

Attachment F
Cost Estimates for Short-Listed Options

NPV Capital Cost over 15 Years

NPV Costs to Year 40

Includes (Capital + Water Treatment Capital over Yrs 1-15) + (C&M over years 1-15)

Mine Area	Tailings	Min	Max	Mean
F - Combined option	T - Stabilize in Place	\$298,000,000	\$391,000,000	\$344,097,387
F - Combined option	T - Partial relocation	\$390,000,000	\$483,000,000	\$436,169,311
F - Combined option	T - Complete Relocation	\$513,000,000	\$606,000,000	\$559,713,639
VG - Backfill Vg Pit		\$86,000,000	\$104,000,000	\$94,676,258
VG - Stabilize in Place		\$47,000,000	\$66,000,000	\$56,584,318

Long Term Cost

NPV of total future liability any time after Year 15

Based on perpetual Water Treatment & Post Closure Operating costs

NPV calculated using 3% discount rate

Mine Area	Tailings	Min	Max	Average Annual	Average Annual
F - Combined option	T - Stabilize in Place	\$118,000,000	\$112,000,000	\$ 3,540,354	\$ 3,360,336
F - Combined option	T - Partial relocation	\$99,000,000	\$93,000,000	\$ 2,970,297	\$ 2,790,279
F - Combined option	T - Complete Relocation	\$49,000,000	\$42,000,000	\$ 1,470,147	\$ 1,260,126
VG - Backfill Vg Pit		\$22,000,000	\$30,000,000	\$ 660,066	\$ 900,090
VG - Stabilize in Place		\$32,000,000	\$30,000,000	\$ 960,096	\$ 900,090

Total NPV (3%)

Mine Area	Tailings	Min	Max	Mean
F - Combined option	T - Stabilize in Place	\$373,000,000	\$462,000,000	\$417,500,000
F - Combined option	T - Partial relocation	\$453,000,000	\$542,000,000	\$497,500,000
F - Combined option	T - Complete Relocation	\$544,000,000	\$633,000,000	\$588,500,000
VG - Backfill Vg Pit		\$100,000,000	\$123,000,000	\$111,500,000
VG - Stabilize in Place		\$67,000,000	\$86,000,000	\$76,500,000

Total NPV Risk

		Min	Max	Range less	plus
F - Combined option	T - Stabilize in Place	\$380,000,000	\$500,000,000	10%	20%
F - Combined option	T - Partial relocation	\$450,000,000	\$620,000,000	10%	25%
F - Combined option	T - Complete Relocation	\$530,000,000	\$770,000,000	10%	30%
VG - Backfill Vg Pit		\$100,000,000	\$130,000,000	10%	20%
VG - Stabilize in Place		\$70,000,000	\$90,000,000	10%	20%

Faro Mine Area - Recommended Option (Min. Covers)

Work Area Code	Item	Task	Sub-task	Estimate Type	Activity	Task	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Mat	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
CLOSURE COSTS - DIRECT CAPITAL																											
Faro Pit																											
Water Treatment																											
101	1	1	1	430	Place pipeline from pit to treatment plant	Excavate piping trench	15,000	Bm3	C.2.13	0.020	300.0	\$ 0.97	\$ 14,596	\$ -	\$ -	\$ 1.44	\$ 21,552	\$ 0.75	8,658	\$ 11,256	\$ -	\$ -	\$ 3.16	\$47,405	\$605,811		
101	1	1	2	500		Supply and place pump	1	ea.	C.3.11	8.000	8.0	\$ 335.02	\$ 335	\$ 1,829.00	\$ 1,829	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,164.02	\$2,164		
101	1	1	3	500		Build and install housing for primary pump	1	ea.	C.3.13	30.000	30.0	\$ 1,188.54	\$ 35,655	\$ 1,730.00	\$ 1,730	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,918.54	\$2,919			
101	1	1	4	510		Supply and install insulated 150mm HDPE pipe	2,500	m	C.3.03	0.250	625.0	\$ 8.78	\$ 21,938	\$ 155.84	\$ 389,600	\$ 0.44	\$ 1,098	\$ 0.49	948	\$ 1,232	\$ -	\$ -	\$ 165.55	\$413,867			
101	1	1	5	430		Bedding layer: Produce, screen and stockpile	975	Bm3	C.2.02	0.015	14.6	\$ 0.74	\$ 720	\$ -	\$ -	\$ 1.68	\$ 1,634	\$ 1.13	847	\$ 1,101	\$ -	\$ -	\$ 3.54	\$3,455			
101	1	1	6	430		Bedding layer: Load, haul, place and compact	975	Bm3	R.045	0.037	35.8	\$ 1.62	\$ 583	\$ -	\$ -	\$ 3.22	\$ 3,135	\$ 1.28	959	\$ 1,246	\$ -	\$ -	\$ 6.12	\$5,964			
101	1	1	7	430		Backfill ditches	15,000	Bm3	C.2.01	0.030	450.0	\$ 1.19	\$ 17,828	\$ -	\$ -	\$ 0.77	\$ 11,548	\$ 0.39	4,524	\$ 5,882	\$ -	\$ -	\$ 2.35	\$35,258			
101	1	2	1	510	Heat tracing	Supply and install heat trace in HDPE pipe	2,500	m	C.3.05	0.167	416.7	\$ 6.98	\$ 17,449	\$ -	\$ -	\$ 21.32	\$ 53,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.30	\$70,749			
101	1	2	2	510		Supply/Install heat tracing power feed kit	1	ea.	C.3.06	4.000	4.0	\$ 167.51	\$ 668	\$ 396.84	\$ 397	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 564.35	\$564			
101	1	2	3	510		Supply/Install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	1.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067			
101	1	3	1	510	Provide electricity from WTP to pump	Supply/Install treated power poles	13	ea.	C.4.03	4.545	59.1	\$ 213.52	\$ 2,776	\$ 325.96	\$ 4,237	\$ 90.53	\$ 1,177	\$ 28.17	282	\$ 366	\$ -	\$ -	\$ 658.17	\$8,556			
101	1	3	2	510		Supply/Install overhead conductor	1,000	m	C.4.02	0.032	32.0	\$ 1.52	\$ 1,517	\$ 1.41	\$ 1,410	\$ 0.48	\$ 478	\$ 0.15	114	\$ 149	\$ -	\$ -	\$ 3.55	\$3,553			
101	1	3	3	510		Supply/Install transformers	1	ea.	C.4.04	20.000	20.0	\$ 973.08	\$ 973	\$ 8,934.00	\$ 8,934	\$ 239.58	\$ 240	\$ 143.00	110	\$ 143	\$ -	\$ -	\$ 10,289.66	\$10,290			
Safety Berm																											
101	2	1	1	430	Construct access road	Clear access road area	3,500	m2	C.2.05	0.015	50.9	\$ 0.67	\$ 2,349	\$ -	\$ -	\$ 1.08	\$ 3,795	\$ 0.61	1,645	\$ 2,138	\$ -	\$ -	\$ 2.37	\$8,281			
101	2	1	2	430		Construct access road	700	m	C.2.28	0.133	92.8	\$ 6.19	\$ 4,336	\$ -	\$ -	\$ 11.39	\$ 7,970	\$ 5.33	2,868	\$ 3,728	\$ -	\$ -	\$ 22.91	\$16,035			
101	2	2	1	430	Place berm materials	Load, haul, dump berm material	22,000	Lm3	R.044	0.023	498.2	\$ 1.02	\$ 22,447	\$ -	\$ -	\$ 2.29	\$ 50,316	\$ 0.91	15,366	\$ 19,976	\$ -	\$ -	\$ 4.22	\$92,740			
101	2	2	2	430		Final Shaping of material with dozer	4,400	m	C.2.03	0.020	88.0	\$ 0.97	\$ 8,800	\$ -	\$ -	\$ 3.73	\$ 16,425	\$ 2.00	6,772	\$ 8,804	\$ -	\$ -	\$ 6.71	\$29,510			
Subtotal Direct Costs - Faro Pit																											
											2,726		\$114,526		\$462,462		\$119,367		43,093		\$56,021		\$0		\$752,376		
Faro Creek																											
Construct East Interceptor																											
102	1	1	1	430	Construct access road	Clear access road area	135,000	m2	C.2.04	0.004	490.9	\$ 0.18	\$ 23,885	\$ -	\$ -	\$ 0.68	\$ 91,625	\$ 0.36	37,777	\$ 49,111	\$ -	\$ -	\$ 1.22	\$164,621	\$4,492,633	Golder report (Feb. 2004)	
102	1	1	2	430		Construct access road	3,057	m	C.2.28	0.133	405.1	\$ 6.19	\$ 18,937	\$ -	\$ -	\$ 11.39	\$ 34,807	\$ 5.33	12,524	\$ 16,281	\$ -	\$ -	\$ 22.91	\$70,025			
102	1	2	1	430	Excavate channel	Soil excavation: Load, haul and dump locally	230,000	Bm3	C.2.10	0.032	7360.0	\$ 1.44	\$ 330,273	\$ -	\$ -	\$ 3.21	\$ 737,442	\$ 1.27	224,367	\$ 291,677	\$ -	\$ -	\$ 5.91	\$1,359,392			
102	1	3	1	430	Place thermal blanket	Granular fill: Produce, screen and stockpile	81,000	Bm3	C.2.02	0.015	1215.0	\$ 0.74	\$ 59,822	\$ -	\$ -	\$ 1.68	\$ 135,762	\$ 1.13	70,370	\$ 91,481	\$ -	\$ -	\$ 3.54	\$287,065			
102	1	3	2	430		Granular fill: Load, haul, place and compact on uphill cut slope	81,000	Bm3	R.053	0.076	6144.8	\$ 3.36	\$ 272,060	\$ -	\$ -	\$ 6.65	\$ 538,805	\$ 2.64	164,776	\$ 214,209	\$ -	\$ -	\$ 12.66	\$1,025,073			
102	1	4	1	430	Place GCL	Supply and place GCL	27,000	m2	C.4.08	0.143	3857.1	\$ 5.84	\$ 157,645	\$ 16.00	\$ 432,000	\$ 1.59	\$ 42,866	\$ 1.06	21,938	\$ 28,520	\$ -	\$ -	\$ 24.48	\$661,031			
102	1	5	1	430	Place bedding layer	Bedding layer: Produce, screen and stockpile	8,100	Bm3	C.2.02	0.015	121.5	\$ 0.74	\$ 5,982	\$ -	\$ -	\$ 1.68	\$ 13,576	\$ 1.13	7,037	\$ 9,148	\$ -	\$ -	\$ 3.54	\$28,707			
102	1	5	2	430		Bedding layer: Load, haul, place and compact	8,100	Bm3	R.053	0.076	614.5	\$ 3.36	\$ 27,206	\$ -	\$ -	\$ 6.65	\$ 53,880	\$ 2.64	16,478	\$ 21,421	\$ -	\$ -	\$ 12.66	\$102,507			
102	1	6	1	430	Place rip-rap	Rip-Rap (angular, high quality): Screen and Stockpile	29,402	Bm3	C.2.26	0.071	210.5	\$ 3.50	\$ 102,912	\$ -	\$ -	\$ 9.58	\$ 281,596	\$ 6.45	145,961	\$ 189,749	\$ -	\$ -	\$ 19.53	\$574,257			
102	1	6	2	430		Rip-rap: Load, haul, dump	29,402	Bm3	R.054	0.030	882.0	\$ 1.35	\$ 39,581	\$ -	\$ -	\$ 3.00	\$ 88,189	\$ 1.16	26,240	\$ 34,112	\$ -	\$ -	\$ 5.51	\$161,882			
102	1	6	3	430		Rip-rap: Place and secure	29,402	Bm3	C.2.27	0.013	367.5	\$ 0.61	\$ 17,881	\$ -	\$ -	\$ 0.90	\$ 26,403	\$ 0.47	10,607	\$ 13,789	\$ -	\$ -	\$ 1.98	\$58,074			
Extension across west of Faro Valley																											
102	2	1	1	430	Construct access road	Clear access road area	20,300	m2	C.2.05	0.015	295.3	\$ 0.67	\$ 13,622	\$ -	\$ -	\$ 1.08	\$ 22,008	\$ 0.61	9,538	\$ 12,400	\$ -	\$ -	\$ 2.37	\$48,030			
102	2	1	2	430		Construct access road	2,100	m	C.2.28	0.133	278.3	\$ 6.19	\$ 13,009	\$ -	\$ -	\$ 11.39	\$ 23,911	\$ 5.33	8,603	\$ 11,184	\$ -	\$ -	\$ 22.91	\$49,104			
102	2	2	1	430	Excavate channel	Soil excavation: Load, haul and dump locally	93,076	Bm3	C.2.10	0.032	2978.4	\$ 1.44	\$ 133,653	\$ -	\$ -	\$ 3.21	\$ 298,425	\$ 1.27	90,796	\$ 118,035	\$ -	\$ -	\$ 5.91	\$550,113			
102	2	3	1	430	Place bedding layer	Bedding layer: Produce, screen and stockpile	4,263	Bm3	C.2.02	0.015	63.9	\$ 0.74	\$ 3,148	\$ -	\$ -	\$ 1.68	\$ 7,145	\$ 1.13	3,704	\$ 4,815	\$ -	\$ -	\$ 3.54	\$15,108			
102	2	3	2	430		Bedding layer: Load, haul, place and compact	4,263	Bm3	R.055	0.100	426.3	\$ 4.43	\$ 18,874	\$ -	\$ -	\$ 8.77	\$ 37,380	\$ 3.49	11,431	\$ 14,861	\$ -	\$ -	\$ 16.68	\$71,115			
102	2	4	1	430	Place rip-rap	Rip-Rap (angular, high quality): Screen and Stockpile	3,553	Bm3	C.2.26	0.071	253.8	\$ 3.50	\$ 12,435	\$ -	\$ -	\$ 9.58	\$ 34,024	\$ 6.45	17,636	\$ 22,927	\$ -	\$ -	\$ 19.53	\$69,386			
102	2	4	2	430		Rip-rap: Load, haul, dump	3,553	Bm3	R.056	0.048	170.5	\$ 2.15	\$ 7,652	\$ -	\$ -	\$ 4.80	\$ 17,049	\$ 1.86	5,073	\$ 6,595	\$ -	\$ -	\$ 8.81	\$31,295			
102	2	4	3	430		Rip-rap: Place and secure	3,553	Bm3	C.2.27	0.013	44.4	\$ 0.61	\$ 2,161	\$ -	\$ -	\$ 0.90	\$ 3,190	\$ 0.47	1,282	\$ 1,666	\$ -	\$ -	\$ 1.98	\$7,017			
Subtotal Direct Costs - Faro Creek																											
											28,069		\$1,260,737		\$432,000		\$2,488,085		886,138		\$1,151,980		\$0		\$5,332,801		
Zone II Pit																											
Water Management																											
103	1	1	1	430	Groundwater Wells	Drill wells (Air Rotary Drill Rig, -90m depth)	90	m	C.2.09	2.000	180.0	\$ 88.48	\$ 7,963	\$ -	\$ -	\$ 19.61	\$ 1,765	\$ 14.65	1,014	\$ 1,318	\$ -	\$ -	\$ 122.74	\$11,046	\$241,560		
103	1	1	2	500		Install 6" stainless steel well casing & screen	90	m	C.3.18	0.150	13.5	\$ 6.64	\$ 597	\$ 232.60	\$ 20,934	\$ 1.47	\$ 132	\$ 1.10	76	\$ 99	\$ -	\$ -	\$ 241.81	\$21,762			
103	1	1	3	500		Install 6" Submersible Pump with controls	1	ea.	C.3.08	12.000	12.0	\$ 475.42	\$ 4,755	\$ 6,842.00	\$ 6,842	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,317.42	\$7,317			
103	1	1	4	500		Install protective housing (shack)	1	ea.	C.3.14	20.000	20.0	\$ 792.36	\$ 7,923	\$ 445.00	\$ 445	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,237.36	\$1,237			
103	1	2	1	430	Piping system	Excavate piping trench	4,200	Bm3	C.2.13	0.020	84.0	\$ 0.97	\$ 4,087	\$ -	\$ -	\$ 1.44	\$ 6,035	\$ 0.75	2,424	\$ 3,152	\$ -	\$ -	\$ 3.16	\$13,273			
103	1	2	2	510		Supply and install insulated 150mm HDPE pipe	700	m	C.3.03	0.250	175.0	\$ 8.78	\$ 6,143	\$ 155.84	\$ 109,088	\$ 0.44	\$ 307	\$ 0.49	265	\$ 345	\$ -	\$ -	\$ 165.55	\$115,883			
103	1	2	3	430		Bedding layer: Produce, screen and stockpile	273	Bm3	C.2.02	0.015	4.1	\$ 0.74	\$ 202	\$ -	\$ -	\$ 1.68	\$ 458	\$ 1.13	237	\$ 308	\$ -	\$ -	\$ 3.54	\$968			
103	1	2	4	430		Bedding layer: Load, haul, place and compact	273	Bm3	R.061	0.034	9.4	\$ 1.52	\$ 415	\$ -	\$ -	\$ 3.01	\$ 823	\$ 1.20	252	\$ 327	\$ -	\$ -	\$ 5.73	\$1,565			
103	1	2	5																								

Work Area Code	Item	Task	Sub-task	Estimate Type	Activity	Task	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
ETA Tailings																											
Option 1: Pump Tailings to Faro Pit																											
105	1	1	1	430	Hydraulic monitoring with lime addition	Operate Hydraulic monitoring system	64,000	m3	C.7.04	0.024	1548.3	\$ 1.09	\$ 69,841	\$ 0.30	\$ 19,118	\$ 0.08	\$ 5,013	\$ 0.05	2,302	\$ 2,992	\$ 0.31	\$ 19,898	\$ 1.83	\$116,862	\$710,618		
105	1	1	2	430		Operate Slurry Pumping System	64,000	m3	C.7.18	0.010	627.7	\$ 0.39	\$ 25,233	\$ 0.38	\$ 24,089	\$ -	\$ -	\$ -	0	\$ -	\$ 0.63	\$ 40,015	\$ 1.40	\$89,337			
105	1	1	3	430		lime addition - qty in tonnes per CaOH	1,088	ton	C.2.22	0.036	38.9	\$ 1.49	\$ 1,616	\$ 320.00	\$ 348,160	\$ 1.73	\$ 1,882	\$ 0.98	819	\$ 1,065	\$ -	\$ -	\$ 324.19	\$352,723			
105	1	2	1	430	Truck contaminated soils to Faro Pit	Load, haul, dump remaining contaminated material to Faro Pit	12,800	m3	R.071	0.053	672.0	\$ 2.38	\$ 30,438	\$ -	\$ -	\$ 6.14	\$ 78,616	\$ 2.59	25,547	\$ 33,211	\$ -	\$ -	\$ 11.11	\$142,265			
105	1	2	2	430		Regrade area to form detention pond	19	hrs	C.2.23	1.000	19.1	\$ 48.65	\$ 930	\$ -	\$ -	\$ 190.62	\$ 3,643	\$ 149.18	2,193	\$ 2,851	\$ -	\$ -	\$ 388.46	\$7,423			
105	1	3	1	610	Revegetate	Seed/Fertilize, helicopter high application rate	13,000	m2	C.5.01	0.000	1.6	\$ 0.01	\$ 73	\$ 0.09	\$ 1,182	\$ 0.05	\$ 73	\$ 0.00	40	\$ 52	\$ -	\$ -	\$ 0.15	\$2,008			
Option 2: Haul Tailings to Rose Creek Tailings Deposit																											
105	2	1	1	430	Truck to tailings impoundment	Excavate, load, haul, dump and place	64,000	m3	R.074	0.026	1667.0	\$ 1.19	\$ 75,854	\$ -	\$ -	\$ 2.91	\$ 186,193	\$ 1.24	61,021	\$ 79,327	\$ -	\$ -	\$ 5.33	\$341,374	\$771,803		
105	2	2	1	430	Lime addition	Add lime to waste rock (qty= tonnes CaOH)	1,088	ton	C.2.22	0.036	38.9	\$ 1.49	\$ 1,616	\$ 320.00	\$ 348,160	\$ 1.73	\$ 1,882	\$ 0.98	819	\$ 1,065	\$ -	\$ -	\$ 324.19	\$352,723			
105	2	3	1	430	Truck contaminated soils to Faro Pit	Load, haul, dump remaining contaminated material to Tailings Imp.	12,800	m3	R.074	0.026	333.4	\$ 1.19	\$ 15,171	\$ -	\$ -	\$ 2.91	\$ 37,239	\$ 1.24	12,204	\$ 15,865	\$ -	\$ -	\$ 5.33	\$68,275			
105	2	3	2	430		Regrade area to form detention pond	19	hrs	C.2.23	1.000	19.1	\$ 48.65	\$ 930	\$ -	\$ -	\$ 190.62	\$ 3,643	\$ 149.18	2,193	\$ 2,851	\$ -	\$ -	\$ 388.46	\$7,423			
105	2	4	1	610	Revegetate	Seed/Fertilize, helicopter high application rate	13,000	m2	C.5.01	0.000	1.6	\$ 0.01	\$ 73	\$ 0.09	\$ 1,182	\$ 0.05	\$ 73	\$ 0.00	40	\$ 52	\$ -	\$ -	\$ 0.15	\$2,008			
Groundwater Collection System (to Plant)																											
105	3	1	1	500	Groundwater wells	Drill wells (Air Rotary Drill Rig, ~20m depth)	100	m	C.2.09	2.000	200.0	\$ 88.48	\$ 8,848	\$ -	\$ -	\$ 19.61	\$ 1,961	\$ 14.65	1,127	\$ 1,465	\$ -	\$ -	\$ 122.74	\$12,274	\$658,559		
105	3	1	2	500		Install 6" stainless steel well casing & screen	100	m	C.3.18	0.150	15.0	\$ 6.64	\$ 664	\$ 232.60	\$ 23,260	\$ 1.47	\$ 147	\$ 1.10	85	\$ 110	\$ -	\$ -	\$ 241.81	\$24,181			
105	3	1	3	500		Install 6" Submersible Pump with controls	5	ea.	C.3.08	12.000	60.0	\$ 475.42	\$ 2,377	\$ 6,842.00	\$ 34,210	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 7,317.42	\$36,587			
105	3	1	4	500		Install protective housing (shack)	100	m	C.3.14	20.000	2000.0	\$ 792.36	\$ 79,236	\$ 445.00	\$ 44,500	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 1,237.36	\$123,736			
105	3	2	1	500	Monitoring wells	Drill wells (Air Rotary Drill Rig, ~20m depth)	3	ea.	C.2.09	2.000	6.0	\$ 88.48	\$ 265	\$ -	\$ -	\$ 19.61	\$ 59	\$ 14.65	34	\$ 44	\$ -	\$ -	\$ 122.74	\$368			
105	3	2	2	500		Install 6" stainless steel well casing & screen	60	m	C.3.18	0.150	9.0	\$ 6.64	\$ 398	\$ 232.60	\$ 13,956	\$ 1.47	\$ 88	\$ 1.10	51	\$ 66	\$ -	\$ -	\$ 241.81	\$14,508			
105	3	2	3	500		Install protective well cover	3	ea.	C.3.19	1.333	4.0	\$ 54.88	\$ 211	\$ 164.54	\$ 494	\$ 19.61	\$ 59	\$ 14.65	34	\$ 44	\$ -	\$ -	\$ 253.68	\$761			
105	3	2	1	430	Pumping station	Excavate sump for manholes	200	m3	C.2.12	0.024	4.7	\$ 1.06	\$ 211	\$ -	\$ -	\$ 2.36	\$ 472	\$ 0.93	143	\$ 186	\$ -	\$ -	\$ 4.35	\$869			
105	3	2	2	500		Supply and place precast concrete manhole	1	ea.	C.3.09	12.000	12.0	\$ 475.42	\$ 475	\$ 336.17	\$ 336	\$ 126.31	\$ 126	\$ 62.92	48	\$ 63	\$ -	\$ -	\$ 1,000.81	\$1,001			
105	3	2	3	430		Backfill and compact around manhole	200	m3	C.2.01	0.030	6.0	\$ 1.19	\$ 238	\$ -	\$ -	\$ 0.77	\$ 154	\$ 0.39	60	\$ 78	\$ -	\$ -	\$ 2.35	\$470			
105	3	2	4	500		Install primary pump	1	ea.	C.3.11	8.000	8.0	\$ 335.02	\$ 335	\$ 1,829.00	\$ 1,829	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 2,164.02	\$2,164			
105	3	3	1	430	Piping system	Excavate piping trench	11,100	m3	C.2.13	0.020	222.0	\$ 0.97	\$ 10,801	\$ -	\$ -	\$ 1.44	\$ 15,949	\$ 0.75	6,407	\$ 8,329	\$ -	\$ -	\$ 3.16	\$35,079			
105	3	3	2	510		Supply and install insulated 150mm HDPE pipe	1,850	m	C.3.03	0.250	462.5	\$ 8.78	\$ 16,234	\$ 155.84	\$ 288,304	\$ 0.44	\$ 812	\$ 0.49	701	\$ 912	\$ -	\$ -	\$ 165.55	\$306,262			
105	3	3	3	430		Bedding layer: Produce, screen and stockpile	722	m3	C.2.02	0.015	10.8	\$ 0.74	\$ 533	\$ -	\$ -	\$ 1.68	\$ 1,209	\$ 1.13	627	\$ 815	\$ -	\$ -	\$ 3.54	\$2,557			
105	3	3	4	430		Bedding layer: Load, haul, place and compact	722	m3	R.073	0.031	22.0	\$ 1.35	\$ 976	\$ -	\$ -	\$ 2.68	\$ 1,933	\$ 1.07	591	\$ 769	\$ -	\$ -	\$ 5.10	\$3,678			
105	3	3	5	430		Backfill ditches	11,100	m3	C.2.01	0.030	333.0	\$ 1.19	\$ 13,193	\$ -	\$ -	\$ 0.77	\$ 8,546	\$ 0.39	3,348	\$ 4,352	\$ -	\$ -	\$ 2.35	\$26,091			
105	3	4	1	510	Heat tracing	Supply and install heat trace in HDPE pipe	1,850	m	C.3.05	0.167	308.3	\$ 6.98	\$ 12,912	\$ 21.32	\$ 39,442	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 28.30	\$52,354			
105	3	4	2	510		Supply/Install heat tracing power feed kit	1	ea.	C.3.06	4.000	4.0	\$ 167.51	\$ 397	\$ 396.84	\$ 397	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 564.35	\$564			
105	3	4	3	510		Supply/Install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	1.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067			
105	3	5	1	510	Provide electricity from WTP to pumps	Supply/Install treated power poles	4	ea.	C.4.03	4.545	18.2	\$ 213.52	\$ 854	\$ 325.96	\$ 1,304	\$ 90.53	\$ 362	\$ 28.17	87	\$ 113	\$ -	\$ -	\$ 658.17	\$2,633			
105	3	5	2	510		Supply/Install overhead conductor	300	m	C.4.02	0.032	9.6	\$ 1.52	\$ 455	\$ 1.41	\$ 423	\$ 0.48	\$ 143	\$ 0.15	34	\$ 45	\$ -	\$ -	\$ 3.55	\$1,066			
105	3	5	3	510		Supply/Install transformers	1	ea.	C.4.04	20.000	20.0	\$ 973.08	\$ 973	\$ 8,934.00	\$ 8,934	\$ 239.58	\$ 240	\$ 143.00	110	\$ 143	\$ -	\$ -	\$ 10,289.66	\$10,290			
Subtotal Direct Costs - ETA (Maximum of Option 1 & 2)										5,796			\$243,996		\$807,755		\$261,918		89,764	\$116,693	\$0		\$1,430,363				
Waste Rock																											
Reslope Waste Rock																											
106	1	1	1	430	Remove vegetation at WR toe	Clear/grub forest area around toe	60,000	m2	C.2.05	0.015	872.7	\$ 0.67	\$ 40,262	\$ -	\$ -	\$ 1.08	\$ 65,049	\$ 0.61	28,192	\$ 36,650	\$ -	\$ -	\$ 2.37	\$141,962	\$3,988,737		
106	1	2	1	430	Regrade	Flattened surfaces (enhance surface runoff)	429	hrs	C.2.23	1.000	429.0	\$ 48.65	\$ 20,874	\$ -	\$ -	\$ 190.62	\$ 81,781	\$ 149.18	49,232	\$ 64,002	\$ -	\$ -	\$ 388.46	\$166,657			
106	1	2	2	430		Regrade slopes	769	hrs	C.2.23	1.000	769.0	\$ 48.65	\$ 37,415	\$ -	\$ -	\$ 190.62	\$ 146,588	\$ 149.18	88,246	\$ 114,720	\$ -	\$ -	\$ 388.46	\$298,724			
106	1	2	3	430		Regrade Slopes	7,329	hrs	C.2.23	1.000	7329.4	\$ 48.65	\$ 356,604	\$ -	\$ -	\$ 190.62	\$ 1,397,134	\$ 149.18	841,074	\$ 1,093,397	\$ -	\$ -	\$ 388.46	\$2,847,134			
106	1	3	1	430	Pull-back slopes not able to be re-sloped	Load, haul, dump, place at top of dump	146,250	m3	R.077	0.012	1821.2	\$ 0.57	\$ 84,200	\$ -	\$ -	\$ 1.91	\$ 279,136	\$ 1.17	131,619	\$ 171,104	\$ -	\$ -	\$ 3.65	\$534,260			
Sulphide Cell																											
106	2	1	1	430	Relocate east Cell to Main Sulphide Cell	Load, haul, dump, place, compact	1,080,000	m3	R.079	0.014	15274.3	\$ 0.63	\$ 677,384	\$ -	\$ -	\$ 1.91	\$ 2,060,663	\$ 1.17	971,536	\$ 1,262,997	\$ -	\$ -	\$ 3.70	\$4,001,044	\$7,114,104	estimated as AutoCAD outline X2 with a depth of 30m	
106	2	2	1	430	Place "Low" infiltration cover	Load, haul, place compacted till (0.5m) (South cells)	86,823	m3	R.075	0.056	4862.1	\$ 2.48	\$ 215,268	\$ -	\$ -	\$ 7.54	\$ 654,818	\$ 4.61	307,977	\$ 400,370	\$ -	\$ -	\$ 14.63	\$1,270,456			
106	2	2	2	430		Load, haul, place loose till (1.5m) (South cells)	130,235	m3	R.076	0.050	6563.8	\$ 2.28	\$ 297,303	\$ -	\$ -	\$ 7.38	\$ 960,769	\$ 4.49	449,640	\$ 584,532	\$ -	\$ -	\$ 14.15	\$1,842,604			
Waste Rock Cover																											
106	3	1	1	430	Place "Vegetative" cover	Load, haul, place loose till (0.5m)	1,775,173	m3	R.076	0.050	89468.7	\$ 2.28	\$ 4,052,396	\$ -	\$ -	\$ 7.38	\$ 13,095,802	\$ 4.49	6,128,836	\$ 7,967,487	\$ -	\$ -	\$ 14.15	\$25,115,685	\$25,115,685		
Steep Runoff Channels																											
106	4	1	1	430	Install rock drains (runoff management)	Excavate channel for rock drains	4,375	m3	C.2.13	0.020	87.5	\$ 0.97	\$ 4,257	\$ -	\$ -	\$ 1.44	\$ 6,286	\$ 0.75	2,525	\$ 3,283	\$ -	\$ -	\$ 3.16	\$13,826	\$85,613		
106	4	1	2	430		Rip-rap (rounded, low quality): Screen and stockpile	3,255	m3	C.2.25	0.050	162.8	\$ 2.45	\$ 7,975	\$ -	\$ -	\$ 6.70	\$ 21,823	\$ 4.52									

