



MKHONDO
LOCAL MUNICIPALITY

TECHNICAL SERVICES DEPARTMENT
WATER & SANITATION DIVISION

Water and Wastewater Quality Report
(October 2018 – December 2018)

Submitted by:
Technical Services Department
March 2019

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1 BACKGROUND INFORMATION

This report indicates an overview of water quality status for the last three months (i.e. October 2018 – December 2018) 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, Retiefville, 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 Klipmesselspruit 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 525 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.

2.1.5 eMkhondo Wastewater Treatment Works

10 Ml/day designed capacity biological nutrient removal and activated sludge reactor system plant. Discharges its

effluent to a tributary of Assegaa River stream called Klipmesselspruit Stream.

2.1.6 Amsterdam Wastewater Treatment Works

3 Ml/day designed capacity biological trickling plant supported with anaerobic ponds as pre-treatment. Discharges its effluent into iThole River which is a tributary of Engwempisi River.

2.2 Water laboratory in use

The municipality is using a fully accredited laboratory Gert Sibande District Municipality Water Quality Testing Laboratory. The laboratory does perform some of the water and wastewater 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 and General effluent standards.

49 sampling points are required for collection and sent laboratories on a monthly basis. 147 sampling points are required quarterly for both water and wastewater compliance quality analysis.

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 (Conductivity, pH and Turbidity);
- Chemical group (Free chlorine, Sodium, Fluoride, Chloride, Nitrate, Nitrite, Sulphate, Iron, Manganese, and Aluminium) are analysed.

2.4 WASTEWATER QUALITY PARAMETERS

Mkhondo wastewater treatment works are required to comply with the general effluent standards, thus 11

parameters are analysed per sample site (Upstream, downstream, inlet and outlet). Analysed parameters are Chemical Oxygen Demand, pH, Total Suspended Solids, Conductivity, Ortho-Phosphate, Nitrate, Nitrite, Fluoride, free Chlorine, Total Coliform and *E.coli*.

2.5 Mkhondo LM Water Quality Overview

2.5.1 Water Quality

During the months of October – December 2018 period, approximately one hundred and eighteen (118) 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 two thousand and six (2006) analysis were performed from those samples.

Sixteen (16) sample points failed to comply with class I of SANS 241:2015 and the other one hundred and five (105) sample points complied with Class I of SANS 241:2015 and thus equals to over eighty six percentage 86% compliance.

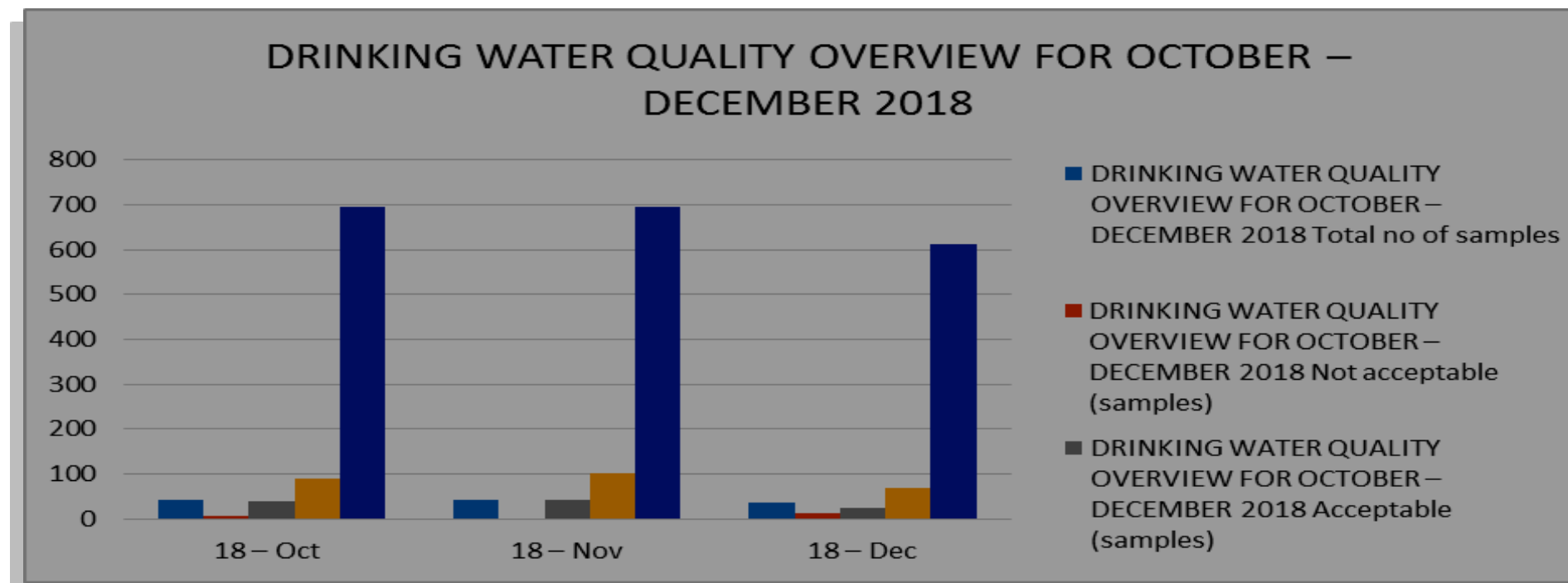
2.5.1.1 Table: 1 Drinking water quality overview for October – December 2018.

