



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
GRAND RAPIDS DISTRICT OFFICE



C. HEIDI GRETHUR
DIRECTOR

November 16, 2018

Mr. Darwin Watson, City Manager
City of Benton Harbor
200 East Wall Street
Benton Harbor, Michigan 49022

VIOLATION NOTICE
WSSN: 00600
City of Benton Harbor

Dear Mr. Watson:

SUBJECT: Violation Notice:

- Treatment Technique– Failure to Meet Total Organic Carbon (TOC) Removal
- Monitoring and Reporting Requirements including Civil Fine

Treatment Technique Violation

The Department of Environmental Quality (DEQ), Drinking Water and Municipal Assistance Division (DWMAD), records show the City of Benton Harbor (City) remains in violation of the Safe Drinking Water Act 1976 PA 399, as amended (Act 399); R 325.10610c, *Control of disinfection byproduct (DBP) precursors; treatment technique*, for the compliance period ending September 30, 2018 (3Q2018). The City does not meet the required removal ratio of 1.0, or any of the alternative compliance criteria.

The violation began April 1, 2018 (following the quarter in which required removal was not met), continuing through the most recent compliance period from July 1, 2018 through September 30, 2018. Refer to previous correspondence for information pertaining to the development and ongoing nature of this compliance issue. The City has failed to submit valid monthly sample results for total organic carbon (TOC) during the same compliance period. This also constitutes a monitoring violation (see below). Consequently, this quarter's running annual average compliance calculation does not reflect any new data due to sample invalidation. Please see the attached table for a summary of the valid data we have received, and the compliance calculation for the most recent quarter.

Our investigation consisted of a review of the City's monthly operation reports and sample results, specifically raw and treated TOC paired samples, and the associated alkalinity samples. We used these results to determine whether the alternative compliance criteria had been met or if the required percent removal had been met. The investigation is now complete.

Please note, while this is a treatment technique violation, it is important to emphasize TOC does not have any direct health effects. It provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs), which are sampled in the distribution system. If THMs or HAA5s were to exceed their maximum contaminant level (MCL) there would be health concerns for the residents. Therefore, actions must be taken to meet the required TOC removal ratios.

To return to compliance, you must either achieve the required removal percentages or meet alternative compliance criteria, by completing the following steps.

- Continue collecting alkalinity and paired TOC samples on a monthly basis ensuring thermal preservation requirements are met to obtain valid samples.
- Perform jar or pilot-scale testing to set an alternative TOC removal requirement, and report the results to the DEQ within three months, by **January 16, 2018**.
- If the DEQ approves an alternative percent TOC removal requirement based on this testing:
 - Submit a new monitoring plan to the DEQ.
 - Continue to collect samples on a monthly basis.
 - Perform jar testing at least once per quarter for one year (from date of approval) to examine seasonal changes in treatability.
 - This alternative TOC removal requirement will remain in effect until the DEQ approves a new value based on the results of new bench tests.

Compliance may also be achieved by complying with one of the alternative compliance criteria listed in the rule or by increasing removal of TOC and meeting the required removal ratio. Sampling for specific ultraviolet absorbance (SUVA) is a good practice to measure humic organic content, and is also an alternative compliance criteria.

Monitoring and Reporting

DWMAD records also show that the City is in violation of the Safe Drinking Water Act 1976 PA 399, as amended (Act 399); R 325.10716, *Collection and analysis of samples for VOCs*; R 325.10717, *Collection and analysis of samples for synthetic organic chemicals*; R 325.10710, *Collection and analysis of samples for inorganic chemicals*; R 325.10719e, *Disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors; monitoring requirements*; and R 325.10734, *Required reporting to the department of the 1979 Administrative Code*.

The City will soon receive from the DWMAD an invoice for a fine of \$600 for failing to meet monitoring requirements multiple times in a 12-month running period.

