



**RAND WATER**  
**Ekurhuleni 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
<b>Microbiological determinands</b>									
<i>E. coli</i>	(mpn per 100 mL)	Acute health	Non-detect	267	99.0%	100%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	≤ 10	267	95.0%	100%	0	0.11	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	≤ 1000	267	95.0%	100%	1	2.37	8
<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	64	95.0%	100%	0	0.00	0
<b>Physical and Aesthetic determinands</b>									
Colour	(mg / L as Pt-Co)	Aesthetic	≤ 15	18	95.0%	100%	9.39	1.61	14.23
Conductivity	(mS / m)	Aesthetic	≤ 170	148	95.0%	100%	22.94	2.34	29.95
Total Dissolved Solids	(mg / L)	Aesthetic	≤ 1200	27	95.0%	100%	157.67	22.49	225.14
Turbidity	(NTU)	Operational	≤ 1	165	95.0%	100%	0.29	0.08	0.53
Turbidity	(NTU)	Aesthetic	≤ 5	165	95.0%	100%	0.29	0.08	0.53
pH	(pH units)	Operational	≥ 5 to ≤ 9.7	148	95.0%	100%	7.88	0.16	8.35
<b>Chemical Properties: Macro determinands</b>									
Ammonia	(mg / L as N)	Aesthetic	≤ 1.5	144	95.0%	100%	0.27	0.14	0.69
Chloride	(mg / L as Cl)	Aesthetic	≤ 300	22	95.0%	100%	17.27	4.34	30.31
Free chlorine	(mg / L as Cl <sub>2</sub> )	Chronic health	≤ 5	267	97.0%	100%	0.11	0.08	0.35
Monochloramine	(mg / L as Cl <sub>2</sub> )	Chronic health	≤ 4.1	225	97.0%	100%	1.57	0.58	3.30
Fluoride	(mg / L as F)	Chronic health	≤ 1.5	22	97.0%	100%	0.44	0.07	0.65
Nitrate	(mg / L as N)	Acute health	≤ 11	143	99.0%	100%	0.66	0.14	1.07
Nitrite	(mg / L as N)	Acute health	≤ 0.9	143	99.0%	100%	0.05	0.05	0.19
Combined nitrate plus nitrite (3)	(mg / L as N)	Acute health	≤ 1	136	99.0%	100%	0.11	0.06	0.29
Residual disinfectant (4)	(mg / L as Cl <sub>2</sub> )	Operational	≥ (0.1 and 0.2)	267	95.0%	93.26%	1.41	0.74	3.63
Sodium	(mg / L as Na)	Aesthetic	≤ 200	18	95.0%	100%	12.67	1.75	17.91
Sulphate	(mg / L as SO <sub>4</sub> )	Aesthetic	≤ 250	22	95.0%	100%	21.36	1.62	26.22
Sulphate	(mg / L as SO <sub>4</sub> )	Acute health	≤ 500	22	99.0%	100%	21.36	1.62	26.22
Zinc	(mg / L as Zn)	Aesthetic	≤ 5	18	95.0%	100%	0.02	0.02	0.09
<b>Chemical Properties: Micro determinands</b>									
Aluminium	(µg / L as Al)	Operational	≤ 300	18	95.0%	100%	50.00	0.00	50.00
Antimony	(µg / L as Sb)	Chronic health	≤ 20	18	97.0%	100%	0.31	0.04	0.42
Arsenic	(µg / L as As)	Chronic health	≤ 10	18	97.0%	100%	8.00	0.00	8.00
Barium	(µg / L as Ba)	Chronic health	≤ 700	18	97.0%	100%	39.61	2.83	48.11
Boron	(µg / L as B)	Chronic health	≤ 2400	18	97.0%	100%	9.79	1.96	15.67
Cadmium	(µg / L as Cd)	Chronic health	≤ 3	18	97.0%	100%	1.50	0.00	1.50
Chromium (Total)	(µg / L as Cr)	Chronic health	≤ 50	18	97.0%	100%	5.00	0.00	5.00
Copper	(µg / L as Cu)	Chronic health	≤ 2000	18	97.0%	100%	8.17	0.71	10.29
Cyanide (Recoverable)	(µg / L as CN)	Acute health	≤ 200	18	99.0%	100%	5.00	0.00	5.00
Iron	(µg / L as Fe)	Chronic health	≤ 2000	18	97.0%	100%	33.25	69.41	241.48
Iron	(µg / L as Fe)	Aesthetic	≤ 300	18	95.0%	94.44%	33.25	69.41	241.48
Lead	(µg / L as Pb)	Chronic health	≤ 10	18	97.0%	100%	8.00	0.00	8.00
Manganese	(µg / L as Mn)	Chronic health	≤ 400	18	97.0%	100%	3.22	0.94	6.05
Manganese	(µg / L as Mn)	Aesthetic	≤ 100	18	95.0%	100%	3.22	0.94	6.05
Mercury	(µg / L as Hg)	Chronic health	≤ 6	18	97.0%	100%	1.50	0.00	1.50
Nickel	(µg / L as Ni)	Chronic health	≤ 70	18	97.0%	100%	5.18	0.75	7.44
Selenium	(µg / L as Se)	Chronic health	≤ 40	18	97.0%	100%	8.00	0.00	8.00
Uranium	(µg / L as U)	Chronic health	≤ 30	18	97.0%	100%	0.15	0.10	0.46
<b>Organic determinands</b>									
Total Organic Carbon	(mg / L)	Chronic health	≤ 10	18	97.0%	100%	5.15	0.19	5.72
Phenols as C <sub>6</sub> H <sub>5</sub> OH	(µg / L)	Aesthetic	≤ 10	21	95.0%	100%	2.50	0.00	2.50
Chloroform - CHCl <sub>3</sub>	(µg / L)	Chronic health	≤ 300	18	97.0%	100%	90.44	8.13	114.84
Bromoform - CHBr <sub>3</sub>	(µg / L)	Chronic health	≤ 100	18	97.0%	100%	10.00	0.00	10.00
Dibromochloromethane - CHBr <sub>2</sub> Cl	(µg / L)	Chronic health	≤ 100	18	97.0%	100%	10.00	0.00	10.00
Bromodichloromethane - CHBrCl <sub>2</sub>	(µg / L)	Chronic health	≤ 60	18	97.0%	100%	20.33	1.50	24.82
Combined trihalomethanes (5)	(µg / L)	Chronic health	≤ 1	18	97.0%	100%	0.65	0.04	0.75
Total Microcystin (2)	(µg / L)	Chronic health	≤ 1	17	97.0%	100%	0.31	0.00	0.31
<b>For monitoring/reporting purposes only</b>									
Calcium (6)	(mg / L as Ca)	Aesthetic	≤ 150	18	not applicable	100%	17.39	1.04	20.50
Hardness (7)	(mg / L as CaCO <sub>3</sub> )	Operational	≥ 20 to ≤ 200	18	not applicable	100%	68.83	3.85	80.40
Magnesium (6)	(mg / L as Mg)	Aesthetic	≤ 70	18	not applicable	100%	7.33	0.42	8.59
Potassium (6)	(mg / L as K)	Aesthetic	≤ 50	18	not applicable	100%	4.50	0.38	5.64
<b>Rand Water Risk Determinands (RWRD) (6)</b>									
Odour	TON	RWRD	≤ 2	48	not applicable	100%	1.00	0.00	1.00
Taste	FTN	RWRD	≤ 2	48	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%	99.84%
Operational	95.0%	98.49%

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\*\*\*\*