

RandWest Municipality Water Quality Report - 12 Month

23 May 2017 to 22 May 2018 Date generated: 01 June 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	779	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	779	100.0%	0	0.31	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	779	100.0%	2	12.85	22
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	183	100.0%	0	0.00	0
<i>Giardia spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	183	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	809	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	47	100.0%	5.17	0.73	8.54
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	779	100.0%	19.08	2.24	23.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	47	100.0%	134.55	21.52	178.90
Turbidity	(NTU)	Operational	95.0%	≤1	772	100.0%	0.30	0.10	0.48
Turbidity	(NTU)	Aesthetic	95.0%	≤5	772	100.0%	0.30	0.10	0.48
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	779	100.0%	7.89	0.14	8.27
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	779	100.0%	0.38	0.09	0.52
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	59	100.0%	11.03	1.06	13.42
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	779	100.0%	0.14	0.25	1.59
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	779	100.0%	1.51	0.40	2.00
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	59	100.0%	0.21	0.06	0.40
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	776	100.0%	0.45	0.05	0.61
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	779	100.0%	0.04	0.03	0.19
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	776	100.0%	0.08	0.04	0.27
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	779	98.8%	1.65	0.34	2.14
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	50	100.0%	9.79	8.15	38.56
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	59	100.0%	14.00	1.36	17.00
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	59	100.0%	14.00	1.36	17.00
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	50	100.0%	0.02	0.01	0.05
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	50	100.0%	31.80	11.19	73.63
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	47	100.0%	0.50	0.00	0.50
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	47	100.0%	0.87	0.77	2.82
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	50	100.0%	34.94	8.14	55.55
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	50	100.0%	26.12	7.92	53.56
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	47	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	50	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	50	100.0%	10.28	1.07	15.02
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	47	100.0%	5.15	0.49	6.91
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	50	100.0%	23.96	22.49	104.13
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	50	100.0%	23.96	22.49	104.13
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	47	100.0%	0.65	1.41	6.56
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	50	100.0%	10.00	0.00	10.00
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	50	100.0%	10.00	0.00	10.00
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	47	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	50	100.0%	10.02	0.14	10.51
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	47	100.0%	1.03	1.39	6.20
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	47	100.0%	0.22	0.11	0.62
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	47	100.0%	3.73	0.42	4.46
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	47	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	55	100.0%	44.55	6.75	53.46
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	55	100.0%	0.50	0.00	0.50
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	55	100.0%	1.42	0.96	3.19
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	55	100.0%	14.15	1.52	16.46
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	55	100.0%	0.40	0.04	0.48
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	186	100.0%	0.32	0.02	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	50	100.0%	18.14	8.64	49.05
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	50	98.0%	67.08	29.36	170.43
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	50	100.0%	6.27	2.24	14.29
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	50	100.0%	3.98	1.07	8.06
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	335	100.0%	1.00	0.00	1.00
Taste	FTN	RWRD	95.0%	≤2	335	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%	99.81%

- 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)