

Ekurhuleni Municipality Water Quality Report

22 June 2011 to 22 July 2011

Date generated : 01 August 2011

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	64	100.0%	100.0%
Conductivity	(mS / m)	< 150	≤ 370	196	100.0%	100.0%
pH	(pH units)	≥ 5 to ≤ 9.5	≥ 4 to ≤ 10	196	100.0%	100.0%
Turbidity	(NTU)	< 1	≤ 5	318	100.0%	100.0%
Total Dissolved Solids	(mg / l)	< 1000	≤ 2400	64	100.0%	100.0%
Taste	(FTN)	< 5	≤ 10	68	100.0%	100.0%
Odour	(TON)	< 5	≤ 10	68	100.0%	100.0%
Organic Determinants						
Total Trihalomethanes	(ug / l)	< 200	≤ 300	70	100.0%	100.0%
Phenols as C6H5OH	(ug / l)	< 10	≤ 70	36	100.0%	100.0%
Dissolved Organic Carbon	(mg / l)	< 10	≤ 20	70	100.0%	100.0%
Micro Elements						
Antimony	(ug / l as Sb)	< 10	≤ 50	64	100.0%	100.0%
Arsenic	(ug / l as As)	< 10	≤ 50	64	100.0%	100.0%
Cadmium	(ug / l as Cd)	< 5	≤ 10	69	100.0%	100.0%
Chromium (Total)	(ug / l as Cr)	< 100	≤ 500	69	100.0%	100.0%
Cobalt	(ug / l as Co)	< 500	≤ 1000	69	100.0%	100.0%
Cyanide (Recoverable)	(ug / l as CN)	< 50	≤ 70	64	100.0%	100.0%
Lead	(ug / l as Pb)	< 20	≤ 50	69	100.0%	100.0%
Mercury	(ug / l as Hg)	< 1	≤ 5	63	100.0%	100.0%
Nickel	(ug / l as Ni)	< 150	≤ 350	69	100.0%	100.0%
Selenium	(ug / l as Se)	< 20	≤ 50	64	100.0%	100.0%
Vanadium	(ug / l as V)	< 200	≤ 500	69	100.0%	100.0%
Macro Elements & Miscellaneous Determinants						
Aluminium	(mg / l as Al)	< 0.3	≤ 0.5	68	100.0%	100.0%
Ammonia	(mg / l as N)	< 1	≤ 2	69	100.0%	100.0%
Calcium	(mg / l as Ca)	< 150	≤ 300	69	100.0%	100.0%
Chloride	(mg / l as Cl)	< 200	≤ 600	42	100.0%	100.0%
Copper	(mg / l as Cu)	< 1	≤ 2	69	100.0%	100.0%
Fluoride	(mg / l as F)	< 1	≤ 1.5	42	100.0%	100.0%
Iron	(mg / l as Fe)	< 0.2	≤ 2	69	100.0%	100.0%
Magnesium	(mg / l as Mg)	< 70	≤ 100	69	100.0%	100.0%
Manganese	(mg / l as Mn)	< 0.1	≤ 1	69	100.0%	100.0%
Nitrate & Nitrite	(mg / l as N)	< 10	≤ 20	69	100.0%	100.0%
Potassium	(mg / l as K)	< 50	≤ 100	69	100.0%	100.0%
Sodium	(mg / l as Na)	< 200	≤ 400	69	100.0%	100.0%
Sulphate	(mg / l as SO4)	< 400	≤ 600	42	100.0%	100.0%
Zinc	(mg / l as Zn)	< 5	≤ 10	69	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	323	100.0%	100.0%
Other Determinants as required by supply contract						
Free chlorine and monochloramine	(mg / l)	≥ 0.2 min 95% compliance		323	99.1%	
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	64	5.00	5.00	5.03	5.21	5.56	0.18
Conductivity	(mS / m)	< 150	196	18.00	18.41	21.34	24.28	30.14	2.93
pH	(pH units)	≥ 5 to ≤ 9.5	196	6.96	7.33	7.59	7.85	8.38	0.26
Turbidity	(NTU)	< 1	318	0.18	0.24	0.30	0.37	0.47	0.06
Total Dissolved Solids	(mg / l)	< 1000	64	130.00	130.43	143.28	156.14	181.85	12.86
