



**RAND WATER**  
**Ekurhuleni 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
<b>Microbiological determinands</b>									
<i>E. coli</i>	(mpn per 100 mL)	Acute health	Non-detect	292	99.0%	100%	0	0.00	0
Total Coliforms	(mpn per 100 mL)	Operational	≤ 10	292	95.0%	97.95%	2	15.59	49
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	≤ 1000	292	95.0%	100%	10	40.65	132
<i>Cryptosporidium spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	16	99.0%	100%	0	0.00	0
<i>Giardia spp</i> (2)	(org / 10 Litre)	Acute health	Non-detect	16	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	18	95.0%	100%	6.78	1.44	11.09
Conductivity	(mS / m)	Aesthetic	≤ 170	180	95.0%	100%	23.12	2.38	30.27
Total Dissolved Solids	(mg / L)	Aesthetic	≤ 1200	26	95.0%	100%	164.04	16.37	213.15
Turbidity	(NTU)	Operational	≤ 1	196	95.0%	98.98%	0.42	0.20	1.03
Turbidity	(NTU)	Aesthetic	≤ 5	196	95.0%	100%	0.42	0.20	1.03
pH	(pH units)	Operational	≥ 5 to ≤ 9.7	180	95.0%	100%	7.85	0.18	8.38
<b>Chemical Properties: Macro determinands</b>									
Ammonia	(mg / L as N)	Aesthetic	≤ 1.5	176	95.0%	100%	0.31	0.19	0.89
Chloride	(mg / L as Cl)	Aesthetic	≤ 300	16	95.0%	100%	13.75	1.73	18.95
Free chlorine	(mg / L as Cl <sub>2</sub> )	Chronic health	≤ 5	292	97.0%	100%	0.13	0.12	0.48
Monochloramine	(mg / L as Cl <sub>2</sub> )	Chronic health	≤ 4.1	252	97.0%	100%	1.40	0.65	3.36
Fluoride	(mg / L as F)	Chronic health	≤ 1.5	22	97.0%	100%	0.27	0.09	0.55
Nitrate	(mg / L as N)	Acute health	≤ 11	163	99.0%	100%	0.72	0.21	1.36
Nitrite	(mg / L as N)	Acute health	≤ 0.9	150	99.0%	100%	0.08	0.12	0.43
Combined nitrate plus nitrite (3)	(mg / L as N)	Acute health	≤ 1	153	99.0%	100%	0.26	0.26	1.03
Residual disinfectant (4)	(mg / L as Cl <sub>2</sub> )	Operational	≥ (0.1 and 0.2)	292	95.0%	90.07%	1.32	0.74	3.55
Sodium	(mg / L as Na)	Aesthetic	≤ 200	17	95.0%	100%	11.20	1.47	15.62
Sulphate	(mg / L as SO <sub>4</sub> )	Aesthetic	≤ 250	16	95.0%	100%	16.75	2.77	25.06
Sulphate	(mg / L as SO <sub>4</sub> )	Acute health	≤ 500	16	99.0%	100%	16.75	2.77	25.06
Zinc	(mg / L as Zn)	Aesthetic	≤ 5	17	95.0%	100%	0.01	0.01	0.04
<b>Chemical Properties: Micro determinands</b>									
Aluminium	(µg / L as Al)	Operational	≤ 300	17	95.0%	100%	16.54	8.85	43.08
Antimony	(µg / L as Sb)	Chronic health	≤ 20	15	97.0%	100%	0.60	0.00	0.60
Arsenic	(µg / L as As)	Chronic health	≤ 10	15	97.0%	100%	0.84	0.06	1.01
Barium	(µg / L as Ba)	Chronic health	≤ 700	17	97.0%	100%	45.88	8.28	70.71
Boron	(µg / L as B)	Chronic health	≤ 2400	17	97.0%	100%	4.37	2.12	10.73
Cadmium	(µg / L as Cd)	Chronic health	≤ 3	15	97.0%	100%	1.00	0.00	1.00
Chromium (Total)	(µg / L as Cr)	Chronic health	≤ 50	17	97.0%	100%	2.12	6.67	22.13
Copper	(µg / L as Cu)	Chronic health	≤ 2000	17	97.0%	100%	5.74	5.42	21.99
Cyanide (Recoverable)	(µg / L as CN)	Acute health	≤ 200	18	99.0%	100%	5.02	0.05	5.17
Iron	(µg / L as Fe)	Chronic health	≤ 2000	17	97.0%	100%	100.00	0.00	100.00
Iron	(µg / L as Fe)	Aesthetic	≤ 300	17	95.0%	100%	100.00	0.00	100.00
Lead	(µg / L as Pb)	Chronic health	≤ 10	15	97.0%	100%	2.00	0.00	2.00
Manganese	(µg / L as Mn)	Chronic health	≤ 400	17	97.0%	100%	4.34	4.86	18.92
Manganese	(µg / L as Mn)	Aesthetic	≤ 100	17	95.0%	100%	4.34	4.86	18.92
Mercury	(µg / L as Hg)	Chronic health	≤ 6	16	97.0%	100%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	≤ 70	16	97.0%	100%	3.00	0.00	3.00
Selenium	(µg / L as Se)	Chronic health	≤ 40	16	97.0%	100%	4.44	1.75	9.69
Uranium	(µg / L as U)	Chronic health	≤ 30	16	97.0%	100%	0.50	0.00	0.50
<b>Organic determinands</b>									
Total Organic Carbon	(mg / L)	Chronic health	≤ 10	18	97.0%	100%	4.39	0.77	6.72
Phenols as C <sub>6</sub> H <sub>5</sub> OH	(µg / L)	Aesthetic	≤ 10	21	95.0%	100%	3.00	0.00	3.00
Chloroform - CHCl <sub>3</sub>	(µg / L)	Chronic health	≤ 300	18	97.0%	100%	86.56	14.46	129.95
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%	16.22	2.21	22.86
Combined trihalomethanes (5)	(µg / L)	Chronic health	≤ 1	18	97.0%	100%	0.57	0.06	0.76
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	17	not applicable	100%	21.53	3.00	30.54
Hardness (7)	(mg / L as CaCO <sub>3</sub> )	Operational	≥ 20 to ≤ 200	17	not applicable	100%	82.00	9.71	111.14
Magnesium (6)	(mg / L as Mg)	Aesthetic	≤ 70	17	not applicable	100%	6.95	0.76	9.24
Potassium (6)	(mg / L as K)	Aesthetic	≤ 50	17	not applicable	100%	4.22	0.55	5.85
<b>Rand Water Risk Determinands (RWRD) (6)</b>									
Odour	TON	RWRD	≤ 2	54	not applicable	100%	1.00	0.00	1.00
Taste	FTN	RWRD	≤ 2	54	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%	97.22%

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\*\*\*\*