

Supervisor Joanne A. Marcetti
Treasurer William A. Kieft III
Clerk Sue Buitenhuis
Trustee Steve Karell
Trustee Laurie Larsen
Trustee Thomas Jenkins
Trustee Matthew Horist

We are on the web
www.gh.t.org • info@gh.t.org



2007 Annual Drinking Water Quality Report



GRAND HAVEN CHARTER TOWNSHIP

Grand Haven Charter Township is pleased to present this year's Drinking Water Quality Report. This report is designed to inform you about the quality of the water we deliver to you everyday.

Our constant goal is to provide you with a safe and dependable supply of drinking water. We are committed to ensuring the quality of your drinking water.



Water is collected through submerged intakes located several feet under the bottom of Lake Michigan and is pre-filtered as it enters the treatment facility. The natural sand above the intakes provide the pre-filter barrier which compliments the plant's direct filtration process.

We are pleased to report that your drinking water is safe and meets the Federal and State of Michigan drinking water health standards. The Northwest Ottawa Water System (NOWS) treatment plant and Grand Haven Charter Township routinely monitor for a variety of dissolved mineral and organic substances in your drinking water pursuant to state and federal laws.

This report is designed to give you detailed information which will ensure you of the quality of your drinking water. The tables in this brochure

show the results of this monitoring from January 1st through December 31st, 2007.

If you have any questions about this report or your drinking water, please contact Public Services Director Mark VerBerkmoes at 842-5988 ext. 313 or mverberkmoes@gh.t.org.

Moreover, to provide you with an opportunity for public participation in decisions — some of which might affect drinking water quality — the public is invited to attend the bi-monthly NOWS Administrative Committee meetings held at the Grand Haven City Hall. You may call Grand Haven Township for an up-to-date meeting schedule.

All drinking water — including bottled water — may be reasonably expected to contain at least a small amount of some contaminants. It's important to remember that the presence of these substances does not necessarily indicate that the 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 at:

1-800-426-4791

EPA/CDC guidelines on appropriate means to lessen the risk of cryptosporidium and other microbial contaminants are also available from the Safe Drinking Water Hotline.

**We boast about our pre-filtered
Lake Michigan water and
consider it the best source
in West Michigan.**

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

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infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The sources of drinking water (both tap and bottled water) include rivers, streams, lakes, 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.

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 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 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. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The State performed an assessment of our Lake Michigan source water in 2003 and completed it in 2004 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 contaminant sources. The susceptibility of our source is "moderate". A copy of the report can be obtained by contacting the Water Facilities Manager at 847-3487.

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. Infants and young children typically are more vulnerable to lead in drinking water than the general population. It is possible that the lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. To reduce or eliminate lead levels, flush your tap for 30 seconds to two minutes before using the tap water. 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://www.epa.gov/safewater/lead>.



DO YOU KNOW WHAT A PENNY WILL BUY?

One penny will deliver about six gallons of drinking water to your home and family every day of the year.

Now that's value!

Parts per million (ppm) - A measurement of concentration. One part per million corresponds to one minute in two years.

Parts per billion (ppb) - A measurement of concentration. One part per billion corresponds to one minute in 2000 years.

Maximum Contaminant Level (MCL) - The “Maximum allowed” (MCL) is the highest level of contaminant that is allowed in drinking water. MCL’s are set close to the MCLG’s as feasible using the best available treatment technology.

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

Maximum Contaminant Level Goal (MCLG) - The “Goal” (MCLG) is the level of a contaminant in drinking water below, which there is no known or expected risk to health. MCLG’s allow for a margin of safety.

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

NTU - Nephelometric Turbidity Unit. Turbidity level shall not exceed 0.5 NTU in 95% of the samples every month. This is the measurement of suspended material that is found in water. We monitor it because it’s a good indicator of the effectiveness of our filtration system.

pCi/l - pico curies per liter (a measure of radioactivity).

Unregulated Monitoring - 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.

Alpha emitters, Radium 226 & 228 - Radionuclide contaminants that give off ionizing radiation. The state allows NOW 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 data is representative of the water quality, but some are more than one year old.

