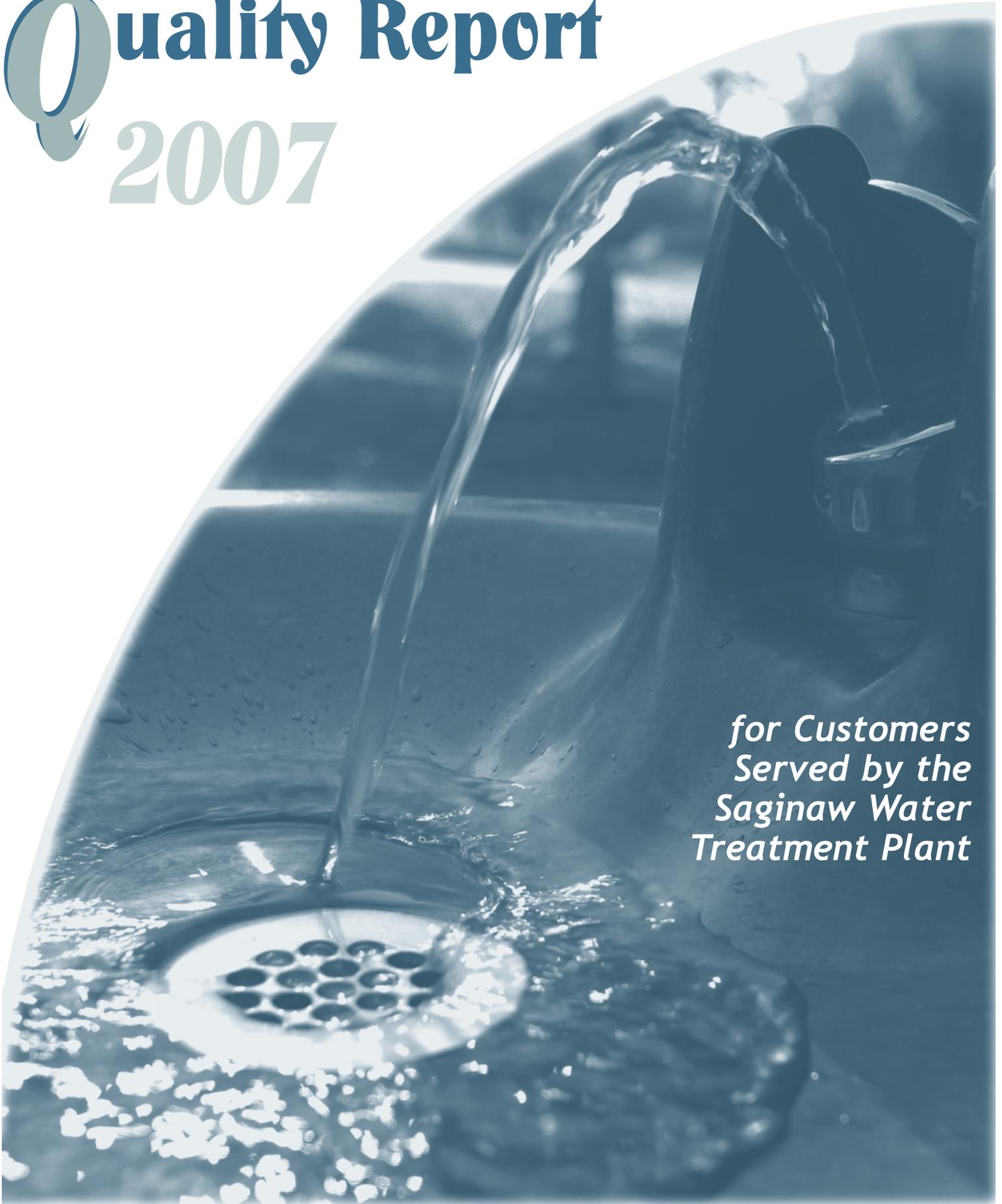


Drinking Water Quality Report 2007

*for Customers
Served by the
Saginaw Water
Treatment Plant*



DRINKING WATER

Your community is providing you with this report to help you learn more about the quality of the drinking water that comes out of your tap. Please take the time to read this report thoroughly. It contains important information about drinking water quality and test results for communities that receive their water from the Saginaw Water Treatment Plant, including:

- Village of Birch Run
- Birch Run Township
- Blumfield Reese Water Authority
- Bridgeport Charter Township
- Buena Vista Charter Township
- Carrollton Township
- Frankenlust Township
- James Township
- Kochville Township
- Saginaw Charter Township
- City of Saginaw
- Village of St. Charles
- Spaulding Township
- Swan Creek Township
- Taymouth Township
- Thomas Township
- Tittabawassee Township
- City of Zilwaukee

This report has been assembled by the professionals who work to provide a safe and reliable supply of drinking water for consumers in the Saginaw region. Their collaborative efforts continue to save time and money for rate payers, and have allowed them to surpass all drinking water goals throughout 2007. *El informe contiene informacion importante sobre la calidad del agua en su comunidad. Traduzcalo o hable con alguien que lo entienda bien.*



Lake Huron photo courtesy of Xigu Wang

Saginaw's Regional Water System offers high quality source water from Lake Huron, advanced treatment techniques, and reliable distribution.

Water Purification

Highly trained, certified staff work in the laboratories at the Saginaw Water Treatment Plant. These qualified staff members perform hundreds of tests every day. Water samples are taken daily from the plant at each step in the treatment process to ensure high-quality drinking water. Samples are also obtained weekly from various locations throughout the distribution system.

Water samples are subjected to a battery of chemical and microbiological tests, such as pH, alkalinity, color, chloride, iron, coliform bacteria, metals, and volatile organics. Many of these tests are required by law, but the Saginaw Water Treatment Plant also performs additional tests to provide greater water quality assurance. Annually, close to 100,000 analyses are performed on the water.

Plant Operations staff work around the clock to ensure that the water you drink meets or surpasses all Federal and State standards for quality and safety. These individuals operate the system using computerized control systems and by making manual adjustments. Operations and maintenance staff maintain the equipment, which allows the plant to perform more efficiently and reliably. Routine maintenance also prolongs the life of our equipment, which helps to keep your water rates as low as possible. These workers provide fresh tap water to nearly 180,000 people in the Saginaw region every day.

Water Distribution

Each community water utility that obtains its drinking water from the Saginaw Water Treatment Plant is responsible for maintaining its own distribution system. This includes repairing water main breaks, collecting certain water samples, and routinely flushing water mains to keep them clean. You can learn more about your community's water system by attending regularly scheduled meetings. See the back of this report for more information about meeting times.

Source Water Assessment

Your drinking water originates from Lake Huron, one of the largest and highest quality sources of fresh water in the world. The raw water intake is near Whitestone Point, a location selected in the 1940s after an engineering study showed that water at this location was typical of deep Lake Huron currents, and relatively free from influences from Saginaw Bay and nearby on-shore sources of contamination. The raw water is purchased from the Saginaw-Midland Municipal Water Supply Corporation, and travels 65 miles through reinforced concrete pipe to the Saginaw Water Treatment Plant for processing.

In June 2004, the Michigan Department of Environmental Quality completed its assessment of our Lake Huron raw water supply and issued a Source Water Assessment report. This assessment determined our raw water supply's susceptibility to contamination. The State used a seven-tiered susceptibility rating scale from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The susceptibility of our raw water system was rated "moderately low." Although the threat of contamination still exists, this rating is the best a surface water source can achieve. The forethought used in selecting the location of the intake helped our raw water supply achieve its "moderately low" susceptibility rating.

If you would like to review a copy of the Source Water Assessment report, or have questions about it, please contact your local water utility for more information. Telephone numbers are provided on the back of this report.

