

Water and Waste Water Quality Analysis Results for the Months of September & October 2015

Sampling and analysis was done for the months of September and October 2015 by Amatola Water Scientific Lab for the entire Makana i.e. Grahamstown, Alicedale 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)	Com-pliance (%)	No of Tests	Failures	Com-pliance (%)	
September 2015							
Physical	32	3	90.63	65	12	81.54	≥93 Excellent ≥90 Good <90 Unacceptable
Chemical	39	0	100	76	0	100	≥ 95 Excellent ≥ 93 Good <93 Unacceptable
Microbiological / Bacteriological	28	0	100	52	0	100	≥ 97 Excellent ≥ 95 Good <95 Unacceptable
Total Monthly Compliance	99	3	97.0	193	12	93.8	
Section	Final - WTW			Reticulation Network			SANS 241 Limits
	No of Tests	Failures(No)	Com-pliance (%)	No of Tests	Failures	Com-pliance (%)	
October 2015							
Physical	103	17	83.50	63	8	87.30	≥93 Excellent ≥90 Good <90 Unacceptable
Chemical	108	0	100	61	0	100	≥ 95 Excellent ≥ 93 Good <93 Unacceptable
Microbiological / Bacteriological	89	2	97.75	55	3	94.55	≥ 97 Excellent ≥ 95 Good <95 Unacceptable
Total Monthly Compliance	300	19	93.7	179	11	93.9	

Monthly Quality Statistics – September and October 2015

The results indicate non-compliance on physical analysis. Concentration of *Turbidity* in final water at James James Kleynhans, which also affect the 7 sampling points on the Eastern side, 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.

Additional investigation on mitigation the high solid is being underway under the RBIG projects and recommendations will be executed during the implementation stage of the project.

Concentration of *Turbidity* indicated in Alicedale is due to poor performance of filters, the process of replacing the sand on the filters is in progress.

Also in Riebeeck East reticulation indicated *Turbidity* concentration which is due to high solids.

Regulations of Drinking Water.

As per the drinking water regulations, when hazardous 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 municipality has an existing protocol on communicating such incident.

Waste Water Determinants

DETERMINANTS	SANS 241/ DWAE STANDARDS		SITE		
	Class I Water	Class II Water	Belmont Valley	Alicedale WWTW	Mayfield WTW
September 2015					
Chemical Oxygen Demand	75	75	177	-	73
PH	5 – 9.5	4.0 – 10	7.98	-	7.76
Ammonia as N	6	6	0	-	19.08
October 2015					
Chemical Oxygen Demand	75	75	57	-	62
PH	5 – 9.5	4.0 – 10	8.11	-	7.97
Ammonia as N	6	6	0	-	31.85

No sampling was done in Alicedale WWTW; the plant is currently not discharging to the river due to capacity issues. The effluent is treated through oxidation process and discharged to the ponds for polishing.