

WATER ANALYSIS

SAMPLING PROCEDURES

Samples for Microbiological analysis:

- Microbiological samples should be collected in sterile plastic or glass bottles. If no sterile bottle is available, rinse the bottle first with hot water, then with the sample and then proceed to fill the bottle with sample. A sample volume of 250 mL should be sufficient for *Total coliform*, *Faecal coliform*, *E. coli* and Heterotrophic plate count.

Samples for Chemical analysis:

- Keep sample bottles closed until they are to be filled.
- Collect a sample that will be representative of the water being tested.
- Remove the cap of bottle and ensure no contamination of cap or the neck of the bottle when filling occurs.
- **Potable water:** Apply the procedures as described above. Never sample leaking taps where water runs down on the outside of the tap. When collecting water from wells and boreholes, pump water for 5min when a pump is fitted. When sample locations for a distribution system are identified, include dead-end sections and all the different lines in the sample programme.
- **Waste/effluent water:** Sampling frequency may be seasonal for recreational waters, daily for water supply intakes and even hourly for waste water where the quality may vary significantly. Hold the sample bottle near its base in one hand and plunge it mouth downward below the surface of the water. This is especially important when sampling from a dam, never sample water from the surface.
- **Sample size:** Sample volume should be sufficient to carry out all tests required. A sample volume of 750 mL is required for Drinking/Potable water analysis. For Irrigation water analysis 750 mL is also required and for Effluent/Waste water analysis we require minimum of 250 mL.
- **Sample identification:** Samples must be labelled in detail. Essential information that could be included for identification are: a) sampling date b) sampling time c) origin of sample d) type of sample.
- **Sample preservation and storage:** Although recommendations vary, the time between sample collection and analysis should, in general, not exceed 6 hours (24 hours are considered the absolute maximum). It is assumed that the samples are immediately placed in a lightproof insulated box containing melting ice-packs with water to ensure rapid cooling. Sample temperature should be kept below 10°C for a maximum transportation time of 6 hours. If ice is not available, the transportation time must not exceed 2 hours. It is imperative that samples are kept in the dark and that cooling is rapid.