Work Area Code	Item	Task	Sub-task	Estimate Type	Activity	Task	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments
S-Cluster Collection System (to Plant)																										
107	5	1	1	430	Construct access roads	Clear access road area	2,950	m2	C.2.04	0.004	10.7	\$ 0.18	\$ 522	\$ -	\$ -	\$ 0.68	\$ 2,002	\$ 0.36	826	\$ 1,073	\$ -	\$ -	\$ 1.22	\$3,597	\$1,343,557	
107	5	1	2	430	Construct access roads	Construct access road	590	m	C.2.28	0.133	78.2	\$ 6.19	\$ 3,655	\$ -	\$ -	\$ 11.39	\$ 6,718	\$ 5.33	2,417	\$ 3,142	\$ -	\$ -	\$ 22.91	\$13,515		
107	5	2	1	430	Install Cut-off wall	Clear and grub working surface	2,325	m2	C.2.05	0.015	33.8	\$ 0.67	\$ 1,560	\$ -	\$ -	\$ 1.08	\$ 2,521	\$ 0.61	1,092	\$ 1,420	\$ -	\$ -	\$ 2.37	\$5,501		
107	5	2	2	430	Install Cut-off wall	Level and compact surface	775	m3	C.2.21	0.013	9.7	\$ 0.61	\$ 471	\$ -	\$ -	\$ 2.33	\$ 1,808	\$ 1.25	745	\$ 969	\$ -	\$ -	\$ 4.19	\$3,249		
107	5	2	3	430	Install Cut-off wall	Install cut-off wall (all-inclusive)	2,325	m2	C.2.08	1.800	4185.0	\$ 83.20	\$ 193,447	\$ 216.00	\$ 502,200	\$ 108.55	\$ 252,379	\$ 62.14	111,128	\$ 144,466	\$ -	\$ -	\$ 469.89	\$1,092,493		
107	5	3	1	430	Install Interceptor Trench	Excavate Trench (spoil locally)	1,240	m3	C.2.12	0.024	29.2	\$ 1.06	\$ 1,309	\$ -	\$ -	\$ 2.36	\$ 2,923	\$ 0.93	889	\$ 1,156	\$ -	\$ -	\$ 4.35	\$5,389		
107	5	3	2	430	Install Interceptor Trench	Place Gravel around wells: Screen and stockpile	465	m3	C.2.02	0.015	7.0	\$ 0.74	\$ 343	\$ -	\$ -	\$ 1.68	\$ 779	\$ 1.13	404	\$ 525	\$ -	\$ -	\$ 3.54	\$1,648		
107	5	3	3	430	Install Interceptor Trench	Place Gravel around wells: Load, haul, dump, place, compact	465	m3	R.090	0.029	13.5	\$ 1.29	\$ 600	\$ -	\$ -	\$ 2.54	\$ 1,179	\$ 1.03	370	\$ 481	\$ -	\$ -	\$ 4.86	\$2,261		
107	5	3	4	430	Install Interceptor Trench	Backfill Trench - Coarse Rock: Screen and stockpile	775	m3	C.2.02	0.015	11.6	\$ 0.74	\$ 572	\$ -	\$ -	\$ 1.68	\$ 1,299	\$ 1.13	673	\$ 875	\$ -	\$ -	\$ 3.54	\$2,747		
107	5	3	5	430	Install Interceptor Trench	Backfill Trench - Coarse Rock: Load, haul, dump, place	775	m3	R.085	0.032	25.0	\$ 1.46	\$ 1,128	\$ -	\$ -	\$ 3.26	\$ 2,529	\$ 1.30	772	\$ 1,004	\$ -	\$ -	\$ 6.01	\$4,661		
107	5	4	1	500	Pumping wells	Install 6" stainless steel well casing & screen in trench	20	m	C.3.18	0.150	3.0	\$ 6.64	\$ 133	\$ 232.60	\$ 4,652	\$ 1.47	\$ 29	\$ 1.10	17	\$ 22	\$ -	\$ -	\$ 241.81	\$4,836		
107	5	4	2	500	Pumping wells	Install 6" Submersible Pump with controls	2	ea.	C.3.08	12.000	24.0	\$ 475.42	\$ 951	\$ 6,842.00	\$ 13,684	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,317.42	\$14,635		
107	5	4	3	500	Pumping wells	Install protective housing (shack)	2	ea.	C.3.14	20.000	40.0	\$ 792.36	\$ 1,585	\$ 445.00	\$ 890	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,237.36	\$2,475		
107	5	5	1	430	Monitoring wells	Drill wells (Air Rotary Drill Rig, -15m depth)	30	m	C.2.09	2.000	60.0	\$ 88.48	\$ 2,654	\$ -	\$ -	\$ 19.61	\$ 588	\$ 14.65	338	\$ 439	\$ -	\$ -	\$ 122.74	\$3,682		
107	5	5	2	500	Monitoring wells	Install 6" stainless steel well casing & screen	30	m	C.3.18	0.150	4.5	\$ 6.64	\$ 199	\$ 232.60	\$ 6,978	\$ 1.47	\$ 44	\$ 1.10	25	\$ 33	\$ -	\$ -	\$ 241.81	\$7,254		
107	5	5	3	500	Monitoring wells	Install protective well cover	2	ea.	C.3.14	20.000	40.0	\$ 792.36	\$ 1,585	\$ 445.00	\$ 890	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,237.36	\$2,475		
107	5	6	1	430	Piping	Excavate piping trench	4,200	m3	C.2.13	0.020	84.0	\$ 0.97	\$ 4,087	\$ -	\$ -	\$ 1.44	\$ 6,035	\$ 0.75	2,424	\$ 3,152	\$ -	\$ -	\$ 3.16	\$13,273		
107	5	6	2	510	Piping	Supply and install insulated 150mm HDPE pipe	700	m	C.3.03	0.250	175.0	\$ 8.79	\$ 6,143	\$ 155.84	\$ 109,088	\$ 0.44	\$ 307	\$ 0.49	265	\$ 345	\$ -	\$ -	\$ 165.55	\$115,883		
107	5	6	3	430	Piping	Bedding layer: Produce, screen and stockpile	273	m3	C.2.02	0.015	4.1	\$ 0.74	\$ 202	\$ -	\$ -	\$ 1.68	\$ 458	\$ 1.13	237	\$ 308	\$ -	\$ -	\$ 3.54	\$968		
107	5	6	4	430	Piping	Bedding Layer: Load, haul, place and compact	273	m3	R.090	0.029	7.9	\$ 1.29	\$ 353	\$ -	\$ -	\$ 2.54	\$ 217	\$ 1.03	217	\$ 283	\$ -	\$ -	\$ 4.86	\$1,327		
107	5	6	5	430	Piping	Backfill and compact ditches	3,927	m3	C.2.01	0.030	117.8	\$ 1.19	\$ 4,667	\$ -	\$ -	\$ 0.77	\$ 3,023	\$ 0.39	1,184	\$ 1,540	\$ -	\$ -	\$ 2.35	\$9,230		
107	5	7	1	510	Heat Tracing	Supply and install heat trace in HDPE pipe	700	m	C.3.05	0.167	116.7	\$ 6.98	\$ 4,886	\$ 21.32	\$ 14,924	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.30	\$19,810		
107	5	7	2	510	Heat Tracing	Supply/Install heat tracing power feed kit	1	ea.	C.3.06	4.000	4.0	\$ 167.51	\$ 168	\$ 396.84	\$ 397	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 564.35	\$564		
107	5	7	3	510	Heat Tracing	Supply/Install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	1.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067		
107	5	8	1	510	Provide Electricity from WTP to pumps	Supply/Install treated power poles	1	ea.	C.4.03	4.545	4.5	\$ 213.52	\$ 214	\$ 325.96	\$ 326	\$ 90.53	\$ 91	\$ 28.17	22	\$ 28	\$ -	\$ -	\$ 658.17	\$658		
107	5	8	2	510	Provide Electricity from WTP to pumps	Supply/Install overhead conductor	20	m	C.4.02	0.032	0.6	\$ 1.52	\$ 30	\$ 1.41	\$ 28	\$ 0.48	\$ 10	\$ 0.15	2	\$ 3	\$ -	\$ -	\$ 3.55	\$71		
107	5	8	3	510	Provide Electricity from WTP to pumps	Supply/Install transformers	1	ea.	C.4.04	20.000	20.0	\$ 973.08	\$ 973	\$ 8,934.00	\$ 8,934	\$ 239.58	\$ 240	\$ 143.00	110	\$ 143	\$ -	\$ -	\$ 10,289.66	\$10,290		
Subtotal Direct Costs - Groundwater										17,278			\$771,177		\$1,213,670		\$1,303,446		511,135	\$664,475		\$0		\$3,952,769		
Miscellaneous																										
Roads																										
108	1	1	1	430	Reclaim unnecessary roads	Remove culverts and breach stream crossing	2,240	m3	C.2.12	0.024	52.7	\$ 1.06	\$ 2,365	\$ -	\$ -	\$ 2.36	\$ 5,281	\$ 0.93	1,607	\$ 2,089	\$ -	\$ -	\$ 4.35	\$9,734.78	\$14,339	
108	1	1	2	430	Reclaim unnecessary roads	Scarify road surfaces	10,500	m2	C.2.30	0.003	26.3	\$ 0.12	\$ 1,277	\$ -	\$ -	\$ 0.11	\$ 1,155	\$ 0.10	790	\$ 1,027	\$ -	\$ -	\$ 0.33	\$3,459.07		
108	1	1	3	610	Reclaim unnecessary roads	Seed/Fertilize, helicopter low application rate	10,500	m2	C.5.02	0.000	1.3	\$ 0.01	\$ 59	\$ 0.05	\$ 477	\$ 0.05	\$ 566	\$ 0.00	32	\$ 42	\$ -	\$ -	\$ 0.11	\$1,144.82		
Buildings																										
108	2	1	1	220	Building decontamination	Remove hazardous materials	56,400	m3	C.1.01	0.556	31333.3	\$ 21.20	\$ 1,195,680	\$ -	\$ -	\$ 0.88	\$ 49,525	\$ 0.99	42,770	\$ 55,601	\$ -	\$ -	\$ 23.06	\$1,300,806		
108	2	2	1	220	Building decontamination	Building demolition: 'empty buildings'	24,600	m2	C.1.02	0.349	8581.4	\$ 14.55	\$ 357,879	\$ -	\$ -	\$ 17.07	\$ 419,862	\$ 8.29	156,922	\$ 203,999	\$ -	\$ -	\$ 39.91	\$981,739		
108	2	2	2	430	Building decontamination	Building demolition: 'full buildings'	47,700	m2	C.1.03	0.523	24959.3	\$ 21.82	\$ 1,040,903	\$ -	\$ -	\$ 25.60	\$ 1,221,184	\$ 12.44	456,414	\$ 593,338	\$ -	\$ -	\$ 59.86	\$2,855,425		
108	2	2	3	430	Building decontamination	Puncture concrete foundations	20	m	C.1.04	0.182	3.6	\$ 8.85	\$ 177	\$ -	\$ -	\$ 22.17	\$ 443	\$ 13.15	202	\$ 263	\$ -	\$ -	\$ 44.17	\$883		
108	2	2	4	430	Building decontamination	Re-grade over demolished buildings	20	hrs	C.2.23	1.000	20.0	\$ 48.65	\$ 973	\$ -	\$ -	\$ 190.62	\$ 3,812	\$ 149.18	2,295	\$ 2,984	\$ -	\$ -	\$ 388.46	\$7,769		
Contaminated soils																										
108	3	1	1	600	Remove contaminated soils	Excavate, haul and place hydrocarbon contaminated soils in landfarm	15,000	m3	R.091	0.030	450.0	\$ 1.36	\$ 20,382	\$ -	\$ -	\$ 3.40	\$ 51,028	\$ 1.44	16,574	\$ 21,547	\$ -	\$ -	\$ 6.20	\$92,957	\$142,300	
108	3	1	2	600	Remove contaminated soils	Excavate metal contaminated soil to Low-Grade Stockpile 'C'	7,500	m3	R.091	0.030	225.0	\$ 1.36	\$ 10,191	\$ -	\$ -	\$ 3.40	\$ 25,514	\$ 1.44	8,287	\$ 10,773	\$ -	\$ -	\$ 6.20	\$46,478		
108	3	1	3	600	Remove contaminated soils	Regrade contaminated areas for drainage	10,000	m2	C.2.18	0.002	21.7	\$ 0.11	\$ 1,058	\$ -	\$ -	\$ 0.10	\$ 956	\$ 0.09	654	\$ 851	\$ -	\$ -	\$ 0.29	\$2,865		
Landfarm																										
108	4	1	1	430	Contract landfarm	Excavate and create berms for use as the bioremediation cell	8,000	m3	C.2.11	0.013	106.7	\$ 0.65	\$ 5,190	\$ -	\$ -	\$ 0.96	\$ 7,663	\$ 0.50	3,079	\$ 4,002	\$ -	\$ -	\$ 2.11	\$16,855		
108	4	2	1	430	Operate Landfarm (3yrs)	Excavator Cat 330BL/235B (mixing)	80	hrs	C.2.23	1.000	80.0	\$ 48.65	\$ 3,892	\$ -	\$ -	\$ 190.62	\$ 15,250	\$ 149.18	9,180	\$ 11,934	\$ -	\$ -	\$ 388.46	\$31,076		
108	4	3	1	430	Decommission landfarm	Excavate soils for use as cover	1	m3	-	0.000	0.0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$0		costed elsewhere
108	4	3	2	430	Decommission landfarm	Remove berms (dozer)	4	hrs	C.2.23	1.000	4.0	\$ 48.65	\$ 195	\$ -	\$ -	\$ 190.62	\$ 762	\$ 149.18	459	\$ 597	\$ -	\$ -	\$ 388.46	\$1,554		
Borrow Sources																										
108	5	1	1	600	Develop borrow sources	Clear (grub access road)	1,500	m2	C.2.05	0.015	21.8	\$ 0.67	\$ 1,007	\$ -	\$ -	\$ 1.08	\$ 1,626	\$ 0.61	705	\$ 916	\$ -	\$ -	\$ 2.37	\$3,549	\$101,851	
108	5	1	2	600	Develop borrow sources	Construct access road	500	m	C.2.29	0.027	113.3	\$ 10.30	\$ 5,149	\$ -	\$ -	\$ 25.91	\$ 12,954	\$ 16.51	6,348	\$ 8,253	\$ -	\$ -	\$ 52.71	\$26,356		
108	5	2	1	600	Decommission borrow sources	Re-grade borrow source slopes	11	hrs	C.2.23	1.000	10.9	\$ 48.65	\$ 531	\$ -	\$ -	\$ 190.62	\$ 2,080	\$ 149.18	1,252	\$ 1,628	\$ -	\$ -	\$ 388.46	\$4,238		

