



MKHONDO

LOCAL MUNICIPALITY

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TECHNICAL SERVICES DEPARTMENT

*WATER & SANITATION DIVISION*

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**Water and Wastewater Quality Report**  
**(January 2017 – June 2017)**

*Submitted by:*

Technical Services Department

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## **1 BACKGROUND INFORMATION**

This report indicates an overview of water quality status for the last three months (i.e. January 2017 – June 2017) across Mkhondo Local Municipality jurisdiction area. The report is generated from the monthly water quality results received from Gert Sibande District Municipality Water Quality Laboratory.

However the report provides summary information on water quality results as required for legislation compliance and thus includes percentage characterisation of water quality against national standards limit/standards for the specified period.

## **2 OVERVIEW WATER QUALITY RESULTS**

Mkhondo Local Municipality serves as the Water Service Authority (WSA) and also Water Service Provider (WSA). The municipality provides access to water for the communities within its jurisdiction in accordance to the constitution of the Republic of South Africa (Act 108 of 1996), the Municipal Structures Act (Act 117 of 1998), Municipal Systems Act (Act 32 of 2000) and Water Services Act (Act 108 of 1997).

Approximately 70% of the total population of Mkhondo Local Municipality resides in rural villages. The municipality uses its internal expertise and capacity to provide water services to the consumers with the four Water Supply schemes, (i.e. Amsterdam, Saul Mkhize Ville, EMkhondo and Rural Water Supply Scheme).

### **2.1 Mkhondo LM Water Schemes**

#### **2.1.1 eMkhondo Water Supply Scheme**

The eMkhondo water supply schemes abstracts raw water from Assegai river for treatment in two water treatment plants with a combined capacity of 12.4ml/day and distributed to over 45 000 population including communities in eMkhondo, Harmony Park, Kempville, Rietville, eThandukukhanya and the surrounding areas.

#### **2.1.2 Amsterdam Water Supply Scheme**

The scheme utilizes one water treatment plant which has been upgraded to 6.3ml/day. The plant is situated on the North Eastern side of the town on the banks of Dorpspruit Dam along the Thole River where abstraction point is. The treated water is distributed to over 9 700 populations which includes Amsterdam, Kwa-Thandeka and the surrounding areas.

### **2.1.3 Saul Mkhize Ville Water Supply Scheme**

The Saul Mkhize Ville water treatment plant has a capacity of 7.5ml/day and receives raw water from Heyshope Dam and is located towards the South West of the dam. The plant provides water to a population of approximately 31 830 residing at Kwa-Ngema and Saul Mkhize Ville. It is planned that water supply will be extended to Dirkiesdorp community.

### **2.1.4 Rural Water Supply Scheme**

Drinking Water is provided to rural villages through the operation and maintenance of over 210 boreholes and two water tankers.

The municipality experience challenges in these schemes related to water shortage, backlog and poor drinking water quality compliance caused mostly by contamination due to poor sanitation. A team has been established to specifically address the needs of water in the rural villages, utilising the services of the EPWP and the Phezukomkhondo outsourcing water from the boreholes and other sources.

## **2.2 Water laboratory in use**

The municipality is using an independent laboratory GSDM Water Quality Laboratory. The laboratory is partially accredited. All the analysis performed have went for method validation. The laboratory does perform some of the water analysis in-house and also outsource for the other tests to Mhlathuze Water Quality Laboratory (Fully accredited laboratory) as per the National Specification of drinking water, SANS 241:2015 requirements.

48 sampling points are required for collection and sent to independent laboratories every month, 144 sampling points are required to collect in each and every quarter.

## 2.3 Water Quality Parameters

Every sample is acquired to be analysed for each point and a total of 17 water quality parameters ranging from:

- Microbiological (*E.coli*, Total coliform, Heterotrophic count);
- Physical (Alkalinity, Conductivity, pH and Turbidity);
- Chemical group (Free chlorine, Sodium, Fluoride, Chloride, Nitrate, Sulphate, Iron, Manganese, Calcium, and Aluminium) are analysed.

## 2.4 Mkhondo LM Water Quality Overview

### 2.4.1 Water Quality

During the past six months of January – June 2017 period, approximately two hundred and eighty five (285) water samples were taken. The samples were taken from different positions of water supply schemes which include the treatment plants, reservoirs, household taps and boreholes and over four thousand eight hundred and forty five (4845) analysis were performed from those samples.

