



keeping your well, *well*

## Testing your well



***For more information, contact:***

Department of Ecology Lab Accreditation Program: (360) 895-6145

<http://www.ecy.wa.gov/programs/eap/labs/search.html>

Thurston County Public Health Department

Environmental Health Division, (360) 867-2673

<http://www.co.thurston.wa.us/health/ehdw>

TDD Line for hearing impaired, (360) 754-2933

- ◆ **Water is the universal solvent.** It picks up and dissolves many things in its path. Minerals and other impurities give water its flavor. But we have to make sure that these “added ingredients” are safe to drink. As rainwater, water from septic systems and other surface water soak into the ground, some contaminants in the water are filtered out by the soil. However, the effectiveness of this natural purification process depends on the type of soil and the distance the water travels before reaching the water table. Water also picks up materials from the soil as it passes through.
- ◆ **Well owners should regularly test their water to make sure that it is safe to drink.** Community and municipal water suppliers are required by law to test for contaminants, however, individual well owners are responsible for testing their own water. The following table has information about common contaminants in our area and when and how to test for them.
- ◆ **Even if you currently have safe water, the quality of your water can change.** Regular testing will help you detect contamination problems early. It also establishes a water quality history, helpful in comparing future test results and providing proof if someone damages your water supply.
- ◆ **You cannot use your neighbor’s test results to determine the water quality in your well.** Wells side by side may draw water from separate aquifers. Your home plumbing system and your well’s design and location also affect the quality of your water.
- ◆ **In addition to the tests shown here....**Well owners who live in agricultural areas or use home pesticides may want to contact the Thurston County Environmental Health Division about testing for pesticide contamination. Well owners who have home heating-oil or fuel tanks, live in industrial areas, or live near businesses such as gas stations, dry cleaners, metal platers or a landfill may want to test for related contaminants. The Thurston County keeps a map of known soil and ground water contamination sites and high contamination risk areas in the county. You may want to find out if you live in or near any of these areas. Call the Thurston County Environmental Health Division for more information.

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Type of Test	Description	Effects	When to Test	Cost	Where to Test	Maximum Contaminant Level (MCL)
<b>Regular tests:</b>						
Coliform bacterial	The presence of coliform bacteria in drinking water indicates potential contamination from a number of sources, including human or animal feces—the most common sources of water-borne illnesses.	If your water has any coliform bacteria, you will need to disinfect it before drinking it. Organisms in the water could cause illnesses ranging from diarrhea to hepatitis.	<b>Test at least once a year and after major plumbing or well maintenance work.</b> (Test more frequently if your well is shallow, is a dug well, is more than 20 years old, or you have an open storage reservoir.) Other reasons to test: -If flooding occurs near your well. -If your water has a questionable color, taste or odor. -If you suspect contamination from human or animal waste.	\$27	Thurston County Health Dept.	Coliform present (unsatisfactory) or coliform absent (satisfactory)
Nitrate	Nitrate is a compound formed when nitrogen combines with oxygen. It can be produced by plants, but is more commonly an indicator of contamination from septic systems, livestock facilities, fertilizer, urban runoff, and waste water.	Nitrate interferes with the blood's ability to carry oxygen to vital body tissues. It can cause a rare illness called methemoglobinemia or "blue baby syndrome" in infants and susceptible adults. Severe cases can result in brain damage or death.	<b>Test every three years.</b> Test annually if results indicate 5 mg/L or more of nitrate in your water. Drinking-water supplies used by pregnant or nursing women or by babies under 1 year old should be tested during the early months of pregnancy, before bringing the infant home, and again during the baby's first six months.	\$27	Thurston County Health Dept.	10.0 mg/L
<b>New homeowners or as indicated:</b>						
pH	pH is an indicator of acidity and alkalinity.	Water that is below pH 6.5 may corrode your plumbing—releasing lead, copper or other harmful metals into your water. Water that is above pH 8.5 may build up deposits in your water heater and plumbing fixtures.	<b>Test if you are a new homeowner or to investigate metallic taste or color problems.</b> If your pH is below 6.5, check with the Thurston County Health Department about testing your water more frequently.	\$10-20	State-accredited lab	pH is measured as a value between 0 and 14. A neutral pH is 7. Values below pH 6.5 (acidic) and above pH 8.5 (alkaline) may cause problems.
Conductivity	Conductivity is an indicator of dissolved minerals and metals	Effects depend on the type of metal or mineral causing the high conductivity.	<b>Test if you are a new homeowner or to investigate taste or color problems.</b> If conductivity increases over time, you may want to test for specific minerals or metals.	\$10-25	State-accredited lab	700.0 umhos/cm (above this level indicates more testing needed)
Total Dissolved Solids (TDS)	TDS is a measure of organic and inorganic substances dissolved in water. It is used to indicate an increase in one or more contaminants. Natural or human activities such as mining or drilling may disturb the ground and cause more materials to dissolve in the ground water. Road or home-pavement salting, improperly lined landfills, junk yards, industrial activities and chemical spills all may lead to increased TDS concentrations.	High TDS may result in offensive odors, tastes, colors and health problems.	<b>Test if you are a new homeowner or your water's smell, taste or color changes.</b>	\$15-30	State-accredited lab	500.0 mg/L

