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August 30th, 2011

SENT VIA EMAIL

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Nunavut Water Board
P.O. Box 119
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Re: 2AM-JER0410 Monthly Report- July 2011

The following is the monthly report for July 2011 as required under the Nunavut Water Board ("NWB or Board") Water License 2AM-JER0410. Results of water monitoring, as proposed in section 5.0 of Appendix C (General Monitoring Plan) of the Care and Maintenance Plan submitted to the Water Board in January 2011, are included below.

On July 18th, and 19th, Robert Bedingfield from the Department of Fisheries and Oceans ("DFO") was on site conducting inspections. Stanley Anablak, Luigi Tremblay and Angut Pederson from the Kitikmeot Inuit Association ("KIA") were also on site on July 19th.

JER-SWQ-01 (previously JER-SW1)

The results from JER-SWQ-01, Waste Water Treatment effluent and influent, are noted below. The amount of water discharged from station JER-SWF-04 at the Waste Water Treatment plant ("WWTP") to the Process Kimberlite Containment Area ("PKCA") between the dates of July 1st and July 31st was 60.73 m³.

JER-SWQ-01 (previously JER-SW1) - Effluent

ALS		JER-SWQ-01 - OUT	JER SWQ-01 OUT	JER-SWQ-01 OUT	JER-SWQ-01 OUT
8/27/2011		L1026383-1	L1030756-2	L1032733-1	L1035822-2
L1030756		7/4/2011 8:00:00 AM	7/11/2011 9:15:00 AM	7/18/2011 8:00:00 AM	7/25/2011 12:00:00 AM
Analyte	Units	Water	Water	Water	Water
Hardness (as CaCO3)	mg/L	39.9	39.5	-	-
Total Suspended Solids	mg/L	<3.0	6	6	21
Total Dissolved Solids	mg/L	336	340	355	347
Temperature	Degree C	25	25	25	25
Turbidity	NTU	2.89	6.72	3.49	11.6
Acidity (as CaCO3)	mg/L	6.2	9.9	8.2	19.4
Alkalinity, Total (as CaCO3)	mg/L	28	21.8	23.9	85.5
Ammonia (as N)	mg/L	1.05	0.64	0.66	2.15
Bicarbonate (HCO3)	mg/L	34.2	26.6	29.2	104
Carbonate (CO3)	mg/L	<5.0	<5.0	<5.0	<5.0
Chloride (Cl)	mg/L	44.4	43.9	68.8	91.4
Conductivity (EC)	uS/cm	482	469	519	575
Fluoride (F)	mg/L	<0.050	<0.050	0.051	0.067
Hardness (as CaCO3)	mg/L	43.3	40.7	43.3	34.2
Hydroxide (OH)	mg/L	<5.0	<5.0	<5.0	<5.0
Ion Balance	%	101	102	96.9	91.4
Nitrate and Nitrite (as N)	mg/L	21.5	22.6	19.8	4.42
Nitrate (as N)	mg/L	21.5	22.5	19.5	1.68
Nitrite (as N)	mg/L	0.054	0.089	0.259	2.74
Total Kjeldahl Nitrogen	mg/L	-	3.66	4.53	7.42
pH	pH	7.38	6.92	7.03	7.13
Orthophosphate-Dissolved (as P)	mg/L	3.64	4.78	4.69	7.88 *
Phosphorus (P)-Total Dissolved	mg/L	3.82	5	5.54	6.94 *
Phosphorus (P)-Total	mg/L	4.41	5.33	5.75	283
TDS (Calculated)	mg/L	285	286	299	16.3
Sulfate (SO4)	mg/L	32.6	33	27.5	13
Total Inorganic Carbon	mg/L	5.6	5.8	8.1	24.6
Total Organic Carbon	mg/L	19.1	20.3	20.6	3300 *
Fecal Coliforms	CFU/100mL	1400 *	<1	66 *	-
Mercury (Hg)-Total	mg/L	<0.000050	<0.000050	-	-
Aluminum (Al)-Total	mg/L	0.0455	0.124	-	-
Antimony (Sb)-Total	mg/L	0.00163	0.00131	-	-
Arsenic (As)-Total	mg/L	0.00077	0.000789	-	-
Barium (Ba)-Total	mg/L	0.00466	0.00385	-	-
Beryllium (Be)-Total	mg/L	<0.000010	0.0000021	-	-

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Bismuth (Bi)-Total	mg/L	0.000101	0.00021	-	-
Boron (B)-Total	mg/L	0.104	0.0767	-	-
Cadmium (Cd)-Total	mg/L	0.000148	0.0000352	-	-
Calcium (Ca)-Total	mg/L	11.2	10.7	-	-
Cesium (Cs)-Total	mg/L	0.000052	0.0000556	-	-
Chromium (Cr)-Total	mg/L	0.00048	0.000736	-	-
Cobalt (Co)-Total	mg/L	0.000646	0.000817	-	-
Copper (Cu)-Total	mg/L	0.12	0.112	-	-
Gallium (Ga)-Total	mg/L	<0.00025 *	0.000058	-	-
Iron (Fe)-Total	mg/L	0.414	0.386	-	-
Lead (Pb)-Total	mg/L	0.00758	0.000766	-	-
Lithium (Li)-Total	mg/L	0.02	0.0131	-	-
Magnesium (Mg)-Total	mg/L	3.73	3.51	-	-
Manganese (Mn)-Total	mg/L	0.0595	0.0708	-	-
Molybdenum (Mo)-Total	mg/L	0.00391	0.00369	-	-
Nickel (Ni)-Total	mg/L	0.0168	0.0136	-	-
Phosphorus (P)-Total	mg/L	4.28	5.47	-	-
Potassium (K)-Total	mg/L	20.2	21.7	-	-
Rhenium (Re)-Total	mg/L	<0.000025 *	<0.000005 0	-	-
Rubidium (Rb)-Total	mg/L	0.0186	0.0201	-	-
Selenium (Se)-Total	mg/L	0.00057	0.00059	-	-
Silicon (Si)-Total	mg/L	4.12	2.89	-	-
Silver (Ag)-Total	mg/L	<0.000025 *	0.0000122	-	-
Sodium (Na)-Total	mg/L	60.4	61.6	-	-
Strontium (Sr)-Total	mg/L	0.0161	0.0145	-	-
Tellurium (Te)-Total	mg/L	<0.000050 *	<0.000010	-	-
Thallium (Tl)-Total	mg/L	0.0000078	0.0000043	-	-
Thorium (Th)-Total	mg/L	<0.000025 *	<0.000005 0	-	-
Tin (Sn)-Total	mg/L	0.000498	0.000963	-	-
Titanium (Ti)-Total	mg/L	0.00029	0.000914	-	-
Tungsten (W)-Total	mg/L	0.000313	0.000291	-	-
Uranium (U)-Total	mg/L	0.0000478	0.0000419	-	-
Vanadium (V)-Total	mg/L	0.000879	0.00091	-	-
Yttrium (Y)-Total	mg/L	0.000031	0.0000393	-	-
Zinc (Zn)-Total	mg/L	0.775	0.861	-	-
Zirconium (Zr)-Total	mg/L	0.000124	0.000559	-	-
Aluminum (Al)-Dissolved	mg/L	0.0188	0.127	-	-
Antimony (Sb)-Dissolved	mg/L	0.00159	0.00132	-	-
Arsenic (As)-Dissolved	mg/L	0.000589	0.000931	-	-
Barium (Ba)-Dissolved	mg/L	0.00318	0.00388	-	-
Beryllium (Be)-Dissolved	mg/L	<0.000002 0	<0.000002 0	-	-
Bismuth (Bi)-Dissolved	mg/L	0.0000455	0.00021	-	-
Boron (B)-Dissolved	mg/L	0.114	0.0797	-	-

