



323 W Michigan Ave, Marshall, MI 49068
P 269.781.5183 F 269.781.3835
cityofmarshall.com

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Dear City of Marshall Water Customers:

This letter is to inform you that as part of the 1996 Amendments to the Safe Water Drinking Act, all community water systems are required to prepare and provide their customers with an annual Water Quality Report or a Consumer Confidence Report (CCR).

This report provides consumers with information on their drinking water, including the raw water source, contaminants detected in the finished water, health effects of the contaminants when violations occur, likely sources of the detected contaminants, availability of source water assessments, and how it compares to Environmental Protection Agency (EPA) and Michigan Department of Environmental Quality (MDEQ) standards.

Community water systems such as ours, serving less than 10,000 people but more than 449 people are not required to deliver the report to each customer as part of the Governor's CCR mailing waiver. We are required to publish the report in one or more local newspapers, inform our customers that the report will not be mailed, and make reports available to the public upon request. We are also urged to make a good faith effort to get the report to customers that might not live in the community but might work in the community and thus have an interest in the quality of water they consume.

We are asking industrial and commercial customers that receive this report to make it available to employees or residents by posting it in a highly visible area such as employee bulletin boards or by putting a notice as the location of the report in news letters or bulletins that you might send to your employees or residents.

It is our pleasure to offer our customers the annual Water Quality Report. The City of Marshall Utilities will strive to continue making improvements to the water system in order to provide consumers with the highest quality water possible.

Anyone wishing to receive a personal copy of our community water quality report may do so by calling the water department at 781-2210. Office hours are Monday – Friday 7:00 AM to 3:30 PM.



DISTRICT

NATIONAL HISTORIC LANDMARK DISTRICT

CITY OF MARSHALL WATER QUALITY REPORT - 2023

This report covers the drinking water quality for the City of Marshall for the calendar year 2022. This information is a snapshot of the quality of the water that we provided you in 2022. Included are the details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State standards.

Your water comes from four (4), twelve (12) inch wells that extend one hundred (100) feet deep into a geological rock formation called the Marshall Sandstone Aquifer. The wells are located in the Southeast section of the City. Water is pumped from the wells to an iron removal plant where the iron and manganese in the raw water are removed through four pressure filters which contain layers of anthracite, manganese treated green sand, and gravel. In the water treatment process, potassium permanganate (an oxidizing agent) is added to the water to expedite the removal of iron and manganese. Chlorine is added for disinfection of bacteria and viruses, fluoride is added to enhance dental protection, and phosphate is added for corrosion control in the water distribution system. The levels of these additives are monitored daily to ensure proper dosages are being added.

Protecting the groundwater source for our well field is vitally important to the community. Your water utility is actively involved in Wellhead Protection. Our Wellhead Protection Program was approved by the Department of Environment, Great Lakes and Energy (EGLE) in September 2001. The City of Marshall has an active WHPA Program that is managed by a team made up of representatives from each jurisdiction within the WHPA and lead by the City's Water Superintendent. The program is fully implemented and is in a maintenance phase. The team meets quarterly and its current focus is public education.

Hydro geologic information from the WHPA delineation was reviewed to establish the geologic sensitivity for the City of Marshall's four production wells. The wells obtain groundwater from an aquifer that may be characterized as "unconfined." Unconfined aquifers are characterized geologically as "sensitive."

The City of Marshall's production wells have "high" susceptibility based on the above-mentioned geologic sensitivity, listed potential contaminant sources within the WHPA, on the following:

- No Maximum Contaminant Level (MCL) violations have occurred.
- The well construction meets standards.
- There are no potential contamination sources within the standard isolation area.
- Your community has an active WHPP that supports management of existing or potential sources of contamination in the WHPA.
- Known sources of contamination within the WHPA are being remediated to prevent movement of contamination to the municipal wells.
- **Contaminants and their presence in water:** The City of Marshall routinely monitors for contaminants in your drinking water according to Federal and State laws. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can

be obtained by calling the **EPA's Safe Drinking Water Hotline (800-426-4791)** or access their web site (www.epa.gov/safewater/).

- **Vulnerability of sub-populations:** Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.
- **Sources of drinking water:** The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture and residential uses.
- **Radioactive substances**, which can be naturally-occurring.
- **Organic chemical contaminants**, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the number of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.



WATER QUALITY DATA

The following table lists all the contaminants that were detected in your drinking water during the 2022 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The tables contain the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of contamination, key to units of measurements, and footnotes explaining our findings. Unless otherwise noted, the data presented in these tables is from testing done January 1, 2022 thru December 31, 2022. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All the data is representative of the water quality, but some is more than one (1) year old.

WATER QUALITY TABLES

Regulated Substances

Substance (units of measure)	Year Sampled	MCL (MRDL)	MCLG (MRDLG)		Amount Detected	Range Low- High	Violation	Typical Source
Chlorine (ppm)	2022	4	4		1.22	0.29-1.73	No	Water additive for disinfection
Fluoride (ppm)	2022	4	4		.79	0.51-0.88	No	Erosion of natural deposits; Water additive which promotes strong teeth
TTHMs (Total Trihalomethanes) (ppm)	2022	.080	0		<u>Site #1</u> .0138 <u>Site #2</u> .0189	<u>Running Average</u> <u>Site #1</u> .0138 <u>Site #2</u> .0183	No	By-product of disinfection
Tap water samples were collected for lead and copper from sample sites throughout the community								
Substance (Units of measure)	Year Sampled	AL	MCLG	Range	Amount Detected (90 th percentile)	Sites above AL/Total sites	Violation	Typical Source
Copper (ppb)	2022	1300	1300	0 ppb- 12 ppb	0.6 ppm	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2022	15	0	0.0 ppm- 1.3 ppm	1 ppb	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits



Unregulated Substances

Substance (units of measure)	Year Sampled	Amount Detected	Range Low-High	Typical Source
Sodium (mg/l)	2022	12ppm	N/A	Naturally present in the environment; Road salting; Septic systems

Unregulated Contaminant Monitoring Rule (UCMR) Data from US EPA Screening Survey

Analyte Name	Collection Date	Reported Value ¹ (μ g/L) ²
germanium	7/16/2019	0
chlorpyrifos	7/16/2019	0
total permethrin	7/16/2019	0
alpha-hexachlorocyclohexane	7/16/2019	0
dimethipin	7/16/2019	0
oxyfluorfen	7/16/2019	0
profenofos	7/16/2019	0
tebuconazole	7/16/2019	0
tribufos	7/16/2019	0
ethoprop	7/16/2019	0
butylated hydroxyanisole	7/16/2019	0
o-toluidine	7/16/2019	0
quinoline	7/16/2019	0
1-butanol	7/16/2019	0
2-methoxyethanol	7/16/2019	0
2-propen-1-ol	7/16/2019	0
Collection Site	Analyte Name	Collection Date
		Reported Value ¹ (μ g/L) ²
Source Water	Bromide	7/16/2019
Source Water	Total Organic Carbon	7/16/2019
Water Treatment Plant	Manganese	7/16/2019
Distribution System 15250 N. US 27	HAA5	7/16/2019
	HAA6Br	7/16/2019
	HAA9	7/16/2019
Distribution System 15300 W. Michigan	HAA5	7/16/2019
	HAA6Br	7/16/2019
	HAA9	7/16/2019



Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. Monitoring helps the U.S. EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. We monitored for these contaminants and the results of monitoring are available on request.

No chemical contamination violation has occurred on the above samples

Monitoring Requirement Violations: 0

Terms and abbreviations used in the Water Quality Table:

- **Maximum residual disinfectant level (MRDL):** The highest level of a disinfectant allowed in drinking water based on a (RAA) Running Annual Average.
- **Maximum residual disinfectant level goal (MRDLG):** The level of a drinking water disinfectant below which there are no known or expected risks to health.
- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.
- **Maximum Contaminant Level (MCL):** The highest level of contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
- **N/A:** Not Applicable **ND:** Not Detectable at testing limit.
- **ppm:** parts per million or milligrams per liter
- **ppb:** Parts per billion or micrograms per liter
- **pCi/l:** picocuries per liter (a measure of radiation)
- **Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.



The City is required to sample eight (8) Microbiological Samples a month. The City sampled one hundred seven (107) times in 2022 with all the results negative.

Municipal Water systems are required to test for hundreds of contaminants. The above tables list only the contaminants that were detected in your city water. For a complete list of contaminants that were tested for but not detected, contact the City Water Department at 269-781-2210.

Lead: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water primarily from materials and components associated with service lines and home plumbing. The City of Marshall is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, test methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or <http://www.epa.gov/safewater/lead>.

Our water supply has approximately 91 lead service lines and approximately 1010 service lines of unknown material out of a total number of 3244 service lines. The State of Michigan regulates the requirements of water suppliers regarding Lead and Copper Levels. As part of the newest provisions the City is required to replace lead service and galvanized previously connect to lead service lines at an average rate of 5% per year beginning in 2021. Additional to replacements the City is required to make continuous efforts to inventory the unknown service lines with a complete inventory compiled by 2025. The department is actively working on both initiatives.

We are committed to providing you with a high quality, reliable, drinking water. We are pleased to provide you with this information to keep you fully informed about your drinking water. We will be updating this report annually and will also keep you informed of any problems that may occur throughout the year, as they happen. We are pleased to report that your drinking water meets all federal and state requirements. If you have any questions about this report or would like a paper copy of the report, please contact Aaron Ambler at 269-781-2210 or email aambler@cityofmarshall.com. We want our valued customers to be informed about their water utility. If you would like to learn more about decisions that effect drinking water quality, please attend any of our regularly scheduled council meetings. They are held on the first and third Mondays of each month at 7:00 PM. in the City Hall Council Chambers located at 323 W. Michigan Avenue.