DRINKING WATER QUALITY OVERVIEW FOR OCTOBER – DECEMBER 2018					
TIME	Total no of samples	Not acceptable (samples)	Acceptable (samples)	% Compliance	No of analysis
18 – Oct	41	5	39	88	697
18 – Nov	41	0	41	100	697
18 – Dec	36	11	25	69	612
OVERALL	118	16	105	86	2006

2.5.2 Wastewater Quality

During the month of (October - December 2018) approximately twenty four (24) samples were taken from Mkhondo and Amsterdam Wastewater Treatment Works with their upstream and downstream sampling points (Klipmesselspruit and Thole River). Two (2) samples failed to comply with the General Effluent Discharge limits and twenty two (22) samples complied which resulted to ninety two percent 92%.

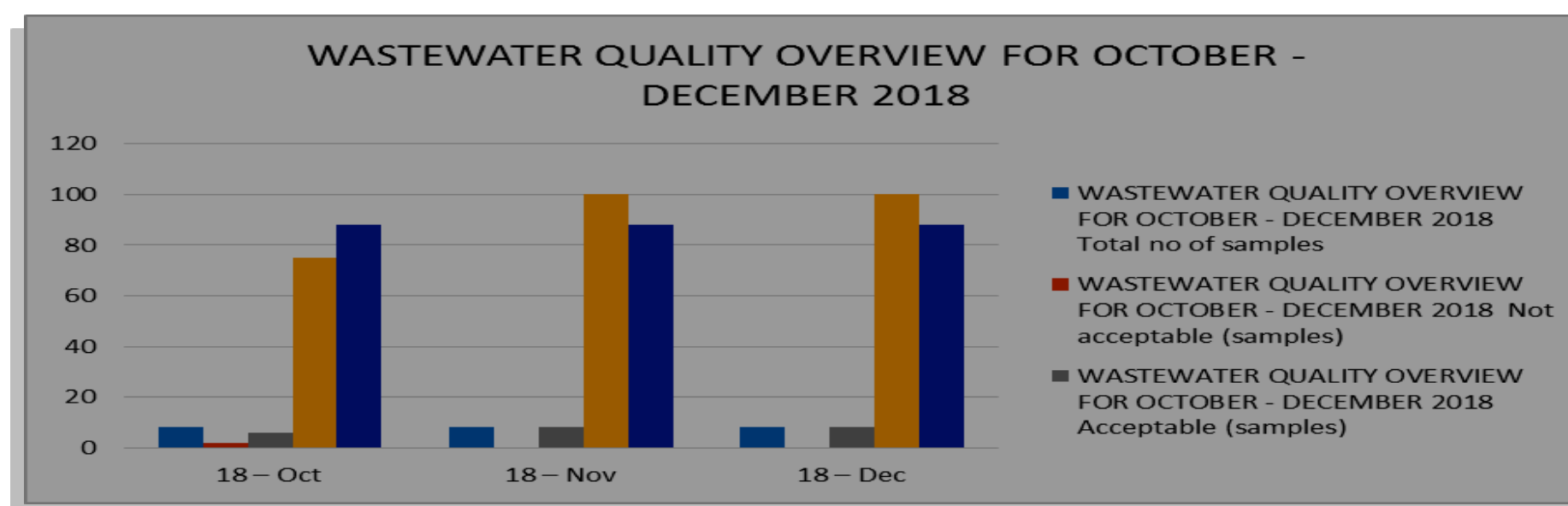
2.5.1.2 Graphical representation of drinking water quality overview for the past three months.



