL F	31	901313009			
Perfluorooctanoi Perfluorooctanes	c acid ulfonic acid	0.101 0.243	0.0042 0.0042	0.0021 0.0021	ug/l ug/l	EPA 537.1 REV 1.0 EPA 537.1 REV 1.0
FA67036-10	GP19080 WELL F	B FIELD BLAN	K/31901313	010		
No hits reported	in this sample.					
FA67036-11	GP19081 WELL F	E 31	901313011			
Perfluorooctanoi	c acid	0.0722	0.0021	0.0010 ^a	ug/l	EPA 537.1 REV 1.0

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FA67036

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Summary of Hits

Job Number:FA67036Account:SGS North America, IncProject:1199552Collected:07/23/19

Lab Sample ID Client S Analyte	Sample ID	Result/ Qual	LOQ	LOD	Units	Method	
Perfluorooctanesulfonic a	cid	0.360	0.0021	0.0016 ^a	ug/l	EPA 537.1 REV 1.0	

FA67036-12 GP19082 WELL E FIELD BLANK/31901313012

No hits reported in this sample.

FA67036-13 (GP19083 WELL 1	Ŧ	31901313013				
Perfluorooctanoic a	acid	0.0223	0.0019	0.00096 ^a	ug/l	EPA 537.1 REV	1.0
Perfluorooctanesul	fonic acid	0.106	0.0019	0.0014 a	ug/l	EPA 537.1 REV	1.0

FA67036-14 GP19084 WELL F FIELD BLANK/31901313014

No hits reported in this sample.

FA67036-15 GP19085 WELL 7 31901313015

No hits reported in this sample.

FA67036-16 GP19086 WELL 7 FIELD BLANK/31901313016

No hits reported in this sample.

(a) Value reported is laboratory DL (MDL).



Orlando, FL

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Sample Results

Report of Analysis

Report of Analysis

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Client Sample ID: Lab Sample ID: Matrix: Method: Project: File ID		GP19071 WELL/31901313003 FA67036-1 DW - Drinking Water EPA 537.1 REV 1.0 EPA 537 1199552					Date Sampled: 07/23/19 Date Received: 07/26/19 Percent Solids: n/a					
Run #1 Run #2	File ID Q62474	4.D	DF 1	Analyzed 08/16/19 00:07	By MV	Pr 08	rep 1 /01/	Date /19 11:40	Prep B OP7639	atch 96	Analytical Batch SQ1414	
Run #1 Run #2	Initial 265 ml	Volume	Final Volu 1.0 ml	ime								
CAS No.	Comp	ound		Result	MCL	LOC	2	LOD	DL	Units	Q	
PERFLUC	OROAL	XYLCAR	BOXYLIC	ACIDS								
335-67-1	Perflu	orooctand	pic acid	0.331		0.00	19	0.00094	^a 0.00094	ug/l		
PERFLUC	OROALŀ	XYLSUL	FONATES									
1763-23-1	Perflu	orooctane	esulfonic aci	d 0.0014 U		0.00	19	0.0014 ^a	0.0014	ug/l		
CAS No.	Surro	gate Rec	overies	Run# 1	Run#	2	Liı	mits				
	13C2-	PFHxA		80%			70-	-130%				
	13C2-	PFDA		117%			70-	-130%				

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141) E = Indicates value exceeds calibration range 4.1

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sam Lab Sampl Matrix: Method:	ple ID: le ID:	GP1907 FA6703 DW - D EPA 53	2 6-2 rinking Wa 7.1 REV 1.	FIELD BL ter FB 0 EPA 537	ANK/3	190131	3002 Dat Dat Per	te Sample te Receive rcent Solid	d: 07/ d: 07/ ls: n/a	/23/19 /26/19
Project:		1199552								
Run #1 Run #2	File ID Q62475	5.D	DF 1	Analyzed 08/16/19 00:22	By 2 MV	Pre 08/0	p Date)1/19 11:40	Prep B OP7639	atch 96	Analytical Batch SQ1414
Run #1 Run #2	Initial 260 ml	Volume	Final Vol 1.0 ml	ume						
CAS No.	Comp	ound		Result	MCL	LOQ	LOD	DL	Units	Q
PERFLUO	ROALK	YLCAR	BOXYLIC	ACIDS						
335-67-1	Perflu	orooctanc	oic acid	0.00096 U		0.0019	9 0.00096	5 ^a 0.00096	ug/l	
PERFLUO	ROALK	YLSUL	FONATES							
1763-23-1	Perflu	orooctane	sulfonic ac	id 0.0014 U		0.0019	9 0.0014	a 0.0014	ug/l	
CAS No.	Surro	gate Reco	overies	Run# 1	Run#	2 I	Limits			
	13C2- 13C2-	PFHxA PFDA		101% 104%		7	70-130% 70-130%			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141) 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

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Client San	nple ID:	GP1907	3	WELL/319	013130	003					
Lab Samp	le ID:	FA6703	6-3					Date	e Sample	d: 07/	/23/19
Matrix:		DW - D	rinking Wa	ter		Date Received: 07/26/19					
Method:		EPA 53	7.1 REV 1.	0 EPA 537				Perc	ent Solic	ls: n/a	L
Project:		1199552	2								
	File ID		DF	Analyzed	By	Pr	ep	Date	Prep B	atch	Analytical Batch
Run #1	Q62476	5.D	1	08/16/19 00:38	8 MV 08/01/19 11:40		OP763	96	SQ1414		
Run #2											
	Initial	Volume	Final Vol	ume							
Run #1	240 ml		1.0 ml								
Run #2											
CAS No.	Comp	ound		Result	MCL	LOC)	LOD	DL	Units	Q
PERFLUC	OROALK	YLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctand	oic acid	0.00265		0.00	21	0.0010 a	0.0010	ug/l	
PERFLUC	OROALK	YLSUL	FONATES								
1763-23-1	Perflu	orooctane	esulfonic ac	id 0.0016 U		0.00	21	0.0016 ^a	0.0016	ug/l	
CAS No.	Surro	gate Rec	overies	Run# 1	Run# 2	2	Li	mits			
	13C2-	PFHxA		88%			70	-130%			
	13C2-	PFDA		108%			70	-130%			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141) E = Indicates value exceeds calibration range 4.3

