



LEADERS IN ENVIRONMENTAL MONITORING



**ORGANISATION UNDOING TAX
ABUSE (OUTA)**

BATCH 75020 – SEPTEMBER WEEK 1

HAMAANSKRAAL

WATER QUALITY REPORT

02 October 2019

Compiled by Aquatico Scientific

**10TH FLOOR
OKEEFFE AND SWARTZ BUILDING
318 OAK AVENUE**

ATTENTION: ORGANISATION UNDOING TAX ABUSE

02 OCTOBER 2019

CONCISE WATER QUALITY EVALUATION
(TEST REPORT 75020)

WATER QUALITY RESULTS

A water sample was submitted to Aquatico Laboratories on **20 September 2019** for testing the quality for intended use as domestic water. The water quality test results are displayed on the attached Test Report. Water quality is compared to the SANS 241-1:2015 Drinking Water Standard (SABS, 2015).

Table 1. Sampling Register

SAMPLING REGISTER : WEEKLY							
SAMPLER NAME:				Paradise Sihlangu			
Hammanskraal Potable water							
Locality	Description	Coordinates		Sample Time	Status	Remarks	Lab no
		Latitude	Longitude				
Monitoring Localities							
Hammanskraal Water	Tshwane Water supply in Hammanskraal	S25.283990	E28.274904	2019-09-20 14:06	Yes	SIKHULULEKILE SECONDARY SCHOOL	46059

Locality	Hammanskraal Tshwane Water
Locality Coordinates	S25.283990 E28.274904
Sample Date	2019-09-20 14:06
Sample By	Paradise Sihlangu



Figure 1. Photographic Catalogue of sampling locality



Appendix A.

DATA TABLE				
CLIENT NAME	Organisation Undoing Tax Abuse	DATE COMPILED	2019-10-02	
ASSESSMENT SET	SANS 241-1:2015 Drinking Water Standard (SABS, 2015)	COMPILED BY	Ian Belford	
*Value exceeds the assessment set				
VARIABLE	UNITS	ASSESSMENT SET	SAMPLE NAME : Hammanskraal Tshwane Water	POSSIBLE HEALTH EFFECTS
pH @ 25°C	pH	Range 5.0 - 9.7	8.37	No health effects
Electrical conductivity (EC) @ 25°C	mS/m	170	85.4	Insignificant effect on sensitive users
Total Dissolved solids @ 180°C	mg/l	1200	600	
Chloride (Cl)	mg/l	300	77.8	No health effects
Sulphate (SO ₄)	mg/l	500	45.7	No effects
Nitrate (NO ₃) as N	mg/l	11	9.08	Insignificant risk
Nitrite (NO ₂) as N	mg/l	0.9	1.54	
Ammonium (NH ₄) as N	mg/l	-	7.18	
Ammonia (NH ₃) as N	mg/l	1.5	0.837	
Fluoride (F)	mg/l	1.5	<0.466	
Acid Soluble Sodium (Na)	mg/l	-	121	Insignificant effects
Acid Soluble Aluminium (Al)	mg/l	0.3	0.102	
Acid Soluble Iron (Fe)	mg/l	0.3	0.041	No effects
Acid Soluble Manganese (Mn)	mg/l	0.1	0.154	Insignificant effects
Acid Soluble Chromium (Cr)	mg/l	0.05	<0.007	
Acid Soluble Copper (Cu)	mg/l	2	0.010	No health effects
Acid Soluble Nickel (Ni)	mg/l	0.07	<0.005	
Acid Soluble Zinc (Zn)	mg/l	5	0.091	No effects
Acid Soluble Cadmium (Cd)	mg/l	0.003	<0.005	
E.coli	CFU/100ml	0	0	
Total coliform	CFU/100ml	10	0	
TotalViableCount	CFU/ml	1000	156	
Turbidity	NTU	1	1.30	Possibility of secondary health effects
Free chlorine (Cl ₂)	mg/l	5	<0.1	
Total organic carbon (TOC)	mg/l	10	8.89	
Temperature	°C	-	24.2	
Total oxidised nitrogen	mg/l	-	10.63	
Monochloramine	mg/l	3	0.08	

The water quality of the sample called '**Hammanskraal Tshwane Water**' can be described as neutral (pH 6.0 - 8.5), non-saline (TDS < 450 mg/l) and hard (total hardness 200 - 300 CaCO₃) with no E.coli and no total coliforms detected.

Compliance with the 'SANS 241-1:2015 Drinking Water Standard (SABS, 2015)' guidelines is as follows:

Chronic health Risk: All compliant
Acute health Risk: NO₂-N 1.54 mg/l (> 0.900 mg/l)
Operational (non-health): Turbidity 1.30 NTU (> 1.00 NTU)
Aesthetic (non-health): ASM Mn 0.154 mg/l (> 0.100 mg/l)

In terms of the classification system of the 'Quality of Domestic water supplies' (WRC,1998) the quality is classified as follows :

Drinking:	Class 2 - Marginal	due to Turbidity
Bathing:	Class 1 - Good	
Washing:	Class 1 - Good	
Food Preparation:	Class 2 - Marginal	due to Turbidity
Aesthetic:	Class 2 - Marginal	due to ASM Mn, Turbidity

Based on the assessment of variables analysed in comparison to 'SANS 241-1:2015 Drinking Water Standard (SABS, 2015)' and 'Quality of Domestic water supplies' (WRC, 1998), the tested water sample is **Not Fit** for use as potable water and domestic use.

