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November 15, 2017

**Analytical Report for Service Request No: K1711527**

Barrett Walquist  
FLEIS & VANDENBRINK  
2960 Lucerne Drive SE, Suite 100  
Grand Rapids, MI 49546

**RE: Rockford PFCs**

Dear Barrett,

Enclosed are the results of the sample(s) submitted to our laboratory October 24, 2017  
For your reference, these analyses have been assigned our service request number **K1711527**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at [www.alsglobal.com](http://www.alsglobal.com). All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at [Mark.Harris@alsglobal.com](mailto:Mark.Harris@alsglobal.com).

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**

Mark Harris  
Project Manager



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Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by SPE and LCMSMS

## Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

### **Inorganic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.  
*DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

### **Metals Data Qualifiers**

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.  
*DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.  
  - i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

### **Organic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.  
*DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.  
  - i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

### **Additional Petroleum Hydrocarbon Specific Qualifiers**

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

**ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso  
State Certifications, Accreditations, and Licenses**

<b>Agency</b>	<b>Web Site</b>	<b>Number</b>
Alaska DEH	<a href="http://dec.alaska.gov/eh/lab/cs/csapproval.htm">http://dec.alaska.gov/eh/lab/cs/csapproval.htm</a>	UST-040
Arizona DHS	<a href="http://www.azdhs.gov/lab/license/env.htm">http://www.azdhs.gov/lab/license/env.htm</a>	AZ0339
Arkansas - DEQ	<a href="http://www.adeq.state.ar.us/techsvs/labcert.htm">http://www.adeq.state.ar.us/techsvs/labcert.htm</a>	88-0637
California DHS (ELAP)	<a href="http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx">http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx</a>	2795
Florida DOH	<a href="http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm">http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm</a>	E87412
Hawaii DOH	<a href="http://health.hawaii.gov/">http://health.hawaii.gov/</a>	-
Louisiana DEQ	<a href="http://www.deq.louisiana.gov/page/la-lab-accreditation">http://www.deq.louisiana.gov/page/la-lab-accreditation</a>	03016
Maine DHS	<a href="http://www.maine.gov/dhhs/">http://www.maine.gov/dhhs/</a>	WA01276
Minnesota DOH	<a href="http://www.health.state.mn.us/accreditation">http://www.health.state.mn.us/accreditation</a>	053-999-457
Nevada DEP	<a href="http://ndep.nv.gov/bsdw/labservice.htm">http://ndep.nv.gov/bsdw/labservice.htm</a>	WA01276
New Jersey DEP	<a href="http://www.nj.gov/dep/enforcement/oqa.html">http://www.nj.gov/dep/enforcement/oqa.html</a>	WA005
New York - DOH	<a href="https://www.wadsworth.org/regulatory/elap">https://www.wadsworth.org/regulatory/elap</a>	12060
North Carolina DEQ	<a href="https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification">https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification</a>	605
Oklahoma DEQ	<a href="http://www.deq.state.ok.us/CSDnew/labcert.htm">http://www.deq.state.ok.us/CSDnew/labcert.htm</a>	9801
Oregon – DEQ (NELAP)	<a href="http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx">http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx</a>	WA100010
South Carolina DHEC	<a href="http://www.scdhec.gov/environment/EnvironmentalLabCertification/">http://www.scdhec.gov/environment/EnvironmentalLabCertification/</a>	61002
Texas CEQ	<a href="http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html">http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html</a>	T104704427
Washington DOE	<a href="http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html">http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html</a>	C544
Wyoming (EPA Region 8)	<a href="https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water">https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water</a>	-
Kelso Laboratory Website	<a href="http://www.alsglobal.com">www.alsglobal.com</a>	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at [www.ALSGlobal.com](http://www.ALSGlobal.com) or at the accreditation bodies web site.  
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



## Chain of Custody

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# CHAIN OF CUSTODY 84108

001

SR# K11527  
COC Set \_\_\_ of \_\_\_  
COC# \_\_\_\_\_

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068  
www.alsglobal.com

Project Name <u>Rockford PFCs</u>		Project Number	
Project Manager <u>Brian Rice</u>			
Company <u>F&amp;V VanderBank Engineering</u>			
Address <u>2960 Lucerne Dr. SE Grand Rapids, MI</u>			
Phone # <u>231-239-1656</u>	email <u>bwalq.st@fveng.com</u>		
Sampler Signature		Sampler Printed Name <u>Barrett Walquist</u>	

  

CLIENT SAMPLE ID	LABID	SAMPLING Date Time	Matrix	14D	NUMBER OF CONTAINERS					Remarks
					637 / PerAlky/Acids	1	2	3	4	
1. Saddle Ridge - Raw		10/20/17 11:25	DW	2	X					6 compound 1st
2. FB-11:35		10/20/17 11:35	DW	1	X					6 compound 1st
3. Tap Blank				1						
4. Saddle Ridge - Post Treatment		10/20/17 11:30	DW	2	X					6 compound 1st
5.										
6.										
7.										
8.										
9.										
10.										

