

# 2010 Drinking Water Quality Report for:

- 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 prepared by the professionals who work to provide a safe and reliable supply of drinking water in your community. Please take the time to read this report thoroughly. It contains important information about drinking water quality and test results for consumers who receive their water from the Saginaw Water Treatment Plant.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

## Commitment to Quality

Highly trained, certified staff work in the laboratories at the Saginaw Water Treatment Plant, performing hundreds of tests each day. Water samples are taken daily from each step in the treatment process to ensure high-quality drinking water that meets or surpasses all federal and state requirements. Samples are also obtained throughout the region's distribution system on a weekly basis.

Water samples are subjected to one or more chemical and/or microbiological tests, such as pH, alkalinity, color, chloride, coliform bacteria, iron, metals, and volatile organics. Many of these tests are required by law. ***The Saginaw Water Treatment Plant performs additional tests, beyond what is required, to provide even greater water quality assurance.***

Operations and maintenance workers at the plant and in each community operate the system both manually and with computerized control systems. They also maintain the equipment and facilities, which allows for greater efficiency and reliability. This routine maintenance prolongs the life of our water system.

## Local Distribution

Each community that obtains its drinking water from the Saginaw Water Treatment Plant owns and operates its own distribution system. This includes repairing water main breaks, collecting certain water samples, and routinely flushing water mains to keep them clean.

***Nearly 180,000 people in the region get their drinking water from the Saginaw Water Treatment Plant.***

If you have questions or comments about your community's water system, please see the back of this report for contact and meeting information.

### Completed Water Treatment Division Projects

- Gratiot Road Booster Station ground storage tank blast and paint work; re-pump suction piping improvements
- Gratiot and Aqua Booster Stations ground storage tank fill and draw piping improvements (to improve distributed water quality)
- Kochville Booster Station overhead door modifications
- Blumfield Reese Booster Station pump replacements
- Filter Gallery plaster and paint work

### Maintenance and Service Division Projects

- Completed replacement of 8- and 18-inch water mains in M-13 Washington Ave. and M-46 Rust Ave.
- Replaced 8-inch water main in Mason from Houghton to Davenport and replaced 12-inch water main in E. Genesee from Franklin to Janes.
- Continued replacing or repairing existing system valves as part of on-going Valve Exercise Program; over 25 percent complete.

### Community Water Utility Projects

- Many projects are also completed throughout the regional distribution system. Please contact your local water utility to learn more about improvements in your community.

**Tap water is not only reliable and delivered directly to your home, it is a great value costing only pennies per gallon.**

### ***Your drinking water comes 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 (jointly owned by the Cities of Saginaw and Midland), 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 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 the Saginaw Water Treatment Plant at 989.759.1640.

### Lead and Copper Rule

- Tri-annual sampling completed summer 2010, results herein.

### Hexavalent Chromium

- EPA is reviewing new health effects data on hexavalent chromium to determine future regulatory action. Hexavalent chromium is currently regulated as part of Total Chromium, but some are calling for more stringent controls. (Total Chromium was not detected in our last round of regulatory testing.) Learn more at: [water.epa.gov/drink/info/chromium](http://water.epa.gov/drink/info/chromium)

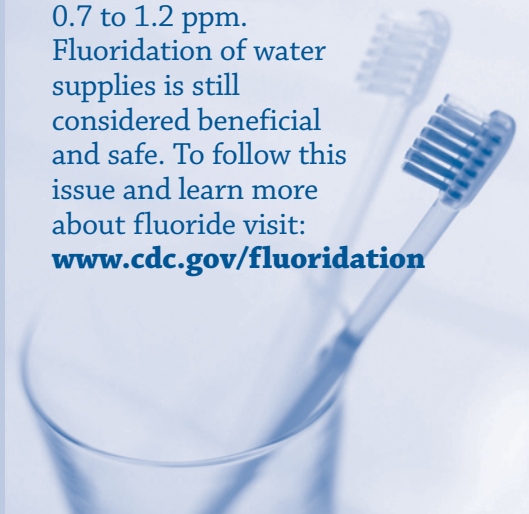
### Microbial and Disinfection Byproducts Rules

*A set of interrelated regulations that address the need to balance risks from microbial pathogens and the disinfectants (and resulting disinfection byproducts) that control them.*

- Stage 2 Disinfectants and Disinfection Byproducts Rule: more comprehensive sampling and stringent requirements to begin November 2012. (Stage 1 has been underway since 2002.)
- Long Term 2 Enhanced Surface Water Treatment Rule: next round of sampling for microbial pathogens to begin October 2015.

