

Delmas 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	16	100.0%	100.0%
Conductivity	(mS / m)	< 150	≤ 370	35	100.0%	100.0%
pH	(pH units)	≥ 5 to ≤ 9.5	≥ 4 to ≤ 10	35	100.0%	100.0%
Turbidity	(NTU)	< 1	≤ 5	67	100.0%	100.0%
Total Dissolved Solids	(mg / l)	< 1000	≤ 2400	16	100.0%	100.0%
Taste	(FTN)	< 5	≤ 10	16	100.0%	100.0%
Odour	(TON)	< 5	≤ 10	16	100.0%	100.0%
Organic Determinants						
Total Trihalomethanes	(ug / l)	< 200	≤ 300	16	100.0%	100.0%
Phenols as C6H5OH	(ug / l)	< 10	≤ 70	9	100.0%	100.0%
Dissolved Organic Carbon	(mg / l)	< 10	≤ 20	16	100.0%	100.0%
Micro Elements						
Antimony	(ug / l as Sb)	< 10	≤ 50	16	100.0%	100.0%
Arsenic	(ug / l as As)	< 10	≤ 50	16	100.0%	100.0%
Cadmium	(ug / l as Cd)	< 5	≤ 10	16	100.0%	100.0%
Chromium (Total)	(ug / l as Cr)	< 100	≤ 500	16	100.0%	100.0%
Cobalt	(ug / l as Co)	< 500	≤ 1000	16	100.0%	100.0%
Cyanide (Recoverable)	(ug / l as CN)	< 50	≤ 70	16	100.0%	100.0%
Lead	(ug / l as Pb)	< 20	≤ 50	16	100.0%	100.0%
Mercury	(ug / l as Hg)	< 1	≤ 5	15	100.0%	100.0%
Nickel	(ug / l as Ni)	< 150	≤ 350	16	100.0%	100.0%
Selenium	(ug / l as Se)	< 20	≤ 50	16	100.0%	100.0%
Vanadium	(ug / l as V)	< 200	≤ 500	16	100.0%	100.0%
Macro Elements & Miscellaneous Determinants						
Aluminium	(mg / l as Al)	< 0.3	≤ 0.5	16	100.0%	100.0%
Ammonia	(mg / l as N)	< 1	≤ 2	16	100.0%	100.0%
Calcium	(mg / l as Ca)	< 150	≤ 300	16	100.0%	100.0%
Chloride	(mg / l as Cl)	< 200	≤ 600	10	100.0%	100.0%
Copper	(mg / l as Cu)	< 1	≤ 2	16	100.0%	100.0%
Fluoride	(mg / l as F)	< 1	≤ 1.5	10	100.0%	100.0%
Iron	(mg / l as Fe)	< 0.2	≤ 2	16	100.0%	100.0%
Magnesium	(mg / l as Mg)	< 70	≤ 100	16	100.0%	100.0%
Manganese	(mg / l as Mn)	< 0.1	≤ 1	16	100.0%	100.0%
Nitrate & Nitrite	(mg / l as N)	< 10	≤ 20	16	100.0%	100.0%
Potassium	(mg / l as K)	< 50	≤ 100	16	100.0%	100.0%
Sodium	(mg / l as Na)	< 200	≤ 400	16	100.0%	100.0%
Sulphate	(mg / l as SO4)	< 400	≤ 600	10	100.0%	100.0%
Zinc	(mg / l as Zn)	< 5	≤ 10	16	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	67	100.0%	100.0%
Other Determinants as required by supply contract						
Free chlorine and monochloramine	(mg / l)	≥ 0.2 min 95% compliance		67	100.0%	
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	16	5.00	5.00	5.06	5.31	5.81	0.25
Conductivity	(mS / m)	< 150	35	18.00	18.15	19.71	21.28	23.00	1.56
pH	(pH units)	≥ 5 to ≤ 9.5	35	7.09	7.31	7.56	7.80	8.08	0.25
Turbidity	(NTU)	< 1	67	0.20	0.23	0.30	0.37	0.45	0.07
Total Dissolved Solids	(mg / l)	< 1000	16	130.00	130.00	136.88	144.38	150.00	7.50
