

IOWA DEPARTMENT OF NATURAL RESOURCES

LEADING IOWANS IN CARING FOR OUR NATURAL RESOURCES

Iowa Private Well Program

Understanding Your Water Testing Report

Water testing is an important part of using a private water supply well. Unless you regularly test your water supply, you will not know if the water is safe to consume. Water that looks clear and tastes great may still be unsafe to drink.

At a minimum, all well users should test their water supply at least once a year, and more often if you know your well is old, finished in a shallow aquifer, or when a previous test indicates the well has water quality problems. Once you have test results, here's how to determine your next steps.

Interpreting results

The lab often has your analysis report available a few days after receiving your sample and will usually provide you a copy of the report. Check with your lab for reporting options.

While there are no formal drinking water standards for private wells, U.S. Environmental Protection Agency (EPA) guidelines for public water supplies provide a good baseline for your water supply.

These guidelines typically use Maximum Contaminant Levels, or MCLs, as a measure. An MCL is "the maximum permissible level of a contaminant in water which is delivered to any user of a public water system." Although these standards are not enforceable for private water supplies, they can help determine if your water is safe.

Additional information on water testing, MCLs and health effects can be found at <http://water.epa.gov/drink/contaminants>.

For **Total Coliform Bacteria** the result should be absent, or zero. If the result is present, or a number greater than zero, the lab will also test the sample for *E. coli* bacteria. The presence of *E. coli* in the water indicates fecal contamination from a human or animal source in the well water and/or water system. Microbes in these wastes can cause short-term health effects such as diarrhea, cramps, nausea, headaches and other symptoms. Microbes may pose a special health risk for infants, young children, seniors and people with severely compromised immune systems.

The presence of Total Coliform Bacteria indicates a possible problem with the well or water system. Coliforms are bacteria that occur naturally in the environment and indicate that other, more potentially harmful bacteria may also enter the water system. When you find coliforms in the water, you need to find how they entered the well. Have a certified well contractor inspect the well and water system for defects, correct those defects, shock chlorinate the well to sanitize the water system and take a second water test.

For **nitrate nitrogen**, the result should be 10 mg/L or less when tested for nitrate nitrogen (NO₃-N) or 45 mg/L or less when tested as nitrate (NO₃). The "mg/L" is a weight per volume measure, called milligrams per liter, which is also sometimes reported as parts per million, or ppm. Well water containing nitrate at levels above the MCL should never be given to infants less than six months old, as it can cause a potentially fatal disease called "blue baby syndrome." There are also indications that nitrate levels exceeding the MCL may lead to other health issues. More research is needed.

Arsenic levels should be 0.010 mg/L, or 10 micrograms per liter (µg/L), or less. This MCL is based on the average person consuming 2 liters of water a day for a lifetime. Long term exposure to drinking water with arsenic levels higher than 10 µg/L increases your risk for chronic health issues like cancer.

Other testing. If you have your water tested for other contaminants and the lab reports a positive result in any area tested, it means that a contaminant is present. You should confirm whether the reported level is within the EPA MCL.



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