### Fluoride

- Now that many people receive fluoride from other sources, the federal government may recommend that fluoride levels in drinking water be lowered to 0.7 ppm versus the current recommended range of 0.7 to 1.2 ppm. Fluoridation of water supplies is still considered beneficial and safe. To follow this issue and learn more about fluoride visit: [www.cdc.gov/fluoridation](http://www.cdc.gov/fluoridation)



## 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*

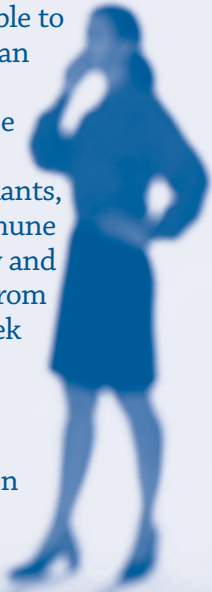
To ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration's regulations establish limits for contaminants in bottled water, which must provide similar protection for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

The table to the right shows the results of water quality tests in the Saginaw Water Treatment System during 2010, 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 2010, and had no violations.** Our water met or surpassed all state and federal water quality and safety standards.

## For 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, those who have undergone organ transplants, those 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.



## Cryptosporidium, Giardia and other Microbial Pathogens

*Cryptosporidium*, *Giardia*, and other microbial pathogens come from human and animal waste. They are sometimes found in untreated surface waters (lakes, rivers, streams) and, if ingested, can result in diarrhea, fever, and other gastrointestinal symptoms. Although filtration removes these pathogens, the most commonly-used methods cannot guarantee 100 percent elimination.

The Saginaw Water Treatment Plant's monitoring has indicated the presence of these organisms in our *untreated* source water, but they have NEVER been detected in our *finished* drinking water. In fact, our monitoring results place our water into the lowest and best category of the EPA's Long Term 2 Enhanced Surface Water Treatment Rule (LT2 rule), meaning we do not need to perform additional (more costly) treatment. The purpose of the LT2 rule is to reduce illness linked with disease-causing microorganisms in drinking water. It is important to note, however, that illness from *Cryptosporidium*, *Giardia*, and microbial pathogens can be spread through means other than drinking water.

The LT2 rule includes two rounds of source water monitoring. Saginaw completed the first round in 2006 by submitting existing data for "grandfathering" and receiving approval from EPA. The second round of LT2 monitoring will begin in October 2015. More information about the LT2 rule can be found at [water.epa.gov/lawsregs/rulesregs/sdwa/lt2](http://water.epa.gov/lawsregs/rulesregs/sdwa/lt2)

# 2010 DRINKING WATER QUALITY TEST RESULTS

**parameter test date unit avg range MRDL MRDLG violation likely sources**

*Regulated Inorganic Parameters (sampled in the distribution system)*

Chlorine	2010	ppm	0.85	0.74-0.97	4	4	no	Water additive used to control microbials
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**parameter test date unit avg range MCL MCLG violation likely sources**

*Regulated Inorganic Parameters (sampled at the plant's finished water tap)*

Fluoride <sup>1</sup>	2010	ppm	0.95	na	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

*Regulated Volatile Organic Parameters (sampled in the distribution system)*

TTHM <sup>2</sup>	2010	ppb	58.6	29.0-65.0	80	none	no	Byproduct of drinking water disinfection
HAA5 <sup>2</sup>	2010	ppb	34.9	22.0-35.0	60	none	no	Byproduct of drinking water disinfection
Dalapon	2010	ppb	1	nd-1	200	200	no	Runoff from herbicide on rights of way

*Regulated Microbiological Parameters (sampled in the filtered water confluence)*

Turbidity <sup>3</sup>	2010	NTU	TT <sup>3</sup>	0.05-0.38	TT <sup>3</sup>	none	no	Soil runoff, suspended matter in lake water
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## Regulated 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 2010.

