

Ekurhuleni Municipality Water Quality Report

23 January 2009 to 19 February 2009

Date generated : 27 February 2009

Parameter	Units of measure	Specifications (based on SANS241: 2005)		No of results	Achieved compliance levels	
		Required compliance			Class I	Class II
		95% min to Class I	99% min to Class II			
SPECIFICATIONS						
Chemical and Physical properties						
Colour	(mg / l as Pt)	< 20	≤ 50	48	100.0%	100.0%
Conductivity	(mS / m)	< 150	≤ 370	153	100.0%	100.0%
pH	(pH units)	≥ 5 to ≤ 9.5	≥ 4 to ≤ 10	153	100.0%	100.0%
Turbidity	(NTU)	< 1	≤ 5	258	100.0%	100.0%
Total Dissolved Solids	(mg / l)	< 1000	≤ 2400	48	100.0%	100.0%
Taste	(FTN)	< 5	≤ 10	49	100.0%	100.0%
Odour	(TON)	< 5	≤ 10	49	100.0%	100.0%
Organic Determinants						
Total Trihalomethanes	(ug / l)	< 200	≤ 300	49	100.0%	100.0%
Phenols as C6H5OH	(ug / l)	< 10	≤ 70	30	100.0%	100.0%
Dissolved Organic Carbon	(mg / l)	< 10	≤ 20	49	100.0%	100.0%
Micro Elements						
Antimony	(ug / l as Sb)	< 10	≤ 50	6	100.0%	100.0%
Arsenic	(ug / l as As)	< 10	≤ 50	6	100.0%	100.0%
Cadmium	(ug / l as Cd)	< 5	≤ 10	52	100.0%	100.0%
Chromium (Total)	(ug / l as Cr)	< 100	≤ 500	52	100.0%	100.0%
Cobalt	(ug / l as Co)	< 500	≤ 1000	52	100.0%	100.0%
Cyanide (Recoverable)	(ug / l as CN)	< 50	≤ 70	48	100.0%	100.0%
Lead	(ug / l as Pb)	< 20	≤ 50	52	100.0%	100.0%
Mercury	(ug / l as Hg)	< 1	≤ 5	20	100.0%	100.0%
Nickel	(ug / l as Ni)	< 150	≤ 350	52	100.0%	100.0%
Selenium	(ug / l as Se)	< 20	≤ 50	6	100.0%	100.0%
Vanadium	(ug / l as V)	< 200	≤ 500	52	100.0%	100.0%
Macro Elements & Miscellaneous Determinants						
Aluminium	(mg / l as Al)	< 0.3	≤ 0.5	52	100.0%	100.0%
Ammonia	(mg / l as N)	< 1	≤ 2	52	100.0%	100.0%
Calcium	(mg / l as Ca)	< 150	≤ 300	52	100.0%	100.0%
Chloride	(mg / l as Cl)	< 200	≤ 600	52	100.0%	100.0%
Copper	(mg / l as Cu)	< 1	≤ 2	52	100.0%	100.0%
Fluoride	(mg / l as F)	< 1	≤ 1.5	52	100.0%	100.0%
Iron	(mg / l as Fe)	< 0.2	≤ 2	52	100.0%	100.0%
Magnesium	(mg / l as Mg)	< 70	≤ 100	52	100.0%	100.0%
Manganese	(mg / l as Mn)	< 0.1	≤ 1	52	100.0%	100.0%
Nitrate & Nitrite	(mg / l as N)	< 10	≤ 20	52	100.0%	100.0%
Potassium	(mg / l as K)	< 50	≤ 100	52	100.0%	100.0%
Sodium	(mg / l as Na)	< 200	≤ 400	52	100.0%	100.0%
Sulphate	(mg / l as SO4)	< 400	≤ 600	52	100.0%	100.0%
Zinc	(mg / l as Zn)	< 5	≤ 10	52	100.0%	100.0%
Microbiological						
E. Coli	(cfu per 100 ml)	minimum of 95% of the original results shall be non-detected	minimum of 99% of the original and repeat/consecutive results shall be non-detected	263	99.2%	99.2%
Other Determinants as required by supply contract						
Free chlorine and monochloramine	(mg / l)	≥ 0.2 min 95% compliance		263	95.1%	

Notes :

(1) Specification date of effect : July 2006

(2) Guideline derived from SANS 241: 2005 operations alert and industry practices

