

RandWest Municipality Water Quality Report - 12 Month

23 October 2017 to 22 October 2018

Date generated: 05 November 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	773	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	773	100.0%	0	0.32	1
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	773	100.0%	3	14.12	45
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	189	100.0%	0	0.00	0
<i>Giardia spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	189	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	817	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	47	100.0%	5.38	0.90	8.08
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	773	100.0%	20.05	2.34	27.07
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	47	100.0%	139.55	21.25	203.30
Turbidity	(NTU)	Operational	95.0%	≤1	768	100.0%	0.32	0.07	0.54
Turbidity	(NTU)	Aesthetic	95.0%	≤5	768	100.0%	0.32	0.07	0.54
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	772	100.0%	7.94	0.14	8.36
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	773	100.0%	0.37	0.08	0.63
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	54	100.0%	11.43	0.72	13.58
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	773	100.0%	0.11	0.17	0.63
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	773	100.0%	1.53	0.36	2.61
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	54	100.0%	0.19	0.00	0.20
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	762	100.0%	0.44	0.04	0.58
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	773	100.0%	0.03	0.03	0.11
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	747	100.0%	0.07	0.03	0.16
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	773	99.7%	1.64	0.33	2.63
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	54	100.0%	9.09	0.76	11.37
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	53	100.0%	14.49	1.10	17.80
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	53	100.0%	14.49	1.10	17.80
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	54	100.0%	0.09	0.26	0.87
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	54	100.0%	31.78	11.34	65.80
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	44	100.0%	0.48	0.13	0.88
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	47	100.0%	1.94	2.52	9.49
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	54	100.0%	38.85	6.48	58.31
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	54	100.0%	22.22	6.03	40.30
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	47	100.0%	2.28	0.48	3.70
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	54	100.0%	13.15	3.92	24.91
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	54	100.0%	10.00	1.33	14.00
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	47	100.0%	11.85	7.42	34.11
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	54	100.0%	19.09	14.05	61.25
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	54	100.0%	19.09	14.05	61.25
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	47	100.0%	1.83	2.78	10.16
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	54	100.0%	8.70	2.74	16.94
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	54	100.0%	8.70	2.74	16.94
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	44	100.0%	0.75	0.20	1.36
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	54	100.0%	9.07	1.96	14.96
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	47	100.0%	2.22	2.71	10.35
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	44	100.0%	0.26	0.24	0.99
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	47	100.0%	3.87	0.61	5.69
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	47	100.0%	4.62	0.80	7.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	54	100.0%	40.37	14.00	82.36
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	54	100.0%	2.08	3.57	12.80
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	54	100.0%	3.18	3.21	12.80
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	54	100.0%	13.85	2.38	20.98
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	54	100.0%	0.42	0.10	0.72
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	193	100.0%	0.31	0.00	0.31
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	54	100.0%	17.24	1.96	23.12457426
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	54	100.0%	65.54	6.69	85.60
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	54	100.0%	6.48	0.84	9.01
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	54	100.0%	3.64	0.44	4.97
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	338	100.0%	1.00	0.00	1.00
Taste	FTN	RWRD	95.0%	≤2	338	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%	100.00%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	100.00%
Operational	95.00%	99.96%

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)