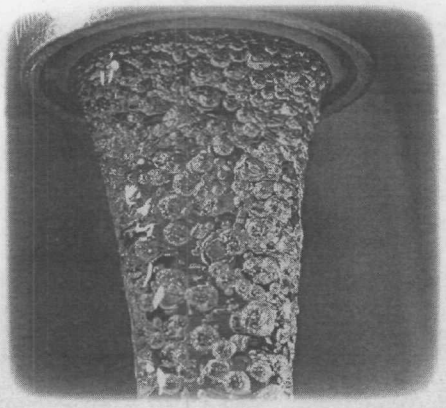

Customer Views Welcome

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: Water Supply Supervisor at 337-8758, Water Resources Manager at 337-8737, or the Environmental Services Manager at 337-8440.

You may also visit our websites:
www.kalamazoocity.org/waterquality or www.protectyourwater.net.

If you have questions concerning opening or closing accounts, billing, payments, meter readings, leaks, or other related questions you can contact Customer Services and Billing at 337-8149. If you wish to address issues in a public forum, the City of Kalamazoo Commission meetings are held on the 1st, 3rd and 5th 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 at the Stockbridge Facility located at 415 Stockbridge Avenue, Kalamazoo, Michigan 49001 or by calling the Environmental Services Division at 337-8658.

Water Saving Tips

- Limit showers to five minutes and install water-efficient showerheads to save up to ***1,000*** *gallons* per month.
- Turn off water while brushing your teeth and shaving to save up to ***1,200*** *gallons* per month.
- Run your washing machine and dishwasher only when full to save up to ***1,000*** *gallons* per month.
- Repair leaky plumbing to save up to ***400*** *gallons* per month.
- Replace older toilets with low-flow models to save up to ***1,300*** *gallons* per month.
- Put food coloring in your toilet tank. If it seeps into the toilet bowl, you have a leak, eliminate the leak and save up to ***600*** *gallons* per month.
- Water your lawn in the early hours of the morning every third day.
- Direct downspouts and other runoff towards shrubs and trees, or collect in rain barrels and use for watering landscape and garden plants.
- Use porous materials for walkways and patios to keep water in your yard and prevent wasteful runoff.

Try to do something each day that will result in saving water. Don't worry if the savings are minimal. Every drop counts. YOU can make a difference.

For more information, visit
www.kalamazoocity.org/waterquality

THE CITY OF Kalamazoo

PUBLIC SERVICES DEPARTMENT

Environmental Services Division

2006 WATER QUALITY REPORT

Quality is Crystal Clear

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 or is of higher quality than standards established by federal and state regulations. The report summarizes our efforts and commitment to provide safe 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. The system has: 19 wellfields; 18 water pumping stations; 100 wells ranging from 300 to 1,500 gallons per minute; 7 water storage facilities ranging in capacity from 350,000 gallons to 7,000,000 gallons; 8 independent service pressure districts, with several booster and bleeder stations to move water between them as necessary; more than 773 miles of water main and 5,305 hydrants; limited treatment through chlorine, fluoride, polyphosphate additives, and 2 stations with air strippers and iron removal. The Water Supply System has service contracts with 10 local governments and serves more than 121,000 customers; and in 2006, averaged a water production rate of 18.18 million gallons per day.

Drinking Water Source and Protection

(Wellhead Protection Program)

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. As water travels over the surface of the land or through the ground, it dissolves naturally occurring-minerals and in some cases, picks up pollutants from the presence of animals or from human activity.

The City has a Michigan Department of Environmental Quality (MDEQ) approved Wellhead Protection Program (WHPP) program and won the 2004 Michigan Exemplary WHPP Award. The City has also been designated a Groundwater Guardian Community by the Groundwater Foundation, a national groundwater protection organization, every year since 1998. In addition, the City developed the first Wellhead Protection website in Michigan! The 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 and contaminant sources. The susceptibility rating of the city's 19 wellfields is: Moderate (2 wellfields), Moderate High (12 wellfields) and High (5 wellfields). For more information regarding these ratings or the WHPP, please contact the Water Resources Manager at 337-8737.

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. Generally, stormwater is directed via pipes directly to the Kalamazoo River, creeks, lakes or ponds. Consequently, it is important to keep oils, grease, fuels, chemicals, trash and other debris from getting on the streets. Remember, **"What Gets to the Streets, Gets to the Creeks!"** If you see anyone dumping something down the storm drain, please call the dispatcher at 337-8729 during the daytime or 337-8148 after hours.

Watershed management planning involves all natural water resources, including groundwater and surface waters. Since groundwater and surface water are generally interconnected, when you protect one you are protecting the other. Visit www.kalamazooriver.net for more information. For additional information regarding stormwater quality, please contact the Water Resources 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 by preventing any cross-connections with the City of Kalamazoo's water supply and/or 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.

Cross-connections are arrangements of piping or appurtenances through which a backflow of undesirable material could enter the potable (drinking) water system. The undesirable material may come from sources connected to your own home or facility's internal or external plumbing. A backsiphonage backflow can be created in an area where a sudden loss of pressure in the water system occurs due to a water mainbreak, a fire department using large quantities of water or during hydrant flushing. Buildings near the break or fire hydrant will experience a lowering of the water pressure; this is the time a backsiphonage could occur. **If any of these conditions with sudden losses of pressure occur in your area, you should thoroughly flush your lines after the low-pressure condition ceases before using the water. Flushing your taps will help to alleviate potential undesirable material along with iron particles that will be present after a mainbreak or hydrant flushing.**

We ask all our customers to help protect our water by preventing cross-connections from occurring by installing proper backflow devices within your homes and businesses, and to NEVER 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 for all threaded faucets around your home or business. They are available at hardware stores and home-improvement centers. NEVER install lawn sprinkler systems, fire suppression systems, or boilers with chemical additives without proper backflow prevention devices. 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 Environmental Services Manager at 337-8440.

