

## Westonaria 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			
<b>SPECIFICATIONS</b>						
<b>Chemical and Physical properties</b>						
Colour	(mg / l as Pt)	< 20	≤ 50	15	100.0%	100.0%
Conductivity	(mS / m)	< 150	≤ 370	24	100.0%	100.0%
pH	(pH units)	≥ 5 to ≤ 9.5	≥ 4 to ≤ 10	24	100.0%	100.0%
Turbidity	(NTU)	< 1	≤ 5	24	100.0%	100.0%
Total Dissolved Solids	(mg / l)	< 1000	≤ 2400	15	100.0%	100.0%
Taste	(FTN)	< 5	≤ 10	15	100.0%	100.0%
Odour	(TON)	< 5	≤ 10	15	100.0%	100.0%
<b>Organic Determinants</b>						
Total Trihalomethanes	(ug / l)	< 200	≤ 300	15	100.0%	100.0%
Phenols as C6H5OH	(ug / l)	< 10	≤ 70	10	100.0%	100.0%
Dissolved Organic Carbon	(mg / l)	< 10	≤ 20	15	100.0%	100.0%
<b>Micro Elements</b>						
Antimony	(ug / l as Sb)	< 10	≤ 50	2	100.0%	100.0%
Arsenic	(ug / l as As)	< 10	≤ 50	2	100.0%	100.0%
Cadmium	(ug / l as Cd)	< 5	≤ 10	15	100.0%	100.0%
Chromium (Total)	(ug / l as Cr)	< 100	≤ 500	15	100.0%	100.0%
Cobalt	(ug / l as Co)	< 500	≤ 1000	15	100.0%	100.0%
Cyanide (Recoverable)	(ug / l as CN)	< 50	≤ 70	15	100.0%	100.0%
Lead	(ug / l as Pb)	< 20	≤ 50	15	100.0%	100.0%
Mercury	(ug / l as Hg)	< 1	≤ 5	10	100.0%	100.0%
Nickel	(ug / l as Ni)	< 150	≤ 350	15	100.0%	100.0%
Selenium	(ug / l as Se)	< 20	≤ 50	2	100.0%	100.0%
Vanadium	(ug / l as V)	< 200	≤ 500	15	100.0%	100.0%
<b>Macro Elements &amp; Miscellaneous Determinants</b>						
Aluminium	(mg / l as Al)	< 0.3	≤ 0.5	15	100.0%	100.0%
Ammonia	(mg / l as N)	< 1	≤ 2	15	100.0%	100.0%
Calcium	(mg / l as Ca)	< 150	≤ 300	15	100.0%	100.0%
Chloride	(mg / l as Cl)	< 200	≤ 600	15	100.0%	100.0%
Copper	(mg / l as Cu)	< 1	≤ 2	15	100.0%	100.0%
Fluoride	(mg / l as F)	< 1	≤ 1.5	15	100.0%	100.0%
Iron	(mg / l as Fe)	< 0.2	≤ 2	15	100.0%	100.0%
Magnesium	(mg / l as Mg)	< 70	≤ 100	15	100.0%	100.0%
Manganese	(mg / l as Mn)	< 0.1	≤ 1	15	100.0%	100.0%
Nitrate & Nitrite	(mg / l as N)	< 10	≤ 20	15	100.0%	100.0%
Potassium	(mg / l as K)	< 50	≤ 100	15	100.0%	100.0%
Sodium	(mg / l as Na)	< 200	≤ 400	15	100.0%	100.0%
Sulphate	(mg / l as SO4)	< 400	≤ 600	15	100.0%	100.0%
Zinc	( mg / l as Zn)	< 5	≤ 10	15	100.0%	100.0%
<b>Microbiological</b>						
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	24	100.0%	100.0%
<b>Other Determinants as required by supply contract</b>						
Free chlorine and monochloramine	(mg / l)	≥ 0.2 min 95% compliance		24	100.0%	

