



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



C. HEIDI GREYER  
DIRECTOR

August 20, 2018

VIA E-MAIL

DAVISBURG ELEMENTARY SCHOOL  
920 EAST BAIRD  
HOLLY, MICHIGAN 48442

WSSN: 2104363

Dear School Administrator and Drinking Water Operator:

SUBJECT: DAVISBURG ELEMENTARY SCHOOL  
Per- and Polyfluoroalkyl Substances (PFAS)

As you may be aware, the Michigan PFAS Action Response Team (MPART) has undertaken a proactive effort to investigate sources and locations of PFAS contamination in Michigan, to protect our drinking water, and to inform the public about PFAS. This involves the work of ten state departments, in coordination with local and federal officials.

One vital piece of this effort is the ongoing collaboration between the Michigan Department of Environmental Quality (MDEQ) and our water supply partners. It is through your generous participation that we are able to set and achieve our goal: to proactively test all community water supplies and schools that are classified as non-transient non-community water supplies for PFAS contamination. Once complete, this study will be an invaluable tool in determining the extent of PFAS in Michigan's drinking water, and empowering the MPART in the pursuit of their mission. We thank you for your continuing partnership, collaboration, and dedication to the residents of our great state.

This letter is intended to provide the results of PFAS analyses in samples collected from the DAVISBURG ELEMENTARY SCHOOL, WSSN # 2104363 (water supply) on the date(s) indicated below.

The table below summarizes the sampling results. A copy of the laboratory report is enclosed for your review. The analyses of these samples reported less than 10 parts per trillion (ppt) for perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). Your water supply may have returned results greater than non-detect (ND) for the total amount of PFAS analytes tested for. An ND result means the analyte was not detected. Neither the MDEQ nor the United States Environmental Protection Agency (USEPA) have any guidance values for these other analytes at this time. If additional guidance and/or comparison values are developed for these or other PFAS chemicals in the future, we may reevaluate this water supply.

DAVISBURG ELEMENTARY SCHOOL

Page 2

August 20, 2018

Date Collected	Sampling Location	PFOS + PFOA (ppt)	LHA (ppt) PFOS + PFOA	Total Tested PFAS (ppt)
7/12/2018	Well 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.

Currently, there is no regulatory drinking water standard for any of the PFAS chemicals. However, in May 2016 the USEPA established a non-regulatory Lifetime Health Advisory (LHA) for two of these chemicals, PFOS and PFOA. The LHA for PFOS and PFOA is 70 ppt combined, or individually if only one of them is present. The USEPA recommends that this LHA applies to both short-term (i.e., weeks to months) scenarios during pregnancy and lactation, as well as to lifetime-exposure scenarios. The LHA is the level, or amount, below which no harm is expected from these chemicals. The Michigan Department of Health and Human Services (MDHHS), as well as the MDEQ, have used this LHA of 70 ppt to inform decisions on actions that should be taken or are recommended to reduce exposure and prevent increased risk to public health from these PFAS contaminants. The USEPA has not set health advisory levels for the other PFAS compounds because not enough is known about them.

Additional information on the health effects of PFAS can be found on the Agency for Toxic Substances and Disease Registry (ATSDR) website listed at the end of this correspondence.

The concentrations of PFOS and PFOA in these samples are well below the USEPA LHA of 70 ppt and are not expected to result in adverse health effects as long as the concentrations are shown to remain below the LHA over time.

Because of the detection of low levels found in the water supply, we have the following recommendations for your consideration. These recommendations are essentially the same actions we have advised public water systems to follow for the past 30-plus years when a new contaminant has been confirmed as present in their drinking water.

1. Inform the public of these sample results through posting on your website or other means. The MDEQ, in collaboration with the MDHHS, has developed a toolkit containing communication templates to help notify school staff, students, and parents 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](http://www.michigan.gov/pfasresponse) and click on "visit news and education."
2. Please continue with your regularly scheduled monitoring. The MDEQ recommends you also continue monitoring for PFAS on an annual basis to demonstrate the concentrations are consistently and reliably below any existing LHA.