2007 System-Wide Improvements

Water Treatment Division

1. Rebuilt Filter Number 2.
2. Installed one SolarBee recirculator unit in the Lake Linton Raw Water Storage Reservoir to improve raw water quality. This provides more efficient treatment of drinking water (fewer chemicals, less cost) and improves drinking water taste and odor. YSI Multi-parameter probe purchased for monitoring of raw water quality and to improve operational efficiency of SolarBee units.
3. Drained, cleaned, and inspected East Clearwell.
4. Installed two replacement powdered activated carbon feeders. The old feeders required immediate replacement. Used machines, in excellent condition, were purchased at substantial savings and provide a cost-effective means to continue treatment while studying upgrade options.
5. Installed security fencing around receiving area to greatly increase security in a critical area.
6. Began software analysis for optimization of Flocculation/Coagulation process.
7. Installed a modular operations control room inside the Pump Room at the Treatment Plant.
8. Began design of interim disinfection chemical feed.
9. Repaired check valve at Aqua Pump Station.
10. Converted Freeland Pump Station from flow- to pressure-based control. This provides more consistent pressure.
11. Installed second water service line to Treatment Floor for redundancy and made repairs to existing line.

Maintenance and Service Division and Joint Projects

1. Replaced water main from Washington to Sixth as part of the Johnson Streetscape Project.
2. Substantially completed Gratiot Road Pump Station upgrade, Gratiot Road parallel pipeline project, and Birch Run Pump Station upgrade.

Regulatory Projects

1. Submitted Individual Distribution System Evaluation Plan as part of Stage 2 Disinfection Byproducts Rule.
2. Submitted Cryptosporidium and Giardia Raw Water testing results packet under grandfather provisions of the Long Term 2 Enhanced Surface Water Treatment Rule.

On-Going Projects

1. Purchased hydraulic modeling software; implementation ongoing.
2. Master Planning Engineering Studies.
3. Northern Booster Pump Station Conceptual Planning and Design Engineering.

Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy, who have undergone organ transplants, with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

Federal guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the U.S. EPA's Safe Drinking Water Hotline at 800.426.4791.

Health and Safety Information

Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily pose 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.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive materials, 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 byproducts 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 the result of oil and gas production and mining activities

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

Cryptosporidium and Giardia

Cryptosporidium and Giardia are two parasites, sometimes found in untreated surface waters, which may cause intestinal disease if ingested. The EPA is in the process of resolving several scientific issues that will allow safety standards to be set for these parasites. At this time, the EPA is conducting a six-year monitoring and treatment enhancement program called the "Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)."

The Saginaw Water Treatment Plant collected monthly samples of both its raw and finished waters beginning in 1998 through June 2006. During this time, Cryptosporidium was detected in our raw (untreated) water twice, and NEVER in our finished (treated) water. Giardia was detected in our raw water twice, and NEVER in our finished water. No drinking water precaution was needed for the general public.

Because these test results are favorable and demonstrate public health protection, Saginaw is in the process of having this data "grandfathered" into the LT2ESWTR. If the EPA accepts this data, Saginaw will not be required to perform additional costly monitoring and treatment. Saginaw's data to date falls into the EPA's lowest (best) classification, which requires no additional treatment. No testing for Cryptosporidium or Giardia was performed in 2007, but the Saginaw Water Treatment Plant always puts safety first, and has performed monitoring above and beyond what has been required in past years.

2007 WATER QUALITY RESULTS

The table below shows the results of the Saginaw Water Treatment System's water quality tests for 2007, unless otherwise noted. The State allows us to monitor for certain contaminants less than once per year because their concentrations are not expected to change year to year. We remained in compliance with all of the monitoring and reporting requirements during 2007, and had no violations. Our water met or surpassed all State and Federal water quality and safety standards. This table does not show the numerous contaminants we tested for, but did not detect in the water.

parameter	test date	unit	avg	range	MRDLG	MRDL	violation?	likely sources
<i>Regulated Inorganic Parameters (sampled in the distribution system)</i>								
Chlorine	2007	ppm	0.58	0.41 - 0.69	4	4	no	Water additive used to control microbials

parameter	test date	unit	avg	range	MCLG	MCL	violation?	likely sources
<i>Regulated Inorganic Parameters (sampled at the plant's finished water tap)</i>								
Fluoride	2007	ppm	0.92	0.10 - 1.15	4	4	no	Water additive to promote strong teeth
Barium	2004	ppm	0.01	na	2	2	no	Erosion of natural deposits
Selenium	2004	ppb	2.0	na	50	50	no	Discharge from petroleum/metal refineries and mines, erosion of natural deposits

