

## CERTIFICATE OF ANALYSIS

**ATTENTION:** Seal Water Tech**DATE:** 29 November 2011**1. GENERAL:** Prepared Water – Bottling Plant – Sampled 1 November 2011

DETERMINANTS CONSTITUENTS	Results expressed in mg/l unless specifically stated	
	Prepared Water Sample	WHO – QC Standard Bottling Guideline Limits
Conductivity (µS/cm)	381	Not Specified
Total Dissolved Solids (TDS @ 105 °C)	255	20 to 500
pH	7.35	6.5 to 8.5
Turbidity (NTU)	0.18	< 0.2
Total Suspended Solids (TSS)	BDL	Must be absent
Alkalinity (Total as CaCO <sub>3</sub> )	42.3	20 to 200
Free & Saline Ammonia (NH <sub>x</sub> as N)	BDL	< 0.2
Calcium (as Ca)	30.9	5 to 80
Magnesium (as Mg)	11.3	3 to 30
Sodium (as Na)	29.1	5 to 100
Potassium (as K)	1.8	≤ 10
Chloride (as Cl)	54.3	5 to 100
Sulphate (as SO <sub>4</sub> )	73.8	≤ 200
Nitrate (NO <sub>3</sub> as N)	0.16	≤ 5
Fluoride ( as F)	0.13	≤ 0.5
Aluminium (Al) (µg/l)	BDL	≤ 50
Iron (Fe) Total (µg/l)	8	≤ 50
Manganese (Mn) Total (µg/l)	BDL	≤ 20
Total Heavy Metal Content (µg/l)	BDL	< 20
Active Chlorine (HOCl)	BDL	< 50
Dissolved Organic Carbon (DOC)	3.8	≤ 5
Disinfectant by-products (Total)	BDL	< 50

BDL = Below Detection Limit	TON = Threshold Odour Number
mg/l = Milligrams per litre = Parts per million	µg/l = Micrograms per litre = Parts per billion
Please Note: This report only relates to the actual water sample supplied and analysed. No responsibility can be accepted, related to the use of these results and recommendations provided.	

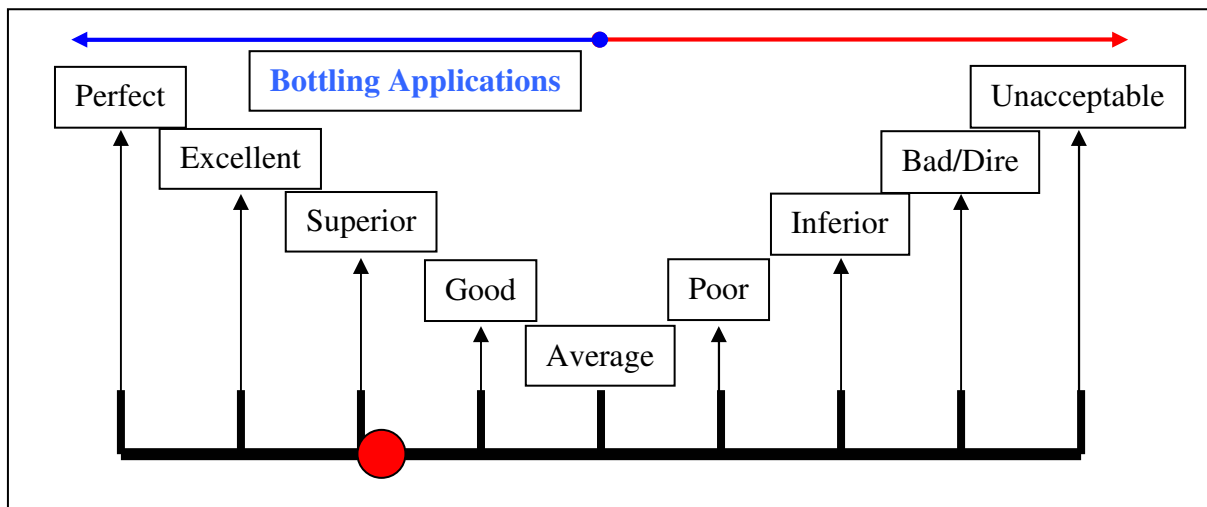
Biological Activity	Prepared Water Sample	WHO – QC Standard Bottling Guideline Limits
Total Microbial Count (TMC) (Colonies per ml)	63	A Maximum of 100
Total Coliforms (Colonies per 100 ml)	0	Must be Zero
Total Faecal Coliforms (Colonies per 100 ml)	0	Must be Zero
Faecal Enterococcus	No growth	Must be absent
Clostridium	No growth	Must be absent
Total Macro-biological Count (Organisms per 1000 ml)	0	Must be Zero
Moulds & Yeasts (Positive Negative Test)	Negative	Must be Negative

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## 2. DISCUSSION:

### Notes:

- This laboratory makes use of the World Health Organisation (WHO) Quality Control (QC) standard and guideline limits mustered specifically for potable water bottling applications, as apposed to the SABS or SANS standards. This standard is more helpful, applicable and explicit in showing up the inherent problems.
  - Be aware of the units of concentration used in the above table. (1.0-mg/l = 1,000-µg/l).
- I. Water quality shows up good with all parameters examined within the guideline limits stipulated.



- ❖ The WHO-QC standard allows one to generate a visual illustration of the water quality as shown in the schematic above.
- ❖ Descriptive classification of water quality: Largely superior.

If any additional queries or questions crop up please do not hesitate to contact me at the above address.

Yours sincerely

A handwritten signature in black ink, appearing to read "Reid". The signature is written in a cursive style with a large, looped initial 'R'.

Gordon Reid  
Water & Wastewater Treatment Division