

Kellogg Biological Station

Consumer Confidence Report - 2015

The water provided at 3700 East Gull Lake drive is tested for over 90 drinking water contaminants in accordance with the Environmental Protection Agency (EPA) and State of Michigan Department of Environmental Quality (MDEQ) standards. This report is a snapshot of the quality of the water provided last year. Included are details about where our water comes from, what it contains, and how it compares to EPA and MDEQ standards. For more information about our water systems components and water quality, contact Mark Manuszak at 269-615-4764.

Our water comes from two wells approximately 94 feet deep. These wells are located along the road leading to the Boathouse. Well #1 is just outside the Pump House entrance. Well #2 is slightly south and west of the pump house nestled in our hickory woodlot. These wells are controlled by a computer system which monitors the water tower water level. Based on demand, the system can run both, one or neither of the wells.

Our water is treated with Chlorine as a precautionary measure against microbial contaminants. Compliance for chlorine residuals is based on a running annual average (RAA) of the residual in the distribution system. The MDEQ requires residual chlorine levels to be maintained between 0.10 and 4 Parts Per Million (ppm). KBS conducts daily chlorine residual monitoring at our plant tap in the pump house and in the distribution system to insure safe drinking water for our end users and to maintain compliance with the MDEQ. *The KBS Chlorine RAA for 2015 was 0.38 ppm,* well below the 4 ppm maximum concentration limit. (Reference Water Quality Data Table, page 3) KBS conducts monthly bacteria test from the distribution system to ensure your water remains healthy. Additionally, in 2015 KBS implemented quarterly bacteria tests on the raw water from both wells for your protection. We are happy to report all bacteria test in 2015 have been negative.

Our water meets the EPA's and the MDEQ's standard for arsenic. For your protection and to remain compliant to changed arsenic regulations, KBS installed arsenic filters in 2006 to reduce arsenic levels to acceptable levels. KBS conducts monthly Arsenic monitoring at our plant tap in our pump house. Quarterly we take a sample to a state certified lab to confirm Arsenic levels are within acceptable limits. Compliance for arsenic is based on the running annual average (RAA) of those quarterly results. Arsenic levels must remain below 10 Parts Per Billion (ppb). *The KBS Arsenic RAA for 2015 was 3 ppb.* For comparison purposes, our raw, untreated well water contains 18-21 ppb of Arsenic. Our filter system removes roughly 70-80% of the Arsenic. (Reference Water Quality Data Table, page 3) While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Our water supply was assessed by the State of Michigan in 2015 to determine the susceptibility or the relative potential of contamination. The susceptibility rating is based on geologic sensitivity, water chemistry and contaminant sources and ranges on a six-tiered scale from “very low” to “high”. The susceptibility of our source water is “Moderately High”.

Our water is safe. Certain individuals 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).

Violations and Exceedances

KBS did not submit the Lead/Copper sampling results to the DEQ within the required 30 days after receiving the results. All Lead/Copper samples were taken during the allotted monitoring period and were well below the maximum contamination levels (MCL) for drinking water.

Our water system is very important to us. It is your water and we want you to know what is in it and take ownership of it. We are continuing to pursue equipment upgrades and other additions to your system to keep your water safe and within current EPA and MDEQ standards. **What can you do to help? Simply put, use it. It has been well established that simply using your system is one of the best preventative maintenance practices to implement. I encourage all of you to run the cold water for 5-10 minutes if you know a sink has not been used for a few weeks.** You are not wasting water, you are preventing a “dead end” with stagnant, potentially unhealthy water in it. In addition to refreshing the water, you are lubricating the seals on the faucet valves which will prolong the life of the valve and prevent leaks from dried out components. For more information regarding your water systems test results, reports, maintenance and operation please contact:

Mark Manuszak
9289 North 40th st.
Hickory Corners, MI 49060

269-615-4764

2015 KBS Water Quality Data

The table below lists all the drinking water contaminants that we detected which are applicable for the calendar year of this report. 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 – December 31, 2015. The state requires 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. Some of the data, though representative of the water quality, is more than one year old.

Regulated Contaminants

See Data Table Key Page 4

	MRDL	MRDLG	Our Water	Range Low-High	Sample Year	Violation	Typical Source
Chlorine (ppm)	4	4	0.38**	0.33-0.38	2015	No	Byproduct of disinfectant additive to control microbes
	MCL	MCLG	Our Water	Range Low-High	Sample Date	Violation	Typical Source
Total Trihalomethanes (ppb)*	80	NA	15.4	NA	6/04/13	No	Byproduct of disinfectant additive to control microbes
Total Haloacetic Acids (ppb)*	60	NA	8.0	NA	6/04/13	No	Same as above
Arsenic (ppb)	10	0	3.0**	2-3	2015	No	Erosion of Natural deposits
Barium (ppm)*	2	2	0.12	NA	1/18/11	No	Same as above
Fluoride (ppm)	4	4	0.22	NA	9/10/15	No	Same as above
Lead (ppb)*	AL=15	0	90th % 7.5	0-8	9/10/15	No	Corrosion of household plumbing, erosion of natural deposits
Copper (ppb)*	AL=1300	1300	90th % 310	200-330	9/10/15	No	Same as above
Alpha Emitters (pCi/L)*	15	0	1.6	1.6 +/- 1.1	7/9/15	No	Erosion of natural deposits
Combined Radium-226/228 (pCi/L)*	5	0	2.40	2.4 +/- 0.47	7/9/15	No	Decay of natural and man-made deposits
Nitrate (ppm)	10	10	ND	NA	9/10/15	No	Runoff from fertilizers, leaching from septic systems, erosion of natural deposits

* Note: System will report this same result each CCR year until next sample is taken.

** MDEQ requires the highest of four values to be reported

Non-regulated Contaminants

	State Average	Our Water	Range	Date	Typical Source of contaminate
Sodium*	11	12	NA	9/10/15	Erosion of Natural deposits

* Non-regulated contaminant monitoring helps the EPA determine where certain contaminants occur and whether it needs to regulate those contaminants

Data Table Key: Unit Descriptions

- mg/L:** **number of milligrams** of substance in one liter of water
- 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)
- NA:** **not applicable**
- ND:** **not detected**
- NR:** **monitoring not required**, but recommended

Important Drinking Water Definitions

- MCLG:** **Maximum Contaminant Level Goal:** 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.
- MCL:** **Maximum Contaminant Level:** This highest level of a contaminant that is allowed in drinking water. MCLs are set as close as feasible using the best available treatment technology.
- TT :** **Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.
- AL:** **Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water systems must follow.
- MRDLG:** **Maximum Residual Disinfectant Level Goal:** 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.
- MRDL:** **Maximum Residual Disinfectant Level:** 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.
- 90th Percentile:** **90% of samples** were below the number listed

Additional Water Information

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).

Drinking water sources (both tap water 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 from human activity.

Contaminants which may be present in source water before we treat it 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.

Information about Lead

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. KBS 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 <http://www.epa.gov/safewater/lead>.

Information about Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activities. If you are caring for an infant, you should ask for advice from your health care provider.

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

