

VILLAGE OF DEXTER WATER QUALITY REPORT 2010

The Village of Dexter strives to provide the best quality drinking water possible. This report is intended to provide you with useful information about your drinking water and satisfy United States Environmental Protection Agency (EPA) and Michigan Department of Environmental Quality (MDEQ) notification requirements.

Dexter's water comes from 4 wells located behind LaFontaine Chevrolet off of Ryan Drive. These wells are 200 feet deep and access a confined aquifer. Water from each of these wells is pumped to the village's iron removal plant on Central Street. Air is introduced into the water to oxidize iron and arsenic so it can be filtered out. This process also strips out hydrogen sulfide, a naturally occurring contaminant which has a foul odor. After air stripping, the water is passed through a series of sand filters to remove any suspended solids and the oxidized iron from the water. The water is then disinfected to kill harmful bacteria. Finally, the water is pumped into the water tower in the industrial park and is ready to be used by the public. In 2003, the State of Michigan conducted tritium testing to determine the relative potential for contamination of our wells by surface pollutants. The Dexter aquifer was classified by the State as "not vulnerable" to casual contamination, and the Dexter Wellhead Protection Program was instituted to help protect against other threats to our water.

What's new since last year? The Village received a low interest loan through the Michigan Department of Environmental Quality Revolving Loan Fund to complete several improvements to the water system. As part of the American Reinvestment and Recovery Act (A.R.R.A), 40% of this loan was forgiven, saving Village utility customers \$864,000. With this project, all of the old 4 inch water main that existed along Forest, Grand and Inverness between Baker and Kensington was upgraded to 8 inch water main. The construction of a 5th well on the property of Dexter High School was completed. This well accesses a different aquifer than the other four wells and provides a redundant source of water for the Village. Transmission main was installed from the 5th well to Shield Road where it was connected to our system. The water treatment plant was also improved with new high service pumps. An additional project was completed to install the equipment necessary to provide fluoride to the water system. The design for adding an additional chemical (orthophosphate) to prevent corrosion also started with the implementation planned for mid-2011.

The following is the official EPA language on contaminants that may be in untreated water:

The sources of drinking water (both tap water and bottled water) include: rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity. These include microbial contaminants, such as viruses and bacteria; inorganic contaminants, such as salts and metals; organic chemical contaminants, pesticides, and herbicides, and radioactive substances, which can be naturally occurring. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants even after treatment. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about the contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1.800.426.4791.

In order to ensure that tap water is safe, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

The following is official EPA language on low resistance to infection: 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/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of the infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1.800.426.4791).

The following is official EPA language on arsenic: Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

The following is official EPA language on copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

The following is official EPA language on 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. The Village of Dexter 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 or at <http://water.epa.gov/drink/info/lead/>

The following is official EPA language on trihalomethanes and haloacetic acids: Trihalomethanes occur when naturally occurring organic and inorganic materials in the water react with the disinfectants, chlorine and chloramine. Some people who drink water containing total trihalomethanes in excess of the MCL over many years could experience liver, kidney, or central nervous system problems and increased risk of cancer. Haloacetic acids occur when naturally occurring organic and inorganic materials in the water react with the disinfectants, chlorine and chloramine. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Frequently asked questions:

Q: How will I know if my water is not safe to drink?

If there is a chance your water may not be safe to drink, you will be notified by newspaper, mail, radio, television, e-mail or hand delivery. The notice will describe any precautions you need to take, such as boiling your water.

Q: Why is the water sometimes discolored?

There are three main causes of discoloration in Dexter's drinking water.

Some of Dexter's water flows through cast iron mains. These mains can rust, making the water yellow or orange. Normally the rust is flushed out of the system as the water is used. Rusty water is most often observed first thing in the morning after the water has experienced slow flow conditions overnight.

Tiny amounts of sediment remain suspended in the water as it leaves the treatment plant, normally in amounts too small to measure. However, with millions of gallons of water flowing through a water main, the sediment can accumulate to visible levels. The sediment sticks to the walls of the water main and stays there until a fire hydrant is opened, a valve is operated for construction or maintenance, or a water main breaks. Preventative maintenance to remove the build-up is done twice a year when the fire hydrants are flushed throughout the community.

If the water is milky white, there is extra air in the water. Once water is drawn from the tap this "color" clears quickly from the bottom up. At that point, the water is no longer under pressure and the extra dissolved air is free to escape in the form of tiny bubbles. This is normal, and in fact desirable, since non-aerated water tends to taste flat.

Although discolored water may be aesthetically displeasing, contact with discolored water is not normally a health risk. Persistently discolored water should still be reported to the Dexter Utilities Department.

Q: How can I lower my water bill?

There are a number of things you can do to reduce water use and lower your monthly bill.

Inside the house you can:

- Check toilets and faucets for leaks and repair
- Take shorter showers
- Turn off water while shaving or brushing your teeth
- Only run your dishwasher when it is full
- Install water-saving showerheads and low flush toilets

Outside the house you can try these steps:

- Use a broom to sweep your sidewalk or driveway, rather than hosing it off
- Only water your lawn when it is needed – use soakers rather than sprinklers
- Water in early morning or late evening – this avoids evaporation, and is actually better for your plants
- Allow your grass to grow to a greater length
- Plant native trees, shrubs, flowers, and grasses which are more drought-tolerant and need less watering

Q: What can I do to help protect the watershed?

