



RAND WATER
Customer Bulk Water Quality Report
1 Month

23 January 2021 to 19 February 2021

Date generated: 10 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	1,148	99.0%	99.74%	0	2.80	8
Total Coliforms	(mpn per 100 mL)	Operational	≤ 10	1,148	95.0%	98.08%	2	13.63	42
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	≤ 1000	1,148	95.0%	99.39%	27	223.74	698
<i>Cryptosporidium spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	18	99.0%	100%	0	0.00	0
<i>Giardia spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	18	99.0%	100%	0	0.00	0
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%	6.64	1.59	11.43
Conductivity	(mS / m)	Aesthetic	≤ 170	895	95.0%	100%	23.77	6.60	43.58
Total Dissolved Solids	(mg / L)	Aesthetic	≤ 1200	115	95.0%	100%	178.09	63.01	367.11
Turbidity	(NTU)	Operational	≤ 1	944	95.0%	98.94%	0.40	0.20	1.01
Turbidity	(NTU)	Aesthetic	≤ 5	944	95.0%	100%	0.40	0.20	1.01
pH	(pH units)	Operational	≥ 5 to ≤ 9.7	895	95.0%	100%	7.84	0.18	8.38
Chemical Properties: Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	≤ 1.5	894	95.0%	100%	0.22	0.18	0.76
Chloride	(mg / L as Cl)	Aesthetic	≤ 300	99	95.0%	100%	19.25	23.17	88.77
Free chlorine	(mg / L as Cl ₂)	Chronic health	≤ 5	1,148	97.0%	100%	0.32	0.48	1.77
Monochloramine	(mg / L as Cl ₂)	Chronic health	≤ 4.1	816	97.0%	100%	1.03	0.69	3.10
Fluoride	(mg / L as F)	Chronic health	≤ 1.5	133	97.0%	100%	0.26	0.11	0.58
Nitrate	(mg / L as N)	Acute health	≤ 11	863	99.0%	100%	0.72	0.23	1.41
Nitrite	(mg / L as N)	Acute health	≤ 0.9	795	99.0%	100%	0.11	0.13	0.51
Combined nitrate plus nitrite (3)	(mg / L as N)	Acute health	≤ 1	805	99.0%	100%	0.28	0.24	1.00
Residual disinfectant (4)	(mg / L as Cl ₂)	Operational	≥ (0.1 and 0.2)	1,148	95.0%	90.68%	1.05	0.68	3.08
Sodium	(mg / L as Na)	Aesthetic	≤ 200	93	95.0%	100%	11.25	2.07	17.47
Sulphate	(mg / L as SO ₄)	Aesthetic	≤ 250	102	95.0%	100%	19.85	14.19	62.41
Sulphate	(mg / L as SO ₄)	Acute health	≤ 500	102	99.0%	100%	19.85	14.19	62.41
Zinc	(mg / L as Zn)	Aesthetic	≤ 5	96	95.0%	100%	0.02	0.09	0.29
Chemical Properties: Micro determinands									
Aluminium	(µg / L as Al)	Operational	≤ 300	95	95.0%	100%	12.85	7.02	33.92
Antimony	(µg / L as Sb)	Chronic health	≤ 20	87	97.0%	100%	0.65	0.35	1.72
Arsenic	(µg / L as As)	Chronic health	≤ 10	90	97.0%	100%	0.83	0.06	1.01
Barium	(µg / L as Ba)	Chronic health	≤ 700	96	97.0%	100%	46.01	8.26	70.78
Boron	(µg / L as B)	Chronic health	≤ 2400	88	97.0%	100%	6.21	6.26	24.99
Cadmium	(µg / L as Cd)	Chronic health	≤ 3	90	97.0%	100%	1.00	0.00	1.00
Chromium (Total)	(µg / L as Cr)	Chronic health	≤ 50	96	97.0%	100%	0.80	2.81	9.22
Copper	(µg / L as Cu)	Chronic health	≤ 2000	95	97.0%	100%	7.19	6.26	25.97
Cyanide (Recoverable)	(µg / L as CN)	Acute health	≤ 200	104	99.0%	100%	5.08	0.44	6.40
Iron	(µg / L as Fe)	Chronic health	≤ 2000	95	97.0%	100%	100.00	0.00	100.00
Iron	(µg / L as Fe)	Aesthetic	≤ 300	95	95.0%	100%	100.00	0.00	100.00
Lead	(µg / L as Pb)	Chronic health	≤ 10	90	97.0%	100%	2.00	0.03	2.10
Manganese	(µg / L as Mn)	Chronic health	≤ 400	95	97.0%	100%	3.88	5.15	19.32
Manganese	(µg / L as Mn)	Aesthetic	≤ 100	95	95.0%	100%	3.88	5.15	19.32
Mercury	(µg / L as Hg)	Chronic health	≤ 6	90	97.0%	100%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	≤ 70	95	97.0%	100%	3.02	0.14	3.43
Selenium	(µg / L as Se)	Chronic health	≤ 40	91	97.0%	100%	4.08	0.73	6.28
Uranium	(µg / L as U)	Chronic health	≤ 30	88	97.0%	100%	0.50	0.00	0.50
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	≤ 10	100	97.0%	100%	4.53	0.72	6.70
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	≤ 10	95	95.0%	100%	3.00	0.00	3.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	≤ 300	115	97.0%	100%	76.19	23.03	145.27
Bromoform - CHBr ₃	(µg / L)	Chronic health	≤ 100	115	97.0%	100%	10.00	0.00	10.00
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	≤ 100	115	97.0%	100%	10.57	2.75	18.82
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	≤ 60	115	97.0%	100%	16.12	4.53	29.70
Combined trihalomethanes (5)	(µg / L)	Chronic health	≤ 1	115	97.0%	100%	0.54	0.15	0.98
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	96	not applicable	100%	21.45	4.05	33.60
Hardness (7)	(mg / L as CaCO ₃)	Operational	≥ 20 to ≤ 200	96	not applicable	100%	84.31	21.30	148.22
Magnesium (6)	(mg / L as Mg)	Aesthetic	≤ 70	96	not applicable	100%	7.49	3.13	16.87
Potassium (6)	(mg / L as K)	Aesthetic	≤ 50	96	not applicable	100%	4.39	1.26	8.18
Rand Water Risk Determinands (RWRD) (6)									
Odour	TON	RWRD	≤ 2	329	not applicable	100%	1.00	0.00	1.00
Taste	FTN	RWRD	≤ 2	329	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%	100%
Aesthetic	95.0%	100%
Operational	95.0%	97.33%

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****