

Darien Health Department Recommended Well Water Sampling Guidelines

When conducting tests for well water quality, it is important to ensure that the collection process minimizes the potential of sample contamination. You need to have special bottles for sampling; these can be obtained from the laboratory that would perform the test. The lab should also provide you with some guidance for proper sampling techniques. When sampling for bacteria, an aseptic (pathogen free) sampling technique must be followed and variables that would affect water quality must be eliminated where possible. Additionally, we would like to offer the following as a suggested procedure to be followed when taking water samples:

A. Bacteriological testing

1. Contact any certified laboratory and obtain the required sterile containers and sampling procedure.
2. Wash your hands prior to opening the sample bottles.
3. The sample should be taken without having been filtered or treated. Collect the sample before any filters or water treatment devices that are installed, or bypass them. If you are unable or unsure of how to do this, the laboratory should collect the sample.
4. Remove any aerators from the faucet. Do not collect the sample from the kitchen sink sprayer or any hoses.
5. Let the water run for 4–5 minutes to flush the water pressure tank and distribution line so that the water is coming directly from the well.
6. When collecting the sample, do not touch the inside of the cap or the top of the sample bottle – touching them may contaminate the sample.
7. Leave an air space of approximately 1” at the top of the bottle.
8. Replace the cap immediately and place the sample bottle in the refrigerator or an ice chest with ice. The sample must be kept cold at all times and brought to the laboratory immediately after collection.
9. If coliform bacteria are present in the water, the well and water system should be evaluated, disinfected, suspected deficiencies corrected, and then retested for bacteria after all the chlorine is out of the system.
10. If bacteria are still present, a well professional should be contacted to inspect the well and water system to determine the cause of the bacterial contamination.

B. Chemical and Physical tests

1. Contact any certified laboratory and obtain the required containers and sampling procedure.
2. If there are any filters or water treatment devices, two samples should be taken: one before and one after the filters or water treatment devices.
3. Remove any aerators from the faucet.
4. Let the water run for 4–5 minutes to flush the water pressure tank and distribution line so that the water is coming directly from the well.
5. At a minimum, the sample should be analyzed for nitrate, sodium, chloride, iron, manganese, hardness, turbidity, pH, sulfate, apparent color, and odor.

Once the tests are completed, you are faced with interpreting any positive results. **The presence of a contaminant is not always an indication of a health hazard or a serious nuisance. You can discuss your results with a certified laboratory, the Darien Health Department, or the Connecticut Department of Public Health (CTDPH).** If the well is in a pit, check to see if the pit is flooded and if water is running into the well casing via the vent or electric conduit. Perhaps the well doesn't even have a sanitary seal or it may be completely buried. If the well has such flaws, it should be brought up to present regulatory standards and disinfected before any water sampling is done. Buried wells or wells in flooded pits should have the casings extended to at least 6” above the existing grade. Allowing these conditions to continue to exist, even with good bacteriological results could result in future problems. Remember, a bacteriological sample must be representative of untreated or raw well water only.

For additional information, please consult the following:

Darien Health Department- (203) 656-7320 - www.darienhealth.com

CT Dept. of Public Health Private Well Program - <http://ct.gov/dph/>, click on 'Programs and Services', click on 'Private Wells'

Water Systems Council - <http://www.watersystemscouncil.org/>

List of Certified Labs – <http://ct.gov/dph/>, click on 'Programs and Services', click on 'Environmental Laboratory Certification'

Well Disinfection Procedure - http://www.ct.gov/dph/lib/dph/drinking_water/pdf/Well_Disinfection.pdf

EPA guidance on private wells for Realtors - <http://www.epa.gov/NE/eco/drinkwater/pdfs/realtorprivatewell.pdf>