CITY OF HOUGHTON
2017 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 275 fire hydrants. Water charges are $3.44 per 100 cubic feet (or 748 gallons).

Chlorine is added to the Water System to maintain a chlorine residual as a precaution against possible entry of harmful bacteria into 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.

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).

City Water Quality Results:

In the fall of 2017, the City of Houghton found elevated levels that exceeded the action level for both lead and copper during its three-year sampling cycle. Although the City did not exceed the 90th percentile for copper, the City in some samples exceeded the 90th percentile for some of the lead samples taken and has begun making minimal water treatment adjustments to the amount of soda ash added to the system in an effort to better control corrosion in the City distribution system by slightly raising the pH and alkalinity of the finished water per MDEQ recommendation.
The City of Houghton is working closely with the MDEQ and continues to monitor the potable water. The City has gone from a three-year sampling cycle to a bi-annual sampling frequency. The City will increase the number of samples taken following MDEQ procedure.

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.

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

Copper: AL	MCLG	City/Houghton	Sample exceeded Action Level	Date	Violation
1300 ppb	0	1600 ppb	2 out of 19*	09-06-2017	No

Copper: Typical sources of contaminant - erosion of natural deposits, leaching, corrosion of household plumbing.

Lead: AL	MCLG	City/Houghton	Sample exceeded Action Level	Date	Violation
15ppb	0	21 ppb	3 out of 19*	09-06-2017	Yes

***1 sample was discarded by MDEQ due to unapproved sample tap**

Regulated Contaminants:

	MCL	MCLG	City Water	Date	Violation
Arsenic	10 ppb	0	ND	05-21-2010	No
Mercury	2 ppb	2 ppb	ND	05-21-2010	No
Fluoride	4 ppm	4 ppm	ND	09-14-2017	No

Arsenic: Typical source of contaminant - erosion of natural deposits.

Mercury: Typical source of contaminant - erosion of natural deposits.

Fluoride: Typical source of contaminant – erosion of natural deposits.

Inorganic Contaminants:

Sodium[1]	MCLG	City/Houghton	Range Low	Range High	Date	Violation
	N/A	28 ppm	n/a	n/a	09-14-2017	No

Nitrate	MGL	MCGL	City/Houghton	Range Low	Range High	Date	Violation
	10mg/L	10mg/L	0.8	n/a	n/a	09-14-2017	No

Sodium - Typical source of contaminant-erosion of natural deposits.
Nitrate - Typical source of contaminant - runoff from fertilizer use; leaching from septic tanks, sewage.
Total Trihalomethanes: Typical source of contaminant; by-product of drinking water chlorination

MCL	MCLG	CITY WATER	Date	Chlorination Violation
80 ppb	N/A	63 ppb	09-14-2017	No

Haloacetic Acids: Typical source of contaminant; by-product of drinking water chlorination

MCL	MCLG	CITY WATER	Date	Chlorination Violation
60 ppb	N/A	18 ppb	09-14-2017	No

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 Box 750, 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, Utilities Superintendent**

PORTAGE TOWNSHIP
Bruce Peterson, Supervisor

Report mailed 6-11-2018

[1] **Sodium is an unregulated contaminant and thus there is no MCL associated with it. Unregulated contaminant monitoring helps EPA to determine whether there is a need to regulate that contaminant.**