

BACTERIAL SAMPLING

Sample Containers & Sample De-chlorination

- 1) Sample containers should be clean and sterilized.
- 2) Contact the laboratory for pre-sterilized containers - 120 ml volume, with or without dechlorinating agents.
- 3) Inspect the sample container for integrity seal.
- 4) Dechlorinating agent: When collecting water samples that contain residual chlorine/halogens a dechlorinating agent such as sodium thiosulfate is added to neutralize any residual halogen and prevent continuance of bacterial action during sample transit time. For drinking water samples, the dechlorinating agent is in a pellet form at a concentration capable of neutralizing up to 5 mg/L of residual chlorine in a 120 ml bottle.

Sample Collection - General consideration

- 1) Sample must be representative of water being test.
- 2) Flush or disinfect sampling ports.
- 3) Aseptic technique is required to avoid sample contamination.
- 4) Remove the cap from the sample bottle just prior to sampling; DO NOT contaminated the inner surface of the cap or bottle neck.
- 5) Fill container without rinsing and leave ample air space (2.5 cm or an inch) to facilitate mixing before examination.

Portable water / Drinking water

If water is collected from distribution system, select a tap from service pipe directly connected to the intake point. Do not take tap water collection in a storage tank. Allow the tap water to run for 2-3 minutes and using aseptic techniques collect the sample. If sampling is conducted to determine the integrity of the tap first, disinfect the faucet inside and out with using a solution of sodium hypochloride (NaOCl) at the concentration of 100 mg/L then run the water for 2-3 minutes before collecting the sample. Make sure that there are no aerators, strainers, hose attachments, and purification devices in water taps used for sampling. If sampling from mix faucet (containing hot and cold water) first, remove the screen, then run hot water first for 2 minutes, followed by cold water for additional 2-3 minutes before sample collection.

Samples from well water can be collected through a pump after pumping water from the well for 5-10 minutes and water temperature has stabilized. If no pump is available, lower the sample bottle (attach a weight to the base) into the well deep enough to avoid surface contaminants.

Raw water / Source water

Raw water that is a source of supply to consumers and may include rivers, streams, lakes, reservoirs and springs. Grab water samples unless specified otherwise are collected as representative samples of the supply source at a sensible distance from the bank/shore and not very far from the draw off.

Surface water Including Streams, Lakes, Runoff

Grab water samples will be collected at designated locations, 50 feet upstream or downstream of the stream flow or recreational area. Attention must be given to the location of nearby wastewater treatment plants or municipal water facilities. Sampling frequency for recreational water may be seasonal. Sampling maybe daily for water supply intake and hourly if treated wastewater effluent is discharged into critical areas.

Bathing Beaches

Sampling should be conducted in locations upstream and downstream of bathing areas (preferably the most populated areas) and should include locations adjacent to nearby drains. Samples are normally collected from a depth of 1 meter and may include sand-water mixtures where children are playing.

Sludge / Biosolid:

Sewage or sludge generated from wastewater treatment is sampled in accordance with sampling procedures described in the USEPA Pathogen Testing Guidelines. Briefly, if the sample is less than 7% biosolids (viscous fluid), it may be sampled in wide mouth glass or plastic sterile container bottles as they are being transferred from one vessel to another. Appropriate preservatives (if required) must be added prior to sample collection. For sludge containing over 7% biosolids a hand auger is used to collect representative samples in a sterile glass jar. For dry sludge/compost comprised of over 30% biosolid, the sludge is preferably spread in a defined area and a grid system is established. Representative samples will be collected from each grid and composited once they arrive in the laboratory.

Refer to Testing Services Tab or contact the lab for sample size, hold time and preservation requirements.