



RAND WATER
Customer Bulk Water Quality Report
1 Month

20 February 2021 to 22 March 2021

Date generated: 08 April 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	1,193	99.0%	99.75%	0	1.45	4
Total Coliforms	(mpn per 100 mL)	Operational	≤ 10	1,193	95.0%	98.66%	2	15.67	49
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	≤ 1000	1,193	95.0%	98.74%	47	307.60	969
<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	104	95.0%	100%	6.90	1.02	9.96
Conductivity	(mS / m)	Aesthetic	≤ 170	927	95.0%	100%	23.94	5.14	39.35
Total Dissolved Solids	(mg / L)	Aesthetic	≤ 1200	116	95.0%	100%	174.14	52.90	332.83
Turbidity	(NTU)	Operational	≤ 1	976	95.0%	99.69%	0.36	0.10	0.68
Turbidity	(NTU)	Aesthetic	≤ 5	976	95.0%	100%	0.36	0.10	0.68
pH	(pH units)	Operational	≥ 5 to ≤ 9.7	925	95.0%	100%	7.89	0.18	8.42
Chemical Properties: Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	≤ 1.5	922	95.0%	100%	0.21	0.16	0.70
Chloride	(mg / L as Cl)	Aesthetic	≤ 300	105	95.0%	100%	20.96	17.84	74.49
Free chlorine	(mg / L as Cl ₂)	Chronic health	≤ 5	1,193	97.0%	100%	0.31	0.51	1.85
Monochloramine	(mg / L as Cl ₂)	Chronic health	≤ 4.1	844	97.0%	100%	1.04	0.70	3.14
Fluoride	(mg / L as F)	Chronic health	≤ 1.5	106	97.0%	100%	0.36	0.12	0.71
Nitrate	(mg / L as N)	Acute health	≤ 11	928	99.0%	100%	0.97	0.23	1.64
Nitrite	(mg / L as N)	Acute health	≤ 0.9	923	99.0%	100%	0.09	0.11	0.41
Combined nitrate plus nitrite (3)	(mg / L as N)	Acute health	≤ 1	865	99.0%	100%	0.22	0.16	0.68
Residual disinfectant (4)	(mg / L as Cl ₂)	Operational	≥ (0.1 and 0.2)	1,193	95.0%	85.33%	1.03	0.72	3.19
Sodium	(mg / L as Na)	Aesthetic	≤ 200	106	95.0%	100%	10.14	5.38	26.30
Sulphate	(mg / L as SO ₄)	Aesthetic	≤ 250	110	95.0%	100%	21.55	10.23	52.24
Sulphate	(mg / L as SO ₄)	Acute health	≤ 500	110	99.0%	100%	21.55	10.23	52.24
Zinc	(mg / L as Zn)	Aesthetic	≤ 5	107	95.0%	100%	0.01	0.00	0.02
Chemical Properties: Micro determinands									
Aluminium	(µg / L as Al)	Operational	≤ 300	106	95.0%	100%	12.00	10.17	42.52
Antimony	(µg / L as Sb)	Chronic health	≤ 20	97	97.0%	100%	0.60	0.02	0.65
Arsenic	(µg / L as As)	Chronic health	≤ 10	99	97.0%	100%	0.84	0.07	1.06
Barium	(µg / L as Ba)	Chronic health	≤ 700	109	97.0%	100%	41.47	5.54	58.08
Boron	(µg / L as B)	Chronic health	≤ 2400	109	97.0%	100%	3.47	2.50	10.96
Cadmium	(µg / L as Cd)	Chronic health	≤ 3	102	97.0%	100%	1.00	0.00	1.00
Chromium (Total)	(µg / L as Cr)	Chronic health	≤ 50	109	97.0%	100%	0.53	0.28	1.37
Copper	(µg / L as Cu)	Chronic health	≤ 2000	108	97.0%	100%	7.27	8.40	32.47
Cyanide (Recoverable)	(µg / L as CN)	Acute health	≤ 200	104	99.0%	100%	5.17	0.85	7.72
Iron	(µg / L as Fe)	Chronic health	≤ 2000	109	97.0%	100%	100.00	0.00	100.00
Iron	(µg / L as Fe)	Aesthetic	≤ 300	109	95.0%	100%	100.00	0.00	100.00
Lead	(µg / L as Pb)	Chronic health	≤ 10	102	97.0%	100%	2.00	0.05	2.15
Manganese	(µg / L as Mn)	Chronic health	≤ 400	109	97.0%	100%	4.32	6.23	23.02
Manganese	(µg / L as Mn)	Aesthetic	≤ 100	109	95.0%	100%	4.32	6.23	23.02
Mercury	(µg / L as Hg)	Chronic health	≤ 6	102	97.0%	100%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	≤ 70	109	97.0%	100%	3.03	0.29	3.90
Selenium	(µg / L as Se)	Chronic health	≤ 40	99	97.0%	100%	4.00	0.00	4.00
Uranium	(µg / L as U)	Chronic health	≤ 30	97	97.0%	100%	0.50	0.00	0.50
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	≤ 10	98	97.0%	100%	5.27	0.50	6.76
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	≤ 10	93	95.0%	100%	3.00	0.00	3.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	≤ 300	113	97.0%	100%	114.21	30.40	205.42
Bromoform - CHBr ₃	(µg / L)	Chronic health	≤ 100	113	97.0%	100%	10.00	0.00	10.00
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	≤ 100	113	97.0%	100%	10.24	1.42	14.51
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	≤ 60	113	97.0%	100%	18.89	4.88	33.54
Combined trihalomethanes (5)	(µg / L)	Chronic health	≤ 1	113	97.0%	98.23%	0.71	0.15	1.17
Total Microcystin (2)	(µg / L)	Chronic health	≤ 1	6	97.0%	100%	0.31	0.00	0.31
For monitoring/reporting purposes only									
Calcium (6)	(mg / L as Ca)	Aesthetic	≤ 150	109	not applicable	100%	17.81	5.88	35.44
Hardness (7)	(mg / L as CaCO ₃)	Operational	≥ 20 to ≤ 200	109	not applicable	100%	71.98	25.88	149.61
Magnesium (6)	(mg / L as Mg)	Aesthetic	≤ 70	109	not applicable	100%	6.67	2.94	15.48
Potassium (6)	(mg / L as K)	Aesthetic	≤ 50	109	not applicable	100%	3.78	1.45	8.13
Rand Water Risk Determinands (RWRD) (6)									
Odour	TON	RWRD	≤ 2	350	not applicable	100%	1.00	0.00	1.00
Taste	FTN	RWRD	≤ 2	350	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%	99.75%
Acute health chemical	99.0%	100%
Chronic health	97.0%	99.95%
Aesthetic	95.0%	100%
Operational	95.0%	96.32%

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****