parameter	test date	unit	avg	range	MCLG	MCL	violation?	likely sources
<i>Volatile Organic Parameters (sampled in the distribution system)</i>								
TTHM ¹	2007	ppb	47.3	30 - 53	none	80	no	Byproducts of drinking water disinfection
HAA5 ¹	2007	ppb	36.5	25 - 45	none	60	no	Byproducts of drinking water disinfection

parameter	test date	unit	avg	range	MCLG	MCL	violation?	likely sources
<i>Regulated Microbiological Parameters (sampled in the filtered water)</i>								
Turbidity ²	2007	ntu	0.064	0.04 - 0.21	none	TT	no	Soil runoff, suspended matter in lake water

Total Organic Carbon Removal

Certain water systems must remove Total Organic Carbon (TOC) to reduce the formation of disinfection byproducts. Saginaw is required to test for TOC quarterly, but also elects to perform monthly testing as an added safety measure. Because Saginaw's TOC levels were low, there was no requirement for TOC removal during 2007.

parameter	test date	unit	avg	range	MCLG	MCL	violation?	likely sources
<i>Unregulated Parameters (not regulated at the State or Federal Level)</i>								
Sodium ³	2007	ppm	5	na	none	none	no	Naturally occurring
Bromochloroacetic Acid	2007	ppb	4	nd - 5	none	none	no	Byproduct of drinking water disinfection

Footnotes

1. Averages shown for TTHM (Total Trihalomethanes) and HAA5 (Haloacetic Acids) are the highest running annual averages calculated quarterly.
2. Turbidity measures the cloudiness of water. Turbidity in systems that provide filtration, like Saginaw, must never exceed 1 NTU, and must not exceed 0.3 NTU in more than 95% of daily samples in any month. All of our samples were below 0.3. This indicates that our treatment process is working effectively.
3. This information is provided for those concerned with sodium in their diet. 5 ppm of sodium works out to 1.2 mg of sodium per 8 oz. glass of water.

Terminology

Maximum Residual Disinfectant Level Goal (MRDLG) - 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.

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.

Parts per million (ppm) and parts per billion (ppb) - One ppm can be equated to four teaspoons of salt in a standard 24-foot backyard pool. One ppb is like one teaspoon of salt in an Olympic-sized pool.

Maximum Contaminant Level Goal (MCLG) - The MCLG is 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 MCL is 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. MCLs are set at very stringent levels by the State and Federal government.

Nephelometric Turbidity Unit (ntu) - Measures drinking water clarity (cloudiness of water).

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

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

nd - not detected.

na - not applicable/available.

Contaminants Tested for in 2007 and NOT DETECTED in Saginaw's Treated Drinking Water

Bromoacetic Acid; Dalapon; Dibromoacetic Acid; Benzene; Bromobenzene; Bromochloromethane; Bromoform; Bromomethane; Butylbenzene, Normal-; Butylbenzene, Sec-; Butylbenzene, Tert-; Carbon Tetrachloride; Chlorobenzene; Chloroethane; Chloromethane; Chlorotoluene (o-); Dibromomethane; 1,2-Dichlorobenzene; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; Dichlorodifluoromethane; 1,1-Dichloroethane; 1,2-Dichloroethane; 1,1-Dichloroethylene; 1,2-CIS Dichloroethylene; 1,2-TRANS Dichloroethylene; 1,2-Dichloropropane; 1,3-Dichloropropane; 2,2-Dichloropropane; 1,1-Dichloropropene; 1,3-CIS Dichloropropene; 1,3-TRANS Dichloropropene; Dichloromethane; Ethylbenzene; Fluorotrichloromethane; Hexachlorobutadiene; Isopropyl Benzene; Isopropyl Toluene, PARA-; Methyl Ethyl Ketone; Methyl Isobutyl Ketone; Methyl-Tert-Butyl Ether; Naphthalene; Nitrobenzene; p-Chlorotoluene; Propylbenzene, Normal-; Styrene; 1,1,1,2-Tetrachloroethane; 1,1,1,2-Tetrachloroethane; Tetrachloroethylene; Tetrahydrofuran; Toluene; 1,2,3-Trichlorobenzene; 1,2,4-Trichlorobenzene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; 1,2,3-Trichloropropane; 1,2,4-Trimethylbenzene; 1,3,5-Trimethylbenzene; Vinyl Chloride; Ortho-Xylene; Meta-Xylene; Para-Xylene; Xylenes (Total); Nitrate; Nitrite; Arsenic; Iron.

