

2022 Water Quality Report for Michiana Water Authority

Water Supply Serial Number: 4320

This report covers the drinking water Quality for Michiana Water Authority for the 2022 calendar year. This information is a snapshot of the quality of water that we provide you in 2021. Included are details about where your water comes from, what it contains, and how it compares to the United States Environmental Protection Agency (U.S. EPA) and states standards.

The Michiana Water Authority purchases its water from the Dept. of Water Works, Michigan City, IN. The water is already treated and is transmitted through a 12" watermain into a 500,000 gallon storage tank. It is then re-boostered to the distribution system of Michiana, MI, a few customers in New Buffalo Township, Laporte County, IN and bulk to the Village of Grand Beach.

If you would like to know more about this report, please contact: Rick Reitz at 269-469-1967 or email rreitz@michianavillage.org

Contaminates and their presence in water: Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of 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 U.S. EPA's Safe Drinking Water Hotline at 800-426-4791.

Vulnerability of sub-populations: Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, person who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risks from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Center of Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (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. Our water comes from Lake Michigan. As water travels over the surface of the 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.

Contaminates that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agriculture livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater 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 contaminants, which can naturally-occurring or be the result of oil and gas production and mining activities.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can come from gas stations, urban stormwater runoff, and septic systems.

In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the levels of certain contaminants in water provided by public water systems. Federal Food and Drug Administration regulations establish limits for contaminations in bottle water which provides the same protection for public health.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Michiana Water Authority is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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 have a lead service line it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. If you are concerned about lead in your water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at <http://water.epa.gov/drink/info/lead>.

Water Quality Data

The table below lists all the drinking water contaminants that we detect during the 2022 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through 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 quality, but some are more than one year old.

Terms and abbreviations used below:

- **Maximum Contaminate Level Goal (MCLG):** The level of a contaminate in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.
- **Maximum Contaminate Level (MCL):** The highest level of a contaminate that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **N/A:** Not applicable
- **ND:** not detected
- **ppm:** parts per million or milligrams per liter
- **ppb:** parts per billion or micrograms per liter
- **ppt:** parts per trillion or nanograms per liter
- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Level 1 Assessment:** A study of the water supply to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Level 2 Assessment:** A very detailed study of the water system to identify potential problems and determine (if possible) why an E.coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

1 Monitoring Data for Regulated Contaminants

Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Arsenic (ppb)	10	0					Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2					Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10					Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4					Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Sodium ¹ (ppm)	N/A	N/A					Erosion of natural deposits
THM Total Trihalomethanes (ppb)	80	N/A	20.30		2022	NO	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A	<2.000		2022	NO	Byproduct of drinking water disinfection
Chlorine ² (ppm)	4	4	0.73	0.32-1.26	2022	NO	Water additive used to control microbes
Alpha emitters (pCi/L)	15	0					Erosion of natural deposits
Combined radium (pCi/L)	5	0					Erosion of natural deposits
Total Coliform (total number or % of positive samples/month)	TT	N/A	N/A	N/A			Naturally present in the environment
<i>E. coli</i> in the distribution system (positive samples)	See <i>E. coli</i> note ³	0	0	N/A	2022	NO	Human and animal fecal waste
Fecal Indicator – <i>E. coli</i> at the source (positive samples)	TT	N/A	0	N/A	2022	NO	Human and animal fecal waste

¹ Sodium is not a regulated contaminant.

² The chlorine "Level Detected" was calculated using a running annual average.

³ *E. coli* MCL violation occurs if: (1) routine and repeat samples are total coliform-positive and either is *E. coli*-positive, or (2) the supply fails to take all required repeat samples following *E. coli*-positive routine sample, or (3) the supply fails to analyze total coliform-positive repeat sample for *E. coli*.

Per- and polyfluoroalkyl substances (PFAS)							
Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt)	370	N/A	<1.9		2022	NO	Discharge and waste from industrial facilities utilizing the Gen X chemical process
Perfluorobutane sulfonic acid (PFBS) (ppt)	420	N/A	<1.9		2022	NO	Discharge and waste from industrial facilities; Stain-resistant treatments
Perfluorohexane sulfonic acid (PFHxS) (ppt)	51	N/A	<1.9		2022	NO	Firefighting foam; Discharge and waste from industrial facilities
Perfluorohexanoic acid (PFHxA) (ppt)	400,000	N/A	<1.9		2022	NO	Firefighting foam; Discharge and waste from industrial facilities
Perfluorononanoic acid (PFNA) (ppt)	6	N/A	<1.9		2022	NO	Discharge and waste from industrial facilities; Breakdown of precursor compounds
Perfluorooctane sulfonic acid (PFOS) (ppt)	16	N/A	<1.9		2022	NO	Firefighting foam; Discharge from electroplating facilities; Discharge and waste from industrial facilities
Perfluorooctanoic acid (PFOA) (ppt)	8	N/A	<1.9		2022	NO	Discharge and waste from industrial facilities; Stain-resistant treatments
Inorganic Contaminant Subject to ALs	AL	MCLG	Your Water ⁴	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0	4	0 - 14	JAN - JUNE 2022	0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.3	0 -0.40	JAN - JUNE 2022	0	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	15	0	1.0	0 - 5	JULY - DEC 2022	0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.1	0.0 - 0.2	JULY - DEC 2022	0	Corrosion of household plumbing systems; Erosion of Natural deposits

⁴ Ninety (90) percent of the samples collected were at or below the level reported for our water.

Water Quality Report 2022
Department of Water Works Michigan City, Indiana
PWSID IN5246020

Message from the Superintendent

We're pleased to once again present to you this year's Annual Water Quality Report. This report is to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are pleased to report that our drinking water is safe and meets federal and state requirements. If you have any questions about this report or concerning your water utility, you may contact the Main Office at (219) 874-3228, and speak to Christopher Johnsen, Superintendent. We want our valued customers to be informed about their water utility. If you want to learn more you may attend the Water Board meetings. They are scheduled twice monthly on the 2nd and 4th Tuesdays at 7:00 p.m. in the Main Office, 532 Franklin Street.

Water Source and Treatment

The greater area of Michigan City receives its drinking water directly from Lake Michigan, a surface water source. It is treated through a conventional treatment process that includes Flocculation-Sedimentation (the mixing of Alum into the water to create "Floc" which allows large particulate matter to settle out of the water) and Filtration (to remove fine particulate matter and micro-organisms from the water). Chemical additions are also required which includes Chlorine (for bacteriological removal), Alum (to remove large particulate matter), Fluoride (to prevent dental decay), and Chloramines (the mixture of chlorine and ammonia which allows for longer disinfectant levels in the water distribution system and remove chlorine odor from the water). Polyphosphate is added to inhibit internal corrosion of water mains and water services.

Monitoring & Measuring Contaminants

The Department of Water Works of Michigan City, IN routinely monitors for contaminants in your drinking water according to Federal and State laws. The Table on the back shows the results of our monitoring for the period of January 1st to December 31st, 2022. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

It is important to know that 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 systems disorders, some elderly, and infants can particularly be at risk and 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 are also available from the Safe Drinking Water Hotline (800) 426-4791.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. The Department of Water Works is responsible for providing high quality drinking water, but cannot control the variety of materials used in private plumbing components. 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, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

Other Related Data

The sources of drinking water (both tap and bottled water) include, rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the 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 human activity. Contaminants that may be present in source water are:

1. **Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural, livestock operations and wildlife.
2. **Inorganic Chemical Contaminants**, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
3. **Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, stormwater runoff and residential uses.
4. **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can, also come from gas stations, urban stormwater runoff, and septic systems.
5. **Radioactive Contaminants**, which can be naturally occurring or be the result of oil and gas productions and mining activities.

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

Water Quality Analysis

The chart that follows the definitions lists the highest recorded level in Michigan City in 2022 and the highest allowed by the USEPA. Michigan City water has met all EPA requirements.

Definitions

MCL: Maximum Contaminant Level, the highest level of a contaminant that is allowed in drinking water, if applicable.

MCLG: Maximum Contaminant Level Goal, the level of a contaminant in drinking water below which there is no known or expected risk to health, if applicable.

MRDL: Maximum Residual Disinfectant Level, the highest level of disinfectant allowed in drinking water.

MRDLG: Maximum Residual Disinfectant Level Goal, the level of drinking water disinfectant below which there is no known or expected risk to health.

AL: Action level, the concentration of a contaminant, which if exceeded, triggers treatment or other requirements, which a water system must follow.

TT: Treatment Technique, a required process intended to reduce the level of a contaminant in drinking water.

NTU: Nephelometric Turbidity Unit, is the measure of clarity of the water

mg/l: milligrams per liter, a measurement for concentration equivalent to ppm = one part per million

ug/l: micrograms per liter, measurement for concentration equivalent to ppb = one part per billion

pCi/l: picocuries per liter, a measurement of radiation

P*: Potential violation, one that is likely to occur in the near future, subject to other applicable requirements.

ND: Not detected, the result was not detected at or below the analytical method detection level.

TT:** **Special Note on Turbidity:** The turbidity treatment technique (TT) requires that at least 95% of the total combined effluent turbidity samples shall not exceed 0.3 NTU (1.0 NTU for slow sand and diatomaceous earth filtration systems). At least 95% is required to be in compliance. In addition, the maximum turbidity level cannot exceed 1.0 NTU at any time.

Date	Contaminant	MCL	MCLG	Unit	Result	Min	Max	Sites over AL	Violation	Likely Sources
2022	Barium	2	2	mg/L	0.021	0.021	0.021		No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
2022	Fluoride	4	4	mg/L	0.78	0.78	0.78		No	Water additive that promotes strong teeth; Erosion of natural deposits; Discharges from fertilizer and aluminum factories.
2022	Nitrate-Nitrite (as N)	10	10	mg/L	0.41	0.41	0.41		No	Erosion of natural deposits; Runoff from fertilizers; Leaching from septic systems and sewers.
2022	Sodium	N/A	N/A	mg/L	8.9				No	Metals; Erosion of natural deposits.
2022	Chromium	100	100	ug/L	0.94	0.94	0.94		No	Byproduct of drinking water chlorination
2022	Total Trihalomethanes	80	0	ug/L	12	5.9	17.4		No	Byproduct of drinking water chlorination
2022	Total Haloacetic Acids	60	0	ug/L	1	0	3.7		No	Byproduct of drinking water chlorination
2022	Chloramines	MRDL = 4	MRDLG = 4	mg/L	1	1	1		No	Water additive used to control microbes
2022	Total Organic Carbon	TT	TT	mg/L	1.34	0.684	1.55		No	Naturally present in the environment
2022	Turbidity (lowest percentage)	TT**	TT**	%	96.7%	96.7%	100%		No	Soil runoff
2022	Turbidity (Maximum level)	1	1	NTU	1.00	0.03	1.00		No	Soil runoff
Valid until 12/31/2023	Lead (90th percentile)	15 (AL)	0	ug/L	3	ND	9.1	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Valid until 12/31/2023	Copper (90th percentile)	1.3 (AL)	1.3	mg/L	0.23	ND	1.17	0	No	Erosion of natural deposits; Corrosion of household plumbing systems; Leaching from wood preservatives