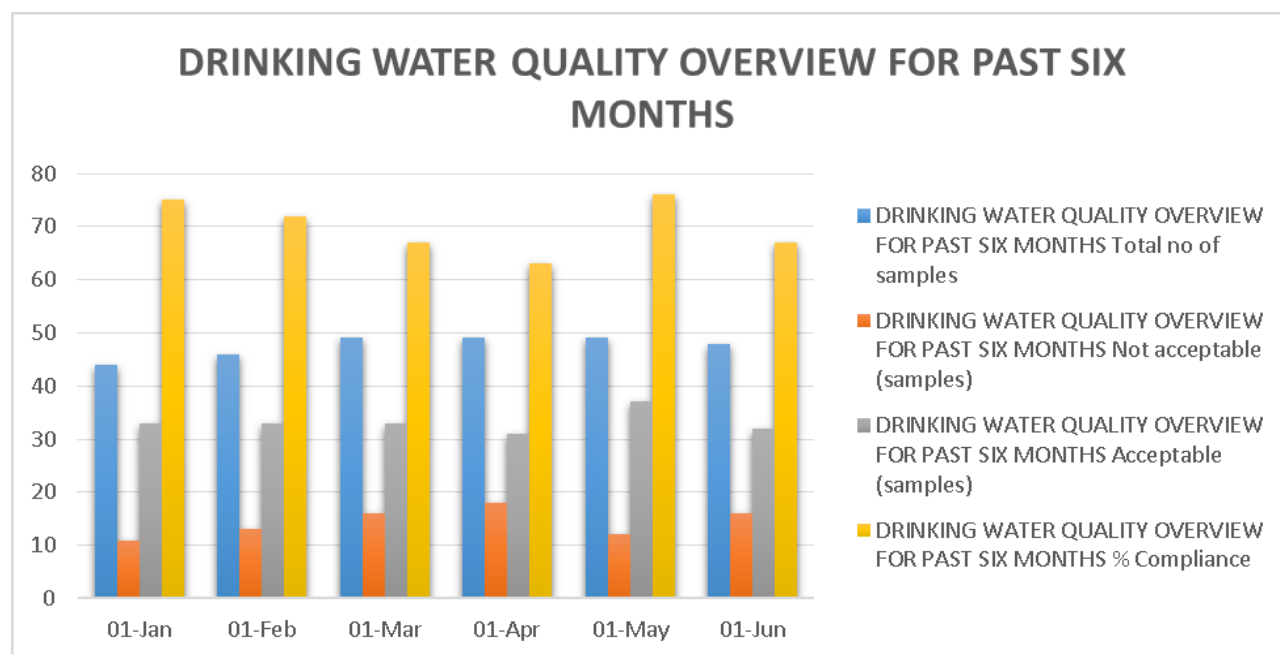
Eighty six (86) sample points failed to comply with class I of SANS 241:2015 and the other one hundred and ninety nine sample points complied with Class I of SANS 241 and thus equals to over seventy percent 70% compliance.

**2.4.1.1 Table: 1 Drinking water quality overview for six months.**

DRINKING WATER QUALITY OVERVIEW FOR PAST SIX MONTHS					
TIME	Total no of samples	Not acceptable (samples)	Acceptable (samples)	% Compliance	No of analysis
17-Jan	44	11	33	75	748
17-Feb	46	13	33	72	782
17-Mar	49	16	33	67	833
17-Apr	49	18	31	63	833

17-May	49	12	37	76	833
17-Jun	48	16	32	67	816
<b>OVERALL</b>	<b>285</b>	<b>86</b>	<b>199</b>	<b>70</b>	<b>4845</b>

