

APPENDIX B

SURFACE WATER MONITORING RESULTS

(Source: ALS, 2011)

Table B-1
Surface Water Monitoring Results

Site: CC1					Site: CC2					Site: CC3				
Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)
January	2820	8.00	1010	1.0	January	2890	7.70	1070	0.4	January	1500	8.00	407	0.7
February	3600	7.90	790	2.0	February	4740	7.50	1870	0.6	February	2300	8.20	701	1.4
March	4740	7.90	1560	1.2	March	4080	7.70	1530	0.2	March	2600	8.10	845	0.6
April	6000	7.90	2150	2.3	April	5960	7.70	2090	0.6	April	2860	8.10	982	0.8
May	3830	7.90	1570	4.0	May	3290	7.80	1360	1.3	May	2350	8.30	989	1.0
June	4300	8.10	1640	2.0	June	3820	8.10	1550	0.4	June	2970	7.90	1200	0.3
July	4180	7.90	1830	0.5	July	3760	7.60	1560	0.6	July	2880	7.60	1210	0.5
August	4370	8.30	1770	2.2	August	3890	8.20	1660	0.5	August	3080	8.00	1360	0.7
September	3900	8.00	1480	1.5	September	3810	7.60	1440	0.3	September	2930	8.40	1220	0.4
October	4240	7.90	1790	1.0	October	3950	7.80	1600	0.9	October	3220	8.40	1490	1.0
November	Dry	Dry	Dry	Dry	November	5560	7.40	3030	1.9	November	Dry	Dry	Dry	Dry
December	4510	7.60	1820	1.4	December	4340	7.60	1770	0.2	December	3700	8.10	1590	0.9
Site: WIL (U)					Site: WIL (U2)					Site: WIL (NC)				
Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)
January #	-	-	-	-	January #	-	-	-	-	January	2240	7.80	839	1.9
February	830	5.50	10	6.6	February	720	6.90	20	32.7	February	2260	6.50	392	6.5
March	880	7.00	12	11.0	March	840	7.00	19	18.8	March	Dry	Dry	Dry	Dry
April	930	7.20	15	7.3	April	640	6.90	11	13.3	April	2130	6.40	254	2.8
May	650	7.20	23	4.4	May	590	7.00	21	7.0	May	4290	7.00	1540	10.6
June	870	8.50	24	3.2	June #	-	-	-	-	June	3430	7.40	180	3.9
July	910	7.20	28	136.0	July	820	7.30	30	6.1	July	3440	7.30	1260	1.6
August	860	7.60	24	3.8	August	850	8.10	30	5.8	August	2200	7.60	378	1.8
September	880	7.20	18	4.2	September	1040	6.80	33	8.0	September	1440	7.00	84	1.4
October	810	6.70	8	9.6	October	840	6.60	20	13.7	October	1110	7.00	49	2.1
November	1300	6.70	6	16.2	November	2550	5.60	90	6.4	November	3530	6.90	1000	2.9
December	830	6.80	14	11.1	December	940	6.80	29	11.6	December	1480	7.00	155	2.7

