

Water and Waste Water Quality Analysis Results for the Months of April and May 2015

Sampling and analysis was done for the months of April and May 2015 by Amatola Water Scientific Lab for the entire Makana i.e. Grahamstown, Aliceedale and Riebeeck East in Bulk and Reticulation, supply both Water and Waste Water.

Water quality results are subdivided into Physical, Chemical and Microbiological requirements.

Table 1: Summary of water quality compliance

Section	Final - WTW			Reticulation Network			SANS 241 Limits
	No of Tests	Failures(No)	Compliance (%)	No of Tests	Failures	Compliance (%)	
April 2015							
Physical	60	7	88.33	72	10	86.11	≥93 Excellent ≥90 Good <90 Unacceptable
Chemical	46	0	100	71	0	100	≥ 95 Excellent ≥ 93 Good <93 Unacceptable
Microbiological / Bacteriological	50	2	96	60	12	80	≥ 97 Excellent ≥ 95 Good <95 Unacceptable
Total Monthly Compliance	156	9	94.2	203	22	89.2	

Monthly Quality Statistics – April 2015

The results indicate non-compliance on physical and microbiological analysis. concentration of *Turbidity* in final water at James James Kleynhans, Ext 7 Clinic and Environmental Health office which is due to high solids from the raw water from Glenmeville dam, operational processes like back-washing has been increased and is constantly being monitored to improve the condition.

Bacteriological analysis indicates concentration of Total Plate Count at Indoor Sport centre, Ext 7 Clinic, Environmental health Office, Nonzwakazi and Riebeeck East network.

The Heterotrophic Plate Count (HPC) is a procedure used to estimate the number of live heterotrophic bacteria that are present in a water sample.

HPC can be caused by many things including general water safety practices such as maintenance, regular cleaning, temperature management and maintenance of a disinfectants.

Compliance monitoring including chlorination is constantly being monitored to improve the conditions.

Total and Faecal coliforms are indicated as exceeding the limits at Indoor Sport centre, Ext 7 Clinic, Environmental health Office, Nonzwakazi.

Total coliform include bacteria found in the soil, in water that has been influenced by surface water, and in human or animal waste and **Faecal coliforms** are the group of the total coliforms that are considered to be present and feces of warm-blooded animals. They are considered a more accurate indication of animal or human waste than the total coliforms.

Regulations of Drinking Water.

As per the drinking water regulations, when such concentrations are detected, community have to be notified with remedy action e.g. Boiling the water to be advised until disinfection and retesting can confirm that contamination has been eliminated.

The scientific lab failed to report the non - compliance as soon as it was detected for the public notice to be done, by the time the results were issued to the Municipality for uploading resampling and testing was already done, which was for May results and there was no indication of the contamination.

Waste Water Determinants

DETERMINANTS	SANS 241/ DWAE STANDARDS		SITE		
	Class I Water	Class II Water	Belmont Valley	Alicedale WWTW	Mayfield WTW
APRIL 2015					
Chemical Oxygen Demand	75	75			86
PH	5 – 9.5	4.0 – 10			7.98
Ammonia as N	6	6			16.27