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client San Lab Samp Matrix: Method: Project:	nple ID: le ID:	GP19074 FIELD BLANK/31901313004 FA67036-4 DW - Drinking Water FB EPA 537.1 REV 1.0 EPA 537 1199552					3004 Date Date Perc	Date Sampled: 07/23/19 Date Received: 07/26/19 Percent Solids: n/a				
Run #1 Run #2	File ID Q62479).D	DF 1	Analyzed 08/16/19 01:24	By MV	Prep 08/01	Date 1/19 11:40	Prep B OP7639	atch 96	Analytical Batch SQ1414		
Run #1 Run #2	Initial 245 ml	Volume	Final Vol 1.0 ml	ume								
CAS No.	Comp	ound		Result	MCL	LOQ	LOD	DL	Units	Q		
PERFLUC	OROAL	XYLCAR	BOXYLIC	ACIDS								
335-67-1	Perflu	orooctand	oic acid	0.0010 U		0.0020	0.0010 ^a	0.0010	ug/l			
PERFLUC	OROALŀ	XYLSULI	FONATES									
1763-23-1	Perflu	orooctane	sulfonic aci	d 0.0015 U		0.0020	0.0015 ^a	0.0015	ug/l			
CAS No.	Surro	gate Reco	overies	Run# 1	Run#2	2 L	imits					
	13C2-PFHxA		102%	70-130%								
	13C2-PFDA		107%	70-130%								

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141) E = Indicates value exceeds calibration range 4.4 **4**

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: Lab Sample ID: Matrix: Method: Project:		GP19075 WTP POE/31901313005 FA67036-5 DW - Drinking Water EPA 537.1 REV 1.0 EPA 537 1199552					Date Sampled:07/23/19Date Received:07/26/19Percent Solids:n/a						
Run #1 Run #2	File ID Q62480	.D	DF 1	Analyzed 08/16/19 01:39	By MV	Pre 08/0	p Date 01/19 11:40	Prep B OP7639	atch 96	Analytical Batch SQ1414			
Run #1 Run #2	Initial V 260 ml	olume	Final Volu 1.0 ml	ime									
CAS No.	Compo	ound		Result	MCL	LOQ	LOD	DL	Units	Q			
PERFLUC	OROALK	YLCAR	BOXYLIC	ACIDS									
335-67-1	Perfluc	orooctano	ic acid	0.00096 U		0.001	9 0.00096	^a 0.00096	ug/l				
PERFLUC	ROALK	YLSULI	FONATES										
1763-23-1	Perfluc	prooctane	sulfonic acid	d 0.0014 U		0.001	9 0.0014 ^a	^a 0.0014	ug/l				
CAS No.	Surrog	ate Reco	overies	Run# 1	Run#	2	Limits						
	13C2-F	PFHxA		98%		,	70-130%						
	13C2-F	PFDA		101%		2	70-130%						

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client San	nle ID•	GP1907	6 WTP FIF	I D BI ANK/319	013130	06					
Lah Samn	Ipic ID.	EA6703	6-6		015150	00	Date	Sample	d• 07/	/23/10	
Lab Samp	it iD.		ninlrin a Wat	ton ED			Date Dampied: $07/26/10$				
			7 1 DEV 1				Date	Keceive		20/19	
Method:		EPA 53	/.1 KEV 1.0	0 EPA 537			Perc	ent Solid	is: n/a	L	
Project:		1199552	2								
	File ID		DF	Analyzed	By	Prep	Date	Prep B	atch	Analytical Batch	
Run #1	Q62481	.D	1	08/16/19 01:55	MV	08/0	1/19 11:40	OP763	96	SQ1414	
Run #2											
	Initial	Volume	Final Volu	ume							
Run #1	245 ml		1.0 ml								
Run #2											
CAS No.	Comp	ound		Result	MCL	LOQ	LOD	DL	Units	Q	
PERFLUC	OROALK	YLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctand	oic acid	0.0010 U		0.0020	0.0010 ^a	0.0010	ug/l		
PERFLUC	OROALK	YLSUL	FONATES								
1763-23-1	Perflu	orooctane	esulfonic aci	d 0.0015 U		0.0020	0.0015 ^a	0.0015	ug/l		
CAS No.	Surro	gate Rec	overies	Run# 1	Run# 2	2 L	imits				
	13C2-	PFHxA		102%		70)-130%				
	13C2-	PFDA		109%		70)-130%				

