

**Water and Waste Water Quality Analysis Results for the Months of July and August 2015**

Sampling and analysis was done for the months of July and August 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 (%)	
<b>July 2015</b>							
Physical	70	8	88.57	93	15	83.87	≥93 Excellent ≥90 Good <90 Unacceptable
Chemical	56	0	100	80	1	98.75	≥ 95 Excellent ≥ 93 Good <93 Unacceptable
Microbiological / Bacteriological	60	1	98.33	80	0	100	≥ 97 Excellent ≥ 95 Good <95 Unacceptable
<b>Total Monthly Compliance</b>	<b>186</b>	<b>9</b>	<b>95.2</b>	<b>253</b>	<b>16</b>	<b>93.7</b>	
Section	Final - WTW			Reticulation Network			SANS 241 Limits
	No of Tests	Failures( No)	Com-pliance (%)	No of Tests	Failures	Com-pliance (%)	
<b>August 2015</b>							
Physical	72	6	85.19	54	8	85.19	≥93 Excellent ≥90 Good <90 Unacceptable
Chemical	41	0	100	31	0	100	≥ 95 Excellent ≥ 93 Good <93 Unacceptable
Microbiological / Bacteriological	60	13	80	45	9	80	≥ 97 Excellent ≥ 95 Good <95 Unacceptable
<b>Total Monthly Compliance</b>	<b>173</b>	<b>19</b>	<b>89.0</b>	<b>130</b>	<b>17</b>	<b>86.9</b>	

**Monthly Quality Statistics – July and August 2015**

The results indicate non-compliance on physical and 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 solids is being underway under the RBIG projects and recommendations will be executed during the implementation stage of the project.

Bacteriological analysis indicates concentration of Total Plate Count at James Kleynhans WTW.

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

### **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
<b>JULY 2015</b>					
Chemical Oxygen Demand	75	75	57	-	105
PH	5 – 9.5	4.0 – 10	7.52	-	7.54
Ammonia as N	6	6	4.56	-	37.11
<b>AUGUST 2015</b>					
Chemical Oxygen Demand	75	75	115	-	50
PH	5 – 9.5	4.0 – 10	8.1	-	7.44
Ammonia as N	6	6	9.55	-	19.96

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.

