

Water and Waste Water Quality Analysis Results for the Months of January & February 2016

Sampling and analysis was done for the months of January and February 2016 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 (%)	
January 2016							
Physical	40	4	90.00	55	8	85.45	≥93 Excellent ≥90 Good <90 Unacceptable
Chemical	44	0	100	61	0	100	≥ 95 Excellent ≥ 93 Good <93 Unacceptable
Microbiological / Bacteriological	40	4	90.00	55	12	78.18	≥ 97 Excellent ≥ 95 Good <95 Unacceptable
Total Monthly Compliance	124	8	93.55	171	20	93.33	
Section	Final - WTW			Reticulation Network			SANS 241 Limits
	No of Tests	Failures(No)	Com-pliance (%)	No of Tests	Failures	Com-pliance (%)	
February 2016							
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 – January and February 2016

The results in January indicate non-compliance on physical analysis. Concentration of *Turbidity* in final water at James Kleynhans, Alicedale, Waainek and Riebeeck East which also affect the 7 sampling points on the Eastern side, is due to high solids from the raw water from Glenmeville dam, Howiesondpoort and use of lay dams in Waainek, borehole low yield in Riebeeck East.

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
January 2016					
Chemical Oxygen Demand	75	75	18	-	-
Nitrate as N	5 – 9.5	4.0 – 10	2.07	-	-
Ammonia as N	6	6	9.51	-	-
February 2016					
Chemical Oxygen Demand	75	75	50	-	-
Nitrate as N	5 – 9.5	4.0 – 10	3.43	-	-
Ammonia as N	6	6	9.89	-	-

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.

The lab did not sample in Mayfield WWTW.