



Providing **High
Quality Water**
To You And Your
Family.



Public Services Department



2015 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 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. However, much of the information provided in this report, along with the additional monitoring and testing conducted throughout the year, are provided as an extra 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.

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.

Approximately 400 billion gallons of water are used in the United States per day.



Only 3% of Earth's water is freshwater.



The City of Kalamazoo's Central pumping station is a large supplier of water to customers within the City as well as the surrounding areas



Install a thread atmospheric vacuum breaker on your home's hose bibs to protect your drinking water.

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 backflow prevention devices (hose bib vacuum breakers) for all threaded faucets around your home or business. They are inexpensive and 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.

If you would like additional information about cross-connections, please call the Senior Environmental Services Supervisor at 337-8365.

PLEASE NOTIFY US IMMEDIATELY AT 337-8149, IF YOU NOTICE ANY UNUSUAL ACTIVITY OR PERSONS AROUND CITY WATER FACILITIES, WELLS, TANKS, AND FIRE HYDRANTS.

2015 WATER QUALITY DATA

Regulated Contaminant	MCL	MCLG	Highest Level Detected	Results Range	Violation Yes/No	Typical Source of Contamination
Nitrate (ppm)	10	10	1.6	<0.4 - 1.6	No	Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits.
Barium (ppm)(2014)	2	2	0.17	0.05-0.17	No	Discharge of drilling wastes; discharge from metal refineries and coal-burning factories; discharge from electrical aerospace, and defense industries
Lead (ppb)(2014)	0	0.015	0.002	ND-0.002	No	Corrosion of household plumbing systems; erosion of natural deposits

Regulated Contaminant	MCL	MCLG	Highest Running Average	Results Range	Violation Yes/No	Typical Source of Contaminant
Arsenic (ppb)	10	NA	7	NA	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Flouride (ppm)	4	4	0.83	<0.1 - 1.2	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids (HAA5) (ppb)	60	NA	13.5	3 - 21	No	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	80	NA	22.6	9 - 30.2	No	By-product of drinking water chlorination
1,2-Dichloroethane (ppb)	5	0	0.6	ND-0.7	No	Discharge from industrial chemical factories
Cis-1,2-Dichloroethylene (ppb)	70	70	2.3	<0.5 - 3.6	No	Discharge from industrial chemical factories
Trichloroethylene (ppb)	5	0	<0.5	ND-0.5	No	Discharge from metal degreasing sites / other factories
Vinyl Chloride	2	0	1.2	ND-1.9	No	Leaching from PVC pipes; discharge from plastic factories

Regulated Contaminant	MRDL	MRDLG	Highest Running Annual Average	Results Range	Violation Yes/No	Typical Source of Contaminant
Chlorine (ppm)	4	4	0.46	<0.1 - 2.00	No	Water additive used to control microbes

Radioactive Contaminants	MCL	MCLG	Highest 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 Ungulated Contaminant*	Highest Level Detected	Results Range	Average Result 2015	Typical Source of Contaminant
Sodium (ppm)	87	9 - 87	32	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

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 20,000 analyses conducted in 2015 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 2015, 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.

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.

MRDLG (Maximum Residual Disinfectant Level Goal) – The level of a drinking water disinfection 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.

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.

* 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.

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	µg/L	34	36	35
1,4-Dioxane	µg/L	0.072	0.4	0.246
Vanadium	µg/L	0.25	0.36	0.3



LEAD AND COPPER

The City of Kalamazoo is in compliance with the 1992 Safe Drinking Water Act Lead and Copper Rule and all revisions of the rule. In addition, the City has utilized a corrosion control program since 1956, and a proactive annual lead and copper service replacement capital improvement program for over twenty years. An informational video to answer some common questions regarding Lead and Copper in drinking water can be found at <http://www.kalamazoo.org/water-quality>.

The City of Kalamazoo is proud of the service we provide to our customers and we will continue to strive for excellence.

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 household 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.

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**.



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.

At less than a penny per gallon, high quality water is provided at a bargain by the City of Kalamazoo.



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!

CUSTOMER'S VIEWS WELCOME

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

You may also visit our websites: **www.kalamazoo.org/water-quality** 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/water-quality**.

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**.

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



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

1415 N. Harrison St.
Kalamazoo, MI 49007



The City of Kalamazoo's Public Service Group works around the clock to provide safe drinking water to those we serve.