In accordance with the rules cited above, a supplier of water shall collect samples during each specified monitoring period, have them analyzed for VOC, SOC, cyanide, disinfection byproducts, and/or TOC, and report the results to this office unless the DEQ laboratory performs the analysis and reports the results. Your specific monitoring requirements were outlined in your 2018 Monitoring Schedule, sent to you on or about January 10, 2018. Our records show that the City did not conduct VOC, SOC, cyanide, disinfection byproducts or TOC monitoring either at all or properly, as required. Our investigation consisted of a review of DWMAD files for laboratory reports received for compliance monitoring. Results which are coded as not meeting thermal preservation requirements cannot be used for compliance. You must ensure samples are properly collected and preserved.

Our investigation is considered complete. To return to compliance for VOC, SOC, and cyanide, the City must collect samples from the plant tap by December 31, 2018, and have them analyzed by a certified lab. We will be contacting you to schedule a date to collect these

samples. To return to compliance for disinfection byproducts, the City must collect samples according to its sampling site plan during the month of November, and have them analyzed by a certified lab. Submit the report of analysis to this office unless you use the DEQ laboratory. Please note that the laboratory you use may have reduced hours during the holidays so monitor as soon as you can. Please refer to the following table outlining the samples missed, and how to return to compliance.

	Frequency	Overdue Since	NEXT DUE/ LOCATION	Fine	Note
VOC	Yearly	9/30/2018	12/31/2018 Plant Tap	\$200	Also missed during 2017
SOC	2 consecutive quarters, Triennially	6/30/2018 and 9/30/2018	12/31/2018 Plant Tap	\$0	First missed sample
Cyanide	Yearly	9/30/2018	12/31/2018 Plant Tap	Included in VOC fine	Also missed during 2017
Disinfection Byproducts	Quarterly	8/31/2018	11/30/2018 Distribution according to SSP	\$0	Sample invalidated due to thermal requirements
TOC	Monthly	Monthly	11/30/2018 Raw and Plant Tap	\$400	August sample invalid due to thermal requirements, September sample missed

Additionally, due to the treated TOC running annual average being greater than or equal to 2.0 mg/L, the supply must continue to sample monthly for TOC (paired sample) according to Rule 719e(4)(a) of Act 399.

Public Notification

Administrative Rule 403 requires that suppliers provide public notice (PN) not later than 30 days after learning of the TOC Removal violation, by mail or direct delivery and by any other means reasonably calculated to reach other persons regularly served by the system. This notice must be reissued every three months for the duration of the violation.

Rule 403 states that the Department may require a Tier 2 PN for violations of monitoring and testing procedure requirements, based on potential health impacts and persistence of the violation. **Because of the number and types of violations, the City is required to issue a PN for all current violations no later than 30 days of the date of this notice.**

Enclosed is a PN for your use. If you make modifications, please have them reviewed by the DEQ prior to issuance, due to the complexity of the notice. Please notify your consumers by December 16, 2018, and send this office a signed and dated copy of the notice within 10 days

of distributing to the public. Additionally, these violations must be included in your Consumer Confidence Reports, due by July 1, 2019.

Fines

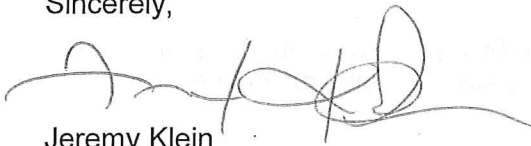
The DEQ is authorized under Section 7 of Act 399, MCL 325.1007, to issue fines for public water supply monitoring and reporting violations. The City will soon receive an invoice under separate cover for a fine of \$600 for this violation. Furthermore, failure to issue a public notice for this violation will result in a fine of at least \$200 per day of the violation up to a maximum of \$2000. Additional violations are subject to fines of increasing amounts. If you would like more information on the DWMAD administrative fines policy, contact me at the email address listed below.

Follow-Up

This continued failure to collect samples, which is the cornerstone of assuring your community is consuming water meeting current standards, is unacceptable. The City must take immediate steps to ensure samples are collected properly and timely. As such, DEQ staff will be scheduling a time to observe these samples being collected. Additionally, a meeting will be scheduled with the DEQ and the City to discuss means to resolve all the current issues. You will be receiving a call to schedule this meeting, if you have not already.

It is still our intent to work with you on resolving this issue and determining the best method for achieving compliance. We anticipate and appreciate your cooperation in working together to resolve these matters. Additionally, if you have any questions regarding this Violation Notice, please feel free to call either of us at the numbers below at your earliest convenience.

