

Lesedi 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	39	100.0%	100.0%
Conductivity	(mS / m)	< 150	≤ 370	63	100.0%	100.0%
pH	(pH units)	≥ 5 to ≤ 9.5	≥ 4 to ≤ 10	63	100.0%	100.0%
Turbidity	(NTU)	< 1	≤ 5	97	100.0%	100.0%
Total Dissolved Solids	(mg / l)	< 1000	≤ 2400	39	100.0%	100.0%
Taste	(FTN)	< 5	≤ 10	39	100.0%	100.0%
Odour	(TON)	< 5	≤ 10	39	100.0%	100.0%
Organic Determinants						
Total Trihalomethanes	(ug / l)	< 200	≤ 300	39	100.0%	100.0%
Phenols as C6H5OH	(ug / l)	< 10	≤ 70	20	100.0%	100.0%
Dissolved Organic Carbon	(mg / l)	< 10	≤ 20	39	100.0%	100.0%
Micro Elements						
Antimony	(ug / l as Sb)	< 10	≤ 50	39	100.0%	100.0%
Arsenic	(ug / l as As)	< 10	≤ 50	39	100.0%	100.0%
Cadmium	(ug / l as Cd)	< 5	≤ 10	39	100.0%	100.0%
Chromium (Total)	(ug / l as Cr)	< 100	≤ 500	39	100.0%	100.0%
Cobalt	(ug / l as Co)	< 500	≤ 1000	39	100.0%	100.0%
Cyanide (Recoverable)	(ug / l as CN)	< 50	≤ 70	39	100.0%	100.0%
Lead	(ug / l as Pb)	< 20	≤ 50	39	100.0%	100.0%
Mercury	(ug / l as Hg)	< 1	≤ 5	38	100.0%	100.0%
Nickel	(ug / l as Ni)	< 150	≤ 350	39	100.0%	100.0%
Selenium	(ug / l as Se)	< 20	≤ 50	39	100.0%	100.0%
Vanadium	(ug / l as V)	< 200	≤ 500	39	100.0%	100.0%
Macro Elements & Miscellaneous Determinants						
Aluminium	(mg / l as Al)	< 0.3	≤ 0.5	39	100.0%	100.0%
Ammonia	(mg / l as N)	< 1	≤ 2	39	100.0%	100.0%
Calcium	(mg / l as Ca)	< 150	≤ 300	39	100.0%	100.0%
Chloride	(mg / l as Cl)	< 200	≤ 600	20	100.0%	100.0%
Copper	(mg / l as Cu)	< 1	≤ 2	39	100.0%	100.0%
Fluoride	(mg / l as F)	< 1	≤ 1.5	20	100.0%	100.0%
Iron	(mg / l as Fe)	< 0.2	≤ 2	39	100.0%	100.0%
Magnesium	(mg / l as Mg)	< 70	≤ 100	39	100.0%	100.0%
Manganese	(mg / l as Mn)	< 0.1	≤ 1	39	100.0%	100.0%
Nitrate & Nitrite	(mg / l as N)	< 10	≤ 20	39	100.0%	100.0%
Potassium	(mg / l as K)	< 50	≤ 100	39	100.0%	100.0%
Sodium	(mg / l as Na)	< 200	≤ 400	39	100.0%	100.0%
Sulphate	(mg / l as SO4)	< 400	≤ 600	20	100.0%	100.0%
Zinc	(mg / l as Zn)	< 5	≤ 10	39	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	97	100.0%	100.0%
Other Determinants as required by supply contract						
Free chlorine and monochloramine	(mg / l)	≥ 0.2 min 95% compliance		97	99.0%	
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	39	5.00	5.00	5.05	5.27	5.72	0.22
Conductivity	(mS / m)	< 150	63	18.00	18.70	20.40	22.10	24.00	1.70
pH	(pH units)	≥ 5 to ≤ 9.5	63	7.09	7.44	7.66	7.88	8.08	0.22
Turbidity	(NTU)	< 1	97	0.20	0.23	0.30	0.37	0.44	0.07
Total Dissolved Solids	(mg / l)	< 1000	39	130.00	132.97	143.72	154.46	165.00	10.74
