Water Sample Collection

Taking samples for Chemical Analysis

Chemistry sample from a tap

- Verify the sample point to be collect using Maps and other sample point description information.
- Open the tap and let it run for 3-5 minutes.
- Check the sample bottles labels that they correspond with the information on a sampling point.
- Only open the sample bottle when ready to sample.
- Rinse the sample bottles thoroughly with the sample.
- Fill the bottle to about 1 cm from the top to allow for proper mixing in the laboratory
- Close the bottle tightly to avoid any leaks.
- Place the filled sample bottle into a cooler box.

Taking samples for microbiological analysis

Very Important: Collection, preservation and storage of water samples for microbiological examination are critical to the results obtained. The quality of the final report issued by the laboratory will be influenced by the quality of the sample taken and submitted for analysis. It is important that the samples be taken correctly, transported according to set procedures and analyzed as soon as possible after being taken.

- Sterile bottles are to be used when taking microbiological samples
- Ensure that the seal of the plastic bottle is still intact and not broken
- Never rinse the bottle, as it contains preservatives
- Great care should be taken never to cause any contamination whatsoever.
- The sample must be protected at all times from light.
- The samples must be transported under **very hygienic conditions**
- **Never transport river sample and treated water sample in the same cooler box**
- Sample bottles should be transported in the upright position to prevent leaking.
- Samplers should also wash or disinfect their hands between sampling especially when river water or sewage effluent samples have been collected prior to collection of clean (treated) water samples. This must be done to prevent cross contamination of the outsides of clean sample bottles, which can lead to contamination during analysis.

Sampling procedure

Disinfection by flaming can be carried out on metal taps, except those fitted with non-removable plastic anti-splash devices.

Sampling from sample point (tap) for treated or untreated water

- If the tap is closed, open it to see if there is flow at the sample point.
- If available, a gas flame can be used to flame the nozzle of the tap and working back to the body of the tap, until the water held in the spout boils. Care should be taken to ensure that hot water, which may spurt out of the tap during flaming, does not cause personal injury.
- If the design of the tap is such that the water drains out of the tap when it is turned off, the full length of the spout of the water tap should be heated such that, when the tap is turned back on, the first issue of water boils
- Re-open the tap and allow the water to run freely for about 3 to 5 minutes. This is done to remove stagnant water - sampling can now commence.
- Hold the sterile 500 mL bottle in one hand and remove the screw cap with the other hand. Whilst holding the bottle and the cap as close to each other as possible, fill the bottle with water from the tap. Never touch the inside of the cap or bottle. Ensure that the tap never comes into contact with the inside of the sterile bottle and try to prevent splashing of water.
- Fill the bottle approximately up to 2 cm from the top to allow proper mixing by shaking of the sample before analysis.
- **Do not fill the bottle to the top.**
- Whilst taking the sample, the flow-rate of the water leaving the tap should not be altered as this may cause biofilm or other debris to become dislodged within the system and to enter the sample bottle.
- Replace the screw cap tightly on the bottle.
- Put the sample bottle immediately into a cooler box with ice bricks for storage during transportation to the laboratory.
- If, whilst taking the sample, accidental contamination is suspected, the sample should be discarded and a fresh sterile bottle used to take a new sample.