Rose Creek Tailings Area Alternatives

Rose Creek Valley Tailings - Revised Stabilize In Place Option

Work Area Code	Item	Task	Sub-task	Estimate Type	Task	Activity	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Mat	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
CLOSURE COSTS - DIRECT CAPITAL																											
Dams																											
Cross Valley Dam																											
201	1	1	1	600	Remove pond	Pump pond water to discharge	140	days	C.3.12	2.410	337.3	\$ 117.24	\$ 16,413	\$ -	\$ -	\$ 148.80	\$ 20,831	\$ 40.72	4,386	\$ 5,701	\$ -	\$ -	\$ 306.76	\$42,946			
201	1	2	1	430	Excavate and create berms for use as sludge cell on top of tailings	Remove impounded sludge	1,445	m3	C.2.12	0.024	34.0	\$ 1.06	\$ 1,526	\$ -	\$ -	\$ 2.36	\$ 3,407	\$ 0.93	1,036	\$ 1,347	\$ -	\$ -	\$ 4.35	\$6,280			
201	1	2	2	430	Load, haul and place sludge material		1,600	m3	R.093	0.040	64.0	\$ 1.81	\$ 2,899	\$ -	\$ -	\$ 4.54	\$ 7,257	\$ 1.92	2,357	\$ 3,064	\$ -	\$ -	\$ 8.26	\$13,221			
201	1	3	1	430	Excavate, load, haul and place contaminated soils to mill area	Remove contaminated soil	322,650	m3	R.096	0.014	4,517.0	\$ 0.67	\$ 198,404	\$ -	\$ -	\$ 2.00	\$ 645,722	\$ 1.22	302,796	\$ 393,622	\$ -	\$ -	\$ 3.84	\$1,237,748			
201	1	4	1	430	Clear and grub	Prepare spoil area	5,000	m2	C.2.05	0.015	72.7	\$ 0.67	\$ 1,085	\$ -	\$ -	\$ 1.08	\$ 5,442	\$ 0.61	2,349	\$ 3,054	\$ -	\$ -	\$ 2.37	\$11,830			
201	1	4	2	430	Prepare access roads		200	m	C.2.28	0.133	26.5	\$ 6.19	\$ 1,239	\$ -	\$ -	\$ 11.39	\$ 2,277	\$ 5.33	819	\$ 1,065	\$ -	\$ -	\$ 22.91	\$4,581			
201	1	5	1	430	Excavate, load, haul and place dam material not used for Int. Dam toe berm.	Remove dam	335,088	m3	R.094	0.020	6,613.6	\$ 0.91	\$ 305,111	\$ -	\$ -	\$ 2.33	\$ 780,047	\$ 1.06	274,073	\$ 356,296	\$ -	\$ -	\$ 4.30	\$1,441,453			
201	1	7	1	610	Revegetate dam footprint and impoundment	Seed/Fertilize, helicopter high application rate	214,983	m2	C.5.01	0.000	26.9	\$ 0.01	\$ 1,210	\$ 0.09	\$ 19,546	\$ 0.05	\$ 11,598	\$ 0.00	660	\$ 859	\$ -	\$ -	\$ 0.15	\$33,213			
Intermediate Dam Spillway																											
201	2	1	1	430	Clear and grub	Clear and grub	105,000	m2	C.2.05	0.015	1527.3	\$ 0.67	\$ 70,459	\$ -	\$ -	\$ 1.08	\$ 113,836	\$ 0.61	49,337	\$ 64,138	\$ -	\$ -	\$ 2.37	\$248,433			
201	2	2	1	430	Excavate Spillway	Soil excavation: Load, haul and dump locally	1,000,000	m3	C.2.12	0.024	23529.4	\$ 1.06	\$ 1,055,859	\$ -	\$ -	\$ 2.36	\$ 2,357,553	\$ 0.93	717,285	\$ 932,471	\$ -	\$ -	\$ 4.35	\$4,345,982			
201	2	2	2	430	Upgrade road from tailings area to waste rock source	Construct new access road where necessary	1,350	m	C.2.29	0.227	306.0	\$ 10.30	\$ 13,903	\$ -	\$ -	\$ 25.91	\$ 34,975	\$ 16.51	17,140	\$ 22,282	\$ -	\$ -	\$ 52.71	\$71,160			
201	2	3	1	430	Construct channel - spillway to Rose Cr.	Supply and place geotextile	105,000	m2	C.4.07	0.071	7500.0	\$ 2.70	\$ 283,581	\$ 3.50	\$ 367,500	\$ 0.79	\$ 83,351	\$ 0.53	42,658	\$ 55,455	\$ -	\$ -	\$ 7.52	\$789,887			
201	2	3	2	430	Bedding layer: Screen and stockpile		31,500	m3	C.2.02	0.015	472.5	\$ 0.74	\$ 23,264	\$ -	\$ -	\$ 1.68	\$ 52,796	\$ 1.13	27,366	\$ 35,576	\$ -	\$ -	\$ 3.54	\$111,637			
201	2	3	3	430	Bedding layer: Load, haul, dump and place		31,500	m3	R.099	0.029	917.2	\$ 1.32	\$ 41,544	\$ -	\$ -	\$ 2.82	\$ 88,836	\$ 1.12	27,196	\$ 35,354	\$ -	\$ -	\$ 5.26	\$165,734			
201	2	3	4	430	Rip-rap: Drill, blast and stockpile		52,500	m3	C.2.24	0.040	2100.0	\$ 1.74	\$ 91,202	\$ 15.72	\$ 825,300	\$ 1.92	\$ 100,690	\$ 1.02	41,083	\$ 53,408	\$ -	\$ -	\$ 20.39	\$1,070,600			
201	2	3	5	430	Rip-rap (angular, high quality): Screen and stockpile		52,500	m3	C.2.26	0.071	3750.0	\$ 3.50	\$ 183,762	\$ -	\$ -	\$ 9.58	\$ 502,823	\$ 6.45	260,631	\$ 338,820	\$ -	\$ -	\$ 19.53	\$1,025,405			
201	2	3	6	430	Rip-rap: Load, haul, dump		52,500	m3	R.100	0.023	1181.3	\$ 1.02	\$ 53,504	\$ -	\$ -	\$ 2.30	\$ 120,876	\$ 0.94	38,153	\$ 49,599	\$ -	\$ -	\$ 4.27	\$223,978			
201	2	3	7	430	Rip-rap: Place and secure		52,500	m3	C.2.27	0.013	656.3	\$ 0.61	\$ 31,929	\$ -	\$ -	\$ 0.90	\$ 47,146	\$ 0.47	18,940	\$ 24,623	\$ -	\$ -	\$ 1.98	\$103,698			
Secondary Dam																											
201	3	1	1	430	Ground densification (East Limb)	Gravel: supply and stockpile locally	2,339	m3	C.2.02	0.015	35.1	\$ 0.74	\$ 1,727	\$ -	\$ -	\$ 1.68	\$ 3,920	\$ 1.13	2,032	\$ 2,641	\$ -	\$ -	\$ 3.54	\$8,289			
201	3	1	2	430	Gravel: load, haul, dump		2,339	m3	R.098	0.023	53.0	\$ 1.02	\$ 2,386	\$ -	\$ -	\$ 2.29	\$ 5,349	\$ 0.91	1,634	\$ 2,124	\$ -	\$ -	\$ 4.22	\$9,859			
201	3	1	3	510	Drill vibro-replacement stone columns		26,800	m3	C.9.01	0.267	7146.7	\$ 12.19	\$ 326,617	\$ -	\$ -	\$ 6.90	\$ 184,891	\$ 4.37	90,117	\$ 117,152	\$ -	\$ -	\$ 23.46	\$628,660			
201	3	1	4	600	Verification testing		1	ls	C.9.02	530.639	530.639	\$ 22,820.44	\$ 22,820.44	\$ -	\$ -	\$ 3,681.58	\$ 3,682	\$ 2,959.37	18,940	\$ 2,959	\$ -	\$ -	\$ 29,461.39	\$29,461			
Subtotal Direct Costs - Dams											147,601		\$6,368,491		\$1,212,346		\$8,947,780		3,207,227	\$4,169,395	\$0		\$29,461.39	\$20,698,012			
Tailings																											
Intermediate Tailings																											
202	1	2	1	600	De-water	Pump pond water to Faro Pit or water treatment facility	267,000	m3	C.8.01	0.002	588.1	\$ 0.08	\$ 20,643	\$ 0.02	\$ 6,179	\$ 0.00	\$ 620	\$ 0.00	535	\$ 696	\$ 0.23	\$ 61,751	\$ 0.34	\$89,888			
202	1	3	1	430	Upgrade roads	Bulk excavate	1,000	m	C.2.28	0.133	132.5	\$ 6.19	\$ 6,195	\$ -	\$ -	\$ 11.39	\$ 11,396	\$ 5.33	4,097	\$ 5,326	\$ -	\$ -	\$ 22.91	\$22,906			
202	1	4	1	430	Cover tailings	Waste Rock (0.5m): Load, haul, dump to tailing impoundment edge	504,665	m3	R.107	0.017	8689.0	\$ 0.78	\$ 393,560	\$ -	\$ -	\$ 2.53	\$ 1,275,676	\$ 1.63	631,714	\$ 821,228	\$ -	\$ -	\$ 4.93	\$2,490,464			
202	1	4	2	430	Waste Rock (0.5m): Use small equipment to place on tailings		504,665	m3	R.108	0.021	10408.7	\$ 0.93	\$ 471,452	\$ -	\$ -	\$ 1.82	\$ 917,399	\$ 0.71	275,297	\$ 357,886	\$ -	\$ -	\$ 3.46	\$1,746,738			
202	1	4	3	430	Till (1.5m): Load, haul, dump to tailing impoundment edge		1,513,995	m3	R.109	0.043	65780.5	\$ 1.97	\$ 2,979,461	\$ -	\$ -	\$ 6.38	\$ 9,657,551	\$ 4.11	4,782,409	\$ 6,217,132	\$ -	\$ -	\$ 12.45	\$18,854,143			
202	1	4	4	430	Till (1.5m): Use small equipment to place on tailings		1,513,995	m3	R.110	0.026	39742.4	\$ 1.19	\$ 1,800,091	\$ -	\$ -	\$ 2.31	\$ 3,502,798	\$ 0.90	1,051,135	\$ 1,366,475	\$ -	\$ -	\$ 4.41	\$6,669,364			
202	1	5	1	610	Revegetate till-covered areas	Seed/Fertilize, helicopter high application rate	1,009,330	m2	C.5.01	0.000	126.2	\$ 0.01	\$ 5,881	\$ 0.09	\$ 91,768	\$ 0.05	\$ 54,451	\$ 0.00	3,101	\$ 4,031	\$ -	\$ -	\$ 0.15	\$155,932			
Secondary & Original Impoundment Tailings																											
202	2	1	1	600	Upgrade road from tailings area to waste rock source	Construct new access road where necessary	935	m	C.2.29	0.227	211.9	\$ 10.30	\$ 9,629	\$ -	\$ -	\$ 25.91	\$ 24,223	\$ 16.51	11,871	\$ 15,433	\$ -	\$ -	\$ 52.71	\$49,285			
202	2	1	2	600	Construct new access road where necessary		1,000	m	C.2.28	0.133	132.5	\$ 6.19	\$ 6,195	\$ -	\$ -	\$ 11.39	\$ 11,396	\$ 5.33	4,097	\$ 5,326	\$ -	\$ -	\$ 22.91	\$22,906			
202	2	2	1	430	Cover tailings	Waste Rock (0.5m): Load, haul, dump to tailing impoundment edge	451,150	m3	R.111	0.016	7382.5	\$ 0.74	\$ 334,381	\$ -	\$ -	\$ 2.40	\$ 1,083,854	\$ 1.55	536,723	\$ 697,740	\$ -	\$ -	\$ 4.69	\$2,115,976			
202	2	2	2	430	Waste Rock (0.5m): Use small equipment to place on tailings		451,150	m3	R.108	0.021	9305.0	\$ 0.93	\$ 421,459	\$ -	\$ -	\$ 1.82	\$ 820,118	\$ 0.71	246,104	\$ 319,936	\$ -	\$ -	\$ 3.46	\$1,561,513			
202	2	2	3	430	Till (1.5m): Load, haul, dump to tailing impoundment edge		1,353,450	m3	R.112	0.039	53292.1	\$ 1.78	\$ 2,413,812	\$ -	\$ -	\$ 5.78	\$ 7,824,071	\$ 3.72	3,874,472	\$ 5,036,813	\$ -	\$ -	\$ 11.29	\$15,274,697			
202	2	2	4	430	Till (1.5m): Use small equipment to place on tailings		1,353,450	m3	R.110	0.026	35528.1	\$ 1.19	\$ 1,609,208	\$ -	\$ -	\$ 2.31	\$ 3,131,359	\$ 0.90	939,672	\$ 1,221,573	\$ -	\$ -	\$ 4.41	\$5,962,140			
202	2	3	1	610	Revegetate till-covered areas	Seed/Fertilize, helicopter high application rate	902,300	m2	C.5.01	0.000	112.8	\$ 0.01	\$ 5,079	\$ 0.09	\$ 82,037	\$ 0.05	\$ 48,677	\$ 0.00	2,772	\$ 3,604	\$ -	\$ -	\$ 0.15	\$139,397			
Subtotal Direct Costs - Tailings											231,738		\$10,490,748		\$179,984		\$28,398,544		12,381,139	\$16,095,481	\$61,751		\$55,226,509				
Rose Creek Diversion Channel																											
Upgrade upstream portion to PMF (670m3/s)																											
203	1	1	1	430	Clear and grub	Dozer: D10R/N	265,310	m2	C.2.05	0.015	3859.1	\$ 0.67	\$ 178,034	\$ -	\$ -	\$ 1.08	\$ 287,637	\$ 0.61	124,662	\$ 162,061	\$ -	\$ -	\$ 2.37	\$627,731			
203	1	2	1	430	Excavate channel	Bulk excavate	205,900	m3	C.2.12	0.024	4844.9	\$ 1.06	\$ 217,411	\$ -	\$ -	\$ 2.36	\$ 485,441	\$ 0.93	147,695	\$ 192,000	\$ -	\$ -	\$ 4.35	\$394,856			
203	1	2	2	430	Pilot Channel: Soil excavation		15,014	m3	C.2.12	0.024	353.3	\$ 1.06	\$ 15,853	\$ -	\$ -	\$ 2.36	\$ 35,397	\$ 0.93	10,770	\$ 14,000	\$ -	\$ -	\$ 4.35	\$85,251			
203	1	3	1	430	Place till layer	Till: Load, haul, dump, place, compact	88,345	m3	R.115	0.034	3008.5	\$ 1.54	\$ 136,267	\$ -	\$ -	\$ 3.30	\$ 291,389	\$ 1.31	89,203	\$ 115,965	\$ -	\$ -	\$ 6.15	\$543,621			
203	1	3	2	430	Till: compact with vibrating drum roller		294,483	m2	C.2.06	0.016	4711.7	\$ 0.56	\$ 165,382	\$ -	\$ -	\$ 0.04	\$ 12,124	\$ 0.01	3,063	\$ 3,981	\$ -	\$ -	\$ 0.62	\$181,487			
203	1	4	1	430	Place crushed rock transition material	Cr																					

Work Area Code	Item	Task	Sub-task	Estimate Type	Task	Activity	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments		
204	3	3	5	430		Bedding layer: Load, haul, place and compact	1,970	m3	R.102	0.032	63.0	\$ 1.44	\$ 2,828	\$ -	\$ -	\$ 3.20	\$ 6,301	\$ 1.24	1,875	\$ 2,437	\$ -	\$ -	\$ 5.87	\$11,567				
204	3	3	6	430		Backfill ditches	28,331	m3	C.2.01	0.030	849.9	\$ 1.19	\$ 33,672	\$ -	\$ -	\$ 0.77	\$ 21,811	\$ 0.39	8,545	\$ 11,108	\$ -	\$ -	\$ 2.35	\$66,591				
204	3	4	1	510		Heat tracing	5,050	m	C.3.05	0.167	841.7	\$ 6.98	\$ 35,246	\$ 21.32	\$ 107,666	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.30	\$142,912			
204	3	4	2	510		Supply/install heat tracing power feed kit	4	ea.	C.3.06	4.000	16.0	\$ 167.51	\$ 670	\$ 396.84	\$ 1,587	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 564.35	\$2,257			
204	3	4	3	510		Supply/install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	1.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067			
204	3	5	1	510		Provide Electricity from WTP to pumps	39	ea.	C.4.03	4.545	177.3	\$ 173.52	\$ 8,327	\$ 325.96	\$ 12,712	\$ 90.53	\$ 3,531	\$ 28.17	845	\$ 1,099	\$ -	\$ -	\$ -	\$ 1,066.88	\$5,658			
204	3	5	2	510		Supply/install overhead conductor	3,000	m	C.4.02	0.032	96.0	\$ 1.52	\$ 4,550	\$ 1.41	\$ 4,230	\$ 0.48	\$ 1,434	\$ 0.15	343	\$ 446	\$ -	\$ -	\$ -	\$ 3.55	\$10,660			
204	3	5	3	510		Supply/install transformers	4	ea.	C.4.04	20.000	80.0	\$ 973.08	\$ 3,892	\$ 8,934.00	\$ 35,736	\$ 239.58	\$ 958	\$ 143.00	440	\$ 572	\$ -	\$ -	\$ -	\$ 10,289.66	\$41,159			
204	3	6	1	510		Monitoring wells	60	m	C.2.09	2.000	120.0	\$ 88.48	\$ 5,309	\$ -	\$ -	\$ 19.61	\$ 1,177	\$ 14.65	676	\$ 879	\$ -	\$ -	\$ -	\$ 122.74	\$7,364			
204	3	6	2	510		Drill wells (Air Rotary Drill Rig, ~15m depth)	60	m	C.3.18	0.150	9.0	\$ 6.64	\$ 398	\$ 232.60	\$ 13,956	\$ 1.47	\$ 88	\$ 1.10	51	\$ 66	\$ -	\$ -	\$ -	\$ 241.81	\$14,508			
204	3	6	3	510		Install 6" stainless steel well casing & screen	3	ea.	C.3.19	1.333	4.0	\$ 54.88	\$ 165	\$ 164.54	\$ 19.61	\$ 59	\$ 14.65	34	\$ 44	\$ -	\$ -	\$ -	\$ 253.68	\$761				
Seepage Collection System above Intermediate Dam																												
204	4	1	1	510		Place collection sumps	600	m3	C.2.11	0.013	8.0	\$ 0.65	\$ 389	\$ -	\$ -	\$ 0.96	\$ 575	\$ 0.50	231	\$ 300	\$ -	\$ -	\$ -	\$ 2.11	\$1,264	\$205,052		
204	4	1	2	510		Supply and place perforated HDPE sump	3	ea.	C.3.16	4.000	12.0	\$ 167.51	\$ 503	\$ 1,925.00	\$ 5,775	\$ 31.58	\$ 95	\$ 15.73	36	\$ 47	\$ -	\$ -	\$ -	\$ 2,138.81	\$6,419			
204	4	1	3	510		Supply and install pump	3	ea.	C.3.11	8.000	24.0	\$ 335.02	\$ 1,005	\$ 1,829.00	\$ 5,487	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,164.02	\$6,492			
204	4	1	4	510		Supply and install protective housing for pump	3	ea.	C.3.13	30.000	90.0	\$ 1,188.54	\$ 3,566	\$ 1,730.00	\$ 5,190	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,918.54	\$8,756			
204	4	2	1	430		Piping system to CVD GW collection	3,720	m3	C.2.13	0.020	74.4	\$ 0.97	\$ 3,620	\$ -	\$ -	\$ 1.44	\$ 5,345	\$ 0.75	2,147	\$ 2,791	\$ -	\$ -	\$ -	\$ 3.16	\$11,756			
204	4	2	2	510		Supply and install insulated 150mm HDPE pipe	620	m	C.3.03	0.250	155.0	\$ 8.78	\$ 5,441	\$ 155.84	\$ 96,621	\$ 0.44	\$ 272	\$ 0.49	235	\$ 306	\$ -	\$ -	\$ -	\$ 165.55	\$102,639			
204	4	2	3	430		Bedding layer: Produce, screen and stockpile	242	m3	C.2.02	0.015	3.6	\$ 0.74	\$ 179	\$ -	\$ -	\$ 1.68	\$ 405	\$ 1.13	210	\$ 273	\$ -	\$ -	\$ -	\$ 3.54	\$857			
204	4	2	4	430		Bedding Layer: Load, haul, place and compact	242	m3	R.097	0.028	6.6	\$ 1.25	\$ 303	\$ -	\$ -	\$ 2.68	\$ 647	\$ 1.09	203	\$ 264	\$ -	\$ -	\$ -	\$ 5.02	\$1,214			
204	4	2	5	430		Backfill and compact ditches	3,478	m3	C.2.01	0.030	104.3	\$ 1.19	\$ 4,134	\$ -	\$ -	\$ 0.77	\$ 2,678	\$ 0.39	1,048	\$ 1,364	\$ -	\$ -	\$ -	\$ 2.35	\$8,176			
204	4	3	1	510		Heat tracing	620	m	C.3.05	0.167	103.3	\$ 6.98	\$ 4,327	\$ 21.32	\$ 13,218	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.30	\$17,546			
204	4	3	2	510		Supply/install heat tracing power feed kit	1	ea.	C.3.06	4.000	4.0	\$ 167.51	\$ 670	\$ 396.84	\$ 1,587	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 564.35	\$564			
204	4	3	3	510		Supply/install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	1.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067			
204	4	4	1	510		Provide Electricity from WTP to pumps	8	ea.	C.4.03	4.545	36.4	\$ 213.52	\$ 1,708	\$ 325.96	\$ 2,608	\$ 90.53	\$ 724	\$ 28.17	173	\$ 225	\$ -	\$ -	\$ -	\$ 658.17	\$5,265			
204	4	4	2	510		Supply/install overhead conductor	610	m	C.4.02	0.032	19.5	\$ 1.52	\$ 925	\$ 1.41	\$ 860	\$ 0.48	\$ 292	\$ 0.15	70	\$ 91	\$ -	\$ -	\$ -	\$ 3.55	\$2,168			
204	4	4	3	510		Supply/install transformers	3	ea.	C.4.04	20.000	60.0	\$ 973.08	\$ 2,919	\$ 8,934.00	\$ 26,802	\$ 239.58	\$ 719	\$ 143.00	330	\$ 429	\$ -	\$ -	\$ -	\$ 10,289.66	\$30,869			
Subtotal Direct Costs - Groundwater Collection										74,989			\$3,438,663		\$9,321,718		\$4,412,297		1,921,516	\$2,497,971		\$0		\$19,670,648				
Miscellaneous																												
Reclaim unnecessary roads																												
205	1	1	1			Reclaim unnecessary roads	6,000	m2	C.2.18	0.002	13.0	\$ 0.11	\$ 635	\$ -	\$ -	\$ 0.10	\$ 574	\$ 0.09	393	\$ 510	\$ -	\$ -	\$ 0.29	\$1,719	\$2,373			
205	1	1	2			Seed/Fertilize, helicopter low application rate	6,000	m2	C.5.02	0.000	0.8	\$ 0.01	\$ 34	\$ 0.05	\$ 273	\$ 0.05	\$ 324	\$ 0.00	18	\$ 24	\$ -	\$ -	\$ 0.11	\$654				
Subtotal Direct Costs - Miscellaneous										14			\$668		\$273		\$897		411	\$534		\$0		\$2,373				
Subtotal Direct Costs										657,829			\$28,874,037		\$20,104,789		\$52,675,545		21,947,624	\$28,531,911		\$61,751		\$130,248,033				
CONTINGENCY AND ALLOWANCES																												
Contingency																												
						Contingency	1	ls												\$130,248,033	x	20.0%		\$26,049,607	\$26,049,607			
Allowance: Construction delays from differential settlement/erosion of Tailings																												
202	1	1	1	600		Cost of mobilization/demobilization	1	ls	C.7.02	7726.488	7726.5	\$ 309,520.73	\$ 309,521	\$ -	\$ -	\$ 38,260.11	\$ 38,260	\$ 27,544.93	21,188	\$ 27,545	\$ -	\$ -	\$ 375,325.78	\$375,326	\$375,326			
Allowance: Reconstruction of Rose Creek																												
203	1	1	1	600		Access roads	500	m	C.2.28	0.133	66.3	\$ 6.19	\$ 3,097	\$ -	\$ -	\$ 11.39	\$ 5,693	\$ 5.33	2,048	\$ 2,663	\$ -	\$ -	\$ 22.91	\$11,453				
203	1	2	1	610		Construct cofferdam	500	m2	C.2.17	0.318	159.1	\$ 13.87	\$ 6,935	\$ -	\$ -	\$ 20.20	\$ 10,099	\$ 8.86	3,409	\$ 4,432	\$ -	\$ -	\$ 42.93	\$21,466				
203	1	2	2	610		Install main cofferdam	1600	m3	R.115	0.034	54.5	\$ 1.54	\$ 2,468	\$ -	\$ -	\$ 3.30	\$ 5,277	\$ 1.31	1,616	\$ 2,100	\$ -	\$ -	\$ 6.15	\$9,845				
203	1	2	3	610		Seepage collection ditch and berm	2000	m3	R.115	0.034	68.1	\$ 1.54	\$ 3,085	\$ -	\$ -	\$ 3.30	\$ 6,597	\$ 1.31	2,019	\$ 2,625	\$ -	\$ -	\$ 6.15	\$12,307				
203	1	2	4	610		Supply and operate pumps for removing seepage	14	days	C.3.12	2.410	33.7	\$ 117.24	\$ 1,641	\$ -	\$ -	\$ 148.80	\$ 2,063	\$ 40.72	459	\$ 570	\$ -	\$ -	\$ 306.76	\$4,296				
203	1	3	1	610		Channel construction	2100	m3	C.2.12	0.024	49.4	\$ 1.06	\$ 2,217	\$ -	\$ -	\$ 2.36	\$ 4,951	\$ 0.93	1,506	\$ 1,958	\$ -	\$ -	\$ 3.35	\$8,126				
203	1	3	2	610		Over excavation for placement of floodplain erosion protection	1800	m3	C.2.12	0.024	42.4	\$ 1.06	\$ 1,901	\$ -	\$ -	\$ 2.36	\$ 4,244	\$ 0.93	1,291	\$ 1,678	\$ -	\$ -	\$ 4.35	\$7,823				
203	1	3	3	610		Excavation for residual structure erosion protection	1300	m3	C.2.12	0.024	30.6	\$ 1.06	\$ 1,373	\$ -	\$ -	\$ 2.36	\$ 3,065	\$ 0.93	932	\$ 1,212	\$ -	\$ -	\$ 4.35	\$5,650				
203	1	4	1	610		Place rip-rap	2600	m3	C.2.24	0.040	104.0	\$ 1.74	\$ 4,517	\$ 17.72	\$ 40,872	\$ 1.92	\$ 4,987	\$ 1.02	2,035	\$ 2,645	\$ -	\$ -	\$ 20.39	\$53,020				
203	1	4	2	610		Rip-rap (angular, high quality): Screen and stockpile	2600	m3	C.2.26	0.071	185.7	\$ 3.50	\$ 9,101	\$ -	\$ -	\$ 9.58	\$ 24,902	\$ 6.45	12,907	\$ 16,780	\$ -	\$ -	\$ 19.53	\$50,782				
203	1	4	3	610		Rip-rap: Load, haul, dump	2600	m3	R.102	0.032	83.2	\$ 1.44	\$ 3,734	\$ -	\$ -	\$ 3.32	\$ 8,318	\$ 1.24	2,475	\$ 3,218	\$ -	\$ -	\$ 5.87	\$15,270				
203	1	4	4	610		Rip-rap: Place and secure	2600	m3	C.2.27	0.013	32.5	\$ 0.61	\$ 1,581	\$ -	\$ -	\$ 0.90	\$ 2,335	\$ 0.47	938	\$ 1,219	\$ -	\$ -	\$ 1.98	\$5,136				
203	1	5	1	610		Gravel: Screen and stockpile	500	m3	C.2.02	0.015	7.5	\$ 0.74	\$ 369	\$ -	\$ -	\$ 1.68	\$ 838	\$ 1.13	454	\$ 565	\$ -	\$ -	\$ 3.54	\$1,772				
203	1	5	2	610		Gravel: Load, haul, dump and place	500	m3	R.116	0.039	19.3	\$ 1.75	\$ 874	\$ -	\$ -	\$ 3.74	\$ 1,868	\$										