Hardness	(mg / l as CaCO ₃)	> 20 to < 200	39	51.00	54.89	65.10	75.32	87.00	10.21
Taste	(FTN)	< 5	39	1.00	1.00	1.00	1.00	1.00	0.00
Odour	(TON)	< 5	39	1.00	1.00	1.00	1.00	1.00	0.00
Organic Determinants									
Total Trihalomethanes	(ug / l)	< 200	39	23.21	58.20	75.70	93.19	100.10	17.50
Phenols as C ₆ H ₅ OH	(ug / l)	< 10	20	1.20	1.65	2.28	2.91	3.60	0.63
Dissolved Organic Carbon	(mg / l)	< 10	39	4.80	5.07	5.33	5.59	6.11	0.26
Micro Elements									
Antimony	(ug / l as Sb)	< 10	39	1.00	1.00	1.00	1.00	1.00	0.00
Arsenic	(ug / l as As)	< 10	39	1.00	1.00	1.07	1.40	2.05	0.33
Cadmium	(ug / l as Cd)	< 5	39	1.25	1.25	1.25	1.25	1.25	0.00
Chromium (Total)	(ug / l as Cr)	< 100	39	5.00	5.00	6.28	8.49	10.00	2.21
Cobalt	(ug / l as Co)	< 500	39	7.50	7.50	7.50	7.50	7.50	0.00
Cyanide (Recoverable)	(ug / l as CN)	< 50	39	5.00	5.00	5.51	7.32	10.93	1.80
Lead	(ug / l as Pb)	< 20	39	4.00	4.00	4.00	4.00	4.00	0.00
Mercury	(ug / l as Hg)	< 1	38	0.40	0.40	0.42	0.51	0.69	0.09
Nickel	(ug / l as Ni)	< 150	39	7.50	7.50	7.50	7.50	7.50	0.00
Selenium	(ug / l as Se)	< 20	39	1.00	1.00	1.00	1.00	1.00	0.00
Vanadium	(ug / l as V)	< 200	39	15.00	15.00	15.00	15.00	15.00	0.00
Macro Elements & Miscellaneous Determinants									
Aluminium	(mg / l as Al)	< 0.3	39	0.005	0.005	0.032	0.062	0.110	0.030
Ammonia	(mg / l as N)	< 1	39	0.122	0.287	0.410	0.533	0.690	0.123
Calcium	(mg / l as Ca)	< 150	39	14.000	15.080	16.718	18.355	20.000	1.638
Chloride	(mg / l as Cl)	< 200	20	9.300	10.388	11.140	11.892	12.000	0.752
Copper	(mg / l as Cu)	< 1	39	0.005	0.005	0.008	0.014	0.025	0.006
Fluoride	(mg / l as F)	< 1	20	0.160	0.160	0.172	0.184	0.200	0.013
Iron	(mg / l as Fe)	< 0.2	39	0.003	0.003	0.013	0.024	0.040	0.012
Magnesium	(mg / l as Mg)	< 70	39	4.100	4.100	5.718	7.704	11.000	1.986
Manganese	(mg / l as Mn)	< 0.1	39	0.002	0.002	0.003	0.007	0.010	0.004
Nitrate & Nitrite	(mg / l as N)	< 10	39	0.010	0.045	0.282	0.519	0.650	0.237
Potassium	(mg / l as K)	< 50	39	0.155	1.169	1.916	2.663	3.100	0.747
Sodium	(mg / l as Na)	< 200	39	4.600	6.247	7.303	8.358	8.900	1.056
Sulphate	(mg / l as SO ₄)	< 400	20	14.000	14.041	15.350	16.659	17.000	1.309
Zinc	(mg / l as Zn)	< 5	39	0.004	0.004	0.017	0.047	0.107	0.030
Microbiological									
E. Coli	(cfu per 100 ml)	minimum of 95% of the original results shall be non-detected	97	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	97	0.14	0.99	1.64	2.28	2.52	0.65
Notes :									
(1) Specification date of effect : July 2006									
(2) Guideline derived from SANS 241: 2005 operations alert and industry practices									