Cadmium (Cd)-Dissolved	mg/L	0.0000107	0.0000293	-	-
Calcium (Ca)-Dissolved	mg/L	11.2 *	10.6 *	11.1	8.67
Cesium (Cs)-Dissolved	mg/L	0.0000405	0.0000549	-	-
Chromium (Cr)-Dissolved	mg/L	0.000379	0.000722	-	-
Cobalt (Co)-Dissolved	mg/L	0.000563	0.000862	-	-
Copper (Cu)-Dissolved	mg/L	0.0289	0.112	-	-
Gallium (Ga)-Dissolved	mg/L	<0.000050	0.000063	-	-
Iron (Fe)-Dissolved	mg/L	0.227	0.381	-	-
Lead (Pb)-Dissolved	mg/L	0.000855	0.000528	-	-
Lithium (Li)-Dissolved	mg/L	0.0231	0.0137	-	-
Magnesium (Mg)-Dissolved	mg/L	3.72 *	3.46 *	-	-
Manganese (Mn)-Dissolved	mg/L	0.0565	0.0739	3.78	3.05
Mercury (Hg)-Dissolved	mg/L	<0.000050	<0.000050	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00376	0.00387	-	-
Nickel (Ni)-Dissolved	mg/L	0.0104	0.014	-	-
Phosphorus (P)-Dissolved	mg/L	3.88	5.5	-	-
Potassium (K)-Dissolved	mg/L	19.7 *	21.5 *	20.3	20.6
Rhenium (Re)-Dissolved	mg/L	<0.000005 0	<0.000005 0	-	-
Rubidium (Rb)-Dissolved	mg/L	0.0173	0.0203	-	-
Selenium (Se)-Dissolved	mg/L	0.000357	0.000613	-	-
Silicon (Si)-Dissolved	mg/L	3.97	2.87	-	-
Silver (Ag)-Dissolved	mg/L	<0.000005 0	0.0000114	-	-
Sodium (Na)-Dissolved	mg/L	60.8 *	60.4 *	65.2	72.5
Strontium (Sr)-Dissolved	mg/L	0.0154	0.015	-	-
Tellurium (Te)-Dissolved	mg/L	<0.000010	<0.000010	-	-
Thallium (Tl)-Dissolved	mg/L	0.0000039	0.0000043	-	-
Thorium (Th)-Dissolved	mg/L	<0.000005 0	<0.000005 0	-	-
Tin (Sn)-Dissolved	mg/L	0.000371	0.000487	-	-
Titanium (Ti)-Dissolved	mg/L	0.000078	0.000811	-	-
Tungsten (W)-Dissolved	mg/L	0.000292	0.000292	-	-
Uranium (U)-Dissolved	mg/L	0.0000098	0.0000405	-	-
Vanadium (V)-Dissolved	mg/L	0.000281	0.000893	-	-
Yttrium (Y)-Dissolved	mg/L	0.0000214	0.0000403	-	-
Zinc (Zn)-Dissolved	mg/L	0.493	0.884	-	-
Zirconium (Zr)-Dissolved	mg/L	0.000071	0.000531	-	-
Biochemical Oxygen Demand	mg/L	3.3	3.8	2.4	11.1
Oil and Grease	mg/L	<1.0	<1.0	<1.0	<1.0
					-
* = Result Qualified					

JER-SWQ-01 (previously JER-SW1) - Influent

ALS		JER SWQ-01 IN	JER-SWQ-01 INFLUENT
8/27/2011		L1030756-1	L1035822-1
L1030756		7/11/2011 9:00:00 AM	7/25/2011 12:00:00 AM
Analyte	Units	Water	Water
Hardness (as CaCO3)	mg/L	30.8	-
Total Suspended Solids	mg/L	276 *	175
Total Dissolved Solids	mg/L	314	356
Temperature	Degree C	25	25
Turbidity	NTU	84.2	50.8
Acidity (as CaCO3)	mg/L	40.6	82
Alkalinity, Total (as CaCO3)	mg/L	159	142
Ammonia (as N)	mg/L	23.4	18
Bicarbonate (HCO3)	mg/L	194	173
Carbonate (CO3)	mg/L	<5.0	<5.0
Chloride (Cl)	mg/L	36	94.6
Conductivity (EC)	uS/cm	513	671
Fluoride (F)	mg/L	<0.050	<0.050
Hardness (as CaCO3)	mg/L	30.6	38
Hydroxide (OH)	mg/L	<5.0	<5.0
Ion Balance	%	115 *	101
Nitrate and Nitrite (as N)	mg/L	<0.0060	<0.060 *
Nitrate (as N)	mg/L	<0.0060	<0.060
Nitrite (as N)	mg/L	0.0067	<0.020 *
Total Kjeldahl Nitrogen	mg/L	47.5	7.31
pH	pH	7.2	4.37
Orthophosphate-Dissolved (as P)	mg/L	3.19	5.27
Phosphorus (P)-Total Dissolved	mg/L	4.07	8.36
Phosphorus (P)-Total	mg/L	7.36	293
TDS (Calculated)	mg/L	219	7.76
Sulfate (SO4)	mg/L	7.77	16.3
Total Inorganic Carbon	mg/L	55.6	124
Total Organic Carbon	mg/L	39.2	3700000 *
Fecal Coliforms	CFU/100mL	1000000 *	-
Mercury (Hg)-Total	mg/L	<0.000050	-
Aluminum (Al)-Total	mg/L	1.23	-
Antimony (Sb)-Total	mg/L	0.000776	-
Arsenic (As)-Total	mg/L	0.00107	-
Barium (Ba)-Total	mg/L	0.0173	-
Beryllium (Be)-Total	mg/L	0.000023	-
Bismuth (Bi)-Total	mg/L	0.0117	-
Boron (B)-Total	mg/L	0.063	-
Cadmium (Cd)-Total	mg/L	0.000234	-
Calcium (Ca)-Total	mg/L	10.9	-

Cesium (Cs)-Total	mg/L	0.000067	-
Chromium (Cr)-Total	mg/L	0.00409	-
Cobalt (Co)-Total	mg/L	0.0012	-
Copper (Cu)-Total	mg/L	0.616	-
Gallium (Ga)-Total	mg/L	0.00034	-
Iron (Fe)-Total	mg/L	4.37	-
Lead (Pb)-Total	mg/L	0.00606	-
Lithium (Li)-Total	mg/L	0.0085	-
Magnesium (Mg)-Total	mg/L	3.84	-
Manganese (Mn)-Total	mg/L	0.121	-
Molybdenum (Mo)-Total	mg/L	0.00361	-
Nickel (Ni)-Total	mg/L	0.0173	-
Phosphorus (P)-Total	mg/L	7.48	-
Potassium (K)-Total	mg/L	18.6	-
Rhenium (Re)-Total	mg/L	<0.000025 *	-
Rubidium (Rb)-Total	mg/L	0.0183	-
Selenium (Se)-Total	mg/L	0.00081	-
Silicon (Si)-Total	mg/L	3.88	-
Silver (Ag)-Total	mg/L	0.000069	-
Sodium (Na)-Total	mg/L	50.1	-
Strontium (Sr)-Total	mg/L	0.0216	-
Tellurium (Te)-Total	mg/L	<0.000050 *	-
Thallium (Tl)-Total	mg/L	0.0000164	-
Thorium (Th)-Total	mg/L	0.000048	-
Tin (Sn)-Total	mg/L	0.00178	-
Titanium (Ti)-Total	mg/L	0.0384	-
Tungsten (W)-Total	mg/L	0.000653	-
Uranium (U)-Total	mg/L	0.000729	-
Vanadium (V)-Total	mg/L	0.00231	-
Yttrium (Y)-Total	mg/L	0.000316	-
Zinc (Zn)-Total	mg/L	0.567	-
Zirconium (Zr)-Total	mg/L	0.00654	-
Aluminum (Al)-Dissolved	mg/L	0.0633	-
Antimony (Sb)-Dissolved	mg/L	0.000252	-
Arsenic (As)-Dissolved	mg/L	0.00053	-
Barium (Ba)-Dissolved	mg/L	0.00414	-
Beryllium (Be)-Dissolved	mg/L	<0.000010 *	-
Bismuth (Bi)-Dissolved	mg/L	0.000303	-
Boron (B)-Dissolved	mg/L	<0.050 *	-
Cadmium (Cd)-Dissolved	mg/L	<0.000025 *	-
Calcium (Ca)-Dissolved	mg/L	6.90 *	9
Cesium (Cs)-Dissolved	mg/L	0.000057	-
Chromium (Cr)-Dissolved	mg/L	<0.0010 *	-
Cobalt (Co)-Dissolved	mg/L	0.000352	-
Copper (Cu)-Dissolved	mg/L	0.0433	-
Gallium (Ga)-Dissolved	mg/L	<0.00025 *	-
Iron (Fe)-Dissolved	mg/L	1.7	-
Lead (Pb)-Dissolved	mg/L	0.000446	-