Rose Creek Valley Tailings - Revised Complete Relocation Option

Work Area Code	Item	Task	Sub-task	Estimate Type	Task	Activity	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
CLOSURE COSTS - DIRECT CAPITAL																											
Dams																											
Cross Valley Dam																											
201	1	1	1	600	Remove pond	Pump pond water to discharge	140	days	C.3.12	2,410	337.3	\$ 117.24	\$ 16,413	\$ -	\$ -	\$ 148.80	\$ 20,831	\$ 40.72	4,386	\$ 5,701	\$ -	\$ -	\$ 306.76	\$42,946	\$1,733,399		
201	1	2	1	430	Excavate, load, haul and place contaminated soils to mill area	Excavate, load, haul and place contaminated soils to mill area	322,650	m3	R.096	0.014	4360.1	\$ 0.61	\$ 198,404	\$ -	\$ -	\$ 2.00	\$ 645,722	\$ 1.22	302,786	\$ 5,701	\$ -	\$ -	\$ 306.76	\$1,237,748			
201	1	3	1	430	Prepare spoil area	Clear and grub	1,000	m2	C.2.05	0.015	14.5	\$ 0.67	\$ 671	\$ -	\$ -	\$ 1.08	\$ 1,084	\$ 0.61	470	\$ 611	\$ -	\$ -	\$ 2.37	\$2,366			
201	1	3	2	430	Prepare access roads	Prepare access roads	200	m	C.2.28	0.133	26.5	\$ 6.19	\$ 1,239	\$ -	\$ -	\$ 11.39	\$ 2,277	\$ 5.33	470	\$ 1,065	\$ -	\$ -	\$ 22.91	\$4,581			
201	1	4	1	430	Breach dam	Excavate, load, haul and dump at pit	72,500	m3	R.095	0.020	1469.6	\$ 0.92	\$ 66,564	\$ -	\$ -	\$ 2.97	\$ 215,109	\$ 1.81	100,671	\$ 130,872	\$ -	\$ -	\$ 5.69	\$412,545			
201	1	5	1	610	Revegetate dam footprint and impoundment	Seed/Fertilize, helicopter high application rate	214,983	m2	C.5.01	0.000	26.9	\$ 0.01	\$ 1,210	\$ 0.09	\$ 19,546	\$ 0.05	\$ 11,598	\$ 0.00	660	\$ 859	\$ -	\$ -	\$ 0.15	\$33,213			
Breach Intermediate Dam																											
201	2	1	1	430	Prepare spoil area	Clear and grub	1000	m2	C.2.05	0.015	14.5	\$ 0.67	\$ 671	\$ -	\$ -	\$ 1.08	\$ 1,084	\$ 0.61	470	\$ 611	\$ -	\$ -	\$ 2.37	\$2,366	\$570,698		
201	2	1	2	430	Prepare access roads	Prepare access roads	300	m	C.2.28	0.133	39.8	\$ 6.19	\$ 1,858	\$ -	\$ -	\$ 11.39	\$ 3,416	\$ 5.33	1,229	\$ 1,598	\$ -	\$ -	\$ 22.91	\$6,872			
201	2	2	1	430	Breach dam	Excavate, load, haul and dump breach material	72,500	m3	C.2.12	0.024	1705.9	\$ 1.06	\$ 76,550	\$ -	\$ -	\$ 2.36	\$ 170,923	\$ 0.93	52,003	\$ 67,604	\$ -	\$ -	\$ 4.35	\$315,076			
201	2	3	1	430	Create channel	Excavate channel	5,200	m3	C.2.12	0.024	122.4	\$ 1.06	\$ 5,490	\$ -	\$ -	\$ 2.36	\$ 12,259	\$ 0.93	3,730	\$ 4,849	\$ -	\$ -	\$ 4.35	\$22,599			
201	2	3	2	510		Supply and place geotextile	1,300	m2	C.4.06	0.016	20.8	\$ 0.62	\$ 801	\$ 3.50	\$ 4,550	\$ 0.22	\$ 289	\$ 0.15	148	\$ 192	\$ -	\$ -	\$ 4.49	\$5,832			
201	2	3	3	430		Bedding layer: Screen and stockpile	500	m3	C.2.02	0.015	7.5	\$ 0.74	\$ 369	\$ -	\$ -	\$ 1.68	\$ 838	\$ 1.13	434	\$ 565	\$ -	\$ -	\$ 3.54	\$1,772			
201	2	3	4	430		Bedding layer: Load, haul, dump and place	500	m3	R.099	0.029	14.6	\$ 1.32	\$ 659	\$ -	\$ -	\$ 2.82	\$ 1,410	\$ 1.12	432	\$ 561	\$ -	\$ -	\$ 5.26	\$2,631			
201	2	3	5	430		Rip-rap: Drill, blast and stockpile	4,600	m3	C.2.24	0.040	184.0	\$ 1.74	\$ 7,991	\$ 15.72	\$ 72,312	\$ 1.92	\$ 8,822	\$ 1.02	3,600	\$ 4,680	\$ -	\$ -	\$ 20.39	\$93,805			
201	2	3	6	430		Rip-rap (angular, high quality): Screen and stockpile	4,600	m3	C.2.26	0.071	328.6	\$ 3.50	\$ 16,101	\$ -	\$ -	\$ 9.58	\$ 44,057	\$ 6.45	22,836	\$ 29,687	\$ -	\$ -	\$ 19.53	\$89,845			
201	2	3	7	430		Rip-rap: Load, haul, dump	4,600	m3	R.100	0.023	103.5	\$ 1.02	\$ 4,688	\$ -	\$ -	\$ 2.30	\$ 10,591	\$ 0.94	3,343	\$ 4,346	\$ -	\$ -	\$ 4.27	\$19,625			
201	2	3	8	430		Rip-rap: Place and secure	4,600	m3	C.2.27	0.013	57.5	\$ 0.61	\$ 2,798	\$ -	\$ -	\$ 0.90	\$ 4,131	\$ 0.47	1,660	\$ 2,157	\$ -	\$ -	\$ 1.98	\$9,086			
201	2	4	1	610	Revegetate disturbed areas	Seed/Fertilize, helicopter high application rate	7700	m2	C.5.01	0.000	1.0	\$ 0.01	\$ 43	\$ 0.09	\$ 700	\$ 0.05	\$ 415	\$ 0.00	24	\$ 31	\$ -	\$ -	\$ 0.15	\$1,190	\$583,292		
201	3	1	1	430	Prepare spoil area	Clear and grub	1000	m2	C.2.05	0.015	14.5	\$ 0.67	\$ 671	\$ -	\$ -	\$ 1.08	\$ 1,084	\$ 0.61	470	\$ 611	\$ -	\$ -	\$ 2.37	\$2,366			
201	3	1	2	430	Prepare access roads	Prepare access roads	500	m	C.2.28	0.133	66.3	\$ 6.19	\$ 3,097	\$ -	\$ -	\$ 11.39	\$ 5,693	\$ 5.33	2,048	\$ 2,663	\$ -	\$ -	\$ 22.91	\$11,453			
201	3	2	1	430	Breach dam	Excavate, load, haul and dump breach material	72,500	m3	C.2.12	0.024	1705.9	\$ 1.06	\$ 76,550	\$ -	\$ -	\$ 2.36	\$ 170,923	\$ 0.93	52,003	\$ 67,604	\$ -	\$ -	\$ 4.35	\$315,076			
201	3	3	1	430	Create channel	Excavate channel	5,200	m3	C.2.12	0.024	122.4	\$ 1.06	\$ 5,490	\$ -	\$ -	\$ 2.36	\$ 12,259	\$ 0.93	3,730	\$ 4,849	\$ -	\$ -	\$ 4.35	\$22,599			
201	3	3	2	520		Supply and place geotextile	1,300	m2	C.4.06	0.016	20.8	\$ 0.62	\$ 801	\$ 3.50	\$ 4,550	\$ 0.22	\$ 289	\$ 0.15	148	\$ 192	\$ -	\$ -	\$ 4.49	\$5,832			
201	3	3	3	430		Bedding layer: Screen and stockpile	500	m3	C.2.02	0.015	7.5	\$ 0.74	\$ 369	\$ -	\$ -	\$ 1.68	\$ 838	\$ 1.13	434	\$ 565	\$ -	\$ -	\$ 3.54	\$1,772			
201	3	3	4	430		Bedding layer: Load, haul, dump and place	500	m3	R.101	0.036	18.0	\$ 1.63	\$ 815	\$ -	\$ -	\$ 3.49	\$ 1,743	\$ 1.39	534	\$ 694	\$ -	\$ -	\$ 6.51	\$3,253			
201	3	3	5	430		Rip-rap: Drill, blast and stockpile	4,600	m3	C.2.24	0.040	184.0	\$ 1.74	\$ 7,991	\$ 15.72	\$ 72,312	\$ 1.92	\$ 8,822	\$ 1.02	3,600	\$ 4,680	\$ -	\$ -	\$ 20.39	\$93,805			
201	3	3	6	430		Rip-rap (angular, high quality): Screen and stockpile	4,600	m3	C.2.26	0.071	328.6	\$ 3.50	\$ 16,101	\$ -	\$ -	\$ 9.58	\$ 44,057	\$ 6.45	22,836	\$ 29,687	\$ -	\$ -	\$ 19.53	\$89,845			
201	3	3	7	430		Rip-rap: Load, haul, dump	4,600	m3	R.102	0.032	147.2	\$ 1.44	\$ 6,805	\$ -	\$ -	\$ 3.28	\$ 14,717	\$ 1.24	4,027	\$ 5,035	\$ -	\$ -	\$ 8.67	\$27,016			
201	3	3	8	430		Rip-rap: Place and secure	4,600	m3	C.2.27	0.013	57.5	\$ 0.61	\$ 2,798	\$ -	\$ -	\$ 0.90	\$ 4,131	\$ 0.47	1,660	\$ 2,157	\$ -	\$ -	\$ 1.98	\$9,086			
201	3	4	1	610	Revegetate disturbed areas	Seed/Fertilize, helicopter high application rate	7700	m2	C.5.01	0.000	1.0	\$ 0.01	\$ 43	\$ 0.09	\$ 700	\$ 0.05	\$ 415	\$ 0.00	24	\$ 31	\$ -	\$ -	\$ 0.15	\$1,190	\$587,154		
201	3	1	1	430	Prepare spoil area	Clear and grub	1000	m2	C.2.05	0.015	14.5	\$ 0.67	\$ 671	\$ -	\$ -	\$ 1.08	\$ 1,084	\$ 0.61	470	\$ 611	\$ -	\$ -	\$ 2.37	\$2,366			
201	3	1	2	430	Prepare access roads	Prepare access roads	540	m	C.2.28	0.133	71.6	\$ 6.19	\$ 3,345	\$ -	\$ -	\$ 11.39	\$ 6,148	\$ 5.33	2,212	\$ 2,876	\$ -	\$ -	\$ 22.91	\$12,369			
201	3	2	1	430	Breach dam	Excavate, load, haul and dump breach material	72,500	m3	C.2.12	0.024	1705.9	\$ 1.06	\$ 76,550	\$ -	\$ -	\$ 2.36	\$ 170,923	\$ 0.93	52,003	\$ 67,604	\$ -	\$ -	\$ 4.35	\$315,076			
201	3	3	1	430	Create channel	Excavate channel	5,200	m3	C.2.12	0.024	122.4	\$ 1.06	\$ 5,490	\$ -	\$ -	\$ 2.36	\$ 12,259	\$ 0.93	3,730	\$ 4,849	\$ -	\$ -	\$ 4.35	\$22,599			
201	3	3	2	520		Supply and place geotextile	1,300	m2	C.4.06	0.016	20.8	\$ 0.62	\$ 801	\$ 3.50	\$ 4,550	\$ 0.22	\$ 289	\$ 0.15	148	\$ 192	\$ -	\$ -	\$ 4.49	\$5,832			
201	3	3	3	430		Bedding layer: Screen and stockpile	500	m3	C.2.02	0.015	7.5	\$ 0.74	\$ 369	\$ -	\$ -	\$ 1.68	\$ 838	\$ 1.13	434	\$ 565	\$ -	\$ -	\$ 3.54	\$1,772			
201	3	3	4	430		Bedding layer: Load, haul, dump and place	500	m3	R.103	0.029	14.6	\$ 1.32	\$ 659	\$ -	\$ -	\$ 2.82	\$ 1,410	\$ 1.12	432	\$ 561	\$ -	\$ -	\$ 5.26	\$2,631			
201	3	3	5	430		Rip-rap: Drill, blast and stockpile	4,600	m3	C.2.24	0.040	184.0	\$ 1.74	\$ 7,991	\$ 15.72	\$ 72,312	\$ 1.92	\$ 8,822	\$ 1.02	3,600	\$ 4,680	\$ -	\$ -	\$ 20.39	\$93,805			
201	3	3	6	430		Rip-rap (angular, high quality): Screen and stockpile	4,600	m3	C.2.26	0.071	328.6	\$ 3.50	\$ 16,101	\$ -	\$ -	\$ 9.58	\$ 44,057	\$ 6.45	22,836	\$ 29,687	\$ -	\$ -	\$ 19.53	\$89,845			
201	3	3	7	430		Rip-rap: Load, haul, dump	4,600	m3	R.104	0.036	166.6	\$ 1.63	\$ 7,478	\$ -	\$ -	\$ 3.62	\$ 16,661	\$ 1.40	4,957	\$ 6,445	\$ -	\$ -	\$ 6.65	\$30,584			
201	3	3	8	430		Rip-rap: Place and secure	4,600	m3	C.2.27	0.013	57.5	\$ 0.61	\$ 2,798	\$ -	\$ -	\$ 0.90	\$ 4,131	\$ 0.47	1,660	\$ 2,157	\$ -	\$ -	\$ 1.98	\$9,086			
201	3	4	1	610	Revegetate disturbed areas	Seed/Fertilize, helicopter high application rate	7700	m2	C.5.01	0.000	1.0	\$ 0.01	\$ 43	\$ 0.09	\$ 700	\$ 0.05	\$ 415	\$ 0.00	24	\$ 31	\$ -	\$ -	\$ 0.15	\$1,190	\$3,474,542		
Subtotal Direct Costs - Dams																											
										14,203		\$646,150		\$252,233		\$1,686,867		684,071	\$889,293	\$0			\$3,474,542				
Tailings																											
Pump Tailings to Faro Pit																											
202	1	1	1	510	Hydraulic monitoring system	Pumps: Supply and install Vertical Turbine Pump	3	ea.	C.7.15	106.000	318.0	\$ 4,313.84	\$ 12,942	\$ 100,000.00	\$ 300,000	\$ 958.33	\$ 2,875	\$ 572.00	1,320	\$ 1,716	\$ -	\$ -	\$ 105,844.17	\$317,533	\$226,616,453		
202	1	1	2	510		Pipelines: Primary pipeline 24" sched. 20 steel	3,500	m	C.7.09	1.622	5677.8	\$ 66.54	\$ 232,903	\$ 237.06	\$ 829,710	\$ 4.13	\$ 14,455	\$ 2.41	6,475	\$ 8,418	\$ -	\$ -	\$ 310.14	\$1,085,486	1CD003.041		
202	1	1	3	510		Pipelines: Secondary pipeline 16" sched. 20 steel	2,000	m	C.7.07	0.782	1563																

Work Area Code	Item	Task	Sub-Task	Estimate Type	Task	Activity	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Mat	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
Groundwater																											
Adaptive Management Phase 1																											
204	1	1	1	500	Install extraction wells	Construct Access Roads	1168	m	C.2.28	0.133	154.8	\$ 6.19	\$ 7,235	\$ -	\$ -	\$ 11.39	\$ 13,299	\$ 5.33	4,785	\$ 6,221	\$ -	\$ -	\$ 22.91	\$26,755	\$2,342,131		
204	1	1	2	500	Drill wells (Air Rotary Drill Rig, ~10m depth)	Drill wells (Air Rotary Drill Rig, ~10m depth)	260	m	C.2.09	2.000	520.0	\$ 88.48	\$ 23,004	\$ -	\$ -	\$ 19.61	\$ 5,100	\$ 14.65	2,929	\$ 3,808	\$ -	\$ -	\$ 22.91	\$31,912			
204	1	1	3	500	Install 6" stainless steel well casing & screen	Install 6" stainless steel well casing & screen	260	m	C.3.18	0.150	39.0	\$ 6.64	\$ 1,725	\$ 232.60	\$ 60,476	\$ 1.47	\$ 382	\$ 1.10	220	\$ 286	\$ -	\$ -	\$ 241.81	\$62,869			
204	1	1	4	500	Install 6" Submersible Pump with controls	Install 6" Submersible Pump with controls	13	ea.	C.3.08	12.000	156.0	\$ 475.42	\$ 6,180	\$ 6,842.00	\$ 88,946	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 7,317.42	\$95,126			
204	1	1	5	500	Install protective housing (shack)	Install protective housing (shack)	13	ea.	C.3.14	20.000	260.0	\$ 792.36	\$ 10,301	\$ 445.00	\$ 5,785	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 1,237.36	\$16,086			
204	1	2	1	430	Excavate piping trench	Excavate piping trench	41,730	m3	C.2.13	0.020	834.6	\$ 0.97	\$ 40,607	\$ -	\$ -	\$ 1.44	\$ 59,959	\$ 0.75	24,088	\$ 31,314	\$ -	\$ -	\$ 3.16	\$131,880			
204	1	2	2	510	Supply and install insulated 150mm HDPE pipe	Supply and install insulated 150mm HDPE pipe	6,955	m	C.3.03	0.250	1738.8	\$ 8.78	\$ 61,030	\$ 155.84	\$ 1,083,867	\$ 0.44	\$ 3,054	\$ 0.49	2,637	\$ 3,428	\$ -	\$ -	\$ 165.55	\$1,151,379			
204	1	2	3	430	Bedding layer: Produce, screen and stockpile	Bedding layer: Produce, screen and stockpile	2,712	m3	C.2.02	0.015	40.7	\$ 0.74	\$ 2,003	\$ -	\$ -	\$ 1.68	\$ 4,544	\$ 1.13	2,356	\$ 3,063	\$ -	\$ -	\$ 3.54	\$9,613			
204	1	2	4	430	Bedding Layer: Load, haul, place and compact	Bedding Layer: Load, haul, place and compact	2,712	m3	R.103	0.029	79.0	\$ 1.32	\$ 3,577	\$ -	\$ -	\$ 2.82	\$ 7,650	\$ 1.12	2,342	\$ 3,044	\$ -	\$ -	\$ 5.26	\$14,271			
204	1	2	5	430	Backfill and compact ditches	Backfill and compact ditches	39,018	m3	C.2.01	0.030	1170.5	\$ 1.19	\$ 46,374	\$ -	\$ -	\$ 0.77	\$ 30,039	\$ 0.39	11,768	\$ 15,299	\$ -	\$ -	\$ 2.35	\$91,712			
204	1	2	6	510	Heat Trace: Supply and install heat trace in HDPE pipe	Heat Trace: Supply and install heat trace in HDPE pipe	6,955	m	C.3.05	0.167	1159.2	\$ 6.98	\$ 48,542	\$ 21.32	\$ 148,281	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 28.30	\$196,823			
204	1	2	7	510	Heat Trace: Supply/Install heat tracing power feed kit	Heat Trace: Supply/Install heat tracing power feed kit	260	ea.	C.3.06	4.000	1040.0	\$ 167.51	\$ 43,552	\$ 396.84	\$ 103,178	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 564.35	\$146,730			
204	1	3	1	510	Supply and install heat trace in HDPE pipe	Supply and install heat trace in HDPE pipe	6,955	m	C.3.05	0.167	1159.2	\$ 6.98	\$ 48,542	\$ 21.32	\$ 148,281	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 28.30	\$196,823			
204	1	3	2	510	Supply/Install heat tracing power feed kit	Supply/Install heat tracing power feed kit	4	ea.	C.3.06	4.000	16.0	\$ 167.51	\$ 670	\$ 396.84	\$ 1,587	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 564.35	\$2,237			
204	1	3	3	510	Supply/Install electrical thermostat for heat tracing	Supply/Install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	41.88	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067			
204	1	4	1	430	Excavate sump for manholes	Excavate sump for manholes	533	m3	C.2.11	0.013	7.1	\$ 0.65	\$ 346	\$ -	\$ -	\$ 0.96	\$ 511	\$ 0.50	205	\$ 267	\$ -	\$ -	\$ 2.11	\$1,123			
204	1	4	2	500	Supply and place precast concrete manhole	Supply and place precast concrete manhole	1	ea.	C.3.09	12.000	12.0	\$ 475.42	\$ 475	\$ 336.17	\$ 336	\$ 126.31	\$ 126	\$ 62.92	48	\$ 63	\$ -	\$ -	\$ 1,000.81	\$1,001			
204	1	4	3	430	Backfill and compact around manhole	Backfill and compact around manhole	533	m3	C.2.01	0.030	16.0	\$ 1.19	\$ 633	\$ -	\$ -	\$ 0.77	\$ 410	\$ 0.39	161	\$ 209	\$ -	\$ -	\$ 2.35	\$1,253			
204	1	4	4	500	Install primary pump	Install primary pump	1	ea.	C.3.11	8.000	8.0	\$ 335.02	\$ 335	\$ 1,829.00	\$ 1,829	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 2,164.02	\$2,164			
204	1	5	1	500	Supply/Install treated power poles	Supply/Install treated power poles	26	ea.	C.4.03	4.545	118.2	\$ 213.52	\$ 5,551	\$ 325.96	\$ 8,475	\$ 90.53	\$ 2,354	\$ 28.17	563	\$ 732	\$ -	\$ -	\$ 658.17	\$1,113			
204	1	5	2	500	Supply/Install overhead conductor	Supply/Install overhead conductor	1,955	m	C.4.02	0.032	62.6	\$ 1.52	\$ 2,965	\$ 1.41	\$ 2,757	\$ 0.48	\$ 934	\$ 0.15	224	\$ 291	\$ -	\$ -	\$ 3.55	\$6,947			
204	1	5	3	500	Supply/Install transformers	Supply/Install transformers	10	ea.	C.4.04	20.000	200.0	\$ 973.08	\$ 9,731	\$ 8,934.00	\$ 89,340	\$ 239.58	\$ 2,396	\$ 143.00	1,100	\$ 1,430	\$ -	\$ -	\$ 10,289.66	\$102,897			
204	1	6	1	500	Drill wells (Air Rotary Drill Rig, ~10m depth)	Drill wells (Air Rotary Drill Rig, ~10m depth)	90	m	C.2.09	2.000	180.0	\$ 88.48	\$ 7,963	\$ -	\$ -	\$ 19.61	\$ 1,765	\$ 14.65	1,014	\$ 1,318	\$ -	\$ -	\$ 122.74	\$11,046			
204	1	6	2	500	Install 6" stainless steel well casing & screen	Install 6" stainless steel well casing & screen	90	m	C.3.18	0.150	13.5	\$ 6.64	\$ 597	\$ 232.60	\$ 20,934	\$ 1.47	\$ 132	\$ 1.10	76	\$ 99	\$ -	\$ -	\$ 241.81	\$21,762			
204	1	6	3	500	Install protective well cover	Install protective well cover	6	ea.	C.3.19	1.333	8.0	\$ 54.88	\$ 329	\$ 164.54	\$ 987	\$ 19.61	\$ 118	\$ 14.65	68	\$ 88	\$ -	\$ -	\$ 253.68	\$1,522			
Adaptive Management Phase 2																											
204	2	1	1	500	Install extraction wells	Construct Access Roads	584	m	C.2.28	0.133	77.4	\$ 6.19	\$ 3,618	\$ -	\$ -	\$ 11.39	\$ 6,649	\$ 5.33	2,393	\$ 3,110	\$ -	\$ -	\$ 22.91	\$13,377		\$738,446	
204	2	1	2	500	Drill wells (Air Rotary Drill Rig, ~10m depth)	Drill wells (Air Rotary Drill Rig, ~10m depth)	60	m	C.2.09	2.000	120.0	\$ 88.48	\$ 5,309	\$ -	\$ -	\$ 19.61	\$ 1,177	\$ 14.65	676	\$ 879	\$ -	\$ -	\$ 22.91	\$7,364			
204	2	1	3	500	Install 6" stainless steel well casing & screen	Install 6" stainless steel well casing & screen	60	m	C.3.18	0.150	9.0	\$ 6.64	\$ 398	\$ 232.60	\$ 13,956	\$ 1.47	\$ 88	\$ 1.10	51	\$ 66	\$ -	\$ -	\$ 241.81	\$14,508			
204	2	1	4	500	Install 6" Submersible Pump with controls	Install 6" Submersible Pump with controls	6	ea.	C.3.08	12.000	72.0	\$ 475.42	\$ 2,852	\$ 6,842.00	\$ 41,052	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 7,317.42	\$43,904			
204	2	1	5	500	Install protective housing (shack)	Install protective housing (shack)	6	ea.	C.3.14	20.000	120.0	\$ 792.36	\$ 4,754	\$ 445.00	\$ 2,670	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 1,237.36	\$7,424			
204	2	2	1	430	Excavate piping trench	Excavate piping trench	14,400	m3	C.2.13	0.020	288.0	\$ 0.97	\$ 14,012	\$ -	\$ -	\$ 1.44	\$ 20,690	\$ 0.75	8,312	\$ 10,806	\$ -	\$ -	\$ 3.16	\$45,509			
204	2	2	2	510	Supply and install insulated 150mm HDPE pipe	Supply and install insulated 150mm HDPE pipe	2,400	m	C.3.03	0.250	600.0	\$ 8.78	\$ 21,600	\$ 155.84	\$ 374,016	\$ 0.44	\$ 1,054	\$ 0.49	910	\$ 1,183	\$ -	\$ -	\$ 165.55	\$397,313			
204	2	2	3	430	Bedding layer: Produce, screen and stockpile	Bedding layer: Produce, screen and stockpile	936	m3	C.2.02	0.015	14.0	\$ 0.74	\$ 691	\$ -	\$ -	\$ 1.68	\$ 1,569	\$ 1.13	813	\$ 1,057	\$ -	\$ -	\$ 3.54	\$3,317			
204	2	2	4	430	Bedding Layer: Load, haul, place and compact	Bedding Layer: Load, haul, place and compact	936	m3	R.103	0.029	27.3	\$ 1.32	\$ 1,234	\$ -	\$ -	\$ 2.82	\$ 2,640	\$ 1.12	808	\$ 1,051	\$ -	\$ -	\$ 5.26	\$4,925			
204	2	2	5	430	Backfill and compact ditches	Backfill and compact ditches	13,464	m3	C.2.01	0.030	403.9	\$ 1.19	\$ 16,003	\$ -	\$ -	\$ 0.77	\$ 10,366	\$ 0.39	4,061	\$ 5,279	\$ -	\$ -	\$ 2.35	\$31,647			
204	2	2	6	510	Heat Trace: Supply and install heat trace in HDPE pipe	Heat Trace: Supply and install heat trace in HDPE pipe	2,400	m	C.3.05	0.167	400.0	\$ 6.98	\$ 16,751	\$ 21.32	\$ 51,168	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 28.30	\$67,919			
204	2	2	7	510	Heat Trace: Supply/Install heat tracing power feed kit	Heat Trace: Supply/Install heat tracing power feed kit	60	ea.	C.3.06	4.000	240.0	\$ 167.51	\$ 10,050	\$ 396.84	\$ 23,810	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 564.35	\$33,861			
204	2	3	1	500	Supply/Install treated power poles	Supply/Install treated power poles	13	ea.	C.4.03	4.545	59.1	\$ 213.52	\$ 2,776	\$ 325.96	\$ 4,237	\$ 90.53	\$ 1,177	\$ 28.17	282	\$ 366	\$ -	\$ -	\$ 658.17	\$8,556			
204	2	3	2	500	Supply/Install overhead conductor	Supply/Install overhead conductor	978	m	C.4.02	0.032	31.3	\$ 1.52	\$ 1,482	\$ 1.41	\$ 1,378	\$ 0.48	\$ 467	\$ 0.15	112	\$ 145	\$ -	\$ -	\$ 3.55	\$3,473			
204	2	3	3	500	Supply/Install transformers	Supply/Install transformers	5	ea.	C.4.04	20.000	100.0	\$ 973.08	\$ 4,865	\$ 8,934.00	\$ 44,670	\$ 239.58	\$ 1,198	\$ 143.00	550	\$ 715	\$ -	\$ -	\$ 10,289.66	\$51,448			
204	2	4	1	500	Drill wells (Air Rotary Drill Rig, ~10m depth)	Drill wells (Air Rotary Drill Rig, ~10m depth)	10	m	C.2.09	2.000	20.0	\$ 88.48	\$ 885	\$ -	\$ -	\$ 19.61	\$ 196	\$ 14.65	113	\$ 146	\$ -	\$ -	\$ 122.74	\$1,227			
204	2	4	2	500	Install 6" stainless steel well casing & screen	Install 6" stainless steel well casing & screen	10	m	C.3.18	0.150	1.5	\$ 6.64	\$ 66	\$ 232.60	\$ 2,326	\$ 1.47	\$ 15	\$ 1.10	8	\$ 11	\$ -	\$ -	\$ 241.81	\$2,418			
204	2	4	3	500	Install protective well cover	Install protective well cover	1	ea.	C.3.19	1.333	1.3	\$ 54.88	\$ 55	\$ 164.54	\$ 165	\$ 19.61	\$ 20	\$ 14.65	11	\$ 15	\$ -	\$ -	\$ 253.68	\$254			
Adaptive Management Phase 3																											
204	3	1	1	500	Install extraction wells	Construct Access Roads	234	m	C.2.28	0.133	31.0	\$ 6.19	\$ 1,447	\$ -	\$ -	\$ 11.39	\$ 2,660	\$ 5.33	957	\$ 1,244	\$ -	\$ -	\$ 22.91	\$5,351	\$364,013		
204	3	1	2	500	Drill wells (Air Rotary Drill Rig, ~10m depth)	Drill wells (Air Rotary Drill Rig, ~10m depth)	30	m	C.2.09	2.000	60.0	\$ 88.48	\$ 2,654	\$ -	\$ -	\$ 19.61	\$ 588	\$ 14.65	338	\$ 439	\$ -	\$ -	\$ 122.74	\$3,682			
204	3	1	3	500	Install 6" stainless steel well casing & screen	Install 6" stainless steel well casing & screen	30	m	C.3.18	0.150	4.5	\$ 6.64	\$ 199	\$ 232.60	\$ 6,978	\$ 1.47	\$ 44	\$ 1.10	25	\$ 33	\$ -	\$ -	\$ 241.81	\$7,254			
204	3	1	4	500	Install 6" Submersible Pump with controls	Install 6" Submersible Pump with controls	3	ea.	C.3.08</																		

