



Consulting Analytical & Industrial Chemists
 Specialists in Water & Waste Water Treatment
 Telephone (021)448 6340/1
 After Hours (083-3263887)
 e-Mail Address :
 info@alabbott.co.za



T0276

No. 1, Vine Park
 Vine Road
 7925
 P.O. Box 483
 WOODSTOCK, CAPE
 7915

Certificate of Analysis

WITZENBERG MUNICIPALITY : BID 08/2/12/30&32

Witzenberg Municipality Reticulation Waters

22 : Water Treatment Works. Final ex Tulbagh

DATE SAMPLED : 2022/06/01

DATE RECEIVED : 2022/06/02

DATE ANALYSIS

COMMENCED : 2022/06/02

OUR REF. : 2022/06/01/15600

REPORT NO. : 3224 & 3284

	Sample Number	15600		
Mthd ALA No.	Analyses	Results	SANS 241-1:2015	% Uncertainty of Measurement
19	pH (at 25 °C)	6.51	≥5 - ≤ 9.7 Operational	1.5
9	Conductivity (mS/m) (at 25 °C)	8.7	≤170 Aesthetic	4.5
27	Turbidity (NTU)	5.3	≤1 Operational : ≤5 Aesthetic	11
97	Colour (mg/l as Pt)	6	≤15 Aesthetic	22
92a	Sodium (mg/l as Na)	13.4	≤200 Aesthetic	5.1
102	Sulphate (mg/l as SO ₄)	2.1	≤250 Aesthetic ≤500 Acute Health	8.3
94	Total Alkalinity (mg/l as CaCO ₃)	13.8	N/A	4
7	Total Dissolved Solids (mg/l)	60	≤1200 Aesthetic	-
92a	Zinc (mg/l as Zn)	0.01	≤5 Aesthetic	5.4
95	Ammonia Nitrogen (mg/l as N)	<0.10	≤1.5 Aesthetic	5.2
99	Nitrite Nitrogen (mg/l as N)	<0.20	≤0.9 Acute Health	4
96	Chloride (mg/l as Cl)	16.7	≤300 Aesthetic	10
98	Fluoride (mg/l as F)	<0.50	≤1.5 Chronic Health	4.4
92a	Manganese (µg/l as Mn)	<20	≤100 Aesthetic ≤400 Chronic Health	5.6
92a	Iron (µg/l as Fe)	53	≤300 Aesthetic ≤2000 Chronic Health	4.9
N/A	Total Microcystin (µg/l)	<0.15	≤1	-
92a	Copper (µg/l as Cu)	<20	≤2000 Chronic Health	5.3
92	Uranium (µg/l as U)	<15	≤30 Chronic Health	-
92a	Lead (µg/l as Pb)	<10	≤10 Chronic Health	4.9
92a	Aluminium (µg/l as Al)	<40	≤300 Operational	4.9
92a	Arsenic (µg/l as As)	<10	≤10 Chronic Health	10.9

Sampler : V. Opperman (ALA)

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92a	Cadmium (µg/l as Cd)	<1	≤3 Chronic Health	4.2
92a	Total Chromium (µg/l as Cr)	<20	≤50 Chronic Health	4.9
51	Cyanide (µg/l as CN ⁻)	<20	≤200 Acute Health	-
92a	Selenium (µg/l as Se)	<10	≤40 Chronic Health	5.5
92a	Antimony (µg/l as Sb)	<20	≤20 Chronic Health	5.2
92a	Mercury (µg/l as Hg)	<5	≤6 Chronic Health	-
105	Total Organic Carbon (mg/l as C)	0.26	≤10 Chronic Health	0.07
45	Phenols (mg/l)	<0.01	≤0.01 Aesthetic	-
92a	Nickel (µg/l as Ni)	<20	≤70 Chronic Health	5.5
N/A	Combined Trihalomethanes (µg/l)	0.43	≤1.0	-
66	Free Chlorine (mg/l)	<0.05	≤5 Chronic Health	-
66	Total Chlorine (mg/l)	<0.05	N/A	-
85	Total Coliform Bacteria (count per 100 ml)	4	≤10 Operational	4.2
84	E.coli (count per 100 ml)	<1	Not Detected	4.9
88	Heterotrophic Plate Count (count per ml)	18	≤1000 Operational	5.1
N/A	Protozoan Parasites (Giardia Species) (count per 10 litres)	<1	Not Detected Acute Health	-
N/A	Protozoan Parasites (Cryptosporidium Species) (count per 10 litres)	<1	Not Detected Acute Health	-
N/A	Somatic Coliphages (count per 10 ml)	<1	Not Detected Operational	-
100	Nitrate & Nitrite Nitrogen (mg/l as N)	<0.20	≤12 Acute Health	10.2
N/A	Monochloramine (mg/l)	<0.05	≤3 Chronic Health	-
Calc	Nitrate Nitrogen (mg/l as N)	<0.20	≤11 Acute Health	3.4