Community-Specific Results: Lead, Copper, and Coliform Bacteria

Certain water quality tests must be performed in each individual water distribution system. This includes lead, copper, and bacteriological testing. None of the communities in the Saginaw service area had coliform bacteria detects during 2007. For lead and copper, all communities in the Saginaw system participate in a coordinated test, which is only required every three years because of favorable past results. The figures below are from the 2007 coordinated test. Lead and Copper compliance is based on the 90th percentile, where nine out of ten samples must be below the Action Level (AL). Only one of the testing sites in the Saginaw service area was above the AL for Lead and none exceeded the AL for Copper.

The likely sources of both copper and lead in your drinking water include corrosion of household plumbing and erosion of natural deposits. 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. Saginaw 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 800.426.4791 or at www.epa.gov/safewater/lead.

Water Supplier	parameter	units	90th	MCLG	MCL	violation?	sites exceeding AL
Village of Birch Run	Lead	ppb	5	0	AL=15	no	none
	Copper	ppm	.200	1.3	AL=1.3	no	none
Birch Run Township	Lead	ppb	3	0	AL=15	no	none
	Copper	ppm	.160	1.3	AL=1.3	no	none
Blumfield/Reese	Lead	ppb	2	0	AL=15	no	none
	Copper	ppm	.240	1.3	AL=1.3	no	none
Bridgeport Township	Lead	ppb	1.3	0	AL=15	no	none
	Copper	ppm	.292	1.3	AL=1.3	no	none
Buena Vista Township	Lead	ppb	.4	0	AL=15	no	none
	Copper	ppm	.156	1.3	AL=1.3	no	none
Carrollton Township	Lead	ppb	2	0	AL=15	no	none
	Copper	ppm	.190	1.3	AL=1.3	no	none
Frankenlust Township	Lead	ppb	2	0	AL=15	no	none
	Copper	ppm	.230	1.3	AL=1.3	no	none
James Township	Lead	ppb	0	0	AL=15	no	none
	Copper	ppm	.1085	1.3	AL=1.3	no	none
Kochville Township	Lead	ppb	1.5	0	AL=15	no	none
	Copper	ppm	.245	1.3	AL=1.3	no	none
City of Saginaw	Lead	ppb	6	0	AL=15	no	1*
	Copper	ppm	.200	1.3	AL=1.3	no	none
Saginaw Township	Lead	ppb	3.8	0	AL=15	no	none
	Copper	ppm	.238	1.3	AL=1.3	no	none
Village of St. Charles	Lead	ppb	1.5	0	AL=15	no	none
	Copper	ppm	.185	1.3	AL=1.3	no	none
Spaulding Township	Lead	ppb	2	0	AL=15	no	none
	Copper	ppm	.195	1.3	AL=1.3	no	none
Swan Creek Township	Lead	ppb	2	0	AL=15	no	none
	Copper	ppm	.220	1.3	AL=1.3	no	none
Taymouth Township	Lead	ppb	1	0	AL=15	no	none
	Copper	ppm	.250	1.3	AL=1.3	no	none
Thomas Township	Lead	ppb	2	0	AL=15	no	none
	Copper	ppm	.223	1.3	AL=1.3	no	none
Tittabawassee Township	Lead	ppb	1.5	0	AL=15	no	none
	Copper	ppm	.230	1.3	AL=1.3	no	none
City of Zilwaukee	Lead	ppb	1.5	0	AL=15	no	none
	Copper	ppm	.210	1.3	AL=1.3	no	none

**Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than others in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and to flush your tap for 30 seconds to two minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline, 800.426.4791.*

On-Line Report: www.saginaw-mi.com/profiles/saginawregion2007.pdf or www.ttsvcs.com/ccr/

U.S. EPA's Safe Drinking Water Hotline: 800.426.4791

For More Information

To participate in decisions concerning your drinking water, please attend local and City of Saginaw meetings. If you have questions about this report, or would like extra copies, please call the number given under "Questions."