Treatment for intended use: ~~Optional~~, ~~Recommended~~, **Essential**
Variables requiring treatment: NO₂-N, ASM Mn, Turbidity,

Test Report

Page 1 of 2

Client: Organisation Undoing Tax Abuse
Address: 10th Floor, Okeeffe and Swartz Building, 318 Oak Avenue, Ferndale, Randburg
Report no: 75020
Project: Hammanskraal Potable water

Date of certificate: 01 October 2019
Date accepted: 20 September 2019
Date completed: 01 October 2019
Date received: 20 September 2019

Lab no:	46059		
Date sampled:	20-Sep-19		
Aquatico sampled:	Yes		
Sample type:	Water		
Locality description:	Hammanskraal Magalies Water		
Analyses	Unit	Method	
A pH @ 25°C	pH	ALM 20	8.37
A Electrical conductivity (EC) @ 25°C	mS/m	ALM 20	85.4
A Total Dissolved solids @ 180°C	mg/l	ALM 24	600
A Chloride (Cl)	mg/l	ALM 02	77.8
A Sulphate (SO ₄)	mg/l	ALM 03	45.7
A Nitrate (NO ₃) as N	mg/l	ALM 06	9.08
A Nitrite (NO ₂) as N	mg/l	ALM 07	1.54
A Ammonium (NH ₄) as N	mg/l	ALM 05	7.18
N Ammonia (NH ₃) as N	mg/l	ALM 26	0.837
A Fluoride (F)	mg/l	ALM 08	0.431
A Acid Soluble Sodium (Na)	mg/l	ALM 30	121
A Acid Soluble Aluminium (Al)	mg/l	ALM 31	0.102
A Acid Soluble Iron (Fe)	mg/l	ALM 31	0.041
A Acid Soluble Manganese (Mn)	mg/l	ALM 31	0.154
A Acid Soluble Chromium (Cr)	mg/l	ALM 31	<0.003
A Acid Soluble Copper (Cu)	mg/l	ALM 31	0.010
A Acid Soluble Nickel (Ni)	mg/l	ALM 31	<0.002
A Acid Soluble Zinc (Zn)	mg/l	ALM 31	0.091
A Acid Soluble Cadmium (Cd)	mg/l	ALM 31	<0.002
A E.coli	CFU/100ml	ALM 40	<1
A Total coliform	CFU/100ml	ALM 40	<1
A TotalViableCount	CFU/ml	ALM 43	156
A Turbidity	NTU	ALM 21	1.30
N Free chlorine (Cl ₂)	mg/l	ALM 23	<0.10
A Total organic carbon (TOC)	mg/l	ALM 63	8.89
N Temperature	°C	ALM 20	24.2
N Total oxidised nitrogen	mg/l	ALM 26	10.63
N Monochloramine	mg/l	ALM 67	0.08

A = Accredited N = Non accredited Out = Outsourced Sub = Sub-contracted NR = Not requested RTF = Results to follow NATD = Not able to determine ATR = Alternative test report ; The results relates only to the test item tested; Results reported against the limit of detection; Results marked 'Non SANAS Accredited' in this report are not included in the SANAS Schedule of Accreditation for this laboratory; Uncertainty of measurement available on request for all methods included in the SANAS Schedule of Accreditation; The report shall not be reproduced except in full without approval of the laboratory

Test Report

Client: Organisation Undoing Tax Abuse
Address: 10th Floor, Okeeffe and Swartz Building, 318 Oak Avenue, Ferndale, Randburg
Report no: 75020
Project: Hammanskraal Potable water
Date of certificate: 01 October 2019
Date accepted: 20 September 2019
Date completed: 01 October 2019
Date received: 20 September 2019

Lab no:	46059		
Date sampled:	20-Sep-19		
Aquatico sampled:	Yes		
Sample type:	Water		
Locality description:	Hammanskraal Magalies Water		
Analyses			
	Unit	Method	
N Combined Nitrate plus Nitrite	ratio	ALM 26	2.5

A = Accredited N = Non accredited Out = Outsourced Sub = Sub-contracted NR = Not requested RTF = Results to follow NATD = Not able to determine ATR = Alternative test report ; The results relates only to the test item tested; Results reported against the limit of detection; Results marked 'Non SANAS Accredited' in this report are not included in the SANAS Schedule of Accreditation for this laboratory; Uncertainty of measurement available on request for all methods included in the SANAS Schedule of Accreditation; The report shall not be reproduced except in full without approval of the laboratory

Authenticated signature on first page