

State of New Hampshire
Department of Environmental Services
29 Hazen Drive POB 95
Concord NH 03302-0095
(603)271-3445 (603)271-2997 (fax)

WATER TESTING GUIDE

We are providing this packet of information to help you choose the appropriate water test for your home and to assist you in taking a proper water sample. The document SUGGESTED WATER QUALITY TESTING FOR HOMEOWNER WELLS provides a general description and educational information to help you consider which test would be most useful. This page contains the WATER TESTING GUIDE providing descriptions of the common water tests available from the Department of Environmental Services (DES) Laboratory and a list of available FACT SHEETS, INSTRUCTIONS for collecting the sample and a WATER TEST SUBMITTAL FORM that must be completed and submitted with your sample are on the third sheet. If you have any questions on which test to choose or on how to complete the submittal form, please feel free to call the laboratory at 271-3445. If sampling for a home mortgage, call the lender to identify the specific water quality tests they require. If sampling to obtain a food, daycare, or other license, check with the program for water testing requirements.

STANDARD ANALYSIS – This is the primary analysis made on new wells and springs in order to evaluate their water quality including some aesthetic related parameters. We also recommend this test if you observe any of the following: staining of sinks, tubs, or laundry; scaling or chalking residue on hot water pipes; salty or metallic taste. The cost for this analysis is \$85. A report of your water quality will be sent to you upon completion of the analysis (generally this takes 3-4 weeks). However, if bacteria are found, we will send you a letter describing the problem along with instructions for disinfecting a well. The STANDARD analysis includes the following tests:

Total Coliform Bacteria	Chloride	Iron	Lead (both stagnant and flushed)
<i>E. coli</i> Bacteria	pH	Manganese	Copper (both stagnant and flushed)
Nitrate	Hardness	Sodium	Uranium
Nitrite	Fluoride	Arsenic	

BASIC ANALYSIS (BCN) – This test is recommended as a periodic check of acute health related parameters after a Standard Analysis has been completed. The cost for this test is \$30 and includes: Total Coliform Bacteria, *E. coli* Bacteria, Nitrate, Nitrite, and Chloride.

DRINKING WATER BACTERIA – This test should be chosen as a follow up to the Standard Analysis or BCN if bacteria were detected in your first test. The cost for this test is \$15 and includes: Total Coliform Bacteria and *E. coli* Bacteria.

SWIMMING WATER BACTERIA – Performed by a different method from the drinking water bacteria, this test gives an actual count of *E. coli* Bacteria in surface water. The cost for this test is \$20.

RADIOLOGICAL ANALYSIS – New Hampshire’s bedrock geology contains naturally occurring radioactive elements. Examples include uranium, radium, thorium, and polonium as well as radon, a gas produced by the breakdown of radium. The radioactive elements dissolve easily in water and they emit alpha particles. Bedrock (Artesian) wells have more of a potential for encountering any or all of these elements than dug wells. The cost for the radiological analysis is \$80 and includes the following tests: “Analytical” gross alpha (consisting of the total gross alpha activity, i.e. the sum of uranium, radium, and other alpha emitting elements); radon gas; and uranium as mass (weight). Depending on the results of these analyses, additional testing may be recommended to determine the activity from radium and/or isotopic activity of uranium. Some mortgage lenders or towns require a radon analysis for loans or occupancy permits. DES offers the radiological package for a more comprehensive picture of radiological activity.

FLUORIDE – Many dentists and pediatricians will ask you to test for fluoride to order to determine if, or how much fluoride supplement needs to be prescribed for your child to protect his or her teeth. The cost of a fluoride test is \$12.

VOLATILE ORGANIC CHEMICALS – This test is recommended if you suspect contamination by industrial solvents or petroleum products. Methyl tertiary butyl ether (MtBE) is included in the Volatile Organic Chemicals test. This test costs \$120. If you want to test for volatile organics, please request special glass vials and instructions.

OTHER ANALYSES are available to meet your specific needs. Call the laboratory at 271-3445 to discuss your problem.

