



RAND WATER
RandWest Water Quality Report
1 Month

23 January 2021 to 19 February 2021

Date generated: 12 March 2021

							Descriptive Statistics		
Determinands	Measurement Units	Risks	SANS 241:2015 standard limits (1)	No of results	Required compliances to SANS 241:2015 spec(%)	Achieved compliances to SANS 241:2015 spec(%)	Mean	Standard Deviation	Mean + 3 Std deviations
Microbiological determinands									
<i>E. coli</i>	(mpn per 100 mL)	Acute health	Non-detect	60	99.0%	100%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	≤ 10	60	95.0%	100%	0	1.16	4
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	≤ 1000	60	95.0%	100%	4	6.27	23
<i>Cryptosporidium spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	16	99.0%	100%	0	0.00	0
<i>Giardia spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	16	99.0%	100%	0	0.00	0
Somatic Coliphages (2)	(count per 10 mL)	Operational	Non-detect	64	95.0%	100%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	≤ 15	3	95.0%	100%	7.00	1.00	10.00
Conductivity	(mS / m)	Aesthetic	≤ 170	60	95.0%	100%	22.02	2.33	29.01
Total Dissolved Solids	(mg / L)	Aesthetic	≤ 1200	3	95.0%	100%	163.33	2.89	171.99
Turbidity	(NTU)	Operational	≤ 1	60	95.0%	100%	0.37	0.13	0.77
Turbidity	(NTU)	Aesthetic	≤ 5	60	95.0%	100%	0.37	0.13	0.77
pH	(pH units)	Operational	≥ 5 to ≤ 9.7	60	95.0%	100%	7.81	0.12	8.18
Chemical Properties: Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	≤ 1.5	60	95.0%	100%	0.36	0.17	0.88
Chloride	(mg / L as Cl)	Aesthetic	≤ 300	4	95.0%	100%	13.25	1.89	18.93
Free chlorine	(mg / L as Cl ₂)	Chronic health	≤ 5	60	97.0%	100%	0.14	0.31	1.07
Monochloramine	(mg / L as Cl ₂)	Chronic health	≤ 4.1	60	97.0%	100%	1.18	0.37	2.29
Fluoride	(mg / L as F)	Chronic health	≤ 1.5	6	97.0%	100%	0.23	0.07	0.42
Nitrate	(mg / L as N)	Acute health	≤ 11	60	99.0%	100%	0.70	0.23	1.38
Nitrite	(mg / L as N)	Acute health	≤ 0.9	65	99.0%	100%	0.16	0.19	0.72
Combined nitrate plus nitrite (3)	(mg / L as N)	Acute health	≤ 1	50	99.0%	100%	0.28	0.25	1.02
Residual disinfectant (4)	(mg / L as Cl ₂)	Operational	≥ 0.1	60	95.0%	100%	1.30	0.32	2.26
Sodium	(mg / L as Na)	Aesthetic	≤ 200	4	95.0%	100%	12.25	0.50	13.75
Sulphate	(mg / L as SO ₄)	Aesthetic	≤ 250	4	95.0%	100%	16.00	2.00	22.00
Sulphate	(mg / L as SO ₄)	Acute health	≤ 500	4	99.0%	100%	16.00	2.00	22.00
Zinc	(mg / L as Zn)	Aesthetic	≤ 5	1	95.0%	100%	0.01	no data	0.01
Chemical Properties: Micro determinands									
Aluminium	(µg / L as Al)	Operational	≤ 300	4	95.0%	100%	2.15	0.30	3.05
Antimony	(µg / L as Sb)	Chronic health	≤ 20	3	97.0%	100%	0.60	0.00	0.60
Arsenic	(µg / L as As)	Chronic health	≤ 10	4	97.0%	100%	0.80	0.00	0.80
Barium	(µg / L as Ba)	Chronic health	≤ 700	4	97.0%	100%	40.75	0.50	42.25
Boron	(µg / L as B)	Chronic health	≤ 2400	4	97.0%	100%	1.50	0.00	1.50
Cadmium	(µg / L as Cd)	Chronic health	≤ 3	4	97.0%	100%	1.00	0.00	1.00
Chromium (Total)	(µg / L as Cr)	Chronic health	≤ 50	4	97.0%	100%	0.50	0.00	0.50
