

# Protect Your Family

Test Your Well's  
Water Quality Today



A Guide to Water Quality  
Testing for Private Wells



# Private Wells

If you have a private well, then water quality testing should be important to you and your family.

Some contaminants in drinking water have been linked to cancer and toxicity, posing a risk to human health. Many contaminants often have no taste, odor, or color. Their presence can only be determined by laboratory testing.

While there is no state requirement to have your well water tested (although there may be from your mortgage lender or town), the New Hampshire Department of Environmental Services (DES) recommends that all homeowners with private wells do so.

# Contamination of Wells

Well water originates as rain and snow that then filters into the ground. As it soaks through the soil, the water can dissolve materials that are present on or in the ground, becoming contaminated.

Some contaminants are naturally occurring from features found in the rocks and soils of New Hampshire. These include substances like bacteria, radon, arsenic, uranium, and other minerals.

Other contaminants find their way onto the land from human activities. On a large scale, industrial / commercial activities, improper waste disposal, road salting, and fuel spills can introduce hazardous substances to the ground. However, even typical residential activities, such as the use of fertilizers and pesticides, fueling of lawn equipment, and disposal of household chemicals

can contaminate the ground when done improperly. That is why taking measures to protect your well from contamination is so important.

## **Recommended Tests**

The following tests identify common contaminants found in our state's well water. Although more tests could be added, this list provides a cost-effective, reasonable overview of a well's water quality. The total cost of all of the following tests is approximately \$235, depending on the laboratory used. *It is not necessary to do all of the tests at one time.*

### **💧 Standard Analysis**

This basic analysis covers the most common contaminants. Some of these contaminants pose health-related concerns, while others only affect aesthetics (taste and odor). (\$65).

### **💧 Radon**

Radon is a common New Hampshire well water problem. Presently, there are no federal or state standards for radon in drinking water, only suggested action levels. DES estimates that most private wells in New Hampshire exceed this level, so testing for radon is important. (\$20) [Note: you may also consider checking your indoor air radon levels.]

### **💧 Gross Alpha Screen**

Radioactive minerals, such as radium and uranium, may be dissolved in well water. A Gross Alpha Screen is a simple test to judge whether further testing for radium or uranium might be needed. (\$50)

# Contaminants & Testing Frequency

Standard Analysis	Cost*	Testing Frequency
Arsenic Bactera Chloride Copper Fluoride Hardness Iron Lead Manganese Nitrate/Nitrite pH Sodium	\$65	Every 3-5 yrs (except for bacteria and nitrate which are yearly)
<b>Radon</b>	\$20	Every 3-5 yrs
<b>Gross Alpha Screen</b> (bedrock wells only)	\$50	Every 3-5 yrs
<b>VOCs</b>	\$100	Every 5-10 yrs

\* DES laboratory costs as of 8/31/01

## 💧 Volatile Organic Compounds (VOCs)

The most common VOCs come from gasoline compounds (such as MtBE and benzene) and industrial solvents. MtBE can be found in well water even in remote areas. (\$100)

## 💧 Additional Tests

Circumstances relative to your well may require additional testing not described here. For instance, DES does not recommend routine testing for things like pesticides, herbicides, or synthetic organic compounds, mainly because of the high cost. However, such testing

might be warranted if your water has elevated nitrite/nitrate concentrations or significant amounts of pesticide have been applied near the well.

These less-routine tests may not be performed at all laboratories.

## **When To Test**

DES recommends that prospective homebuyers test the water in a home with a private well before purchase.

Water quality in wells is generally stable, and if a change is going to occur, it occurs slowly. Thus the interval between water quality tests, once you've purchased the home, can generally be in terms of years (see chart) if a well is properly constructed and located in a safe area.

However, the following conditions would prompt more frequent testing:

- Heavily developed areas with land uses that handle hazardous chemicals.

- Recent well construction activities or repairs. DES recommends taking a bacterial test after any well repair or pump or plumbing modification, but only after substantial flushing of the water system.

- Contaminant concentrations above state or federal standards found in earlier testing.

- Noticeable variations in quality like a water quality change after a heavy rain or an unexplained change in a previously trouble-free well (i.e. funny taste, cloudy appearance, etc.).

When taking any sample, DES recommends that it be taken after a heavy rainstorm. These events tend to highlight conditions of improper well construction or poor soil filtration.

## **What the Tests Tell You**

Results will reveal the level at which any of the tested substances were found in your water sample. The mere presence of these contaminants in well water does not necessarily imply that there is a problem. However, when levels exceed state or federal health standards, you should take steps to correct the situation. Several methods are available from commercial contractors to treat contaminated water. DES has informational documents on the web concerning all common water quality problems and their solutions.

## **For More Information**

For more information about water quality testing for private wells, including information about contacting certified laboratories in New Hampshire or about preventing well contamination, contact the DES Water Supply Engineering Bureau.

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**[www.des.state.nh.us/wseb](http://www.des.state.nh.us/wseb)**

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