



**Nkangala District Municipality**  
**EMAKHAZENI LOCAL MUNICIPALITY**

P.O. Box 437  
Walter Sisulu Street  
1050

CERTIFICATE OF CHEMICAL ANALYSIS
Attention: VUSI MAHLANGU / SOLLY LINKS
Attention: MARIANNE JOUBERT

Date received : 15 June 2017

Date reported : 27 June 2017

Quantity Analyzed : 4

Our Ref : NDM / 729 - 732 / G / 06 / 17

Lab No:

G 729

Analysis Results mg/l	LPM METHOD	SANS Standards -241 - 1: 2015 Ed 2 Domestic Water	RA/2/6/17
		Standard Limits	Belfast Old Age Home Borehole
Total Dissolved Solids	LPM 2	≤ 1 200	308
Suspended Solids	LPM 1		<0.4
Nitrate & Nitrite as N	LPM 32/76		11.8
Nitrate NO <sub>3</sub> as N	LPM 32/76	≤ 11	11.8
Nitrite NO <sub>2</sub> as N	LPM 32/76	≤ 0.9	<0.10
Chlorides as Cl	LPM 30/76	≤ 300	41.4
Total Alkalinity as CaCO <sub>3</sub>	LPM 11/81		139
Fluoride as F	LPM 27/76	≤ 1.5	<0.20
Sulphate as SO <sub>4</sub>	LPM 28/76	Acute Health ≤ 500 - Aesthetic ≤ 250	17.1
Total Hardness as CaCO <sub>3</sub>	LPM 85		213
Calcium Hardness as CaCO <sub>3</sub>	LPM 85		86
Magnesium Hardness as CaCO <sub>3</sub>	LPM 85		126
Calcium as Ca	LPM 15		34.5
Magnesium as Mg	LPM 15		30.7
Sodium as Na	LPM 15	≤ 200	9.27
Potassium as K	LPM 15		2.91
Iron as Fe	LPM 15	Chronic Health ≤ 2.0 - Aesthetic ≤ 0.3	<0.01
Manganese as Mn	LPM 15	Chronic Health ≤ 0.4 - Aesthetic ≤ 0.1	<0.01
Conductivity at 25° C in mS/m	LPM 51/82	≤ 170	46.9
pH-Value at 25° C	LPM 51/82	≥ 5.0 to ≤ 9.7	8.27
pHs by 21° Celsius	LPM 85		7.72
Langelier Saturation Index	LPM 85		+0.55
Turbidity as N.T.U.	LPM 23/82	Operational ≤ 1.0 - Aesthetic ≤ 5.0	0.97
Free Residual Chlorine Cl <sub>2</sub> *	LPM 84		<0.1
Aluminium as Al	LPM 15	≤ 0.30	0.03

These results must be read in conjunction with the Uncertainty of Measurement list as provided by Regen Waters Laboratory

QUALITY CONTROL CHECKS . . . . .

Cation Balance	4.73
Anion Balance	5.15
% Difference	-4.2
Measured TDS	308
Calculated TDS	273
Limits > 1.0 - <1.2	1.1
Calcul TDS / E.C. (0.55 - 0.70)	0.6

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

VALUES HIGHLIGHTED IN GREY ARE NOT WITHIN THE SANS 241 - 1 : 2015 LIMITS AS SPECIFIED

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



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Lab No:

G 730

Analysis Results mg/l	LPM METHOD	SANS Standards -241 - 1: 2015 Ed 2 Domestic Water	WB/4/6/17
		Standard Limits	Waterworks Outlet Final
Total Dissolved Solids	LPM 2	≤ 1 200	108
Suspended Solids	LPM 1		4.80
Nitrate & Nitrite as N	LPM 32/76		0.18
Nitrate NO <sub>3</sub> as N	LPM 32/76	≤ 11	0.18
Nitrite NO <sub>2</sub> as N	LPM 32/76	≤ 0.9	<0.10
Chlorides as Cl	LPM 30/76	≤ 300	12.4
Total Alkalinity as CaCO <sub>3</sub>	LPM 11/81		70
Fluoride as F	LPM 27/76	≤ 1.5	<0.20
Sulphate as SO <sub>4</sub>	LPM 28/76	Acute Health ≤ 500 - Aesthetic ≤ 250	8.40
Total Hardness as CaCO <sub>3</sub>	LPM 85		79
Calcium Hardness as CaCO <sub>3</sub>	LPM 85		39
Magnesium Hardness as CaCO <sub>3</sub>	LPM 85		40
Calcium as Ca	LPM 15		15.5
Magnesium as Mg	LPM 15		9.72
Sodium as Na	LPM 15	≤ 200	6.00
Potassium as K	LPM 15		1.07
Iron as Fe	LPM 15	Chronic Health ≤ 2.0 - Aesthetic ≤ 0.3	0.16
Manganese as Mn	LPM 15	Chronic Health ≤ 0.4 - Aesthetic ≤ 0.1	<0.01
Conductivity at 25° C in mS/m	LPM 51/82	≤ 170	17.9
pH-Value at 25° C	LPM 51/82	≥ 5.0 to ≤ 9.7	8.77
pHs by 21° Celsius	LPM 85		8.30
Langelier Saturation Index	LPM 85		+0.47
Turbidity as N.T.U.	LPM 23/82	Operational ≤ 1.0 - Aesthetic ≤ 5.0	3.34
Free Residual Chlorine Cl <sub>2</sub> *	LPM 84		0.50
Aluminium as Al	LPM 15	≤ 0.30	0.84

*These results must be read in conjunction with the Uncertainty of Measurement list as provided by Regen Waters Laboratory*

QUALITY CONTROL CHECKS . . . . .

Cation Balance	1.96
Anion Balance	1.94
% Difference	0.7
Measured TDS	108
Calculated TDS	98
Limits > 1.0 - <1.2	1.1
Calcul TDS / E.C. (0.55 - 0.70)	0.5

All heavy metal analyses have been performed on filtered samples.

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