Sincerely,



Jeremy Klein
Environmental Quality Analyst
Grand Rapids District Office
Drinking Water and Municipal Assistance
616-250-1053



Ernie Sarkipato
Surface Water Treatment Specialist
Grand Rapids District Office
Drinking Water and Municipal Assistance
616-307-0261

Enclosure

cc/encl: Mr. Mike O'Malley, Water Superintendent, Benton Harbor
cc: Mr. Brian Thurston, P.E., Acting Engineering Unit Supervisor, DEQ (via email)
Ms. Sue Maul, Enforcement Specialist, DEQ (via email)

To the Residents of Benton Harbor

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

You have been receiving many updates regarding your drinking water lately. This notice is a summary of everything that has happened, what you should do, and what we are doing to resolve these issues.

Lead

As you were previously told, our City exceeded the lead action level with samples taken during the summer/fall of 2018. We immediately got the word out through media outlets, and you have received a short informational notice about what happened and how to reduce your risk of exposure to lead in drinking water. We will be sending all our customers a more detailed letter to help you further understand the health effects of lead, how lead gets into drinking water, and what you can do to lower your risk. Please be sure to read this important information.

Total Organic Carbon (TOC)

You were first notified in June 2018 of the City's inability to remove enough natural organic material, or TOC, through our treatment process. We are still in violation of this drinking water rule. *TOC has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the Maximum Contaminant Level (MCL) may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.* We are continuing to investigate how to best change our treatment process to effectively remove TOC. We are working with the Michigan Department of Environmental Quality (DEQ) to make improvements at the water treatment plant based on the data we have collected over the summer.

Monitoring and Reporting

The city has had difficulties in 2018 with collecting samples properly in the correct monitoring period. There were several samples that were taken on time, but by the time they reached the laboratory they did not meet the required temperature, and therefore could not be used. Other samples were simply missed. The table below lists the contaminant(s) we did not properly test for, how often we are supposed to sample for these contaminants, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date we will collect follow-up samples.

Contaminant	Required sampling frequency	Number of samples taken	When all samples should have been taken	Date additional samples were (or will be) taken
Disinfection Byproducts	2 per quarter	2 but they did not count	August 2018	November 2018
Total Organic Carbon	2 per month	2 but they did not count	May, June, July and August 2018	November 2018
Total Organic Carbon	2 per month	0	September 2018	October 2018
Volatile Organic Compounds (such as gasoline)	1 sample per year	0	Between January and September 2018	December 31, 2018
e. Coli	2 samples per month	1	March 2018	1 extra sample in October was added

Contaminant	Required sampling frequency	Number of samples taken	When all samples should have been taken	Date additional samples were (or will be) taken
Synthetic Organic Compounds (such as pesticides)	2 samples every year	0	2 nd and 3 rd quarters of 2018	Before December 31, 2018
Cyanide	1 sample per year	0	Between January and September 2018	Before December 31, 2018

What happened? What was done?

The process to treat surface water for drinking is very complicated. Any change we make has the potential to cause other issues; therefore, it is very important that we carefully look at all effects before making changes. Improvements to our chemical mixing process are being worked on to enhance water quality. Also, due to the recent lead action level exceedance, we will be discussing the installation of corrosion control treatment to help prevent lead from entering drinking water. We must make these changes slowly and carefully to prevent unintended side effects. We are working with the DEQ to best determine how to make these changes.

What should I do?

There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.

Please do not boil your water. The level of lead coming out of your tap greatly depends on individual home plumbing and fixture materials and varies from home to home. Therefore, we are providing bottled water or filters to homes with sample results showing elevated lead levels (above 15 parts per billion), but otherwise you do not need to use a different source of water. If a situation arises where your water is no longer safe to drink, you will be notified within 24 hours.

We regret there has been so many issues with the water this year, and the impact this has on our customers. We are working to increase our staffing and oversight of the water system to help us return to compliance. Please be assured your health and safety are our number one concern, and we will do everything we can to resolve these issues as quickly as possible.

For more information, please contact **[name of contact]** at **[phone number and email address]** or **[mailing address]**. This notice is being sent to you by the City of Benton Harbor.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.