Rose Creek Valley Tailings - Revised Partial Relocation Option

Work Area Code	Item	Task	Sub-task	Estimate Type	Task	Activity	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Mat	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
CLOSURE COSTS - DIRECT CAPITAL																											
Dams																											
Cross Valley Dam																											
201	1	1	1	600	Remove pond	Pump pond water to discharge	140	days	C.3.12	2.410	337.3	\$ 117.24	\$ 16,413	\$ -	\$ -	\$ 148.80	\$ 20,831	\$ 40.72	4,386	\$ 5,701	\$ -	\$ -	\$ 306.76	\$42,946	\$1,733,399		
201	1	3	1	430	Remove contaminated soil	Excavate, load, haul and place contaminated soils to mill area	322,650	m3	R.096	0.014	4360.1	\$ 0.61	\$ 198,404	\$ -	\$ -	\$ 2.00	\$ 645,722	\$ 1.22	302,786	\$ 393,622	\$ -	\$ -	\$ 3.84	\$1,237,748			
201	1	4	1	430	Prepare spoil area	Clear and grub	1,000	m2	C.2.05	0.015	14.5	\$ 0.67	\$ 671	\$ -	\$ -	\$ 1.08	\$ 1,084	\$ 0.61	470	\$ 611	\$ -	\$ -	\$ 2.37	\$2,366			
201	1	4	2	430		Prepare access roads	200	m	C.2.28	0.133	26.5	\$ 6.19	\$ 1,239	\$ -	\$ -	\$ 11.39	\$ 2,277	\$ 5.33	819	\$ 1,065	\$ -	\$ -	\$ 22.91	\$4,581			
201	1	5	1	430	Breach Dam	Excavate, load, haul and dump at pit	72,500	m3	R.095	0.020	1469.6	\$ 0.92	\$ 66,564	\$ -	\$ -	\$ 2.97	\$ 215,109	\$ 1.81	100,671	\$ 130,872	\$ -	\$ -	\$ 5.69	\$412,545			
201	1	7	1	610	Revegetate dam footprint and impoundment	Seed/Fertilize, helicopter high application rate	214,983	m2	C.5.01	0.000	26.9	\$ 0.01	\$ 1,210	\$ 0.09	\$ 19,546	\$ 0.05	\$ 11,598	\$ 0.00	660	\$ 859	\$ -	\$ -	\$ 0.15	\$33,213			
Breach Intermediate Dam																											
201	2	1	1	430	Prepare spoil area	Clear and grub	1000	m2	C.2.05	0.015	14.5	\$ 0.67	\$ 671	\$ -	\$ -	\$ 1.08	\$ 1,084	\$ 0.61	470	\$ 611	\$ -	\$ -	\$ 2.37	\$2,366			
201	2	1	2	430	Prepare access roads	Prepare access roads	300	m	C.2.28	0.133	39.8	\$ 6.19	\$ 1,858	\$ -	\$ -	\$ 11.39	\$ 3,416	\$ 5.33	1,229	\$ 1,598	\$ -	\$ -	\$ 22.91	\$6,872			
201	2	2	1	430	Breach dam	Excavate, load, haul and dump breach material	72,500	m3	C.2.12	0.024	1705.9	\$ 1.06	\$ 76,550	\$ -	\$ -	\$ 2.36	\$ 170,223	\$ 0.93	52,003	\$ 67,604	\$ -	\$ -	\$ 4.35	\$315,076			
201	2	3	1	430	Create channel	Create channel	5,200	m3	C.2.12	0.024	122.4	\$ 1.06	\$ 5,490	\$ -	\$ -	\$ 2.36	\$ 12,259	\$ 0.93	3,730	\$ 4,849	\$ -	\$ -	\$ 4.35	\$22,599			
201	2	3	2	510		Supply and place geotextile	1,300	m2	C.4.06	0.018	20.8	\$ 0.62	\$ 801	\$ 3.50	\$ 4,550	\$ 0.22	\$ 289	\$ 0.15	148	\$ 192	\$ -	\$ -	\$ 4.49	\$5,832			
201	2	3	3	430		Bedding layer: Screen and stockpile	500	m3	C.2.02	0.015	7.5	\$ 0.74	\$ 369	\$ -	\$ -	\$ 1.68	\$ 41,560	\$ 1.13	21,434	\$ 28,665	\$ -	\$ -	\$ 3.54	\$11,772			
201	2	3	4	430		Bedding layer: Load, haul, dump and place	500	m3	R.099	0.029	14.6	\$ 1.32	\$ 659	\$ -	\$ -	\$ 2.82	\$ 1,410	\$ 1.12	432	\$ 561	\$ -	\$ -	\$ 5.26	\$2,631			
201	2	3	5	430		Rip-rap: Drill, blast and stockpile	4,600	m3	C.2.24	0.040	184.0	\$ 1.74	\$ 7,991	\$ 15.72	\$ 72,312	\$ 1.92	\$ 8,822	\$ 1.02	3,600	\$ 4,680	\$ -	\$ -	\$ 20.39	\$93,805			
201	2	3	6	430		Rip-rap (angular, high quality): Screen and stockpile	4,600	m3	C.2.26	0.071	328.6	\$ 3.50	\$ 16,101	\$ -	\$ -	\$ 9.58	\$ 44,057	\$ 6.45	22,836	\$ 29,687	\$ -	\$ -	\$ 19.53	\$89,845			
201	2	3	7	430		Rip-rap: Load, haul, dump	4,600	m3	R.100	0.023	103.5	\$ 1.02	\$ 4,688	\$ -	\$ -	\$ 2.30	\$ 10,591	\$ 0.94	3,343	\$ 4,346	\$ -	\$ -	\$ 4.27	\$19,625			
201	2	3	8	430		Rip-rap: Place and secure	4,600	m3	C.2.27	0.013	57.5	\$ 0.61	\$ 2,798	\$ -	\$ -	\$ 0.90	\$ 4,131	\$ 0.47	1,660	\$ 2,157	\$ -	\$ -	\$ 1.98	\$9,086			
201	2	4	1	610	Revegetate disturbed areas	Seed/Fertilize, helicopter high application rate	7700	m2	C.5.01	0.000	1.0	\$ 0.01	\$ 43	\$ 0.09	\$ 700	\$ 0.05	\$ 415	\$ 0.00	24	\$ 31	\$ -	\$ -	\$ 0.15	\$1,190			
Secondary Dam																											
201	3	1	1	430	Ground densification (East Limb)	Gravel: supply and stockpile locally	2,339	m3	C.2.02	0.015	35.1	\$ 0.74	\$ 1,727	\$ -	\$ -	\$ 1.68	\$ 3,920	\$ 1.13	2,032	\$ 2,641	\$ -	\$ -	\$ 3.54	\$8,289			
201	3	1	2	430		Gravel: load, haul, place	2,339	m3	R.098	0.023	53.0	\$ 1.02	\$ 2,386	\$ -	\$ -	\$ 2.29	\$ 5,349	\$ 0.91	1,634	\$ 2,124	\$ -	\$ -	\$ 4.22	\$9,859			
201	3	1	3	610		Drill vibro-replacement stone columns	26,800	m3	C.9.01	0.267	7146.7	\$ 12.19	\$ 326,617	\$ -	\$ -	\$ 6.90	\$ 184,891	\$ 4.37	90,117	\$ 117,152	\$ -	\$ -	\$ 23.46	\$628,660			
201	3	1	4	510		Verification testing	1	ls	C.9.02	530.639	530.6	\$ 22,820.44	\$ 12,220	\$ -	\$ -	\$ 3,681.58	\$ 3,682	\$ 2,959.37	0	\$ -	\$ -	\$ -	\$ 29,461.39	\$29,461			
201	3	2	1	430	Ground densification (West Limb)	Construct Workpad	88,075	m3	C.2.12	0.024	371.9	\$ 1.06	\$ 92,995	\$ -	\$ -	\$ 2.36	\$ 207,641	\$ 0.93	63,175	\$ 82,127	\$ -	\$ -	\$ 4.35	\$382,764			
201	3	2	2	430		Gravel: supply and stockpile locally	24,796	m3	C.2.02	0.015	37.1	\$ 0.74	\$ 18,319	\$ -	\$ -	\$ 1.68	\$ 41,560	\$ 1.13	21,542	\$ 28,665	\$ -	\$ -	\$ 3.54	\$87,878			
201	3	2	3	430		Gravel: load, haul, place	24,796	m3	R.101	0.036	892.7	\$ 1.63	\$ 40,432	\$ -	\$ -	\$ 3.49	\$ 86,459	\$ 1.39	26,468	\$ 34,408	\$ -	\$ -	\$ 6.51	\$161,299			
201	3	2	4	510		Drill vibro-replacement stone columns	284,144	m3	C.9.01	0.267	75771.6	\$ 12.19	\$ 3,462,914	\$ -	\$ -	\$ 6.90	\$ 1,960,286	\$ 4.37	955,451	\$ 1,242,086	\$ -	\$ -	\$ 23.46	\$6,665,286			
201	3	2	5	600		Verification testing	1	ls	C.9.02	530.639	530.6	\$ 22,820.44	\$ 12,220	\$ -	\$ -	\$ 3,681.58	\$ 3,682	\$ 2,959.37	0	\$ -	\$ -	\$ -	\$ 29,461.39	\$29,461			
Subtotal Direct Costs - Dams																											
										96,239		\$4,393,546		\$97,108		\$3,652,327		1,664,671		\$2,164,072		\$0		\$10,307,054			
Tailings																											
Pump Intermediate Tailings to Faro Pit																											
202	1	1	1	510	Hydraulic monitoring system	Pumps: Supply and install Vertical Turbine Pump	3	ea.	C.7.15	106.000	318.0	\$ 4,313.84	\$ 12,942	\$ 100,000.00	\$ 300,000	\$ 958.33	\$ 2,875	\$ 572.00	1,320	\$ 1,716	\$ -	\$ -	\$ 105,844.17	\$317,533	\$96,532,572		
202	1	1	2	510		Pipelines: Primary pipeline 24" sched. 20 steel	3,500	m	C.7.09	1.622	5677.8	\$ 66.54	\$ 232,903	\$ 237.06	\$ 829,710	\$ 4.13	\$ 14,455	\$ 2.41	6,475	\$ 8,418	\$ -	\$ -	\$ 310.14	\$1,085,486			
202	1	1	3	510		Pipelines: Secondary pipeline 16" sched. 20 steel	2,000	m	C.7.07	0.782	1563.6	\$ 32.83	\$ 65,670	\$ 153.28	\$ 306,560	\$ 3.38	\$ 6,758	\$ 1.97	3,027	\$ 3,935	\$ -	\$ -	\$ 191.46	\$382,924			
202	1	1	4	510		Pipelines: Tertiary pipeline 8" sched. 20 steel	2,000	m	C.7.06	0.373	746.7	\$ 16.16	\$ 32,311	\$ 66.95	\$ 133,900	\$ 2.48	\$ 4,956	\$ 1.44	2,220	\$ 2,886	\$ -	\$ -	\$ 87.03	\$174,053			
202	1	1	5	510		Hydraulic monitors: Supply and install	9	ea.	C.7.03	65.000	585.0	\$ 2,883.69	\$ 25,953	\$ 139,444.22	\$ 1,254,998	\$ 108.63	\$ 978	\$ 118.30	819	\$ 1,065	\$ -	\$ -	\$ 142,554.84	\$1,282,994			
202	1	1	6	510		Mobile equipment: Purchase	1	ls	M.30	0.000	0.0	\$ -	\$ -	\$ 1,020,000.00	\$ 1,020,000	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 1,020,000.00	\$1,020,000			
202	1	2	1	510	Slurry pumping system	Sump Pump: Supply and install	4	ea.	C.7.14	21.200	84.8	\$ 862.77	\$ 3,451	\$ 75,000.00	\$ 300,000	\$ 11.19	\$ 45	\$ 11.83	36	\$ 47	\$ -	\$ -	\$ 75,885.79	\$303,543			
202	1	2	2	510		Sump Pump: Supply and install support structure	1	ea.	C.7.16	87.943	87.9	\$ 3,506.11	\$ 3,506	\$ 95,000.00	\$ 95,000	\$ 1,367.50	\$ 1,367	\$ 741.61	570	\$ 742	\$ -	\$ -	\$ 100,615.22	\$100,615			
202	1	2	3	510		Slurry booster pumps: supply and install	4	ea.	C.7.13	106.000	424.0	\$ 4,313.84	\$ 17,255	\$ 175,000.00	\$ 700,000	\$ 55.94	\$ 224	\$ 59.15	182	\$ 237	\$ -	\$ -	\$ 179,428.94	\$717,716			
202	1	2	4	510		Pump station: supply and install	1	ea.	C.7.17	81.769	81.8	\$ 3,403.46	\$ 3,403	\$ 200,000.00	\$ 200,000	\$ 1,153.19	\$ 1,153	\$ 663.33	510	\$ 663	\$ -	\$ -	\$ 205,219.99	\$205,220			
202	1	2	5	510		Trash screen and support: supply and install	1	ea.	C.7.22	188.679	188.7	\$ 7,645.58	\$ 7,646	\$ 500,000.00	\$ 500,000	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 507,645.58	\$507,646			
202	1	2	6	510		Booster pump box and support: Supply and install	1	ea.	C.7.01	73.122	73.1	\$ 3,062.14	\$ 3,062	\$ 75,000.00	\$ 75,000	\$ 876	\$ 876	\$ 457.26	352	\$ 457	\$ -	\$ -	\$ 79,394.94	\$79,395			
202	1	2	7	510		Gland water pumps: supply and install	3	ea.	C.7.12	106.000	318.0	\$ 4,313.84	\$ 12,942	\$ 6,000.00	\$ 18,000	\$ 55.94	\$ 168	\$ 59.15	137	\$ 177	\$ -	\$ -	\$ 10,428.94	\$31,287			
202	1	2	8	510		Sump pump pipeline: Supply and install 300mm HDPE	6,000	m	C.7.10	0.330	1980.0	\$ 13.19	\$ 79,163	\$ 140.75	\$ 844,500	\$ 0.28	\$ 1,678	\$ 0.30	1,365	\$ 1,775	\$ -	\$ -	\$ 154.52	\$927,116			
202	1	2	9	510		Booster pump pipeline: Supply and install 550mm standard wall steel	500	m	C.7.08	1.700	850.0	\$ 68.78	\$ 34,390	\$ 463.00	\$ 231,500	\$ 4.65	\$ 2,323	\$ 2.71	1,041	\$ 1,353	\$ -	\$ -	\$ 539.13	\$269,566			
202	1	2	10	510		Booster pump pipeline: Supply and install 650mm SDR9 HDPE	2,500	m	C.7.11	1.622	4055.6	\$ 66.54	\$ 166,359	\$ 697.20	\$ 1,743,000	\$ 7.64	\$ 19,097	\$ 4.15	7,986	\$ 10,382	\$ -	\$ -	\$ 775.54	\$1,938,838			
202	1	3	1	600	Lime addition system	Procure and																					

Work Area Code	Item	Task	Sub-task	Estimate Type	Task	Activity	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labour Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
203	3	3	6	430	Revegetate disturbed areas	Rip-rap (angular, high quality): Screen and stockpile	1,962	m3	C.2.26	0.071	140.1	\$ 3.50	\$ 6,867	-	-	\$ 9.58	\$ 18,791	\$ 6.45	9,740	\$ 12,662	-	-	\$ 19.53	\$38,321	\$12,593,528		
203	3	3	7	430		Load Haul and Dump Rip-Rap	1,962	m3	R.085	0.032	63.4	\$ 1.46	\$ 2,856	-	-	\$ 3.26	\$ 6,401	\$ 1.30	1,955	\$ 2,541	-	-	\$ 6.01	\$11,799			
203	3	3	8	430		Place and secure Rip-Rap	1,962	m3	C.2.27	0.013	24.5	\$ 0.61	\$ 1,193	-	-	\$ 0.90	\$ 1,762	\$ 0.47	708	\$ 920	-	-	\$ 1.98	\$3,875			
203	3	4	1	610		Seed/Fertilize, helicopter high application rate	3270	m2	C.5.02	0.000	0.4	\$ 0.01	\$ 18	\$ 0.05	\$ 149	\$ 0.05	\$ 176	\$ 0.00	10	\$ 13	-	-	\$ 0.11	\$357			
Subtotal Direct Costs - Rose Creek											63,495		\$2,874,166		\$118,343		\$6,405,493		2,458,097		\$3,195,526		\$0				
Groundwater																											
Secondary Dam Cut-off Wall																											
204	1	1	1	430	Construct Access	Regrade working area surface	5,000	m3	C.2.21	0.013	62.5	\$ 0.61	\$ 3,041	-	-	\$ 2.33	\$ 11,665	\$ 1.25	4,810	\$ 6,253	-	-	\$ 4.19	\$20,959	\$18,816,531		
204	1	2	1	600	Cut-off wall	Install cut-off wall (all-inclusive)	40,000	m2	C.2.08	1.800	72000.0	\$ 83.20	\$ 3,328,128	\$ 216.00	\$ 8,640,000	\$ 108.55	\$ 4,342,005	\$ 62.14	1,911,877	\$ 2,485,440	-	-	\$ 469.89	\$18,795,573			
Secondary Dam Interception Trench																											
204	2	1	1	430	Excavate Trench	Excavate Trench (spoil locally)	43,200	m3	C.2.12	0.024	1016.5	\$ 1.06	\$ 45,613	-	-	\$ 2.36	\$ 101,846	\$ 0.93	30,987	\$ 40,283	-	-	\$ 4.35	\$187,742	\$733,420		
204	2	2	1	430	Install Piping	Supply and install perforated 450mm HDPE pipe	900	m2	C.3.04	0.300	270.0	\$ 10.53	\$ 9,477	\$ 140.75	\$ 126,675	\$ 0.53	\$ 474	\$ 0.59	410	\$ 532	-	-	\$ 152.40	\$137,159			
204	2	3	1	430	Backfill Trench	Gravel: Screen and stockpile	2,700	m3	C.2.02	0.015	40.5	\$ 0.74	\$ 1,994	-	-	\$ 1.68	\$ 4,525	\$ 1.13	2,346	\$ 3,049	-	-	\$ 3.54	\$9,569			
204	2	3	2	430		Gravel: Load, haul, dump and place	2,700	m3	R.101	0.036	97.2	\$ 1.63	\$ 4,403	-	-	\$ 3.49	\$ 9,414	\$ 1.39	2,882	\$ 3,747	-	-	\$ 6.51	\$17,564			
204	2	3	3	430		Coarse Rock: Screen and stockpile	40,500	m3	C.2.02	0.015	607.5	\$ 0.74	\$ 29,911	-	-	\$ 1.68	\$ 67,881	\$ 1.13	35,185	\$ 45,741	-	-	\$ 3.54	\$143,533			
204	2	3	4	430		Coarse Rock: Load, haul, dump, place	40,500	m3	R.102	0.032	1296.0	\$ 1.44	\$ 58,157	-	-	\$ 3.20	\$ 129,576	\$ 1.24	38,555	\$ 50,121	-	-	\$ 5.87	\$237,854			
Adaptive Management Phase 1																											
204	3	1	1	500	Install extraction wells	Construct Access Roads	1168	m	C.2.28	0.133	154.8	\$ 6.19	\$ 7,235	-	-	\$ 11.39	\$ 13,299	\$ 5.33	4,785	\$ 6,221	-	-	\$ 22.91	\$26,755	\$1,957,618		
204	3	1	2	500		Drill wells (Air Rotary Drill Rig, ~10m depth)	120	m	C.2.09	2.000	240.0	\$ 88.48	\$ 10,617	-	-	\$ 19.61	\$ 2,354	\$ 14.65	1,352	\$ 1,758	-	-	\$ 122.74	\$14,728			
204	3	1	3	500		Install 6" stainless steel well casing & screen	120	m	C.3.18	0.150	18.0	\$ 6.64	\$ 796	\$ 232.60	\$ 27,912	\$ 1.47	\$ 177	\$ 1.10	101	\$ 132	-	-	\$ 241.81	\$29,017			
204	3	1	4	500		Install 6" Submersible Pump with controls	6	ea.	C.3.08	12.000	72.0	\$ 475.42	\$ 2,852	\$ 6,842.00	\$ 41,052	-	-	-	0	\$ -	-	-	\$ 7,317.42	\$43,904			
204	3	1	5	500		Install protective housing (shack)	6	ea.	C.3.14	20.000	120.0	\$ 792.36	\$ 4,754	\$ 445.00	\$ 2,670	-	-	-	0	\$ -	-	-	\$ 1,237.36	\$7,424			
204	3	2	1	430	Install piping to Faro Pit	Excavate piping trench	37,200	m3	C.2.13	0.020	744.0	\$ 0.97	\$ 36,199	-	-	\$ 1.44	\$ 53,450	\$ 0.75	21,473	\$ 27,915	-	-	\$ 3.16	\$117,564			
204	3	2	2	510		Supply and install insulated 150mm HDPE pipe	6,200	m	C.3.03	0.250	1550.0	\$ 8.78	\$ 54,405	\$ 155.84	\$ 966,208	\$ 0.44	\$ 2,722	\$ 0.49	2,351	\$ 3,056	-	-	\$ 165.55	\$1,026,391			
204	3	2	3	430		Bedding layer: Produce, screen and stockpile	2,418	m3	C.2.02	0.015	36.3	\$ 0.74	\$ 1,786	-	-	\$ 1.68	\$ 4,053	\$ 1.13	2,101	\$ 2,731	-	-	\$ 3.54	\$8,569			
204	3	2	4	430		Bedding Layer: Load, haul, place and compact	2,418	m3	R.103	0.029	70.4	\$ 1.32	\$ 3,189	-	-	\$ 2.82	\$ 6,819	\$ 1.12	2,088	\$ 2,714	-	-	\$ 5.26	\$12,722			
204	3	2	5	430		Backfill and compact ditches	34,782	m3	C.2.01	0.030	1043.5	\$ 1.19	\$ 41,340	-	-	\$ 0.77	\$ 26,778	\$ 0.39	10,491	\$ 13,638	-	-	\$ 2.35	\$81,756			
204	3	2	6	510		Heat Trace: Supply and install heat trace in HDPE pipe	6,200	m	C.3.05	0.167	1033.3	\$ 6.98	\$ 43,273	\$ 21.32	\$ 132,184	-	-	-	0	\$ -	-	-	\$ 28.30	\$175,457			
204	3	2	7	510		Heat Trace: Supply/Install heat tracing power feed kit	120	ea.	C.3.06	4.000	480.0	\$ 167.51	\$ 20,101	\$ 396.84	\$ 47,621	-	-	-	0	\$ -	-	-	\$ 564.35	\$67,722			
204	3	3	1	510	Heat tracing	Supply and install heat trace in HDPE pipe	6,200	m	C.3.05	0.167	1033.3	\$ 6.98	\$ 43,273	\$ 21.32	\$ 132,184	-	-	-	0	\$ -	-	-	\$ 28.30	\$175,457			
204	3	3	2	510		Supply/Install heat tracing power feed kit	4	ea.	C.3.06	4.000	16.0	\$ 167.51	\$ 670	\$ 396.84	\$ 1,587	-	-	-	0	\$ -	-	-	\$ 564.35	\$2,257			
204	3	3	3	510		Supply/Install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	42.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	-	-	-	0	\$ -	-	-	\$ 1,066.88	\$1,087			
204	3	4	1	430	Pumping station	Excavate sump for manholes	533	m3	C.2.11	0.013	7.1	\$ 0.65	\$ 346	-	-	\$ 0.96	\$ 511	\$ 0.50	205	\$ 267	-	-	\$ 2.11	\$1,123			
204	3	4	2	500		Supply and place precast concrete manhole	1	ea.	C.3.09	12.000	12.0	\$ 475.42	\$ 475	\$ 336.17	\$ 336	\$ 126.31	\$ 126	\$ 62.92	48	\$ 63	-	-	\$ 1,000.81	\$1,001			
204	3	4	3	430		Backfill and compact around manhole	533	m3	C.2.01	0.030	16.0	\$ 1.19	\$ 633	-	-	\$ 0.77	\$ 410	\$ 0.39	161	\$ 209	-	-	\$ 2.35	\$1,253			
204	3	4	4	500		Install primary pump	1	ea.	C.3.11	8.000	8.0	\$ 335.02	\$ 335	\$ 1,829.00	\$ 1,829	-	-	-	0	\$ -	-	-	\$ 2,164.02	\$2,164			
204	3	5	1	500	Provide Electricity from WTP to pumps	Supply/Install treated power poles	26	ea.	C.4.03	4.545	118.2	\$ 213.52	\$ 5,551	\$ 325.96	\$ 8,475	\$ 90.53	\$ 2,354	\$ 28.17	563	\$ 732	-	-	\$ 658.17	\$17,113			
204	3	5	2	500		Supply/Install overhead conductor	1,955	m	C.4.02	0.032	62.6	\$ 1.52	\$ 2,965	\$ 1.41	\$ 2,757	\$ 0.48	\$ 934	\$ 0.15	224	\$ 291	-	-	\$ 3.55	\$6,947			
204	3	5	3	500		Supply/Install transformers	10	ea.	C.4.04	20.000	200.0	\$ 973.08	\$ 9,731	\$ 8,934.00	\$ 89,340	\$ 239.58	\$ 2,396	\$ 143.00	1,100	\$ 1,430	-	-	\$ 10,289.66	\$102,897			
204	3	6	1	500	Monitoring wells	Drill wells (Air Rotary Drill Rig, ~10m depth)	90	m	C.2.09	2.000	180.0	\$ 88.48	\$ 7,963	-	-	\$ 19.61	\$ 1,765	\$ 14.65	1,014	\$ 1,318	-	-	\$ 122.74	\$11,046			
204	3	6	2	500		Install 6" stainless steel well casing & screen	90	m	C.3.18	0.150	13.5	\$ 6.64	\$ 597	\$ 232.60	\$ 20,934	\$ 1.47	\$ 132	\$ 1.10	76	\$ 99	-	-	\$ 241.81	\$21,762			
204	3	6	3	500		Install protective well cover	6	ea.	C.3.19	1.333	8.0	\$ 54.88	\$ 329	\$ 164.54	\$ 987	\$ 19.61	\$ 118	\$ 14.65	68	\$ 88	-	-	\$ 253.68	\$1,522			
Adaptive Management Phase 2																											
204	4	1	1	500	Install shallow extraction wells	Construct Access Roads	584	m	C.2.28	0.133	77.4	\$ 6.19	\$ 3,618	-	-	\$ 11.39	\$ 6,649	\$ 5.33	2,393	\$ 3,110	-	-	\$ 22.91	\$13,377	\$409,600		
204	4	1	2	500		Drill wells (Air Rotary Drill Rig, ~10m depth)	30	m	C.2.09	2.000	60.0	\$ 88.48	\$ 2,654	-	-	\$ 19.61	\$ 588	\$ 14.65	338	\$ 439	-	-	\$ 122.74	\$3,682			
204	4	1	3	500		Install 6" stainless steel well casing & screen	30	m	C.3.18	0.150	4.5	\$ 6.64	\$ 199	\$ 232.60	\$ 6,978	\$ 1.47	\$ 29	\$ 1.10	25	\$ 33	-	-	\$ 241.81	\$7,254			
204	4	1	4	500		Install 6" Submersible Pump with controls	3	ea.	C.3.08	12.000	36.0	\$ 475.42	\$ 1,426	\$ 6,842.00	\$ 20,526	-	-	-	0	\$ -	-	-	\$ 7,317.42	\$21,952			
204	4	1	5	500		Install protective housing (shack)	3	ea.	C.3.14	20.000	60.0	\$ 792.36	\$ 2,377	\$ 445.00	\$ 1,335	-	-	-	0	\$ -	-	-	\$ 1,237.36	\$3,712			
204	4	2	1	430	Install piping to Phase 1 piping	Excavate piping trench	7,200	m3	C.2.13	0.020	144.0	\$ 0.97	\$ 7,006	-	-	\$ 1.44	\$ 10,345	\$ 0.75	4,156	\$ 5,403	-	-	\$ 3.16	\$22,754			
204	4	2	2	510		Supply and install insulated 150mm HDPE pipe	1,200	m	C.3.03	0.250	300.0	\$ 8.78	\$ 10,530	\$ 155.84	\$ 187,008	\$ 0.44	\$ 527	\$ 0.49	455	\$ 592	-	-	\$ 165.55	\$198,656			
204	4	2	3	430		Bedding layer: Produce, screen and stockpile	468	m3	C.2.02	0.015	7.0	\$ 0.74	\$ 346	-	-	\$ 1.68	\$ 784	\$ 1.13	407	\$ 529	-	-	\$ 3.54	\$1,659			
204	4	2	4	430		Bedding Layer: Load, haul, place and compact	468	m3	R.103	0.029	13.6	\$ 1.32	\$ 617	-	-	\$ 2.82	\$ 1,320	\$ 1.12	404	\$ 525	-	-	\$ 5.26	\$2,462			
204	4	2	5	430		Backfill and compact ditches	6,732	m3	C.2.01	0.030	202.0	\$ 1.19	\$ 8,001	-	-	\$ 0.77	\$ 5,183	\$ 0.39	2,030	\$ 2,640	-	-	\$ 2.35	\$15,824			
204	4	2	6	510		Heat Trace: Supply and install heat trace in HDPE pipe	1,200	m</																			