Lithium (Li)-Dissolved	mg/L	0.0077	-
Magnesium (Mg)-Dissolved	mg/L	3.25 *	-
Manganese (Mn)-Dissolved	mg/L	0.0602	3.78
Mercury (Hg)-Dissolved	mg/L	<0.000050	-
Molybdenum (Mo)-Dissolved	mg/L	0.00146	-
Nickel (Ni)-Dissolved	mg/L	0.0153	-
Phosphorus (P)-Dissolved	mg/L	5.58	-
Potassium (K)-Dissolved	mg/L	18.0 *	19.8
Rhenium (Re)-Dissolved	mg/L	<0.000025 *	-
Rubidium (Rb)-Dissolved	mg/L	0.0176	-
Selenium (Se)-Dissolved	mg/L	0.00048	-
Silicon (Si)-Dissolved	mg/L	2.44	-
Silver (Ag)-Dissolved	mg/L	<0.000025 *	-
Sodium (Na)-Dissolved	mg/L	51.7 *	73.1
Strontium (Sr)-Dissolved	mg/L	0.0165	-
Tellurium (Te)-Dissolved	mg/L	<0.000050 *	-
Thallium (Tl)-Dissolved	mg/L	0.0000075	-
Thorium (Th)-Dissolved	mg/L	<0.000025 *	-
Tin (Sn)-Dissolved	mg/L	0.000652	-
Titanium (Ti)-Dissolved	mg/L	0.0006	-
Tungsten (W)-Dissolved	mg/L	0.000229	-
Uranium (U)-Dissolved	mg/L	0.0000649	-
Vanadium (V)-Dissolved	mg/L	0.000581	-
Yttrium (Y)-Dissolved	mg/L	<0.000025 *	-
Zinc (Zn)-Dissolved	mg/L	0.0209	-
Zirconium (Zr)-Dissolved	mg/L	0.00102	-
Biochemical Oxygen Demand	mg/L	260	1850
Oil and Grease	mg/L	38.1	37.8
			-
* = Result Qualified			

Approximately 5.678 m³ of sewage sludge was removed from the WWTP in June and deposited in the waste rock pile located at 12W 0478298 7319368.

JER-SWQ-12 (previously JER -WQ1)

Water taken for domestic purposes at this time is taken from Carat Lake by pump and transported by water truck to tanks within the accommodation unit. Volume drawn is calculated manually. Water drawn from Carat Lake in June was 88.75m³. The results from sampling at this location are noted below.

ALS		JER AEM-12 (CARAT INTAKE)
8/27/2011		L1030756-5
L1030756		7/11/2011 8:10:00 AM
Analyte	Units	Water
Hardness (as CaCO3)	mg/L	5.4
Total Suspended Solids	mg/L	<3.0
Total Dissolved Solids	mg/L	15
Temperature	Degree C	25
Turbidity	NTU	0.72
Acidity (as CaCO3)	mg/L	<5.0
Alkalinity, Total (as CaCO3)	mg/L	<5.0
Ammonia (as N)	mg/L	<0.0050
Bicarbonate (HCO3)	mg/L	5.2
Carbonate (CO3)	mg/L	<5.0
Chloride (Cl)	mg/L	<0.50
Conductivity (EC)	uS/cm	11.9
Fluoride (F)	mg/L	<0.050
Hardness (as CaCO3)	mg/L	5.2
Hydroxide (OH)	mg/L	<5.0
Ion Balance	%	Low EC
Nitrate and Nitrite (as N)	mg/L	0.0236
Nitrate (as N)	mg/L	0.0236
Nitrite (as N)	mg/L	<0.0020
Total Kjeldahl Nitrogen	mg/L	<0.20
pH	pH	7.03
Orthophosphate-Dissolved (as P)	mg/L	<0.0010
Phosphorus (P)-Total Dissolved	mg/L	<0.0010
Phosphorus (P)-Total	mg/L	0.0028
TDS (Calculated)	mg/L	3.5
Sulfate (SO4)	mg/L	0.885
Total Inorganic Carbon	mg/L	2.1
Total Organic Carbon	mg/L	3.7
Fecal Coliforms	CFU/100mL	<1
Mercury (Hg)-Total	mg/L	<0.000050
Aluminum (Al)-Total	mg/L	0.0205
Antimony (Sb)-Total	mg/L	0.0000056
Arsenic (As)-Total	mg/L	0.000181
Barium (Ba)-Total	mg/L	0.0016
Beryllium (Be)-Total	mg/L	0.0000027
Bismuth (Bi)-Total	mg/L	0.0000013
Boron (B)-Total	mg/L	<0.0050
Cadmium (Cd)-Total	mg/L	<0.0000050
Calcium (Ca)-Total	mg/L	1.14

Cesium (Cs)-Total	mg/L	<0.0000050
Chromium (Cr)-Total	mg/L	0.000085
Cobalt (Co)-Total	mg/L	0.0000232
Copper (Cu)-Total	mg/L	0.00112
Gallium (Ga)-Total	mg/L	<0.000050
Iron (Fe)-Total	mg/L	0.019
Lead (Pb)-Total	mg/L	<0.0000050
Lithium (Li)-Total	mg/L	0.0005
Magnesium (Mg)-Total	mg/L	0.598
Manganese (Mn)-Total	mg/L	0.00408
Molybdenum (Mo)-Total	mg/L	0.000051
Nickel (Ni)-Total	mg/L	0.000371
Phosphorus (P)-Total	mg/L	<0.050
Potassium (K)-Total	mg/L	0.296
Rhenium (Re)-Total	mg/L	<0.0000050
Rubidium (Rb)-Total	mg/L	0.000754
Selenium (Se)-Total	mg/L	<0.000040
Silicon (Si)-Total	mg/L	0.292
Silver (Ag)-Total	mg/L	<0.0000050
Sodium (Na)-Total	mg/L	0.5
Strontium (Sr)-Total	mg/L	0.00485
Tellurium (Te)-Total	mg/L	<0.000010
Thallium (Tl)-Total	mg/L	0.0000017
Thorium (Th)-Total	mg/L	0.0000152
Tin (Sn)-Total	mg/L	<0.000010
Titanium (Ti)-Total	mg/L	0.000136
Tungsten (W)-Total	mg/L	<0.000010
Uranium (U)-Total	mg/L	0.000162
Vanadium (V)-Total	mg/L	0.000046
Yttrium (Y)-Total	mg/L	0.0000768
Zinc (Zn)-Total	mg/L	0.00045
Zirconium (Zr)-Total	mg/L	0.00005
Aluminum (Al)-Dissolved	mg/L	0.0168
Antimony (Sb)-Dissolved	mg/L	0.0000051
Arsenic (As)-Dissolved	mg/L	0.000173
Barium (Ba)-Dissolved	mg/L	0.00162
Beryllium (Be)-Dissolved	mg/L	0.0000026
Bismuth (Bi)-Dissolved	mg/L	<0.0000010
Boron (B)-Dissolved	mg/L	<0.0050
Cadmium (Cd)-Dissolved	mg/L	<0.0000050
Calcium (Ca)-Dissolved	mg/L	1.12 *
Cesium (Cs)-Dissolved	mg/L	<0.0000050
Chromium (Cr)-Dissolved	mg/L	0.000079
Cobalt (Co)-Dissolved	mg/L	0.0000178
Copper (Cu)-Dissolved	mg/L	0.0011
Gallium (Ga)-Dissolved	mg/L	<0.000050
Iron (Fe)-Dissolved	mg/L	<0.010
Lead (Pb)-Dissolved	mg/L	<0.0000050