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 12,000 analysis conducted in 2006 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 2006, then the most recent result 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.
Aquifer – Water bearing sands and gravels beneath the earth's surface.
Avg – Average
Boost/Bleed – Process of transferring water between zones/districts to maintain adequate pressure.
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. MCLGs 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 MCLGs 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. 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.
NA – Not applicable
ND – Not 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.
Radiochemical Parameters – Compounds found in drinking water which emit radiation.

Monitoring for Unregulated Contaminants

The U.S. Environmental Protection Agency (EPA) revised the federal regulations affecting the monitoring of unregulated contaminants at public water systems. This new regulation is 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 January and July 2003 and is scheduled to perform UCMR2 sampling in 2008. Please contact the Environmental Services Manager at 337-8440 if you wish to have a copy of the results.

2006 Water Quality Data

Regulated Contaminant	MCL	MCLG	Level Detected	Result Range	Violation Yes / No	Typical Source of Contaminant
Arsenic (ppb)	10	NA	9	9	No	*Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.*
Barium (ppm)	2	2	0.14	0.06 – 0.14 (2004)	No	*Discharge of drilling wastes; discharge of metal refineries; erosion of natural deposits.*
Nitrate (ppm)	10	10	2.2	<0.1 – 2.2	No	*Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits.*
Regulated Contaminant	**MCL**	**MCLG**	**Highest Running Average**	**Result Range**	**Violation Yes / No**	**Typical Source of Contaminant**
Fluoride (ppm)	4	4	1.40	0.12 – *6.56	No	*Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.*
Haloacetic Acids (HAA5) (ppb)	60	NA	16	<10 – 16	No	*By-product of drinking water disinfection.*
Total Trihalomethanes (ppb)	80	NA	33	9 - 33	No	*By-product of drinking water chlorination.*
Cis-1,2-Dichloroethylene (ppb)	70	70	1	<0.5 – 1	No	*Discharge from industrial chemical factories.*
Regulated Contaminant	**MRDL**	**MRDLG**	**Highest Running Average**	**Result Range**	**Violation Yes / No**	**Typical Source of Contaminant**
Chlorine (ppm)	4	4	0.66	<0.1 – 3.0	No	*Water additive used to control microbes.*
Radioactive Contaminant	**MCL**	**MCLG**	**Level Detected**	**Sample Date**	**Violation Yes / No**	**Typical Source of Contaminant**
Alpha emitters (pCi/L)	15	0	5.09	7/8/03	No	*Erosion of natural deposits.*
Combined radium (pCi/L)	5	0	3.45	9/04/01	No	
Special Monitoring and Unregulated Contaminant **			**Level Detected**	**Result Range**	**Average Result**	**Typical Source of Contaminant**
Sodium (ppm)			77	8 – 77	24	*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		7	2005	3	*Corrosion of household plumbing systems; erosion of natural deposits.*
Copper (ppb)	1300		800	2005	0	
Microbial Contaminants	**MCL**		**MCGL**	**Number Detected**	**Violation Yes / No**	**Typical Source of Contaminant**
Total Coliform Bacteria	6 positive monthly samples (5% of monthly samples positive		0	0.8%***	No	*Naturally present in the environment*

* The 6.56 was not a MCL and occurred for approximately two hours on November 30, 2006 in the Spring Valley Area as was stated in the public notice sent out to customers earlier this year. ** 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 0.8 % represents one positive sample out of 120 monthly samples. There was one positive sample out of more than 1440 total coliform samples collected in 2006.

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; and *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.

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. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your homes plumbing. If you are concerned about elevated lead levels in your residential drinking water, you may wish to have your water tested and flush your tap from 30 seconds to 2 minutes (until there is a significant temperature change in the water) before using it for cooking or drinking. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791. If you would like your water tested for lead/copper please contact the City of Kalamazoo Biologist at 337-8550.

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.

Your drinking water meets EPA's standards for **combined radium** (radium 226 & 228); low levels of combined radium have been detected in your drinking water. Some people who drink water-containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

FAQ

Frequently Asked Questions

I have heard that the yellowish/ brownish color sometimes found in my water is from iron. Where does the iron come from and what does the City do about it?

Iron is one of the naturally occurring minerals in groundwater. Iron, though aesthetically unpleasant, is not considered a health concern. Unfortunately, if the level of iron is above approximately 0.3 ppm, it can cause staining of plumbing fixtures and clothing. To address this issue, the City adds a type of phosphate to the water to help reduce the effects of iron that ranges from less than 0.1 to 2.0 ppm from the supply system wells. In addition, the City flushes out fire hydrants and blow-off devices on a rotational basis twice annually to remove iron and other sediments that accumulate over time. Two of the City's 18 pumping stations have iron filtration and the City is evaluating the cost-benefit to add more. Some customers have installed their own iron filters at home. For more information, please call the Water Operations Supervisor at 337-8758.

What is the hardness of my water?

The hardness of the City of Kalamazoo Water Supply System averages from 212 to 410 ppm (12 to 24 grains).

What can I do to help keep our drinking water (groundwater) safe?

One of the primary things you can do to help prevent groundwater contamination is to take unused hazardous household chemicals (including all mercury-containing products) to the Kalamazoo County Household Hazardous Waste Center at 1301 Lamont Avenue, located off Lake Street near the Kalamazoo County Fairgrounds. 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.

Visit www.protectyourwater.net for more information.