Water Supplier	Meeting Schedule	Time/Location/Contact	Questions?
Birch Run Township	Second Tuesday	7:00 pm, 8411 Main Street, 989.624.9773	989.624.9773
Village of Birch Run	Fourth Monday	7:00 pm, 12060 Heath Street, 989.624.5711	989.624.5711
Blumfield/Reese	Third Monday	7:30 pm, 12810 E. Washington, Reese, 989.868.9940	989.868.9940
Bridgeport Township	1st/3rd Tuesdays	6:00 pm, 6206 Dixie Highway, 989.777.0940 ext. 201	989.777.0974
Buena Vista Township	2nd/4th Mondays	7:00 pm, 1160 S. Outer, 989.754.6536	989.754.6536
Carrollton Township	Last Monday	6:00 pm, 1645 Mapleridge Road, 989.754.8076	989.754.8076 ext. 24
Frankenlust Township	Fourth Wednesday	3:00 pm, 3933 Patterson Road, 989.686.5300	989.684.3883
James Township	Second Monday	4:00 pm, 11415 Lakefield Road, 989.781.2524	989.781.1240
Kochville Township	Third Tuesday	7:00 pm, 5851 Mackinaw Road, 989.792.7596	989.792.7596 ext. 12
Saginaw Township	2nd/4th Mondays	7:00 pm, 4980 Shattuck Road, 989.791.9800	989.791.9870
City of Saginaw	Mondays, biweekly	please call 989.759.1480	989.759.1640
Village of St. Charles	2nd Wednesday	7:00 pm, 110 W. Spruce Street, 989.865.8287	989.865.8287
Spaulding Township	Third Monday	7:00 pm, 5025 East Road, 989.777.0950	989.777.2733
Swan Creek Township	Second Monday	4:00 pm, 11415 Lakefield Road, 989.865.6251	989.865.6251
Taymouth Township	Second Wednesday	7:00 pm, 4343 Birch Run Road, 989.624.4159	989.624.4159 ext. 24
Tittabawassee Township	Second Tuesday	7:30 pm, 145 S. Second Street, 989.695.9512	989.695.6517
Thomas Township	First Monday	7:00 pm, 8215 Shields Drive, 989.781.0150	989.781.0150
City of Zilwaukee	Last Monday	4:00 pm, 319 Tittabawassee, 989.755.0931	989.752.7356

About the Saginaw Water Treatment Plant

You receive your water from the Saginaw Water Treatment Plant, which is a not-for-profit department of the City of Saginaw, governed by Saginaw City Council. We encourage your interest in the decisions pertaining to your drinking water. For information about meetings and how to register as a speaker, please contact the City Clerk's office at 989.759.1480. Here are some other helpful contacts:

Joyce Seals, Mayor	Amanda Kitterman, Council Member	Andrew Wendt, Council Member
Larry Coulouris, Mayor Pro Tem	Amos O'Neal, Council Member	Darnell Earley, City Manager
Greg Branch, Council Member	William Scharffe, Ph.D., Council Member	Thomas Darnell, P.E., Director of Public Services
Dan Fitzpatrick, Council Member	Paul Virciglio, Council Member	Paul Reinsch, Water Treatment Plant Superintendent

Water Quality Questions:	989.759.1640
On-line Water Quality Report:	www.saginaw-mi.com/profiles/saginawregion2007.pdf or www.ttsvcs.com/ccr/
USEPA's Safe Drinking Water Hotline:	800.426.4791

DID YOU RECEIVE MULTIPLE COPIES OF THIS REPORT?

Please help us correct our mailing list by calling 989.759.1640 or e-mailing susan.franklin@tetrattech.com

Saginaw Water Treatment Plant
522 Ezra Rust Drive
Saginaw, MI 48601

**IMPORTANT INFORMATION ENCLOSED:
2007 REGIONAL WATER QUALITY REPORT**