**parameter test date unit avg range MCL/MCLG violation likely sources**

*Unregulated Parameters (not regulated at the State or Federal Level)*

Sodium <sup>4</sup>	2010	ppm	nd	na	unregulated	no	Naturally occurring
Bromochloroacetic Acid	2010	ppb	4.56	4-5	unregulated	no	Byproduct of drinking water disinfection

1. The Saginaw Water Treatment Plant monitors and supplements the fluoride level in drinking water to maintain a level close to 1 ppm to promote dental health. This fits with EPA's secondary fluoride standard of 2 ppm to prevent dental disease in children. The level reported in the table above is from a regulatory sample collected annually, but staff members also conduct daily sampling. 2010 daily fluoride sampling results are as follows: average=0.61 ppm; range=0.08-1.25 ppm. Please refer to the "Regulatory News" section for more information about fluoride.
2. Averages shown for TTHM (Total Trihalomethanes) and HAA5 (Haloacetic Acids) are the highest of the running annual averages calculated quarterly. The range shows the highest and lowest single detects from routine compliance monitoring.
3. 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 to remain in compliance. We achieved these requirements and our lowest percentage of daily samples below 0.3 NTU was 99.462% in August (555/558 samples). This is not a violation and our treatment process continues to work effectively.
4. Sodium was not detected (less than 1.2 milligrams of sodium per 8 ounce glass of water) in our water in 2010. This data is provided for those with dietary concerns.

**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 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)** - A measure of clarity based on how much light is scattered by suspended matter in the water. The lower the NTU, the less cloudy the water.

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

**Terminology**



Certain tests must be performed in each individual water distribution system. This includes lead, copper and bacteriological testing. **None of the systems detected coliform bacteria in 2010.** 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 2010 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). Three of the testing sites in the Saginaw service area had single detections of lead above the AL (not a violation); no sites exceeded the AL for copper. The likely sources of copper and lead in drinking water include corrosion of household plumbing and erosion of natural deposits (not naturally present in Saginaw's water).

**About Lead:** 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. Your water utility 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead)

## COMMUNITY-SPECIFIC RESULTS: Lead and Copper

Water Supplier	parameter	units	90th	MCL	MCLG	violation	sites above AL
Village of Birch Run	Lead	ppb	1.5	AL=15	0	no	none
	Copper	ppm	.224	AL=1.3	1.3	no	none
Birch Run Township	Lead	ppb	0	AL=15	0	no	none
	Copper	ppm	.251	AL=1.3	1.3	no	none
Blumfield/Reese	Lead	ppb	1.5	AL=15	0	no	none
	Copper	ppm	.250	AL=1.3	1.3	no	none
Bridgeport Township	Lead	ppb	1.8	AL=15	0	no	none
	Copper	ppm	.313	AL=1.3	1.3	no	none
Buena Vista Township	Lead	ppb	.2	AL=15	0	no	none
	Copper	ppm	.255	AL=1.3	1.3	no	none
Carrollton Township	Lead	ppb	10	AL=15	0	no	1
	Copper	ppm	.253	AL=1.3	1.3	no	none
Frankenlust Township	Lead	ppb	10.5	AL=15	0	no	1
	Copper	ppm	.414	AL=1.3	1.3	no	none
James Township	Lead	ppb	2.5	AL=15	0	no	none
	Copper	ppm	.103	AL=1.3	1.3	no	none
Kochville Township	Lead	ppb	0	AL=15	0	no	none
	Copper	ppm	.388	AL=1.3	1.3	no	none
City of Saginaw	Lead	ppb	11	AL=15	0	no	1
	Copper	ppm	.217	AL=1.3	1.3	no	none
Saginaw Township	Lead	ppb	2.7	AL=15	0	no	none
	Copper	ppm	.293	AL=1.3	1.3	no	none
Village of St. Charles	Lead	ppb	3.5	AL=15	0	no	none
	Copper	ppm	.253	AL=1.3	1.3	no	none
Spaulding Township	Lead	ppb	0	AL=15	0	no	none
	Copper	ppm	.227	AL=1.3	1.3	no	none
Swan Creek Township	Lead	ppb	0	AL=15	0	no	none
	Copper	ppm	.309	AL=1.3	1.3	no	none
Taymouth Township	Lead	ppb	0	AL=15	0	no	none
	Copper	ppm	.315	AL=1.3	1.3	no	none
Thomas Township	Lead	ppb	0	AL=15	0	no	none
	Copper	ppm	.259	AL=1.3	1.3	no	none
Tittabawassee Township	Lead	ppb	0	AL=15	0	no	none
	Copper	ppm	.330	AL=1.3	1.3	no	none
City of Zilwaukee	Lead	ppb	0	AL=15	0	no	none
	Copper	ppm	.247	AL=1.3	1.3	no	none

