

Protect Yourself and Your Family's Health

A Guide to Drinking Water and Quality Testing for Private Wells

Pesticides and Herbicides

Routine testing for pesticides and herbicides associated with home lawn care and gardening and commercial agriculture is expensive, and may not be needed unless your home is located in an area with known problems. 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.

Volatile and Synthetic Organic Chemicals

The most common volatile organic chemicals (VOC's) include industrial solvents and gasoline compounds such as MTBE and benzene. Synthetic organic chemicals (SOC's) include a variety of carbon-based chemicals used in industry, some household products and agricultural formulations.

If your home is located in an area with gasoline stations, commercial industry, landfills, or agriculture, periodic testing for VOC's and SOC's may be appropriate for your well.

Arsenic

Arsenic is a naturally occurring metal that is toxic to humans and animals. While most areas of Connecticut may have little or no arsenic present in the groundwater, it is recommended that you have your well tested at least once to be sure that arsenic concentrations are below any levels of concern.

Lead and Copper

If your home was built before 1986, within the last five (5) years, or the pH (acidity) of your well water is below 7.0, you should test for lead and copper. Copper plumbing, certain brass fixtures and solder containing lead may be in your home.

Contact your local health department or the DPH Drinking Water Division for more information on how to properly sample for lead and copper.

What the Tests will tell you

Results will reveal the level at which any of the tested substances were found in your water sample. The mere presence of some 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. First, make sure that your well is properly constructed and sealed from the outside environment. If treatment is needed, contact a licensed commercial contractor to determine what water treatment options are available to treat the contaminated water in your well. The DPH Drinking Water Division website also has informational documents concerning all common drinking water quality problems and their solutions.

For More Information

For more information about water quality testing for private wells and preventing well contamination, contact the CT DPH Drinking Water Division:

Connecticut Department of Public Health

Environmental Health Section

410 Capitol Avenue, MS#51EHS

Hartford, CT 06134-0308

(860) 509-7293

www.dph.state.ct.us/BRS/Water/DWD.htm

You can also contact your local health department. To find a directory of local health departments, visit the DPH website:

www.dph.state.ct.us/Local_health/index.asp

For additional information on how to interpret the test results you can visit the Environmental Protection Agency's Groundwater and Drinking Water website:

www.epa.gov/OGWDW/mcl.html#mcls

Remember that maintaining, protecting, and periodically testing your private well all go hand-in-hand when it comes to protecting you and your family's health from drinking water contamination.

Private Wells

If you have a private well, then water quality testing should be important to you and your family. Periodic testing should be a normal part of routine household maintenance.

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

– so, just because your water looks, tastes and smells good, it may not be as safe to drink as you think.

Connecticut's private well regulations are contained in Public Health Code (PHC) Section 19-13-B101. Water quality testing and reporting required by these regulations generally applies to new well construction or the sale of a home with an existing well. Periodic water quality testing is recommended to all private well owners in addition to the testing required by Connecticut's private well regulations.

Contamination of Wells

Well water originates as rain, and snow that melts, and filters into the ground. As it soaks through the soil, the water can dissolve materials that are present on or in the ground. Some of these minerals and other man-made substances can cause groundwater contamination.

Some contaminants are naturally occurring from features found in the rocks and soils of Connecticut. These include substances like bacteria, radon, arsenic, uranium, and other minerals such as iron and manganese.

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.

Steps to Protect Your Well

Steps you and your family members can take to protect your well include:

- Know where your well is located
- Be sure that the well has a cap or sanitary seal to prevent unauthorized use of, or entry into, the well
- Periodically inspect exposed parts of the well for problems such as:
 - cracked, corroded, or damaged well casing;
 - broken or missing well cap
 - cracking of surface seals
- Slope the area around the well to drain surface runoff away from the well
- Do not cut off the well casing below the land surface
- Hire a certified well driller for any new well construction, modification, or abandonment
- Avoid mixing or using pesticides, fertilizers, herbicides, degreasers, fuels, and other pollutants near the well
- Do not dispose of wastes in dry wells or in abandoned wells
- Pump and inspect septic systems as often as recommended by your local health department
- Never dispose of hazardous materials in a septic system
- If you have a dug well, it is very important that the well is properly protected from surface water infiltration commonly associated with poor construction or disrepair and from the entry of insects and rodents

Recommended Tests

All drinking water well testing should be done by a Connecticut certified environmental laboratory. A list of state certified laboratories is available from the CT DPH Environmental Laboratories Certification Program at (860) 509-3789.

The following basic tests can identify common contaminants in your well water:

- Total coli form bacteria
- Sodium
- pH, color and turbidity
- Hardness
- Iron and manganese
- Chloride
- Nitrite/Nitrate
- Sulfate

Although more tests could be added, this list provides a reasonable approach to determining the overall water quality of your private well.

To be certain of the general quality of your well water, the Department of Public Health (DPH) recommends that you have your well tested annually for:

- Total coliform bacteria
- Nitrite/Nitrate
- pH, color and turbidity

Every few years, consider additional tests to cover other contaminants of concern.

Other Contaminants

Radon, a naturally occurring radioactive gas, is common in some areas of Connecticut. Presently, there are no federal or state standards for radon in drinking water, only suggested action levels. Before you test your well for radon, the DPH recommends that you test your home's indoor air for radon. If indoor air radon levels are detected, you should contact the DPH Radon Program to discuss whether the levels pose any risk. Although concentrations of radon in your air presents a much higher health risk, we also recommend testing your well water for radon, even if low amounts of radon are found in your air. For more information on indoor air radon testing, please call the **DPH, Radon Program at (860) 509-7367**.