

Govan Mbeki Local Municipality Water Quality Report - 12 Month

23 January 2017 to 22 January 2018 Date generated: 01 February 2018

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	995	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	995	100.0%	0	0.08	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	987	99.9%	4	45.80	55
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	179	100.0%	0	0.00	0
<i>Giardia spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	179	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	775	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	87	100.0%	5.14	0.51	6.42
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	994	100.0%	19.16	1.71	23.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	140	100.0%	135.79	7.87	156.10
Turbidity	(NTU)	Operational	95.0%	≤1	984	100.0%	0.29	0.10	0.48
Turbidity	(NTU)	Aesthetic	95.0%	≤5	984	100.0%	0.29	0.10	0.48
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	990	100.0%	7.80	0.16	8.31
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	953	100.0%	0.17	0.13	0.44
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	93	100.0%	11.13	2.02	16.08
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	994	100.0%	0.25	0.45	2.20
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	994	100.0%	0.63	0.51	1.60
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	93	100.0%	0.18	0.04	0.37
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	953	100.0%	0.59	0.16	0.97
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	953	99.6%	0.12	0.16	0.57
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	952	99.6%	0.19	0.18	0.69
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	994	96.1%	0.88	0.52	2.20
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	95	100.0%	8.39	1.23	12.00
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	93	100.0%	13.03	1.42	16.24
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	93	100.0%	13.03	1.42	16.24
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	95	100.0%	0.02	0.02	0.10
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	95	100.0%	37.82	11.53	63.86
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	80	100.0%	0.50	0.03	0.62
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	86	100.0%	0.90	0.68	2.86
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	95	100.0%	32.23	5.07	40.72
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	95	100.0%	25.00	0.00	25.00
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	86	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	95	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	95	100.0%	10.84	3.86	35.06
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	87	100.0%	5.22	0.85	8.88
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	95	100.0%	19.53	10.70	46.36
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	95	100.0%	19.53	10.70	46.36
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	86	100.0%	0.28	0.40	1.65
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	95	100.0%	10.05	0.37	12.06
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	95	100.0%	10.05	0.37	12.06
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	82	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	95	100.0%	10.00	0.00	10.00
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	86	100.0%	1.16	1.40	6.64
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	80	100.0%	0.25	0.24	1.19
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	87	100.0%	3.86	0.71	6.46
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	65	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	86	100.0%	51.71	7.90	71.45
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	85	100.0%	0.50	0.00	0.50
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	85	100.0%	1.43	0.76	3.12
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	85	100.0%	14.39	2.33	19.16
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	85	100.0%	0.43	0.06	0.58
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	179	100.0%	0.33	0.02	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	95	100.0%	16.72	2.17	22.12
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	92	100.0%	60.78	6.34	77.36
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	95	100.0%	5.49	0.48	6.42
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	95	100.0%	3.47	0.46	4.31
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	461	100.0%	1.00	0.00	1.00
Taste	FTN	RWRD	95.0%	≤2	462	100.0%	1.00	0.00	1.00

Risk	Required compliance to SANS 241: 2015 standard	Overall Compliance-SANS 241
Acute health microbiological	99.00%	100.00%
Acute health chemical	99.00%	99.74%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	100.00%
Operational	95.00%	99.31%

- Notes:**
- (1) Specification date of effect : 1 July 2016
 - (2) Free chlorine : Results from chloraminated system
 - (3) Monochloramine : Results are from the chloraminated 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
 - (7) (NO₂/0.9 + NO₃/11)
 - (8) (CHCl₃/300 + CHBr₃/100 + CHBr₂Cl/100 + CHBrCl₂/60)