Table B-1 (Continued)
Surface Water Monitoring Results

Site: WIL (PC)					Site: WIL (D)					Site: WIL (D2)				
Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)
January	1520	6.50	69	9.2	January	1810	7.40	506	2.0	January	1950	7.60	598	2.0
February	1170	5.10	15	5.9	February	1790	7.40	292	1.2	February	2810	6.80	541	3.0
March	1450	6.70	6	10.4	March	3480	7.60	764	1.3	March	4300	7.90	1140	1.6
April	1510	6.50	15	15.7	April	2780	7.80	473	0.7	April	3720	7.80	847	2.5
May	1600	6.90	43	7.8	May	4000	7.90	1540	1.7	May	3910	7.90	1580	1.5
June	890	8.20	26	8.2	June	3950	8.00	1410	0.9	June	4030	8.10	1440	0.7
July	1130	7.20	37	6.6	July	3880	7.60	1390	0.9	July	3960	7.80	1440	0.8
August	1060	7.20	32	17.9	August	3940	8.30	1350	1.2	August	4080	8.20	1520	2.4
September	1110	6.60	31	35.2	September	3340	7.90	1080	1.7	September	3480	7.90	1040	1.1
October	1090	6.40	14	40.9	October	2740	7.80	851	4.0	October	2900	7.80	931	3.1
November	Dry	Dry	Dry	Dry	November	3370	7.60	573	4.9	November	3870	7.60	935	4.2
December	1240	6.70	43	24.3	December	2290	7.70	423	2.6	December	2400	7.60	484	12.9
Site: WOL (1)					Site: WOL (2)									
Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2010)	EC μ S/cm	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)					
January	1010	7.80	64	5.7	January	570	7.60	215	6.7					
February	1110	6.20	134	7.2	February	990	7.90	110	5.0					
March	1530	8.00	220	4.1	March	1340	7.90	175	3.4					
April	1690	8.10	281	4.9	April	1490	7.90	237	4.7					
May	2340	8.00	664	3.6	May	1340	8.00	286	3.3					
June	2330	8.20	543	2.6	June	1450	8.20	251	2.7					
July	2210	8.00	589	1.6	July	1470	7.50	319	1.6					
August	2320	8.30	604	3.8	August	1500	8.10	317	3.5					
September	1880	8.10	422	4.1	September	1300	7.90	248	4.9					
October	1810	8.10	386	6.0	October	1430	8.00	220	3.9					
November	2190	8.10	374	3.4	November	2300	7.70	351	5.4					
December	1640	7.90	300	4.8	December	1540	7.90	270	4.2					

N/D = No Data available, site inaccessible.

Table B-2
Surface Water Monitoring Data (On-site Water Storages)

Site: Raw Water Dam					Site: Recycled Water Dam					Site: Sediment Control Dam 1				
Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)
January	2530	7.26	1290	2.4	January	2670	7.05	1300	6	January	3000	7.33	1450	24.6
February	-	-	-	-	February	-	-	-	-	February	-	-	-	-
March	3230	6.72	1440	20.3	March	3250	7.46	1420	9	March	-	-	-	-
April	3210	6.51	1650	10.4	April	3110	7.12	1510	7.8	April	3270	7.57	1630	7.4
May	-	5.63	1600	2.8	May	3020	6.98	1360	15.3	May	-	6.88	1480	15
June	3730	5.90	1750	3.5	June	3370	7.04	1500	9	June	3780	6.81	1560	33
July	4140	3.63	1710	4	July	3560	5.12	1370	7.3	July	-	-	-	-
August	3360	5.15	1710	8.1	August	3160	6.68	1440	4.1	August	3370	7.00	1550	8
September	3420	4.90	1660	3.7	September	3220	6.80	1550	6.8	September	3490	6.68	1540	11.1
October	3290	4.88	1630	7.8	October	3190	6.85	1600	11.2	October	3470	7.34	1610	33.4
November	3220	7.07	1560	13.7	November	3230	7.46	1540	11.7	November	3470	7.32	1570	6.3
December	2590	7.46	1520	3.7	December	2260	7.22	1560	8.5	December	2780	7.50	1650	21.5
Site: Sediment Control Dam 2					Site: Sediment Control Dam 3					Site: Sediment Control Dam 4				
Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)
January	3120	7.86	1400	61.7	January	2410	5.75	1060	14.6	January	780	7.25	146	20.5
February	-	-	-	-	February	-	-	-	-	February	-	-	-	-
March	3230	7.40	1440	1040	March	3710	6.89	1330	78.8	March	2220	7.60	351	29.9
April	3210	6.84	1540	75	April	3340	6.90	1350	82.7	April	1650	7.23	351	15.5
May	-	6.66	1070	307	May	-	5.80	1160	111	May	-	6.92	150	19.1
June	3560	6.10	1440	472	June	3800	5.82	1270	137	June	1510	7.12	372	11.8
July	-	-	-	-	July	-	-	-	-	July	-	-	-	-
August	3270	6.29	1490	7.2	August	3600	6.83	1340	240	August	1170	7.40	340	34.6
September	3640	6.60	1800	8680	September	3600	6.68	1320	33.2	September	1730	4.74	617	19.6
October	3360	6.75	1680	24.1	October	3300	6.80	1280	46.6	October	550	7.47	127	46.8
November	3040	7.05	1130	27.1	November	3610	6.27	1290	177	November	730	7.18	176	17.3
December	2720	7.08	1530	111	December	2520	7.25	1250	108	December	230	6.89	62	21.6

