

Ekurhuleni Municipality Water Quality Report - 12 Month

23 March 2017 to 22 March 2018

Date generated: 03 April 2018

Determinand	Measurement units	Risk	Required compliance to SANS 241: 2015 standard (%)	SANS 241: 2015 standard limits (1)	No of results	Achieved Compliance to SANS 241: 2015 Spec(%)	Descriptive statistics		
							Mean	Standard Deviation	Mean + 3 standard deviations
Microbiological determinands									
<i>E. coli</i>	(mpn per 100 mL)	Acute health	99.0%	0	3 818	99.9%	0	0.13	0
Total Coliforms	(mpn per 100 mL)	Operational	95.0%	10	3 818	99.9%	0	4.63	0
Heterotrophic Plate Count	(cfu per 1 mL)	Operational	95.0%	≤1000	3 799	99.9%	4	71.45	48
<i>Cryptosporidium spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	182	100.0%	0	0.00	0
<i>Giardia spp</i> (5)	(org / 10 Litre)	Acute health	99.0%	0	182	100.0%	0	0.00	0
Somatic Coliphages (5)	(count per 10 mL)	Operational	95.0%	0	786	100.0%	0	0.00	0
Physical and Aesthetic determinands									
Colour	(mg / L as Pt-Co)	Aesthetic	95.0%	≤15	270	100.0%	5.11	0.42	7.00
Conductivity	(mS / m)	Aesthetic	95.0%	≤170	2 382	100.0%	18.93	2.00	22.00
Total Dissolved Solids	(mg / L)	Aesthetic	95.0%	≤1200	366	100.0%	134.49	7.02	150.00
Turbidity	(NTU)	Operational	95.0%	≤1	2 575	99.0%	0.34	0.56	0.96
Turbidity	(NTU)	Aesthetic	95.0%	≤5	2 575	99.8%	0.34	0.56	0.96
pH	(pH units)	Operational	95.0%	≥ 5 to ≤ 9.7	2 380	100.0%	7.88	0.15	8.28
Chemical Properties									
Macro determinands									
Ammonia	(mg / L as N)	Aesthetic	95.0%	≤1.5	2 222	100.0%	0.30	0.15	0.60
Chloride	(mg / L as Cl)	Aesthetic	95.0%	≤300	297	100.0%	10.19	1.13	12.00
Free chlorine (2)	(mg / L as Cl ₂)	Chronic health	97.0%	≤5	3 825	100.0%	0.19	0.29	1.49
Monochloramine (3)	(mg / L as Cl ₂)	Chronic health	97.0%	≤4.1	3 304	100.0%	1.53	0.57	2.15
Fluoride	(mg / L as F)	Chronic health	97.0%	≤1.5	293	100.0%	0.18	0.02	0.28
Nitrate	(mg / L as N)	Acute health	99.0%	≤11	2 299	100.0%	0.49	0.11	0.95
Nitrite	(mg / L as N)	Acute health	99.0%	≤0.9	2 329	100.0%	0.05	0.06	0.32
Combined nitrate plus nitrite (7)	(mg / L as N)	Acute health	99.0%	≤1	2 299	100.0%	0.10	0.07	0.40
Residual disinfectant (4)	(mg / L)	Operational	95.0%	≥0.1 Sum of Free and Monochloramine	3 825	97.4%	1.52	0.61	2.20
Sodium	(mg / L as Na)	Aesthetic	95.0%	≤200	274	100.0%	8.23	0.88	10.27
Sulphate	(mg / L as SO ₄)	Aesthetic	95.0%	≤250	291	100.0%	13.20	0.87	15.00
Sulphate	(mg / L as SO ₄)	Acute health	99.0%	≤500	291	100.0%	13.20	0.87	15.00
Zinc	(mg / L as Zn)	Aesthetic	95.0%	≤5	274	100.0%	0.02	0.01	0.06
Micro determinands									
Aluminium	(µg / L as Al)	Operational	95.0%	≤300	273	100.0%	34.99	16.35	93.48
Antimony	(µg / L as Sb)	Chronic health	97.0%	≤20	270	100.0%	0.51	0.11	0.68
Arsenic	(µg / L as As)	Chronic health	97.0%	≤10	270	100.0%	0.95	0.78	3.39
Barium	(µg / L as Ba)	Chronic health	97.0%	≤700	272	100.0%	33.40	6.77	53.74
Boron	(µg / L as B)	Chronic health	97.0%	≤2400	274	100.0%	26.46	16.51	39.35