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

 $J = \ Indicates \ an \ estimated \ value$

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sam Lab Samp	iple ID: le ID [.]	GP1907 FA6703	7 WELL A	319	01313	007		Date	e Samnler	i • 07/	/23/19
Matrix.	it ib.	DW - F	rinking Wat	er			Date Received: 07/26/19				
Method:		EPA 53	7.1 REV 1.0) EPA 537				Pero	ent Solid	s: n/a	20,19
Project:		119955	2					1011	Source Source	5. 12 4	
	File ID)	DF	Analyzed	By	Pr	ep	Date	Prep B	atch	Analytical Batch
Run #1 Run #2	Q62519	Ə.D	1	08/16/19 14:10	MV	08/	/01	/19 11:40	OP7639	96	SQ1415
	Initial	Volume	Final Volu	ime							
Run #1 Run #2	255 ml		1.0 ml								
CAS No.	Comp	ound		Result	MCL	LOQ	2	LOD	DL	Units	Q
PERFLUC	OROALK	XYLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctan	oic acid	0.0213		0.003	39	0.0020	0.00098	ug/l	
PERFLUC	OROALK	XYLSUL	FONATES								
1763-23-1	Perflu	orooctan	esulfonic acid	d 0.103		0.003	39	0.0020	0.0015	ug/l	
CAS No.	Surro	gate Rec	overies	Run# 1	Run#	2	Li	mits			
	13C2-	PFHxA		102%			70	-130%			
	13C2-	PFDA		112%			70	-130%			

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

J = Indicates an estimated value

 $[\]mathbf{B}=~\mathbf{Indicates}$ analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client San	nple ID:	GP190'	78 WELL A	FIELD BLANK	/31901	31300	8				
Lab Samp	le ID:	FA670	36-8					Date	e Sampleo	i: 07/	23/19
Matrix:		DW - I	Drinking Wate	er FB				Date	Receive	d: 07/	26/19
Method:		EPA 53	37.1 REV 1.0	EPA 537				Perc	ent Solid	s: n/a	
Project:		119955	2								
	File ID)	DF	Analyzed	By	Pro	ep I	Date	Prep B	atch	Analytical Batch
Run #1	Q62483	3.D	1	08/16/19 02:25	MV	08/	/01/	19 11:40	OP7639	96	SQ1414
Run #2											
	Initial	Volume	Final Volu	ime							
Run #1	255 ml		1.0 ml								
Run #2											
CAS No.	Comp	ound		Result	MCL	LOQ	2	LOD	DL	Units	Q
PERFLUC	OROALF	XYLCAF	RBOXYLIC	ACIDS							
335-67-1	Perflu	orooctan	oic acid	0.00098 U		0.002	20	0.00098	^a 0.00098	ug/l	
PERFLUC	OROAL	YLSUL	FONATES								
1763-23-1	Perflu	orooctan	esulfonic acid	d 0.0015 U		0.002	20	0.0015 a	0.0015	ug/l	
CAS No.	Surro	gate Rec	coveries	Run# 1	Run#	2	Lin	nits			
	13C2-	PFHxA		105%			70-	130%			
	13C2-	PFDA		113%			70-	130%			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sam Lab Sampl Matrix: Method: Project:	ple ID: e ID:	GP1907 FA6703 DW - D EPA 53 1199552	9 WELL B 6-9 rinking Wate 7.1 REV 1.0	319 er EPA 537	013130	009		Dat Dat Per	e Sample e Receive cent Solio	d: 07/ ed: 07/ ls: n/a	23/19 26/19
Run #1 Run #2	File ID Q62515	5.D	DF 1	Analyzed 08/16/19 12:30	By MV	Pr 08/	ep /01	Date /19 11:40	Prep E OP763	Batch 96	Analytical Batch SQ1415
Run #1 Run #2	Initial 240 ml	Volume	Final Volu 1.0 ml	me							
CAS No.	Comp	ound		Result	MCL	LOQ)	LOD	DL	Units	Q
PERFLUO	ROAL	YLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctand	oic acid	0.101		0.004	42	0.0021	0.0010	ug/l	
PERFLUO	ROALK	YLSUL	FONATES								
1763-23-1	Perflu	orooctane	esulfonic acid	0.243		0.004	42	0.0021	0.0016	ug/l	
CAS No.	Surro	gate Reco	overies	Run# 1	Run#	2	Li	mits			
	13C2- 13C2-	PFHxA PFDA		102% 116%			70 70	-130% -130%			

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

- $B = \ \mbox{Indicates analyte found in associated method blank}$
- N = Indicates presumptive evidence of a compound

J = Indicates an estimated value

Report of Analysis

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Client San	ple ID:	GP1908	0 WELL B I	FIELD BLANK/	31901	313010)				
Lab Samp	le ID:	FA6703	6-10					Dat	e Sampleo	i: 07/	23/19
Matrix:		DW - D	rinking Wat	er FB				Dat	e Receive	d: 07/	26/19
Method:		EPA 53	7.1 REV 1.0) EPA 537				Per	ent Solid	s: n/a	
Project:		1199552	2								
	File ID		DF	Analyzed	By	Pre	ep Dat	e	Prep B	atch	Analytical Batch
Run #1	Q62485	5.D	1	08/16/19 02:56	MV	08/	01/19	11:40	OP7639	96	SQ1414
Run #2											
	Initial	Volume	Final Volu	ime							
Run #1	265 ml		1.0 ml								
Run #2											
CAS No.	Comp	ound		Result	MCL	LOQ	L	DD	DL	Units	Q
PERFLUC	OROALK	YLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctanc	oic acid	0.00094 U		0.001	9 0.0	00094	^a 0.00094	ug/l	
PERFLUC	OROALK	YLSULI	FONATES								
1763-23-1	Perflu	orooctane	esulfonic acid	d 0.0014 U		0.001	9 0.0	0014 ^a	0.0014	ug/l	
CAS No.	Surro	gate Reco	overies	Run# 1	Run#	2	Limits				
	13C2-	PFHxA		84%			70-130	%			
	13C2-	PFDA		89%			70-130	%			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sam	Client Sample ID: Lab Sample ID:	GP1908	1 WELL E	319	013130	011					
Lab Samp	le ID:	FA6703	6-11					Date	e Sample	d: 07/	23/19
Matrix:		DW - D	rinking Wate	er				Date	e Receive	ed: 07/	26/19
Method:		EPA 53	7.1 REV 1.0	EPA 537				Perc	ent Solio	ls: n/a	
Project:		1199552	2								
	File ID)	DF	Analyzed	By	Pr	ep	Date	Prep B	Batch	Analytical Batch
Run #1	Q6248	5.D	1	08/16/19 03:12	MV	08	/01	/19 11:40	OP763	96	SQ1414
Run #2											
	Initial	Volume	Final Volu	me							
Run #1	240 ml		1.0 ml								
Run #2											
CAS No.	Comp	ound		Result	MCL	LOC	2	LOD	DL	Units	Q
PERFLUO	ROAL	XYLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctand	pic acid	0.0722		0.00	21	0.0010 a	0.0010	ug/l	
PERFLUC	ROAL	XYLSUL	FONATES								
1763-23-1	Perflu	orooctane	esulfonic acid	0.360		0.00	21	0.0016 ^a	0.0016	ug/l	
CAS No.	Surro	gate Rec	overies	Run# 1	Run#	2	Liı	mits			
	13C2-	PFHxA		78%			70-	-130%			
	13C2-	PFDA		93%			70-	-130%			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