Table B-2 (Continued)
Surface Water Monitoring Data (On-site Water Storages)

Site: Sediment Control Dam 5					Site: Sediment Control Dam 8					Site: Sediment Control Dam 9				
Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)
January	4250	7.41	1360	4.1	January	-	-	-	-	January	1560	6.89	462	2.1
February	-	-	-	-	February	-	-	-	-	February	-	-	-	-
March	5700	5.75	1610	9	March	3690	6.00	1590	50.8	March	2250	7.37	687	2.9
April	4220	6.98	1330	0.8	April	3250	7.65	1550	5.2	April	2270	7.02	817	1.8
May	-	6.30	1200	1.7	May	-	6.94	1600	9.7	May	-	6.98	498	3.8
June	4860	6.49	1560	1.3	June	3870	6.88	1520	7.3	June	2520	6.91	729	3.4
July	-	-	-	-	July	-	-	-	-	July	-	-	-	-
August	3980	7.00	1240	2.5	August	3550	6.04	1500	3.9	August	2200	6.99	769	1.7
September	4210	6.15	1350	<0.1	September	3810	6.45	1440	1.7	September	2240	6.73	793	2.1
October	4560	6.70	1540	2.9	October	3510	7.39	1700	4	October	2020	6.75	751	1.8
November	4430	6.83	1510	20.4	November	3230	7.28	1420	54.1	November	2090	6.53	781	1.9
December	-	-	-	-	December	3340	8.61	1190	3.5	December	-	-	-	-
Site: Pit 2					Site: Ed's Lake									
Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)	Month (2011)	EC $\mu\text{S/cm}$	pH (Unit)	SO ₄ (mg/L)	Turbidity (NTU)					
January	2480	6.68	1260	16.3	January	-	-	-	-					
February	-	-	-	-	February	-	-	-	-					
March	3270	6.75	1410	7.2	March	2890	7.16	920	21.4					
April	3430	6.21	1590	7.8	April	2870	7.37	592	1.2					
May	3140	4.84	1520	2.3	May	-	7.01	1330	2.1					
June	3760	4.75	1810	9.4	June	2990	6.84	772	1.5					
July	3900	4.86	1810	8.6	July	-	-	-	-					
August	3330	6.16	1650	19.5	August	2220	5.85	528	2.6					
September	3320	6.06	1710	4.2	September	2190	5.65	575	3					
October	3300	5.96	1570	18.8	October	2460	6.96	502	4.3					
November	3270	6.32	1500	17.4	November	2650	7.32	457	4.4					
December	2130	7.30	1470	24.1	December	-	-	-	-					

- Monitoring data not available

Table B-3
Surface Water Monitoring Data (Off-site Water Discharges)

