

2007 Annual Consumer  
Confidence Report on the  
Quality of Tap Water  
For the  
City of Jackson, Blackman  
Township and Portions of  
Leoni Township and  
Summit Township



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City of Jackson Dept. of  
Public Services Water Div.  
515 Water Street  
Jackson, MI 49203-1996

## Spanish (Español)

Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúscalo o hable con alguien que lo entienda bien.

## Our message to you

This report explains how drinking water provided by the City of Jackson Department of Public Services Water Department is of the highest quality. Included is a listing of results from water quality tests as well as an explanation of where our water comes from and tips on how to interpret the data. We are proud to share the results with you. Please take the time to read the report carefully.

## Is my water safe?

Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and State of Michigan drinking water health standards. The City of Jackson Department of Public Services Water Department vigilantly safeguards its water supplies, and once again we are proud to report that our system has never

violated a maximum contaminant level or any other water quality standard.

## Where does my water come from?

The City of Jackson Water Department is supplied by groundwater pumped from sixteen wells. The wells are located in two separate well fields to insure a safe water supply is available in the unlikely event contaminants entered one of the well fields. Water is pumped from the wells to the Water Treatment Plant, where it is softened with a lime/soda ash process. The hardness is reduced from about 475 parts per million (ppm) to 142 ppm. It is then filtered, disinfected, and transferred to a 7.5 million gallon storage reservoir and finally pumped to our customers.

## Source water assessment and its availability

The State of Michigan performed an assessment of our source water in 2003 to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a six-tiered scale from "very-low" to "high" based primarily on geologic sensitivity, water chemistry and contamination sources. The susceptibility of our source is "moderately-high". The susceptibility determination may be altered in the future as the City demonstrates that an active Wellhead Protection Program is supporting the management and control of existing and potential sources of contamination in the Wellhead Protection Area. In an effort to do so, the City of Jackson participated in a countywide effort to protect our drinking water and has developed a Wellhead Protection Program. The effort has identified the groundwater recharge areas for municipal wells, the potential sources of contamination and has provided recommended actions to prevent contamination from entering the groundwater.

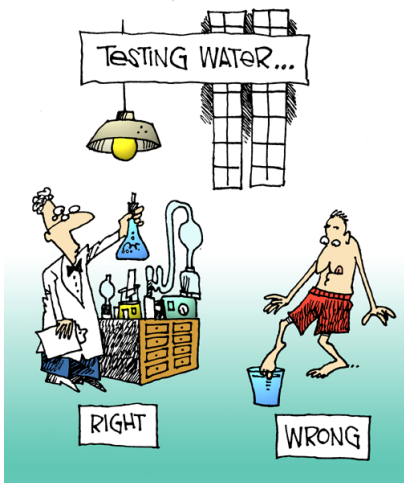
To further protect the City's water source, the City has joined forces with Summit Township in an effort to locate and properly plug as many abandoned wells as possible at no cost to the landowner. The City has located 410 abandoned wells and Summit Township 250. Birkmeier Well Drilling Ltd. was hired to plug the wells.

Information regarding the Source Water Assessment and Abandoned Well Search program is available at the Water Department office located at 515 Water Street Jackson Michigan or by calling (517) 788-4090 for further information.

## Why treat water?

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 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.

Left untreated, this water could make you sick. At the very least, untreated water



would have an unpleasant taste, odor or appearance. Treating water and testing the water ensures that it is clean, safe and pleasant to drink.

Disinfection is an absolutely essential part of the water treatment process, preventing the occurrence and spread of many water borne diseases.

The City of Jackson Water Treatment Plant tests our source water for hundreds of substances. Further testing is performed daily throughout the City of Jackson's water distribution system. On average, over 400 water quality samples are collected and analyzed monthly, providing continual monitoring for the highest water quality possible.