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N/A	Combined Nitrate plus Nitrite (mg/l as N)	0.22	≤1.0	-
N/A	Trihalomethane (Bromodichloromethane) (µg/l)	<10.0	≤60 Chronic Health	-
N/A	Trihalomethane (Bromoform) (µg/l)	<10.0	≤100 Chronic Health	-
N/A	Trihalomethane (Chloroform) (µg/l)	18.0	≤300 Chronic Health	-
N/A	Trihalomethane (Dibromochloromethane) (µg/l)	<10.0	≤100 Chronic Health	-
92a	Barium (µg/l as Ba)	<20	≤700 Chronic Health	5.2
47	Boron (mg/l as B)	<0.10	≤2.4 Chronic Health	-
105	Dissolved Organic Carbon (mg/l as C)	0.16	N/A	-
92a	Calcium (mg/l as Ca)	2.5	N/A	5.6
Calc	Langelier Saturation Index (at 25 °C)	-3.4	N/A	-
Calc	CaCO ₃ Precipitation Potential (mg/l)	-22.6	N/A	-
Calc	Total Hardness (mg/l as CaCO ₃)	11.6	N/A	-
Calc	Calcium Hardness (mg/l as CaCO ₃)	6.3	N/A	-
Calc	Magnesium Hardness (mg/l as CaCO ₃)	5.3	N/A	-
92a	Magnesium (mg/l as Mg)	1.3	N/A	5.1
92a	Potassium (mg/l as K)	1.4	N/A	4.5
92a	Cobalt (µg/l as Co)	<20	N/A	5.6
92a	Vanadium (µg/l as V)	<1	N/A	5.1

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Notes:

1. Test marked with an asterisk (*) on attached Appendix 1 (Doc. 7.8#3) are SANAS Accredited and are included in the SANAS Schedule of Accreditation for this laboratory.
2. Schedule of Accreditation excludes sampling. Where applicable pH and Free & Total Chlorine Residual results are supplied by the sampling officer and will be indicated on the Certificate of Analysis. This is marked as "Field".
3. Sampling plans are as requested by the customer. Sampling is done according to A.L. Abbott and Associates (Pty) Ltd sampling procedures which are available on request.
4. Uncertainty of Measurement and Method Description will be provided upon request.
5. Results are reported at the 95% Confidence Interval with a Coverage Factor K = 2.
6. The laboratory does not normally issue any statement of conformity, unless by prior arrangement.
Decision Rule: Results reflecting on the Certificate of Analysis are actual results as obtained at the time of testing and do not include any uncertainty consideration.
7. The quality and integrity of samples submitted has a direct correlation on the results reported. Results reflected on this report therefore relate only to the sample as received.
8. In the absence of customer specified limits, SANS 241-1:2015 or General Limits will appear, as applicable.
9. This report may not be reproduced, except in full, without the prior written approval of the laboratory.
10. Opinions and interpretations are not included in the Certificate of Analysis.

N. VAN BINSBERGEN (Pr.Sci.Nat.)
DIRECTOR
09 June 2022

TO: WITZENBERG MUNICIPALITY
P O Box 44
CERES
6835

Att: S. FARMER

Sampler : V. Opperman (ALA)

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