



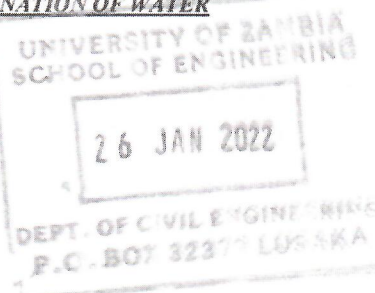
SCHOOL OF ENGINEERING
CIVIL ENGINEERING DEPARTMENT
ENVIRONMENTAL ENGINEERING LABORATORY

P.O Box 32379, Lusaka

PHYSICAL/CHEMICAL EXAMINATION OF WATER

Attn : Jomachis Investment Ltd
Lusaka

Sampled by : EEL
Receipt date : 19.01.2022
Report date : 26.01.2022



Objective: Performance of Sydney 905 Filter/Purifier

Experiment:

Water with high turbidity, suspended solids and contaminated with bacteria was filtered using Sydney 905 Filter/Purifier. Both contaminated and filtered water were tested for physical, chemical and microbiology (See laboratory results below)

Laboratory Results

Parameter	Contaminated Water Raw Water	Filtered Contaminated Water Using Sydney905 Filter/Purifier	ZABS Guideline (Maximum Permissible value for drinking water)
pH	7.50	7.50	6.5- 8.0
Turbidity (NTU)	140.2	0.64	5.0
Conductivity ($\mu\text{S}/\text{cm}$)	788	762	1,500
Total Dissolved Solids (mg/l)	394	385	1,000
Total Suspended Solids (mg/l)	54.0	<1.0	-
Total hardness (as mg CaCO_3/l)	312	302	500
Calcium hardness (as mg CaCO_3/l)	288	284	500
Alkalinity (as mg CaCO_3/l)	300	296	500
Iron (mg/l)	1.24	<0.01	0.30
Ammonia (as $\text{NH}_4\text{-N}/\text{mg}/\text{l}$)	<0.01	<0.01	1.50
Sulphates (mg/l)	33.40	32.30	400
Chlorides (mg/l)	120.0	116.0	250
Nitrites (as $\text{NO}_2\text{-N}/\text{mg}/\text{l}$)	0.009	<0.001	1.0
Nitrates (as $\text{NO}_3\text{-N}/\text{mg}/\text{l}$)	3.30	2.60	10.0
Acidity (as mg CaCO_3/l)	Nil	Nil	500
Total phosphates (mg/l)	<0.01	<0.01	5.0
Magnesium (mg/l)	5.76	4.32	150
Calcium (mg/l)	115.2	113.5	200
Fluorides (mg/l)	0.19	0.18	1.50
Potassium (mg/l)	26.14	24.40	-
Sodium (mg/l)	79.2	76.56	200
Manganese (mg/l)	<0.01	<0.01	0.1
Bacteriological Results			
Total coliforms (#/100ml)	200	0	0
E.coli (#/100ml)	66	0	
Faecal coliforms (#/100ml)	140	0	0

Observations:

1. The turbidity of the water was reduced after filtering using Sydney 905 Filter/Purifier.
2. Suspended solids were removed from the water after filtering using Sydney 905 Filter/Purifier.
3. Iron was removed from the water after filtering using Sydney 905 Filter/Purifier.
4. Bacteria was removed from the water after filtering using Sydney 905 Filter/Purifier.
5. Mineral content of the water was maintained after filtering using Sydney 905.

Recommendations/Conclusions:

Sydney 905 Filter/Purifier provides safe drinking water free from suspended solids and bacteria.

Tested by: E. Mutati
Lab. Technician

Checked & Approved by: Joshua Liyunga
Lab. Manager / Co-ordinator