### **Contaminants that may be present in untreated water include:**

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Examples of such organisms are Cryptosporidium and Giardia. When ingested, these microscopic organisms can cause diarrhea, fever and other gastrointestinal symptoms. The best defense against these organisms is an effective water treatment process.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or results from urban storm water 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 storm water runoff and residential use.
- 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 storm water runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

### ***Is the water safe for everyone to drink?***

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) has developed regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) has established similar regulations for bottled water.

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 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).

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 by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).



### ***How can I get involved?***

Concerned residents may obtain information about the water by contacting the Water Department office located at 515 Water Street Jackson Michigan 49203 or by calling (517) 788-4090. Water issues may also be addressed at City Council meetings that are normally held the first and third Tuesday of every month at the Council Chambers at City Hall.

### ***Some plain talk about drinking water***

It's hard to go anywhere these days without seeing bottled water and home filtering devices for sale. You've probably wondered, "Should I buy these products? Are they worth the money I may spend on them?"

Use caution when deciding if you should purchase an in-home water filtering/purification system. Before making a decision, understand what such devices can and cannot do to improve water quality. Sometimes there can be aesthetic benefits that improve the water's taste and odor. The tradeoff to this is that the filter used to obtain these improvements might add bacteria into your water. If you use a home filtering device, be sure to routinely replace the filter as directed.

Don't wait until you notice a difference in the taste of your water.

What about bottled water? Bottled water is not guaranteed to be better tasting or "healthier" than tap water. Like water from the public water system, bottled water may be reasonably expected to contain very small amounts of some contaminants. It is wise to have a few gallons of bottled water on hand for emergency purposes. However, keep in mind that bottled water doesn't last forever. Use your bottled water within three to six months of purchase. When purchasing bottled water in the store, note the date it was bottled. Old bottled water is prone to bacterial growth.

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 Jackson 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 <http://aaa.epa.gov/safewater/lead>.

## Units Description:

NA: Not applicable

ND: Not detected

NR: Not reported

Mg/L: Number of milligrams of substance in one liter of water

ppm: Parts per million, or milligrams per liter (mg/L)

ppb: Parts per billion, or micrograms per liter ( $\mu$ /L)

pCi/L: Picocuries per liter (a measure of radioactivity)

% positive sample/month: Percent of samples taken monthly that were found to be positive

NTU: Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

## Important Drinking Water Definitions:

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. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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

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

MRDLG: Maximum Residual Disinfection Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the disinfectant to control microbial contaminants.

MRDL: Maximum Residual Disinfectant Level: There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MNR: Monitored Not Regulated.

MPL: State assigned Maximum Permissible Level.

Variations and Exemptions: State or EPA permission not to meet an MCL or treatment technique under certain conditions.



## Water Quality Data Table

The table below lists all of the drinking water contaminants for which we tested during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State of Michigan requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All of the data is representative of the water quality, but some are more than one year old.

Contaminants	MCLG, or MRDLG	MCL, TT, or MRDL	Your Water	Range Low	High	Sample Date	Violation	Typical Source
<b>Disinfectants &amp; Disinfection By-Products</b>								
Haloacetic Acids (HAA5) (ppb)	NA	60	9.13	3	13	2007	No	By-product of drinking water chlorination
TTHMs (Total Trihalomethanes)	NA	80	44.10	29	72	2007	No	By-product of drinking water chlorination
Total Organic Carbon (TOC'S) (ppm) (%) <sub>5</sub>	NA	TT	27	25	31	2007	No	Naturally present in the environment
<b>Inorganic Contaminants</b>								
Barium (ppm)	2	2	0.024	NA		2007	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium [Total] (ppb)	100	100	8	NA		2007	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	4	4	0.87	NA		2007	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Sodium (ppm) <sub>7</sub>		NA	54.5	NA		2007	No	Erosion of natural deposits; Leaching
<b>Volatile Organic Contaminants</b>								
cis-1,2-Dichloroethylene (ppb)	70	70	ND	NA		2007	No	Discharge from industrial chemical factories
<b>Microbiological Contaminants – City of Jackson</b>								
Total Coliform (% positive samples/month) <sub>1</sub>	0	5%	0%	NA		2007	No	Naturally present in the environment
Turbidity (NTU)	100% of the samples were below the TT value of 0.3					2007	No	Soil runoff
A value less than 95% constitutes a TT violation. The highest single measurement was 0.20. Any measurement in excess of 1 is a violation unless otherwise approved by the state. <sub>2</sub>								
<b>Microbiological Contaminants – Blackman Township</b>								
Total Coliform (% positive samples/month) <sub>1</sub>	0	1	1 of 267 samples	NA		2007	No	Naturally present in the environment
<b>Radioactive Contaminants</b>								
Alpha emitters (pCi/L)	0	15	2.3	NA		2002	No	Erosion of natural deposits
Combined Radium 226/228 (pCi/L)	0	5	0.9	NA		2005	No	Erosion of natural deposits



Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
<b>Inorganic Contaminants - City of Jackson</b>							
Copper - action level at consumer taps (ppm) <sup>3</sup>	1300	1300	0	2005	0	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing
Lead - action level at consumer taps (ppb) <sup>4</sup>	0	15	4	2005	1	No	Corrosion of household plumbing systems; Erosion of natural deposits

### Inorganic Contaminants - Blackman Township

Copper - action level at consumer taps (ppm) <sup>3</sup>	1300	1300	0	2005	0	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing
Lead - action level at consumer taps (ppb) <sup>4</sup>	0	15	0	2005	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Contaminants	MCLG, or MRDLG	MCL, TT or MRDL	Your Water	Range Low High	Sample Date	Violation	Typical Source
<b>Undetected Contaminants <sup>6</sup></b>							
Arsenic (ppb)	NA	10	ND	NA	2007	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics
1,2 - Dichloroethane (ppb)	0	0	ND	NA	2007	No	Discharge from industrial chemical factories
1,2 - Dichloropropane (ppb)	0	0	ND	NA	2007	No	Discharge from industrial chemical factories
Benzene (ppb)	0	0	ND	NA	2007	No	Discharge from factories; Leaching from storage tanks and landfills
Carbon Tetrachloride (ppb)	0	0	ND	NA	2007	No	Discharge from chemical plants and other industrial activities
Chlorobenzene (monochlorobenzene) (ppb)	0	0	ND	NA	2007	No	Discharge from chemical and agricultural chemical factories;
Ethylbenzene (ppb)	0	0	ND	NA	2007	No	Discharge from petroleum refineries
Mercury [Inorganic] (ppb)	2	2	ND	NA	2007	No	Erosions of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
Selenium (ppb)	50	50	ND	NA	2007	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Styrene (ppb)	0	0	ND	NA	2007	No	Discharge from rubber and plastic factories; Leaching from landfills
Tetrachloroethylene (ppb)	0	0	ND	NA	2007	No	Discharge from factories and dry cleaners
Toluene (ppm)	1	1	ND	NA	2007	No	Discharge from petroleum factories
Vinyl Chloride (ppb)	0	2	ND	NA	2007	No	Leaching from petroleum factories; Discharge from plastics factories
Xylenes (ppm)	10	10	ND	NA	2007	No	Discharge from petroleum factories; Discharge from chemical factories

### Water Quality Table Footnotes:

1. The MCL is 5% of the monthly samples collected.
2. Turbidity is a measure of the cloudiness of the water. 100% of the samples tested for turbidity were below the treatment technique (TT) of 0.3 NTU.
3. None of the samples tested for copper exceeded the current action level of 1300 ppm.
4. None of the samples tested for lead exceeded the current action level of 15 ppm.
5. At least 15% removal of TOC's is required in the treatment process. This requirement is met every month.
6. Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

7. Sodium levels in drinking water from most public water systems are unlikely to be a significant contribution to adverse health effects.

