

RandWest 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	788	100.0%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	788	100.0%	0	0.16	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	785	100.0%	3	12.97	34
<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	48	100.0%	5.08	0.28	6.00
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	788	100.0%	18.90	3.04	23.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	48	100.0%	132.90	20.56	178.55
Turbidity	(NTU)	Operational	95.0%	≤1	783	100.0%	0.29	0.11	0.48
Turbidity	(NTU)	Aesthetic	95.0%	≤5	783	100.0%	0.29	0.11	0.48
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	788	100.0%	7.90	0.15	8.23
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	788	100.0%	0.37	0.09	0.52
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	57	100.0%	10.65	0.96	13.44
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	788	100.0%	0.16	0.28	1.66
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	788	100.0%	1.48	0.43	2.00
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	57	100.0%	0.20	0.06	0.40
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	784	100.0%	0.50	0.09	0.82
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	788	100.0%	0.04	0.04	0.20
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	783	100.0%	0.09	0.04	0.27
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	788	98.9%	1.63	0.36	2.07
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	48	100.0%	9.36	8.37	39.49
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	57	100.0%	13.35	1.38	17.00
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	57	100.0%	13.35	1.38	17.00
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	48	100.0%	0.02	0.01	0.05
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	48	100.0%	30.94	10.09	67.31
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	42	100.0%	0.50	0.00	0.50
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	48	100.0%	0.86	0.58	2.13
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	48	100.0%	32.23	7.59	55.65
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	48	100.0%	26.17	8.08	54.68
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	48	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	48	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	48	100.0%	10.25	1.00	14.53
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	42	100.0%	5.13	0.47	6.92
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	48	100.0%	24.24	22.26	105.39
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	48	100.0%	24.24	22.26	105.39
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	48	100.0%	0.60	1.32	6.54
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	48	100.0%	10.00	0.00	10.00
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	48	100.0%	10.00	0.00	10.00
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	42	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	48	100.0%	10.02	0.14	10.53
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	48	100.0%	1.01	1.34	6.20
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	42	100.0%	0.22	0.12	0.66
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	48	100.0%	3.75	0.53	4.50
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	48	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	56	100.0%	48.57	6.93	64.45
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	56	100.0%	0.50	0.00	0.50
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	56	100.0%	1.21	0.68	2.90
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	56	100.0%	13.95	1.35	16.00
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	56	100.0%	0.41	0.04	0.49
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	48	100.0%	18.75	8.91	51.56
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	48	97.9%	67.00	30.18	178.05
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	48	100.0%	5.81	2.27	14.04
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	48	100.0%	3.74	1.13	7.76
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	343	100.0%	1.00	0.00	1.00
Taste	FTN	RWRD	95.0%	≤2	343	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)