Lithium (Li)-Dissolved	mg/L	0.0005
Magnesium (Mg)-Dissolved	mg/L	0.588 *
Manganese (Mn)-Dissolved	mg/L	0.00267
Mercury (Hg)-Dissolved	mg/L	<0.000050
Molybdenum (Mo)-Dissolved	mg/L	0.000027
Nickel (Ni)-Dissolved	mg/L	0.000386
Phosphorus (P)-Dissolved	mg/L	<0.050
Potassium (K)-Dissolved	mg/L	0.286 *
Rhenium (Re)-Dissolved	mg/L	<0.0000050
Rubidium (Rb)-Dissolved	mg/L	0.000755
Selenium (Se)-Dissolved	mg/L	<0.000040
Silicon (Si)-Dissolved	mg/L	0.281
Silver (Ag)-Dissolved	mg/L	<0.0000050
Sodium (Na)-Dissolved	mg/L	0.50 *
Strontium (Sr)-Dissolved	mg/L	0.00517
Tellurium (Te)-Dissolved	mg/L	<0.000010
Thallium (Tl)-Dissolved	mg/L	0.0000014
Thorium (Th)-Dissolved	mg/L	0.0000137
Tin (Sn)-Dissolved	mg/L	<0.000010
Titanium (Ti)-Dissolved	mg/L	<0.000050
Tungsten (W)-Dissolved	mg/L	<0.000010
Uranium (U)-Dissolved	mg/L	0.00015
Vanadium (V)-Dissolved	mg/L	0.000034
Yttrium (Y)-Dissolved	mg/L	0.0000709
Zinc (Zn)-Dissolved	mg/L	0.00046
Zirconium (Zr)-Dissolved	mg/L	0.000053
Biochemical Oxygen Demand	mg/L	<2.0
Oil and Grease	mg/L	<1.0
* = Result Qualified		

JER-SWQ-02 (previously JER -WQ2)

Sampling was conducted in the open pit in July. The analytical results are noted below:

ALS		JER-SWQ-02 (PIT)
8/27/2011		L1035822-3
L1035822		7/25/2011 12:00:00 AM
Analyte	Units	Water
Hardness (as CaCO ₃)	mg/L	50.3
Total Suspended Solids	mg/L	-
Total Dissolved Solids	mg/L	-
Temperature	Degree C	25
Turbidity	NTU	0.97
Acidity (as CaCO ₃)	mg/L	<5.0
Alkalinity, Total (as CaCO ₃)	mg/L	33.1

Ammonia (as N)	mg/L	0.0102
Bicarbonate (HCO ₃)	mg/L	40.4
Carbonate (CO ₃)	mg/L	<5.0
Chloride (Cl)	mg/L	4.81
Conductivity (EC)	uS/cm	143
Fluoride (F)	mg/L	0.074
Hardness (as CaCO ₃)	mg/L	52.4
Hydroxide (OH)	mg/L	<5.0
Ion Balance	%	96.9
Nitrate and Nitrite (as N)	mg/L	5.91
Nitrate (as N)	mg/L	5.86
Nitrite (as N)	mg/L	0.043
pH	pH	7.99
Orthophosphate-Dissolved (as P)	mg/L	<0.0010
Phosphorus (P)-Total Dissolved	mg/L	0.0015
Phosphorus (P)-Total	mg/L	0.0048
TDS (Calculated)	mg/L	81.5
Sulfate (SO ₄)	mg/L	5.99
Total Inorganic Carbon	mg/L	9.4
Total Organic Carbon	mg/L	3.8
Fecal Coliforms	CFU/100mL	-
Mercury (Hg)-Total	mg/L	<0.000050
Aluminum (Al)-Total	mg/L	0.0684
Antimony (Sb)-Total	mg/L	0.000258
Arsenic (As)-Total	mg/L	0.000489
Barium (Ba)-Total	mg/L	0.0277
Beryllium (Be)-Total	mg/L	0.000005
Bismuth (Bi)-Total	mg/L	0.0000023
Boron (B)-Total	mg/L	0.0255
Cadmium (Cd)-Total	mg/L	<0.0000050
Calcium (Ca)-Total	mg/L	12.5
Cesium (Cs)-Total	mg/L	0.0000528
Chromium (Cr)-Total	mg/L	0.000246
Cobalt (Co)-Total	mg/L	0.000103
Copper (Cu)-Total	mg/L	0.00214
Gallium (Ga)-Total	mg/L	0.000057
Iron (Fe)-Total	mg/L	0.058
Lead (Pb)-Total	mg/L	0.000257
Lithium (Li)-Total	mg/L	0.00258
Magnesium (Mg)-Total	mg/L	5.47
Manganese (Mn)-Total	mg/L	0.00355
Molybdenum (Mo)-Total	mg/L	0.00426
Nickel (Ni)-Total	mg/L	0.00217
Phosphorus (P)-Total	mg/L	<0.050
Potassium (K)-Total	mg/L	2.69
Rhenium (Re)-Total	mg/L	0.0000062
Rubidium (Rb)-Total	mg/L	0.00583
Selenium (Se)-Total	mg/L	0.00021

Silicon (Si)-Total	mg/L	1.8
Silver (Ag)-Total	mg/L	<0.0000050
Sodium (Na)-Total	mg/L	4.38
Strontium (Sr)-Total	mg/L	0.157
Tellurium (Te)-Total	mg/L	<0.000010
Thallium (Tl)-Total	mg/L	0.0000073
Thorium (Th)-Total	mg/L	0.0000152
Tin (Sn)-Total	mg/L	<0.000020
Titanium (Ti)-Total	mg/L	0.00186
Tungsten (W)-Total	mg/L	0.00107
Uranium (U)-Total	mg/L	0.0844
Vanadium (V)-Total	mg/L	0.000703
Yttrium (Y)-Total	mg/L	0.000182
Zinc (Zn)-Total	mg/L	0.00018
Zirconium (Zr)-Total	mg/L	0.000114
Aluminum (Al)-Dissolved	mg/L	0.0212
Antimony (Sb)-Dissolved	mg/L	0.000255
Arsenic (As)-Dissolved	mg/L	0.000456
Barium (Ba)-Dissolved	mg/L	0.0274
Beryllium (Be)-Dissolved	mg/L	<0.0000020
Bismuth (Bi)-Dissolved	mg/L	<0.0000010
Boron (B)-Dissolved	mg/L	0.0302
Cadmium (Cd)-Dissolved	mg/L	<0.0000050
Calcium (Ca)-Dissolved	mg/L	12.2 *
Cesium (Cs)-Dissolved	mg/L	0.0000417
Chromium (Cr)-Dissolved	mg/L	0.000074
Cobalt (Co)-Dissolved	mg/L	0.0000365
Copper (Cu)-Dissolved	mg/L	0.00177
Gallium (Ga)-Dissolved	mg/L	<0.000050
Iron (Fe)-Dissolved	mg/L	<0.010
Lead (Pb)-Dissolved	mg/L	0.0000397
Lithium (Li)-Dissolved	mg/L	0.00245
Magnesium (Mg)-Dissolved	mg/L	5.32 *
Manganese (Mn)-Dissolved	mg/L	0.000351
Mercury (Hg)-Dissolved	mg/L	<0.000050
Molybdenum (Mo)-Dissolved	mg/L	0.0043
Nickel (Ni)-Dissolved	mg/L	0.00152
Phosphorus (P)-Dissolved	mg/L	<0.050
Potassium (K)-Dissolved	mg/L	2.68 *
Rhenium (Re)-Dissolved	mg/L	0.0000062
Rubidium (Rb)-Dissolved	mg/L	0.0058
Selenium (Se)-Dissolved	mg/L	0.000157
Silicon (Si)-Dissolved	mg/L	1.62
Silver (Ag)-Dissolved	mg/L	<0.0000050
Sodium (Na)-Dissolved	mg/L	4.37 *
Strontium (Sr)-Dissolved	mg/L	0.151
Tellurium (Te)-Dissolved	mg/L	<0.000010
Thallium (Tl)-Dissolved	mg/L	0.0000067

Thorium (Th)-Dissolved	mg/L	<0.0000050
Tin (Sn)-Dissolved	mg/L	<0.000020
Titanium (Ti)-Dissolved	mg/L	<0.000050
Tungsten (W)-Dissolved	mg/L	0.00108
Uranium (U)-Dissolved	mg/L	0.0861
Vanadium (V)-Dissolved	mg/L	0.000581
Yttrium (Y)-Dissolved	mg/L	0.0000649
Zinc (Zn)-Dissolved	mg/L	0.00281
Zirconium (Zr)-Dissolved	mg/L	0.000073
Biochemical Oxygen Demand	mg/L	-
Oil and Grease	mg/L	-
* = Result Qualified		

JER-SWQ-07

The east sump was sampled in July. The results of the analysis are noted below.