2.5.2.1 Table: 2 Wastewater quality overview for October – December 2018.

WASTEWATER QUALITY OVERVIEW FOR OCTOBER - DECEMBER 2018					
TIME	Total no of samples	Not acceptable (samples)	Acceptable (samples)	% Compliance	No of analysis
18 – Oct	8	2	6	75	88
18 – Nov	8	0	8	100	88
18 – Dec	8	0	8	100	88
OVERALL	24	2	22	92	264

2.5.2.2 Graphical representation of wastewater quality overview for October – December 2018.



3. INTERVENTIONS

Significant efforts need to be carried out as the municipality is preparing for the year 2018/19. Currently, Process controllers are undergoing a Training for Water and Wastewater Treatment.

In future, works needs refurbishment in terms of filtration, chemical and chlorine gas dosing system. This may improve IRIS status or the water and wastewater quality status of the municipality.

4. CONCLUSION

The quality monitoring of drinking water and effluent discharge is paramount to Mkhondo Local Municipality. The three (3) months for discharge effluent quality results presents a decrease to environmental pollution. *All incidents of non-compliance are immediately identified through operational testing and monitoring, and timeously resolved to ensure compliance to SANS 241:2015.*

For more technical information or queries can be directed to the Technical Services Department (Ms THA Mazibuko, 087 630 0180, Email: amandamzbx@gmail.com).

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QUARTELY WATER QUALITY STATEMENT

AMSTERDAM, eMKHONDO, SAUL MKHIZE VILLE and RURAL
WATER SUPPLY SCHEMES

*Statement from the Municipal Manager **Mr M. Kunene**:*

It gives me great pleasure to present water quality results for the second quarter of financial year 2018/2019 to the residents of Mkhondo Local Municipality, for Amsterdam, Saul Mkhize Ville and Mkhondo and Rural Water Supply Schemes. This publication illustrates our commitment on the provision of Quality Water Services to the residents of the municipality.

The commitment of publicizing Water Quality Results is outlined in the Water Services Customer Charter that was developed and adopted by the council. In the Water Services Customer Charter, the municipality commits itself in making quarterly results available to consumers through **Municipal website:** www.mkhondo.gov.za , **Local Newspaper, Municipal notice boards and the IRIS system:** <http://ws.dwa.gov.za/iris> .

Amsterdam Water supply scheme utilizes one water treatment works which is 6.3ml/day. Treated water is distributed to over 9 700 populations which include Amsterdam and surrounding areas. Mkhondo water supply scheme abstract water from Assegai River for treatment in 2 water treatment plants with a combined capacity of 12.4ml/day and distribute to over 45 000 population including communities at Mkhondo and the surrounding areas. Saul Mkhize Ville water supply scheme receives water from Heyshope Dam and has a capacity of 7.5ml/day which provides water to a population of approximately 31 830 in Kwa-Ngema, Dirkiesdorp and Saul Mkhize Ville.

I urge the residents of Mkhondo local municipality to work with the municipality in ensuring that the use of clean water is maintained

and not misused. The municipality ensures compliance against Drinking Water Quality Standards as stipulated in SANS 241:2015. Consumer's responsibilities in Section 6 of our Water Services Customers Charter includes the following:

- Adherence to Municipal Bylaws,
- Pay for services over and above any free allocation
- Water conservation management through borehole maintenance

WATER QUALITY RESULTS:

