

**CITY OF HOUGHTON  
2020 WATER QUALITY CONSUMER CONFIDENCE REPORT**

**Regulation background:**

Following new federal regulations, the State of Michigan in 1998 enacted a requirement that public water suppliers must now issue annual Consumer Confidence Reports (CCR) on water systems. Therefore, this report is issued to provide City of Houghton Water Customers with information on drinking water.

**Summary of City Water System:**

The City of Houghton is a ground water treatment plant that utilizes three wells that range in depth from 60 feet, 58 feet and 36 feet respectively. Water is pumped from the underground aquifer, via the wells, to the treatment facility where it is filtered for iron and manganese. Chlorine, potassium permanganate and soda ash are then added before it leaves the treatment plant. The water is then pumped from the Water Treatment Plant to four tanks; one that holds 440,000 gallons, one that holds 750,000 gallons, one elevated tank that holds 50,000 gallons and one tank that holds 275,000 gallons. The City uses about 1,100,100 gallons of water per day. The City has about 1,500 customers, of which 1,100 are single-family units. The City has about 30 miles of water distribution mains that are 4 inches to 16 inches in diameter, approximately 20 miles of service lines that are 3/4 inches to 2 inches in diameter, and approximately 290 fire hydrants. Water charges are \$4.36 per 100 cubic feet (or 748 gallons).

Chlorine is added to the Water System to maintain a chlorine residual as a precaution against possible growth of harmful bacteria in the distribution system. The City's source water supply contains high levels of iron and manganese which can cause staining of sinks, toilets, and laundry. Chlorine and potassium permanganate are added to oxidize the iron and manganese which makes the filtration system more effective. Soda ash is added to adjust the water's pH to reduce the potential for corrosion within the water system.

Portage Township purchases approximately 10,000,000 (more or less) gallons of water per year from the City of Houghton.

The City has completed a formal Wellhead Protection Plan.

**General Water Educational Information (as required by the EPA):**

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 EPA's Web site at [www.epa.gov/safewater/hfacts.html](http://www.epa.gov/safewater/hfacts.html).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, spring, 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 picks up substances resulting from the presence of animals or from human activity.

The State performed an assessment of our source water in 2003 to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a six-tiered scale from "very-low" to "high" based primarily upon geologic sensitivity, water chemistry and contaminant sources. The susceptibility of our source is as follows: Well #1-susceptibility is moderately high, Well #2-susceptibility is moderately high, Well #3-susceptibility is moderately high.

Copies of the report may be obtained at the City of Houghton offices upon request.

Contaminants that may be present in source water before treatment 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 contaminants, which are naturally occurring.
- 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 storm water runoff, and septic systems.

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 (800-426-4791)

#### Lead Monitoring Data

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. The City of Houghton 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 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

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.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

#### Preliminary Distribution System Materials Inventory

In 2019 the Michigan Department of Environmental, Great Lakes, and Energy (EGLE) mandated water systems to complete a preliminary Distribution System Materials Inventory (DSMI) by January 2020. The primary focus of the DSMI is to identify lead service lines, galvanized steel previously connected to lead, or service lines of unknown material. This inventory will estimate the number of high-risk service lines and describe the reliability of existing records, thereby providing important information for planning service line verification and replacement efforts. Although the City of Houghton has no known lead service lines, there are service lines of unknown materials.

Total number of service lines – 1764  
Service lines that likely do NOT contain lead – 1400  
Service lines of unknown materials – 364

During the monitoring period from January 1, 2020 to December 31, 2020, we did not take the required number of samples for Water Quality Parameters (WQP). This violation did not pose a threat to the quality of the drinking water. The Michigan Department of Environmental, Great Lakes and Energy (EGLE) requires WQP samples shall be collected during the every two-week monitoring period from the point of entry to the distribution system. The City of Houghton conducted the proper number of WQP's required, however the City collected more samples in a two-week monitoring period and not enough in the following two-week monitoring period. The violation had begun on March 8, 2020 and the City of Houghton returned to compliance after proper sampling was conducted on March 10, 2020. The WQP samples are intended to monitor the water for any chemistry changes on more of a routine basis and does not pose a health risk. The City adjusted its sampling schedule to make certain required samples are taken during the required monitoring period.

#### Terms and Abbreviations:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as possible using the best available treatment technology.

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.

Action Level (AL): The concentration of a contaminant which if exceeded, triggers treatment or other requirements which a water system must follow.

PPM: Parts per million or milligrams per liter

PPB: Parts per billion.

NA: Not applicable

ND: Not detected

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	ND	NA	9-3-2019	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Mercury (ppb)	2	2	ND	NA	9-3-2019	No	Discharge of metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10	1.3	NA	9-15-2020	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4	ND	NA	9-15-2020	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Sodium <sup>1</sup> (ppm)	NA	NA	40	NA	9-16-2020	No	Erosion of natural deposits
TTHM Total Trihalomethanes (ppb)	80	NA	34	NA	9-16-2020	No	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	NA	12	NA	9-15-2020	No	Byproduct of drinking water disinfection
Chlorine <sup>2</sup> (ppm)	4	4	.47	NA	Monthly	No	Water additive used to control microbes
Combined radium (pCi/L)	5	0	ND	NA	9-3-2020	No	Erosion of natural deposits
Total Coliform (total number or % of positive samples/month)	TT 9223 B	0	0	NA	Monthly	No	Naturally present in the environment
E. coli in the distribution system (positive samples)	See E. coli note <sup>3</sup>	0	0	NA	Monthly	No	Human and animal fecal waste
Fecal Indicator – E. coli at the source (positive samples)	TT 9223 B	NA	0	NA	Monthly	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 MRDL G	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt)	370	NA	ND	NA	10/14/2020	No	Discharge and waste from industrial facilities utilizing the Gen X chemical process
Perfluorobutane sulfonic acid (PFBS) (ppt)	420	NA	3	NA	10/14/2020	No	Discharge and waste from industrial facilities; stain-resistant treatments
Perfluorohexane sulfonic acid (PFHxS) (ppt)	51	NA	ND	NA	10/14/2020	No	Firefighting foam; discharge and waste from industrial facilities
Perfluorohexanoic acid (PFHxA) (ppt)	400,000	NA	ND	NA	10/14/2020	No	Firefighting foam; discharge and waste from industrial facilities
Perfluorononanoic acid (PFNA) (ppt)	6	NA	ND	NA	10/14/2020	No	Discharge and waste from industrial facilities; breakdown of precursor compounds
Perfluorooctane sulfonic acid (PFOS) (ppt)	16	NA	ND	NA	10/14/2020	No	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities
Perfluorooctanoic acid (PFOA) (ppt)	8	NA	ND	NA	10/14/2020	No	Discharge and waste from industrial facilities; stain-resistant treatments
Inorganic Contaminant Subject to Action Levels (AL)	Action Level	MCLG	Our Water <sup>4</sup>	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0	34	3 of 30	09-2-2020	No	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3	0	1.3	0 of 30	09-2-2020	No	Corrosion of household plumbing systems; Erosion of natural deposits

**For More Information:**

Copies of all test results are available at City Center. For more information, please contact the City Office at (906)482-1700. The City of Houghton is committed to providing the best quality water and water information to our valued customers.

Copies of test results for Portage Township may be obtained at the Portage Township Office at 47240 Green Acres Road, Houghton, MI 49931 or by calling (906)482-4310. Portage Township is committed to providing the best quality water and water information to their valued customers.

**CITY OF HOUGHTON**  
Robert Backon, Mayor

Eric Waara, City Manager

Ryan Avendt, Director of Public Works

**PORTAGE TOWNSHIP**  
Bruce Peterson, Supervisor

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