

CUSTOMER VIEWS WELCOME

The City of Kalamazoo welcomes and encourages public input for improving water quality.

If you are interested in learning more, have questions on the contents of this report or would like to comment on water issues, please feel free to contact the following: Environmental Services Laboratory Supervisor at 337-8550, Water Supply at 337-8756, or the Environmental Services Program Manager at 337-8737.

You may also visit our websites:

www.kalamazoo.org/waterquality or www.protectyourwater.net for additional water conservation and protection information.

If you have questions concerning opening or closing accounts, billing, payments, meter readings, leaks, or other related questions you can contact the Customer Services and Billing at 337-8149. If you would like to address issues in a public forum, the City of Kalamazoo Commission meetings are held on the 1st and 3rd Monday of each month at 7:00 p.m. in City Hall at 241 West South Street, Kalamazoo, Michigan 49007. We will update this report annually and keep you informed of any new developments or significant issues that occur throughout the subject-reporting year. Copies of this report are available at the Public Services Department Environmental Services Division located at 1415 North Harrison Street, Kalamazoo, Michigan 49007 and can be printed off our website: www.kalamazoo.org/waterquality.



KEEP OUR DRINKING WATER (GROUNDWATER) SAFE

Help prevent groundwater contamination by taking unused hazardous household chemicals including mercury-containing products to the **Kalamazoo County Household Hazardous Waste Center** at 1301 Lamont Avenue, located off Lake Street near the Kalamazoo County Fairgrounds. Contact the center at 269-373-5211 or view their website at www.kalcounty.com/hhw. Unused prescription drug disposal locations and hours are listed at www.kalcounty.com/hhw/med-disposal.htm.

A toxic product dumped on the ground or down a storm drain can contaminate your drinking water and/or surface waters and is strictly prohibited by law.

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Public Services Department
Environmental Services Division

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2014 Water Quality Report



Public Services Department
Environmental Services Division

2014 Water Quality Data

Regulated Contaminant	MCL	MCLG	Level Detected	Results Range	Violation Yes/No	Typical Source of Contaminant
Nitrate (ppm)	10	10	1.4	< 0.4 - 1.5	No	Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits.
Regulated Contaminant	MCL	MCLG	Highest Running Average	Results Range	Violation Yes/No	Typical Source of Contaminant
Arsenic (ppb)	10	NA	6	6 (2012) 5-6 (2013) 2-6 (2014)	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Fluoride (ppm)	4	4	1.2	< 0.1 - 1.0	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids (HAAs) (ppb)	60	NA	10.5	4.0 - 15.0	No	By-product of drinking water disinfection.
Total Trihalomethanes (ppb)	80	NA	22.7	9.0 - 30.2	No	By-product of drinking water chlorination.
Cis-1,2-Dichloroethylene (ppb)	70	70	3.2	< 0.5 - 4.4	No	Discharge from industrial chemical factories.
Regulated Contaminant	MRDL	MRDLG	Highest Running Average	Results Range	Violation Yes/No	Typical Source of Contaminant
Chlorine (ppm)	4	4	0.48	< 0.1 - 1.96	No	Water additive used to control microbes.
Radioactive Contaminants	MCL	MCLG	Level Detected	Results Range	Violation Yes/No	Typical Source of Contaminant
Alpha emitters (pCi/L) (5/2014)	15	0	2.8	ND-2.8	No	Erosion of natural deposits.
Combined radium (pCi/L) (5/2014)	5	0	1.35	0.09 - 1.35	No	Erosion of natural deposits.
Special Monitoring and Unregulated Contaminant *			Level Detected	Results Range	Average Result 2014	Typical Source of Contaminant
Sodium (ppm)			52	7 - 52	25.9	Erosion of natural deposits.
Contaminant Subject to AL	Action Level	90th Percentile	Sample Date	Number of Samples Above AL	Typical Source of Contaminant	
Lead (ppb)	15	13	2014	5	Corrosion of household plumbing systems; erosion of natural deposits.	
Copper (ppb)	1300	1200	2014	6	Corrosion of household plumbing systems; erosion of natural deposits.	

* 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.

The City did not complete cyanide sampling for one of our sixteen cyanide sampling locations for the 2014 monitoring period. We collected the necessary missed sample on October 2, 2014 and the results of the sample was non-detect. The results for all sampling locations were non-detect for cyanide.

DEFINITIONS

Water Quality Data Table Abbreviations and Terms

According to federal and state laws the City of Kalamazoo monitors for contaminants in your drinking water. The table in this report is based on over 10,000 analyses conducted in 2014 and those tests conducted less frequently than once a year. The Water Quality Data Table lists only the contaminants that were detected. If the test was not performed in 2014, then the most recent analysis is listed.

The City of Kalamazoo's state certified laboratory analyzes for the absence of microorganisms and levels of limited treatment chemicals (Hexametaphosphate, Fluoride, and Residual Chlorine) in the City's water supply at several locations three to five days per week. All limited treatment chemicals are on automated feed control systems that are monitored 24/7 by City of Kalamazoo staff.

