



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING



LIESL EICHLER CLARK
DIRECTOR

September 20, 2019

VIA E-MAIL

Genesee County Water System
4316 Stanley Rd
Columbiaville, Michigan 48421

WSSN: 02615

Dear Water Supply Owner/Operator:

SUBJECT: Genesee County Water System
2019 Monthly Per- and Polyfluoroalkyl Substances (PFAS) Results

Genesee County Water System is participating in the Michigan Department of Environment, Great Lakes, and Energy (EGLE) (formerly the Michigan Department of Environmental Quality) state-funded monthly PFAS monitoring effort for community water supplies utilizing surface water as a source, that were tested during the statewide PFAS sampling effort in 2018. The most recent results for PFAS samples collected from Genesee County Water System, WSSN # 02615 (water supply) on the date(s) indicated are included below. A copy of the laboratory report is enclosed for your review.

Date Collected	Sampling Location	PFOS + PFOA (parts per trillion (ppt))	LHA (ppt) PFOS + PFOA	Total Tested PFAS (ppt)
8/1/2019	TP001 - Effluent ¹	ND	70	ND

ND – The parameter was not detected based on the laboratory's analytical report.
See Official lab results for test method used. ¹US EPA Method 537.

Currently, there is no regulatory drinking water standard for any of the PFAS chemicals. However, in May 2016, the United States Environmental Protection Agency (USEPA) established a non-regulatory Lifetime Health Advisory (LHA) for two of these chemicals, perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). The LHA for PFOS and PFOA is 70 ppt combined, or individually if only one of them is present.

Your water supply may have returned results greater than non-detect (ND) for one or more of the PFAS analytes tested (other than PFOS or PFOA). Neither EGLE nor the USEPA currently have any guidance values for these other analytes. If additional guidance and/or comparison values are developed for PFOS, PFOA, or other PFAS chemicals in the future, we may reevaluate the recommendations below.

The concentrations of PFOS and PFOA in these samples are below the USEPA LHA of 70 ppt. We provide the following recommendations:

1. Inform the public as soon as possible of these sample results through posting on your Web site or other means. EGLE, in collaboration with the Michigan Department of Health and Human Services (MDHHS), has developed a toolkit containing communication templates to help notify the consumers of your water supply on the presence of PFAS in the drinking water and the response measures that are being initiated. This is a resource available to you if you choose and can be modified to fit your needs. The toolkit is available at www.Michigan.gov/PFASResponse; click on “news and education.”
2. Evaluate options to modify operations to reduce PFAS in the water supply should levels approach the existing LHA. For example, this could be accomplished by minimizing use of wells with elevated PFAS levels or through the installation of treatment technology capable of reducing PFAS prior to distribution.
3. Please continue with your regularly scheduled monitoring.

The results of the 2019 sampling will be posted online on the Michigan PFAS Action Response Team (MPART) Web site within 48 hours of this notification. The results will be found online by going to the MPART Web site address listed below; click on “Testing and Treatment,” scroll down to “Drinking Water,” and select “Statewide Testing Initiative.”

For information on PFOS, PFOA, and other PFAS, including possible health outcomes, you may visit these Web sites:

- **State of Michigan MPART** Web site serving as the main resource for public information on PFAS contamination in Michigan: www.Michigan.gov/PFASResponse
- **USEPA** Web site including basic information, USEPA actions, and links to informational resources: <http://www.epa.gov/pfas>
- **ATSDR** Web site including health information, exposure, and links to additional resources: www.atsdr.cdc.gov/pfas

To speak to a MDHHS toxicologist, call toll-free at 1-800-648-6942.

Thank you for your continued collaboration with this investigation. The ongoing partnership between EGLE and Michigan’s public water supplies plays an integral role in the state’s continued efforts to ascertain and address the incidence of PFAS in drinking water for Michiganders.

September 20, 2019

If you have any questions concerning this sampling, please contact me at the telephone number below; by email at EGLE-PFAS-DrinkingWater@Michigan.gov; or by mail at EGLE-Drinking Water and Environmental Health Division, P.O. Box 30817, Lansing, Michigan 48909-8311.

Sincerely,

Lois Elliott Graham

Lois Elliott Graham, R.S., M.S.A.
Drinking Water and Environmental Health
Division
810-730-8674

Enclosure

cc: Mr. Jim Henry, Genesee County Health Department
Mr. Steven Crider, Supervisor, Drinking Water Unit, MDHHS
Mr. Dennis Eagle, EGLE
Mr. Bob London, EGLE



August 31, 2019

Vista Work Order No. 1902551

Ms. Maya Murshak
Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Dear Ms. Murshak,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on August 07, 2019 under your Project Name 'EGLE State Municipal Sampling'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1902551**Case Narrative****Sample Condition on Receipt:**

Two drinking water samples and one aqueous sample were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:**EPA Method 537, Rev. 1.1**

The samples were extracted and analyzed for a selected list of 14 PFAS using EPA Method 537, Rev. 1.1. The results have been reported following the conventions specified by the Michigan Department of Environmental Quality.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Laboratory Fortified Blank (LFB) and a Laboratory Reagent Blank (LRB) were extracted and analyzed with the preparation batch. No analytes were detected in the Laboratory Reagent Blank. The LFB recoveries were within the method acceptance criteria.