There was an *E. coli*-positive sample detected in Blackman Township in March and Total coliform positives in May and June.

**Blackman Township Table**

Microbial Contaminants	MCL	MCLG	Number Detected	Violation Yes/No	Typical Source of Contaminant
Total Coliform Bacteria	>1 positive monthly sample	0	March—1 of 39 May—1 of 28 June—1 of 24	No	Naturally present in the environment
Fecal Coliform and <i>E. coli</i>	Routine and repeat sample coliform positive, and one is also fecal or <i>E. coli</i> positive	0	March—1 of 39	No	Human and animal fecal waste

### **Leaking toilets and high water bills**



The most common cause for a high water bill is the customer's toilet(s). Our billing and service departments encounter this problem almost daily. Yet as common as the problem is, it is difficult for a concerned customer to understand. First, the problem may be intermittent. Second, the customer seldom hears or sees the leak because it's running down the overflow pipe. Third, they find it hard to believe that a toilet can use that much water.

A continual leak running at a very slow rate of 1/4 gallon per minute for three months will add \$115 to a water and sewer bill. Here are some tips you can follow that will help you avoid this problem. Periodically inspect the toilet tank for the following:

- Check the water level in the toilet tank. The float should be set to keep the water level at 1/2-inch below the overflow pipe.
- Make sure the float can move up and down freely without catching on any part of the flushing mechanism or side of the tank.
- Make sure the chain cannot get caught under the flapper valve.
- Using a flashlight, look down the overflow pipe to make sure there are no leaks in the pipe itself.
- Place a little food coloring in the toilet tank. If the color appears in the toilet bowl without flushing, then you have a problem that needs attention.
- Listen: In many cases you can hear the water running in the toilet tank. The sound may be continual or start and stop without flushing the toilet.
- If the condition of the flushing mechanism is questionable, have it replaced.
- Beware of the condition of toilets that are seldom used, it may be better to turn them off.

### **Uncontrolled water leaks**

Uncontrolled water leaks can cause extensive damage to your home. You can minimize that damage if everyone knows the location of the main water valve in your home and how to shut the water off. That valve is normally located next to the water meter. Those valves are seldom used except in emergencies and often fail when needed. Know the operating condition of the valve and have it replaced by a plumber if it's questionable.

### **Water costs money - don't waste it!**

A dripping faucet can waste 3 gallons a day . . . A total of 1,095 gallons a year

**Waste per quarter at 60 psi water pressure**

Diameter of stream	Gallons	Cubic Feet	Cubic Meters
1/4-inch	1,181,500	158,000	4,477
3/16-inch	666,000	89,037	2,523
1/8-inch	296,000	39,570	1,121
1/16-inch	74,000	9,893	280

A continuous leak from a hole the size listed above would, over a three month period, waste water in the amounts shown above.

## ***Handy tips to conserve water***

- Take a shorter shower
- Only do full loads of wash
- Run dishwasher when fully loaded
- Water lawn and garden as needed, at night

## ***Garden hoses can be a hazard to your health***

Garden hoses left running while submerged in buckets, pools, tubs, sinks or attached to a spray applicator are a potential source for contamination to enter your water supply. The danger comes when the water pressure drops because of a nearby fire or a portion of the system is shut down for repairs. This can cause harmful substances to be siphoned back into the water system and later ingested when pressure is restored.

You can protect yourself by observing the following:

- Never submerge the end of a hose below the fluid level.
- Always keep the end of a hose clear of possible contaminants.
- Never attach a spray applicator to the end of a hose without a proper back-flow protection device (vacuum breaker)
- Purchase and install inexpensive vacuum breakers on your hose outlets.

## ***For more information***

City of Jackson - Member of American Water Works Association (AWWA) - WSSN # 3470  
Blackman Township - WSSN # 0740

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### **Management staff:**

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