ALS		JER-SWQ-07
8/27/2011		L1032734-1
L1032734		7/18/2011 9:30:00 AM
Analyte	Units	Water
Hardness (as CaCO ₃)	mg/L	82.3
Total Suspended Solids	mg/L	5
Total Dissolved Solids	mg/L	177
Temperature	Degree C	25
Turbidity	NTU	1.16
Acidity (as CaCO ₃)	mg/L	<5.0
Alkalinity, Total (as CaCO ₃)	mg/L	68.7
Ammonia (as N)	mg/L	0.0343
Bicarbonate (HCO ₃)	mg/L	83.9
Carbonate (CO ₃)	mg/L	<5.0
Chloride (Cl)	mg/L	15.1
Conductivity (EC)	uS/cm	291
Fluoride (F)	mg/L	0.111
Hardness (as CaCO ₃)	mg/L	84.4
Hydroxide (OH)	mg/L	<5.0
Ion Balance	%	99.9
Nitrate and Nitrite (as N)	mg/L	3.08
Nitrate (as N)	mg/L	3.05
Nitrite (as N)	mg/L	0.0336
pH	pH	8.28
Orthophosphate-Dissolved (as P)	mg/L	<0.0010
Phosphorus (P)-Total Dissolved	mg/L	0.0022
Phosphorus (P)-Total	mg/L	0.0118
TDS (Calculated)	mg/L	160

Sulfate (SO4)	mg/L	34.7
Total Inorganic Carbon	mg/L	18.9
Total Organic Carbon	mg/L	7.2
Fecal Coliforms	CFU/100mL	-
Mercury (Hg)-Total	mg/L	<0.000050
Aluminum (Al)-Total	mg/L	0.0221
Antimony (Sb)-Total	mg/L	0.000184
Arsenic (As)-Total	mg/L	0.000506
Barium (Ba)-Total	mg/L	0.0426
Beryllium (Be)-Total	mg/L	<0.0000020
Bismuth (Bi)-Total	mg/L	0.000002
Boron (B)-Total	mg/L	0.0288
Cadmium (Cd)-Total	mg/L	<0.0000050
Calcium (Ca)-Total	mg/L	17.5
Cesium (Cs)-Total	mg/L	0.000072
Chromium (Cr)-Total	mg/L	0.000286
Cobalt (Co)-Total	mg/L	0.000165
Copper (Cu)-Total	mg/L	0.0026
Gallium (Ga)-Total	mg/L	<0.000050
Iron (Fe)-Total	mg/L	0.132
Lead (Pb)-Total	mg/L	0.000054
Lithium (Li)-Total	mg/L	0.00167
Magnesium (Mg)-Total	mg/L	10.2
Manganese (Mn)-Total	mg/L	0.0351
Molybdenum (Mo)-Total	mg/L	0.00587
Nickel (Ni)-Total	mg/L	0.0057
Phosphorus (P)-Total	mg/L	<0.050
Potassium (K)-Total	mg/L	8.96
Rhenium (Re)-Total	mg/L	0.0000462
Rubidium (Rb)-Total	mg/L	0.021
Selenium (Se)-Total	mg/L	0.000192
Silicon (Si)-Total	mg/L	0.269
Silver (Ag)-Total	mg/L	<0.0000050
Sodium (Na)-Total	mg/L	19.5
Strontium (Sr)-Total	mg/L	0.33
Tellurium (Te)-Total	mg/L	<0.000010
Thallium (Tl)-Total	mg/L	0.0000172
Thorium (Th)-Total	mg/L	0.0000083
Tin (Sn)-Total	mg/L	<0.000010
Titanium (Ti)-Total	mg/L	0.000582
Tungsten (W)-Total	mg/L	0.000058
Uranium (U)-Total	mg/L	0.00881
Vanadium (V)-Total	mg/L	0.000284
Yttrium (Y)-Total	mg/L	0.0000524
Zinc (Zn)-Total	mg/L	0.00059
Zirconium (Zr)-Total	mg/L	0.000049
Aluminum (Al)-Dissolved	mg/L	0.00944
Antimony (Sb)-Dissolved	mg/L	0.00018

Arsenic (As)-Dissolved	mg/L	0.000417
Barium (Ba)-Dissolved	mg/L	0.0401
Beryllium (Be)-Dissolved	mg/L	<0.0000020
Bismuth (Bi)-Dissolved	mg/L	0.0000021
Boron (B)-Dissolved	mg/L	0.0314
Cadmium (Cd)-Dissolved	mg/L	<0.0000050
Calcium (Ca)-Dissolved	mg/L	17.3 *
Cesium (Cs)-Dissolved	mg/L	0.000069
Chromium (Cr)-Dissolved	mg/L	0.000191
Cobalt (Co)-Dissolved	mg/L	0.000114
Copper (Cu)-Dissolved	mg/L	0.00211
Gallium (Ga)-Dissolved	mg/L	<0.000050
Iron (Fe)-Dissolved	mg/L	0.061
Lead (Pb)-Dissolved	mg/L	0.0000221
Lithium (Li)-Dissolved	mg/L	0.00163
Magnesium (Mg)-Dissolved	mg/L	10.0 *
Manganese (Mn)-Dissolved	mg/L	0.0135
Mercury (Hg)-Dissolved	mg/L	<0.000050
Molybdenum (Mo)-Dissolved	mg/L	0.00593
Nickel (Ni)-Dissolved	mg/L	0.00462
Phosphorus (P)-Dissolved	mg/L	<0.050
Potassium (K)-Dissolved	mg/L	8.83 *
Rhenium (Re)-Dissolved	mg/L	0.0000444
Rubidium (Rb)-Dissolved	mg/L	0.0206
Selenium (Se)-Dissolved	mg/L	0.000168
Silicon (Si)-Dissolved	mg/L	0.221
Silver (Ag)-Dissolved	mg/L	<0.0000050
Sodium (Na)-Dissolved	mg/L	19.1 *
Strontium (Sr)-Dissolved	mg/L	0.318
Tellurium (Te)-Dissolved	mg/L	<0.000010
Thallium (Tl)-Dissolved	mg/L	0.0000174
Thorium (Th)-Dissolved	mg/L	<0.0000050
Tin (Sn)-Dissolved	mg/L	<0.000010
Titanium (Ti)-Dissolved	mg/L	0.000122
Tungsten (W)-Dissolved	mg/L	0.000056
Uranium (U)-Dissolved	mg/L	0.00882
Vanadium (V)-Dissolved	mg/L	0.000175
Yttrium (Y)-Dissolved	mg/L	0.0000265
Zinc (Zn)-Dissolved	mg/L	0.00018
Zirconium (Zr)-Dissolved	mg/L	0.000031
Biochemical Oxygen Demand	mg/L	-
Oil and Grease	mg/L	-

Remediation Unit (OZTEC)

Water was remediated and was sent into the East cell of the PKCA. The results of the analysis are noted below.

