RAND WATER

Rand Water Supply to Victor Khanye municipality - Delmas System

23 July 2025 to 22 August 2025 — **1 Month Water Quality Report** — **Date generated: 04 September 2025**

Determinands	Measurement Units	Risks	SANS 241:2015 standard limits (1)	No of results	Required compliances to SANS 241:2015 spec(%)	Achieved compliances to SANS 241:2015 spec(%)	Descriptive Statistics: Mean	Standard Deviation	Mean + 3 Std deviations
Microbiological determinands									
E. coli	(mpn per 100 mL)	Acute health	Non-detect	23	99.0%	100%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	≤ 10	23	95.0%	100%	0	0.00	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	≤ 1000	23	95.0%	100%	1	0.82	3
Cryptosporidium spp (2)	(org / 10 Litre)	Acute health	Non-detect	14	99.0%	100%	0	0.00	0
Giardia spp (2)	(org / 10 Litre)	Acute health	Non-detect	14	99.0%	100%	0	0.00	0
Somatic Coliphages (2)	(count per 10 mL)	Operational	Non-detect	64	95.0%	100%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	≤ 15	2	95.0%	100%	7.00	0.00	7.00
Conductivity	(mS / m)	Aesthetic	≤ 170	23	95.0%	100%	25.35	4.78	39.70
Total Dissolved Solids	(mg / L)	Aesthetic	≤ 1200	2	95.0%	100%	197.50	3.54	208.11
Turbidity	(NTU)	Operational	≤ 1	23	95.0%	100%	0.36	0.09	0.64
Turbidity	(NTU)	Aesthetic	≤ 5	23	95.0%	100%	0.36	0.09	0.64
pH	(pH units)	Operational	≥ 5 to ≤ 9.7	23	95.0%	100%	7.80	0.12	8.16
Chemical Properties: Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	≤ 1.5	23	95.0%	100%	0.34	0.08	0.59
Chloride	(mg / L as Cl)	Aesthetic	≤ 300	2	95.0%	100%	15.50	0.71	17.62
Free chlorine	(mg / L as Cl_2)	Chronic health	≤ 5	23	97.0%	100%	0.07	0.02	0.14
Monochloramine	(mg / L as Cl_2)	Chronic health	≤ 4.1	23	97.0%	100%	1.39	0.40	2.60
Fluoride	(mg / L as F)	Chronic health	≤ 1.5	2	97.0%	100%	0.60	0.02	0.66
Nitrate	(mg / L as N)	Acute health	≤ 11	23	99.0%	100%	0.55	0.05	0.68
Nitrite	(mg / L as N)	Acute health	≤ 0.9	23	99.0%	100%	0.05	0.06	0.22
Combined nitrate plus nitrite (3)	(mg / L as N)	Acute health	≤ 1	19	99.0%	100%	0.10	0.05	0.24
Residual disinfectant (4)	(mg / L as Cl_2)	Operational	≥ 0.1	23	95.0%	100%	1.45	0.41	2.68
Sodium	(mg / L as Na)	Aesthetic	≤ 200	2	95.0%	100%	14.00	0.00	14.00
Sulphate	(mg / L as SO_4)	Aesthetic	≤ 250	2	95.0%	100%	17.50	0.71	19.62
Sulphate	(mg / L as SO_4)	Acute health	≤ 500	2	99.0%	100%	17.50	0.71	19.62
Zinc	(mg / L as Zn)	Aesthetic	≤ 5	2	95.0%	100%	0.04	0.00	0.04
Chemical Properties: Micro determinands									
Aluminium	(µg / L as Al)	Operational	≤ 300	2	95.0%	100%	50.00	0.00	50.00
Antimony	(µg / L as Sb)	Chronic health	≤ 20	2	97.0%	100%	0.30	0.00	0.30
Arsenic	(µg / L as As)	Chronic health	≤ 10	2	97.0%	100%	8.00	0.00	8.00
Barium	(µg / L as Ba)	Chronic health	≤ 700	2	97.0%	100%	60.00	2.83	68.49
Boron	(µg / L as B)	Chronic health	≤ 2400	2	97.0%	100%	17.00	0.00	17.00
Cadmium	(µg / L as Cd)	Chronic health	≤ 3	2	97.0%	100%	1.50	0.00	1.50
