



# North Island Laboratories

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## Sampling Instructions for Bacteria Tests

This pamphlet outlines the method, timeline and sample requirements of common bacterial analyses requested by our clients. Each analysis requires specific sample volumes to ensure accurate results. Appropriate sample containers are available from North Island Labs upon request. If you need more information, please contact us directly.

### Heterotrophic Plate Count (HPC):

The heterotrophic plate count (HPC) procedure evaluates the total number of heterotrophic bacteria in water. Colonies may arise from pairs, chains, clusters, or single bacterium, all of which are included in the term "colony-forming units" (CFU). The sample is cultured for 48 hours at 35°C. The agar medium used to culture the bacteria is non-selective and non-differentiating therefore most bacteria within the sample are cultured. This analysis follows APHA Method 9215D.

- Minimum sample volume of 100mL in a sterile container.
- Turn Around Time: 48hrs
- Detection Limit: 1 cfu/mL

### Total Coliform & *E.coli*:

This test is appropriate for bacterial monitoring of all treated drinking water. The total coliform group is defined as any facultative anaerobic gram negative non-spore forming rod shaped lactose fermenting bacteria. This group includes coliforms from both vegetative and fecal sources. We are approved for both Membrane Filtration (APHA 9222B) and Colilert<sup>®</sup> methods. *E. coli* are a fecal coliform bacterium and as such are good indicators of fecal contamination. The filter is transferred from Les Endo agar after 24hrs to a Nutrient-MUG Agar and incubated for an additional 4hrs using the Membrane Filtration method (APHA 9222G). Using the Colilert<sup>®</sup> method, both total coliform & *E.coli* results are available in 24 hours.

- Minimum sample volume of 100mL in a sterile container.
- Turn Around Times:  
Total coliforms 24-72hrs                      *E. coli* 24 - 28hrs
- Detection Limit: 1 cfu/100mL

### Fecal Coliforms:

Fecal coliforms represent those coliforms from fecal sources only. The fecal coliform MF procedure uses an enriched lactose medium (MFC Agar) and an incubation temperature of 44.5°C for selectivity. Samples are incubated for 24hrs. Any atypical colonies require a confirmation step and extend analysis time by an additional 24 hrs. This analysis is adapted from APHA Method 9222D.

- Minimum sample volume of 100mL in a sterile container.
- Turn Around Time: 24-48hrs
- Detection Limit: 1 cfu/100mL

### Sampling Details:

- The sample should be representative of the water being consumed.
- If a private water system it should be taken at a normal point of consumption (i.e. kitchen tap)
- Carefully fill container with sample water leaving 1inch headspace and recap immediately. Refrigerate or pack on ice until delivery to the lab.
- Sample is viable for 24 hours only.

### Submitting Samples:

- If you are using our satellite office in Nanaimo, please submit samples **before 11 am** to ensure same day shipment to the lab. Any samples taken after 11am should be submitted directly to our Courtenay lab.
- Samples may be submitted any day Monday to Friday.
- Please submit a requisition form with your samples. It is important that we have documentation to ensure proper sample analysis and result distribution. Forms can be obtained at either office; digital copies are available on our website.
- Please label the sample bottles with your company name, project name, sample site id, and date/time of sample collection.

### Receiving Results:

- Results can be emailed or faxed. An original hardcopy will be mailed with the invoice/statement of account.
- Results can be sent to **one** third party.