Vangorda/Grum Mine Area - Revised Stabilize in Place Option (Min. Covers)

Work Area Code	Item	Task	Sub-task	Estimate Type	Activity	Task	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Mat	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
CLOSURE COSTS - DIRECT CAPITAL																											
Vangorda Pit																											
Water Treatment																											
301	1	1	1	430	Construct Water Treatment Plant	Water treatment costed separately	1	ls	-	0.000	0.0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$0	\$312,928	
301	1	2	1	430	Construct pipeline to and from Treatment Plant	Excavate piping trench	7,950	Bm3	C.2.13	0.020	159.0	\$ 0.97	\$ 7,736	\$ -	\$ -	\$ 1.44	\$ 11,423	\$ 0.75	4,589	\$ 5,966	\$ -	\$ -	\$ 3.16	\$25,124			
301	1	2	2	500		Supply and place pump	1	ea.	C.3.11	8.000	8.0	\$ 335.02	\$ 335	\$ 1,829.00	\$ -	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 2,164.02	\$2,164			
301	1	2	3	500		Build and install housing for primary pump	1	ea.	C.3.13	30.000	30.0	\$ 1,188.54	\$ 1,189	\$ 1,730.00	\$ -	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 2,918.54	\$2,919			
301	1	2	4	510		Supply and install insulated 150mm HDPE pipe	1,325	m	C.3.03	0.250	331.3	\$ 8.78	\$ 1,162.7	\$ 155.84	\$ 206,488	\$ 0.44	\$ 582	\$ 0.49	502	\$ 653	\$ -	\$ -	\$ 165.55	\$219,350			
301	1	2	5	430		Bedding layer: Produce, screen and stockpile	517	Bm3	C.2.02	0.015	7.8	\$ 0.74	\$ 382	\$ -	\$ -	\$ -	\$ 1.68	\$ 866	\$ 1.13	449	\$ 584	\$ -	\$ -	\$ 3.54	\$1,831		
301	1	2	6	430		Bedding layer: Load, haul, place and compact	517	Bm3	R.045	0.037	18.9	\$ 1.62	\$ 839	\$ -	\$ -	\$ -	\$ 3.22	\$ 1,661	\$ 1.28	508	\$ 661	\$ -	\$ -	\$ 6.12	\$3,161		
301	1	2	7	430		Backfill ditches	7,950	Bm3	C.2.01	0.030	238.5	\$ 1.19	\$ 9,449	\$ -	\$ -	\$ 0.77	\$ 6,121	\$ 0.39	2,398	\$ 3,117	\$ -	\$ -	\$ 2.35	\$18,087			
301	1	3	1	510		Supply and install heat trace in HDPE pipe	1,325	m	C.3.05	0.167	220.8	\$ 6.98	\$ 9,248	\$ 21.32	\$ 28,249	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.30	\$37,497			
301	1	3	2	510		Supply/Install heat tracing power feed kit	2	ea.	C.3.06	4.000	8.0	\$ 167.51	\$ 335	\$ 396.84	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 564.35	\$1,129			
301	1	3	3	510		Supply/Install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	1.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067			
Safety Berm																											
301	2	1	1	430	Construct access road	Clear access road area	4,350	m	C.2.05	0.015	63.3	\$ 0.67	\$ 2,919	\$ -	\$ -	\$ 1.08	\$ 4,716	\$ 0.61	2,044	\$ 2,657	\$ -	\$ -	\$ 2.37	\$ 10,292			
301	2	1	2	430		Construct access road	1,450	m	C.2.28	0.133	192.1	\$ 6.19	\$ 8,982	\$ -	\$ -	\$ 11.39	\$ 16,510	\$ 5.33	5,940	\$ 7,722	\$ -	\$ -	\$ 22.91	\$ 33,214			
301	2	2	1	430	Place berm materials	Load, haul, dump berm material	15,000	Lm3	R.007	0.056	840.0	\$ 2.51	\$ 37,694	\$ -	\$ -	\$ 2.40	\$ 35,955	\$ 1.53	17,608	\$ 22,890	\$ -	\$ -	\$ 6.44	\$ 96,539			
301	2	2	2	430		Final Shaping of material with dozer	3,000	m	C.2.03	0.020	60.0	\$ 0.97	\$ 2,919	\$ -	\$ -	\$ 3.73	\$ 11,199	\$ 2.00	4,617	\$ 6,002	\$ -	\$ -	\$ 6.71	\$ 20,120			
Vangorda Pit Waste Rock Piles																											
301	3	1	1	430	Regrade	Flattened surfaces	13	hrs	C.2.23	1.000	13.0	\$ 48.65	\$ 633	\$ -	\$ -	\$ 190.62	\$ 2,479	\$ 149.18	1,492	\$ 1,940	\$ -	\$ -	\$ 388.46	\$ 5,051		30.96336901	
301	3	1	2	430		Flatten bubble dump surfaces	10	hrs	C.2.23	1.000	9.6	\$ 48.65	\$ 469	\$ -	\$ -	\$ 190.62	\$ 1,837	\$ 149.18	1,106	\$ 1,438	\$ -	\$ -	\$ 388.46	\$ 3,743			
301	3	1	3	430		Regrade Slopes	28	hrs	C.2.23	1.000	27.7	\$ 48.65	\$ 1,348	\$ -	\$ -	\$ 190.62	\$ 5,280	\$ 149.18	3,179	\$ 4,132	\$ -	\$ -	\$ 388.46	\$ 10,761			
301	3	2	1	430	Place "Low" Infiltration Cover	Load, haul, place compacted till (0.5m)	32,412	Bm3	R.009	0.014	453.8	\$ 0.62	\$ 20,219	\$ -	\$ -	\$ 1.90	\$ 61,519	\$ 1.17	29,204	\$ 37,965	\$ -	\$ -	\$ 3.69	\$ 119,702			
301	3	2	2	430		Load, haul, place loose till (1.5m)	97,235	Bm3	R.008	0.012	1166.8	\$ 0.55	\$ 53,830	\$ -	\$ -	\$ 1.84	\$ 178,835	\$ 1.13	84,325	\$ 109,622	\$ -	\$ -	\$ 3.52	\$ 342,287			
301	3	3	1	610	Revegetate	Seed/Fertilize, helicopter high application rate	118,825	m2	C.5.01	0.000	14.9	\$ 0.01	\$ 669	\$ 0.09	\$ 10,804	\$ 0.05	\$ 6,410	\$ 0.00	365	\$ 475	\$ -	\$ -	\$ 0.15	\$ 18,357			
Subtotal Direct Costs - Vangorda Pit											3,864		\$170,862		\$250,918		\$345,393		158,326	\$205,824	\$0		\$ 972,996				
Vangorda Dump																											
Reslope Dump																											
302	1	1	1	430	Regrade (shape to enhance runoff to ditches)	Flattened surfaces	40	hrs	C.2.23	1.000	39.6	\$ 48.65	\$ 1,927	\$ -	\$ -	\$ 190.62	\$ 7,548	\$ 149.18	4,544	\$ 5,907	\$ -	\$ -	\$ 388.46	\$ 15,382		73.95384859	
302	1	1	2	430		Flatten bubble dump surfaces	102	hrs	C.2.23	1.000	102.0	\$ 48.65	\$ 4,960	\$ -	\$ -	\$ 190.62	\$ 19,434	\$ 149.18	11,699	\$ 15,209	\$ -	\$ -	\$ 388.46	\$ 39,604			
302	1	1	3	430		Regrade slopes	598	hrs	C.2.23	1.000	598.0	\$ 48.65	\$ 29,095	\$ -	\$ -	\$ 190.62	\$ 113,989	\$ 149.18	68,621	\$ 89,208	\$ -	\$ -	\$ 388.46	\$ 232,291			
Waste Rock Cover																											
302	2	1	1	430	Place "Low" Infiltration Cover	Load, haul, place compacted till (0.5m)	320,063	Bm3	R.010	0.019	5974.5	\$ 0.83	\$ 264,519	\$ -	\$ -	\$ 2.51	\$ 804,633	\$ 1.54	378,439	\$ 491,970	\$ -	\$ -	\$ 4.88	\$ 1,561,122		256.05	
302	2	1	2	430		Load, haul, place loose till (1.5m)	960,188	Bm3	R.011	0.017	16131.2	\$ 0.76	\$ 730,644	\$ -	\$ -	\$ 2.46	\$ 2,361,165	\$ 1.50	1,105,025	\$ 1,436,533	\$ -	\$ -	\$ 4.72	\$ 4,528,342			
Rock Drains																											
302	3	1	1	430	Install rock drains (runoff management)	Excavate channel for rock drains	1,313	Bm3	C.2.13	0.020	26.3	\$ 0.97	\$ 1,277	\$ -	\$ -	\$ 1.44	\$ 1,886	\$ 0.75	758	\$ 985	\$ -	\$ -	\$ 3.16	\$ 4,148			
302	3	1	2	430		Construct access road	977	Bm3	C.2.24	0.040	39.1	\$ 1.74	\$ 1,696	\$ 15.72	\$ 15,351	\$ 1.92	\$ 1,873	\$ 1.02	764	\$ 993	\$ -	\$ -	\$ 20.39	\$19,913			
302	3	1	3	430		Rip-rap (rounded, low quality): Screen and stockpile	977	Bm3	C.2.25	0.050	48.8	\$ 2.45	\$ 2,393	\$ -	\$ -	\$ 6.70	\$ 6,547	\$ 4.52	3,393	\$ 4,411	\$ -	\$ -	\$ 13.67	\$13,351			
302	3	1	4	430		Rip-Rap: Load, haul, dump to Vangorda Stockpile Area	977	Bm3	R.012	0.041	39.9	\$ 1.83	\$ 1,790	\$ -	\$ -	\$ 4.08	\$ 3,988	\$ 1.58	1,187	\$ 1,543	\$ -	\$ -	\$ 7.50	\$7,321			
302	3	1	5	430		Rip-Rap: Place and secure	977	Bm3	C.2.27	0.013	12.2	\$ 0.61	\$ 594	\$ -	\$ -	\$ 0.90	\$ 877	\$ 0.47	352	\$ 458	\$ -	\$ -	\$ 1.98	\$1,929			
Sediment Control Ditches																											
302	4	1	1	430	Vangorda dump sediment control ditch	Load, haul and dump locally	390	Bm3	C.2.10	0.032	12.5	\$ 1.44	\$ 560	\$ -	\$ -	\$ 3.21	\$ 1,250	\$ 1.27	380	\$ 495	\$ -	\$ -	\$ 5.91	\$ 2,305			
Revegetate																											
302	5	1	1	610	Revegetate dump footprint	Seed/Fertilize, helicopter high application rate	504,150	m2	C.5.01	0.000	63.0	\$ 0.01	\$ 2,838	\$ 0.09	\$ 45,837	\$ 0.05	\$ 27,198	\$ 0.00	1,549	\$ 2,014	\$ -	\$ -	\$ 0.15	\$ 77,886			
Subtotal Direct Costs - Vangorda Dump											23,087		\$1,042,292		\$61,188		\$3,350,388		1,576,712	\$2,049,726	\$0		\$ 6,503,594				
Vangorda Creek																											
Relocate North of Pit																											
303	1	1	1	430	Excavate channel	Rock Excavation: drill, blast, muck, load, haul and dump	19,346	Bm3	C.2.15	0.173	3353.3	\$ 7.30	\$ 141,213	\$ -	\$ -	\$ 7.61	\$ 147,241	\$ 3.38	50,302	\$ 65,392	\$ -	\$ -	\$ 18.29	\$ 353,846		1CD003.15_Vangorda Creek Diversion Channel designed to 1.500 yr event (Design flow 31m ³ /s)	
303	1	1	2	430		Soil Excavation: Excavate, haul, dump	78,061	Bm3	C.2.10	0.032	2498.0	\$ 1.44	\$ 112,094	\$ -	\$ -	\$ 3.21	\$ 250,286	\$ 1.27	76,149	\$ 98,994	\$ -	\$ -	\$ 5.91	\$ 461,374			
303	1	2	1	430	Place fill material	Placed from soil layer above; compact by hand	968	m2	C.2.06	0.016	15.5	\$ 0.56	\$ 543	\$ -	\$ -	\$ 0.04	\$ 40	\$ 0.01	10	\$ 13	\$ -	\$ -	\$ 0.62	\$ 596			
303	1	3	1	430	Place bedding layer	Bedding: Produce and stockpile locally	3,194	Bm3	C.2.02	0.015	47.9	\$ 0.74	\$ 2,359	\$ -	\$ -	\$ 1.68	\$ 5,354	\$ 1.13	2,775	\$ 3,607	\$ -	\$ -	\$ 3.54	\$ 11,320			
303	1	3	2	430		Bedding layer: Load, haul, place and compact	3,194	Bm3	R.016	0.031	97.6	\$ 1.35	\$ 4,321	\$ -	\$ -	\$ 2.68	\$ 8,558	\$ 1.07	2,617	\$ 3,402	\$ -	\$ -	\$ 5.10	\$ 16,281			
303	1	4	1	430	Place rip-rap	Rip-Rap: Drill, blast and stockpile	9,694	Bm3	C.2.24	0.040	387.8	\$ 1.74	\$ 16,840	\$ 15.72	\$ 152,389	\$ 1.92	\$ 18,592	\$ 1.02	7,586	\$ 9,862	\$ -	\$ -	\$ 20.39	\$197,683			
303	1	4	2	430		Rip-rap (angular, high quality): Screen and stockpile	9,694	Bm3	C.2.26	0.071	692.4	\$ 3.50	\$ 33,931	\$ -	\$ -	\$ 9.58	\$ 92,845	\$ 6.45	48,125	\$ 62,562	\$ -	\$ -	\$ 19.53	\$189,338			
303	1	4	4	430		Rip-Rap: Load, haul and dump	9,694	Bm3	R.017	0.042	404.6	\$ 1.87	\$ 18,157	\$ -	\$ -	\$ 4.17	\$ 40,454	\$ 1.61	12,037	\$ 15,648	\$ -	\$ -	\$ 7.66	\$ 74,259			
303	1	4	5	430		Rip-Rap: Place and secure	9,694	Bm3	C.2.27	0.013	121.2	\$ 0.61	\$ 5,896	\$ -	\$ -	\$ 0.90	\$ 8,705	\$ 0.47	3,497	\$ 4,546	\$ -	\$ -	\$ 1.98	\$ 19,148			
Plunge Pool																											
303	2	1	1	430	Excavate pool	Plunge pool excavation	2,700	Bm3	C.2.12	0.024	63.5	\$ 1.06	\$ 2,851	\$ -	\$ -	\$ 2.36	\$ 6,365	\$ 0.93	1,937	\$ 2,518	\$ -	\$ -	\$ 4.35	\$ 11,734			

Work Area Code	Item	Task	Sub-task	Estimate Type	Activity	Task	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
306	1	1	1	430	Clear/grub Regrade	Clear/grub forest area around toe	13,200	m2	C.2.05	0.015	192.0	\$ 0.67	\$ 8,858	\$ -	\$ -	\$ 1.08	\$ 14,311	\$ 0.61	6,202	\$ 8,063	\$ -	\$ -	\$ 2.37	\$31,232			
306	1	1	1	430		Flattened surfaces	337	hrs	C.2.23	1.000	337.3	\$ 48.65	\$ 16,413	\$ -	\$ -	\$ 190.62	\$ 64,304	\$ 149.18	38,711	\$ 50,324	\$ -	\$ -	\$ 388.46	\$131,041			
306	1	1	2	430		Flatten bubble dump surfaces	296	hrs	C.2.23	1.000	296.5	\$ 48.65	\$ 14,426	\$ -	\$ -	\$ 190.62	\$ 56,519	\$ 149.18	34,024	\$ 44,232	\$ -	\$ -	\$ 388.46	\$115,177			
306	1	1	3	430		Regrade slopes	737	hrs	C.2.23	1.000	737.4	\$ 48.65	\$ 35,879	\$ -	\$ -	\$ 190.62	\$ 140,572	\$ 149.18	84,624	\$ 110,011	\$ -	\$ -	\$ 388.46	\$286,462			
306	1	3	1	430		Pull-back slopes not able to be re-sloped	Load, haul, dump, place at top of dump	165,000	Bm3	C.2.12	0.024	3882.4	\$ 1.06	\$ 174,217	\$ -	\$ -	\$ 2.36	\$ 388,996	\$ 0.93	118,352	\$ 153,858	\$ -	\$ -	\$ 4.35	\$717,071		
Sulphide Cell																											
306	2	1	1	430	Place "Low" Infiltration cover	Load, haul, place compacted till (0.5m)	98,725	Bm3	R.026	0.019	1842.9	\$ 0.84	\$ 82,521	\$ -	\$ -	\$ 2.63	\$ 259,622	\$ 1.76	133,609	\$ 173,692	\$ -	\$ -	\$ 5.22	\$515,835	\$2,015,522		
306	2	1	2	430		Load, haul, place loose till (1.5m)	296,175	Bm3	R.027	0.017	4975.7	\$ 0.77	\$ 228,158	\$ -	\$ -	\$ 2.57	\$ 762,600	\$ 1.72	391,484	\$ 508,930	\$ -	\$ -	\$ 5.06	\$1,499,687			
Waste Rock Cover																											
306	3	1	1	430	Place "Vegetative" Cover	Load, haul, place compacted till (0.5m)	858,625	Bm3	R.027	0.017	14424.9	\$ 0.77	\$ 661,439	\$ -	\$ -	\$ 2.57	\$2,210,811	\$ 1.72	1,134,931	\$ 1,475,411	\$ -	\$ -	\$ 5.06	\$4,347,661	\$4,347,661		
Steep Runoff channels																											
306	4	1	1	430	Install rock drains (runoff management)	Excavate channel for rock drains	3,500	Bm3	C.2.12	0.024	82.4	\$ 1.06	\$ 3,696	\$ -	\$ -	\$ 2.36	\$ 8,251	\$ 0.93	2,510	\$ 3,264	\$ -	\$ -	\$ 4.35	\$15,211			
306	4	1	2	430		Rip-Rap: Drill, blast and stockpile	2,604	Bm3	C.2.24	0.040	104.2	\$ 1.74	\$ 4,524	\$ 15.72	\$ 40,935	\$ 1.92	\$ 4,994	\$ 1.02	2,038	\$ 2,649	\$ -	\$ -	\$ 20.39	\$53,102			
306	4	1	3	430		Rip-rap (rounded, low quality): Screen and stockpile	2,604	Bm3	C.2.25	0.050	130.2	\$ 2.45	\$ 6,380	\$ -	\$ -	\$ 6.70	\$ 17,458	\$ 4.52	9,049	\$ 11,764	\$ -	\$ -	\$ 13.67	\$35,602			
306	4	1	4	430		Rip-Rap: Load, haul and dump	2,604	Bm3	R.033	0.041	106.4	\$ 1.83	\$ 4,774	\$ -	\$ -	\$ 4.08	\$ 10,636	\$ 1.58	3,165	\$ 4,114	\$ -	\$ -	\$ 7.50	\$19,523			
306	4	1	5	430		Rip-Rap: Place and secure	2,604	Bm3	C.2.27	0.013	32.6	\$ 0.61	\$ 1,584	\$ -	\$ -	\$ 0.90	\$ 2,338	\$ 0.47	939	\$ 1,221	\$ -	\$ -	\$ 1.98	\$5,143			
Sediment Basins																											
306	5	2	1	430	Sedimentation basins (at bottom of rock drains)	Excavate sedimentation basin	2,128	Bm3	C.2.12	0.024	50.1	\$ 1.06	\$ 2,247	\$ -	\$ -	\$ 2.36	\$ 5,017	\$ 0.93	1,526	\$ 1,984	\$ -	\$ -	\$ 4.35	\$9,248			
306	5	2	2	430		Rip-Rap: Drill, blast and stockpile	104	Bm3	C.2.24	0.040	4.2	\$ 1.74	\$ 181	\$ 15.72	\$ 1,635	\$ 1.92	\$ 199	\$ 1.02	81	\$ 106	\$ -	\$ -	\$ 20.39	\$2,121			
306	5	2	3	430		Rip-rap (rounded, low quality): Screen and stockpile	104	Bm3	C.2.25	0.050	5.2	\$ 2.45	\$ 255	\$ -	\$ -	\$ 6.70	\$ 697	\$ 4.52	361	\$ 470	\$ -	\$ -	\$ 13.67	\$1,422			
306	5	2	4	430		Rip-Rap: Load, haul and dump	104	Bm3	R.033	0.041	4.2	\$ 1.83	\$ 191	\$ -	\$ -	\$ 4.08	\$ 425	\$ 1.58	126	\$ 164	\$ -	\$ -	\$ 7.50	\$780			
306	5	2	5	430		Rip-Rap: Place and secure	104	Bm3	C.2.27	0.013	1.3	\$ 0.61	\$ 63	\$ -	\$ -	\$ 0.90	\$ 93	\$ 0.47	38	\$ 49	\$ -	\$ -	\$ 1.98	\$205			
Revegetate																											
306	6	1	1	610	Revegetate WR dumps	Seed/Fertilize, helicopter high application rate	1,493,750	m2	C.5.01	0.000	186.7	\$ 0.01	\$ 8,408	\$ 0.09	\$ 135,812	\$ 0.05	\$ 80,584	\$ 0.00	4,589	\$ 5,966	\$ -	\$ -	\$ 0.15	\$230,770	\$230,770		
Subtotal Direct Costs - Grum Dump																											
Overburden Dump																											
Reslope Dump																											
307	1	1	1	430	Regrade	Flattened surfaces	26	hrs	C.2.23	1.000	25.7	\$ 48.65	\$ 1,251	\$ -	\$ -	\$ 190.62	\$ 4,903	\$ 149.18	2,952	\$ 3,837	\$ -	\$ -	\$ 388.46	\$9,992	\$55,415		
307	1	1	2	430		Regrade slopes	117	hrs	C.2.23	1.000	116.9	\$ 48.65	\$ 5,689	\$ -	\$ -	\$ 190.62	\$ 22,290	\$ 149.18	13,418	\$ 17,444	\$ -	\$ -	\$ 388.46	\$45,423			
Revegetate																											
307	2	1	1	610	Revegetate WR dumps	Seed/Fertilize, helicopter low application rate	510,250	m2	C.5.02	0.000	63.8	\$ 0.01	\$ 2,872	\$ 0.05	\$ 23,196	\$ 0.05	\$ 27,527	\$ 0.00	1,568	\$ 2,038	\$ -	\$ -	\$ 0.11	\$55,633	\$55,633		
Subtotal Direct Costs - Overburden Dump																											
Ore Transfer Pad																											
Relocate to Grum Sulphide Cell																											
308	1	1	1	430	Excavate acidic material (over-excavate)	Load, haul, place and compact	321,260	Bm3	R.029	0.013	4297.9	\$ 0.59	\$ 190,605	\$ -	\$ -	\$ 1.81	\$ 581,737	\$ 1.18	291,426	\$ 378,854	\$ -	\$ -	\$ 3.58	\$1,151,195	\$1,151,195		
Reslope Pad for drainage																											
308	2	1	1	430	Regrade	Flattened surfaces	52	hrs	C.2.23	1.000	51.9	\$ 48.65	\$ 2,525	\$ -	\$ -	\$ 190.62	\$ 9,893	\$ 149.18	5,956	\$ 7,742	\$ -	\$ -	\$ 388.46	\$20,160	\$44,135		
308	2	1	2	430		Regrade slopes	62	hrs	C.2.23	1.000	61.7	\$ 48.65	\$ 3,003	\$ -	\$ -	\$ 190.62	\$ 11,765	\$ 149.18	7,082	\$ 9,207	\$ -	\$ -	\$ 388.46	\$23,974			
Waste Rock Cover																											
308	3	1	1	430	Place "Vegetative" Cover	Load, haul, place loose till (0.5m)	73,650	Bm3	R.030	0.014	1050.8	\$ 0.65	\$ 47,816	\$ -	\$ -	\$ 2.12	\$ 156,143	\$ 1.38	77,937	\$ 101,318	\$ -	\$ -	\$ 4.14	\$305,277	\$305,277		
Sediment Control Ditches																											
308	4	1	1	430	Sediment control ditch	Excavation of ditch	1,791	Bm3	C.2.10	0.032	57.3	\$ 1.44	\$ 2,572	\$ -	\$ -	\$ 3.21	\$ 5,742	\$ 1.27	1,747	\$ 2,271	\$ -	\$ -	\$ 5.91	\$10,585	\$11,680		
308	4	2	1	430		Sedimentation basin	252	Bm3	C.2.12	0.024	5.9	\$ 1.06	\$ 266	\$ -	\$ -	\$ 2.36	\$ 594	\$ 0.93	181	\$ 235	\$ -	\$ -	\$ 4.35	\$1,095			
Revegetate																											
308	5	1	1	610	Revegetate	Seed/Fertilize, helicopter low application rate	128,504	m2	C.5.02	0.000	16.1	\$ 0.01	\$ 723	\$ 0.05	\$ 5,842	\$ 0.05	\$ 6,933	\$ 0.00	395	\$ 513	\$ -	\$ -	\$ 0.11	\$14,011	\$14,011		
Subtotal Direct Costs - Ore Transfer Pad																											
Groundwater																											
Grum Dump Groundwater Collection to Holding Pond																											
309	1	1	1	430	Access road	Clear access road area	1,950	m2	C.2.04	0.004	7.1	\$ 0.18	\$ 345	\$ -	\$ -	\$ 0.68	\$ 1,323	\$ 0.36	546	\$ 709	\$ -	\$ -	\$ 1.22	\$2,378	\$482,389	1CD003.37 Grum Seepage Collection	
309	1	1	1	430		Construct Access road	650	m	C.2.28	0.133	86.1	\$ 6.19	\$ 4,027	\$ -	\$ -	\$ 11.39	\$ 7,401	\$ 5.33	2,663	\$ 3,462	\$ -	\$ -	\$ 22.91	\$14,889			
309	1	2	1	430	Groundwater wells	Drill wells (Air Rotary Drill Rig, ~20m depth)	140	m	C.2.09	2.000	280.0	\$ 88.48	\$ 12,387	\$ -	\$ -	\$ 19.61	\$ 2,746	\$ 14.65	1,577	\$ 2,051	\$ -	\$ -	\$ 122.74	\$17,183			
309	1	2	2	500		Install 6" stainless steel well casing & screen	140	m	C.3.18	0.150	21.0	\$ 6.64	\$ 929	\$ 232.60	\$ 32,564	\$ 1.47	\$ 206	\$ 1.10	118	\$ 154	\$ -	\$ -	\$ 241.81	\$33,853			
309	1	2	3	500		Install 6" Submersible Pump with controls	7	ea.	C.3.08	12.000	84.0	\$ 475.42	\$ 3,328	\$ 6,842.00	\$ 47,894	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,317.42	\$51,222		
309	1	2	4	500		Install protective housing (shack)	7	ea.	C.3.14	20.000	140.0	\$ 792.36	\$ 5,547	\$ 445.00	\$ 3,115	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,237.36	\$8,662		
309	1	3	1	430		Piping system	Excavate Piping Trench	7,452	Bm3	C.2.13	0.020	149.0	\$ 0.97	\$ 7,251	\$ -	\$ -	\$ 1.44	\$ 10,707	\$ 0.75	4,302	\$ 5,592	\$ -	\$ -	\$ 3.16	\$23,551		
309	1	3	2	510	Supply and install insulated 150mm HDPE pipe		1,242	m	C.3.03	0.250	310.5	\$ 8.78	\$ 10,899	\$ 155.84	\$ 193,553	\$ 0.44	\$ 545	\$ 0.49	471	\$ 612	\$ -	\$ -	\$ 165.55	\$205,609			
309	1	3	3	430	Bedding: Produce and stockpile (screen)		484	Bm3	C.2.02	0.015	7.3	\$ 0.74	\$ 358	\$ -	\$ -	\$ 1.68	\$ 812	\$ 1.13	421	\$ 547	\$ -	\$ -	\$ 3.54	\$1,717			
309	1	3	4	430	Bedding: Load, haul, place		484	Bm3	R.031	0.024	11.8	\$ 1.09	\$ 526	\$ -	\$ -	\$ 2.11	\$ 1,023	\$ 0.89	331	\$ 431	\$ -	\$ -	\$ 4.09	\$1,980			
309	1	3	5	430	Backfill and compact ditches		7,452	Bm3	C.2.01	0.030	223.6	\$ 1.19	\$ 8,857	\$ -	\$ -	\$ 0.77	\$ 5,737	\$ 0.39	2,248	\$ 2,922	\$ -	\$ -	\$ 2.35	\$17,516			
309	1	4	1	510	Heat tracing	Supply and install heat trace in HDPE pipe	1,242	m	C.3.05	0.167	207.0	\$ 6.98	\$ 8,669	\$ 21.32	\$ 26,479	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.30	\$35,148		
309	1	4	2	510		Supply/Install heat tracing power feed kit	1	ea.	C.3.06	4.000	4.0	\$ 167.51	\$ 168	\$ 396.84	\$ 397	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 564.35	\$564			
309	1	4	3	510	Provide electricity from holding pond to pumps	Supply/Install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	1.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 397	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067		
309	1	5	1	510		Supply/Install treated power poles	17	ea.	C.4.03	4.545	77.3	\$ 213.52	\$ 3,630	\$ 325.96	\$ 5,541	\$ 90.53	\$ 1,539	\$ 28.17	368	\$ 479							

