



**RAND WATER**  
**Ekurhuleni Water Quality Report**  
**1 Month**

23 December 2020 to 22 January 2021

Date generated: 08 February 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
<b>Microbiological determinands</b>									
<i>E. coli</i>	(mpn per 100 mL)	Acute health	Non-detect	331	99.0%	100%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	≤ 10	331	95.0%	98.19%	2	18.43	57
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	≤ 1000	331	95.0%	100%	8	54.51	171
<i>Cryptosporidium spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	25	99.0%	100%	0	0.00	0
<i>Giardia spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	25	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
<b>Physical and Aesthetic determinands</b>									
Colour	(mg / L as Pt-Co)	Aesthetic	≤ 15	33	95.0%	100%	7.52	0.97	10.43
Conductivity	(mS / m)	Aesthetic	≤ 170	206	95.0%	100%	23.19	3.73	34.39
Total Dissolved Solids	(mg / L)	Aesthetic	≤ 1200	40	95.0%	100%	154.38	22.45	221.73
Turbidity	(NTU)	Operational	≤ 1	224	95.0%	98.66%	0.37	0.23	1.07
Turbidity	(NTU)	Aesthetic	≤ 5	224	95.0%	100%	0.37	0.23	1.07
pH	(pH units)	Operational	≥ 5 to ≤ 9.7	206	95.0%	100%	7.91	0.16	8.39
<b>Chemical Properties: Macro determinands</b>									
Ammonia	(mg / L as N)	Aesthetic	≤ 1.5	201	95.0%	100%	0.37	0.21	0.99
Chloride	(mg / L as Cl)	Aesthetic	≤ 300	33	95.0%	100%	12.27	1.18	15.81
Free chlorine	(mg / L as Cl <sub>2</sub> )	Chronic health	≤ 5	331	97.0%	100%	0.14	0.18	0.68
Monochloramine	(mg / L as Cl <sub>2</sub> )	Chronic health	≤ 4.1	285	97.0%	100%	1.50	0.57	3.22
Fluoride	(mg / L as F)	Chronic health	≤ 1.5	33	97.0%	100%	0.31	0.12	0.66
Nitrate	(mg / L as N)	Acute health	≤ 11	199	99.0%	100%	0.52	0.04	0.65
Nitrite	(mg / L as N)	Acute health	≤ 0.9	197	99.0%	100%	0.04	0.03	0.13
Combined nitrate plus nitrite (3)	(mg / L as N)	Acute health	≤ 1	192	99.0%	100%	0.10	0.07	0.31
Residual disinfectant (4)	(mg / L as Cl <sub>2</sub> )	Operational	≥ (0.1 and 0.2)	331	95.0%	93.35%	1.42	0.66	3.39
Sodium	(mg / L as Na)	Aesthetic	≤ 200	33	95.0%	100%	9.19	0.87	11.81
Sulphate	(mg / L as SO <sub>4</sub> )	Aesthetic	≤ 250	33	95.0%	100%	15.30	1.50	19.81
Sulphate	(mg / L as SO <sub>4</sub> )	Acute health	≤ 500	33	99.0%	100%	15.30	1.50	19.81
Zinc	(mg / L as Zn)	Aesthetic	≤ 5	33	95.0%	100%	0.01	0.01	0.02
<b>Chemical Properties: Micro determinands</b>									
Aluminium	(µg / L as Al)	Operational	≤ 300	33	95.0%	100%	26.82	6.78	47.17
Antimony	(µg / L as Sb)	Chronic health	≤ 20	33	97.0%	100%	0.60	0.00	0.60
Arsenic	(µg / L as As)	Chronic health	≤ 10	33	97.0%	100%	0.80	0.00	0.80
Barium	(µg / L as Ba)	Chronic health	≤ 700	33	97.0%	100%	38.61	4.44	51.92
Boron	(µg / L as B)	Chronic health	≤ 2400	33	97.0%	100%	4.04	2.25	10.78