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Parameter	Units of measure	Specification	No of samples	Mean - 3 SD	Mean - 1 SD	Mean	Mean + 1 SD	Mean + 3 SD	Standard Deviation
Chemical and Physical properties									
Colour	(mg / l as Pt)	< 20	48	5.00	5.00	5.00	5.00	5.00	0.00
Conductivity	(mS / m)	< 150	153	18.00	18.58	19.54	20.49	21.00	0.95
pH	(pH units)	≥ 5 to ≤ 9.5	153	7.39	7.76	7.95	8.14	8.51	0.19
Turbidity	(NTU)	< 1	258	0.12	0.15	0.18	0.21	0.27	0.03
Total Dissolved Solids	(mg / l)	< 1000	48	130.00	130.37	135.73	141.09	150.00	5.36
Hardness	(mg / l as CaCO ₃)	> 20 to < 200	52	66.00	70.63	73.63	76.64	78.00	3.00
Taste	(FTN)	< 5	49	1.00	1.00	1.00	1.00	1.00	0.00
Odour	(TON)	< 5	49	1.00	1.00	1.00	1.00	1.00	0.00
Organic Determinants									
Total Trihalomethanes	(ug / l)	< 200	49	26.36	40.54	48.24	55.94	71.34	7.70
Phenols as C ₆ H ₅ OH	(ug / l)	< 10	30	0.33	0.77	1.49	2.21	3.20	0.72
Dissolved Organic Carbon	(mg / l)	< 10	49	3.00	3.23	3.40	3.56	3.90	0.17
Micro Elements									
Antimony	(ug / l as Sb)	< 10	6	1.00	1.00	1.00	1.00	1.00	0.00
Arsenic	(ug / l as As)	< 10	6	1.00	1.00	1.00	1.00	1.00	0.00
Cadmium	(ug / l as Cd)	< 5	52	1.25	1.25	1.25	1.25	1.25	0.00
Chromium (Total)	(ug / l as Cr)	< 100	52	5.00	5.00	5.38	7.56	11.92	2.18
Cobalt	(ug / l as Co)	< 500	52	7.50	7.50	7.50	7.50	7.50	0.00
Cyanide (Recoverable)	(ug / l as CN)	< 50	48	5.00	5.00	5.00	5.00	5.00	0.00
Lead	(ug / l as Pb)	< 20	52	4.00	4.00	4.00	4.00	4.00	0.00
Mercury	(ug / l as Hg)	< 1	20	0.50	0.50	0.50	0.50	0.50	0.00
Nickel	(ug / l as Ni)	< 150	52	7.50	7.50	7.50	7.50	7.50	0.00
Selenium	(ug / l as Se)	< 20	6	1.00	1.00	1.00	1.00	1.00	0.00
Vanadium	(ug / l as V)	< 200	52	15.00	15.00	15.00	15.00	15.00	0.00
Macro Elements & Miscellaneous Determinants									
Aluminium	(mg / l as Al)	< 0.3	52	0.005	0.006	0.024	0.042	0.060	0.018
Ammonia	(mg / l as N)	< 1	52	0.122	0.193	0.383	0.574	0.700	0.191
Calcium	(mg / l as Ca)	< 150	52	15.000	16.013	16.904	17.795	19.000	0.891
Chloride	(mg / l as Cl)	< 200	52	9.500	9.500	10.173	10.870	12.263	0.697
Copper	(mg / l as Cu)	< 1	52	0.005	0.005	0.011	0.020	0.037	0.008
Fluoride	(mg / l as F)	< 1	52	0.130	0.154	0.173	0.192	0.231	0.019
Iron	(mg / l as Fe)	< 0.2	52	0.003	0.003	0.011	0.024	0.051	0.013
Magnesium	(mg / l as Mg)	< 70	52	6.800	7.373	7.669	7.965	8.000	0.296
Manganese	(mg / l as Mn)	< 0.1	52	0.002	0.002	0.002	0.002	0.002	0.000
Nitrate & Nitrite	(mg / l as N)	< 10	52	0.170	0.170	0.268	0.414	0.707	0.146
Potassium	(mg / l as K)	< 50	52	0.830	1.270	1.555	1.839	1.900	0.284
Sodium	(mg / l as Na)	< 200	52	6.900	8.100	9.006	9.912	11.723	0.906
Sulphate	(mg / l as SO ₄)	< 400	52	12.713	15.263	16.538	17.814	18.000	1.275
Zinc	(mg / l as Zn)	< 5	52	0.004	0.004	0.038	0.142	0.351	0.104
Microbiological									
E. Coli	(cfu per 100 ml)	minimum of 95% of the original results shall be non-detected	263	0.0	0.0	0	0.1	0.3	0.1
Other Determinants as required by supply contract									
Free chlorine and monochloramine	(mg / l)	≥ 0.2 min 95% compliance	263	0.01	0.49	1.20	1.92	2.63	0.71
Notes :									
(1) Specification date of effect : July 2006									
(2) Guideline derived from SANS 241: 2005 operations alert and industry practices									