Hardness	(mg / l as CaCO ₃)	> 20 to < 200	69	50.00	54.87	65.43	76.00	92.00	10.57
Taste	(FTN)	< 5	68	1.00	1.00	1.00	1.00	1.00	0.00
Odour	(TON)	< 5	68	1.00	1.00	1.00	1.00	1.00	0.00
Organic Determinants									
Total Trihalomethanes	(ug / l)	< 200	70	25.85	54.48	68.80	83.12	96.39	14.32
Phenols as C ₆ H ₅ OH	(ug / l)	< 10	36	1.10	1.70	2.26	2.81	3.50	0.55
Dissolved Organic Carbon	(mg / l)	< 10	70	4.34	5.01	5.35	5.68	6.35	0.34
Micro Elements									
Antimony	(ug / l as Sb)	< 10	64	1.00	1.00	1.00	1.00	1.00	0.00
Arsenic	(ug / l as As)	< 10	64	1.00	1.00	1.20	1.72	2.76	0.52
Cadmium	(ug / l as Cd)	< 5	69	1.25	1.25	1.25	1.25	1.25	0.00
Chromium (Total)	(ug / l as Cr)	< 100	69	5.00	5.00	5.65	7.35	10.00	1.70
Cobalt	(ug / l as Co)	< 500	69	7.50	7.50	7.50	7.50	7.50	0.00
Cyanide (Recoverable)	(ug / l as CN)	< 50	64	5.00	5.00	5.34	6.69	9.39	1.35
Lead	(ug / l as Pb)	< 20	69	4.00	4.00	4.00	4.00	4.00	0.00
Mercury	(ug / l as Hg)	< 1	63	0.40	0.40	0.40	0.40	0.40	0.00
Nickel	(ug / l as Ni)	< 150	69	7.50	7.50	7.50	7.50	7.50	0.00
Selenium	(ug / l as Se)	< 20	64	1.00	1.00	1.00	1.00	1.00	0.00
Vanadium	(ug / l as V)	< 200	69	15.00	15.00	15.00	15.00	15.00	0.00
Macro Elements & Miscellaneous Determinants									
Aluminium	(mg / l as Al)	< 0.3	68	0.005	0.005	0.023	0.041	0.079	0.019
Ammonia	(mg / l as N)	< 1	69	0.122	0.273	0.407	0.541	0.690	0.134
Calcium	(mg / l as Ca)	< 150	69	13.000	14.349	17.246	20.144	25.938	2.897
Chloride	(mg / l as Cl)	< 200	42	9.300	10.329	10.936	11.543	12.000	0.607
Copper	(mg / l as Cu)	< 1	69	0.005	0.005	0.008	0.016	0.033	0.008
Fluoride	(mg / l as F)	< 1	42	0.140	0.161	0.173	0.185	0.200	0.012
Iron	(mg / l as Fe)	< 0.2	69	0.003	0.003	0.019	0.045	0.096	0.026
Magnesium	(mg / l as Mg)	< 70	69	3.900	3.900	5.435	7.144	9.900	1.710
Manganese	(mg / l as Mn)	< 0.1	69	0.002	0.002	0.003	0.006	0.010	0.003
Nitrate & Nitrite	(mg / l as N)	< 10	69	0.010	0.081	0.301	0.521	0.620	0.220
Potassium	(mg / l as K)	< 50	69	0.155	0.661	1.512	2.362	3.000	0.850
Sodium	(mg / l as Na)	< 200	69	2.959	5.572	6.878	8.185	9.100	1.306
Sulphate	(mg / l as SO ₄)	< 400	42	13.000	13.707	14.762	15.817	17.000	1.055
Zinc	(mg / l as Zn)	< 5	69	0.004	0.004	0.017	0.043	0.097	0.027
Microbiological									
E. Coli	(cfu per 100 ml)	minimum of 95% of the original results shall be non-detected	323	0.0	0.0	0	0.0	0.0	0.0
Other Determinants as required by supply contract									
Free chlorine and monochloramine	(mg / l)	≥ 0.2 min 95% compliance	323	0.06	0.90	1.48	2.07	2.52	0.58
Notes :									
(1) Specification date of effect : July 2006									
(2) Guideline derived from SANS 241: 2005 operations alert and industry practices									