**Report Requirements**

I. Routine Report: Method Blank, Surrogate, as required

II. Report Dup., MS, MSD as required

III. CLP Like Summary (no raw data)

IV. Data Validation Report

V. EDD

**Invoice Information**

P.O.# \_\_\_\_\_

Bill To: F&V VanderBank Engineering

**Turnaround Requirements**

24 hr.  48 hr.

5 Day Standard

Requested Report Date \_\_\_\_\_

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg

Special Instructions/Comments: Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other \_\_\_\_\_ (Circle One)

Tap Blank to be shared - report on each report  
COC ID# may be duplicate  
\* Hold Blanks until its determined that well samples have impacts

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name <u>Barrett Walquist</u>	Printed Name <u>ALS</u>	Printed Name	Printed Name	Printed Name	Printed Name
Firm <u>F&amp;V Engineering</u>	Firm <u>10/24/17 0902</u>	Firm	Firm	Firm	Firm
Date/Time <u>10/23/17</u>	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time



PC MH

### Cooler Receipt and Preservation Form

Client Fleis + Vandenbrink Service Request K17 11527  
 Received: 10/24/17 Opened: 10/24/17 By: kgm Unloaded: 10/24/17 By: pk

1. Samples were received via? **USPS** **Fed Ex** **UPS** **DHL** **PDX** **Courier** **Hand Delivered**  
 2. Samples were received in: (circle) **Cooler** **Box** **Envelope** **Other** NA  
 3. Were custody seals on coolers? **NA** **Y** **N** If yes, how many and where? 1 front  
 If present, were custody seals intact? **Y** **N** If present, were they signed and dated? **Y** **N**

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
-0.3	-0.4	0.9	0.8	-0.1	371	84108	127R16V8159137	NA	0839

4. Packing material: **Inserts** **Baggies** **Bubble Wrap** **Gel Packs** **Wet Ice** **Dry Ice** **Sleeves**  
 5. Were custody papers properly filled out (ink, signed, etc.)? **NA** **Y** **N**  
 6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* **NA** **Y** **N**  
 If applicable, tissue samples were received: **Frozen** **Partially Thawed** **Thawed**  
 7. Were all sample labels complete (i.e analysis, preservation, etc.)? **NA** **Y** **N**  
 8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* **NA** **Y** **N**  
 9. Were appropriate bottles/containers and volumes received for the tests indicated? **NA** **Y** **N**  
 10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* **NA** **Y** **N**  
 11. Were VOA vials received without headspace? *Indicate in the table below.* **NA** **Y** **N**  
 12. Was C12/Res negative? **NA** **Y** **N**

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





# Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS

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**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** FLEIS & VANDENBRINK  
**Project:** Rockford PFCs  
**Sample Matrix:** Drinking Water

**Service Request:** K1711527  
**Date Collected:** 10/20/17 11:25  
**Date Received:** 10/24/17 09:00

**Sample Name:** Saddle Ridge - RAW  
**Lab Code:** K1711527-001

**Units:** ng/L  
**Basis:** NA

**Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS**

**Analysis Method:** 537  
**Prep Method:** Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Perfluorooctane sulfonic acid (PFOS)	ND U	4.81	1	10/30/17 22:17	10/27/17	
Perfluorooctanoic acid (PFOA)	ND U	4.81	1	10/30/17 22:17	10/27/17	
Perfluoroheptanoic acid (PFHpA)	ND U	4.81	1	10/30/17 22:17	10/27/17	
Perfluorononanoic acid (PFNA)	ND U	4.81	1	10/30/17 22:17	10/27/17	
Perfluorobutane sulfonic acid (PFBS)	ND U	4.81	1	10/30/17 22:17	10/27/17	
Perfluorohexane sulfonic acid (PFHxS)	ND U	4.81	1	10/30/17 22:17	10/27/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C2-PFHxA	84	70 - 130	10/30/17 22:17	
13C2-PFDA	79	70 - 130	10/30/17 22:17	

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** FLEIS & VANDENBRINK  
**Project:** Rockford PFCs  
**Sample Matrix:** Drinking Water

**Service Request:** K1711527  
**Date Collected:** 10/20/17 11:35  
**Date Received:** 10/24/17 09:00

**Sample Name:** FB-11:35  
**Lab Code:** K1711527-002

**Units:** ng/L  
**Basis:** NA

**Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS**

**Analysis Method:** 537  
**Prep Method:** Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Perfluorooctane sulfonic acid (PFOS)	ND U	4.63	1	10/30/17 22:26	10/27/17	
Perfluorooctanoic acid (PFOA)	ND U	4.63	1	10/30/17 22:26	10/27/17	
Perfluoroheptanoic acid (PFHpA)	ND U	4.63	1	10/30/17 22:26	10/27/17	
Perfluorononanoic acid (PFNA)	ND U	4.63	1	10/30/17 22:26	10/27/17	
Perfluorobutane sulfonic acid (PFBS)	ND U	4.63	1	10/30/17 22:26	10/27/17	
Perfluorohexane sulfonic acid (PFHxS)	ND U	4.63	1	10/30/17 22:26	10/27/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C2-PFHxA	97	70 - 130	10/30/17 22:26	
13C2-PFDA	88	70 - 130	10/30/17 22:26	

