



RAND WATER
Customer Bulk Water Quality Report
1 Month

22 May 2021 to 21 June 2021

Date generated: 13 July 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	1,116	99.0%	99.82%	0	1.35	4
Total Coliforms	(mpn per 100 mL)	Operational	≤ 10	1,116	95.0%	99.91%	0	1.37	4
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	≤ 1000	1,116	95.0%	99.82%	8	129.92	398
<i>Cryptosporidium spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	no data	99.0%	no data	.	no data	.
<i>Giardia spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	no data	99.0%	no data	.	no data	.
Somatic Coliphages (2)	(count per 10 mL)	Operational	Non-detect	90	95.0%	100%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	≤ 15	118	95.0%	99.15%	8.18	2.20	14.77
Conductivity	(mS / m)	Aesthetic	≤ 170	849	95.0%	100%	23.98	6.04	42.11
Total Dissolved Solids	(mg / L)	Aesthetic	≤ 1200	114	95.0%	100%	174.18	60.76	356.47
Turbidity	(NTU)	Operational	≤ 1	898	95.0%	99.67%	0.32	0.12	0.67
Turbidity	(NTU)	Aesthetic	≤ 5	898	95.0%	100%	0.32	0.12	0.67
pH	(pH units)	Operational	≥ 5 to ≤ 9.7	849	95.0%	100%	7.88	0.18	8.42
Chemical Properties: Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	≤ 1.5	848	95.0%	100%	0.22	0.14	0.63
Chloride	(mg / L as Cl)	Aesthetic	≤ 300	105	95.0%	100%	21.44	18.96	78.32
Free chlorine	(mg / L as Cl ₂)	Chronic health	≤ 5	1,117	97.0%	100%	0.34	0.50	1.84
Monochloramine	(mg / L as Cl ₂)	Chronic health	≤ 4.1	769	97.0%	100%	1.26	0.66	3.24
Fluoride	(mg / L as F)	Chronic health	≤ 1.5	104	97.0%	100%	0.41	0.12	0.78
Nitrate	(mg / L as N)	Acute health	≤ 11	850	99.0%	100%	0.63	0.13	1.01
Nitrite	(mg / L as N)	Acute health	≤ 0.9	846	99.0%	100%	0.07	0.09	0.34
Combined nitrate plus nitrite (3)	(mg / L as N)	Acute health	≤ 1	834	99.0%	100%	0.14	0.11	0.48
Residual disinfectant (4)	(mg / L as Cl ₂)	Operational	≥ (0.1 and 0.2)	1,117	95.0%	95.08%	1.19	0.67	3.20
Sodium	(mg / L as Na)	Aesthetic	≤ 200	107	95.0%	100%	15.11	10.93	47.90
Sulphate	(mg / L as SO ₄)	Aesthetic	≤ 250	108	95.0%	100%	23.61	11.67	58.63
Sulphate	(mg / L as SO ₄)	Acute health	≤ 500	108	99.0%	100%	23.61	11.67	58.63
Zinc	(mg / L as Zn)	Aesthetic	≤ 5	107	95.0%	100%	0.02	0.02	0.10
Chemical Properties: Micro determinands									
Aluminium	(µg / L as Al)	Operational	≤ 300	107	95.0%	100%	50.31	3.19	59.88
Antimony	(µg / L as Sb)	Chronic health	≤ 20	96	97.0%	100%	0.31	0.03	0.40
Arsenic	(µg / L as As)	Chronic health	≤ 10	101	97.0%	100%	8.00	0.00	8.00
Barium	(µg / L as Ba)	Chronic health	≤ 700	107	97.0%	100%	40.64	4.49	54.11
Boron	(µg / L as B)	Chronic health	≤ 2400	107	97.0%	100%	12.38	7.80	35.77
Cadmium	(µg / L as Cd)	Chronic health	≤ 3	101	97.0%	100%	1.53	0.11	1.86
Chromium (Total)	(µg / L as Cr)	Chronic health	≤ 50	107	97.0%	100%	5.00	0.00	5.00
Copper	(µg / L as Cu)	Chronic health	≤ 2000	107	97.0%	100%	8.90	3.92	20.66
Cyanide (Recoverable)	(µg / L as CN)	Acute health	≤ 200	102	99.0%	100%	5.00	0.00	5.00
Iron	(µg / L as Fe)	Chronic health	≤ 2000	107	97.0%	100%	30.21	32.93	128.99
Iron	(µg / L as Fe)	Aesthetic	≤ 300	107	95.0%	99.07%	30.21	32.93	128.99
Lead	(µg / L as Pb)	Chronic health	≤ 10	101	97.0%	100%	8.00	0.00	8.00
Manganese	(µg / L as Mn)	Chronic health	≤ 400	107	97.0%	100%	3.32	0.99	6.28
Manganese	(µg / L as Mn)	Aesthetic	≤ 100	107	95.0%	100%	3.32	0.99	6.28
Mercury	(µg / L as Hg)	Chronic health	≤ 6	101	97.0%	100%	1.50	0.00	1.50
Nickel	(µg / L as Ni)	Chronic health	≤ 70	107	97.0%	100%	5.03	0.31	5.96
Selenium	(µg / L as Se)	Chronic health	≤ 40	101	97.0%	100%	8.00	0.00	8.00
Uranium	(µg / L as U)	Chronic health	≤ 30	96	97.0%	100%	0.17	0.28	1.02
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	≤ 10	95	97.0%	100%	5.10	0.23	5.79
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	≤ 10	92	95.0%	100%	2.50	0.00	2.50
Chloroform - CHCl ₃	(µg / L)	Chronic health	≤ 300	111	97.0%	100%	82.56	24.56	156.25
Bromoform - CHBr ₃	(µg / L)	Chronic health	≤ 100	111	97.0%	100%	10.00	0.00	10.00
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	≤ 100	111	97.0%	100%	10.14	0.95	12.98
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	≤ 60	111	97.0%	100%	19.85	3.77	31.16
Combined trihalomethanes (5)	(µg / L)	Chronic health	≤ 1	111	97.0%	100%	0.61	0.14	1.04
Total Microcystin (2)	(µg / L)	Chronic health	≤ 1	20	97.0%	100%	0.31	0.00	0.31
For monitoring/reporting purposes only									
Calcium (6)	(mg / L as Ca)	Aesthetic	≤ 150	107	not applicable	100%	18.57	4.58	32.32
Hardness (7)	(mg / L as CaCO ₃)	Operational	≥ 20 to ≤ 200	107	not applicable	100%	75.21	24.44	148.52
Magnesium (6)	(mg / L as Mg)	Aesthetic	≤ 70	107	not applicable	100%	8.31	3.77	19.60
Potassium (6)	(mg / L as K)	Aesthetic	≤ 50	107	not applicable	100%	4.77	1.24	8.49
Rand Water Risk Determinands (RWRD) (6)									
Odour	TON	RWRD	≤ 2	325	not applicable	100%	1.00	0.00	1.00
Taste	FTN	RWRD	≤ 2	325	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%	99.82%
Acute health chemical	99.0%	100%
Chronic health	97.0%	100%
Aesthetic	95.0%	99.94%
Operational	95.0%	98.85%

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 both the chlorinated and chloraminated systems
 - (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****