



2012 Water Quality Report June 2013

This report covers the drinking water quality for The Village of Kingsley for the calendar year 2012. This information is a snapshot of the quality of the water that we provided to you in 2012. 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 located in Brownson Park, 207 Park St. (behind the Hideaway Bar), and at 192 Eden St. The State performed an assessment of our source water in 2003. The source water assessment is based on the source geology, well construction, water chemistry and potential contaminant sources for this public source of drinking water, this assessment has determined that the Village's wells have a Low to Moderate susceptibility to contamination. You can obtain a copy of the Village's source water assessment report at the Village of Kingsley Office or if you would like a copy mailed to you please send a self addressed stamped envelope to Village of Kingsley, 207 South Brownson Ave, P.O. Box 208, Kingsley Michigan, 49649

The Michigan Department of Environmental Quality has approved the Wellhead Protection Plan the Village has been working on over the past few years. This plan is now in the process of being implemented into the Village Master Plan and its zoning ordinances. This plan will help protect the aquifers the Village draws its water from. If you have any questions about this plan or how to help protect our water source please feel free to contact the Village office.

The Village also updated its Emergency Response Plan, this will aid in making sure our water supply is maintained during an emergency. It has also updated its Cross Connection Control Program, There will be lots of changes coming with this. Keep an eye on your mail for these changes.

- **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 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).
- **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, 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 tables listed on the following pages list all the drinking water contaminants that we detected during the 2012 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, 2012. 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)**: 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**: pico curies per liter (a measure of radioactivity).
- **Action Level**: The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

Samples Collected at the Wellhouse:

Regulated Chemical Contaminants	MCL	MCLG	Our Water	Sample Date	Violation Yes / No	Typical Source of Contaminants
Arsenic (ppb) ¹	10	0	ND - 3	2012	No	Erosion of natural deposits
Chloride	250	250	2-52	2012	No	Erosion of natural deposits
Iron	.3	.3	ND-.23	2012	No	Erosion of natural deposits
Fluoride (ppm)	4	4	.29-.31	2012	No	Erosion of natural deposits
Nitrate (ppm) (as Nitrogen)	10	10	ND-3.75	2012	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion from natural deposits

¹ These arsenic values are effective January 23, 2006. Until then, the MCL is 50 ppb and there is no MCLG.

Contaminant	Susceptible Vulnerable Subpopulation	Level of Concern
Fecal coliform or <i>E. Coli</i>	Infants, young children, the elderly and people with severely compromised immune supplies.	Confirmed Presence
Copper	People with Wilson's Disease.	1.3 mg/l (ppm)
Fluoride	Children.	4.0 mg/l (ppm)
Lead	Infants and children.	15.0 µg/l (ppb)
Nitrate	Infants below the age of six months.	10.0 mg/l (ppm)
Nitrite	Infants below the age of six months.	1.0 mg/l (ppm)

Notes:

- Confirmed presence means that the routine distribution system sample or the repeat sample was total coliform-positive or fecal-positive or *E. coli*-positive and the other sample (routine distribution system sample or repeat sample) was fecal-positive or *E. coli*-positive.
- ppm parts per million; ppb parts per billion
- Health effects language is found in R 325.10405.

Radioactive Contaminants	MCL	MCLG	Our Water	Sample Date	Violation Yes / No	Typical Source of Contaminants
Alpha emitters (pCi/L)	15	0	<3	2002	No	Erosion of natural deposits
Combined radium 226 / 228 (pCi/L)	5	0	<1	2002	No	Erosion of natural deposits

Unregulated Chemical Contaminants ²	Our Water	Sample Date	Violation Yes / No	Typical Source of Contaminants
Sodium (ppm)	2.2-23.9	2012	N/A	Erosion of natural deposits
Sulfate (ppm)	9-13	2012	N/A	Erosion of natural deposits

² 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.

Samples Collected in the Distribution System:

Contaminants Subject to an Action Level	Action Level	Our Water	Sample Date	Number of Samples Above AL	Typical Source of Contaminants
Lead (ppb) ³	AL = 15	.11	2011	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm) ³	AL = 1.3	.46	2011	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Free Chlorine Residual (ppm) ⁴	MRDL = 4.0 MRDLG = 4	.04-.69	2012	0	Water additive used to control microbes
Haloacetic Acids	MCL=.060	ND-.003	2011	0	Byproduct of drinking water disinfection
Total Trihalomethanes	MCL=.080	ND	2011	0	Byproduct of drinking water disinfection

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

⁴ The MRDL and MRDLG are effective January 1, 2004. Compliance is based on an annual average

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 at 1-800-426-4791 or at <http://water.epa.gov/drink/info/lead/index.cfm>.

Monitoring and Reporting 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 2010.

Microbial Contaminants	MCL	MCLG	Positive Samples	Violation Yes / No	Typical Source of Contaminants
Total Coliform Bacteria	1 positive monthly sample (5% of monthly samples positive)	0	1	No	Naturally present in the environment
Fecal Coliform and <i>E. coli</i>	Routine and repeat samples are total coliform positive, and one is also fecal or <i>E. coli</i> positive	0	0	No	Human and animal fecal waste

Chlorine or Chloramines	Previous Year											
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Bacteriological sample site #1	.09	.06	.06	.08	.14	.36	.11	.39	.18	.05	.06	.32
Bacteriological sample site #2	.07	.14	.11	.13	.11	.3	.22	.36	.26	.08	.07	.30
Average of all measurements taken in the month	N/A for RAA in year covered By the CCR			.105	.125	.33	.165	.375	.22	.065	.065	.31
Chlorine or Chloramines	Year Covered by the CCR											
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Bacteriological sample site #1	.24	.20	.18	.43	.50	.34	.31	.13	.15	.33	.32	.27
Bacteriological sample site #2	.35	.43	.36	.19	.30	.42	.21	.36	.17	.07	.45	.24
Average of all measurements taken in the month	.295	.315	.27	.31	.40	.38	.365	.245	.16	.2	.385	.255
RAA calculated quarterly of 12 monthly averages			.29			.36			.26			.28

The Village of Kingsley Department of Public Works is located at the Wastewater Treatment Facility site. The address of this location is 6426 N. Summit City Rd. The DPW phone number is 231-263-7777. Please feel free to call with any questions.

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 office located at 207 South Brownson Ave.

We invite public participation in decisions that affect drinking water quality. If you have any questions for the Village Council they meet regularly the second Monday of every month @ 7:00pm. For more information about your water, or the contents of this report, please contact Terry Almquist from the Village of Kingsley Public Works Department at 231-263-7777 or 231-883-2058 or the Village of Kingsley Office at 231-263-7778. For more information about safe drinking water, visit the U.S. Environmental Protection Agency at www.epa.gov/safewater/.

Quick facts about your water system.

In the calendar year 2012 the Village of Kingsley pumped 79,807,300 gallons of water.

The date of the highest water usage was July 16th where we pumped 701,100 gallons of water.

The date of the lowest water usage was December 15th where we pumped 6000 gallons of water. The Village residents didn't actually only 6000 gallons in one day! This is normally a time of the year when water usage is low anyway and it's the timing of when the pumps turn on.

The blue 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

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

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