**Notes :**

(1) Specification date of effect : July 2006

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

## Westonaria Municipality Water Quality Report

23 January 2009 to 19 February 2009

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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
<b>Chemical and Physical properties</b>									
Colour	(mg / l as Pt)	< 20	15	5.00	5.00	5.00	5.00	5.00	0.00
Conductivity	(mS / m)	< 150	24	19.00	19.00	20.58	22.25	25.58	1.67
pH	(pH units)	≥ 5 to ≤ 9.5	24	7.89	7.93	8.01	8.09	8.22	0.08
Turbidity	(NTU)	< 1	24	0.15	0.17	0.20	0.23	0.27	0.03
Total Dissolved Solids	(mg / l)	< 1000	15	135.00	135.00	139.00	144.41	150.00	5.41
Hardness	(mg / l as CaCO <sub>3</sub> )	> 20 to < 200	15	75.00	75.27	76.87	78.46	80.00	1.60
Taste	(FTN)	< 5	15	1.00	1.00	1.00	1.00	1.00	0.00
Odour	(TON)	< 5	15	1.00	1.00	1.00	1.00	1.00	0.00
<b>Organic Determinants</b>									
Total Trihalomethanes	(ug / l)	< 200	15	51.72	51.90	57.27	62.65	73.39	5.38
Phenols as C <sub>6</sub> H <sub>5</sub> OH	(ug / l)	< 10	10	0.68	0.73	1.60	2.46	3.50	0.87
Dissolved Organic Carbon	(mg / l)	< 10	15	1.00	1.90	2.91	3.60	3.60	1.02
<b>Micro Elements</b>									
Antimony	(ug / l as Sb)	< 10	2	1.00	1.00	1.00	1.00	1.00	0.00
Arsenic	(ug / l as As)	< 10	2	1.00	1.00	1.00	1.00	1.00	0.00
Cadmium	(ug / l as Cd)	< 5	15	1.25	1.25	1.25	1.25	1.25	0.00
Chromium (Total)	(ug / l as Cr)	< 100	15	5.00	5.00	5.00	5.00	5.00	0.00
Cobalt	(ug / l as Co)	< 500	15	7.50	7.50	7.50	7.50	7.50	0.00
Cyanide (Recoverable)	(ug / l as CN)	< 50	15	5.00	5.00	5.00	5.00	5.00	0.00
Lead	(ug / l as Pb)	< 20	15	4.00	4.00	4.00	4.00	4.00	0.00
Mercury	(ug / l as Hg)	< 1	10	0.50	0.50	0.50	0.50	0.50	0.00
Nickel	(ug / l as Ni)	< 150	15	7.50	7.50	7.50	7.50	7.50	0.00
Selenium	(ug / l as Se)	< 20	2	1.00	1.00	1.00	1.00	1.00	0.00
Vanadium	(ug / l as V)	< 200	15	15.00	15.00	15.00	15.00	15.00	0.00
<b>Macro Elements &amp; Miscellaneous Determinants</b>									
Aluminium	(mg / l as Al)	< 0.3	15	0.010	0.010	0.013	0.017	0.020	0.005
Ammonia	(mg / l as N)	< 1	15	0.122	0.122	0.203	0.284	0.340	0.081
Calcium	(mg / l as Ca)	< 150	15	17.000	17.025	17.800	18.575	19.000	0.775
Chloride	(mg / l as Cl)	< 200	15	10.159	10.675	10.933	11.000	11.000	0.258
Copper	(mg / l as Cu)	< 1	15	0.005	0.007	0.011	0.016	0.020	0.005
Fluoride	(mg / l as F)	< 1	15	0.150	0.161	0.176	0.191	0.200	0.015
Iron	(mg / l as Fe)	< 0.2	15	0.010	0.010	0.015	0.024	0.040	0.009
Magnesium	(mg / l as Mg)	< 70	15	7.600	7.704	7.900	8.096	8.200	0.196
Manganese	(mg / l as Mn)	< 0.1	15	0.002	0.002	0.002	0.002	0.002	0.000
Nitrate & Nitrite	(mg / l as N)	< 10	15	0.210	0.210	0.289	0.431	0.715	0.142
Potassium	(mg / l as K)	< 50	15	1.600	1.718	1.853	1.989	2.000	0.136
Sodium	(mg / l as Na)	< 200	15	9.200	9.396	9.647	9.897	9.900	0.250
Sulphate	(mg / l as SO <sub>4</sub> )	< 400	15	15.000	15.279	16.400	17.521	18.000	1.121
Zinc	( mg / l as Zn)	< 5	15	0.004	0.004	0.009	0.021	0.040	0.011
<b>Microbiological</b>									
E. Coli	(cfu per 100 ml)	minimum of 95% of the original results shall be non-detected	24	0.0	0.0	0	0.0	0.0	0.0
<b>Other Determinants as required by supply contract</b>									
Free chlorine and monochloramine	(mg / l)	≥ 0.2 min 95% compliance	24	0.24	0.39	0.77	1.14	1.39	0.37

Notes :

(1) Specification date of effect : July 2006

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