



LABORATORY REPORT

Control No. 0124/035

Date: 29 January 2024

Submission Date: 26 January 2024

Sender: Fijnbosch Coffee Shop
30 Main Road
Sedgefield
6573

Results

Sample Water	Heterotrophic Plate Count <i>cfu/ml</i>	Coliform Count <i>cfu/100 ml</i>	<i>E.coli</i> Count <i>cfu/100 ml</i>
Tap Water	6 200	1	Nil
Pre-Filtered	6	Nil	Nil
Pre-Filtered & Filtered	65	Nil	Nil

1. On the basis of the above test result(s), the Tap water sample **does not** meet South African National (SANS) 241-1:2015 microbiology quality standards for drinking/treated water.

Reason: Heterotrophic Plate Count **not** within specification of ≤ 1000 *cfu* per 1.0 ml Water.

Coliform count within specification of ≤ 10 *cfu* per 100 ml water.

E. coli count within specification of Absent per 100 ml water.

2. On the basis of the above test result(s), the pre-filtered and pre-filtered filtered water samples meet South African National (SANS) 241-1:2015 microbiology quality standards for drinking/treated water.

Reason: Heterotrophic Plate Count within specification of ≤ 1000 *cfu* per 1.0 ml water.

Coliform count within specification of ≤ 10 *cfu* per 100 ml water.

E. coli count within specification of Absent per 100 ml water.

Name: JN Alberts

Position: Laboratory Manager

Signature:

* $<1/<10$ Reflects the accuracy of the test procedure and for all practical purposes implies the absence of the organism indicated.

*TMA = Total Microbial Activity/Total Viable Plate Count

*The test results relate only to the items submitted for testing. It implies no guarantee whatsoever, in respect of similar item that has not been tested.

*The report shall not be reproduced except in full without approval of Outeniqua Laboratory Services

"FIJ01 - Water Fijnbosch 26 January 2024.pdf" provide an analysis of water quality from three different samples at your home: tap water, pre-filtered water, and water that has been both pre-filtered and filtered. The analysis focuses on three key indicators of water quality: Heterotrophic Plate Count, Coliform Count, and E. coli Count. Let's break down what each of these terms means and what the results indicate about your water quality.

Heterotrophic Plate Count (HPC)

- **What it is:** This test measures the number of all types of bacteria that can grow in the water under certain conditions. It doesn't specifically target harmful bacteria but gives a general idea of the bacterial population. A high count suggests a higher chance of bacteria presence, not all of which are harmful.
- **Results:**
 - Tap Water: 6200 cfu/ml (colony-forming units per milliliter)
 - Pre-Filtered: 6 cfu/ml
 - Pre-Filtered & Filtered: 65 cfu/ml
- **Interpretation:** The tap water has a high HPC, indicating a lot of bacteria are present, which is not within the safe drinking water standards. After pre-filtration, the bacterial count drops significantly, showing that the pre-filter is effective at reducing bacteria. The slight increase after further filtration could be due to various factors but is still within safe levels.

Coliform Count

- **What it is:** Coliforms are a group of bacteria found in the environment, including feces, indicating potential contamination. Their presence suggests that other harmful bacteria or pathogens could be in the water.
- **Results:**
 - Tap Water: 1 cfu/100ml
 - Pre-Filtered: Nil (none detected)
 - Pre-Filtered & Filtered: Nil (none detected)

- **Interpretation:** The tap water has a low coliform count, which is within safe limits, but ideally, you want none. Both pre-filtered and further filtered water show no coliform bacteria, indicating no fecal contamination and suggesting the water is cleaner and safer after filtration.

E. coli Count

- **What it is:** E. coli is a specific type of coliform bacteria that is directly linked to fecal contamination. Its presence is a strong indicator of sewage or animal waste contamination and can pose a health risk.
- **Results:**
 - Tap Water: Nil (none detected)
 - Pre-Filtered: Nil (none detected)
 - Pre-Filtered & Filtered: Nil (none detected)
- **Interpretation:** None of the water samples show E. coli presence, which is excellent. It means there's no indication of fecal contamination in your water supply at any stage of testing.

Overall Interpretation

The tap water does not meet the South African National Standards for drinking water due to a high Heterotrophic Plate Count, indicating a general bacterial presence. However, it's within safe limits for Coliform and E. coli, suggesting no fecal contamination. The pre-filter significantly improves water quality by reducing the Heterotrophic Plate Count, and further filtration maintains this quality with no Coliform or E. coli detected at any stage. This suggests that your filtration system is effective at improving the microbiological quality of your tap water, making it safer for drinking according to the standards mentioned.