



# FACT SHEET

OFFICE OF DRINKING WATER & MUNICIPAL ASSISTANCE – ENVIRONMENTAL ASSISTANCE CENTER 800-662-9278

## COLIFORM CONTAMINATION RESPONSE AND PREVENTION FOR NONCOMMUNITY WATER SUPPLIES

A noncommunity water supply, otherwise known as a type II water supply, serves any nonresidential facility that provides water for drinking or domestic purposes to 25 or more persons at least 60 days out of the year, or has 15 or more service connections. Examples would include motels, factories, schools, restaurants, campgrounds, churches, and businesses that have their own water supply and serve 25 or more people per day.

### What is the purpose of coliform sampling?

Coliform bacteria are found in the intestinal tract of humans and many animals. They are also found in soils and in large numbers in sewage and surface waters. They are used as an indicator organism because they are associated with sewage and other sources that may also harbor disease causing agents. Therefore, when found in drinking water, they signal a possible breach in the sanitary condition of the water supply and the potential for disease transmission.

Type II water supply owners are required under the Michigan Safe Drinking Water Act to sample for coliform bacteria on a frequency ranging from monthly to quarterly to annually depending upon the number of people served and the results of a sanitary survey (inspection) of the water system.

### What do the sample results mean?

The Department of Environmental Quality (DEQ) laboratory uses the following codes to report the results of bacteriologic water sample analysis:

ND (Not Detected) – Coliform bacteria are not detected in the sample. This result meets State bacteriologic water quality standards at the time of sampling. Water source/treatment must also meet construction and operation standards to assure continued safety.

POS (Positive) – Coliform organisms have been detected in the sample. The water supply may not be properly constructed, operated, or isolated from sources of contamination. Safety cannot be assured, and “repeat” samples are required.

EC POS (Fecal Positive) – Fecal coliform organisms have been detected in the sample. The water supply may not be isolated from sources of fecal contamination, and may be more likely to contain disease-causing organisms.

NOTE: Additional information may be included on the water sample result form which you will receive. Follow the directions provided on the bottom of the form.

### What happens if a sample shows the presence of coliform or fecal coliform bacteria?

The law is very specific on what you must do as the owner of a public water supply. If you receive a POS or EC POS coliform result, you are required to do the following:

1. Within 24 hours of receiving notification of a positive result, you must collect four “repeat” samples.
2. One of the four repeat samples must be collected from the same tap the original sample was taken from. Another sample is to be taken from the raw water sample tap closest to the well/supply. The remaining samples must be taken from adjacent locations if there are approved sample taps or these samples can be divided among the approved sample taps (original tap and raw water tap).
3. Five follow-up samples must be collected the month following the coliform positive result. Even if the four repeat samples were negative, you are still required to take the five follow-up samples the next month, unless this requirement is waived in writing by the local health department.

### Causes of coliform positive results

Poor handling/sampling technique - Handling any part of the interior of the cap or sample container could contaminate the container and yield a coliform positive result. Always ensure that the container is handled carefully and do not rinse the container.

Poor sample tap – The tap used for sampling purposes must be clean. Leaky faucets with or ones with filters or hoses attached should not be used. For routine sampling use a tap that is regularly used for drinking water purposes.

Failure to adequately flush the tap – You should run the cold water at full force for several minutes to insure that the water is not stagnant from sitting in the faucet and distribution piping.

Failure to disinfect after servicing the well, pump or distribution system – Disinfection is required any time the water systems is opened for repair or replacement of plumbing fixtures, pumps, installation of a water treatment or filtration device, etc. These activities may introduce bacteria into the well or distribution system, so disinfection is necessary. Well disinfection can be done only by a registered well contractor.

Failure to disinfect the water supply prior to opening the facility for the season – Water systems operated seasonally must disinfect the water supply and obtain two “nondetect” samples results prior to opening for the season. Failure to disinfect may result in a positive coliform result and is a violation of State law.

Defects in the well/water system – If the well casing or piping is damaged or the well cap is broken or loose contaminants may enter the water supply. It is important to carefully examine the wellhead to see that it is in good condition. Also, if the well is not constructed to current standards it may be a subject to contamination.

Contaminated aquifer – The water-bearing layer of the soil geology is called an aquifer. In some areas of Michigan there is little to no soil or solid rock protection over the aquifer, it may be very easy for contaminants or bacteria-laden surface water to penetrate into the drinking water supply. If that occurs, a new source may be required.

### **If you have a positive sample result, ask yourself these questions**

- Were poor sampling practices used?
- Were there recent repairs to the plumbing, or a water softener, water heater, pump replacement, additional pipes installed, etc., without disinfection?
- Has the system been opened for the season without disinfection?
- Has the well been hit by a vehicle, snowplow or lawn mower, or is the cap broken or loose?
- Is there an old improperly abandoned and improperly sealed well nearby, or has there been any activity near my well which could have contaminated it?
- Is my well vulnerable to contamination due to geologic conditions?

If the answer to any of these questions is “yes”, then you should be discussing this with your local health department representative immediately and take the appropriate action.

There may be other reasons why you may have received a coliform positive result. The environmental health staffs at the county/district health departments provide direct service to water supply owners in their jurisdictions. Questions regarding your coliform results or sampling requirements in general should be directed to your local health department.