

**KOMATI POWER STATION**

Private Bag  
BLINKPAN  
2250

**CHEMICAL ANALYSIS**

Our Ref: KPS / 470 - 477 / C /07/11

Date Received: 22 July 2011  
Date Reported : 3 August 2011  
Quantity Analyzed: 8

Attention: THABO MOGASHWA

C471

Analysis Results mg/l	Koornfontein Mine Potable water	SANS Standards -241 (2005)	
		Class I (recommended operational limit)	Class II (max. allowable for limited duration)
Total Dissolved Solids	140	< 1 000	> 1 000 - 2 400
Nitrate & Nitrite as N	0.37	< 10	> 10 - 20
Chlorides as Cl	16	< 200	> 200 - 600
Total Alkalinity as CaCO <sub>3</sub>	61		
Fluoride as F	0.29	< 1.0	> 1.0 - 1.5
Sulphate as SO <sub>4</sub>	25.6	< 400	> 400 - 600
Total Hardness as CaCO <sub>3</sub>	71		
Calcium Hardness as CaCO <sub>3</sub>	35		
Magnesium Hardness as CaCO <sub>3</sub>	36		
Calcium as Ca	14.2	< 150	> 150 - 300
Magnesium as Mg	8.70	< 70	> 70 - 100
Sodium as Na	18.3	< 200	> 200 - 400
Potassium as K	2.72	< 50	> 50 - 100
Iron as Fe	0.04	< 0.20	> 0.20 - 2.0
Manganese as Mn	<0.01	< 0.10	> 0.10 - 1.0
Conductivity at 25° C in mS/m	21.5	< 150	> 150 - 370
pH-Value at 25 ° C	8.24	5.0 - 9.5	> 4.0 - 10.0
Turbidity as N.T.U.	3.2	< 1	> 1 - 5
Free Residual Chlorine Cl <sub>2</sub>	<0.1		
Total Residual Chlorine Cl <sub>2</sub>	<0.1		
Free & Saline Ammonia NH <sub>3</sub> as N	<0.20		
Aluminium as Al	0.09	< 0.30	> 0.30 - 0.50

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	2.30
Anion Balance	2.25
% Difference	1.2
Measured TDS	140
Calculated TDS	125
Limits > 1.0 - <1.2	1.1
Calcul TDS / E.C. (0.55 - 0.70)	0.6



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Analysis Results mg/l	Koornfontein Mine Potable water	SANS Standards -241 (2005)	
		Class 1 (recommended operational limit)	Class 2 (max allowable for limited duration)
Selenium as Se	<0.01	<0.02	>0.02 - 0.05
Vanadium as V	<0.01	<0.20	>0.2 - 0.5
Total Organic Carbon (TOC)	4.58		
Phenolic Compounds	<0.005	<0.01	>0.01 - 0.07
Cyanide as CN *	<0.01	<0.05	>0.05 - 0.07
Cadmium as Cd	<0.003	<0.005	>0.005 - 0.01
Cobalt as Co	<0.01	<0.50	>0.50 - 1.0
Total Chromium as Cr	<0.01	<0.10	>0.10 - 0.50
Copper as Cu	<0.01	<1.0	>1.0 - 2.0
Antimony as Sb	<0.005	<0.01	>0.01 - 0.05
Nickel as Ni	<0.01	<0.15	>0.15 - 0.35
Lead as Pb	<0.01	<0.02	>0.02 - 0.05
Zinc as Zn	0.04	<5.0	>5.0 - 10.0
Arsenic as As	<0.01	<0.01	>0.01 - 0.05
Mercury as Hg	<0.001	<0.001	>0.001 - 0.005
Colour as Pt-Co*	<5.0	<20	>20 - 50
Odour*	No offensive odour		
Taste*	Acceptable taste		

*All heavy metal analyses have been performed on filtered samples.*

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*These results are related only to the items tested*