



Ottawa County Health Department

Water Wells: Frequently Asked Questions

The U.S. Environmental Protection Agency's rules that protect public drinking water systems do not apply to individual water systems. As an individual water system owner, it is up to you to make sure that your water is safe to drink!

Where does the drinking water in my home come from?

The drinking water that is supplied to our homes comes from either surface water or ground water. Surface water is collected on the ground, in a stream, river, lake, reservoir, or ocean. Ground water is obtained by drilling wells and is located below the ground surface in pores and spaces within rocks. A private well uses ground water as its water source. Owners of private wells and other individual water systems are responsible for ensuring that their water is safe from contaminants.

What are the main types of ground water wells?

According to the United States Environmental Protection Agency (EPA), there are three basic types of private drinking wells:

- Dug Well (http://www.epa.gov/safewater/privatewells/pdfs/basicinformation_dugwell.pdf)
- Driven Well (http://www.epa.gov/safewater/privatewells/pdfs/basicinformation_drivenwell.pdf)
- Drilled Well (http://www.epa.gov/safewater/privatewells/pdfs/basicinformation_drilled.pdf)

As a private well owner, should I have my well tested?

Yes, as a private well owner, you are responsible for ensuring that your well water is safe to drink. The EPA is responsible for making sure that the public water supply within the United States is safe. However, the EPA does not monitor or treat private well drinking water.

Who should test my well?

State and local health or environmental departments often test for nitrates, total coliforms, fecal coliforms, volatile organic compounds, and pH. Health or environmental departments, or county governments should also have a list of the state-certified laboratories in your area that test for a variety of water quality indicators and contaminants.

How do contaminants (germs and chemicals) get into my well water?

A private well uses ground water as its water source. There are many sources of contamination of ground water. Here is a list of the most common sources of contaminants:

- Naturally occurring chemicals and minerals (for example, arsenic, radon, uranium)
- Local land use practices (fertilizers, pesticides, livestock, animal feeding operations, biosolids application)
- Manufacturing processes
- Sewer overflows
- Malfunctioning wastewater treatment systems (for example, nearby septic systems)

When should I have my well tested?

You should have your well tested once each year for total coliform bacteria, nitrates, total dissolved solids, and pH levels. If you suspect other contaminants, you should test for those as well. However, spend time identifying potential problems as these tests can be expensive. You should also have your well tested if:

- There are known problems with well water in your area
- You have experienced problems near your well (i.e., flooding, land disturbances, and nearby waste disposal sites)
- You replace or repair any part of your well system.
- You notice a significant change in water quality (i.e., taste, color, odor)

My well water has a funny smell or taste; should I worry about getting sick?

Any time you notice a significant change in your water quality, you should have it tested. A change in your water's taste, color, or smell is not necessarily a health concern. However, a change could be a sign of a serious contamination problem.

What germs and chemicals should I test for in my well?

Several water quality indicators (WQIs) and contaminants that should be tested for in your water are listed below. A WQI test is a test that measures the presence and amount of certain germs in water. In most cases, the presence of WQIs is not the cause of sickness; however, they are easy to test for and their presence may indicate the presence of sewage and other disease-causing germs from human and/or animal feces.

Examples of Water Quality Indicators:

Total Coliforms: Coliform bacteria are microbes found in the digestive systems of warm-blooded animals, in soil, on plants, and in surface water. These microbes typically do not make you sick; however, because microbes that do cause disease are hard to test for in the water, "total coliforms" are tested instead. If the total coliform count is high, then it is very possible that harmful germs like viruses, bacteria, and parasites might also be found in the water.

Fecal Coliforms / Escherichia coli (E. coli): Fecal coliform bacteria are a specific kind of total coliform. The feces (or stool) and digestive systems of humans and warm-blooded animals contain millions of fecal coliforms. E. coli is part of the fecal coliform group and may be tested for by itself. Fecal coliforms and E. coli are usually harmless.

However, a positive test may mean that feces and harmful germs have found their way into your water system.

These harmful germs can cause diarrhea, dysentery, and hepatitis. It is important not to confuse the test for the common and usually harmless WQI E. coli with a test for the more dangerous germ E. coli O157:H7.

pH: The pH level tells you how acidic or basic your water is. The pH level of the water can change how your water looks and tastes. If the pH of your water is too low or too high, it could damage your pipes, cause heavy metals like lead to leak out of the pipes into the water, and eventually make you sick.

Examples of Contaminants:

Nitrate: Nitrate is naturally found in many types of food. However, high levels of nitrate in drinking water can make people sick. Nitrate in your well water can come from animal waste, private septic systems, wastewater, flooded sewers, polluted storm water runoff, fertilizers, agricultural runoff, and decaying plants. The presence of nitrate in well water also depends on the geology of the land around your well. A nitrate test is recommended for all wells. If the nitrate level in your water is higher than the EPA standards, you should look for other sources of water or ways to treat your water.

Volatile Organic Compounds (VOCs): VOCs are industrial and fuel-related chemicals that may cause bad health effects at certain levels. Which VOCs to test for depends on where you live. Contact your local health or environmental department, or the EPA to find out if any VOCs are a problem in your region. Some VOCs to ask about testing for are benzene, carbon tetrachloride, toluene, trichloroethylene, and methyl tertiary butyl ether (MTBE).

Other germs or harmful chemicals that you should test for will depend on where your well is located on your property, which state you live in, and whether you live in an urban or rural area. These tests could include testing for lead, arsenic, mercury, radium, atrazine, and other pesticides. You should check with your local health or environmental department, or the EPA to find out if any of these contaminants are a problem in your region.

For more information, contact the Ottawa County Health Department at 616-393-5645 or the EPA Safe Drinking Water Hotline at (800) 426-4791.

**Information reprinted from EPA (<http://www.epa.gov/safewater/privatewells/basicinformation.html>)