Site: Eds Lake					Site: Pit 2 West					Site: Recycled Water Dam				
Date (2011)	EC (μ S/cm)	pH (Unit)	Oil & Grease (mg/L)	TSS (mg/L)	Date (2011)	EC (μ S/cm)	pH (Unit)	Oil & Grease (mg/L)	TSS (mg/L)	Date (2011)	EC (μ S/cm)	pH (Unit)	Oil & Grease (mg/L)	TSS (mg/L)
01-Jan-11	2030	7.5	<2	9	01-Jan-11	2560	6.1	<2	8	01-Jan-11	2800	6.9	<2	5
02-Jan-11	2040	7.1	<2	13	02-Jan-11	2570	6.3	<2	12	02-Jan-11	2880	7.3	<2	6
03-Jan-11	2090	7.3	<2	2	03-Jan-11	2570	6.4	<2	4	03-Jan-11	2820	7.2	<2	4
04-Jan-11	2160	7.1	<2	10	04-Jan-11	2580	6.2	<2	2	04-Jan-11	2840	7	<2	5
05-Jan-11	2200	7.1	<2	7	05-Jan-11	2610	6.1	<2	6	05-Jan-11	2880	7.3	<2	7
06-Jan-11	2230	7.3	<2	8	06-Jan-11	-	-	-	-	06-Jan-11	2880	7.2	<2	14
07-Jan-11	2230	7.5	<2	12	07-Jan-11	-	-	-	-	07-Jan-11	2890	7.4	<2	75
08-Jan-11	2250	7.4	<2	8	08-Jan-11	-	-	-	-	08-Jan-11	2880	7.4	<2	8
09-Jan-11	2240	7.5	<2	19	09-Jan-11	-	-	-	-	09-Jan-11	2890	7.4	<2	58
10-Jan-11	2320	7.3	<2	19	10-Jan-11	-	-	-	-	10-Jan-11	-	-	-	-
11-Jan-11	2260	7.3	<2	2	11-Jan-11	-	-	-	-	11-Jan-11	-	-	-	-
12-Jan-11	2320	6.9	<2	5	12-Jan-11	-	-	-	-	12-Jan-11	-	-	-	-
13-Jan-11	2260	7.4	-	<2	13-Jan-11	-	-	-	-	13-Jan-11	2760	7.1	<2	8
14-Jan-11	-	-	-	-	14-Jan-11	-	-	-	-	14-Jan-11	-	-	-	-
15-Jan-11	-	-	-	-	15-Jan-11	2520	7.2	<2	39	15-Jan-11	-	-	-	-
16-Jan-11	-	-	-	-	16-Jan-11	2520	7.1	<2	41	16-Jan-11	-	-	-	-
17-Jan-11	-	-	-	-	17-Jan-11	2530	7.1	<2	15	17-Jan-11	-	-	-	-
18-Jan-11	-	-	-	-	18-Jan-11	-	-	-	-	18-Jan-11	-	-	-	-
19-Jan-11	-	-	-	-	19-Jan-11	2580	7.1	<2	<2	19-Jan-11	-	-	-	-
20-Jan-11	-	-	-	-	20-Jan-11	2580	6.8	<2	4	20-Jan-11	2810	7.4	<2	5
21-Jan-11	-	-	-	-	21-Jan-11	2640	6.8	<2	7	21-Jan-11	2780	7.4	<2	3
22-Jan-11	-	-	-	-	22-Jan-11	-	-	-	-	22-Jan-11	-	-	-	-
23-Jan-11	-	-	-	-	23-Jan-11	-	-	-	-	23-Jan-11	-	-	-	-
24-Jan-11	-	-	-	-	24-Jan-11	2630	7.3	<2	<2	24-Jan-11	2820	7.4	<2	<2
25-Jan-11	-	-	-	-	25-Jan-11	2640	7.2	<2	<2	25-Jan-11	2860	7.6	<2	<2
26-Jan-11	-	-	-	-	26-Jan-11	2650	6.9	<2	<2	26-Jan-11	2820	7.3	<2	<2
27-Jan-11	-	-	-	-	27-Jan-11	2650	7.2	<2	<2	27-Jan-11	2820	7.5	<2	2
28-Jan-11	-	-	-	-	28-Jan-11	-	-	-	-	28-Jan-11	2830	7.5	<2	20

29-Jan-11	-	-	-	-	29-Jan-11	-	-	-	-	29-Jan-11	2810	7.5	<2	<2
30-Jan-11	-	-	-	-	30-Jan-11	-	-	-	-	30-Jan-11	2880	7.6	<2	4
31-Jan-11	-	-	-	-	31-Jan-11	-	-	-	-	31-Jan-11	-	-	-	-

- Monitoring data not available