



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



C. HEIDI GREYER  
DIRECTOR

November 1, 2018

VIA E-MAIL

HESPERIA  
33 EAST MICHIGAN AVENUE  
HESPERIA, MICHIGAN 49421

WSSN: 03130

Dear Water Supply Owner/Operator:

SUBJECT: HESPERIA  
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 HESPERIA, WSSN # 03130 (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 or equal to 70 parts per trillion (ppt), but greater than or equal to 10 ppt for either perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) and/or total tested PFAS.

Date Collected	Sampling Location	PFOS + PFOA (ppt)	LHA (ppt) PFOS + PFOA	Total Tested PFAS (ppt)
9/19/2018	CH001*	ND	70	15
9/19/2018	WL003	7	70	29

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

\*Surrogate recovery outside of control limits for CH001.

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, 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.

Your water supply may have returned results greater than non-detect (ND) for the total amount of PFAS analytes tested. Neither the MDEQ nor the USEPA have any guidance values for these other analytes at this time. If additional guidance and/or comparison values are developed for PFOS, PFOA, or other PFAS chemicals in the future, we may reevaluate this water supply.

According to the Agency for Toxic Substances and Disease Registry (ATSDR), some, but not all, studies in humans with drinking water levels well above the LHA for extended periods of time have shown that certain PFAS may: affect the developing fetus and child including possible changes in growth, learning, and behavior; decrease fertility; interfere with the body's natural hormones; increase cholesterol; affect the immune system; and increase cancer risk. For more information about PFAS-related health effects, visit [www.atsdr.cdc.gov/pfas](http://www.atsdr.cdc.gov/pfas).

The concentrations of PFOS and PFOA in these samples are below the USEPA LHA of 70 ppt. Should information become available which would indicate that they could potentially exceed the LHA, we provide the following recommendations:

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 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](http://www.michigan.gov/pfasresponse) and click on "visit news and education."
2. Investigate potential sources of PFAS in your watershed and initiate steps to remove any identified source, if possible.
3. 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.
4. Within one month, collect and analyze a confirmation sample, unless the system is already on routine monitoring for PFAS or you have obtained verified sample results within the last six months. Depending on the level of the initial results, you may want to expedite the confirmation sample. The MDEQ requests you report your confirmation sample results to the email or address listed below.

5. Continue monitoring for PFAS on a quarterly basis to demonstrate the concentrations of PFAS are consistently and reliably below any existing LHA. Typically, four quarterly samples have been sufficient for making this determination, at which time the monitoring may become less frequent.

We look forward to working with your water supply to address this issue, inform your customers, and evaluate solutions to this challenge. 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.

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.

HESPERIA  
Page 4  
November 1, 2018

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. Tom Reichard, District Health Department #10  
Mr. Steven Crider, Supervisor, Drinking Water Unit, MDHHS  
Mr. Luke Dehtiar, MDEQ



# Analytical Laboratory Report

Report ID: S94669.01(01)+QC01  
Generated on 10/26/2018

## Report to

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Attention: Mike Jury  
MDEQ  
Saginaw Bay District Office  
401 Ketchum St.  
Bay City, MI 48708

Phone: 989-894-6255 FAX:  
Email: jury1@michigan.gov

Additional Contacts: MDEQ, MDHHS, Robert Kennedy, Dorin Bogdan, Nic Ropotos, Jim Carbone, Geoffrey Groff

## Report produced by

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Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:  
John Lavery (johnlavery@meritlabs.com)  
Barbara Ball (bball@meritlabs.com)

## Report Summary

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Lab Sample ID(s): S94669.01-S94669.02  
Project: MDEQ State Municipal Sampling  
Collected Date: 09/19/2018  
Submitted Date/Time: 09/24/2018 13:57  
Sampled by: Kelly Richart  
P.O. #: 60570309

## Table of Contents

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Cover Page (Page 1)  
General Report Notes (Page 2)  
Report Narrative (Page 2)  
Laboratory Certifications (Page 3)  
Qualifier Descriptions (Page 3)  
Glossary of Abbreviations (Page 3)  
Method Summary (Page 4)  
Sample Summary (Page 5)  
QC Report (Pages 8-19)

Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (\*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

## Report Narrative

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

## Qualifier Descriptions

Qualifier	Description
I	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

## Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



# Analytical Laboratory Report

## Method Summary

Method	Version
E537	EPA Method 537 Version 1.1 September 2009

## Parameter Summary

Parameter	Synonym	Cas #
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFNA	Perfluorononanoic Acid	375-95-1
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFTTrDA	Perfluorotridecanoic Acid	72629-94-8
PFTeDA	Perfluorotetradecanoic Acid	376-06-7



# Analytical Laboratory Report

## Sample Summary (2 samples)

Sample ID	Sample Tag	Location	Matrix	Collected Date/Time
S94669.01	GWNT1809191240KER	HESPERIA03130CH001	Drinking Water	09/19/18 12:40
S94669.02	GWNT1809191300KER	HESPERIA03130WL003	Drinking Water	09/19/18 13:00



# Analytical Laboratory Report

Lab Sample ID: S94669.01

Sample Tag: GWNT1809191240KER

Location: HESPERIA03130CH001

Collected Date/Time: 09/19/2018 12:40

Matrix: Drinking Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	250ml Plastic	Trizma	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample Amount*	286.75 ml	E537	09/26/18 16:30	JGH	

Organics

PFAs Drinking Water, Method: E537, Run Date: 09/30/18 17:51, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxA*	Not detected	2		ng/L	1	307-24-4	S
PFBS*	15	2		ng/L	1	375-73-5	S
PFHpA*	Not detected	2		ng/L	1	375-85-9	S
PFOA*	Not detected	2		ng/L	1	335-67-1	S
PFHxS*	Not detected	2		ng/L	1	355-46-4	S
PFNA*	Not detected	2		ng/L	1	375-95-1	S
PFDA*	Not detected	2		ng/L	1	335-76-2	S
N-MeFOSAA*	Not detected	2		ng/L	1	2355-31-9	S
EtFOSAA*	Not detected	2		ng/L	1	2991-50-6	S
PFOS*	Not detected	2		ng/L	1	1763-23-1	S
PFOUnDA*	Not detected	2		ng/L	1	2058-94-8	S
PFDoDA*	Not detected	2		ng/L	1	307-55-1	S
PFTTrDA*	Not detected	2		ng/L	1	72629-94-8	S
PFTeDA*	Not detected	2		ng/L	1	376-06-7	S

S-Surrogate recovery outside of control limits



# Analytical Laboratory Report

Lab Sample ID: S94669.02

Sample Tag: GWNT1809191300KER

Location: HESPERIA03130WL003

Collected Date/Time: 09/19/2018 13:00

Matrix: Drinking Water

COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	250ml Plastic	Trizma	Yes	2.5	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Sample Amount*	284.24 ml	E537	09/26/18 16:30	JGH	

Organics

PFAs Drinking Water, Method: E537, Run Date: 09/30/18 18:06, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFHxA*	11	2		ng/L	1	307-24-4	S
PFBS*	2	2		ng/L	1	375-73-5	S
PFHpA*	9	2		ng/L	1	375-85-9	S
PFOA*	7	2		ng/L	1	335-67-1	S
PFHxS*	Not detected	2		ng/L	1	355-46-4	S
PFNA*	Not detected	2		ng/L	1	375-95-1	S
PFDA*	Not detected	2		ng/L	1	335-76-2	S
N-MeFOSAA*	Not detected	2		ng/L	1	2355-31-9	S
EtFOSAA*	Not detected	2		ng/L	1	2991-50-6	S
PFOS*	Not detected	2		ng/L	1	1763-23-1	S
PFUnDA*	Not detected	2		ng/L	1	2058-94-8	S
PFDoDA*	Not detected	2		ng/L	1	307-55-1	S
PFTTrDA*	Not detected	2		ng/L	1	72629-94-8	S
PFTeDA*	Not detected	2		ng/L	1	376-06-7	S