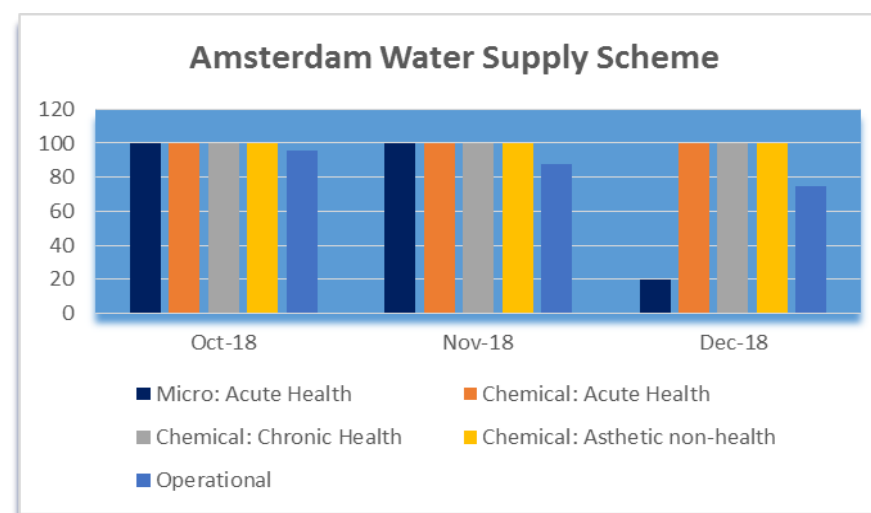
Over 2006 analyses were conducted on the final water of eMkhondo, Amsterdam and Saul Mkhize Water Treatment Works, since the inception of agreement between Mkhondo Local Municipality and Gert Sibande District Municipality Water Testing Laboratory in September 2011 for eMkhondo, Amsterdam, Saul Mkhize and Rural Water Treatment Works and the results are as follows:

*For enquires related to this article you are welcome to contact: Technical Services Department **Ms THA Mazibuko**, Senior Manager: Water and Sanitation Division (087 6300 180/ 082 876 0762)*

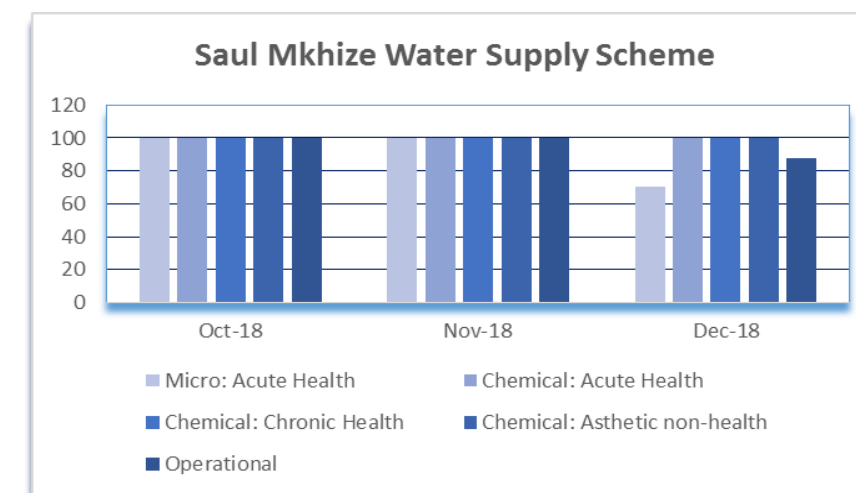
Yours Sincerely

Mr. M. Kunene
Municipal Manager

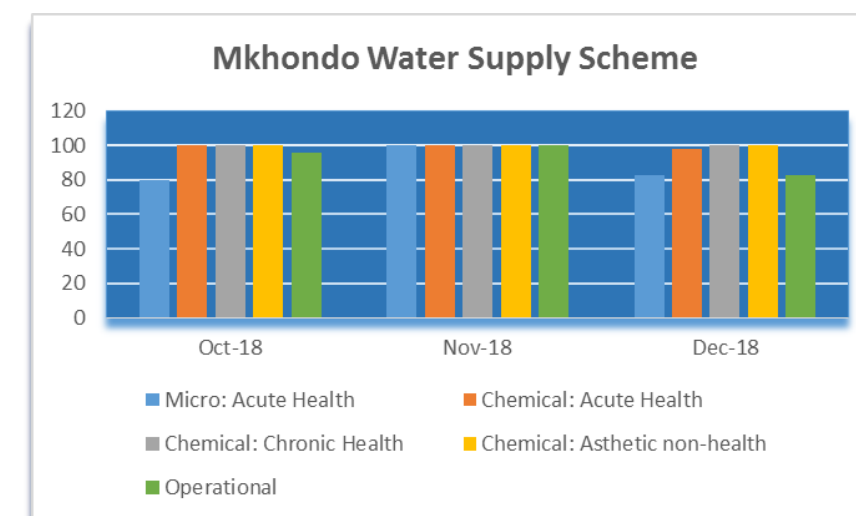
Amsterdam Water Supply Scheme



Saul Mkhize Ville Water Supply Scheme



Mkhondo Water Supply Scheme



Rural Water Supply Scheme