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

Contaminant – A biological, chemical, physical, or radiological substance or matter in water.

MCLG (Maximum Contaminant Level Goal) – 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.

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

MRDLG (Maximum Residual Disinfectant Level Goal) – The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLG's 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.

ND – Non-detected

pCi/L (Picocuries per Liter) – A measure of radioactivity.

PPB – Part per billion; the equivalent of 1 cent in \$10,000,000.

PPM – Part per million; the equivalent of 1 cent in \$10,000.

Trihalomethanes – Compounds formed during the chlorination (disinfection) of drinking water.

ng/L (Nanograms per Liter) – Part per trillion

Monitoring for Unregulated Contaminants

The U.S. Environmental Protection Agency (EPA) federal regulations affecting monitoring of unregulated contaminants at public water systems are known as the Unregulated Contaminants Monitoring Rule (UCMR). The purpose of monitoring for unregulated contaminants in drinking water is to provide data to support the EPA administrator's decisions concerning whether or not to regulate these contaminants in the future for the protection of public health. The city conducted unregulated contaminant sampling in 2003 and UCMR2 sampling in 2009. The first portion of UCMR3 sampling was performed in December of 2013 and the second set of sampling was completed in June of 2014. Please contact the Environmental Services Laboratory Supervisor at 337-8550, if you wish to have a copy of the results.

STORMWATER/WATERSHED MANAGEMENT

Stormwater is generally rainwater or snowmelt from streets and parking lots that is collected by open grated catch basins and inlets. The City of Kalamazoo has separate sewer systems for sanitary and stormwater. A portion of stormwater runoff is routed directly to the Kalamazoo River, creeks, lakes or ponds. Consequently, it is important to keep oils, grease, fuels, chemicals, lawn fertilizer, grass clippings, trash and other debris from getting on our streets.

Since groundwater and surface water are generally interconnected, your efforts to protect one may positively impact the other. **Visit www.protectyourwater.net for more information.** Please contact the Environmental Programs Manager at 337-8737 for additional information regarding stormwater quality.

For clogged catch basins and inlets, call 337-8329.

If you think you've noticed a water main break, please call 269-377-8729 or if after hours, 269-337-8148.

What can you do?

If you observe:

- A strong chemical odor near a storm water inlet or outfall
- Discharges-someone dumping suspicious substances into drains or into a water body
- Sewage on the ground

Call the Illicit Discharge Elimination Program **24-hour hotline 269-381-3171**, because clean water is everyone's business!

ADDITIONAL HEALTH INFORMATION

Sources of drinking water for both tap water and bottled water can include rivers, lakes, streams, pond 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 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, urban stormwater runoff, and residential uses
- 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
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

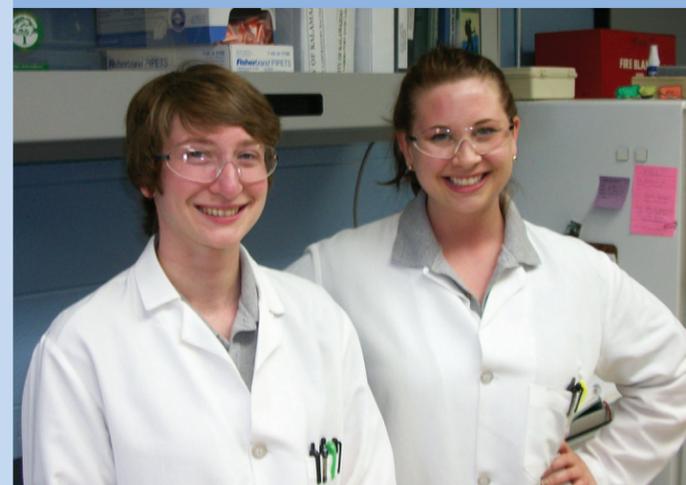
In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection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

All 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 health risks.** More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

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 are available from the Safe Drinking Water Hotline at 1-800-426-4791.

UCMR TESTING

Analyte	Units	Lowest	Highest	Average
Strontium	µg/L	80	220	126
Molybdenum	µg/L	1	1.6	1.26
Hexavalent Chromium (Dissolved)	µg/L	0.033	0.12	0.06
1,1-Dichloroethane	ng/L	34	36	35
1,4-Dioxane	µg/L	0.072	0.4	0.246
Vanadium	µg/L	0.25	0.36	0.3



HEALTH EFFECTS

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 Kalamazoo 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 (until there is a significant temperature change in the water) before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Please contact the City of Kalamazoo Laboratory Supervisor at 337-8550 for testing. 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>.

While your drinking water meets EPA's standards for **arsenic**, it does contain low levels. EPA's standard balances the current understanding of arsenic's possible health effects against the cost 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.



Public Services Department
Environmental Services Division

OUR COMMITMENT TO DELIVERING THE HIGHEST QUALITY WATER

The City of Kalamazoo is pleased to provide its customers with information about the quality of our drinking water. This is done in compliance with the Safe Drinking Water Act and as a service to our customers.