Hardness	(mg / l as CaCO ₃)	> 20 to < 200	16	50.00	52.05	61.31	70.58	82.00	9.26
Taste	(FTN)	< 5	16	1.00	1.00	1.00	1.00	1.00	0.00
Odour	(TON)	< 5	16	1.00	1.00	1.00	1.00	1.00	0.00
Organic Determinants									
Total Trihalomethanes	(ug / l)	< 200	16	22.14	41.69	63.45	85.21	94.58	21.76
Phenols as C ₆ H ₅ OH	(ug / l)	< 10	9	1.20	1.34	2.01	2.68	3.30	0.67
Dissolved Organic Carbon	(mg / l)	< 10	16	5.00	5.06	5.41	5.76	6.40	0.35
Micro Elements									
Antimony	(ug / l as Sb)	< 10	16	1.00	1.00	1.00	1.00	1.00	0.00
Arsenic	(ug / l as As)	< 10	16	1.00	1.00	1.31	1.99	2.80	0.67
Cadmium	(ug / l as Cd)	< 5	16	1.25	1.25	1.25	1.25	1.25	0.00
Chromium (Total)	(ug / l as Cr)	< 100	16	5.00	5.00	5.63	7.33	10.00	1.71
Cobalt	(ug / l as Co)	< 500	16	7.50	7.50	7.50	7.50	7.50	0.00
Cyanide (Recoverable)	(ug / l as CN)	< 50	16	5.00	5.00	5.38	6.88	9.88	1.50
Lead	(ug / l as Pb)	< 20	16	4.00	4.00	4.00	4.00	4.00	0.00
Mercury	(ug / l as Hg)	< 1	15	0.40	0.40	0.40	0.40	0.40	0.00
Nickel	(ug / l as Ni)	< 150	16	7.50	7.50	7.50	7.50	7.50	0.00
Selenium	(ug / l as Se)	< 20	16	1.00	1.00	1.00	1.00	1.00	0.00
Vanadium	(ug / l as V)	< 200	16	15.00	15.00	15.00	15.00	15.00	0.00
Macro Elements & Miscellaneous Determinants									
Aluminium	(mg / l as Al)	< 0.3	16	0.005	0.005	0.013	0.023	0.040	0.010
Ammonia	(mg / l as N)	< 1	16	0.122	0.259	0.438	0.618	0.690	0.179
Calcium	(mg / l as Ca)	< 150	16	13.000	13.857	16.063	18.268	19.000	2.205
Chloride	(mg / l as Cl)	< 200	10	9.300	9.795	10.750	11.705	12.000	0.955
Copper	(mg / l as Cu)	< 1	16	0.005	0.005	0.007	0.011	0.018	0.004
Fluoride	(mg / l as F)	< 1	10	0.150	0.159	0.172	0.185	0.190	0.013
Iron	(mg / l as Fe)	< 0.2	16	0.003	0.003	0.014	0.028	0.050	0.014
Magnesium	(mg / l as Mg)	< 70	16	4.100	4.100	5.156	6.401	8.890	1.245
Manganese	(mg / l as Mn)	< 0.1	16	0.002	0.002	0.003	0.005	0.010	0.003
Nitrate & Nitrite	(mg / l as N)	< 10	16	0.010	0.074	0.294	0.515	0.540	0.221
Potassium	(mg / l as K)	< 50	16	0.155	0.627	1.572	2.516	3.000	0.945
Sodium	(mg / l as Na)	< 200	16	5.500	5.947	7.069	8.190	9.000	1.122
Sulphate	(mg / l as SO ₄)	< 400	10	14.000	14.000	14.600	15.299	16.000	0.699
Zinc	(mg / l as Zn)	< 5	16	0.004	0.004	0.016	0.033	0.060	0.016
Microbiological									
E. Coli	(cfu per 100 ml)	minimum of 95% of the original results shall be non-detected	67	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	67	0.52	1.27	1.85	2.44	2.48	0.58
Notes :									
(1) Specification date of effect : July 2006									
(2) Guideline derived from SANS 241: 2005 operations alert and industry practices									