 $J = \ Indicates \ an \ estimated \ value$

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sam Lab Samp Matrix: Method: Project:	Client Sample ID: Lab Sample ID: Matrix: Method: Project: File ID Run #1 Q62487		2 WELL E 1 6-12 rinking Wat 7.1 REV 1.0 2	FIELD BLANK/ er FB) EPA 537	/319013	313012	2	Date Date Perc	e Sample e Receive cent Solic	ed: 07/ ed: 07/ ds: n/a	23/19 26/19
Run #1 Run #2	File ID Q62487	7.D	DF 1	Analyzed 08/16/19 03:27	By MV	Pre 08/	ep Dat 01/19	ae 11:40	Prep E OP763	Batch 96	Analytical Batch SQ1414
Run #1 Run #2	Initial 245 ml	Volume	Final Volu 1.0 ml	ime							
CAS No.	Comp	ound		Result	MCL	LOQ	L	OD	DL	Units	Q
PERFLUC	OROAL	YLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctand	oic acid	0.0010 U		0.002	20 0.	0010 ^a	0.0010	ug/l	
PERFLUC	OROAL	YLSUL	FONATES								
1763-23-1	Perflu	orooctane	esulfonic aci	d 0.0015 U		0.002	20 0.	0015 ^a	0.0015	ug/l	
CAS No.	Surro	gate Rec	overies	Run# 1	Run#	2	Limit	8			
	13C2-	PFHxA		104%			70-13	0%			
	13C2-	PFDA		115%			70-13	0%			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

 $J = \ Indicates \ an \ estimated \ value$

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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1											
Client Sam	ple ID:	GP1908	3 WELL F	319	013130	013					
Lab Sampl	e ID:	FA6703	6-13					Date	e Sampleo	d: 07/	23/19
Matrix:		DW - D	rinking Wate	er				Date	e Receive	d: 07/	26/19
Method:		EPA 53	7.1 REV 1.0	EPA 537				Perc	ent Solid	s: n/a	
Project:		1199552	2								
	File ID		DF	Analyzed	By	Pr	rep 1	Date	Prep B	atch	Analytical Batch
Run #1	Q62488	3.D	1	08/16/19 03:42	MV	08	8/01/	19 11:40	OP7639	96	SQ1414
Run #2											
	Initial	Volume	Final Volu	me							
Run #1	260 ml		1.0 ml								
Run #2											
CAS No.	Comp	ound		Result	MCL	LOO	2	LOD	DL	Units	Q
PERFLUO	ROAL	YLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctand	oic acid	0.0223		0.00)19	0.00096	^a 0.00096	ug/l	
PERFLUO	ROAL	YLSUL	FONATES								
1763-23-1	Perflu	orooctane	sulfonic acid	0.106		0.00)19	0.0014 ^a	0.0014	ug/l	
CAS No.	Surro	gate Reco	overies	Run# 1	Run#	2	Liı	nits			
	13C2-	PFHxA		92%			70-	130%			
	13C2-	PFDA		108%			70-	130%			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141) 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

Page 1 of 1

Client Sam	ple ID:	GP1908	4 WELL F F	FIELD BLANK/	319013	313014	4				
Lab Sampl	le ID:	FA6703	6-14					Date	e Sampleo	d: 07/	23/19
Matrix:		DW - D	rinking Wate	er FB				Date	e Receive	d: 07/	26/19
Method:		EPA 53	7.1 REV 1.0	EPA 537				Perc	ent Solid	l s: n/a	
Project:		1199552	2								
	File ID)	DF	Analyzed	By	Pre	ep D	ate	Prep B	atch	Analytical Batch
Run #1	Q62493	3.D	1	08/16/19 04:59	MV	08/	/05/1	9 15:40	OP7639) 7	SQ1414
Run #2											
	Initial	Volume	Final Volu	me							
Run #1	265 ml		1.0 ml								
Run #2											
CAS No.	Comp	oound		Result	MCL	LOQ	<u>)</u>	LOD	DL	Units	Q
PERFLUO	ROAL	XYLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctanc	oic acid	0.00094 U		0.001	19	0.00094	^a 0.00094	ug/l	
PERFLUO	ROAL	XYLSULI	FONATES								
1763-23-1	Perflu	orooctane	sulfonic acid	0.0014 U		0.001	19	0.0014 ^a	0.0014	ug/l	
CAS No.	Surro	gate Reco	overies	Run# 1	Run#	2	Lim	iits			
	13C2-	PFHxA		100%			70-1	30%			
	13C2-	PFDA		106%			70-1	30%			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

