



RAND WATER
Metsimaholo 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	51	99.0%	100%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	≤ 10	51	95.0%	100%	0	0.00	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	≤ 1000	51	95.0%	100%	2	8.79	28
<i>Cryptosporidium spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	no data	99.0%	no data	no data	no data	no data
<i>Giardia spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	no data	99.0%	no data	no data	no data	no data
Somatic Coliphages (2)	(count per 10 mL)	Operational	Non-detect	68	95.0%	100%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	≤ 15	22	95.0%	100%	7.45	1.74	12.67
Conductivity	(mS / m)	Aesthetic	≤ 170	25	95.0%	100%	23.68	2.21	30.32
Total Dissolved Solids	(mg / L)	Aesthetic	≤ 1200	6	95.0%	100%	159.17	9.70	188.28
Turbidity	(NTU)	Operational	≤ 1	25	95.0%	100%	0.43	0.13	0.83
Turbidity	(NTU)	Aesthetic	≤ 5	25	95.0%	100%	0.43	0.13	0.83
pH	(pH units)	Operational	≥ 5 to ≤ 9.7	25	95.0%	100%	7.99	0.23	8.70
Chemical Properties: Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	≤ 1.5	25	95.0%	100%	0.14	0.11	0.47
Chloride	(mg / L as Cl)	Aesthetic	≤ 300	3	95.0%	100%	17.33	2.08	23.58
Free chlorine	(mg / L as Cl ₂)	Chronic health	≤ 5	51	97.0%	100%	1.42	0.67	3.42
Monochloramine	(mg / L as Cl ₂)	Chronic health	≤ 4.1	n/a	97.0%	n/a	n/a	n/a	n/a
Fluoride	(mg / L as F)	Chronic health	≤ 1.5	2	97.0%	100%	0.40	0.02	0.46
Nitrate	(mg / L as N)	Acute health	≤ 11	25	99.0%	100%	0.55	0.04	0.68
Nitrite	(mg / L as N)	Acute health	≤ 0.9	25	99.0%	100%	0.03	0.00	0.03
Combined nitrate plus nitrite (3)	(mg / L as N)	Acute health	≤ 1	25	99.0%	100%	0.08	0.00	0.10
Residual disinfectant (4)	(mg / L as Cl ₂)	Operational	≥ 0.2	51	95.0%	88.24%	1.42	0.67	3.42
Sodium	(mg / L as Na)	Aesthetic	≤ 200	6	95.0%	100%	12.33	1.03	15.43
Sulphate	(mg / L as SO ₄)	Aesthetic	≤ 250	6	95.0%	100%	20.17	1.47	24.58
Sulphate	(mg / L as SO ₄)	Acute health	≤ 500	6	99.0%	100%	20.17	1.47	24.58
Zinc	(mg / L as Zn)	Aesthetic	≤ 5	6	95.0%	100%	0.02	0.00	0.02
Chemical Properties: Micro determinands									
Aluminium	(µg / L as Al)	Operational	≤ 300	6	95.0%	100%	50.00	0.00	50.00
Antimony	(µg / L as Sb)	Chronic health	≤ 20	2	97.0%	100%	0.30	0.00	0.30
Arsenic	(µg / L as As)	Chronic health	≤ 10	2	97.0%	100%	8.00	0.00	8.00
Barium	(µg / L as Ba)	Chronic health	≤ 700	6	97.0%	100%	38.50	3.78	49.84
Boron	(µg / L as B)	Chronic health	≤ 2400	6	97.0%	100%	11.55	2.14	17.97
Cadmium	(µg / L as Cd)	Chronic health	≤ 3	2	97.0%	100%	1.75	0.35	2.81
Chromium (Total)	(µg / L as Cr)	Chronic health	≤ 50	6	97.0%	100%	5.00	0.00	5.00
Copper	(µg / L as Cu)	Chronic health	≤ 2000	6	97.0%	100%	8.00	0.00	8.00
Cyanide (Recoverable)	(µg / L as CN)	Acute health	≤ 200	6	99.0%	100%	5.00	0.00	5.00
Iron	(µg / L as Fe)	Chronic health	≤ 2000	6	97.0%	100%	67.17	24.14	139.58
Iron	(µg / L as Fe)	Aesthetic	≤ 300	6	95.0%	100%	67.17	24.14	139.58
Lead	(µg / L as Pb)	Chronic health	≤ 10	2	97.0%	100%	8.00	0.00	8.00
Manganese	(µg / L as Mn)	Chronic health	≤ 400	6	97.0%	100%	3.68	1.19	7.25
Manganese	(µg / L as Mn)	Aesthetic	≤ 100	6	95.0%	100%	3.68	1.19	7.25
Mercury	(µg / L as Hg)	Chronic health	≤ 6	2	97.0%	100%	1.50	0.00	1.50
Nickel	(µg / L as Ni)	Chronic health	≤ 70	6	97.0%	100%	5.00	0.00	5.00
Selenium	(µg / L as Se)	Chronic health	≤ 40	2	97.0%	100%	8.00	0.00	8.00
Uranium	(µg / L as U)	Chronic health	≤ 30	2	97.0%	100%	0.11	0.01	0.15
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	≤ 10	2	97.0%	100%	5.05	0.07	5.26
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	≤ 10	2	95.0%	100%	2.50	0.00	2.50
Chloroform - CHCl ₃	(µg / L)	Chronic health	≤ 300	3	97.0%	100%	65.33	55.59	232.11
Bromoform - CHBr ₃	(µg / L)	Chronic health	≤ 100	3	97.0%	100%	10.00	0.00	10.00
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	≤ 100	3	97.0%	100%	10.00	0.00	10.00
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	≤ 60	3	97.0%	100%	17.33	8.08	41.58
Combined trihalomethanes (5)	(µg / L)	Chronic health	≤ 1	3	97.0%	100%	0.47	0.39	1.64
Total Microcystin (2)	(µg / L)	Chronic health	≤ 1	18	97.0%	100%	0.31	0.00	0.31
For monitoring/reporting purposes only									
Calcium (6)	(mg / L as Ca)	Aesthetic	≤ 150	6	not applicable	100%	17.67	1.37	21.77
Hardness (7)	(mg / L as CaCO ₃)	Operational	≥ 20 to ≤ 200	6	not applicable	100%	70.00	4.05	82.15
Magnesium (6)	(mg / L as Mg)	Aesthetic	≤ 70	6	not applicable	100%	7.48	0.26	8.25
Potassium (6)	(mg / L as K)	Aesthetic	≤ 50	6	not applicable	100%	4.50	0.26	5.28
Rand Water Risk Determinands (RWRD) (6)									
Odour	TON	RWRD	≤ 2	8	not applicable	100%	1.00	0.00	1.00
Taste	FTN	RWRD	≤ 2	8	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%	97.83%

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 chlorinated system = Free available chlorine
(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****