The Village of Dexter needs your help to protect our drinking water and its source. Here are tips on actions you can take to help protect the watershed:

- Recycle, recycle, recycle! Properly dispose of household toxics such as cleaning products, paint, pesticides, solvents, and used motor oil. Recycle grass clippings or mulch them.
- Remember that all storm drains lead to the Huron River. Don't dump into the street or drains.
- Scoop the poop! Pick up after your pets.
- Don't flush prescription drugs. Wastewater Treatment Plants are not equipped to filter out all the chemicals that are used to create prescription drugs. Wrap unused medication; place it in an unmarked container and dispose of it in the trash.

- Minimize water runoff from your property. Be sure your house gutters and downspouts lead to your lawn, not to paved surfaces.
- Avoid erosion. Seed exposed dirt and restore any bare patches on your lawn.
- Do not overuse fertilizer or pesticides. Test your soil first to see what it really needs. Do not fertilize before rainstorms. Rain washes both soil and fertilizer into the storm sewer which drains to Mill Creek and the Huron River.
- Water your lawn as little as possible. Remember, reducing watering will also reduce your bill.
- Eliminate abandoned wells. These should be properly plugged and removed from service. Every well is a direct connection to the groundwater source.
- Report all spills or suspicious activities in the watershed to the police by dialing 911.

Public Participation is Welcome. The Wellhead Protection Team is open to any private citizen who is interested; call Community Development Director Allison Bishop at 734.426.8303 ext. 15 for more information.

If you have additional questions concerning this report, please call the Village of Dexter Water Utilities Department at 734.426.4572, 7:00 am to 3:30 pm on weekdays, or the MDEQ at 517-780-7875.

For after hours emergencies, including water main breaks, emergency water turn-offs and sanitary sewer back-ups call 734.368.5212.

The Village of Dexter is online at <http://www.villageofdexter.org>

If you would like more information about your water, or copies of this newsletter, please call the Dexter Water Utilities Department at 734.426.4572, 7:00 am to 3:30 pm weekdays.

WATER QUALITY TEST RESULTS FOR 2010:

The Village of Dexter regularly tests its drinking water for various contaminants. The results of the 2010 testing are listed in the tables below.

Terms and Abbreviations:

MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as possible based on using the best available treatment technology.
MCLG	Maximum Containment Level Goal: The level of a contaminant in drinking water below which there is no known or expected health risk, allowing for a margin of safety.
MRDL	Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. Disinfectants are necessary to control microbial contaminants.
MRDLG	Maximum Residual Disinfectant Level Goal: The level of disinfectant below which there is no known or expected risk to health.
ppb	Parts per billion

ppm Parts per million or milligrams per liter (mg/l)

N/A Not Applicable

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

Action Level Goal: The level of contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

Inorganic Contaminants

Regulated Chemical	MCL (ppb)	MCLG (ppb)	Dexter Water (ppb)	Range (ppb)	Violation	Typical Source of Contaminant
Arsenic	10	0	3	2.8-3.4	No	Erosion of natural deposits
Fluoride	4	4	0.34	N/A	No	Erosion of natural deposits, water additive for strong teeth
Nitrate	10	10	0.9	N/A	No	Fertilizer runoff, natural deposits, leaching septic tanks

Regulated Chemical	Action Level (ppb)	Action Level Goal (ppb)	90% of Samples at or below Action Level	Number of 40 Samples above Action Level	Violation	Typical Source of Contaminant
Lead	15	0	4.7	0	No	Corrosion of household plumbing systems, erosion of natural deposits
Copper ¹	1300	1300	1980	10	Yes ¹	Corrosion of household plumbing systems, water softeners, erosion of natural deposits

¹ Dexter conducted lead and copper testing in September and December of 2010. The results from the last round of testing 40 houses in Dexter are in the table. Copper levels were found to exceed the action limit set by the EPA. The high copper levels were mainly found in the new subdivisions. As a result of these tests, the Village of Dexter is constructing a corrosion control system to add to our water treatment, which will bring down the copper numbers found last fall.

Disinfectants & Disinfection By-Products

Regulated Chemical	MRDLG or MCL	MRDL or MCLG	Dexter Water	Range	Violation	Typical Source of Contaminant
Chlorine	4 ppm	4 ppm	0.2 ppm	0.1-1.0 ppm	No	Water additive used to control microbes
HAA5 (total)	60 ppb		2 ppb	0-2 ppb	No	By-product of drinking water

haloacetic acids)						disinfection
TTHMs (total trihalomethanes)	80 ppb		5.2 ppb	0.8 – 1.3 ppb	No	By-product of drinking water disinfection

Although not required to, the Village of Dexter also tests for several other factors.

Other Chemicals

Regulated Chemical	Exceeded Health Limit (MCL)	Dexter Water	Typical Source of Chemical
Calcium	No	82 mg/l	Naturally occurring mineral
Chloride	No	70 ppm	Present from salt runoff, natural deposits
Hardness	No	331 mg/l	Erosion of natural deposits
Sodium	No	48 ppm	Present from salt runoff, natural deposits
Sulfate	No	17 mg/l	Naturally occurring mineral

No nitrites or microbial contaminants have been detected in the Dexter water supply.