These recommendations are based on the best available and most current information and may change depending on additional information related to site conditions; the availability of new data; or other new information as it becomes available. We may recommend further action at that time.



DAVISBURG ELEMENTARY SCHOOL

Page 3

August 20, 2018

As part of the MDEQ's proactive statewide sampling initiative, the results of this sampling will be posted online on the MPART website within 48 hours of this notification. The results can be found online by going to the MPART website address listed below, and by clicking on "Michigan PFAS Sites," and scrolling down and selecting "Public Water Supply Information." We recommend you inform your consumers as soon as possible. If you need assistance, please contact me.

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

- **State of Michigan PFAS Action Response Team (MPART)** website serving as the main resource for public information on PFAS contamination in Michigan:  
[www.michigan.gov/pfasresponse](http://www.michigan.gov/pfasresponse)
- **United States Environmental Protection Agency (USEPA)** website including basic information, USEPA actions, and links to informational resources:  
[www.epa.gov/pfas](http://www.epa.gov/pfas)
- **Agency for Toxic Substances and Disease Registry (ATSDR)** website including health information, exposure, and links to additional resources:  
[www.atsdr.cdc.gov/pfas](http://www.atsdr.cdc.gov/pfas)

Thank you once again for your continued collaboration with this investigation. The ongoing partnership between the MDEQ 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.

If you have any questions concerning this sampling, please contact me at the telephone number below; by email at [DEQ-PFAS-DrinkingWater@michigan.gov](mailto:DEQ-PFAS-DrinkingWater@michigan.gov); or by mail at DEQ-DWMAD, P.O. Box 30817, Lansing, Michigan 48909-8311.

Sincerely,

*Lois Elliott Graham*

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

Enclosure

cc: Mr. Anthony Drautz, Oakland County Health Division  
Mr. Steven Crider, Supervisor, Drinking Water Unit, MDHHS  
Mr. Dan Dettweiler, MDEQ



August 02, 2018

**Vista Work Order No. 1801730**

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 July 13, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name 'MDEQ 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](mailto:mmaier@vista-analytical.com).

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

Sincerely,

A handwritten signature in cursive script that reads "Martha Maier".

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. 1801730**

**Case Narrative**

**Sample Condition on Receipt:**

One drinking water sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

**Analytical Notes:**

**EPA Method 537, Rev. 1.1**

The sample was 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 sample was extracted and analyzed within the method hold times.

**Quality Control**

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

Two Laboratory Fortified Blanks (LFB/LFBD) 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/LFBD recoveries were within the method acceptance criteria.

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

## TABLE OF CONTENTS

Case Narrative.....	1
Table of Contents.....	3
Sample Inventory.....	4
Analytical Results.....	5
Qualifiers.....	9
Certifications.....	10
Sample Receipt.....	11

# Sample Inventory Report

<b>Vista Sample ID</b>	<b>Client Sample ID</b>	<b>Sampled</b>	<b>Received</b>	<b>Components/Containers</b>
1801730-01	GWNT1807121130GSC	12-Jul-18 11:30	13-Jul-18 09:58	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

## ANALYTICAL RESULTS





Sample ID: LRB				EPA Method 537					
Client Data				Laboratory Data					
Name:	Merit Laboratories, Inc.	Matrix:	Aqueous	Lab Sample:	B8G0125-BLK1	Column:	BEH C18		
Project:	MDEQ State Municipal Sampling								
Analyte	CAS Number	Conc. (ng/L)	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFHxA	307-24-4	ND	2		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFHpA	375-85-9	ND	2		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFHxS	355-46-4	ND	2		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFOA	335-67-1	ND	2		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFNA	375-95-1	ND	2		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFOS	1763-23-1	ND	2		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFDA	335-76-2	ND	2		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
MeFOSAA	2355-31-9	ND	4		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
EtFOSAA	2991-50-6	ND	4		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFUnA	2058-94-8	ND	4		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFDoA	307-55-1	ND	4		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFTrDA	72629-94-8	ND	4		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
PFTeDA	376-06-7	ND	4		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	96	70 - 130		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
13C2-PFDA	SURR	95	70 - 130		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	1
d5-EtFOSAA	SURR	85	70 - 130		B8G0125	21-Jul-18	0.25 L	29-Jul-18 13:21	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: LFBD EPA Method 537

