

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 : 6 September 2017
 Date reported : 13 September 2017
 Quantity Analyzed : 1
 Our Ref : NDM / 222 / A /09/17
 Lab No:

Analysis Results mg/l	LPM METHOD	SANS Standards -241 - 1: 2015 Ed 2 Domestic Wat	A 222 MH3/9/17
		Standard Limits	Machado Waterworks Final Treated
Total Dissolved Solids	LPM 2	≤ 1 200	104
Suspended Solids	LPM 1		0,8
Nitrate & Nitrite as N	LPM 32/76		0,15
Nitrate NO ₃ as N	LPM 32/76	≤ 11	0,15
Nitrite NO ₂ as N	LPM 32/76	≤ 0.9	<0.1
Chlorides as Cl	LPM 30/76	≤ 300	13,0
Total Alkalinity as CaCO ₃	LPM 11/81		70
Fluoride as F	LPM 27/76	≤ 1.5	<0.20
Sulphate as SO ₄	LPM 28/76	Acute Health ≤ 500 - Aesthetic ≤ 250	6,93
Total Hardness as CaCO ₃	LPM 85		72
Calcium Hardness as CaCO ₃	LPM 85		30
Magnesium Hardness as CaCO ₃	LPM 85		41
Calcium as Ca	LPM 15		12,2
Magnesium as Mg	LPM 15		10,0
Sodium as Na	LPM 15	≤ 200	8,42
Potassium as K	LPM 15		1,12
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	17,5
pH-Value at 25° C	LPM 51/82	≥ 5.0 to ≤ 9.7	7,85
pHs by 21° Celsius	LPM 85		8,37
Langelier Saturation Index	LPM 85		-0.52
Turbidity as N.T.U.	LPM 23/82	Operational ≤ 1.0 - Aesthetic ≤ 5.0	0,91
Free Residual Chlorine Cl ₂ *	LPM 84		>1.0
Aluminium as Al	LPM 15	≤ 0.30	0,05
		These results must be read in conjunction with the Uncertainty of Measurement list as provided by Regen Waters Laboratory	

QUALITY CONTROL CHECKS

Cation Balance	1,83
Anion Balance	1,92
% Difference	-2,4
Measured TDS	104
Calculated TDS	95
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.
 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