 $J = \ Indicates \ an \ estimated \ value$

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sam Lab Sampl Matrix: Method: Project:	Client Sample ID: Lab Sample ID: Matrix: Method: Project: File ID Run #1 Q62494		5 WELL 7 6-15 rinking Wat 7.1 REV 1.0	319 er) EPA 537	013130	015		Date Date Perc	e Samplec e Received cent Solid	l: 07/ d: 07/ s: n/a	23/19 26/19
Run #1 Run #2	File ID Q62494	4.D	DF 1	Analyzed 08/16/19 05:14	By MV	Pre 08/0	p Date 05/19 1	5:40	Prep B OP7639	atch 97	Analytical Batch SQ1414
Initial Run #1 260 ml Run #2 CAS No. Comp		Volume	Final Volu 1.0 ml	ıme							
CAS No.	Comp	ound		Result	MCL	LOQ	LO	D	DL	Units	Q
PERFLUO	ROAL	XYLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctanc	oic acid	0.00096 U		0.001	9 0.0	0096	^a 0.00096	ug/l	
PERFLUO	ROAL	KYLSULI	FONATES								
1763-23-1	Perflu	orooctane	sulfonic aci	d 0.0014 U		0.001	9 0.0	014 ^a	0.0014	ug/l	
CAS No.	Surro	gate Reco	overies	Run# 1	Run#	2	Limits				
	13C2- 13C2-	PFHxA PFDA		92% 108%			70-130 70-130	% %			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141) 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

Page 1 of 1

Client San Lab Samp Matrix: Method: Project:	Client Sample ID: Lab Sample ID: Matrix: Method: Project: File ID		6 WELL 7 1 6-16 prinking Wat 7.1 REV 1.0	FIELD BLANK/ eer FB) EPA 537	319013	313016	Ó	Date Date Perc	e Sample e Receive cent Solid	d: 07/ ed: 07/ ls: n/a	/23/19 /26/19
Run #1 Run #2	File ID Q62495	5.D	DF 1	Analyzed 08/16/19 05:30	By MV	Pre 08/	ep D /05/1	ate 9 15:40	Prep E OP763	Batch 97	Analytical Batch SQ1414
Run #1 Run #2	Initial 250 ml	Volume	Final Vol 1.0 ml	ıme							
CAS No.	Comp	ound		Result	MCL	LOQ	2	LOD	DL	Units	Q
PERFLUC	OROALK	YLCAR	BOXYLIC	ACIDS							
335-67-1	Perflu	orooctand	oic acid	0.0010 U		0.002	20	0.0010 ^a	0.0010	ug/l	
PERFLUC	DROALK	YLSUL	FONATES	d 0.0015 U		0.003	20	0 0015 a	0.0015	ug/1	
CAS No.	Surro	gate Rec	overies	Run# 1	Run#	2	Lim	its	0.0013	ug/1	
	13C2-	PFHxA		100%			70-1	30%			
	13C2-	PFDA		104%			70-1	30%			

(a) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection MCL = Maximum Contamination Level (40 CFR 141)

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound





Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

• Chain of Custody



SGS North America Inc. CHAIN OF CUSTODY RECORD



Locations Nationwide Alaska

Texas

Florida Colorado New Jersey North Carolina Louisiana

					F	4 6'	703	6	DA SEDI	EI IANTE CEI	. (01011)	HUNDI NURAN A		Virginia <u>www.us.</u>	Louisiana
CLIENT:	SGS North Ame	rica Inc Alas	ka Division		SGS	6 Refere	nce: 3	190	13	13	\$	GS	NC		Page 1 of 2
CONTACT:	Julie Shumway	PHONE NO:	(907) 56	2-2343	Addi	tional	Comm	ents:	All	soils	repo	rt out	in dry weigh	t unless	
PROJECT NAME:	1199552	PWSID#: NPDL#:	Multiple			Preserv- ative Used:	Tiana								
REPORTS TO	: Julie Shumway	E-MAIL: Env.Alaska.H	Julie.Shumwa RefLabTeam (ay@sgs.con @sgs.com	O N T	TYPE C = COMP	FOS								
INVOICE TO:	SGS - Alaska	QUOTE #: P.O. #:	1199	552	A 1 N	G = GRAB MI = Multi	PFOA P								
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE	E R S	Incre- mental Soils	EPA 537				MS	MSD	SGS lab #	L	ocation ID
1	GP19071 Well	07/23/2019	10:25:00	DW	21		x						1199552001	372245,	WL001,SPWL001
2,	P19072 Field Bla	07/23/2019	10:20:00	DW	1		x						1199552002	372245,	WL001,SPWL001
3	GP19073 Well	07/23/2019	11:35:00	DW	21		x						1199552003	372504,	WL001,SPWL001
4	P19074 Field Bla	07/23/2019	11:30:00	DW	1		x						1199552004	372504,	WL001,SPWL001
5	GP19075 WTP POE	07/23/2019	12:00:00	DW	21		x						1199552005	370625	TP001,SPTP001
6	GP19076 WTP Field Blank	07/23/2019	11:55:00	DW	1		x						1199552006	370625	TP001,SPTP001
7	GP19077 Well A	07/23/2019	12:30:00	DW	2.7		x						1199552007	370625,	WL002,SPWL002
. 4	GP19078 Well A Field Blank	07/23/2019	12:25:00	DW	1		x						1199552008	370625,	WL002,SPWL002
9	GP19079 Well B	07/23/2019	13:10:00	DW	21		x						1199552009	370625,	WL003,SPWL003
(d	GP19080 Well B Field Blank	07/23/2019	13:05:00	DW	1		x						1199552010	370625,	WL003,SPWL003
Relinquished	Ву: (1)	Date	Time	Received	By:				DOD	Projec	t?		NO	Data Deliver	able Requirements
						1			Repo If J- Re	eport as	L (J F	lags)?	YES	U	/L 2 + DEC
Relinquished	By: (2)	Date	Time	Received	By:			1	Re	er ID: eques	ted T	urnar	ound Time a	nd-or Spec	ial Instructions:
Relinguisped	BY SIMMER	Date 25/14	Time	Received	By: ())\X	11,011	21:110 11:10	5				F	Please Repor	t to ADEC	

