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Whangarei District
Laboratory

TECHNICAL NOTE 2 | MICROBIOLOGICAL ANALYSIS - E COLI, TOTAL COLIFORM AND TURBIDITY

Important: *The result reported applies only to the water quality at the time of sampling. Water quality will vary from day to day and is dependent on factors such as rainfall, land use in the catchment area and other seasonal influences. Regular monitoring of your water quality is recommended.*

Whangarei District Laboratory is IANZ Accredited and provides a wide range of testing services, please contact us to discuss and quote on your requirements.

REPORT INTERPRETATION

When you request analyses from our Laboratory, results are emailed in a report based on the information given with the sample. This report has sections for:

SAMPLE INFORMATION: Details about the sample site, who performed the sampling, the date and time of sample receipt.

RESULTS: This section contains sample references, a secondary reference, any information provided by you with the sample and the date/time of sample collection. The results are in the lower part of the table.

TEST METHOD INFORMATION: The test method used, whether the test is IANZ accredited or has been subcontracted.

END OF REPORT: Statements covering the potential reuse of the report information, the signature of the Key Technical Personnel (KTP), report issue date and accreditation logo (if applicable).

What do my results mean?

TOTAL COLIFORM

Total coliforms are bacteria used to indicate the probable contamination of water by organic material and that the possibility of faecal contamination needs to be investigated. Regular detection of total coliform in bore

waters can indicate changing water quality and contamination.

E COLI

Bacteria used as an indicator that faecal contamination of the water has almost certainly occurred, and there is a possibility that pathogenic (disease causing) bacteria are present.

TURBIDITY

A measure of particles in water and an indication whether any disinfection processes will be fully effective. Can indicate presence of protozoa in water source. Variability in turbidity measurements indicate unstable water quality in the supply.

Is my water safe to drink?

If your E coli result is '<1' (less than one), E coli bacteria were not detected in your sample and indicates the water sample complies with the NZ Drinking Water Standard (refer 'important' note above), and your water is safe to drink.

BUT if your E coli result is given as a number (or >2419.6 or >200.5), this indicates that E coli bacteria were detected in your water sample and the water is not safe for human consumption without further treatment.

Total Coliform bacteria are not specified in NZDW Std, this result gives supporting information on the general quality of your water supply. (See 'Total Coliform' above.)

HOW DO THE RESULTS COMPARE WITH THE REGULATORY REQUIREMENTS OF MY BUSINESS?

New Zealand Drinking Water Standard

Standards for Water Quality are set by the Ministry of Health. These standards list the criteria applicable to drinking waters and are used as the basis for grading the quality of community drinking water supplies.

All water supplies (except for domestic household supplies) must comply with the NZ Drinking Water Standard – which specifies:

NZ Drinking Water Standards Table 2.1

<i>Micro-organism</i>	<i>Maximum Acceptable Value</i>
Escherichia Coli (E coli)	less than one in any 100mL sample (<1/100mL)

NZ DRINKING WATER STANDARD CRITERIA APPLIES TO THE FOLLOWING INDUSTRIES:

Global Gap (localg.a.p control points and compliance criteria Table 7.7)

MPI - Food safety plan

To comply with food safety regulation water must meet this criterion:

<i>Measurement</i>	<i>Criteria</i>
Escherichia coli (E. coli)	must not be detected (less than 1 in any 100mL sample) * (<1/100mL)
Turbidity	Must not exceed 5 Nephelometric Turbidity Units (NTU). Should not routinely exceed 1 NTU.
<i>If using chlorinated water (Town supply) include these tests</i>	
Free Available Chlorine	Not less than 0.2mg/L (ppm) free available chlorine with a minimum of 20-minute contact time
pH	6.5 - 8.0
<i>*E coli testing must be performed by an IANZ accredited Lab</i>	

FOOD SAFETY CRITERIA APPLIES TO THE FOLLOWING INDUSTRIES:

- Farm Dairy Water (MPI DC 2: Animal products (Dairy) approved criteria for farm dairies)
- Egg producers (NZFSA Egg template – Risk Management Programme Attachment H)
- Honey Producers (NP1 Operational code: Processing of Bee Products)
- Winemaking (NZ Winegrowers code of practice)