

• Noticeable variations in quality -- e.g. 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, HEALTH 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 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.

You should contact a licensed well driller/pump installer for any well repairs or replacement. Several methods are available from commercial contractors to treat contaminated water. HEALTH has links to informational documents on the web concerning all common water quality problems and their solutions.

## Additional Testing Suggested

In addition to the regular testing suggested in this brochure, private well owners in East Greenwich, West Greenwich, Coventry, Exeter, western Cranston, Johnston and Scituate should consider testing for beryllium. Beryllium occurs naturally in the bedrock in these areas of Rhode Island. Many private wells in these areas produce water with beryllium in excess of the drinking water standard of 4 parts per billion (ppb).

A water softening system will help reduce beryllium levels in drinking water. Testing the water is the only way to know if it is present. You may need to place a special request for a beryllium analysis with the licensed lab you choose.

## For More Information

(401) 222-6867  
[www.health.ri.gov](http://www.health.ri.gov)



Natural Resource Sciences  
105 Coastal Institute in Kingston  
1 Greenhouse Road  
Kingston, Rhode Island 02881

**Test Your Well's Water Quality Today**

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Permit 19

## Learn More

**The URI Cooperative Extension Water Quality Program and the RI Department of Health offer educational programs that provide information on:**

- ◆ Regular Well Water Testing
- ◆ Well Construction and Maintenance
- ◆ Good Housekeeping Practices for Protecting Your Private Well

*All programs are 7-9 pm.*

**Tuesday, January 23, 2007**  
Western Coventry Elementary School  
Coventry, RI

**Thursday, May 31, 2007**  
Charlestown Town Hall  
Charlestown, RI

**For updates  
to the schedule see  
the calendar at:**  
[www.uri.edu/ce/wq](http://www.uri.edu/ce/wq)

**For more information  
and to register:**  
contact URI at  
(401) 874-5398

## Private Wells

If you have a private well as a drinking water source, 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 testing is required only at the time of sale of properties with non-public wells, the Rhode Island Department of Health (HEALTH) recommends that all homeowners with private wells test their water regularly. Testing should be performed at a laboratory licensed by the State of Rhode Island.

## Contamination of Wells

Well water originates as rain and snowmelt that filters into the ground. As it soaks through the soil, the water can dissolve contaminants that are present on or in the ground.

Some contaminants are naturally occurring from features found in the rocks and soils of Rhode Island. These include substances like bacteria, radon, beryllium, 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.

Many residential activities, such as the use of fertilizers and pesticides, fueling of lawn care equipment, and disposal of household chemicals can contaminate the ground when done improperly. An improperly maintained on-site residential septic system can pose a threat to your well. 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. It is not necessary to do all of these 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).

### ◆ Naturally Occurring Radioactive Elements

Dissolved radon is a common well water problem. Presently, there are no federal or state standards for radon in drinking water, only suggested action levels. HEALTH estimates that most private wells in Rhode Island exceed the suggested action levels, so testing for radon is important. Because the dissolved radon gas is released to the air during normal water use, you should consider checking your indoor air radon levels as well.

## Contaminants & Testing Frequency

Standard Analysis	Testing Frequency
*Bacteria *Nitrate/Nitrite Sodium	Yearly
*Fluoride *Iron *Lead *Manganese pH *Turbidity	Every 3-5 yrs
*Minimum requirements for property transfer.	
Radon Volatile Organic Compounds	Every 3-5 yrs Every 5-10 yrs

Naturally occurring 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.

### ◆ 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.

### ◆ Additional Tests

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

In deciding what additional tests to do, it is best to understand the history of land use at your property and the abutting properties. You may wish to inquire with neighbors, town officials and state agencies. This will help you to focus your list of the less routine items to test.

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

## When To Test

Recent regulations (still under development) require prospective homebuyers to 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 can be once per year for some items and less frequently for others (see chart), provided the 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. HEALTH recommends taking a bacterial test after any well repair or pump or plumbing modification, but only after disinfection and substantial flushing of the water system.
- Contaminant concentrations above state or federal standards found in earlier testing.