Chromium (Total)	(µg / L as Cr)	Chronic health	≤ 50	2	97.0%	100%	5.00	0.00	5.00
Copper	(µg / L as Cu)	Chronic health	≤ 2000	2	97.0%	100%	8.00	0.00	8.00
Cyanide (Recoverable)	(µg / L as CN)	Acute health	≤ 200	2	99.0%	100%	5.00	0.00	5.00
Iron	(µg / L as Fe)	Chronic health	≤ 2000	2	97.0%	100%	24.00	4.24	36.73
Iron	(µg / L as Fe)	Aesthetic	≤ 300	2	95.0%	100%	24.00	4.24	36.73
Lead	(µg / L as Pb)	Chronic health	≤ 10	2	97.0%	100%	8.00	0.00	8.00
Manganese	(µg / L as Mn)	Chronic health	≤ 400	2	97.0%	100%	3.00	0.00	3.00
Manganese	(µg / L as Mn)	Aesthetic	≤ 100	2	95.0%	100%	3.00	0.00	3.00
Mercury	(µg / L as Hg)	Chronic health	≤ 6	2	97.0%	100%	1.50	0.00	1.50
Nickel	(µg / L as Ni)	Chronic health	≤ 70	2	97.0%	100%	5.00	0.00	5.00
Selenium	(µg / L as Se)	Chronic health	≤ 40	2	97.0%	100%	8.00	0.00	8.00
Uranium	(µg / L as U)	Chronic health	≤ 30	2	97.0%	100%	0.10	0.00	0.10
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	≤ 10	2	97.0%	100%	5.60	0.28	6.45
Phenols as C_6H_5OH	(µg / L)	Aesthetic	≤ 10	4	95.0%	100%	2.58	0.15	3.03
Chloroform - $CHCl_3$	(µg / L)	Chronic health	≤ 300	2	97.0%	100%	67.50	3.54	78.11
Bromoform - $CHBr_3$	(µg / L)	Chronic health	≤ 100	2	97.0%	100%	10.00	0.00	10.00
Dibromochloromethane - $CHBr_2Cl$	(µg / L)	Chronic health	≤ 100	2	97.0%	100%	10.00	0.00	10.00
Bromodichloromethane - $CHBrCl_2$	(µg / L)	Chronic health	≤ 60	2	97.0%	100%	17.00	2.83	25.49
Combined trihalomethanes (5)	(µg / L)	Chronic health	≤ 1	2	97.0%	100%	0.53	0.04	0.63
Total Microcystin (2)	(µg / L)	Chronic health	≤ 1	15	97.0%	100%	0.31	0.00	0.31
For monitoring/reporting purposes only									
Calcium (6)	(mg / L as Ca)	Aesthetic	≤ 150	2	not applicable	100%	23.50	0.71	25.62
Hardness (7)	(mg / L as $CaCO_3$)	Operational	≥ 20 to ≤ 200	2	not applicable	100%	85.00	1.41	89.24
Magnesium (6)	(mg / L as Mg)	Aesthetic	≤ 70	2	not applicable	100%	7.65	0.07	7.86
Potassium (6)	(mg / L as K)	Aesthetic	≤ 50	2	not applicable	100%	5.20	0.00	5.20
Rand Water Risk Determinands (RWRD) (6)									
Odour	TON	RWRD	≤ 2	8	not applicable	100%	1.00	0.00	1.00
Taste	FTN	RWRD	≤ 2	8	not applicable	100%	1.00	0.00	1.00

Risks	Required compliances to SANS 241: 2015 standard	Overall Compliances - SANS 241: 2015 standard
Acute health microbiological	99.0%	100%
Acute health chemical	99.0%	100%
Chronic health	97.0%	100%
Aesthetic	95.0%	100%
Operational	95.0%	100%

Notes
(1) Specification_SANS 241 date of effect : 1 July 2016
(2) Measured at water treatment works exit points
(3) (NO2/0.9 + NO3/11)
(4) Residual disinfectant : Results from the chloraminated system = Sum of Free and Monochloramine
(5) (CHCl3/300 + CHBr3/100 + CHBr2Cl/100 + CHBrCl2/60)
(6) Customer request: Results not included in the risk indices compliance calculations and limits based on SANS 241:2006
(7) Customer request: Results not included in the risk indices compliance calculations and limits based on RW Internal Spec
**** Determinands with no data are due to instrument breakdown****