Cadmium	(µg / L as Cd)	Chronic health	≤ 3	33	97.0%	100%	1.00	0.00	1.00
Chromium (Total)	(µg / L as Cr)	Chronic health	≤ 50	33	97.0%	100%	0.60	0.25	1.35
Copper	(µg / L as Cu)	Chronic health	≤ 2000	33	97.0%	100%	6.04	4.97	20.94
Cyanide (Recoverable)	(µg / L as CN)	Acute health	≤ 200	24	99.0%	100%	6.95	4.94	21.76
Iron	(µg / L as Fe)	Chronic health	≤ 2000	33	97.0%	100%	100.00	0.00	100.00
Iron	(µg / L as Fe)	Aesthetic	≤ 300	33	95.0%	100%	100.00	0.00	100.00
Lead	(µg / L as Pb)	Chronic health	≤ 10	33	97.0%	100%	2.00	0.00	2.00
Manganese	(µg / L as Mn)	Chronic health	≤ 400	33	97.0%	100%	2.52	1.26	6.29
Manganese	(µg / L as Mn)	Aesthetic	≤ 100	33	95.0%	100%	2.52	1.26	6.29
Mercury	(µg / L as Hg)	Chronic health	≤ 6	30	97.0%	100%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	≤ 70	33	97.0%	100%	3.00	0.00	3.00
Selenium	(µg / L as Se)	Chronic health	≤ 40	33	97.0%	100%	4.00	0.00	4.00
Uranium	(µg / L as U)	Chronic health	≤ 30	33	97.0%	100%	0.50	0.00	0.50
<b>Organic determinands</b>									
Total Organic Carbon	(mg / L)	Chronic health	≤ 10	33	97.0%	100%	3.41	0.41	4.65
Phenols as C <sub>6</sub> H <sub>5</sub> OH	(µg / L)	Aesthetic	≤ 10	32	95.0%	100%	3.01	0.07	3.22
Chloroform - CHCl <sub>3</sub>	(µg / L)	Chronic health	≤ 300	33	97.0%	100%	55.12	11.15	88.58
Bromoform - CHBr <sub>3</sub>	(µg / L)	Chronic health	≤ 100	33	97.0%	100%	10.00	0.00	10.00
Dibromochloromethane - CHBr <sub>2</sub> Cl	(µg / L)	Chronic health	≤ 100	33	97.0%	100%	10.00	0.00	10.00
Bromodichloromethane - CHBrCl <sub>2</sub>	(µg / L)	Chronic health	≤ 60	33	97.0%	100%	14.48	2.15	20.94
Combined trihalomethanes (5)	(µg / L)	Chronic health	≤ 1	33	97.0%	100%	0.44	0.06	0.62
Total Microcystin (2)	(µg / L)	Chronic health	≤ 1	no data	97.0%	no data	.	no data	.
<b>For monitoring/reporting purposes only</b>									
Calcium (6)	(mg / L as Ca)	Aesthetic	≤ 150	33	not applicable	100%	16.64	1.32	20.59
Hardness (7)	(mg / L as CaCO <sub>3</sub> )	Operational	≥ 20 to ≤ 200	33	not applicable	100%	65.94	3.84	77.46
Magnesium (6)	(mg / L as Mg)	Aesthetic	≤ 70	33	not applicable	100%	5.96	0.36	7.04
Potassium (6)	(mg / L as K)	Aesthetic	≤ 50	33	not applicable	100%	2.95	0.23	3.63
<b>Rand Water Risk Determinands (RWRD) (6)</b>									
Odour	TON	RWRD	≤ 2	53	not applicable	100%	1.00	0.00	1.00
Taste	FTN	RWRD	≤ 2	53	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%	97.96%

Notes  
(1) Specification SANS 241 date of effect : 1 July 2016  
(2) Measured at water treatment works exit points  
(3) (NO<sub>2</sub>/0.9 + NO<sub>3</sub>/11)  
(4) Residual disinfectant : Results from the chloraminated system = Sum of Free and Monochloramine  
(5) (CHCl<sub>3</sub>/300 + CHBr<sub>3</sub>/100 + CHBr<sub>2</sub>Cl/100 + CHBrCl<sub>2</sub>/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\*\*\*\*