Work Area Code	Item	Task	Sub-task	Estimate Type	Activity	Task	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments				
Subtotal Direct Costs - Vangorda Haul Road										6,742			\$304,041		\$8,183		\$669,422		210,317	\$273,412		\$0			\$1,255,058					
Miscellaneous Buildings																														
311	1	1	1	220	Building decontamination	Remove hazardous materials	6,902	m3	C.1.01	0.556	3834.4	\$ 21.20	\$ 146,322	\$ -	\$ -	\$ 0.88	\$ 6,061	\$ 0.99	5,234	\$ 6,804	\$ -	\$ -	\$ 23.06	\$159,187	\$583,787					
311	1	2	1	220	Building demolition	Building demolition: 'empty buildings'	10,008	m2	C.1.02	0.349	3491.2	\$ 14.55	\$ 145,595	\$ -	\$ -	\$ 17.07	\$ 170,812	\$ 8.29	63,841	\$ 82,993	\$ -	\$ -	\$ 39.91	\$399,400						
311	1	2	2	430	Building demolition	Building demolition: 'full buildings'	345	m2	C.1.03	0.523	180.5	\$ 21.82	\$ 7,529	\$ -	\$ -	\$ 25.60	\$ 8,832	\$ 12.44	3,301	\$ 4,291	\$ -	\$ -	\$ 59.86	\$20,652						
311	1	2	3	430		Puncture concrete foundations	15	m	C.1.04	0.182	2.7	\$ 8.85	\$ 133	\$ -	\$ -	\$ 22.17	\$ 333	\$ 13.15	152	\$ 197	\$ -	\$ -	\$ 44.17	\$663						
311	1	2	4	430		Re-grade over demolished buildings	10	hrs	C.2.23	1.000	10.0	\$ 48.65	\$ 487	\$ -	\$ -	\$ 190.62	\$ 1,906	\$ 149.18	1,148	\$ 1,492	\$ -	\$ -	\$ 388.46	\$3,885						
Sludge Pond																														
311	2	1	1	430	Cover sludge pond	Till: Load, haul, dump and place	30,000	Bm3	R.038	0.025	763.6	\$ 1.17	\$ 35,230	\$ -	\$ -	\$ 2.64	\$ 79,231	\$ 1.18	27,179	\$ 35,332	\$ -	\$ -	\$ 4.99	\$149,793	\$149,793					
Existing Bioremediation Cell																														
311	3	1	1	430	Cover existing bioremediation cell	Doze material	1,600	m2	C.2.04	0.004	5.8	\$ 0.18	\$ 283	\$ -	\$ -	\$ 0.68	\$ 1,086	\$ 0.36	448	\$ 582	\$ -	\$ -	\$ 1.22	\$1,951	\$1,951					
Dams																														
311	4	1	1	430	Breach all dams (except Little Creek Dam)	Excavate, haul and dump locally	1,000	Bm3	C.2.12	0.024	23.5	\$ 1.06	\$ 1,056	\$ -	\$ -	\$ 2.36	\$ 2,358	\$ 0.93	717	\$ 932	\$ -	\$ -	\$ 4.35	\$4,346	\$4,346					
WTP Settling Pond																														
311	5	1	1	430	Breach WTP settling pond	Excavate, haul and dump locally	1,491	Bm3	C.2.12	0.024	35.1	\$ 1.06	\$ 1,574	\$ -	\$ -	\$ 2.36	\$ 3,515	\$ 0.93	1,069	\$ 1,390	\$ -	\$ -	\$ 4.35	\$6,480	\$6,480					
Contaminated soils																														
311	6	1	1	600	Remove contaminated soils	Excavate, haul and place contaminated soils in bio-remediation cell	3,750	Bm3	R.039	0.034	127.8	\$ 1.57	\$ 5,898	\$ -	\$ -	\$ 4.40	\$ 16,493	\$ 2.04	5,877	\$ 7,641	\$ -	\$ -	\$ 8.01	\$30,031	\$30,031					
311	6	1	2	600		Regrade excavated areas for drainage	2,500	m2	C.2.18	0.002	5.4	\$ 0.11	\$ 264	\$ -	\$ -	\$ 0.10	\$ 239	\$ 0.09	164	\$ 213	\$ -	\$ -	\$ 0.29	\$716	\$716					
Bioremediation Cell																														
311	7	1	1	430	Construct bioremediation cell	Excavate and create berms for use as the bioremediation cell	8,000	Bm3	C.2.11	0.013	106.7	\$ 0.65	\$ 5,190	\$ -	\$ -	\$ 0.96	\$ 7,663	\$ 0.50	3,079	\$ 4,002	\$ -	\$ -	\$ 2.11	\$16,855	\$16,855					
311	7	1	2	430		Place HDPE liner for remediation Cell	1,600	m2	C.4.10	0.143	228.6	\$ 5.84	\$ 9,342	\$ 12.77	\$ 20,432	\$ 1.59	\$ 2,540	\$ 1.06	1,300	\$ 1,690	\$ -	\$ -	\$ 21.25	\$34,004	\$34,004					
311	7	1	3	430		Bedding: Load, haul, place (use local overburden material)	480	Bm3	C.2.01	0.030	14.4	\$ 1.19	\$ 570	\$ -	\$ -	\$ 0.77	\$ 370	\$ 0.39	145	\$ 188	\$ -	\$ -	\$ 2.35	\$1,128	\$1,128					
Roads																														
311	8	1	1	430	Reclaim unnecessary roads	Remove culverts and breach stream crossing	3,920	Bm3	C.2.12	0.024	92.2	\$ 1.06	\$ 4,139	\$ -	\$ -	\$ 2.36	\$ 9,242	\$ 0.93	2,812	\$ 3,655	\$ -	\$ -	\$ 4.35	\$17,036	\$17,036					
311	8	1	2	430		Scarify road surfaces	15,000	m2	C.2.30	0.003	37.5	\$ 0.12	\$ 1,825	\$ -	\$ -	\$ 0.11	\$ 1,650	\$ 0.10	1,129	\$ 1,467	\$ -	\$ -	\$ 0.33	\$4,942	\$4,942					
311	8	1	3	610		Seed/Fertilize, helicopter low application rate	15,000	m2	C.5.02	0.000	1.9	\$ 0.01	\$ 84	\$ 0.05	\$ 682	\$ 0.05	\$ 809	\$ 0.00	46	\$ 60	\$ -	\$ -	\$ 0.11	\$1,635	\$1,635					
Borrow Sources																														
311	9	1	1	600	Develop borrow sources	Clear ang grub	3,000	m2	C.2.05	0.015	43.6	\$ 0.67	\$ 2,013	\$ -	\$ -	\$ 1.08	\$ 3,252	\$ 0.61	1,410	\$ 1,833	\$ -	\$ -	\$ 2.37	\$7,098	\$7,098					
311	9	1	2	600		Construct haul roads	1,000	m	C.2.29	0.227	226.7	\$ 10.30	\$ 10,298	\$ -	\$ -	\$ 25.91	\$ 25,907	\$ 16.51	12,697	\$ 16,505	\$ -	\$ -	\$ 52.71	\$52,711	\$52,711					
311	9	2	1	600		Decommission borrow sources	10	hrs	C.2.23	1.000	10.0	\$ 48.65	\$ 487	\$ -	\$ -	\$ 190.62	\$ 1,906	\$ 149.18	1,148	\$ 1,492	\$ -	\$ -	\$ 388.46	\$3,885	\$3,885					
311	9	2	2	610		Seed/Fertilize, helicopter low application rate	169,000	m2	C.5.02	0.000	21.1	\$ 0.01	\$ 951	\$ 0.05	\$ 7,683	\$ 0.05	\$ 9,117	\$ 0.00	519	\$ 675	\$ -	\$ -	\$ 0.11	\$18,426	\$18,426					
Subtotal Direct Costs - Miscellaneous										9,283			\$379,270		\$28,797		\$353,322		133,412	\$173,435		\$0			\$934,824					
Subtotal Direct Costs																														
Subtotal direct costs										92,032			\$4,102,482		\$1,861,684		\$10,523,626		4,800,391	\$6,240,509		\$0			\$22,728,301					
CONTINGENCY AND ALLOWANCES																														
Contingency																														
Contingency										20% of direct costs	1	ls																		
Allowance: Buttress the North Vangorda Pit Wall																														
303	1	1	1		Butress North Vangorda Pit Wall	Load, haul, dump	256,654	Bm3	R.018	0.030	7769.0	\$ 1.36	\$ 348,626	\$ -	\$ -	\$ 3.03	\$ 776,758	\$ 1.17	231,120	\$ 300,456	\$ -	\$ -	\$ 5.56	\$1,425,839	\$1,425,839					
Allowance: Grum Dump Cut-off Wall																														
309	1	1	1	430	Level and compact a working surface	Clear and grub working surface	6,750	m2	C.2.05	0.015	98.2	\$ 0.67	\$ 4,530	\$ -	\$ -	\$ 1.08	\$ 7,318	\$ 0.61	3,172	\$ 4,123	\$ -	\$ -	\$ 2.37	\$15,971	\$15,971					
309	1	1	2	430		Level and compact surface	3,375	Bm3	C.2.21	0.013	42.2	\$ 0.61	\$ 2,053	\$ -	\$ -	\$ 2.33	\$ 7,874	\$ 1.25	3,246	\$ 4,220	\$ -	\$ -	\$ 4.19	\$14,147	\$14,147					
309	1	2	1	600	Cut-off wall	Install cut-off wall (all-inclusive)	8,344	m2	C.2.08	1.800	15019.2	\$ 83.20	\$ 694,248	\$ 216.00	\$ 1,802,304	\$ 108.55	\$ 905,742	\$ 62.14	398,818	\$ 518,463	\$ -	\$ -	\$ 469.89	\$3,920,756	\$3,920,756					
Allowance: Vangorda Pit Groundwater Collection																														
309	2	1	1	430	Access road	Construct access road	50	m	C.2.28	0.133	6.6	\$ 6.19	\$ 310	\$ -	\$ -	\$ 11.39	\$ 569	\$ 5.33	205	\$ 266	\$ -	\$ -	\$ 22.91	\$1,145	\$1,145					
309	2	2	1	430	Groundwater Wells	Drill wells (Air Rotary Drill Rig, ~10m depth)	180	m	C.2.09	2.000	360.0	\$ 88.48	\$ 15,926	\$ -	\$ -	\$ 19.61	\$ 3,531	\$ 14.85	2,028	\$ 2,636	\$ -	\$ -	\$ 122.74	\$22,093	\$22,093					
309	2	2	2	500		Install 6" stainless steel well casing & screen	180	m	C.3.18	0.150	27.0	\$ 6.64	\$ 1,194	\$ 232.60	\$ 41,868	\$ 1.47	\$ 265	\$ 1.10	152	\$ 198	\$ -	\$ -	\$ 241.81	\$43,525	\$43,525					
309	2	2	3	500		Install 6" Submersible Pump with controls	2	ea.	C.3.08	12.000	24.0	\$ 475.42	\$ 951	\$ 6,842.00	\$ 13,684	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,317.42	\$14,635	\$14,635					
309	2	2	4	500		Install protective housing (shack)	2	ea.	C.3.14	20.000	40.0	\$ 792.36	\$ 1,585	\$ 445.00	\$ 890	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,237.36	\$2,475	\$2,475					
309	2	3	1	430	Piping system	Excavate piping trench	1,638	Bm3	C.2.13	0.020	32.8	\$ 0.97	\$ 1,594	\$ -	\$ -	\$ 1.44	\$ 2,354	\$ 0.75	946	\$ 1,229	\$ -	\$ -	\$ 3.16	\$5,177	\$5,177					
309	2	3	2	510		Supply and install insulated 150mm HDPE pipe	273	m	C.3.03	0.250	68.3	\$ 8.78	\$ 2,396	\$ 155.84	\$ 42,544	\$ 0.44	\$ 120	\$ 0.49	104	\$ 135	\$ -	\$ -	\$ 165.55	\$45,194	\$45,194					
309	2	3	3	430		Bedding layer: Produce, screen and stockpile	106	Bm3	C.2.02	0.015	1.6	\$ 0.74	\$ 79	\$ -	\$ -	\$ 1.68	\$ 178	\$ 1.13	92	\$ 120	\$ -	\$ -	\$ 3.54	\$377	\$377					
309	2	3	4	430		Bedding Layer: Load, haul, place and compact	106	Bm3	R.035	0.031	3.3	\$ 1.35	\$ 144	\$ -	\$ -	\$ 2.68	\$ 285	\$ 1.07	87	\$ 113	\$ -	\$ -	\$ 5.10	\$543	\$543					
309	2	3	5	430		Backfill ditches	1,532	Bm3	C.2.01	0.030	45.9	\$ 1.19	\$ 1,820	\$ -	\$ -	\$ 0.77	\$ 1,179	\$ 0.39	462	\$ 601	\$ -	\$ -	\$ 2.35	\$3,600	\$3,600					
309	2	4	1	510	Heat tracing	Supply and install heat trace in HDPE pipe	273	m	C.3.05	0.167	45.5	\$ 6.98	\$ 1,905	\$ 21.32	\$ 5,820	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.30	\$7,726	\$7,726					
309	2	4	2	510		Supply/install heat tracing																								

Vangorda/Grum Mine Area - Revised Backfill Vangorda Pit Option (Min. Covers)

Work Area Code	Item	Task	Sub-task	Estimate Type	Activity	Task	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
CLOSURE COSTS - DIRECT CAPITAL																											
Vangorda Pit																											
Water Management																											
301	1	1	1	610	Pump and treat Vangorda Pit Water	Pump to existing treatment plant	2,300,000	m3	C.8.01	0.002	5066.1	\$ 0.08	\$ 177,819	\$ 0.02	\$ 53,227	\$ 0.00	\$ 5,338	\$ 0.00	4,610	\$ 5,993	\$ 0.23	\$ 531,938	\$ 0.34	\$774,316	\$774,316	1CD003.48_VangordaBackfill	
Pit Ramp																											
301	2	1	1	430	Upgrade ramp for 777 traffic	Load, haul, dump (locally) waste rock above present waterline	1,908	Bm3	R.001	0.032	61.4	\$ 1.47	\$ 2,800	\$ -	\$ -	\$ 3.78	\$ 7,210	\$ 1.66	2,441	\$ 3,173	\$ -	\$ -	\$ 6.91	\$13,184	\$20,059	(115mg/L Zn)	
301	2	1	2	430	Grade ramp	Grade ramp	24,000	m2	C.2.18	0.002	52.2	\$ 0.11	\$ 2,538	\$ -	\$ -	\$ 0.10	\$ 2,295	\$ 0.09	1,570	\$ 2,042	\$ -	\$ -	\$ 0.29	\$6,875			
Backfill Pit																											
301	3	1	1	430	Backfill pit	Load, haul and place Baritic and Oxide Fines	286,000	Bm3	R.002	0.013	3595.4	\$ 0.56	\$ 159,780	\$ -	\$ -	\$ 1.57	\$ 447,840	\$ 0.97	214,101	\$ 278,331	\$ -	\$ -	\$ 3.10	\$885,951			
301	3	1	2	430		Load, haul and place high sulphide area west of the dump ramp	1,300,000	Bm3	R.003	0.013	16342.9	\$ 0.56	\$ 726,272	\$ -	\$ -	\$ 1.57	\$ 2,035,635	\$ 0.97	973,186	\$ 1,265,141	\$ -	\$ -	\$ 3.10	\$4,027,049			
301	3	1	3	430		Load, haul and place ore transfer pad material	321,260	Bm3	R.000	0.000	0.0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$0		Included in Ore Transfer Pad Costs	
301	3	1	4	430		Load, haul and place Main Waste Rock Dump (over-excavate)	8,787,000	Bm3	R.002	0.013	110465.1	\$ 0.56	\$ 4,909,043	\$ -	\$ -	\$ 1.57	\$ 13,759,326	\$ 0.97	6,577,987	\$ 8,551,383	\$ -	\$ -	\$ 3.10	\$27,219,752			
301	3	1	5	430		Load, haul and place till from base of Waste Rock Dump	504,150	Bm3	R.002	0.013	6337.9	\$ 0.56	\$ 18,639	\$ -	\$ -	\$ 1.57	\$ 789,435	\$ 0.97	377,409	\$ 490,632	\$ -	\$ -	\$ 3.10	\$1,561,721			
301	3	2	1	510	Lime addition	Add lime to waste rock	12,548	tonnes	C.2.22	0.036	448.1	\$ 1.49	\$ 18,639	\$ 320.00	\$ 4,015,360	\$ 1.73	\$ 21,709	\$ 0.98	9,446	\$ 12,280	\$ -	\$ -	\$ 324.19	\$4,067,988			
301	3	2	2	510		Add lime to Baritic and Oxide Fines	4,089	tonnes	C.2.22	0.036	146.0	\$ 1.49	\$ 6,074	\$ 320.00	\$ 1,308,480	\$ 1.73	\$ 7,074	\$ 0.98	3,078	\$ 4,002	\$ -	\$ -	\$ 324.19	\$1,325,630			
301	3	2	3	010		Survey requirements (grid for testing)	22,397	hrs	P.17	1.000	22396.8	\$ 35.10	\$ 786,128	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 35.10	\$786,128			
301	3	2	4	010		Material testing (to verify lime addition dosage)	22,397	hrs	P.26	1.000	22396.8	\$ 37.70	\$ 866,757	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 37.70	\$866,757			
Regrade waste for drainage																											
301	4	1	1	430	Regrade	Shape to enhance runoff to ditches	150	hrs	C.2.23	1.000	149.8	\$ 48.65	\$ 7,289	\$ -	\$ -	\$ 190.62	\$ 28,557	\$ 149.18	17,191	\$ 22,349	\$ -	\$ -	\$ 388.46	\$58,195	\$58,195		
Cover with Low Infiltration Cover																											
301	5	1	1	430	Place "Low" infiltration cover	Load, haul, place and compact till (1.0m)	150,000	Bm3	R.005	0.014	2036.4	\$ 0.60	\$ 90,495	\$ -	\$ -	\$ 1.69	\$ 253,646	\$ 1.05	121,262	\$ 157,640	\$ -	\$ -	\$ 3.35	\$501,781	\$1,792,347		
301	5	1	2	430		Load, haul, place loose till (1.5m)	450,000	Bm3	R.006	0.010	4581.8	\$ 0.47	\$ 211,378	\$ -	\$ -	\$ 1.42	\$ 637,224	\$ 0.88	304,321	\$ 395,617	\$ -	\$ -	\$ 2.76	\$1,244,219			
301	5	1	1	610	Vegetate WR dumps	Seed/Fertilize, helicopter high application rate	300,000	m2	C.5.01	0.000	37.5	\$ 0.01	\$ 1,689	\$ 0.09	\$ 27,276	\$ 0.05	\$ 16,184	\$ 0.00	922	\$ 1,198	\$ -	\$ -	\$ 0.15	\$46,347	\$43,619		
Safety Berms																											
301	6	1	1	430	Construct access road	Clear access road area	1,281	m2	C.2.04	0.004	4.7	\$ 0.18	\$ 227	\$ -	\$ -	\$ 0.68	\$ 869	\$ 0.36	358	\$ 466	\$ -	\$ -	\$ 1.22	\$1,562			
301	6	1	2	220		Construct access road	427	m	C.2.28	0.133	56.6	\$ 6.19	\$ 2,645	\$ -	\$ -	\$ 11.39	\$ 4,862	\$ 5.33	1,749	\$ 2,274	\$ -	\$ -	\$ 22.91	\$9,781			
301	6	2	1	430	Place berm materials	Load, haul, dump berm material	4,150	Bm3	R.007	0.056	232.4	\$ 2.51	\$ 10,429	\$ -	\$ -	\$ 2.40	\$ 9,948	\$ 1.53	4,871	\$ 6,333	\$ -	\$ -	\$ 6.44	\$26,709			
301	6	2	2	430		Final Shaping of material with dozer	830	m	C.2.03	0.020	16.6	\$ 0.97	\$ 808	\$ -	\$ -	\$ 3.73	\$ 3,098	\$ 2.00	1,277	\$ 1,661	\$ -	\$ -	\$ 6.71	\$5,567			
Subtotal Direct Costs - Vangorda Pit																											
\$194,424																											
\$8,262,464																											
\$5,404,343																											
\$18,030,250																											
\$8,615,787																											
\$11,200,515																											
\$531,938																											
\$43,429,510																											
1CD003.48_VangordaBackfill																											
Vangorda Dump																											
Little Creek Dam																											
302	1	1	1	430	Breach dam	Load, haul and dump locally	22,266	Bm3	C.2.12	0.024	523.9	\$ 1.06	\$ 23,509	\$ -	\$ -	\$ 2.36	\$ 52,492	\$ 0.93	15,971	\$ 20,762	\$ -	\$ -	\$ 4.35	\$96,764	\$96,764	VanWasteDumpTillBerm.xls	
Revegetate Dump																											
302	2	1	1	610	Revegetate dump footprint	Seed/Fertilize, helicopter high application rate	504,150	m2	C.5.01	0.000	63.0	\$ 0.01	\$ 2,838	\$ 0.09	\$ 45,837	\$ 0.05	\$ 27,198	\$ 0.00	1,549	\$ 2,014	\$ -	\$ -	\$ 0.15	\$77,886	\$77,886		
Subtotal Direct Costs - Vangorda Dump																											
\$587																											
\$26,347																											
\$45,837																											
\$79,690																											
\$17,520																											
\$22,776																											
\$0																											
\$174,650																											
1CD003.48_VangordaBackfill																											
Vangorda Creek Diversion																											
Vangorda Creek																											
303	1	1	1	430	Excavate channel	5m wide, 2:1 side slopes	26,815	m3	C.2.10	0.032	858.1	\$ 1.44	\$ 38,505	\$ -	\$ -	\$ 3.21	\$ 85,976	\$ 1.27	26,158	\$ 34,006	\$ -	\$ -	\$ 5.91	\$158,487	\$700,837	Channel designed to 1:500 yr event (Design flow 31m³/s)	
303	1	3	1	430	Place till	Till: Load, haul, dump and place	3,740	Bm3	R.015	0.034	125.7	\$ 1.52	\$ 5,692	\$ -	\$ -	\$ 3.25	\$ 12,171	\$ 1.30	3,726	\$ 4,844	\$ -	\$ -	\$ 6.07	\$22,707			
303	1	3	2	430		Till: Compact with vibrating drum roller	12,467	m2	C.2.06	0.016	199.5	\$ 0.56	\$ 7,001	\$ -	\$ -	\$ 0.04	\$ 513	\$ 0.01	130	\$ 169	\$ -	\$ -	\$ 0.62	\$7,683			
303	1	2	1	430	Place geotextile	Supply and place geotextile	6,226	m2	C.4.06	0.016	99.6	\$ 0.62	\$ 3,834	\$ 3.50	\$ 21,789	\$ 0.22	\$ 1,384	\$ 0.15	708	\$ 921	\$ -	\$ -	\$ 4.49	\$27,927			
303	1	4	1	430	Place rip-rap	Rip-Rap: Drill, blast and stockpile	9,830	Bm3	C.2.24	0.040	393.2	\$ 1.74	\$ 17,076	\$ 15.72	\$ 154,528	\$ 1.92	\$ 18,853	\$ 1.02	7,692	\$ 10,000	\$ -	\$ -	\$ 20.39	\$200,457			
303	1	4	2	430		Rip-rap (angular, high quality): Screen and stockpile	9,830	Bm3	C.2.26	0.071	702.1	\$ 3.50	\$ 34,407	\$ -	\$ -	\$ 9.58	\$ 94,148	\$ 6.45	48,800	\$ 63,440	\$ -	\$ -	\$ 19.53	\$191,995			
303	1	4	4	430		Rip-Rap: Load, haul and dump	9,830	Bm3	R.014	0.040	393.2	\$ 1.79	\$ 17,644	\$ -	\$ -	\$ 4.00	\$ 39,313	\$ 1.55	11,697	\$ 15,207	\$ -	\$ -	\$ 7.34	\$72,164			
303	1	4	5	430		Rip-Rap: Place and secure	9,830	Bm3	C.2.27	0.013	122.9	\$ 0.61	\$ 5,978	\$ -	\$ -	\$ 0.90	\$ 8,828	\$ 0.47	3,546	\$ 4,610	\$ -	\$ -	\$ 1.98	\$19,416			
Subtotal Direct Costs - Vangorda Creek Diversion																											
2,894																											
\$130,139																											
\$176,317																											
\$261,185																											
102,458																											
\$133,196																											
\$0																											
\$700,837																											
1CD003.46_PitLakesTreat																											
Grum Pit																											
Water Treatment																											
304	1	1	1	610	Biological treatment	Note: Water treatment costs estimated separately	1	ls	-	0.000	0.0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ -	\$0	\$0		
Safety Berms																											
304	2	1	1	430	Construct access road	Clear access road area	3,750	m2	C.2.04	0.004	13.6	\$ 0.18	\$ 663	\$ -	\$ -	\$ 0.68	\$ 2,545	\$ 0.36	1,049	\$ 1,364	\$ -	\$ -	\$ 1.22	\$4,573	\$177,740		
304	2	1	2	220		Construct access road	1,250	m	C.2.28	0.133	165.6	\$ 6.19	\$ 7,743	\$ -	\$ -	\$ 11.39	\$ 14,232	\$ 5.33	5,121	\$ 6,657	\$ -	\$ -	\$ 22.91	\$28,633			
304	2	2	1	430	Place berm materials	Load, haul, dump berm material	20,000	Bm3	R.019	0.049	980.0	\$ 2.21	\$ 44,153	\$ -	\$ -	\$ 2.26	\$ 45,164	\$ 1.42	21,839	\$ 28,391	\$ -	\$ -	\$ 5.89	\$117,707			
304	2	2	2	430		Final Shaping of material with dozer	4,000	m	C.2.03	0.020	80.0	\$ 0.97	\$ 3,892	\$ -	\$ -	\$ 3.73	\$ 14,932	\$ 2.00	6,156	\$ 8,003	\$ -	\$ -	\$ 6.71	\$26,827			
Subtotal Direct Costs - Grum Pit																											
1,239																											
\$56,452																											
\$0																											
\$76,873																											
34,166																											
\$44,415																											
\$0																											
\$177,740																											
1CD003.46_PitLakesTreat																											
Grum Interceptor Ditch																											
Route into Grum Pit																											
305	1	1	1	430	Access road	Clear access road area	600	m2	C.2.04	0.004	2.2	\$ 0.18	\$ 106	\$ -	\$ -	\$ 0.68	\$ 407	\$ 0.36	168	\$ 218	\$ -	\$ -	\$ 1.22	\$732	\$91,542	1CD003.46_PitLakesTreat assumed channel from vangorda creek diversion (1CD003.15)	
305	1	1	2	220		Construct access road	200	m	C.2.28	0.133	26.5	\$ 6.19	\$ 1,239	\$ -	\$ -	\$ 11.39	\$ 2,277	\$ 5.33	819	\$ 1,065	\$ -	\$ -	\$ 22.91	\$4,581			
305	1	2	1	430	Headworks dam	Load, haul, dump, place and compact till	24	Bm3	R.020	0.030	0.7	\$ 1.35	\$ 32	\$ -	\$ -	\$ 2.50	\$ 60	\$ 1.07	20	\$ 26	\$ -	\$ -	\$ 4.91	\$118			
305	1	3	1	430	Excavate channel	Excavate diversion channel (soils)	2,017	Bm3	C.2.10	0.032	64.5	\$ 1.44	\$ 2,896	\$ -	\$ -	\$ 3.21	\$ 6,466	\$ 1.27	1,967	\$ 2,558	\$ -	\$ -	\$ 5.91	\$11,920			
305	1																										