Maximum Residual Disinfectant Level - Means the highest level of a disinfectant allowed in drinking water, (MDRL). There is convincing evidence that an addition of a disinfectant is necessary for control of microbial contaminants..

Maximum Residual Disinfectant Level Goal - Means the level of drinking water disinfectant below which there is no known or expected risk to health, (MRDLG). MRDLGs do not reflect the benefits of the use of disinfectant to control microbial contaminants.

Listed below are contaminants/substances detected in the Northwest Ottawa Water System

Not listed are the hundreds of other contaminants for which we tested and that were not detected

REGULATED MONITORING AT THE CUSTOMER TAP

Substance	Violation Yes/No	Highest Level Detected	Unit Measurement	Range of Detection	MCL	MCLG	Likely Source of Contamination
Lead (from 2007)	No	2.0	ppb	1 — 24	AL=15	0	Corrosion of household plumbing systems Copper and Lead testing is performed once every three years and highest level detected = 90th percentile
Copper (from 2007)	No	55.0	ppb	6.0 — 98.0	AL=1300	1300	

REGULATED AND UNREGULATED MONITORING AT THE TREATMENT PLANT AND DISTRIBUTION SYSTEM

Total Coliform Bacteria	No	0% System Wide	presence or absence	Coliform Bacteria was never detected	bacteria in 5% of monthly samples		Naturally present
Turbidity Lowest monthly % meeting the turbidity limits=100%	No	0.10 (July)	NTU	0.06— 0.10 (point-of-entry)	5.0 (TT)		Soil runoff (Turbidity is a measure of the cloudiness of the water.)
Fluoride	No	1.2	ppm	1 sample/ year	4	4	Water additive that promotes strong teeth
Nitrate	No	0.8	ppm	1 sample/ year	10	10	Runoff from fertilizer and septic tanks
Alpha emitters (2002)	No	<0.7	pCi/L	1 sample/ 9 years	15	0	Erosion of natural deposits
Arsenic (2007)	No	Not detected	ppb	1 sample/ 9 years	10	0	
Barium (2001)	No	20	ppb	1 sample/ 9 years	2000	2000	
Selenium (2001)	No	1.0	ppb	1 sample/ 9 years	50	50	
Radium 226 & 228 (2002)	No	<0.9	pCi/L	1 sample/ 9 years	5	0	
Sodium	No	13.0	ppm	1 sample/ year			Mineral and nutrient erosion
Chlorine Residuals	No	1.39 avg.	ppm	1.29 — 1.61	MRDL= 4.0	MRDLG = 4.0	Water additive to control microbes
Chloride	No	21.0	ppm	1 sample/year			Mineral and nutrient erosion

REGULATED MONITORING IN THE DISTRIBUTION SYSTEM

Total Trihalomethanes	No	40.3 avg.	ppb	11.4– 69.6	80 avg.	0	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	26.8 avg.	ppb	4.9 — 70.1	60 avg.	0	

Important Information About Your Drinking Water

Monitoring Requirements Not Met For Northwest Ottawa Water Treatment Plant



The Northwest Ottawa Water Treatment Plant is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During January of 2008, plant staff did not complete all required continuous online turbidity monitoring and therefore cannot be sure of the quality of drinking water during that time.

What should I do?

There is nothing you need to do at this time. This was not an emergency.

What happened? What is being done?

On January 8, 2008 a power outage caused the loss of data from a dedicated computer system for continuous online turbidity monitoring (which collects turbidity samples every 15 minutes). When turbidimeters and data collecting systems fail, plant staff are required to collect “grab” samples at least every 4 hours while the filter is in service. Plant staff were unaware that the turbidimeter data was not being saved. Approximately 10 hours of turbidimeter data was lost on January 8th. Plant staff failed to collect “grab” samples from the individual filters every four hours during this time period. However, the combined filter effluent and tap water leaving the water plant was monitored every 4 hours for the entire duration and at no time during the 10 hour period did the turbidity exceed drinking water standards. For more information, please contact Mr. Joseph VandeStel, Water Facilities Manager, 519 Washington, Grand Haven, MI 49417 at 616-847-3488, or the Michigan Department of Environmental Quality at 616-356-0271.