1010200 10-125 F088_COC_REF_LAB_20190411

FA67036: Chain of Custody Page 1 of 6



Locations Nationwide

Alaska Florida New Jersey Colorado

Texas North Carolina Virginia Louisiana

SGS North America Inc. CHAIN OF CUSTODY RECORD

|--|--|--|--|--|--|--|--|

														www.us	.sqs.com
CLIENT:	SGS North Ame	rica Inc Alas	ka Division		SGS	Refere	nce:	319	OF	312	5 5	GS	NC	_	Page 2 of 2
CONTACT:	Julie Shumway	PHONE NO:	(907) 56	2-2343	Addit	ional	Comn	nents	: All	soils	repo	rt out	in dry weigh	t unless	-
PROJECT	1100552	PWSID#:	Multiple			Preserv-	.03								
NAME:	1199992	NPDL#:			c	Used:	110								
REPORTS TO:	Julie Shumway	E-MAIL:	Julie,Shumwa	y@sqs.con		TYPE	s								
		Env.Alaska.	RefLabTeam	sqs.com	τ	COMP	E E								
INVOICE TO:		QUOTE #:			^	GRAB	Ā								
	SGS - Alaska	P.O. #:	1199	552	Ň	MI = Multi	PF					ĺ			
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE	E R S	Incre- mental Soils	EPA 537				MS	MSD	SGS lab #		ocation ID
11	GP19081 Well E	07/23/2019	12:10:00	DW	21		x						1199552011	370625	WL001,SPWL001
12	GP19082 Well E Field Blank	07/23/2019	12:05:00	DW	1		х						1199552012	370625	WL001,SPWL001
13	GP19083 Well F	07/23/2019	12:45:00	DW	21		х						1199552013	370625	,WL008,SPWL008
14	GP19084 Well F Field Blank	07/23/2019	12:50:00	DW	1		х		1199552014			1199552014	370625	WL008,SPWL008	
15	GP19085 Well 7	07/23/2019	13:45:00	DW	21		x		11			1199552015	370625	WL005,SPWL005	
16	GP19086 Well 7 Field Blank	07/23/2019	13:35:00	DW	1		x						1199552016	370625	,WL005,SPWL005
						ļ									
L						1									
Relinquished	By: (1)	Date	Time	Received	By:				DOD	Projec	t?		NO	Data Delive	rable Requirements:
									Repo	rt to D	L (J FI	ags)?	YES		
									If J- Re	port as	DL/LOD	/L0Q.		1	VL 2 +DEC
Relinquished	By: (2)	Date	Time	Received	By:				Coole	er ID:	tod T	urner	ound Time o	ad or Spor	al Instructions:
									I Re	ques	tea 1	umai	ound rine a	nu-or aper	
Relinguished	By: (3)	Date	Time	Received	By:				1			I	Please report	to ADEC	
									Temp	Blank	(°C: (280	(T.B.)	Chain of (Custody Seal: (Circle)
Relinquished	By: (4) Aumaraly	Date 1/25/19	Time	Received	For Lat	oratory	/By: 712	19			or A	mbien	t[] (INTACT	BROKEN ABSENT

F088_COC_REF_LAB_20190411

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C	cc			SG	S Ac Cha	cut in o	est S f Cu	So 1st	ut too	he: dy	ast				SGS	S ACC	UTE	ST J	0B #	:		PAG	Е <u>2</u>	0	5
E	A CLU	CCUTEST		44	05 Vineland TEL 407	1 Road, S -425-670	uite C-15 0 FAX:	Orlan 407-4	do, F 125-0	FI 32811 707					SGS	S Acc	utest	Que	ote #		SKIFF #				
and the second second second				1	encal.	Projec	t Infor	mat	ion	12.00		Land a	影派	1	家電	16.3		创盟,	Analy	tical	Inform	nation	《唐麗		Matrix Codes
	Client / Reporting Int	formation	AND COMPANY	Project N	ame:	110,00	. inter					CARLENC										Ι			DW - Drinking Water
ddress:			-	Street																1					Water WW - Water
ity:	State:	Zip:		City State																	SW - Surface				
Project Cor	itact: Er	nail:		Project #	Project #																	SO - Soil			
hone #:				Fax#																					OI - Oil
Sampler(s)	Name(s) (Printed)	o.		Client Pu	Client Purchase Order #																	LIQ - Other Liquid			
sampler 1:	Sampler	2.		COLLECTION		2		ONTA	UNER	INFORM	IOITA	8	श	-											AIR - AIr
SGS Accutest		10 No. 10			SAMPLED	MATRIX	TOTAL #	OTHER	IONE	4CI MINOH	NO3	12504	ACH+ZN	NECH											LAB USE ONL
Sample #	Field ID / Point o	f Collection	DATE	TIME	BY:	MATHO	DOTTLO		-	-	1			1								4			
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2	10 Day (Business)	Approv	ed By: / Dat	e:		MMER	CIAL "A"	(RE	SUL	TS O	NLY)														
	7 Day					MMER	CIAL "B"	(RE	SUL	TS P	US	QC)					-	-		100					
	5 Day					DT1 (E	PALEVE	EL 3)																
	3 Day RUSH			-	FU	LLT1 (E	PALEV	EL 4	9								1		-		-				
	2 Day RUSH				LED	05																	-		
	1 Day RUSH			-																	ik -				
	Other Rush T/A Data Avail	able VIA Email or L	ablink	_												aludi		wine -	lolive	~	199	- and the s	100 100 9	5.179-1	
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Relinqui	ished by Sampler/Affiliation	Date Time:	ALD	Athilation	121	Δ				120	PA	1.1	De.	1	51	P	in	8	114	91	0:71) ~	The	m	12:00
Relingu	ished by/Affillation	Date Time:	Received By	Affiliation	<u>u</u>	vo				Reli	iqui	shed	By/A	miller	tion	~			Date	Time:	Re	eceived	By/Aff	iliatio	n
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Lab Use Only : Cooler Temperature (s) Celsius:

FA67036: Chain of Custody Page 3 of 6 5.1 5

	e di		SG	S Ac Chai	cute n o	est S f Cu	ou iste	ith od	iea y	st				SGS	ACC	UTE	ST JO)B#:			PAGE	3	_OF	5
2 v 2			44	05 Vineland TEL: 407-	Road, St 425-6700	ite C-15 (FAX: 4	01land 107-42	6, FL: 5-070	32811 17				í	SGS	SGS Accutest Quote #				SKIFF #					
					www.A	t Inform	mati	on	1	-			-	Analyt			nalyti	cal In	form	ation		N	Aatrix Codes	
	Client / Reporting Information		Project Na	ame:	Tojec	C Inform	martin	011	1.00							T	1		T					Water
ompany Na	me:		Church		2017			-		_			-											GW - Ground
ddress:			DILARI						510	10			_											WW - Water
ty:	State: Zip:		City																	SW - Surface Water				
roject Cont	act: Email:		Project #													1					SO - Soil			
hone #:	· · · · · · · · · · · · · · · · · · ·		Fax#																		OI - Oil			
amplor(c)	Name(e) (Printed)		Client Purchase Order #																	Liquid				
ampler 1:	Sampler 2:		COLLECTION			c	ONTAI	NER IS	FORM	ATIO	N	-	_										-	AIR - Air
SGS Accutest Sample # Field ID / Point of Collection			TIME	SAMPLED	MATRIX	TOTAL #	OTHER	NONE	HON	FING	H2SOA	NAOH+ZNA	MEOH			-								LAB USE ONL
Sample #	Field ID / Point of Collection	Unic						T										-		-	-	_	-	
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	21901219016	+	1	-	1					T					1	1			_	1	1			
	Turnaround Time (Business days)		L		D	ata Del	liver	able	e Infe	orm	natio	n							10	Comn	ients	Rem	arks	
	10 Day (Business) Approved	1 By: / Dat	te:		MMER	CIAL "A	" (RE	SUL	TS O	NLY	3													
	7 Day				MMER	CIAL "B	" (RE	SUL	TS P	LUS	QC)	ļ				F				<u></u>		_		
	5 Day				DT1 (8	PA LEV	'EL 3))																
	3 Day RUSH		-	- FL	LLT1 (EPA LEV	/EL 4	i)								-	-				-			
	2 Day RUSH			1 LEC	D'S																			
	1 Day RUSH		-													-		1.00						+1
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	Rush T/A Data Available VIA Email of La	ple Custo	ody must b	e docum	ented b	elow ead	ch tin	ne sa	IDel	s cl	hang	e pos	sess	ation, in	nciud	ing co	nuer o	Date T	ime:	Re	eceived	By/Aff	illatio	n
Relinqui	shed by Sampler/Affiliation Date Time: Re 214/1539 2	ash	ULLO	no	W	2			0	A	W	Lee	4Ô	NU	er	S	8	14/4	714	30) eceived	By/Aff	iliatio	n
Relinqu	shed by/Affiliation Date Time: Re	ceived B	y/Alfili	1	Nion Relinquished By/Au						-Q	ation				5000		8			-1			

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FA67036

Client: SGS-NA- 1. <u>×</u> Shippee 2. <u>×</u> COC P 2. <u>×</u> Costod 3. <u>×</u> Custod 4. <u>×</u> Sample 5. <u>×</u> Chilled 5. <u>×</u> Chilled 6. <u>×</u> Sample 7. <u>No Custod</u> 8. <u>×</u> Received 10. <u>No Heads</u> 9. <u>×</u> Nor Received 10. <u>No Heads</u> * <u>× Received</u> * Nor Received * <u>× Nor Received</u> * × Received * × Received * × Nor Received * × Nor Received * × Nor Received * × Received * × Nor Received * × Nor Received * × Received * × Received * × Nor Received * × Received * × Received * × Nor Received * × Nor Received * × Nor Received * × Nor Nor Nor Nor Nor Nor Nor Nor Nor Nor
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FA67036



FA67036: Chain of Custody Page 6 of 6





Orlando, FL

Section 6

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

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Method Blank Summary

Job Number:	FA67036
Account:	SGSAKA SGS North America, Inc
Project:	1199552

Sample OP76396-MB	File ID Q62468.D	DF 1	Analyzed 08/15/19	By MV	Prep Date 08/01/19	Prep Batch OP76396	Analytical Batch SQ1414			
The OC reported here applies to the following samples: Method: EPA 537.1 REV 1.0										

