



REGEN WATERS
LABORATORY • LABORATORIUM

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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 June 2017

Date reported : 15 June 2017

Quantity Analyzed : 13

Our Ref : NDM / 261 - 273 / F / 06 / 17

Lab No:

F 272

Analysis Results mg/l	LPM METHOD	SANS Standards -241 - 1: 2015 Ed 2 Domestic Water	WB16/6/17
		Standard Limits	6/6/17 Boven Reservoir
Total Dissolved Solids	LPM 2	≤ 1 200	104
Suspended Solids	LPM 1		3.2
Nitrate & Nitrite as N	LPM 32/76		<0.1
Nitrate NO ₃ as N	LPM 32/76	≤ 11	<0.1
Nitrite NO ₂ as N	LPM 32/76	≤ 0.9	<0.1
Chlorides as Cl	LPM 30/76	≤ 300	10.2
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	7.05
Total Hardness as CaCO ₃	LPM 85		68
Calcium Hardness as CaCO ₃	LPM 85		31
Magnesium Hardness as CaCO ₃	LPM 85		37
Calcium as Ca	LPM 15		12.4
Magnesium as Mg	LPM 15		9.00
Sodium as Na	LPM 15	≤ 200	9.46
Potassium as K	LPM 15		1.31
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	17.3
pH-Value at 25° C	LPM 51/82	≥ 5.0 to ≤ 9.7	8.44
pHs by 21° Celsius	LPM 85		8.37
Langelier Saturation Index	LPM 85		+0.07
Turbidity as N.T.U.	LPM 23/82	Operational ≤ 1.0 - Aesthetic ≤ 5.0	2.06
Free Residual Chlorine Cl ₂ *	LPM 84		<0.1
Aluminium as Al	LPM 15	≤ 0.30	0.06

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

QUALITY CONTROL CHECKS

Cation Balance	1.81
Anion Balance	1.83
% Difference	-0.6
Measured TDS	104
Calculated TDS	92
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



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Analysis Results mg/l	LPM METHOD	SANS Standards -241 - 1: 2015 Ed 2 Domestic Water	WB23/6/17
		Standard Limits	6/6/17 Waterworks Outlet Final
Total Dissolved Solids	LPM 2	≤ 1 200	102
Suspended Solids	LPM 1		1.6
Nitrate & Nitrite as N	LPM 32/76		0.12
Nitrate NO ₃ as N	LPM 32/76	≤ 11	0.12
Nitrite NO ₂ as N	LPM 32/76	≤ 0.9	<0.1
Chlorides as Cl	LPM 30/76	≤ 300	10.4
Total Alkalinity as CaCO ₃	LPM 11/81		69
Fluoride as F	LPM 27/76	≤ 1.5	<0.20
Sulphate as SO ₄	LPM 28/76	Acute Health ≤ 500 - Aesthetic ≤ 250	7.37
Total Hardness as CaCO ₃	LPM 85		68
Calcium Hardness as CaCO ₃	LPM 85		32
Magnesium Hardness as CaCO ₃	LPM 85		36
Calcium as Ca	LPM 15		12.8
Magnesium as Mg	LPM 15		8.78
Sodium as Na	LPM 15	≤ 200	9.21
Potassium as K	LPM 15		1.04
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	17.2
pH-Value at 25° C	LPM 51/82	≥ 5.0 to ≤ 9.7	8.71
pHs by 21° Celsius	LPM 85		8.36
Langelier Saturation Index	LPM 85		+0.35
Turbidity as N.T.U.	LPM 23/82	Operational ≤ 1.0 - Aesthetic ≤ 5.0	1.70
Free Residual Chlorine Cl ₂ *	LPM 84		<0.1
Aluminium as Al	LPM 15	≤ 0.30	0.07

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

QUALITY CONTROL CHECKS

Cation Balance	1.80
Anion Balance	1.84
% Difference	-1.1
Measured TDS	102
Calculated TDS	92
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

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