

Govan Mbeki Local Municipality Water Quality Report - 12 Month

23 March 2017 to 22 March 2018 Date generated: 03 April 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	998	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	998	100.0%	0	0.21	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	990	99.9%	6	52.91	84
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	182	100.0%	0	0.00	0
<i>Giardia spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	182	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	786	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	86	100.0%	5.14	0.51	6.45
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	996	100.0%	19.35	1.68	23.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	139	100.0%	136.80	7.57	156.20
Turbidity	(NTU)	Operational	95.0%	≤1	986	100.0%	0.30	0.09	0.48
Turbidity	(NTU)	Aesthetic	95.0%	≤5	986	100.0%	0.30	0.09	0.48
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	992	100.0%	7.77	0.14	8.28
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	948	100.0%	0.16	0.13	0.45
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	92	100.0%	11.44	1.91	16.09
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	997	100.0%	0.26	0.46	2.20
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	997	100.0%	0.56	0.50	1.61
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	92	100.0%	0.19	0.04	0.37
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	957	100.0%	0.55	0.14	0.93
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	957	99.6%	0.11	0.15	0.57
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	957	99.6%	0.18	0.17	0.68
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	997	93.0%	0.82	0.53	2.20
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	100	100.0%	9.13	1.92	16.00
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	92	100.0%	13.45	1.19	16.27
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	92	100.0%	13.45	1.19	16.27
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	100	100.0%	0.02	0.02	0.10
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	100	100.0%	38.94	11.26	62.31
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	86	100.0%	0.53	0.26	1.05
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	86	100.0%	0.93	0.80	3.25
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	100	100.0%	35.21	8.92	60.00
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	100	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	100	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	100	100.0%	10.92	3.90	35.01
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	86	100.0%	5.22	0.85	8.90
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	100	100.0%	18.33	10.37	46.06
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	100	100.0%	18.33	10.37	46.06
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	86	100.0%	0.29	0.41	1.65
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	100	100.0%	10.07	0.41	12.01
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	100	100.0%	10.07	0.41	12.01
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	86	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	100	100.0%	10.00	0.00	10.00
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	86	100.0%	1.29	1.47	6.64
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	86	100.0%	0.25	0.23	1.13
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	86	100.0%	3.88	0.79	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	85	100.0%	51.25	7.72	71.48
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	84	100.0%	0.50	0.00	0.50
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	84	100.0%	1.40	0.73	3.29
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	84	100.0%	14.72	2.49	19.17
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	84	100.0%	0.43	0.06	0.58
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	184	100.0%	0.32	0.02	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	100	100.0%	17.43	2.83	24.01
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	100	100.0%	64.14	10.15	91.02
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	100	100.0%	5.95	1.07	9.10
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	100	100.0%	3.67	0.33	4.40
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	459	100.0%	1.00	0.00	1.00
Taste	FTN	RWRD	95.0%	≤2	460	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%	98.79%

- Notes:**
- Specification date of effect : 1 July 2016
 - Free chlorine : Results from chloraminated system
 - Monochloramine : Results are from the chloraminated systems
 - Residual disinfectant : Results from chloraminated system
 - Measured at water treatment works exit points
 - Customer request: Results not included in the risk indices compliance calculations
 - (NO₂/0.9 + NO₃/11)
 - (CHCl₃/300 + CHBr₃/100 + CHBr₂Cl/100 + CHBrCl₂/60)