

# **2009 Consumer Confidence/Water Quality Report for Crystal Falls Township Lind & Townline Water Systems**

## **Is my water safe?**

Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and state drinking water health standards. Local Water vigilantly safeguards its water supplies and once again we are proud to report that our system has not violated a maximum contaminant level or any other water quality standard.

## **Do I need to take special precautions?**

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 (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

## **Where does my water come from?**

The Lind water system has three groundwater wells located in the Lind District. The Lind well houses two pumps and is located two miles west of Highway 141. The second well house is located on Kuivila Road one half mile north of the main Lind well.

## **Source water assessment and its availability**

The State performed an assessment of our Lind source water in 2003 to determine the susceptibility or the relative potential of contamination. The susceptibility of the Kuivila well is moderate and the Lind well is moderately high. For further information a complete report can be obtained from the Township Public Works Foreman Terry Alexa (906-875-3290).

## **Why are there contaminants in my drinking 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 Environmental Protection Agency's (EPA) 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 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:

microbial contaminants, such as viruses and bacteria, that 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 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 uses; organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; and 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 that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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

Public participation is always welcome.

Crystal Falls Township Board meets the 2<sup>nd</sup> Tuesday of every month at 4:30 pm.

I am always open to any questions or concerns you may have about the water system. You may contact me at my office at 875-3290 Monday thru Friday from 7:00 am to 3:00 pm. I have voice mail so leave a message if I am not available and I will get back to you. Another option is via e-mail ([cftforeman@sbcglobal.net](mailto:cftforeman@sbcglobal.net))

Terry Alexa – Public Works Foreman/ CFT

## Water Quality Data Table

The table below lists all of the drinking water contaminants that we detected 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 requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

### LIND SYSTEM Well #4

<u>Contaminants</u>	<u>RL (mg/l)</u>	<u>MCL/AL (mg/l)</u>	<u>Result (mg/l)</u>	<u>Your Water</u>	<u>Range Low High</u>	<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>
<b>Inorganic Contaminants</b>								
Fluoride (ppm)	0.1	4.0	ND		0 4.0	8/19/09	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	0.4	10	ND		NA	8/19/09	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Hardness as CaCO <sub>3</sub>			117 (satisfactory)			8/19/2009		
<b>Radioactive Contaminants</b>								
Alpha emitters (pCi/L)	0	15	2		0.7 2	2001	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	1.09		1.09 4.13	2003	No	Erosion of natural deposits

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## Additional Contaminants

In an effort to insure the safest water possible the State has required us to monitor some contaminants not required by Federal regulations. Of those contaminants only the ones listed below were found in your water.

<u>Contaminants</u>	<u>State MCL</u>	<u>Your Water</u>	<u>Violation</u>	<u>Sample Date</u>
Lead	15 ppb	3 ppb	No	9/6/2007
copper	1300 ppb	210 ppb	No	9/6/2007

## Undetected Contaminants

The following contaminants were monitored for, but not detected, in your water.

**Your**

<u>Contaminants</u>	<u>RL (mg/l)</u>	<u>MCL/AL (mg/l)</u>	<u>Water</u>	<u>Date tested</u>	<u>Typical Source</u>
Arsenic	0.002	0.010	ND	8/19/2009	Erosion of natural deposits; Runoff

## Townline System well #7

<u>Contaminants</u>	<u>MCLG or MRDLG</u>	<u>MCL, TT, or MRDL</u>	<u>Your Water</u>	<u>Range</u>		<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>
				<u>Low</u>	<u>High</u>			
<b>Inorganic Contaminants</b>								
Fluoride (ppm)	4	4	ND	0	4	8/19/2009	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	10	10	ND	NA		8/19/2009	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Radioactive Contaminants</b>								
Alpha emitters (pCi/L)	0	15	2	0.7	2	2001	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	1.09	1.09	4.13	2003	No	Erosion of natural deposits

## Additional Contaminants

In an effort to insure the safest water possible the State has required us to monitor some contaminants not required by Federal regulations. Of those contaminants only the ones listed below were found in your water.

