

TABLE 2.6-19
SURFACE WATER QUALITY ASSESSMENT

Parameter	Unit	Roads, Topsoil and Stormwater (25% of mixed pond)			Pit Water and Overburden Stockpile fraction:	Pit Water (50% of mixed pond)				Overburden Stockpiles (25% of mixed pond)		Mixed Pond		Class III (mg/l) Dissolved
		South tributary of South Branch Heart River at mouth (25% of mix)				D Coal Samples (40% of mix)		Overburden Samples (10% of mix)		SPLP (25% of mix)		Median	Average	
		fraction:	Median	Average		Median	Average	Median	Average	Average	Average			
Arsenic ^{1,4}	mg/l	T	0.04000	0.04000	D	0.0015	0.0015	0.0015	0.0015	0.0095	0.0095	0.0131	0.0131	0.15
Boron ⁴	mg/l	D	0.00000	0.05000	D	1.00	1.07	0.50	0.63	0.20	0.20	0.50	0.55	0.75
Cadmium ^{1,4}	mg/l	T	0.00010	0.00441	D	0.00004	0.00005	0.00004	0.00011	0.00008	0.00008	0.00007	0.00116	0.0034
Calcium	mg/l	D	6.9500	11.575	D	31.0	76.9	35.0	65.8	2.3	2.3	18.2	40.8	
Chloride	mg/l	N	3.1500	3.5333	N	5.00	5.32	11.65	14.19	1.50	1.50	4.33	4.80	250
Chromium ^{1,4}	mg/l	T	0.03950	0.04997	D	0.0005	0.0011	0.0006	0.0012	0.0020	0.0020	0.0106	0.0135	0.121
Copper ^{1,4}	mg/l	T	0.01950	0.04590	D	0.0020	0.0044	0.0030	0.0052	0.0090	0.0090	0.0082	0.0160	0.0132
Iron ⁴	mg/l	T	14.800	38.943	T	1.11	5.04	4.28	13.49	1.80	1.80	5.02	13.55	
Lead ^{1,4}	mg/l	T	0.02550	0.05365	D	0.0003	0.0003	0.0003	0.0005	0.0020	0.0020	0.0070	0.0141	0.0054
Magnesium	mg/l	D	1.10000	1.73500	D	25.0	61.9	19.6	49.6	1.3	1.3	12.6	30.5	
Manganese ^{1,4}	mg/l	T	0.61000	0.95900	D	0.04	0.05	0.10	0.20	0.02	0.02	0.18	0.28	
Mercury ⁴	mg/l	D	0.00030	0.00027	D	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00008	0.00008	0.000091
Molybdenum ²	mg/l									0.03	0.03	NA	NA	
Nickel ^{1,4}	mg/l	T	0.02150	0.04157	D	0.005	0.023	0.005	0.010	0.005	0.005	0.009	0.022	0.074
Nitrogen, Nitrate-Nitrite	mg/l	N	0.20000	0.25083	N	0.010	1.710	0.035	1.185			NA	NA	
pH ³	pH units	N	7.4000	7.4460	N	7.30	7.30	7.45	7.62	6.20	6.20	NA	NA	6.9
Phosphorus	mg/l	N	0.21500	0.27667								NA	NA	0.1
Potassium	mg/l	D	3.3500	3.5000	D	7.00	7.69	8.00	9.16	2.60	2.60	5.09	5.52	
Selenium ¹	mg/l	T	0.00100	0.00190	D	0.001	0.002	0.003	0.005	0.006	0.006	0.002	0.003	0.005
Silver ²	mg/l	T	0.00050	0.00129								NA	NA	0.0083
Sodium	mg/l	D	98.050	97.508	D	680.00	838.77	721.50	799.47	57.000	57.000	382.91	454.08	
Sulfate ²	mg/l	N	82.550	101.98		690.0	1372.6	862.0	1187.6			NA	NA	750
Total Dissolved Solids	mg/l	Calculated	432.00	658.45	N	2110	2905	2340	2668	302	302	1262	1669	
Total Suspended Solids	mg/l	N	106.80	436.45	N	20	185	57	404	2	2	41	224	
Uranium ^{1,4}	mg/l	T	0.00760	0.00966	D	0.001	0.001	0.005	0.017	0.002	0.002	0.003	0.005	
Vanadium ²	mg/l	T	0.05500	0.07935						0.03	0.03	NA	NA	
Zinc ⁴	mg/l	D	0.09800	0.13852	D	0.005	0.007	0.005	0.010	0.110	0.110	0.055	0.066	0.171

Notes:

- ¹ Water quality results for the mixed pond include a combination of dissolved and total concentration levels
- ² Water quality results are only available for one or more resources, as a result the average and maximum concentration levels are not reported for the mixed pond
- ³ The average and maximum values for the mixed pond are not applicable for this parameter
- ⁴ 50% of the detection limit was used if water quality results were non-detect and results are thus less than the value shown.