Type of Test	Description	Effects	When to Test	Cost	Where to Test	Maximum Contaminant Level (MCL)
Iron <sup>3</sup>	Iron is a naturally occurring metal that can be picked up from the soil or dissolved in water through pipe corrosion.	Iron and the bacteria that feed on iron can cause a bad taste and odor, and may discolor your laundry, plumbing fixtures or hair.	<b>Test if you are a new homeowner or have taste, smell or staining problems.</b> Iron stains or enameled fixtures and laundry are reddish or rust-colored. (You may want to test for iron if conductivity increases.)	\$10-30	State-accredited lab	0.3 mg/L
Manganese	Manganese is a naturally occurring metal that can be picked up from the soil.	Manganese can cause a bad taste and odor, and may discolor your laundry, plumbing fixtures or hair.	<b>Test if you are a new homeowner or have taste, smell or staining problems.</b> Manganese causes grey or black stains on laundry and enameled fixtures. (You may want to test for manganese if conductivity increases.)	\$10-30	State-accredited lab	0.05 mg/L
Copper <sup>3</sup>	In Thurston County, copper contamination usually is caused by water with a low pH corroding copper pipes.	Copper may discolor your plumbing fixtures or hair, and can cause nausea, vomiting and headaches at concentrations at or above 5.0 mg/L	<b>Test if you are a new homeowner, have recently repaired your well or plumbing, or have staining problems</b> —usually blue or greenish-blue stains on enameled fixtures. (You may want to test for copper if conductivity increases.)	\$10-30	State-accredited lab	1.3 mg/L (federal action level)
Lead <sup>3</sup>	Gasoline, paint, solder, lead pipes, tannery work and certain types of well pumps all are sources of lead contamination.	Drinking lead-contaminated water can cause damage to the blood, nervous system, kidneys, brain and sex organs.	Test if you are a new homeowner or have recently repaired your well or plumbing. (You may want to test for lead if conductivity increases.)	\$15-35	State-accredited lab	0.015 mg/L (federal action level)
<b>Residents in saltwater shoreline areas:</b>						
Chloride	Chloride can come from natural deposits, saltwater intrusion into the water table, road and home-pavement salting, and septic systems.	Too much chloride tastes bad and may corrode your pipes—releasing lead, copper or other harmful metals into your drinking water. Chloride may indicate the presence of sodium, which can cause health problems including high blood pressure.	Test wells in saltwater shoreline areas if you are a new homeowner or have never tested your well. Indicators of high chloride content include a salty taste, discoloration of your water, and irrigated plants around your home withering and dying. (You may want to test for chloride if conductivity increases.)	\$10-30	State-accredited lab	250.0 mg/L
<sup>1</sup> These are approximate costs at labs in the Puget Sound region as of December 2009. Some labs have a minimum charge for only one test. <sup>2</sup> The maximum contaminant level (MCL) is the highest allowable level of a contaminant in drinking water. Most contaminants are measured in milligrams per liter (mg/L) or parts per million (ppm). 1 mg/L = 1 ppm <sup>3</sup> More detailed information about these and other toxic substances in drinking water is available from the Washington State Department of Health, Office of Drinking Water, <a href="http://www.doh.wa.gov/ehp/dw">www.doh.wa.gov/ehp/dw</a> or at (360) 236-3100						