The QC reported here applies to the following samples:

FA67036-1, FA67036-2, FA67036-3, FA67036-4, FA67036-5, FA67036-6, FA67036-7, FA67036-8, FA67036-9, FA67036-10, FA67036-11, FA67036-12, FA67036-13

CAS No.	Compound	Result	RL	MDL	Units Q
335-67-1	Perfluorooctanoic acid	ND	0.0020	0.0010	ug/l
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0020	0.0015	ug/l

CAS No. **Surrogate Recoveries** Limits 92% 70-130% 13C2-PFHxA 13C2-PFDA 94% 70-130% d5-EtFOSAA 79% 70-130%



Method Blank Summary Job Number: FA67036

Account: Project:	SGSAKA SGS North A 1199552	merica, Inc					
Sample OP76397-N	File ID DF MB O62492.D 1	Analy 08/16/	zed B 19 M	y Pre IV 08/	p Date 05/19	Prep Batch OP76397	Analytical Batch SO1414
							~
The QC re	eported here applies to the fo	llowing samp	oles:			Method: EPA 5	537.1 REV 1.0
FA67036-1	4, FA67036-15, FA67036-16						
CAS No.	Compound	Result	RL	MDL	Units	Q	
335-67-1	Perfluorooctanoic acid	ND	0.002	0 0.0010	ug/l		
1763-23-1	Perfluorooctanesulfonic acid	ND	0.002	0 0.0015	ug/l		
CAS No.	Surrogate Recoveries		Limi	ts			
	13C2-PFHxA	92%	70-1	30%			
	13C2-PFDA	96%	70-1	30%			
	d5-EtFOSAA	96%	70-1	30%			

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FA67036

Blank Spike Summary

* = Outside of Control Limits.

Job Number:	FA67036
Account:	SGSAKA SGS North America, Inc
Project:	1199552

Sample OP76396-BS	File ID Q62467.D	DF 1	Analyzed 08/15/19	By MV	Prep Date 08/01/19	Prep Batch OP76396	Analytical Batch SQ1414			
The QC reported here applies to the following samples: Method: EPA 537.1 REV 1.0										

FA67036-1, FA67036-2, FA67036-3, FA67036-4, FA67036-5, FA67036-6, FA67036-7, FA67036-8, FA67036-9, FA67036-10, FA67036-11, FA67036-12, FA67036-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
335-67-1	Perfluorooctanoic acid	0.1	0.104	104	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.1	0.100	100	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	100%	70-130%
	13C2-PFDA	97%	70-130%
	d5-EtFOSAA	87%	70-130%



Blank Spike Summary

Job Number: Account: Project:	SGSAKA SGS North America, Inc 1199552											
Sample OP76397-BS	File ID Q62491.D	DF 1	Analyzed 08/16/19	By MV	Prep Date 08/05/19	Prep Batch OP76397	Analytical Batch SQ1414					
The QC repor FA67036-14, F	ted here applies t FA67036-15, FA6	o the follo	owing samples:			Method: EPA 5	37.1 REV 1.0					

CAS No. (Compound	Spike ug/l	BSP ug/l	BSP %	Limits
335-67-1 P	Perfluorooctanoic acid	0.1	0.0907	91	70-130
1763-23-1 P	Perfluorooctanesulfonic acid	0.1	0.0854	85	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	98%	70-130%
	13C2-PFDA	96%	70-130%
	d5-EtFOSAA	93%	70-130%

* = Outside of Control Limits.

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Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	FA67036	
Account:	SGSAKA SGS North America,	Inc
Project:	1199552	

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP76396-MS	Q62470.D	1	08/15/19	MV	08/01/19	OP76396	SQ1414
OP76396-MSD	Q62471.D	1	08/15/19	MV	08/01/19	OP76396	SQ1414
JC91980-4A	Q62469.D	1	08/15/19	MV	08/01/19	OP76396	SQ1414

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

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FA67036-1, FA67036-2, FA67036-3, FA67036-4, FA67036-5, FA67036-6, FA67036-7, FA67036-8, FA67036-9, FA67036-10, FA67036-11, FA67036-12, FA67036-13

CAS No.	Compound	JC91980-4A 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	0.00313 0.00393	$0.0877 \\ 0.0877$	0.0937 0.0966	103 106	$0.0877 \\ 0.0877$	0.0955 0.0933	105 102	2 3	70-130/30 70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	JC91980-	4A Limits
	13C2-PFHxA	101%	105%	96%	70-130%
	13C2-PFDA d5-EtFOSAA	106% 96%	107% 101%	108% 82%	70-130% 70-130%



Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	FA67036
Account:	SGSAKA SGS North America, Inc
Project:	1199552

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP76397-MS	Q62499.D	1	08/16/19	MV	08/05/19	OP76397	SQ1414
OP76397-MSD	Q62500.D	1	08/16/19	MV	08/05/19	OP76397	SQ1414
FA67040-1	Q62498.D	1	08/16/19	MV	08/05/19	OP76397	SQ1414

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FA67036-14, FA67036-15, FA67036-16

CAS No.	Compound	FA67040-1 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	ND ND	0.106 0.106	0.0986 0.0920	93 86	0.102 0.102	0.0969 0.0961	95 94	2 4	70-130/30 70-130/30
CAS No.	Surrogate Recoveries	MS	MSD	FA6	57040-1	Limits				
	13C2-PFHxA 13C2-PFDA d5-EtFOSAA	111% 107% 105%	113% 110% 116%	1039 1179 94%	% %	70-130% 70-130% 70-130%				



6.3.2