

Water and Waste Water Quality Analysis Results for the Months of November & December 2015

Sampling and analysis was done for the months of November and December 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 (%)	
November 2015							
Physical	61	5	91.80	55	7	87.27	≥93 Excellent ≥90 Good <90 Unacceptable
Chemical	66	0	100	60	0	100	≥ 95 Excellent ≥ 93 Good <93 Unacceptable
Microbiological / Bacteriological	55	5	90.91	50	4	92	≥ 97 Excellent ≥ 95 Good <95 Unacceptable
Total Monthly Compliance	182	10	94.51	165	11	93.33	
Section	Final - WTW			Reticulation Network			SANS 241 Limits
	No of Tests	Failures(No)	Com-pliance (%)	No of Tests	Failures	Com-pliance (%)	
December 2015							
Physical	36	5	86.11	25	3	88	≥93 Excellent ≥90 Good <90 Unacceptable
Chemical	42	0	100	30	0	100	≥ 95 Excellent ≥ 93 Good <93 Unacceptable
Microbiological / Bacteriological	30	1	96.67	25	1	96	≥ 97 Excellent ≥ 95 Good <95 Unacceptable
Total Monthly Compliance	108	6	94.44	80	4	95	

Monthly Quality Statistics – November and December 2015

The results indicate non-compliance on physical analysis. Concentration of *Turbidity* in final water at 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.

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
November 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
December 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.

