Most water in North Carolina is suitable for drinking and other home uses. There are, however, circumstances which can lead to contamination of water supplies. The question of whether or not to test your water is a serious one which concerns the health of you and your family. The purpose of this fact sheet is to give you general guidelines to follow when deciding to test your home water quality.

Half of North Carolina residents are served by public water supplies (more than 15 connections or 25 people served by the same water source). The other half receive water from private systems, most of which are wells. Public water supplies are regularly tested for such contaminants as pathogenic organisms, radioactive elements, and some toxic chemicals regulated by federal and state standards. Municipal water supply systems will provide water quality reports upon request. Even if you have public water, it is possible to have contamination due to contact with pipes or inadequate water treatment facilities.

Private Water Supplies

If you have a private water supply, you alone are responsible for assuring that it is safe. Routine testing for a few common contaminants is strongly recommended, especially if your well is located near some pollution source. Even if you have a safe water supply now, regular testing is wise because it establishes a water quality record. This record will be valuable in the future if your water quality is damaged by some activity near your well.
Routine testing of private water supplies should follow these general guidelines:

- Test for coliform bacteria, nitrate, pH, and total dissolved solids (TDS) every year. The best time to test is during the spring or summer following a rainy period. These tests are also recommended after repairing or replacing a well, pump, or plumbing system.
- Test for sulfate, chloride, iron, manganese, lead, and hardness every three years.

In addition to routine testing, you may have special circumstances which make contamination of your private water supply more likely. If any of the following situations applies to you, consider having your water tested:

- You live near a dump, landfill, factory, or dry cleaning operation: Test for volatile organic compounds (VOCs), pH, total dissolved solids, chloride, sulfate, and metals.
- You live near an old underground storage tank or your water smells like gasoline: Test for petroleum components and volatile organic compounds.
- You live near a mining operation: Test for iron, manganese, aluminum, corrosivity, and pH.
- You live near a gas-drilling operation: Test for chloride, sodium, barium, and strontium.
- You live near seawater or a heavily salted roadway and your water tastes salty: Test for chloride, total dissolved solids, and sodium.
- You live in an area of intensive agriculture: Test for pesticides commonly used near the well, bacteria, nitrate, pH, and total dissolved solids.
- You are expecting a new baby: Test for nitrate early during pregnancy and just after the baby is born.

---

**All Water Supplies**

Whether you have a public or private water supply, have your water tested if the following situations are applicable to you:

- You are planning to purchase a new home and wish to evaluate the water quality: Test for coliform bacteria, nitrate, lead, iron, hardness, pH, sulfate, total dissolved solids, corrosivity, and other parameters depending on the proximity to potential contamination sources.
- Your water leaves scaly residue and soap scum and decreases the cleaning action of soaps and detergents: Test for hardness. If a water softener is needed to treat hard water, test for iron and manganese, which decrease the efficiency of cation exchange softeners, before purchasing treatment equipment. Test for lead after purchasing a water softener.
- Your water appears cloudy, frothy, or colored: Test for color, turbidity, and detergents.
- Your plumbing contains lead pipe, fittings, or solder joints: Test for pH, corrosivity, lead, copper, cadmium, and zinc.
- Your plumbing fixtures or laundry are stained, or plumbing shows signs of corrosion: Test for pH, corrosivity, iron, manganese, copper, and zinc.
Water Quality Laboratories

If you determine that your water should be tested, contact a reputable water quality laboratory to discuss prices and procedures. Private laboratories are listed in telephone books. Your County Extension Office can provide you with a list of certified water quality laboratories in North Carolina. You may also contact your County Health Department about testing your water. Water treatment equipment companies and plumbing supply stores may offer free water testing. Check any water quality problems identified by these companies with an independent laboratory before investing in treatment systems or new plumbing.

Most laboratories supply their own sample containers and provide detailed instructions for sample collection. The instructions must be followed carefully for a meaningful water quality assessment. Keep a record of all water test results as a reference for future testing. Changes in water quality over time may indicate a problem you can address before it becomes more serious. Take previous water test results with you when visiting a private laboratory, County Health Department, or County Extension Office to discuss the status of your water quality.