S-Surrogate recovery outside of control limits



# Quality Control Report

Report ID: S94669.01(01)+QC01

Generated on 10/26/2018

Report to

Attention: Mike Jury  
MDEQ  
Saginaw Bay District Office  
401 Ketchum St.  
Bay City, MI 48708

Phone: 989-894-6255 FAX:

Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S94669.01-S94669.02

Project: MDEQ State Municipal Sampling

Submitted Date/Time: 09/24/2018 13:57

Sampled by: Kelly Richart

P.O. #: 60570309

QC Report Sections

Cover Page (Page 8)

Analysis Summary (Pages 9-10)

Prep Batch Summary (Page 11)

Surrogates per Lab Sample (Pages 12-13)

Surrogates per QC Sample (Page 14)

Internal Standards per Lab Sample (Pages 15-16)

Internal Standards per QC Sample (Page 17)

Batch QC Results (Pages 18-19)

Report Flag Descriptions

\*: QC result is outside of indicated control limits

W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball  
Quality Assurance Manager

# QC Report - Analysis Summary

Lab Sample ID: S94669.01

Sample Tag: GWNT1809191240KER

Collected Date/Time: 09/19/2018 12:40

Matrix: Drinking Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Organics - Volatiles</b>						
PFA's Drinking Water	E537	09/30/18 17:51	DQ180930	PD180926W1	Yes	LCS/BLK/LCSD

# QC Report - Analysis Summary

Lab Sample ID: S94669.02

Sample Tag: GWNT1809191300KER

Collected Date/Time: 09/19/2018 13:00

Matrix: Drinking Water

COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Organics - Volatiles</b>						
PFAs Drinking Water	E537	09/30/18 18:06	DQ180930	PD180926W1	Yes	LCS/BLK/LCSD

## QC Report - Prep Batch Summary

### Organics - Volatiles, Prep Batch ID: PD180926W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S94669.01	PFA's Drinking Water	E537	09/30/18 17:51	DQ180930
S94669.02	PFA's Drinking Water	E537	09/30/18 18:06	DQ180930

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S94669.01

Sample Tag: GWNT1809191240KER

Collected Date/Time: 09/19/2018 12:40

Matrix: Drinking Water

COC Reference:

## Organics - Volatiles, Analysis: PFAs Drinking Water

Run in Batch: DQ180930, Run Date: 09/30/2018 17:51, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
C13PFDA		85.6	70.0	130.0
C13PFHxA		106.2	70.0	130.0
d5NEtFOSAA	*	65.2	70.0	130.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S94669.02

Sample Tag: GWNT1809191300KER

Collected Date/Time: 09/19/2018 13:00

Matrix: Drinking Water

COC Reference:

## Organics - Volatiles, Analysis: PFAs Drinking Water

Run in Batch: DQ180930, Run Date: 09/30/2018 18:06, Matrix: VWW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
C13PFDA		80.8	70.0	130.0
C13PFHxA		103.6	70.0	130.0
d5NEtFOSAA	*	58.1	70.0	130.0

**QC Report - Surrogates per QC Sample**

**Organics - Volatiles, Prep Batch ID: PD180926W1**

QC Types: LCS/BLK/LCSD

**Laboratory Control Sample (LCS)**

Lab Sample ID: DQ180930.LFB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:08, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
C13PFDA		<b>100.1</b>	70.0	130.0
C13PFHxA		<b>107.6</b>	70.0	130.0
d5NEtFOSAA		<b>91.6</b>	70.0	130.0

**Blank (BLK)**

Lab Sample ID: DQ180930.LRB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:37, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
C13PFDA		<b>117.4</b>	70.0	130.0
C13PFHxA		<b>103.7</b>	70.0	130.0
d5NEtFOSAA		<b>95.5</b>	70.0	130.0