Copper	(µg / L as Cu)	Chronic health	≤ 2000	4	97.0%	100%	7.63	5.86	25.21
Cyanide (Recoverable)	(µg / L as CN)	Acute health	≤ 200	3	99.0%	100%	5.00	0.00	5.00
Iron	(µg / L as Fe)	Chronic health	≤ 2000	4	97.0%	100%	100.00	0.00	100.00
Iron	(µg / L as Fe)	Aesthetic	≤ 300	4	95.0%	100%	100.00	0.00	100.00
Lead	(µg / L as Pb)	Chronic health	≤ 10	4	97.0%	100%	3.28	2.55	10.93
Manganese	(µg / L as Mn)	Chronic health	≤ 400	4	97.0%	100%	2.40	0.18	2.95
Manganese	(µg / L as Mn)	Aesthetic	≤ 100	4	95.0%	100%	2.40	0.18	2.95
Mercury	(µg / L as Hg)	Chronic health	≤ 6	4	97.0%	100%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	≤ 70	4	97.0%	100%	3.20	0.40	4.40
Selenium	(µg / L as Se)	Chronic health	≤ 40	4	97.0%	100%	4.00	0.00	4.00
Uranium	(µg / L as U)	Chronic health	≤ 30	3	97.0%	100%	0.50	0.00	0.50
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	≤ 10	3	97.0%	100%	4.17	0.06	4.34
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	≤ 10	3	95.0%	100%	3.00	0.00	3.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	≤ 300	4	97.0%	100%	88.50	4.80	102.89
Bromoform - CHBr ₃	(µg / L)	Chronic health	≤ 100	4	97.0%	100%	10.00	0.00	10.00
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	≤ 100	4	97.0%	100%	10.00	0.00	10.00
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	≤ 60	4	97.0%	100%	17.00	0.00	17.00
Combined trihalomethanes (5)	(µg / L)	Chronic health	≤ 1	4	97.0%	100%	0.59	0.02	0.64
Total Microcystin (2)	(µg / L)	Chronic health	≤ 1	no data	97.0%	no data	.	no data	.
For monitoring/reporting purposes only									
Calcium (6)	(mg / L as Ca)	Aesthetic	≤ 150	4	not applicable	100%	22.00	0.82	24.45
Hardness (7)	(mg / L as CaCO ₃)	Operational	≥ 20 to ≤ 200	4	not applicable	100%	86.50	1.73	91.70
Magnesium (6)	(mg / L as Mg)	Aesthetic	≤ 70	4	not applicable	100%	7.68	0.15	8.13
Potassium (6)	(mg / L as K)	Aesthetic	≤ 50	4	not applicable	100%	4.88	0.17	5.39
Rand Water Risk Determinands (RWRD) (6)									
Odour	TON	RWRD	≤ 2	28	not applicable	100%	1.00	0.00	1.00
Taste	FTN	RWRD	≤ 2	28	not applicable	100%	1.00	0.00	1.00

Risks	Required compliances to SANS 241: 2015 standard	Overall Compliances - SANS 241: 2015 standard
Acute health microbiological	99.0%	100%
Acute health chemical	99.0%	100%
Chronic health	97.0%	100%
Aesthetic	95.0%	100%
Operational	95.0%	100%

Notes
(1) Specification SANS 241 date of effect : 1 July 2016
(2) Measured at water treatment works exit points
(3) (NO₂/0.9 + NO₃/11)
(4) Residual disinfectant : Results from the chloraminated system = Sum of Free and Monochloramine
(5) (CHCl₃/300 + CHBr₃/100 + CHBr₂Cl/100 + CHBrCl₂/60)
(6) Customer request: Results not included in the risk indices compliance calculations and limits based on SANS 241:2006
(7) Customer request: Results not included in the risk indices compliance calculations and limits based on RW Internal Spec
**** Determinands with no data are due to instrument breakdown****