ALS		Sample ID	OZTEC AFTER TREATMENT- TANK FARM	OZTEC FIELD BLANK- TANK FARM
8/27/2011		ALS ID	L1034712-2	L1034712-3
L1034712		Date Sampled	7/20/2011 5:40:00 PM	7/20/2011 5:45:00 PM
Analyte	Units	LOR	Water	Water
Benzene	mg/L	0.0005	<0.00050	<0.00050
Ethylbenzene	mg/L	0.0005	<0.00050	<0.00050
Toluene	mg/L	0.0005	0.00066	0.00093
o-Xylene	mg/L	0.0005	<0.00050	<0.00050
m+p-Xylene	mg/L	0.0005	<0.00050	<0.00050
Xylenes	mg/L	0.00071	<0.00071	<0.00071
F1(C6-C10)	mg/L	0.1	<0.10	<0.10
F1-BTEX	mg/L	0.1	<0.10	<0.10
F2 (>C10-C16)	mg/L	0.25	<0.25	<0.25
F3 (C16-C34)	mg/L	0.25	<0.25	<0.25
F4 (C34-C50)	mg/L	0.25	<0.25	<0.25

Seep surveys were also conducted in the month of July. The results of the analysis are noted below.

ALS		SEEP A	SEEP B	SEEP 2	SEEP 3A
8/27/2011		L1032745-1	L1032745-2	L1032745-3	L1032745-4
L1032745		7/15/2011 12:00:00 AM	7/15/2011 12:00:00 AM	7/15/2011 12:00:00 AM	7/15/2011 12:00:00 AM
Analyte	Units	Water	Water	Water	Water
Hardness (as CaCO3)	mg/L	108	129	58.8	37.5
Total Suspended Solids	mg/L	12	12	<3.0	<3.0
Total Dissolved Solids	mg/L	228	241	116	74
Temperature	Degree C	25	25	25	25
Turbidity	NTU	5.56	8.6	2.66	1.84
Alkalinity, Total (as CaCO3)	mg/L	85.4	71.5	49.8	40.2
Ammonia (as N)	mg/L	0.018	0.0231	0.082	0.0298
Bicarbonate (HCO3)	mg/L	70.3	58.2	60.7	49
Carbonate (CO3)	mg/L	16.7	14.3	<5.0	<5.0
Chloride (Cl)	mg/L	4.17	3.4	1.25	1.02
Conductivity (EC)	uS/cm	280	333	144	90.5
Fluoride (F)	mg/L	0.166	0.065	0.053	0.064
Hardness (as CaCO3)	mg/L	113	140	61.2	40.4
Hydroxide (OH)	mg/L	<5.0	<5.0	<5.0	<5.0
Ion Balance	%	98.8	98.9	101	Low EC
Nitrate and Nitrite (as N)	mg/L	5.78	17.2	2.6	0.0373
Nitrate (as N)	mg/L	5.74	17.1	2.57	0.0373

Nitrite (as N)	mg/L	0.0355	0.07	0.0248	<0.0020
pH	pH	9.22	9.25	7.81	7.86
Orthophosphate-Dissolved (as P)	mg/L	0.0022	<0.0010	<0.0010	<0.0010
Phosphorus (P)-Total Dissolved	mg/L	0.0055	0.0058	0.0137	0.0096
Phosphorus (P)-Total	mg/L	0.0367	0.06	0.0303	0.0262
TDS (Calculated)	mg/L	161	213	77.5	46.3
Sulfate (SO4)	mg/L	29.2	29.3	9.14	4.07
Mercury (Hg)-Total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Aluminum (Al)-Total	mg/L	0.25	0.2	0.136	0.0474
Antimony (Sb)-Total	mg/L	0.00636	0.000389	0.0000424	0.0000427
Arsenic (As)-Total	mg/L	0.00487	0.00212	0.000893	0.000874
Barium (Ba)-Total	mg/L	0.0452	0.0426	0.028	0.00777
Beryllium (Be)-Total	mg/L	0.0000109	0.0000075	0.000016	0.0000063
Bismuth (Bi)-Total	mg/L	0.0000085	0.0000101	0.0000069	0.0000051
Boron (B)-Total	mg/L	0.119	0.0483	0.0195	0.0105
Cadmium (Cd)-Total	mg/L	<0.000010 *	0.0000149	0.0000201	0.0000473
Calcium (Ca)-Total	mg/L	22	33.4	13.4	8.09
Cesium (Cs)-Total	mg/L	0.0000732	0.000042	0.0000227	0.0000099
Chromium (Cr)-Total	mg/L	0.00255	0.000778	0.000415	0.000239
Cobalt (Co)-Total	mg/L	0.000922	0.00111	0.000519	0.000694
Copper (Cu)-Total	mg/L	0.0122	0.0152	0.00488	0.00281
Gallium (Ga)-Total	mg/L	0.000137	0.000078	<0.000050	<0.000050
Iron (Fe)-Total	mg/L	0.423	0.152	0.51	0.782
Lead (Pb)-Total	mg/L	0.000349	0.00024	0.000172	0.0000947
Lithium (Li)-Total	mg/L	0.00744	0.00329	0.00209	0.00112
Magnesium (Mg)-Total	mg/L	15.3	14.6	6.93	4.88
Manganese (Mn)-Total	mg/L	0.0319	0.0263	0.0629	0.13
Molybdenum (Mo)-Total	mg/L	0.0161	0.00362	0.000953	0.000467
Nickel (Ni)-Total	mg/L	0.00752	0.0168	0.0042	0.00264
Phosphorus (P)-Total	mg/L	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total	mg/L	4.54	5.47	2.58	1.4
Rhenium (Re)-Total	mg/L	0.0000053	<0.0000050	<0.0000050	<0.0000050
Rubidium (Rb)-Total	mg/L	0.00432	0.0048	0.00347	0.00219
Selenium (Se)-Total	mg/L	0.000859	0.000326	0.00012	0.000076
Silicon (Si)-Total	mg/L	4.01	2.17	0.436	0.163
Silver (Ag)-Total	mg/L	<0.0000050	0.0000066	0.000005	<0.0000050
Sodium (Na)-Total	mg/L	10.6	9.17	3.11	2.43
Strontium (Sr)-Total	mg/L	0.091	0.149	0.0551	0.03
Tellurium (Te)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Thallium (Tl)-Total	mg/L	0.0000114	0.0000134	0.0000108	0.0000047
Thorium (Th)-Total	mg/L	0.000076	0.0000156	0.0000751	0.0000354
Tin (Sn)-Total	mg/L	0.000014	<0.000010	<0.000010	<0.000010
Titanium (Ti)-Total	mg/L	0.0138	0.0093	0.00437	0.00128
Tungsten (W)-Total	mg/L	0.000656	0.000732	0.00004	0.000048
Uranium (U)-Total	mg/L	0.0787	0.0142	0.00387	0.000701
Vanadium (V)-Total	mg/L	0.00437	0.00238	0.000563	0.00036
Yttrium (Y)-Total	mg/L	0.000317	0.000234	0.000403	0.000174

