



Barrage Consumer Supply Water Quality Report (SANS 241) - 12 Month

23 March 2017 to 22 March 2018

Date generated: 03 April 2018

Determinand	Measurement units	Risk	Required compliance to SANS 0241:2015 standard (%)	SANS 0241:2015 standard limits (1)	No of results	Achieved Compliance to SANS0241: 2015 Spec(%)	Descriptive statistics		
							Mean	Std Deviation	Mean + 3 standard deviations
Microbiological determinands									
<i>E. coli</i>	(mpn per 100 mL)	Acute health	99.0%	0	415	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	415	99.5%	1	10.78	1
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	414	100.0%	3	20.41	58
<i>Cryptosporidium spp</i>	(org / 10 Litre)	Acute health	99.0%	0	24	100.0%	0	0.00	0
<i>Giardia spp</i>	(org / 10 Litre)	Acute health	99.0%	0	24	100.0%	0	0.00	0
Somatic Coliphages	(count per 10 mL)	Operational	95.0%	0	52	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	72	100.0%	5.19	0.66	8.29
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	415	100.0%	76.08	11.72	95.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	280	100.0%	464.59	77.40	580.00
Turbidity	(NTU)	Operational	95.0%	≤1	413	99.5%	0.31	0.16	0.49
Turbidity	(NTU)	Aesthetic	95.0%	≤5	413	100.0%	0.31	0.16	0.49
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	415	100.0%	8.05	0.12	8.32
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	207	100.0%	0.05	0.00	0.05
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	74	100.0%	58.65	10.85	82.35
Free chlorine	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	415	100.0%	1.73	0.40	2.20
Monochloramine	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	not applicable	not applicable	not applicable	not applicable	not applicable
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	75	100.0%	0.21	0.05	0.39
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	207	100.0%	3.61	1.06	5.20
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	207	100.0%	0.03	0.03	0.10
Combined nitrate plus nitrite (2)	(mg / L as N)	Acute health	99.0%	≤1	207	100.0%	0.36	0.10	0.52
Residual disinfectant	(mg / L)	Operational	95.0%	≥0.2 Chlorinated system	415	100.0%	1.73	0.40	2.20
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	72	100.0%	59.43	10.94	73.87
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	75	98.7%	163.09	39.81	251.90
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	75	100.0%	163.09	39.81	251.90
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	72	100.0%	0.05	0.03	0.15
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	72	100.0%	32.13	21.06	136.60
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	32	100.0%	0.77	1.10	4.96
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	32	100.0%	2.54	1.94	6.34
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	72	100.0%	36.96	9.46	60.16
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	72	100.0%	81.33	17.43	116.45
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	32	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	72	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	72	100.0%	10.00	0.00	10.00
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	68	100.0%	5.65	3.88	24.96
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	72	100.0%	26.04	22.37	112.34
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	72	100.0%	26.04	22.37	112.34
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	32	100.0%	0.89	1.52	5.88
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	72	100.0%	12.07	6.71	38.83
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	72	100.0%	12.07	6.71	38.83
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	32	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	72	100.0%	10.17	0.61	12.58
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	32	100.0%	1.95	1.38	5.01
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	32	100.0%	1.90	1.11	3.47
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	32	100.0%	3.87	0.57	4.84
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	32	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	32	100.0%	29.50	12.37	52.45
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	32	100.0%	0.66	0.26	1.20
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	32	100.0%	10.02	1.30	12.00
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	32	100.0%	18.69	4.04	26.69
Combined trihalomethanes (3)	(µg / L)	Chronic health	97.0%	≤1	32	100.0%	0.52	0.12	0.74
Total Mycrocystin	(µg / L)	Chronic health	97.0%	≤0.7	12	100.0%	0.32	0.02	0.36
Water quality risk indices									
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%	99.95%							
Operational	95.00%	99.82%							
Notes:									
(1) Specification date of effect : 1 July 2016									
(2) (NO ₂ /0.9 + NO ₃ /11)									
(3) (CHCl ₃ /300 + CHBr ₃ /100 + CHBr ₂ Cl/100 + CHBrCl ₂ /60)									