Cadmium	(µg / L as Cd)	Chronic health	97.0%	≤3	270	100.0%	2.50	0.00	2.50
Chromium (Total)	(µg / L as Cr)	Chronic health	97.0%	≤50	274	100.0%	15.00	0.00	15.00
Copper	(µg / L as Cu)	Chronic health	97.0%	≤2000	274	100.0%	12.06	15.43	30.00
Cyanide (Recoverable)	(µg / L as CN)	Acute health	99.0%	≤200	270	100.0%	5.23	1.60	9.22
Iron	(µg / L as Fe)	Chronic health	97.0%	≤2000	274	100.0%	24.15	22.99	109.05
Iron	(µg / L as Fe)	Aesthetic	95.0%	≤300	274	100.0%	24.15	22.99	109.05
Lead	(µg / L as Pb)	Chronic health	97.0%	≤10	270	100.0%	0.38	0.73	3.77
Manganese	(µg / L as Mn)	Chronic health	97.0%	≤400	274	100.0%	10.29	2.65	16.16
Manganese	(µg / L as Mn)	Aesthetic	95.0%	≤100	274	100.0%	10.29	2.65	16.16
Mercury	(µg / L as Hg)	Chronic health	97.0%	≤6	270	100.0%	0.80	0.00	0.80
Nickel	(µg / L as Ni)	Chronic health	97.0%	≤70	274	100.0%	10.00	0.00	10.00
Selenium	(µg / L as Se)	Chronic health	97.0%	≤40	270	100.0%	0.95	1.09	5.80
Uranium	(µg / L as U)	Chronic health	97.0%	≤30	270	100.0%	0.26	0.59	1.46
Organic determinands									
Total Organic Carbon	(mg / L)	Chronic health	97.0%	≤10	270	100.0%	3.83	0.67	6.03
Phenols as C ₆ H ₅ OH	(µg / L)	Aesthetic	95.0%	≤10	284	100.0%	5.00	0.00	5.00
Chloroform - CHCl ₃	(µg / L)	Chronic health	97.0%	≤300	270	100.0%	46.59	7.62	66.00
Bromoform - CHBr ₃	(µg / L)	Chronic health	97.0%	≤100	270	100.0%	0.50	0.00	0.50
Dibromochloromethane - CHBr ₂ Cl	(µg / L)	Chronic health	97.0%	≤100	270	100.0%	1.21	0.62	2.70
Bromodichloromethane - CHBrCl ₂	(µg / L)	Chronic health	97.0%	≤60	270	100.0%	13.90	1.89	18.00
Combined trihalomethanes (8)	(µg / L)	Chronic health	97.0%	≤1	270	100.0%	0.40	0.05	0.52
Total Microcystin (5)	(µg / L)	Chronic health	97.0%	≤1	184	100.0%	0.32	0.02	0.36
For monitoring/reporting purposes only (6)									
Calcium	(mg / L as Ca)	Aesthetic	not applicable	≤150	274	100.0%	17.39	2.87	23.54
Hardness	(mg / L as CaCO ₃)	Operational	not applicable	≥ 20 to ≤ 200	274	99.6%	63.83	9.42	90.08
Magnesium	(mg / L as Mg)	Aesthetic	not applicable	≤70	274	100.0%	5.89	0.92	9.10
Potassium	(mg / L as K)	Aesthetic	not applicable	≤50	273	100.0%	3.74	0.43	4.70
Rand Water Risk Determinands (RWRD)									
Odour	TON	RWRD	95.0%	≤2	681	100.0%	1.00	0.00	1.00
Taste	FTN	RWRD	95.0%	≤2	681	100.0%	1.00	0.00	1.00

Risk	Required compliance to SANS 241: 2015 standard	Overall Compliance-SANS 241
Acute health microbiological	99.00%	99.90%
Acute health chemical	99.00%	100.00%
Chronic health	97.00%	100.00%
Aesthetic	95.00%	99.94%
Operational	95.00%	99.26%

- Notes:**
- (1) Specification date of effect : 1 July 2016
 - (2) Free chlorine : Results from chloraminated system
 - (3) Monochloramine : Results are from the chloraminated systems
 - (4) Residual disinfectant : Results from chloraminated system
 - (5) Measured at water treatment works exit points
 - (6) Customer request: Results not included in the risk indices compliance calculations
 - (7) (NO₂/0.9 + NO₃/11)
 - (8) (CHCl₃/300 + CHBr₃/100 + CHBr₂Cl/100 + CHBrCl₂/60)