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: DQ180930.LFBD1809261, Parent Sample ID: DQ180930.LFB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:22, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
C13PFDA		<b>108.1</b>	70.0	130.0
C13PFHxA		<b>109.1</b>	70.0	130.0
d5NEtFOSAA		<b>98.4</b>	70.0	130.0

QC Report - Internal Standards per Lab Sample

Lab Sample ID: S94669.01

Sample Tag: GWNT1809191240KER

Collected Date/Time: 09/19/2018 12:40

Matrix: Drinking Water

COC Reference:

Organics - Volatiles, Analysis: PFAs Drinking Water

Run in Batch: DQ180930, Run Date: 09/30/2018 17:51, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
C13PFOA		106.8	50.0	150.0
C13PFOS		103.7	50.0	150.0
d3NMeFOSAA		120.9	50.0	150.0

# QC Report - Internal Standards per Lab Sample

Lab Sample ID: S94669.02

Sample Tag: GWNT1809191300KER

Collected Date/Time: 09/19/2018 13:00

Matrix: Drinking Water

COC Reference:

## Organics - Volatiles, Analysis: PFAs Drinking Water

Run in Batch: DQ180930, Run Date: 09/30/2018 18:06, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
C13PFOA		111.8	50.0	150.0
C13PFOS		108.8	50.0	150.0
d3NMeFOSAA		121.3	50.0	150.0

**QC Report - Internal Standards per QC Sample**

**Organics - Volatiles, Prep Batch ID: PD180926W1**

QC Types: LCS/BLK/LCSD

**Laboratory Control Sample (LCS)**

Lab Sample ID: DQ180930.LFB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:08, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
C13PFOA		<b>96.4</b>	50.0	150.0
C13PFOS		<b>100.3</b>	50.0	150.0
d3NMeFOSAA		<b>106.5</b>	50.0	150.0

**Blank (BLK)**

Lab Sample ID: DQ180930.LRB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:37, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
C13PFOA		<b>107.9</b>	50.0	150.0
C13PFOS		<b>104.3</b>	50.0	150.0
d3NMeFOSAA		<b>110.8</b>	50.0	150.0

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: DQ180930.LFBD1809261, Parent Sample ID: DQ180930.LFB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:22, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Internal Standard	Flags	%Rec	LCL	UCL
C13PFOA		<b>96.7</b>	50.0	150.0
C13PFOS		<b>102.2</b>	50.0	150.0
d3NMeFOSAA		<b>101.2</b>	50.0	150.0

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: PD180926W1**

Surrogates: Yes, QC Types: LCS/BLK/LCSD

**Laboratory Control Sample (LCS)**

Lab Sample ID: DQ180930.LFB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:08, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
PFHxA		108.3	70.0	130.0
PFBS		110.7	70.0	130.0
PFHpA		112.7	70.0	130.0
PFOA		110.8	70.0	130.0
PFHxS		109.4	70.0	130.0
PFNA		113.0	70.0	130.0
PFDA		107.9	70.0	130.0
N-MeFOSAA		98.3	70.0	130.0
EtFOSAA		98.2	70.0	130.0
PFOS		102.5	70.0	130.0
PFUnDA		98.3	70.0	130.0
PFDoDA		98.1	70.0	130.0
PFTTrDA		90.5	70.0	130.0
PFTeDA		93.4	70.0	130.0

**Blank (BLK)**

Lab Sample ID: DQ180930.LRB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:37, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
PFHxA		ND	2	ng/l
PFBS		ND	2	ng/l
PFHpA		ND	2	ng/l
PFOA		ND	2	ng/l
PFHxS		ND	2	ng/l
PFNA		ND	2	ng/l
PFDA		ND	2	ng/l
N-MeFOSAA		ND	2	ng/l
EtFOSAA		ND	2	ng/l
PFOS		ND	2	ng/l
PFUnDA		ND	2	ng/l
PFDoDA		ND	2	ng/l
PFTTrDA		ND	2	ng/l
PFTeDA		ND	2	ng/l

