

Water Testing Requests/Procedure

March 2011

The Guthrie County Environmental Health Dept. provides water testing of private wells within the County. The State recommends that owners of private wells that use them as drinking water sources should test the well approximately once per year. Contamination of wells is a very common problem that can lead to illness.

In Iowa, most of the groundwater aquifers are safe from bacteria. Some of the very shallow sand and gravel beds may be contaminated by surface waters that would cause bacteria to be present in the water. Nitrates do infiltrate into the groundwater from fertilizers, livestock waste, and natural decomposition of organic matter.

We have money from the State to do this water testing for several basic things. The Grants To Counties program provides funding to test for three parameters: (1) total coliform bacteria, (2) fecal coliform bacteria, and (3) nitrates. There is a nominal fee of \$20.00 charged by Guthrie County to do this test for you.

Our staff will collect the sample, look at the well and water system, mail the sample, provide the results, and answer any questions that you have for this \$20.00 fee. The State reimburses the Dept. for some of our other costs. Results are received from the University Hygienic Laboratory (Iowa City) in about a week. It should be stressed that these tests are for informational purposes only and this department will NOT require any property owner to make any corrections, condemn the well, etc. The information is provided so the owner can decide what, if anything, is to be done.

Coliform bacteria are a large group of bacteria that are present on almost all surfaces and in the soil. It is an easy, cheap test to do. Since no bacteria should get into your well, this universally found bacteria is tested for. If it is present in the well, it is an indicator that the well is not properly constructed. Fecal coliform bacteria are ones that are present in the intestines of warm-blooded mammals. These bacteria die off quickly so if the test is positive for these bacteria then the well has a fast pathway for contamination. Also, these bacteria are often disease-causing.

Nitrates are ions composed of nitrogen and oxygen and are from organic decomposition and fertilizers. In excess concentrations, nitrates can cause illness in infants below six months of age. The safe level is considered to be 45 ppm. There is no level that is considered unsafe for humans over six months of age but as the nitrate level increases it would be reasonable to be concerned that the aquifer could be letting other contaminants in as well.

This Dept. will also conduct other water tests for you upon request. Tests can be done for iron, arsenic, etc. as well as pesticides and herbicides. Petroleum by-products can be checked as well as many other parameters. These tests will be billed to you at whatever the cost of the test is PLUS a \$25.00 charge to help cover this Dept.'s costs. Contact us and we'll then order the appropriate testing bottles.

Anyone wanting a regular water test can call our office to arrange a time for us to collect the sample. Normally, the sample can be collected within a day or two of the request. You'll be asked some questions and the well will be looked at so that we can better answer your questions when the test results come back. Also, the State is

collecting general data on wells in Iowa to learn how many and what types of wells are in the State.

When the results are received from the UHL, we will forward them to you. Then if you have questions about those results, we will help you. You might want to consider disinfecting the well, renovating the well, putting on continuous disinfection, etc. We are available to help you with these things.