



LEADERS IN ENVIRONMENTAL MONITORING



**ORGANISATION UNDOING TAX
ABUSE (OUTA)**

BATCH 77645 – NOVEMBER WEEK 1

HAMAANSKRAAL

WATER QUALITY REPORT

18 November 2019

Compiled by Aquatico Scientific

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

ATTENTION: ORGANISATION UNDOING TAX ABUSE

18 NOVEMBER 2019

CONCISE WATER QUALITY EVALUATION
(TEST REPORT 77645)

WATER QUALITY RESULTS

A water sample was submitted to Aquatico Laboratories on **12 November 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							
PROJECT NAME:				Hammanskraal Potable w ater			
SAMPLER NAME:				Emmanuel Mathebula			
Hammanskraal Potable w ater							
Locality	Description	Coordinates		Sample Time	Status	Remarks	Lab no
		Latitude	Longitude				
Monitoring Localities							
Hammanskraal Tshwane Water	Tshwane Water supply in Hammanskraal	S25.40363	E28.28801	2019-11-11 11:24	Yes	CLEAR - WARD 75	60620

Locality	Hammanskraal Tshwane Water
Locality Coordinates	S25.37913 E28.25588
Sample Date	2019-11-11 11:02
Sample By	Emanuel Mathebula

Tshwane Water supply in Hammanskraal



Figure 1. Photographic Catalogue of sampling locality



DATA TABLE				
CLIENT NAME	Organisation Undoing Tax Abuse	DATE COMPILED	2019-11-18	
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	8.42	No health effects
Electrical conductivity (EC) @ 25°C	mS/m	170	87.2	Insignificant effect on sensitive users
Total Dissolved solids @ 180°C	mg/l	1200	440	
Chloride (Cl)	mg/l	300	78.6	No health effects
Sulphate (SO ₄)	mg/l	500	41.7	No effects
Nitrate (NO ₃) as N	mg/l	11	3.16	Negligible effects
Nitrite (NO ₂) as N	mg/l	0.9	0.209	
Ammonium (NH ₄) as N	mg/l	-	14.8	
Ammonia (NH ₃) as N	mg/l	1.5	1.62	
Fluoride (F)	mg/l	1.5	<0.466	
Acid Soluble Sodium (Na)	mg/l	-	91.6	Negligible effects
Acid Soluble Aluminium (Al)	mg/l	0.3	0.063	
Acid Soluble Iron (Fe)	mg/l	0.3	0.072	No effects
Acid Soluble Manganese (Mn)	mg/l	0.1	0.141	Insignificant effects
Acid Soluble Chromium (Cr)	mg/l	0.05	<0.007	
Acid Soluble Copper (Cu)	mg/l	2	0.009	No health effects
Acid Soluble Nickel (Ni)	mg/l	0.07	<0.005	
Acid Soluble Zinc (Zn)	mg/l	5	0.016	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	1940	
Turbidity	NTU	1	2.48	Possibility of secondary health effects
Free chlorine (Cl ₂)	mg/l	5	<0.1	
Total organic carbon (TOC)	mg/l	10	10.3	
Temperature	°C	-	23.2	
Total oxidised nitrogen	mg/l	-	3.37	
Monochloramine	mg/l	3	4.41	

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 moderately hard (total hardness 150 - 200 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: TOC 10.3 mg/l (> 10.0 mg/l), Monochloramine 4.41 mg/l (> 3.00 mg/l)
Acute health Risk: All compliant
Operational (non-health): TVC Spiral 1940 CFU/ml (> 1000 CFU/ml), Turbidity 2.48 NTU (> 1.00 NTU)
Aesthetic (non-health): NH₃ 1.62 mg/l (> 1.5 mg/l) ASM Mn 0.141 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: Turbidity, NH₃, ASM Mn, TVC Spiral, TOC, Monochloramine

Please contact us for any further enquiries

Electronically generated report

Ian Belford

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: 77645
Project: Hammanskraal Potable water

Date of certificate: 18 November 2019
Date accepted: 12 November 2019
Date completed: 18 November 2019
Date received: 11 November 2019

Lab no:	60620		
Date sampled:	11-Nov-19		
Aquatico sampled:	Yes		
Sample type:	Water		
Locality description:	Hammanskraal Magalies Water		
Analyses	Unit	Method	
A pH @ 25°C	pH	ALM 20	8.42
A Electrical conductivity (EC) @ 25°C	mS/m	ALM 20	87.2
A Total Dissolved solids @ 180°C	mg/l	ALM 24	440
A Chloride (Cl)	mg/l	ALM 02	78.6
A Sulphate (SO ₄)	mg/l	ALM 03	41.7
A Nitrate (NO ₃) as N	mg/l	ALM 06	3.16
A Nitrite (NO ₂) as N	mg/l	ALM 07	0.209
A Ammonium (NH ₄) as N	mg/l	ALM 05	14.8
N Ammonia (NH ₃) as N	mg/l	ALM 26	1.62
A Fluoride (F)	mg/l	ALM 08	0.400
A Acid Soluble Sodium (Na)	mg/l	ALM 30	91.6
A Acid Soluble Aluminium (Al)	mg/l	ALM 31	0.063
A Acid Soluble Iron (Fe)	mg/l	ALM 31	0.072
A Acid Soluble Manganese (Mn)	mg/l	ALM 31	0.141
A Acid Soluble Chromium (Cr)	mg/l	ALM 31	<0.003
A Acid Soluble Copper (Cu)	mg/l	ALM 31	0.009
A Acid Soluble Nickel (Ni)	mg/l	ALM 31	<0.002
A Acid Soluble Zinc (Zn)	mg/l	ALM 31	0.016
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	1940
A Turbidity	NTU	ALM 21	2.48
N Free chlorine (Cl ₂)	mg/l	ALM 23	<0.10
A Total organic carbon (TOC)	mg/l	ALM 63	10.3
N Temperature	°C	ALM 20	23.2
N Total oxidised nitrogen	mg/l	ALM 26	3.37
N Monochloramine	mg/l	ALM 67	4.41

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

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Date sampled:	11-Nov-19		
Aquatico sampled:	Yes		
Sample type:	Water		
Locality description:	Hammanskraal Magalies Water		
Analyses			
	Unit	Method	
N Combined Nitrate plus Nitrite	ratio	ALM 26	<1.0

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