As requested, an LFSM/LFSMD was performed on sample "SWEF1908010835MK". The LFSM/LFSMD recoveries and RPDs were within the acceptance criteria.

The surrogate recoveries for all QC and field samples were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1902551-01	SWEF1908010835MK	MS/MSD01-Aug-19 08:35	07-Aug-19 09:28	HDPE Bottle, 250 mL HDPE Bottle, 250 mL HDPE Bottle, 250 mL HDPE Bottle, 250 mL HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1902551-02	SWEF1908010835MK-FD	01-Aug-19 08:35	07-Aug-19 09:28	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1902551-03	FB1908010840MK	01-Aug-19 08:40	07-Aug-19 09:28	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB					EPA Method 537				
Client Data Name: Merit Laboratories, Inc. Matrix: Aqueous Project: EGLE State Municipal Sampling					Laboratory Data Lab Sample: B9H0111-BLK1 Column: BEH C18				
Analyte	CAS Number	Conc. (ng/L)	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFHxA	307-24-4	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFHpA	375-85-9	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFHxS	355-46-4	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFOA	335-67-1	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFNA	375-95-1	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFOS	1763-23-1	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFDA	335-76-2	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
MeFOSAA	2355-31-9	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
EtFOSAA	2991-50-6	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFUnA	2058-94-8	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFDaA	307-55-1	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFTDA	72629-94-8	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
PFTeDA	376-06-7	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	106	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
13C2-PFDA	SURR	101	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1
d5-EtFOSAA	SURR	93	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 19:29	1

RL - Reporting limit

Results reported to RL.
Reporting convention specified by MI DEQ.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: LFB						EPA Method 537					
Client Data Name: Merit Laboratories, Inc. Project: EGLE State Municipal Sampling						Laboratory Data Lab Sample: B9H0111-BS1 Column: BEH C18					
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	71	71	101	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFHxA	307-24-4	89	80	111	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFHpA	375-85-9	85	80	106	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFHxS	355-46-4	71	73	97	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFOA	335-67-1	84	80	105	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFNA	375-95-1	83	80	103	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFOS	1763-23-1	65	74	87	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFDA	335-76-2	80	80	100	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
MeFOSAA	2355-31-9	82	80	103	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
EtFOSAA	2991-50-6	80	80	100	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFUnA	2058-94-8	77	80	96	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFDaA	307-55-1	75	80	94	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFTTrDA	72629-94-8	73	80	92	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
PFTeDA	376-06-7	75	80	94	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
Labeled Standards	Type		% Rec		Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR		120		70- 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
13C2-PFDA	SURR		119		70- 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1
d5-EtFOSAA	SURR		111		70- 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 18:57	1

Data Reported per Michigan DEQ instructions.

Sample ID: SWEF1908010835MK **EPA Method 537**

Client Data				Laboratory Data			
Name:	Merit Laboratories, Inc.	Matrix:	Drinking Water	Lab Sample:	1902551-01	Column:	BEH C18
Project:	EGLE State Municipal Sampling	Date Collected:	01-Aug-19 08:35	Date Received:	07-Aug-19 09:28		
Location:	GENESEECWS02615TP001						

Analyte	CAS Number	Conc. (ng/L)	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFHxA	307-24-4	ND	2		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFHpA	375-85-9	ND	2		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFHxS	355-46-4	ND	2		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFOA	335-67-1	ND	2		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFNA	375-95-1	ND	2		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFOS	1763-23-1	ND	2		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFDA	335-76-2	ND	2		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
MeFOSAA	2355-31-9	ND	4		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
EtFOSAA	2991-50-6	ND	4		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFUnA	2058-94-8	ND	4		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFDaA	307-55-1	ND	4		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFTTrDA	72629-94-8	ND	4		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
PFTeDA	376-06-7	ND	4		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	117	70 - 130		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
13C2-PFDA	SURR	111	70 - 130		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1
d5-EtFOSAA	SURR	108	70 - 130		B9H0111	14-Aug-19	0.23 L	16-Aug-19 20:11	1

RL - Reporting limit

Results reported to RL.
Reporting convention specified by MI DEQ..

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: SWEF1908010835MK

EPA Method 537

Name:	Merit Laboratories, Inc.	Lab Sample:	B9H0111-MS1/B9H0111-MSD1	Source Lab Sample:	1902551-01
Project:	EGLE State Municipal Sampling	QC Batch:	B9H0111	Date Extracted:	14-Aug-19
Matrix:	Aqueous	Samp Size:	0.24/0.24 L	Column:	BEH C18

