

## STEVE TSHWETE

P.O. Box 14  
MIDDELBURG  
1050

### CHEMICAL ANALYSIS

Date Received : 13 September 2011  
Date Reported : 22 September 2011  
Quantity Analyzed: 2

Our Ref: LOS / 156 - 157 / B / 09 / 11

B 157

Attention: Mr. R. Bouwer  
Attention: Me. Zeldi Louw

Analysis Results mg/l	Loskop Final	<i>SANS Standards -241 (2011) Domestic Water</i>
<i>Standard Limits</i>		
Total Dissolved Solids	314	<i>≤ 1 200</i>
Nitrate & Nitrite as N	0.72	<i>≤ 11</i>
Chlorides as Cl	16	<i>≤300</i>
Total Alkalinity as CaCO <sub>3</sub>	110	
Fluoride as F	0.37	<i>≤1.5</i>
Sulphate as SO <sub>4</sub>	109	<i>Acute Health ≤ 500 - Aesthetic ≤ 250</i>
Total Hardness as CaCO <sub>3</sub>	197	
Calcium Hardness as CaCO <sub>3</sub>	124	
Magnesium Hardness as CaCO <sub>3</sub>	73	
Calcium as Ca	49.6	
Magnesium as Mg	17.7	
Sodium as Na	32.3	<i>≤ 200</i>
Potassium as K	5.92	
Iron as Fe	0.05	<i>Chronic Health ≤ 2.0 - Aesthetic ≤ 0.3</i>
Manganese as Mn	0.01	<i>Chronic Health ≤ 0.5 - Aesthetic ≤ 0.1</i>
Conductivity at 25° C in mS/m	46.2	<i>≤ 170</i>
pH-Value at 25 ° C	7.31	<i>≥ 5.0 to ≤ 9.7</i>
pHs by 21° Celsius	7.83	
Langelier Saturation Index	-0.52	
Turbidity as N.T.U.	0.59	<i>Operational ≤ 1.0 - Aesthetic ≤ 5.0</i>
Free Residual Chlorine Cl <sub>2</sub>	<0.1	<i>Operational ≤ 1.0 - Aesthetic ≤ 5.0</i>
Total Residual Chlorine Cl <sub>2</sub>	0.1	
Free & Saline Ammonia NH <sub>3</sub> as N	0.24	
Aluminium as Al	<0.01	<i>≤ 0.30</i>

*All heavy metal analyses have been performed on filtered samples.  
Tests marked with an asterisk \* are not SANAS accredited  
These results are related only to the items tested*

### QUALITY CONTROL CHECKS

Cation Balance	5.49
Anion Balance	4.99
% Difference	4.8
Measured TDS	314
Calculated TDS	301
Limits > 1.0 - <1.2	1.0
Calcul TDS / E.C. (0.55 - 0.70)	0.7

P.L.G. UYS (M.D.)

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		Standard Limits
<i>Selenium as Se</i>	<0.01	≤0.01
<i>Vanadium as V</i>	<0.01	≤0.20
<i>Dissolved Organic Carbon (DOC)</i>	5.70	
<i>Phenolic Compounds</i>	<0.005	
<i>Cyanide as CN</i>	<0.01	≤10
<i>Cadmium as Cd</i>	<0.003	≤0.003
<i>Cobalt as Co</i>	<0.01	≤0.5
<i>Total Chromium as Cr</i>	<0.01	≤0.05
<i>Copper as Cu</i>	<0.01	≤2.0
<i>Antimony as Sb</i>	<0.005	≤0.02
<i>Nickel as Ni</i>	<0.01	≤0.07
<i>Lead as Pb</i>	<0.01	≤0.01
<i>Zinc as Zn</i>	0.19	≤5
<i>Arsenic as As</i>	<0.01	≤0.01
<i>Mercury as Hg</i>	<0.001	≤0.006
<i>Colour as Pt-Co*</i>	5	≤15
<i>Odour*</i>	No offensive odour	Inoffensive
<i>Taste*</i>	Acceptable Taste	Inoffensive

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P.L.G. UYS (M.D.)