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**INSTRUCTIONS FOR TAKING A WATER SAMPLE
PLEASE READ CAREFULLY BEFORE COLLECTING YOUR WATER SAMPLE**

- ✓ If you recently disinfected the well, be sure all chlorine is gone; the lab will not accept samples with chlorine.
- ✓ Select an indoor faucet in a clean area (do not use an outdoor faucet); the sample should be taken from the cold water. Avoid leaky faucets that allow water to seep around the valve.
- ✓ It is important that you do not contaminate the sample containers or their caps; keep them closed until ready to use and do not touch the inside of the cap.
- ✓ If you are collecting a sample for a **STANDARD ANALYSIS**, you will have received three plastic bottles. Allow the water to sit undisturbed in the water pipes for at least 6 hours (overnight is best). Turn on the faucet and immediately fill the small plastic container labeled “First Draw for Lead/Copper”. Next, after removing any aerator, wipe the faucet rim with bleach and then run the water for 5 minutes to clear the pipes. Reduce the water flow to a gentle stream and fill the plastic containers labeled “Sterile Container” and “Nitrate/Nitrite.”

If you are collecting for a **BASIC ANALYSIS**, you will have received two plastic bottles. Remove any aerator, wipe the faucet rim with bleach and then run the water for 5 minutes to clear the pipes. Reduce the water flow to a gentle stream and fill the plastic containers labeled “Sterile Container” and “Nitrate/Nitrite.”

If you are collecting for **DRINKING WATER BACTERIA**, remove any aerator, wipe the faucet rim with bleach and then run the water for 5 minutes to clear the pipes. Reduce the water flow to a gentle stream and fill the plastic container labeled “Sterile Container.”

If you are collecting only for a **RADIOLOGICAL ANALYSIS**, you will have received two containers. Remove any aerator and then run the water for 20 minutes. Reduce the flow to a gentle stream and fill the plastic container labeled “Sterile Container”. Then slowly fill the glass vial labeled “Radon” to the top, creating a crown. Be sure no air bubbles are in the vial. After placing the cap on the vial, tip it upside down and watch for air bubbles rising to the top. If you see an air bubble or space at the top, empty the vial and try again.

- ✓ After filling the container(s), sample(s) should be kept refrigerated or on ice in a cooler (but not allowed to freeze) and delivered to the laboratory as soon as possible. The lab must analyze samples for bacteria within 30 hours of the time you take the sample; bacteria samples exceeding the **30 hour limit** will NOT be accepted. Samples received in improper containers, with insufficient volume or improperly preserved will not be accepted. Samples can be hand delivered to the lab Monday through Friday between 8am and 4pm. Bacteria samples cannot be accepted after 12:00 Fridays or the day before a holiday.
- ✓ If mailing sample(s), collect the sample(s) just prior to mail pick-up at your post office. Do not mail later than Wednesday, and place a ‘perishable water sample’ label on the box to minimize delay in postal handling. We highly recommend ‘next day delivery’ service. All shipping charges are to be paid by the sender of the sample.
- ✓ The sample submittal form (see backside of this sheet) must be completely filled out and returned with each sample submitted. Be sure the DATE and TIME the sample was taken are written on the form.
- ✓ A full report of the sample results will be sent to you upon completion of the analysis (allow 3-4 weeks for a full Standard Analysis Report). If bacteria are found, a separate letter and disinfection instructions will be sent earlier.

SPECIAL INSTRUCTIONS –

If you are collecting for **RADIOLOGICAL** or **VOLATILE ORGANIC CHEMICALS**, read the special instructions that you received with the glass vial(s). The lab cannot accept samples for these tests that contain air bubbles.

If you received a small sample container for **FLUORIDE** from your dentist, you cannot request any additional testing (e.g. Standard Analysis) as there will not be enough water to complete the analysis. Call the lab to have a new container sent.

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(603)271-3445 FAX (603)271-2997
Business Hours: 8 am – 4 pm, Monday – Friday

WATER TEST SUBMITTAL FORM
(please fill out completely)

The lab cannot accept bacteria samples after 12:00 on Fridays or the day before a holiday

The following is information about where the sample(s) was collected:

SAMPLE COLLECTION:

Date _____ Time _____

Owners Name (of well) _____

Street Address (well location) _____

City/Town _____

State & Zip Code _____

Phone Number _____

Circle appropriate information about your sample for each of the following:

Source of sample water: WELL SURFACE WATER PUBLIC WATER SYSTEM OTHER _____

What kind of well? DUG DRILLED/ARTESIAN SPRING OTHER _____

Has this well been disinfected recently? NO YES DATE _____

If there is a water treatment/filtration system on line, what are you treating for? _____

If there is water treatment/filtration on line, was sample taken BEFORE ____ or AFTER ____ treatment?

