

23 March 2017 to 21 April 2017 **Victor Khanye Municipality (Delmas System) Water Quality Report - 1 Month** Date generated: 03 May 2017

Determinand	Measurement units	Risk	Required compliance to SANS 241: 2015 standard (%)	SANS 241: 2015 standard limits (1)	No of results	Achieved Compliance to SANS 241: 2015 Spec(%)	Descriptive statistics		
							Mean	Standard Deviation	Mean + 3 standard deviations
Microbiological determinands									
<i>E. coli</i>	(mpn per 100 mL)	Acute health	99.0%	0	21	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	21	100.0%	0	0.00	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	21	100.0%	2	2.36	7
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	15	100.0%	0	0.00	0
<i>Giardia spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	15	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	60	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	3	100.0%	5.00	0.00	5.00
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	21	100.0%	19.95	1.32	21.80
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	3	100.0%	136.67	2.89	139.90
Turbidity	(NTU)	Operational	95.0%	≤1	21	100.0%	0.30	0.05	0.41
Turbidity	(NTU)	Aesthetic	95.0%	≤5	21	100.0%	0.30	0.05	0.41
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	21	100.0%	7.89	0.10	8.05
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	21	100.0%	0.23	0.14	0.43
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	3	100.0%	10.67	0.58	11.00
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	21	100.0%	0.12	0.18	0.72
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	21	100.0%	1.07	0.49	0.20
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	3	100.0%	0.18	0.03	0.21
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	21	100.0%	0.59	0.10	0.85
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	21	100.0%	0.08	0.07	0.23
Combined nitrate plus nitrite	(NO ₂ /0.9 + NO ₃ /11)	Acute health	99.0%	≤1	21	100.0%	0.14	0.08	0.32
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	21	100.0%	1.19	0.49	1.90
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	3	100.0%	7.80	0.20	8.00
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	3	100.0%	12.00	0.00	12.00
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	3	100.0%	12.00	0.00	12.00
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	3	100.0%	0.02	0.00	0.02
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	3	100.0%	34.33	5.13	39.86
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	3	100.0%	0.50	0.00	0.50
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	3	100.0%	0.73	0.05	0.79
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	3	100.0%	38.00	0.00	38.00
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	3	100.0%	25.00	0.00	25.00
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	3	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	3	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	3	100.0%	10.00	0.00	10.00
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	3	100.0%	5.00	0.00	5.00
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	3	100.0%	18.67	4.04	22.90
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	3	100.0%	18.67	4.04	22.90
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	3	100.0%	0.20	0.00	0.20
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	3	100.0%	10.00	0.00	10.00
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	3	100.0%	10.00	0.00	10.00
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	3	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	3	100.0%	10.00	0.00	10.00
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	3	100.0%	0.50	0.00	0.50
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	3	100.0%	0.21	0.01	0.22
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	3	100.0%	4.27	1.16	5.56
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	3	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	3	100.0%	59.00	2.65	60.98
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	3	100.0%	0.50	0.00	0.50
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	3	100.0%	1.30	0.20	1.50
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	3	100.0%	14.00	1.00	14.98
Combined trihalomethanes	(CHCl ₃ /300 + CHBr ₃ /100 + CHBr ₂ Cl/100 + CHBrCl ₂ /60)	Chronic health	97.0%	≤1	3	100.0%	0.45	0.02	0.47
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	15	100.0%	0.36	0.00	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	3	100.0%	18.67	1.15	19.96
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	3	100.0%	65.81	3.08	69.26
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	3	100.0%	5.53	0.06	5.60
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	3	100.0%	3.40	0.00	3.40

Risk	Required compliance to SANS 241: 2015 standard	Overall Compliance-SANS 241
Acute health microbiological	99.00%	100.00%
Acute health chemical	99.00%	100.00%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	100.00%
Operational	95.00%	100.00%

- Notes:**
- (1) Specification date of effect : 1 July 2016
 - (4) Residual disinfectant : Results from chloraminated system
 - (3) Monochloramine : Results are from the choraminated systems
 - (4) Residual disinfectant : Results from chloraminated system
 - (5) Measured at water treatment works exit points
 - (6) Customer request: Results not included in the risk indices compliance calculations