Name: Merit Laboratories, Inc.	Lab Sample: B8G0125-BS1/B8G0125-BSD1	Date Extracted: 21-Jul-18
Project: MDEQ State Municipal Sampling	QC Batch: B8G0125	Column: BEH C18
Matrix: Aqueous	Samp Size: 0.25/0.25 L	

Analyte	CAS Number	LFB (ng/L)	LFB Spike Amt	LFB % Rec	LFB Quals	LFBD (ng/L)	LFBD Spike Amt	LFBD % Rec	RPD	LFBD Quals	%Rec Limits	RPD Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
PFBS	375-73-5	12	18	69		12	18	68	1		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFHxA	307-24-4	17	20	85		16	20	80	6		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFHpA	375-85-9	16	20	80		15	20	78	3		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFHxS	355-46-4	15	18	81		14	18	76	7		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFOA	335-67-1	18	20	91		18	20	88	4		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFNA	375-95-1	19	20	93		18	20	88	5		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFOS	1763-23-1	13	19	70		12	19	65	7		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFDA	335-76-2	19	20	93		17	20	86	8		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
MeFOSAA	2355-31-9	17	20	88		16	20	79	11		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
EtFOSAA	2991-50-6	17	20	85		15	20	75	14		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFUnA	2058-94-8	19	20	97		18	20	88	10		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFDoA	307-55-1	16	20	82		16	20	82	0		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFTrDA	72629-94-8	19	20	93		16	20	79	17		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1
PFTeDA	376-06-7	19	20	94		18	20	88	6		50-150		29-Jul-18 12:56	1	29-Jul-18 13:08	1

Labeled Standards	Type	LFB % Rec	LFB Quals	LFBD % Rec	LFBD Quals	Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
13C2-PFHxA	SURR	93		87		70-130	29-Jul-18 12:56	1	29-Jul-18 13:08	1
13C2-PFDA	SURR	101		93		70-130	29-Jul-18 12:56	1	29-Jul-18 13:08	1
d5-EtFOSAA	SURR	83		76		70-130	29-Jul-18 12:56	1	29-Jul-18 13:08	1

Data Reported per Michigan DEQ instructions.



Sample ID: GWNT1807121130GSC EPA Method 537

Client Data				Laboratory Data			
Name:	Merit Laboratories, Inc.	Matrix:	Drinking Water	Lab Sample:	1801730-01	Column:	BEH C18
Project:	MDEQ State Municipal Sampling	Date Collected:	12-Jul-18 11:30	Date Received:	13-Jul-18 09:58		
Location:	DAVISBURG-2104363						

Analyte	CAS Number	Conc. (ng/L)	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFHxA	307-24-4	ND	2		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFHpA	375-85-9	ND	2		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFHxS	355-46-4	ND	2		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFOA	335-67-1	ND	2		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFNA	375-95-1	ND	2		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFOS	1763-23-1	ND	2		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFDA	335-76-2	ND	2		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
MeFOSAA	2355-31-9	ND	4		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
EtFOSAA	2991-50-6	ND	4		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFUnA	2058-94-8	ND	4		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFDoA	307-55-1	ND	4		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFTTrDA	72629-94-8	ND	4		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
PFTeDA	376-06-7	ND	4		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	85	70 - 130		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
13C2-PFDA	SURR	90	70 - 130		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	1
d5-EtFOSAA	SURR	75	70 - 130		B8G0125	21-Jul-18	0.25 L	30-Jul-18 12:55	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>B</b>	<b>This compound was also detected in the method blank</b>
<b>Conc.</b>	<b>Concentration</b>
<b>D</b>	<b>Dilution</b>
<b>DL</b>	<b>Detection limit</b>
<b>E</b>	<b>The associated compound concentration exceeded the calibration range of the instrument</b>
<b>H</b>	<b>Recovery and/or RPD was outside laboratory acceptance limits</b>
<b>I</b>	<b>Chemical Interference</b>
<b>J</b>	<b>The amount detected is below the Reporting Limit/LOQ</b>
<b>LOD</b>	<b>Limits of Detection</b>
<b>LOQ</b>	<b>Limits of Quantitation</b>
<b>M</b>	<b>Estimated Maximum Possible Concentration (CA Region 2 projects only)</b>
<b>NA</b>	<b>Not applicable</b>
<b>ND</b>	<b>Not Detected</b>
<b>Q</b>	<b>Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)</b>
<b>TEQ</b>	<b>Toxic Equivalency</b>
<b>U</b>	<b>Not Detected (specific projects only)</b>
<b>*</b>	<b>See Cover Letter</b>