<u>Contaminants</u>	<u>State MCL</u>	<u>Your Water</u>	<u>Violation</u>	<u>Sample Date</u>
Lead	15 ppb	9 ppb	No	09/06/2007
copper	1300 ppb	855 ppb	No	09/06/2007

## Undetected Contaminants

The following contaminants were monitored for, but not detected, in your water.

<u>Contaminants</u>	<u>RL</u> <u>(mg/L)</u>	<u>MCL/AL</u> <u>(mg/l)</u>	<u>Your</u> <u>Water</u>	<u>Sample</u> <u>Date</u>	<u>Typical Source</u>
Arsenic	0.002	0.010	ND	9/17/2008	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes

<b>Unit Descriptions</b>	
<u>Term</u>	<u>Definition</u>
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

### Important Drinking Water Definitions

<b><u>Term</u></b>	<b><u>Definition</u></b>
MCLG	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	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.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
RL	RL: Reporting Limit
Variations and Exemptions	Variations and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	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 use of disinfectants to control microbial contaminants.
MRDL	MRDL: Maximum residual disinfectant level. 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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

For more information please contact:

Terry Alexa - Public Works Foreman

Address: 1384 US 2

Crystal Falls, MI 49920

906-875-3290

906-875-3412 FAX

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### **Why should my water be tested?**

There are many different reasons to get your well water tested at a laboratory. People get their wells tested when they are having water quality problems (unusual color or odor), when they are selling or buying a home, and when a new well is installed or an old well or well pump is maintained. In addition, it is good practice to have your well water checked at least once a year and even to reevaluate your drinking water source if posed with health-related problems. Local health departments are the main regulatory agency with respect to residential wells. They are required to maintain a list of environmental contaminants within their jurisdiction, and they consider this information when they issue permits for new wells. Your local health department is usually at the district or county level, and their phone number can be found in a local telephone book or online at [www.malph.org](http://www.malph.org). Since the local health department tracks this contaminant information, and contaminants are site-specific depending on the contaminant source, it is worthwhile to contact the local health department to determine what contaminants may be in your area. If a contaminant such as a petroleum product, industrial solvent, heavy metal, herbicide, or pesticide is in the area, the health department may recommend a test for the contaminant. When calling a local health department or health district to discuss well water quality, ask to speak with a water sanitarian.

When buying or selling a home, some testing may be required. Some counties require that wells be tested for certain contaminants upon the sale of a home (called “point of sale” testing). A test for bacteria or even an “automated partial chemistry” test may be required. The automated partial chemistry test is for the following contaminants: chloride, fluoride, hardness, iron, nitrate, nitrite, sodium, and sulfate. In addition to this point of sale testing, various lending institutions require drinking water testing before mortgage approval (e.g., the Federal Housing Administration requires testing for lead in drinking water sources before they will approve the lending transaction), so contact both the lending institution and the local health department to make an informed contaminant test selection decision.

Any time a new well is installed, or an old well or well pump is maintained, it is important to check the integrity of the well to make sure the well was installed properly and that no surface water sources are getting into the well. A bacterial test for coliform will be required and conducted for this purpose.

Another reason to test water in the home is if a household member has a health condition such as hypertension (high blood pressure). Sodium can occur naturally and is also introduced into drinking water at homes through some water softening systems. So learn whether your system introduces sodium into your water and if so, then check the function of the water softener every now and then for your health.

Many different laboratories test the quality of residential drinking water from water wells, including the State of Michigan Drinking Water Laboratory. The State of Michigan lab conducts the bacteria test for \$16; the lead test for \$18, and the automated partial chemistry test for \$18.

800-662-9278

Jennifer M. Granholm, Governor • Steven E. Chester, Director



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State of Michigan water sample kits can be picked up at your local health department. A directory of labs can also be found online at [www.michigan.gov/deq](http://www.michigan.gov/deq), go to the search bar and type in “lab directory.”

The State of Michigan Drinking Water Laboratory offers the following tips for proper sample handling:

- The test kits have a label on the bottle indicating which tests can be performed with that sample.

Several bottles may be necessary when multiple contaminants are being tested.