Analyte	CAS Number	Sample (ng/L)	LFSM (ng/L)	LFSM Spike	LFSM % Rec	LFSM Quals	LFSMD (ng/L)	LFSMD Spike	LFSM D	RPD	LFSMD Quals	%Rec Limits	RPD Limits	LFSM Analyzed	LFSM Dil	LFSMD Analyzed	LFS MD
PFBS	375-73-5	ND	75	75	100		79	74	107	7		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFHxA	307-24-4	ND	91	85	107		92	84	108	1		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFHpA	375-85-9	ND	88	85	104		87	84	104	0		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFHxS	355-46-4	ND	77	77	100		75	76	99	1		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFOA	335-67-1	ND	86	85	101		86	84	103	2		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFNA	375-95-1	ND	85	85	101		84	84	101	0		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFOS	1763-23-1	ND	77	78	98		80	78	103	5		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFDA	335-76-2	ND	88	85	104		88	84	105	1		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
MeFOSAA	2355-31-9	ND	87	85	103		88	84	105	2		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
EtFOSAA	2991-50-6	ND	82	85	98		84	84	100	2		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFUnA	2058-94-8	ND	78	85	93		81	84	97	4		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFDoA	307-55-1	ND	73	85	87		76	84	91	5		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFTTrDA	72629-94-8	ND	74	85	87		74	84	89	1		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
PFTeDA	376-06-7	ND	77	85	91		75	84	90	1		70-130	30	16-Aug-19 19:08	1	16-Aug-19 19:18	1
Labeled Standards	Type				LFSM % Rec	LFSM Quals			LFSMD % Rec		LFSMD Quals	Limits		LFSM Analyzed	LFSM Dil	LFSMD Analyzed	LFS MD
13C2-PFHxA	SURR				106				106			70-130		16-Aug-19 19:08	1	16-Aug-19 19:18	1
13C2-PFDA	SURR				107				100			70-130		16-Aug-19 19:08	1	16-Aug-19 19:18	1
d5-EtFOSAA	SURR				97				97			70-130		16-Aug-19 19:08	1	16-Aug-19 19:18	1

Reporting convention specified by MI DEQ.

Sample ID: SWEF1908010835MK-FD	EPA Method 537
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Client Data Name: Merit Laboratories, Inc. Project: EGLE State Municipal Sampling Location: GENESEECWS02615TP001	Laboratory Data Matrix: Drinking Water Date Collected: 01-Aug-19 08:35 Lab Sample: 1902551-02 Date Received: 07-Aug-19 09:28 Column: BEH C18
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Analyte	CAS Number	Conc. (ng/L)	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFHxA	307-24-4	ND	2		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFHpA	375-85-9	ND	2		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFHxS	355-46-4	ND	2		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFOA	335-67-1	ND	2		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFNA	375-95-1	ND	2		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFOS	1763-23-1	ND	2		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFDA	335-76-2	ND	2		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
MeFOSAA	2355-31-9	ND	4		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
EtFOSAA	2991-50-6	ND	4		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFUnA	2058-94-8	ND	4		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFDaA	307-55-1	ND	4		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFTeDA	72629-94-8	ND	4		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
PFTeDA	376-06-7	ND	4		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	107	70 - 130		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
13C2-PFDA	SURR	99	70 - 130		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1
d5-EtFOSAA	SURR	93	70 - 130		B9H0111	14-Aug-19	0.24 L	16-Aug-19 20:22	1

RL - Reporting limit

Results reported to RL.
Reporting convention specified by MI DEQ..

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: FB1908010840MK	EPA Method 537
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Client Data Name: Merit Laboratories, Inc. Project: EGLE State Municipal Sampling	Laboratory Data Matrix: Aqueous Date Collected: 01-Aug-19 08:40 Lab Sample: 1902551-03 Date Received: 07-Aug-19 09:28 Column: BEH C18
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Analyte	CAS Number	Conc. (ng/L)	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFHxA	307-24-4	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFHpA	375-85-9	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFHxS	355-46-4	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFOA	335-67-1	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFNA	375-95-1	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFOS	1763-23-1	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFDA	335-76-2	ND	2		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
MeFOSAA	2355-31-9	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
EtFOSAA	2991-50-6	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFUnA	2058-94-8	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFDaA	307-55-1	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFTTrDA	72629-94-8	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
PFTeDA	376-06-7	ND	4		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	110	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
13C2-PFDA	SURR	107	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1
d5-EtFOSAA	SURR	103	70 - 130		B9H0111	14-Aug-19	0.25 L	16-Aug-19 21:04	1

RL - Reporting limit

Results reported to RL.
Reporting convention specified by MI DEQ..

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Sample Log-In Checklist

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TAT std

Samples Arrival:	Date/Time 08/07/19 0928	Initials: KCE	Location: WR-2
Logged In:	Date/Time 08/08/19 1346	Initials: KCE	Location: R13 = A4 Shelf/Rack: WR-2 nd D5
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> On Trac
	<input type="radio"/> GSO	<input type="radio"/> DHL	<input type="radio"/> Hand Delivered
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
Temp °C: 0.6 (uncorrected)	Probe used: Y / <input checked="" type="radio"/> N		Thermometer ID: IR-3
Temp °C: 0.6 (corrected)			

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill <u> </u> Trk # 4894 6696 1474	<input checked="" type="checkbox"/>		
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?			<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?			<input checked="" type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	<input checked="" type="checkbox"/>		
Preservation Documented:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	

Comments: