

# 2021 Water Quality Report for Empire Water Department

Water Supply Serial Number: 2130

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

Your water comes from 4 groundwater wells, each over 160 foot deep. The State performed an assessment of our source water to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a seven-tiered scale from "very-low" to "very-high" based on geologic sensitivity, well construction, water chemistry and contamination sources. The susceptibility of our source is The susceptibility of our source ranges from moderately low to moderate.

There are no significant sources of contamination include in our water supply. We are constantly making efforts to protect our sources by improving the vent system on our holding tank in 2022 previously scheduled for 2020 delayed because of covid19, and regular inspections of all four wells by reputable companies

A copy of the full report can be obtained by contacting Village Superintendent, John Friend at the Empire Village Office, 11518 LaCore St. If you would like to know more about the report, please contact Village Maintenance department office at 231-326-5353 or at [dpw@villageofempire.com](mailto:dpw@villageofempire.com)

**Contaminants and their presence in water:** 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 U.S. EPA's Safe Drinking Water Hotline (800-426-4791).

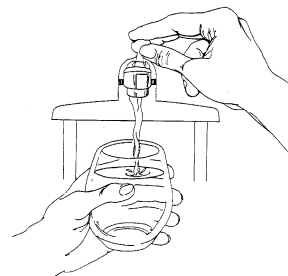
**Vulnerability of sub-populations:** Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems 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. U.S. EPA/Center for 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 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 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 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 be 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 also 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 contaminants in bottled water which provide the same protection for public health.

## Water Quality Data

The table below lists all the drinking water contaminants that we detected during the 2020 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, 2020. 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 are more than one year old.

### Terms and abbreviations used below:

- **Maximum Contaminant Level Goal (MCLG)**: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **Maximum Contaminant Level (MCL)**: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs 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
- **ppt**: parts per trillion or nanograms per liter
- **pCi/l**: picocuries per liter (a measure of radioactivity)
- **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	0.010	0.010	2019	NO	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.036	0.036	2019	NO	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10	< 1.0	ND-1.0	2021	NO	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4	0.7	0.5-0.7	2021	NO	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Alpha emitters (pCi/L)	15	0	1.9	1 – 1.9	2016	NO	Erosion of natural deposits
Combined radium (pCi/L)	5	0	.5	0 - .5	2016	NO	Erosion of natural deposits

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	Non detected	ND-0	2021	no	Discharge and waste from industrial facilities utilizing the Gen X chemical process
Perfluorobutane sulfonic acid (PFBS) (ppt)	420	N/A	Non detected	ND-0	2021	no	Discharge and waste from industrial facilities; stain-resistant treatments
Perfluorohexane sulfonic acid (PFHxS) (ppt)	51	N/A	Non detected	ND-0	2021	no	Firefighting foam; discharge and waste from industrial facilities
Perfluorohexanoic acid (PFHxA) (ppt)	400,000	N/A	Non detected	ND-0	2021	no	Firefighting foam; discharge and waste from industrial facilities
Perfluorononanoic acid (PFNA) (ppt)	6	N/A	Non detected	ND-0	2021	no	Discharge and waste from industrial facilities; breakdown of precursor compounds
Perfluorooctane sulfonic acid (PFOS) (ppt)	16	N/A	Non detected	ND-0	2021	no	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities
Perfluorooctanoic acid (PFOA) (ppt)	8	N/A	Non detected	ND-0	2021	no	Discharge and waste from industrial facilities; stain-resistant treatments
Inorganic Contaminant Subject to Action Levels (AL)	Action Level	MCLG	Your Water <sup>1</sup>	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0	6	0 - 9	2021	0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3	1.3	.1	0 - .2	2021	0	Corrosion of household plumbing systems; Erosion of natural deposits

<sup>1</sup> Ninety (90) percent of the samples collected were at or below the level reported for our water.

**Information about lead:** 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. Village of Empire Water Department 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, 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 or at <http://www.epa.gov/safewater/lead>.

Monitoring and Reporting to the Department of Environment, Great Lakes, and Energy (EGLE) Requirements: The State of Michigan and the U.S. EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2021.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at Village office located at 11518 S. LaCore st empire mi 49630  
This report will not be sent to you.

We invite public participation in decisions that affect drinking water quality. Every 3rd Tuesday of the month, more info at 231-326-5466. For more information about your water, or the contents of this report, contact John Friend Village Superintendent at 231-326-5353. For more information about safe drinking water, visit the U.S. EPA at <http://www.epa.gov/safewater>.