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



## CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
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.*





# CHAIN OF CUSTODY

For Laboratory Use only  
 Work Order #: 1801730 Temp: 3.2 °C  
 Storage ID: WR-2 Storage Secured: Yes  No

Project ID: MDEQ STATE MUNICIPAL SAMPLING PO#: 60570309 Sampler: GARTH COUSINEAU (name)

TAT Standard:  21 days  
 (check one): Rush (surcharge may apply)  
 14 days  7 days Specify: \_\_\_\_\_

Invoice to: Name MIKE JURY Company MDEQ Address 401 KETCHUM ST, SUITE B City BAY CITY State MI Ph# 989-894-6255 Fax# 989-891-9237

Relinquished by (printed name and signature) Garth Cousineau Date 7/10/18 Time 1300 Received by (printed name and signature) Ashwani Bhatnagar Date 07/13/18 Time 1101

Sample ID	Date	Time	Location/Sample Description	Container(s)		Add Analysis(es) Requested							Comments					
				County	Type	Method	Conductivity	Temp	pH	DO	TSS	SS	PPFAS	Isotope	Dilution	USEPA	Methoxy	B37
GWNT1807121130GSC	7/12/18	1130	DAVISBURG-2104363	2	P	DW											X	TZ

Special Instructions/Comments: Send Results and Acknowledgements to the list provided by e-mail to Vista. Name: MIKE JURY  
 SEND DOCUMENTATION AND RESULTS TO: Company: MDEQ  
 Address: 401 KETCHUM ST, SUITE B  
 City: BAY CITY State: MI Zip: 48708  
 Phone: 989-894-6255 Fax: 989-891-9237  
 Email: dorin.bogdan@aecom.com

Container Types: P= HDPE, PJ= HDPE Jar O = Other. Bottle Preservation Type: T = Thiosulfate, TZ = Trizma. Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:



### Sample Log-in Checklist

1801730

Vista Work Order #: \_\_\_\_\_ TAT std

Samples Arrival:	Date/Time 07/13/18 0958	Initials: JK	Location: WR-2 Shelf/Rack: N/A
Logged In:	Date/Time 07/14/18 1222	Initials: KE	Location: WR-2 Shelf/Rack: E3/F7
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> GSO	<input type="checkbox"/> DHL
		<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: 3.3 (uncorrected)	Time: 1850	Thermometer ID: IR-4	
Temp °C: 3.2 (corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

	YES	NO	NA
Adequate Sample Volume Received?	KE		
Holding Time Acceptable?	KE		
Shipping Container(s) Intact?	JK		
Shipping Custody Seals Intact?		JK	JK
Shipping Documentation Present?	JK		
Airbill	JK		
Trk # 7726 9080 6871			
Sample Container Intact?	JK		
Sample Custody Seals Intact?			JK
Chain of Custody / Sample Documentation Present?	JK		
COC Anomaly/Sample Acceptance Form completed?			JK
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	KE		
Preservation Documented:	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	<input checked="" type="checkbox"/> Trizma	None
		<input checked="" type="checkbox"/> Yes	No NA
Shipping Container	<input checked="" type="checkbox"/> Vista	Client	<input checked="" type="checkbox"/> Retain
		Return	Dispose

Comments: