

# 2016 Water Quality Report for the Village of Kingsley

## June 2017

This report covers the drinking water quality for the Village of Kingsley the 2016 calendar year. This information is a snapshot of the water that we provided to you in 2016. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards.

Your water comes from 3 groundwater wells, The depths of these wells are; Well #1 is 152', Well #2 is 132'7" and Well #3 is 204'. 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 moderate for Wells #2 and #3 and low for Well #1, the difference is that Wells #2 and #3 are located in different aquifers than Well #1.

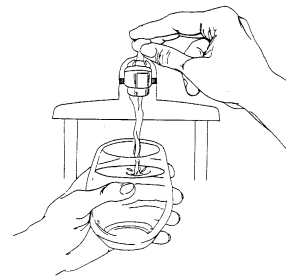
There are no significant sources of contamination include in our water supply. We are making efforts to protect our sources by implementing the use of our Wellhead Protection Program.

If you would like to know more about the report, please contact Terry Almquist, 207 S. Brownson, PO Box 208, Village of Kingsley, Michigan, 49649. Phone 231-263-7778

- **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 **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. 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).

- **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:
  - T **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
  - T **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.
  - T **Pesticides and herbicides**, which may come from a variety of sources such as agriculture and residential uses.
  - T **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
  - T **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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. 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 2016 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 – December 31, 2016. 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 of 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.
- 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): means 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 detectable at testing limit ppb: parts per billion or micrograms per liter ppm: parts per million or milligrams 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.

Regulated Contaminant	MCL	MCLG	Level Detected	Range	Year Sampled	Violation Yes / No	Typical Source of Contaminant
Arsenic (ppb)	10	0		ND-3	2016	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Chloride	250	250		3-47	2017	No	Erosion of natural deposits
Fluoride (ppm)	4	4	ND		2017	No	Erosion of natural deposits. Discharge from fertilizer and aluminum factories.
Iron	.3	.3		ND-.22	2017	No	Erosion of natural deposits
Nitrate (ppm) (as nitrogen)	10	10		ND-4.05	2017	No	Run off from fertilizer use; leaching from septic tanks, sewage; erosion from natural deposits.
TTHM - Total Trihalomethanes (ppb)	80	N/A		3.6-8.9	2017	No	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A		ND-1	2017	No	Byproduct of drinking water disinfection
Chlorine* (ppm)	<b>MRDL</b>	<b>MRDLG</b>	.19	.01-.6	2017	No	Water additive used to control microbes
	4	4					

Radioactive Contaminant	MCL	MCLG	Level Detected	Range	Year Sampled	Violation Yes / No	Typical Source of Contaminant
Alpha emitters (pCi/L)	15	0		2.04-2.81	2015	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0		.229-.891	2015	No	Erosion of natural deposits
Contaminant Subject to AL	Action Level	MCLG	90% of Samples ≤ This Level		Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb) **, ****	15	0	0		2014	1	Corrosion of household plumbing systems. Erosion of natural deposits.
Copper (ppm)	1.3	1.3	.6		2014	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Special Monitoring and Unregulated Contaminant ***			Level Detected	Year Sampled	Comments		
Sodium (ppm)			3.1-25.6	2017	Typical source is erosion of natural deposits		
Sulfate			9-17	2017	Typical source is erosion of natural deposits		

\* Chlorine was calculated using the running annual average.

\*\* 90 percent of the samples collected were at or below the level reported for our water.

\*\*\* Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

\*\*\*\* **Health Effects**

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.

**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. The Village of Kingsley 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>.

**From January 1, 2016, to March 31, 2016:**

Microbial Contaminants	MCL	MCLG	Number Detected	Violation Yes / No	Typical Source of Contaminant
Total Coliform Bacteria	>1 positive monthly sample (>5.0% of monthly samples positive)	0	0	No	Naturally present in the environment
Fecal Coliform and <i>E. coli</i>	Routine and repeat sample total coliform positive, and one is also fecal or <i>E. coli</i> positive	0	0	No	Human and animal fecal waste

**From April 1, 2016, to December 31, 2016:**

Microbial Contaminants	Number Detected	Level 1 Assessment Triggered?	Level 2 Assessment Triggered?	Violation Yes / No	Typical Source of Contaminant
Total Coliform Bacteria	0	0	0	No	Naturally present in the environment
Fecal Coliform and <i>E. coli</i>	0	0	0	No	Human and animal fecal waste

Monitoring and Reporting to the DEQ Requirements: The State and EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2016.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies of this report are available at the Village of Kingsley's office located at 207 South Brownson Ave, Kingsley Michigan 49649. This report will not be sent to you.

We invite public participation in decisions that affect drinking water quality. The Village holds regular council meetings the second Monday of every month at 6:00 pm. Keep an eye on the Village of Kingsley Facebook page to make sure the meeting time and date have not changed. For more information about your water, or the contents of this report, contact Terry Almquist at 231-883-2058. For more information about safe drinking water, visit the U.S. Environmental Protection Agency at [www.epa.gov/safewater/](http://www.epa.gov/safewater/).

Quick facts about your water system.

In the calendar year 2016 the Village of Kingsley pumped 103,474,400 gallons of water, over 10 million more than 2015.

The date of the highest water usage was June 24, where we pumped 787,000 gallons of water.

The date of the lowest water usage was March 2, where we pumped 108,000 gallons of water.

A lot of the usage was for irrigation and the Slash Pad in Brownson Park. The bulk of the increase was from the cold winter we had and the fact that we had a lot of water services running so they wouldn't freeze.

The newly painted light brown water tower located behind the library holds 150,000 gallons of water.

The light brown water tower located just east of the Village holds 200,000 gallons of water.

The water levels between the 2 towers are identical.

The water pressure throughout the Village is from strictly the elevation of the water towers, there are no pressure pumps.

A gallon of water weighs 8.34 pounds, a gallon of milk weighs 8.6 Pounds.

There are 7.48 gallons of water in a cubic foot, which would weigh 62 pounds.

2.31 feet of water equal 1 pound per square inch (psi)

1 foot of water equals .433 pound per square inch (psi)

With all the concerns and press about Lead in everybody's water supplies. We thought we'd give you some information about what we do to treat for lead and some tips on what you can do as a consumer if you have concerns.

The Village has no lead water services, we do have a few services that have a short lead goose neck off the water main. These were used to come off the water main and connect to the galvanized service line. Over the past few years the Village has been aggressive in replacing older water mains, there are very few left.

Lead doesn't leach into the system from lead service lines, it could come from old copper piping that has lead solder or from older brass fittings. New solder used in plumbing and new brass fittings are all now lead free. To help in keeping lead from leaching into the water the Village treats the water with an Ortho-phosphate solution. This actually coats the inside off the water mains, services and the plumbing inside you home. It keeps any lead or copper levels low.

The Village started this a little over 20 years ago. We were on an annual testing cycle, because our levels are now low, we are on a 3 year testing cycle. The results from the last sample we took are listed in this report. We understand people may still have concerns. Here is a few things you can do at home you do.

**Clean out your faucet aerator.** The aerator on the end of you faucet is a screen that catches debris. This debris could include particles of lead that have fallen off the inside of the plumbing. The aerator should be removed at least monthly to rinse any debris.

**Flush your pipes before drinking.** The longer water sits in your piping, the lead may leach from lead-containing pipes, solder or brass fixtures. Anytime a faucet used for drinking or food prep has not been used for six hours or longer, the tap should be "flushed" by turning on the cold water and letting it run until it is cold as possible. Flushing should not take long (5-30 seconds) if there has been a routine daily water use. If there has not been recent daily water use, it could take two minutes or longer for the water to become cold.

**Use a filter.** You may also wish to use a home filter for water to be used for drinking and cooking, particularly if you are pregnant or have children under six. This equipment is especially important if you are making formula. Make sure the filter is certified for lead removal. Be sure to replace a filter device as often as the manufacturer recommends. Contact NSF International at 800-NSF-8010 or visit their website at [www.nsf.org](http://www.nsf.org) for water filter performance standards.

