

STATE OF MICHIGAN



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

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REPLY TO:

DRINKING WATER & RADIOLOGICAL
PROTECTION DIVISION
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August 7, 2000

TO: Water Well Drilling Contractors
Pump Installers

FROM: Michael S. Gaber, Chief
Well Construction Unit
Ground Water Supply Section
Drinking Water and Radiological Protection Division

SUBJECT: Coliform Bacteria in Well Water

Enclosed is a new Fact Sheet developed by the Department of Environmental Quality on **Coliform Bacteria and Well Water Sampling** and the brochure titled **Understanding Your Drinking Water Sample Results**. These publications are intended to provide the public with accurate information about the sources, health effects, and methods for eliminating coliform bacteria from wells. Additional copies can be obtained by using the enclosed order form.

It is important that well drilling industry personnel and public health officials give consistent information to well owners regarding the health implications of positive coliform bacteria water samples. Our office routinely receives phone calls from well owners with positive coliform bacteria samples. Occasionally, they remark that their well driller told them not to be concerned with the positive test results and that it was alright to drink the water of questionable bacteriological quality. **Do not become complacent about coliform bacteria. Telling your customer that coliform bacteria are harmless is inappropriate, could result in illness, and may have liability implications.**

Two recent devastating waterborne illness outbreaks serve as a reminder of the public health threat associated with coliform bacterial contamination. A virulent strain of coliform bacteria, *Escherichia coli* (O157:H7) was involved in a well contamination incident at a county fair in New York in 1999 that resulted in two deaths and over 1,000 illnesses. Another bacteria known as *Campylobacter* was also implicated in that outbreak. Two months ago the same *E. coli* strain caused an outbreak in Ontario, Canada, after town residents consumed tainted water from municipal wells while a chlorinator malfunctioned. The episode resulted in over 2,000 cases of illness and 6 deaths. The onset of illness associated with these outbreaks was characterized by symptoms that included nausea, vomiting, stomach cramps, fever and diarrhea.

Even though most coliform bacteria do not cause illness in healthy individuals, their presence in well water is a health risk that must be promptly addressed. If coliform bacteria are detected, other pathogens (disease-causing organisms) such as viruses, protozoans and certain noncoliform bacteria may also be present. Viruses, protozoans, and other microbial organisms can enter a well through the same means in which coliform bacteria enter and can originate from the same contamination sources.

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An EC-POS test result indicates the presence of E. coli, a pathogenic bacteria found in the intestinal tracts and feces of warm-blooded animals. Their detection in a water supply indicates sewage contamination. Other microbial species detected within the total coliform group, that are not typically associated with fecal contamination, can cause illness. Some are secondary pathogens, i.e., they typically do not affect healthy individuals but can cause illness in persons with compromised immune systems. Due to the cost and complexity of analyses, testing is not performed specifically for these noncoliform organisms.

Persons with confirmed coliform bacterial contamination of their well water should be advised to refrain from drinking the water until the problem is corrected and further testing demonstrates safety of the water. Prompt resolution of coliform bacterial contamination incidents is strongly advised.

If you have any questions, please contact our office at 517-335-8857 or your local health department.

MSG:ckp

Enclosures

cc: Local health departments
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