Zinc (Zn)-Total	mg/L	0.00148	0.00194	0.00114	0.001
Zirconium (Zr)-Total	mg/L	0.000261	0.000205	0.000327	0.000163
Aluminum (Al)-Dissolved	mg/L	0.0063	0.017	0.0507	0.0244
Antimony (Sb)-Dissolved	mg/L	0.0067	0.000383	0.000042	0.0000329
Arsenic (As)-Dissolved	mg/L	0.00436	0.0013	0.000857	0.000797
Barium (Ba)-Dissolved	mg/L	0.0407	0.0399	0.0273	0.00756
Beryllium (Be)-Dissolved	mg/L	<0.0000020	<0.0000020	0.0000116	0.0000055
Bismuth (Bi)-Dissolved	mg/L	0.0000025	0.000004	0.0000069	0.0000044
Boron (B)-Dissolved	mg/L	0.128	0.0497	0.0219	0.0139
Cadmium (Cd)-Dissolved	mg/L	<0.000010 *	<0.0000050	0.0000298	0.0000328
Calcium (Ca)-Dissolved	mg/L	21.3 *	32.8 *	13.3 *	8.08 *
Cesium (Cs)-Dissolved	mg/L	0.0000263	0.0000169	0.0000128	0.0000075
Chromium (Cr)-Dissolved	mg/L	0.000826	0.00024	0.000298	0.000181
Cobalt (Co)-Dissolved	mg/L	0.000396	0.000589	0.000468	0.000612
Copper (Cu)-Dissolved	mg/L	0.00862	0.00794	0.00445	0.00239
Gallium (Ga)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Iron (Fe)-Dissolved	mg/L	<0.010	<0.010	0.403	0.6
Lead (Pb)-Dissolved	mg/L	0.0000077	0.0000485	0.000136	0.0000711
Lithium (Li)-Dissolved	mg/L	0.00691	0.00304	0.002	0.00112
Magnesium (Mg)-Dissolved	mg/L	14.5 *	14.2 *	6.79 *	4.90 *
Manganese (Mn)-Dissolved	mg/L	0.0122	0.00722	0.0599	0.113
Mercury (Hg)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Molybdenum (Mo)-Dissolved	mg/L	0.0161	0.00369	0.000946	0.000478
Nickel (Ni)-Dissolved	mg/L	0.00166	0.00664	0.00406	0.00245
Phosphorus (P)-Dissolved	mg/L	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved	mg/L	4.41 *	5.22 *	2.50 *	1.40 *
Rhenium (Re)-Dissolved	mg/L	0.0000051	<0.0000050	<0.0000050	<0.0000050
Rubidium (Rb)-Dissolved	mg/L	0.00379	0.00432	0.00333	0.00218
Selenium (Se)-Dissolved	mg/L	0.000703	0.000323	0.000131	0.00008
Silicon (Si)-Dissolved	mg/L	3.43	1.83	0.177	0.106
Silver (Ag)-Dissolved	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Sodium (Na)-Dissolved	mg/L	10.4 *	8.95 *	3.04 *	2.45 *
Strontium (Sr)-Dissolved	mg/L	0.091	0.15	0.052	0.029
Tellurium (Te)-Dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Thallium (Tl)-Dissolved	mg/L	0.0000083	0.0000121	0.0000102	0.0000045
Thorium (Th)-Dissolved	mg/L	<0.0000050	0.0000071	0.0000557	0.0000282
Tin (Sn)-Dissolved	mg/L	<0.000010	<0.000010	0.000017	<0.000010
Titanium (Ti)-Dissolved	mg/L	0.000073	0.000222	0.00109	0.000465
Tungsten (W)-Dissolved	mg/L	0.000689	0.000819	0.000041	0.000047
Uranium (U)-Dissolved	mg/L	0.0786	0.015	0.00387	0.000643
Vanadium (V)-Dissolved	mg/L	0.00343	0.00126	0.000398	0.000253
Yttrium (Y)-Dissolved	mg/L	0.0000325	0.000105	0.000349	0.000146
Zinc (Zn)-Dissolved	mg/L	0.00011	0.00053	0.0023	0.00061
Zirconium (Zr)-Dissolved	mg/L	0.000042	0.000139	0.000201	0.000137

Seep data (continued)

ALS		SEEP 3B	SEEP 1	SEEP C	SEEP D	SEEP 13
8/27/2011		L103274 5-5	L103274 5-6	L103274 5-7	L103274 5-8	L1032745 -11
L1032745		7/15/201 1 12:00:00 AM	7/16/201 1 12:00:00 AM	7/15/201 1 12:00:00 AM	7/15/201 1 12:00:00 AM	7/16/2011 12:00:00 AM
Analyte	Units	Water	Water	Water	Water	Water
Hardness (as CaCO3)	mg/L	46.2	73.3	94	119	107
Total Suspended Solids	mg/L	<3.0	<3.0	7	5	7
Total Dissolved Solids	mg/L	110	120	182	217	198
Temperature	Degree C	25	25	25	25	25
Turbidity	NTU	0.48	1.36	6.93	19.8	3.34
Alkalinity, Total (as CaCO3)	mg/L	39.8	73.8	55.5	73.1	85.1
Ammonia (as N)	mg/L	0.0301	0.0132	0.113	0.395	0.0425
Bicarbonate (HCO3)	mg/L	48.6	90.1	67.7	89.2	104
Carbonate (CO3)	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride (Cl)	mg/L	11.6	1.79	2.06	2.3	4.21
Conductivity (EC)	uS/cm	180	180	242	298	274
Fluoride (F)	mg/L	<0.050	0.138	0.105	0.132	0.071
Hardness (as CaCO3)	mg/L	48.6	75	95.7	126	107
Hydroxide (OH)	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0
Ion Balance	%	101	101	97.2	102	101
Nitrate and Nitrite (as N)	mg/L	0.582	1.55	13.8	15.8	4.53
Nitrate (as N)	mg/L	0.578	1.55	13.7	14.8	4.42
Nitrite (as N)	mg/L	0.0041	0.002	0.066	1.04	0.113
pH	pH	7.62	7.87	7.97	8.02	8.06
Orthophosphate- Dissolved (as P)	mg/L	<0.0010	<0.0010	0.0079	0.0035	0.009
Phosphorus (P)-Total Dissolved	mg/L	0.0048	0.0045	0.0063 *	0.0068	0.0113
Phosphorus (P)-Total	mg/L	0.0132	0.0158	0.0271 *	0.0304	0.0383
TDS (Calculated)	mg/L	94.6	95.9	145	182	152
Sulfate (SO4)	mg/L	23.2	8.41	7.84	11.7	26.5
Mercury (Hg)-Total	mg/L	<0.00005 0	<0.00005 0	<0.00005 0	<0.00005 0	<0.00005 0
Aluminum (Al)-Total	mg/L	0.0423	0.0702	0.16	0.44	0.143
Antimony (Sb)-Total	mg/L	0.000071 1	0.000634	0.000129	0.000151	0.000125
Arsenic (As)-Total	mg/L	0.000358	0.000434	0.000541	0.00095	0.000763
Barium (Ba)-Total	mg/L	0.0145	0.0213	0.0332	0.034	0.0322
Beryllium (Be)-Total	mg/L	0.000006	0.000006 3	0.000016 1	0.000027 3	0.000014 3
Bismuth (Bi)-Total	mg/L	0.000002 1	0.000002 7	0.000006 1	0.000011 7	0.000005 5
Boron (B)-Total	mg/L	0.0208	0.0415	0.0686	0.0755	0.0365
Cadmium (Cd)-Total	mg/L	0.000192	<0.00000	<0.00000	<0.00000	<0.00000