### Contaminants Tested for in 2010 and NOT DETECTED in Saginaw's Treated Drinking Water

Bromoacetic Acid; Chloroacetic Acid; Benzene; Bromobenzene; Bromochloromethane; Bromoform; Bromomethane; Butylbenzene, Normal-; Butylbenzene, Sec-; Butylbenzene, Tert; Carbon Tetrachloride; Chlorobenzene; Chloroethane; Chloromethane; Chlorotoluene, o-; Chlorotoluene, p-; 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; Isopropylbenzene; Isopropyl Toluene, PARA-; Methyl Ethyl Ketone; Methyl Isobutyl Ketone; Methyl-Tert-Butyl Ether; Naphthalene; Nitrobenzene; Propylbenzene, Normal-; Styrene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-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; Sodium; Arsenic; Iron.

## IMPORTANT INFORMATION ENCLOSED: 2010 REGIONAL WATER QUALITY REPORT

### ECRWSS POSTAL CUSTOMER

#### LOCAL CONTACTS →

The list below shows meeting times for the communities participating in this report. Please attend meetings locally and with the City of Saginaw if you would like to comment on the decisions affecting your drinking water. If you have questions about this report or local water projects, please call the number provided under "Water Utility Contact."

#### Water Supplier

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

#### Meeting Schedule/Time/Location

Second Tuesday, 7:00 pm, 8411 Main Street  
Fourth Monday, 7:00 pm, 12060 Heath Street  
Third Monday, 7:30 pm, 12810 E. Washington, Reese  
First Tuesday, 6:00 pm, 6206 Dixie Highway  
Second and Fourth Mondays, 7:00 pm, 1160 S. Outer  
Second and last Monday, 6:00 pm, 1645 Mapleridge Road  
Varies, please call 989.684.3883, 3933 Patterson Road  
Second Monday, 7:30 pm, 6060 Swan Creek Road,  
Fourth Tuesday, 7:30 pm, 5851 Mackinaw Road  
Second and Fourth Mondays, 7:00 pm, 4980 Shattuck Road  
Second Wednesday, 7:00 pm, 110 W. Spruce Street  
Third Tuesday, 7:00 pm, 5025 East Road  
Second Monday, 4:00 pm, 11415 Lakefield Road  
Second Wednesday, 7:00 pm, 4343 Birch Run Road  
First Monday, 7:00 pm, 8215 Shields Drive  
Second Tuesday, 7:30 pm, 145 S. Second Street  
Last Monday, 3:30 pm, 319 Tittabawassee

#### Water Utility Contact

Brad Thomas, 989.624.9773  
Terry Engelhardt, 989.624.9856  
Ron Ebenhoeh, 989.868.9940  
John Malzahn, 989.777.0974  
Roy Hill, 989.754.6536  
Mark Pilkington, 989.754.4611 x24  
Bradd Maki, 989.684.3883  
Mark Jebb, 989.781.1240  
Mike Burger 989.792.7596 x12  
Sonny Grunweill, 989.791.9870  
Hal Mead, 989.865.8287  
Don Ackerman, 989.777.2733  
Debra Wurtzel, 989.865.6251  
A.J. Nowak, 989.624.4159 x24  
Rick Hopper, 989.781.0150  
Ed Mahaney, 989.695.6517  
Warren Davis, 989.752.7356

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. Meetings are held on Mondays, twice monthly. For details or to register as a speaker, please contact the City Clerk's office at 989.759.1480.

Gregory L. Branch, Mayor  
Amos O'Neal, Mayor Pro Tem  
Dennis Browning, Council Member  
Larry Coulouris, Council Member  
Daniel Fitzpatrick, Council Member  
Amanda Kitterman-Miller, Council Member

William Scharffe, PhD, Council Member  
Paul Virciglio, Council Member  
Andrew Wendt, Council Member  
Darnell Earley, City Manager  
Kimberly Mason, Director of Water and Wastewater Treatment Svcs.  
Paul Reinsch, Water Treatment Division Superintendent

#### About the Saginaw Water Treatment Plant

On-line Water Quality Report:  
Water Quality Questions:  
USEPA Safe Drinking Water Hotline:

[www.saginaw-mi.com/profiles/saginawregion2010.pdf](http://www.saginaw-mi.com/profiles/saginawregion2010.pdf)  
989.759.1640  
800.426.4791