Work Area Code	Item	Task	Sub-task	Estimate Type	Activity	Task	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
306	5	2	4	430	Rip-Rap: Load, haul and dump		104	Bm3	R.033	0.041	4.2	\$ 1.83	\$ 191	\$ -	\$ -	\$ 4.08	\$ 425	\$ 1.58	126	\$ 164	\$ -	\$ -	\$ 7.50	\$780			
306	5	2	5	430	Rip-Rap: Place and secure		104	Bm3	C.2.27	0.013	1.3	\$ 0.61	\$ 63	\$ -	\$ -	\$ 0.90	\$ 93	\$ 0.47	38	\$ 49	\$ -	\$ -	\$ 1.98	\$205			
Subtotal Direct Costs - Grum Dump											27.396		\$1,254,211		\$110,476		\$4,028,428		1,966,363	\$2,556,271		\$0			\$7,949,387		
Overburden Dump																											
Reslope Dump																											
307	1	1	1	430	Regrade	Flattened surfaces	77	hrs	C.2.23	1.000	77.2	\$ 48.65	\$ 3,754	\$ -	\$ -	\$ 190.62	\$ 14,709	\$ 149.18	8,855	\$ 11,511	\$ -	\$ -	\$ 388.46	\$29,975	\$166,244		
307	1	1	2	430	Regrade	Flatten bubble dump surfaces	351	hrs	C.2.23	1.000	350.8	\$ 48.65	\$ 17,068	\$ -	\$ -	\$ 190.62	\$ 66,870	\$ 149.18	40,255	\$ 52,332	\$ -	\$ -	\$ 388.46	\$136,269			
Revegetate																											
307	2	1	1	610	Revegetate WR Dumps	Seed/Fertilize, helicopter low application rate	510,250	m2	C.5.02	0.000	63.8	\$ 0.01	\$ 2,872	\$ 0.05	\$ 23,196	\$ 0.05	\$ 27,527	\$ 0.00	1,568	\$ 2,038	\$ -	\$ -	\$ 0.11	\$55,633	\$55,633		
Subtotal Direct Costs - Overburden Dump											492		\$23,694		\$23,196		\$109,106		50,678	\$65,881		\$0			\$221,877		
Ore Transfer Pad																											
Relocate to Vangorda Pit																											
308	1	1	1	430	Excavate acidic material (over-excavate)	Load, haul, place and compact in pit	321,260	Bm3	R.004	0.019	6112.0	\$ 0.84	\$ 270,240	\$ -	\$ -	\$ 2.41	\$ 774,678	\$ 1.48	366,328	\$ 476,227	\$ -	\$ -	\$ 4.73	\$1,521,145	\$1,521,145		
Reslope Pad for drainage																											
308	2	1	1	430	Regrade	Flattened surfaces	52	hrs	C.2.23	1.000	51.9	\$ 48.65	\$ 2,525	\$ -	\$ -	\$ 190.62	\$ 9,893	\$ 149.18	5,956	\$ 7,742	\$ -	\$ -	\$ 388.46	\$20,160			
308	2	1	2	430	Regrade	Flatten bubble dump surfaces	62	hrs	C.2.23	1.000	61.7	\$ 48.65	\$ 3,003	\$ -	\$ -	\$ 190.62	\$ 11,765	\$ 149.18	7,082	\$ 9,207	\$ -	\$ -	\$ 388.46	\$23,974			
Waste Rock Cover																											
308	3	1	1	430	Place "Vegetative" Cover	Load, haul, place loose till (0.5m)	73,650	Bm3	R.030	0.014	1050.8	\$ 0.65	\$ 47,816	\$ -	\$ -	\$ 2.12	\$ 156,143	\$ 1.38	77,937	\$ 101,318	\$ -	\$ -	\$ 4.14	\$305,277	\$305,277		
Sediment Control Ditches																											
308	4	1	1	430	Sediment Control Ditch	Excavation of ditch	1,791	Bm3	C.2.10	0.032	57.3	\$ 1.44	\$ 2,572	\$ -	\$ -	\$ 3.21	\$ 5,742	\$ 1.27	1,747	\$ 2,271	\$ -	\$ -	\$ 5.91	\$10,585			
308	4	2	1	430	Sedimentation Basin	Excavate sedimentation basin	252	Bm3	C.2.12	0.024	5.9	\$ 1.06	\$ 266	\$ -	\$ -	\$ 2.36	\$ 594	\$ 0.93	181	\$ 235	\$ -	\$ -	\$ 4.35	\$1,095			
Revegetate																											
308	5	1	1	610	Revegetate	Seed/Fertilize, helicopter low application rate	128,504	m2	C.5.02	0.000	16.1	\$ 0.01	\$ 723	\$ 0.05	\$ 5,842	\$ 0.05	\$ 6,933	\$ 0.00	395	\$ 513	\$ -	\$ -	\$ 0.11	\$14,011	\$14,011		
Subtotal Direct Costs - Ore Transfer Pad											7,356		\$327,145		\$5,842		\$965,748		459,626	\$597,514		\$0			\$1,896,248		
Groundwater																											
Grum Dump Groundwater Collection to Holding Pond																											
309	1	1	1	430	Access road	Clear access road area	1,950	m2	C.2.04	0.004	7.1	\$ 0.18	\$ 345	\$ -	\$ -	\$ 0.68	\$ 1,323	\$ 0.36	546	\$ 709	\$ -	\$ -	\$ 1.22	\$2,378	\$482,389		
309	1	1	1	430	Construct Access road	Construct Access road	621	m	C.2.08	0.133	96.1	\$ 6.19	\$ 4,027	\$ -	\$ -	\$ 11.39	\$ 7,491	\$ 5.33	2,663	\$ 3,462	\$ -	\$ -	\$ 22.91	\$14,889			
309	1	2	1	430	Groundwater wells	Drill wells (Air Rotary Drill Rig, ~20m depth)	140	m	C.2.02	2.000	280.0	\$ 88.48	\$ 12,387	\$ -	\$ -	\$ 18.61	\$ 2,746	\$ 14.65	1,577	\$ 2,051	\$ -	\$ -	\$ 122.74	\$17,183			
309	1	2	2	500	Groundwater wells	Install 6" stainless steel well casing & screen	140	m	C.3.18	0.150	21.0	\$ 6.64	\$ 929	\$ 232.60	\$ 32,564	\$ 1.47	\$ 206	\$ 1.10	118	\$ 154	\$ -	\$ -	\$ 241.81	\$33,853			
309	1	2	3	500	Groundwater wells	Install 6" Submersible Pump with controls	7	ea.	C.3.08	12.000	84.0	\$ 475.42	\$ 3,328	\$ 6,842.00	\$ 47,894	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,317.42	\$51,222		
309	1	2	4	500	Groundwater wells	Install protective housing (shack)	7	ea.	C.3.14	20.000	140.0	\$ 792.36	\$ 5,547	\$ 445.00	\$ 3,115	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,237.36	\$8,662		
309	1	3	1	430	Piping system	Excavate Piping Trench	7,452	Bm3	C.2.13	0.020	149.0	\$ 0.97	\$ 7,251	\$ -	\$ -	\$ 1.44	\$ 10,707	\$ 0.75	4,302	\$ 5,592	\$ -	\$ -	\$ 3.16	\$23,551			
309	1	3	2	510	Piping system	Supply and install insulated 150mm HDPE pipe	1,242	m	C.3.03	0.250	310.5	\$ 8.78	\$ 10,899	\$ 155.84	\$ 193,553	\$ 0.44	\$ 545	\$ 0.49	471	\$ 612	\$ -	\$ -	\$ 165.55	\$205,609			
309	1	3	3	430	Piping system	Bedding: Produce and stockpile (screen)	484	Bm3	C.2.02	0.015	7.3	\$ 0.74	\$ 358	\$ -	\$ -	\$ 1.68	\$ 812	\$ 1.13	421	\$ 547	\$ -	\$ -	\$ 3.54	\$1,717			
309	1	3	4	430	Piping system	Bedding: Load, haul, place and compact	484	Bm3	R.031	0.024	11.8	\$ 1.09	\$ 526	\$ -	\$ -	\$ 2.11	\$ 1,023	\$ 0.89	331	\$ 431	\$ -	\$ -	\$ 4.09	\$1,980			
309	1	3	5	430	Piping system	Backfill and compact ditches	7,452	Bm3	C.2.01	0.030	223.6	\$ 1.19	\$ 8,857	\$ -	\$ -	\$ 0.77	\$ 5,737	\$ 0.39	2,248	\$ 2,922	\$ -	\$ -	\$ 2.35	\$17,516			
309	1	4	1	510	Heat tracing	Supply and install heat trace in HDPE pipe	1,242	m	C.3.05	0.167	207.0	\$ 6.98	\$ 8,669	\$ 21.32	\$ 26,479	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28.30	\$35,148		
309	1	4	2	510	Heat tracing	Supply/Install heat tracing power feed kit	1	ea.	C.3.06	4.000	4.0	\$ 167.51	\$ 668	\$ 396.84	\$ 397	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 564.35	\$564		
309	1	4	3	510	Heat tracing	Supply/Install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	1.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067		
309	1	5	1	510	Provide electricity from holding pond to pumps	Supply/Install treated power poles	17	ea.	C.4.03	4.545	77.3	\$ 213.52	\$ 3,630	\$ 325.96	\$ 5,541	\$ 90.53	\$ 1,539	\$ 28.17	368	\$ 479	\$ -	\$ -	\$ 658.17	\$11,189			
309	1	5	2	510	Provide electricity from holding pond to pumps	Supply/Install overhead conductor	1,242	m	C.4.02	0.032	39.7	\$ 1.52	\$ 1,884	\$ 1.41	\$ 1,751	\$ 0.48	\$ 594	\$ 0.15	142	\$ 185	\$ -	\$ -	\$ 3.55	\$4,413			
309	1	5	3	510	Provide electricity from holding pond to pumps	Supply/Install transformers	5	ea.	C.4.04	20.000	100.0	\$ 973.08	\$ 4,865	\$ 8,934.00	\$ 44,670	\$ 239.58	\$ 1,198	\$ 143.00	550	\$ 715	\$ -	\$ -	\$ 10,289.66	\$51,448			
Grum Dump Groundwater Holding Pond											4,481		\$185,589		\$891,096		\$117,570		44,614	\$57,999		\$0			\$1,252,253		
309	2	1	1	430	Excavate pond	Excavate Holding Pond	10,848	Bm3	C.2.12	0.024	255.2	\$ 1.06	\$ 11,454	\$ -	\$ -	\$ 2.36	\$ 25,575	\$ 0.93	7,781	\$ 10,115	\$ -	\$ -	\$ 4.35	\$47,144			
309	2	2	1	430	Place till	Till: Load, haul, dump and place	1,476	Bm3	R.032	0.048	71.5	\$ 2.20	\$ 3,240	\$ -	\$ -	\$ 4.69	\$ 6,929	\$ 1.87	2,121	\$ 2,757	\$ -	\$ -	\$ 8.76	\$12,927			
309	2	2	2	430	Place till	Till: Compact with vibrating drum roller	4,521	m2	C.2.06	0.016	78.7	\$ 0.56	\$ 2,763	\$ -	\$ -	\$ 0.04	\$ 203	\$ 0.01	51	\$ 67	\$ -	\$ -	\$ 0.62	\$3,053			
309	2	3	1	430	Place geotextile	Supply and place geotextile	3,054	m2	C.4.06	0.019	48.9	\$ 3.06	\$ 9,869	\$ 3.50	\$ 10,689	\$ 0.22	\$ 679	\$ 0.15	347	\$ 452	\$ -	\$ -	\$ 4.49	\$13,700			
309	2	4	1	430	Place bedding layer	Bedding: Produce and stockpile (screen)	1,476	Bm3	C.2.02	0.015	22.1	\$ 0.74	\$ 1,090	\$ -	\$ -	\$ 1.68	\$ 2,474	\$ 1.13	1,282	\$ 1,667	\$ -	\$ -	\$ 3.54	\$5,232			
309	2	4	2	430	Place bedding layer	Bedding: Load, haul, place and compact	1,476	Bm3	R.031	0.024	36.1	\$ 1.09	\$ 1,604	\$ -	\$ -	\$ 2.11	\$ 3,117	\$ 0.89	1,010	\$ 1,313	\$ -	\$ -	\$ 4.09	\$6,033			
309	2	5	1	500	Place pump	Supply and place pump	1	ea.	C.3.11	8.000	8.0	\$ 335.02	\$ 335	\$ 1,829.00	\$ 1,829	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,164.02	\$2,164			
309	2	5	2	500	Place pump	Build and install housing for primary pump	1	ea.	C.3.13	30.000	30.0	\$ 1,188.54	\$ 1,189	\$ 1,730.00	\$ 1,730	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,918.54	\$2,919		
309	2	6	1	510	Provide electricity to holding pond	Supply/Install treated power poles	10	ea.	C.4.03	4.545	45.5	\$ 213.52	\$ 2,135	\$ 325.96	\$ 3,260	\$ 90.53	\$ 905	\$ 28.17	217	\$ 282	\$ -	\$ -	\$ 658.17	\$6,582			
309	2	6	2	510	Provide electricity to holding pond	Supply/Install overhead conductor	700	m	C.4.02	0.032	22.4	\$ 1.52	\$ 1,062	\$ 1.41	\$ 987	\$ 0.48	\$ 335	\$ 0.15	80	\$ 104	\$ -	\$ -	\$ 3.55	\$2,487			
309	2	6	3	510	Provide electricity to holding pond	Supply/Install transformers	1	ea.	C.4.04	20.000	20.0	\$ 973.08	\$ 973	\$ 8,934.00	\$ 8,934	\$ 239.58	\$ 240	\$ 143.00	110	\$ 143	\$ -	\$ -	\$ 10,289.66	\$10,290			
Groundwater Collection System to Grum Pit																											
309	3	1	1	430	Piping system	Excavate piping trench	17,160	Bm3	C.2.13	0.020	343.2	\$ 0.97	\$ 16,698	\$ -	\$ -	\$ 1.44	\$ 24,656	\$ 0.75	9,905	\$ 12,877	\$ -	\$ -	\$ 3.16	\$54,231			
309	3	1	2	510	Piping system	Supply and install insulated 150mm HDPE pipe	2,860	m	C.3.03	0.250	715.0	\$ 8.78	\$ 25,097	\$ 155.84	\$ 445,702												

Work Area Code	Item	Task	Sub-task	Estimate Type	Activity	Task	Quantity	Unit	Cost Code	Unit Mhrs	Total Mhrs	Labour Rate	Labor Cost	Unit Matl	Material Cost	Unit Equip.	Equipment Cost	Unit Fuel	Fuel Consumed (L)	Fuel Cost	Power Rate (\$/Unit)	Power Cost	Unit Cost	Activity Total	Subtotals	Source / Comments	
Subtotal Direct Costs							Subtotal direct costs				256,195		\$11,009,939		\$6,774,384		\$24,819,088		11,685,555	\$15,191,221		\$531,938			\$58,326,571		
CONTINGENCY AND ALLOWANCES																											
Contingency																											
		Contingency			20% of direct costs		1	ls													\$58,326,571	x	20.0%	\$11,665,314	\$11,665,314		
Allowance: Backfill Vangorda Pit																											
301	1	2	4	970	Lime addition contingency	15% contingency	2,496	tonnes	C.2.22	0.036	89.1	\$ 1.49	\$ 3,707	\$ 320.00	\$ 798,576	\$ 1.73	\$ 4,318	\$ 0.98	1,879	\$ 2,442	\$ -	\$ -	\$ 324.19	\$809,043	\$809,043		
Allowance: Vangorda Pit Groundwater System																											
309	1	1	1	430	Groundwater wells	Drill wells (Air Rotary Drill Rig, ~90m depth)	270	m	C.2.09	2.000	540.0	\$ 88.48	\$ 23,889	\$ -	\$ -	\$ 19.61	\$ 5,296	\$ 14.65	3,042	\$ 3,955	\$ -	\$ -	\$ 122.74	\$33,139		no preliminary design done.	
309	1	1	2	500		Install 6" stainless steel well casing & screen	270	m	C.3.18	0.150	40.5	\$ 6.64	\$ 1,792	\$ 232.60	\$ 62,802	\$ 1.47	\$ 397	\$ 1.10	228	\$ 297	\$ -	\$ -	\$ 241.81	\$65,287			
309	1	1	3	500		Install 6" Submersible Pump with controls	3	ea.	C.3.08	12.000	36.0	\$ 475.42	\$ 1,426	\$ 6,842.00	\$ 20,526	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 7,317.42	\$21,952			
309	1	1	4	500		Install protective housing (shack)	3	ea.	C.3.14	20.000	60.0	\$ 792.36	\$ 2,377	\$ 445.00	\$ 1,335	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 1,237.36	\$3,712			
309	1	2	1	510	Provide electricity to pumps	Supply/Install treated power poles	4	ea.	C.4.03	4.545	18.2	\$ 213.52	\$ 854	\$ 325.96	\$ 1,304	\$ 90.53	\$ 362	\$ 28.17	87	\$ 113	\$ -	\$ -	\$ 658.17	\$2,633			
309	1	2	2	510		Supply/Install overhead conductor	300	m	C.4.02	0.032	9.6	\$ 1.52	\$ 455	\$ 1.41	\$ 423	\$ 0.48	\$ 143	\$ 0.15	34	\$ 45	\$ -	\$ -	\$ 3.55	\$1,066			
309	1	2	3	510		Supply/Install transformers	1	ea.	C.4.04	20.000	20.0	\$ 973.08	\$ 973	\$ 8,934.00	\$ 8,934	\$ 239.58	\$ 240	\$ 143.00	110	\$ 143	\$ -	\$ -	\$ 10,289.66	\$10,290			
309	1	3	1	430	Piping system	Excavate piping trench	5,400	Bm3	C.2.13	0.020	108.0	\$ 0.97	\$ 5,255	\$ -	\$ -	\$ 1.44	\$ 7,759	\$ 0.75	3,117	\$ 4,052	\$ -	\$ -	\$ 3.16	\$17,066			
309	1	3	2	500		Supply and install insulated 150mm HDPE pipe	900	m	C.3.03	0.250	225.0	\$ 8.78	\$ 7,898	\$ -	\$ -	\$ 0.44	\$ 395	\$ 0.49	341	\$ 444	\$ -	\$ -	\$ 165.55	\$148,992			
309	1	3	3	430		Bedding: Produce and stockpile (screen)	351	Bm3	C.2.02	0.015	5.3	\$ 0.74	\$ 259	\$ -	\$ -	\$ 1.68	\$ 588	\$ 1.13	305	\$ 396	\$ -	\$ -	\$ 3.54	\$1,244			
309	1	3	4	430		Bedding: Load, haul, place	351	Bm3	R.035	0.031	10.7	\$ 1.35	\$ 475	\$ -	\$ -	\$ 2.68	\$ 940	\$ 1.07	288	\$ 374	\$ -	\$ -	\$ 5.10	\$1,789			
309	1	3	5	430		Backfill and compact ditches	5,049	Bm3	C.2.01	0.030	151.5	\$ 1.19	\$ 6,001	\$ -	\$ -	\$ 0.77	\$ 3,887	\$ 0.39	1,523	\$ 1,980	\$ -	\$ -	\$ 2.35	\$11,868			
309	1	4	1	510	Heat tracing	Supply and install heat trace in HDPE pipe	900	m	C.3.05	0.167	150.0	\$ 6.98	\$ 6,282	\$ 21.32	\$ 19,188	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 28.30	\$25,470			
309	1	4	2	510		Supply/Install heat tracing power feed kit	1	ea.	C.3.06	4.000	4.0	\$ 167.51	\$ 168	\$ 396.84	\$ 397	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 564.35	\$564			
309	1	4	3	510		Supply/Install electrical thermostat for heat tracing	1	ea.	C.3.07	1.000	1.0	\$ 41.88	\$ 42	\$ 1,025.00	\$ 1,025	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 1,066.88	\$1,067			
309	1	5	1	430	Groundwater holding pond	Excavate holding pond	876	Bm3	C.2.12	0.024	20.6	\$ 1.06	\$ 925	\$ -	\$ -	\$ 2.36	\$ 2,065	\$ 0.93	628	\$ 817	\$ -	\$ -	\$ 4.35	\$3,807			
309	1	5	2	430		Till: Load, haul, dump and place	229	Bm3	R.015	0.034	7.7	\$ 1.52	\$ 348	\$ -	\$ -	\$ 3.25	\$ 745	\$ 1.30	228	\$ 296	\$ -	\$ -	\$ 6.07	\$1,389			
309	1	5	3	430		Till: Compact with vibrating drum roller	229	m2	C.4.06	0.016	3.7	\$ 0.56	\$ 128	\$ -	\$ -	\$ 0.04	\$ 9	\$ 0.01	2	\$ 3	\$ -	\$ -	\$ 0.62	\$141			
309	1	5	4	430		Supply and place geotextile	529	m2	C.2.02	0.016	8.5	\$ 0.62	\$ 326	\$ 3.50	\$ 1,853	\$ 0.22	\$ 118	\$ 0.15	60	\$ 78	\$ -	\$ -	\$ 4.49	\$2,375			
309	1	5	5	430		Bedding layer: Produce, screen and stockpile	229	Bm3	C.2.02	0.015	3.4	\$ 0.74	\$ 169	\$ -	\$ -	\$ 1.68	\$ 383	\$ 1.13	199	\$ 258	\$ -	\$ -	\$ 3.54	\$811			
309	1	5	6	430		Bedding Layer: Load, haul, place and compact	229	Bm3	R.035	0.031	7.0	\$ 1.35	\$ 310	\$ -	\$ -	\$ 2.68	\$ 613	\$ 1.07	187	\$ 244	\$ -	\$ -	\$ 5.10	\$1,166			
309	1	5	7	500		Pump: Install primary pump	1	ea.	C.3.11	8.000	8.0	\$ 335.02	\$ 335	\$ 1,829.00	\$ 1,829	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 2,164.02	\$2,164			
309	1	5	8	500		Pump: Build and install housing for pump	1	ea.	C.3.13	30.000	30.0	\$ 1,188.54	\$ 1,189	\$ 1,730.00	\$ 1,730	\$ -	\$ -	\$ -	0	\$ -	\$ -	\$ -	\$ 2,918.54	\$2,919			
Allowance: Grum Dump Cut-off Wall																											
309	2	1	1		Level and compact a working surface	Clear and grub working surface	6,750	m2	C.2.05	0.015	98.2	\$ 0.67	\$ 4,530	\$ -	\$ -	\$ 1.08	\$ 7,318	\$ 0.61	3,172	\$ 4,123	\$ -	\$ -	\$ 2.37	\$15,971			
309	2	1	2			Level and compact surface	3,375	Bm3	C.2.21	0.013	42.2	\$ 0.61	\$ 2,053	\$ -	\$ -	\$ 2.33	\$ 7,874	\$ 1.25	3,246	\$ 4,220	\$ -	\$ -	\$ 4.19	\$14,147			
309	2	2	1		Cut-off wall	Install cut-off wall (all-inclusive)	8,344	m2	C.2.08	1.800	15019.2	\$ 83.20	\$ 694,248	\$ 216.00	\$ 1,802,304	\$ 108.55	\$ 905,742	\$ 62.14	398,818	\$ 518,463	\$ -	\$ -	\$ 469.89	\$3,920,756			
Subtotal Contingencies and Allowances							Subtotal Contingencies and Allowances				16,717		\$766,410		\$2,862,481		\$949,193		417,494	\$542,743		\$0			\$ 16,786,141		