			50	50	50	50
Calcium (Ca)-Total	mg/L	9.39	18	21	30.4	22.8
Cesium (Cs)-Total	mg/L	0.0000301	0.0000219	0.000057	0.0000985	0.0000405
Chromium (Cr)-Total	mg/L	0.000215	0.000357	0.000354	0.00083	0.000714
Cobalt (Co)-Total	mg/L	0.000298	0.000223	0.000361	0.00147	0.000411
Copper (Cu)-Total	mg/L	0.00384	0.00552	0.00379	0.00597	0.00981
Gallium (Ga)-Total	mg/L	<0.000050	<0.000050	0.000071	0.000176	<0.000050
Iron (Fe)-Total	mg/L	0.174	0.132	0.152	0.45	0.088
Lead (Pb)-Total	mg/L	0.0000289	0.000152	0.000301	0.000765	0.000335
Lithium (Li)-Total	mg/L	0.0006	0.00312	0.00566	0.00636	0.0038
Magnesium (Mg)-Total	mg/L	6.21	7.36	10.5	12.3	12.3
Manganese (Mn)-Total	mg/L	0.0647	0.00824	0.0487	0.38	0.0377
Molybdenum (Mo)-Total	mg/L	0.00094	0.0041	0.00583	0.006	0.00385
Nickel (Ni)-Total	mg/L	0.00167	0.00326	0.0026	0.00606	0.00736
Phosphorus (P)-Total	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total	mg/L	4.67	3.2	2.92	4.66	4.59
Rhenium (Re)-Total	mg/L	0.0000304	<0.0000050	0.0000077	0.0000061	0.000013
Rubidium (Rb)-Total	mg/L	0.00803	0.00308	0.00358	0.00321	0.00285
Selenium (Se)-Total	mg/L	0.000081	0.000139	0.000367	0.000336	0.000239
Silicon (Si)-Total	mg/L	0.329	2.87	3.84	4.81	4.05
Silver (Ag)-Total	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000063	0.0000058
Sodium (Na)-Total	mg/L	13.4	5.78	5.93	7.05	10.8
Strontium (Sr)-Total	mg/L	0.0787	0.0718	0.106	0.115	0.0939
Tellurium (Te)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Thallium (Tl)-Total	mg/L	0.000005	0.0000049	0.0000088	0.0000137	0.000008
Thorium (Th)-Total	mg/L	0.000034	0.0000366	0.0000676	0.000143	0.00012
Tin (Sn)-Total	mg/L	<0.000010	<0.000010	<0.000010	0.000015	<0.000010
Titanium (Ti)-Total	mg/L	0.000462	0.00226	0.00479	0.0163	0.00518
Tungsten (W)-Total	mg/L	0.000015	0.000025	0.00016	0.000216	0.000152
Uranium (U)-Total	mg/L	0.000365	0.0134	0.135	0.116	0.0398
Vanadium (V)-Total	mg/L	0.000132	0.000461	0.000777	0.00118	0.000839
Yttrium (Y)-Total	mg/L	0.000234	0.000211	0.000362	0.000531	0.000497
Zinc (Zn)-Total	mg/L	0.00247	0.00054	0.00257	0.00158	0.00259
Zirconium (Zr)-Total	mg/L	0.000138	0.000185	0.000384	0.000696	0.000489
Aluminum (Al)-Dissolved	mg/L	0.0351	0.0138	0.0348	0.0115	0.0366
Antimony (Sb)-Dissolved	mg/L	0.0000624	0.000627	0.000127	0.000147	0.000137
Arsenic (As)-Dissolved	mg/L	0.000341	0.000384	0.000477	0.000758	0.000716
Barium (Ba)-Dissolved	mg/L	0.0147	0.0204	0.0324	0.0293	0.0311
Beryllium (Be)-Dissolved	mg/L	0.0000058	0.0000036	0.0000074	0.0000043	0.0000063
Bismuth (Bi)-Dissolved	mg/L	0.000002	0.000002	0.000003	0.000003	0.000004

		1	3	6	8	3
Boron (B)-Dissolved	mg/L	0.0264	0.0434	0.0709	0.0758	0.0373
Cadmium (Cd)-Dissolved	mg/L	0.000108	<0.00000 50	<0.00000 50	<0.00000 50	<0.00000 50
Calcium (Ca)-Dissolved	mg/L	9.32 *	18.0 *	21.0 *	30.5 *	22.8 *
Cesium (Cs)-Dissolved	mg/L	0.000030 3	0.000014 2	0.000037 4	0.000025 2	0.000027
Chromium (Cr)-Dissolved	mg/L	0.000183	0.000172	0.000249	0.000114	0.000282
Cobalt (Co)-Dissolved	mg/L	0.000279	0.000138	0.00027	0.0011	0.00027
Copper (Cu)-Dissolved	mg/L	0.00331	0.00478	0.00316	0.00391	0.00938
Gallium (Ga)-Dissolved	mg/L	<0.00005 0	<0.00005 0	<0.00005 0	<0.00005 0	<0.00005 0
Iron (Fe)-Dissolved	mg/L	0.147	0.054	0.153	0.456	0.087
Lead (Pb)-Dissolved	mg/L	0.000017 7	0.000071 7	0.000079	0.000115	0.000153
Lithium (Li)-Dissolved	mg/L	0.00059	0.003	0.00552	0.0057	0.00369
Magnesium (Mg)-Dissolved	mg/L	6.16 *	7.29 *	10.5 *	12.2 *	12.2 *
Manganese (Mn)-Dissolved	mg/L	0.0615	0.0033	0.044	0.346	0.0337
Mercury (Hg)-Dissolved	mg/L	<0.00005 0	<0.00005 0	<0.00005 0	<0.00005 0	<0.00005 0
Molybdenum (Mo)-Dissolved	mg/L	0.000954	0.00396	0.00609	0.00624	0.00423
Nickel (Ni)-Dissolved	mg/L	0.00159	0.00261	0.0023	0.00482	0.00586
Phosphorus (P)-Dissolved	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Dissolved	mg/L	4.65 *	3.24 *	2.94 *	4.64 *	4.57 *
Rhenium (Re)-Dissolved	mg/L	0.00003	<0.00000 50	0.000007 5	0.000005 7	0.000012
Rubidium (Rb)-Dissolved	mg/L	0.00805	0.00293	0.00331	0.00242	0.00274
Selenium (Se)-Dissolved	mg/L	0.000061	0.000152	0.00034	0.000339	0.000287
Silicon (Si)-Dissolved	mg/L	0.31	2.73	3.85	4.84	4.02
Silver (Ag)-Dissolved	mg/L	<0.00000 50	<0.00000 50	0.000005 1	<0.00000 50	<0.00000 50
Sodium (Na)-Dissolved	mg/L	13.2 *	5.88 *	5.93 *	6.99 *	10.8 *
Strontium (Sr)-Dissolved	mg/L	0.0797	0.0734	0.103	0.112	0.0929
Tellurium (Te)-Dissolved	mg/L	<0.00001 0	<0.00001 0	<0.00001 0	<0.00001 0	<0.00001 0
Thallium (Tl)-Dissolved	mg/L	0.000005 1	0.000004 6	0.000007 8	0.000009 7	0.000007 2
Thorium (Th)-Dissolved	mg/L	0.000028 6	0.000017 2	0.000024 6	0.000023 4	0.000046 6
Tin (Sn)-Dissolved	mg/L	<0.00001 0	<0.00001 0	<0.00001 0	<0.00001 0	0.000018
Titanium (Ti)-Dissolved	mg/L	0.000335	0.000316	0.000807	0.000253	0.000984
Tungsten (W)-Dissolved	mg/L	<0.00001 0	0.000018	0.000164	0.000234	0.000291
Uranium (U)-Dissolved	mg/L	0.000327	0.0127	0.134	0.114	0.0399

Vanadium (V)-Dissolved	mg/L	0.000118	0.000313	0.000566	0.000467	0.000628
Yttrium (Y)-Dissolved	mg/L	0.000211	0.000125	0.000207	0.000162	0.000312
Zinc (Zn)-Dissolved	mg/L	0.00106	0.00032	0.00205	0.00031	0.0146
Zirconium (Zr)-Dissolved	mg/L	0.000135	0.000103	0.000103	0.00014	0.000258
* = Result Qualified		Mouse-over the result to see the qualification.				

Weekly inspections of the dams and dykes were undertaken during the month of May and temperature readings recorded were sent to a geotechnical engineer.

Total waste incinerated in July 2011 was 929.41kg (2049 lbs).

Between July 10th and July 29th, 29,902.22 m³ of water was discharged into stream C3 from the PKCA. Data has been misplaced for the first 9 days of the month, but given an average of 2,135.87m³ a day, we can assume that approximately 19,222.86 m³ was discharged into the environment. That makes a total of 49,125.08 m³ discharged over the PKCA in the month of July. (Once missing data is located we will follow up either by addendum or in a future report).

During that period July 29th to 31st, 1119.63 m³ of water was pumped from the Pit into the West cell of the PKCA.

On July 25th, a Biological Oxygen Demand (BOD) sample had elevated results (88.8mg/L) in the (PKCA). ALS assured us that the data was unreliable given the levels for the prior weeks in July were all below 2mg/L and believes that the elevated results came from an error while sampling, as the sample was taken at the bottom of the pond and the bottom had been disturbed by the technician sampling. Discharging from the PKCA was halted until the results from the following weeks returned with the levels being below 2.0 mg/L.

Should you have any questions regarding the monthly report for July 2011 please contact the undersigned by email at mcharbonneau@sheardiamonds.com or by phone at (778) 372-2750.

Sincerely,
SHEAR DIAMONDS LTD.



Mathieu Charbonneau
Environmental Technician