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** FLEIS & VANDENBRINK  
**Project:** Rockford PFCs  
**Sample Matrix:** Drinking Water

**Service Request:** K1711527  
**Date Collected:** 10/20/17 11:30  
**Date Received:** 10/24/17 09:00

**Sample Name:** Saddle Ridge - Post Treatment  
**Lab Code:** K1711527-003

**Units:** ng/L  
**Basis:** NA

**Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS**

**Analysis Method:** 537  
**Prep Method:** Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Perfluorooctane sulfonic acid (PFOS)	ND U	4.81	1	10/30/17 22:35	10/27/17	
Perfluorooctanoic acid (PFOA)	ND U	4.81	1	10/30/17 22:35	10/27/17	
Perfluoroheptanoic acid (PFHpA)	ND U	4.81	1	10/30/17 22:35	10/27/17	
Perfluorononanoic acid (PFNA)	ND U	4.81	1	10/30/17 22:35	10/27/17	
Perfluorobutane sulfonic acid (PFBS)	ND U	4.81	1	10/30/17 22:35	10/27/17	
Perfluorohexane sulfonic acid (PFHxS)	ND U	4.81	1	10/30/17 22:35	10/27/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C2-PFHxA	94	70 - 130	10/30/17 22:35	
13C2-PFDA	85	70 - 130	10/30/17 22:35	

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** FLEIS & VANDENBRINK  
**Project:** Rockford PFCs  
**Sample Matrix:** Drinking Water

**Service Request:** K1711527  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** KQ1715966-03

**Units:** ng/L  
**Basis:** NA

**Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS**

**Analysis Method:** 537  
**Prep Method:** Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Perfluorooctane sulfonic acid (PFOS)	ND U	5.00	1	10/30/17 21:32	10/27/17	
Perfluorooctanoic acid (PFOA)	ND U	5.00	1	10/30/17 21:32	10/27/17	
Perfluoroheptanoic acid (PFHpA)	ND U	5.00	1	10/30/17 21:32	10/27/17	
Perfluorononanoic acid (PFNA)	ND U	5.00	1	10/30/17 21:32	10/27/17	
Perfluorobutane sulfonic acid (PFBS)	ND U	5.00	1	10/30/17 21:32	10/27/17	
Perfluorohexane sulfonic acid (PFHxS)	ND U	5.00	1	10/30/17 21:32	10/27/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
13C2-PFHxA	81	70 - 130	10/30/17 21:32	
13C2-PFDA	77	70 - 130	10/30/17 21:32	

**Client:** FLEIS & VANDENBRINK  
**Project:** Rockford PFCs  
**Sample Matrix:** Drinking Water

**Service Request:** K1711527

**SURROGATE RECOVERY SUMMARY**

**Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS**

**Analysis Method:** 537  
**Extraction Method:** Method

Sample Name	Lab Code	13C2-PFDA	13C2-PFHxA
		70 - 130	70 - 130
Saddle Ridge - RAW	K1711527-001	79	84
FB-11:35	K1711527-002	88	97
Saddle Ridge - Post Treatment	K1711527-003	85	94
Lab Control Sample	KQ1715966-01	77	85
Duplicate Lab Control Sample	KQ1715966-02	91	93
Method Blank	KQ1715966-03	77	81

**Client:** FLEIS & VANDENBRINK  
**Project:** Rockford PFCs  
**Sample Matrix:** Drinking Water

**Service Request:** K1711527  
**Date Analyzed:** 10/30/17  
**Date Extracted:** 10/27/17

**Duplicate Lab Control Sample Summary**  
**Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS**

**Analysis Method:** 537  
**Prep Method:** Method

**Units:** ng/L  
**Basis:** NA  
**Analysis Lot:** 568003

Analyte Name	Lab Control Sample KQ1715966-01			Duplicate Lab Control Sample KQ1715966-02			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Perfluorobutane sulfonic acid (PFBS)	19.6	20.0	98	18.1	20.0	91	70-130	7	30
Perfluoroheptanoic acid (PFHpA)	18.8	20.0	94	18.2	20.0	91	70-130	3	30
Perfluorohexane sulfonic acid (PFHxS)	19.4	20.0	97	18.2	20.0	91	70-130	6	30
Perfluorononanoic acid (PFNA)	18.9	20.0	94	17.8	20.0	89	70-130	5	30
Perfluorooctane sulfonic acid (PFOS)	18.5	20.0	93	16.6	20.0	83	70-130	11	30
Perfluorooctanoic acid (PFOA)	19.3	20.0	96	18.2	20.0	91	70-130	5	30