The water quality data in this report shows that the water we provide to our customers meets the standards established by federal and state regulations. The report summarizes our efforts and commitment to provide safe and affordable drinking water. Our facilities operate 24 hours a day, 7 days a week and are monitored continuously both on and off site by qualified, trained and licensed personnel.

KALAMAZOO PUBLIC WATER SUPPLY SYSTEM

The City of Kalamazoo Public Water Supply System is the second largest groundwater-based drinking water system in Michigan and is ranked one of the lowest for water rates out of the twelve largest systems within the state.

2014 Kalamazoo Water Facts

SOURCES

17 active wellfields
16 water pumping stations
98 wells ranging from 300 to 1,500 gallons per minute
17 million gallons produced on average per day

30 million gallons maximum daily production

STORAGE

8 water storage facilities ranging in capacity from **350,000** gallons to **7,000,000** gallons

DISTRIBUTION

121,000 customers

10 service contracts with local governments

813 approximate miles of water main

5,757 hydrants

8 independent service pressure districts, with several booster and bleeder stations

The City of Kalamazoo utilizes limited treatment through chlorine, fluoride, and phosphate additives. Two stations are equipped with air strippers and iron removal capabilities.

PROTECTING OUR GROUNDWATER

Groundwater is the source of drinking water for everyone in Kalamazoo County. Groundwater is located beneath the ground surface in the spaces between sand and gravel particles. Groundwater is preferred over surface water in this area since it is relatively abundant, easy to extract, and generally lacks harmful bacteria. However, groundwater can also be vulnerable to contamination if any spills, leaks, or dumping of harmful substances occur at or beneath the ground surface.

WELLHEAD PROTECTION PROGRAM

The City has a Michigan Department of Environmental Quality (MDEQ) approved Wellhead Protection Program (WHPP). The American Water Works Association (AWWA) awarded Kalamazoo's water system the 2014 Exemplary Source Water Protection Award for large groundwater systems in North America. The City has also been designated a Groundwater Guardian Community by the Groundwater Foundation, a national groundwater protection organization, every year since 1998. The City of Kalamazoo Wellhead Protection website www.protectyourwater.net has specific information about the City of Kalamazoo Water System, related ordinances, great links to other websites, and information about stormwater and other surface water issues.

The Michigan Department of Environmental Quality performed Source Water Assessments to assess the susceptibility of all public water supply sources to contamination. The susceptibility rating is on a six-tiered scale from "very low" to "high" based primarily on geologic sensitivity, water chemistry, well construction and contaminant sources. The susceptibility rating of the city's (then) 19 wellfields was: Moderate (2 wellfields), Moderate High (12 wellfields) and High (5 wellfields). For more information regarding these ratings or the WHPP, please contact the Environmental Services Program Manager at 337-8737 or visit www.protectyourwater.net.

CROSS-CONNECTION PROGRAM

As a City of Kalamazoo drinking water supply customer, you can help ensure that the water you are drinking within your home and business remains safe. Prevent cross-connections with the City of Kalamazoo's water supply by ensuring that all backflow prevention devices are installed, inspected and properly maintained by licensed and certified plumbers as required by state and local plumbing codes.

What is a "cross-connection"?

Cross-connections are arrangements of piping or appurtenances through which a backflow of undesirable material could enter the potable (drinking) water system.

What is a "backflow"?

Backflow is water flowing in the opposite direction of its normal flow. Backflow can allow contaminants to enter the drinking water system through cross-connections.

The undesirable material may come from sources connected to your own home or facility's internal or external plumbing. A backflow in the water system can be created in areas that experience a sudden loss of pressure. Pressure changes can occur as a result of water main breaks, fire department usage, or during times of hydrant flushing. If any of these conditions occur in your area, you should flush your lines before using the water to minimize iron particles and other undesirable contaminants that may be present. Flush your taps by starting in your restroom facility or utility sink, and working out towards your food service area.

The following suggestions will help all customers prevent cross-connections within their homes and businesses:

- Do not submerge hoses in buckets, pools, tubs, sinks or process tanks.
- Do not use spray attachments without a backflow prevention device. The chemicals used on your lawn are toxic and can be fatal if ingested.
- Do buy and install inexpensive backflow prevention devices (hose bib vacuum breakers) for all threaded faucets around your home or business. They are available at hardware stores and home-improvement centers.
- Never install sprinkler systems, fire suppression systems, or boilers with chemical additives without proper backflow prevention devices.
- Ensure that your softener drain line has an air gap between the drain line and the receiving drain.
- Residential and Commercial establishments connected to the municipal water system must properly abandon all water wells onsite and provide abandonment information to the City of Kalamazoo and the Kalamazoo Environmental Community Health Department.

Please notify us immediately at 337-8149, if you notice any unusual activity or persons around city water facilities, wells, tanks, and fire hydrants. If you would like additional information about cross-connections, please call the Senior Environmental Services Supervisor at 337-8365.