

PROPER MICROBIOLOGICAL SAMPLING TECHNIQUES

Proper sampling techniques are extremely important in obtaining accurate water quality information. An improperly taken coliform sample may indicate bacteriological contamination of your water when the water is actually safe. You can avoid the cost of additional testing by using good sampling procedures.

Carefully follow these steps in taking a sample for bacteriological testing:

1. Select the sampling point. The sampling point must be a faucet from which water is commonly taken for public use.
 - The sampling point should be a non-swivel faucet.
 - Remove any aerator or screen and flush.
 - It should not be a faucet that leaks, permitting water to run over the outside of the faucet. Leaking faucets can promote bacterial growth.
 - If an outside faucet must be used, disconnect any hoses or other attachments and be sure to flush the line thoroughly (see Step 4).
 - Do not use fire hydrants as sampling points. Do not dip the bottle in reservoirs, spring boxes or storage tanks in order to collect the sample.

If you have any questions about proper sampling points, please contact your certified laboratory, county health department, or the Oregon Health Division.

2. Use only sample bottles provided by the lab specifically for bacteriological sampling. Coliform bacteria tests require specially prepared sample bottles. These bottles should not be rinsed before sampling. A chemical placed in the bottles by the lab is necessary for correct test results. Keep several bottles on hand.
3. Don't open the sample bottle until the moment of filling. This helps prevent contamination of the sterile sample bottle.
4. Flush the line. Run the water through the faucet for three to five minutes before opening the bottle to take the sample. If your water system is chlorinated, measure the free chlorine residual before collecting the sample and record the residual on the lab form.
5. Uncap the sample bottle. As you do this, hold the bottle near the base and be sure not to put your fingers inside the sample bottle or on the inside of the lid. Do not set the lid down while taking the sample. Any of these things can contaminate the sample.
6. Reduce the water flow to a steady stream and gently fill the bottle, leaving an air space of at least one-half inch at the top. Remember, don't rinse the bottle before filling it. And be careful not to splash out the chemical already in the bottle.

7. Replace the cap immediately. Be sure that it's tight so it can't leak. If you drop the lid or think you have contaminated the sample, do not use it. Use another bottle and collect a new sample.

8. Label the sample bottle. Completely fill out the form provided by the lab. The information accompanying the sample must include:
 - Public Water System identification number
 - Date and time sampled
 - Location sampled
 - Name of person collecting sample
 - The sample type: "routine," "repeat," or "special"

Routine: Samples collected on a regular basis to monitor for contamination.

Repeat: Samples collected following a "Present" (positive) routine sample. Usually four repeat samples must be collected. This figure is based on system size.

It is important to include the date of the initial positive routine sample for which the repeat samples were taken. A space is provided for this in the middle section of most forms.

Special: Samples collected for other reasons. Examples: a sample collected after repairs to the system and before it is placed back into operation, or a sample collected at a well head prior to disinfection.

 - Free chlorine residual, if your system is chlorinated. The residual should be measured at the time of sample collection.

9. Package the sample for delivery to the lab. Be sure to include the lab form. The samples should be kept cool at all times. If mailing, use the container provided by the lab.

10. Mail or deliver the sample to the lab immediately. The lab cannot accept samples older than 30 hours. The water quality of the sample has changed too much by then to give correct results.

Procedures taken from AWWA manual entitled "Safe Water. A Fact Book on the Safe Drinking Water Act for Non-Community Water Systems."