Comments about the sample _____

The following is the **mailing address** where you would like us to send the laboratory report:

PLEASE CHECK TEST CHOICE

* These tests are included in the Standard Analysis

_____ Standard Analysis.....\$85
_____ Radiological Analysis/Radon.....\$80
_____ Volatile Organic Chemicals..... \$120
_____ Other _____

_____ Drinking Water Bacteria*.....\$15
_____ Basic Analysis*.....\$30
_____ Swimming Water Bacteria.....\$20
_____ *E. coli* in Surface Water.....\$20
_____ Fluoride*.....\$12

Total enclosed \$ _____ Make checks payable to Treasurer, State of New Hampshire

FACT SHEETS

The Department of Environmental Services (DES) publishes a number of fact sheets on a variety of topics related to environmental issues in order to provide educational information for the public. The following is a partial list of some fact sheets that are relevant to drinking water. These fact sheets are available on-line at the DES website www.des.nh.gov/ws.htm. Hard copies of any of these publications are available by writing to the NHDES Public Information Center, PO Box 95, Concord NH 03302-0095; or contacting them by phone (603) 271-2975, or fax (603) 271-8815.

WD-DWGB-1-2 Bedrock (Artesian, Drilled) Well Design
WD-DWGB-1-4 Dug Well Design
WD-WSEB-1-11 Use of Lakes or Streams for Domestic Water Supply
WD-WSEB-2-1 Suggested Water Quality for Private Wells
WD-WSEB-2-5 Considerations When Purchasing Water Treatment Equipment
WD-WSEB-2-10 Magnetic /Electronic Water Treatment Devices
WD-WSEB-2-11 Reverse Osmosis Treatment of Drinking Water
WD-WSEB-2-12 Ion Exchange Treatment of Drinking Water
WD-WSEB-2-15 Distillation Treatment of Drinking Water
WD-WSEB-2-23 Suggested Installation Practices For Drinking Water Aerators
WD-WSEB-3-1 An Overview of Drinking Water Quality in New Hampshire
WD-WSEB-3-2 Arsenic in Drinking Water
WD-WSEB-3-3 Beryllium in Drinking Water
WD-WSEB-3-4 Corrosivity of Water Samples
WD-WSEB-3-5 Fluoride in Drinking Water
WD-WSEB-3-6 Hardness in Drinking Water
WD-WSEB-3-7 Removal of Iron And Manganese in Drinking Water- Technical Version
WD-WSEB-3-8 Iron and Manganese in Drinking Water- A Summary
WD-WSEB-3-9 Nitrate/Nitrite in Drinking Water
WD-WSEB-3-10 Organics in Drinking Water
WD-WSEB-3-11 Mineral Radioactivity in Drinking Water
WD-WSEB-3-12 Radon in Air and Water: An Overview for Homeowners
WD-WSEB-3-14 Sand and Sediment in Drinking Water
WD-WSEB-3-15 Taste and Odor in Drinking Water
WD-WSEB-3-16 Hydrogen Sulfide in Drinking Water
WD-WSEB-3-17 Sodium and Chloride in Drinking Water
WD-WSEB-3-18 Air in Drinking Water
WD-WSEB-3-19 MtBE in Drinking Water
WD-WSEB-3-21 Iron Bacteria in Drinking Water
WD-WSEB-4-1 Interpreting the Presence of Coliform Bacteria
WD-WSEB-4-2 Causes of Bacteria in Water Samples
WD-WSEB-4-3 Disinfecting Public Water Systems
WD-WSEB-4-4 Giardiasis in Drinking Water
WD-WSEB-4-5 Ultraviolet Drinking Water Disinfection
WD-WSEB-4-6 Cryptosporidium in Drinking Water Well
WD-WSEB-4-11 Disinfecting a Private Well