- The sample must be sent overnight to the lab because if the test is not run within a certain time frame (e.g., 30 hours for bacteriological testing) from when the sample was taken, then the results will not be valid. Mail the samples on Monday, Tuesday or Wednesday to make sure that it is received during the work week.

- If you want to drop the sample off to the lab in person, then you must call ahead to make arrangements (517-335-8184); the lab is a secure area.

- Read and follow the sample instructions before taking the sample.

### **So now that my water has been tested. What do the results mean?**

#### **Bacteriological Testing:**

The bacteriological test evaluates the quality of drinking water for a group of bacteria found in the intestines of warm-blooded animals, in surface water, in some soils and in decaying vegetation. These bacteria are commonly called coliform or *E. coli*. The lab result that you want to receive is negative, or not detected for coliform organisms. If you receive a positive result (reported by the State of Michigan Lab as “Pos for coliform organisms per 100 ml”), then organisms were present in the water sample and your safety cannot be assured.

Worse yet, if the State of Michigan results say “EC Pos for coliform organisms per 100 ml” then this is an indication of sewage contamination in the water.

#### **Automated Partial Chemistry:**

General guidelines of ranges for automated partial chemistry results in mg/l (ppm) include:

Test Excellent Satisfactory May be objectionable

Chloride ND-20 20-250 Over 250

Fluoride 1.0-1.2 0.7-2.0 Over 4.0

Hardness 50-125 (Excellent) 125-250 (Satisfactory) Over 250 (Treatment needed)

Iron ND-0.2 0.2-0.5 Over 0.5

Nitrate ND 1-10 Over 10

Nitrite ND 0-1 Over 1

Sodium ND-20 20-160 Over 160

Sulfate ND-50 50-250 Over 250

ND means that the contaminant was not detected in the sample. Contact your local health department for a more detailed evaluation.

It is very important to learn about your drinking water source and to be knowledgeable about the water in your home because various problems can arise.

- Objectionable levels of **chloride** may result in taste and corrosion.

- Moderate levels of **fluoride** are beneficial in reducing tooth decay; high levels can cause mottling of teeth.

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- Hard water (high levels of **hardness**) can cause scaling of water fixtures, laundry problems, water spotting, and discoloration. At low levels, corrosion can result (especially in copper piping).
- **Iron** in water can cause staining, turbidity, taste, color, and odor.
- Blue Baby Syndrome (methemoglobinemia) is a blood disorder reported among infants where **nitrate** or **nitrite**-contaminated well water was used to prepare formula and other baby foods. Infants suffering from methemoglobinemia may seem healthy but show intermittent signs of blueness around the mouth, hands, and feet. They may have episodes of breathing trouble, some diarrhea, and vomiting. In some cases, an infant may have a peculiar lavender color but show little distress. This syndrome can cause marked lethargy, excessive salivation, loss of consciousness, convulsions, and even death. Nitrate and nitrite are both forms of nitrogen. More information on this very serious health concern can be found through the State of Michigan Web at [www.michigan.gov/deqwater](http://www.michigan.gov/deqwater), select “Drinking Water,” then “Water Well Construction,” and then “Brochures and Fact Sheets” or through the link [www.deq.state.mi.us/documents/deq-wd-gws-wcu-nitratedrinkingwater.pdf](http://www.deq.state.mi.us/documents/deq-wd-gws-wcu-nitratedrinkingwater.pdf).
- **Sodium** may naturally be present in groundwater and is further introduced into the water supply through some water softeners. The American Heart Association recommends that people with a sodiumrestricted diet use a drinking water source with less than 20 mg/l (or parts per million, ppm).
- **Sulfates** usually are not a significant health hazard. Sulfates can have a temporary laxative effect on humans. Sulfates may also cause scaling in boilers and heat exchangers.
- **Hydrogen sulfide** is a gas with a rotten egg odor that can be naturally found in well water. It can cause black stains on laundry and black deposits on pipes and fixtures. A person can detect this gas in very small quantities through smell.

As previously mentioned, the best contact related to well water quality is your local health department. In addition, the State of Michigan collects some statewide data and may be contacted through the Environmental Assistance Center at 800-662-9278 and ask for the Water Division, Ground Water Section, Contamination and Investigation Unit.