#### **2.4.1.2 Graphical representation of drinking water quality overview for three months.**



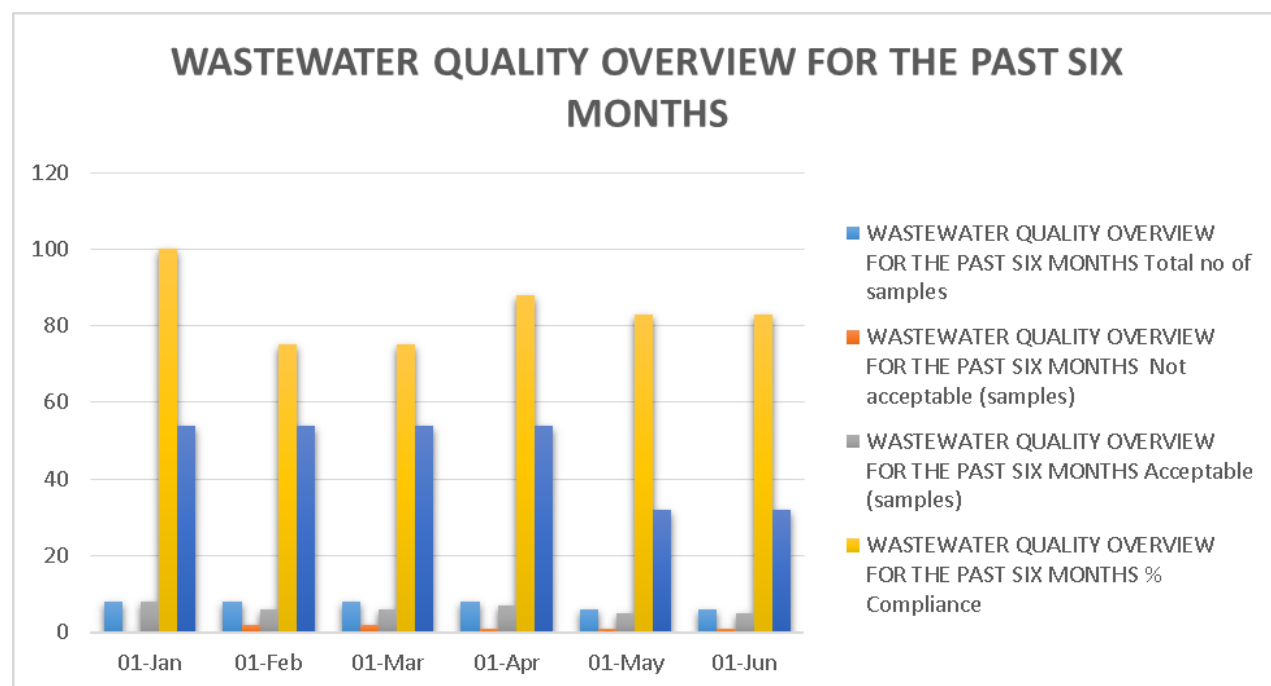
#### **2.4.2 Wastewater Quality**

During the past six month period (January - June 2017) approximately forty two (42) samples were taken from Mkhondo and Amsterdam Wastewater Treatment Works with their upstream and downstream. Seven (7) samples failed to comply with the discharging standards for wastewater and thirty seven (37) samples complied which resulted to eighty four percent 84%.

**2.4.2.1 Table: 2 Wastewater quality overview for six months.**

WASTEWATER QUALITY OVERVIEW FOR THE PAST SIX MONTHS					
TIME	Total no of samples	Not acceptable (samples)	Acceptable (samples)	% Compliance	No of analysis
17-Jan	8	0	8	100	54
17-Feb	8	2	6	75	54
17-Mar	8	2	6	75	54
17-Apr	8	1	7	88	54
17-May	6	1	5	83	32
17-Jun	6	1	5	83	32
<b>OVERALL</b>	<b>42</b>	<b>7</b>	<b>37</b>	<b>84</b>	<b>280</b>

**2.4.2.2 Graphical representation of wastewater quality overview for six months.**





### 3 CONCLUSION

The municipality remains committed in safe guarding public health through continuously and consistently monitoring drinking water quality. The Six (6) months for water quality results presented in this report with 70% compliance confirms that some areas within the jurisdiction of Mkhondo LM needs monitoring to ensure compliance is reached. It advisable that ground water (water from boleholes) need to be disinfected before consumption. The 84%compliance presenting wastewater implies that the wastewater schemes are contributing in polluting the catchments mentioned earlier (Dorpspriut and Thole).

To sustain the excellent water quality achieved over the past six months, the following actions are currently or planned for implementation:

- Review of process audits for eMkhondo and Amsterdam Wastewater Treatment Work
- Replacement of aerators at Mkhondo WWTW
- Review of Green and Blue Drop improvement plan
- Frequent monitoring of both water and wastewater quality.
- Water quality awareness programmes are now conducted at schools.

The following schools to be visited:

1. Esibusisweni Combined School
2. Msinyane Combined School
3. Zendelindpost Combined School
4. KwaShuku Combined School

For more technical information or queries can be directed to the Technical Services Department (Ms *THA Mazibuko*, 017 826 8136, Email: [amandamzbk@gmail.com](mailto:amandamzbk@gmail.com)).

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