

To Avoid Trouble

- ✓ Perform an annual sanitary analysis (coliform bacteria and nitrate-nitrogen) to determine if unsafe conditions develop.
- ✓ Maintain your private well in good condition and avoid damaging the well with vehicles and trailers.
- ✓ Be sure the well cap is properly attached and in good condition.
- ✓ Keep hazardous chemicals away from your well.
- ✓ Do not construct a deck or building over a well. Be sure that additions to your home and alterations to the septic system meet the minimum isolation distances of the Minnesota Well Code.
- ✓ Modern wells must be maintained with the casing extending at least 12-inches above ground. Minnesota law prohibits anyone from burying a well.
- ✓ Do not totally enclose a well under a cover that can be a harborage for animals and may support the growth of bacteria.
- ✓ If purchasing a home with a private well – test the safety of the water before drinking.

TESTING YOUR PRIVATE WATER WELL



COMMUNITY HEALTH &
ENVIRONMENTAL SERVICES DEPARTMENT
360 GOVERNMENT CENTER
2100 THIRD AVENUE
ANOKA, MN 55303-2264
763-422-7063



The Groundwater Foundation has recognized Anoka County's *Well Water Wise* program as a Groundwater Guardian project providing result oriented services to private well owners.

Introduction

Safe drinking water is an important part of a healthy home. To ensure the safety of a private well the water must be tested regularly.

Approximately 69 percent of Anoka County residents are served by municipal/public water utilities that are required to perform regular testing under the Safe Drinking Water Act (SDWA). In addition, the Minnesota Department of Health performs inspections and testing of public water systems.

Over 30 percent of County residents are served by a private water well installed on their property. SDWA does not cover private water wells. It is the choice and the responsibility of a private well owner to ensure the safety of their drinking water.

Annual Sanitary Analysis Test Recommended

The appearance of water is not a reliable means of determining whether it is safe to drink. The Community Health and Environmental Services Department recommends that private well owners perform an annual "sanitary analysis" test of their drinking water supply. A sanitary analysis determines whether coliform bacteria are present and the concentration of nitrate-nitrogen in a water sample.

The Minnesota Department of Health has established Health Risk Limits (HRL) for drinking water contaminants. Private well owners are not required to test or comply with the HRL standards. But residents are encouraged to use the standards to determine the safety of their drinking water.

Coliform Bacteria: A variety of bacteria and parasites can cause illness when present in drinking water. Private well water is not treated with chlorine to inhibit the presence of bacteria. Testing for all disease causing microbes is difficult and costly. But testing for total coliform bacteria is a good indicator of whether the water possibly contains disease-causing bacteria.

Health and Coliform Bacteria: The presence of coliform bacteria in a water sample indicates the potential that the well may not be safe to drink. The bacterial Health Risk Limit (HRL) for a drinking water supply is that it be free of coliform bacteria.

Nitrate-Nitrogen: Nitrate is a tasteless, odorless, and colorless chemical compound containing nitrogen and oxygen atoms. The nitrate compound is commonly measured and expressed as nitrate-nitrogen (NO₃-N). Nitrate-nitrogen readily dissolves in water and is transported with migrating groundwater. Many other potential contaminants dissolve to a lesser degree and resist being moved by groundwater. That is why annual well water tests indicating increased nitrate-nitrogen concentration are regarded as an early sign of deteriorating groundwater quality and drinking water safety.

Health and Nitrate-Nitrogen: Excessive nitrate-nitrogen in drinking water poses a risk to infants less than six months old. If an infant is fed high nitrate-nitrogen water or if formula is made with the water, a condition called "blue baby syndrome" (or methemoglobinemia) can develop. The capacity of the infant's blood to carry oxygen is reduced. As the condition worsens, the baby's skin turns a bluish color, particularly around the eyes and mouth. Methemoglobinemia has been known to occur after just one day. Pregnant women and people with certain stomach and blood disorders may also be susceptible.

The Health Risk Limit established for nitrate-nitrogen is 10 milligrams per liter (mg/L). This HRL standard addresses the potentially serious and rapid impact to infants and susceptible persons.

Maintain the Well to Deliver Safe Water

Modern drilled wells require remarkably little routine maintenance. In 1972 the Minnesota Department of Health established a Well Code with minimum construction standards and requiring well contractors (drillers) to be licensed. After the well is constructed, it is the responsibility of the private well owner to maintain their well.

The well casing should extend at least 12-inches above land surface to separate the well vent from soil and contaminants. Protect the top of the casing from damage, especially from bumping with cars and trailers that can damage the casing and cap. Be sure that the cap is securely fastened and in good condition. The electrical wire conduit passing through the well cap should be properly sealed. Disinfect the well with chlorine any time it is opened for service.

For older wells located inside the home (often in a basement-offset room) the area around the well should be protected from flooding. Be aware of changes in the area around the well and changes in the quality of your well water. Changes in smell or color can tip you off to potential problems.

Water Testing Service and Certified Labs

A laboratory certified by the Minnesota Department of Health must be used to accurately determine the drinking water safety of your private water well.

The Community Health and Environmental Services Department provides testing services by a certified laboratory. A kit, provided by the Department, must be used to collect the water sample. The water test kit may be obtained by calling 763-422-7063 or stopping by:

Anoka County Environmental Services
360 Government Center
2100 Third Avenue
Anoka, MN 55303

Water samples are normally accepted on Mondays (8:00 – 4:15) and Tuesdays (8:00 – noon). Samples are not accepted on holidays. If a holiday occurs on a Monday or Tuesday - please call before collecting and submitting your sample. When submitting a sample you will be charged a laboratory fee for the sanitary analysis. If you would like your water analyzed for other components (e.g. fluoride, arsenic, lead), call the Environmental Services unit at 763-422-7063.