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: DQ180930.LFBD1809261, Parent Sample ID: DQ180930.LFB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:22, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
PFHxA		109.8	70.0	130.0	1.4	30.0
PFBS		111.4	70.0	130.0	0.6	30.0
PFHpA		114.0	70.0	130.0	1.1	30.0
PFOA		112.6	70.0	130.0	1.6	30.0
PFHxS		109.8	70.0	130.0	0.4	30.0
PFNA		121.6	70.0	130.0	7.3	30.0
PFDA		106.3	70.0	130.0	1.5	30.0
N-MeFOSAA		100.1	70.0	130.0	1.8	30.0

# QC Report - Batch QC Results

## Organics - Volatiles, Prep Batch ID: PD180926W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

## Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: DQ180930.LFBD1809261, Parent Sample ID: DQ180930.LFB1809261

Run in Batch: DQ180930, Run Date: 09/30/2018 15:22, Prep Date: 09/26/2018, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
EtFOSAA		101.9	70.0	130.0	3.7	30.0
PFOS		103.8	70.0	130.0	1.2	30.0
PFUnDA		101.7	70.0	130.0	3.4	30.0
PFDODA		107.0	70.0	130.0	8.6	30.0
PFTTrDA		93.6	70.0	130.0	3.3	30.0
PFTeDA		88.9	70.0	130.0	5.0	30.0

# Merit Laboratories Login Checklist

Lab Set ID: S94669

Client: MDEQ2 (Michigan Department of Environmental Quality)

Project: MDEQ State Municipal Sampling

Submitted: 09/24/2018 13:57 Login User: MMC

Attention: Mike Jury

Address: MDEQ

Saginaw Bay District Office

401 Ketchum St.

Bay City, MI 48708

Phone: 989-894-6255

FAX:

Email: jurym1@michigan.gov

Selection	Description	Note
<b>Sample Receiving</b>		
01.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.5
02.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Received on ice/ cooling process begun
03.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped
04.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box
05.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked
<b>Chain of Custody</b>		
06.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC adequately filled out
07.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC signed and relinquished to the lab
08.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample tag on bottles match COC
09.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontracted to:
<b>Preservation</b>		
10.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation
11.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)
12.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?
<b>Bottle Conditions</b>		
13.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact
14.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used
15.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used
16.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received
17.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration
18.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time
19.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_



**MERIT LABORATORIES, INC.**  
 2680 East Lansing Drive East Lansing MI 48823  
 Phone: (517) 332-0167 Fax: (517) 332-6333

COC PAGE # 3 OF 5  
 www.meritlabs.com

**REPORT TO**

Contact Name **MIKE JURY**  
 Company **MDEQ**  
 Address **401 KETCHUM ST, SUITE B**  
 City **BAY CITY** State **MI** Zip Code **48708**  
 Phone # **989-894-6255** PO # **60570309**  
 Email Address **dorin.bogdan@acem.com**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**  SAME  
 Contact Name **MIKE JURY**  
 Company **MDEQ**  
 Address **401 KETCHUM ST, SUITE B**  
 City **BAY CITY** State **MI** Zip Code **48708**  
 Phone # **989-894-6255**  
 Email Address **dorin.bogdan@acem.com**

Project #/Name **60570309** Sampler Name **KELLY RICHART**

TAT Time Requested  1 day  2 day  3 day  5 day  STANDARD  OTHER  
 Deliverables Requested  STANDARD  LEVEL II  LEVEL III  LEVEL IV  EDD

MATRIX CODE: GW: GROUNDWATER WW: WASTEWATER DW: DRINKING WATER  
 S: SOIL L: LIQUID SD: SOLID SL: SLUDGE O: OIL W: WASTE M: MISC

MERIT LAB ID	YEAR		SAMPLE TAG	LOCATION	MATRIX	# BOTTLES	Preservatives			EPA 537 - 14 PFCs	ASTM D7979 - 24 PFCs	Special Instructions
	DATE	TIME					NONE	TRIZMA	Other			
94669.01	9/19/2018	1240	GW/NT1809191240KER	HESPERIA03130CH001	DW	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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